



**COLORADO**  
Division of Reclamation,  
Mining and Safety  
Department of Natural Resources

January 31, 2025

Robin Simons  
CEMEX, Inc.  
P.O. Box 529  
Lyons, CO 80540

**RE: Adequacy Review No. 4; Reclamation Cost Estimate; Lyons Quarry, Permit No. M-1977-208**

Robin Simons,

On December 5, 2024 and January 6, 2025, the Division of Reclamation, Mining and Safety (Division/DRMS) received your response to the Division's Financial Warranty Cost Estimate letter dated November 21, 2024. The Division reviewed the responses and adjusted the Reclamation Cost Estimate for the site based on the comments received. The updated relevant tasks have been attached for your reference.

1. The Division adjusted the Clinker Storage Building volume estimate base on the information provided. The revised volume used is 3,065,200 cubic feet. The demolition method used for the building was changed to explosive demolition and disposal.
2. The cost estimate for the Task 004-Excavation of On-Site Disposal Cell was revised to 2,000 cy to account for the double handling of the excavated material.
3. The Division did not revise the cost estimate for construction of the stormwater ditch as it feels it accurately reflects the cost and methods the State would use to construct the ditch.

These changes reduce the Financial Warranty Cost Estimate for the site from \$26,615,091 to \$21,680,402 and the currently held bond amount is sufficient at this time.

If you need additional information or have any questions, please contact me by email at [patrick.lennberg@state.co.us](mailto:patrick.lennberg@state.co.us).

Sincerely,





Patrick Lennberg  
Environmental Protection Specialist

cc: Jared Ebert, DRMS

ec: Robin Simons, CEMEX, Inc., [robing.simons@cemex.com](mailto:robing.simons@cemex.com)

## COST SUMMARY WORK

Task description: Cost Summary

Site: Lyons Quarry

Permit Action: 2024 Cost Est

Permit/Job#: M1977208

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 10/22/2024

County: Boulder

Filename: M208-000

User: JPL

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Table 2 Demolition	DEMOLISH	1	22,600.00	\$8,285,396
002	Table 3 Steel Demo	DEMOLISH	1	615.00	\$779,767
003	Table 5 Other Reclamation Costs	DEMOLISH	1	2,700.00	\$410,681
004	Excavation of On-Site Disposal Cell	SCRAPER1	1	0.34	\$1,550
005	Installation of GCL	NA	1	54.20	\$174,000
006	3 Ft Clay Liner Protective Cover	SCRAPER1	1	23.22	\$101,833
007	Interstitial Fill	SCRAPER1	1	14.89	\$68,669
008	30-inch Cover	SCRAPER1	1	22.07	\$101,732
009	Stormwater Diversion Ditch	POSTMININ G	1	322.83	\$86,204
010	B-Pit Topsoil Stripping	DOZER	1	25.66	\$12,247
011	Backfill C Pit	TRUCK1	2	111.36	\$380,544
012	Shale from SE Corner of site to C-Pit	SCRAPER1	1	32.02	\$151,159
013	Rough Grade Plant Area	GRADER	1	6.26	\$2,265
014	Fine Grade Plant Area	GRADER	1	13.57	\$4,915
015	Rough Grade C-Pit	GRADER	1	5.75	\$2,082
016	Fine Grade C-Pit	GRADER	1	17.91	\$6,488
017	Rip Roads and Facilities	RIPPER	1	5.41	\$2,629
018	Grade Roads and Facilities	GRADER	1	1.74	\$632
019	Rip Disposal Cell	RIPPER	2	8.99	\$8,742
020	Grade Disposal Cell	GRADER	1	6.14	\$2,226
021	Grade B-Pit Borrow	GRADER	1	9.70	\$3,514
022	Grade Topsoil Stockpile	GRADER	1	4.02	\$1,456
023	Topsoil Plant Area	SCRAPER1	1	26.84	\$117,734
024	Topsoil C-Pit	SCRAPER1	1	23.30	\$102,209
025	Topsoil Roads and Facilities	SCRAPER1	1	2.24	\$9,806
026	Topsoil Disposal Cell	SCRAPER1	1	7.43	\$32,600
027	Topsoil B-Pit Borrow	DOZER	2	19.25	\$18,353
028	Plant Area Revegetation	REVEGE	1	53.00	\$69,065
029	On-Site Disposal Cell Revegetation	REVEGE	1	26.00	\$34,200
030	C-Pit Area Revegetation	REVEGE	1	46.00	\$59,960
031	Roads and Facilities Revegetation	REVEGE	1	7.00	\$8,883
032	B-Pit Borrow Area	REVEGE	1	36.00	\$46,636
033	Topsoil Stockpile Revegetation	REVEGE	1	15.00	\$19,321
034	Weed Control	REVEGE	1	15.00	\$2,914
035	C-Pit Water Treatment TR-18	NA	1	1.00	\$5,752,000
036	Well Abandonment	BOREHOLE	1	16.00	\$6,207
037	Mob/Demob	MOBILIZE	1	5.06	\$90,136

<b><u>SUBTOTALS:</u></b>	<b>26900.2</b>	<b>\$16,958,755</b>
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**INDIRECT COSTS****OVERHEAD AND PROFIT:**

Liability insurance:	2.02	Total =	\$342,567
Performance bond:	1.05	Total =	\$178,067
Job superintendent:	3,126.00	Total =	\$247,798
Profit:	10.00	Total =	\$1,695,876
		TOTAL O & P =	\$2,464,307
		CONTRACT AMOUNT (direct + O & P) =	\$19,423,062

**LEGAL - ENGINEERING - PROJECT MANAGEMENT:**

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	4.00	Total =	\$776,922
Reclamation management and/or administration:	5.00		\$971,153

CONTINGENCY:	3.00	Total =	\$508,763
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TOTAL INDIRECT COST =	\$4,721,646
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<b>TOTAL BOND AMOUNT (direct + indirect) =</b>	<b>\$21,680,401</b>
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## DEMOLITION WORK

Task description:

**Table 2 Demolition**Site: Lyons QuarryPermit Action: 2024 Cost EstPermit/Job#: M1977208**PROJECT IDENTIFICATION**Task #: 001State: ColoradoAbbreviation: NoneDate: 2/13/2024County: BoulderFilename: M208-001User: JPLAgency or organization name: DRMS**UNIT COSTS****Location adjustment: 91.80 %**

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
A-Admin Building	105x46x14	Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	67,620.00	CF	\$0.29	\$19,454.27
A-Admin Bld floor	105x46x0.5	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	4,830.00	SF	\$1.16	\$5,585.90
B-Mill Bld	168x97x53	Plant (3C) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	863,688.00	CF	\$1.10	\$954,116.13
B-Mill Bld Floor	168x97x0.5	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	16,296.00	SF	\$1.16	\$18,846.32
B-Raw Mill Foundation	Sum of LF Provided	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	107.00	LF	\$13.88	\$1,484.99
B-Finish Mill Foundation	Sum of LF Provided	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	168.00	LF	\$13.88	\$2,331.57
B-Foundation	Sum of LF Provided	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	225.00	LF	\$13.88	\$3,122.64
C-Control Center	88x37x38	Plant (3C) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	123,728.00	CF	\$1.10	\$136,682.32
C-Control Center b	37x34x20	Plant (3C) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	25,160.00	CF	\$1.10	\$27,794.25
C-Control Center Floor	88x37	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	3,265.00	SF	\$1.16	\$3,775.97
D-Raw Material Silos	0.58x73x27	Explosive demolition, large projects - Concrete structures	38,263.00	CF	\$0.41	\$15,687.83

D-Raw Material Silo Debris Disp	785	Explosive demo, Disposal of material average	785.00	CY	\$14.75	\$11,578.75
E-Pack House a	150x72x25	Plant (3C) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	270,000.00	CF	\$1.10	\$298,269.00
E-Pack House b	45x41x36	Plant (3C) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	66,420.00	CF	\$1.10	\$73,374.17
E-Pack House a floor	150x72x1	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	7,560.00	SF	\$2.31	\$17,487.04
E-Pack House b Floor	45x41x1	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	1,845.00	SF	\$2.31	\$4,267.67
F-Clinker Storage Building (Triangular Bld)	388x200x79	Explosive demolition, large projects - Concrete structures	3,065,200.00	CF	\$0.41	\$1,256,732.00
F-Clinker Silo	0.58x73x27	Explosive demolition, large projects - Concrete structures	573.00	CF	\$0.41	\$234.93
F-Clinker Silo Disp	0.58x73x27	Explosive demo, Disposal of material average	21.00	CY	\$14.75	\$309.75
F-Clinker Floor	388x200	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	77,600.00	SF	\$2.31	\$179,496.56
G-Finished Cement Silos (15)	589503 total	Explosive demolition, large projects - Concrete structures	589,503.00	CF	\$0.41	\$241,696.23
G-Finish Silo Disposal	589503	Explosive demo, Disposal of material average	21,833.00	CY	\$14.75	\$322,036.75
H Pump House	25x25x15	Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	9,375.00	CF	\$0.29	\$2,697.19
H-Pump House Floor	25x15x0.67	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	625.00	SF	\$1.16	\$722.81
J-Electrical Room	26x15x15	Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	5,850.00	CF	\$0.29	\$1,683.05
J-Electrical Room Floor	26x15	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	390.00	SF	\$1.16	\$451.04
T-Dust Suppressor	70x30x60	Plant (3C) demo./off-site disposal in approved landfill - Max. 15 mile haul	126,000.00	CF	\$1.03	\$130,258.80

V-Coal Unloading Building	71x36x30	Plant (3S) demo./off-site disposal in approved landfill - Max. 15 mile haul	76,680.00	CF	\$0.88	\$67,225.36
V-Coal Unloading Bases	71x36	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 10,000 ft. haul	2,556.00	SF	\$1.54	\$3,941.35
AA-Maintenance Shop	120x65x24	Plant (3S) demo./off-site disposal in approved landfill - Max. 15 mile haul	187,200.00	CF	\$0.88	\$164,118.24
AA-Maintenance Shop Floor	120x65	Demo. and on-site disposal in existing pit, 10 in. thick - Max. 10,000 ft. haul	7,800.00	SF	\$1.93	\$15,035.28
I-Wash House	10x10x8	Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	800.00	CF	\$0.29	\$230.16
I-Wash House Floor	10x10	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 10,000 ft. haul	100.00	SF	\$1.54	\$154.20
K-Mobile Equipment Shed	103x64x35	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	230,720.00	CF	\$0.42	\$97,110.05
K-Mobile Equipment Shed Floor	103x64x0.67	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 10,000 ft. haul	6,592.00	SF	\$1.54	\$10,164.86
L-Burner Bld a	120x91x53	Plant (3C) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	578,760.00	CF	\$1.10	\$639,356.17
L-Burner Bld b	48x91x25	Plant (1C) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	109,200.00	CF	\$1.04	\$113,458.80
L-Burner Bld Foundation	700 LF	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	700.00	LF	\$13.88	\$9,714.88
M-Primary Crusher - Steel	10x10x10	Plant (1S) demo./off-site disposal in approved landfill - Max. 15 mile haul	100.00	CF	\$0.85	\$84.86
M-Primary Crusher Concrete	40x20x30	Plant (3C) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	25,800.00	CF	\$1.10	\$28,501.26
M-Primary Crusher Floor	10x10x067	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 10,000 ft. haul	100.00	SF	\$1.54	\$154.20
N-Secondary Crusher Silos	97993 cf total	Explosive demolition, large projects - Steel structures	97,993.00	CF	\$0.41	\$40,177.13

N-Secondary Crusher Silos Disposal	3629 cy	Loading and 5 mile haul, salvage allowed - Steel frame structures	3,629.00	CY	\$13.75	\$49,898.75
N-Secondary Crusher Floor	1x32x1	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	32.00	SF	\$2.31	\$74.02
O-Homogenizing Silos (3)	256739 cf	Explosive demolition, large projects - Concrete structures	256,739.00	CF	\$0.41	\$105,262.99
O-Silo Disposal	9508 cy	Explosive demo, Disposal of material average	9,508.00	CY	\$14.75	\$140,243.00
P-Coal Facilities	261383 cf	Explosive demolition, large projects - Concrete structures	261,383.00	CF	\$0.41	\$107,167.03
P-Coal Facilities Disposal	9680 cy	Explosive demo, Disposal of material average	9,680.00	CY	\$14.75	\$142,780.00
P-Coal Facilities Foundation	10x10x5	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	100.00	SF	\$2.31	\$231.31
Q-Stack	1x195x44	Explosive demolition, large projects - Concrete structures	270,161.00	CF	\$0.41	\$110,766.01
Q-Stack Disposal	976 cy	Explosive demo, Disposal of material average	976.00	CY	\$14.75	\$14,396.00
R-Bag House	130x60x45	Plant (3S) demo./off-site disposal in approved landfill - Max. 15 mile haul	351,000.00	CF	\$0.88	\$307,721.70
S-Raw Material Dryer	21x16x16	Plant (1S) demo./off-site disposal in approved landfill - Max. 15 mile haul	5,376.00	CF	\$0.85	\$4,562.07
S-Raw Material Dryer Foundation	Variable	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	74.00	LF	\$13.88	\$1,027.00
U-Warehouse	122x74.5x20	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	181,780.00	CF	\$0.42	\$76,511.20
U-Warehouse Foundation	122 LF	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	392.00	LF	\$13.88	\$5,440.33
X-Brick Shed	96x40x18	Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	69,120.00	CF	\$0.29	\$19,885.82
X-Brick Shed Floor	96x40	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 10,000 ft. haul	3,840.00	SF	\$1.54	\$5,921.28
Z-Kiln	10x24x11	Plant (1S) demo./off-site disposal in approved	2,640.00	CF	\$0.85	\$2,240.30



		landfill - Max. 15 mile haul				
BB-PreHeater Tower	55x40x60	Explosive demolition, large projects - Steel structures	132,000.00	CF	\$0.41	\$54,120.00
BB-PreHeater Tower Disposal	4888 cy	Loading and 5 mile haul, salvage allowed - Steel frame structures	4,888.00	CY	\$13.75	\$67,210.00
BB-PreHeater Foundation	55 LF	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	190.00	LF	\$13.88	\$2,636.90
CC-Oil House	16x32x11	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	5,632.00	CF	\$0.42	\$2,370.51
CC-Oil House Foundation	96 LF	Demo. and on-site disposal in existing pit, 1.5 ft. x 2 ft. - Max. 10,000 ft. haul	96.00	LF	\$6.94	\$666.16
DD-Blower Building	32x12x10	Plant (1S) demo./off-site disposal in approved landfill - Max. 15 mile haul	3,840.00	CF	\$0.85	\$3,258.62
DD-Blower Building Foundation	88 LF	Demo. and on-site disposal in existing pit, 1.5 ft. x 2 ft. - Max. 10,000 ft. haul	88.00	LF	\$6.94	\$610.65
EE-SNCR	10x12x11	Plant (1S) demo./off-site disposal in approved landfill - Max. 15 mile haul	1,320.00	CF	\$0.85	\$1,120.15
EE-SNCR Foundation	44 LF	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	44.00	LF	\$13.88	\$610.65
Pavement-All outside Pavement	22,222 cy	USER PROVIDED ITEM	22,222.00	CY	\$54.21	\$1,204,654.62
F-Clinker Storage Building Disp	113525 cy	Explosive demo, Disposal of material average	113,525.00	CY	\$14.75	\$1,674,493.75

Job Hours: 22,600.00

Subtotal  
(unadjusted): \$9,025,485.55

Total Cost  
(adjusted for location): \$8,285,395.73

**SCRAPER TEAM WORK**Task description: **Excavation of On-Site Disposal Cell**Site: **Lyons Quarry**Permit Action: 2024 Cost EstPermit/Job#: M1977208**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 2/14/2024County: BoulderFilename: M208-004User: JPLAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 637G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 10,000 Gal.

**Cost Breakdown:**

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	10	NA	NA	50	20
Ownership cost/hour:	\$281.32	\$173.32	NA	NA	\$179.39	\$111.67
Operating cost/hour:	\$319.35	\$10.97	NA	NA	\$59.82	\$23.69
%Utilization-ripper:	NA	NA	NA	NA	0	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$5.75	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$57.52	\$40.04	NA	NA	\$56.70	\$0.00
Unit Subtotals:	\$658.19	\$224.33	NA	NA	\$301.66	\$135.36
Number of Units:	6	1	0	0	1	1
Group Subtotals:	Work:	\$4,173.47	Support:	\$0.00	Maint:	\$437.02

Total work team cost/hour: **\$4,610.49****MATERIAL QUANTITIES**Initial volume: 1,000

CCY

Swell factor: 1.250Loose volume: **1,250**

LCY

Source of estimated volume: Operator Sumbittal Table 6 doubled vol. for double handlingSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,650 lbs/LCY  
 Material description: Decomposed rock - 25% Rock, 75% Earth  
 Rated Payload: 81,600 pounds  
 Payload Capacity: 30.79 LCY

Struck Volume: 24.00 LCY  
 Heaped Volume: 34.00 LCY  
 Average Volume: 29.00 LCY  
 Adjusted Capacity: **29.00** LCY

Cycle Time:Scraper Loading Time: 1.00 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 5200 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:Road Condition: Hard, smooth, stabilized, surfaced, watered, maintained 2.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	1.00	2.00	3.00	2800	0.46

Haul Time: 0.46 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-2.00	2.00	0.00	2965	0.27

Return Time: 0.27 minutesTotal Scraper team cycle time: 2.33 minutesAdjusted for job conditions: 1,239.66 LCY/HourSelected Number of Scrapers: 6 Scraper(s)Adjusted single scraper team (unit) hourly production: 3,718.97 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 3,718.97 LCY/HourUnadjusted unit production/hour: 1,493.56 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 0.34 HoursUnit cost: \$1.240 /LCYTotal job cost: \$1,550