March 6, 2023

Colorado Department of Natural Resources
Division of Reclamation, Mining and Safety
ATTN: Patrick Lennberg
1313 Sherman Street; Room 215
Denver Colorado 80203

RE: Adequacy Review No. 1; Technical Revision (TR-1) – Revise Mining and Reclamation Plans and Maps to Account for Acreage Release Areas in AR-1; Irwin/Thomas Mine, Permit No. M-2016- 054

Dear Patrick,

Please accept this letter and the included attachments as our combined response to your Adequacy Review No. 1 letter dated January 6, 2023. Our response follows your response as outlined in your letter as follows:

1. Please provide an updated Exhibit C-1 Map depicting the Existing Site Conditions and Surface Owners of Record that accounts for release area in AR-1.

   Applicant Response: An updated Exhibit C-1 Existing Site Conditions and Surface Owners of Record map depicting the updated permit boundary is included as Attachment A.

2. Where there are new structures along the new permit boundary new structure agreements will need to be obtained. Pursuant to Rule 6.4.19, where the mining operation will adversely affect the stability of any significant, valuable, and permanent man- made structures, located within 200 feet of the affected land, the applicant may either:

   a. Provide a notarized agreement between the applicant and the person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure*; or
   b. Where such an agreement cannot be reached, the applicant shall provide an engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or
   c. Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility.

   * Structure agreements shall be sent by a trackable method, i.e. certified mail. In addition, the individual structure agreements shall be labeled with the certified mail number or other tracking number.

   Applicant Response: The slope stability of the Irwin Thomas Mine development was investigated by Earth Engineering Consultants, LLC (EEC) in February 2018, as presented in their 'Subsurface Exploration and Slope Stability Evaluation' report. The report is included in file:

- ***2018-08-02_PERMIT FILE -M2016054, "Response to Third Adequacy Review Comments for Irwin/Thomas Mine Permit No. M-2016-054— Aggregate Industries—WCR, Inc." Dated July 30. 2018.***

The information can be accessed in the DRMS on-line permit documents file for this mine. The slope stability results of EEC's investigation are summarized on pages 5 & 6 of the report.

EEC's findings show that a slope stability factor of safety of 1.5 (considered sufficient for permanent improvements) can be met when the excavation is offset by at least 50 feet from roadway surfaces. Under the revised mine plan, no excavation will take place within 50 feet of roadways or buried utilities. As such, the 2018 report shows that the minimum factor of safety for excavated slopes will be upheld under the revised mine plan.

The operator also offered agreements to owners of structures within 200' of the permit boundary adjacent to the portion of the mine located south of Highway 119 where the setback was reduced and/or new improvements were installed adjacent to amended permit boundary. Copies of the Certified Mail receipts, Structure Agreements and one copy of the full attachments sent with each agreement area included as Attachment B.

3. It is unclear to the Division if the Operator has chosen one of the four proposed reclamation alternatives. It appears the Operator is opting for the reclamation alternative scenario where a permanent augmentation plan is obtained, but significant off-site backfill material is not available. For this scenario Mining Phases 1 and 2 are mined and there is sufficient on-site backfill material to create side slopes for ponds and some adjacent wetland areas. However, without off-site material for backfilling Mining Phase 3 and 4 are not mined. Please confirm if this is the case or not. If not, please provide updated Reclamation Plan Maps for all four reclamation alternatives and provide an updated Reclamation Plan summary that clearly states the details of the four alternatives.

   Applicant Response. There are no longer reclamation alternatives for the portion of the mine located south of HWY 119. An updated Exhibit F - Reclamation Plan Map reflecting the updated permit boundary and the only reclamation plan for this portion of the mine is included as Attachment C. Holcim has updated the reclamation cost for the portion of the mine south of HWY 119 to reflect this change. An updated Exhibit L – Reclamation Cost is included as Attachment D.

4. Please provide an updated Mining Plan Map C-5 include on the map the monitoring well locations that are measured monthly. Label the wells according to the annual submittals.

   Applicant Response: An updated Exhibit C-5 Mining Plan Map is included as Attachment 5.

5. During the SO-1 inspection the Division cited a problem for not submitting the annual groundwater level measurements. The problem was abated when the Operator provided the monthly water level measurements since 2016. In that submittal it is noted that MW-C may have been compromised by Costco, but measurements resumed. Please provide an update as to the condition of this well and if it is adequately protected for future monitoring purposes now that the land is owned by another entity. Note that if the well is compromised or if it can no longer be monitored according to the approved plan a replacement must be installed and the Division appropriately notified if this becomes the case.

   Applicant Response: Monitoring well C (MW-C) is intact and continues to be monitored.

6. The Operator has proposed reducing the mining setbacks from the approved 200 feet to 100 feet along HWY 119. The Operator will have to provide geotechnical demonstration that the reduction meets the required factor of safety during mining. Additionally, include in the demonstration that the proposed reclamation alternative (Ponds C and D) within this area are protective of permanent man-made structures.

   Applicant Response: Ponds C and D are located in Mining Area 2 (MA 2) of the site. It is our understanding that the Division will require a future Technical Revision before mining can begin in the portions of the Irwin Thomas Mine located north of HWY 119 (Mining Areas 2 and 3). We have focused our efforts regarding slope stability and Structure Agreements for Mining Area 1 (MA1) for the Technical Revision 1 application for this site.

   However, the slope stability of the Irwin Thomas Mine development was investigated by Earth Engineering Consultants, LLC (EEC) in February 2018, as presented in their 'Subsurface Exploration and Slope Stability Evaluation' report. The report is included in file:

   - ***2018-08-02_PERMIT FILE -M2016054, "Response to Third Adequacy Review Comments for Irwin/Thomas Mine Permit No. M-2016-054— Aggregate Industries—WCR, Inc." Dated July 30. 2018.***

   The information can be accessed in the DRMS on-line permit documents file for this mine. The slope stability results of EEC's investigation are summarized on pages 5 & 6 of the report.

   EEC's findings show that a slope stability factor of safety of 1.5 (considered sufficient for permanent improvements) can be met when the excavation is offset by at least 50 feet from roadway surfaces. Under the revised mine plan, no excavation will take place within 50 feet of roadways or buried utilities. As such, the 2018 report shows that the minimum factor of safety for excavated slopes will be upheld under the revised mine plan.

7. In the Operator's responses, dated March 23, 2017, to the Division's Preliminary Adequacy Review item #27 the Operator states regarding dewatering of mine cells, *During the well permitting process through the Colorado Department of Natural Resources, Division of Water Resources, Office of the State Engineer, owners of permitted wells and adjudicated water rights will be notified, and waiver agreements or other conditions will be secured. A copy of the agreements and/or conditions shall be forwarded to the Division in the form of a technical revision.* What is the status for obtaining the well permit and associated agreements to allow for dewatering of the mining cells?

   Applicant Response: The applicant applied for a well permit for this site and went through the required notification process for wells located within 600 feet of the permit boundary. After complete review, the Colorado Division of Water Resources approved the request to apply for a well permit to dewater this property in association with the gravel mining. Permit 82900-F was issued but its current status is in question. The applicant has reapplied for the permit and anticipates it will be issued soon. The conditions of approval are outlined in Attachment F – DWR_3385672, SEO 600' well Information. The operator will not expose groundwater until a well permit is issued for this site. A copy of the well permit will be forwarded to the Division upon receipt.

   In addition, this site is included in the Aggregate Industries - WCR, Inc. combined substitute supply plan(CoSSP) renewal request for 2023 currently under review by the Colorado Division of Water Resources. A copy of the CoSSP as submitted for review is included as Attachment G – DWR_4019552 TSSP 2023.

8. In the Operator's responses, dated March 23, 2017, to the Division's Preliminary Adequacy Review the Operator provided a Hydrogeologic Evaluation of the Irwin/Thomas Mine. At the time there was limited groundwater elevation data for the site and the effects from dewatering were rough approximations. The potential effects from dewatering need to be re-assessed using the six (6) years' worth of site groundwater elevation data to verify and/or update the site assumptions of the effects of dewatering.

   Applicant Response: Please see Attachment H, Miller Groundwater Engineering LLC "Groundwater Evaluations for the Irwin Thomas Gravel Mine, Permit No. M-2016-054", dated March 3, 2023. They completed a reassessment of the potential effects from mine dewatering using the six years of data now available for the site. The results are presented in the report.

9. In the Operator's responses, dated March 23, 2017, to the Division's Preliminary Adequacy Review the Operator provided an updated Exhibit G. In that exhibit there is brief discussion regarding the mounding and shadowing effects of a slurry wall. Please provide a groundwater model depicting the effects of installing a slurry wall and any details of mitigation measures needed to prevent injury from mounding or shadowing of groundwater as a result of installing the slurry wall. Include a discussion about the potential impacts to residential basements near the permit boundary.

   Applicant Response: Miller Groundwater Engineers, LLC developed and updated a groundwater model for the proposed mine and the surrounding area. They used the model to estimate the expected effects of mine dewatering as well as the post-mining effects of a planned slurry wall and the backfilled mine cells that will surround the slurry wall. They also considered potential impacts to residential homes with basements/crawlspaces near the mine permit boundary, plus a new commercial building nearby. Based on the results of that evaluation, and with the residential homes in mind, they have proposed the installation of a perimeter drain on the south side of the mine to mitigate otherwise-expected mounding on the up-gradient side of the mine cells. The report provides guidance for the depth and location of the proposed perimeter drain, and model simulates groundwater conditions that would be expected with the drain in place.

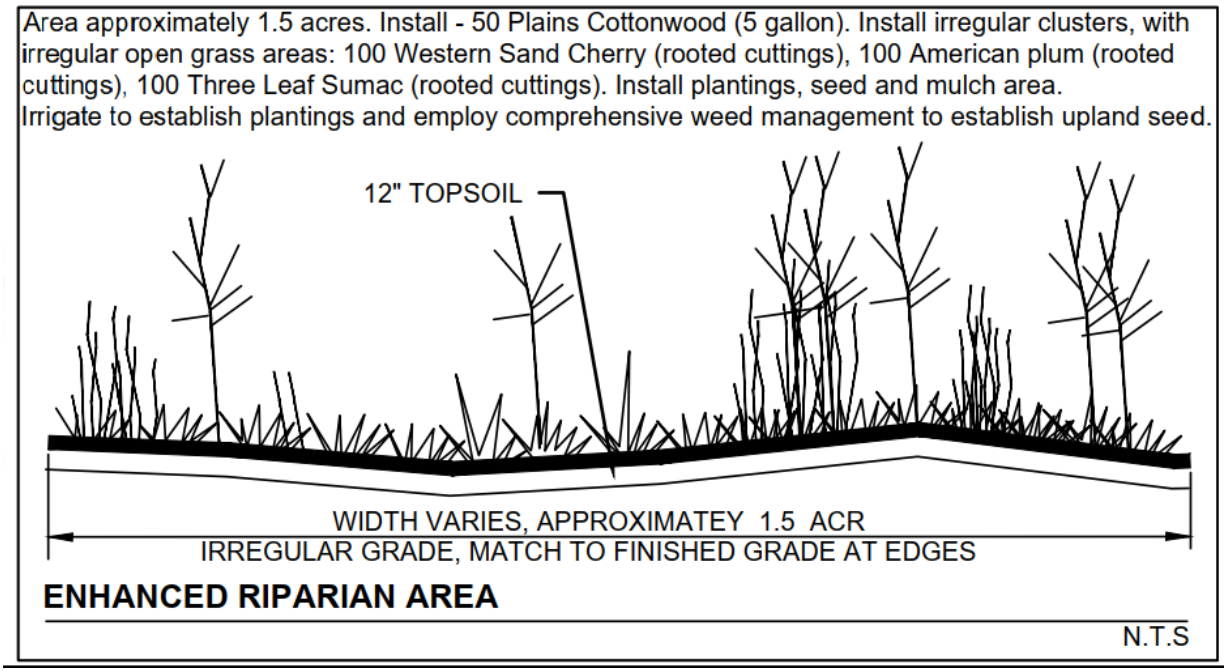
10. In the Operator's responses, dated July 20, 2017, to the Division's Adequacy Review No. 2 item #8 the Operator states, *Initial information provided to the Division that a City of Longmont Special Use Permit was being obtained for the project was not accurate. The project will be constructed in the City of Longmont under a PUD Development Plan. When obtained following completion of annexation, a copy of the approved City of Longmont PUD Development Plan will be provided to the Division in the form of a technical revision.* Please provide an update or a copy of the PUD Development Plan.

    Applicant Response: A copy of the City of Longmont Final Development Plan (FDP) is included as Attachment I. We are working with the City of Longmont on a process to bring the FDP into alignment with the Technical Revision. Once the Technical Revision is complete, we will process a Site Plan Waiver Application to bring the FDP into alignment with the updated mining sequence as depicted in the Technical Revision. We will forward the updated FDP to the Division upon completion of the Site Plan Waiver process.

11. Please provide the details on the proposed enhanced riparian area adjacent located in Mining Area 1 and adjacent to St. Vrain Greenway.

    Applicant Response: The planting detail for the enhanced riparian area is included on Exhibit-F, Reclamation Plan map and shown below. The goal is to establish an irregular area with a combination of shrub thickets, overstory trees and open grasses to provide food and cover for wildlife. The original mining

plan for this site included a wetland in this area of the site to provide enhanced habitat along this portion of the property located closest to St. Vrain Creek. In an effort to eliminate a requirement for a permanent augmentation plan for this portion of the property, Holcim and the landowner have proposed a combination of backfill and slurry wall lined ponds for the reclamation, eliminating exposed ground water on this portion of the property. In addition, the Floodplain recommendations regarding mining and backfilling Cell 1A are not consistent with an area lower than the existing grade in this location. The enhanced riparian area will add food, cover and diverse vegetation. This will serve to add to the habitat along the adjacent St. Vrain Creek and provide a buffer between the greenway trail and future development on this property.



12. The Operator is requesting the Division recalculate the current bond associated with Mining Area 1 with the reduction in slurry wall length. Please provide an updated Exhibit L Reclamation Costs similar to the one provided in Operator's response to adequacy review dated October 16, 2018. Include within the exhibit a line item for the enhanced riparian area and an updated cost estimate for slurry wall installation with the name of site where slurry wall estimate was derived from. The Division presumes the $5.97 per square foot of slurry wall construction has increased since 2018.

    Applicant Response: An updated Exhibit - L, Reclamation Cost is included as Attachment D. The cost of the enhanced riparian area and slurry wall installation are included. The cost of the slurry wall was derived from the as-built cost from another Holcim site as installed in 2022 in Brighton Colorado. The cost per square foot for the slurry wall has increased to $9.51 per square foot based on the installation in 2022.

13. Please affirmatively acknowledge the following permit commitments made during the initial permitting process;

    a. For Mining Area 2, a material conveyor will be installed beneath Hwy 119 adjacent to the creek pedestrian trail. This conveyor will be covered and separated from the trail with security fencing. Prior to moving into Mining Area 2, the operator must provide the final design for this conveyor, including whether its installation will require any permanent structures (i.e., concrete footers) that would require demolition for reclamation.

Applicant Response: Holcim – WCR, Inc. acknowledges this condition in the affirmative. However, current plans for Mining Area 2 (MA-2) include removal of material via direct access to HWY 119 at the controlled intersection at HWY 119 and Harvest Moon Drive. We do not anticipate the need for installation of a conveyor as described above. If plans to remove of the material change, the operator will provide a final design for the conveyor and any information regarding structures that may need to be removed as part of reclamation requirements for a conveyor prior to commencement of mining in MA 2

b. The permit approval authorized the operator to conduct mining and reclamation only within Mining Area 1 (south of Hwy 119). Prior to affecting land within Mining Areas 2, 3, or 4, the operator must submit and obtain Division approval of a Technical Revision to increase the maximum disturbed area to more than the currently approved 114.9 acres Please note the currently approved disturbed area of 114.9 acres will be reduced by 63 acres to 51.9 acres with the approval of AR-1.

Applicant Response: Holcim – WCR, Inc. acknowledges this condition in the affirmative.

c. Prior to commencing with operations in Mining Areas 3 and 4, the Operator must provide demonstration to the Division that a jurisdictional wetland delineation has been performed in these areas and the necessary permit(s) has been obtained from the USACE. This concludes the Division's adequacy review of your application. The Division reserves the right to further supplement this document with additional adequacy items and/or details as necessary.

Applicant Response: Holcim - WCR, Inc. acknowledges this condition in the affirmative.

Thank you for your assistance. Please contact me if you need additional information to complete your review.
Sincerely,

RESOURCE CONSERVATION PARTNERS, LLC

Barbara Brunk, Mgr.

Barbara Brunk, Manager
Landscape Architect

CC:
Paul Conrad. Holcim - WCR, Inc., paul.conrad@holcim.com
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City of Longmont - Glen Van Nimwegen, glen.vannimwegen@longmontcolorado.gov
City of Longmont – Dale Rademacher, Dale.Rademacher@longmontcolorado.gov
Golden Farm, LLLP - Reggie Golden, reggieg@dgmllc.com

ATTACHMENT A

Revised EXHIBIT C-1 - Existing Site Conditions and Surface Owners of Record

NOTES:

1. THE IRWIN/THOMAS MINE PERMIT AREA IS LOCATED IN SECTION 11, TOWNSHIP 2 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, BOULDER COUNTY, STATE OF COLORADO.
2. THE PERMIT AREA INCLUDES 246.1 ACRES AND IS COMPRISED OF 4 DISTINCT MINING AREAS SEPARATED BY COLORADO HIGHWAY 119, ST. VRAIN CREEK, AND THE BURLINGTON NORTHERN AND SANTA FE (BNSF) RAILROAD. MINING AREA 1 IS LOCATED SOUTH OF HWY 119, MINING AREA 2 IS NORTH OF HWY 119 AND SOUTH OF ST. VRAIN CREEK, MINING AREA 3 IS NORTH OF ST. VRAIN CREEK AND SOUTH OF THE BNSF RAILROAD, AND MINING AREA 4 IS NORTH OF THE RAILROAD.
3. IN GENERAL, THE PERMIT BOUNDARY FOLLOWS PROPERTY PARCEL BOUNDARIES, COLORADO HIGHWAY 119 AND BURLINGTON NORTHERN AND SANTA FE RAILROAD RIGHT-OF-WAYS, AND OFFSETS FROM ST. VRAIN CREEK TOP OF BANK.
4. THE PROPERTY IS BOUNDED BY THE CITY OF LONGMONT SEWAGE TREATMENT PLANT ON THE NORTHWEST, QUAIL ROAD ON THE SOUTH, NORTH 119TH STREET ON THE EAST, AND THE OLD GREAT WESTERN SUGAR FACILITY AND OTHER INDUSTRIAL ACTIVITIES ON THE NORTH.
5. ADJACENT LAND USES ARE PRIMARILY AGRICULTURE, SEMI-RURAL RESIDENTIAL, AND HISTORIC OR CURRENT COMMERCIAL INDUSTRIAL ACTIVITIES.

Parcels Easements and ROW's	Property Owner	Man Made Structures within 200'
131511000029	BILLINGS DENNIS A & DEBORAH A 11859 QUAIL RD LONGMONT CO 80501	RESIDENTIAL HOUSE AND OUTBUILDINGS FENCE
131502300002	BNSF RAILWAY COMPANY 2500 LOU MENK DR FORT WORTH TX 76161	RAILROAD TRACKS OVERHEAD ELECTRIC LINE AND LIGHTS
131511000002	BNSF RAILWAY COMPANY 2500 LOU MENK DR FORT WORTH TX 76161	RAILROAD TRACKS OVERHEAD ELECTRIC LINE AND LIGHTS
	BONUS DITCH COMPANY PO BOX 771 LONGMONT CO 80502	CONCRETE DITCH, DIVERSION STRUCTURE CULVERTS
131511000027	BURIANEK JEFF & LYSA 1347 WILKERSON WAY LONGMONT CO 80504	RESIDENTIAL HOUSE AND OUTBUILDINGS FENCE
131512000026	C & J ENTERPRISES LLC 1451 PARK DR LOVELAND CO 80538	COMMERCIAL BUILDINGS FENCE
131511000044	CITY OF LONGMONT 350 KIMBARK ST LONGMONT CO 80501	FENCE
131510047004	CITY OF LONGMONT 350 KIMBARK ST LONGMONT CO 80501	SANITARY SEWER TREATMENT FACILITIES FENCE ACCESS ROADS
131510047005	CITY OF LONGMONT 350 KIMBARK ST LONGMONT CO 80501	FENCE DRAINAGE IMPROVEMENTS RIVER RESTORATION STRUCTURES
131511049006	CITY OF LONGMONT 350 KIMBARK ST LONGMONT CO 80501	GREENWAY TRAIL LANDSCAPE IMPROVEMENTS IRRIGATION
131512000064	CITY OF LONGMONT 350 KIMBARK ST LONGMONT CO 80501	GREENWAY TRAIL AND IMPROVEMENTS IRRIGATION SIGNAGE
131511000068	CITY OF LONGMONT 350 KIMBARK ST LONGMONT CO 80501	GREENWAY TRAIL AND IMPROVEMENTS IRRIGATION IMPROVEMENTS SIGNAGE SANITARY SEWER OVERHEAD ELECTRIC DRAINAGE IMPROVEMENTS CULVERTS BRIDGES BENCHES ANS SIGNS
131511000067	CITY OF LONGMONT 350 KIMBARK ST LONGMONT CO 80501	CULVERTS BRIDGES BUILDINGS CHAIN LINK FENCE AND STRUCTURES ASSOCIATED WITH WASTE WATER TREATMENT PLANT STORM SEWER DITCH AND PIPE SANITARY SEWER PIPE
131511000070	CITY OF LONGMONT 350 KIMBARK ST LONGMONT CO 80501	AGRICULTURAL FARM AND OUTBUILDINGS FENCE
131511000069	CITY OF LONGMONT 350 KIMBARK ST LONGMONT CO 80501	AGRICULTURAL FARM AND OUTBUILDINGS FENCE
	CITY OF LONGMONT PARKS AND NATURAL RESOURCES 7 SOUTH SUNSET ST. LONGMONT CO 80501	GREENWAY TRAIL AND LANDSCAPE IMPROVEMENTS FENCE IRRIGATION SYSTEM SIGNAGE UNDERPASS
	CITY OF LONGMONT PUBLIC WORKS 385 KIMBARK ST LONGMONT CO 80501	WATER LINE SANITARY SEWER LINE ELECTRIC AND FIBER OPTIC IMPROVEMENTS STREET LIGHTS SIDEWALKS LANDSCAPE IMPROVEMENTS STORM DRAINAGE IMPROVEMENTS STREETS TRAFFIC SIGNAL IRRIGATION IMPROVEMENTS SIGNAGE
131512000010	CLEAN ENERGY LLC PO BOX 101960 DENVER CO 80250	FENCE DRAINAGE IMPROVEMENTS
131511000038 131512000010 DRAINAGE EASEMENTS	CLEAN ENERGY LLC PO BOX 101960 DENVER CO 80250	COMMERCIAL INDUSTRIAL BUILDINGS SECURITY FENCE DRAINAGE STRUCTURES AND DITCHES
	COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) 10601 10TH STREET GREELEY, CO 80634	STATE HWY 119 ROADWAY BRIDGE SIGNS
	COMCAST 8000 EAST ILIFF AVENUE DENVER, CO 80231	BURIED CABLE
131512000027 131512000009 131512000016 131512200020	COUNTY OF BOULDER 5201 ST VRAIN RD BLDG 1 LONGMONT CO 80503	OUTBUILDINGS FENCE
131512000020	COUNTY OF BOULDER 5201 ST VRAIN RD BLDG 1 LONGMONT CO 80503	FENCE IRRIGATION LATERALS
	COUNTY OF BOULDER TRANSPORTATION PO BOX 471 BOULDER CO 80306	COUNTY ROAD 20 (QUAIL ROAD) COUNTY ROAD 3 (N. 119TH STREET) BRIDGE UNDERPASS SIGNAGE
131512000009	COUNTY OF BOULDER 5201 ST VRAIN RD BLDG 1 LONGMONT CO 80503	FENCE IRRIGATION LATERALS
131511312002	DIAMOND G CONCRETE CO 7889 ST VRAIN RD LONGMONT CO 80503	LANDSCAPE IMPROVEMENTS
131511312004	DIAMOND G CONCRETE CO 7889 ST VRAIN RD LONGMONT CO 80503	LANDSCAPE IMPROVEMENTS
131511312003	DIAMOND G CONCRETE CO 7889 ST VRAIN RD LONGMONT CO 80503	IRRIGATION TAP
131511312006	DIAMOND G CONCRETE CO 7889 ST VRAIN RD LONGMONT CO 80503	LANDSCAPE IMPROVEMENTS
131502300006	DK HOLDINGS LLC PO BOX 998 Longmont CO 80501	COMMERCIAL BUILDINGS FENCE
131511000020	DORMAN LOIS L 14507 56TH AVE SE EVERETT WA 98208	RESIDENTIAL HOUSE AND OUTBUILDINGS FENCE
131511000022	EL AGUILA LLC 2253 SANTA FE DR LONGMONT CO 80504	RESIDENTIAL HOUSE AND OUTBUILDINGS FENCE
	FOOTHILLS WATER USERS ASSOCIATION CO LEFT HAND WATER DISTRICT PO BOX 210 NIWOT CO 80544	WATER PIPELINE
131511000037	GARVERT LIVING TRUST 706 PICKET LN LONGMONT CO 80504	RESIDENTIAL HOUSE AND OUTBUILDINGS FENCE
131511000009 131511000021 131511000008	GOLDEN FARM LLLP PO BOX 54 LONGMONT CO	FENCE IRRIGATION LATERAL IRRIGATION IMPROVEMENTS STORM DRAINAGE IMPROVEMENTS
131511000008	GOLDEN FARM LLLP PO BOX 54 LONGMONT CO	IRRIGATION LATERAL IMPROVEMENTS FENCE
131511000009	GOLDEN FARM LLLP PO BOX 54 LONGMONT CO	IRRIGATION LATERAL IMPROVEMENTS FENCE
131511000066	GOLDEN-IRWIN LLC PO BOX 54 LONGMONT CO 80502	MINERALS
131511000048	GUZEVEN CONSTRUCTION INC 5799 CR 5 ERIE CO 80516-9201	RESIDENTIAL HOUSE AND OUTBUILDINGS FENCE
131512000018	HARTMAN PAUL D & KAREN SUE 9412 N 119TH ST LONGMONT CO 80503	RESIDENTIAL HOUSE AND OUTBUILDINGS FENCE
131511000028	HEITMANN JUSTIN 11831 QUAIL RD LONGMONT CO 80501	RESIDENTIAL HOUSE AND OUTBUILDINGS FENCE
131511000024	MCLEOD SEAN & NICOLE 11725 QUAIL RD LONGMONT CO 80501	RESIDENTIAL HOUSE AND OUTBUILDINGS FENCE
131511000018	NARF STUDIOS LLC 1976 AMETHYST DR LONGMONT CO 80504	RESIDENTIAL HOUSE WITH BUSINESS AND OUTBUILDINGS FENCE
131502300006	PANORAMA COORDINATED SERVICES INC 395 A E ROGERS RD Longmont CO 80501	COMMERCIAL BUILDINGS, FENCE
	PLATTE RIVER POWER AUTHORITY (PRPA) 2000 EAST FORESHOOT ROAD FORT COLLINS CO 80525	ELECTRIC TRANSMISSION LINES
131511000030	PLUMLEY JOSEPH 9413 N 119TH ST LONGMONT CO 80501	RESIDENTIAL HOUSE AND OUTBUILDINGS FENCE PRIVACY FENCE AND WIRE STRAND FENCE
	QWEST/CENTURYLINK 1801 CALIFORNIA STREET, 24TH FLOOR DENVER CO 80202	BURIED FIBER OPTIC OVERHEAD TELEPHONE LINE
131511000066	RLSJ PROPERTIES LLC PO BOX 54 LONGMONT CO 80502	FENCE
131511000026	SIZEMORE GREGORY 11791 QUAIL RD LONGMONT CO 80501	RESIDENTIAL HOUSE OUTBUILDINGS FENCE
131511000055	SOUTH MILL LLC ET AL 3031 STATE HIGHWAY 119 LONGMONT CO 80504	COMMERCIAL INDUSTRIAL BUILDINGS SECURITY FENCE
131511000032	WADDLE JANET LEA 11767 QUAIL RD LONGMONT CO 80501	RESIDENTIAL HOUSE AND OUTBUILDINGS FENCE
131511000023	WHITTAKER JUSTIN & HANNAH 11705 QUAIL RD Longmont CO 80501	RESIDENTIAL HOUSE AND OUTBUILDINGS FENCE
	XCEL ENERGY 414 NICOLLET MALL MINNEAPOLIS, MN 55401	GAS LINES ELECTRIC DISTRIBUTION LINES

LEGEND

- PERMIT BOUNDARY
- 200' OFFSET OF PERMIT BOUNDARY
- EXISTING PARCELS
- EXISTING DITCH
- G EXISTING GAS LINE
- OHE EXISTING OVERHEAD ELECTRIC
- SS EXISTING SANITARY SEWER
- EXISTING 5 FOOT CONTOUR
- EXISTING 25 FOOT CONTOUR
- E100-YR 100 YR EFFECTIVE FLOOD PLANE
- P100-YR 100 YR PRELIMINARY FLOOD PLANE
- A100-YR 100 YR PROPOSED FLOOD PLANE

NORTH

0 150' 300' 600'
SCALE: 1"= 300'-0"

REVISIONS

BY	DATE	DESCRIPTION

DRAWN BW
CHECKED BW
DESIGNED BW
FILENAME 1241.0001 DRMS C-1

IRWIN/THOMAS MINE M2016-054 TECHNICAL REVISION 1

EXHIBIT C-1

EXISTING CONDITIONS & SURFACE OWNERS OF RECORD

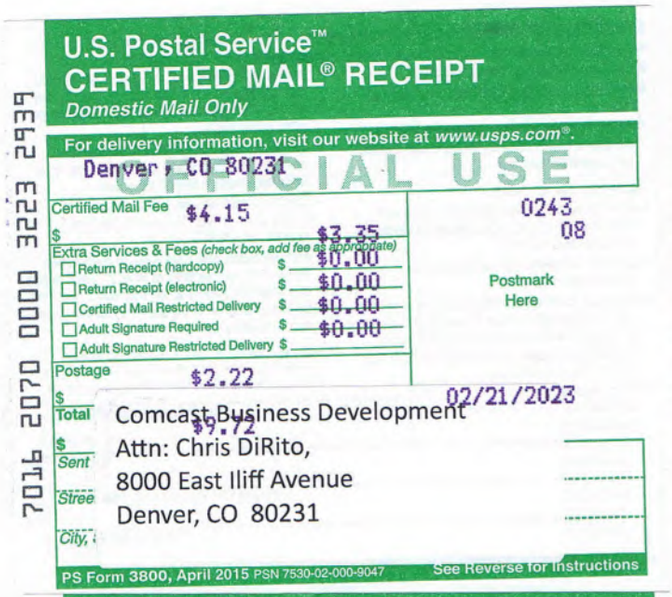
TST
TST, INC.
CONSULTING ENGINEERS
748 Whalers Way
Suite 200 Fort Collins
Colorado 80525
Phone: 970.226.0557

JOB NO. 1241.0001.04
SCALE 1"=300'
DATE MARCH 2023
SHEET 1 of 5

K:\1241\0001\05 Drawings\Sheets LA\1241.0001 DRMS C-1.dwg; 3/6/2023 11:54:54 AM

ATTACHMENT B

Structure Agreements



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- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

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Total $9.72

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02/21/2023

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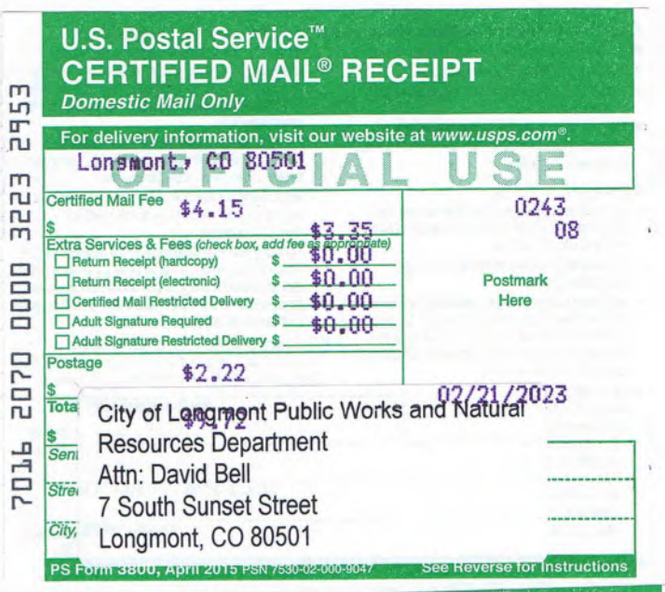
Street: 8000 East Iliff Avenue
City: Denver, CO 80231

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7016 2070 0000 3223 2939



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- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $2.22
Total $9.72

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02/21/2023

Sent To: City of Longmont Public Works and Natural Resources Department
Attn: David Bell
Street: 7 South Sunset Street
City: Longmont, CO 80501

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7016 2070 0000 3223 2953

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Longmont, CO 80501

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- Return Receipt (electronic) $0.00
- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $2.22
Total $9.72

0243
08

Postmark Here

02/21/2023

Sent To: City of Longmont Public Works
Development Services Center
Attn: Jim Angstadt
Street: 385 Kimbark St.
City: Longmont, CO 80501

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7016 2070 0000 3223 2946

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Minneapolis, MN 55401

OFFICIAL USE

Certified Mail Fee $4.15
Extra Services & Fees (check box, add fee as appropriate)
- Return Receipt (hardcopy) $3.35 $0.00
- Return Receipt (electronic) $0.00
- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $2.22
Total $9.72

0243
08

Postmark Here

02/21/2023

Sent To: Xcel Energy
Street and: 414 Nicollet Mall
City, State, Minneapolis, MN 55401

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7016 2070 0000 3223 2915

U.S. Postal Service™
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For delivery information, visit our website at www.usps.com®.

Greeley, CO 80634

OFFICIAL USE

Certified Mail Fee $4.15
Extra Services & Fees (check box, add fee as appropriate)
- Return Receipt (hardcopy) $3.35 $0.00
- Return Receipt (electronic) $0.00
- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $2.22
Total $9.72

0243
08

Postmark Here

02/21/2023

Sent To: Colorado Department of Transportation
Attn: Tim Bilobran
Street: 10601 10t' Street
City: Greeley, Colorado 80634

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7016 2070 0000 3223 2960

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Longmont, CO 80502

OFFICIAL USE

Certified Mail Fee $4.15
Extra Services & Fees (check box, add fee as appropriate)
- Return Receipt (hardcopy) $3.35 $0.00
- Return Receipt (electronic) $0.00
- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $2.22
Total $9.72

0243
08

Postmark Here

02/21/2023

Sent To: Diamond C Concrete
Street and: PO Box 54.
City, State, Longmont, CO 80502

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7016 2070 0000 3223 2922

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Longmont, CO 80503

OFFICIAL USE

Certified Mail Fee $4.15
Extra Services & Fees (check box, add fee as appropriate)
- Return Receipt (hardcopy) $3.35 $0.00
- Return Receipt (electronic) $0.00
- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $2.22
Total $9.72

0243
08

Postmark Here

02/21/2023

Sent To: Golden Farm LLLP
Street and: PO Box 54
City, State, Longmont CO 80502

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7016 2070 0000 3223 2908

NOTE: Certified Mail Tracking Number - 7016 2070 0000 3223 2960

Transmittal

DATE: **February 17, 2023**

TO: **Colorado Department of Transportation**
Attn: Tim Bilobran
10601 10t' Street
Greeley, Colorado 80634

FROM: **Barb Brunk**
Resource Conservation Partners, LLC
P.O. Box 1522
Longmont, CO 80502

WE TRANSMIT:		THE FOLLOWING:		FOR YOUR:	
■	Attached	■	Draft Structure Agreement		Use
	Information as outlined below	■	Copy Earth Engineering Consultants (EEC) "Subsurface Exploration and Slope Stability Evaluation" February 7, 2018 and correspondence from EEC dated June 28, 2022		Approval
			Applications	■	Information
			Specifications	■	Review and Comment
			Other		

Remarks:

Holcim – WCR, Inc. is in the process of obtaining a Technical Revision from the Colorado Division of Reclamation, Mining and Safety (DRMS) for the existing Irwin Thomas 112 Permit (M2016-054) for gravel mining and reclamation of aggregate materials in an area of the City of Longmont (see Vicinity Map). The mining will include excavation to maximum depths of about 30 feet below the ground surface and reclamation will involve creation of sealed ponds, unlined ponds, wetlands, and backfilling, grading and revegetation to great stable pond shorelines, wetland areas and upland grasslands. This Technical Revision application is specifically for the portion of the permit area located south of HWY 119. The Applicant is required to submit another Technical Revision Request, prior to commencement of mining on the portions of the permit boundary located north of HWY 119.

As part of the DRMS permitting process, Holcim has identified permanent man-made structures owned by the Colorado Department of Transportation adjacent to the project (see Mining Plan Map). Mine planning has established appropriate setbacks from mining excavations to protect the integrity of adjacent structures, including those owned by the Colorado Department of Transportation, and Holcim does not anticipate any structure damages. However, DRMS requires that Holcim offer a Structure Agreement for your consideration. A typical agreement is attached.

The slope stability of the Irwin Thomas mine development was investigated by Earth Engineering Consultants, LLC (EEC) in February 2018, as presented in their 'Subsurface Exploration and Slope Stability Evaluation' report. The slope stability results of EEC's investigation are summarized on pages 5 & 6 of the report. EEC's findings show that a slope stability factor of safety of 1.5 (considered sufficient for permanent improvements) can be met when the excavation is offset by at least 50 feet from roadway surfaces. Under the revised mine plan, no excavation will take place within 50 feet of roadways or buried utilities. As such, the 2018 report shows that the minimum factor of safety for excavated slopes will be upheld under the revised mine plan.

A copy of the full report and Correspondence submitted with the Application for the Technical Revision is attached for your review.

If you are interested in the structure agreement, please contact me for further details. Please call me at (303) 775-6180 if you have any questions or need additional information.

RESOURCE CONSERVATION PARTNERS, LLC

BY: Barbara Brunk, mgr.
Barbara Brunk, Manager

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation may adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. *(Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. State HWY 119 road way and shoulder improvements.

2. Traffic Signal Improvements at the intersection of HWY 119 and Harvest Moon Drive

(Please attached map)

CERTIFICATION

The Applicant, Holcim-WCR, Inc, by Chance Allen, Regional Head Holcim; Western United States does hereby certify that Colorado Department of Transportation shall be compensated for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation Permit Application for Irwin Thomas Resource File Number M-2016-054.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant: Holcim -WCR, Inc, Representative Name: Chance Allen

Date 2/17/23 Title: Regional Head Holcim; Western United States

STATE OF Colorado)
) ss.
COUNTY OF Jefferson)

The foregoing was acknowledged before me this 17 day of February, 2023, by W. Chance Allen as Region Head of Holcim.

Sarah [illegible] My Commission Expires: 2/21/25
Notary Public

SARAH GREGA
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20174007757
MY COMMISSION EXPIRES FEBRUARY 21, 2025

NOTARY FOR STRUCTURE OWNER

ACKNOWLEGED BY:

Structure Owner _____ Name _____

Date _____ Title _____

STATE OF _____)
) ss.
COUNTY OF_____)
The foregoing was acknowledged before me this____ day of _____, 20___, by

_____ as _____ of _____.

_____ My Commission Expires:_____
Notary Public

NOTE: Certified Mail Tracking Number 7016 2070 0000 3223 2946

Transmittal

DATE: **February 17, 2023**

TO: **City of Longmont Public Works**
Development Services Center
Attn: Jim Angstadt
385 Kimbark St.
Longmont, CO 80501

FROM: **Barb Brunk**
Resource Conservation Partners, LLC
P.O. Box 1522
Longmont, CO 80502

WE TRANSMIT:		THE FOLLOWING:		FOR YOUR:	
■	Attached	■	Draft Structure Agreement		Use
	Information as outlined below	■	Copy Earth Engineering Consultants (EEC) "Subsurface Exploration and Slope Stability Evaluation" February 7, 2018 and correspondence from EEC dated June 28, 2022		Approval
			Applications	■	Information
			Specifications	■	Review and Comment
			Other		

Remarks:

Holcim – WCR, Inc. is in the process of obtaining a Technical Revision from the Colorado Division of Reclamation, Mining and Safety (DRMS) for the existing Irwin Thomas 112 Permit (M2016-054) for gravel mining and reclamation of aggregate materials in an area of the City of Longmont (see Vicinity Map). The mining will include excavation to maximum depths of about 30 feet below the ground surface and reclamation will involve creation of sealed ponds, unlined ponds, wetlands, and backfilling, grading and revegetation to great stable pond shorelines, wetland areas and upland grasslands. This Technical Revision application is specifically for the portion of the permit area located south of HWY 119. The Applicant is required to submit another Technical Revision Request, prior to commencement of mining on the portions of the permit boundary located north of HWY 119.

As part of the DRMS permitting process, Holcim has identified permanent man-made structures owned by the City of Longmont adjacent to the project (see Mining Plan Map). Mine planning has established appropriate setbacks from mining excavations to protect the integrity of adjacent structures, including those owned by the Colorado Department of Transportation, and Holcim does not anticipate any structure damages. However, DRMS requires that Holcim offer a Structure Agreement for your consideration. A typical agreement is attached.

The slope stability of the Irwin Thomas mine development was investigated by Earth Engineering Consultants, LLC (EEC) in February 2018, as presented in their 'Subsurface Exploration and Slope Stability Evaluation' report. The slope stability results of EEC's investigation are summarized on pages 5 & 6 of the report. EEC's findings show that a slope stability factor of safety of 1.5 (considered sufficient for permanent improvements) can be met when the excavation is offset by at least 50 feet from roadway surfaces. Under the revised mine plan, no excavation will take place within 50 feet of roadways or buried utilities. As such, the 2018 report shows that the minimum factor of safety for excavated slopes will be upheld under the revised mine plan.

A copy of the full report and Correspondence submitted with the Application for the Technical Revision is attached for your review.

If you are interested in the structure agreement, please contact me for further details. Please call me at (303) 775-6180 if you have any questions or need additional information.

RESOURCE CONSERVATION PARTNERS, LLC

BY: Barbara Brunk, mgr.
Barbara Brunk, Manager

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation may adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. *(Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. Public Improvements in in Harvest Moon Drive including street, sidewalks, landscaping and irrigation, street lights, electric and fiber optic improvements, water lines, sanitary Sewer lines, storm drainage improvements, and underdrain.

2. Sanitary Sewer Line and Storm Drainage improvements on the south side of HWY 119, adjacent to the HWY.

3. Traffic Signal Improvements at the intersection of HWY 119 and Harvest Moon Drive

(Please attached map)

CERTIFICATION

The Applicant, Holcim-WCR, Inc, by Chance Allen, Regional Head Holcim; Western United States does hereby certify that City of Longmont shall be compensated for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation Permit Application for Irwin Thomas Resource File Number M-2016-054.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant: Holcim -WCR, Inc, Representative Name: Chance Allen

Date 2/17/23 Title: Regional Head Holcim; Western United States

STATE OF Colorado)
) ss.
COUNTY OF Jefferson)

The foregoing was acknowledged before me this 17 day of February, 2023, by W. Chance Allen as Region Head of Holcim.

Sarah Grega My Commission Expires: 2/21/25
Notary Public

SARAH GREGA
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20174007757
MY COMMISSION EXPIRES FEBRUARY 21, 2025

NOTARY FOR STRUCTURE OWNER

ACKNOWLEGED BY:

Structure Owner _____ Name _____

Date _____ Title _____

STATE OF _____)
) ss.
COUNTY OF_____)
The foregoing was acknowledged before me this____ day of _____, 20___, by

_____ as _____ of _____.

_____ My Commission Expires:_____
Notary Public

NOTE: Certified Mail Tracking Number 7016 2070 0000 3223 2953

Transmittal

DATE: **February 17, 2023**

TO: **City of Longmont Public Works and Natural Resources Department**
Attn: David Bell
7 South Sunset Street
Longmont, CO 80501

FROM: **Barb Brunk**
Resource Conservation Partners, LLC
P.O. Box 1522
Longmont, CO 80502

WE TRANSMIT:		THE FOLLOWING:		FOR YOUR:	
■	Attached	■	Draft Structure Agreement		Use
	Information as outlined below	■	Copy Earth Engineering Consultants (EEC) "Subsurface Exploration and Slope Stability Evaluation" February 7, 2018 and correspondence from EEC dated June 28, 2022		Approval
			Applications	■	Information
			Specifications	■	Review and Comment
			Other		

Remarks:

Holcim – WCR, Inc. is in the process of obtaining a Technical Revision from the Colorado Division of Reclamation, Mining and Safety (DRMS) for the existing Irwin Thomas 112 Permit (M2016-054) for gravel mining and reclamation of aggregate materials in an area of the City of Longmont (see Vicinity Map). The mining will include excavation to maximum depths of about 30 feet below the ground surface and reclamation will involve creation of sealed ponds, unlined ponds, wetlands, and backfilling, grading and revegetation to great stable pond shorelines, wetland areas and upland grasslands. This Technical Revision application is specifically for the portion of the permit area located south of HWY 119. The Applicant is required to submit another Technical Revision Request, prior to commencement of mining on the portions of the permit boundary located north of HWY 119.

As part of the DRMS permitting process, Holcim has identified permanent man-made structures owned by the City of Longmont adjacent to the project (see Mining Plan Map). Mine planning has established appropriate setbacks from mining excavations to protect the integrity of adjacent structures, including those owned by the Colorado Department of Transportation, and Holcim does not anticipate any structure damages. However, DRMS requires that Holcim offer a Structure Agreement for your consideration. A typical agreement is attached.

The slope stability of the Irwin Thomas mine development was investigated by Earth Engineering Consultants, LLC (EEC) in February 2018, as presented in their 'Subsurface Exploration and Slope Stability Evaluation' report. The slope stability results of EEC's investigation are summarized on pages 5 & 6 of the report. EEC's findings show that a slope stability factor of safety of 1.5 (considered sufficient for permanent improvements) can be met when the excavation is offset by at least 50 feet from roadway surfaces. Under the revised mine plan, no excavation will take place within 50 feet of roadways or buried utilities. As such, the 2018 report shows that the minimum factor of safety for excavated slopes will be upheld under the revised mine plan.

A copy of the full report and Correspondence submitted with the Application for the Technical Revision is attached for your review.

If you are interested in the structure agreement, please contact me for further details. Please call me at (303) 775-6180 if you have any questions or need additional information.

RESOURCE CONSERVATION PARTNERS, LLC

BY: Barbara Brunk, mgr.
Barbara Brunk, Manager

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation may adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. *(Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. St. Vrain Creek, Primary Greenway Improvements adjacent to HWY 119 (East Ken Pratt Boulevard).

(Please attached map)

CERTIFICATION

The Applicant, Holcim-WCR, Inc, by Chance Allen, Regional Head Holcim; Western United States does hereby certify that City of Longmont shall be compensated for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation Permit Application for Irwin Thomas Resource File Number M-2016-054.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant: Holcim -WCR, Inc, Representative Name: Chance Allen

Date 2/17/23 Title: Regional Head Holcim; Western United States

STATE OF Colorado)
) ss.
COUNTY OF Jefferson)

The foregoing was acknowledged before me this 17 day of February, 2023, by W. Chance Allen as Region Head of Holcim.

Sarah Grega My Commission Expires: 2/21/25
Notary Public

SARAH GREGA
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20174007757
MY COMMISSION EXPIRES FEBRUARY 21, 2025

NOTARY FOR STRUCTURE OWNER

ACKNOWLEGED BY:

Structure Owner _____ Name _____

Date _____ Title _____

STATE OF _____)
) ss.
COUNTY OF_____)
The foregoing was acknowledged before me this____ day of _____, 20___, by

_____ as _____ of _____.

_____ My Commission Expires:_____
Notary Public

NOTE: Certified Mail Tracking Number 7016 2070 0000 3223 2939

Transmittal

DATE: **February 17, 2023**

TO: **Comcast Business Development**
Attn: Chris DiRito,
8000 East Iliff Avenue
Denver, CO 80231

FROM: **Barb Brunk**
Resource Conservation Partners, LLC
P.O. Box 1522
Longmont, CO 80502

WE TRANSMIT:		THE FOLLOWING:		FOR YOUR:	
■	Attached	■	Draft Structure Agreement		Use
	Information as outlined below	■	Copy Earth Engineering Consultants (EEC) "Subsurface Exploration and Slope Stability Evaluation" February 7, 2018 and correspondence from EEC dated June 28, 2022		Approval
			Applications	■	Information
			Specifications	■	Review and Comment
			Other		

Remarks:

Holcim – WCR, Inc. is in the process of obtaining a Technical Revision from the Colorado Division of Reclamation, Mining and Safety (DRMS) for the existing Irwin Thomas 112 Permit (M2016-054) for gravel mining and reclamation of aggregate materials in an area of the City of Longmont (see Vicinity Map). The mining will include excavation to maximum depths of about 30 feet below the ground surface and reclamation will involve creation of sealed ponds, unlined ponds, wetlands, and backfilling, grading and revegetation to great stable pond shorelines, wetland areas and upland grasslands. This Technical Revision application is specifically for the portion of the permit area located south of HWY 119. The Applicant is required to submit another Technical Revision Request, prior to commencement of mining on the portions of the permit boundary located north of HWY 119.

As part of the DRMS permitting process, Holcim has identified permanent man-made structures owned by Comcast adjacent to the project (see Mining Plan Map). Mine planning has established appropriate setbacks from mining excavations to protect the integrity of adjacent structures, including those owned by the Colorado Department of Transportation, and Holcim does not anticipate any structure damages. However, DRMS requires that Holcim offer a Structure Agreement for your consideration. A typical agreement is attached.

The slope stability of the Irwin Thomas mine development was investigated by Earth Engineering Consultants, LLC (EEC) in February 2018, as presented in their 'Subsurface Exploration and Slope Stability Evaluation' report. The slope stability results of EEC's investigation are summarized on pages 5 & 6 of the report. EEC's findings show that a slope stability factor of safety of 1.5 (considered sufficient for permanent improvements) can be met when the excavation is offset by at least 50 feet from roadway surfaces. Under the revised mine plan, no excavation will take place within 50 feet of roadways or buried utilities. As such, the 2018 report shows that the minimum factor of safety for excavated slopes will be upheld under the revised mine plan.

A copy of the full report and Correspondence submitted with the Application for the Technical Revision is attached for your review.

If you are interested in the structure agreement, please contact me for further details. Please call me at (303) 775-6180 if you have any questions or need additional information.

RESOURCE CONSERVATION PARTNERS, LLC

BY: Barbara Brunk, mgr.
Barbara Brunk, Manager

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation may adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. *(Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. Cable service line, located in an easement behind the right-of-way along the west side of Harvest Moon Drive in the Irwin Thomas First Filing Final Plat.

(Please attached map)

CERTIFICATION

The Applicant, Holcim-WCR, Inc, by Chance Allen, Regional Head Holcim; Western United States does hereby certify that Comcast shall be compensated for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation Permit Application for Irwin Thomas Resource File Number M-2016-054.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant: Holcim -WCR, Inc, Representative Name: Chance Allen W. Chance Allen

Date 2/17/23 Title: Regional Head Holcim; Western United States

STATE OF Colorado)
) ss.
COUNTY OF Jefferson)

The foregoing was acknowledged before me this 17 day of February, 2023, by W. Chance Allen as Region Head of Holcim.

Sarah Grega My Commission Expires: 2/21/25
Notary Public

SARAH GREGA
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20174007757
MY COMMISSION EXPIRES FEBRUARY 21, 2025

NOTARY FOR STRUCTURE OWNER

ACKNOWLEGED BY:

Structure Owner _____ Name _____

Date _____ Title _____

STATE OF _____)
) ss.
COUNTY OF_____)
The foregoing was acknowledged before me this____ day of _____, 20___, by

_____ as _____ of _____.

_____ My Commission Expires:_____
Notary Public

NOTE: Certified Mail Tracking Number 7016 2070 0000 3223 2922

Transmittal

DATE: **February 17, 2023**

TO: **Diamond G Concrete**
PO Box 54.
Longmont, CO 80503

FROM: **Barb Brunk**
Resource Conservation Partners, LLC
P.O. Box 1522
Longmont, CO 80502

WE TRANSMIT:		THE FOLLOWING:		FOR YOUR:	
■	Attached	■	Draft Structure Agreement		Use
	Information as outlined below	■	Copy Earth Engineering Consultants (EEC) "Subsurface Exploration and Slope Stability Evaluation" February 7, 2018 and correspondence from EEC dated June 28, 2022		Approval
			Applications	■	Information
			Specifications	■	Review and Comment
			Other		

Remarks:

Holcim – WCR, Inc. is in the process of obtaining a Technical Revision from the Colorado Division of Reclamation, Mining and Safety (DRMS) for the existing Irwin Thomas 112 Permit (M2016-054) for gravel mining and reclamation of aggregate materials in an area of the City of Longmont (see Vicinity Map). The mining will include excavation to maximum depths of about 30 feet below the ground surface and reclamation will involve creation of sealed ponds, unlined ponds, wetlands, and backfilling, grading and revegetation to great stable pond shorelines, wetland areas and upland grasslands. This Technical Revision application is specifically for the portion of the permit area located south of HWY 119. The Applicant is required to submit another Technical Revision Request, prior to commencement of mining on the portions of the permit boundary located north of HWY 119.

As part of the DRMS permitting process, Holcim has identified permanent man-made structures owned by the Diamond G Concrete adjacent to the project (see Mining Plan Map). Mine planning has established appropriate setbacks from mining excavations to protect the integrity of adjacent structures, including those owned by Diamond G Concrete, and Holcim does not anticipate any structure damages. However, DRMS requires that Holcim offer a Structure Agreement for your consideration. A typical agreement is attached.

The slope stability of the Irwin Thomas mine development was investigated by Earth Engineering Consultants, LLC (EEC) in February 2018, as presented in their 'Subsurface Exploration and Slope Stability Evaluation' report. The slope stability results of EEC's investigation are summarized on pages 5 & 6 of the report. EEC's findings show that a slope stability factor of safety of 1.5 (considered sufficient for permanent improvements) can be met when the excavation is offset by at least 50 feet from roadway surfaces. Under the revised mine plan, no excavation will take place within 50 feet of roadways or buried utilities. As such, the 2018 report shows that the minimum factor of safety for excavated slopes will be upheld under the revised mine plan.

A copy of the full report and Correspondence submitted with the Application for the Technical Revision is attached for your review.

If you are interested in the structure agreement, please contact me for further details. Please call me at (303) 775-6180 if you have any questions or need additional information.

RESOURCE CONSERVATION PARTNERS, LLC

BY: Barbara Brunk, mgr.
Barbara Brunk, Manager

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation may adversely affect the stability of any significant, valuable, and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. *(Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. Landscaping and irrigation improvements located behind the HWY 119 (East Ken Pratt Boulevard) and Harvest Mood Drive right-of-way at the south west corner of HWY 119 and Harvest Moon Drive.

(Please attached map)

CERTIFICATION

The Applicant, Holcim-WCR, Inc, by Chance Allen, Regional Head Holcim; Western United States does hereby certify that Diamond G Concrete shall be compensated for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation Permit Application for Irwin Thomas Resource File Number M-2016-054.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant: Holcim -WCR, Inc, Representative Name: Chance Allen W. Chance Allen

Date 2/17/23 Title: Regional Head Holcim; Western United States

STATE OF Colorado)
) ss.
COUNTY OF Jeffersm)

The foregoing was acknowledged before me this 17 day of February, 2023, by W. Chance Allen as Region Head of Holcim.

Sarah Grega My Commission Expires: 2/21/25
Notary Public

SARAH GREGA
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20174007757
MY COMMISSION EXPIRES FEBRUARY 21, 2025

NOTARY FOR STRUCTURE OWNER

ACKNOWLEGED BY:

Structure Owner _____ Name _____

Date _____ Title _____

STATE OF _____)
) ss.
COUNTY OF_____)
The foregoing was acknowledged before me this____ day of _____, 20___, by

_____ as _____ of _____.

_____ My Commission Expires:_____
Notary Public

NOTE: Certified Mail Tracking Number 7016 2070 0000 3223 2908

Transmittal

DATE: **February 17, 2023**

TO: **Golden Farm, LLLP**
PO Box 54.
Longmont, CO 80503

FROM: **Barb Brunk**
Resource Conservation Partners, LLC
P.O. Box 1522
Longmont, CO 80502

WE TRANSMIT:		THE FOLLOWING:		FOR YOUR:	
■	Attached	■	Draft Structure Agreement		Use
	Information as outlined below	■	Copy Earth Engineering Consultants (EEC) "Subsurface Exploration and Slope Stability Evaluation" February 7, 2018 and correspondence from EEC dated June 28, 2022		Approval
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			Specifications	■	Review and Comment
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As part of the DRMS permitting process, Holcim has identified permanent man-made structures owned by Golden Farm, LLLP adjacent to the project (see Mining Plan Map). Mine planning has established appropriate setbacks from mining excavations to protect the integrity of adjacent structures, including those owned by the Colorado Department of Transportation, and Holcim does not anticipate any structure damages. However, DRMS requires that Holcim offer a Structure Agreement for your consideration. A typical agreement is attached.

The slope stability of the Irwin Thomas mine development was investigated by Earth Engineering Consultants, LLC (EEC) in February 2018, as presented in their 'Subsurface Exploration and Slope Stability Evaluation' report. The slope stability results of EEC's investigation are summarized on pages 5 & 6 of the report. EEC's findings show that a slope stability factor of safety of 1.5 (considered sufficient for permanent improvements) can be met when the excavation is offset by at least 50 feet from roadway surfaces. Under the revised mine plan, no excavation will take place within 50 feet of roadways or buried utilities. As such, the 2018 report shows that the minimum factor of safety for excavated slopes will be upheld under the revised mine plan.

A copy of the full report and Correspondence submitted with the Application for the Technical Revision is attached for your review.

If you are interested in the structure agreement, please contact me for further details. Please call me at (303) 775-6180 if you have any questions or need additional information.

RESOURCE CONSERVATION PARTNERS, LLC

BY: Barbara Brunk, mgr.
Barbara Brunk, Manager

Structure Agreement

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a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. *(Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

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The following structures are located on or within 200 feet of the proposed affected area:

1. Storm Drainage Improvements located in an easement behind the right-of-way along the east side of Harvest Moon Drive in the Irwin Thomas First Filing Final Plat.
2. Private irrigation lateral improvements located in Harvest Moon Drive ROW and on the west side of Harvest Moon Drive behind the storm sewer improvements

(Please attached map)

CERTIFICATION

The Applicant, Holcim-WCR, Inc, by Chance Allen, Regional Head Holcim; Western United States does hereby certify that Golden Farm, LLLP shall be compensated for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation Permit Application for Irwin Thomas Resource File Number M-2016-054.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant: Holcim -WCR, Inc, Representative Name: Chance Allen

Date 2/17/23 Title: Regional Head Holcim; Western United States

STATE OF Colorado)
) ss.
COUNTY OF Jefferson)

The foregoing was acknowledged before me this 17 day of February, 2023, by W Chance Allen as Region Head of Holcim.

Sarah Grega My Commission Expires: 2/21/25
Notary Public

SARAH GREGA
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20174007757
MY COMMISSION EXPIRES FEBRUARY 21, 2025

NOTARY FOR STRUCTURE OWNER

ACKNOWLEGED BY:

Structure Owner _____ Name _____

Date _____ Title _____

STATE OF _____)
) ss.
COUNTY OF_____)
The foregoing was acknowledged before me this____ day of _____, 20___, by

_____ as _____ of _____.

_____ My Commission Expires:_____
Notary Public

NOTE: Certified Mail Tracking Number 7016 2070 0000 3223 2915

Transmittal

DATE: **February 17, 2023**

TO: **Xcel Energy**
414 Nicollet Mall
Minneapolis, MN 55401

FROM: **Barb Brunk**
Resource Conservation Partners, LLC
P.O. Box 1522
Longmont, CO 80502

WE TRANSMIT:		THE FOLLOWING:		FOR YOUR:	
■	Attached	■	Draft Structure Agreement		Use
	Information as outlined below	■	Copy Earth Engineering Consultants (EEC) "Subsurface Exploration and Slope Stability Evaluation" February 7, 2018 and correspondence from EEC dated June 28, 2022		Approval
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As part of the DRMS permitting process, Holcim has identified permanent man-made structures owned by XCEL adjacent to the project (see Mining Plan Map). Mine planning has established appropriate setbacks from mining excavations to protect the integrity of adjacent structures, including those owned by the Colorado Department of Transportation, and Holcim does not anticipate any structure damages. However, DRMS requires that Holcim offer a Structure Agreement for your consideration. A typical agreement is attached.

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RESOURCE CONSERVATION PARTNERS, LLC

BY: Barbara Brunk, mgr.
Barbara Brunk, Manager

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The following structures are located on or within 200 feet of the proposed affected area:

1. Natural gas line located in an easement behind the right-of-way along the west side of Harvest Moon Drive in the Irwin Thomas First Filing Final Plat.

(Please attached map)

CERTIFICATION

The Applicant, Holcim-WCR, Inc, by Chance Allen, Regional Head Holcim; Western United States does hereby certify that Xcel Energy shall be compensated for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation Permit Application for Irwin Thomas Resource File Number M-2016-054.

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NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant: Holcim -WCR, Inc, Representative Name: Chance Allen

Date 2/17/23 Title: Regional Head Holcim; Western United States

STATE OF Colorado)
) ss.
COUNTY OF Jefferson)

The foregoing was acknowledged before me this 17 day of February, 2023, by W. Chance Allen as Region Head of Holcim.

Sarah Grega My Commission Expires: 2/21/25
Notary Public

SARAH GREGA
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20174007757
MY COMMISSION EXPIRES FEBRUARY 21, 2025

NOTARY FOR STRUCTURE OWNER

ACKNOWLEGED BY:

Structure Owner _____ Name _____

Date _____ Title _____

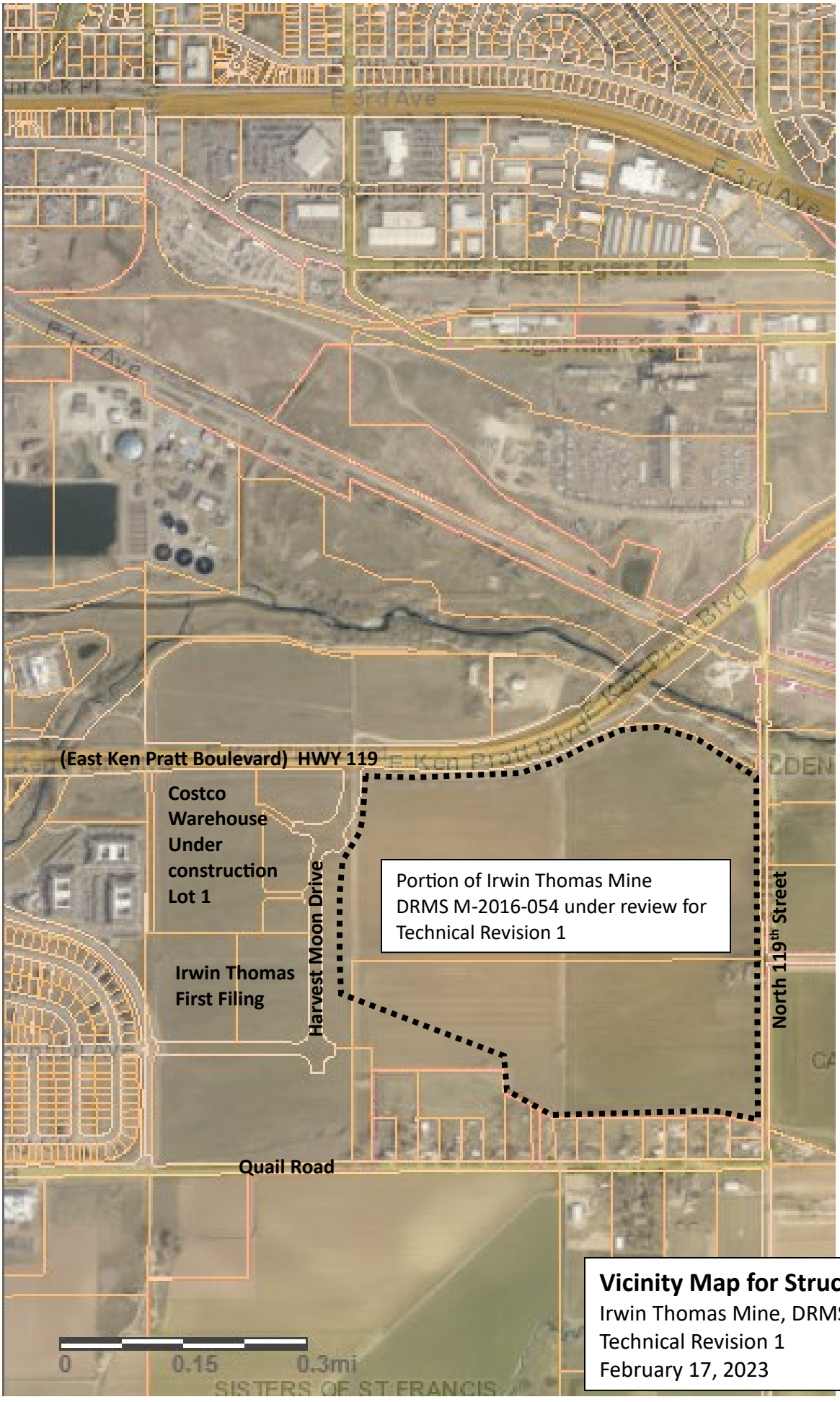
STATE OF _____)
) ss.
COUNTY OF_____)
The foregoing was acknowledged before me this____ day of _____, 20___, by

_____ as _____ of _____.

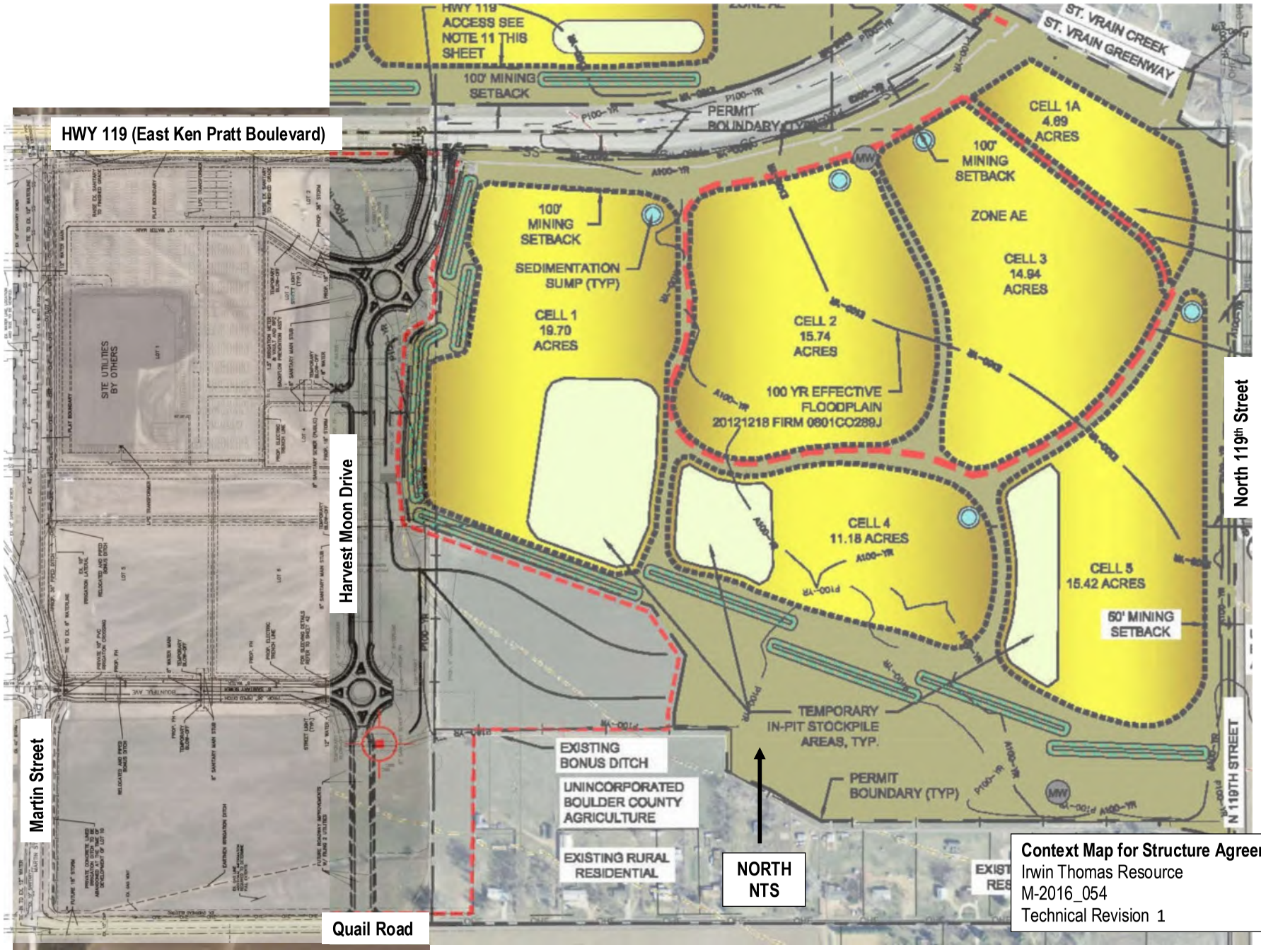
_____ My Commission Expires:_____
Notary Public

Structure Agreement Attachments

Note: Theses attachments were included with the Certified Mail for each Structure Agreement



Vicinity Map for Structure Agreements
Irwin Thomas Mine, DRMS M-2016-054
Technical Revision 1
February 17, 2023



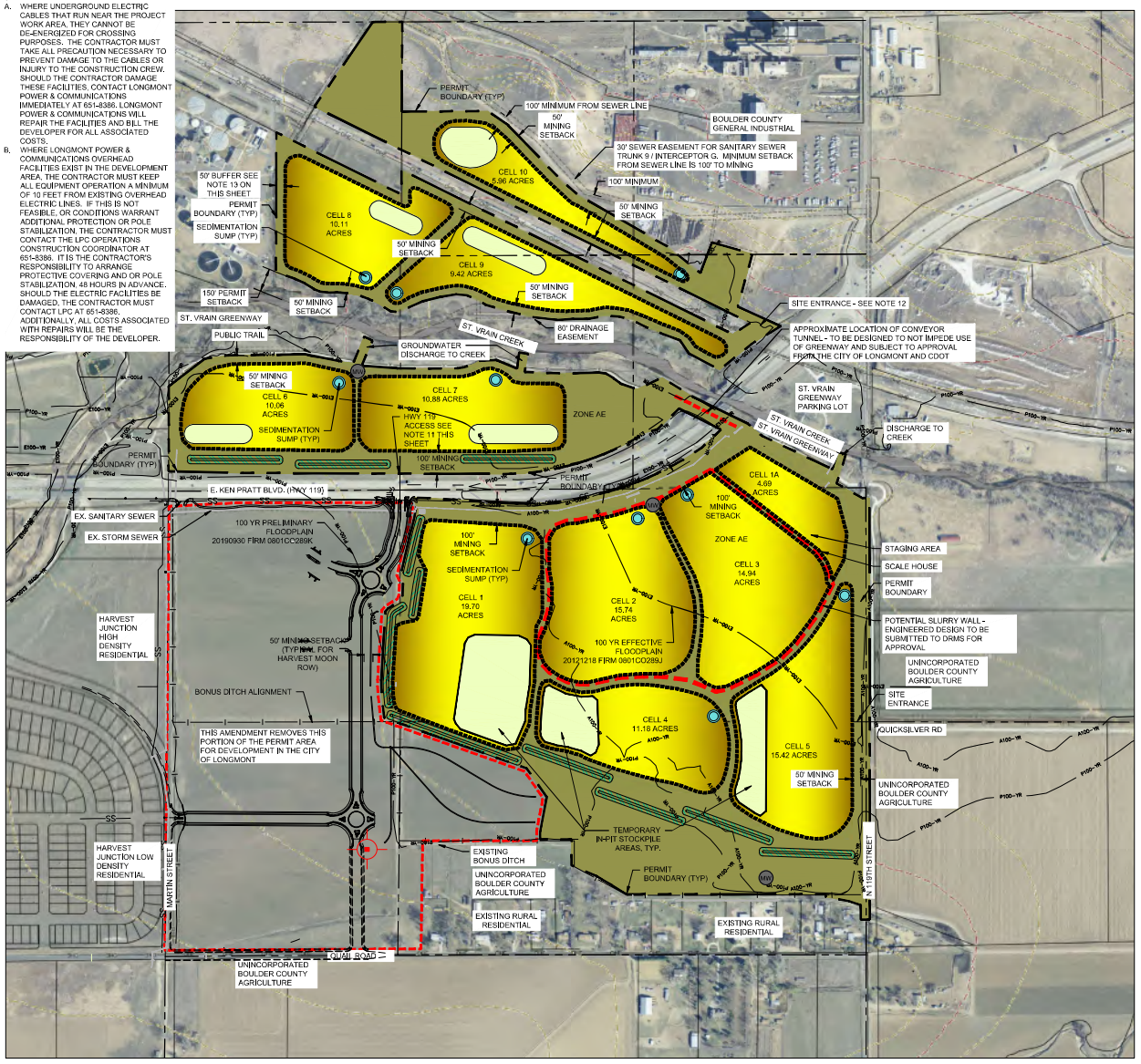
Context Map for Structure Agreements
Irwin Thomas Resource
M-2016_054
Technical Revision 1

IRWIN/THOMAS MINE

NOTE:

A. WHERE UNDERGROUND ELECTRIC CABLES THAT RUN NEAR THE PROJECT WORK AREA, THEY CANNOT BE DE-ENERGIZED FOR CROSSING PURPOSES, THE CONTRACTOR MUST TAKE ALL PRECAUTION NECESSARY TO PREVENT DAMAGE TO THE CABLES OR INJURY TO THE CONSTRUCTION CREW. SHOULD THE CONTRACTOR DAMAGE THESE FACILITIES, CONTACT LONGMONT POWER & COMMUNICATIONS IMMEDIATELY AT 651-8386. LONGMONT POWER & COMMUNICATIONS WILL REPAIR THE FACILITIES AND BILL THE DEVELOPER FOR ALL ASSOCIATED COSTS.

B. WHERE LONGMONT POWER & COMMUNICATIONS OVERHEAD FACILITIES EXIST IN THE DEVELOPMENT AREA, THE CONTRACTOR MUST KEEP ALL EQUIPMENT OPERATION A MINIMUM OF 10 FEET FROM EXISTING OVERHEAD ELECTRIC LINES. IF THIS IS NOT FEASIBLE, OR CONDITIONS WARRANT ADDITIONAL PROTECTION OR POLE STABILIZATION, THE CONTRACTOR MUST CONTACT THE LPC OPERATIONS CONSTRUCTION COORDINATOR AT 651-8386. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE PROTECTIVE COVERING AND OR POLE STABILIZATION, 48 HOURS IN ADVANCE. SHOULD THE ELECTRIC FACILITIES BE DAMAGED, THE CONTRACTOR MUST CONTACT LPC AT 651-8386. ADDITIONALLY, ALL COSTS ASSOCIATED WITH REPAIRS WILL BE THE RESPONSIBILITY OF THE DEVELOPER.



LEGEND

- PERMIT BOUNDARY
- SECTION LINE
- EXISTING PARCELS
- EXISTING 5 FOOT CONTOUR
- EXISTING 25 FOOT CONTOUR
- EXISTING MONITORING WELL LOCATION
- BERMS
- SLURRY WALL
- SEDIMENTATION SUMP
- TEMPORARY IN-PIT STOCKPILE AREAS
- 100 YR EFFECTIVE FLOOD PLANE
- 100 YR PRELIMINARY FLOOD PLANE
- 100 YR PROPOSED FLOOD PLANE

NOTES

1. THE PROPOSED IRWIN/THOMAS MINE PERMIT AREA IS COMPRISED OF 4 DISTINCT MINING AREAS SEPARATED BY COLORADO HIGHWAY 119, ST. VRAIN CREEK, AND THE BURLINGTON NORTHERN AND SANTA FE (BNSF) RAILROAD. MINING AREA 1 (MA1) IS LOCATED SOUTH OF HWY 119, MINING AREA 2 (MA2) IS NORTH OF HWY 119 AND SOUTH OF ST. VRAIN CREEK, MINING AREA 3 IS NORTH OF ST. VRAIN CREEK AND SOUTH OF THE BNSF RAILROAD, AND MINING AREA 4 IS NORTH OF THE RAILROAD.
2. THE PROPOSED PERMIT BOUNDARY ENCOMPASSES APPROXIMATELY 211.7 ACRES WITH ONLY ABOUT 128.1 ACRES CURRENTLY PLANNED FOR MINING. HOWEVER, THE AFFECTED LAND BOUNDARY ESSENTIALLY FOLLOWS THE PERMIT BOUNDARY TO ALLOW FOR RECLAMATION ACTIVITIES AND FUTURE POTENTIAL MINING OPERATIONS. AREAS NOT DISTURBED BY MINING MAY BE DISTURBED BY ACCESS ROADS, MATERIAL CONVEYING, STOCKPILES, OR OTHER MINING RELATED ACTIVITIES. THE REMAINING AREA WILL CONSIST OF SETBACKS AND ROAD AND UTILITY RIGHT-OF-WAYS.
3. IN ADDITION TO AREAS DISTURBED BY MINING, ACCESS ROADS, MATERIAL CONVEYING, STOCKPILES, OR OTHER MINING RELATED ACTIVITIES MAY OCCUR IN AREAS NOT SUBJECT TO MINING AND RIPARIAN SETBACKS AND BUFFERS. AREAS NOT DISTURBED BY MINING MAY BE DISTURBED BY ACCESS ROADS, MATERIAL CONVEYING, STOCKPILES, OR OTHER MINING RELATED ACTIVITIES. THE REMAINING AREA WILL CONSIST OF SETBACKS AND ROAD AND UTILITY RIGHT-OF-WAYS
4. SETBACKS FROM THE MINE PIT TOP OF SLOPE TO THE PROPOSED PERMIT BOUNDARY OR MAN-MADE STRUCTURES NOT OWNED BY THE APPLICANT WILL BE 50 FEET OR GREATER.
5. ITEMS OWNED BY THE APPLICANT OR PROPERTY OWNER LOCATED WITHIN THE PERMIT AREA SUCH AS UN-IMPROVED ROADS, IRRIGATION LATERALS, FENCES, WATER WELLS AND ASSOCIATED PUMPS, AND OTHER STRUCTURES MAY BE REMOVED OR RELOCATED DURING MINING AND RECLAMATION.
6. TEST PITS HAVE VERIFIED THAT COMMERCIAL DEPOSITS OF SAND AND GRAVEL EXIST UP TO 25 FEET BELOW THE SURFACE OF THE GROUND.
7. MINING IS EXPECTED TO ENCOUNTER GROUNDWATER WITHIN FIVE FEET OF THE GROUND SURFACE. THE DEPOSIT WILL BE DRY MINED USING DEWATERING TRENCHES, PUMPS, SUMPS, & RECHARGE PONDS.
8. DURING MINING ADJACENT TO THE ST. VRAIN CREEK RIPARIAN AREA, PRECAUTIONS WILL BE TAKEN TO NOT DISTURB THE CREEK CHANNEL AND DESIRABLE VEGETATION.
9. A MINE OFFICE/SCALE HOUSE TRAILER MAY BE ESTABLISHED NEAR SITE ENTRANCES BOTH NORTH AND SOUTH OF ST. VRAIN CREEK.
10. BEST MANAGEMENT PRACTICES WILL BE USED TO LIMIT DISCHARGE OF STORMWATER AND SEDIMENT ONTO ADJACENT PROPERTIES AND WATERWAYS.
11. THE EXISTING HWY 119 ACCESS WILL CONTINUE TO FUNCTION FOR AGRICULTURE ACCESS AND MAINTENANCE. ONCE MINING AND RECLAMATION BEGIN, ACTIVITY ASSOCIATED WITH THE HWY 119 ACCESS WILL INCLUDE BRINGING EQUIPMENT INTO THE SITE, THE EQUIPMENT OPERATORS VEHICLE, ANY REQUIRED MAINTENANCE OF THE EQUIPMENT AND VEGETATION MANAGEMENT. MINED MATERIAL MAY BE TRANSPORTED VIA THE CONVEYOR AS SHOWN ON THE MINING PLAN OR VIA HAUL TRUCKS UTILIZING DIRECT ACCESS ONTO HWY 119 AT THE CONTROLLED INTERSECTION. SPECIFIC DETAILS REGARDING TRANSPORT OF MATERIAL FROM THE HWY 119 ACCESS OR VIA THE CONVEYOR SHALL BE REVIEWED AND APPROVED BY CDOT AND THE CITY OF LONGMONT.
12. ACCESS TO CELLS 8,9 AND 10 WILL BE VIA AN EXISTING ACCESS EASEMENT TO NORTH 119TH ST. SPECIFIC CONFIGURATION, REQUIRED IMPROVEMENTS AND AN APPROVED HAUL ROUTE TO BE APPROVED BY THE CITY PRIOR TO MINING THESE CELLS. THE OPERATOR WILL ENTER INTO A ROAD MAINTENANCE AGREEMENT WITH THE CITY PRIOR TO MINING THOSE CELLS.
13. THE EXISTING SWALE ON THE WEST SIDE OF CELL 8 IS A MAJOR DRAINAGE CONVEYANCE AND DISCHARGE FOR THE WATER TREATMENT PLANT. THE CHANNEL CANNOT BE IMPACTED AND MUST REMAIN OPERATIONAL AT ALL TIMES. FIELD VERIFY PRIOR TO ANY MINING ACTIVITIES THAT THE 50' PROPOSED BUFFER IS ADEQUATE TO PROTECT THE EXISTING SWALE, AND IF IT IS NOT, INCREASE THE BUFFER AMOUNT TO ENSURE PROPER OPERATION OF THE SWALE.

MINING SEQUENCE NOTES

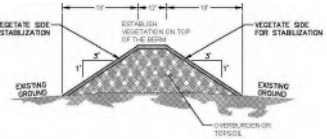
1. IN MA1, MINING CELL 1A SHALL BE MINED FIRST. MINING AND BACKFILL OF CELL 1A SHALL OCCUR DURING THE NON-FLOOD PRONE SEASON OF OCTOBER THROUGH APRIL. PRIOR TO MINING IN CELLS 2 AND 3, CELL 1A SHALL BE BACKFILLED.
2. THE SCALE HOUSE AND STAGING AREA IN MA1 MAY BE ESTABLISHED ON THE MINED AND BACKFILLED AREA OF CELL 1A.
3. IN MA2 AND MA3, THE AREAS OF THE MINING CLOSEST TO ST. VRAIN CREEK SHALL BE MINED FIRST. THE MINE CELLS WITHIN 200 FEET OF THE CREEK SHALL BE MINED AND BACKFILLED DURING THE NON-FLOOD PRONE SEASON OF OCTOBER THROUGH APRIL.
4. PRIOR TO AFFECTING LAND WITHIN MA2, MA3 OR MA4 THE DIVISION OF RECLAMATION, MINING AND SAFETY (THE DIVISION) SHALL BE NOTIFIED IN WRITING.
5. IF COMPLETED MINE CELL SLOPES ARE TO BE WITHIN A RESERVOIR OR POND, THE DIVISION SHALL BE NOTIFIED FOR INSPECTION PRIOR TO FILLING THE RESERVOIR/POND WITH WATER
6. IF SOIL TESTING IS NECESSARY FOR RECLAMATION, TEST RESULTS AND ANY PROPOSED SOIL AMENDMENTS SHALL BE SUBMITTED TO THE DIVISION.
7. PRIOR TO MINING MA3 AND MA4, MONITORING WELLS SHALL BE INSTALLED AND MONITORED FOR FIVE QUARTERS TO ESTABLISH BASELINE GROUND WATER ELEVATIONS .
8. IF OFF SITE STRUCTURAL FILL IS TO BE IMPORTED, THE DIVISION SHALL BE NOTIFIED ACCORDING TO THE MINERAL RULES AND REGULATIONS RULE 3.1.5(9)
9. A TEMPORARY ABOVE GROUND FUEL STORAGE FACILITY MAY BE PLACED IN MA1 DURING MINING.

FLOOD PLAIN NOTES

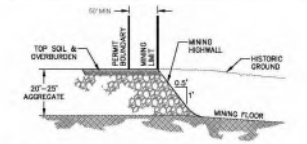
FLOODPLAIN INFORMATION PER FIRM FLOOD INSURANCE RATE MAP NO 08013C0287J DATED DECEMBER 18, 2012 AND FIRM FLOOD INSURANCE RATE MAP NO 08013C0289J DATED DECEMBER 18, 2012.

- THIS PROPERTY LIES IN AREAS DETERMINED TO BE WITHIN OTHER AREAS - AREAS OUTSIDE THE 2% ANNUAL CHANCE FLOOD
- ZONE X - AREAS OF 25 % ANNUAL CHANCE OF FLOOD OR AREAS WITH 1% ANNUAL CHANCE OF FLOOD WITH AVERAGE DEPTHS OF LESS THAN ONE FOOT OR WITH DRAINAGE AREAS LESS THAN ONE SQUARE MILE AND AREAS PROTECTED BY LEVEES FROM THE 100 YEAR FLOOD.
- ZONE AE - SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL FLOOD CHANCE, BASE FLOOD ELEVATIONS DETERMINED.
- ZONE AH - SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL FLOOD CHANCE, FLOOD DEPTHS OF 1 TO 3 FEET, (USUALLY AREAS OF PONDING) BASE FLOOD ELEVATIONS DETERMINED.

THE ADDITIONAL FLOODPLAINS SHOWN ARE BASED ON PRELIMINARY FEMA FIRM MAP 08013C0289K FROM SEPTEMBER 30, 2019 AND LONGMONT'S APPEAL OF FEMA'S PRELIMINARY FIRM MAP. THESE MAPS ARE NOT FINAL AND ARE EXPECTED TO BE REVISED, THESE ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.



TYPICAL BERMING SECTION



TYPICAL MINING SECTION AT PERMIT BOUNDARY

REVISIONS	DESCRIPTION	DATE	BY

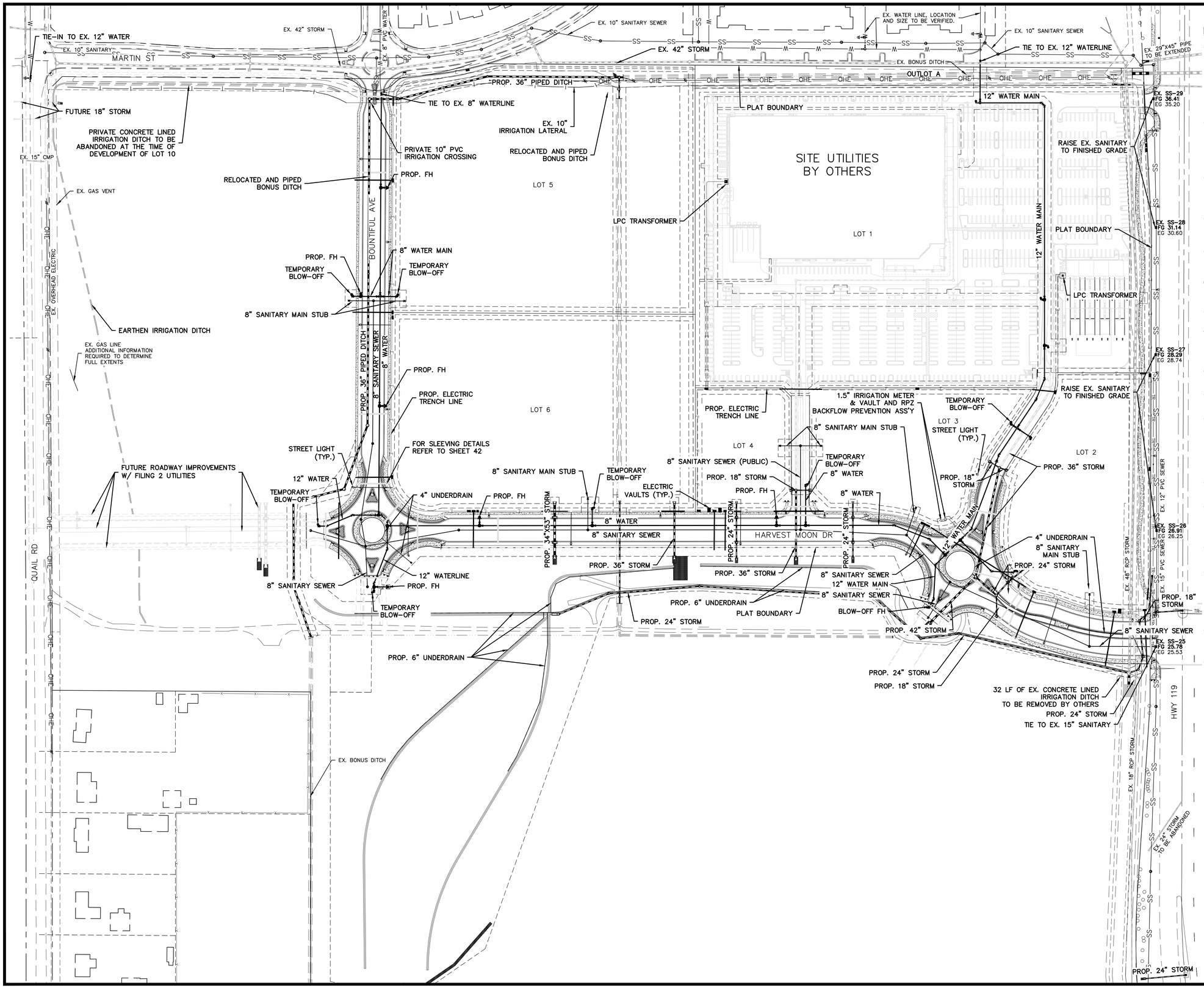
DRAWN: PDB
CHECKED: BW
DESIGNED: BW
FILENAME: 1241.0001 DRMS

IRWIN/THOMAS MINE
EXHIBIT C-4
PRE-MINING MAP

TST
TST, INC.
CONSULTING ENGINEERS
748 Whalers Way
Suite 200 Fort Collins
Colorado 80525
Phone: 970.226.0557

JOB NO. 1241.0001.02
SCALE 1"=300'
DATE DECEMBER 2022
SHEET 4 of 5

K:\1241\0001\05 Drawings\Sheets LA\1241.0001 DRMS.dwg, 12/15/2022 10:06:28 AM



NOTES

1. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE. THE EXISTENCE AND HORIZONTAL & VERTICAL LOCATIONS OF ANY UTILITIES NEAR CONSTRUCTION ACTIVITY NEED TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE SUBMITTED TO THE ENGINEER IN WRITING.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. ALL UTILITY POLES SHALL BE RELOCATED PRIOR TO PLACEMENT OF ANY CONCRETE.
3. WATER MAIN PIPE SHALL BE PVC CONFORMING TO AWWA C900 CL 150. J-M (J-M MANUFACTURING CO.) IS NOT ALLOWED TO BE USED IN THE CITY OF LONGMONT.
4. ALL WATER MAINS, FIRE HYDRANTS, AND WATER SERVICES SHALL HAVE A MINIMUM COVER OF 4.5 FEET, AND A MAXIMUM COVER OF 8 FEET.
5. THE CONTRACTOR SHALL INSTALL TEMPORARY BLOW-OFFS FOR TESTING AND FLUSHING OF THE WATER MAINS.
6. FIRE HYDRANT LINES SHALL BE 6-INCH DIAMETER AND SHALL MATCH THE TYPE OF MATERIAL USED FOR THE MAINLINE.
7. ALL GATE VALVES SHALL HAVE VALVE BOXES.
8. SEWER PIPE SHALL BE RIGID POLYVINYL CHLORIDE (PVC) ASTM D3034 (< 15") OR ASTM 679 (> 15") WITH WALL THICKNESS SDR 35. ALL SANITARY SEWER PIPES SHALL BE GREEN.
9. ALL SANITARY SEWER MANHOLES SHALL RECEIVE A WATERPROOF COATING.
10. ALL SANITARY SEWER MANHOLES ARE 48 INCHES IN DIAMETER UNLESS OTHERWISE NOTED.
11. THE CONTRACTOR SHALL INSTALL TEMPORARY PLUGS IN THE MANHOLES AT THE POINTS OF CONNECTION TO THE EXISTING SEWER SYSTEMS. PLUGS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION ACCEPTANCE IS ISSUED, AT WHICH TIME THE CONTRACTOR SHALL REMOVE THEM.
12. ALL PVC PIPE SHALL HAVE COPPER TRACER WIRE PLACED ON TOP OF THE PIPE.
13. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 10-FEET HORIZONTAL SEPARATION AND 18-INCHES VERTICAL SEPARATION BETWEEN WATER AND SEWER MAIN LINES AND SERVICES.
14. NO TREE(S) SHALL BE LOCATED WITHIN 10-FEET OF SEWER PIPES.
15. EACH LOT WILL HAVE AN LPC EXCLUSIVE 5' UTILITY EASEMENT (EXCEPT FOR THE NORTH SIDE OF BOUNTIFUL AVE, THE WEST SIDE OF HARVEST MOON DR, AND THE SOUTH SIDE OF HWY 119 WHICH SHALL HAVE 10') AND AN ADDITIONAL 10' GENERAL UTILITY EASEMENT BEHIND THAT.
16. FOR EASEMENT CALLOUTS REFER TO WATER PLAN & PROFILES; IRWIN THOMAS FIRST FILING PUBLIC IPROVEMENT PLANS, SHEETS 24-28
17. COMMON VEHICLE AND PEDESTRIAN ACCESS MAY BE REQUIRED BETWEEN LOTS DEPENDING ON FUTURE ACCESS LOCATIONS AND CONNECTIVITY. ACCESS REQUIREMENTS WILL BE DETERMINED THROUGH THE SITE PLAN REVIEW PROCESS.

REVISIONS

BY	DATE	DESCRIPTION

DRAWN STE
CHECKED JAB
DESIGNED STE
FILENAME 0001_Overall Utility

COLORADO LICENSED — JAMES A. BAILEY — 43753 — 1-27-22 — PROFESSIONAL ENGINEER

IRWIN THOMAS FIRST FILING

OVERALL UTILITY PLAN

TST
TST, INC.
CONSULTING ENGINEERS
748 Whalers Way
Suite 200 Fort Collins
Colorado 80525
Phone: 970.226.0557

JOB NO. 1241.0001.00
SCALE 1" = 100'
DATE JANUARY 2022
SHEET 15 of 140

Subsurface Exploration and Slope Stability Evaluations

EARTH ENGINEERING CONSULTANTS, LLC

June 28, 2022

Holcim
1687 Cole Boulevard, Suite 300
Golden, Colorado 80401

Attn: Mr. Paul Conrad (paul.conrad@holcim.com)

Re: Subsurface Exploration and Slope Stability Evaluation - Supplemental Report #2
Irwin/Thomas Properties
Longmont, Colorado
EEC Project No. 1172053

Mr. Conrad:

As requested, Earth Engineering Consultants, LLC (EEC) submitted to your attention a report (EEC project number 1172053, dated February 7, 2018) which provided the results of a subsurface exploration and slope stability analysis of slopes that may develop as part of the open pit mining operation planned at the referenced site (February 7 Report). At this time, we have been requested to provide a response to your request for information you submitted to our attention (via email) on April 13, 2022. Outlined below is the submitted requests for information, followed by our responses. Note the submitted question may be rephrased for clarity.

> Question 1: At the time the February 7 Report was prepared, the Pre-Mining Map prepared by Blue Earth Solution, dated September 2016, indicated a mining boundary setback from permit boundary along Ken Pratte Boulevard of at least 200 feet. A current Pre-Mining Map prepared by TST, dated March 2022, indicates that setback of at least 100 feet. Is the referenced minimum 100-foot setback acceptable to maintain the required the minimum factor of safety?

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WINDSOR, COLORADO 80550
(970) 545-3908 FAX (970) 663-0282
www.earth-engineering.com

Response: In our opinion, a minimum setback of 100 feet of the mining boundary from the permit boundary near Ken Pratte Boulevard right-of-way would maintain an acceptable factor of safety of at least 1.5 as indicated for static slope stability for Critical Structures (based on the conditions described in our February 7 Report, including maximum mining depths of 25 feet below ground surface). This assumes a relatively flat backslope and no stockpile or other surcharges at the ground surface between the mining and permit boundaries. Note the minimum factors of safety and definitions of Non-Critical Structures and Critical Structures, are based on Colorado Division of Reclamation, Mining and Safety, *Proposed Slope Stability/Geotechnical Analysis Policy for The Mined Land Reclamation Board*, dated May 16, 2018; that specification should be reviewed for completeness. If the factors of safety required vary from those specifications, this report should be reviewed by EEC and revised as necessary.

We trust the information provided in this letter provides the necessary information you requested; however, if additional information is needed, or if we can be of further service to you in any other way, please do not hesitate to contact us.

Very truly yours,
Earth Engineering Consultants, LLC

Ethan P. Wiechert, P.E.
Senior Project Engineer

EARTH ENGINEERING
CONSULTANTS, LLC

February 7, 2018

Aggregate Industries (US) Inc.
1687 Cole Blvd, Suite 300
Golden, Colorado 80401

Attn: Mr. Joel Bolduc (joel.bolduc@aggregate-us.com)

Re: Subsurface Exploration and Slope Stability Evaluation
Irwin/Thomas Properties
Longmont, Colorado
EEC Project No. 1172053

Mr. Bolduc:

Enclosed, herein, are the results of the subsurface exploration and geotechnical engineering services completed by Earth Engineering Consultants, LLC (EEC) personnel for the referenced project. The purpose of this exploration was to develop subsurface information for stability evaluation of slopes that would develop during the open pit mining operation planned at the referenced properties. This exploration and evaluation was carried out in general accordance with our proposal dated October 30, 2017.

INTRODUCTION

We understand open-pit mining is planned on the approximate 258-acre Irwin/Thomas properties in Longmont, Colorado. The open-pit mine would generally operate to obtain useable aggregates with mining extending to depths not to exceed approximately 25 feet below ground surface. The mining operations would propose near vertical cuts at the mining boundaries with the top of the cut slope maintaining a minimum setback of two times the cut depth to the surrounding permit boundary. We understand the open pit would maintain dewatering trenches at the base of the cut to dewater the pit and prevent water seepage into the open cut slopes.

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EXPLORATION AND TESTING PROCEDURES

To obtain information of the existing subsurface conditions, six (6) test borings extending to depths of approximately 23 to 25 feet below present site grades were advanced at preselected locations across the permit area. The boring locations were established in the field by EEC personnel by pacing and estimating angles from identifiable site references. The approximate locations of the completed test borings are indicated on the attached boring location diagram. The locations of the test borings should be considered accurate only to the degree implied by the methods used to make the field measurements. Individual boring logs and a diagram indicating the approximate boring locations are included with this report.

The borings were completed using a truck mounted, CME-55 drill rig equipped with a hydraulic head employed in drilling and sampling operations. The boreholes were advanced using 4¼-inch inside diameter hollow stem continuous flight augers. Samples of the subsurface materials encountered were obtained using split barrel and California barrel sampling procedures in general accordance with ASTM Specifications D1586 and D3550, respectively, and directly from the auger.

In the split barrel and California barrel sampling procedures, standard sampling spoons are driven into the ground by means of a 140-pound hammer falling a distance of 30 inches. The number of blows required to advance the split barrel and California barrel samplers is recorded and is used to estimate the in-situ relative density of cohesionless soils and, to a lesser degree of accuracy, the consistency of cohesive soils. In the California barrel sampling procedure, relatively intact samples are recovered in removable brass liners. All samples obtained in the field were sealed and returned to our laboratory for further examination, classification and testing.

Laboratory moisture content tests were completed on each of the recovered samples. Atterberg limits and washed sieve analysis tests were completed on selected samples to evaluate the quantity and plasticity of fines in the subgrades. Direct shear tests were carried out on remolded samples to evaluate the shear strength parameters of the subgrades. Results of the completed laboratory tests are indicated on the attached boring logs and summary sheets.

As part of the testing program, all samples were examined in the laboratory and classified in general accordance with the attached General Notes and the Unified Soil Classification System, based on the soil's texture, plasticity and grain size distribution. The estimated group symbol for the Unified Soil Classification System is indicated on the boring logs and a brief description of that classification system is included with this report. Classification of the bedrock was based on visual and tactual observation of disturbed samples and auger cuttings. Coring and/or petrographic analysis may reveal other rock types.

SITE AND SUBSURFACE CONDITIONS

The Irwin/Thomas property generally includes an area which extends from SH 119 south to Quail Road and from North 119th Street approximately 3/4 of a mile to the west (proposed mining area (MA)1). The property also includes an area which extends north from SH 119 approximately 1/3 of a mile. The MA1 property south of the highway is relatively flat and gently slopes down to the north and east. The Irwin/Thomas site north of the highway is bisected north and south by the Saint Vrain River and properties both north and south of the river gently slope to the river. The proposed MA2 is south of the river and MA3 and MA4 are north of the river. This exploration and evaluation only includes the proposed MA1 and MA2 properties. The properties are mostly covered with sparse vegetation. Photographs of the site taken during our exploration and are included with this report.

EEC personnel were on site during the drilling operations to evaluate the subsurface conditions encountered and direct the drilling activities. Field logs prepared by EEC site personnel were based on visual and tactual observation of auger cuttings and disturbed samples. The boring logs included with this report may contain modifications to the field logs based on results of laboratory testing and engineering evaluation. Based on results of the field boring and laboratory testing, subsurface conditions can be generalized as follows.

Approximately 4 to 6 inches of topsoil and vegetation was encountered at the surface of the boring locations. The topsoil and vegetation was underlain by brown sandy clay which extended to depths of approximately 3 to 8 feet below ground surface. The sandy clay soils were moderately to highly plastic, and stiff to very stiff. The sandy clay soils were underlain by sand and gravel with various amounts of silt and apparent cobbles which extended to depths of approximately 13 to 18 feet

below ground surface. The sands and gravels were medium dense to dense and becoming dense to very dense with depth. The sands and gravels were underlain by moderately hard to hard sandstone, siltstone, and claystone bedrock which extended to the bottom of the test borings which were terminated at depths of approximately 23 to 25 feet below ground surface.

The stratification boundaries indicated on the boring logs represent the approximate locations of changes in soil and rock types; in-situ, the transition of materials may be gradual and indistinct.

Groundwater

Observations were made while drilling and after completion of borings to detect the presence and depth to groundwater. During drilling operations, groundwater was encountered at depths ranging from 7 to 11 feet below ground surface. Approximately three days after drilling, groundwater was measured at depths ranging from approximately 4 to 11 feet below ground surface. After the last groundwater level measurement, the boreholes were backfilled.

Fluctuations in groundwater levels can occur over time depending on variations in hydrologic conditions and other conditions not apparent at the time of this report. In addition, zones of perched and/or trapped water may be encountered at times throughout the year in more permeable areas within the subgrade materials. Perched water is commonly observed in more permeable soils above lower permeability bedrock.

Physical Characteristics of Subgrades

Site materials encountered generally consisted of sandy clay underlain by sands and gravels with various amounts of silts and apparent cobbles. The physical properties of the materials encountered in the borings are summarized in the following sections. Note that changes in materials and physical properties of those materials may vary from boring location to boring location. The parameters outlined below do not include any safety factors.

Sandy Clay

Selected samples of the sandy clay were tested for Atterberg limits, washed sieve analysis unconfined compression (estimated using a calibrated hand penetrometer), and direct shear tests.

The results of the laboratory testing are attached with this report and/or shown on the attached boring logs.

In summary, the sandy clay soils were moderately to highly plastic with liquid limits ranging from 32 to 57% with plastic indices ranging from 15 to 40%. Unconfined compression testing was estimated in the range of 3,000 to 7,000 psf. Direct shear testing indicated a peak friction angle of 29.6° and cohesion of 794 psf, and a residual friction angle of 28.3° and cohesion of 624 psf.

Sands and Gravels

The sands and gravels were tested in the laboratory for plasticity, grain size distribution, and shear strength parameters. In general, the sands and gravels were well graded to poorly graded and contained various amounts of silt. Direct shear testing indicated a peak friction angle of 38.4° and cohesion of 949 psf, and a residual friction angle of 33.1° and cohesion of 424 psf.

ANALYSIS AND RECOMMENDATIONS

The stability of two proposed sections were evaluated at your request. Section 1 included a surcharge from a stockpile of overburden materials (6-foot tall and 3:1 (horizontal to vertical) slopes) with a setback of at least 20 feet from the cut face. Section 2 included a surcharge from a roadway setback of at least 50 feet from the cut face. The analyses assumed a maximum 25-foot excavation depth which would extend to bedrock, continuous dewatering to the base of the excavation, no surcharges other than that indicated on the analyses, and vertical cut faces. Based on the subsurface conditions encountered and the geometry of the proposed excavations, stability analyses were carried out to determine (1) the probable location of the failure surface, (2) the distance from the cut face to a safety factor of approximately 1.3, and (3) the distance from the cut face to a safety factor of approximately 1.5.

The stability analyses were evaluated using Morgenstern-Price method of slices modeled in SlopeW software provided by GeoStudio. Porewater pressures were modeled using SeepW software. Soil parameters used in the analyses were obtained from the conditions observed, the results of laboratory testing, and/or estimated from available geotechnical information. Shear strength parameters used for the sandy clay soils included a friction angle of 28° and cohesion of

500 psf; cohesion was neglected for the stockpile soils. For the sands and gravels, a friction angle of 33° and no cohesion was used. The shear strength parameters were conservatively reduced from those determined in the laboratory to account for some variation in the subgrades and, for the case of the soil stockpiles, the loss of apparent cohesion due to disturbing the soils when building the stockpiles. The results of the slope stability analyses are summarized in Table 1 below. The results for Section 1 are shown in Figures 1 through 3 with the results for Section 2 shown in Figures 4 through 6.

Table 1: Summary of Slope Stability Results

Section	Description of Geometry	(1) Distance from Cut to Top of Likely Failure Surface	(2) Distance from Cut to Factor of Safety ≈ 1.3	(3) Distance from Cut to Factor of Safety ≈ 1.5
1	Includes Stockpile	29 feet	52 feet	58 feet
2	Includes Roadway	24 feet	41 feet	50 feet

A minimum factor of safety of 1.3 to 1.5 is generally considered acceptable for slope stability of permanent improvements. Higher factors of safety would be developed with greater distances from the cut face.

GENERAL COMMENTS

The analysis and recommendations presented in this report are based upon the data obtained from the soil borings performed at the indicated locations and from any other information discussed in this report. This report does not reflect any variations which may occur between borings or across the site. The nature and extent of such variations may not become evident until further exploration or construction. If variations appear evident, it will be necessary to re-evaluate the recommendations of this report.

It is recommended that the geotechnical engineer be retained to review the plans and specifications so comments can be made regarding the interpretation and implementation of our geotechnical recommendations in the design and specifications. It is further recommended that the geotechnical engineer be retained for testing and observations during earthwork construction phases to help determine that the design requirements are fulfilled.

This report has been prepared for the exclusive use of Aggregate Industries and Blue Earth Solutions for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranty, express or implied, is made. In the event that any changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report are modified or verified in writing by the geotechnical engineer.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we can be of further service to you in any other way, please do not hesitate to contact us.

Very truly yours,
Earth Engineering Consultants, LLC

Ethan P. Wiechert, P.E.
Senior Geotechnical Engineer

Reviewed by: David A. Richer, P.E.
Senior Geotechnical Engineer

cc: Blue Earth Solutions - Bill Schenderlein (bill@blueearthsolutions.net)

DRILLING AND EXPLORATION

DRILLING & SAMPLING SYMBOLS:

SS: Split Spoon - 13/8" I.D., 2" O.D., unless otherwise noted
ST: Thin-Walled Tube - 2" O.D., unless otherwise noted
R: Ring Barrel Sampler - 2.42" I.D., 3" O.D. unless otherwise noted
PA: Power Auger
HA: Hand Auger
DB: Diamond Bit = 4", N, B
AS: Auger Sample
HS: Hollow Stem Auger
PS: Piston Sample
WS: Wash Sample
FT: Fish Tail Bit
RB: Rock Bit
BS: Bulk Sample
PM: Pressure Meter
WB: Wash Bore

Standard "N" Penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2-inch O.D. split spoon, except where noted.

WATER LEVEL MEASUREMENT SYMBOLS:

WL : Water Level
WCI: Wet Cave in
DCI: Dry Cave in
AB : After Boring
WS : While Sampling
WD : While Drilling
BCR: Before Casing Removal
ACR: After Casting Removal

Water levels indicated on the boring logs are the levels measured in the borings at the time indicated. In pervious soils, the indicated levels may reflect the location of ground water. In low permeability soils, the accurate determination of ground water levels is not possible with only short term observations.

DESCRIPTIVE SOIL CLASSIFICATION

Soil Classification is based on the Unified Soil Classification system and the ASTM Designations D-2488. Coarse Grained Soils have move than 50% of their dry weight retained on a #200 sieve; they are described as: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are described as : clays, if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse grained soils are defined on the basis of their relative in-place density and fine grained soils on the basis of their consistency. Example: Lean clay with sand, trace gravel, stiff (CL); silty sand, trace gravel, medium dense (SM).

CONSISTENCY OF FINE-GRAINED SOILS

Unconfined Compressive Strength, Qu, psf	Consistency
< 500	Very Soft
500 - 1,000	Soft
1,001 - 2,000	Medium
2,001 - 4,000	Stiff
4,001 - 8,000	Very Stiff
8,001 - 16,000	Very Hard

RELATIVE DENSITY OF COARSE-GRAINED SOILS:

N-Blows/ft	Relative Density
0-3	Very Loose
4-9	Loose
10-29	Medium Dense
30-49	Dense
50-80	Very Dense
80 +	Extremely Dense

PHYSICAL PROPERTIES OF BEDROCK

DEGREE OF WEATHERING:

Slight	Slight decomposition of parent material on joints. May be color change.
Moderate	Some decomposition and color change throughout.
High	Rock highly decomposed, may be extremely broken.

HARDNESS AND DEGREE OF CEMENTATION:

Limestone and Dolomite:

Hard	Difficult to scratch with knife.
Moderately Hard	Can be scratched easily with knife.
Soft	Can be scratched with fingernail.

Shale, Siltstone and Claystone:

Hard	Can be scratched easily with knife, cannot be scratched with fingernail.
Moderately Hard	Can be scratched with fingernail.
Soft	Can be easily dented but not molded with fingers.

Sandstone and Conglomerate:

Well Cemented	Capable of scratching a knife blade.
Cemented	Can be scratched with knife.
Poorly Cemented	Can be broken apart easily with fingers.

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests					Soil Classification: Group Symbol	Soil Classification: Group Name
Coarse - Grained Soils more than 50% retained on No. 200 sieve	Gravels more than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines	$Cu \geq 4$ and $1 < Cc \leq 3$ [E]		GW	Well-graded gravel [F]
			$Cu < 4$ and/or $1 > Cc > 3$ [E]		GP	Poorly-graded gravel [F]
		Gravels with Fines more than 12% fines	Fines classify as ML or MH		GM	Silty gravel [G,H]
			Fines Classify as CL or CH		GC	Clayey Gravel [F,G,H]
	Sands 50% or more coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines	$Cu \geq 6$ and $1 < Cc \leq 3$ [E]		SW	Well-graded sand [I]
			$Cu < 6$ and/or $1 > Cc > 3$ [E]		SP	Poorly-graded sand [I]
		Sands with Fines more than 12% fines	Fines classify as ML or MH		SM	Silty sand [G,H,I]
			Fines classify as CL or CH		SC	Clayey sand [G,H,I]
Fine-Grained Soils 50% or more passes the No. 200 sieve	Silts and Clays Liquid Limit less than 50	inorganic	PI>7 and plots on or above "A" Line		CL	Lean clay [K,L,M]
			PI<4 or plots below "A" Line		ML	Silt [K,L,M]
		organic	Liquid Limit - oven dried / Liquid Limit - not dried	<0.75	OL	Organic clay [K,L,M,N] / Organic silt [K,L,M,O]
	Silts and Clays Liquid Limit 50 or more	inorganic	PI plots on or above "A" Line		CH	Fat clay [K,L,M]
			PI plots below "A" Line		MH	Elastic Silt [K,L,M]
		organic	Liquid Limit - oven dried / Liquid Limit - not dried	<0.75	OH	Organic clay [K,L,M,P] / Organic silt [K,L,M,O]
Highly organic soils		Primarily organic matter, dark in color, and organic odor			PT	Peat

[A] Based on the material passing the 3-in (75-mm) sieve

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines required dual symbols:
GW-GM well graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly-graded gravel with silt
GP-GC poorly-graded gravel with clay

[D] Sands with 5 to 12% fines require dual symbols
SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay

[E] $Cu = D_{60}/D_{10}$ $Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥15% sand, add "with sand" to

[G] If fines classify as CL-ML, use dual symbol GC-CM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name

[I] If soil contains >15% gravel, add "with gravel" to group name

[J] If Atterberg limits plots shaded area, soil is a CL-ML, Silty clay

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel", whichever is predominant

[L] If soil contains ≥ 30% plus No 200 predominantly sand, add "sandy" to group name

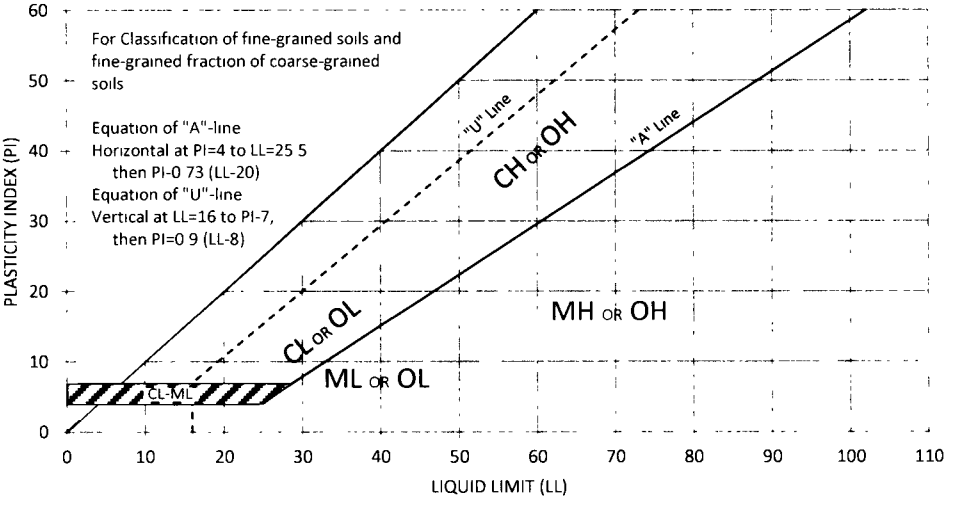
[M] If soil contains ≥30% plus No 200 predominantly gravel, add "gravelly" to group name.

[N] PI≥4 and plots on or above "A" line.

[O] PI≤4 or plots below "A" line.

[P] PI plots on or above "A" line

[Q] PI plots below "A" line



Boring Location Diagram
Irwin/Thomas Properties
Longmont, Colorado
EEC Project #: 1172053 Date: November 2017

EARTH ENGINEERING CONSULTANTS, LLC

IRWIN/THOMAS PROPERTIES
LONGMONT, COLORADO
EEC PROJECT NO. 1172053
NOVEMBER 2017

IRWIN/THOMAS PROPERTIES
LONGMONT, COLORADO
EEC PROJECT NO. 1172053
NOVEMBER 2017

IRWIN/THOMAS PROPERTIES
LONGMONT, COLORADO
EEC PROJECT NO. 1172053
NOVEMBER 2017

IRWIN/THOMAS PROPERTIES

LONGMONT, COLORADO

PROJECT NO: 1172053	LOG OF BORING B-1	DATE: JUNE 2013
RIG TYPE: CME55	*SHEET 1 OF 1*	WATER DEPTH
FOREMAN: DG	START DATE 11/6/2017	WHILE DRILLING 7.5'
AUGER TYPE: 4-1/4" HSA	FINISH DATE 11/6/2017	AFTER DRILLING N/A
SPT HAMMER: AUTOMATIC	SURFACE ELEV N/A	11/9/2017 6.0'

SOIL DESCRIPTION	TYPE	D (FEET)	N (BLOWS/FT)	QU (PSF)	MC (%)	DD (PCF)	A-LIMITS LL	A-LIMITS PI	-200 (%)	SWELL PRESSURE	SWELL % @ 500 PSF
SPARSE VEGETATION &TOPSOIL		1									
SANDY LEAN CLAY (CL) brown		2									
		3									
POORLY GRADED SAND with SILT (SP - SM) brown		4									
medium dense with gravel and apparent cobbles	CS	5	19	--	2.3	106.6					
		6									
		7									
		8									
		9									
	SS	10	22	--	11.0		17	NP	7.6		
		11									
		12									
		13									
		14									
SANDSTONE / SILTSTONE / CLAYSTONE gray weathered to moderately hard	CS	15	30	9000+	14.0	120.5					
		16									
		17									
		18									
		19									
		20									
		21									
		22									
		23									
BOTTOM OF BORING DEPTH 23 0'		24									
		25									

IRWIN/THOMAS PROPERTIES

LONGMONT, COLORADO

PROJECT NO: 1172053	LOG OF BORING B-2	DATE: JUNE 2013	
RIG TYPE: CME55	*SHEET 1 OF 1*	WATER DEPTH	
FOREMAN: DG	START DATE 11/6/2017	WHILE DRILLING	7.0'
AUGER TYPE: 4-1/4" HSA	FINISH DATE 11/6/2017	AFTER DRILLING	N/A
SPT HAMMER: AUTOMATIC	SURFACE ELEV N/A	11/9/2017	4.4'

SOIL DESCRIPTION	TYPE	D (FEET)	N (BLOWS/FT)	QU (PSF)	MC (%)	DD (PCF)	A-LIMITS LL	A-LIMITS PI	-200 (%)	SWELL PRESSURE	SWELL % @ 500 PSF
VEGETATION & TOPSOIL		1									
SANDY LEAN to FAT CLAY (CL to CH)		2									
brown		3									
stiff		4									
	CS	5	11	3000	18.0		57	40	65.6		
POORLY GRADED SAND with SILT (SP - SM)		6									
brown		7									
medium dense to very dense		8									
with gravel and apparent cobbles		9									
with cobbles	SS	10	35	--	12.0						
		11									
		12									
		13									
		14									
	CS	15	62	--	15.7	112.3					
		16									
		17									
		18									
SANDSTONE / SILTSTONE / CLAYSTONE		19									
gray											
moderately hard	SS	20	50	4000	20.7						
		21									
		22									
		23									
		24									
	CS	25	50/6"	9000+	32.1	100.9					
BOTTOM OF BORING DEPTH 25 0'											

Earth Engineering Consultants, LLC

IRWIN/THOMAS PROPERTIES

LONGMONT, COLORADO

PROJECT NO: 1172053	LOG OF BORING B-3	DATE: JUNE 2013	
RIG TYPE: CME55	*SHEET 1 OF 1*	WATER DEPTH	
FOREMAN: DG	START DATE 11/6/2017	WHILE DRILLING	7.5'
AUGER TYPE: 4-1/4" HSA	FINISH DATE 11/6/2017	AFTER DRILLING	N/A
SPT HAMMER: AUTOMATIC	SURFACE ELEV N/A	11/9/2017	6.5'

SOIL DESCRIPTION	TYPE	D (FEET)	N (BLOWS/FT)	QU (PSF)	MC (%)	DD (PCF)	A-LIMITS LL	A-LIMITS PI	-200 (%)	SWELL PRESSURE	SWELL % @ 500 PSF
VEGETATION & TOPSOIL		1									
SANDY LEAN CLAY (CL) brown		2									
		3									
		4									
POORLY GRADED SAND with SILT (SP - SM)	CS	5	9	2500	6.3	98.1	21	NP	14.1		
brown		6									
medium dense to very dense		7									
with gravel and apparent cobbles		8									
		9									
	SS	10	34	--	11.0		NL	NP	8.9		
		11									
		12									
		13									
		14									
	CS	15	50/10.5"	--	8.7	126.2					
		16									
		17									
		18									
SANDSTONE / SILTSTONE / CLAYSTONE		19									
gray											
moderately hard to hard	SS	20	50/11"	7000	16.0						
		21									
		22									
		23									
		24									
	CS	25	50/4.5"	9000+	10.9	127.4					
BOTTOM OF BORING DEPTH 25 0'											

IRWIN/THOMAS PROPERTIES

LONGMONT, COLORADO

PROJECT NO: 1172053	LOG OF BORING B-4		DATE: JUNE 2013
RIG TYPE: CME55	*SHEET 1 OF 1*		WATER DEPTH
FOREMAN: DG	START DATE	11/6/2017	WHILE DRILLING 10.0'
AUGER TYPE: 4-1/4" HSA	FINISH DATE	11/6/2017	AFTER DRILLING N/A
SPT HAMMER: AUTOMATIC	SURFACE ELEV	N/A	11/9/2017 11.0'

SOIL DESCRIPTION	TYPE	D (FEET)	N (BLOWS/FT)	QU (PSF)	MC (%)	DD (PCF)	A-LIMITS LL	A-LIMITS PI	-200 (%)	SWELL PRESSURE	SWELL % @ 500 PSF
VEGETATION & TOPSOIL		1									
SANDY LEAN CLAY (CL) brown		2 3 4									
WELL GRADED SAND (SW) brown medium dense with gravel	SS	5	13	--	5.4						
		6 7 8 9									
	CS	10	18	--	5.2	123.4	NL	NP	5.0		
		11 12 13 14									
SANDSTONE / SILTSTONE / CLAYSTONE gray moderately hard to hard	SS	15	50/9"	8000	14.5						
		16 17 18 19									
	CS	20	50/6.5"	9000+	10.2	123.8					
		21 22 23 24									
	SS	25	50/3.5"	--	21.5						
BOTTOM OF BORING DEPTH 25 5'											

Earth Engineering Consultants, LLC

IRWIN/THOMAS PROPERTIES

LONGMONT, COLORADO

PROJECT NO: 1172053	LOG OF BORING B-5	DATE: JUNE 2013	
RIG TYPE: CME55	*SHEET 1 OF 1*	WATER DEPTH	
FOREMAN: DG	START DATE 11/6/2017	WHILE DRILLING	9.0'
AUGER TYPE: 4-1/4" HSA	FINISH DATE 11/6/2017	AFTER DRILLING	N/A
SPT HAMMER: AUTOMATIC	SURFACE ELEV N/A	11/9/2017	9.4'

SOIL DESCRIPTION	TYPE	D (FEET)	N (BLOWS/FT)	QU (PSF)	MC (%)	DD (PCF)	A-LIMITS LL	A-LIMITS PI	-200 (%)	SWELL PRESSURE	SWELL % @ 500 PSF
VEGETATION & TOPSOIL		1									
SANDY LEAN CLAY (CL)		2									
brown / rust		3									
very stiff		4									
	CS	5	8	7000	11.1	97.9	32	15	54.4		
		6									
		7									
		8									
POORLY GRADED SAND with SILT (SP - SM)		9									
brown											
medium dense to dense	SS	10	19	--	9.7						
with gravel		11									
		12									
		13									
		14									
	CS	15	39	--	14.5						
SANDSTONE / SILTSTONE / CLAYSTONE		16									
gray											
moderately hard to hard		17									
		18									
		19									
	SS	20	50/4"	5500	13.5						
		21									
		22									
		23									
		24									
	CS	25	50/3"	8000	8.8	113.5					
BOTTOM OF BORING DEPTH 25 0'											

Earth Engineering Consultants, LLC

IRWIN/THOMAS PROPERTIES

LONGMONT, COLORADO

PROJECT NO: 1172053	LOG OF BORING B-6	DATE: JUNE 2013	
RIG TYPE: CME55	*SHEET 1 OF 1*	WATER DEPTH	
FOREMAN: DG	START DATE 11/6/2017	WHILE DRILLING	11.0'
AUGER TYPE: 4-1/4" HSA	FINISH DATE 11/6/2017	AFTER DRILLING	N/A
SPT HAMMER: AUTOMATIC	SURFACE ELEV N/A	11/9/2017	10.0'

SOIL DESCRIPTION	TYPE	D (FEET)	N (BLOWS/FT)	QU (PSF)	MC (%)	DD (PCF)	A-LIMITS LL	A-LIMITS PI	-200 (%)	SWELL PRESSURE	SWELL % @ 500 PSF
VEGETATION & TOPSOIL		1									
SANDY LEAN CLAY (CL)		2									
brown		3									
POORLY GRADED SAND (SP)		4									
brown / gray / rust											
loose to very dense	CS	5	7	–	1.3	90.1	NL	NP	3.4		
		6									
with gravel and apparent cobbles		7									
		8									
		9									
	SS	10	48	–	8.0						
		11									
		12									
		13									
		14									
with silt											
	CS	15	50/10"	–	6.0	134.9	22	NP	7.0		
		16									
SANDSTONE / SILTSTONE / CLAYSTONE		17									
gray											
moderately hard to hard		18									
		19									
	SS	20	50/8"	3000	17.8						
		21									
		22									
		23									
		24									
	CS	25	50/3"	9000+	12.9	123.6					
BOTTOM OF BORING DEPTH 25 0'											

EARTH ENGINEERING CONSULTANTS, LLC

SUMMARY OF SIEVE ANALYSIS TEST RESULTS

Project: Irwin/Thomas Properties **Project No.:** 1172053

Location: Longmont, Colorado **Date** November 2017

Washed Sieve Analysis (ASTM Specifications C117 and C136)											
Sieve No.	**B-1 at 9'**	**B-3 at 4'**	**B-3 at 9'**	**B-4 at 9**	**B-5 at 4'**	**B-6 at 4'**	**B-6 at 14'**	**B-1 thru B-3 Overburden**	**B-4 thru B-6 Overburden**	**B-1 thru B-3 Sand and Gravel**	**B-4 thru B-6 Sand and Gravel**
3"	100	100	100	100	100	100	100	100	100	100	100
2"	100	100	100	100	100	100	100	100	100	97	100
1 1/2"	100	100	100	100	100	100	100	100	100	94	98
1"	84	100	93	79	100	100	72	100	100	83	96
3/4"	75	100	79	69	100	100	67	99	100	76	88
1/2"	67	97	71	58	100	100	55	98	100	68	75
3/8"	63	95	68	51	100	100	51	98	100	65	68
No. 4	57	91	59	41	100	100	45	96	99	58	60
No. 8	48	82	49	34	100	95	40	94	97	51	52
No. 10	47	77	47	32	100	91	38	93	97	49	50
No. 16	40	67	39	27	99	70	32	90	95	42	44
No. 30	30	52	28	21	98	29	22	85	92	32	35
No. 40	25	45	24	18	96	15	19	82	90	28	31
No. 50	20	36	19	15	93	9	16	80	87	24	27
No. 100	12	20	13	8	76	5	10	71	80	18	21
No. 200	7 6	14 1	8 9	5 0	54 4	3 4	7 2	59 3	67 7	14 0	15 2
Atterberg Limits (ASTM Specification D4318)											
Liquid Limit	17	21	NL	NL	32	NL	22	28	32	21	22
Plastic Limit	NP	NP	NP	NP	17	NP	NP	19	17	NP	15
Plasticity Index	NP	NP	NP	NP	15	NP	NP	10	15	NP	7

USCS	SP-SM	SM	SP-SM	SW	CL	SP	SP-SM	CL	CL	SP-SM	SP-SM

EARTH ENGINEERING CONSULTANTS, LLC

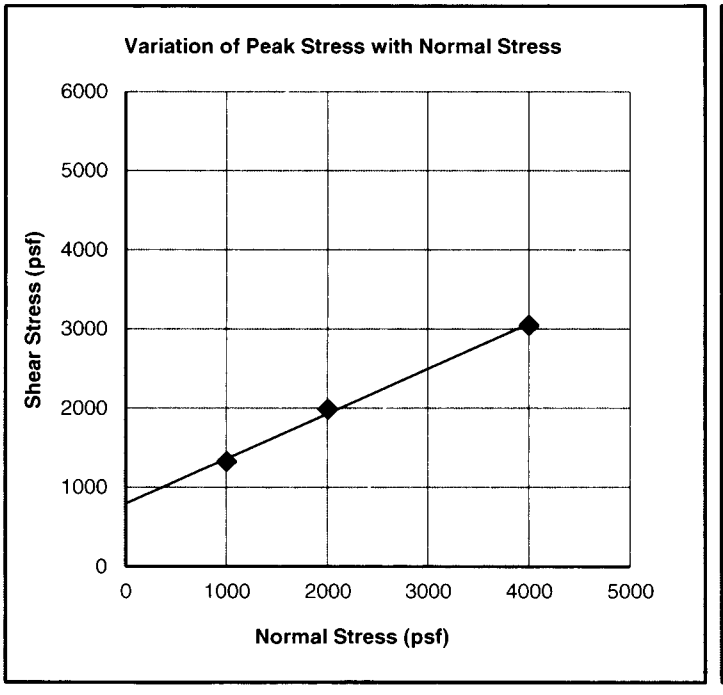
DIRECT SHEAR TEST REPORT

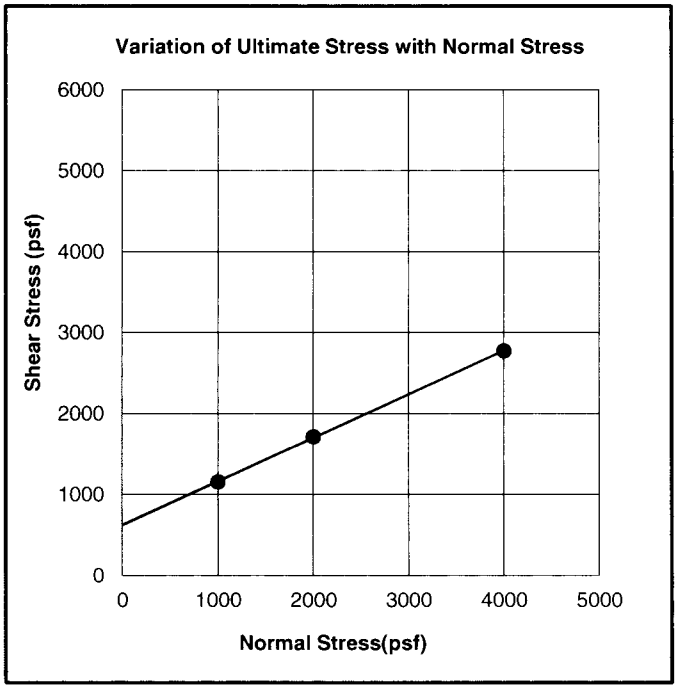
ASTM D3080

CLIENT:	Aggregate Industries
PROJECT:	Irwin/Thomas Properties
PROJECT NO.	1172053
SAMPLE LOCATION:	B-1 through B-3, Overburden
SOIL CLASSIFICATION:	Sandy Lean Clay (CL)

SAMPLE NO.	NORMAL STRESS (PSF)	ULTIMATE SHEAR STRESS (PSF)	PEAK SHEAR STRESS (PSF)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)
1	1000	1152	1325	16.7	94.2
2	2000	1715	1986	17.5	93.4
3	4000	2771	3047	16.5	94.3

	FRICTION ANGLE (ϕ)	COHESION (psf)
PEAK	29.6	794
ULTIMATE	28.3	624





EARTH ENGINEERING CONSULTANTS, LLC

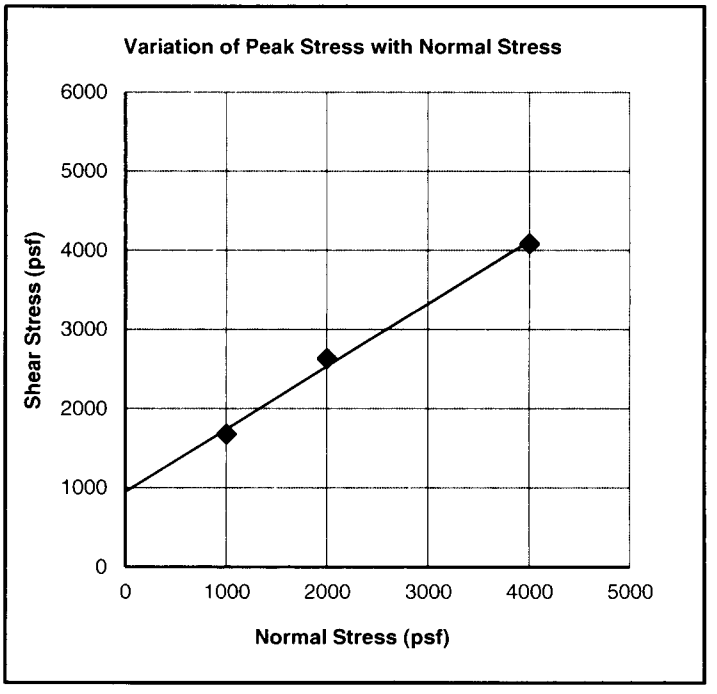
DIRECT SHEAR TEST REPORT

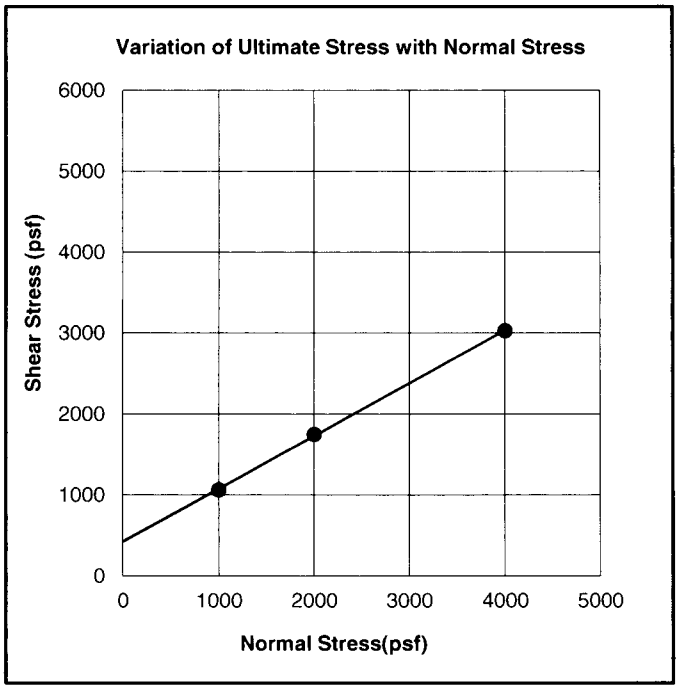
ASTM D3080

CLIENT:	Aggregate Industries
PROJECT:	Irwin/Thomas Properties
PROJECT NO.	1172053
SAMPLE LOCATION:	B-4 through B-6, Sand and Gravel Zone
SOIL CLASSIFICATION:	Poorly Graded Sand with Silt and Gravel (SP-GP)

SAMPLE NO.	NORMAL STRESS (PSF)	ULTIMATE SHEAR STRESS (PSF)	PEAK SHEAR STRESS (PSF)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)
1	1000	1064	1677	11.6	108.7
2	2000	1748	2631	11.0	109.2
3	4000	3027	4087	9.2	113.5

	FRICTION ANGLE (ϕ)	COHESION (psf)
PEAK	38.4	949
ULTIMATE	33.1	424





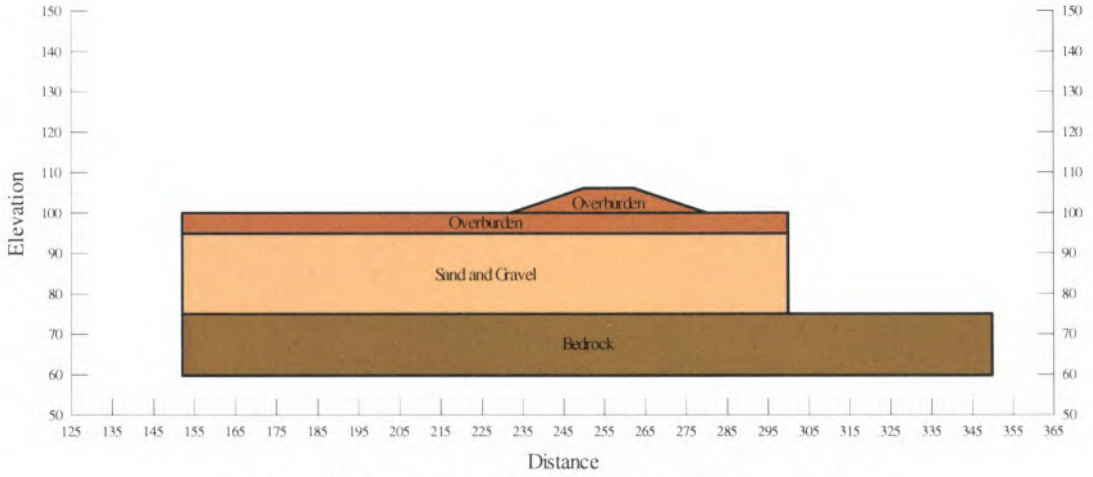


Figure 1: Section 1 – Geometry and subsurface section.

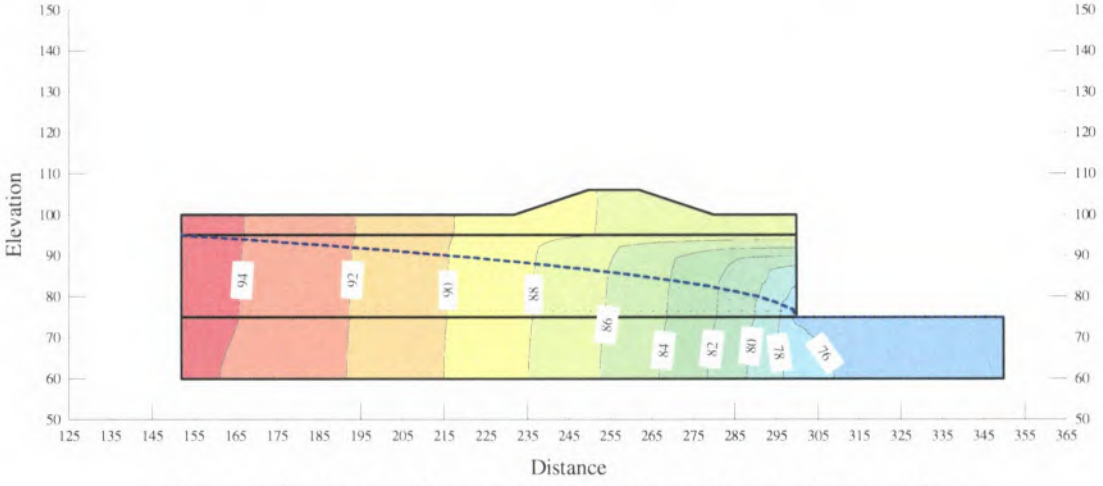


Figure 2: Section 1 – Flow path and total head distribution in section.

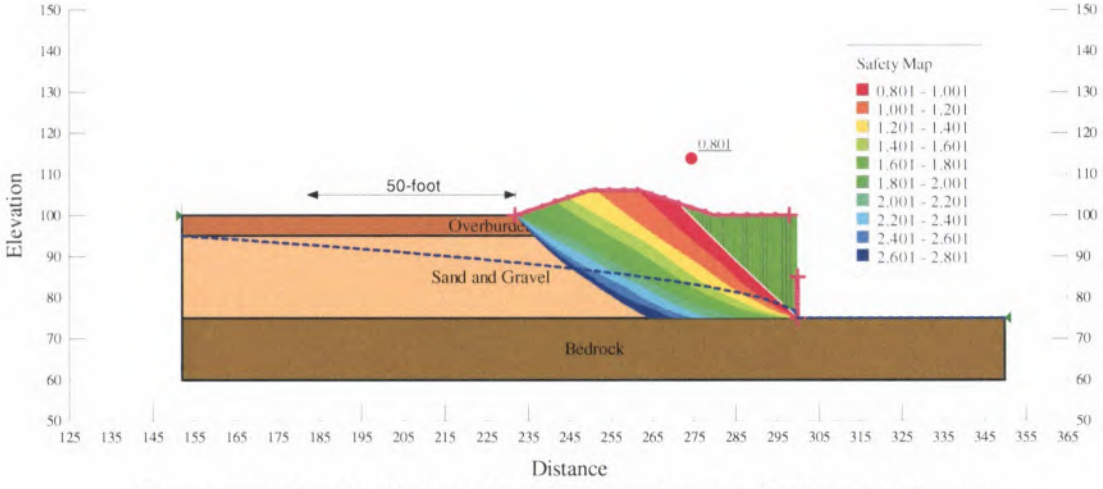


Figure 3: Section 1 – Critical slip surface with factor of safety distribution.

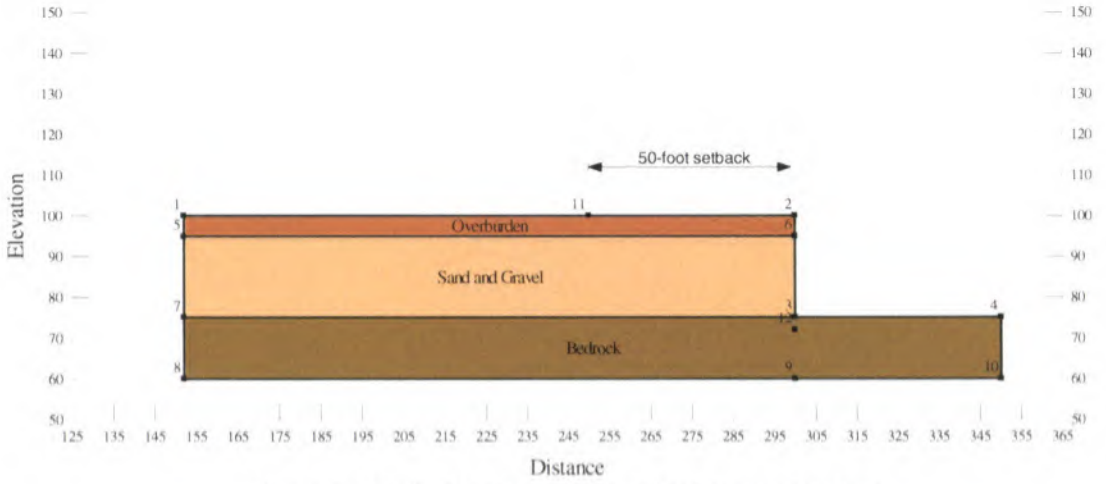


Figure 4: Section 2 – Geometry and subsurface section.

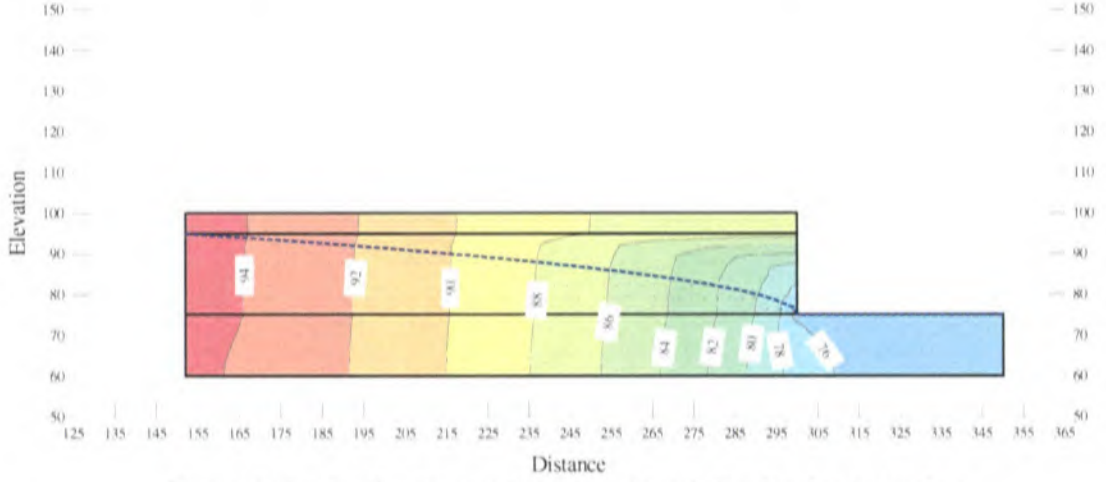


Figure 5: Section 2 – Flow path and total head distribution in section.

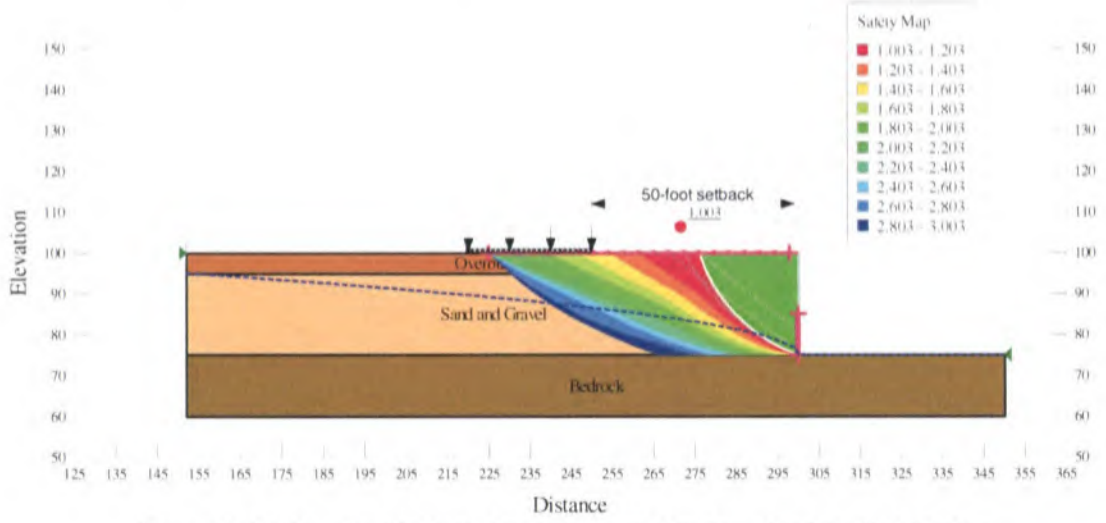
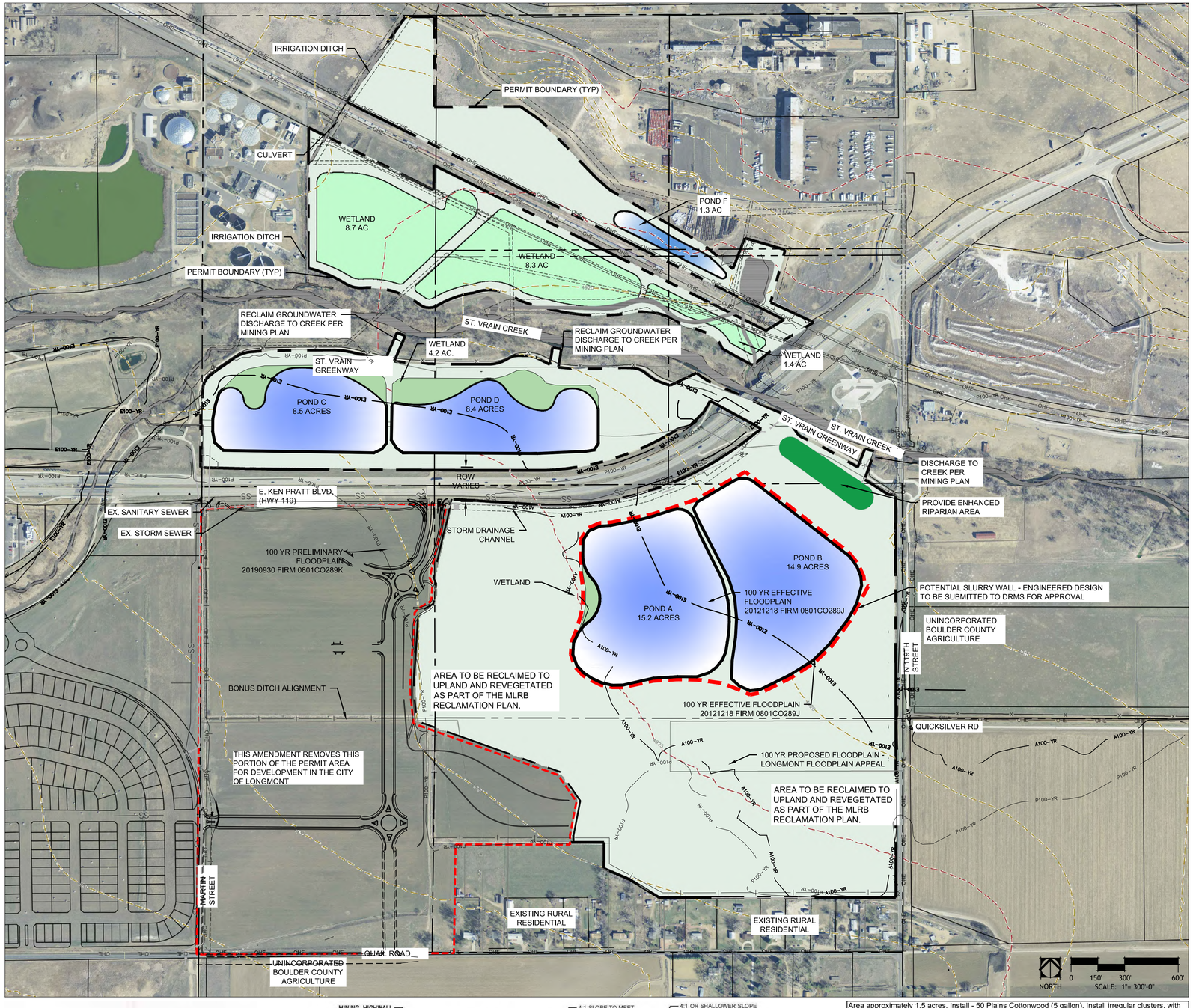


Figure 6: Section 2 – Critical slip surface with factor of safety distribution.

ATTACHMENT C

Revised EXHIBIT- F Reclamation Plan Map



LEGEND

- PERMIT BOUNDARY
- PROPOSED HAUL ROAD
- PROPOSED MINING LIMITS
- EXISTING PARCELS
- EXISTING DITCH
- G — EXISTING GAS LINE
- OHE — EXISTING OVERHEAD ELECTRIC
- SS — EXISTING SANITARY SEWER
- EXISTING 5 FOOT CONTOUR
- EXISTING 25 FOOT CONTOUR
- SLURRY WALL
- E100-YR — 100 YR EFFECTIVE FLOOD PLANE
- P100-YR — 100 YR PRELIMINARY FLOOD PLANE
- A100-YR — 100 YR PROPOSED FLOOD PLANE

NOTES

1. THE PROPOSED FINAL LAND USES FOR THE IRWIN/THOMAS MINE ARE GENERAL AGRICULTURE OR LAND USE APPROVED BY THE CITY OF LONGMONT. AGRICULTURAL USES SHALL BE LIMITED TO CROP PRODUCTION AND MAY NOT INCLUDE ANY LIVESTOCK.
2. RECLAMATION PLAN MAP ILLUSTRATES CONDITIONS WHEN ADEQUATE QUANTITIES OF OFF-SITE BACKFILL MATERIAL ARE AVAILABLE AND A PERMANENT SOURCE OF WATER FOR LONG TERM AUGMENTATION OF EXPOSED GROUNDWATER HAS BEEN OBTAINED. MINED CELLS WILL BE BACKFILLED TO CREATE UPLANDS, OPEN WATER PONDS AND LIMITED WETLAND AREAS.
3. ALL SLOPES SHALL BE GRADED TO 3H:1V OR FLATTER. SLOPES WITHIN THE ST. VRAIN CREEK DELINEATED F100 YEAR FLOODPLAIN SHALL BE GRADED TO 4:1 OR FLATTER. ROUGH GRADING WILL ESTABLISH FINAL ELEVATIONS, SLOPES, AND TRANSITIONS. TRANSITIONS BETWEEN UPLANDS, WETLANDS, AND POND SLOPES SHALL BE GRADED WITH A SMOOTH, GRADUAL TOPOGRAPHY.
4. FINAL GRADING WILL INCLUDE ADDITION OF TOPSOIL AND SURFACE PREPARATION FOR REVEGETATION. SPECIAL ATTENTION SHALL BE GIVEN TO TRANSITIONS FROM RECLAIMED AREAS TO UNDISTURBED LAND.
5. ALL AVAILABLE AND OVERBURDEN MATERIAL WILL BE USED FOR BACKFILLING AND RECLAMATION.
6. THE GROWTH MEDIUM FOR REVEGETATION WILL BE A COMBINATION OF OVERBURDEN AND TOPSOILS.
7. TWO DIFFERENT MIXES OF UPLAND GRASSES WILL BE USED IN AREAS THAT WILL NOT EXPERIENCE PERIODIC FLOODING, SEASONAL GROUNDWATER, OR OTHER MOIST SOIL CONDITIONS. ONE SEED MIX WILL BE USED SIMPLY FOR QUICK SOIL STABILIZATION AND EROSION CONTROL. THIS MIX WILL MAINLY BE USED IN MA1 WHERE FURTHER AGRICULTURAL OR OTHER DEVELOPMENT IS EXPECTED TO OCCUR FOLLOWING PERMIT RELEASE. THE SECOND GRASS SEED MIX FOR AREAS LEFT AS OPEN SPACE IS COMPOSED OF A LONG LASTING AND REGENERATING NATIVE UPLAND SEED MIXTURE

Upland Grass Seed - Soil Stabilization	Application Rate* (#PLS/acre)
Intermediate Wheatgrass	3
Blue Grama	0.75
Alfalfa	0.75
TOTAL	**4.5**

*Application rate is for drill seeding. If seed is to be broadcast. The application rate will be doubled.

Upland Grass Seed - Native Open Space	Application Rate* (#PLS/acre)
Western Wheatgrass	4
Blue grama	1
Side-oats grama	1.5
Switchgrass	1
Sand dropseed	0.5
Indian Ricegrass	1
TOTAL	**9**

*Application rate is for drill seeding. If seed is to be broadcast. The application rate will be doubled.

8. IN AREAS WHERE WETLANDS COULD POTENTIALLY BE DEVELOPED, THE SEED MIXTURE WILL BE MODIFIED TO INCLUDE MORE TRANSITION AND WETLAND GRASSES AND GRASS-LIKE SPECIES. THESE SEED MIXES, ESPECIALLY IF STANDING WATER OR SATURATED SOILS EXIST DURING PLANTING, WILL LIKELY NEED TO BE BROADCAST.

Wetland/Transition Grass Seed	Application Rate* (#PLS/acre)
Western Wheatgrass	2.5
Switchgrass	2.5
Bottlebrush squirreltail	1.5
Alkali sacaton	1.5
Colorado rush	1.5
Meadow sedge	1.5
Total	11

*Application rate is for drill seeding. If seed is to be broadcast. The application rate will be doubled.

9. UPLAND GRASS SEED WILL BE PLANTED WITH A DRILL EQUIPPED WITH DEPTH BANDS AND PRESS WHEELS. THE SEEDED AREA WILL THEN BE COVERED WITH CERTIFIED WEED-LESS STRAW MULCH AT A RATE OF 2,000 POUNDS PER ACRE. THE STRAW WILL BE CRIMPED INTO THE SOIL TO CONTROL EROSION UNTIL THE GRASS BECOMES ESTABLISHED.
10. DRILL SEEDING IS THE PREFERRED METHOD FOR REVEGETATION. IF BROADCAST SEEDING IS NECESSARY ON MOIST SOILS, STEEP SLOPES, OR IN EXCESSIVELY ROCKY AREAS, SUCCESS CAN BE ENCOURAGED BY BROADCASTING ONTO GROWTH MEDIUM THAT IS VERY LOOSE. IF THE SEED IS BROADCAST IN THOSE CIRCUMSTANCES, THEN THE SEEDED AREA WILL BE DRAGGED TO HELP BURY THE SEED.
11. PERIODIC INSPECTION FOR NOXIOUS WEEDS, AT LEAST ONCE A QUARTER, AND MORE FREQUENTLY AS NEEDED, WILL BE DONE AS PART OF A WEED MANAGEMENT PLAN.
12. THE MINE OFFICE/SCALE HOUSE TRAILER AND ANY OTHER STRUCTURES ASSOCIATED WITH MINING WILL BE REMOVED FROM THE SITE DURING FINAL RECLAMATION ACTIVITIES.
13. BEST MANAGEMENT PRACTICES WILL BE USED TO CONTROL EROSION AND STORMWATER SUSPENDED SEDIMENT RUNOFF FROM THE SITE DURING RECLAMATION ACTIVITIES.

POND LINER NOTES

1. PRIOR TO CONSTRUCTION, OVERBURDEN AND CLAYSTONE MATERIAL TESTING SHALL BE PERFORMED FOR USE IN FINAL DESIGN. THE FOLLOWING SPECIFICATIONS AND PROCEDURES ARE PROVIDED AS A GENERAL GUIDELINE FOR PERMITTING PURPOSES. FINAL SPECIFICATIONS AND DESIGN CRITERIA WILL BE DEVELOPED DURING THE FINAL DESIGN PROCESS.
2. EACH LAYER OF FILL SHALL BE SCARIFIED TO ALLOW PROPER BONDING BETWEEN LAYERS.
3. DENSITY AND MOISTURE CONTENT TESTING SHALL BE PERFORMED AT A RATE OF 1 TEST FOR EACH 2,000 YARDS PLACED.
4. ALL CLAY LINER MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% ASTM-D698-78 STANDARD PROCTOR AT +2% OF OPTIMUM MOISTURE CONTENT.
5. NO LINER MATERIAL SHALL BE PLACED IN THE LINER SLOPE WHILE EITHER THE MATERIAL, EMBANKMENT, OR FOUNDATION IS FROZEN.
6. NO ORGANIC MATERIAL SHALL BE PLACED IN THE LINER SLOPE.
7. EACH LAYER OR LIFT SHALL BE CONSTRUCTED CONTINUOUSLY AND APPROXIMATELY HORIZONTAL FOR THE WIDTH AND LENGTH OF EACH LIFT.
8. LINER MATERIAL SHALL BE COMPOSED OF CLAYEY OVERBURDEN AND WEATHERED CLAYSTONE THAT BREAKS DOWN DURING PROCESSING. BEDROCK CLAYSTONE MATERIAL MAY BE RIPPED, MOISTURE TREATED, AND ALLOWED TO AIR SLAKE FOR A MINIMUM OF ONE DAY PRIOR TO ITS PLACEMENT IN THE LINER. LINER MATERIAL IS DEFINED AS MATERIAL HAVING 4 INCH OR SMALLER COBBLE, A MINIMUM OF 50% FINES BY CLAY WEIGHT PASSING THE US STANDARD 200 SIEVE, AND A PLASTICITY INDEX OF 10% OR GREATER FOR THE PORTION OF MATERIAL FINER THAN THE US STANDARD 40 SIEVE.
9. SUFFICIENT MOISTURE SHALL BE ADDED AT THE BORROW AREA SO NO MORE THAN 3% ADDITIONAL MOISTURE IS REQUIRED TO BRING ANY LINER MATERIAL TO SPECIFICATIONS ONCE PLACED IN THE FILL.
10. LINER MATERIAL SHALL BE PLACED IN MAXIMUM OF 9-INCH LOOSE LIFTS PRIOR TO COMPACTION.
11. A CATERPILLAR 815 OR 825 SHEEPSFOOT COMPACTOR (OR EQUIVALENT) WILL BE USED FOR COMPACTING EFFORTS.
12. THE COMPLETED LINER SHALL BE PROTECTED FROM DAMAGE CAUSED BY DESICCATION OR FREEZING TEMPERATURES BY PLACING A MINIMUM OF 12-INCHES PIT RUN MATERIAL ON THE ENTIRE SLOPE.
13. LINED PONDS SHALL PASS LEAK TEST AS REQUIRED BY THE COLORADO OFFICE OF THE STATE ENGINEER AND COLORADO DIVISION OF WATER RESOURCES

SLURRY WALL LINER NOTES

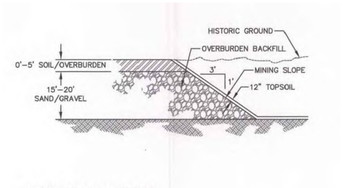
1. PONDS 1 AND 2 MAY BE SEALED WITH A SLURRY WALL LINER AS AN ALTERNATIVE TO THE COMPACTED CLAY LINER AS DESCRIBED IN POND LINER NOTES 1-13.
2. PRIOR TO INSTALLATION, SITE SPECIFIC ENGINEERED DESIGN AND SPECIFICATION FOR THE SLURRY WALL WILL BE SUBMITTED TO THE DIVISION FOR APPROVAL
3. LINED PONDS SHALL PASS LEAK TEST AS REQUIRED BY THE COLORADO OFFICE OF THE STATE ENGINEER AND COLORADO DIVISION OF WATER RESOURCES.

FLOOD PLAIN NOTES

FLOODPLAIN INFORMATION PER FIRM FLOOD INSURANCE RATE MAP NO 08013C0287J DATED DECEMBER 18, 2012 AND FIRM FLOOD INSURANCE RATE MAP NO 08013C0289J DATED DECEMBER 18, 2012.

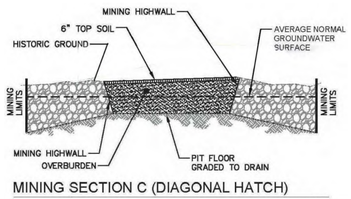
- THIS PROPERTY LIES IN AREAS DETERMINED TO BE WITHIN OTHER AREAS - AREAS OUTSIDE THE 2% ANNUAL CHANCE FLOOD
- ZONE X - AREAS OF 25 % ANNUAL CHANCE OF FLOOD OR AREAS WITH 1% ANNUAL CHANCE OF FLOOD WITH AVERAGE DEPTHS OF LESS THAN ONE FOOT OR WITHIN DRAINAGE AREAS LESS THAN ONE SQUARE MILE AND AREAS PROTECTED BY LEVEES FROM THE 100 YEAR FLOOD.
- ZONE AE - SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL FLOOD CHANCE, BASE FLOOD ELEVATIONS DETERMINED.
- ZONE AH - SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL FLOOD CHANCE, FLOOD DEPTHS OF 1 TO 3 FEET, (USUALLY AREAS OF PONDING) BASE FLOOD ELEVATIONS DETERMINED.

THE ADDITIONAL FLOODPLAINS SHOWN ARE BASED ON PRELIMINARY FEMA FIRM MAP 08013CO289K FROM SEPTEMBER 30, 2019 AND LONGMONT'S APPEAL OF FEMA'S PRELIMINARY FIRM MAP. THESE MAPS ARE NOT FINAL AND ARE EXPECTED TO BE REVISED, THESE ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.



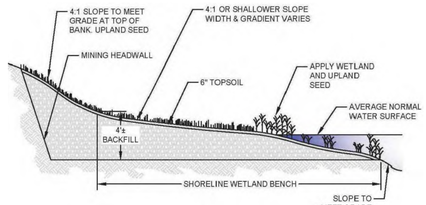
POND RECLAMATION

N.T.S.



MINING SECTION C (DIAGONAL HATCH)

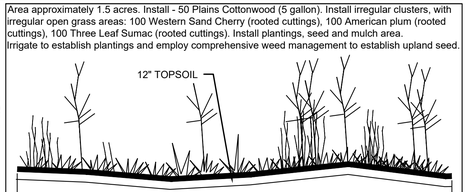
N.T.S.



SHORELINE RECLAMATION

N.T.S.

Area approximately 1.5 acres. Install - 50 Plains Cottonwood (5 gallon). Install irregular clusters, with irregular open grass areas: 100 Western Sand Cherry (rooted cuttings), 100 American plum (rooted cuttings), 100 Three Leaf Sumac (rooted cuttings). Install plantings, seed and mulch area.
Irrigate to establish plantings and employ comprehensive weed management to establish upland seed.



ENHANCED RIPARIAN AREA

N.T.S

REVISIONS

DESCRIPTION	DATE	BY

DRAWN PDB
CHECKED BW
DESIGNED BW
FILENAME 1241.0001 DRMS

IRWIN/THOMAS MINE M2016-054 TECHNICAL REVISION 1
EXHIBIT L

RECLAMATION PLAN

TST
TST, INC.
CONSULTING ENGINEERS
748 Whalers Way
Suite 200 Fort Collins
Colorado 80525
Phone: 970.226.0557

JOB NO. 1241.0001.02
SCALE 1"=300'
DATE MARCH 2023
SHEET L1 of 1

K:\1241\0001\05 Drawings\Sheets LA\1241.0001 DRMS.dwg; 3/6/2023 11:49:43 AM

ATTACHMENT D

Revised EXHIBIT L - Reclamation Cost

Aspect		Reclamation Operation	Quantity	Units	Unit Costs ($)	Costs ($)
		Active Mining Area				
A	1	Backfill and grade 35 disturbed acres of mining cells (maximum pdisturbance area allowed under PUD & DRMS permits)	735,200	CY	$3.35	$2,462,920
	2	Replace topsoil on backfilled mining cell areas	131,190	CY	$2.60	$341,094
		Slurry Wall				
B	1	Slurry Wall Construction (4,800 linear ft x 20 ft avg depth, unit cost derived from 2022 as-built costs in Brighton CO)	96,000	Sq Ft	$9.51	$912,960
	2	Slurry Wall Underdrain Flow Line (west & north sides assumed, unit cost derived from 2022 as-built costs in Brighton CO)	1,900	Linear Ft	$186	$353,400
	3	Cell dewatering (three months assumed)	3	Months	$15,000	$45,000
	4	Replace Topsoil around active mining cells within slurry wall	2,500	CY	$7.80	$19,500
	5	Reseeding within slurry wall construction area	10	Ac	$2,387	$23,870
		Miscellaneous DIsturbed Areas				
C	1	Replace topsoil on internal haul roads	17,150	CY	$2.45	$42,018
	2	Reseeding / Restoration at main site entrance	1.0	Ac	$2,387	$2,387
	3	Remove privacy berms and reclaim topsoil	34,980	CY	$2.85	$99,693
		Final Reclamation				
D	1	Seed all remaining disturbed areas	65.9	Ac	$2,387	$157,375
	2	Seed enhanced riparian area	4.7	Ac	$2,387	$11,195
	3	Plant 50 trees in riparian area, 5-gallon	50	Ea	$450	$22,500
	4	Plant 300 rooted cuttings in riparian area	300	Ea	$60	$18,000
Total Reclamation Costs						$4,493,911
Contractor Mobilization/Demobilization Costs (8%)					0.08	$359,513
Overhead (18.5%)					0.185	$831,374
Administration (5%)					0.05	$224,696
Total Proposed Financial Warrenty						**$5,909,494**
Disturbed Acreage						65.9
Financial Warranty per Acre						$89,633

ATTACHMENT E

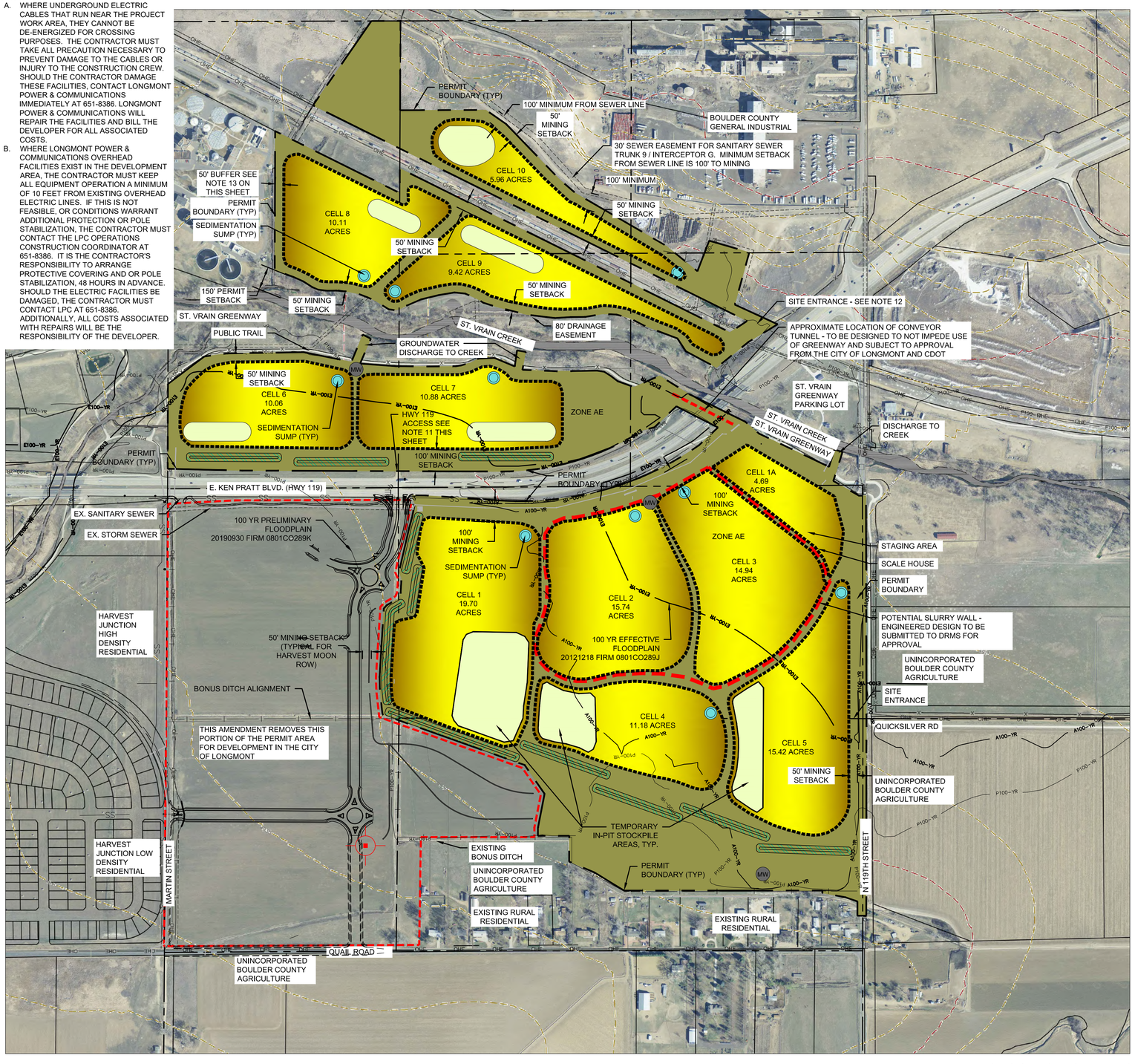
Revised EXHIBIT C-5 Mining Plan Map

IRWIN/THOMAS MINE

NOTE:

A. WHERE UNDERGROUND ELECTRIC CABLES THAT RUN NEAR THE PROJECT WORK AREA, THEY CANNOT BE DE-ENERGIZED FOR CROSSING PURPOSES. THE CONTRACTOR MUST TAKE ALL PRECAUTION NECESSARY TO PREVENT DAMAGE TO THE CABLES OR INJURY TO THE CONSTRUCTION CREW. SHOULD THE CONTRACTOR DAMAGE THESE FACILITIES, CONTACT LONGMONT POWER & COMMUNICATIONS IMMEDIATELY AT 651-8386. LONGMONT POWER & COMMUNICATIONS WILL REPAIR THE FACILITIES AND BILL THE DEVELOPER FOR ALL ASSOCIATED COSTS.

B. WHERE LONGMONT POWER & COMMUNICATIONS OVERHEAD FACILITIES EXIST IN THE DEVELOPMENT AREA, THE CONTRACTOR MUST KEEP ALL EQUIPMENT OPERATION A MINIMUM OF 10 FEET FROM EXISTING OVERHEAD ELECTRIC LINES. IF THIS IS NOT FEASIBLE, OR CONDITIONS WARRANT ADDITIONAL PROTECTION OR POLE STABILIZATION, THE CONTRACTOR MUST CONTACT THE LPC OPERATIONS CONSTRUCTION COORDINATOR AT 651-8386. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE PROTECTIVE COVERING AND OR POLE STABILIZATION, 48 HOURS IN ADVANCE. SHOULD THE ELECTRIC FACILITIES BE DAMAGED, THE CONTRACTOR MUST CONTACT LPC AT 651-8386. ADDITIONALLY, ALL COSTS ASSOCIATED WITH REPAIRS WILL BE THE RESPONSIBILITY OF THE DEVELOPER.



LEGEND

- PERMIT BOUNDARY
- SECTION LINE
- EXISTING PARCELS
- EXISTING 5 FOOT CONTOUR
- EXISTING 25 FOOT CONTOUR
- EXISTING MONITORING WELL LOCATION
- BERMS
- SLURRY WALL
- SEDIMENTATION SUMP
- TEMPORARY IN-PIT STOCKPILE AREAS
- 100 YR EFFECTIVE FLOOD PLANE
- 100 YR PRELIMINARY FLOOD PLANE
- 100 YR PROPOSED FLOOD PLANE

NOTES

1. THE PROPOSED IRWIN/THOMAS MINE PERMIT AREA IS COMPRISED OF 4 DISTINCT MINING AREAS SEPARATED BY COLORADO HIGHWAY 119, ST. VRAIN CREEK, AND THE BURLINGTON NORTHERN AND SANTA FE (BNSF) RAILROAD. MINING AREA 1 (MA1) IS LOCATED SOUTH OF HWY 119, MINING AREA 2 (MA2) IS NORTH OF HWY 119 AND SOUTH OF ST. VRAIN CREEK, MINING AREA 3 IS NORTH OF ST. VRAIN CREEK AND SOUTH OF THE BNSF RAILROAD, AND MINING AREA 4 IS NORTH OF THE RAILROAD.
2. THE PROPOSED PERMIT BOUNDARY ENCOMPASSES APPROXIMATELY 211.7 ACRES WITH ONLY ABOUT 128.1 ACRES CURRENTLY PLANNED FOR MINING. HOWEVER, THE AFFECTED LAND BOUNDARY ESSENTIALLY FOLLOWS THE PERMIT BOUNDARY TO ALLOW FOR RECLAMATION ACTIVITIES AND FUTURE POTENTIAL MINING OPERATIONS. AREAS NOT DISTURBED BY MINING MAY BE DISTURBED BY ACCESS ROADS, MATERIAL CONVEYING, STOCKPILES, OR OTHER MINING RELATED ACTIVITIES. THE REMAINING AREA WILL CONSIST OF SETBACKS AND ROAD AND UTILITY RIGHT-OF-WAYS.
3. IN ADDITION TO AREAS DISTURBED BY MINING, ACCESS ROADS, MATERIAL CONVEYING, STOCKPILES, OR OTHER MINING RELATED ACTIVITIES MAY OCCUR IN AREAS NOT SUBJECT TO MINING AND RIPARIAN SETBACKS AND BUFFERS. AREAS NOT DISTURBED BY MINING MAY BE DISTURBED BY ACCESS ROADS, MATERIAL CONVEYING, STOCKPILES, OR OTHER MINING RELATED ACTIVITIES. THE REMAINING AREA WILL CONSIST OF SETBACKS AND ROAD AND UTILITY RIGHT-OF-WAYS
4. SETBACKS FROM THE MINE PIT TOP OF SLOPE TO THE PROPOSED PERMIT BOUNDARY OR MAN-MADE STRUCTURES NOT OWNED BY THE APPLICANT WILL BE 50 FEET OR GREATER.
5. ITEMS OWNED BY THE APPLICANT OR PROPERTY OWNER LOCATED WITHIN THE PERMIT AREA SUCH AS UN-IMPROVED ROADS, IRRIGATION LATERALS, FENCES, WATER WELLS AND ASSOCIATED PUMPS, AND OTHER STRUCTURES MAY BE REMOVED OR RELOCATED DURING MINING AND RECLAMATION.
6. TEST PITS HAVE VERIFIED THAT COMMERCIAL DEPOSITS OF SAND AND GRAVEL EXIST UP TO 25 FEET BELOW THE SURFACE OF THE GROUND.
7. MINING IS EXPECTED TO ENCOUNTER GROUNDWATER WITHIN FIVE FEET OF THE GROUND SURFACE. THE DEPOSIT WILL BE DRY MINED USING DEWATERING TRENCHES, PUMPS, SUMPS, & RECHARGE PONDS.
8. DURING MINING ADJACENT TO THE ST. VRAIN CREEK RIPARIAN AREA, PRECAUTIONS WILL BE TAKEN TO NOT DISTURB THE CREEK CHANNEL AND DESIRABLE VEGETATION.
9. A MINE OFFICE/SCALE HOUSE TRAILER MAY BE ESTABLISHED NEAR SITE ENTRANCES BOTH NORTH AND SOUTH OF ST. VRAIN CREEK.
10. BEST MANAGEMENT PRACTICES WILL BE USED TO LIMIT DISCHARGE OF STORMWATER AND SEDIMENT ONTO ADJACENT PROPERTIES AND WATERWAYS.
11. THE EXISTING HWY 119 ACCESS WILL CONTINUE TO FUNCTION FOR AGRICULTURE ACCESS AND MAINTENANCE. ONCE MINING AND RECLAMATION BEGIN, ACTIVITY ASSOCIATED WITH THE HWY 119 ACCESS WILL INCLUDE BRINGING EQUIPMENT INTO THE SITE, THE EQUIPMENT OPERATORS VEHICLE, ANY REQUIRED MAINTENANCE OF THE EQUIPMENT AND VEGETATION MANAGEMENT. MINED MATERIAL MAY BE TRANSPORTED VIA THE CONVEYOR AS SHOWN ON THE MINING PLAN OR VIA HAUL TRUCKS UTILIZING DIRECT ACCESS ONTO HWY 119 AT THE CONTROLLED INTERSECTION. SPECIFIC DETAILS REGARDING TRANSPORT OF MATERIAL FROM THE HWY 119 ACCESS OR VIA THE CONVEYOR SHALL BE REVIEWED AND APPROVED BY CDOT AND THE CITY OF LONGMONT.
12. ACCESS TO CELLS 8,9 AND 10 WILL BE VIA AN EXISTING ACCESS EASEMENT TO NORTH 119TH ST. SPECIFIC CONFIGURATION, REQUIRED IMPROVEMENTS AND AN APPROVED HAUL ROUTE TO BE APPROVED BY THE CITY PRIOR TO MINING THESE CELLS. THE OPERATOR WILL ENTER INTO A ROAD MAINTENANCE AGREEMENT WITH THE CITY PRIOR TO MINING THOSE CELLS.
13. THE EXISTING SWALE ON THE WEST SIDE OF CELL 8 IS A MAJOR DRAINAGE CONVEYANCE AND DISCHARGE FOR THE WATER TREATMENT PLANT. THE CHANNEL CANNOT BE IMPACTED AND MUST REMAIN OPERATIONAL AT ALL TIMES. FIELD VERIFY PRIOR TO ANY MINING ACTIVITIES THAT THE 50' PROPOSED BUFFER IS ADEQUATE TO PROTECT THE EXISTING SWALE, AND IF IT IS NOT, INCREASE THE BUFFER AMOUNT TO ENSURE PROPER OPERATION OF THE SWALE.

MINING SEQUENCE NOTES

1. IN MA1, MINING CELL 1A SHALL BE MINED FIRST. MINING AND BACKFILL OF CELL 1A SHALL OCCUR DURING THE NON-FLOOD PRONE SEASON OF OCTOBER THROUGH APRIL. PRIOR TO MINING IN CELLS 2 AND 3, CELL 1A SHALL BE BACKFILLED.
2. THE SCALE HOUSE AND STAGING AREA IN MA1 MAY BE ESTABLISHED ON THE MINED AND BACKFILLED AREA OF CELL 1A.
3. IN MA2 AND MA3, THE AREAS OF THE MINING CLOSEST TO ST. VRAIN CREEK SHALL BE MINED FIRST. THE MINE CELLS WITHIN 200 FEET OF THE CREEK SHALL BE MINED AND BACKFILLED DURING THE NON-FLOOD PRONE SEASON OF OCTOBER THROUGH APRIL.
4. PRIOR TO AFFECTING LAND WITHIN MA2, MA3 OR MA4 THE DIVISION OF RECLAMATION, MINING AND SAFETY (THE DIVISION) SHALL BE NOTIFIED IN WRITING.
5. IF COMPLETED MINE CELL SLOPES ARE TO BE WITHIN A RESERVOIR OR POND, THE DIVISION SHALL BE NOTIFIED FOR INSPECTION PRIOR TO FILLING THE RESERVOIR/POND WITH WATER
6. IF SOIL TESTING IS NECESSARY FOR RECLAMATION, TEST RESULTS AND ANY PROPOSED SOIL AMENDMENTS SHALL BE SUBMITTED TO THE DIVISION.
7. PRIOR TO MINING MA3 AND MA4, MONITORING WELLS SHALL BE INSTALLED AND MONITORED FOR FIVE QUARTERS TO ESTABLISH BASELINE GROUND WATER ELEVATIONS .
8. IF OFF SITE STRUCTURAL FILL IS TO BE IMPORTED, THE DIVISION SHALL BE NOTIFIED ACCORDING TO THE MINERAL RULES AND REGULATIONS RULE 3.1.5(9)
9. A TEMPORARY ABOVE GROUND FUEL STORAGE FACILITY MAY BE PLACED IN MA1 DURING MINING.

FLOOD PLAIN NOTES

FLOODPLAIN INFORMATION PER FIRM FLOOD INSURANCE RATE MAP NO 08013C0287J DATED DECEMBER 18, 2012 AND FIRM FLOOD INSURANCE RATE MAP NO 08013C0289J DATED DECEMBER 18, 2012.

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- ZONE X - AREAS OF 25 % ANNUAL CHANCE OF FLOOD OR AREAS WITH 1% ANNUAL CHANCE OF FLOOD WITH AVERAGE DEPTHS OF LESS THAN ONE FOOT OR WITHIN DRAINAGE AREAS LESS THAN ONE SQUARE MILE AND AREAS PROTECTED BY LEVEES FROM THE 100 YEAR FLOOD.
- ZONE AE - SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL FLOOD CHANCE, BASE FLOOD ELEVATIONS DETERMINED.
- ZONE AH - SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL FLOOD CHANCE, FLOOD DEPTHS OF 1 TO 3 FEET, (USUALLY AREAS OF PONDING) BASE FLOOD ELEVATIONS DETERMINED.

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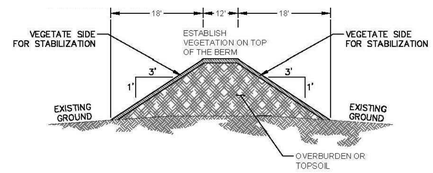

TYPICAL BERMING SECTION

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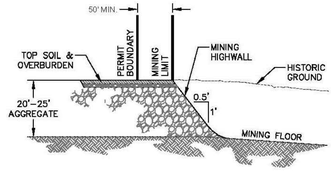

TYPICAL MINING SECTION AT PERMIT BOUNDARY

N.T.S.

REVISIONS	DESCRIPTION	DATE	BY

DRAWN PDB
CHECKED BW
DESIGNED BW
FILENAME 1241.0001 DRMS

IRWIN/THOMAS MINE M2016-054 TECHNICAL REVISION 1
EXHIBIT C-5
MINING MAP

TST
TST, INC.
CONSULTING ENGINEERS
748 Whalers Way
Suite 200 Fort Collins
Colorado 80525
Phone: 970.226.0557

JOB NO. 1241.0001.02
SCALE 1"=300'
DATE MARCH 2023
SHEET 5 of 5

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ATTACHMENT F

DWR_3385672_SEO600'

COLORADO
Division of Water Resources
Department of Natural Resources

WELL PERMIT NUMBER 82900-F
RECEIPT NUMBER 3684947

ORIGINAL PERMIT APPLICANT(S)

AGGREGATE INDUSTRIES WCR INC

AUTHORIZED AGENT

APPLEGATE GROUP, INC. (DAINS, JARED)

APPROVED WELL LOCATION

Water Division: 1 Water District: 5
Designated Basin: N/A
Management District: N/A
County: BOULDER
Parcel Name: N/A
Physical Address: NORTH 119TH STREET LONGMONT, CO 80501

Section 11 Township 2.0 N Range 69.0 W Sixth P.M.

UTM COORDINATES (Meters, Zone:13, NAD83)

Easting: 492884.0 Northing: 4444675.0

PERMIT TO EXPOSE WATER IN A PIT

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT
CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.

2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.

3) Approved pursuant to CRS 37-90-137 (2) and (11) for for the construction and operation of a well (gravel pit pond) in accordance with the temporary substitute water supply plan approved by the State Engineer on January 2, 2019, for the Irwin-Thomas Pit, Division of Reclamation, Mining & Safety Permit Number M-2016-054. The well (pond) shall not be operated unless it is included in a substitute water supply plan approved by the State Engineer or a plan for augmentation approved by the Water Court. The water supply plan for this pit is currently valid through December 31, 2019, and if it is not extended or if a court decree is not entered for a plan for augmentation, diversion of groundwater from this well must cease immediately.

4) The use of groundwater from this well, in addition to dewatering and evaporation, is limited to water lost with the mined product and dust control. No other use of water is allowed unless a permit therefor is approved.

5) The total surface area of exposed groundwater at the site is limited to a maximum of 138 acres, and may not exceed the amount covered under a water court approved plan for augmentation or substitute water supply plan approved by the State Engineer.

6) The annual amount of groundwater to be appropriated for operational purposes (water lost with the mined product and dust control) shall not exceed 23.47 acre-feet or the amount covered under a water court approved plan for augmentation or substitute water supply plan approved by the State Engineer.

7) The owner shall mark the well (gravel pit pond) in a conspicuous location with well permit number(s) and court case number(s) as appropriate. The owner shall take necessary means and precautions to preserve these markings.

8) A totalizing flow meter must be installed so as to measure any pumping from this gravel pit pond and maintained in good working order. Permanent records of all diversions from the gravel pit pond, tonage of mined product, and the surface area of groundwater exposure shall be maintained by the well owner (recorded at least monthly) and submitted to the Division Engineer upon request.

9) Pursuant to Rule 9.3.3 of the Water Well Construction Rules, groundwater ponds and gravel pit wells are exempt from the minimum well construction and location standards except for contamination considerations as stated in the Rule. The owner shall take necessary means and precautions to prevent contaminants from entering the groundwater pond or gravel pit well.

10) Pursuant to Rule 17.1.5 of the Water Well Construction Rules, the owner shall submit, after initiation of construction, site plan and cross section drawings showing the extent of intended excavation, the maximum depth of the pit or pond, the initial static water level, and the date of initial groundwater exposure to the atmosphere.

WELL PERMIT NUMBER 82900-F **RECEIPT NUMBER 3684947**

11) The boundaries of the gravel pit pond shall be more than 600 feet from any existing well, completed in the same aquifer, that is not owned by the applicant, excluding those wells whose owners were notified pursuant to CRS 37-90-137(2)(b)(II)(A). Notice was sent to the owners of permit nos. 37575-F, 67883-F, 80996, 124818, 244958, 244988, 305037, and an unpermitted well, and no responses were received.

NOTE: This permit will expire on the expiration date unless the well is constructed by that date. The site plan and cross section drawings referenced in condition of approval no. 10 must be submitted to the Division of Water Resources to verify the well has been constructed. A one-time extension of the expiration date may be available. Contact the DWR for additional information or refer to the extension request form (GWS-64) available at: http://www.water.state.co.us

Issued By SARAH BRUCKER

Date Issued: 1/25/2019

Expiration Date: 1/25/2020

Div. 1 11

Form No. GWS-27 6/2006	COLORADO DIVISION OF WATER RESOURCES DEPARTMENT OF NATURAL RESOURCES 1313 Sherman St., Rm 818, Denver, Colorado 80203 Phone: (303) 866-3581	For Office Use only RECEIVED FEB 26 2018 WATER RESOURCES STATE ENGINEER COLO.

REVIEW INSTRUCTIONS PRIOR TO COMPLETING FORM

GRAVEL PIT WELL PERMIT APPLICATION

1. TYPE OF PERMIT
   - [X] NEW PIT(S)
   - [ ] PIT(S) EXIST, CONSTRUCTED AFTER DEC. 31, 1980

2. APPLICANT INFORMATION
   NAME(S) Aggregate Industries - WCR, Inc.
   Mailing Address 1687 Cole Boulevard, Suite 300
   City, St. Zip Golden, CO 80401
   Phone (303) 716-5304

3. CONSULTANT/ATTORNEY/OPERATOR CONTACT (If different than #2)
   NAME(S) Applegate Group, Inc.
   Mailing Address 1490 W. 121st Ave, Suite 100
   City, St. Zip Denver, CO 80234-2728
   Phone (303) 452-6611

   PIT NAME Irwin/Thomas Mine
   DMG NO. M-2016-054

4. GENERAL LOCATION OF PIT(S): COUNTY Boulder *see map for pit location
   ____ 1/4 ____ 1/4, Sec. 11 Twp. 2 [X] N. [ ] S., Range 69 [ ] E. [X] W. 6th P.M.

5. Estimated maximum water surface to be exposed: 138 Acres. Number of Pits 11.

6. Estimated depth of pit(s) 25 Ft. Estimated depth to groundwater 7 Ft.

7. Estimated date to expose groundwater 2018; to complete mining 2028.

8. ATTACHMENTS: (Check which have been attached.)
   - (a) [X] Scaled map of pit area with range, township, & section clearly identified (REQUIRED).
   - (b) [ ] Copy of the reclamation permit, if applicable.
   - (c) [ ] Copy of pre 1/15/89 water conservancy dist. or water user assoc. augmentation agreement, if applicable.
   - (d) [ ] Copy of proposed substitute water plan or augmentation plan application, if applicable.
   - (e) [ ] Copy of court approved augmentation plan, if applicable. Case No. _____
   - (f) [ ] Other _____.

9. Detailed description of any use, other than evaporation, and method of diversion, rate of diversion, and annual amount of diversion of any water withdrawn from the pond.
   In addition to evaporation from exposed groundwater, additional use at the site may include 5 ac-ft/yr for dust control, 30 ac-ft/yr from mined material, and dewatering at a rate of 2,000 gpm.

10. I (we) have read the statements made herein and know the contents thereof, and that they are true to my (our) knowledge. [Pursuant to Section 24-4-104 (13)(a) C.R.S., the making of false statements herein constitutes perjury in the second degree and is punishable as a class 1 misdemeanor.]

Name/Title (Please type or print)	Signature	Date
JOHN GONLIN R.G.M.		01-29-18

For Office Use only
6000 BA ✓

Transaction #: 3684947
Date: 2/26/2018 10:22:47 AM
Transaction Total: $100.00
CREDIT CARD $100.00

Court Case No. _____ Div. 1 Co. ___ WD 5 Basin ___ MD ___ Use ___

Date Saved: 5/6/2016 11:08:14 AM
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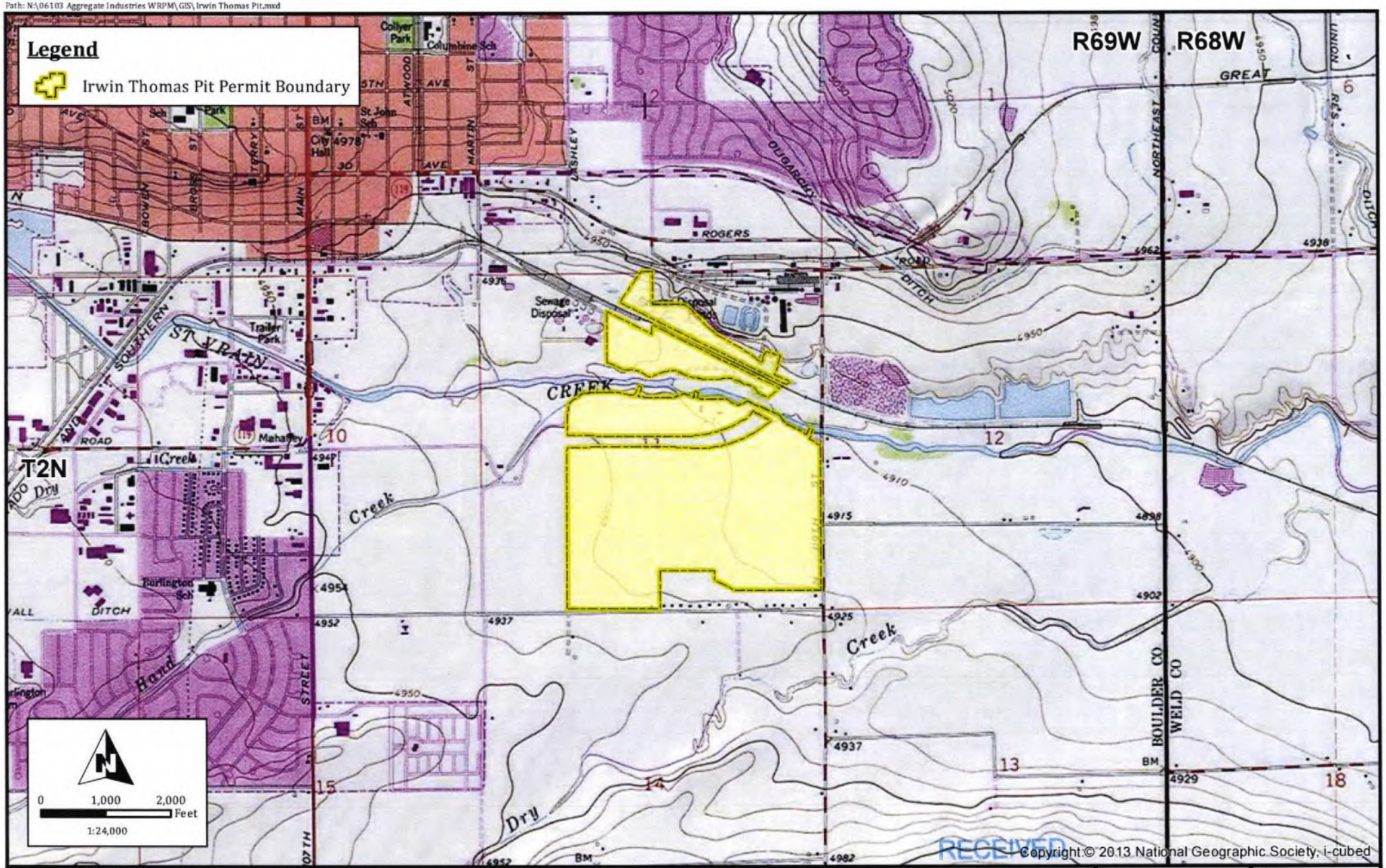

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Applegate Group, Inc.
Water Resource Advisors for the West
1490 West 121st Ave., Ste 100
Denver, CO 80234-2728
www.ApplegateGroup.com
Phone: (303) 452-6611
Fax: (303) 452-2759
e-mail: info@applegategroup.com

Best Copy Available

IRWIN THOMAS PIT SWSP

Overview Map

Date: 6 May 2016
Job #: 06-103
Drawn By: JMD

Figure: 1
Of: 1

OFFICE OF THE STATE ENGINEER, STATE OF COLORADO

NOTICE OF A GRAVEL PIT WELL PERMIT APPLICATION

IN THE MATTER OF AN APPLICATION FOR A GRAVEL PIT WELL PERMIT LOCATED LESS THAN 600 FEET FROM EXISTING WELLS

APPLICANT: AGGREGATE INDUSTRIES - WCR, INC.

APPLICATION RECEIPT NO. 3684947

To:
1) DENNIS A. & DEBORAH A. BILLINGS
2) C & J ENTERPRISES LLC
3) EL AGUILA LLC
4) TANNER & SARAH HILL
5) CITY OF LONGMONT
6) JOSEPH PLUMLEY
7) GREGORY SIZEMORE

On February 26, 2016, Aggregate Industries - WCR, Inc. submitted an application (receipt no. 3684947) for a new gravel pit to be known as the Irwin/Thomas Mine, DRMS Permit No. M-2016-054. The subject well (gravel pit pond) is proposed to be located in Section 11, Township 2 North, Range 69 West of the 6th P.M. in Boulder County, Colorado. Information available to this office has shown that the proposed well (gravel pit pond) may be located less than 600 feet from existing wells. Pursuant to § 37-90-137(2), C.R.S., the requested permit cannot be issued by the State Engineer unless the State Engineer finds, after a hearing, that circumstances in this particular instance so warrant. That statute also provides that if the State Engineer notifies the owners of all wells within 600 feet of the proposed well (gravel pit pond) by certified mail and receives no response within the time set forth in the notice, no hearing shall be required.

The parties listed above have been identified as the owners of an existing well or wells located within 600 feet of the proposed well (gravel pit pond). Notice of the application for the subject well (gravel pit pond) is hereby provided pursuant to Section 37-90-137(2)(b), C.R.S., and a copy of the permit application is attached as Exhibit A. **Anyone objecting to the issuance of a new permit for the subject well (gravel pit pond) must submit a written response to this notice not later than 5:00 p.m. on January 7th, 2019.** Such response should contain a brief and plain statement of the reasons why the State Engineer should not grant a new permit for the subject well (gravel pit pond). If responding, please direct correspondence to Sarah Brucker and reference the above receipt number. A copy of the response should be provided to the applicant (Aggregate Industries - WCR, Inc.).

The Division of Water Resources is sending this notice because it is required by state statute. The Division of Water Resources is not sending this notice due to a perceived potential for injury or effect on your well(s) that would result from the issuance of the proposed well permit. If you object to the issuance of a permit in this application, you must formally participate in a hearing before the Hearing Officer for the State Engineer. In such a hearing, the Hearing Officer makes his decision based only on the evidence formally presented to him before and during the proceeding. Therefore, to participate in the hearing, you must formally file documents, exhibits and you must testify before the Hearing Officer. Objections from anyone who does not own an existing well located within 600 feet of the proposed well (gravel pit pond) will not be considered.

If you do not wish to participate in any hearing that might result in this matter, or have previously signed a 600-foot well spacing waiver statement, no response is necessary.

Dated this 17th day of December, 2018.

Kevin Rein, P.E.
Director/State Engineer

By: _____
Sarah Brucker, P.E.
Water Resources Engineer

Cc: Applicant

Attachment: Exhibit A

I hereby certify that I have duly served the within NOTICE OF A GRAVEL PIT WELL PERMIT APPLICATION upon all parties herein by depositing copies of the same in the United States mail, postage prepaid, at Denver, Colorado, or by electronic mail, this 17th day of December, 2018, addressed as follows:

AGGREGATE INDUSTRIES - WCR, INC.
1687 COLE BLVD STE 300
GOLDEN CO 80401

DENNIS A. & DEBORAH A. BILLINGS
11859 QUAIL RD
LONGMONT CO 80501-8917
CERTIFIED MAIL: 7018 1130 0001 6907 8242
(Well permit no. 244988)

C & J ENTERPRISES LLC
1451 PARK DR
LOVELAND CO 80538-4285
CERTIFIED MAIL: 7018 1130 0001 6907 8259
(Well permit no. 124818)

EL AGUILA LLC
2253 SANTA FE DR
LONGMONT CO 80504-2312
CERTIFIED MAIL: 7018 1130 0001 6907 8266
(Unpermitted Well)

TANNER & SARAH HILL
11774 QUAIL RD
LONGMONT CO 80501-8959
CERTIFIED MAIL: 7018 1130 0001 6907 8273
(Well Permit No. 80996)

CITY OF LONGMONT
350 KIMBARK ST
LONGMONT CO 80501-5500
CERTIFIED MAIL: 7018 1130 0001 6907 8280
(Well permit nos. 37575-F & 67883-F)

JOSEPH PLUMLEY
9413 N 119TH ST
LONGMONT CO 80501-8945
CERTIFIED MAIL: 7018 1130 0001 6907 8297
(Well permit no. 305037)

GREGORY SIZEMORE
11791 QUAIL RD
LONGMONT CO 80501-8958
CERTIFIED MAIL: 7018 1130 0001 6907 8303
(Well permit no. 244958)

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

C+J Enterprises LLC
1451 Park Dr
Love land Co 80538

9590 9402 3574 7305 3176 34

2. Article Number *(Transfer from service label)*

7018 1130 0001 6907 8259

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X JEFF JOHNSON ☒ Agent ☐ Addressee

B. Received by *(Printed Name)* JEFF JOHNSON

C. Date of Delivery 12-28-18

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

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☐ Registered Mail Restricted Delivery
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☐ Signature Confirmation Restricted Delivery

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1. Article Addressed to:

El Aguila LLC
2253 Santa Fe Dr
Longmont CO 80504-2812

9590 9402 2932 7094 9107 12

2. Article Number *(Transfer from service label)*

7018 1130 0001 6907 8266

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X ☐ Agent ☐ Addressee

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1. Article Addressed to:

Tanner & Sarah Hill
11774 Quail Rd
Longmont CO 80501-8959

9590 9402 2932 7094 9107 05

2. Article Number *(Transfer from service label)*

7018 1130 0001 6907 8273

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1. Article Addressed to:

City of Longmont
350 Kimbark St
Longmont CO 80501-5500

9590 9402 2932 7094 9106 75

2. Article Number *(Transfer from service label)*

7018 1130 0001 6907 8280

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A. Signature

X [signature] ☐ Agent ☐ Addressee

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1. Article Addressed to:

Joseph Plumley
9413 N 119th St
Longmont CO 80501-8945

9590 9402 2932 7094 9106 82

2. Article Number *(Transfer from service label)*

7018 1130 0001 6907 8297

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☒ Addressee

B. Received by *(Printed Name)* Joseph Plumley C. Date of Delivery 01-10-19

D. Is delivery address different from item 1? ☐ Yes
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CERTIFIED MAIL

7018 1130 0001 6907 8303

U.S. POSTAGE » PITNEY BOWES
ZIP 80216 $ 006.67⁰
02 1W
0001366873 DEC 17 2018

COLORADO
Division of Water Resources
Department of Natural Resources
1313 Sherman Street, Room 818, Denver, CO 802[illegible]

340500001

N Sherman

Sarah

H/N RT
WD
11791
12/22

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GREGORY SIZEMORE
11791 QUAIL RD
LONGMONT CO 80501-8958

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BC: 80210221213 *2020-09307-18-03

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT
OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

SENDER: *COMPLETE THIS SECTION*

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1. Article Addressed to:

Gregory Sizemore
11791 Quail Rd
Longmont CO 80501-8958

9590 9402 2932 7094 9106 99

2. Article Number *(Transfer from service label)*

7018 1130 0001 6907 8303

PS Form 3811, July 2015 PSN 7530-02-000-9053

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A. Signature

X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

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Applegate Group, Inc.
Water Resource Advisors for the West

Allplans IDs:

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3437
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4616
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4773
5475
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6090

December 30, 2022

Ms. Sarah Brucker
Division of Water Resources
1313 Sherman Street, Suite 818
Denver, Colorado 80203

RE: Aggregate Industries-WCR, Inc. 2023 CoSSP

Dear Sarah:

On behalf of Aggregate Industries-WCR, Inc. (AI), please find enclosed AI's combined substitute supply plan (CoSSP) renewal request for 2023.

If you have any questions or need further information, please contact me at (303) 452-6611 or email at jareddains@applegategroup.com.

Sincerely,
Applegate Group, Inc.

Jared Dains

Jared Dains, P.E.
Water Resources Engineer

JMD/ta

cc: Neil Whitmer, Aggregate Industries
AG File #06-103

N:\06103 Aggregate Industries WRPM\CoSSP\2023\2023 CoSSP transmittal.docx

2023 Combined SWSP Renewal

2023 Combined Substitute Water Supply Plan Renewal

South Platte River Basin

AGGREGATE INDUSTRIES

December 30, 2022

AG File No. 06-103

Prepared for:

AGGREGATE INDUSTRIES

Aggregate Industries — WCR, Inc.
1707 Cole Boulevard, Suite 100
Golden, CO 80401

Prepared by:

Applegate Group, Inc.
Water Resource Advisors for the West
1490 W. 121st Ave., Suite 100
Denver, CO 80234
Phone: 303-452-6611
Fax: 303-452-2759
www.applegategroup.com

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FIGURES

APPENDICES

INTRODUCTION

On behalf of Aggregate Industries – WCR, Inc. (Aggregate), Applegate Group, Inc. (Applegate) is submitting this comprehensive combined substitute supply plan (CoSSP) to account for out-of-priority depletions from its sand & gravel mining operations located throughout the South Platte River Basin, including the St. Vrain River, the Poudre River, and the mainstem of the South Platte River. Aggregate is submitting this request pursuant to Colo. Rev. Stat. §37-90-137(11) and §37-80-120(5), which allows the State Engineer to approve substitute supply plans for out-of-priority depletions caused in connection with sand & gravel mining operations. This CoSSP was last approved by letter on March 28, 2022, which approved the plan through December 31, 2022. The purpose of this request is to renew the CoSSP for calendar year 2023. Applegate intends to electronically pay the $3,084 SWSP renewal fee for the 12 sites included in this CoSSP.

Of the 12 sites included in this CoSSP, Aggregate expects to actively mine four sites in 2023: WW Farms, Tull, Irwin-Thomas, and Tucson South. One site, Platte Valley, will process imported material mined at Tucson South. The remaining seven sites are inactive: F-Street, Distel, Fredstrom, Jeronimus, Hazeltine, Brighton, and Wattenberg.

The location of each of the sites included in the 2023 CoSSP are shown in Figure 1. Tables outlining the depletions and replacements covered by this CoSSP are contained in Appendix A. This report is organized into three main sections: (1) site updates and depletions, (2) replacement sources, and (3) accounting and operation of the CoSSP. Depletions and replacements are organized into four sub-reaches: Upper Poudre River, Lower Poudre River, St. Vrain River, and the South Platte Mainstem. The projected monthly consumptive uses and stream depletions for all sites are included in Appendix A. To keep the dataset more current, this report only includes data back to 2021. A complete set of data can be provided upon request.

UPDATED CONSUMPTIVE USES AND PROJECTED STREAM DEPLETIONS

This section lists the updated consumptive use and projected stream depletions for each site included in the CoSSP, grouped by sub-basin. Projected consumptive use was based on a review of recent aerial photography and consultation with Aggregate Industries regarding anticipated water use in 2023. The resulting stream depletions were determined by lagging past and projected consumptive use utilizing unit response curves, which were generated using either the Glover or Stream Depletion Factor lagging methodology. The lagging parameter of distance from depletion to stream for all of the pits was established from the centroid of the exposed water surface for pits with only one exposed surface, or from the centroid of the pit at those sites where multiple exposed surfaces exist. These lagging parameters were adjusted and documented in the 2012 CoSSP renewal request or in the original standalone SWSP request in the case of Irwin-Thomas and Fredstrom.

UPPER POUDRE RIVER

Site	2023 CU	2023 Depletions	Comment
None	0	0	No active sites
Total	***0***	***0***	

Aggregate currently does not have any active sites in the Upper Poudre River sub-reach.

LOWER POUDRE RIVER

Site	2023 CU	2023 Depletions	Comment
WW Farms Pit	205.07	203.65	Actively mining in 2023
F-Street Pit	71.79	71.79	Mining complete, reclamation in progress
Total	***276.86***	***275.44***	

Mining operations are anticipated to continue at the WW Farms Pit in 2023. Water use at this site will include dewatering, evaporation from exposed groundwater, dust control, concrete batching, and aggregate production. Evaporative loss will be assessed on the estimated groundwater exposure of 64.0 acres. Dust control use is estimated to equal 0.99 ac-ft per year. Concrete batching is anticipated to use 8.10 ac-ft per year. Aggregate production is expected to equal 592,000 tons per year. WW Farms Pit is the subject of a decreed plan for augmentation in Case No. 90CW23; however, since, final reclamation of the site has not yet occurred, all depletions from the pit will continue to be replaced under this CoSSP.

Mining is complete at the F-Street Pit and reclamation is in progress. Water use at the F-Street Pit in 2023 will consist of evaporation from exposed groundwater. The exposed surface area is estimated to equal 26.2 acres. All post-pumping depletions from prior dewatering of the site have been replaced.

ST. VRAIN RIVER

Site	2023 CU	2023 Depletions	Comment
Distel Pit	1.54	1.54	Mining complete; reclamation in progress
Tull Pit	31.44	27.39	Actively mining in 2023
Irwin-Thomas Pit	47.29	28.40	Actively mining in 2023
Fredstrom Pit	0.00	0.00	Site inactive in 2023
Total	***80.27***	***57.33***	

Mining operations at the Distel Pit were completed in 2011. Reclamation is in progress and will continue in 2023. Water use at the Distel Pit in 2023 covered by this CoSSP will consist of dust control. The City of Longmont became responsible for evaporation from the site starting November 1, 2011, and Longmont now has a decreed augmentation plan under Case No. 09CW271 to replace these depletions. For the 2023 CoSSP, Aggregate will be responsible for replacing lagged depletions from dust control, past concrete batching, past aggregate production, and post-pumping depletions from prior dewatering, while during the same period the City of Longmont will be responsible for replacing depletions from evaporation and wetlands consumptive use in their separate augmentation plan. The site was dewatered from 1991 to 2013. Aggregate currently has no plans to reactivate dewatering. Post-pumping depletions from past dewatering are accounted for in this CoSSP. Dust control use is estimated at 1.54 ac-ft per year.

Mining operations are anticipated to continue at the Tull Pit in 2023. Water use at this site will consist of dewatering, evaporation from exposed groundwater, aggregate production, and dust control. The anticipated exposed surface area is estimated to be 4.0 acres. Aggregate extraction is expected to equal 684,000 tons per year. Dust control use is estimated to equal 0.99 acre-ft per year.

Mining operations are anticipated to begin at the Irwin-Thomas Pit in 2023. Water use at this site will consist of dewatering, evaporation from exposed groundwater, aggregate production, slurry wall construction, and dust control. The anticipated exposed surface area is estimated to be 1.0 acre. Aggregate extraction is expected to equal 500,000 tons per year. Dust control and slurry wall construction use is estimated to equal 30.00 acre-ft per year.

Mining operations are anticipated to be on hold at the Fredstrom Pit in 2023. There is no anticipated water use at this site in 2023, and no depletions to be replaced.

SOUTH PLATTE MAINSTEM

Site	2023 CU	2023 Depletions	Comment
Jeronimus Pit	15.00	15.57	Backfilling with inert fill ongoing
Hazeltine Pit	0.00	390.05	Reclamation in progress
Brighton Pit	2.73	7.01	Reclamation in progress
Tucson South Pit	32.34	29.25	Actively mining in 2023
Wattenberg Pit	108.38	107.81	Reclamation in progress
Platte Valley Pit	220.05	218.47	Processing imported material in 2023
Total	***378.50***	***768.16***	

The Jeronimus Pit is being backfilled with inert fill from various sources as it becomes available. Water use in 2023 will consist solely of evaporation. The current exposed surface area continues to be estimated at approximately 20.3 acres; 14.7 of these acres were exposed prior to 1981, thereby leaving a net exposed area requiring augmentation of 5.6 acres.

Mining at the Hazeltine Pit is complete. A slurry wall liner has been installed around the pit and the liner leak test was approved by the Division of Water Resources on May 25, 2016. Dewatering of the site has ceased; therefore, post-pumping depletions from past dewatering are being assessed. There is no anticipated groundwater use at this site in 2023. A total of 12,382 acre-feet of groundwater was consumed or pumped for dewatering at the site while it was active; of that amount, a total of 12,018 acre-feet of lagged depletions (or 97% of all lagged depletions) will have accrued to the South Platte River by the end of December 2022. Aggregate proposes to replace all remaining depletions during this CoSSP renewal period; the remaining groundwater depletions (approximately 364 acre-feet) have been distributed uniformly throughout the year. The Orr Drain currently delivers surface water into the lined pit, which is subsequently pumped out to the Bull Seep and discharged to the South Platte River; the monthly difference between what is measured entering the pit and what is measured being pumped out is considered a surface water depletion on which augmentation is required. For the purposes of this CoSSP, it was assumed that similar amounts of surface water inflow would occur this year as occurred last year 90% of that would be pumped out, resulting in annual surface depletions of 25.75 ac-ft. For the 2023 CoSSP, Aggregate will be responsible for replacing all remaining lagged depletions from past dust control, past aggregate production, evaporation from the previously existing exposed groundwater surface, all remaining post-pumping depletions from prior dewatering, and surface water depletions due to Orr Drain inflows that are not pumped out in the same month.

Mining of the Brighton Pit is complete, and reclamation is in progress. Water use at this site in 2023 will consist solely of evaporation from exposed groundwater. Continuous dewatering operations at this pit began in 2006. The rate of dewatering was estimated to be approximately 200 gpm. The SEO approved the liner at the south and central reservoirs of the Brighton Pit on August 19, 2010, and June 9, 2011, respectively. Dewatering at the site ceased in August 2011. Because the dewatered area was lined, there was no post-dewatering fill; however, post-pumping depletions resulting from the cessation of dewatering are included in the total depletions for the site. The total amount of remaining exposed surface area is estimated to be 1.0 acre.

Aggregate intends to actively mine the Tucson South Pit in 2023. Water use at this site in 2023 will consist of evaporation from exposed groundwater, aggregate production, dust control, slurry wall construction, and landscape irrigation. Exposed groundwater is estimated to equal 3 acres. Aggregate estimates that 1,400,000 tons of material will be extracted per year. Dust control, slurry wall, and irrigation use is estimated to equal 3.53 ac-ft per year.

Aggregate Industries has completed mining at the Wattenberg Pit and has entered the reclamation phase. Water use in 2023 will consist of dewatering and evaporation from exposed groundwater. The current exposed area is estimated to equal 37.0 acres. In 2023, Aggregate plans to dewater the mined areas to multiple locations. Some water will be pumped to the Stillwater Ski Lake located south of the pit to mitigate lower levels in the pond due to the suppressed water table resulting from dewatering. Some water may be pumped to a new recharge pond on the west side of the site to mitigate low water table levels at domestic wells in the area. Some water may also be discharged to the Huett Seep, a surface drainage adjacent to the site. The rest of the dewatering discharge will be pumped across the

South Platte River to the Broda Pond located within the Platte Valley Pit; once water enters the Broda Pond, some is pumped to the river to ensure the pond does not spill.

Aggregate intends to import material mined at the Tucson South Pit to the Platte Valley Pit for processing in 2023. Backfilling of portions of the site with inert fill material is ongoing. Water use in 2023 will consist of evaporation from exposed groundwater, aggregate processing, dust control and water pumped for concrete batching. The exposed surface area is estimated at 63.8 acres, and dust control use is estimated to equal 21.00 ac-ft per year. Approximately 1,400,000 tons of material is anticipated to be processed at Platte Valley Pit in 2023 from that is imported from Tucson South. Water for concrete batching will be pumped from a well identified as Permit No. 13410-F-R; 9.30 ac-ft of water use for concrete batching per year is anticipated.

SUMMARY OF REPLACEMENT SOURCES

This section lists the replacement sources included in the CoSSP. The diversion amounts from all the replacement sources will be forwarded on to the Water Commissioner as he/she so desires reporting from this source. The following is a summary of each of the sources included in the CoSSP by sub-basin.

UPPER POUDRE RIVER

Replacement Sources		Projected 2023 Yields	Comment
City of Fort Collins		0	May utilize as a supplemental source
	Total	***0***	

The CoSSP has no active sites in the Upper Poudre River sub-reach, so no replacements are needed. In the past the CoSSP has utilized leases from Tri-Districts and the City of Fort Collins and may do so again in the future should a site in the Upper Poudre River sub-reach become active or a supplemental lease is required.

LOWER POUDRE RIVER

Replacement Sources	Projected 2023 Yields*	Comment
Whitney Ditch	163.84	13.5 shares used
Boyd & Freeman Ditch	0	240 Shares Total
Platte River Power Auth.	0	Annual Lease, if necessary
City of Greeley Lease	0	Annual Lease, if necessary
Star Reservoir Lease	0	Annual Lease, if necessary
Bucklen Pit SWSP	70.97	Annual Lease of excess augmentation credit
Greeley Irrigation Co.	32.96	Rented shares
Total	***267.78***	

*2023 Projected yields may vary from previous estimates of net yields due to the computed return flow obligations based on the previous year's actual water deliveries.

- Whitney Ditch

  Aggregate owns a total of 13.5 shares in the Whitney Ditch Company. These shares were changed in Case No. 90CW23, which determined an annual consumptive use credit of 14.47 ac-ft per share. All 13.5 shares are therefore expected to yield approximately 195 ac-ft of credit in an average year. Use of the shares for augmentation under this CoSSP will conform to the requirements of Case No. 90CW23.

  For 2023, Aggregate will dedicate all 13.5 shares to the plan. The expected credit in 2023 for the 13.5 shares has been estimated from a dry-year farm headgate delivery (which includes a 15% ditch loss) of 24.75 ac-ft per share or approximately 334 ac-ft for all 13.5 shares. The total consumptive use credit in 2023 is projected to equal 163.84 ac-ft based on the dry-year delivery projection.

  Beginning in 2011, Aggregate has returned its Whitney water to the river via a return structure owned by the Whitney Irrigation Company located in the Southeast ¼ of Section 30, Township 6 North, Range 66 West. Aggregate anticipates that this return structure will be utilized again in 2023. Return flow obligations associated with the historical use of the shares will be computed based on actual monthly deliveries using the factors shown in Appendix A.

- Boyd & Freeman Ditch

  In the past, Aggregate has utilized 240 shares in the Boyd & Freeman Ditch for augmentation purposes. The 240 shares were first quantified in the SSP for the F-Street Pit submitted to the SEO on October 15, 2002. The 240 shares provide 99.28 ac-ft of consumptive use credit per year based on dry-year yields.

  This quantification was based on a parcel-specific analysis using a representative study period and reasonable estimates of crop demand, transportation and application efficiencies, and return flow pattern. A table summarizing the quantification was provided with the 2016 CoSSP renewal application. We request the SEO continue to accept it as the basis for administration of the shares in this plan.

  The City of Greeley is the current owner of the shares. Aggregate is currently in discussions with Greeley on the continued use of these shares in the plan. Until approval for their use is given by Greeley, no credit from the Boyd & Freeman Ditch shares will be claimed in this CoSSP.

- City of Greeley

  In the past, Aggregate has leased fully consumable effluent from the City of Greeley to provide additional replacement water on the Poudre River. This water is discharged from the City of Greeley's wastewater treatment plant. For 2023, Aggregate may lease water from the City of Greeley as needed to supplement its primary supplies.

- Platte River Power Authority

  In the past, the SEO has approved the use of leased water from the Platte River Power Authority (PRPA) for use in Aggregate's CoSSP. For 2023, Aggregate may lease water from the PRPA as needed to supplement its primary supplies.

- Star Reservoir Lease

  In the past, the SEO has approved the use of leased water that is stored in Star Reservoir (WDID 0303325). The Star Reservoir is a lined former gravel pit primarily located in the SE ¼ of the SW ¼ and the SW ¼ of the SE ¼ of Section 26, Township 6 North, Range 66 West. For 2023, Aggregate may lease water stored in Star Reservoir as needed to supplement its primary supplies.

- Bucklen Pit SWSP

  The Bucklen Equipment Company operates a substitute water supply plan (SWSP) for the Bucklen Pit (WDID 0302538) located in Section 36, Township 6 North, Range 66 West and Section 31, Township 6 North, Range 65 West. The 2023 SWSP request for the Bucklen Pit, dated October 12, 2022, notes that this plan is projected to have excess replacement credit during the 2023 irrigation season. Aggregate has executed an agreement to lease the excess replacement credit, which at this time is projected to be at least 70.97 acre-feet during the 2023 irrigation season. A copy of the executed lease is attached in Appendix B.

- Greeley Irrigation Company

  Aggregate is seeking to execute a lease of 3 shares in the Greeley Irrigation Company (GIC) in 2023 from Pat Arnold; a copy of the lease agreement will be provided once signed. During the irrigation season, this water is returned to the Poudre River to generate augmentation credit.

  The amount of augmentation credit available from these shares will be determined pursuant to the terms & conditions of the Poudre Prairie Decree (Case No. 96CW658), which was based on a ditch-wide analysis. This case decreed a certain methodology to determine surface and subsurface return flow obligations, and that methodology will be adopted by Aggregate in this CoSSP. The specific shares being rented were historically associated with Farms E-73a and E-73B, which are listed on Table A attached to the decree for Case No. 96CW658; this means the farms were actively being irrigated at the time the ditch-wide study was completed. The farms are no longer irrigated, resulting in sufficient dry-up for these shares.

  A share of GIC provides the shareholder with two types of water: GIC direct flow water and Fossil Creek Reservoir water. For the purposes of this CoSSP, Aggregate is conservatively assuming that the GIC shares will not yield Fossil Creek Reservoir water in 2023. The decree for Case No. 03CW348 states that the projected deliveries of GIC direct flow water in year one of the projection in that case is 20.31 ac-ft per share. Based on this projected delivery and after accounting for return flow obligations, Aggregate estimates that 3 rented GIC shares will yield 32.96 ac-ft of consumptive use in 2023.

ST. VRAIN RIVER

Replacement Sources	Projected 2023 Yields*	Comment
Smith & Emmons Ditch	0	1.5 Shares total; not used in 2023
Leggett Reservoir	0	19.5 Shares total; not used in 2023
City of Longmont Lease	38.10	Annual Lease, if necessary
Godding, Dailey & Plumb Ditch	0	3 shares total; not used in 2023
Left Hand Ditch Company	0	4 shares total; not used in 2023
Martin Marietta's Heaton Res	0	Annual Lease, if necessary
Zweck & Turner Ditch	0	5/12ths of ditch; not used in 2023
Total	***38.10***	

*2023 Projected yields may vary from previous estimates of net yields due to the computed return flow obligations based on the previous year's actual water deliveries.

- Smith & Emmons Ditch

  Aggregate owns 1.5 of 8 total outstanding shares in the Smith & Emmons Ditch Company. The SEO originally approved the use of the shares in the substitute supply plan for the Tull Pit. The consumptive use value of the 1.5 shares was quantified in the letters submitted to the SEO on February 23 and March 28, 2001. The 1.5 shares provide 91.65 ac-ft of consumptive use credit per year based on dry-year yields.

  This quantification was based on a parcel-specific analysis using a representative study period and reasonable estimates of crop demand, transportation and application efficiencies, and return flow pattern. A table summarizing the quantification was provided in the 2016 CoSSP renewal application. We request the SEO continue to accept it as the basis for administration of the shares in this plan.

  Before claiming use of this source, Aggregate will install a return structure to measure Smith & Emmons Ditch deliveries associated with these shares back to the stream.

- Leggett-Owens Reservoir

  Donald J. Sherwood historically owned 19.6 shares of the Leggett-Owens Ditch and Reservoir Company, which Aggregate was allowed to use for augmentation pursuant to the mining lease agreement between the two. In January 2011, the City of Longmont completed its acquisition of these shares. During an average year, the 19.6 shares represent 60 ac-ft of water and can be released when needed. The total average annual amount of water for consumptive use available from the 19.6 shares is estimated at 33 ac-ft and was determined by applying an efficiency of 55 percent to the released water. If necessary, Aggregate will coordinate with the City of Longmont for use of this water.

- City of Longmont

  In the past, the SEO has approved the use of leased water from the City of Longmont in the substitute supply plans associated with Aggregate's sites on the St. Vrain River. Additionally, pursuant to the Second Amended & Restated Mineral Lease agreement between Aggregate and the City of Longmont for a portion of the Distel Pit, the City of Longmont is obligated to provide up to 20 ac-ft of augmentation water for the Distel Pit. Finally, pursuant to the October 1, 2021, Temporary Mining Water Supply Agreement between Aggregate, Golden Farm, LLLP, and Aggregate, the City of Longmont is obligated to provide up to 375 acre-feet of augmentation water annually and a one-time allotment of 1,260 acre-feet to offset out-of-priority depletions associated with the Irwin-Thomas Pit.

  For 2023, Aggregate is seeking to lease a total of 38.10 acre-feet from the City of Longmont for use during the irrigation season. A copy of the lease approval will be provided once executed.

- Godding, Dailey & Plumb Ditch

  Aggregate Industries acquired three shares in the Godding, Dailey & Plumb Ditch when it exercised an option and closed on a purchase of land from William L. Distel on September 30, 2004. The consumptive use of this water right was quantified by Applegate Group in an SWSP request for the Distel Pit dated November 14, 2000. That request found that the net annual consumptive use for two Godding, Dailey & Plumb Ditch shares averaged 56.20 ac-ft based on a 10% ditch loss and a 55% farm efficiency; the SEO approved of this consumptive use value in the Distel Pit SWSP approval dated January 10, 2001. Therefore, for the three shares dedicated to this plan, the expected average annual consumptive use yield is 84.30 ac-ft. Credit from this source will not be claimed in the CoSSP until a measuring structure is installed to deliver the shares back to the river. Aggregate will notify and coordinate the releases with the water commissioner if and when it begins to augment with this source.

- Left Hand Ditch Company

  Aggregate Industries acquired four shares in the Left Hand Ditch Company from its predecessor, C&M Aggregates; the shares are currently held under Certificate No. 1824. According to the decree for Case No. 87CW127, during the period 1977 to 1988 the average delivery per share was 1.2867 ac-ft per year and the average historic consumptive use per share was 0.6370 ac-ft per year. Based on this decreed historic consumptive use, Aggregate's four shares would be expected to yield approximately 2.55 ac-ft of consumptive use annually. Credit from this source is not being claimed in the CoSSP at this time but may be utilized in the future.

- Martin Marietta's Heaton Reservoir

  In the past Aggregate has leased fully consumable water stored in Martin Marietta's Heaton Reservoir (WDID 0504089). The Heaton Reservoir is a lined former gravel pit located in the N ½ of the NE ¼ of Section 9, Township 2 North, Range 68 West. A lease for this water may be executed if necessary.

- Zweck & Turner Ditch

  As part of the mining agreement for the Fredstrom Pit, Aggregate may utilize the 5/12ths of the Zweck & Turner Ditch historically associated with the Fredstrom property for augmentation purposes. As determine in a historical consumptive use evaluation provided with the 2020 CoSSP renewal request, these water rights had an average annual consumptive use of 197.4 acre-feet. The dry-year farm headgate delivery of these water rights is estimated to be 691 acre-feet. Aggregate is in the process of developing an augmentation station for the Zweck & Turner Ditch. No credit will be claimed from this source until an approved augmentation station is in place.

PLUM CREEK

- Silver Heights Lease

  This replacement source has not been utilized in past SSPs, but Aggregate would like to keep the flexibility to use this source when they may need it.

SOUTH PLATTE MAINSTEM

Replacement Sources	**Projected 2023 Yields***	**Comment**
Centennial	30.00	Available throughout the year
Westminster 1998	265.24	Available throughout the year- perpetual lease
Thornton Effluent	10.53	November - March only
Fulton Ditch	112.00	96 shares total; only 84 shares used
Brighton Ditch	-30.49	Paying delayed return flow obligations
Bergen Reservoirs 4, 5, & 6	0	191 shares total; not used in 2023
Last Chance Ditch Company No. 2	0	0.3154 shares total; not used in 2023
Lupton Bottom Seep Ditches No. 1 and No. 2	0	100% ownership; not used in 2023
Huett Seepage Ditch	0	100% ownership; not used in 2023
Aurora and SACWSD Lease	668.00	Leased water
Total	***1,055.28***	

*2023 Projected yields may vary from previous estimates of net yields due to the computed return flow obligations based on the previous year's actual water deliveries.

- Centennial Lease

  Aggregate conveyed water rights in exchange for a perpetual lease of augmentation in an agreement with Centennial Water and Sanitation District (Centennial) in 1996. The agreement requires Centennial to provide Aggregate 30 ac-ft of fully consumable water each year. The rate of delivery for the 30 ac-ft cannot exceed 0.5 cfs but can be taken at any time throughout the year. Aggregate intends to utilize this source during the months of January and February as shown in the lease confirmation letter attached in Appendix B. Aggregate will not claim credit from Centennial releases on the days that the Burlington Ditch is placing a call and intercepting the water.

- Westminster 1998 Lease

  The 1998 Westminster Lease has been used as a replacement source for individual SSPs that have been approved in the past, as well as part of the South Platte Combined Replacement Plan. This is a perpetual lease that provides 0.28 cfs of fully consumable water every day of each year and an additional 0.17 cfs of fully consumable water every day from October 1st to June 30th during each year at the outfall of the Metro Wastewater Treatment Plant. The lease provides 294.79 ac-ft annually, of which 29.55 ac-ft are reserved for augmentation of the Teti Pit and Palazzi Pond in Case No. 07CW198. The remaining 265.24 ac-ft will continue to be used in this renewal of the CoSSP. A copy of the lease document has been previously provided to the Division of Water Resources (DWR).

- City of Thornton Lease

  In exchange for three shares in the Colorado Agricultural Ditch Company, the City of Thornton has provided Aggregate a perpetual lease of fully consumable water from the Metro Wastewater Treatment Plant to be delivered at a rate of 0.035 cfs daily from November 1st through March 31st. This totals 10.53 ac-ft for the calendar year, which will continue to be used in this renewal of the CoSSP. A copy of the water lease document has been previously provided to the DWR.

- Fulton Ditch

  Aggregate owns 96 shares in the Fulton Ditch Company. These shares were acquired by Aggregate or its predecessors in four distinct blocks, as outlined below:

# of Shares	Prior Owner	Prior Certificate No.	Current Certificate No.
62	Cooley Gravel	3113	3653
22	CAMAS	3535	
6	C&M Aggregates	3188	
6	Hill & Peterson	2725	3805

For 2023, the 6 C&M Aggregates shares and the 6 Hill & Peterson shares will be leased to others for irrigation purposes. Aggregate intends to utilize the remaining 62 Cooley Gravel shares and 22 CAMAS shares for augmentation purposes in 2023. An updated consumptive use analysis has been conducted on the 62 Cooley Gravel shares and was updated in 2021 with a 50% application efficiency; this analysis determined an average annual consumptive use of 1.50 acre-feet per share and provided return flow factors for administration. A consumptive use analysis was recently conducted on the 22 CAMAS shares and is attached in Appendix C; this analysis also determined an average annual consumptive use of 1.50 acre-feet per share. For ease of administration, Aggregate proposes to administer the additional 22 CAMAS shares using the same return flow factors as was previously determined for the Cooley Gravel shares.

Starting in 2010, Aggregate arranged to have its pro-rata ownership delivered through the augmentation station owned by the South Adams Water & Sanitation District and located just downstream of the ditch headgate. Aggregate anticipates that the 84 shares will be delivered to this augmentation station for 2023. Return flow obligations associated with the historic use of the shares will be computed based on actual monthly deliveries.

The expected credit in 2023 for the 84 shares has been estimated from a dry-year farm headgate delivery of 2.66 ac-ft per share or approximately 222 ac-ft for all 84 shares. After accounting for return flow obligations, the total consumptive use credit in 2023 is projected to equal 112.00 ac-ft.

- Brighton Ditch

  Aggregate has in the past leased 1.038 shares in the Brighton Ditch Company from the City of Westminster. These shares were changed to allow additional uses (including augmentation) in Case No. 16CW3186. Pursuant to Paragraph 7, Aggregate's use of the shares shall be governed by the terms and conditions of that decree, including the decreed return flow factors and volumetric limits. The lease with Westminster has ended; this year Aggregate will not receive credit from this source but will pay delayed return flow obligations from past water use.

- Bergen Reservoirs 4, 5, and 6

  Aggregate Industries acquired shares in the Bergen Ditch and Reservoir Company from its predecessor, Cooley Gravel Company. Aggregate's current ownership is estimated to be 191 shares out of the 403.5 shares in the company, which gives Aggregate an interest in the storage rights of the Bergen Reservoirs 4, 5, and 6. An appraisal performed by KKBNA, Inc. consulting engineers in December 1986 concluded that the average annual volume of water available under these storage rights was 132 ac-ft and, after accounting for transit losses, the net annual yield was determined to be 85 ac-ft. Beginning around 1988, the Bergen Reservoir water rights were identified as a replacement source in substitute water supply plans (SWSP).[1] Specifically, the water rights have been identified as a replacement source in the Thornton Pit and East Thornton Pit SWSP. This source continued to be used through at least 1994. The amount of water quantified for use in the Thornton Pit and East Thornton Pit SWSP was 15.8 ac-ft, corresponding to the estimated average annual consumptive use for the water rights. Credit from this source is not being claimed in the CoSSP at this time but may be utilized in the future.

- Last Chance Ditch Company No. 2

  Aggregate Industries acquired 0.3154 shares in the Last Chance Ditch Company No. 2 from its predecessor, Cooley Gravel Company; the shares are currently held under Certificate Nos. 248 and 251. A ditch-wide analysis of the Last Chance Ditch system was performed by W.W. Wheeler and Associates (Wheeler) and summarized in a letter report dated April 16, 1990.

[1] William Warmack (Applegate Group, Inc.), letter to Timothy Flanagan (Fowler Schimberg & Flanagan, P.C.) Re: Bergen Reservoirs 4, 5, and 6, dated September 4, 2001.

In that report, Wheeler concluded that each share had an average consumptive use value of 9.62 ac-ft per year and a dry-year yield of 10.97 ac-ft per year; the dry-year yield was higher than the average due to the higher consumptive use demand during a dry-year and the relative seniority of the water rights. Using the average year consumptive use estimate, Aggregate's 0.3154 shares would be expected to yield approximately 3.03 ac-ft of consumptive use annually. Credit from this source is not being claimed in the CoSSP at this time but may be utilized in the future.

- Lupton Bottom Seep Ditches No. 1 and No. 2

  Aggregate Industries acquired 100% ownership of the Lupton Bottom Seep Ditches No. 1 and No. 2 in a special warranty deed dated June 28, 2011, between the Lupton Bottom Ditch Company and Aggregate. These two water rights were decreed in Case No. 97CW296 for 5 cfs each to be used for irrigation purposes. The sources for the ditches are seep and waste waters. To our knowledge a historical consumptive use analysis has not been performed on these water rights. Credit from this source is not being claimed in the CoSSP at this time but may be utilized in the future.

- Huett Seepage Ditch

  As indicated in a special warranty deed with the City of Westminster dated December 21, 1999, Aggregate Industries' predecessor CAMAS Colorado, Inc. retained 100% ownership of the Huett Seepage Ditch when land through which the ditch runs at the Wattenberg Pit site was sold to Westminster. This water right was decreed in Case No. W-7336 for 2.5 cfs to be used for domestic and irrigation purposes. The source of the water is the South Platte River. To our knowledge a historical consumptive use analysis has not been performed on this water right. Credit from this source is not being claimed in the CoSSP at this time but may be utilized in the future.

- South Adams County Water and Sanitation District

  Aggregate is seeking to execute an agreement with South Adams County Water and Sanitation District (SACWSD) for fully consumable augmentation water delivered to the South Platte River. The source of this water will be any fully consumable water available to SACWSD, including consumptive use credit generated from water rights changed by the decrees in Case Nos. 01CW258 and 10CW304. For 2023, Aggregate anticipates leasing a total of 653 acre-feet of fully consumable water between the City of Aurora and SACWSD. A copy of the lease confirmation will be provided once it is complete.

- City of Aurora

  Aggregate executed an agreement with the City of Aurora for reusable raw water on January 10, 2022 through which Aggregate can lease fully consumable augmentation water for use in this CoSSP. The source of this water will be any fully consumable water available to the City of Aurora. Releases of this water will be made from the Metro Waste Reclamation Facility. For 2023, Aggregate anticipates leasing a total of 653 acre-feet of fully consumable water between the City of Aurora and SACWSD. A copy of the lease confirmation will be provided once it is complete.

OPERATION OF THE PLAN

Appendix A of this report outlines the monthly operation of the CoSSP. The tables display the projected depletions from each site using the anticipated consumptive use over the requested plan period, as well as previous years' on-site consumptive use. The tables also display the replacements for the ditch rights and leases described in the previous section.

The projections in Appendix A are based on anticipated operations; actual operations may vary from these projections. Supplemental leases will be obtained in the event there are insufficient replacements being made to offset actual operations. Aggregate requests that the DWR allow supplemental leases to be obtained from any authorized augmentation source, including excess replacement credit contained in other gravel pit SWSPs approved pursuant to C.R.S. §37-90-137(11), that is capable of making replacements to the most upstream calling right impacted by Aggregate's depletions. Additionally, Aggregate requests that the DWR allow it to lease out any of its excess replacement credit to other gravel pit SWSPs approved pursuant to C.R.S. §37-90-137(11) or temporary SWSPs approved pursuant to C.R.S. §37-92-308(5), to the extent such excess replacement credit exists.

DEWATERING OPERATIONS

Following is a list of each of the sites that has been or is currently being dewatered; Appendix A explicitly tracks dewatering discharges and corresponding lagged depletions from pumping.

- Hazeltine Pit- has ceased dewatering
- Brighton Pit- has ceased dewatering
- Platte Valley Pit- has ceased dewatering
- F-Street Pit – has ceased dewatering
- Distel Pit – has ceased dewatering
- WW Farms Pit- actively dewatering
- Wattenberg Pit – actively dewatering
- Tull Pit – actively dewatering
- Tucson South Pit – actively dewatering
- Irwin-Thomas Pit – dewatering anticipated to begin in 2023
- Fredstrom Pit – dewatering has not yet begun

All sites that are currently dewatering have been equipped with totalizing flow meters to measure the dewatering discharge. For sites that are actively dewatering, Aggregate requests that they be allowed to rely on the assumption that the dewatering discharge returning to the stream system is adequate to offset the depletions caused by dewatering. Post-dewatering depletions will be assessed when dewatering ceases. Aggregate anticipates that all the sites that are currently being dewatered will dewater continuously throughout 2023.

LONG-TERM AUGMENTATION RESPONSIBILITIES

In an April 30, 2010, letter regarding mining operations that exposed groundwater, the Division of Reclamation, Mining, and Safety (DRMS) required all sand and gravel mining operators to identify one of four approaches that would be taken to mitigate long-term injurious stream depletions from exposed groundwater. Aggregate responded to the DRMS for various sites via letters dated April 22, 2011. For some sites, Aggregate has bonded to backfill or line the site in accordance with DRMS Approach Nos. 1 and 3. For other sites, Aggregate is actively seeking a decreed plan for augmentation in accordance with DRMS Approach No. 2. For the remaining sites, Aggregate has previously provided a Water Right Dedication affidavit (dated January 25, 2011) to meet the requirements of DRMS Approach No. 4. In some cases, a combination of the various approaches is being taken. The following table outlines Aggregate's approach for each of the sites included in the CoSSP.

Site Name	DRMS Permit #	Final Reclamation	Current Bond Amount	DRMS Approach No.	Comments
W.W. Farms Pit	M-99-098	Reservoir/Lakes	$270,000	2	Augmentation plan approved under Case No. 1990CW23
F-Street Pit	M-92-069	Open Lake	$10,237,994	1 or 3	Aggregate has posted a bond to backfill the site.
Distel Pit	M-89-029	Open Lake	$1,216,716	1, 2	Aggregate has posted a bond to backfill the site. Additionally, Longmont obtained an augmentation plan under Case No. 2009CW271 to replace evaporative losses at the site
Tull Pit	M-94-027	Reservoir	$2,947,600	3	Aggregate has posted a bond to line the site.
Irwin-Thomas Pit	M-16-054	TBD	$2,747,911	3	Aggregate has posted a bond to line the site.
Fredstrom Pit	M-01-016	TBD	$1,000	4	Water rights have been dedicated to the site via a Water Right Dedication Affidavit dated April 23, 2019
Jeronimus Pit	M-99-034	Backfilled	$1,510,800	1, 4	Aggregate is in the process of backfilling the remaining exposed groundwater that does not qualify as pre-1981. Additionally, Aggregate has dedicated water rights via a Water Right Dedication affidavit dated January 25, 2011
Hazeltine Pit	M-04-031	Reservoir	$670,602	3	Aggregate has posted a bond to line the site. The liner was approved by the DWR May 25, 2016. The bond remains in place to address other reclamation activities.
Brighton Pit	M-77-436	Reservoir/Lakes	$150,000	1, 3	Aggregate has posted a bond to line the site. With approvals by DWR of the liners, a bond reduction was approved by the DRMS
Tucson South Pit	M-04-044	Reservoir	$3,505,000	3	Aggregate has posted a bond to backfill the existing 3-acre pond and line the remainder of the site.
Wattenberg Pit	M-04-051	Reservoirs	$520,000	3	Aggregate has posted a bond to line the site. The pit was lined in 2013 and the liner approved by the DWR December 18, 2019.
Platte Valley Pit	M-89-120	Open Lake	$754,732	1, 4	Aggregate has posted a bond to backfill the site. Additionally, Aggregate has dedicated water rights via a Water Right Dedication affidavit dated January 25, 2011

SUMMARY

This combined substitute supply plan incorporates the pre-existing substitute supply plans for 12 sites operated by Aggregate Industries and provides for projected operations in calendar year 2023. Total consumptive use from all 12 sites in 2023 are estimated to equal 736 ac-ft, with resulting stream depletions equal to 1,102 ac-ft. Based on dry-year yields, the total available replacement water contained in the plan is approximately 1,361 ac-ft.

The SEO has either already issued a well permit or a well permit is pending for each of the 12 sites as shown in the following table. If water use at any site exceeds the current permit limits we will apply for a new permit. At this time, we assess that all sites are operating within their permitted limitations.

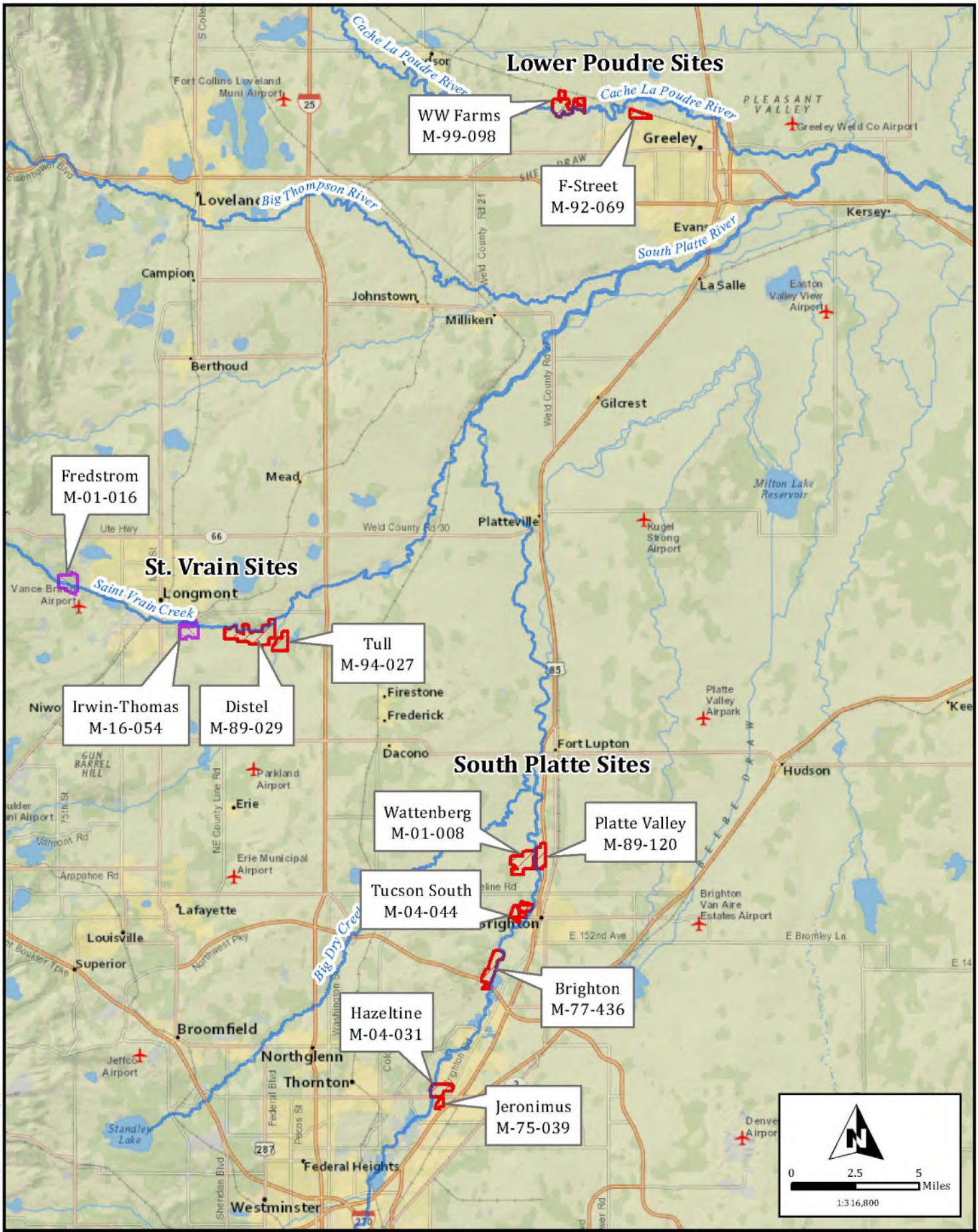
Aggregate Site Summaries for 2023

	Site Name	DRMS Permit #	Mining Status	Well permit No.	New Well Permit Needed?	Net Exposed Surface Area (Acres)	Evaporative Losses (af)	Production (tons)	Water Lost in Product (af)	Dust Cntrl / Other (af)	Concrete Batching (af)	Total CU (af)
Upper Poudre	None	-	-	-	-	-	-	-	-	-	-	-
Lower Poudre	W.W. Farms Pit	M-99-098	Mining	76207-F	No	64.0	178.6	592,000	17.4	1.0	8.1	205.1
	F-Street Pit	M-92-069	Reclam	67989-F	No	26.2	71.8	0	0.0	0.0	n/a	71.8
	Lower Poudre Subtotal					90.2	250.4	592,000	17.4	1.0	8.1	276.9
St Vrain	Distel Pit	M-89-029	Reclam	67433-F 76960-F	No	0.0	0.0	0	0.0	1.5	n/a	1.5
	Tull Pit	M-94-027	Mining	74831-F	No	4.0	10.3	684,000	20.1	1.0	n/a	31.4
	Irwin-Thomas Pit	M-16-054	Mining	82900-F	No	1.0	2.6	500,000	14.7	30.0	n/a	47.3
	Fredstrom Pit	M-01-016	Inactive	86019-F	No	0.0	0.0	0	0.0	0.0	n/a	0.0
	St Vrain Subtotal					5.0	12.9	1,184,000	34.8	32.5	0.0	80.3
South Platte	Jeronimus Pit	M-99-034	Reclam	63281-F	No	5.6	15.0	0	0.0	0.0	n/a	15.0
	Hazeltine Pit	M-04-031	Reclam	63224-F	No	0.0	0.0	0	0.0	0.0	n/a	0.0
	Brighton Pit	M-77-436	Reclam	56993-F	No	1.0	2.7	0	0.0	0.0	n/a	2.7
	Tucson South Pit	M-04-044	Mining	81342-F	No	3.0	8.2	1,400,000	20.6	3.5	n/a	32.3
	Wattenberg Pit	M-04-051	Reclam	78627-F	No	37.0	108.4	0	0	0.0	n/a	108.4
	Platte Valley Pit	M-89-120	Active	13410-F-R 78626-F	No	63.8	169.2	0	20.6	21.0	9.3	220.1
	South Platte Subtotal					110.4	303.5	1,400,000	41.2	24.5	9.3	378.5
	2023 TOTALS					205.6	566.8	3,176,000	93.4	58.0	17.4	735.6

The following table shows the projected net water balance on the St. Vrain, Poudre, and South Platte Rivers (see Appendix A for a detailed water balance). As shown, more than enough replacement water is available to offset the depletions that are expected to occur from Aggregate's mining operations in 2023.

Basin Summary (ac-ft)

Location	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Total
St. Vrain at Confluence	-3.08	-5.24	-6.09	0.05	0.03	0.05	0.04	0.09	0.04	0.04	-4.72	-4.66	-23.46
Upper Poudre	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poudre At Confluence	-16.20	-15.89	-16.91	-8.14	18.54	24.65	36.23	25.67	7.81	-20.33	-25.54	-20.13	-10.22
South Platte River	-	-	-	-	-	-	-	-	-	-	-	-	-
Above St. Vrain Confluence	22.23	24.11	26.10	10.44	3.62	4.23	4.57	4.90	1.42	24.09	34.51	28.03	188.23
Below St. Vrain Confluence	19.15	18.86	20.00	10.49	3.65	4.28	4.61	4.98	1.46	24.13	29.79	23.36	164.76
Above Poudre Confluence	17.25	16.99	18.02	9.45	3.29	3.86	4.15	4.49	1.31	21.73	26.83	21.04	148.41
Net Balance	**1.05**	**1.10**	**1.11**	**1.31**	**21.83**	**28.51**	**40.39**	**30.16**	**9.12**	**1.41**	**1.29**	**0.92**	**138.19**



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AGGREGATE INDUSTRIES COMBINED SSP

Vicinity Map

Date: 30 Dec 2019

Job #: 06-103

Drawn By: JMD

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Appendix A

Aggregate Industries
Water Accounting

- Combined Water Accounting Summary
- Individual River Basin Replacement Summaries
- Individual Pit Consumptive Use/ Depletions Summaries

Aggregate Industries - WCR, Inc.
South Platte Combined Substitute Supply Plan Accounting
2023

TOTAL ON-SITE CONSUMPTIVE USE (ac-ft)

	Site	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Total	Comments
District 2	Jeronimus Pit (WDID 0203029)	0.47	0.56	0.74	1.14	1.60	2.28	2.37	2.16	1.64	1.09	0.51	0.44	15.00	
	Hazeltine Pit (WDID 0203030)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Brighton Pit (WDID 0203031)	0.08	0.10	0.12	0.23	0.28	0.41	0.45	0.39	0.30	0.20	0.09	0.08	2.73	
	Tucson South Pit (WDID 0203032)	1.55	1.54	2.23	2.69	2.75	3.32	3.28	3.56	3.04	2.84	1.45	4.08	32.34	
	Wattenberg Pit (WDID 0203034)	3.15	4.04	5.03	8.88	11.84	16.50	17.33	15.26	11.53	7.86	3.73	3.24	108.38	
	Platte Valley Pit (WDID 0203035)	6.81	7.90	10.36	19.10	22.94	31.58	33.92	29.99	23.77	17.14	7.45	9.09	220.05	
District 5/6	Distel Pit (WDID 0503000)	0.03	0.05	0.08	0.08	0.15	0.23	0.23	0.23	0.23	0.15	0.05	0.03	1.54	
	Tull Pit (WDID 0603001)	1.44	1.76	2.88	3.02	3.10	3.17	3.46	3.75	3.13	2.61	1.55	1.56	31.44	
	Irwin-Thomas Pit (WDID 0505626)	10.52	11.41	2.45	2.52	2.57	2.70	2.76	2.70	2.58	2.50	2.42	2.11	47.29	
	Fredstrom Pit (WDID 0505629)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Dist 3	W.W. Farms Pit (WDID 0303014)	6.29	8.23	10.99	17.26	21.31	28.90	31.45	29.29	21.16	15.45	8.37	6.39	205.07	
	F-Street Pit (WDID 0303015)	2.10	2.62	3.41	5.76	7.34	10.74	11.79	11.00	7.60	4.98	2.36	2.10	71.79	

Total Consumptive Uses	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Total
District 2	12.06	14.14	18.48	32.04	39.41	54.09	57.35	51.37	40.28	29.14	13.23	16.92	378.50
Districts 5/6	12.00	13.23	5.42	5.62	5.82	6.10	6.46	6.69	5.94	5.26	4.03	3.70	80.27
District 3	8.39	10.85	14.40	23.02	28.65	39.64	43.24	40.29	28.76	20.43	10.72	8.49	276.86
Total	32.44	38.22	38.29	60.69	73.88	99.83	107.05	98.34	74.98	54.83	27.98	29.11	735.63

Stream Depletions (ac-ft) (+) accretions / (-) depletions

	Site	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Total	Comments
District 2	Jeronimus Pit (WDID 0203029)	-0.87	-0.84	-0.87	-1.00	-1.22	-1.54	-1.82	-1.90	-1.79	-1.54	-1.22	-0.98	-15.57	
	Hazeltine Pit (WDID 0203030)	-34.48	-34.54	-34.47	-31.90	-32.58	-32.32	-31.98	-32.10	-31.88	-31.09	-31.36	-31.36	-390.05	
	Brighton Pit (WDID 0203031)	-0.48	-0.48	-0.49	-0.55	-0.60	-0.68	-0.73	-0.73	-0.67	-0.60	-0.52	-0.48	-7.01	
	Tucson South Pit (WDID 0203032)	-2.31	-1.84	-1.85	-2.07	-2.26	-2.47	-2.68	-2.84	-2.90	-2.83	-2.54	-2.64	-29.25	
	Wattenberg Pit (WDID 0203034)	-5.51	-5.39	-5.66	-6.97	-8.89	-11.41	-13.35	-13.60	-12.38	-10.39	-7.96	-6.30	-107.81	
	Platte Valley Pit (WDID 0203035)	-11.08	-10.59	-11.29	-14.88	-18.58	-23.37	-27.15	-27.36	-24.84	-20.99	-15.44	-12.89	-218.47	
District 5/6	Distel Pit (WDID 0503000)	-0.06	-0.06	-0.08	-0.09	-0.12	-0.17	-0.19	-0.20	-0.21	-0.17	-0.11	-0.08	-1.54	
	Tull Pit (WDID 0603001)	-2.29	-2.25	-2.21	-2.19	-2.19	-2.21	-2.24	-2.28	-2.33	-2.38	-2.41	-2.42	-27.39	
	Irwin-Thomas Pit (WDID 0505626)	-0.73	-2.93	-3.80	-2.92	-2.46	-2.28	-2.23	-2.23	-2.23	-2.21	-2.20	-2.17	-28.40	
	Fredstrom Pit (WDID 0505629)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Dist 3	W.W. Farms Pit (WDID 0303014)	-8.83	-9.33	-10.89	-14.59	-18.18	-23.30	-26.80	-27.01	-22.98	-18.42	-13.22	-10.11	-203.65	
	F-Street Pit (WDID 0303015)	-4.85	-4.31	-4.05	-4.19	-4.80	-5.78	-7.12	-8.12	-8.37	-7.78	-6.76	-5.65	-71.79	

Total Stream Depletions	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Total
District 2	-54.73	-53.68	-54.64	-57.36	-64.13	-71.79	-77.71	-78.53	-74.47	-67.45	-59.03	-54.65	-768.16
Districts 5/6	-3.08	-5.24	-6.09	-5.19	-4.77	-4.66	-4.67	-4.71	-4.76	-4.76	-4.72	-4.66	-57.33
District 3	-13.68	-13.64	-14.94	-18.78	-22.98	-29.08	-33.92	-35.13	-31.35	-26.19	-19.99	-15.76	-275.44
Total	**-71.49**	**-72.57**	**-75.67**	**-81.34**	**-91.88**	**-105.53**	**-116.29**	**-118.37**	**-110.58**	**-98.41**	**-83.74**	**-75.07**	**-1100.94**

Aggregate Industries - WCR, Inc.
South Platte Combined Substitute Supply Plan Accounting
2023

REPLACEMENT SOURCES (ac-ft)

	Source	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Total	Comments
District 2	Silver Heights													0.00	
	Last Chance Ditch No. 2													0.00	
	Centennial	14.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	
	Westminster 1998	26.42	23.74	26.25	24.77	25.02	23.15	13.17	13.24	13.22	25.00	24.96	26.28	265.24	294.79 af total; 29.55 af reserved for 07CW198
	Thornton Effluent	2.15	2.01	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.08	2.15	10.53	
	Fulton Ditch	0.00	0.00	0.00	12.47	40.71	41.22	33.71	36.86	27.86	29.33	0.00	0.00	222.16	
	Old Brantner Ditch													0.00	Removed from Plan
	Brighton Ditch													0.00	Removed from Plan
	Westminster / Aurora / SACWSD	52.00	53.00	68.00	45.00	22.00	33.00	57.00	57.00	56.00	64.00	88.00	73.00	668.00	
	New Brantner Ditch													0.00	Removed from Plan
District 5/6	Leggett Reservoir	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Smith & Emmons Ditch	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Hall N&S Ditches													0.00	
	South Flat Ditch													0.00	
	Mason Meadows Ditch													0.00	
	Longmont WWTP	0.00	0.00	0.00	5.90	5.40	5.30	5.30	5.40	5.40	5.40	0.00	0.00	38.10	Lease from City of Longmont
	Heaton Reservoir (Martin Marietta)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Lease from Martin Marietta
	Coffin & Davis Ditch													0.00	Removed from Plan
	Rural Ditch													0.00	Removed from Plan
	Bonus Ditch													0.00	
	P & D Ditch													0.00	
District 3	C-BT													0.00	Removed from Plan
	Little Cache													0.00	Removed from Plan
	Lindenmeier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Fort Collins / PRPA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Whitney Ditch	0.00	0.00	0.00	9.44	48.90	62.42	85.39	75.81	49.82	2.29	0.00	0.00	334.07	13.5 shares used
	Boyd & Freeman Ditch													0.00	Removed from Plan
	Star Reservoir	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Lease from L.G. Everist
	City of Greeley / Bucklen Pit	0.00	0.00	0.00	5.12	12.89	11.61	12.08	12.09	10.37	6.80	0.00	0.00	70.97	Lease from Bucklen Pit SWSP
	SIC	0.00	0.00	0.00	5.07	10.14	9.87	9.99	9.24	9.27	7.35	0.00	0.00	60.93	Leased shares

Return Flow Obligations (ac-ft)

	Source	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Total	Comments
District 2	Fulton Ditch	-4.93	-4.26	-4.43	-7.21	-14.39	-14.18	-12.64	-13.80	-11.69	-12.47	-5.03	-5.13	-110.16	
	Old Brantner Ditch													0.00	Removed from Plan
	Brighton Ditch	-2.18	-1.72	-1.33	-1.09	-1.33	-1.95	-2.73	-3.51	-4.06	-4.06	-3.67	-2.89	-30.49	
	New Brantner Ditch													0.00	Removed from Plan
Dist. 3	Whitney Ditch	-1.51	-1.29	-1.07	-6.95	-26.69	-26.09	-32.67	-32.18	-26.66	-7.54	-4.34	-3.22	-170.23	
	Boyd & Freeman Ditch													0.00	Removed from Plan
	SIC	-1.01	-0.95	-0.90	-2.04	-3.41	-3.52	-3.66	-3.54	-3.54	-3.03	-1.21	-1.15	-27.97	
Dist.5/6	Smith & Emmons Ditch	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Transit Loss Summary (ac-ft)

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Total	Comments
St. Vrain at Confluence	0.00	0.00	0.00	-0.65	-0.60	-0.59	-0.59	-0.60	-0.60	-0.60	0.00	0.00	-4.23	
Poudre At Confluence	0.00	0.00	0.00	0.00	-0.30	-0.56	-0.98	-0.62	-0.09	0.00	0.00	0.00	-2.56	
South Platte To St. Vrain River	-10.50	-10.99	-9.91	-6.14	-4.28	-5.23	-6.23	-6.37	-5.46	-10.27	-12.80	-10.73	-98.89	
St. Vrain To Poudre River	-1.90	-1.87	-1.99	-1.04	-0.36	-0.43	-0.46	-0.49	-0.14	-2.39	-2.96	-2.32	-16.35	

Basin Summary (ac-ft)

Location	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Total	Comments
St. Vrain at Confluence	-3.08	-5.24	-6.09	0.05	0.03	0.05	0.04	0.09	0.04	0.04	-4.72	-4.66	-23.46	Net deficits allowed during non-irrigation season
Upper Poudre	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	No net deficits allowed in any month
Poudre At Confluence	-16.20	-15.89	-16.91	-8.14	18.54	24.65	36.23	25.67	7.81	-20.33	-25.54	-20.13	-10.22	Net deficits allowed during non-irrigation season
South Platte River	-	-	-	-	-	-	-	-	-	-	-	-	-	
Above St. Vrain Confluence	22.23	24.11	26.10	10.44	3.62	4.23	4.57	4.90	1.42	24.09	34.51	28.03	188.23	Net deficits allowed during non-irrigation season
Below St. Vrain Confluence	19.15	18.86	20.00	10.49	3.65	4.28	4.61	4.98	1.46	24.13	29.79	23.36	164.76	Net deficits allowed during non-irrigation season
Above Poudre Confluence	17.25	16.99	18.02	9.45	3.29	3.86	4.15	4.49	1.31	21.73	26.83	21.04	148.41	Net deficits allowed during non-irrigation season
Net Balance	1.05	1.10	1.11	1.31	21.83	28.51	40.39	30.16	9.12	1.41	1.29	0.92	138.19	

Aggregate Industries - WCR, Inc.

Summary of Replacement Sources

South Platte Mainstem

											0.371 shares				0.667 shares			
	(all values in ac-ft)					**Fulton Ditch** Dry-year delivery =			336.13	**Brighton Ditch - Haake Farm** Haake Farm 2003 delivery = 44.16				**Brighton Ditch - Wattenberg Farm** Wattenberg Farm 2003 delivery = 79.35			
	Month	1998 Westminster Lease	Westminster / Aurora / SACWSD Lease	Thornton Effluent	Centennial	Deliveries	Surface RF Factors	Subsurface RF Factors	RF Obligations	Haake Farm Deliveries	Haake Farm Surface RF Factors	Haake Farm Subsurface RF Factors	Haake Farm RF Obligations	Wattenberg Farm Deliveries	Wattenberg Farm Surface RF Factors	Farm Subsurface RF Factors	Wattenberg Farm RF Obligations
2021	Jan-21	26.42	27.00	2.15		0.00	0.00%	-2.31%	-2.31	0.00	0.00%	-2.800%	-1.80	0.00	0.00%	-2.80%	-3.23
	Feb-21	23.74	29.00	2.01		0.00	0.00%	-2.00%	-2.00	0.00	0.00%	-2.200%	-1.41	0.00	0.00%	-2.20%	-2.54
	Mar-21	26.25	29.00	2.15		0.00	-24.99%	-2.08%	-2.08	0.00	0.00%	-1.700%	-1.09	0.00	0.00%	-1.70%	-1.96
	Apr-21	24.77		0.00	5.00	6.00	-25.26%	-1.91%	-3.42	7.81	-23.30%	-1.400%	-2.72	14.05	-23.30%	-1.40%	-4.89
	May-21	25.02		0.00		0.87	-25.48%	-1.88%	-2.10	0.70	-21.00%	-1.700%	-1.24	1.25	-21.00%	-1.70%	-2.23
	Jun-21	23.15		0.00		7.00	-25.10%	-1.80%	-3.55	4.93	-18.50%	-2.500%	-2.52	8.86	-18.50%	-2.50%	-4.53
	Jul-21	13.17		0.00		22.00	-25.32%	-1.93%	-7.50	16.82	-18.60%	-3.500%	-5.38	30.25	-18.60%	-3.50%	-9.67
	Aug-21	13.24		0.00		25.00	-25.42%	-2.08%	-8.43	17.46	-18.90%	-4.500%	-6.19	31.39	-18.90%	-4.50%	-11.13
	Sep-21	13.22		0.00		21.00	-25.33%	-2.17%	-7.49	17.53	-18.60%	-5.200%	-6.60	31.51	-18.60%	-5.20%	-11.86
	Oct-21	25.00		0.00	25.00	16.84	-25.21%	-2.38%	-6.62	9.93	-20.10%	-5.200%	-5.33	17.85	-20.10%	-5.20%	-9.59
	Nov-21	24.96	58.00	2.08		0.00	-25.01%	-2.36%	-2.36	0.00	0.00%	-4.700%	-3.02	0.00	0.00%	-4.70%	-5.43
	Dec-21	26.28	41.00	2.15		0.00	-24.79%	-2.41%	-2.41	0.00	0.00%	-3.700%	-2.38	0.00	0.00%	-3.70%	-4.27
Totals		265.24	184	10.53	30.00	98.71			-50.26	75.18			-39.67	135.15			-71.32
2022	Jan-22	26.42	38.00	2.15		0.00	0.00%	-2.31%	-2.28	0.00	0.00%	-2.800%	-2.10	0.00	0.00%	-2.80%	-3.78
	Feb-22	23.74	36.00	2.01		0.00	0.00%	-2.00%	-1.97	0.00	0.00%	-2.200%	-1.65	0.00	0.00%	-2.20%	-2.97
	Mar-22	26.25	33.00	2.15		0.00	-24.99%	-2.08%	-2.05	0.00	0.00%	-1.700%	-1.28	0.00	0.00%	-1.70%	-2.30
	Apr-22	24.77		0.00		8.00	-25.26%	-1.91%	-3.90	6.34	-23.30%	-1.400%	-2.53	11.39	-23.30%	-1.40%	-4.55
	May-22	25.02		0.00		11.00	-25.48%	-1.88%	-4.66	7.98	-21.00%	-1.700%	-2.95	14.35	-21.00%	-1.70%	-5.31
	Jun-22	23.15		0.00		15.00	-25.10%	-1.80%	-5.54	13.56	-18.50%	-2.500%	-4.39	24.38	-18.50%	-2.50%	-7.89
	Jul-22	13.17		0.00		41.70	-25.32%	-1.93%	-12.46	0.00	-18.60%	-3.500%	-2.63	0.00	-18.60%	-3.50%	-4.73
	Aug-22	13.24		0.00		44.44	-25.42%	-2.08%	-13.35	0.00	-18.90%	-4.500%	-3.38	0.00	-18.90%	-4.50%	-6.08
	Sep-22	13.22		0.00	4.00	61.00	-25.33%	-2.17%	-17.59	0.00	-18.60%	-5.200%	-3.91	0.00	-18.60%	-5.20%	-7.03
	Oct-22	25.00		0.00	26.00	32.00	-25.21%	-2.38%	-10.42	0.00	-20.10%	-5.200%	-3.91	0.00	-20.10%	-5.20%	-7.03
	Nov-22	24.96		2.08		0.00	-25.01%	-2.36%	-2.33	0.00	0.00%	-4.700%	-3.53	0.00	0.00%	-4.70%	-6.35
	Dec-22	26.28		2.15		0.00	-24.79%	-2.41%	-2.38	0.00	0.00%	-3.700%	-2.78	0.00	0.00%	-3.70%	-5.00
Totals		265.24	107	10.53	30.00	213.14			-78.94	27.88			-35.05	50.12			-63.02
2023	Jan-23	26.42	52.00	2.15	14.00	0.00	0.00%	-2.31%	-4.93	0.00	0.00%	-2.800%	-0.78	0.00	0.00%	-2.80%	-1.40
	Feb-23	23.74	53.00	2.01	16.00	0.00	0.00%	-2.00%	-4.26	0.00	0.00%	-2.200%	-0.61	0.00	0.00%	-2.20%	-1.10
	Mar-23	26.25	68.00	2.15		0.00	-24.99%	-2.08%	-4.43	0.00	0.00%	-1.700%	-0.47	0.00	0.00%	-1.70%	-0.85
	Apr-23	24.77	45.00	0.00		12.47	-25.26%	-1.91%	-7.21	0.00	-23.30%	-1.400%	-0.39	0.00	-23.30%	-1.40%	-0.70
	May-23	25.02	22.00	0.00		40.71	-25.48%	-1.88%	-14.39	0.00	-21.00%	-1.700%	-0.47	0.00	-21.00%	-1.70%	-0.85
	Jun-23	23.15	33.00	0.00		41.22	-25.10%	-1.80%	-14.18	0.00	-18.50%	-2.500%	-0.70	0.00	-18.50%	-2.50%	-1.25
	Jul-23	13.17	57.00	0.00		33.71	-25.32%	-1.93%	-12.64	0.00	-18.60%	-3.500%	-0.98	0.00	-18.60%	-3.50%	-1.75
	Aug-23	13.24	57.00	0.00		36.86	-25.42%	-2.08%	-13.80	0.00	-18.90%	-4.500%	-1.25	0.00	-18.90%	-4.50%	-2.26
	Sep-23	13.22	56.00	0.00		27.86	-25.33%	-2.17%	-11.69	0.00	-18.60%	-5.200%	-1.45	0.00	-18.60%	-5.20%	-2.61
	Oct-23	25.00	64.00	0.00		29.33	-25.21%	-2.38%	-12.47	0.00	-20.10%	-5.200%	-1.45	0.00	-20.10%	-5.20%	-2.61
	Nov-23	24.96	88.00	2.08		0.00	-25.01%	-2.36%	-5.03	0.00	0.00%	-4.700%	-1.31	0.00	0.00%	-4.70%	-2.36
	Dec-23	26.28	73.00	2.15		0.00	-24.79%	-2.41%	-5.13	0.00	0.00%	-3.700%	-1.03	0.00	0.00%	-3.70%	-1.85
Totals		265.24	668	10.53	30.00	222.16			-110.16	0.00			-10.90	0.00			-19.60

Aggregate Industries - WCR, Inc.
Summary of Replacement Sources
St. Vrain Creek

			Smith & Emmons Ditch						
	Month	Leggett-Owens (ac-ft)	Deliveries (ac-ft)	Surface RF Factor	Subsurface RF Factor	Total Return Flow Obligations [ac-ft]	Longmont WWTP (ac-ft)	Godding, Dailey & Plumb Ditch (ac-ft)	Heaton Reservoir (ac-ft)
2021	Jan-21		0.00	0%	-0.71%	0.00			
	Feb-21		0.00	0%	-0.61%	0.00			
	Mar-21		0.00	-50.00%	-0.56%	0.00			
	Apr-21		0.00	-22.50%	-0.63%	0.00	2.5		
	May-21		0.00	-36.15%	-2.70%	0.00	2.6		
	Jun-21		0.00	-30.32%	-4.73%	0.00	2.8		
	Jul-21		0.00	-30.98%	-6.99%	0.00	3		
	Aug-21		0.00	-22.50%	-5.64%	0.00	3.1		
	Sep-21		0.00	-22.50%	-3.19%	0.00	3.2		
	Oct-21		0.00	-22.50%	-1.79%	0.00	3.2		
	Nov-21		0.00	0%	-1.14%	0.00			
	Dec-21		0.00	0%	-0.87%	0.00			
Totals		0.00	0.00			0.00	20.40	0.00	0.00
2022	Jan-22		0.00	0%	-0.71%	0.00			
	Feb-22		0.00	0%	-0.61%	0.00			
	Mar-22		0.00	-50.00%	-0.56%	0.00			
	Apr-22		0.00	-22.50%	-0.63%	0.00	3.9		
	May-22		0.00	-36.15%	-2.70%	0.00	4.2		
	Jun-22		0.00	-30.32%	-4.73%	0.00	4.5		
	Jul-22		0.00	-30.98%	-6.99%	0.00	4.7		
	Aug-22		0.00	-22.50%	-5.64%	0.00	4.9		
	Sep-22		0.00	-22.50%	-3.19%	0.00	5.1		
	Oct-22		0.00	-22.50%	-1.79%	0.00	5.2		
	Nov-22		0.00	0%	-1.14%	0.00			
	Dec-22		0.00	0%	-0.87%	0.00			
Totals		0.00	0.00			0.00	32.50	0.00	0.00
2023	Jan-23		0.00	0%	-0.71%	0.00			
	Feb-23		0.00	0%	-0.61%	0.00			
	Mar-23		0.00	-50.00%	-0.56%	0.00			
	Apr-23		0.00	-22.50%	-0.63%	0.00	5.9		
	May-23		0.00	-36.15%	-2.70%	0.00	5.4		
	Jun-23		0.00	-30.32%	-4.73%	0.00	5.3		
	Jul-23		0.00	-30.98%	-6.99%	0.00	5.3		
	Aug-23		0.00	-22.50%	-5.64%	0.00	5.4		
	Sep-23		0.00	-22.50%	-3.19%	0.00	5.4		
	Oct-23		0.00	-22.50%	-1.79%	0.00	5.4		
	Nov-23		0.00	0%	-1.14%	0.00			
	Dec-23		0.00	0%	-0.87%	0.00			
Totals		0.00	0.00			0.00	38.10	0.00	0.00

Aggregate Industries - WCR, Inc.
Summary of Replacement Sources
Poudre River

					Whitney Ditch - WW Farm - 5 shares Zone 2-A (74% of WW Farm, or 3.7 shares)				Whitney Ditch - Orr Farm #1 - 6 shares Zone 3 (6 + 26% of WW Farm, or 7.3 shares)				Whitney Ditch - Orr Farm #2 - 2.5 shares Zone 2-B (2.5 shares)				GIC			
	Month	Fort Collins / PRPA	GDC / Star Reservoir	City of Greeley/Buckle n Pit	Deliveries	Surface RF Factors	Subsurface RF Factors	RF Obligations	Deliveries	Surface RF Factors	Subsurface RF Factors	RF Obligations	Deliveries	Surface RF Factors	Subsurface RF Factors	RF Obligations	Deliveries	Surface RF Factors	Subsurface RF Factors	RF Obligations
2021	Jan-21				0.00		-0.50%	-0.34	0.00		-0.80%	-0.84	0.00		-1.40%	-0.46	0.00	0.00%	-1.80%	-0.74
	Feb-21				0.00		-0.40%	-0.27	0.00		-0.70%	-0.73	0.00		-1.20%	-0.39	0.00	0.00%	-1.70%	-0.70
	Mar-21				0.00		-0.30%	-0.20	0.00		-0.60%	-0.63	0.00		-1.00%	-0.33	0.00	0.00%	-1.60%	-0.66
	Apr-21			4.06	2.96	-65.80%		-1.95	4.58	-73.70%		-3.38	1.44	-89.40%		-1.29	3.21	-23.70%	-1.50%	-1.38
	May-21			10.63	0.83	-54.60%		-0.45	1.28	-54.20%		-0.70	0.40	-55.80%		-0.22	0.95	-23.70%	-1.80%	-0.97
	Jun-21			9.44	4.63	-43.80%		-2.03	7.16	-41.10%		-2.94	2.25	-39.90%		-0.90	4.72	-23.70%	-2.10%	-1.99
	Jul-21			9.76	10.87	-41.20%		-4.48	16.80	-37.50%		-6.30	5.27	-34.60%		-1.82	8.89	-23.70%	-2.30%	-3.06
	Aug-21			9.76	12.87	-45.50%		-5.86	19.89	-42.10%		-8.37	6.24	-37.30%		-2.33	9.22	-23.70%	-2.40%	-3.18
	Sep-21			8.34	10.02	-55.40%		-5.55	15.48	-54.00%		-8.36	4.86	-48.10%		-2.34	9.52	-23.70%	-2.40%	-3.25
	Oct-21			5.36	1.11	-47.80%	-1.60%	-1.22	1.72	-47.80%	-2.10%	-2.23	0.54	-47.80%	-2.00%	-0.68	7.38	-23.70%	-2.30%	-2.70
	Nov-21				0.00		-0.90%	-0.39	0.00		-1.40%	-0.94	0.00		-1.80%	-0.38	0.00	0.00%	-2.10%	-0.88
	Dec-21				0.00		-0.60%	-0.26	0.00		-1.00%	-0.67	0.00		-1.60%	-0.34	0.00	0.00%	-2.00%	-0.84
Totals		0.00	0.00	57.34	43.29			-23.00	66.91			-36.08	20.99			-11.47	43.89			-20.33
2022	Jan-22				0.00		-0.50%	-0.22	0.00		-0.80%	-0.54	0.00		-1.40%	-0.29	0.00	0.00%	-1.80%	-0.75
	Feb-22				0.00		-0.40%	-0.17	0.00		-0.70%	-0.47	0.00		-1.20%	-0.25	0.00	0.00%	-1.70%	-0.71
	Mar-22				0.00		-0.30%	-0.13	0.00		-0.60%	-0.40	0.00		-1.00%	-0.21	0.00	0.00%	-1.60%	-0.67
	Apr-22			3.94	3.36	-65.80%		-2.21	5.20	-73.70%		-3.83	1.63	-89.40%		-1.46	16.48	-23.70%	-1.50%	-4.53
	May-22			10.46	9.71	-54.60%		-5.30	15.01	-54.20%		-8.14	4.71	-55.80%		-2.63	9.84	-23.70%	-1.80%	-3.08
	Jun-22			9.20	10.80	-43.80%		-4.73	16.69	-41.10%		-6.86	5.24	-39.90%		-2.09	10.12	-23.70%	-2.10%	-3.28
	Jul-22			9.46	14.94	-41.20%		-6.16	23.09	-37.50%		-8.66	7.25	-34.60%		-2.51	9.80	-23.70%	-2.30%	-3.28
	Aug-22			9.45	11.72	-45.50%		-5.33	18.12	-42.10%		-7.63	5.68	-37.30%		-2.12	9.22	-23.70%	-2.40%	-3.19
	Sep-22			8.06	10.67	-55.40%		-5.91	16.49	-54.00%		-8.91	5.17	-48.10%		-2.49	9.52	-23.70%	-2.40%	-3.26
	Oct-22			5.11	1.39	-47.80%	-1.60%	-1.66	2.15	-47.80%	-2.10%	-3.05	0.68	-47.80%	-2.00%	-0.93	6.66	-23.70%	-2.30%	-2.54
	Nov-22				0.00		-0.90%	-0.56	0.00		-1.40%	-1.35	0.00		-1.80%	-0.55	0.00	0.00%	-2.10%	-1.18
	Dec-22				0.00		-0.60%	-0.38	0.00		-1.00%	-0.97	0.00		-1.60%	-0.49	0.00	0.00%	-2.00%	-1.12
Totals		0.00	0.00	55.68	62.61			-32.77	96.76			-50.80	30.36			-16.01	71.64			-27.60
2023	Jan-23				0.00		-0.50%	-0.31	0.00		-0.80%	-0.77	0.00		-1.40%	-0.42	0.00	0.00%	-1.80%	-1.01
	Feb-23				0.00		-0.40%	-0.25	0.00		-0.70%	-0.68	0.00		-1.20%	-0.36	0.00	0.00%	-1.70%	-0.95
	Mar-23				0.00		-0.30%	-0.19	0.00		-0.60%	-0.58	0.00		-1.00%	-0.30	0.00	0.00%	-1.60%	-0.90
	Apr-23			5.12	3.12	-65.80%		-2.05	4.82	-73.70%		-3.55	1.51	-89.40%		-1.35	5.07	-23.70%	-1.50%	-2.04
	May-23			12.89	16.14	-54.60%		-8.81	24.94	-54.20%		-13.52	7.82	-55.80%		-4.37	10.14	-23.70%	-1.80%	-3.41
	Jun-23			11.61	20.60	-43.80%		-9.02	31.84	-41.10%		-13.08	9.99	-39.90%		-3.99	9.87	-23.70%	-2.10%	-3.52
	Jul-23			12.08	28.18	-41.20%		-11.61	43.55	-37.50%		-16.33	13.66	-34.60%		-4.73	9.99	-23.70%	-2.30%	-3.66
	Aug-23			12.09	25.02	-45.50%		-11.38	38.66	-42.10%		-16.28	12.13	-37.30%		-4.52	9.24	-23.70%	-2.40%	-3.54
	Sep-23			10.37	16.44	-55.40%		-9.11	25.41	-54.00%		-13.72	7.97	-48.10%		-3.83	9.27	-23.70%	-2.40%	-3.54
	Oct-23			6.80	0.76	-47.80%	-1.60%	-2.14	1.17	-47.80%	-2.10%	-4.16	0.37	-47.80%	-2.00%	-1.25	7.35	-23.70%	-2.30%	-3.03
	Nov-23				0.00		-0.90%	-0.99	0.00		-1.40%	-2.39	0.00		-1.80%	-0.96	0.00	0.00%	-2.10%	-1.21
	Dec-23				0.00		-0.60%	-0.66	0.00		-1.00%	-1.70	0.00		-1.60%	-0.86	0.00	0.00%	-2.00%	-1.15
Totals		0.00	0.00	70.97	110.24			-56.52	170.38			-86.76	53.45			-26.95	60.93			-27.97

Aggregate Industries, Inc.

Site: WW Farms Pit (WDID 0303014)

(aka Greeley West)

Cache La Poudre River Basin Accounting

Year	Month	Average Dewatering Rate (gpm)	Pumped for Dewatering (ac-ft)	Does Dewatering impact the River (Yes/No)	Monthly Net Evap (ft)	Exposed Surface Area (ac)	Evaporative Loss (ac-ft)	On-site Aggregate Production (tons)	Water Retained in Product (ac-ft)	Dust Control (ac-ft)	Concrete Batching (ac-ft)	Total On-Site Consumptive Use (ac-ft)	Total Lagged Depletions (ac-ft)	Lagged ***Dewatering*** Depletions (ac-ft)	Net Depletion (+) or Accretion (-) (ac-ft)
2021	Jan-21	1011	136.22	No	0.08	64.0	5.12	27,737	0.82	0.04	0.00	5.97	-7.85	-106.89	-7.85
	Feb-21	807	99.87	No	0.11	64.0	7.04	15,184	0.45	0.05	0.00	7.54	-8.29	-92.35	-8.29
	Mar-21	920	126.03	No	0.14	64.0	8.96	53,006	1.56	0.07	0.00	10.59	-9.97	-100.28	-9.97
	Apr-21	925	122.67	No	0.23	64.0	14.72	58,721	1.73	0.10	0.00	16.55	-13.61	-105.14	-13.61
	May-21	1138	155.87	No	0.29	64.0	18.56	60,007	1.77	0.12	0.00	20.44	-17.09	-123.17	-17.09
	Jun-21	1132	150.13	No	0.41	64.0	26.24	54,268	1.60	0.12	0.00	27.95	-22.15	-129.63	-22.15
	Jul-21	1116	152.93	No	0.45	64.0	28.80	48,421	1.43	0.12	0.14	30.48	-25.63	-132.87	-25.63
	Aug-21	1194	163.52	No	0.41	64.0	26.24	51,645	1.52	0.12	0.32	28.20	-25.78	-140.60	-25.78
	Sep-21	1060	140.58	No	0.29	64.0	18.56	42,618	1.25	0.12	0.50	20.43	-21.92	-133.33	-21.92
	Oct-21	1220	167.09	No	0.20	64.0	12.80	35,645	1.05	0.07	0.64	14.56	-17.36	-143.07	-17.36
	Nov-21	930	123.32	No	0.10	64.0	6.40	0	0.00	0.07	0.63	7.09	-11.97	-127.71	-11.97
	Dec-21	901	123.46	No	0.08	64.0	5.12	0	0.00	0.04	0.48	5.63	-9.03	-119.49	-9.03
Totals			**1661.69**		**2.79**		**178.56**	**447,252**	**13.16**	**0.99**	**2.71**	**195.43**	**-190.66**	**-1454.53**	**-190.66**
2022	Jan-22	838	112.92	No	0.08	64.0	5.12	0	0.00	0.04	0.32	5.47	-7.96	-113.14	-7.96
	Feb-22	697	86.25	No	0.11	64.0	7.04	0	0.00	0.05	0.33	7.42	-8.46	-97.19	-8.46
	Mar-22	946	129.66	No	0.14	64.0	8.96	42,083	1.24	0.07	0.65	10.92	-10.39	-111.99	-10.39
	Apr-22	1053	139.66	No	0.23	64.0	14.72	58,137	1.71	0.10	0.69	17.22	-14.29	-125.60	-14.29
	May-22	1477	202.31	No	0.29	64.0	18.56	58,973	1.74	0.12	0.87	21.28	-17.94	-161.01	-17.94
	Jun-22	1209	160.32	No	0.41	64.0	26.24	65,452	1.93	0.12	0.60	28.88	-23.10	-156.56	-23.10
	Jul-22	1218	166.86	No	0.45	64.0	28.80	58,055	1.71	0.12	0.73	31.35	-26.57	-154.56	-26.57
	Aug-22	1138	155.97	No	0.41	64.0	26.24	68,429	2.01	0.12	0.82	29.19	-26.78	-150.88	-26.78
	Sep-22	1492	197.78	No	0.29	64.0	18.56	63,328	1.86	0.12	0.51	21.05	-22.76	-170.04	-22.76
	Oct-22	1396	191.31	No	0.20	64.0	12.80	63,377	1.87	0.07	0.69	15.42	-18.24	-176.91	-18.24
	Nov-22	1723	228.44	No	0.10	64.0	6.40	33,773	0.99	0.07	0.82	8.28	-13.05	-196.70	-13.05
	Dec-22	0	0.00	No	0.08	64.0	5.12	25,000	0.74	0.04	0.44	6.34	-9.94	-93.11	-9.94
Totals			**1771.49**		**2.79**		**178.56**	**536,607**	**15.79**	**0.99**	**7.48**	**202.82**	**-199.48**	**-1707.69**	**-199.48**
2023	Jan-23	0	0.00	No	0.08	64.0	5.12	25,000	0.74	0.04	0.40	6.29	-8.83	-42.07	-8.83
	Feb-23	0	0.00	No	0.11	64.0	7.04	25,000	0.74	0.05	0.40	8.23	-9.33	-30.48	-9.33
	Mar-23	0	0.00	No	0.14	64.0	8.96	43,000	1.27	0.07	0.70	10.99	-10.89	-24.80	-10.89
	Apr-23	0	0.00	No	0.23	64.0	14.72	59,000	1.74	0.10	0.70	17.26	-14.59	-21.36	-14.59
	May-23	0	0.00	No	0.29	64.0	18.56	59,000	1.74	0.12	0.90	21.31	-18.18	-18.99	-18.18
	Jun-23	0	0.00	No	0.41	64.0	26.24	66,000	1.94	0.12	0.60	28.90	-23.30	-17.20	-23.30
	Jul-23	0	0.00	No	0.45	64.0	28.80	59,000	1.74	0.12	0.80	31.45	-26.80	-15.72	-26.80
	Aug-23	0	0.00	No	0.41	64.0	26.24	69,000	2.03	0.12	0.90	29.29	-27.01	-14.43	-27.01
	Sep-23	0	0.00	No	0.29	64.0	18.56	64,000	1.88	0.12	0.60	21.16	-22.98	-13.28	-22.98
	Oct-23	0	0.00	No	0.20	64.0	12.80	64,000	1.88	0.07	0.70	15.45	-18.42	-12.23	-18.42
	Nov-23	0	0.00	No	0.10	64.0	6.40	34,000	1.00	0.07	0.90	8.37	-13.22	-11.31	-13.22
	Dec-23	0	0.00	No	0.08	64.0	5.12	25,000	0.74	0.04	0.50	6.39	-10.11	-10.45	-10.11
Totals			**0.00**		**2.79**		**178.56**	**592,000**	**17.42**	**0.99**	**8.10**	**205.07**	**-203.65**	**-232.32**	**-203.65**

Aggregate Industries, Inc.

Site: F-Street Pit (WDID 0303015)

Cache La Poudre River Basin Accounting

Year	Month	Average Dewatering Rate (gpm)	Change in Rate (Yes/No)	Does Dewatering impact the River (Yes/No)	Monthly Net Evap (ft)	Exposed Surface Area (ac)	Evaporative Loss (ac-ft)	On-site Aggregate Production (tons)	Water Retained in Product (ac-ft)	Water for Dust control (ac-ft)	Total On-Site Consumptive Use (ac-ft)	Total Lagged Depletions (ac-ft)	Lagged ***Dewatering*** Depletions (ac-ft)	Net Depletion (+) or Accretion (-) (ac-ft)
2021	Jan-21	0	No	Yes	0.08	26.2	2.10	0	0.00	0.00	2.10	-4.85	0.00	-4.85
	Feb-21	0	No	Yes	0.10	26.2	2.62	0	0.00	0.00	2.62	-4.31	0.00	-4.31
	Mar-21	0	No	Yes	0.13	26.2	3.41	0	0.00	0.00	3.41	-4.05	0.00	-4.05
	Apr-21	0	No	Yes	0.22	26.2	5.76	0	0.00	0.00	5.76	-4.19	0.00	-4.19
	May-21	0	No	Yes	0.28	26.2	7.34	0	0.00	0.00	7.34	-4.80	0.00	-4.80
	Jun-21	0	No	Yes	0.41	26.2	10.74	0	0.00	0.00	10.74	-5.78	0.00	-5.78
	Jul-21	0	No	Yes	0.45	26.2	11.79	0	0.00	0.00	11.79	-7.12	0.00	-7.12
	Aug-21	0	No	Yes	0.42	26.2	11.00	0	0.00	0.00	11.00	-8.12	0.00	-8.12
	Sep-21	0	No	Yes	0.29	26.2	7.60	0	0.00	0.00	7.60	-8.37	0.00	-8.37
	Oct-21	0	No	Yes	0.19	26.2	4.98	0	0.00	0.00	4.98	-7.78	0.00	-7.78
	Nov-21	0	No	Yes	0.09	26.2	2.36	0	0.00	0.00	2.36	-6.76	0.00	-6.76
	Dec-21	0	No	Yes	0.08	26.2	2.10	0	0.00	0.00	2.10	-5.65	0.00	-5.65
Totals							**71.79**	**0**	**0.00**	**0.00**	**71.79**	**-71.79**	**0.00**	**-71.79**
2022	Jan-22	0	No	Yes	0.08	26.2	2.10	0	0.00	0.00	2.10	-4.85	0.00	-4.85
	Feb-22	0	No	Yes	0.10	26.2	2.62	0	0.00	0.00	2.62	-4.31	0.00	-4.31
	Mar-22	0	No	Yes	0.13	26.2	3.41	0	0.00	0.00	3.41	-4.05	0.00	-4.05
	Apr-22	0	No	Yes	0.22	26.2	5.76	0	0.00	0.00	5.76	-4.19	0.00	-4.19
	May-22	0	No	Yes	0.28	26.2	7.34	0	0.00	0.00	7.34	-4.80	0.00	-4.80
	Jun-22	0	No	Yes	0.41	26.2	10.74	0	0.00	0.00	10.74	-5.78	0.00	-5.78
	Jul-22	0	No	Yes	0.45	26.2	11.79	0	0.00	0.00	11.79	-7.12	0.00	-7.12
	Aug-22	0	No	Yes	0.42	26.2	11.00	0	0.00	0.00	11.00	-8.12	0.00	-8.12
	Sep-22	0	No	Yes	0.29	26.2	7.60	0	0.00	0.00	7.60	-8.37	0.00	-8.37
	Oct-22	0	No	Yes	0.19	26.2	4.98	0	0.00	0.00	4.98	-7.78	0.00	-7.78
	Nov-22	0	No	Yes	0.09	26.2	2.36	0	0.00	0.00	2.36	-6.76	0.00	-6.76
	Dec-22	0	No	Yes	0.08	26.2	2.10	0	0.00	0.00	2.10	-5.65	0.00	-5.65
Totals							**71.79**	**0**	**0.00**	**0.00**	**71.79**	**-71.79**	**0.00**	**-71.79**
2023	Jan-23	0	No	Yes	0.08	26.2	2.10	0	0.00	0.00	2.10	-4.85	0.00	-4.85
	Feb-23	0	No	Yes	0.10	26.2	2.62	0	0.00	0.00	2.62	-4.31	0.00	-4.31
	Mar-23	0	No	Yes	0.13	26.2	3.41	0	0.00	0.00	3.41	-4.05	0.00	-4.05
	Apr-23	0	No	Yes	0.22	26.2	5.76	0	0.00	0.00	5.76	-4.19	0.00	-4.19
	May-23	0	No	Yes	0.28	26.2	7.34	0	0.00	0.00	7.34	-4.80	0.00	-4.80
	Jun-23	0	No	Yes	0.41	26.2	10.74	0	0.00	0.00	10.74	-5.78	0.00	-5.78
	Jul-23	0	No	Yes	0.45	26.2	11.79	0	0.00	0.00	11.79	-7.12	0.00	-7.12
	Aug-23	0	No	Yes	0.42	26.2	11.00	0	0.00	0.00	11.00	-8.12	0.00	-8.12
	Sep-23	0	No	Yes	0.29	26.2	7.60	0	0.00	0.00	7.60	-8.37	0.00	-8.37
	Oct-23	0	No	Yes	0.19	26.2	4.98	0	0.00	0.00	4.98	-7.78	0.00	-7.78
	Nov-23	0	No	Yes	0.09	26.2	2.36	0	0.00	0.00	2.36	-6.76	0.00	-6.76
	Dec-23	0	No	Yes	0.08	26.2	2.10	0	0.00	0.00	2.10	-5.65	0.00	-5.65
Totals							**71.79**	**0**	**0.00**	**0.00**	**71.79**	**-71.79**	**0.00**	**-71.79**

Aggregate Industries, Inc.

Site: **Distel Pit (WDID 0503000)**

(aka Longmont East)

Saint Vrain Creek Basin Accounting

Year	Month	Average Dewatering Rate (gpm)	Pumped for Dewatering (ac-ft)	Does Dewatering impact the River	Monthly Net Evaporation (feet)	Exposed Water Surface Area (acres)	Evaporative Losses (acre-feet)	On-site Aggregate Production (tons)	Water Retained in Product (acre-feet)	Water Used For Dust Control (acre-feet)	Water Used for Concrete Batching (acre-feet)	Total On-Site Consumptive Use (acre-feet)	Lagged Depletion (acre-feet)	Lagged ***Dewatering*** Depletions (ac-ft)	Net Depletion (+) or Accretion (-) (ac-ft)
2021	Jan-21	0	0.00	Yes	0.08	0.0	0.00	0	0.00	0.03	0.00	0.03	-0.06	0.00	-0.06
	Feb-21	0	0.00	Yes	0.09	0.0	0.00	0	0.00	0.05	0.00	0.05	-0.06	0.00	-0.07
	Mar-21	0	0.00	Yes	0.13	0.0	0.00	0	0.00	0.08	0.00	0.08	-0.08	0.00	-0.08
	Apr-21	0	0.00	Yes	0.20	0.0	0.00	0	0.00	0.08	0.00	0.08	-0.09	0.00	-0.09
	May-21	0	0.00	Yes	0.25	0.0	0.00	0	0.00	0.15	0.00	0.15	-0.12	0.00	-0.12
	Jun-21	0	0.00	Yes	0.38	0.0	0.00	0	0.00	0.23	0.00	0.23	-0.17	0.00	-0.17
	Jul-21	0	0.00	Yes	0.44	0.0	0.00	0	0.00	0.23	0.00	0.23	-0.19	0.00	-0.19
	Aug-21	0	0.00	Yes	0.38	0.0	0.00	0	0.00	0.23	0.00	0.23	-0.20	0.00	-0.20
	Sep-21	0	0.00	Yes	0.26	0.0	0.00	0	0.00	0.23	0.00	0.23	-0.21	0.00	-0.21
	Oct-21	0	0.00	Yes	0.18	0.0	0.00	0	0.00	0.15	0.00	0.15	-0.17	0.00	-0.18
	Nov-21	0	0.00	Yes	0.10	0.0	0.00	0	0.00	0.05	0.00	0.05	-0.11	0.00	-0.11
	Dec-21	0	0.00	Yes	0.08	0.0	0.00	0	0.00	0.03	0.00	0.03	-0.08	0.00	-0.08
Totals			**0.00**				**0.00**	**0**	**0.00**	**1.54**	**0.00**	**1.54**	**-1.54**	**-0.01**	**-1.55**
2022	Jan-22	0	0.00	Yes	0.08	0.0	0.00	0	0.00	0.03	0.00	0.03	-0.06	0.00	-0.06
	Feb-22	0	0.00	Yes	0.09	0.0	0.00	0	0.00	0.05	0.00	0.05	-0.06	0.00	-0.07
	Mar-22	0	0.00	Yes	0.13	0.0	0.00	0	0.00	0.08	0.00	0.08	-0.08	0.00	-0.08
	Apr-22	0	0.00	Yes	0.20	0.0	0.00	0	0.00	0.08	0.00	0.08	-0.09	0.00	-0.09
	May-22	0	0.00	Yes	0.25	0.0	0.00	0	0.00	0.15	0.00	0.15	-0.12	0.00	-0.12
	Jun-22	0	0.00	Yes	0.38	0.0	0.00	0	0.00	0.23	0.00	0.23	-0.17	0.00	-0.17
	Jul-22	0	0.00	Yes	0.44	0.0	0.00	0	0.00	0.23	0.00	0.23	-0.19	0.00	-0.19
	Aug-22	0	0.00	Yes	0.38	0.0	0.00	0	0.00	0.23	0.00	0.23	-0.20	0.00	-0.20
	Sep-22	0	0.00	Yes	0.26	0.0	0.00	0	0.00	0.23	0.00	0.23	-0.21	0.00	-0.21
	Oct-22	0	0.00	Yes	0.18	0.0	0.00	0	0.00	0.15	0.00	0.15	-0.17	0.00	-0.18
	Nov-22	0	0.00	Yes	0.10	0.0	0.00	0	0.00	0.05	0.00	0.05	-0.11	0.00	-0.11
	Dec-22	0	0.00	Yes	0.08	0.0	0.00	0	0.00	0.03	0.00	0.03	-0.08	0.00	-0.08
Totals			**0.00**				**0.00**	**0**	**0.00**	**1.54**	**0.00**	**1.54**	**-1.54**	**-0.01**	**-1.55**
2023	Jan-23	0	0.00	Yes	0.08	0.0	0.00	0	0.00	0.03	0.00	0.03	-0.06	0.00	-0.06
	Feb-23	0	0.00	Yes	0.09	0.0	0.00	0	0.00	0.05	0.00	0.05	-0.06	0.00	-0.06
	Mar-23	0	0.00	Yes	0.13	0.0	0.00	0	0.00	0.08	0.00	0.08	-0.08	0.00	-0.08
	Apr-23	0	0.00	Yes	0.20	0.0	0.00	0	0.00	0.08	0.00	0.08	-0.09	0.00	-0.09
	May-23	0	0.00	Yes	0.25	0.0	0.00	0	0.00	0.15	0.00	0.15	-0.12	0.00	-0.12
	Jun-23	0	0.00	Yes	0.38	0.0	0.00	0	0.00	0.23	0.00	0.23	-0.17	0.00	-0.17
	Jul-23	0	0.00	Yes	0.44	0.0	0.00	0	0.00	0.23	0.00	0.23	-0.19	0.00	-0.19
	Aug-23	0	0.00	Yes	0.38	0.0	0.00	0	0.00	0.23	0.00	0.23	-0.20	0.00	-0.20
	Sep-23	0	0.00	Yes	0.26	0.0	0.00	0	0.00	0.23	0.00	0.23	-0.21	0.00	-0.21
	Oct-23	0	0.00	Yes	0.18	0.0	0.00	0	0.00	0.15	0.00	0.15	-0.17	0.00	-0.17
	Nov-23	0	0.00	Yes	0.10	0.0	0.00	0	0.00	0.05	0.00	0.05	-0.11	0.00	-0.11
	Dec-23	0	0.00	Yes	0.08	0.0	0.00	0	0.00	0.03	0.00	0.03	-0.08	0.00	-0.08
Totals			**0.00**				**0.00**	**0**	**0.00**	**1.54**	**0.00**	**1.54**	**-1.54**	**0.00**	**-1.54**

Aggregate Industries, Inc.

Site: Tull Pit (WDID 0603001)

Saint Vrain Creek Basin Accounting ek Basin Accounting

Year	Month	Average Dewatering Rate (gpm)	Pumped for Dewatering (ac-ft)	Does Dewatering impact the River (Yes/No)	Monthly Net Evaporation (feet)	Exposed Water Surface Area (acres)	Evaporative Losses (acre-feet)	On-site Aggregate Production (tons)	Water Retained in Product (acre-feet)	Water Used For Dust Control (acre-feet)	Total On-Site Consumptive Use (acre-feet)	Lagged Depletion (acre-feet)	Lagged ***Dewatering*** Depletions (ac-ft)	Net Depletion (+) or Accretion (-) (ac-ft)
2021	Jan-21	0	0.01	No	0.08	4.0	0.32	38,811	1.14	0.04	1.50	-1.84	-4.50	-1.84
	Feb-21	0	0.00	No	0.09	4.0	0.36	27,904	0.82	0.05	1.23	-1.83	-4.37	-1.83
	Mar-21	1	0.10	No	0.13	4.0	0.52	49,788	1.47	0.07	2.05	-1.82	-4.25	-1.82
	Apr-21	1	0.07	No	0.20	4.0	0.80	50,513	1.49	0.10	2.39	-1.79	-4.12	-1.79
	May-21	1	0.14	No	0.26	4.0	1.04	46,397	1.37	0.12	2.52	-1.78	-4.01	-1.78
	Jun-21	1	0.08	No	0.38	4.0	1.52	65,889	1.94	0.12	3.57	-1.79	-3.90	-1.79
	Jul-21	1	0.09	No	0.44	4.0	1.76	58,902	1.73	0.12	3.61	-1.82	-3.79	-1.82
	Aug-21	0	0.06	No	0.38	4.0	1.52	97,465	2.87	0.12	4.50	-1.87	-3.68	-1.87
	Sep-21	1	0.07	No	0.26	4.0	1.04	30,759	0.91	0.12	2.06	-1.94	-3.58	-1.94
	Oct-21	20	2.72	No	0.18	4.0	0.72	48,573	1.43	0.07	2.21	-2.02	-3.48	-2.02
	Nov-21	4	0.53	No	0.10	4.0	0.40	72,363	2.13	0.07	2.59	-2.05	-3.39	-2.05
	Dec-21	0	0.00	No	0.08	4.0	0.32	86,549	2.55	0.04	2.90	-2.07	-3.35	-2.07
Totals							**10.32**	**673,913**	**19.83**	**0.99**	**31.14**	**-22.63**	**-46.43**	**-22.63**
2022	Jan-22	7	1.00	No	0.08	4.0	0.32	36,823	1.08	0.04	1.44	-2.08	-3.30	-2.08
	Feb-22	26	3.25	No	0.09	4.0	0.36	45,839	1.35	0.05	1.76	-2.09	-3.23	-2.09
	Mar-22	8	1.03	No	0.13	4.0	0.52	77,350	2.28	0.07	2.86	-2.07	-3.17	-2.07
	Apr-22	8	1.00	No	0.20	4.0	0.80	71,004	2.09	0.10	2.99	-2.06	-3.16	-2.06
	May-22	130	17.79	No	0.26	4.0	1.04	65,428	1.93	0.12	3.08	-2.07	-3.13	-2.07
	Jun-22	42	5.57	No	0.38	4.0	1.52	51,159	1.51	0.12	3.14	-2.09	-3.18	-2.09
	Jul-22	41	5.57	No	0.44	4.0	1.76	53,484	1.57	0.12	3.45	-2.12	-3.46	-2.12
	Aug-22	108	14.80	No	0.38	4.0	1.52	71,098	2.09	0.12	3.73	-2.16	-3.72	-2.16
	Sep-22	54	7.10	No	0.26	4.0	1.04	66,924	1.97	0.12	3.12	-2.21	-3.93	-2.21
	Oct-22	35	4.85	No	0.18	4.0	0.72	61,505	1.81	0.07	2.60	-2.25	-4.21	-2.25
	Nov-22	0	0.00	No	0.10	4.0	0.40	36,778	1.08	0.07	1.55	-2.29	-4.41	-2.29
	Dec-22	0	0.00	No	0.08	4.0	0.32	40,588	1.19	0.04	1.55	-2.30	-4.47	-2.30
Totals							**10.32**	**677,980**	**19.95**	**0.99**	**31.26**	**-25.79**	**-43.37**	**-25.79**
2023	Jan-23	0	0.00	No	0.08	4.0	0.32	37,000	1.09	0.04	1.44	-2.29	-4.37	-2.29
	Feb-23	0	0.00	No	0.09	4.0	0.36	46,000	1.35	0.05	1.76	-2.25	-4.18	-2.25
	Mar-23	0	0.00	No	0.13	4.0	0.52	78,000	2.30	0.07	2.88	-2.21	-3.98	-2.21
	Apr-23	0	0.00	No	0.20	4.0	0.80	72,000	2.12	0.10	3.02	-2.19	-3.79	-2.19
	May-23	0	0.00	No	0.26	4.0	1.04	66,000	1.94	0.12	3.10	-2.19	-3.61	-2.19
	Jun-23	0	0.00	No	0.38	4.0	1.52	52,000	1.53	0.12	3.17	-2.21	-3.44	-2.21
	Jul-23	0	0.00	No	0.44	4.0	1.76	54,000	1.59	0.12	3.46	-2.24	-3.30	-2.24
	Aug-23	0	0.00	No	0.38	4.0	1.52	72,000	2.12	0.12	3.75	-2.28	-3.17	-2.28
	Sep-23	0	0.00	No	0.26	4.0	1.04	67,000	1.97	0.12	3.13	-2.33	-3.05	-2.33
	Oct-23	0	0.00	No	0.18	4.0	0.72	62,000	1.82	0.07	2.61	-2.38	-2.94	-2.38
	Nov-23	0	0.00	No	0.10	4.0	0.40	37,000	1.09	0.07	1.55	-2.41	-2.84	-2.41
	Dec-23	0	0.00	No	0.08	4.0	0.32	41,000	1.21	0.04	1.56	-2.42	-2.75	-2.42
Totals							**10.32**	**684,000**	**20.13**	**0.99**	**31.44**	**-27.39**	**-41.43**	**-27.39**

Aggregate Industries, Inc.

Site: **Irwin-Thomas Pit (WDID 0505626)**

Saint Vrain Creek Basin Accounting ek Basin Accounting

Year	Month	Average Dewatering Rate (gpm)	Pumped for Dewatering (ac-ft)	Does Dewatering impact the River (Yes/No)	Monthly Net Evaporation (feet)	Exposed Water Surface Area (acres)	Evaporative Losses (acre-feet)	On-site Aggregate Production (tons)	Water Retained in Product (acre-feet)	Water Used For Dust Control and Slurry Wall (acre-feet)	Total On-Site Consumptive Use (acre-feet)	Lagged Depletion (acre-feet)	Lagged ***Dewatering*** Depletions (ac-ft)	Net Depletion (+) or Accretion (-) (ac-ft)
2021	Jan-21	0	0.00	No	0.08	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Feb-21	0	0.00	No	0.09	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Mar-21	0	0.00	No	0.13	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Apr-21	0	0.00	No	0.20	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	May-21	0	0.00	No	0.25	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Jun-21	0	0.00	No	0.38	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Jul-21	0	0.00	No	0.44	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Aug-21	0	0.00	No	0.38	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Sep-21	0	0.00	No	0.26	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Oct-21	0	0.00	No	0.18	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Nov-21	0	0.00	No	0.10	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Dec-21	0	0.00	No	0.08	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
Totals							**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
2022	Jan-22	0	0.00	No	0.08	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Feb-22	0	0.00	No	0.09	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Mar-22	0	0.00	No	0.13	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Apr-22	0	0.00	No	0.20	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	May-22	0	0.00	No	0.25	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Jun-22	0	0.00	No	0.38	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Jul-22	0	0.00	No	0.44	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Aug-22	0	0.00	No	0.38	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Sep-22	0	0.00	No	0.26	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Oct-22	0	0.00	No	0.18	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Nov-22	0	0.00	No	0.10	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Dec-22	0	0.00	No	0.08	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
Totals							**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
2023	Jan-23	0	0.00	No	0.08	1.0	0.08	15,000	0.44	10.00	10.52	-0.73	0.00	-0.73
	Feb-23	0	0.00	No	0.09	1.0	0.09	45,000	1.32	10.00	11.41	-2.93	0.00	-2.93
	Mar-23	0	0.00	No	0.13	1.0	0.13	45,000	1.32	1.00	2.45	-3.80	0.00	-3.80
	Apr-23	0	0.00	No	0.20	1.0	0.20	45,000	1.32	1.00	2.52	-2.92	0.00	-2.92
	May-23	0	0.00	No	0.25	1.0	0.25	45,000	1.32	1.00	2.57	-2.46	0.00	-2.46
	Jun-23	0	0.00	No	0.38	1.0	0.38	45,000	1.32	1.00	2.70	-2.28	0.00	-2.28
	Jul-23	0	0.00	No	0.44	1.0	0.44	45,000	1.32	1.00	2.76	-2.23	0.00	-2.23
	Aug-23	0	0.00	No	0.38	1.0	0.38	45,000	1.32	1.00	2.70	-2.23	0.00	-2.23
	Sep-23	0	0.00	No	0.26	1.0	0.26	45,000	1.32	1.00	2.58	-2.23	0.00	-2.23
	Oct-23	0	0.00	No	0.18	1.0	0.18	45,000	1.32	1.00	2.50	-2.21	0.00	-2.21
	Nov-23	0	0.00	No	0.10	1.0	0.10	45,000	1.32	1.00	2.42	-2.20	0.00	-2.20
	Dec-23	0	0.00	No	0.08	1.0	0.08	35,000	1.03	1.00	2.11	-2.17	0.00	-2.17
Totals							**2.57**	**500,000**	**14.72**	**30.00**	**47.29**	**-28.40**	**0.00**	**-28.40**

Aggregate Industries, Inc.

Site: Fredstrom Pit (WDID 0505629)

Saint Vrain Creek Basin Accounting ek Basin Accounting

Year	Month	Average Dewatering Rate (gpm)	Pumped for Dewatering (ac-ft)	Does Dewatering impact the River (Yes/No)	Monthly Net Evaporation (feet)	Exposed Water Surface Area (acres)	Evaporative Losses (acre-feet)	On-site Aggregate Production (tons)	Water Retained in Product (acre-feet)	Water Used For Dust Control (acre-feet)	Total On-Site Consumptive Use (acre-feet)	Lagged Depletion (acre-feet)	Lagged ***Dewatering*** Depletions (ac-ft)	Net Depletion (+) or Accretion (-) (ac-ft)
2021	Jan-21	0	0.00	No	0.08	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Feb-21	0	0.00	No	0.09	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Mar-21	0	0.00	No	0.13	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Apr-21	0	0.00	No	0.20	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	May-21	0	0.00	No	0.25	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Jun-21	0	0.00	No	0.38	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Jul-21	0	0.00	No	0.44	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Aug-21	0	0.00	No	0.38	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Sep-21	0	0.00	No	0.26	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Oct-21	0	0.00	No	0.18	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Nov-21	0	0.00	No	0.10	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Dec-21	0	0.00	No	0.08	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
Totals							**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
2022	Jan-22	0	0.00	No	0.08	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Feb-22	0	0.00	No	0.09	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Mar-22	0	0.00	No	0.13	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Apr-22	0	0.00	No	0.20	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	May-22	0	0.00	No	0.25	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Jun-22	0	0.00	No	0.38	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Jul-22	0	0.00	No	0.44	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Aug-22	0	0.00	No	0.38	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Sep-22	0	0.00	No	0.26	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Oct-22	0	0.00	No	0.18	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Nov-22	0	0.00	No	0.10	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Dec-22	0	0.00	No	0.08	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
Totals							**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
2023	Jan-23	0	0.00	No	0.08	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Feb-23	0	0.00	No	0.09	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Mar-23	0	0.00	No	0.13	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Apr-23	0	0.00	No	0.20	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	May-23	0	0.00	No	0.25	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Jun-23	0	0.00	No	0.38	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Jul-23	0	0.00	No	0.44	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Aug-23	0	0.00	No	0.38	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Sep-23	0	0.00	No	0.26	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Oct-23	0	0.00	No	0.18	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Nov-23	0	0.00	No	0.10	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
	Dec-23	0	0.00	No	0.08	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
Totals							**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Aggregate Industries, Inc.

Site: **Jeronimus Pit (WDID 0203029)**

South Platte River Basin Accounting

Year	Month	Monthly Net Evaporation (feet)	Exposed Water Surface Area (acres)	Evaporative Losses (acre-feet)	On-site Aggregate Production (tons)	Water Retained in Product (acre-feet)	Dust Control (acre-feet)	Total On-Site Consumptive Use (acre-feet)	Lagged Depletion (acre-feet)
2021	Jan-21	0.08	5.6	0.47	0	0.00	0.00	0.47	-0.88
	Feb-21	0.10	5.6	0.56	0	0.00	0.00	0.56	-0.85
	Mar-21	0.13	5.6	0.74	0	0.00	0.00	0.74	-0.88
	Apr-21	0.20	5.6	1.14	0	0.00	0.00	1.14	-1.00
	May-21	0.29	5.6	1.60	0	0.00	0.00	1.60	-1.22
	Jun-21	0.41	5.6	2.28	0	0.00	0.00	2.28	-1.55
	Jul-21	0.42	5.6	2.37	0	0.00	0.00	2.37	-1.82
	Aug-21	0.39	5.6	2.16	0	0.00	0.00	2.16	-1.91
	Sep-21	0.29	5.6	1.64	0	0.00	0.00	1.64	-1.80
	Oct-21	0.19	5.6	1.09	0	0.00	0.00	1.09	-1.55
	Nov-21	0.09	5.6	0.51	0	0.00	0.00	0.51	-1.23
	Dec-21	0.08	5.6	0.44	0	0.00	0.00	0.44	-0.98
Totals				**15.00**	**0**	**0.00**	**0.00**	**15.00**	**-15.66**
2022	Jan-22	0.08	5.6	0.47	0	0.00	0.00	0.47	-0.88
	Feb-22	0.10	5.6	0.56	0	0.00	0.00	0.56	-0.84
	Mar-22	0.13	5.6	0.74	0	0.00	0.00	0.74	-0.87
	Apr-22	0.20	5.6	1.14	0	0.00	0.00	1.14	-1.00
	May-22	0.29	5.6	1.60	0	0.00	0.00	1.60	-1.22
	Jun-22	0.41	5.6	2.28	0	0.00	0.00	2.28	-1.54
	Jul-22	0.42	5.6	2.37	0	0.00	0.00	2.37	-1.82
	Aug-22	0.39	5.6	2.16	0	0.00	0.00	2.16	-1.90
	Sep-22	0.29	5.6	1.64	0	0.00	0.00	1.64	-1.79
	Oct-22	0.19	5.6	1.09	0	0.00	0.00	1.09	-1.54
	Nov-22	0.09	5.6	0.51	0	0.00	0.00	0.51	-1.22
	Dec-22	0.08	5.6	0.44	0	0.00	0.00	0.44	-0.98
Totals				**15.00**	**0**	**0.00**	**0.00**	**15.00**	**-15.61**
2023	Jan-23	0.08	5.6	0.47	0	0.00	0.00	0.47	-0.87
	Feb-23	0.10	5.6	0.56	0	0.00	0.00	0.56	-0.84
	Mar-23	0.13	5.6	0.74	0	0.00	0.00	0.74	-0.87
	Apr-23	0.20	5.6	1.14	0	0.00	0.00	1.14	-1.00
	May-23	0.29	5.6	1.60	0	0.00	0.00	1.60	-1.22
	Jun-23	0.41	5.6	2.28	0	0.00	0.00	2.28	-1.54
	Jul-23	0.42	5.6	2.37	0	0.00	0.00	2.37	-1.82
	Aug-23	0.39	5.6	2.16	0	0.00	0.00	2.16	-1.90
	Sep-23	0.29	5.6	1.64	0	0.00	0.00	1.64	-1.79
	Oct-23	0.19	5.6	1.09	0	0.00	0.00	1.09	-1.54
	Nov-23	0.09	5.6	0.51	0	0.00	0.00	0.51	-1.22
	Dec-23	0.08	5.6	0.44	0	0.00	0.00	0.44	-0.98
Totals				**15.00**	**0.00**	**0.00**	**0.00**	**15.00**	**-15.57**

Aggregate Industries, Inc.

Site: Hazeltine Pit (WDID 0203030)

(aka Thornton)

South Platte River Basin Accounting

Year	Month	Average Dewatering Rate (gpm)	Pumped for Dewatering (ac-ft)	Does Dewatering impact the River (Yes/No)	Monthly Net Evap (ft)	Exposed Surface Area (ac)	Evaporative Losses (ac-ft)	On-site Aggregate Production (tons)	Water Retained in Product (ac-ft)	Water Used for Dust Control (ac-ft)	Total On-Site Consumptive Use (ac-ft)	Lagged Depletion (ac-ft)	Lagged ***Dewatering*** Depletions (ac-ft)	Orr Drain Inflow (ac-ft)	Pump Outflow (ac-ft)	Surface Water Depletion (ac-ft)	Net Depletion (+) or Accretion (-) (ac-ft)
2021	Jan-21	0	0.00	Yes	0.08	0.0	0.00	0	0.00	0.00	0.00	-0.15	-4.17	-	-		-4.32
	Feb-21	0	0.00	Yes	0.10	0.0	0.00	0	0.00	0.00	0.00	-0.15	-4.12	-	-		-4.27
	Mar-21	0	0.00	Yes	0.13	0.0	0.00	0	0.00	0.00	0.00	-0.15	-4.07	-	-		-4.22
	Apr-21	0	0.00	Yes	0.20	0.0	0.00	0	0.00	0.00	0.00	-0.15	-4.03	-	-		-4.18
	May-21	0	0.00	Yes	0.29	0.0	0.00	0	0.00	0.00	0.00	-0.14	-4.00	15.35	15.09	-0.26	-4.41
	Jun-21	0	0.00	Yes	0.41	0.0	0.00	0	0.00	0.00	0.00	-0.14	-3.96	23.31	22.09	-1.22	-5.32
	Jul-21	0	0.00	Yes	0.42	0.0	0.00	0	0.00	0.00	0.00	-0.14	-3.91	16.04	12.19	-3.85	-7.91
	Aug-21	0	0.00	Yes	0.39	0.0	0.00	0	0.00	0.00	0.00	-0.14	-3.88	16.48	14.68	-1.79	-5.81
	Sep-21	0	0.00	Yes	0.29	0.0	0.00	0	0.00	0.00	0.00	-0.14	-3.85	16.17	7.60	-8.57	-12.55
	Oct-21	0	0.00	Yes	0.19	0.0	0.00	0	0.00	0.00	0.00	-0.14	-3.81	13.55	13.83	0.28	-3.67
	Nov-21	0	0.00	Yes	0.09	0.0	0.00	0	0.00	0.00	0.00	-0.13	-3.77	45.11	49.94	4.83	0.92
	Dec-21	0	0.00	Yes	0.08	0.0	0.00	0	0.00	0.00	0.00	-0.13	-3.73	39.26	37.43	-1.84	-5.70
Totals							**0.00**	**0**	**0.00**	**0.00**	**0.00**	**-1.69**	**-47.33**	**185.28**	**172.85**	**-12.43**	**-61.44**
2022	Jan-22	0	0.00	Yes	0.08	0.0	0.00	0	0.00	0.00	0.00	-0.13	-3.70	41.19	42.84	1.65	-2.19
	Feb-22	0	0.00	Yes	0.10	0.0	0.00	0	0.00	0.00	0.00	-0.13	-3.67	41.81	46.34	4.53	0.73
	Mar-22	0	0.00	Yes	0.13	0.0	0.00	0	0.00	0.00	0.00	-0.13	-3.64	41.15	52.48	11.33	7.56
	Apr-22	0	0.00	Yes	0.20	0.0	0.00	0	0.00	0.00	0.00	-0.13	-3.61	15.38	14.04	-1.34	-5.08
	May-22	0	0.00	Yes	0.29	0.0	0.00	0	0.00	0.00	0.00	-0.13	-3.58	22.20	14.78	-7.43	-11.14
	Jun-22	0	0.00	Yes	0.41	0.0	0.00	0	0.00	0.00	0.00	-0.13	-3.55	19.58	8.25	-11.33	-15.00
	Jul-22	0	0.00	Yes	0.42	0.0	0.00	0	0.00	0.00	0.00	-0.13	-3.51	16.21	20.55	4.34	0.71
	Aug-22	0	0.00	Yes	0.39	0.0	0.00	0	0.00	0.00	0.00	-0.12	-3.47	17.42	14.38	-3.04	-6.63
	Sep-22	0	0.00	Yes	0.29	0.0	0.00	0	0.00	0.00	0.00	-0.12	-3.44	15.25	14.03	-1.21	-4.77
	Oct-22	0	0.00	Yes	0.19	0.0	0.00	0	0.00	0.00	0.00	-0.12	-3.41	7.34	8.43	1.09	-2.44
	Nov-22	0	0.00	Yes	0.09	0.0	0.00	0	0.00	0.00	0.00	-0.12	-3.38	10.00	9.54	-0.46	-3.96
	Dec-22	0	0.00	Yes	0.08	0.0	0.00	0	0.00	0.00	0.00	-0.12	-3.35	10.00	9.00	-1.00	-4.46
Totals							**0.00**	**0**	**0.00**	**0.00**	**0.00**	**-1.50**	**-42.30**	**257.53**	**254.66**	**-2.87**	**-46.68**
2023	Jan-23	0	0.00	Yes	0.08	0.0	0.00	0	0.00	0.00	0.00	-1.03	-29.32	41.19	37.07	-4.12	-34.48
	Feb-23	0	0.00	Yes	0.10	0.0	0.00	0	0.00	0.00	0.00	-1.03	-29.32	41.81	37.63	-4.18	-34.54
	Mar-23	0	0.00	Yes	0.13	0.0	0.00	0	0.00	0.00	0.00	-1.03	-29.32	41.15	37.04	-4.12	-34.47
	Apr-23	0	0.00	Yes	0.20	0.0	0.00	0	0.00	0.00	0.00	-1.03	-29.32	15.38	13.84	-1.54	-31.90
	May-23	0	0.00	Yes	0.29	0.0	0.00	0	0.00	0.00	0.00	-1.03	-29.32	22.20	19.98	-2.22	-32.58
	Jun-23	0	0.00	Yes	0.41	0.0	0.00	0	0.00	0.00	0.00	-1.03	-29.32	19.58	17.62	-1.96	-32.32
	Jul-23	0	0.00	Yes	0.42	0.0	0.00	0	0.00	0.00	0.00	-1.03	-29.32	16.21	14.59	-1.62	-31.98
	Aug-23	0	0.00	Yes	0.39	0.0	0.00	0	0.00	0.00	0.00	-1.03	-29.32	17.42	15.68	-1.74	-32.10
	Sep-23	0	0.00	Yes	0.29	0.0	0.00	0	0.00	0.00	0.00	-1.03	-29.32	15.25	13.72	-1.52	-31.88
	Oct-23	0	0.00	Yes	0.19	0.0	0.00	0	0.00	0.00	0.00	-1.03	-29.32	7.34	6.60	-0.73	-31.09
	Nov-23	0	0.00	Yes	0.09	0.0	0.00	0	0.00	0.00	0.00	-1.03	-29.32	10.00	9.00	-1.00	-31.36
	Dec-23	0	0.00	Yes	0.08	0.0	0.00	0	0.00	0.00	0.00	-1.03	-29.32	10.00	9.00	-1.00	-31.36
Totals							**0.00**	**0**	**0.00**	**0.00**	**0.00**	**-12.41**	**-351.89**	**257.53**	**231.77**	**-25.75**	**-390.05**

Aggregate Industries, Inc.

Site: **Brighton Pit (WDID 0203031)**

South Platte River Basin Accounting

Year	Month	Average Dewatering Rate (gpm)	Change in Rate (Yes/No)	Does Dewatering impact the River (Yes/No)	Monthly Net Evaporation (feet)	Exposed Water Surface Area (acres)	Evaporative Losses (acre-feet)	On-site Aggregate Production (tons)	Water Retained in Product (acre-feet)	Water Used For Dust Control (acre-feet)	Total On-Site Consumptive Use (acre-feet)	Lagged Depletion (acre-feet)	Lagged ***Dewatering*** Depletions (ac-ft)	Net Depletion (+) or Accretion (-) (ac-ft)
2021	Jan-21	0	No	Yes	0.08	1.0	0.08	0	0.00	0.00	0.08	-0.43	-0.18	-0.61
	Feb-21	0	No	Yes	0.10	1.0	0.10	0	0.00	0.00	0.10	-0.39	-0.18	-0.57
	Mar-21	0	No	Yes	0.12	1.0	0.12	0	0.00	0.00	0.12	-0.38	-0.18	-0.56
	Apr-21	0	No	Yes	0.23	1.0	0.23	0	0.00	0.00	0.23	-0.43	-0.18	-0.61
	May-21	0	No	Yes	0.28	1.0	0.28	0	0.00	0.00	0.28	-0.47	-0.18	-0.65
	Jun-21	0	No	Yes	0.41	1.0	0.41	0	0.00	0.00	0.41	-0.54	-0.18	-0.73
	Jul-21	0	No	Yes	0.45	1.0	0.45	0	0.00	0.00	0.45	-0.59	-0.18	-0.77
	Aug-21	0	No	Yes	0.39	1.0	0.39	0	0.00	0.00	0.39	-0.58	-0.18	-0.76
	Sep-21	0	No	Yes	0.30	1.0	0.30	0	0.00	0.00	0.30	-0.53	-0.18	-0.71
	Oct-21	0	No	Yes	0.20	1.0	0.20	0	0.00	0.00	0.20	-0.45	-0.18	-0.63
	Nov-21	0	No	Yes	0.09	1.0	0.09	0	0.00	0.00	0.09	-0.37	-0.18	-0.55
	Dec-21	0	No	Yes	0.08	1.0	0.08	0	0.00	0.00	0.08	-0.32	-0.18	-0.50
Totals							**2.73**	**0**	**0.00**	**0.00**	**2.73**	**-5.48**	**-2.17**	**-7.65**
2022	Jan-22	0	No	Yes	0.08	1.0	0.08	0	0.00	0.00	0.08	-0.31	-0.18	-0.49
	Feb-22	0	No	Yes	0.10	1.0	0.10	0	0.00	0.00	0.10	-0.31	-0.18	-0.49
	Mar-22	0	No	Yes	0.12	1.0	0.12	0	0.00	0.00	0.12	-0.33	-0.18	-0.51
	Apr-22	0	No	Yes	0.23	1.0	0.23	0	0.00	0.00	0.23	-0.38	-0.18	-0.56
	May-22	0	No	Yes	0.28	1.0	0.28	0	0.00	0.00	0.28	-0.43	-0.18	-0.61
	Jun-22	0	No	Yes	0.41	1.0	0.41	0	0.00	0.00	0.41	-0.51	-0.18	-0.69
	Jul-22	0	No	Yes	0.45	1.0	0.45	0	0.00	0.00	0.45	-0.56	-0.18	-0.74
	Aug-22	0	No	Yes	0.39	1.0	0.39	0	0.00	0.00	0.39	-0.56	-0.18	-0.74
	Sep-22	0	No	Yes	0.30	1.0	0.30	0	0.00	0.00	0.30	-0.50	-0.18	-0.68
	Oct-22	0	No	Yes	0.20	1.0	0.20	0	0.00	0.00	0.20	-0.43	-0.18	-0.61
	Nov-22	0	No	Yes	0.09	1.0	0.09	0	0.00	0.00	0.09	-0.35	-0.18	-0.53
	Dec-22	0	No	Yes	0.08	1.0	0.08	0	0.00	0.00	0.08	-0.31	-0.18	-0.49
Totals							**2.73**	**0**	**0.00**	**0.00**	**2.73**	**-4.98**	**-2.17**	**-7.15**
2023	Jan-23	0	No	Yes	0.08	1.0	0.08	0	0.00	0.00	0.08	-0.29	-0.18	-0.48
	Feb-23	0	No	Yes	0.10	1.0	0.10	0	0.00	0.00	0.10	-0.30	-0.18	-0.48
	Mar-23	0	No	Yes	0.12	1.0	0.12	0	0.00	0.00	0.12	-0.31	-0.18	-0.49
	Apr-23	0	No	Yes	0.23	1.0	0.23	0	0.00	0.00	0.23	-0.37	-0.18	-0.55
	May-23	0	No	Yes	0.28	1.0	0.28	0	0.00	0.00	0.28	-0.42	-0.18	-0.60
	Jun-23	0	No	Yes	0.41	1.0	0.41	0	0.00	0.00	0.41	-0.50	-0.18	-0.68
	Jul-23	0	No	Yes	0.45	1.0	0.45	0	0.00	0.00	0.45	-0.55	-0.18	-0.73
	Aug-23	0	No	Yes	0.39	1.0	0.39	0	0.00	0.00	0.39	-0.55	-0.18	-0.73
	Sep-23	0	No	Yes	0.30	1.0	0.30	0	0.00	0.00	0.30	-0.49	-0.18	-0.67
	Oct-23	0	No	Yes	0.20	1.0	0.20	0	0.00	0.00	0.20	-0.42	-0.18	-0.60
	Nov-23	0	No	Yes	0.09	1.0	0.09	0	0.00	0.00	0.09	-0.34	-0.18	-0.52
	Dec-23	0	No	Yes	0.08	1.0	0.08	0	0.00	0.00	0.08	-0.30	-0.18	-0.48
Totals							**2.73**	**0**	**0.00**	**0.00**	**2.73**	**-4.85**	**-2.17**	**-7.01**

Aggregate Industries, Inc.

Site: **Tucson South Pit (WDID 0203032)**

South Platte River Basin Accounting

Year	Month	Average Dewatering Rate (gpm)	Pumped for Dewatering (ac-ft)	Does Dewatering impact the River (Yes/No)	Monthly Net Evap (ft)	Exposed Surface Area (ac)	Evaporative Losses (ac-ft)	On-site Aggregate Production (tons)	Water Retained in Product (ac-ft)	Dust Control/Slurry Wall (ac-ft)	Total On-Site Consumptive Use (ac-ft)	Lagged Depletion (ac-ft)	Lagged ***Dewatering*** Depletions (ac-ft)	Net Depletion (+) or Accretion (-) (ac-ft)
2021	Jan-21	0	0.00	Yes	0.08	3.0	0.24	0	0.00	0.00	0.24	-0.49	0.00	-0.49
	Feb-21	0	0.00	Yes	0.10	3.0	0.30	0	0.00	0.00	0.30	-0.46	0.00	-0.46
	Mar-21	0	0.00	Yes	0.12	3.0	0.37	0	0.00	0.00	0.37	-0.45	0.00	-0.45
	Apr-21	0	0.00	Yes	0.23	3.0	0.69	0	0.00	0.00	0.69	-0.51	0.00	-0.51
	May-21	0	0.00	Yes	0.28	3.0	0.84	0	0.00	0.00	0.84	-0.61	0.00	-0.61
	Jun-21	0	0.00	Yes	0.41	3.0	1.24	0	0.00	0.00	1.24	-0.75	0.00	-0.75
	Jul-21	0	0.00	Yes	0.45	3.0	1.34	0	0.00	0.00	1.34	-0.91	0.00	-0.91
	Aug-21	0	0.00	Yes	0.39	3.0	1.18	0	0.00	0.00	1.18	-0.98	0.00	-0.98
	Sep-21	0	0.00	Yes	0.30	3.0	0.90	0	0.00	0.00	0.90	-0.94	0.00	-0.94
	Oct-21	0	0.00	Yes	0.20	3.0	0.60	0	0.00	0.61	1.21	-0.95	0.00	-0.95
	Nov-21	0	0.00	Yes	0.09	3.0	0.27	0	0.00	2.23	2.50	-1.26	0.00	-1.26
	Dec-21	0	0.00	Yes	0.08	3.0	0.23	0	0.00	19.21	19.44	-4.71	0.00	-4.71
Totals							**8.20**	**0**	**0.00**	**22.05**	**30.26**	**-13.01**	**0.00**	**-13.01**
2022	Jan-22	0	0.00	Yes	0.08	3.0	0.24	0	0.00	0.04	0.28	-5.97	0.00	-5.97
	Feb-22	0	0.00	Yes	0.10	3.0	0.30	0	0.00	0.00	0.30	-2.92	0.00	-2.92
	Mar-22	0	0.00	Yes	0.12	3.0	0.37	0	0.00	0.00	0.37	-2.08	0.00	-2.08
	Apr-22	0	0.00	Yes	0.23	3.0	0.69	0	0.00	0.00	0.69	-1.79	0.00	-1.79
	May-22	0	0.00	Yes	0.28	3.0	0.84	0	0.00	0.00	0.84	-1.66	0.00	-1.66
	Jun-22	0	0.00	Yes	0.41	3.0	1.24	0	0.00	0.00	1.24	-1.63	0.00	-1.63
	Jul-22	0	0.00	Yes	0.45	3.0	1.34	0	0.00	0.11	1.45	-1.66	0.00	-1.66
	Aug-22	0	0.00	Yes	0.39	3.0	1.18	0	0.00	0.30	1.48	-1.67	0.00	-1.67
	Sep-22	0	0.00	Yes	0.30	3.0	0.90	0	0.00	0.25	1.14	-1.59	0.00	-1.59
	Oct-22	0	0.00	Yes	0.20	3.0	0.60	0	0.00	0.14	0.74	-1.40	0.00	-1.40
	Nov-22	0	0.00	Yes	0.09	3.0	0.27	0	0.00	0.00	0.27	-1.15	0.00	-1.15
	Dec-22	0	0.00	Yes	0.08	3.0	0.23	160,000	4.71	0.07	5.01	-1.78	0.00	-1.78
Totals							**8.20**	**160,000**	**4.71**	**0.90**	**13.81**	**-25.31**	**0.00**	**-25.31**
2023	Jan-23	0	0.00	Yes	0.08	3.0	0.24	84,889	1.25	0.06	1.55	-2.31	0.00	-2.31
	Feb-23	0	0.00	Yes	0.10	3.0	0.30	79,179	1.17	0.07	1.54	-1.84	0.00	-1.84
	Mar-23	0	0.00	Yes	0.12	3.0	0.37	113,513	1.67	0.18	2.23	-1.85	0.00	-1.85
	Apr-23	0	0.00	Yes	0.23	3.0	0.69	115,797	1.70	0.29	2.69	-2.07	0.00	-2.07
	May-23	0	0.00	Yes	0.28	3.0	0.84	99,772	1.47	0.44	2.75	-2.26	0.00	-2.26
	Jun-23	0	0.00	Yes	0.41	3.0	1.24	111,868	1.65	0.44	3.32	-2.47	0.00	-2.47
	Jul-23	0	0.00	Yes	0.45	3.0	1.34	101,545	1.49	0.44	3.28	-2.68	0.00	-2.68
	Aug-23	0	0.00	Yes	0.39	3.0	1.18	131,459	1.93	0.44	3.56	-2.84	0.00	-2.84
	Sep-23	0	0.00	Yes	0.30	3.0	0.90	115,665	1.70	0.44	3.04	-2.90	0.00	-2.90
	Oct-23	0	0.00	Yes	0.20	3.0	0.60	132,431	1.95	0.29	2.84	-2.83	0.00	-2.83
	Nov-23	0	0.00	Yes	0.09	3.0	0.27	60,077	0.88	0.29	1.45	-2.54	0.00	-2.54
	Dec-23	0	0.00	Yes	0.08	3.0	0.23	253,804	3.73	0.12	4.08	-2.64	0.00	-2.64
Totals							**8.20**	**1,400,000**	**20.60**	**3.53**	**32.34**	**-29.25**	**0.00**	**-29.25**

Aggregate Industries, Inc.

Site: **Wattenberg Pit (WDID 0203034)**

South Platte River Basin Accounting

Year	Month	Average Dewatering Rate (gpm)	Net Pumped for Dewatering (ac-ft)	Does Dewatering impact the River (Yes/No)	Monthly Net Evap (ft)	Exposed Surface Area (ac)	Evaporative Losses (ac-ft)	On-site Aggregate Production (tons)	Water Retained in Product (ac-ft)	Dust Control (ac-ft)	Total On-Site Consumptive Use (ac-ft)	Lagged Depletion (ac-ft)	Lagged ***Dewatering*** Depletions (ac-ft)	Net Depletion (+) or Accretion (-) (ac-ft)
2021	Jan-21	0	0.00	No	0.09	37.0	3.15	0	0.00	0.07	3.22	-2.39	-48.11	-2.39
	Feb-21	0	0.00	No	0.11	37.0	4.04	0	0.00	0.10	4.14	-3.20	-38.42	-3.20
	Mar-21	192	26.34	No	0.14	37.0	5.03	0	0.00	0.13	5.16	-3.89	-40.62	-3.89
	Apr-21	839	111.30	No	0.24	37.0	8.88	0	0.00	0.20	9.08	-5.50	-69.41	-5.50
	May-21	190	26.05	No	0.32	37.0	11.84	0	0.00	0.23	12.07	-7.66	-65.87	-7.66
	Jun-21	985	130.58	No	0.45	37.0	16.50	0	0.00	0.23	16.73	-10.37	-80.02	-10.37
	Jul-21	945	129.41	No	0.47	37.0	17.33	0	0.00	0.23	17.56	-12.47	-103.66	-12.47
	Aug-21	148	20.28	No	0.41	37.0	15.26	0	0.00	0.23	15.49	-12.86	-76.85	-12.86
	Sep-21	522	69.27	No	0.31	37.0	11.53	0	0.00	0.23	11.76	-11.76	-64.79	-11.76
	Oct-21	383	52.46	No	0.21	37.0	7.86	0	0.00	0.13	7.99	-9.85	-65.61	-9.85
	Nov-21	294	39.03	No	0.10	37.0	3.73	0	0.00	0.13	3.86	-7.48	-57.44	-7.48
	Dec-21	99	13.51	No	0.09	37.0	3.24	0	0.00	0.07	3.31	-5.88	-44.34	-5.88
Totals							**108.38**	**0**	**0.00**	**1.98**	**110.36**	**-93.31**	**-755.12**	**-93.31**
2022	Jan-22	433	59.32	No	0.09	37.0	3.15	0	0.00	0.00	3.15	-5.18	-48.91	-5.18
	Feb-22	0	0.00	No	0.11	37.0	4.04	0	0.00	0.00	4.04	-5.08	-39.73	-5.08
	Mar-22	0	0.00	No	0.14	37.0	5.03	0	0.00	0.00	5.03	-5.39	-24.88	-5.39
	Apr-22	507	67.21	No	0.24	37.0	8.88	0	0.00	0.00	8.88	-6.73	-40.35	-6.73
	May-22	356	48.76	No	0.32	37.0	11.84	0	0.00	0.00	11.84	-8.69	-50.39	-8.69
	Jun-22	343	45.46	No	0.45	37.0	16.50	0	0.00	0.00	16.50	-11.22	-48.11	-11.22
	Jul-22	2,330	319.19	No	0.47	37.0	17.33	0	0.00	0.00	17.33	-13.19	-130.45	-13.19
	Aug-22	2,688	368.31	No	0.41	37.0	15.26	0	0.00	0.00	15.26	-13.46	-221.10	-13.46
	Sep-22	2,604	345.26	No	0.31	37.0	11.53	0	0.00	0.00	11.53	-12.26	-252.46	-12.26
	Oct-22	1,627	222.85	No	0.21	37.0	7.86	0	0.00	0.00	7.86	-10.28	-227.30	-10.28
	Nov-22	437	57.95	No	0.10	37.0	3.73	0	0.00	0.00	3.73	-7.86	-153.75	-7.86
	Dec-22	0	0.00	No	0.09	37.0	3.24	0	0.00	0.00	3.24	-6.22	-88.04	-6.22
Totals							**108.38**	**0**	**0.00**	**0.00**	**108.38**	**-105.58**	**-1325.49**	**-105.58**
2023	Jan-23	0	0.00	No	0.09	37.0	3.15	0	0.00	0.00	3.15	-5.51	-58.23	-5.51
	Feb-23	0	0.00	No	0.11	37.0	4.04	0	0.00	0.00	4.04	-5.39	-46.47	-5.39
	Mar-23	0	0.00	No	0.14	37.0	5.03	0	0.00	0.00	5.03	-5.66	-39.37	-5.66
	Apr-23	0	0.00	No	0.24	37.0	8.88	0	0.00	0.00	8.88	-6.97	-34.08	-6.97
	May-23	0	0.00	No	0.32	37.0	11.84	0	0.00	0.00	11.84	-8.89	-29.75	-8.89
	Jun-23	0	0.00	No	0.45	37.0	16.50	0	0.00	0.00	16.50	-11.41	-26.03	-11.41
	Jul-23	0	0.00	No	0.47	37.0	17.33	0	0.00	0.00	17.33	-13.35	-22.82	-13.35
	Aug-23	0	0.00	No	0.41	37.0	15.26	0	0.00	0.00	15.26	-13.60	-19.97	-13.60
	Sep-23	0	0.00	No	0.31	37.0	11.53	0	0.00	0.00	11.53	-12.38	-17.50	-12.38
	Oct-23	0	0.00	No	0.21	37.0	7.86	0	0.00	0.00	7.86	-10.39	-15.32	-10.39
	Nov-23	0	0.00	No	0.10	37.0	3.73	0	0.00	0.00	3.73	-7.96	-13.41	-7.96
	Dec-23	0	0.00	No	0.09	37.0	3.24	0	0.00	0.00	3.24	-6.30	-11.72	-6.30
Totals							**108.38**	**0**	**0.00**	**0.00**	**108.38**	**-107.81**	**-334.68**	**-107.81**

Aggregate Industries, Inc.

Site: Platte Valley Pit (WDID 0203035)

South Platte River Basin Accounting

Year	Month	Monthly Net Evaporation (feet)	Exposed Water Surface Area (acres)	Evaporative Losses (acre-feet)	On-site Aggregate Production (tons)	Water Retained in Product (acre-feet)	Dust Control (acre-feet)	Concrete Batching (acre-feet)	Total On-Site Consumptive Use (acre-feet)	Lagged Depletion (acre-feet)
2021	Jan-21	0.08	63.8	4.91	107,940	1.59	0.12	0.37	6.99	-11.57
	Feb-21	0.10	63.8	6.29	75,498	1.11	0.28	0.43	8.11	-10.98
	Mar-21	0.12	63.8	7.59	101,503	1.49	0.29	0.32	9.70	-11.33
	Apr-21	0.22	63.8	14.29	103,697	1.53	1.14	0.57	17.53	-14.32
	May-21	0.27	63.8	17.27	83,133	1.22	0.80	0.36	19.64	-17.05
	Jun-21	0.40	63.8	25.53	74,109	1.09	2.05	0.44	29.12	-21.56
	Jul-21	0.43	63.8	27.73	77,242	1.14	2.32	0.29	31.47	-25.34
	Aug-21	0.38	63.8	24.45	58,453	0.86	2.59	0.57	28.47	-25.83
	Sep-21	0.29	63.8	18.57	103,464	1.52	2.53	0.64	23.27	-23.86
	Oct-21	0.19	63.8	12.39	97,256	1.43	1.87	0.64	16.33	-20.19
	Nov-21	0.09	63.8	5.47	88,436	1.30	0.91	0.49	8.17	-15.18
	Dec-21	0.07	63.8	4.65	95,597	1.41	0.77	0.37	7.20	-12.09
Totals				**169.15**	**1,066,328**	**15.69**	**15.68**	**5.48**	**206.01**	**-209.31**
2022	Jan-22	0.08	63.8	4.91	66,893	0.98	0.00	0.30	6.20	-10.55
	Feb-22	0.10	63.8	6.29	62,394	0.92	0.00	0.16	7.36	-10.10
	Mar-22	0.12	63.8	7.59	89,449	1.32	0.34	0.65	9.90	-10.84
	Apr-22	0.22	63.8	14.29	91,249	1.34	1.94	1.07	18.64	-14.44
	May-22	0.27	63.8	17.27	78,621	1.16	2.47	1.62	22.51	-18.15
	Jun-22	0.40	63.8	25.53	88,153	1.30	3.45	0.87	31.15	-22.96
	Jul-22	0.43	63.8	27.73	80,018	1.18	3.89	0.72	33.51	-26.73
	Aug-22	0.38	63.8	24.45	103,591	1.52	2.70	0.70	29.38	-26.88
	Sep-22	0.29	63.8	18.57	91,145	1.34	2.65	0.71	23.28	-24.34
	Oct-22	0.19	63.8	12.39	104,357	1.54	1.93	0.74	16.60	-20.50
	Nov-22	0.09	63.8	5.47	47,341	0.70	0.38	0.62	7.17	-15.02
	Dec-22	0.07	63.8	4.65	200,000	2.94	0.25	0.39	8.24	-12.34
Totals				**169.15**	**1,103,211**	**16.23**	**20.00**	**8.55**	**213.94**	**-212.86**
2023	Jan-23	0.08	63.8	4.91	84,889	1.25	0.25	0.40	6.81	-11.08
	Feb-23	0.10	63.8	6.29	79,179	1.17	0.25	0.20	7.90	-10.59
	Mar-23	0.12	63.8	7.59	113,513	1.67	0.40	0.70	10.36	-11.29
	Apr-23	0.22	63.8	14.29	115,797	1.70	2.00	1.10	19.10	-14.88
	May-23	0.27	63.8	17.27	99,772	1.47	2.50	1.70	22.94	-18.58
	Jun-23	0.40	63.8	25.53	111,868	1.65	3.50	0.90	31.58	-23.37
	Jul-23	0.43	63.8	27.73	101,545	1.49	3.90	0.80	33.92	-27.15
	Aug-23	0.38	63.8	24.45	131,459	1.93	2.80	0.80	29.99	-27.36
	Sep-23	0.29	63.8	18.57	115,665	1.70	2.70	0.80	23.77	-24.84
	Oct-23	0.19	63.8	12.39	132,431	1.95	2.00	0.80	17.14	-20.99
	Nov-23	0.09	63.8	5.47	60,077	0.88	0.40	0.70	7.45	-15.44
	Dec-23	0.07	63.8	4.65	253,804	3.73	0.30	0.40	9.09	-12.89
Totals				**169.15**	**1,400,000**	**20.60**	**21.00**	**9.30**	**220.05**	**-218.47**

Appendix B

Water Leases

- Bucklen Lease of Excess Augmentation Credits
- Centennial W&S District Lease Confirmation Letter

Lease of Excess Augmentation Credits

This water lease is by and between Aggregate Industries-WCR, Inc. ("AI") and Bucklen Equipment Co., Inc. ("Bucklen"), sometimes collectively referred to as "the Parties".

WHEREAS Bucklen operates a gravel pit Substitute Water Supply Plan (SWSP) for the Bucklen Pit approved by the Division of Water Resources in accordance with C.R.S. §37-90-137(11); and

WHEREAS under conservative assumptions the 2023 SWSP approval for the Bucklen Pit SWSP projects that the Bucklen Pit SWSP will have excess augmentation credit during the 2023 plan approval period; and

WHEREAS AI operates a combined substitute supply plan (CoSSP) for its various gravel pits approved by the Division of Water Resources in accordance with C.R.S. §37-90-137(11); and

WHEREAS the AI CoSSP may require additional augmentation credit during the 2023 irrigation season;

NOW THEREFORE, in consideration of the foregoing, it is agreed as follows:

1. Bucklen will lease to AI as needed any excess augmentation credit it has available during the 2023 irrigation season according to the Bucklen Pit SWSP monthly accounting submitted to the Division of Water Resources. The amount of excess augmentation credit that will be available during the 2023 irrigation season is currently estimated to equal the values below:

Month	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Total
Estimated Excess [ac-ft]	5.12	12.89	11.61	12.08	12.09	10.37	6.80	70.96

2. The water leased to AI is for the exclusive use by AI and shall not be leased or conveyed to others except by written permission from Bucklen.

3. The cost of the lease water shall be $100 (ONE HUNDRED DOLLARS) per acre-foot. The volume of water leased by AI each month will be reported to Bucklen within thirty days of the close of that month. Payment will be made by AI within thirty days following the end of the 2023 irrigation season for all water leased. This payment shall be nonrefundable and is not contingent upon AI's actual usage of the water.

DATED this 8 day of Dec, 2022.

Aggregate Industries-WCR, Inc.

Signature: _____

Date: 12/9/2022

Bucklen Equipment Company, Inc.

Signature: Lori Bucklen

Date: 12-8-22

CENTENNIAL
WATER AND SANITATION DISTRICT

December 27, 2022

Jared Dains
Applegate Group, Inc.
1499 West 120th Avenue, Suite 200
Denver, CO 80234

RE: Aggregate Industries Lease request for 2023

Dear Mr. Dains,

I am writing to confirm that Centennial W&S District will plan to provide 14 ac-ft in January, and 16 ac-ft in February, as per your request on behalf of Aggregate Industries. Please let me know of any changes to your request.

Please contact me with any concerns.

Sincerely,

Swithin Dick

Water Resources Administrator

Appendix C

Consumptive Use Analysis for the
CAMAS Fulton Ditch Shares

Applegate Group, Inc.
Water Resource Advisors for the West

Memorandum

Date:	December 29, 2022	AG Job No.: 06-103
To:	File	
From:	Jared Dains, P.E.	
Subject:	**Historical Consumptive Use Analysis on Aggregate's 22 Fulton Ditch Shares Acquired from CAMAS Colorado, Inc.**	

The purpose of this memorandum is to summarize the historical consumptive use analysis conducted on Aggregate Industries' 22 Fulton Ditch shares which were acquired from CAMAS Colorado, Inc. (CAMAS) on April 12, 2002. The consumptive use evaluation was conducted for the CAMAS Parcel with a monthly timestep using the IDSCU tool, and a summary of the results are contained in the attached Table 1. To the extent applicable, assumptions from prior decreed changes of the Fulton Ditch were adopted in the analysis. Per Table 1, the estimated average annual consumptive use for the 22 shares is 33.50 acre-feet, or roughly 1.52 acre-feet per share.

Share History

The history of the shares is summarized in the attached Lineage of Stock Certificates flowchart. The 22 shares currently owned by Aggregate Industries as part of Certificate No. 3653 were previously held by CAMAS under Certificate No. 3535. These 22 shares stem from a prior block of 45 Fulton Irrigating Ditch Company shares purchased by Adams Aggregate in 1971, which were historically used to irrigate alfalfa and pasture grass on a parcel in Sections 14, 23, and 24, Township 1 South, Range 67 West. This parcel, referred to herein as the "CAMAS Parcel", is shown in Figure 1.

Study Period

At this time little is known about the use of the shares after Adams Aggregate's acquisition in 1971. Because the Fulton Ditch is a mutual ditch company, it is likely that these shares were used somewhere within the ditch system, perhaps even continuing to be used on the CAMAS parcel. However, given the lack of certainty, a study period of 1919 to 1971 was selected. This 53-year study period was selected based on the availability of climate data, diversion records, and reliable information on share use location; it encompasses wet, dry, and average years and therefore provides a representative estimate of the historical consumptive use of the shares.

Diversions and Ditch Loss

For the period prior to 1950, daily Fulton Ditch diversions from District 2 Water Commissioner field books were digitized and summarized on a monthly basis. For the period from 1950 onwards, Fulton Ditch diversions coded as "natural streamflow" to "irrigation" uses were obtained from CDSS. Total River Diversions are shown in the attached Table 2. There are 7,185 shares of stock in the Fulton Irrigating Ditch Company; diversions to the CAMAS Parcel were pro-rated according to the 22 shares currently held by Aggregate Industries, and are shown in the attached Table 3.

Most decreed change cases involving the Fulton Ditch have adopted a ditch loss estimate of 20%, which was applied in this analysis. The combined ditch loss for both parcels is shown in the attached Table 4. Farm headgate delivery to the parcels was defined as river diversions less ditch loss, and is shown in the attached Table 5.

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Denver, CO 80234
303-452-6611
www.applegategroup.com

Irrigation Efficiency
Maximum irrigation efficiency is based on a variety of factors including application method, farm management, and soil types. For the parcels in question, aerial photographs indicate that flood irrigation was the primary means of irrigation application. Although a 65% maximum potential application efficiency is possible to achieve for the irrigation methods employed on the parcel, for the purposes of this estimate we assumed a lower maximum application efficiency of 50%. The water available for the parcel is shown in the attached Table 6.

Irrigated Acreage
Colorado Department of Water Resources (DWR) historical crop irrigation maps for the years 1956 and 1976 were reviewed to determine irrigated acreage and crop type. Additionally, aerial photographs of the area for the years 1953, 1963, 1964, and 1971 were acquired from the USGS Earth Explorer website and historicaerials.com and analyzed to determine irrigated area on the parcels not accounted for in DWR's historical irrigation maps. It was determined that the acreage remained constant between 1953 and 1971, and it was assumed that the total irrigated acreage remained constant throughout the study period.

As noted in the share history section, only 22 of the original 45 Adams Aggregate shares are held by Aggregate Industries, and accordingly, inputs into the consumptive use analysis reflect the proportional acreage associated with the Aggregate Industries shares being 48.9% of the total. This ratio was denoted the "irrigated area claimed", or IAC. The IAC was applied to the measured irrigated acreage on the parcel to pro-rate the acreage for the purpose of determining how much of the acreage was irrigated solely by Aggregate Industries' water rights and therefore how much acreage should be modeled in the analysis.

Years	Measured Irrigated Area [ac]	Irrigated Area Claimed [%]	Modeled Irrigated Area [ac]
1919 - 1971	81.9	48.9%	40.0

A review of soil survey information revealed that the parcel is underlain by loam soils. Therefore, a loam soil with an average water holding capacity of 1.5 inches per foot was assumed.

Crop Irrigation Requirement
DWR's historical crop irrigation maps for the years 1956 and 1976 specified alfalfa and pasture grass were grown on the parcel. For the additional irrigated acreage identified in historic aerial analysis but not delineated by the DWR, pasture grass was assumed to be grown to obtain a more conservative estimate of consumptive use.

Weather data was acquired from the FORT LUPTON 2 SE and BRIGHTON 1 NE weather stations and combined as neither station provided climate data for the entire period of record. The modified Blaney-Criddle method was used to estimate the crop irrigation requirement using calibrated coefficients developed by Deere & Ault Consultants, Inc. and accepted by the Water Court in the change of Fulton Ditch shares in Case No. 03CW084, as well as other decreed change cases. The crop irrigation requirement has already deducted for precipitation that meets some of the crop demand. The crop irrigation requirement for the parcel is shown in the attached Table 7.

Consumptive Use
The consumptive use associated with crop irrigation was limited to the lesser of the water available or the crop irrigation requirement. Additional consumptive use resulted from the delivery of excess available water to the soil moisture reservoir when space was available. The monthly consumptive use determined in this analysis is shown in Table 8.

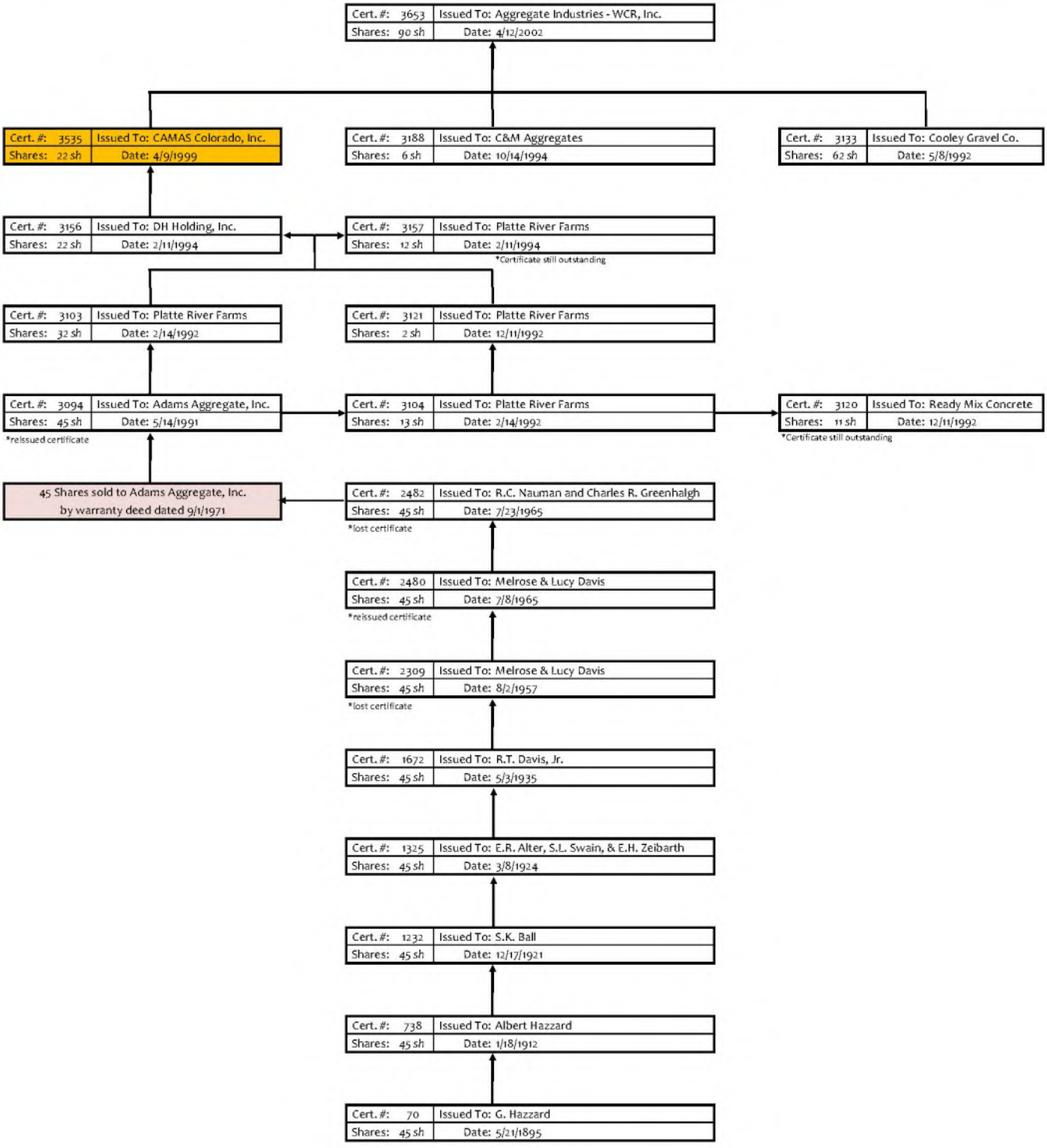
Aggregate Industries
Stock Certificate #3535
Fulton Irrigating Ditch Company

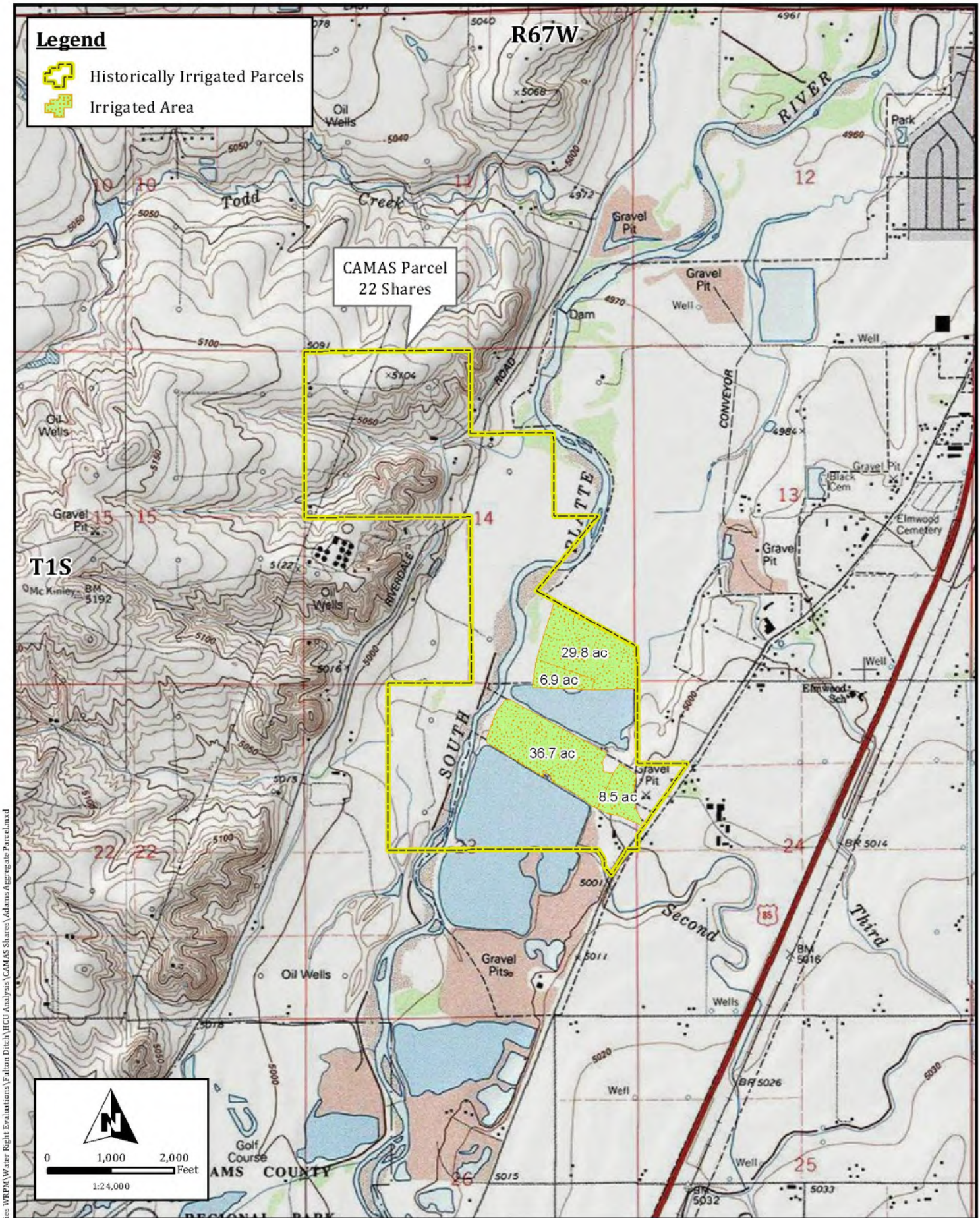
Applegate Group, Inc.

AG Job #: 06-103
Date: 6/29/2016

Lineage of Stock Certificates

22 Shares in The Fulton Irrigating Ditch Company





Applegate Group, Inc.
Water Resource Advisors for the West
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Phone: (303) 452-6611
Fax: (303) 452-2759
e-mail: info@applegategroup.com

CAMAS
FULTON DITCH SHARES

Historically Irrigated Parcel Location

Date: 29 Dec 2022
Job #: 06-103
Drawn By: JMD

Figure: 1
Of: 1

Date Saved: 12/29/2022 2:56:29 PM
Path: N:\06103 Aggregate Industries WRPM\Water Right Evaluations\Fulton Ditch\HCU Analysis\CAMAS Shares\Adams Aggregate Parcel.mxd

Table 1
CAMAS Fulton Ditch Shares Consumptive Use Analysis No. of shares = 22
Analysis Summary

All values in ac-ft unless noted otherwise

Month	Total River Diversions (A)	Pro-Rata River Diversion (B)	Ditch Loss (C)	Farm Headgate Delivery (D)	Water Available (E)	Crop Irrigation Requirement (F)	Consumptive Use (G)
January	0	0.00	0.00	0.00	0.00	0.00	0.00
February	0	0.00	0.00	0.00	0.00	0.00	0.00
March	113	0.35	0.07	0.28	0.14	0.11	0.14
April	776	2.38	0.48	1.90	0.95	3.11	0.95
May	3,837	11.75	2.35	9.40	4.70	7.07	4.66
June	5,506	16.86	3.37	13.49	6.74	13.95	6.74
July	6,002	18.38	3.68	14.70	7.35	18.94	7.35
August	5,333	16.33	3.27	13.06	6.53	15.99	6.53
September	3,747	11.47	2.29	9.18	4.59	8.98	4.59
October	1,823	5.58	1.12	4.47	2.23	3.84	2.23
November	242	0.74	0.15	0.59	0.30	0.17	0.30
December	3	0.01	0.00	0.01	0.00	0.00	0.00
Total	27,382	83.84	16.77	67.07	33.54	72.16	33.50

Notes:
(A) Total river diversions; see Table 2 Consumptive Use = 1.52 ac-ft / share
(B) River diversions pro-rated by number of shares; see Table 3
(C) Ditch loss assumed to be 20%; see Table 4
(D) = (B) - (C); see Table 5
(E) Maximum irrigation efficiency assumed to be 50%; see Table 6
(F) Crop irrigation requirement per IDSCU; see Table 7
(G) Consumptive use includes crop consumption and delivery to soil moisture reservoir; see Table 8

Table 2
CAMAS Fulton Ditch Shares Consumptive Use Analysis
Total Fulton Ditch River Diversions

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1919	0	0	0	1,071	7,747	7,688	7,267	6,787	5,558	0	0	0	36,118
1920	0	0	0	0	4,225	9,933	7,367	9,576	4,998	4,245	0	0	40,344
1921	0	0	0	228	6,617	7,811	15,130	12,355	8,852	1,980	0	0	52,973
1922	0	0	0	1,230	5,546	5,494	5,431	4,592	4,721	317	0	0	27,331
1923	0	0	0	367	4,374	3,094	6,758	4,939	4,951	0	0	0	24,483
1924	0	0	0	536	3,207	6,301	7,507	4,919	4,165	912	0	0	27,547
1925	0	0	0	893	3,499	4,860	4,072	5,689	4,538	1,309	0	0	24,860
1926	0	0	0	557	3,931	5,673	5,036	6,248	4,927	2,656	0	0	29,028
1927	0	0	0	171	4,130	5,308	5,115	2,945	4,308	2,263	0	0	24,240
1928	0	0	0	1,319	4,114	5,371	6,714	4,415	4,201	1,932	0	0	28,066
1929	0	0	0	0	3,043	5,117	5,740	7,591	4,435	1,646	0	0	27,572
1930	0	0	0	1,200	5,877	7,357	6,081	6,135	5,254	595	0	0	32,499
1931	0	0	0	813	4,217	6,510	5,486	4,689	1,880	3,927	1,644	0	29,166
1932	0	0	0	2,267	5,716	5,905	5,399	4,850	1,617	3,402	466	0	29,622
1933	0	0	2,214	1,204	1,906	9,410	6,803	4,683	2,694	2,622	365	0	31,901
1934	0	0	0	1,734	5,544	4,439	944	2,632	609	2,005	3,154	0	21,061
1935	0	0	2,983	1,043	1,757	4,314	5,974	6,046	3,263	1,710	0	0	27,090
1936	0	0	789	2,588	5,460	6,196	5,851	7,751	4,284	430	0	0	33,349
1937	0	0	0	696	5,010	5,264	5,946	3,451	2,337	4,625	1,851	0	29,180
1938	0	0	0	785	1,991	7,091	7,509	5,847	1,995	2,864	147	0	28,229
1939	0	0	0	206	8,329	5,958	3,673	1,833	367	2,580	3,878	175	26,999
1940	0	0	0	2,438	4,965	5,006	3,727	726	3,189	766	0	0	20,817
1941	0	0	0	407	6,450	8,102	6,222	5,492	4,699	561	0	0	31,933
1942	0	0	0	0	0	5,161	7,983	6,492	4,760	1,702	0	0	26,098
1943	0	0	0	1,148	3,185	7,908	5,657	4,919	4,340	4,001	0	0	31,158
1944	0	0	0	0	3,324	8,456	8,178	4,919	2,876	4,284	0	0	32,037
1945	0	0	0	0	2,604	4,003	7,323	5,550	5,460	490	0	0	25,430
1946	0	0	0	2,523	3,408	5,030	5,123	4,873	4,790	793	0	0	26,540
1947	0	0	0	242	2,416	2,995	8,862	9,160	5,421	1,835	0	0	30,931
1948	0	0	0	776	4,772	5,101	6,885	4,921	4,760	1,684	0	0	28,899
1949	0	0	0	474	1,993	3,205	9,098	5,702	4,992	875	0	0	26,339
1950	0	0	0	1,412	2,555	5,302	4,919	3,455	3,467	2,858	0	0	23,969
1951	0	0	0	0	5,062	7,028	7,293	4,542	4,314	847	0	0	29,086
1952	0	0	0	135	3,225	9,315	6,240	5,038	5,058	3,640	0	0	32,650
1953	0	0	0	0	4,140	7,884	6,286	5,599	3,610	3,402	0	0	30,921
1954	0	0	0	67	4,864	3,660	3,429	2,497	661	3,017	0	0	18,195
1955	0	0	0	107	3,743	4,852	2,297	4,576	3,769	1,541	0	0	20,884
1956	0	0	0	1,283	6,155	7,258	3,961	3,929	232	1,529	0	0	24,347
1957	0	0	0	0	480	4,058	7,333	5,978	4,286	1,688	0	0	23,824
1958	0	0	0	56	1,180	6,034	5,024	4,267	3,485	2,408	0	0	22,453
1959	0	0	0	0	2,331	7,188	5,262	4,989	3,372	10	0	0	23,151
1960	0	0	0	1,277	2,035	5,445	6,546	4,580	4,120	1,605	0	0	25,607
1961	0	0	0	325	1,989	3,673	4,909	7,232	1,922	0	0	0	20,051
1962	0	0	0	1,018	5,707	5,332	6,732	4,891	4,659	3,277	0	0	31,615
1963	0	0	0	1,242	2,374	4,102	2,634	4,409	3,898	3,554	0	0	22,213
1964	0	0	0	855	4,578	2,795	4,919	5,534	3,652	3,808	1,345	0	27,485
1965	0	0	0	1,234	3,794	264	5,187	4,741	3,205	173	0	0	18,597
1966	0	0	0	1,710	4,701	4,612	4,457	4,879	3,830	1,285	0	0	25,474
1967	0	0	0	1,117	1,783	280	2,416	4,919	3,735	1,265	0	0	15,515
1968	0	0	0	444	4,027	5,669	4,931	6,010	3,896	1,373	0	0	26,349
1969	0	0	0	1,666	2,636	2,406	8,577	6,930	3,435	331	0	0	25,982
1970	0	0	0	0	5,344	3,431	7,220	7,367	2,271	0	0	0	25,633
1971	0	0	0	272	1,287	7,154	8,674	5,560	2,469	0	0	0	25,417
Average	0	0	113	776	3,837	5,506	6,002	5,333	3,747	1,823	242	3	27,382

Table 3
CAMAS Fulton Ditch Shares Consumptive Use Analysis 22 shares
Pro-Rata Fulton Ditch River Diversions 7185 total shares

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1919	0	0	0	3.28	23.72	23.54	22.25	20.78	17.02	0	0	0	110.59
1920	0	0	0	0	12.94	30.41	22.56	29.32	15.3	13	0	0	123.53
1921	0	0	0	0.7	20.26	23.92	46.33	37.83	27.1	6.06	0	0	162.2
1922	0	0	0	3.77	16.98	16.82	16.63	14.06	14.46	0.97	0	0	83.69
1923	0	0	0	1.12	13.39	9.47	20.69	15.12	15.16	0	0	0	74.95
1924	0	0	0	1.64	9.82	19.29	22.99	15.06	12.75	2.79	0	0	84.34
1925	0	0	0	2.73	10.71	14.88	12.47	17.42	13.9	4.01	0	0	76.12
1926	0	0	0	1.71	12.04	17.37	15.42	19.13	15.09	8.13	0	0	88.89
1927	0	0	0	0.52	12.65	16.25	15.66	9.02	13.19	6.93	0	0	74.22
1928	0	0	0	4.04	12.6	16.45	20.56	13.52	12.86	5.92	0	0	85.95
1929	0	0	0	0	9.32	15.67	17.58	23.24	13.58	5.04	0	0	84.43
1930	0	0	0	3.67	18	22.53	18.62	18.78	16.09	1.82	0	0	99.51
1931	0	0	0	2.49	12.91	19.93	16.8	14.36	5.76	12.02	5.03	0	89.3
1932	0	0	0	6.94	17.5	18.08	16.53	14.85	4.95	10.42	1.43	0	90.7
1933	0	0	6.78	3.69	5.84	28.81	20.83	14.34	8.25	8.03	1.12	0	97.69
1934	0	0	0	5.31	16.98	13.59	2.89	8.06	1.86	6.14	9.66	0	64.49
1935	0	0	9.13	3.19	5.38	13.21	18.29	18.51	9.99	5.24	0	0	82.94
1936	0	0	2.42	7.92	16.72	18.97	17.92	23.73	13.12	1.32	0	0	102.12
1937	0	0	0	2.13	15.34	16.12	18.21	10.57	7.16	14.16	5.67	0	89.36
1938	0	0	0	2.4	6.1	21.71	22.99	17.9	6.11	8.77	0.45	0	86.43
1939	0	0	0	0.63	25.5	18.24	11.25	5.61	1.12	7.9	11.87	0.54	82.66
1940	0	0	0	7.47	15.2	15.33	11.41	2.22	9.76	2.35	0	0	63.74
1941	0	0	0	1.25	19.75	24.81	19.05	16.82	14.39	1.72	0	0	97.79
1942	0	0	0	0	0	15.8	24.44	19.88	14.57	5.21	0	0	79.9
1943	0	0	0	3.52	9.75	24.21	17.32	15.06	13.29	12.25	0	0	95.4
1944	0	0	0	0	10.18	25.89	25.04	15.06	8.81	13.12	0	0	98.1
1945	0	0	0	0	7.97	12.26	22.42	16.99	16.72	1.5	0	0	77.86
1946	0	0	0	7.73	10.44	15.4	15.69	14.92	14.67	2.43	0	0	81.28
1947	0	0	0	0.74	7.4	9.17	27.13	28.05	16.6	5.62	0	0	94.71
1948	0	0	0	2.38	14.61	15.62	21.08	15.07	14.57	5.16	0	0	88.49
1949	0	0	0	1.45	6.1	9.81	27.86	17.46	15.29	2.68	0	0	80.65
1950	0	0	0	4.32	7.82	16.23	15.06	10.58	10.62	8.75	0	0	73.38
1951	0	0	0	0	15.5	21.52	22.33	13.91	13.21	2.59	0	0	89.06
1952	0	0	0	0.41	9.88	28.52	19.11	15.43	15.49	11.14	0	0	99.98
1953	0	0	0	0	12.68	24.14	19.25	17.15	11.05	10.42	0	0	94.69
1954	0	0	0	0.21	14.89	11.21	10.5	7.65	2.02	9.24	0	0	55.72
1955	0	0	0	0.33	11.46	14.86	7.03	14.01	11.54	4.72	0	0	63.95
1956	0	0	0	3.93	18.85	22.22	12.13	12.03	0.71	4.68	0	0	74.55
1957	0	0	0	0	1.47	12.43	22.45	18.31	13.12	5.17	0	0	72.95
1958	0	0	0	0.17	3.61	18.48	15.38	13.06	10.67	7.37	0	0	68.74
1959	0	0	0	0	7.14	22.01	16.11	15.27	10.32	0.03	0	0	70.88
1960	0	0	0	3.91	6.23	16.67	20.04	14.02	12.61	4.91	0	0	78.39
1961	0	0	0	1	6.09	11.25	15.03	22.14	5.89	0	0	0	61.4
1962	0	0	0	3.12	17.47	16.33	20.61	14.98	14.27	10.03	0	0	96.81
1963	0	0	0	3.8	7.27	12.56	8.07	13.5	11.93	10.88	0	0	68.01
1964	0	0	0	2.62	14.02	8.56	15.06	16.94	11.18	11.66	4.12	0	84.16
1965	0	0	0	3.78	11.62	0.81	15.88	14.52	9.81	0.53	0	0	56.95
1966	0	0	0	5.24	14.39	14.12	13.65	14.94	11.73	3.94	0	0	78.01
1967	0	0	0	3.42	5.46	0.86	7.4	15.06	11.44	3.87	0	0	47.51
1968	0	0	0	1.36	12.33	17.36	15.1	18.4	11.93	4.2	0	0	80.68
1969	0	0	0	5.1	8.07	7.37	26.26	21.22	10.52	1.01	0	0	79.55
1970	0	0	0	0	16.36	10.51	22.11	22.56	6.95	0	0	0	78.49
1971	0	0	0	0.83	3.94	21.91	26.56	17.02	7.56	0	0	0	77.82
Average	0.00	0.00	0.35	2.38	11.75	16.86	18.38	16.33	11.47	5.58	0.74	0.01	83.84

Table 4
CAMAS Fulton Ditch Shares Consumptive Use Analysis 20%
Ditch Loss

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1919	0	0	0	0.66	4.74	4.71	4.45	4.16	3.4	0	0	0	22.12
1920	0	0	0	0	2.59	6.08	4.51	5.86	3.06	2.6	0	0	24.7
1921	0	0	0	0.14	4.05	4.78	9.27	7.57	5.42	1.21	0	0	32.44
1922	0	0	0	0.75	3.4	3.36	3.33	2.81	2.89	0.19	0	0	16.73
1923	0	0	0	0.22	2.68	1.89	4.14	3.02	3.03	0	0	0	14.98
1924	0	0	0	0.33	1.96	3.86	4.6	3.01	2.55	0.56	0	0	16.87
1925	0	0	0	0.55	2.14	2.98	2.49	3.48	2.78	0.8	0	0	15.22
1926	0	0	0	0.34	2.41	3.47	3.08	3.83	3.02	1.63	0	0	17.78
1927	0	0	0	0.1	2.53	3.25	3.13	1.8	2.64	1.39	0	0	14.84
1928	0	0	0	0.81	2.52	3.29	4.11	2.7	2.57	1.18	0	0	17.18
1929	0	0	0	0	1.86	3.13	3.52	4.65	2.72	1.01	0	0	16.89
1930	0	0	0	0.73	3.6	4.51	3.72	3.76	3.22	0.36	0	0	19.9
1931	0	0	0	0.5	2.58	3.99	3.36	2.87	1.15	2.4	1.01	0	17.86
1932	0	0	0	1.39	3.5	3.62	3.31	2.97	0.99	2.08	0.29	0	18.15
1933	0	0	1.36	0.74	1.17	5.76	4.17	2.87	1.65	1.61	0.22	0	19.55
1934	0	0	0	1.06	3.4	2.72	0.58	1.61	0.37	1.23	1.93	0	12.9
1935	0	0	1.83	0.64	1.08	2.64	3.66	3.7	2	1.05	0	0	16.6
1936	0	0	0.48	1.58	3.34	3.79	3.58	4.75	2.62	0.26	0	0	20.4
1937	0	0	0	0.43	3.07	3.22	3.64	2.11	1.43	2.83	1.13	0	17.86
1938	0	0	0	0.48	1.22	4.34	4.6	3.58	1.22	1.75	0.09	0	17.28
1939	0	0	0	0.13	5.1	3.65	2.25	1.12	0.22	1.58	2.37	0.11	16.53
1940	0	0	0	1.49	3.04	3.07	2.28	0.44	1.95	0.47	0	0	12.74
1941	0	0	0	0.25	3.95	4.96	3.81	3.36	2.88	0.34	0	0	19.55
1942	0	0	0	0	0	3.16	4.89	3.98	2.91	1.04	0	0	15.98
1943	0	0	0	0.7	1.95	4.84	3.46	3.01	2.66	2.45	0	0	19.07
1944	0	0	0	0	2.04	5.18	5.01	3.01	1.76	2.62	0	0	19.62
1945	0	0	0	0	1.59	2.45	4.48	3.4	3.34	0.3	0	0	15.56
1946	0	0	0	1.55	2.09	3.08	3.14	2.98	2.93	0.49	0	0	16.26
1947	0	0	0	0.15	1.48	1.83	5.43	5.61	3.32	1.12	0	0	18.94
1948	0	0	0	0.48	2.92	3.12	4.22	3.01	2.91	1.03	0	0	17.69
1949	0	0	0	0.29	1.22	1.96	5.57	3.49	3.06	0.54	0	0	16.13
1950	0	0	0	0.86	1.56	3.25	3.01	2.12	2.12	1.75	0	0	14.67
1951	0	0	0	0	3.1	4.3	4.47	2.78	2.64	0.52	0	0	17.81
1952	0	0	0	0.08	1.98	5.7	3.82	3.09	3.1	2.23	0	0	20
1953	0	0	0	0	2.54	4.83	3.85	3.43	2.21	2.08	0	0	18.94
1954	0	0	0	0.04	2.98	2.24	2.1	1.53	0.4	1.85	0	0	11.14
1955	0	0	0	0.07	2.29	2.97	1.41	2.8	2.31	0.94	0	0	12.79
1956	0	0	0	0.79	3.77	4.44	2.43	2.41	0.14	0.94	0	0	14.92
1957	0	0	0	0	0.29	2.49	4.49	3.66	2.62	1.03	0	0	14.58
1958	0	0	0	0.03	0.72	3.69	3.08	2.61	2.13	1.47	0	0	13.73
1959	0	0	0	0	1.43	4.4	3.22	3.05	2.06	0.01	0	0	14.17
1960	0	0	0	0.78	1.25	3.33	4.01	2.8	2.52	0.98	0	0	15.67
1961	0	0	0	0.2	1.22	2.25	3.01	4.43	1.18	0	0	0	12.29
1962	0	0	0	0.62	3.49	3.27	4.12	3	2.85	2.01	0	0	19.36
1963	0	0	0	0.76	1.45	2.51	1.61	2.7	2.39	2.18	0	0	13.6
1964	0	0	0	0.52	2.8	1.71	3.01	3.39	2.24	2.33	0.82	0	16.82
1965	0	0	0	0.76	2.32	0.16	3.18	2.9	1.96	0.11	0	0	11.39
1966	0	0	0	1.05	2.88	2.82	2.73	2.99	2.35	0.79	0	0	15.61
1967	0	0	0	0.68	1.09	0.17	1.48	3.01	2.29	0.77	0	0	9.49
1968	0	0	0	0.27	2.47	3.47	3.02	3.68	2.39	0.84	0	0	16.14
1969	0	0	0	1.02	1.61	1.47	5.25	4.24	2.1	0.2	0	0	15.89
1970	0	0	0	0	3.27	2.1	4.42	4.51	1.39	0	0	0	15.69
1971	0	0	0	0.17	0.79	4.38	5.31	3.4	1.51	0	0	0	15.56
Average	0.00	0.00	0.07	0.48	2.35	3.37	3.68	3.27	2.29	1.12	0.15	0.00	16.77

Table 5
CAMAS Fulton Ditch Shares Consumptive Use Analysis
Farm Headgate Delivery

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1919	0	0	0	2.62	18.98	18.83	17.8	16.63	13.61	0	0	0	88.47
1920	0	0	0	0	10.35	24.33	18.05	23.46	12.24	10.4	0	0	98.83
1921	0	0	0	0.56	16.21	19.13	37.06	30.26	21.68	4.85	0	0	129.75
1922	0	0	0	3.01	13.59	13.46	13.3	11.25	11.56	0.78	0	0	66.95
1923	0	0	0	0.9	10.71	7.58	16.55	12.1	12.13	0	0	0	59.97
1924	0	0	0	1.31	7.86	15.43	18.39	12.05	10.2	2.23	0	0	67.47
1925	0	0	0	2.19	8.57	11.9	9.97	13.94	11.12	3.21	0	0	60.9
1926	0	0	0	1.36	9.63	13.9	12.34	15.3	12.07	6.51	0	0	71.11
1927	0	0	0	0.42	10.12	13	12.53	7.21	10.55	5.54	0	0	59.37
1928	0	0	0	3.23	10.08	13.16	16.45	10.81	10.29	4.73	0	0	68.75
1929	0	0	0	0	7.45	12.53	14.06	18.59	10.86	4.03	0	0	67.52
1930	0	0	0	2.94	14.4	18.02	14.9	15.03	12.87	1.46	0	0	79.62
1931	0	0	0	1.99	10.33	15.95	13.44	11.49	4.61	9.62	4.03	0	71.46
1932	0	0	0	5.55	14	14.46	13.23	11.88	3.96	8.33	1.14	0	72.55
1933	0	0	5.42	2.95	4.67	23.05	16.66	11.47	6.6	6.42	0.89	0	78.13
1934	0	0	0	4.25	13.58	10.87	2.31	6.45	1.49	4.91	7.73	0	51.59
1935	0	0	7.31	2.55	4.3	10.57	14.63	14.81	7.99	4.19	0	0	66.35
1936	0	0	1.93	6.34	13.37	15.18	14.33	18.99	10.49	1.05	0	0	81.68
1937	0	0	0	1.7	12.27	12.89	14.56	8.45	5.72	11.33	4.53	0	71.45
1938	0	0	0	1.92	4.88	17.37	18.39	14.32	4.89	7.02	0.36	0	69.15
1939	0	0	0	0.5	20.4	14.59	9	4.49	0.9	6.32	9.5	0.43	66.13
1940	0	0	0	5.97	12.16	12.26	9.13	1.78	7.81	1.88	0	0	50.99
1941	0	0	0	1	15.8	19.85	15.24	13.45	11.51	1.37	0	0	78.22
1942	0	0	0	0	0	12.64	19.55	15.9	11.66	4.17	0	0	63.92
1943	0	0	0	2.81	7.8	19.37	13.86	12.05	10.63	9.8	0	0	76.32
1944	0	0	0	0	8.14	20.71	20.03	12.05	7.04	10.49	0	0	78.46
1945	0	0	0	0	6.38	9.81	17.94	13.6	13.37	1.2	0	0	62.3
1946	0	0	0	6.18	8.35	12.32	12.55	11.94	11.73	1.94	0	0	65.01
1947	0	0	0	0.59	5.92	7.34	21.71	22.44	13.28	4.49	0	0	75.77
1948	0	0	0	1.9	11.69	12.5	16.87	12.05	11.66	4.13	0	0	70.8
1949	0	0	0	1.16	4.88	7.85	22.29	13.97	12.23	2.14	0	0	64.52
1950	0	0	0	3.46	6.26	12.99	12.05	8.46	8.49	7	0	0	58.71
1951	0	0	0	0	12.4	17.21	17.87	11.13	10.57	2.07	0	0	71.25
1952	0	0	0	0.33	7.9	22.82	15.29	12.34	12.39	8.92	0	0	79.99
1953	0	0	0	0	10.14	19.31	15.4	13.72	8.84	8.33	0	0	75.74
1954	0	0	0	0.17	11.91	8.96	8.4	6.12	1.62	7.39	0	0	44.57
1955	0	0	0	0.26	9.17	11.88	5.63	11.21	9.23	3.78	0	0	51.16
1956	0	0	0	3.14	15.08	17.78	9.7	9.63	0.57	3.75	0	0	59.65
1957	0	0	0	0	1.18	9.94	17.96	14.64	10.5	4.13	0	0	58.35
1958	0	0	0	0.14	2.89	14.78	12.31	10.45	8.54	5.9	0	0	55.01
1959	0	0	0	0	5.71	17.61	12.89	12.22	8.26	0.02	0	0	56.71
1960	0	0	0	3.13	4.99	13.34	16.03	11.22	10.09	3.93	0	0	62.73
1961	0	0	0	0.8	4.87	9	12.03	17.71	4.71	0	0	0	49.12
1962	0	0	0	2.49	13.98	13.06	16.49	11.98	11.41	8.03	0	0	77.44
1963	0	0	0	3.04	5.82	10.05	6.45	10.8	9.55	8.71	0	0	54.42
1964	0	0	0	2.09	11.21	6.85	12.05	13.56	8.94	9.33	3.29	0	67.32
1965	0	0	0	3.02	9.29	0.65	12.71	11.61	7.85	0.42	0	0	45.55
1966	0	0	0	4.19	11.52	11.3	10.92	11.95	9.38	3.15	0	0	62.41
1967	0	0	0	2.74	4.37	0.69	5.92	12.05	9.15	3.1	0	0	38.02
1968	0	0	0	1.09	9.86	13.89	12.08	14.72	9.54	3.36	0	0	64.54
1969	0	0	0	4.08	6.46	5.89	21.01	16.98	8.42	0.81	0	0	63.65
1970	0	0	0	0	13.09	8.41	17.69	18.05	5.56	0	0	0	62.8
1971	0	0	0	0.67	3.15	17.53	21.25	13.62	6.05	0	0	0	62.27
Average	0.00	0.00	0.28	1.90	9.40	13.49	14.70	13.06	9.18	4.47	0.59	0.01	67.07

Table 6
CAMAS Fulton Ditch Shares Consumptive Use Analysis
Water Available for Consumptive Use 50%

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1919	0	0	0	1.31	9.49	9.42	8.9	8.31	6.81	0	0	0	44.24
1920	0	0	0	0	5.17	12.17	9.02	11.73	6.12	5.2	0	0	49.41
1921	0	0	0	0.28	8.1	9.57	18.53	15.13	10.84	2.43	0	0	64.88
1922	0	0	0	1.51	6.79	6.73	6.65	5.62	5.78	0.39	0	0	33.47
1923	0	0	0	0.45	5.36	3.79	8.28	6.05	6.06	0	0	0	29.99
1924	0	0	0	0.66	3.93	7.72	9.19	6.02	5.1	1.12	0	0	33.74
1925	0	0	0	1.09	4.29	5.95	4.99	6.97	5.56	1.6	0	0	30.45
1926	0	0	0	0.68	4.81	6.95	6.17	7.65	6.03	3.25	0	0	35.54
1927	0	0	0	0.21	5.06	6.5	6.26	3.61	5.28	2.77	0	0	29.69
1928	0	0	0	1.62	5.04	6.58	8.22	5.41	5.15	2.37	0	0	34.39
1929	0	0	0	0	3.73	6.27	7.03	9.3	5.43	2.02	0	0	33.78
1930	0	0	0	1.47	7.2	9.01	7.45	7.51	6.43	0.73	0	0	39.8
1931	0	0	0	1	5.16	7.97	6.72	5.74	2.3	4.81	2.01	0	35.71
1932	0	0	0	2.78	7	7.23	6.61	5.94	1.98	4.17	0.57	0	36.28
1933	0	0	2.71	1.47	2.33	11.53	8.33	5.74	3.3	3.21	0.45	0	39.07
1934	0	0	0	2.12	6.79	5.44	1.16	3.22	0.75	2.46	3.86	0	25.8
1935	0	0	3.65	1.28	2.15	5.28	7.32	7.41	4	2.09	0	0	33.18
1936	0	0	0.97	3.17	6.69	7.59	7.17	9.49	5.25	0.53	0	0	40.86
1937	0	0	0	0.85	6.14	6.45	7.28	4.23	2.86	5.66	2.27	0	35.74
1938	0	0	0	0.96	2.44	8.68	9.2	7.16	2.44	3.51	0.18	0	34.57
1939	0	0	0	0.25	10.2	7.3	4.5	2.24	0.45	3.16	4.75	0.21	33.06
1940	0	0	0	2.99	6.08	6.13	4.56	0.89	3.91	0.94	0	0	25.5
1941	0	0	0	0.5	7.9	9.92	7.62	6.73	5.76	0.69	0	0	39.12
1942	0	0	0	0	0	6.32	9.78	7.95	5.83	2.08	0	0	31.96
1943	0	0	0	1.41	3.9	9.69	6.93	6.02	5.32	4.9	0	0	38.17
1944	0	0	0	0	4.07	10.36	10.02	6.02	3.52	5.25	0	0	39.24
1945	0	0	0	0	3.19	4.9	8.97	6.8	6.69	0.6	0	0	31.15
1946	0	0	0	3.09	4.17	6.16	6.27	5.97	5.87	0.97	0	0	32.5
1947	0	0	0	0.3	2.96	3.67	10.85	11.22	6.64	2.25	0	0	37.89
1948	0	0	0	0.95	5.84	6.25	8.43	6.03	5.83	2.06	0	0	35.39
1949	0	0	0	0.58	2.44	3.93	11.14	6.98	6.11	1.07	0	0	32.25
1950	0	0	0	1.73	3.13	6.49	6.02	4.23	4.25	3.5	0	0	29.35
1951	0	0	0	0	6.2	8.61	8.93	5.56	5.28	1.04	0	0	35.62
1952	0	0	0	0.17	3.95	11.41	7.64	6.17	6.19	4.46	0	0	39.99
1953	0	0	0	0	5.07	9.66	7.7	6.86	4.42	4.17	0	0	37.88
1954	0	0	0	0.08	5.96	4.48	4.2	3.06	0.81	3.69	0	0	22.28
1955	0	0	0	0.13	4.58	5.94	2.81	5.6	4.62	1.89	0	0	25.57
1956	0	0	0	1.57	7.54	8.89	4.85	4.81	0.28	1.87	0	0	29.81
1957	0	0	0	0	0.59	4.97	8.98	7.32	5.25	2.07	0	0	29.18
1958	0	0	0	0.07	1.45	7.39	6.15	5.23	4.27	2.95	0	0	27.51
1959	0	0	0	0	2.85	8.8	6.45	6.11	4.13	0.01	0	0	28.35
1960	0	0	0	1.56	2.49	6.67	8.02	5.61	5.05	1.97	0	0	31.37
1961	0	0	0	0.4	2.44	4.5	6.01	8.86	2.35	0	0	0	24.56
1962	0	0	0	1.25	6.99	6.53	8.25	5.99	5.71	4.01	0	0	38.73
1963	0	0	0	1.52	2.91	5.02	3.23	5.4	4.77	4.35	0	0	27.2
1964	0	0	0	1.05	5.61	3.42	6.02	6.78	4.47	4.66	1.65	0	33.66
1965	0	0	0	1.51	4.65	0.32	6.35	5.81	3.93	0.21	0	0	22.78
1966	0	0	0	2.09	5.76	5.65	5.46	5.98	4.69	1.57	0	0	31.2
1967	0	0	0	1.37	2.18	0.34	2.96	6.02	4.57	1.55	0	0	18.99
1968	0	0	0	0.54	4.93	6.94	6.04	7.36	4.77	1.68	0	0	32.26
1969	0	0	0	2.04	3.23	2.95	10.5	8.49	4.21	0.41	0	0	31.83
1970	0	0	0	0	6.54	4.2	8.84	9.02	2.78	0	0	0	31.38
1971	0	0	0	0.33	1.58	8.76	10.62	6.81	3.02	0	0	0	31.12
Average	0.00	0.00	0.14	0.95	4.70	6.74	7.35	6.53	4.59	2.23	0.30	0.00	33.54

Table 7
CAMAS Fulton Ditch Shares Consumptive Use Analysis
Crop Irrigation Requirement

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1919	0	0	0	3.62	9.85	17.93	19.7	18.92	9.62	2.26	0	0	81.9
1920	0	0	0	0.34	7.82	16.72	18.1	11.24	10.41	3.75	0	0	68.38
1921	0	0	0	0.66	7.47	9.41	16.84	13.87	10.01	5.9	0.48	0	64.64
1922	0	0	0	1.82	11.61	19.39	17.79	13.95	12.75	5.27	0	0	82.58
1923	0	0	0	3.23	5.18	4.85	16.56	10.19	8.68	0.16	0	0	48.85
1924	0	0	0	2.66	3.91	16.84	20.35	19.51	7.02	4.54	0.43	0	75.26
1925	0	0	1.05	7.75	10.59	13.9	16.08	14.06	10.14	0.38	0	0	73.95
1926	0	0	0	3.03	7.04	15.21	14.58	17.65	10.06	3.41	0.31	0	71.29
1927	0	0	0	3.08	11	10.39	17.41	11.74	7.62	5.11	0.35	0	66.7
1928	0	0	0	2.49	6.72	5.14	14.23	15.74	10	1.71	0	0	56.03
1929	0	0	0	2.96	6.29	17.04	20.08	17.58	6.82	2.9	0	0	73.67
1930	0	0	0.26	6.16	5.54	16.8	17.94	10.61	10.33	2.18	0	0	69.82
1931	0	0	0	2.24	6.48	16.99	22.27	16.72	13.41	3.47	0	0	81.58
1932	0	0	0	4.62	10.39	12.04	18.49	18.08	11.02	2.56	0	0	77.2
1933	0	0	0	0.2	5.3	18.28	21.88	13.71	9.76	6.7	0.73	0	76.56
1934	0	0	0.87	5.56	10.57	15.49	22.09	20.4	9.1	6.57	0.94	0	91.59
1935	0	0	0	1.02	0	16.45	18.96	17.07	6.55	4.16	0	0	64.21
1936	0	0	0	5.98	9.74	13.66	25.75	18.65	8.7	2.94	0	0	85.42
1937	0	0	0	3.55	8.57	10.43	21.68	22.12	13.38	5.64	0.02	0	85.39
1938	0	0	0.33	1.57	2.4	15.16	21.08	19.25	0.15	5.22	0	0	65.16
1939	0	0	0	2.93	10.77	15.95	24.53	18.55	11.37	5.43	0.11	0	89.64
1940	0	0	0	3.25	7.92	18.02	17.4	18.94	4.8	4.55	0	0	74.88
1941	0	0	0	0.63	6.45	13.72	17.19	9	7.79	2.24	0	0	57.02
1942	0	0	0	0.08	8.04	8.71	17.81	16.92	9.54	0	0	0	61.1
1943	0	0	0	3.85	2.62	14.18	19.31	19.23	11.06	5.68	0	0	75.93
1944	0	0	0	0.01	8.25	15.84	17.71	19.85	11.55	4.12	0	0	77.33
1945	0	0	0	0.13	7.9	9.19	19.13	6.53	7.62	4.6	0	0	55.1
1946	0	0	2.4	6.09	0.53	14.63	17.66	13.61	9.24	0.77	0	0	64.93
1947	0	0	0	2.41	4.3	9.39	16.19	15.67	8.61	3.53	0	0	60.1
1948	0	0	0	3.76	8.99	13.01	18.5	15.64	8.61	4.58	0	0	73.09
1949	0	0	0.06	3.4	0	6.82	15.34	18.91	8.61	5.07	2.08	0	60.29
1950	0	0	0	1.58	6.13	13.2	19.03	17.78	10.15	5.21	0	0	73.08
1951	0	0	0	2.04	9.74	11.55	15.85	10.97	9.44	1.43	0	0	61.02
1952	0	0	0	2.68	6.67	21.78	22.82	16.95	13.56	5.38	0	0	89.84
1953	0	0	0	1.84	6.48	20.48	19.52	16.16	13.77	6.55	0.71	0	85.51
1954	0	0	0.35	8.25	10.26	19.53	20.57	18.11	10.92	4.74	0.46	0	93.19
1955	0	0	0.23	7.51	9.07	13.21	19.89	13.07	5.01	3.95	0	0	71.94
1956	0	0	0	4.12	12.2	21.37	19.12	14.16	12.12	4.86	0	0	87.95
1957	0	0	0	2.9	7.14	15.38	21	13.76	9.1	3.62	0	0	72.9
1958	0	0	0	2.33	4.11	15.84	15.3	19.31	10.17	5.77	0.5	0	73.33
1959	0	0	0	2.98	6.44	19.26	21.73	17.49	6.4	0.78	0	0	75.08
1960	0	0	0.23	5.07	5.29	17.58	20.61	19.98	11.62	2.23	0.07	0	82.68
1961	0	0	0	4.65	3	13.67	19.28	15.21	2.8	3.7	0	0	62.31
1962	0	0	0	5.57	10.05	13.92	17.52	18.62	10.67	5.83	0.46	0	82.64
1963	0	0	0	6.47	13.25	12.49	23.57	11.77	10.49	7.6	0.64	0	86.28
1964	0	0	0	3.59	8.47	14.15	22.18	16.94	9.21	5.24	0	0	79.78
1965	0	0	0	4.77	5.93	7	11.8	17.14	4.14	5.39	0.91	0	57.08
1966	0	0	0	1.79	10.86	12.97	22.11	16.32	6.35	2.65	0	0	73.05
1967	0	0	0.24	0.01	0.17	5.47	12.76	14.21	10.07	4.08	0	0	47.01
1968	0	0	0	0.94	6.55	15.25	21.06	12.82	9.49	3.83	0	0	69.94
1969	0	0	0	3.71	4.92	8.44	20.81	16.76	9.25	0	0	0	63.89
1970	0	0	0	2.02	10.92	7.28	17.13	16.93	4.96	1.68	0	0	60.92
1971	0	0	0	0.77	4.77	18.04	17.53	18.87	2.15	3.59	0	0	65.72
Average	0.00	0.00	0.11	3.11	7.07	13.95	18.94	15.99	8.98	3.84	0.17	0.00	72.16

Table 8
CAMAS Fulton Ditch Shares Consumptive Use Analysis
Consumptive Use

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1919	0	0	0	1.31	9.49	9.42	8.9	8.31	6.81	0	0	0	44.24
1920	0	0	0	0	5.17	12.17	9.02	11.73	6.12	5.2	0	0	49.41
1921	0	0	0	0.28	8.1	9.57	18.53	15.13	10.84	2.43	0	0	64.88
1922	0	0	0	1.51	6.79	6.73	6.65	5.62	5.78	0.39	0	0	33.47
1923	0	0	0	0.45	5.36	3.79	8.28	6.05	6.06	0	0	0	29.99
1924	0	0	0	0.66	3.93	7.72	9.19	6.02	5.1	1.12	0	0	33.74
1925	0	0	0	1.09	4.29	5.95	4.99	6.97	5.56	1.6	0	0	30.45
1926	0	0	0	0.68	4.81	6.95	6.17	7.65	6.03	3.25	0	0	35.54
1927	0	0	0	0.21	5.06	6.5	6.26	3.61	5.28	2.77	0	0	29.69
1928	0	0	0	1.62	5.04	6.58	8.22	5.41	5.15	2.37	0	0	34.39
1929	0	0	0	0	3.73	6.27	7.03	9.3	5.43	2.02	0	0	33.78
1930	0	0	0	1.47	7.2	9.01	7.45	7.51	6.43	0.73	0	0	39.8
1931	0	0	0	1	5.16	7.97	6.72	5.74	2.3	4.81	2.01	0	35.71
1932	0	0	0	2.78	7	7.23	6.61	5.94	1.98	4.17	0.57	0	36.28
1933	0	0	2.71	1.47	2.33	11.53	8.33	5.74	3.3	3.21	0.45	0	39.07
1934	0	0	0	2.12	6.79	5.44	1.16	3.22	0.75	2.46	3.86	0	25.8
1935	0	0	3.65	1.28	0	5.28	7.32	7.41	4	2.09	0	0	31.03
1936	0	0	0.97	3.17	6.69	7.59	7.17	9.49	5.25	0.53	0	0	40.86
1937	0	0	0	0.85	6.14	6.45	7.28	4.23	2.86	5.66	2.27	0	35.74
1938	0	0	0	0.96	2.44	8.68	9.2	7.16	2.44	3.51	0.18	0	34.57
1939	0	0	0	0.25	10.2	7.3	4.5	2.24	0.45	3.16	4.75	0.21	33.06
1940	0	0	0	2.99	6.08	6.13	4.56	0.89	3.91	0.94	0	0	25.5
1941	0	0	0	0.5	7.9	9.92	7.62	6.73	5.76	0.69	0	0	39.12
1942	0	0	0	0	0	6.32	9.78	7.95	5.83	2.08	0	0	31.96
1943	0	0	0	1.41	3.9	9.69	6.93	6.02	5.32	4.9	0	0	38.17
1944	0	0	0	0	4.07	10.36	10.02	6.02	3.52	5.25	0	0	39.24
1945	0	0	0	0	3.19	4.9	8.97	6.8	6.69	0.6	0	0	31.15
1946	0	0	0	3.09	4.17	6.16	6.27	5.97	5.87	0.97	0	0	32.5
1947	0	0	0	0.3	2.96	3.67	10.85	11.22	6.64	2.25	0	0	37.89
1948	0	0	0	0.95	5.84	6.25	8.43	6.03	5.83	2.06	0	0	35.39
1949	0	0	0	0.58	2.44	3.93	11.14	6.98	6.11	1.07	0	0	32.25
1950	0	0	0	1.73	3.13	6.49	6.02	4.23	4.25	3.5	0	0	29.35
1951	0	0	0	0	6.2	8.61	8.93	5.56	5.28	1.04	0	0	35.62
1952	0	0	0	0.17	3.95	11.41	7.64	6.17	6.19	4.46	0	0	39.99
1953	0	0	0	0	5.07	9.66	7.7	6.86	4.42	4.17	0	0	37.88
1954	0	0	0	0.08	5.96	4.48	4.2	3.06	0.81	3.69	0	0	22.28
1955	0	0	0	0.13	4.58	5.94	2.81	5.6	4.62	1.89	0	0	25.57
1956	0	0	0	1.57	7.54	8.89	4.85	4.81	0.28	1.87	0	0	29.81
1957	0	0	0	0	0.59	4.97	8.98	7.32	5.25	2.07	0	0	29.18
1958	0	0	0	0.07	1.45	7.39	6.15	5.23	4.27	2.95	0	0	27.51
1959	0	0	0	0	2.85	8.8	6.45	6.11	4.13	0.01	0	0	28.35
1960	0	0	0	1.56	2.49	6.67	8.02	5.61	5.05	1.97	0	0	31.37
1961	0	0	0	0.4	2.44	4.5	6.01	8.86	2.35	0	0	0	24.56
1962	0	0	0	1.25	6.99	6.53	8.25	5.99	5.71	4.01	0	0	38.73
1963	0	0	0	1.52	2.91	5.02	3.23	5.4	4.77	4.35	0	0	27.2
1964	0	0	0	1.05	5.61	3.42	6.02	6.78	4.47	4.66	1.65	0	33.66
1965	0	0	0	1.51	4.65	0.32	6.35	5.81	3.93	0.21	0	0	22.78
1966	0	0	0	2.09	5.76	5.65	5.46	5.98	4.69	1.57	0	0	31.2
1967	0	0	0	1.37	2.18	0.34	2.96	6.02	4.57	1.55	0	0	18.99
1968	0	0	0	0.54	4.93	6.94	6.04	7.36	4.77	1.68	0	0	32.26
1969	0	0	0	2.04	3.23	2.95	10.5	8.49	4.21	0.41	0	0	31.83
1970	0	0	0	0	6.54	4.2	8.84	9.02	2.78	0	0	0	31.38
1971	0	0	0	0.33	1.58	8.76	10.62	6.81	3.02	0	0	0	31.12
Average	0.00	0.00	0.14	0.95	4.66	6.74	7.35	6.53	4.59	2.23	0.30	0.00	33.50

STATE OF COLORADO

DWR - DNR, Permitsonline <dnr_dwrpermitsonline@state.co.us>

Aggregate Industries CoSSP Renewal Request

DWR - DNR, Permitsonline <dnr_dwrpermitsonline@state.co.us> Tue, Jan 3, 2023 at 10:32 AM
To: James Curry - DNR <james.curry@state.co.us>

this has been paid for.

Check status of permit applications / updates to well permits at: https://dwr.state.co.us/tools/WellPermits

DWR forms are available via the eForms Dashboard.

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DWR - DNR, Permitsonline <dnr_dwrpermitsonline@state.co.us>

Aggregate Industries CoSSP Renewal Request

DWR - DNR, Permitsonline <dnr_dwrpermitsonline@state.co.us> Fri, Dec 30, 2022 at 3:19 PM
To: James Curry - DNR <james.curry@state.co.us>

For laserfiche receipt number 10026258-10026269

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---------- Forwarded message ---------
From: **Jared Dains** <jareddains@applegategroup.com>
Date: Fri, Dec 30, 2022 at 1:06 PM
Subject: RE: Aggregate Industries CoSSP Renewal Request
To: dwrpermitsonline@state.co.us <dwrpermitsonline@state.co.us>
Cc: neil.whitmer@lafargeholcim.com <neil.whitmer@lafargeholcim.com>

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DWR - DNR, Permitsonline <dnr_dwrpermitsonline@state.co.us>

Aggregate Industries CoSSP Renewal Request

DWR - DNR, Permitsonline <dnr_dwrpermitsonline@state.co.us> Fri, Dec 30, 2022 at 3:15 PM
To: Jared Dains <jareddains@applegategroup.com>
Cc: "neil.whitmer@lafargeholcim.com" <neil.whitmer@lafargeholcim.com>

Thank you for your form submission. Your form requires payment of a fee. You will be receiving a second email with an attached invoice containing a link to submit payment online. If you do not receive the emailed invoice within 1 hour please check your spam folder before contacting the records section at 303.866.3581 (x0). Please be aware that forms will not be processed until after any required payment has been received. Invoices may be voided after 7 business days if payment is not received and applications will need to be resubmitted.

Check status of permit applications / updates to well permits at: https://dwr.state.co.us/tools/WellPermits

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DWR - DNR, Permitsonline <dnr_dwrpermitsonline@state.co.us>

Aggregate Industries CoSSP Renewal Request

DWR - DNR, Permitsonline <dnr_dwrpermitsonline@state.co.us> Fri, Dec 30, 2022 at 3:14 PM
To: "Brucker - DNR, Sarah" <sarah.brucker@state.co.us>

Thank you for the clarification.

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DWR - DNR, Permitsonline <dnr_dwrpermitsonline@state.co.us>

Aggregate Industries CoSSP Renewal Request

Brucker - DNR, Sarah <sarah.brucker@state.co.us> Fri, Dec 30, 2022 at 2:34 PM
To: "DWR - DNR, Permitsonline" <dnr_dwrpermitsonline@state.co.us>

This is a combined plan with a total of 12 sites, therefore the required filing fee is $3,084 (12 sites x $257/site).

Sarah Brucker
Water Resources Engineer

COLORADO
Division of Water Resources
Department of Natural Resources

P 303.866.3581 x 8249
1313 Sherman St., Suite 821 Denver CO 80203
sarah.brucker@state.co.us | https://dwr.colorado.gov

[Quoted text hidden]

STATE OF COLORADO

DWR - DNR, Permitsonline <dnr_dwrpermitsonline@state.co.us>

Aggregate Industries CoSSP Renewal Request

DWR - DNR, Permitsonline <dnr_dwrpermitsonline@state.co.us> Fri, Dec 30, 2022 at 2:04 PM
To: Sarah Brucker - DNR <sarah.brucker@state.co.us>

Sarah,
could you confirm this would be $257.00?

Check status of permit applications / updates to well permits at: https://dwr.state.co.us/tools/WellPermits

DWR forms are available via the eForms Dashboard.

...
DWR Permits Online

COLORADO
Division of Water Resources
Department of Natural Resources

P 303.866.3581x0
DWRPermitsOnline@state.co.us | dwr.colorado.gov

---------- Forwarded message ---------
From: **Jared Dains** <jareddains@applegategroup.com>
Date: Fri, Dec 30, 2022 at 1:06 PM
Subject: RE: Aggregate Industries CoSSP Renewal Request
To: dwrpermitsonline@state.co.us <dwrpermitsonline@state.co.us>
Cc: neil.whitmer@lafargeholcim.com <neil.whitmer@lafargeholcim.com>

[Quoted text hidden]

2022.12.30 CoSSP 2023 Renewal Request.pdf
3470K

STATE OF COLORADO

DWR - DNR, Permitsonline <dnr_dwrpermitsonline@state.co.us>

Aggregate Industries CoSSP Renewal Request

Jared Dains <jareddains@applegategroup.com> Fri, Dec 30, 2022 at 1:06 PM
To: "dwrpermitsonline@state.co.us" <dwrpermitsonline@state.co.us>
Cc: "neil.whitmer@lafargeholcim.com" <neil.whitmer@lafargeholcim.com>

Good afternoon. Please see the attached renewal request for Aggregate Industries' Combined Substitute Supply Plan (CoSSP). If you have any questions about it, feel free to contact me.

Regards,

Jared Dains, P.E.

Applegate Group, Inc.
1490 West 121st Avenue, Suite 100
Denver, CO 80234
Phone: (303) 452-6611
Fax: (303) 452-2759

2022.12.30 CoSSP 2023 Renewal Request.pdf
3470K

ATTACHMENT H

Miller Groundwater Engineering LLC

Groundwater Evaluations for the Irwin Thomas Gravel Mine,

Permit No. M-2016-054"

March 2, 2023

Miller Groundwater Engineering, LLC
Consulting, Contracting, Numerical Modeling

324 Remington Street, Suite 110 Fort Collins, CO 80524 970.492.5710

March 3, 2023

Barbara Brunk
Resource Conservation Partners, LLC
P.O. Box 1522
Longmont, CO 80502

RE: Groundwater Evaluations for the Irwin Thomas Gravel Mine, Permit No. M-2016-054.

Dear Ms. Brunk:

Miller Groundwater Engineering has updated our groundwater model for the proposed Irwin Thomas Mine (DRMS Permit No. M-2016-054) and we have used the updated model to evaluate potential impacts of the mining plan on groundwater levels in the area. This letter describes our evaluation and its results.

(1) Response to Items #8 and #9 from DRMS Adequacy Review No. 1

The evaluations presented in this report address two of the items from the DRMS Adequacy Review No. 1 letter dated January 6, 2023. For reference, we are including a copy of those two items below, followed by our summary response. Our summary statement is then supported by the remainder of this report.

DRMS Item #8: In the Operator's responses, dated March 23, 2017, to the Division's Preliminary Adequacy Review the Operator provided a Hydrogeologic Evaluation of the Irwin/Thomas Mine. At the time there was limited groundwater elevation data for the site and the effects from dewatering were rough approximations. The potential effects from dewatering need to be re-assessed using the six (6) years' worth of site groundwater elevation data to verify and/or update the site assumptions of the effects of dewatering.

Response to #8: As requested, we have recently completed a reassessment of the potential effects from mine dewatering, and we used the six years of data now available for the site. In this report we are providing updated and refined projections of those mine dewatering effects.

In Summer 2020, Miller Groundwater developed an initial groundwater model of the site and the surrounding area. That 2020 model is presented in Appendix A of this report. That version of the model relied primarily on data from geotechnical borings available up through 2020, from the sources listed on Page 3 of this main report. The locations for that data are shown in

Appendix A's Figure 1. That data set included groundwater depth and bedrock depth reported at several water wells over the wider area. The legend of Appendix A's Figure 1 also notes the dates for the geotechnical data, including several geotechnical borings on-site from 2020.

For this 2023 update of the model, we reviewed six years of monthly measurements from Irwin Thomas monitoring wells MW-A, MW-B, MW-C, MW-D, and MW-E, plus 10 monthly measurements made from April 2022 to January 2023 from wells MW-2 and MW-4. (To our knowledge, there is no MW-1 or MW-3.) The locations of these seven monitoring wells are shown on Figure 1 of this main report. Depth to water plots for these wells are included as Appendix B. Figure 2 of the main report compares the observed water levels to the modeled water levels, including the updated data.

As explained in this report, we have now updated the 2020 model based on the up-to-date data set, and we revaluated dewatering and other potential mining impacts (mounding and shadowing) using the updated model. The results are presented in this report.

DRMS Item #9: In the Operator's responses, dated March 23, 2017, to the Division's Preliminary Adequacy Review the Operator provided an updated Exhibit G. In that exhibit there is brief discussion regarding the mounding and shadowing effects of a slurry wall. Please provide a groundwater model depicting the effects of installing a slurry wall and any details of mitigation measures needed to prevent injury from mounding or shadowing of groundwater as a result of installing the slurry wall. Include a discussion about the potential impacts to residential basements near the permit boundary.

Response to #9: As requested, we have developed and updated a groundwater model for the proposed mine and the surrounding area. We used the model to estimate the expected effects of mine dewatering as well as the post-mining effects of a planned slurry wall and the back-filled mine cells that will surround the slurry wall. We also considered potential impacts to residential homes with basements/crawlspaces near the mine permit boundary, plus a new commercial building nearby. Based on the results of that evaluation, and with the residential homes in mind, we propose the installation of a perimeter drain on the south side of the mine to mitigate otherwise-expected mounding on the up-gradient side of the mine cells. In this report, we provide guidance for the depth and location of the proposed perimeter drain, and we used the model to simulate groundwater conditions that would be expected with the drain in place.

The remainder of this report provides additional detail that supports the above responses.

(2) General Background Information

The location for the proposed gravel mine is south of Ken Pratt Blvd (Hwy 119), east of South Martin Street, and west of North 119th Street, in Longmont, Colorado (**Figure 1**). The primary goal of our evaluation was to estimate changes in groundwater levels in the vicinity of the mine that should be expected from the planned mining activities. The groundwater changes commonly expected from such a mine, and also expected here, are: (1) water level drawdown during mine dewatering activities, and then, once mining is complete, (2) some groundwater rise ("mounding") immediately upgradient of the mine, and (3) groundwater drawdown ("shadowing") immediately downgradient of the mine.

We initially constructed this model in Summer 2020. Our 2020 report, presenting the model's initial construction, is attached as Appendix A.

Information Relied Upon in 2020:

- EEC report, dated February 7, 2018. Subsurface Exploration and Slope Stability Evaluation, Irwin/Thomas Properties, Longmont, Colorado, EEC Project No. 1172053.
- TST, Inc. drawing dated April 2020. Irwin Thomas Preliminary/Final PUD Development Plan Amendment; for Gravel Mining. Job No. 1241.0001.02. Filename: 1241.0001 FDP PUD.
- TST, Inc. drawing dated April 2020. Mustang Preliminary Improvement Plans, Overall Grading Plan. Job No. 1241.0001.00. Filename: 0001_Overall Grading.
- Hydrogeologic Evaluation, Irwin/Thomas Mine, Division of Reclamation, Mining, and Safety Permit NO. M-2016-054, Boulder County, Colorado. Prepared for Aggregate Industries–WCR, Inc. 1687 Cole Boulevard, Suite 300, Golden, Colorado, by Blue Earth Solutions, LLC. Report dated December 2013.
- Regional aquifer and water well data from Colorado Division of Water Resources (DWR) online database (https://dwr.state.co.us/Tools/WellPermits).
- Terracon GeoReport, dated April 17, 2020. Geotechnical Engineering Report, Terracon Project No. 22195034, Terracon Consultants, Longmont, Colorado.
- Underdrain report (and associated appendices) for Harvest Junction Village, dated January 2015. Prepared for Oakwood Homes, Denver, Colorado, by Merrick & Company, Greenwood Village, Colorado; Merrick Job No. 65118260.

Additional Information Relied Upon for this 2023 Update:

- Pond Underdrain Plan. Drawings by TST, Inc., dated January 2022, of the underdrain (subsurface drain) constructed Summer 2022 to the west of the planned mine under a new stormwater detention pond.
- Photographs and video of outflow from the stormwater detention pond's underdrain taken in September 2022.
- A diagram labeled "Exhibit E – Anticipated Exploration Plan" from Terracon, dated April 11, 2022, showing the location of monitoring wells MW-2 and MW-4.
- Depth to water measurements for MW-2 and MW-4 taken in 2022, in a letter from Terracon dated January 11, 2023.
- Water level measurements, provided by client, from Irwin Thomas monitoring wells MW-A through MW-E. They were measured approximately monthly from November 2016 through January 2023. Information included coordinates for the monitoring wells (Figure 1).
- Planned mining sequence provided by client.

(3) Simulated Mining Sequence Stages

We were provided a detailed description of the planned mining sequence. That description included some potential timing overlap between phases. In our modeling simulations, we simplified the sequence to the following primary stages:

- Model Scenario 1. Cell 1 and Cell 1a dewatered. (See Figure 1 for cell locations.)
- Model Scenario 2. Cell 1 and Cell 1a dewatered during or after the slurry wall has been constructed around Cells 2 and 3.
- Model Scenario 3. Cell 1 and Cell 1a backfilled and mining taking place from within the slurry wall in Cells 2 and 3.
- Model Scenario 4. Cells 4 and 5 being dewatered and mined after the slurry wall is in place and after Cell 1 and Cell 1a have been backfilled. The period of time in which Cells 4 and 5 are both being dewatered simultaneously may be short, but we conservatively considered a period in which they were both dewatered simultaneously.
- Model Scenario 5: Post-Mining Scenario (Reclamation). Final post-mining configuration with (i) backfill in Cells 1, 1a, 4, and 5, (ii) a slurry wall around Cells 2 and 3, and (iii) a shallow perimeter drain along the south side of Cells 4 and 5. Cells 2 and 3 will not be

backfilled (they will be ponds) but the slurry wall around them is the relevant aspect for the groundwater model simulations.

We simulated each of these stages individually, and from that work we concluded that the most drawdown is expected during Model Scenario 4 (Cells 4 and 5 dewatered simultaneously) and the most mounding would be created during the final post-mining configuration if a perimeter drain were not installed. We therefore focus on those two scenarios in this report.

(4) Groundwater Model Update

We have reviewed the new water level data collected since we first constructed the model in Summer 2020. We concluded that a slight adjustment and improvement to the model's calibration was warranted due to MW-E. (See location in Figure 1.) The 2020 model was reasonably consistent with all other data, old and new, but the modeled water table was low at MW-E. We concluded it was important to have a closer fit to the data at MW-E since our initial simulations show groundwater mounding in that area, and because the water table in that area is typically shallow, and since there are houses near MW-E. The water table at MW-E is generally around 4 to 5 feet below ground surface (ft bgs) in the winter, but in the summer has sometimes risen to the range of 2 to 3 ft bgs. We created a close match between the observed and modeled water levels at MW-E by increasing seepage from Dry Creek into the aquifer.

Note: This groundwater model update, and the dewatering simulations presented herein, address Statement #8 from the DRMS Adequacy Review No. 1 letter dated January 6, 2023. The other simulations presented below—particularly Model Scenario 5---address DRMS Statement #9.

(5) Site Maps and Illustration of Model Results

Site data and model results are summarized in the following figures:

- Figure 1. Locations of planned mining cells, monitoring wells, and other site features.
- Figure 2. Model calibration plot. This is a standard plot used to assess groundwater model calibration. When modeled water levels are close to observed water levels, the data points fall close to the 45-degree line.
- Figure 3. Ground surface elevations.
- Figure 4. Depth to modeled water table from ground surface. (This is a non-seasonal approximation.) Note that the detail and seeming precision in this figure comes from subtracting an *approximate* simulated water table elevation from a detailed map of

ground surface elevations. While we expect the overall results here to be accurate, please note there could be model error at the local scale.

- Figure 5. Modeled water table under current conditions (non-seasonal approximation).
- Figure 6. Model Scenario 4: Water table with Cells 4 and 5 dewatered simultaneously.
- Figure 7. Model Scenario 5: Water table upon completion of mining and site reclamation work, including the installation of a perimeter drain along the south side of Cells 4 and 5.
- Figure 8. Model Scenario 4: Drawdown during dewatering of Cells 4 and 5. This contour map was created by subtracting the water table shown in Figure 6 from the current-conditions water table shown in Figure 5.
- Figure 9. Model Scenario 5: Drawdown and slight mounding upon completion of mining and site reclamation work, including the installation of a perimeter drain along the south side of Cells 4 and 5. This contour map was created by subtracting the water table shown in Figure 7 from the current-conditions water table shown in Figure 5.

(6) Discussion of Model Scenario 3

Not shown is Model Scenario 3 in which Cells 1 and 1a have been backfilled, a slurry wall is around Cells 2 and 3 while they are mined, and no dewatering is occurring outside of the slurry wall. Our model simulation for this scenario projects a rise of approximately 0.6 ft at MW-E, and a rise around 2.0 ft at the future Cell 4. The rise at MW-E is relatively small, but this mining phase may be in place for one to two years. Therefore, to mitigate this potential mounding, the perimeter drain that is planned for post-mining (see Section 8) will be installed prior to this phase. It will be installed in concert with the construction of the slurry wall.

(7) Discussion of Model Scenario 4

Figure 8 shows the extent of drawdown expected if Cell 4 and Cell 5 are dewatered simultaneously. At this time, we are not aware of any major concerns with this projection of drawdown. Two permitted water wells fall withing this area of influence (Figure 8). Select DWR permit information for these wells is attached as Appendix C and discussed below.

According to DWR records, Permit No. 80996-F is a domestic and stock well limited to a rate of 15 gpm. It has unique construction that likely derives its water from the alluvial aquifer but with an open borehole and pump set deep into the underlying shale bedrock. This configuration gives it a deep sump. It is our current opinion that the projected 1.4 ft drawdown at this well,

combined with its low permitted rate and deep sump, is not expected to have a significant impact on this well's operations.

According to DWR records, Permit No. 67883-F is owned by the City of Longmont and is or was used as a dewatering well for an underpass that is part of the St. Vrain Greenway. DWR records suggest it is a gallery-type well using a perforated drain flowing into a sump. Since it is a dewatering well, then presumably the City would not object to additional dewatering being created by the mine.

(8) Discussion of Model Scenario 5 (Post-Mining Configuration with Perimeter Drain)

Not shown is a scenario in which we simulated post-mining reclamation conditions but without the now-proposed perimeter drain. In that case, Cells 1, 1A, 4, and 5 are backfilled and the slurry wall is in place around Cells 2 and 3. We assumed the cells will be backfilled and compacted with fine-grained materials leftover from the mining process, and therefore the backfilled cells will have a hydraulic conductivity (K) that is much lower than the K of the natural aquifer. This lower K, and the footprint of the backfilled cells relative to the width of the aquifer, and if there were no perimeter drain installed, would be expected to create a rise ("up-gradient mounding") at MW-E on the order of 2.2 ft. In the area of the former Cell 4, the rise without a drain would be on the order of 4 feet.

Considering the shallow water table at MW-E and the houses near it, a perimeter drain is proposed to mitigate this rise. As shown in Figures 7 and 9, we simulated a perimeter drain installed along the south side of Cell 4 and 5, at a depth approximately one foot below the pre-mine wintertime water table. As shown, the perimeter drain mitigates the rise described previously. Depending on the exact depth of the installation, the drain leads to either no change at MW-E over natural conditions or leads to a slight drawdown at MW-E.

It is our understanding that the houses near MW-E have occasionally experienced problems with the shallow water table, and therefore we assume a slight drawdown created by the perimeter drain would be welcomed. However, if desired, the depth of the perimeter drain could be adjusted, or its flow rate adjusted (by installing it with valves) to have a smaller or more neutral effect on water levels.

The simulated perimeter drain's invert elevation runs from 4917 ft at the southwest corner of Cell 4 to 4914 ft at the southeast corner of Cell 5. (Only the perforated portion was simulated.) That mimics the natural water table depth and gradient (as modeled), less one foot.

This general plan for the perimeter drain is recommended, and it is the mitigation plan being proposed. Certain construction details of the drain can be refined or adjusted as needed (e.g., outfall location, drain slope, modest changes in route along the edge of the future cells, etc.). In summary, our model simulation shows that a relatively shallow drain, placed at or slightly below the natural wintertime water table, at approximately 2,300 ft in length and placed along the south side of the cells, can maintain natural groundwater conditions in the aquifer after mining is complete.

Note on Role of Slurry Well: The groundwater rise simulated to occur south of the cells if no perimeter drain were installed is due primarily to the backfilled mine cells and is not due to the slurry wall. This conclusion is understandable since the slurry wall is in the middle of the fines-filled, backfilled cells. We tested this expectation with additional simulations (not shown). We simulated a scenario without the perimeter drain and without the slurry wall and with Cells 2 and 3 as open cells (i.e., ponds in communication with groundwater) and all other cells backfilled. In that case, the groundwater rise at MW-E was similar (1.9 ft vs. 2.3 ft) both with or without the slurry wall. Therefore, given that there are reports of shallow water table concerns near MW-E, the proposed perimeter drain appears to be needed even if no slurry wall were planned.

(9) Non-Seasonal Modeling Approach

These simulations were done with a steady-state model that does not consider a summertime seasonal rise. It is our current opinion that this is adequate for the purposes of this model. Our opinion is based on the observation that the scale of the seasonal rise appears to be roughly similar at MW's A through E. So, even with the rise in absolute water levels, the relative levels are roughly similar in all seasons, and this means the gradients are roughly similar as well. With a similar gradient toward the backfilled mine cells, the mounding and shadowing around the mine is expected to be roughly similar in all seasons. Based on this, the drawdown and mounding depicted in Figures 8 and 9 can be reasonably superimposed on current-conditions water levels in any season. This opinion is also based on the fact that a perimeter drain is proposed to control water levels to near or below natural levels. That drain will function in all seasons, including it naturally increasing its flow rates during a seasonal summer rise.

(10) Standard Technical and Practical Limitations

Subsurface data is often limited in its spatial and temporal coverage, and subsurface hydraulic testing produces only approximate results. Estimates and projections about groundwater

behavior therefore have inherent degrees of uncertainty. Certainty is not an expected or attainable goal. By using good, common, and accepted methods, this work provides reasonably reliable guidance for expected site groundwater behavior, but actual site performance may be different from projected and desired site performance. No guarantees or warranties are or can be provided. Furthermore, actual mining operations, including drain construction and the drain's future maintenance, may be different than currently known or planned, and such changes and future conditions are outside the scope and control of Miller Groundwater Engineering, LLC.

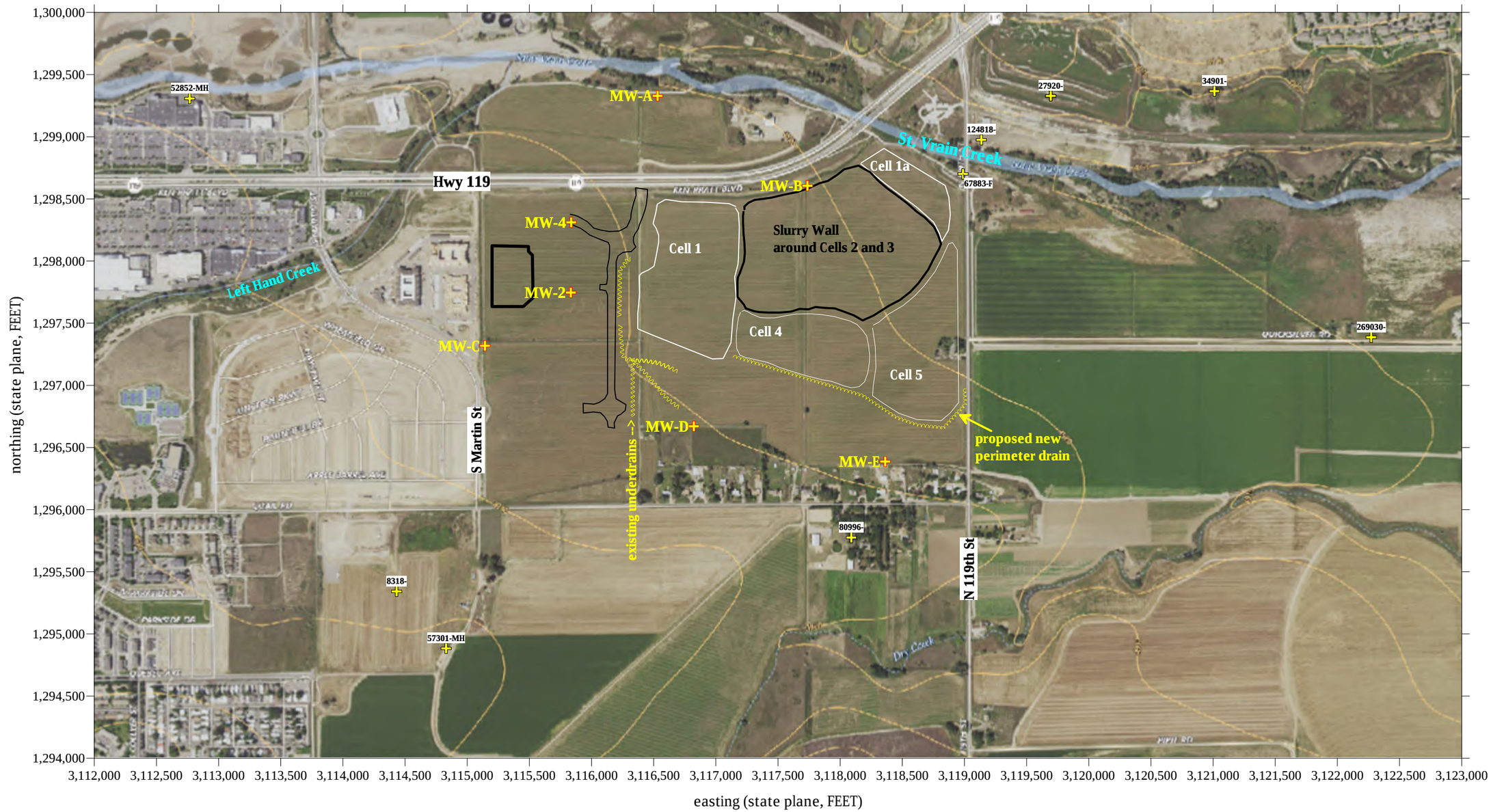
Please contact us if you would like to discuss this work further or have any further requests. We have appreciated the opportunity to work with you on this.

Sincerely,

Calvin Miller

Calvin Miller, PE, PhD
for Miller Groundwater Engineering, LLC

Figure 1. Locations of planned mining cells, monitoring wells, and other site features.



Notes:
(1) Site building and roadway locations are approximate.
(2) Site underdrains based on TST plans dated January 2022.

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Figure 2. Groundwater model calibration plot, updated with newest field data and the 2023 recalibrated model.

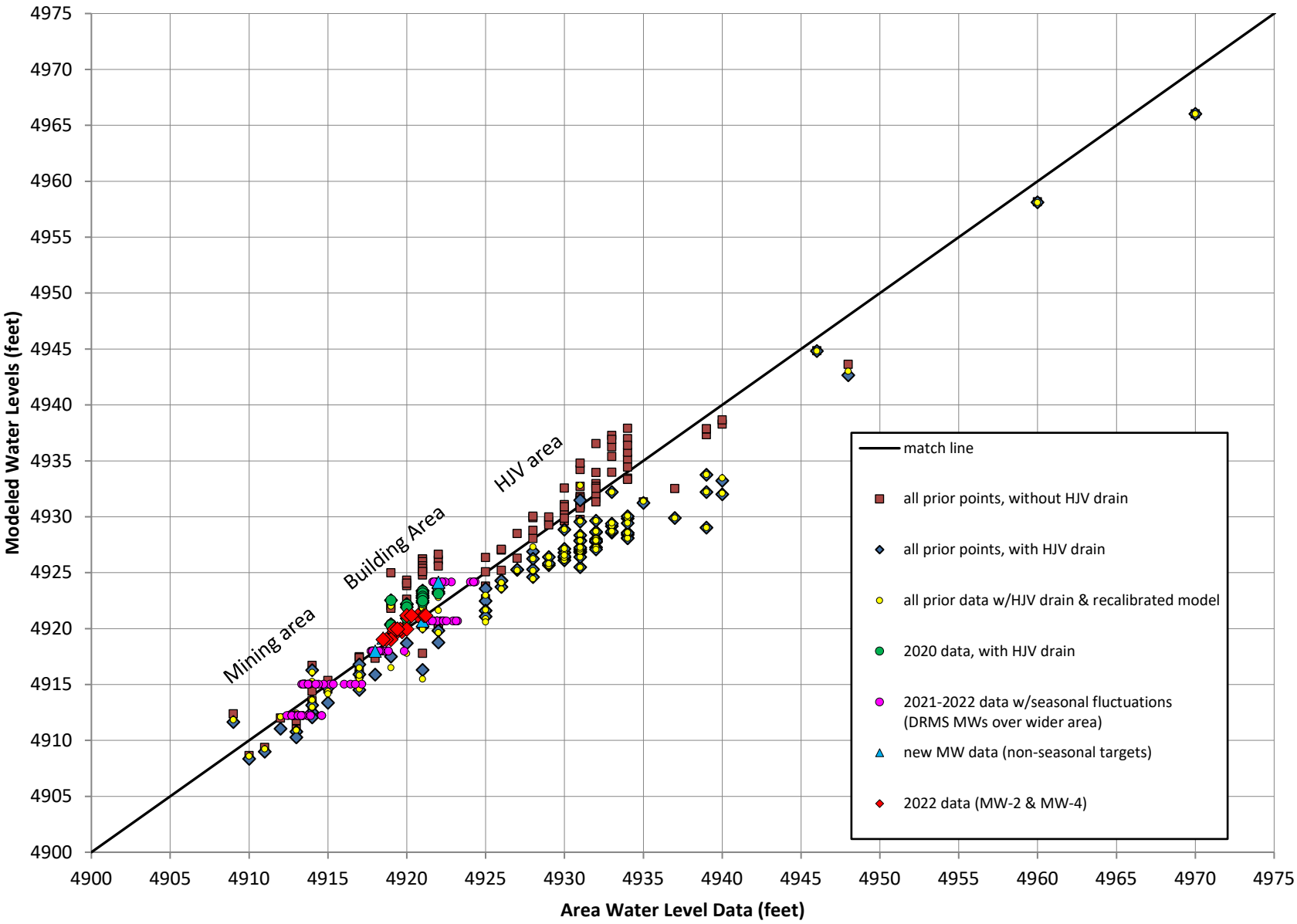
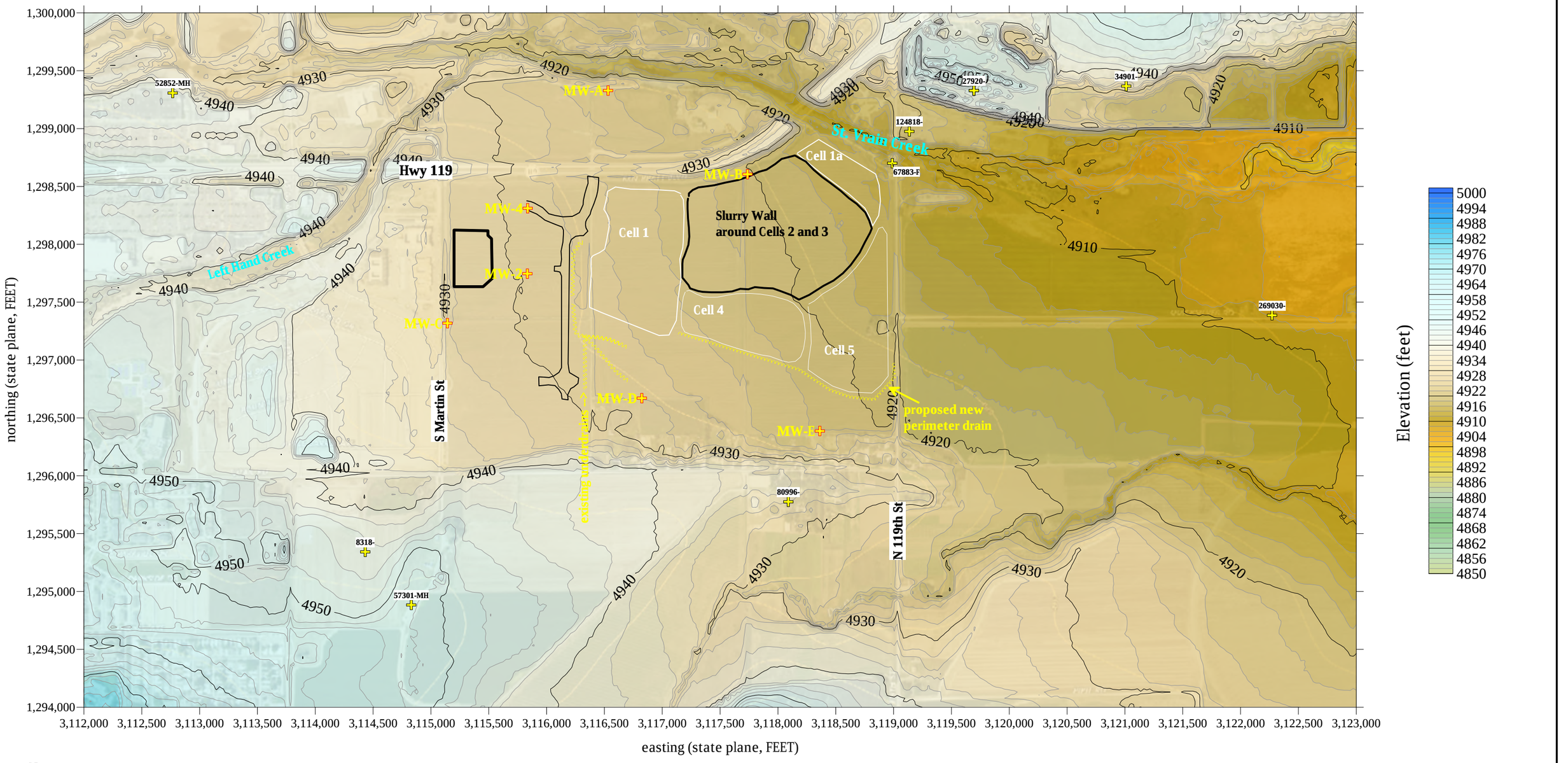


Figure 3. Ground surface elevation.



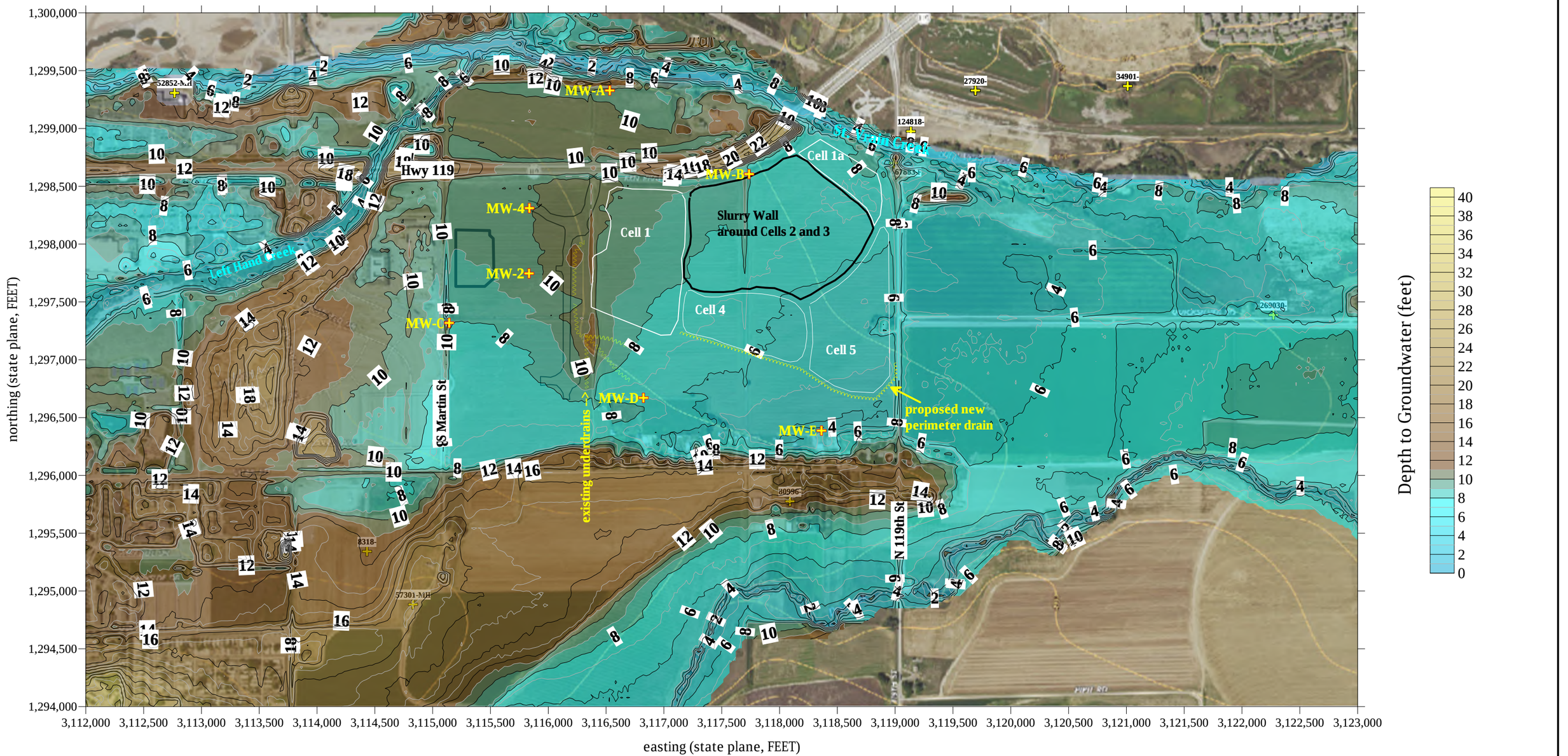
Notes:
(1) Site building and roadway locations are approximate.
(2) Site underdrains based on TST plans dated January 2022.
(3) Elevations given in feet.

/ProjectMustang/mapping/F__.srf 2/27/2023

Project: Irwin Thomas Mine, Permit No. M-2016-054, Longmont, Colorado. **Task**: Groundwater Evaluations.

Miller Groundwater Engineering, LLC

Figure 4. Depth to groundwater (non-seasonal approximation).



Notes:
(1) Site building and roadway locations are approximate.
(2) Site underdrains based on TST plans dated January 2022.
(3) Elevations given in feet.

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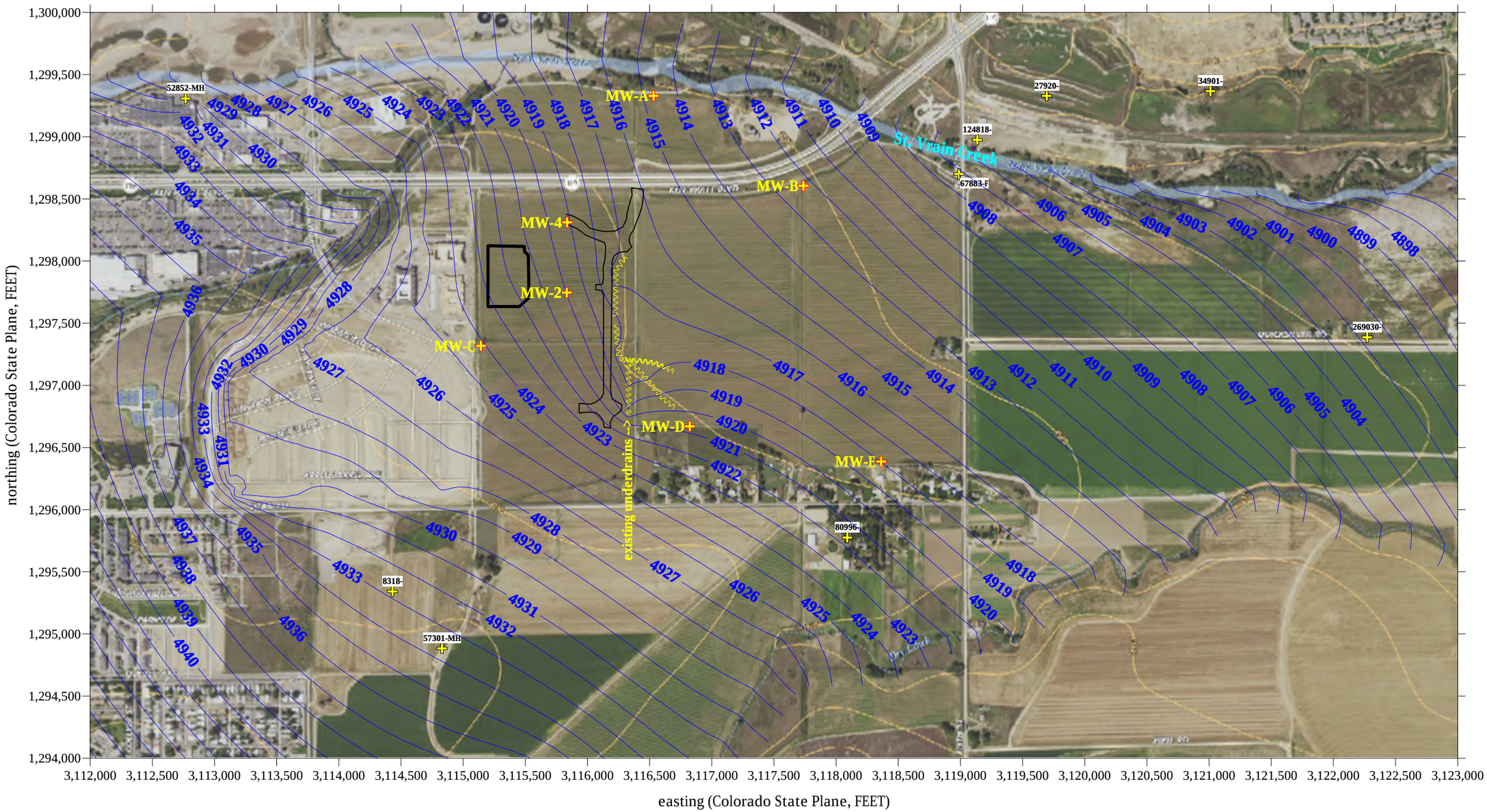
Figure 5. Modeled water table under current conditions.



Notes:

(1) Elevation and drawdown contours shown in feet.
(2) A groundwater rise (when present) is shown as negative drawdown, in red.
(3) Building and roadway locations are approximate.
(4) Left Hand Creek assumed to be flowing and leaking some water.
(5) Bedrock surface interpolated between 58 on-site borings, 52 borings next-door to the west, and 22 regional off-site borings.
(6) Underdrain to west (Harvest Junction Village) assumed added circa 2017.
(7) Site underdrains based on TST plans dated June 2021.

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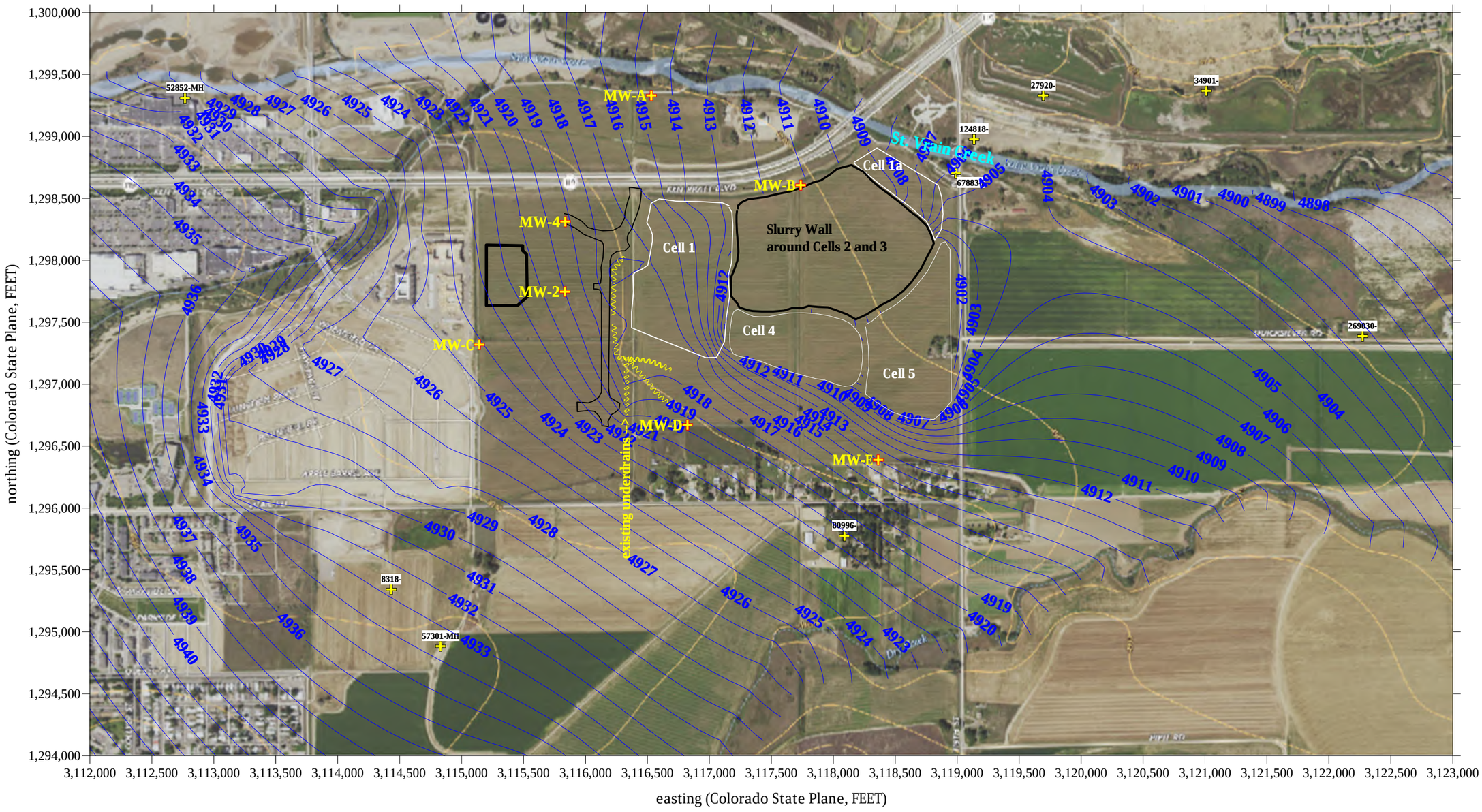
Figure 6. Model Scenario 4: Water table with backfilled cells, slurry wall, and Cells 4 and 5 being dewatered.



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(7) Site underdrains based on TST plans dated June 2021.

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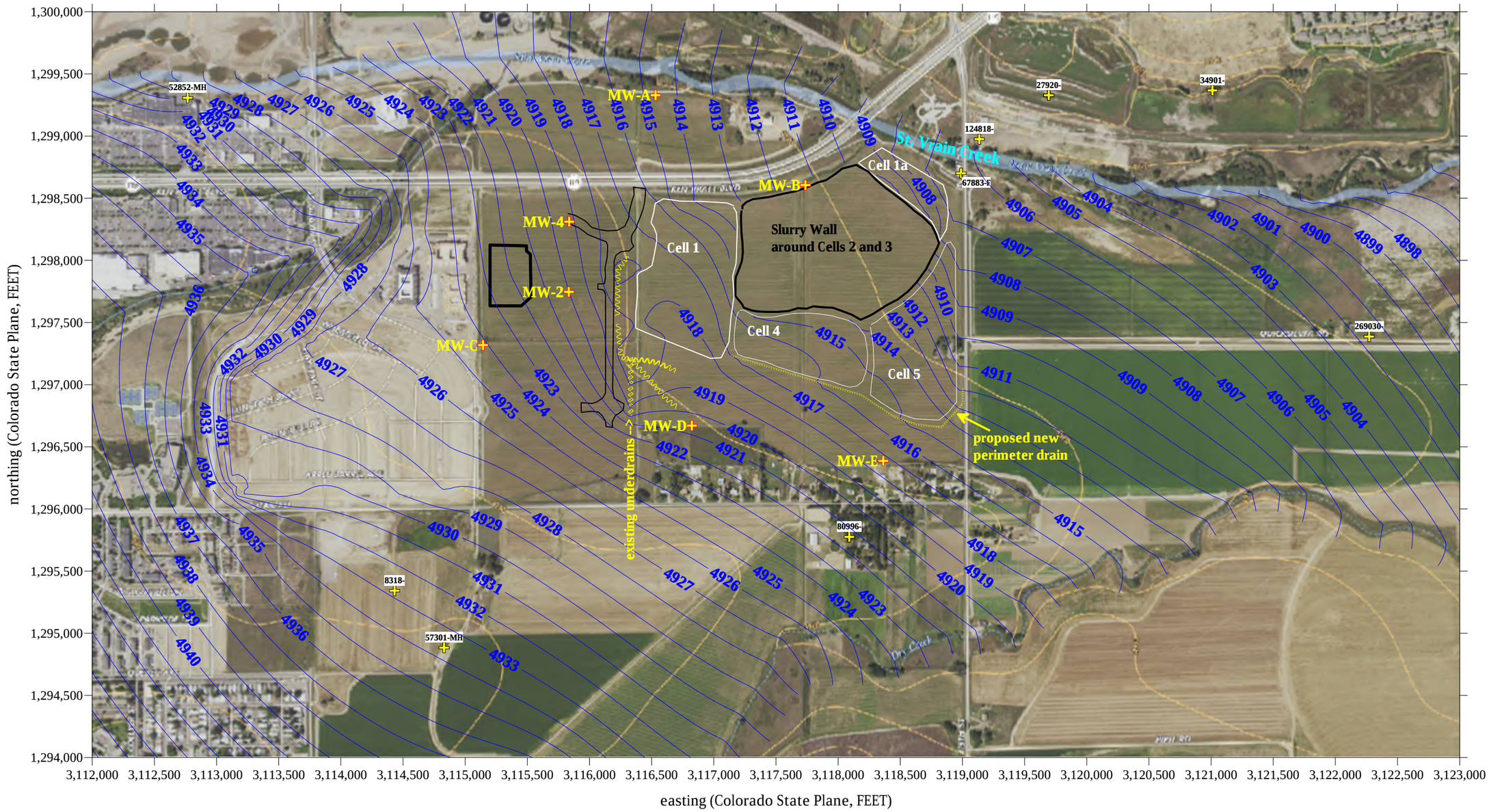
Figure 7. Model Scenario 5: Water table after completion of mining and site reclamation.



Notes:

(1) Elevation and drawdown contours shown in feet.
(2) A groundwater rise (when present) is shown as negative drawdown, in red.
(3) Building and roadway locations are approximate.
(4) Left Hand Creek assumed to be flowing and leaking some water.
(5) Bedrock surface interpolated between 58 on-site borings, 52 borings next-door to the west, and 22 regional off-site borings.
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(7) Site underdrains based on TST plans dated June 2021.

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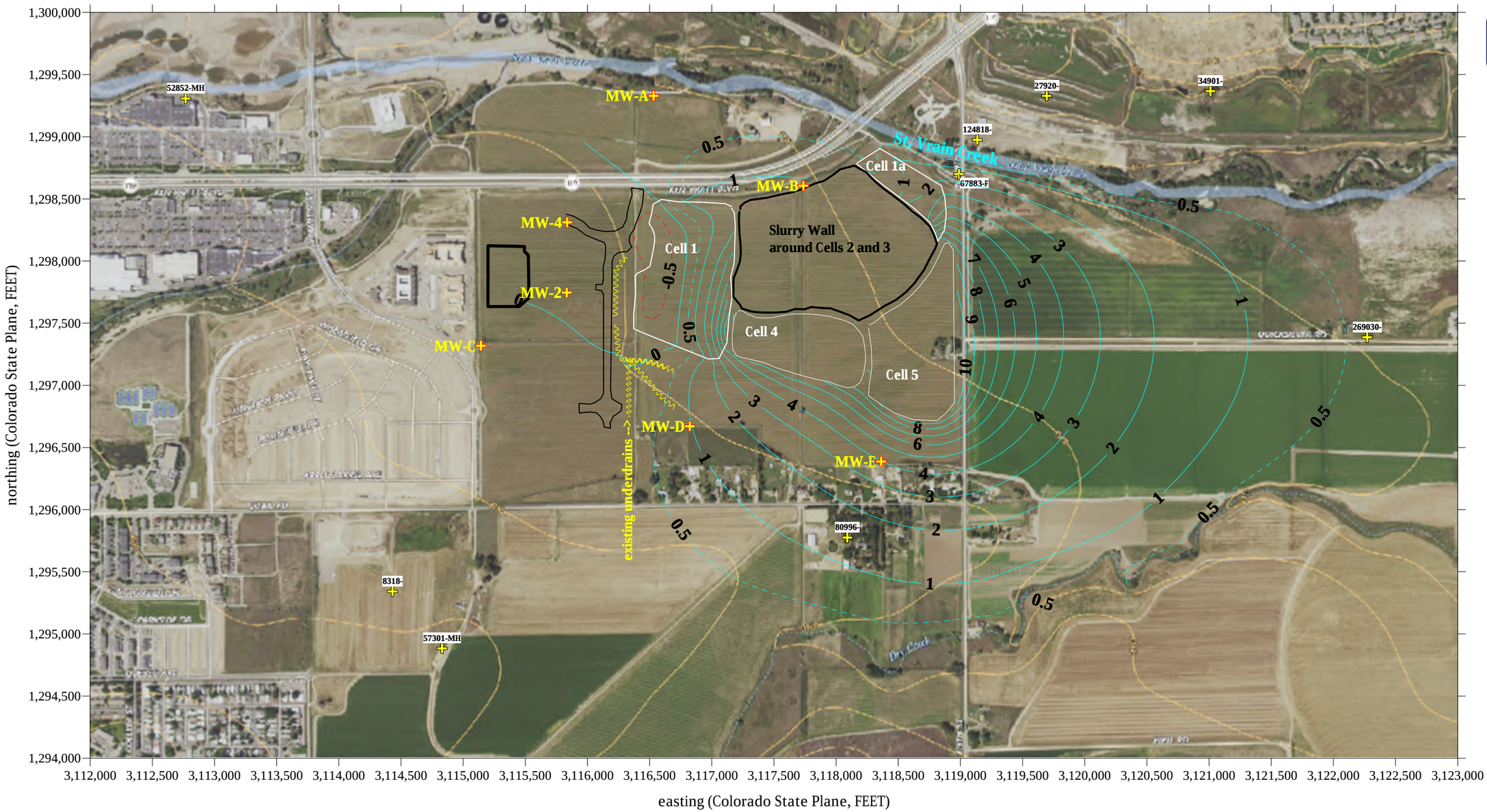
Project: Irwin Thomas Mine, Permit No. M-2016-054, Longmont, Colorado. **Task**: Groundwater Evaluations.

Figure 8. Model Scenario 4: Drawdown and mounding with backfilled cells, slurry wall, and Cells 4 and 5 being dewatered.



Notes:

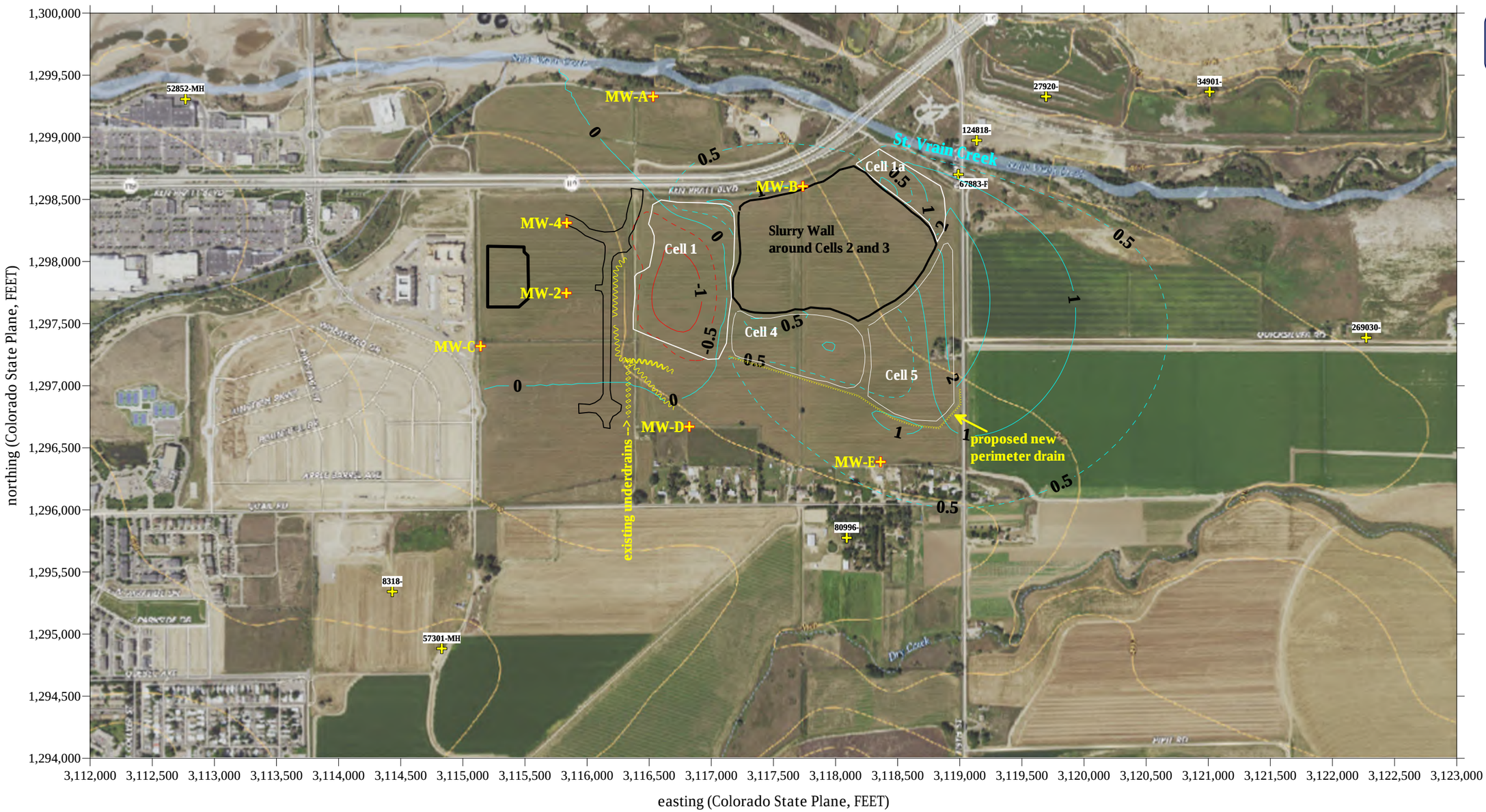
(1) Elevation and drawdown contours shown in feet.
(2) A groundwater rise (when present) is shown as negative drawdown, in red.
(3) Building and roadway locations are approximate.
(4) Left Hand Creek assumed to be flowing and leaking some water.
(5) Bedrock surface interpolated between 58 on-site borings, 52 borings next-door to the west, and 22 regional off-site borings.
(6) Underdrain to west (Harvest Junction Village) assumed added circa 2017.
(7) Site underdrains based on TST plans dated June 2021.

/ProjectMustang/mapping/F____.srf 2/21/2023

Project: Irwin Thomas Mine, Permit No. M-2016-054, Longmont, Colorado. **Task**: Groundwater Evaluations.

Miller Groundwater Engineering, LLC

Figure 9. Model Scenario 5: Drawdown and mounding after completion of mining and site reclamation.



Notes:

(1) Elevation and drawdown contours shown in feet.
(2) A groundwater rise (when present) is shown as negative drawdown, in red.
(3) Building and roadway locations are approximate.
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(7) Site underdrains based on TST plans dated June 2021.

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Project: Irwin Thomas Mine, Permit No. M-2016-054, Longmont, Colorado. **Task**: Groundwater Evaluations.

Miller Groundwater Engineering, LLC

Appendix A

Groundwater model development (2020 Groundwater model report).

Miller Groundwater Engineering, LLC
Consulting, Contracting, Numerical Modeling

324 Remington Street, Suite 110 Fort Collins, CO 80524 970.492.5710

July 22, 2020

Donald N. Taranto, P.E.
TST, Inc. Consulting Engineers
748 Whalers Way
Suite 200
Fort Collins, CO 80525

RE: **Project Mustang,** Longmont, Colorado – Results of Groundwater Drawdown Evaluation

Dear Mr. Taranto:

This letter report presents results from the groundwater evaluation that Miller Groundwater Engineering, LLC, was asked to provide for a confidential building development in Longmont, Colorado. The development has been referred to as "Project Mustang".

The primary goal of our work was to estimate the scale of change in groundwater levels ("drawdown") that should be expected across the development in the future due to dewatering for gravel mining that is planned to take place immediately east and north of the site. The project location is south of Ken Pratt Blvd (aka Hwy 119) and east of South Martin Street, in Longmont, Colorado (**Figure 1**).

Information Relied Upon

- EEC report, dated February 7, 2018. Subsurface Exploration and Slope Stability Evaluation, Irwin/Thomas Properties, Longmont, Colorado, EEC Project No. 1172053.
- TST, Inc. drawing dated April 2020. Irwin Thomas Preliminary/Final PUD Development Plan Amendment; for Gravel Mining. Job No. 1241.0001.02. Filename: 1241.0001 FDP PUD.
- TST, Inc. drawing dated April 2020. Mustang Preliminary Improvement Plans, Overall Grading Plan. Job No. 1241.0001.00. Filename: 0001_Overall Grading.
- Hydrogeologic Evaluation, Irwin/Thomas Mine, Division of Reclamation, Mining, and Safety Permit NO. M-2016-054, Boulder County, Colorado. Prepared for Aggregate Industries–WCR, Inc. 1687 Cole Boulevard, Suite 300, Golden, Colorado, by Blue Earth Solutions, LLC. Report dated December 2013.
- Regional aquifer and water well data from Colorado Division of Water Resources (DWR) online database (https://dwr.state.co.us/Tools/WellPermits).
- Terracon GeoReport, dated April 17, 2020. Geotechnical Engineering Report, Terracon Project No. 22195034, Terracon Consultants, Longmont, Colorado.
- Underdrain report (and associated appendices) for Harvest Junction Village, dated January 2015. Prepared for Oakwood Homes, Denver, Colorado, by Merrick & Company, Greenwood Village, Colorado; Merrick Job No. 65118260.

Hydrogeologic Setting

The shallow groundwater at the site lies in and flows through an alluvial (stream-deposited) aquifer, composed primarily of sand and gravel, that is associated with the Saint Vrain River and Left Hand Creek. The area outlined in **Figure 1** corresponds fairly closely with the lateral (north and south) extents of the saturated alluvium. Based on borings at the property and the planned gravel mine area, the depth to bedrock ranges from 12 to 20 feet below ground surface (ft bgs). The top few feet of soil at the property has been described in the geotechnical reports as sandy lean clay, but we could leave that out of this analysis and include only on the deeper sandy aquifer since the water table was typically in the deeper sands and gravels. Depth to groundwater at site borings ranged from 2.5 to 12 ft bgs. Saturated thickness of the aquifer at the site appears to range from 2 to 17 ft. Below the sand and gravel alluvium is a regional bedrock material (sandstone and claystone) which, relative to the sand, can be considered as impermeable for this evaluation. At the lateral edges of the aquifer (to the north and south here) the aquifer becomes thin as the bedrock is more shallow. In essence, the aquifer lies in a buried subsurface valley which was eroded into the bedrock and filled with sand and gravel (and some silts) deposited by the surface streams.

Based on our experience, it is very likely that the Saint Vrain River has a strong hydraulic connection with the aquifer and is therefore a strong hydrogeologic boundary to the aquifer to the north of the project. We have included it as such in our analysis. And to the west (**Figure 1**), we have assumed Left Hand Creek is a weaker boundary, but that it too is a boundary to some degree. A cursory review of aerial photos suggests that Left Hand Creek does typically have water in it at this location. To the south, we have assumed Dry Creek is a weak boundary, and we do not know if it typically has water in it. Since Dry Creek is at the south edge of the analysis area (and where we have a relatively clear no-flow boundary) we don't expect our results to be strongly sensitive to our assumptions about Dry Creek.

Evaluation Method

We constructed a numerical groundwater model of the site and vicinity using the USGS's MODFLOW-2000 groundwater modeling code. A MODFLOW model was an effective tool for evaluating drawdown at this site since the model was able to account for the effect of nearby streams, nearby subsurface drains, unconfined aquifer behavior, and the location and spatial footprint of the various gravel mine cells. The model also was a useful tool for organizing available site data and accounting for spatial factors such as the ground, water table, and underlying bedrock surfaces each having variable elevations and slopes across the study area.

<u>Model Construction</u>

We constructed the model with a single computational layer representing the alluvial aquifer. The upper model surface represents the ground surface, which we created using USGS digital topo files. The lower model surface represents the top of the regional bedrock which we created by interpolating drilling log information from 22 regional wells selected from the DWR database, plus 58 geotechnical

borings located onsite across the development and the planned gravel mine areas, and an additional 52 geotechnical borings from the property located to the west of the Mustang property. Additional details can be provided about these surfaces and other features of model construction upon request.

The lower left-hand corner of the model is at Colorado State Plane coordinates 3,106,000 ft east, 1,289,400 ft north, with the grid covering an area 21,000 ft east to west and 11,000 ft north to south (**Figure 1**). We used a uniform and regular model that has with 50 x 50 ft cells. The north model boundary is aligned approximately with the Saint Vrain River and the south boundary extends south past Dry Creek. Much of the areas north of the river and south of Dry Creek are outside of the main aquifer alluvium and were therefore deactivated in the model, thereby making the river and Dry Creek the effective north and south boundaries of the model. (We deactivated some additional aquifer areas in those regions since the creek and river would significantly bound the simulated groundwater behavior.) The location of the east model boundary coincides with the confluence of Dry Creek and the Saint Vrain River. The west model boundary was placed to be far away from the target area and also at a location where, to the southwest, Left Hand Creek and Dry Creek are close to each other, thereby making Left Hand Creek a natural hydrologic boundary to the west and southwest of the site.

Aquifer hydraulic conductivity (*K*) for most of the model domain was set to be spatially uniform at *K* = 100 ft/day. That is reasonable as a mid-range value for this part of the St. Vrain alluvium based on the materials encountered and based on specific capacity test information in the DWR well permits. It is also consistent with the value used in the Blue Earth Solutions (2013) report and with calibrated model values used in the Harvest Junction Village (HJV) underdrain design reports (see the 2014 model report within in the overall 2015 HJV report). We did include one area with lower *K* (20 ft/day) on the west one-third of the HJV property based on similar lower-*K* zones being used in HJV's calibrated groundwater model and based that zone improving water level calibration in our model to the HJV water level data.

Model Calibration and Model Versions

We compiled groundwater level targets from seven area water wells in the DWR database plus 55 onsite geotechnical borings and 53 HJV geotechnical borings (**Figure 1**). In reviewing that data, we noticed that water levels in the January 2020 data were distinctly lower than comparable locations in the August 2009 and June 2013 data sets. We initially assumed this was a seasonal difference (which is common in irrigated areas in Colorado) and therefore calibrated two versions of the model, one for higher water level conditions and one for lower conditions. Calibration for each model version was achieved by adjusting stream profiles, net aquifer recharge (0.5 inch/yr in final model), and stream leakage. We sent draft results from those two models to the project team on June 4 and June 6, 2020.

It was later brought to our attention that a large subsurface drain ("underdrain") system was installed at the Harvest Junction Village (HJV) development, located to the west of the Mustang property, circa 2017. Based on this new information, we then revised the high water level model to include this

underdrain. We also included geotechnical boring data from the HJV report to slightly adjust the bedrock elevations in the HJV area. Adding the HJV drain improved our model's calibration at the planned building location: the pre-drain (pre-2017) simulation calibrated reasonably well to the higher water levels from the older borings, and then—by adding the HJV underdrains to the model with no other changes—the model calibrated reasonably well to the data from the more recent borings at the property, particularly the January 2020 borings at the planned building location. A calibration plot is presented in **Figure 2**.

Drawdown Projections

To represent the gravel mine dewatering operations, we lowered the groundwater level at each mine cell to within about one foot of the bedrock elevation. Due to seepage-face effects, this reasonably approximates dewatering the pit completely dry to bedrock. We ran some simulations with just the closest cells dewatered, and some with all cells dewatered simultaneously. The drawdown at the Mustang Property (building and roadway area) was similar under both cases, so for the projections presented herein we have used the simulations in which we dewatered just the cells closest to the project (the most important cells for impacts).

Figures 3 and 4 show the simulated water table before and after the addition of the HJV underdrain to the west of the project.

Figure 5 shows the simulated water table while dewatering gravel mine cells 1, 6, and 7.

Figure 6 shows the simulated water table drawdown (in feet) caused by the mine dewatering combined with the HJV underdrain. The drawdown in this figure is computed relative to the pre-drain water levels and therefore *represents drawdown from past conditions to future conditions*. As shown, about 4 ft of drawdown is expected on the east half of the building and 3 ft on the west half of the building. Drawdown at the roadway, very close to the mine pit, ranges from 5 to 8 ft, depending on location.

Figure 7 again shows the simulated water table drawdown (in feet) caused by the same mine dewatering, but this drawdown is computed relative to the post-drain water levels. This figure *represents gravel-mine drawdown relative to "current" conditions* with the HJV drain drawdown already in effect and not included. In other words, this is additional drawdown caused by only the mine. As shown, in this case the new drawdown is expected to be about 1 to 2 ft at the building and 4 to 6 ft at the roadway.

We were asked to provide drawdown estimates so that geotechnical engineers on the project team could assess risk to structures from potential ground subsidence that might be caused by the gravel mine lowering groundwater levels across the development. We have provided these two different drawdown maps (Figures 6 and 7) since it is not clear to us if the relevant drawdown would be only relative to current conditions (**Figure 7**) or to recent past (2017) conditions (**Figure 6**). Please note also that if the HJV underdrain happens to be less effective than we have modeled, then the actual

dewatering drawdown relative to current conditions could lie in between the values shown in Figures 6 and 7. We do not expect that to be the case, because adding the HJV underdrain to the model better-matched observed levels at the planned building area, but it may be a possibility.

Sensitivity Analysis

We have not conducted a sensitivity analysis with this model because, in our experience, these drawdown projections will be fairly similar under reasonable ranges of alternative *K* values and also under reasonable variations in initial water table elevations. *To be clear, the simulated pumping rate required to dewater a mine cell will certainly be sensitive to different assumed K values and to higher and lower initial water levels*, but the drawdown profile away from the water level fixed at the mine pit is typically similar within reasonable variations in *K*. Similarly, changes in water levels (drawdown) caused by new pumping are typically not strongly sensitive to the initial water level conditions as long as initial aquifer saturated thickness is roughly similar in both cases. Furthermore, the drawdown projections from this final model (with drain) were roughly similar to projections from the initial two versions of this model (high-season and low-season, both for pre-2017 drain installation). For these all reasons, we did not see a need to perform formal sensitivity simulations.

Groundwater Monitoring

We were asked to recommend locations for potential long-term groundwater level monitoring. Please note that we are not fully aware of the context and potential use of that monitoring data, but we assume the purpose may be to track groundwater fluctuations near the building caused by the dewatering operations. If that is the purpose, then we suggest four monitoring wells (MWs) be placed in an east-to-west line across the area of interest. For example: (i) place the first MW at the east edge of the development very close to the pit (i.e., near planned roadway, on what we assume is the east side of the planned parking lot), (ii) place the second MW about halfway between the building and the roadway, (iii) place the third one close to the east side of the building, and (iv) place the fourth one close to the west side of the building. An ideal plan might place an additional (fifth) MW further away to the south, at a right angle to that east-west line. That additional MW would serve to monitor "background" fluctuations that might occur separate of the gravel mine dewatering. However, we expect that the fourth MW (west side of building) likely could also serve that purpose as the background monitor. We would be happy to refine these recommendations, upon request, if we learn more about the intended purpose of the monitoring.

Other Potential Uses of this Groundwater Model

Gravel mine cells/pits are commonly lined with clay, either before, during, or after mining is complete, to prevent groundwater inflow. We understand that two of these cells may be lined in the future. Since these mine cells typically reach to bedrock, these liners can, in effect, create a localized subsurface dam. The liner therefore creates a moderate rise of groundwater on the up-gradient side and moderate decline (a "shadow") on the down-gradient side. Similarly, an open pit that is not lined (and fills with

water) may create a small decline on its up-gradient side and small rise on its down-gradient side, since groundwater flows through the cell and the cell flattens the natural gradient around it. At this site, the rise (mounding) would be on the west and south sides of the planned pits, toward the planned building and parking lot areas. If that future rise is of interest, this model could be easily used to provide projections of mounding and shadowing around the future cells.

Standard Technical and Practical Limitations

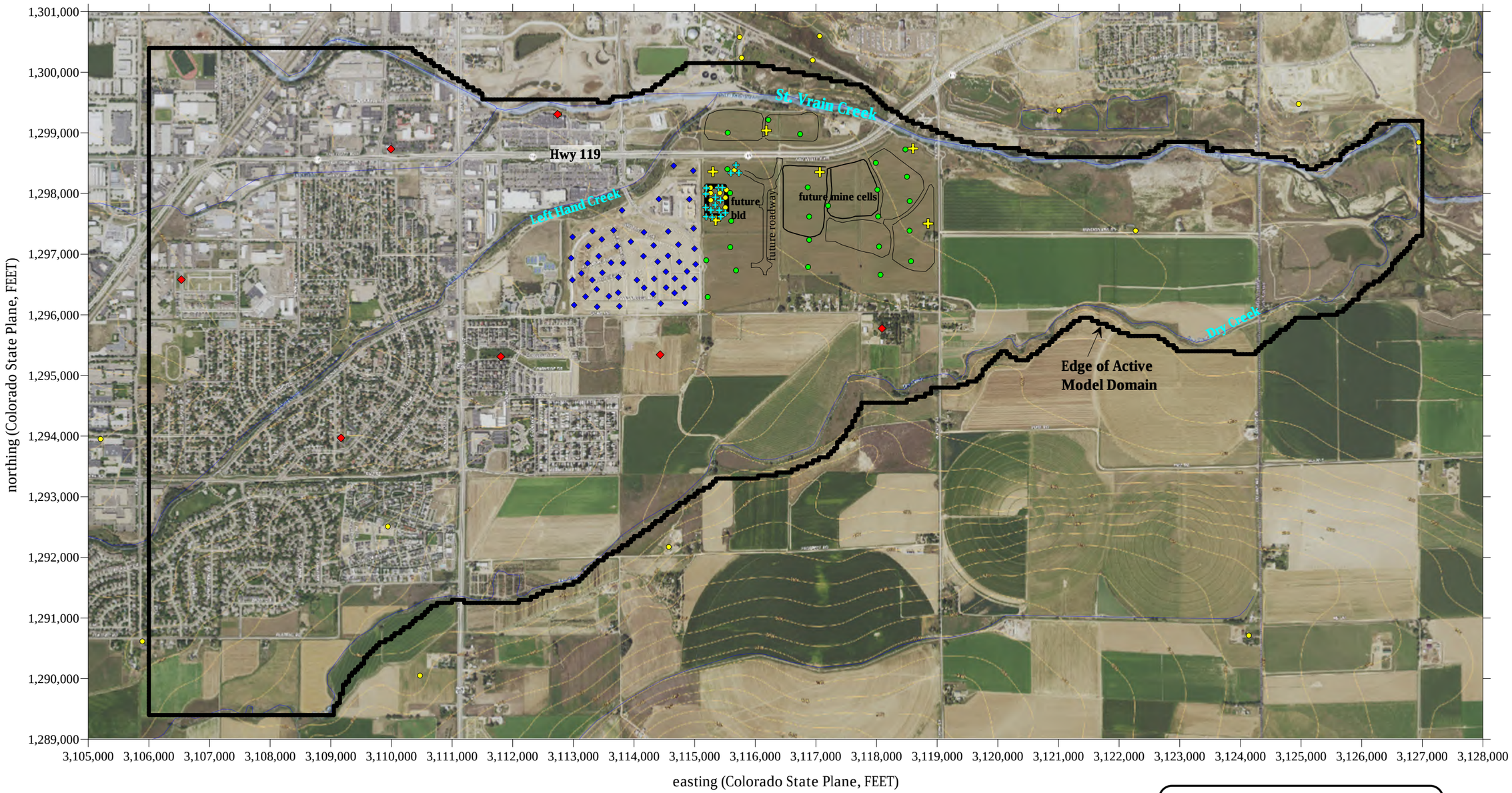
Subsurface data is often limited in its spatial and temporal coverage, and subsurface hydraulic testing produces only approximate results. Estimates and projections about groundwater behavior therefore have inherent and unavoidable uncertainties. No one can provide certainty. By using good, common, and accepted methods, this work provides reasonably reliable guidance for expected site groundwater behavior, but client has acknowledged that actual site performance may be different from projected site performance. Furthermore, actual mining operations may be different than currently known or planned and such changes are outside our scope and control.

Please contact us if you would like to discuss this work further or have any further requests. We have appreciated the opportunity to work with you on this.

Sincerely,

Calvin Miller, PE, PhD
for Miller Groundwater Engineering, LLC

Figure 1. Model domain and location of water level and/or bedrock elevation data points.



Notes:
(1) New building and new roadway locations are approximate.
(2) Left Hand Creek assumed to be flowing and leaking some water.
(3) Bedrock surface interpolated between 58 on-site borings, 52 borings next-door to the west, and 22 regional off-site borings (not all within displayed area).

/ProjectMustang/mapping/ModelGridFigure.srf 7/21/2020

Figure 2. Water level calibration plot.

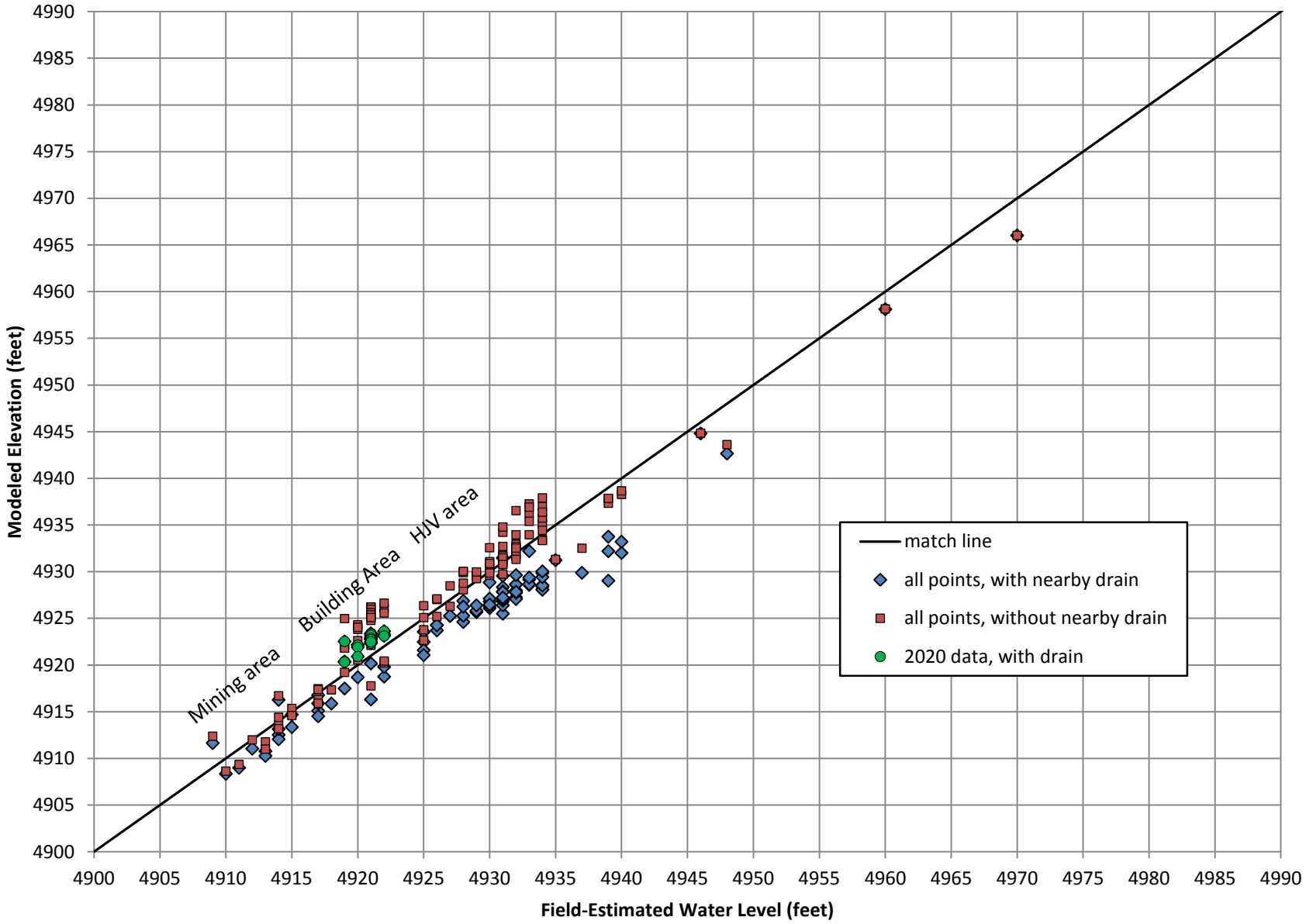
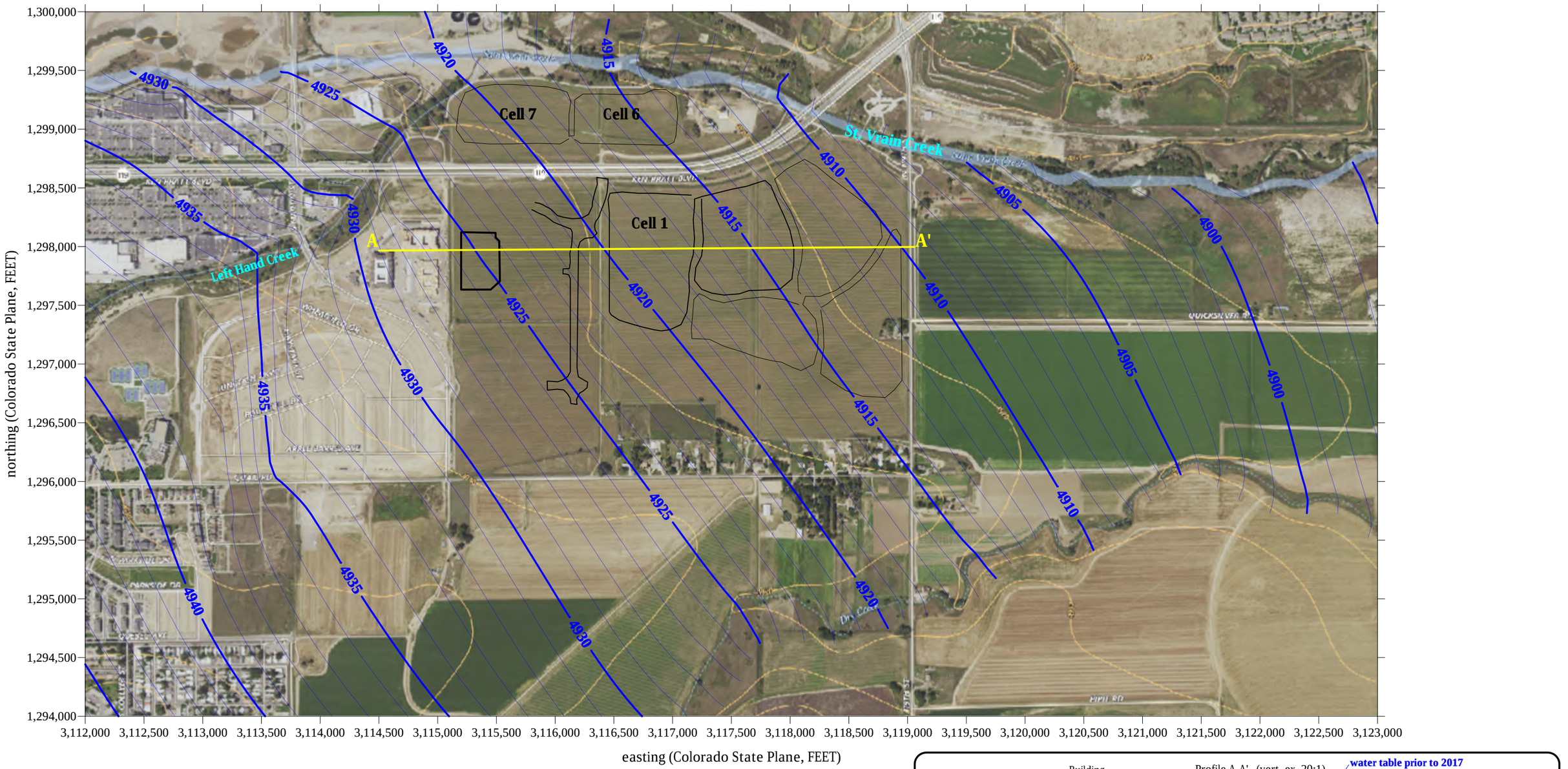
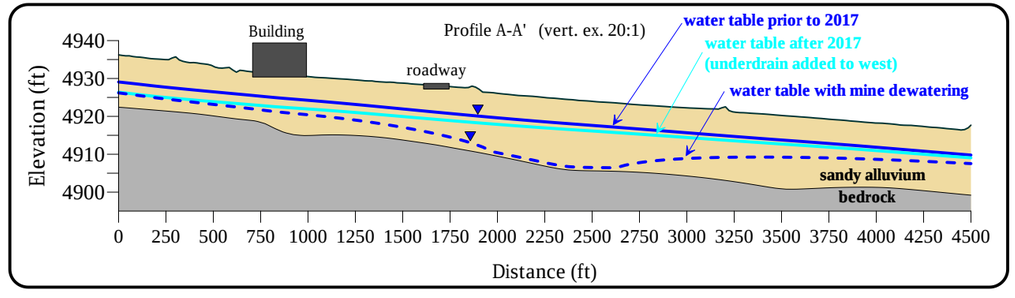


Figure 3. Simulated water table for pre-2017 conditions.





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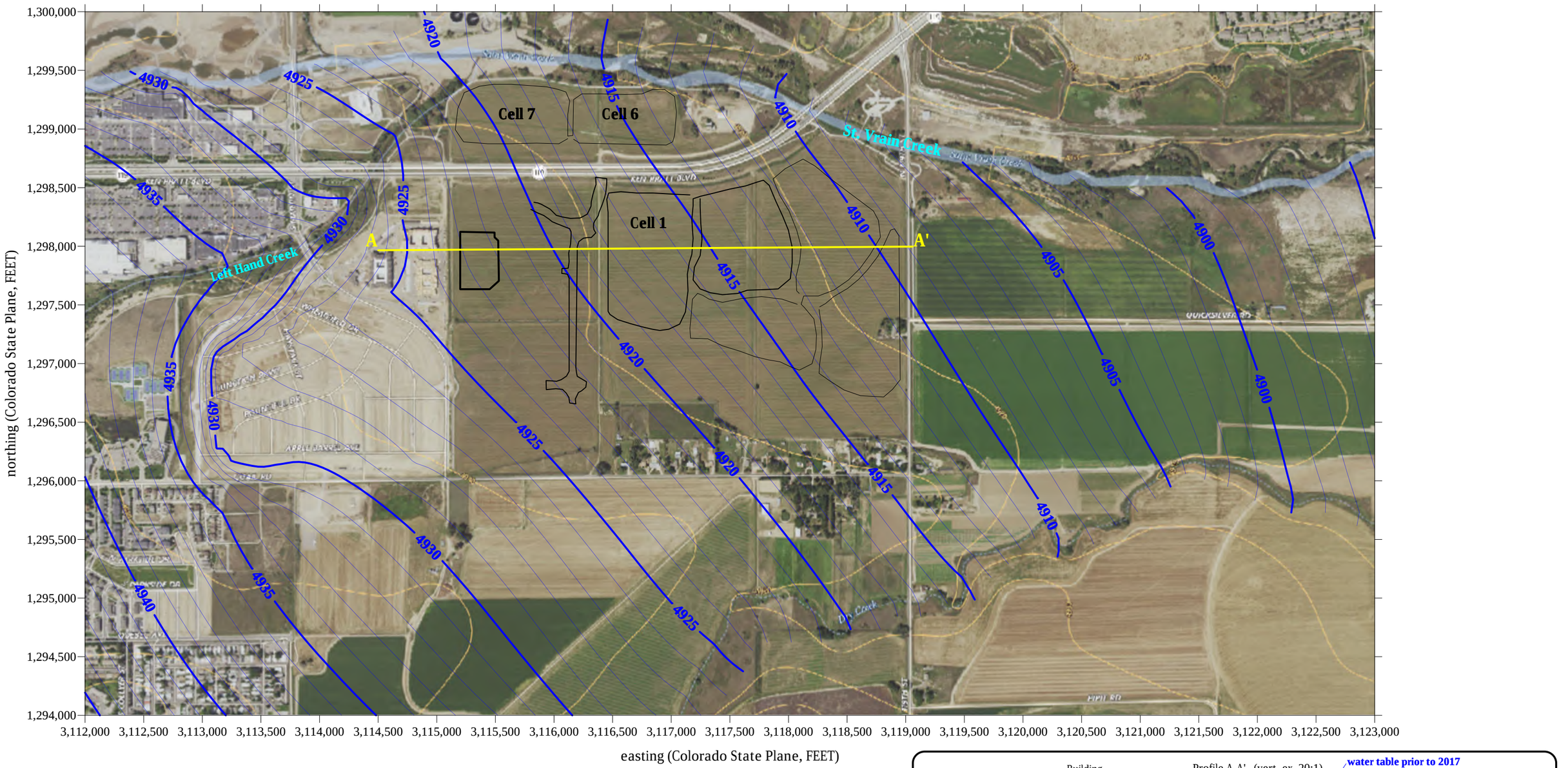
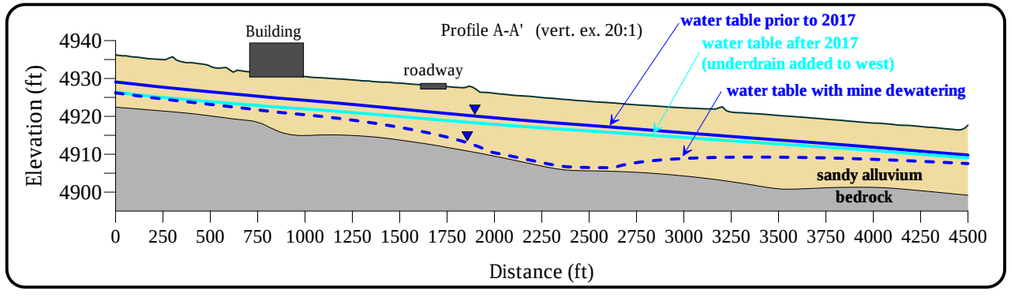
(4) Elevation contours shown in feet.
(5) new underdrain to west (Harvest Junction Village) assumed added circa 2017.

/ProjectMustang/mapping/OutputMaps-M7.srf 6/17/2020

Figure 4. Simulated water table for current conditions (i.e., after underdrain installed in neighborhood on west side).





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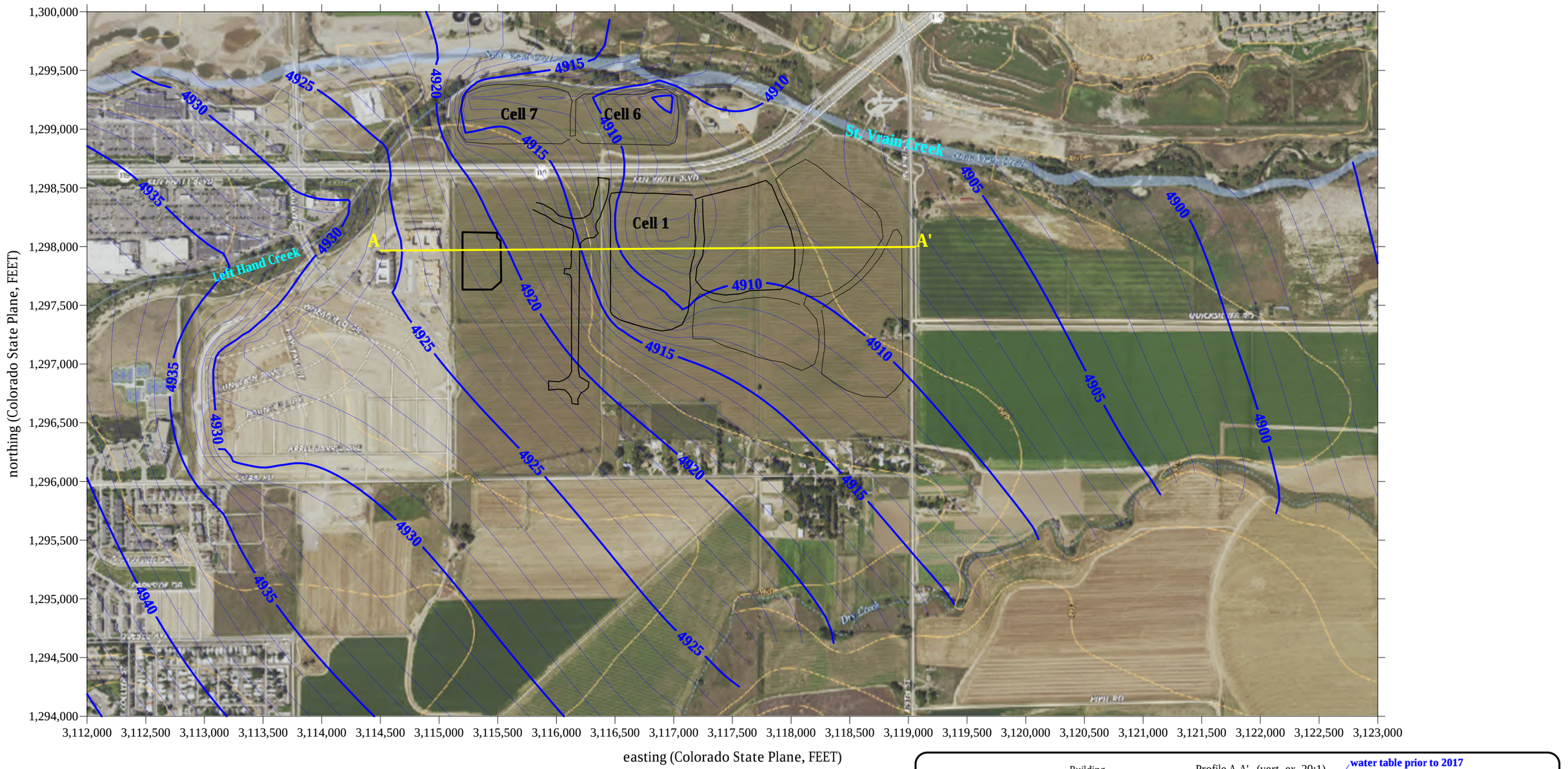
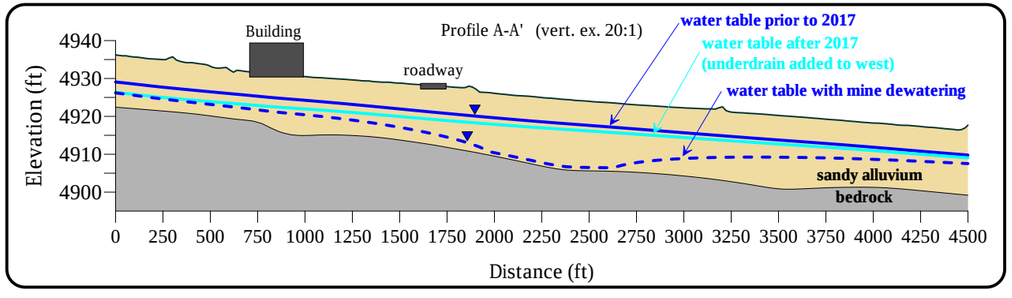
/ProjectMustang/mapping/OutputMaps-M7.srf 6/17/2020

Figure 5. Simulated water table while dewatering mine cells 1, 6, and 7.





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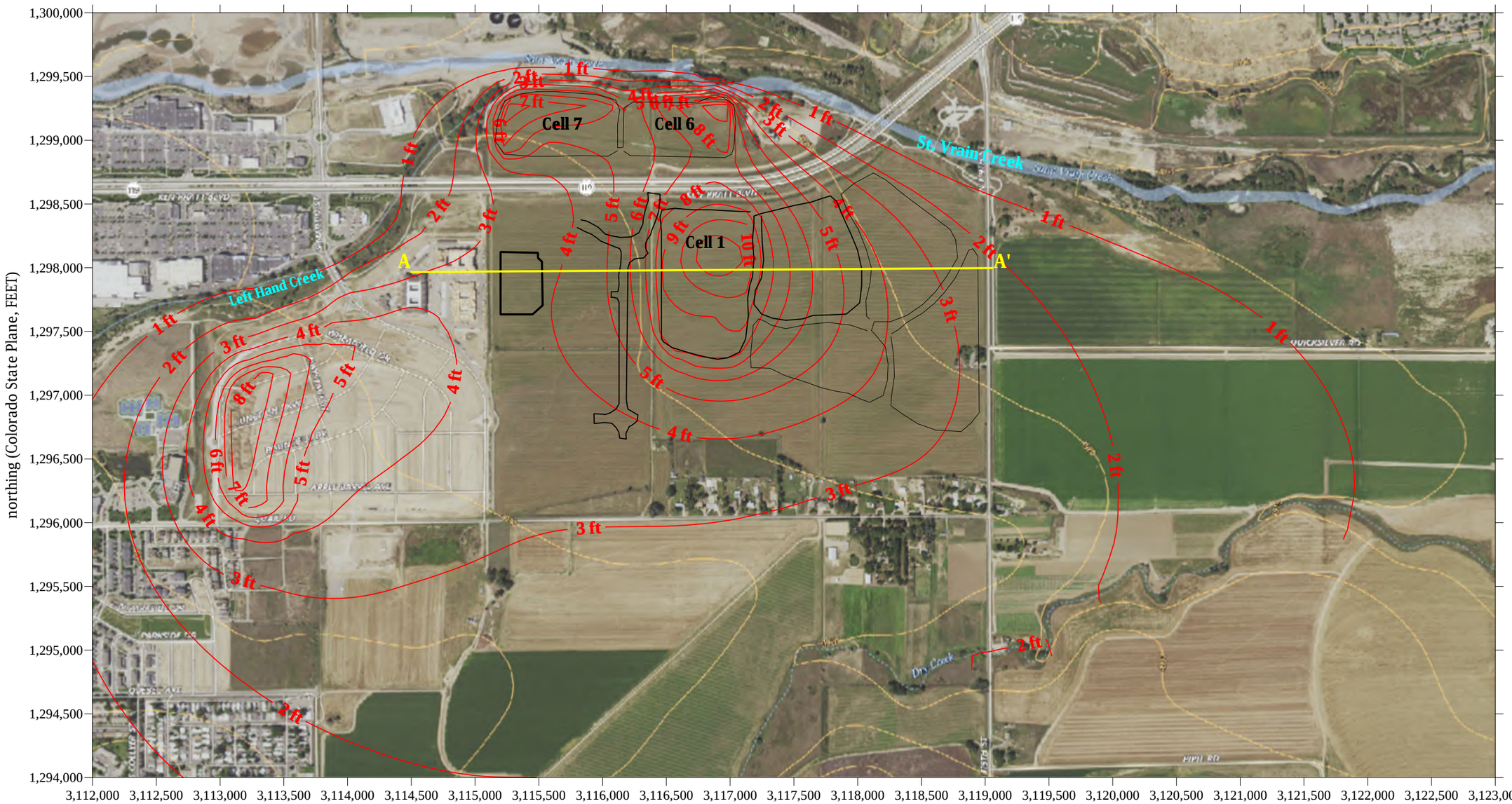
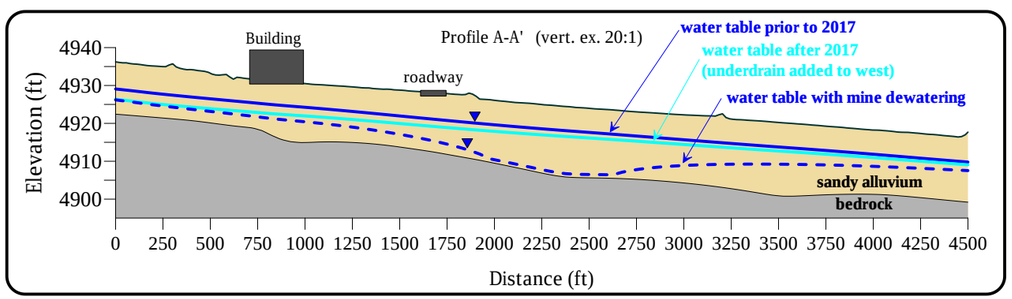
/ProjectMustang/mapping/OutputMaps-M7.srf 6/17/2020

Figure 6. Simulated drawdown with mine dewatering (Cells 1, 6, and 7) <u>relative</u> to pre-2017 water levels.





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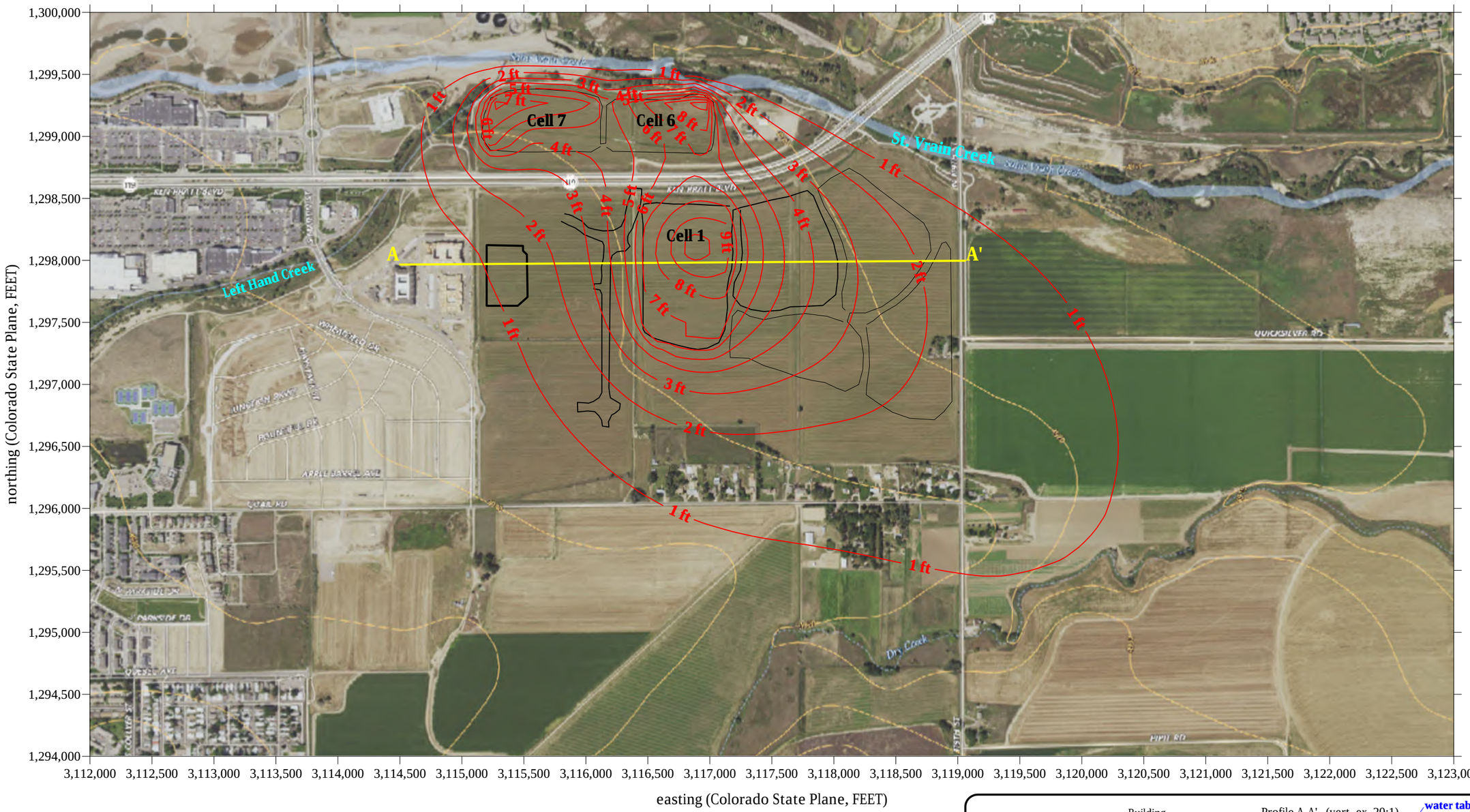
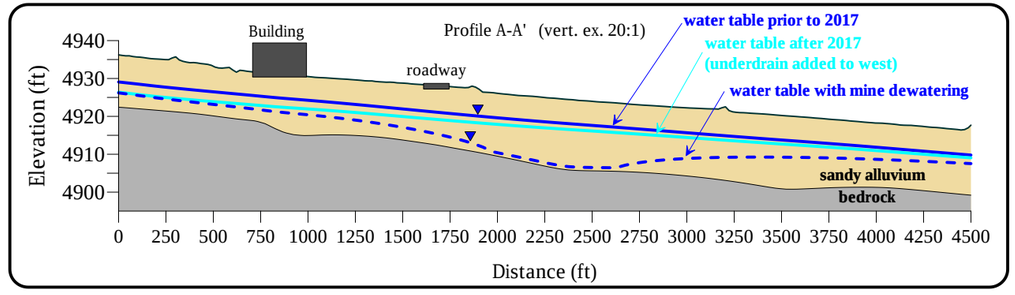
/ProjectMustang/mapping/OutputMaps-M7.srf 6/17/2020

Figure 7. Simulated drawdown with mine dewatering (Cells 1, 6, and 7) <u>relative</u> to recent (post-2017) water levels.





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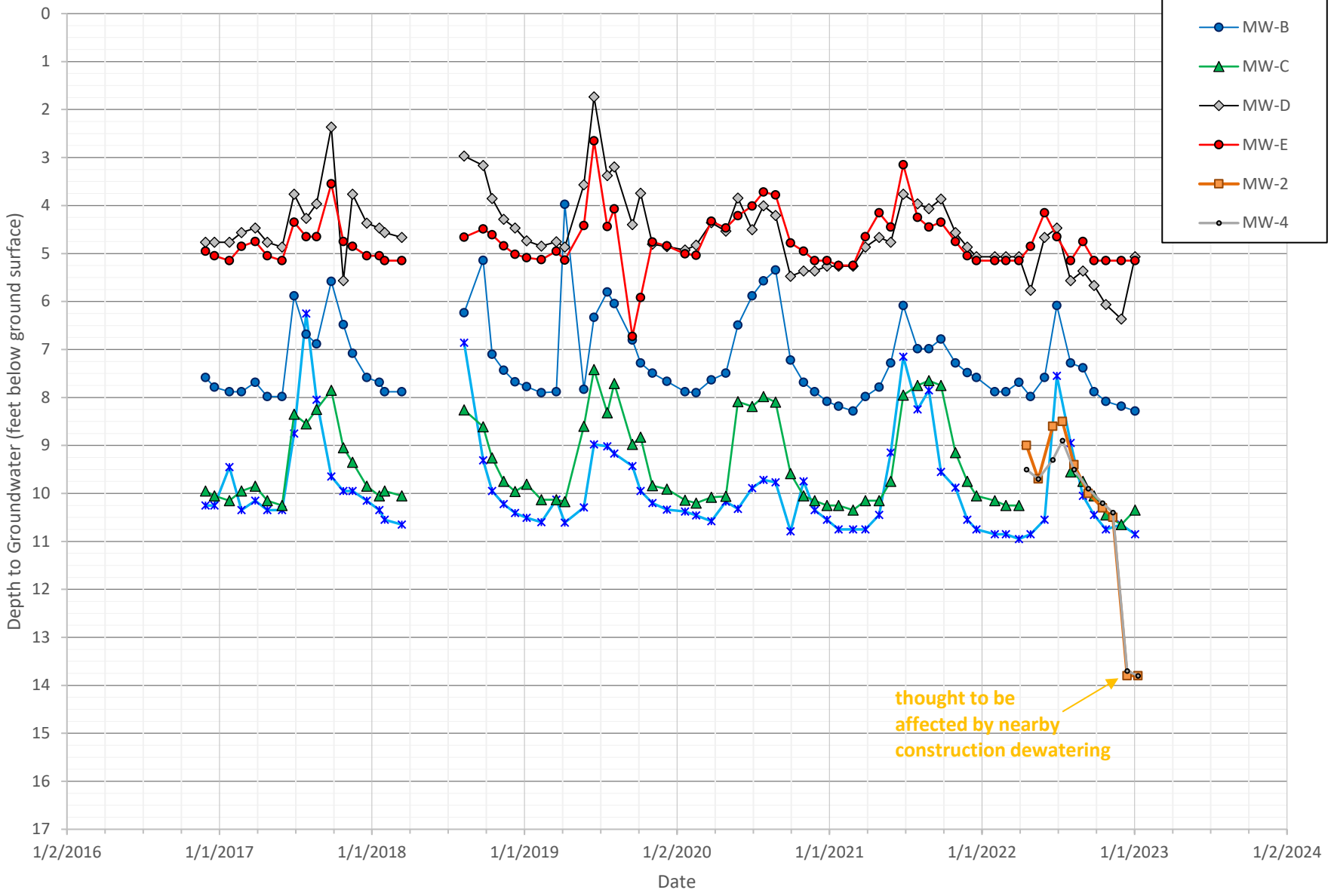
(5) new underdrain to west (Harvest Junction Village) assumed added circa 2017.

/ProjectMustang/mapping/OutputMaps-M7.srf 6/17/2020

Appendix B

Time-Series Water Level Data for the Site

Figure B-1. Time-series water level data from Irwin Thomas monitoring wells.



Appendix C-1

Select permit information for nearby water well: Permit No. 80996-F

WRJ-25-4

THIS FORM MUST BE SUBMITTED PRIOR TO THE EXPIRATION OF THE PERMIT. TYPE OR PRINT IN BLACK INK. COPY OF ACCEPTED STATEMENT MAILED ON REQUEST.

COLORADO DIVISION OF WATER RESOURCES

300 Columbine Bldg., 1845 Sherman St.
Denver, Colorado 80203

RECEIVED
JUN 5 '78
WATER RESOURCES
STATE ENGINEER
COLO.

STATE OF COLORADO
COUNTY OF Boulder } SS.

AFFIDAVIT

X STATEMENT OF BENEFICIAL USE OF GROUND WATER
____ AMENDMENT OF EXISTING RECORD

PERMIT NUMBER 80996[redacted]

LOCATION OF WELL

County Boulder
NE ¼ of the NE ¼, Section 14
Twp. 2 N (N OR S), Rng. 69 W (E OR W), 6 P.M.

THE AFFIANT(S) ARNOLD & JOSEPHINE READ whose mailing address is 11774 Quail Rd City Longmont (STATE) Colo (ZIP) 80501

being duly sworn upon oath, deposes and says that he (they) is (are) the owner(s) of the well described hereon; the well is located as described above, at distances of 250 feet from the North (NORTH OR SOUTH) section line and 940 feet from the East (EAST OR WEST) section line; water from this well was first applied to a beneficial use for the purpose(s) described herein on the 1 day of May, 19 78; the maximum sustained pumping rate of the well is 15 gallons per minute, the pumping rate claimed hereby is 12 gallons per minute; the total depth of the well is 300 feet; the average annual amount of water to be diverted is 2 acre-feet; for which claim is hereby made for Domestic, Livestock & IRRIGATION(1 acre) purpose(s); the legal description of the land on which the water from this well is used is a part of NE¼, NE¼ Sec 14 T.2N R.69W, 6th PM which totals ONE acres and which is illustrated on the map on the reverse side of this form; that this well was completed in compliance with the permit approved therefor; this statement of beneficial use of ground water is filed in compliance with law; he (they) has (have) read the statements made hereon; knows the content thereof; and that the same are true of his (their) knowledge.

Signature(s) [signature]

Subscribed and sworn to before me on this 2nd day of June, 19 78

My Commission expires: 7-23-79 (SEAL)

[signature] NOTARY PUBLIC

his name only notarized by myself

ACCEPTED FOR FILING BY THE STATE ENGINEER OF COLORADO PURSUANT TO THE FOLLOWING CONDITIONS:

FOR OFFICE USE ONLY

Court Case No. _____
Prior. _____ Mo. ____ Day ____ Yr. ____
Div. 1 Cty. 07
Sec. ____ ____ ¼, ____ ¼, ____ ¼,
Well Use 3
Dist. 05 Basin ____ Man. Dis. ____

DATE STATE ENGINEER BY

Well drilled by Western Star Lic. No. 976

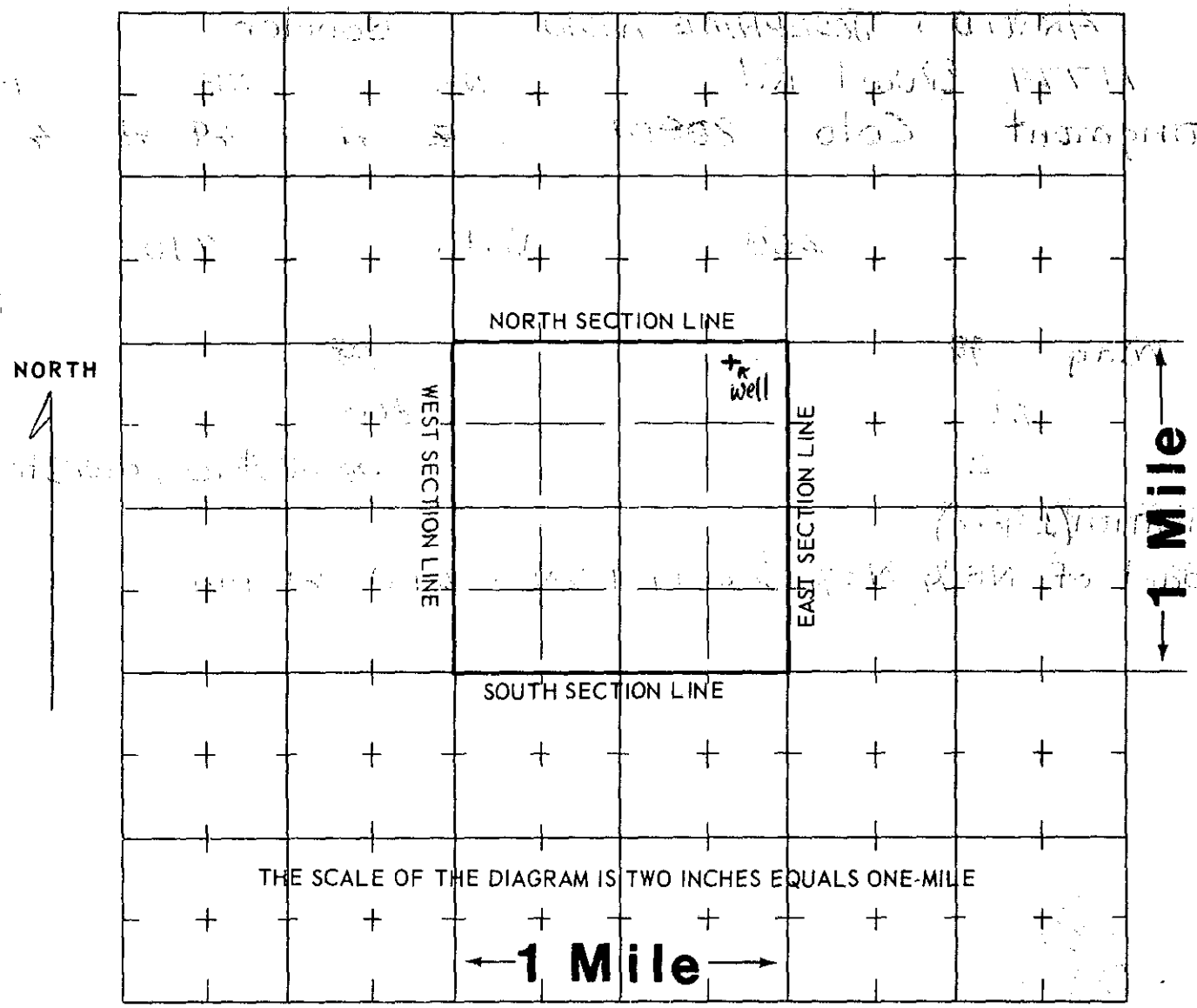
Pump installed by ARNOLD READ Lic. No. Owner

Meter Serial No. N/A ☐ Flow Meter Date Installed

Owner of land on which water is being used ARNOLD & JOSEPHINE READ

THE LOCATION OF THE WELL MUST BE SHOWN AND THE AREA ON WHICH THE WATER IS USED MUST BE SHADED OR CROSS-HATCHED ON THE DIAGRAM BELOW.

This diagram represents nine (9) sections. Use the **CENTER SQUARE** (one section) to indicate the location of the well, if possible.



WATER EQUIVALENTS TABLE (Rounded Figures)

An acre-foot covers 1 acre of land 1 foot deep.
1 cubic foot per second (cfs) . . . 449 gallons per minute (gpm).
1 acre-foot . . . 43,560 cubic feet . . . 325,900 gallons.
1,000 gpm pumped continuously for one day produces 4.42 acre-feet.
100 gpm pumped continuously for one year produces 160 acre-feet.

WR-25-74

THIS FORM MUST BE SUBMITTED PRIOR TO THE EXPIRATION OF THE PERMIT. TYPE OR PRINT IN BLACK INK. COPY OF ACCEPTED STATEMENT MAILED ON REQUEST.

COLORADO DIVISION OF WATER RESOURCES

300 Columbine Bldg., 1845 Sherman St.
Denver, Colorado 80203

RECEIVED
SEP 12 '75
WATER RESOURCES STATE ENGINEER COLO.

STATE OF COLORADO
COUNTY OF BOULDER } SS.

AFFIDAVIT

____ STATEMENT OF BENEFICIAL USE OF GROUND WATER
____ AMENDMENT OF EXISTING RECORD
xx LATE REGISTRATION

PERMIT NUMBER 80996

LOCATION OF WELL

THE AFFIANT(S) Arnold & Josephine Read
whose mailing address is 3265 Euclid Ave.
City Boulder, Colorado 80303 (STATE) (ZIP)

County Boulder
NE ¼ of the NE ¼, Section 14
Twp. 2 N (N OR S), Rng. 69 W (E OR W), 6th P.M.

being duly sworn upon oath, deposes and says that he (they) is (are) the owner(s) of the well described hereon; the well is located as described above, at distances of 100 feet from the NORTH (NORTH OR SOUTH) section line and 940 feet from the EAST (EAST OR WEST) section line; water from this well was first applied to a beneficial use for the purpose(s) described herein on the ___ day of March, 1935; the maximum sustained pumping rate of the well is 25 gallons per minute, the pumping rate claimed hereby is 15 gallons per minute; the total depth of the well is 25 feet; the average annual amount of water to be diverted is 2 acre-feet; for which claim is hereby made for domestic & livestock purpose(s); the legal description of the land on which the water from this well is used is a part of NE¼, NE¼ Sec. 14, T. 2N, R. 69W, 6th P.M. which totals one acres and which is illustrated on the map on the reverse side of this form; that this well was completed in compliance with the permit approved therefor; this statement of beneficial use of ground water is filed in compliance with law; he (they) has (have) read the statements made hereon, knows the content thereof; and that the same are true of his (their) knowledge.

Signature(s) Arnold & Josephine J. Read 64297 63656

Subscribed and sworn to before me on this 8th day of September, 1975

My Commission expires July 14, 1979

My Commission expires: _____ (SEAL)

Notary Public

ACCEPTED FOR FILING BY THE STATE ENGINEER OF COLORADO PURSUANT TO THE FOLLOWING CONDITIONS: (NONE)

FOR OFFICE USE ONLY

Court Case No. _____

Prior. _____ Mo. ____ Day ____ Yr. ____

Div. _____ Cty. _____

Sec. ____ ____ ¼, ____ ¼, ____ ¼,

Well Use ____ ____ ____ ____

Dist. ____ Basin ____ Man. Dis. ____

SEP 22 1975
DATE

Bruce E. DeBruin
STATE ENGINEER

Dep.

BY

Well drilled by Ralph Sawdey Lic. No. NA

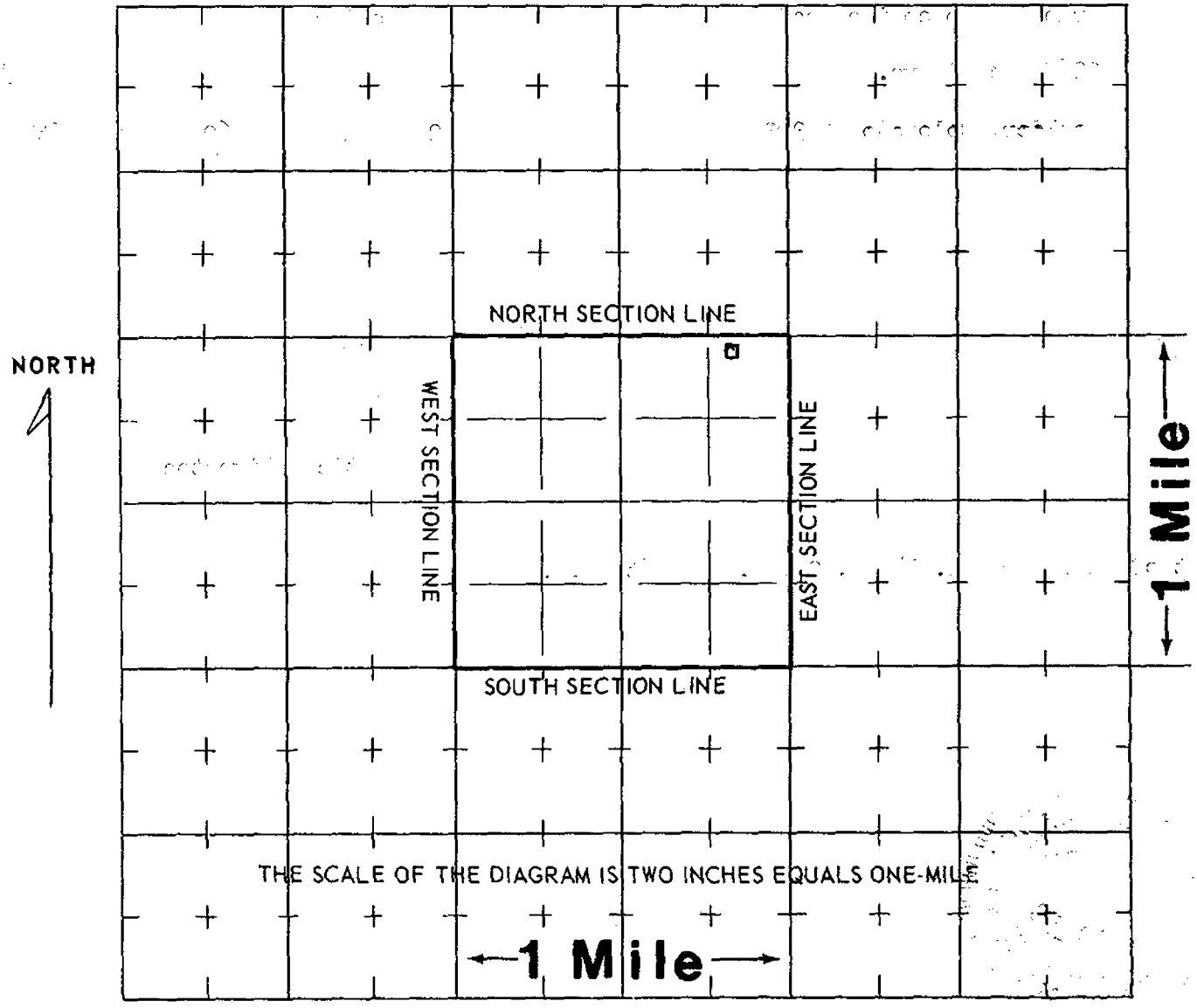
Pump installed by Ralph Sawdey Lic. No. NA

Meter Serial No. NA ☐ Flow Meter Date Installed NA

Owner of land on which water is being used Arnold and Josephine Read

THE LOCATION OF THE WELL MUST BE SHOWN AND THE AREA ON WHICH THE WATER IS USED MUST BE SHADED OR CROSS-HATCHED ON THE DIAGRAM BELOW.

This diagram represents nine (9) sections. Use the **CENTER SQUARE** (one section) to indicate the location of the well, if possible.



WATER EQUIVALENTS TABLE (Rounded Figures)

An acre-foot covers 1 acre of land 1 foot deep.
1 cubic foot per second (cfs) . . . 449 gallons per minute (gpm).
1 acre-foot . . . 43,560 cubic feet . . . 325,900 gallons.
1,000 gpm pumped continuously for one day produces 4.42 acre-feet.
100 gpm pumped continuously for one year produces 160 acre-feet.

WRJ-26-72

THIS FORM MUST BE SUBMITTED WITHIN 60 DAYS OF COMPLETION OF THE WORK DESCRIBED HEREON. TYPE OR PRINT IN BLACK INK.

COLORADO DIVISION OF WATER RESOURCES

300 Columbine Bldg., 1845 Sherman St.
Denver, Colorado 80203

RECEIVED
JAN 12 '78
WATER RESOURCES
STATE ENGINEER
COLO.

WELL COMPLETION AND PUMP INSTALLATION REPORT

PERMIT NUMBER 80996A

WELL OWNER Arnold Reed

ADDRESS 3265 Euclid, Boulder, Colorado

DATE COMPLETED October 26, , 19 77

NE ¼ of the NE ¼ of Sec. 14 ,

T. 2 N , R. 69 W , 6 P.M.

WELL LOG

From	To	Type and Color of Material	Water Loc.
0	21	sand, gravel, brown	
21	24	" " "	*
24	50	shale, gray	
50	75	" blue	
75	200	" gray	
200	300	" gray	

TOTAL DEPTH 300'

Use additional pages necessary to complete log.

HOLE DIAMETER

8 in. from 0 to 20 ft.

6 in. from 20 to 300 ft.

_____ in. from _____ to _____ ft.

DRILLING METHOD cable tool

CASING RECORD:

Plain Casing

Size 6 5/8 & kind steel from +1 to 20 ft.

Size OPEN & kind _____ from 20 to 300 ft.

Size _____ & kind _____ from _____ to _____ ft.

Perforated Casing

Size 6 5/8 & kind steel from 20 to 26 ft.

Size _____ & kind _____ from _____ to _____ ft.

Size _____ & kind _____ from _____ to _____ ft.

GROUTING RECORD

Material cement

Intervals 10-20

Placement Method poured

GRAVEL PACK: Size _____

Interval _____

TEST DATA

Date Tested October 26 , 1977

Static Water Level Prior to Test 12 ft.

Type of Test Pump Balor

Length of Test 2 hours

Sustained Yield (Metered) 15 GPM

Final Pumping Water Level 50'

PUMP INSTALLATION REPORT

Pump Make _____

Type _____

Powered by _____ HP _____

Pump Serial No. _____

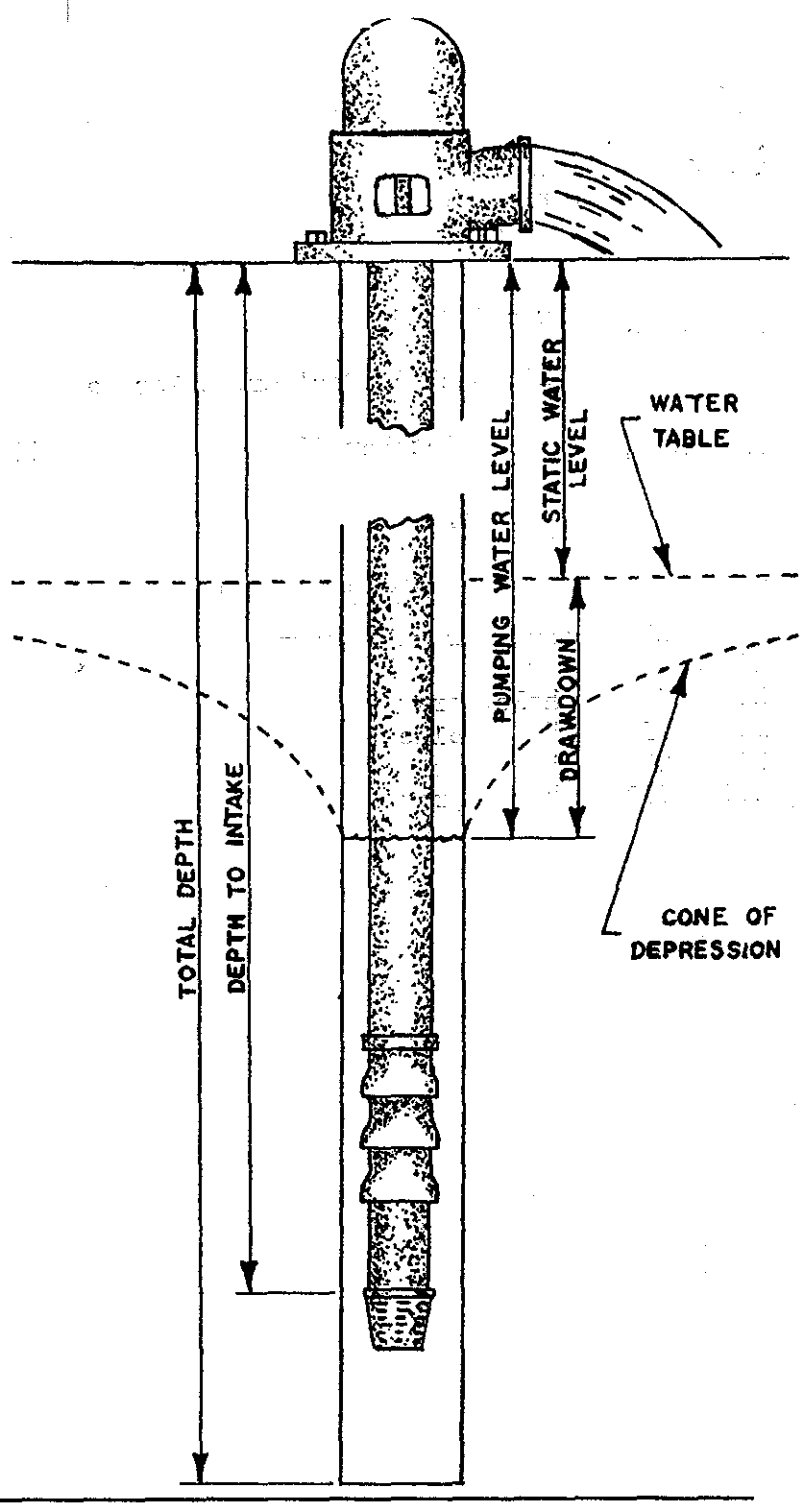
Motor Serial No. _____

Date Installed _____

Pump Intake Depth _____

Remarks _____

_____



WELL TEST DATA WITH PERMANENT PUMP

Date Tested _____

Static Water Level Prior to Test _____

Length of Test _____ Hours

Sustained yield (Metered) _____ GPM

Pumping Water Level _____

Remarks _____

_____

CONTRACTORS STATEMENT

The undersigned, being duly sworn upon oath, deposes and says that he is the contractor of the well or pump installation described hereon; that he has read the statement made hereon; knows the content thereof, and that the same is true of his own knowledge.

Signature Paul Lemmon License No. 976

State of Colorado, County of Denver SS

Subscribed and sworn to before me this 12 day of January, 19 78.

My Commission expires: My Commission Expires Feb. 22, 1981, 19 ____.

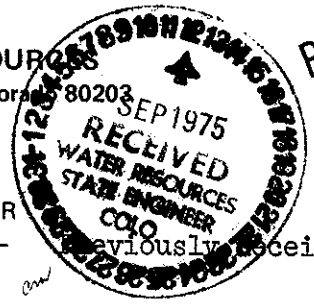
Notary Public Robert W. Boose

FORM TO BE MADE OUT IN QUADRUPLICATE: WHITE FORM must be an original copy on both sides and signed. WHITE AND GREEN copies must be filed with the State Engineer. PINK COPY is for the Owner and YELLOW COPY is for the Driller.

WRJ-5-74

COLORADO DIVISION OF WATER RESOURCES

101 Columbine Bldg., 1845 Sherman St., Denver, Colorado 80203



RECEIVED
SEP 12 '75
WATER RESOURCES
STATE ENGINEER
COLO

PERMIT APPLICATION FORM

Application must be complete where applicable. Type or print in BLACK INK. No overstrikes or erasures unless initialed.

FOR:
( ) A PERMIT TO USE GROUND WATER
(X) A PERMIT TO CONSTRUCT A WELL
(X) A PERMIT TO INSTALL A PUMP
(X) REPLACEMENT FOR NO. _____
( ) OTHER _____

Previously received 8-19-75

(1) APPLICANT - mailing address

NAME Arnold and Josephine Read

STREET 3265 Euclid Ave.

CITY Boulder, Colorado (State) 80303 (Zip)

TELEPHONE NO. 442-0427

(2) LOCATION OF PROPOSED WELL

County Boulder

NE ¼ of the NE ¼, Section 14

Twp. 2 N, Rng. 69 W, 6th P.M.

(3) WATER USE AND WELL DATA

Proposed maximum pumping rate (gpm) 15

Average annual amount of ground water to be appropriated (acre-feet): 2

Number of acres to be irrigated: 1

Proposed total depth (feet): 65

Aquifer ground water is to be obtained from:

Owner's well designation #1

GROUND WATER TO BE USED FOR:

( ) HOUSEHOLD USE ONLY - no irrigation (0)
(X) DOMESTIC (1)
(X) LIVESTOCK (2)
( ) COMMERCIAL (4)
( ) INDUSTRIAL (5)
( ) IRRIGATION (6)
( ) MUNICIPAL (8)
( ) OTHER (9) _____

(4) DRILLER

Name Marshall Drilling

Street 741 Collyer Street

City Longmont, Colorado (State) 80501 (Zip)

Telephone No. 776-2620 Lic. No. 84

FOR OFFICE USE ONLY: DO NOT WRITE IN THIS COLUMN

Receipt No. 63656 / 64297

Basin _____ Dist. _____

CONDITIONS OF APPROVAL

This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of the permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.

APPROVED AS A REPLACEMENT OF WELL NO. 80996 THE EXISTING WELL MUST BE PLUGGED AND ABANDONED ACCORDING TO THE REVISED AND AMENDED RULES AND REGULATIONS FOR WATER WELL AND PUMP INSTALLATION CONTRACTORS. THE ENCLOSED AFFIDAVIT MUST BE SUBMITTED WITHIN SIXTY (60) DAYS AFTER THE CONSTRUCTION OF THE NEW WELL, AFFIRMING THAT WELL NO. 80996 WAS PLUGGED AND ABANDONED.

PERMIT EXPIRATION EXTENDED ONE YEAR TO SEPTEMBER 22, 1978. APPROVED BY: JOH

APPLICATION APPROVED

PERMIT NUMBER 80996-A

DATE ISSUED SEP 22 1975

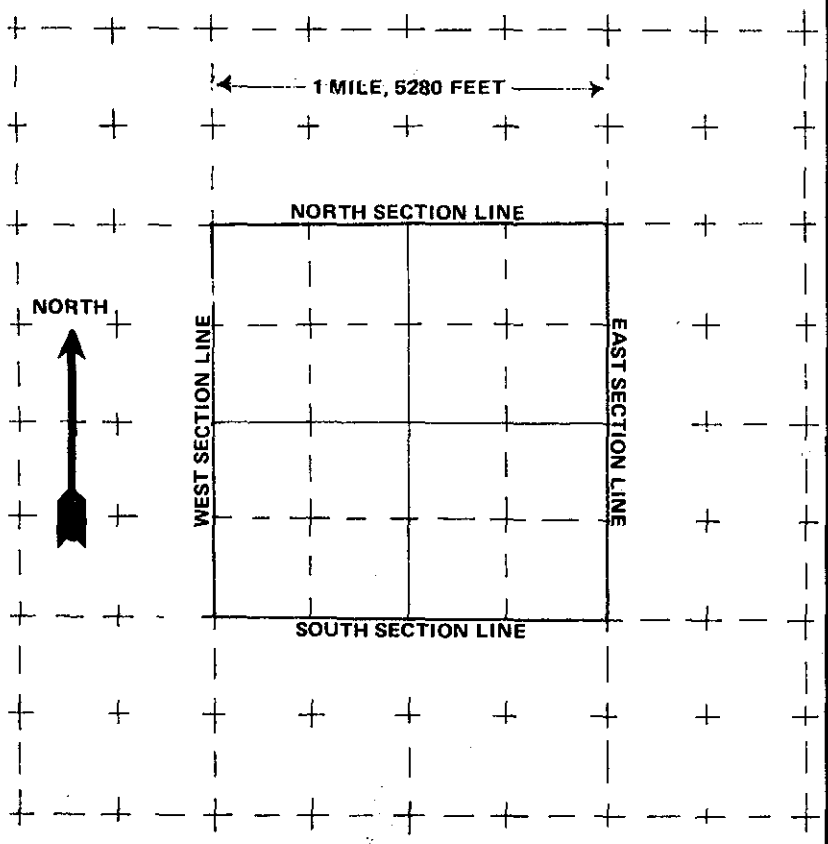
EXPIRATION DATE SEP 22 1977

Bruce E. DeBruce
Deputy (STATE ENGINEER)

BY _____

I.D. 1-05 COUNTY 07

(5) THE LOCATION OF THE PROPOSED WELL and the area on which the water will be used must be indicated on the diagram below. Use the CENTER SECTION (1 section, 640 acres) for the well location.



The scale of the diagram is 2 inches = 1 mile
Each small square represents 40 acres.

WATER EQUIVALENTS TABLE (Rounded Figures)
An acre-foot covers 1 acre of land 1 foot deep
1 cubic foot per second (cfs) . . . 449 *gallons per minute (gpm)*
A family of 5 will require approximately 1 acre-foot of water per year.
1 acre-foot . . . 43,560 cubic feet . . . 325,900 gallons.
1,000 gpm pumped continuously for one day produces 4.42 acre-feet.

(6) THE WELL MUST BE LOCATED BELOW by distances from section lines.

200 ft. from North (north or south) sec. line

940 ft. from East (east or west) sec. line

LOT _____ BLOCK _____ FILING # _____

SUBDIVISION _____

(7) TRACT ON WHICH WELL WILL BE LOCATED Owner: A. Read

No. of acres 10. Will this be the only well on this tract? No

(8) PROPOSED CASING PROGRAM

Plain Casing

5 in. from 1' above 0 ft. to 25 ft.

_____ in. from _____ ft. to _____ ft.

Perforated casing

5 in. from 25 ft. to 65 ft.

_____ in. from _____ ft. to _____ ft.

(9) FOR REPLACEMENT WELLS give distance and direction from old well and plans for plugging it:

100 ft south
Fill with gravel 5 ft above
water table then compacted
earth to ground level

(10) LAND ON WHICH GROUND WATER WILL BE USED:

Owner(s): Arnold E. Read Josephine R. Read No. of acres: 10

Legal description: _____

(11) DETAILED DESCRIPTION of the use of ground water: Household use and domestic wells must indicate type of disposal system to be used.

Domestic and Livestock

Septic tank and Leach field

(12) OTHER WATER RIGHTS used on this land, including wells.

Type or right	Used for (purpose)	Description of land on which used
16.5 Acre-feet Rice Ditch	Irrigation	Farm Land

(13) THE APPLICANT(S) STATE(S) THAT THE INFORMATION SET FORTH HEREON IS TRUE TO THE BEST OF HIS KNOWLEDGE.

X _____
SIGNATURE OF APPLICANT(S)

Use additional sheets of paper if more space is required.

RICHARD D. LAMM
Governor

C.J. KUIPER
State Engineer

DIVISION OF WATER RESOURCES

Department of Natural Resources
1313 Sherman Street - Room 818
Denver, Colorado 80203
Administration (303) 892-3581
Ground Water (303) 892-3587

September 21, 1977

Mr. Paul Balbin
Western Star Drilling Company
Sugarloaf Star Route
Boulder, CO 80302

RE: Well Permit No. 80996-A

Dear Mr. Balbin:

Your request for an extension of time to construct the proposed well and put the water from it to beneficial use has been received and reviewed.

You are hereby given notice that an extension of one year to September 22, 1978, has been approved by the State Engineer and a copy of the extended permit is enclosed. Please be advised that additional extensions may not be approved.

If you have questions regarding this matter, please contact this office.

Very truly yours,

Reiner G. Haubold
Water Resources Engineer
Ground Water Section

RGH/DJA:ew
Encl.

Appendix C-2

Select permit information for nearby water well: Permit No. 67883-F

FORM NO. GWS-31 04/2005

WELL CONSTRUCTION AND TEST REPORT

STATE OF COLORADO, OFFICE OF THE STATE ENGINEER
1313 Sherman St., Room 818, Denver, CO 80203
Phone – Info (303) 866-3587 Main (303) 866-3581
Fax (303) 866-3589 http://www.water.state.co.us

For Office Use Only

RECEIVED

NOV 09 2009

WATER RESOURCES
STATE ENGINEER
COLO.

1. **WELL PERMIT NUMBER:** 67883-F

2. **WELL OWNER INFORMATION**
NAME OF WELL OWNER: City of Longmont
MAILING ADDRESS: 385 Kimbark Street
CITY: Longmont STATE: CO ZIP CODE: 80501
TELEPHONE NUMBER: (303) 651 - 8330

3. WELL LOCATION AS DRILLED: SE 1/4, NE 1/4, Sec. 11, Twp. 2 [X] N or [ ] S, Range 69 [ ] E or [X] W
DISTANCES FROM SEC. LINES: 2571 ft. from [X] N or [ ] S section line and 47 ft. from [X] E or [ ] W section line.
SUBDIVISION: _____, LOT _____, BLOCK _____, FILING (UNIT) _____
Optional GPS Location: GPS Unit must use the following settings: Format must be **UTM**, Units must be **meters**, Datum must be **NAD83**, Unit must be set to **true N**, [ ] Zone 12 or [ ] Zone 13
Owner's Well Designation: _____
Easting: _____
STREET ADDRESS AT WELL LOCATION: 9762 N. 119th St. Longmont, CO 80504 Northing:

4. GROUND SURFACE ELEVATION 4913 feet DRILLING METHOD Open Excavation
DATE COMPLETED 7/16/2009 TOTAL DEPTH 16 feet DEPTH COMPLETED 16 feet

5. GEOLOGIC LOG:

Depth	Type	Grain Size	Color	Water Loc.
0-16	Sand & Gravel	3"-	Tan	8'2"

6. HOLE DIAM (in.) From (ft) To (ft)
N/A

7. PLAIN CASING:
OD (in) Kind Wall Size (in) From (ft) To (ft)
See Attached Drawings

PERFORATED CASING: Screen Slot Size (in): _____

8. FILTER PACK:
Material See Attached Drawings
Size
Interval

9. PACKER PLACEMENT:
Type See Attached Drawings
Depth

10. GROUTING RECORD
Material Amount Density Interval Placement
See Attached Drawings

Remarks: _____

11. DISINFECTION: Type HTH Amt. Used 11b

12. WELL TEST DATA: [ ] Check box if Test Data is submitted on Form Number GWS 39 Supplemental Well Test.
TESTING METHOD Submersible
Static Level 8'2" ft. Date/Time measured: 9/8/2009, Production Rate 201 gpm.
Pumping Level 13'1" ft. Date/Time measured 9/8/2009, Test Length (hrs) 30 min.
Remarks:

13. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402-2. [The filing of a document that contains false statements is a violation of section 37-91-108(1)(e), C.R.S., and is punishable by fines up to $5000 and/or revocation of the contracting license.]

Company Name:	Phone:	License Number:
Crall & Bowes, Inc.	(303) 772-7290	857

Mailing Address: 1877 Vista View Drive, Longmont, CO 80504

Signature	Print Name and Title	Date
Glenn Clement	Glenn Clement Special Consultant To Crall & Bowes	9-11-09

STATE OF COLORADO

3636843

RECEIVED

NOV 09 2009

WATER RESOURCES
STATE ENGINEER
COLO.

BOARD OF EXAMINERS OF WATER WELL CONSTRUCTION AND PUMP INSTALLATION CONTRACTORS
Division of Water Resources

1313 Sherman Street, Room 818
Denver, CO 80203
Phone (303) 866-3581
FAX (303) 866-3589

http://www.water.state.co.us/boe

February 6, 2009

RECEIVED
FEB 13 2009
Loris and Associates, Inc.

FILE COPY

City of Longmont
385 Kimbark Street
Longmont, Colorado 80501

RE: Request for Approval of Plans for Construction of a Gallery-Type Dewatering Well, Permit Application Receipt No. 3636843, SE ¼, NE ¼, Section 11, Township 2 North, Range 69 West, Sixth P.M., Boulder County.

Request No: 2009-008A

A request for approval of plans for the construction of a gallery-type dewatering well to be used as an underdrain system to control shallow ground water beneath a proposed underpass for the St. Vrain Greenway was submitted by Loris and Associates, Inc., along with well permit application receipt number 3636843 on January 28, 2009. The request has been reviewed for the Board of Examiners of Water Well Construction and Pump Installation Contractors. The request is specifically for approval of plans to construct a gallery-type dewatering well as required by Rule 10.4.12.

Pursuant to Rules 10.4.12 and 18, and the authority granted by the Board, the construction plans are approved subject to the following conditions:

1. The well construction shall be in accordance with the Water Well Construction Rules except those Rules for which a variance is granted herein. Unless written approval for a modification to this variance is obtained, all conditions and requirements of this variance approval shall be satisfied, or the entire variance shall be void, and all standards of the Construction Rules applicable.
2. The gallery-type well shall be constructed in accordance with the plans and diagrams submitted with the permit application, except as modified herein.
3. Discharge from the dewatering gallery must be in accordance with the well permit.
4. Water from the dewatering well shall not be used for human consumption, or for any other purpose not specifically approved by well permit.
5. The well must be constructed by a licensed water well construction contractor or by the owner with equipment both owned and operated by the owner.
6. The Well Construction and Test Report (Form GWS-31) must be completed and filed within 60 days of completion of the well and the Pump Installation and Test Report

(Form GWS-32) must be submitted within 60 days of installation of pumping equipment.

Owner and contractors are also advised that Rule 6.6 of the Construction Rules requires that the construction comply with any federal, state, county, municipal or local government laws, regulations or codes that are more stringent than these Rules, including distance requirements from sources of contaminants, or contain standards not covered by these Rules.

Approval of this request does not relieve the owner of potential responsibility or liability in the event contamination of the water source results from construction, nor does the grantor assume any responsibility or liability should contamination occur.

If you have any questions, please contact this office.

Sincerely,

Michael P Schaubs, P.G.
Senior Geologist, Geotechnical Services Branch
Division of Water Resources

cc: Well Permit File
Loris and Associates

Form No.
GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

FILE COPY

LIC

WELL PERMIT NUMBER 67883 -F -
DIV. 1 WD 6 DES. BASIN MD

APPLICANT

RECEIVED

NOV 09 2009

WATER RES.
STATE ENGINEER
COLO.

CITY OF LONGMONT
385 KIMBARK STREET
LONGMONT, CO 80501-

(303) 651-8330

APPROVED WELL LOCATION
BOULDER COUNTY
SE 1/4 NE 1/4 Section 11
Township 2 N Range 69 W Sixth P.M.

DISTANCES FROM SECTION LINES
2571 Ft. from North Section Line
47 Ft. from East Section Line

UTM COORDINATES (Meters,Zone:13,NAD83)
Easting: Northing:

PERMIT TO CONSTRUCT A WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-90-137(2) for the construction of a dewatering well (underdrain system) to withdraw ground water from Saint Vrain Creek which is tributary to the South Platte River. The underdrain system will be used to control shallow ground water beneath a proposed underpass for the Saint Vrain Greenway.
4) The well shall be constructed and maintained in accordance with variance no. 2009-008A, granted by the Board of Examiners of Water Well Construction and Pump Installation Contractors on February 6, 2009.
5) All ground water diverted must be discharged to Saint Vrain Creek without consumptive use or evaporative losses.
6) The owner shall mark the well in a conspicuous place with well permit number(s), name of the aquifer, and court case number(s) as appropriate. The owner shall take necessary means and precautions to preserve these markings.
7) This well shall be constructed at least 600 feet from any existing well, completed in the same aquifer, that is not owned by the applicant.
8) This well shall be constructed not more than 200 feet from the location specified on this permit.
9) This well is subject to administration by the Division Engineer in accordance with applicable decrees, statutes, rules, and regulations.

02.09.2009
I.D.C.

APPROVED
IDC

Dick Wolfe
State Engineer

By

Receipt No. 3636843

DATE ISSUED 02-09-2009

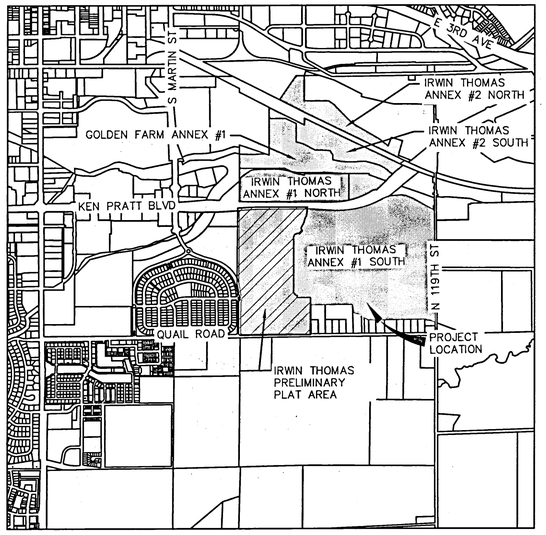
EXPIRATION DATE 02-09-2010

ATTACHMENT I

City of Longmont Final PUD Development Plan

IRWIN THOMAS FINAL PUD DEVELOPMENT PLAN AMENDMENT

PART OF THE NORTHWEST QUARTER, NORTHEAST QUARTER, SOUTHEAST QUARTER AND EAST ONE-HALF OF THE SOUTHWEST QUARTER OF SECTION 11, TOWNSHIP 2 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF BOULDER, STATE OF COLORADO



VICINITY MAP

NOT TO SCALE

THE PURPOSE OF THIS AMENDMENT IS TO REMOVE THE AREA SET FORTH IN THE IRWIN THOMAS PRELIMINARY PLAT FROM THE IRWIN THOMAS FINAL DEVELOPMENT PLAN. THE AREA CALCULATION IN THE TABLE BELOW, SHOWS THE TOTAL ACREAGE OF ALL 3 AREAS THAT REMAIN IN THE PUD. SEE THE LEGAL DESCRIPTIONS OF THE AREAS ON THIS SHEET, AS WELL AS A BOUNDARY MAP ON SHEET 2 OF THIS SET.

THE ORIGINAL PUD WAS MADE UP OF 3 ANNEXATIONS, THE IRWIN THOMAS ANNEXATIONS 1&2 AND THE GOLDEN FARM ANNEXATION. THE AREAS OF THESE ANNEXATIONS ARE SHOWN ON THE KEY MAP ON THIS SHEET.

NORTH PARCEL LEGAL DESCRIPTION

A PARCEL OF LAND SITUATE IN SECTION 11, TOWNSHIP 2 NORTH, RANGE 69 WEST OF THE 6TH P.M., CITY OF LONGMONT, COUNTY OF BOULDER, STATE OF COLORADO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 11 WHENCE THE WEST LINE OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 11, TOWNSHIP 6 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, BEING BOUNDED ON THE NORTH END 3.25" ALUMINUM CAP STAMPED LS 34993 AND ON THE SOUTH END BY 3.25 ALUMINUM CAP STAMPED LS 20685, HEREON IS ASSUMED TO BEAR N 00°23'38" E A DISTANCE OF 2618.53' AND CONSIDERING ALL BEARINGS HEREIN RELATIVE THERETO:

THENCE N 89°49'54" E A DISTANCE OF 1143.12 FEET TO THE **POINT OF BEGINNING;**
THENCE N 89°49'52" E A DISTANCE OF 164.58 FEET;
THENCE S 00°16'40" W A DISTANCE OF 504.44 FEET;
THENCE N 89°49'19" E A DISTANCE OF 484.71 FEET;
THENCE S 55°08'38" E A DISTANCE OF 140.51 FEET;
THENCE S 43°57'24" E A DISTANCE OF 429.71 FEET;
THENCE S 49°04'29" E A DISTANCE OF 119.74 FEET;
THENCE S 59°47'40" E A DISTANCE OF 596.86 FEET;
THENCE S 50°54'20" E A DISTANCE OF 225.05 FEET;
THENCE N 21°01'10" E A DISTANCE OF 184.68 FEET;
THENCE S 73°46'50" E A DISTANCE OF 236.00 FEET;
THENCE S 15°28'33" W A DISTANCE OF 306.12 FEET;
THENCE S 65°16'54" E A DISTANCE OF 265.95 FEET;
THENCE S 58°21'32" W A DISTANCE OF 71.65 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WHOSE RADIUS POINT BEARS
N 26°25'09" E, HAVING A RADIUS OF 5950.00 FEET, A CENTRAL ANGLE OF
00°00'32" AND AN ARC LENGTH OF 0.93 FEET;
THENCE N 63°34'35" W A DISTANCE OF 2860.50 FEET;
THENCE N 31°25'52" E A DISTANCE OF 11.30 FEET;
THENCE N 34°42'22" E A DISTANCE OF 568.16 FEET;
TO THE **POINT OF BEGINNING;**
CONTAINING AN AREA OF 799,982 SQUARE FEET OR 18.365 ACRES.

MIDDLE PARCEL LEGAL DESCRIPTION

A PARCEL OF LAND SITUATE IN SECTION 11, TOWNSHIP 2 NORTH, RANGE 69 WEST OF THE 6TH P.M., CITY OF LONGMONT, COUNTY OF BOULDER, STATE OF COLORADO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 11 WHENCE THE WEST LINE OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 11, TOWNSHIP 6 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, BEING BOUNDED ON THE NORTH END 3.25" ALUMINUM CAP STAMPED LS 34993 AND ON THE SOUTH END BY 3.25 ALUMINUM CAP STAMPED LS 20685, HEREON IS ASSUMED TO BEAR N 00°23'38" E A DISTANCE OF 2618.53' AND CONSIDERING ALL BEARINGS HEREIN RELATIVE THERETO:

THENCE S 44°07'23" E A DISTANCE OF 861.13 FEET TO **THE POINT OF BEGINNING;**
THENCE S 63°34'35" E A DISTANCE OF 785.57 FEET;
THENCE N 00°16'40" E A DISTANCE OF 139.25 FEET;
THENCE S 63°34'35" E A DISTANCE OF 2201.79 FEET;
THENCE S 51°28'15" W A DISTANCE OF 223.41 FEET;
THENCE S 46°31'45" W A DISTANCE OF 47.02 FEET;
THENCE S 46°14'25" W A DISTANCE OF 449.80 FEET;
THENCE S 75°36'32" W A DISTANCE OF 67.34 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WHOSE RADIUS POINT BEARS
N 32°29'28" W, HAVING A RADIUS OF 1490.89 FEET, A CENTRAL ANGLE OF
20°28'42" AND AN ARC LENGTH OF 532.86 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WHOSE RADIUS POINT BEARS
N 11°57'37" W, HAVING A RADIUS OF 1499.43 FEET, A CENTRAL ANGLE OF
12°06'13" AND AN ARC LENGTH OF 316.75 FEET;
THENCE N 89°46'53" W A DISTANCE OF 1458.66 FEET;
THENCE N 88°35'07" W A DISTANCE OF 420.12 FEET;
THENCE N 00°09'49" E A DISTANCE OF 957.15 FEET;
THENCE S 89°03'48" E A DISTANCE OF 304.11 FEET;
THENCE N 87°51'12" E A DISTANCE OF 223.07 FEET;
THENCE S 70°42'17" E A DISTANCE OF 78.66 FEET;
THENCE N 00°09'49" E A DISTANCE OF 972.28 FEET;
TO THE **POINT OF BEGINNING;**
CONTAINING AN AREA OF 3,878,224 SQUARE FEET OR 89.032 ACRES.

SOUTH PARCEL LEGAL DESCRIPTION

A PARCEL OF LAND SITUATE IN SECTION 11, TOWNSHIP 2 NORTH, RANGE 69 WEST OF THE 6TH P.M., CITY OF LONGMONT, COUNTY OF BOULDER, STATE OF COLORADO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 11 WHENCE THE WEST LINE OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 11, TOWNSHIP 6 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, BEING BOUNDED ON THE NORTH END 3.25" ALUMINUM CAP STAMPED LS 34993 AND ON THE SOUTH END BY 3.25 ALUMINUM CAP STAMPED LS 20685, HEREON IS ASSUMED TO BEAR N 00°23'38" E A DISTANCE OF 2618.53' AND CONSIDERING ALL BEARINGS HEREIN RELATIVE THERETO:

THENCE S 88°26'32"E A DISTANCE OF 1364.08 FEET TO THE **POINT OF BEGINNING;**
THENCE S 89°47'31" E A DISTANCE OF 92.74 FEET;
THENCE S 86°10'33" E A DISTANCE OF 453.38 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE LEFT WHOSE RADIUS POINT BEARS
N 02°47'20" E, HAVING A RADIUS OF 1761.52 FEET, A CENTRAL ANGLE OF
37°39'31" AND AN ARC LENGTH OF 1157.79 FEET;
THENCE N 85°23'01" E A DISTANCE OF 262.28 FEET;
THENCE S 80°30'18" E A DISTANCE OF 90.60 FEET;
THENCE S 67°36'37" E A DISTANCE OF 167.64 FEET;
THENCE S 60°10'29" E A DISTANCE OF 457.20 FEET;
THENCE N 89°53'04" E A DISTANCE OF 40.00 FEET;
THENCE S 00°06'56" E A DISTANCE OF 1231.26 FEET;
THENCE S 00°02'50" W A DISTANCE OF 1141.37 FEET;
THENCE N 89°58'52" W A DISTANCE OF 50.09 FEET;
THENCE N 00°02'50" E A DISTANCE OF 80.70 FEET;
THENCE N 70°49'00" W A DISTANCE OF 70.96 FEET;
THENCE N 79°37'39" W A DISTANCE OF 133.21 FEET;
THENCE NORTH A DISTANCE OF 14.08 FEET;
THENCE WEST A DISTANCE OF 1120.00 FEET;
THENCE N 58°27'33" W A DISTANCE OF 98.96 FEET;
THENCE SOUTH A DISTANCE OF 333.86 FEET;
THENCE WEST A DISTANCE OF 55.00 FEET;
THENCE NORTH A DISTANCE OF 367.62 FEET;
THENCE N 58°27'33" W A DISTANCE OF 31.07 FEET;
THENCE N 66°50'00" W A DISTANCE OF 157.10 FEET;
THENCE N 00°22'00" E A DISTANCE OF 145.94 FEET;
THENCE WEST A DISTANCE OF 840.04 FEET;
THENCE N 00°22'00" E A DISTANCE OF 138.59 FEET;
THENCE N 89°39'38" W A DISTANCE OF 238.51 FEET;
THENCE N 0°00'31" W A DISTANCE OF 36.30 FEET;
THENCE S 89°59'29" W A DISTANCE OF 20.00 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WHOSE RADIUS POINT BEARS
N 13°57'26" E, HAVING A RADIUS OF 100.00 FEET, A CENTRAL ANGLE OF
76°52'42" AND AN ARC LENGTH OF 134.18 FEET;
THENCE N 12°12'33" E A DISTANCE OF 15.30 FEET;
THENCE N 0°03'11" W A DISTANCE OF 995.52 FEET;
THENCE N 15°25'38" W A DISTANCE OF 14.34 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WHOSE RADIUS POINT BEARS
N 74°34'22" E, HAVING A RADIUS OF 40.00 FEET, A CENTRAL ANGLE OF
19°56'55" AND AN ARC LENGTH OF 13.93 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WHOSE RADIUS POINT BEARS
S 85°28'44" E, HAVING A RADIUS OF 123.50 FEET, A CENTRAL ANGLE OF
27°19'24" AND AN ARC LENGTH OF 58.89 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WHOSE RADIUS POINT BEARS
S 58°09'20" E, HAVING A RADIUS OF 79.50 FEET, A CENTRAL ANGLE OF
87°42'16" AND AN ARC LENGTH OF 121.69 FEET;
THENCE N 38°06'19" E A DISTANCE OF 83.01 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WHOSE RADIUS POINT BEARS
N 40°00'49" E, HAVING A RADIUS OF 63.50 FEET,
A CENTRAL ANGLE OF
40°26'20" AND AN ARC LENGTH OF 44.82 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WHOSE RADIUS POINT BEARS
N 80°27'08" E, HAVING A RADIUS OF 50.00 FEET,
A CENTRAL ANGLE OF
30°27'07" AND AN ARC LENGTH OF 26.57 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WHOSE RADIUS POINT BEARS
S 69°05'45" E, HAVING A RADIUS OF 231.50 FEET, A CENTRAL ANGLE OF
3°54'39" AND AN ARC LENGTH OF 15.80 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WHOSE RADIUS POINT BEARS S 65°11'06" E, HAVING A RADIUS OF 81.50 FEET,
A CENTRAL ANGLE OF
11°50'45" AND AN ARC LENGTH OF 16.85 FEET;
THENCE N 36°39'40" E A DISTANCE OF 35.39 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE LEFT WHOSE RADIUS POINT BEARS
N 53°20'20" W, HAVING A RADIUS OF 264.00 FEET,
A CENTRAL ANGLE OF
21°12'11" AND AN ARC LENGTH OF 97.70 FEET;
THENCE N 15°27'29" E A DISTANCE OF 65.87 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE LEFT WHOSE RADIUS POINT BEARS
N 74°32'31" W, HAVING A RADIUS OF 515.50 FEET,
A CENTRAL ANGLE OF
15°17'16" AND AN ARC LENGTH OF 137.55 FEET;
THENCE N 0°10'12" E A DISTANCE OF 53.29 FEET;

TO THE **POINT OF BEGINNING;**
CONTAINING AN AREA OF 6084360 SQUARE FEET OR 139.678 ACRES.

FLOODPLAIN NOTES

FLOODPLAIN INFORMATION PER FIRM FLOOD INSURANCE RATE MAP NO 08013C0287J DATED DECEMBER 18, 2012 AND FIRM FLOOD INSURANCE RATE MAP NO 08013C0289J DATED DECEMBER 18, 2012.

THIS PROPERTY LIES IN AREAS DETERMINED TO BE WITHIN

- OTHER AREAS - AREAS OUTSIDE THE 2% ANNUAL CHANCE FLOOD
- ZONE X - AREAS OF 25 % ANNUAL CHANCE OF FLOOD OR AREAS WITH 1% ANNUAL CHANCE OF FLOOD WITH AVERAGE DEPTHS OF LESS THAN ONE FOOT OR WITHIN DRAINAGE AREAS LESS THAN ONE SQUARE MILE AND AREAS PROTECTED BY LEVEES FROM THE 100 YEAR FLOOD.
- ZONE AE - SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL FLOOD CHANCE, BASE FLOOD ELEVATIONS DETERMINED.
- ZONE AH - SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL FLOOD CHANCE, FLOOD DEPTHS OF 1 TO 3 FEET, (USUALLY AREAS OF PONDING) BASE FLOOD ELEVATIONS DETERMINED.

THE ADDITIONAL FLOODPLAINS SHOWN ARE BASED ON PRELIMINARY FEMA FIRM MAP 08013CO289K FROM SEPTEMBER 30, 2019 AND LONGMONT'S APPEAL OF FEMA'S PRELIMINARY FIRM MAP. THESE MAPS ARE NOT FINAL AND ARE EXPECTED TO BE REVISED, THESE ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.

PUD NOTES

1. WHEN THE MINING AND RECLAMATION PLANS ARE REVISED THROUGH THE COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY (DRMS) THE OPERATOR WILL BE REQUIRED TO ENTER IN TO UPDATED STRUCTURE AGREEMENT WITH ALL STRUCTURE OWNERS WITHIN 200' OF THE REVISED MINING CELLS (COL - SEWER AND STORM SEWER), CDOT (HWY 119). THE DRMS WILL REQUIRE A SLOPE STABILITY ANALYSIS TO DEMONSTRATE THAT THE REDUCED SETBACK IS SAFE. THE REVISED SETBACKS INDICATED ON A PORTION OF THE MINING ADJACENT TO HWY 119 ARE INTENDED TO ILLUSTRATE THE REVISED SETBACK ALONG A PORTION OF THE HWY 119 FRONTAGE, SOUTH OF THE ROAD. PRIOR TO MINING WITHIN THE AREAS DESIGNATED AS A 100 FOOT SETBACK THE OPERATOR WILL PROVIDE UPDATED STRUCTURE AGREEMENTS TO THE CITY AND THE SLOPE STABILITY ANALYSIS REFERENCED ABOVE.
2. OWNER TO SCHEDULE ON-SITE MEETING WITH COLORADO PARKS AND WILDLIFE PRIOR TO MINING TO REVIEW IMPACTS OF BIRD NEST(S) WITHIN SETBACK AFTER CONSTRUCTION ACTIVITIES COMMENCE.
3. APPLICANT TO CONSULT WITH USFWS PRIOR TO MINING RELATED ACTIVITIES ADJACENT TO ST. VRAIN CREEK AND LEFTHAND CREEK RIPARIAN CORRIDORS TO CONFIRM NO IMPACT ON ENDANGERED SPECIES HABITAT. NO KNOWN ENDANGERED SPECIES HABITAT ON SITE.
4. CONSIDERING THE TREES ON AND ADJACENT TO THE PROPERTY AND GRASSLANDS, THE DEVELOPER SHOULD FOLLOW THESE BIRD NEST MITIGATION PROCEDURES:
   - 4.1. AVOIDANCE - TO THE EXTENT PRACTICABLE, CONDUCT HABITAT-DISTURBING ACTIVITIES (E.G., TREE REMOVAL, GRADING, SCRAPING, AND GRUBBING) SEPTEMBER 1 THROUGH MARCH 1, OUTSIDE OF THE NESTING SEASON.
   - 4.2. HABITAT MANIPULATION/REMOVAL - IF WORK ACTIVITIES ARE PLANNED DURING THE NESTING SEASON (MARCH 1 - AUGUST 31), REMOVE OR ALTER VEGETATION WITHIN CONSTRUCTION FOOTPRINTS AND ROAD RIGHTS-OF-WAY PRIOR TO MARCH 1 TO DISCOURAGE NESTING WITHIN AREAS SCHEDULED FOR SUMMER CONSTRUCTION. NOTE THAT SOME EARLY NESTING SPECIES SUCH AS HAWKS AND OWLS BEGIN NESTING IN FEBRUARY AND MARCH AND MAY REQUIRE SPECIFIC CLEARANCE SURVEYS OR AVOIDANCE ACTIVITIES. REMOVAL OR ALTERATION OF VEGETATION WILL ALSO DISCOURAGE NESTING IN AREAS ADJACENT TO THE CONSTRUCTION FOOTPRINTS AND ENCOURAGE BIRDS TO NEST IN MORE SUITABLE HABITAT OUTSIDE OF THE PROJECT AREA. VEGETATION-ALTERING ACTIVITIES CAN INCLUDE MOWING AND/OR TRIMMING TO A HEIGHT OF FOUR (4) INCHES OR LESS, GRAZING VEGETATION TO A HEIGHT OF FOUR (4) INCHES OR LESS, DISKING, OR HERBICIDE APPLICATION. THE MOST APPROPRIATE TREATMENT WILL DEPEND ON SITE CONDITIONS AND LEVEL OF POTENTIAL NESTING ACTIVITY.
   - 4.3. HABITAT MAINTENANCE - ONCE VEGETATION HAS BEEN REMOVED AND/OR TRIMMED, APPROPRIATE MEASURES (I.E., REPEATED MOWING/TRIMMING) SHOULD BE IMPLEMENTED TO ASSURE VEGETATION DOES NOT GROW TO MORE THAN FOUR (4) INCHES HIGH.
   - 4.4. CLEARANCE SURVEYS - IF THE AVOIDANCE DESCRIBED ABOVE CANNOT BE COMPLETED, PRECONSTRUCTION CLEARANCE SURVEYS SHALL BE CONDUCTED DURING THE NESTING SEASON BY A QUALIFIED BIOLOGIST TO IDENTIFY ANY ACTIVE NESTS AND IMPLEMENT AVOIDANCE MEASURES. CLEARANCE SURVEYS SHOULD BE CONDUCTED LESS THAN 1 WEEK PRIOR TO THE PLANNED DISTURBANCE. CLEARANCE SURVEYS FOR MOWED AREAS SHOULD BE CONDUCTED DURING THE NESTING SEASON TO ENSURE NO GROUND-NESTING SPECIES HAVE MOVED IN.
   - 4.5. NEST BUFFERS - IF ACTIVE NESTS OF SONGBIRD SPECIES ARE FOUND NO WORK SHALL BE ALLOWED WITHIN 50 FEET OF ANY ACTIVE NEST. THE BUFFER WOULD BE DELINEATED AND MARKED (BY FLAGGING OR A BARRIER) PRIOR TO CONSTRUCTION ACTIVITIES. IF ACTIVE NESTS OF RAPTORS ARE FOUND WITHIN ¼ MILE OF THE PROJECT SITE, COLORADO PARKS AND WILDLIFE SHOULD BE CONSULTED ON RECOMMENDED BUFFER DISTANCES AND TIME PERIODS.
5. A DEMOLITION PERMIT IS REQUIRED PRIOR TO DEMOLITION OF THE EXISTING RESIDENCE NEAR THE INTERSECTION OF 119TH STREET AND QUICKSILVER ROAD.
6. EXISTING MATURE TREES SURROUNDING THE RESIDENCE NEAR THE INTERSECTION OF 119TH STREET AND QUICKSILVER ROAD WILL BE SURVEYED, AND MITIGATED IF APPLICABLE,CONSISTENT WITH CITY FORESTRY SURVEY AND MITIGATION REQUIREMENTS PRIOR TO DEMOLITION OR CONSTRUCTION COMMENCING ON THE SITE.

STANDARD NOTES

A. THE PROPERTY IS SUBJECT TO AN ANNEXATION AGREEMENT WITH THE CITY OF LONGMONT.
B. ALL FUTURE DEVELOPMENT OF THE PROPERTY WILL CONFORM TO THE APPROVED CONCEPT PLAN UNLESS AMENDED BY THE CITY COUNCIL.
C. THE PROPERTY WILL COMPLY WITH ALL APPLICABLE MUNICIPAL AND DEVELOPMENT CODE REQUIREMENTS.
D. THE PROPERTY WILL COMPLY WITH THE CITY OF LONGMONT'S REQUIREMENTS FOR DRAINAGE.
E. FUTURE DEVELOPMENT ON THE PROPERTY SHALL COMPLY WITH THE CITY'S FLOOD PLAIN REGULATIONS BASED ON THE BEST FLOODPLAIN DATA AVAILABLE AT THE TIME OF DEVELOPMENT.
F. THE PROPERTY WILL COMPLY WITH ANY CURRENT CITY OF LONGMONT BUFFERING REQUIREMENTS AT THE TIME OF FINAL DEVELOPMENT.

PROPERTY OWNER DEDICATION AND ACKNOWLEDGMENT

RLSJ Properties LLC, BEING THE OWNER OF THE LAND DESCRIBED HEREIN HAS/HAVE CAUSED SAID LAND TO BE PLANNED UNDER THE NAME OF IRWIN THOMAS FINAL PUD DEVELOPMENT PLAN AMENDMENT. ALL CONDITIONS, TERMS, AND SPECIFICATIONS DESIGNATED OR DESCRIBED ON THIS DOCUMENT SHALL BE BINDING ON THE OWNERS, AND THEIR HEIRS, SUCCESSORS AND ASSIGNS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS 4th DAY OF February, 20__.

MANAGER, RLSJ PROPERTIES LLC

NOTARY CERTIFICATE OF PROPERTY OWNER ACKNOWLEDGEMENT

STATE OF Colorado COUNTY OF Boulder

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS 4th DAY OF February, 2022

BY Reginald V. Golden

Barbara Brunk
NOTARY PUBLIC

10/14/2024
COMMISSION EXPIRATION

Barbara Brunk
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19964017920
MY COMMISSION EXPIRES OCTOBER 14, 2024
NOTARY SEAL

PROPERTY OWNER DEDICATION AND ACKNOWLEDGMENT

Golden Farm LLLP, BEING THE OWNDER OF THE LAND DESCRIBED HEREIN HAS/HAVE CAUSED SAID LAND TO BE PLANNED UNDER THE NAME OF IRWIN THOMAS FINAL PUD DEVELOPMENT PLAN AMENDMENT. ALL CONDITIONS, TERMS, AND SPECIFICATIONS DESIGNATED OR DESCRIBED ON THIS DOCUMENT SHALL BE BINDING ON THE OWNERS, AND THEIR HEIRS, SUCCESSORS AND ASSIGNS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS 4th DAY OF February, 2022

PARTNER, GOLDEN FARM, LLLP

NOTARY CERTIFICATE OF PROPERTY OWNER ACKNOWLEDGEMENT

STATE OF Colorado COUNTY OF Boulder

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS 4th DAY OF February, 2022

BY Reginald V. Golden

Barbara Brunk
NOTARY PUBLIC

10/14/2024
COMMISSION EXPIRATION

Barbara Brunk
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19964017920
MY COMMISSION EXPIRES OCTOBER 14, 2024
NOTARY SEAL

MAYORS CERTIFICATE

I HEREBY CERTIFY THAT THE SITE PLAN OF THE ABOVE DESCRIBED PROPERTY IS APPROVED BY THE CITY OF LONGMONT, COLORADO.

MAYOR, CITY OF LONGMONT

02/14/2022
DATE

CITY OF LONGMONT COLORADO
SEAL

SHEET INDEX

REVISIONS

BY	DATE	DESCRIPTION

DRAWN PDB
CHECKED BW
DESIGNED BW
FILENAME 1241.0001 FDP PUD

BRIAN EDWARD WILLIAMSON 1461 STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT 08/03/2020

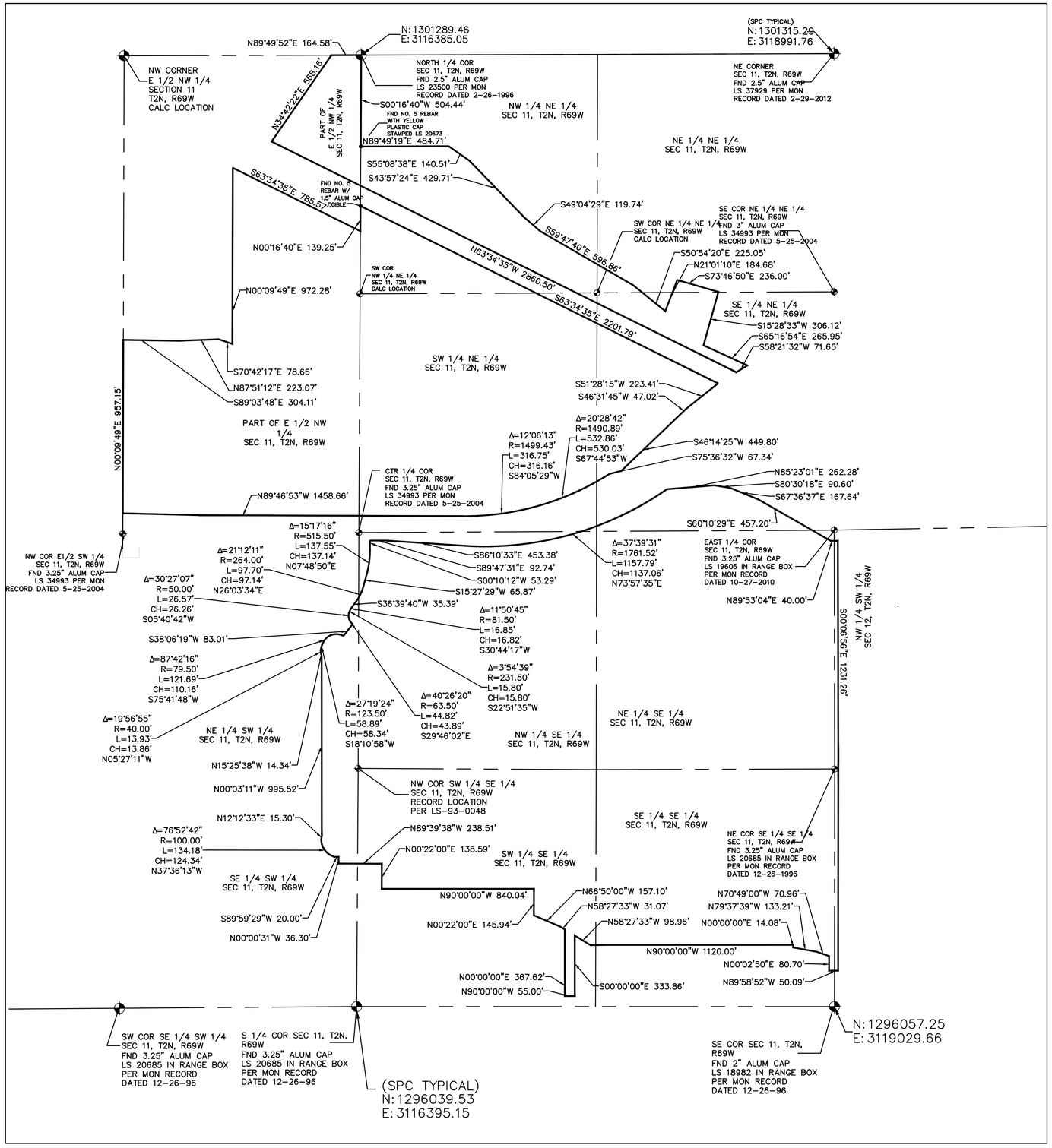
IRWIN THOMAS FINAL PUD DEVELOPMENT PLAN AMENDMENT

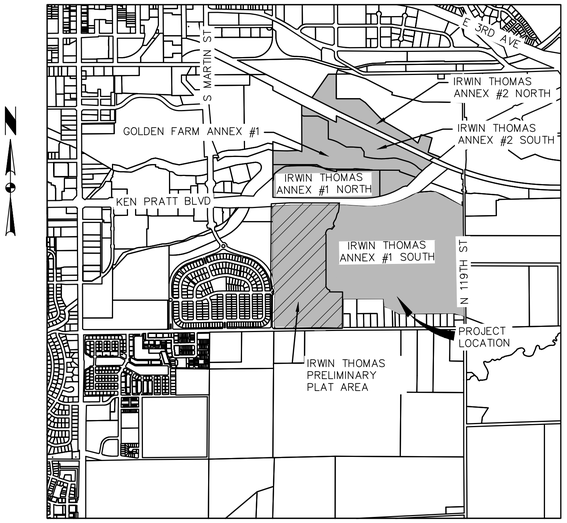
COVER SHEET

TST, INC.
CONSULTING ENGINEERS
748 Whalers Way
Suite 200 Fort Collins
Colorado 80525
Phone: 970.226.0557

JOB NO. 1241.0001.02
SCALE NTS
DATE JANUARY 2022
SHEET 1 of 5

K:\1241\0001\05 Drawings\Sheets LA\1241.0001 FDP PUD.dwg, 2/4/2022 11:31:51 AM





VICINITY MAP

NOT TO SCALE

REVISIONS		
BY	DATE	DESCRIPTION

DRAWN: PDB
CHECKED: BW
DESIGNED: BW
FILENAME: 1241.0001 FDP PUD

BRIAN EDWARD WILLIAMSON
1461
08/07/2020
Registered Landscape Architect
2-2-2022
STATE OF COLORADO
LICENSED LANDSCAPE ARCHITECT

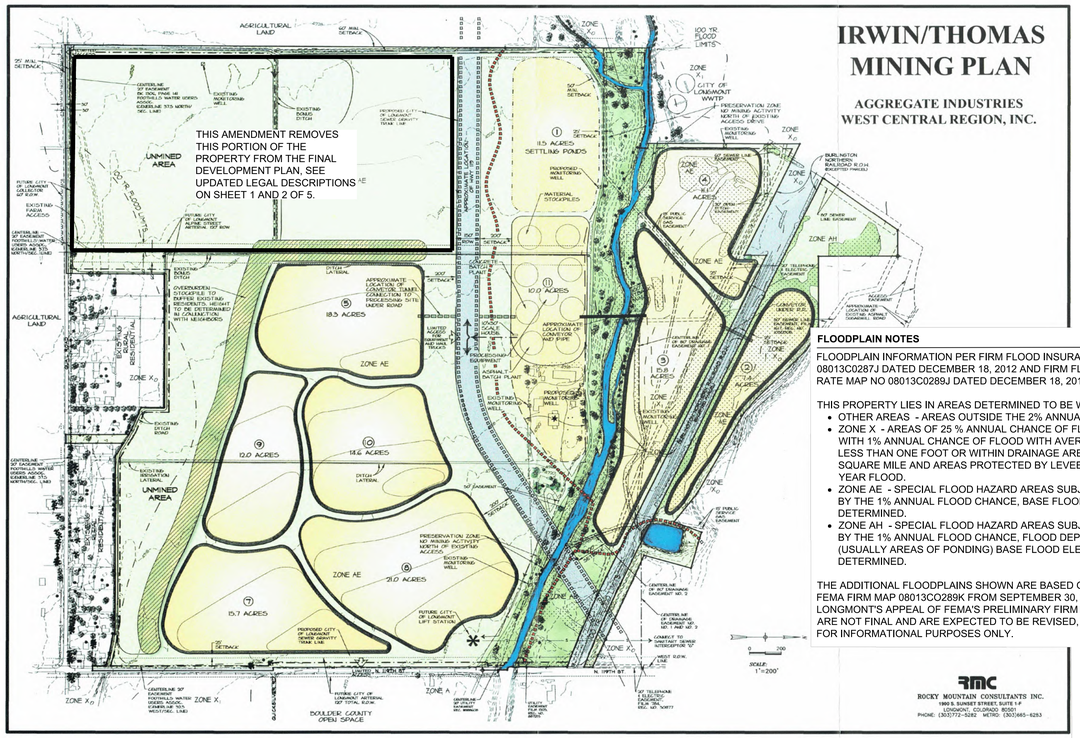
IRWIN THOMAS FINAL PUD DEVELOPMENT PLAN AMENDMENT

BOUNDARY MAP

TST
TST, INC.
CONSULTING ENGINEERS
748 Whalers Way
Suite 200 Fort Collins
Colorado 80525
Phone: 970.226.0557

JOB NO. 1241.0001.02
SCALE 1"=300'
DATE JANUARY 2022
SHEET 2 of 5

K:\1241\0001\05 Drawings\Sheets LA\1241.0001 FDP PUD.dwg; 2/3/2022 4:10:14 PM



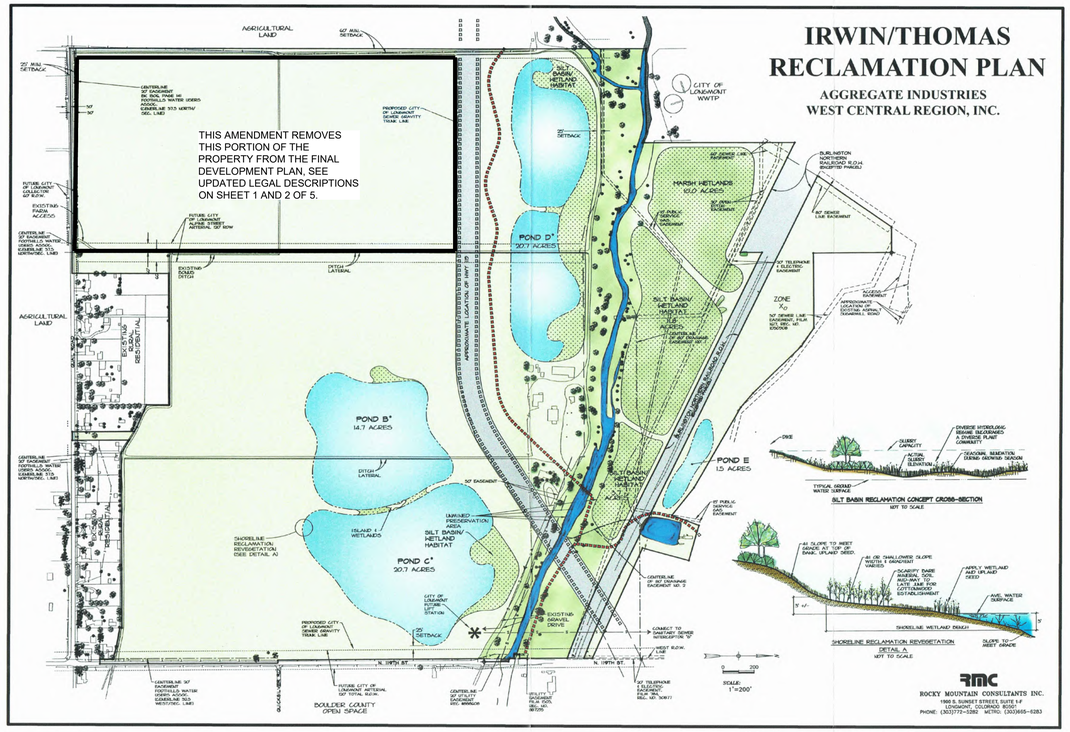
FLOODPLAIN NOTES

FLOODPLAIN INFORMATION PER FIRM FLOOD INSURANCE RATE MAP NO 08013C0287J DATED DECEMBER 18, 2012 AND FIRM FLOOD INSURANCE RATE MAP NO 08013C0289J DATED DECEMBER 18, 2012.

THIS PROPERTY LIES IN AREAS DETERMINED TO BE WITHIN

- OTHER AREAS - AREAS OUTSIDE THE 2% ANNUAL CHANCE FLOOD
- ZONE X - AREAS OF 25 % ANNUAL CHANCE OF FLOOD OR AREAS WITH 1% ANNUAL CHANCE OF FLOOD WITH AVERAGE DEPTHS OF LESS THAN ONE FOOT OR WITHIN DRAINAGE AREAS LESS THAN ONE SQUARE MILE AND AREAS PROTECTED BY LEVEES FROM THE 100 YEAR FLOOD.
- ZONE AE - SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL FLOOD CHANCE, BASE FLOOD ELEVATIONS DETERMINED.
- ZONE AH - SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL FLOOD CHANCE, FLOOD DEPTHS OF 1 TO 3 FEET, (USUALLY AREAS OF PONDING) BASE FLOOD ELEVATIONS DETERMINED.

THE ADDITIONAL FLOODPLAINS SHOWN ARE BASED ON PRELIMINARY FEMA FIRM MAP 08013C0289K FROM SEPTEMBER 30, 2019 AND LONGMONT'S APPEAL OF FEMA'S PRELIMINARY FIRM MAP. THESE MAPS ARE NOT FINAL AND ARE EXPECTED TO BE REVISED, THESE ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.



NOTE: THESE MAPS ARE FOR REFERENCE TO THE PREVIOUS BOULDER COUNTY PERMIT. THEY ARE UPDATED TO REFLECT THE AMENDED LIMITS OF MINING AND AMENDED PUD BOUNDARY. SEE SHEETS 4 AND 5 OF THIS PLAN SET FOR SPECIFIC MINING AND RECLAMATION MAPS AND INFORMATION AS REVIEWED AND APPROVED BY THE CITY OF LONGMONT

NOTES

1. THE DEVELOPMENT CONSISTS OF OPEN MINING AND RECLAMATION ON APPROXIMATELY 120.5 ACRES OF A 346 ACRE AREA ON THE IRWIN/THOMAS PROPERTY LOCATED AT THE NORTHWEST INTERSECTION OF QUAIL ROAD AND NORTH 119TH STREET.

2. ROADS/PARKING - THE FOLLOWING ROADS SHALL SERVE THE DEVELOPMENT SUBJECT TO THE CONDITIONS AND LIMITATIONS AS FURTHER SET FORTH: N. 119TH STREET; QUICKSILVER RD; AND STATE HIGHWAY 119. ACCESS TO THE SITE FROM STATE HIGHWAY 119 IS SHOWN ON SHEET 269 OF THE COLORADO DEPARTMENT OF TRANSPORTATION'S CONSTRUCTION DRAWINGS FOR STATE HIGHWAY 119, PREPARED BY CARTER AND BURGESS, AND REVISED ON MARCH 13, 2002. THIS ACCESS MAY BE REVISED ONLY UPON THE APPROVAL OF THE COLORADO DEPARTMENT OF TRANSPORTATION AND THE CITY OF LONGMONT. THE USE OF QUICKSILVER ROAD IS SUBJECT TO APPROVALS OF THE CITY OF LONGMONT AND BOULDER COUNTY. THE DEVELOPER SHALL OBTAIN AN ACCESS PERMIT FROM THE CITY OF LONGMONT BEFORE UTILIZING NORTH 119TH STREET FOR TRUCK HAULING. THE DEVELOPER SHALL PROVIDE WRITTEN CONSENT FROM THE COLORADO DEPARTMENT OF TRANSPORTATION BEFORE CONDUCTING ANY CONSTRUCTION WORK WITHIN ANY PORTION OF THE STATE HIGHWAY 119 RIGHT-OF-WAY. EMPLOYEE PARKING WILL BE LOCATED IN A DESIGNATED GRAVEL PARKING AREA ADJACENT TO THE SCALE HOUSE. SEE NOTE 14 FOR REQUIREMENTS REGARDING THE ST. VRAIN AND LEFT HAND CREEK RIPARIAN SETBACKS.

3. LANDSCAPING/RECLAMATION - THE DEVELOPER SHALL PROVIDE REVEGETATION FOR THE DEVELOPMENT IN ACCORDANCE WITH THE CITY AND COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY (DRMS) APPROVED MINING PLAN AND RECLAMATION PLANS. THIS REVEGETATION SHALL INCLUDE THE INSTALLATION OF A SEEDED TEMPORARY SCREENING BERM, ON THE WESTERN EDGE OF THE PROPERTY BETWEEN ANY MINED AREAS AND HARVEST MOON DRIVE AND ALONG THE SOUTHERN LIMITS OF THE MINING TO SCREEN THE ACTIVITY FROM THE EXISTING HOMES ALONG QUAIL ROAD. THE BERM AND SEEDING SHALL BE COMPLETED BEFORE ANY MINING IS COMMENCED SOUTH OF STATE HIGHWAY 119 AS SHOWN ON THE MINING PLAN. THE BERM SHALL BE REMOVED AT THE COMPLETION OF MINING ACTIVITIES ON THE SOUTH SIDE OF HWY 119. FINAL RECLAMATION OF ANY CITY OWNED PROPERTY TO BE REVIEWED AND APPROVED BY THE CITY. ANY CHANGES TO THE PLANS AS PRESENTED FOR THE CITY OWNED PROPERTY TO BE COORDINATED WITH THE MINING OPERATOR.

4. SIGNAGE - ALL SIGNS FOR THE DEVELOPMENT SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF THE LONGMONT LAND DEVELOPMENT CODE. THE DEVELOPER HAS POSTED ONE SIGN ALONG N. 119TH STREET AND ONE SIGN ALONG QUAIL ROAD STATING THAT MINING WILL TAKE PLACE ON THE SITE IN THE FUTURE. THE CONTENT, SIZE, AND LOCATION OF THE SIGNS MUST BE APPROVED BY THE CITY OF LONGMONT PRIOR TO INSTALLATION.

5. THE DEVELOPER SHALL PAY CITY OF LONGMONT TRANSPORTATION INVESTMENT FEES AT THE TIME OF BUILDING PERMIT.

6. ENFORCEMENT - THE CITY MAY CONDUCT A PERIODIC REVIEW OF THE DEVELOPMENT AS NECESSARY TO ASSURE COMPLIANCE WITH THE FINAL DEVELOPMENT PLAN FOR GRAVEL MINING AND RECLAMATION. THIS RIGHT INCLUDES THE RIGHT TO ENTER UPON THE PROPERTY INCLUDED WITHIN THE DEVELOPMENT AT ANY TIME, WITHOUT PRIOR NOTICE, TO INSPECT FOR COMPLIANCE WITH THE TERMS OF THE PUD. ALL SITE VISITORS TO THE ACTIVE MINING SITE WILL BE REQUIRED TO GO THROUGH APPROPRIATE MINE SAFETY AND HEALTH ADMINISTRATION (MSHA) TRAINING, WEAR REQUIRED SAFETY EQUIPMENT AND CHECK IN AT THE SCALE HOUSE PRIOR TO ENTERING THE SITE.

7. THE PROPOSED MINING PODS RANGE IN SIZE FROM 6 TO 19 ACRES AND WILL BE MINED IN THE NUMBERED SEQUENCE INDICATED ON THE PUD PLAN.

8. THE FINAL RECLAMATION PLAN INCLUDES FIVE IRREGULARLY SHAPED PONDS TOTALING ABOUT 73 ACRES WITH THE AREA BETWEEN THE ST. VRAIN CREEK AND BURLINGTON NORTHERN RAILROAD CONSISTING OF ABOUT 25.5 ACRES OF WETLANDS. THE EXACT NUMBER AND CONFIGURATION OF THE PONDS MAY VARY BASED ON THE GRAVEL RESOURCE AND AVAILABLE FILL MATERIAL.

9. THE MAIN ACCESS TO SITE WILL BE LOCATED ON N. 119TH STREET, DIRECTLY ACROSS FROM QUICKSILVER ROAD. NO TRAFFIC WILL LEAVE THE SITE TRAVELING SOUTH ON N. 119TH STREET BEYOND QUICKSILVER RD AND TRUCKS ENTERING THE SITE MUST NOT TRAVEL BETWEEN QUAIL ROAD AND QUICKSILVER RD. THERE IS A PROHIBITION ON TRUCK HAULING ON QUAIL STREET AND SOUTH OF QUICKSILVER RD ON NORTH 119TH STREET. ACCESS TO THE MINING CELLS LOCATED NORTH OF ST. VRAIN CREEK WILL BE VIA THE EXISTING EASEMENT AND ACCESS ROAD ONTO NORTH 119TH ST.

10. IF SUSTAINED WINDS EXCEED 30 MPH AT MINING SITES, LOADING AND HAULING OPERATIONS WILL CEASE UNTIL THE WIND SPEED DROPS BELOW 30 MPH. CONVEYING, AND DRILLING OPERATIONS MAY CONTINUE. WIND SPEED SHALL BE MEASURED AT THE MINE SITE. THE APPLICANT WILL UTILIZE THE FOLLOWING ADDITIONAL MEASURES TO MANAGE DUST DURING MINING AND RECLAMATION OF THE PROPERTY:

10.1. EMISSIONS FROM ALL MATERIAL HANDLING (I.E. REMOVAL, LOADING AND HAULING) WILL BE CONTROLLED BY WATERING UNLESS NATURAL MOISTURE IS SUFFICIENT TO CONTROL EMISSIONS.

10.2. ON SITE HAUL ROADS WILL BE WATERED AS OFTEN AS NEEDED TO CONTROL FUGITIVE PARTICULATE EMISSIONS.

11. ANY DITCH CROSSINGS OR RELOCATIONS SHALL BE DONE ONLY UPON THE CONSENT OF THE DITCH COMPANIES AND IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

12. THE APPLICANTS SHALL OBTAIN ALL APPLICABLE PERMITS AS REQUIRED AND NECESSARY. THIS INCLUDES, BUT IS NOT LIMITED TO: FLOODPLAIN DEVELOPMENT PERMITS, NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM PERMITS, AIR POLLUTION CONTROL EMISSION PERMITS, CONSTRUCTION MATERIALS REGULAR OPERATION (112) RECLAMATION PERMITS, WATER DISCHARGE PERMITS, CITY OF LONGMONT STORM WATER CONSTRUCTION ACTIVITY PERMIT AND ANY WELL PERMITS OR TEMPORARY SUBSTITUTE SUPPLY PLANS REQUIRED BY THE STATE ENGINEER.

13. THIS USE MUST COMPLY WITH ALL APPLICABLE STATE AND LOCAL NOISE STANDARDS AND STATE AND LOCAL FUGITIVE DUST STANDARDS.

14. THE ST. VRAIN CREEK AND LEFT HAND CREEK RIPARIAN SETBACKS SHALL BE MARKED WITH PERMANENT MONUMENTS ON THE GROUND FOR THE DURATION OF THE MINING PERIOD. NO MINING ACTIVITIES SHALL OCCUR WITHIN THIS DEFINED AREA. THE APPLICANTS MUST RECLAIM ALL ADJACENT AREAS IN ACCORDANCE WITH THE PLANS APPROVED BY THE CITY BEFORE REMOVING ANY MONUMENT.

15. OUTSIDE STORAGE, AND THE STORAGE OF FUEL, OIL, AND GREASE, AS WELL AS THE REPAIR OF EQUIPMENT AND MACHINERY, ARE ACCESSORY USES TO THIS APPROVAL, PROVIDED THE APPLICANTS MEET ALL APPLICABLE LOCAL, COUNTY, STATE AND FEDERAL REGULATIONS. ACCESSORY ACTIVITIES WILL TAKE PLACE WITHIN ACTIVE MINING CELL AND WILL BE RELOCATED AS MINING AND RECLAMATION PROCEED. ACCESSORY ACTIVITIES MAY TAKE PLACE BETWEEN 7AM AND 7PM OR DAWN TO DUSK (WHICHEVER IS MORE RESTRICTIVE) MONDAY THROUGH SATURDAY. NO ACTIVITY IS PERMITTED ON SUNDAY. MAINTENANCE OF EQUIPMENT MAY TAKE PLACE BEFORE OR AFTER NORMAL WORKING HOURS IF REQUIRED TO REPAIR EQUIPMENT NECESSARY FOR OPERATIONS (I.E. CONVEYOR) OR TO RESPOND TO AN EMERGENCY.

16. THE PROPERTY WILL COMPLY WITH THE CITY OF LONGMONT'S REQUIREMENTS FOR DRAINAGE.

17. DEVELOPMENT ON THE PROPERTY SHALL COMPLY WITH THE CITY'S FLOOD PLAIN REGULATIONS BASED ON THE BEST FLOODPLAIN DATA AVAILABLE AT THE TIME OF DEVELOPMENT .

18. THIS APPROVAL RECOGNIZES THE FOLLOWING:

- MINING OF APPROXIMATELY 3.5 MILLION TONS OF MATERIAL;
- A TOTAL OF 150 AVERAGE DAILY TRIPS TO THE SITE, NOT TO EXCEED 200 TRIPS PER DAY;
- ACCESSORY PROCESSING OF SAND AND GRAVEL INCLUDING SCREENING AND STOCKPILING. THE MINING OPERATOR MAY INSTALL A PORTABLE SCREENING PLANT IN THE BOTTOM OF AN ACTIVE MINING CELL TO SORT MATERIAL PRIOR TO REMOVAL FROM THE SITE.

20. THE APPLICANTS SHALL MITIGATE ADVERSE IMPACTS ON NEIGHBORING WELLS CAUSED BY DE-WATERING OR OTHER MINING OPERATIONS THAT RESULT IN LOWER GROUND WATER LEVELS OUTSIDE OF MINING BOUNDARIES. TO MEET THIS REQUIREMENT, THE APPLICANTS SHALL INSTALL PIEZOMETERS ADJACENT TO RESIDENTIAL AREAS SUFFICIENT TO DETERMINE THE EFFECT ON ADJOINING PROPERTIES. IF MINING OPERATIONS CAUSE A REDUCTION BY MORE THAN 10% IN WATER QUALITY OR QUANTITY, THE APPLICANTS SHALL PROVIDE REPLACEMENT WATER EQUAL TO OR BETTER IN QUANTITY AND QUALITY TO THE ORIGINAL CONDITIONS. IN FULFILLING THIS CONDITION, THE APPLICANTS SHALL BE RESPONSIBLE FOR CONDUCTING INDUSTRY RECOGNIZED WATER QUALITY/ QUANTITY ANALYSES AT LEAST FOUR TIMES A YEAR. THE APPLICANTS COMMIT TO MONITOR GROUNDWATER WELLS QUARTERLY THROUGHOUT THE LIFE OF THE MINE.

21. THE MINING PODS WILL BE MINED ONE AT A TIME SO THAT ONLY ONE POD OR PORTIONS OF TWO PODS AND THE PROCESSING SITE ARE DISTURBED DURING ANY PHASE OF MINING. THE MINED PORTION OF ANY MINING POD IN ANY PHASE SHALL BE LIMITED TO THAT SHOWN ON THE APPROVED PLAN. IF MINING IS UNDERWAY IN MORE THAN ONE POD AT A TIME, THE COMBINED MINING AREA SHALL NOT EXCEED 35 ACRES. FOR PURPOSES OF INTERPRETING THIS CONDITION, "COMBINED MINING AREA" SHALL MEAN ANY AREA THAT HAS BEEN DISTURBED IN PREPARATION OF MINING, OR IN WHICH MINING IS UNDERWAY, OR IN WHICH GRADING FOR RECLAMATION FOR IS UNDERWAY. ONCE GRADING OF A RECLAIMED MINING POD IS COMPLETED IT WILL NOT LONGER BE CONSIDERED AS PART OF THE COMBINED MINING AREA. REVEGETATION AND WEED MANAGEMENT WITHIN RECLAIMED PODS WILL BE ONGOING THROUGH OUT THE LIFE OF THE MINE.

22. THE APPLICANTS SHALL OBTAIN AN ACCESS PERMIT FROM THE CITY OF LONGMONT BEFORE USING NORTH 119TH STREET FOR ANY TRUCK HAULING. BEFORE ISSUING THE ACCESS PERMIT, THE CITY MAY DETERMINE WHAT, IF ANY, MITIGATION MEASURES TO NORTH 119TH/ STREET AND QUICK SILVER ROAD ARE NECESSARY. MITIGATION MEASURES MAY INCLUDE, BUT ARE NOT LIMITED TO, PAYMENT BY THE APPLICANTS OF A PRO-RATA SHARE OF THE COSTS OF ANY ACCELERATION OR DECELERATION LANES, PAVEMENT REHABILITATION, TRAFFIC CONTROL DEVICES, OR OTHER MEASURES NECESSARY TO CORRECT ADVERSE IMPACTS TO THE STREET. ANY COSTS ASSOCIATED WITH DETERMINING THE PROPER MITIGATION MEASURES ARE THE RESPONSIBILITY OF THE APPLICANTS.

23. THE APPLICANTS SHALL OBTAIN WRITTEN CONSENT FROM THE BURLINGTON NORTHERN RAILROAD BEFORE CONDUCTING ANY CONSTRUCTION WORK WITHIN ANY PORTION OF RAILROAD RIGHT-OF-WAY.

24. THE APPLICANTS SHALL REQUIRE ALL SAND AND GRAVEL LOADS HAULED FROM THE SITE IN ANY APPLICANT-OWNED OR LEASED TRUCKS, OR BY HAULERS UNDER CONTRACT TO THE APPLICANTS TO BE COVERED WITH TARPS, TO PREVENT FUGITIVE DUST AND GRAVEL FROM ESCAPING DURING HAULING.

25. MINING OPERATIONS AND TRUCK HAULING ARE LIMITED TO MONDAYS THROUGH FRIDAYS: DURING THE PERIOD OF DAYLIGHT SAVINGS TIME THE HOURS OF OPERATION SHALL BE 7:00 A.M. TO 7:00 P.M., AND DURING THE PERIOD OF STANDARD TIME THE HOURS OF OPERATION SHALL BE 7:00 A.M. TO 7:00 P.M. OR DAYLIGHT TO DARK (WHICHEVER IS MORE RESTRICTIVE). ON SATURDAYS, WORK IS RESTRICTED TO EQUIPMENT MAINTENANCE, MAINTENANCE NECESSARY TO ENSURE COMPLIANCE WITH REQUIRED PERMITS, AND HAULING. HAULING ON SATURDAYS IS RESTRICTED TO THE HOURS LISTED ABOVE AND SEPARATE CITY STAFF APPROVAL. NO WORK AT THE SITE CAN OCCUR ON SUNDAYS.

26. THE APPLICANT SHALL REQUIRE ALL APPLICANT- OWNED OR LEASED TRUCKS AND ALL TRUCKS UNDER CONTRACT TO THE APPLICANTS TO UTILIZE "WHITE NOISE" BACK UP BEEPERS AS OPPOSED TO STANDARD BACK UP BEEPERS. ALL MINING AND LOADING EQUIPMENT ASSOCIATED WITH THE MINING AND RECLAMATION SHALL ALSO UTILIZE "WHITE NOISE" BACK UP BEEPERS.

27. SITE ACCESS ONTO N. 119TH STREET AND MINING OPERATIONS SHALL NOT INHIBIT SAFE USE OF THE ST. VRAIN GREENWAY UNLESS APPROVED BY THE CITY OF LONGMONT. PER THE EXISTING MOU BETWEEN THE CITY AND THE GRAVEL OPERATOR, THE CITY WILL INSTALL A 6'TALL CHAIN LINK FENCE 10' TO 15' SOUTH OF THE ST. VRAIN GREENWAY TRAIL TO LIMIT ACCESS FROM THE TRAIL INTO THE MINING SITE. TIMING OF THE INSTALLATION OF THE FENCE SHALL BE COORDINATED WITH THE OPERATOR TO ASSURE THAT THE FENCE IS IN PLACE WHEN THE OPERATOR IS READY TO BEGIN MINING THE ARE NORTH OF HWY 119.

28. ALL MINING ACTIVITIES SHALL COMPLY WITH THE MEMORANDUM OF UNDERSTANDING BETWEEN THE APPLICANTS, AGGREGATE INDUSTRIES AND THE CITY OF LONGMONT DATED DECEMBER 20, 2005.

29. THIS PDP/FDP IS CONCEPTUAL IN NATURE. EXACT CONFIGURATION OF MINING AND RECLAMATION MAY CHANGE SUBJECT TO SITE CONDITIONS AND MATERIAL AVAILABLE FOR FILL. ANY CHANGES WILL BE COORDINATED WITH THE LANDOWNER AND THE CITY OF LONGMONT. REVISIONS TO THE MINING AND RECLAMATION PLAN THAT DO NOT REQUIRE AN AMENDMENT TO THE DRMS PERMIT MAY BE APPROVED THROUGH THE ADMINISTRATIVE STAFF REVIEW PROCESS AT THE CITY OF LONGMONT. THE OPERATOR WILL SUBMIT ANY REQUIRED TECHNICAL REVISION TO THE DRMS.

REVISIONS

BY	DATE	DESCRIPTION

DRAWN PDB
CHECKED BW
DESIGNED BW
FILENAME 1241.0001 FDP PUD

BRIAN EDWARD WILLIAMSON 1461 ORIGINAL Professional Landscape Architect 12-2-2021 STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT

IRWIN THOMAS FINAL PUD DEVELOPMENT PLAN AMENDMENT

GRAVEL MINING AND RECLAMATION

TST
TST, INC.
CONSULTING ENGINEERS
748 Whalers Way
Suite 200 Fort Collins
Colorado 80525
Phone: 970.226.0557

JOB NO. 1241.0001.02
SCALE NTS
DATE JANUARY 2022
SHEET 3 of 5

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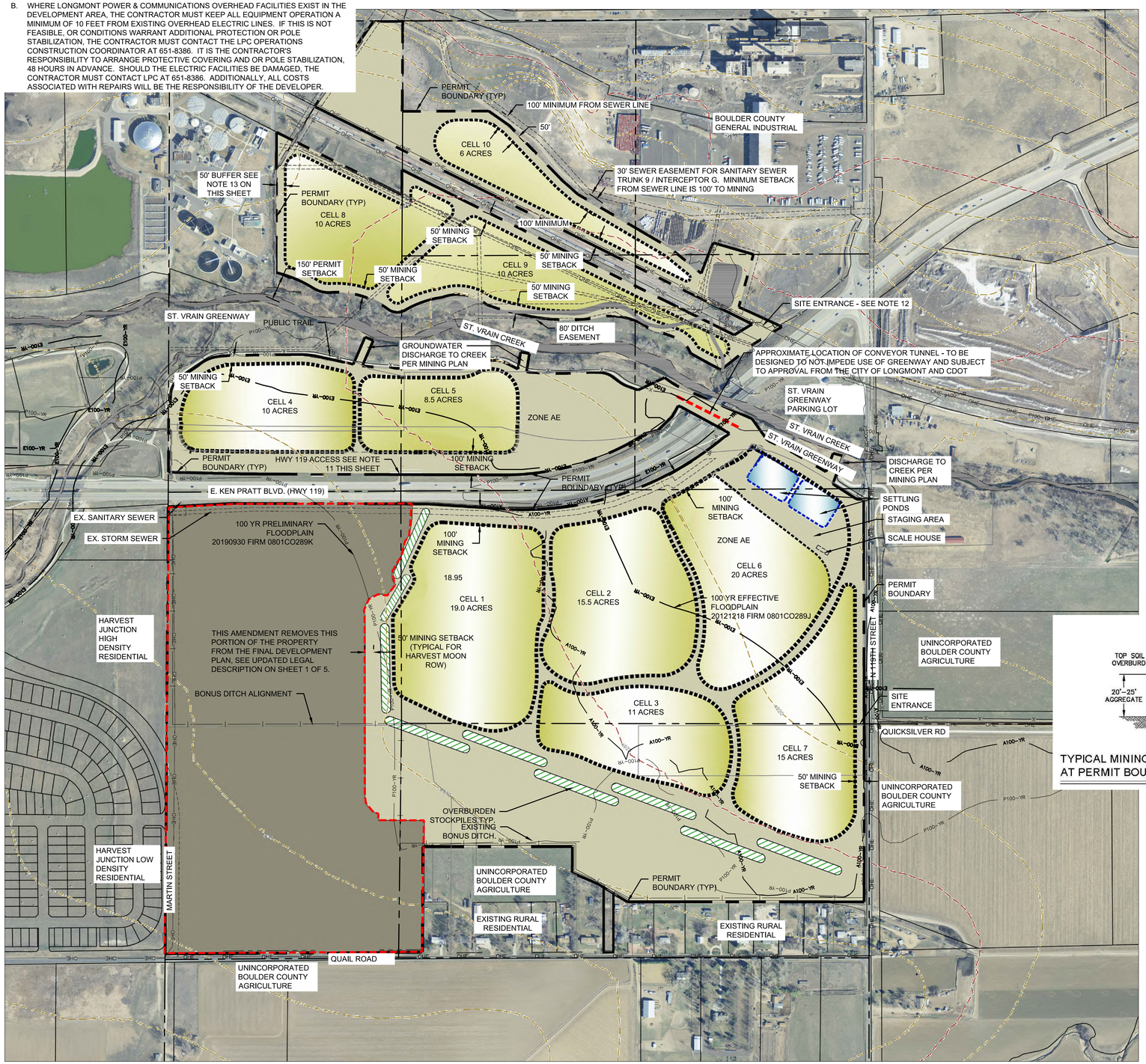
IRWIN THOMAS PRELIMINARY/FINAL PUD DEVELOPMENT PLAN
FOR GRAVEL MINING AND RECLAMATION

NOTE:

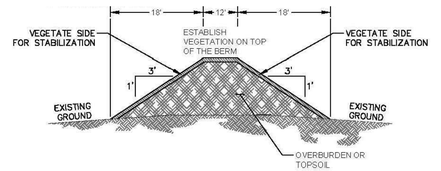
A. WHERE UNDERGROUND ELECTRIC CABLES THAT RUN NEAR THE PROJECT WORK AREA, THEY CANNOT BE DE-ENERGIZED FOR CROSSING PURPOSES. THE CONTRACTOR MUST TAKE ALL PRECAUTION NECESSARY TO PREVENT DAMAGE TO THE CABLES OR INJURY TO THE CONSTRUCTION CREW. SHOULD THE CONTRACTOR DAMAGE THESE FACILITIES, CONTACT LONGMONT POWER & COMMUNICATIONS IMMEDIATELY AT 651-8386. LONGMONT POWER & COMMUNICATIONS WILL REPAIR THE FACILITIES AND BILL THE DEVELOPER FOR ALL ASSOCIATED COSTS.

B. WHERE LONGMONT POWER & COMMUNICATIONS OVERHEAD FACILITIES EXIST IN THE DEVELOPMENT AREA, THE CONTRACTOR MUST KEEP ALL EQUIPMENT OPERATION A MINIMUM OF 10 FEET FROM EXISTING OVERHEAD ELECTRIC LINES. IF THIS IS NOT FEASIBLE, OR CONDITIONS WARRANT ADDITIONAL PROTECTION OR POLE STABILIZATION, THE CONTRACTOR MUST CONTACT THE LPC OPERATIONS CONSTRUCTION COORDINATOR AT 651-8386. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE PROTECTIVE COVERING AND OR POLE STABILIZATION, 48 HOURS IN ADVANCE. SHOULD THE ELECTRIC FACILITIES BE DAMAGED, THE CONTRACTOR MUST CONTACT LPC AT 651-8386. ADDITIONALLY, ALL COSTS ASSOCIATED WITH REPAIRS WILL BE THE RESPONSIBILITY OF THE DEVELOPER.



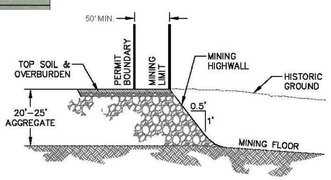
NOTES:

1. THE PROPOSED IRWIN/THOMAS MINE PERMIT AREA IS COMPRISED OF 4 DISTINCT MINING AREAS SEPARATED BY COLORADO HIGHWAY 119, ST. VRAIN CREEK, AND THE BURLINGTON NORTHERN AND SANTA FE (BNSF) RAILROAD. MINING AREA 1 IS LOCATED SOUTH OF HWY 119, MINING AREA 2 IS NORTH OF HWY 119 AND SOUTH OF ST. VRAIN CREEK, MINING AREA 3 IS NORTH OF ST. VRAIN CREEK AND SOUTH OF THE BNSF RAILROAD, AND MINING AREA 4 IS NORTH OF THE RAILROAD.
2. THE PROPOSED PERMIT BOUNDARY ENCOMPASSES APPROXIMATELY 295.6 ACRES WITH ONLY ABOUT 138 ACRES CURRENTLY PLANNED FOR MINING. HOWEVER, THE AFFECTED LAND BOUNDARY ESSENTIALLY FOLLOWS THE PERMIT BOUNDARY TO ALLOW FOR RECLAMATION ACTIVITIES AND FUTURE POTENTIAL MINING OPERATIONS.
3. IN ADDITION TO AREAS DISTURBED BY MINING, ACCESS ROADS, MATERIAL CONVEYING, STOCKPILES, OR OTHER MINING RELATED ACTIVITIES MAY OCCUR IN AREAS NOT SUBJECT TO MINING AND RIPARIAN SETBACKS AND BUFFERS.
4. SETBACKS FROM THE MINE PIT TOP OF SLOPE TO THE PROPOSED PERMIT BOUNDARY OR MAN-MADE STRUCTURES NOT OWNED BY THE APPLICANT WILL BE 50 FEET OR GREATER.
5. ITEMS OWNED BY THE APPLICANT OR PROPERTY OWNER LOCATED WITHIN THE PERMIT AREA SUCH AS UN-IMPROVED ROADS, IRRIGATION LATERALS, FENCES, WATER WELLS AND ASSOCIATED PUMPS, AND OTHER STRUCTURES MAY BE REMOVED OR RELOCATED DURING MINING AND RECLAMATION.
6. TEST PITS HAVE VERIFIED THAT COMMERCIAL DEPOSITS OF SAND AND GRAVEL EXIST UP TO 25 FEET BELOW THE SURFACE OF THE GROUND.
7. MINING IS EXPECTED TO ENCOUNTER GROUNDWATER WITHIN FIVE FEET OF THE GROUND SURFACE. THE DEPOSIT WILL BE DRY MINED USING DEWATERING TRENCHES AND PUMPS.
8. DURING MINING ADJACENT TO THE ST. VRAIN CREEK RIPARIAN AREA, PRECAUTIONS WILL BE TAKEN TO NOT DISTURB THE CREEK CHANNEL AND DESIRABLE VEGETATION.
9. A MINE OFFICE/SCALE HOUSE TRAILER WILL BE ESTABLISHED NEAR SITE ENTRANCES BOTH NORTH AND SOUTH OF ST. VRAIN CREEK, LOCATIONS ARE SUBJECT TO CITY STAFF APPROVAL.
10. BEST MANAGEMENT PRACTICES WILL BE USED TO LIMIT DISCHARGE OF STORMWATER AND SEDIMENT ONTO ADJACENT PROPERTIES AND WATERWAYS.
11. THE EXISTING HWY 119 ACCESS WILL CONTINUE TO FUNCTION FOR AGRICULTURE ACCESS AND MAINTENANCE. ONCE MINING AND RECLAMATION BEGIN, ACTIVITY ASSOCIATED WITH THE HWY 119 ACCESS WILL INCLUDE BRINGING EQUIPMENT INTO THE SITE, THE EQUIPMENT OPERATORS VEHICLE, ANY REQUIRED MAINTENANCE OF THE EQUIPMENT AND VEGETATION MANAGEMENT. MINED MATERIAL MAY BE TRANSPORTED VIA THE CONVEYOR AS SHOWN ON THE MINING PLAN OR VIA HAUL TRUCKS UTILIZING DIRECT ACCESS ONTO HWY 119 AT THE CONTROLLED INTERSECTION. SPECIFIC DETAILS REGARDING TRANSPORT OF MATERIAL FROM THE HWY 119 ACCESS OR VIA THE CONVEYOR SHALL BE REVIEWED AND APPROVED BY CDOT AND THE CITY OF LONGMONT.
12. ACCESS TO CELLS 8,9 AND 10 WILL BE VIA AN EXISTING ACCESS EASEMENT TO NORTH 119TH ST. SPECIFIC CONFIGURATION, REQUIRED IMPROVEMENTS AN AN APPROVED HAUL ROUTE TO BE APPROVED BY THE CITY PRIOR TO MINING THESE CELLS. THE OPERATOR WILL ENTER INTO A ROAD MAINTENANCE AGREEMENT WITH THE CITY PRIOR TO MINING THOSE CELLS.
13. THE EXISTING SWALE ON THE WEST SIDE OF CELL 8 IS A MAJOR DRAINAGE CONVEYANCE AND DISCHARGE FOR THE WATER TREATMENT PLANT. THE CHANNEL CANNOT BE IMPACTED AND MUST REMAIN OPERATIONAL AT ALL TIMES. FIELD VERIFY PRIOR TO ANY MINING ACTIVITIES THAT THE 50' PROPOSED BUFFER IS ADEQUATE TO PROTECT THE EXISTING SWALE, AND IF IT IS NOT, INCREASE THE BUFFER AMOUNT TO ENSURE PROPER OPERATION OF THE SWALE.



TYPICAL BERMING SECTION

N.T.S.



TYPICAL MINING SECTION AT PERMIT BOUNDARY

N.T.S.

LEGEND:

- PERMIT BOUNDARY
- PROPOSED HAUL ROAD
- PROPOSED MINING LIMITS
- EXISTING PARCELS
- EXISTING DITCH
- EXISTING GAS LINE — GAS
- EXISTING OVERHEAD ELECTRIC — OHE
- EXISTING EASEMENT
- EXISTING 5 FOOT CONTOUR — 4850
- EXISTING 25 FOOT CONTOUR — 4700
- 100 YR EFFECTIVE FLOOD PLANE — E100-YR
- 100 YR PRELIMINARY FLOOD PLANE — P100-YR
- 100 YR PROPOSED FLOOD PLANE — A100-YR

NORTH 0 150' 300' 600' SCALE: 1"= 300'-0"

STANDARD NOTES

A. THE PROPERTY IS SUBJECT TO AN ANNEXATION AGREEMENT WITH THE CITY OF LONGMONT.

B. ALL FUTURE DEVELOPMENT OF THE PROPERTY WILL CONFORM TO THE APPROVED CONCEPT PLAN UNLESS AMENDED BY THE CITY COUNCIL.

C. THE PROPERTY WILL COMPLY WITH ALL APPLICABLE MUNICIPAL AND DEVELOPMENT CODE REQUIREMENTS.

D. THE PROPERTY WILL COMPLY WITH THE CITY OF LONGMONT'S REQUIREMENTS FOR DRAINAGE.

E. FUTURE DEVELOPMENT ON THE PROPERTY SHALL COMPLY WITH THE CITY'S FLOOD PLAIN REGULATIONS BASED ON THE BEST FLOODPLAIN DATA AVAILABLE AT THE TIME OF DEVELOPMENT.

F. THE PROPERTY WILL COMPLY WITH ANY CURRENT CITY OF LONGMONT BUFFERING REQUIREMENTS AT THE TIME OF FINAL DEVELOPMENT.

FLOODPLAIN NOTES

FLOODPLAIN INFORMATION PER FIRM FLOOD INSURANCE RATE MAP NO 08013C0287J DATED DECEMBER 18, 2012 AND FIRM FLOOD INSURANCE RATE MAP NO 08013C0289J DATED DECEMBER 18, 2012.

THIS PROPERTY LIES IN AREAS DETERMINED TO BE WITHIN

- OTHER AREAS - AREAS OUTSIDE THE 2% ANNUAL CHANCE FLOOD
- ZONE X - AREAS OF 25 % ANNUAL CHANCE OF FLOOD OR AREAS WITH 1% ANNUAL CHANCE OF FLOOD WITH AVERAGE DEPTHS OF LESS THAN ONE FOOT OR WITHIN DRAINAGE AREAS LESS THAN ONE SQUARE MILE AND AREAS PROTECTED BY LEVEES FROM THE 100 YEAR FLOOD.
- ZONE AE - SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL FLOOD CHANCE, BASE FLOOD ELEVATIONS DETERMINED.
- ZONE AH - SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL FLOOD CHANCE, FLOOD DEPTHS OF 1 TO 3 FEET, (USUALLY AREAS OF PONDING) BASE FLOOD ELEVATIONS DETERMINED.

THE ADDITIONAL FLOODPLAINS SHOWN ARE BASED ON PRELIMINARY FEMA FIRM MAP 08013CO289K FROM SEPTEMBER 30, 2019 AND LONGMONT'S APPEAL OF FEMA'S PRELIMINARY FIRM MAP. THESE MAPS ARE NOT FINAL AND ARE EXPECTED TO BE REVISED, THESE ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.

REVISIONS

BY	DATE	DESCRIPTION

DRAWN: PDB
CHECKED: BW
DESIGNED: BW
FILENAME: 1241.0001 FDP PUD

BRIAN EDWARD WILLIAMSON 1461 — COLORADO — 2-2-2022 — STATE OF COLORADO — LICENSED LANDSCAPE ARCHITECT

IRWIN THOMAS FINAL PUD DEVELOPMENT PLAN AMENDMENT

GRAVEL MINING

TST

TST, INC.
CONSULTING ENGINEERS
748 Whalers Way
Suite 200 Fort Collins
Colorado 80525
Phone: 970.226.0557

JOB NO. 1241.0001.02
SCALE 1"=300'
DATE JANUARY 2022
SHEET 4 of 5

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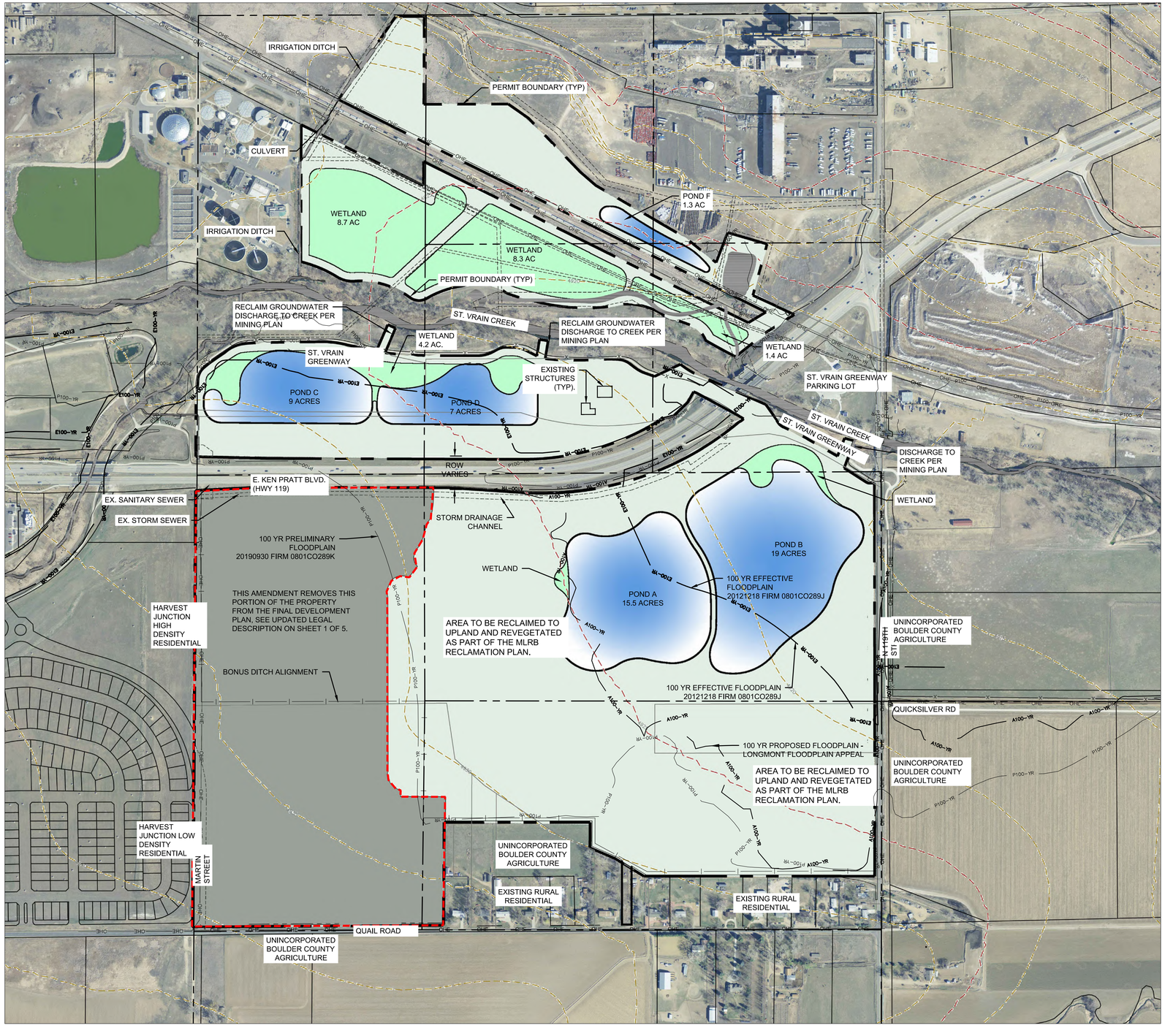
IRWIN THOMAS PRELIMINARY/FINAL PUD DEVELOPMENT PLAN FOR GRAVEL MINING AND RECLAMATION



NOTES

1. THE PROPOSED FINAL LAND USES FOR THE IRWIN / THOMAS MINE ARE SINGLE FAMILY NEIGHBORHOOD, MIXED USE CORRIDOR, and MIXED NEIGHBORHOOD. AGRICULTURE MAY BE AN INTERIM LAND USE BETWEEN RECLAMATION AND DEVELOPMENT. AGRICULTURAL USES SHALL BE LIMITED TO CROP PRODUCTION AND MAY NOT INCLUDE ANY LIVESTOCK.
2. MINE CELLS WILL BE BACKFILLED TO CREATE UPLAND, OPEN WATER POND, AND WETLAND AREAS.
3. ALL SLOPES SHALL BE GRADED TO 3H:1V OR FLATTER. ROUGH GRADING WILL ESTABLISH FINAL ELEVATIONS, SLOPES, AND TRANSITIONS. TRANSITIONS BETWEEN UPLANDS, WETLANDS, AND POND SLOPES SHALL BE GRADED WITH A SMOOTH, GRADUAL TOPOGRAPHY.
4. FINAL GRADING WILL INCLUDE ADDITION OF TOPSOIL AND SURFACE PREPARATION FOR REVEGETATION. SPECIAL ATTENTION SHALL BE GIVEN TO TRANSITIONS FROM RECLAIMED AREAS TO UNDISTURBED LAND.
5. ALL AVAILABLE TOPSOIL AND OVERBURDEN MATERIAL WILL BE USED FOR BACKFILLING AND RECLAMATION.
6. THE GROWTH MEDIUM FOR REVEGETATION WILL BE A COMBINATION OF OVERBURDEN AND TOPSOILS.
7. TWO DIFFERENT MIXES OF UPLAND GRASSES WILL BE USED IN AREAS THAT WILL NOT EXPERIENCE PERIODIC FLOODING, SEASONAL GROUNDWATER, OR OTHER MOIST SOIL CONDITIONS. ONE SEED MIX WILL BE USED SIMPLY FOR QUICK SOIL STABILIZATION AND EROSION CONTROL. THIS MIX WILL MAINLY BE USED IN MA1 WHERE FURTHER AGRICULTURAL OR OTHER DEVELOPMENT IS EXPECTED TO OCCUR FOLLOWING PERMIT RELEASE. THE SECOND GRASS SEED MIX FOR AREAS LEFT AS OPEN SPACE IS COMPOSED OF A LONG LASTING AND REGENERATING NATIVE UPLAND SEED MIXTURE.

Upland Grass Seed - Soil Stabilization	Application Rate* (#PLS/acre)
Intermediate Wheatgrass	3
Blue Grama	0.75
Alfalfa	0.75
TOTAL	**4.5**

*Application rate is for drill seeding. If seed is to be broadcast. The application rate will be doubled.

Upland Grass Seed - Native Open Space	Application Rate* (#PLS/acre)
Western Wheatgrass	4
Blue grama	1
Side-oats grama	1.5
Switchgrass	1
Sand dropseed	0.5
Indian Ricegrass	1
TOTAL	**9**

*Application rate is for drill seeding. If seed is to be broadcast. The application rate will be doubled.

8. IN AREAS WHERE WETLANDS COULD POTENTIALLY BE DEVELOPED, THE SEED MIXTURE WILL BE MODIFIED TO INCLUDE MORE TRANSITION AND WETLAND GRASSES AND GRASS-LIKE SPECIES. THESE SEED MIXES, ESPECIALLY IF STANDING WATER OR SATURATED SOILS EXIST DURING PLANTING, WILL LIKELY NEED TO BE BROADCAST.

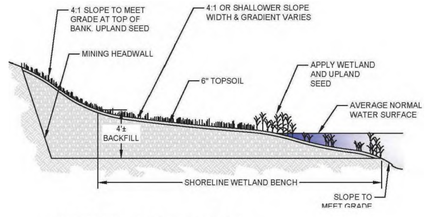
Wetland/Transition Grass Seed	Application Rate* (#PLS/acre)
Western Wheatgrass	2.5
Switchgrass	2.5
Bottlebrush squirreltail	1.5
Alkali sacaton	1.5
Colorado rush	1.5
Meadow sedge	1.5
Total	11

*Application rate is for drill seeding. If seed is to be broadcast. The application rate will be doubled.

9. UPLAND GRASS SEED WILL BE PLANTED WITH A DRILL EQUIPPED WITH DEPTH BANDS AND PRESS WHEELS. THE SEEDED AREA WILL THEN BE COVERED WITH CERTIFIED WEED-LESS STRAW MULCH AT A RATE OF 2,000 POUNDS PER ACRE. THE STRAW WILL BE CRIMPED INTO THE SOIL TO CONTROL EROSION UNTIL THE GRASS BECOMES ESTABLISHED.
10. DRILL SEEDING IS THE PREFERRED METHOD FOR REVEGETATION. IF BROADCAST SEEDING IS NECESSARY ON MOIST SOILS, STEEP SLOPES, OR IN EXCESSIVELY ROCKY AREAS, SUCCESS CAN BE ENCOURAGED BY BROADCASTING ONTO GROWTH MEDIUM THAT IS VERY LOOSE. IF THE SEED IS BROADCAST IN THOSE CIRCUMSTANCES, THEN THE SEEDED AREA WILL BE DRAGGED TO HELP BURY THE SEED.
11. PERIODIC INSPECTION FOR NOXIOUS WEEDS, AT LEAST ONCE A YEAR EARLY IN THE SEASON, AND MORE FREQUENTLY AS NEEDED, WILL BE DONE AS PART OF A WEED MANAGEMENT PLAN.
12. THE MINE OFFICE/SCALE HOUSE TRAILER AND ANY OTHER STRUCTURES ASSOCIATED WITH MINING WILL BE REMOVED FROM THE SITE DURING FINAL RECLAMATION ACTIVITIES.
13. BEST MANAGEMENT PRACTICES WILL BE USED TO CONTROL EROSION AND STORMWATER SUSPENDED SEDIMENT RUNOFF FROM THE SITE DURING RECLAMATION ACTIVITIES.
14. THE FINAL RECLAMATION PLAN INCLUDES FIVE IRREGULARLY SHAPED PONDS TOTALING ABOUT 73 ACRES WITH THE AREA BETWEEN THE ST. VRAIN CREEK AND BURLINGTON NORTHERN RAILROAD CONSISTING OF ABOUT 25.5 ACRES OF WETLANDS. THE EXACT NUMBER, AREA OF OPEN WATER, AND CONFIGURATION OF THE PONDS AND WETLANDS MAY VARY BASED ON THE GRAVEL RESOURCE AND AVAILABLE FILL MATERIAL. FINAL LAYOUT OF THE OPEN WATER WILL BE DETERMINED WHEN MINING HAS BEEN COMPLETED AND RECLAMATION TAKES PLACE, PER THE APPROVED RECLAMATION PLAN. RECLAMATION PLANS FOR PROPERTIES THAT ARE OWNED BY THE CITY SHALL BE APPROVED BY THE CITY PRIOR TO THE BEGINNING OF RECLAMATION WORK.
15. BEFORE RECLAMATION ACTIVITIES COMMENCE ON LAND NORTH OF HWY 119, THE OPERATOR SHALL WALK THE SITE WITH THE CITY TO DETERMINE THE EXTENTS OF SEEDING WITH THE VARIED SEED MIXES SPECIFIED FOR THE PROJECT.
16. THE OPERATOR WILL WORK WITH THE CITY TO ADD DIVERSITY TO THE SEED MIXES PROPOSED FOR CITY-OWNED PROPERTY PRIOR TO RECLAMATION OF MINING ACTIVITIES IN THESE AREAS.

POND LINER NOTES

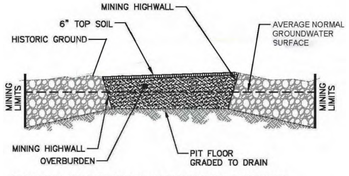
1. PRIOR TO CONSTRUCTION, OVERBURDEN AND CLAYSTONE MATERIAL TESTING SHALL BE PERFORMED FOR USE IN FINAL DESIGN. THE FOLLOWING SPECIFICATIONS AND PROCEDURES ARE PROVIDED AS A GENERAL GUIDELINE FOR PERMITTING PURPOSES. FINAL SPECIFICATIONS AND DESIGN.
2. CRITERIA WILL BE DEVELOPED DURING THE FINAL DESIGN PROCESS.
3. EACH LAYER OF FILL SHALL BE SCARIFIED TO ALLOW PROPER BONDING BETWEEN LAYERS.
4. DENSITY AND MOISTURE CONTENT TESTING SHALL BE PERFORMED AT A RATE OF 1 TEST FOR EACH 2,000 YARDS PLACED.
5. ALL CLAY LINER MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% ASTM-D698-78 STANDARD PROCTOR AT +2% OF OPTIMUM MOISTURE CONTENT.
6. NO LINER MATERIAL SHALL BE PLACED IN THE LINER SLOPE WHILE EITHER THE MATERIAL, EMBANKMENT, OR FOUNDATION IS FROZEN.
7. NO ORGANIC MATERIAL SHALL BE PLACED IN THE LINER SLOPE.
8. EACH LAYER OR LIFT SHALL BE CONSTRUCTED CONTINUOUSLY AND APPROXIMATELY HORIZONTAL FOR THE WIDTH AND LENGTH OF EACH LIFT.
9. LINER MATERIAL SHALL BE COMPOSED OF CLAYEY OVERBURDEN AND WEATHERED CLAYSTONE THAT BREAKS DOWN DURING PROCESSING.
10. BEDROCK CLAYSTONE MATERIAL MAY BE RIPPED, MOISTURE TREATED, AND ALLOWED TO AIR SLAKE FOR A MINIMUM OF ONE DAY PRIOR TO ITS PLACEMENT IN THE LINER. LINER MATERIAL IS DEFINED AS MATERIAL HAVING 4 INCH OR SMALLER COBBLE, A MINIMUM OF 50% FINES BY CLAY WEIGHT PASSING THE US STANDARD 200 SIEVE, AND A PLASTICITY INDEX OF 10% OR GREATER FOR THE PORTION OF MATERIAL FINER THAN THE US STANDARD 40 SIEVE.
11. SUFFICIENT MOISTURE SHALL BE ADDED AT THE BORROW AREA SO NO MORE THAN 3% ADDITIONAL MOISTURE IS REQUIRED TO BRING ANY LINER MATERIAL TO SPECIFICATIONS ONCE PLACED IN THE FILL.
12. LINER MATERIAL SHALL BE PLACED IN MAXIMUM OF 9-INCH LOOSE LIFTS PRIOR TO COMPACTION.
13. A CATERPILLAR 815 OR 825 SHEEPSFOOT COMPACTOR (OR EQUIVALENT) WILL BE USED FOR COMPACTING EFFORTS.
14. THE COMPLETED LINER SHALL BE PROTECTED FROM DAMAGE CAUSED BY DESICCATION OR FREEZING TEMPERATURES BY PLACING A MINIMUM OF 12-INCHES PIT RUN MATERIAL ON THE ENTIRE SLOPE.



SHORELINE RECLAMATION N.T.S.

LEGEND:

- PERMIT BOUNDARY
- PROPOSED HAUL ROAD
- PROPOSED MINING LIMITS
- EXISTING PARCELS
- EXISTING DITCH
- EXISTING GAS LINE — GAS
- EXISTING OVERHEAD ELECTRIC — OHE
- EXISTING EASEMENT
- EXISTING 5 FOOT CONTOUR — 4880
- EXISTING 25 FOOT CONTOUR — 4700
- 100 YR EFFECTIVE FLOODPLAIN — E100-YR
- 100 YR PRELIMINARY FLOODPLAIN — P100-YR
- 100 YR PROPOSED FLOODPLAIN — A100-YR



MINING SECTION C (DIAGONAL HATCH) N.T.S.

NORTH 0 150' 300' 600' SCALE: 1"= 300'-0"

REVISIONS

DESCRIPTION	DATE	BY

DRAWN PDB
CHECKED BW
DESIGNED BW
FILENAME 1241.0001 FDP PUD

BRIAN EDWARD WILLIAMSON 1461 STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT 2-2-2022

IRWIN THOMAS FINAL PUD DEVELOPMENT PLAN AMENDMENT

RECLAMATION

TST
TST, INC.
CONSULTING ENGINEERS
748 Whalers Way
Suite 200 Fort Collins
Colorado 80525
Phone: 970.226.0557

JOB NO. 1241.0001.02
SCALE 1"=300'
DATE JANUARY 2022
SHEET 5 of 5

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