CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director

Mayor Timothy M. Keller

February 2, 2024

Bryan R. Aragon, P.E.
814 Solutions
5750 Pino Ave NE
Albuquerque, NM 87109

RE: 6101 Pan American Fwy NE
Grading & Drainage Plan
Engineer's Stamp Date: 12/12/23
Hydrology File: E17D004

Dear Mr. Aragon:

Based upon the information provided in your submittal received 01/04/2024, the Grading & Drainage Plan is approved for Grading Permit. Since there is no CO attached to this project, please provide an as-built for Hydrology's records, once the grading of the project is complete.

As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Doug Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

Renée C. Brissette

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (DTIS)

Project Title: 6101 Pan American Fwy NE Hydrology File # _____
Legal Description: T11N R3E SEC 26 TRACT A
City Address, UPC, OR Parcel: 6101 Pan American Fwy NE

Applicant/Agent: 814 Solutions Contact: Gaylen Barnett
Address: 5750 Pino Ave NE Phone: 505 872-0846
Email: gaylen@814solutions.com

Applicant/Owner: Power Motive Corporation Contact: Nick Kirkpatrick
Address: 5000 Vasquez Blvd Denver CO 80216 Phone: 970 778-1826
Email: nkirkpatrick@powermotivecorp.com

(Please note that a DFT SITE is one that needs Site Plan Approval & ADMIN SITE is one that does not need it.)

TYPE OF DEVELOPMENT: ☐ PLAT (#of lots) _____ ☐ RESIDENCE
☑ DFT SITE ☐ ADMIN SITE

RE-SUBMITTAL: ☐ YES ☑ NO

DEPARTMENT: ☐ TRANSPORTATION ☑ HYDROLOGY/DRAINAGE

Check all that apply under Both the Type of Submittal and the Type of Approval Sought:

TYPE OF SUBMITTAL:

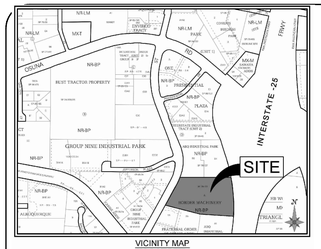
- ☐ ENGINEER/ARCHITECT CERTIFICATION
- ☐ PAD CERTIFICATION
- ☐ CONCEPTUAL G&D PLAN
- ☑ GRADING & DRAINAGE PLAN
- ☐ DRAINAGE REPORT
- ☐ DRAINAGE MASTER PLAN
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL) ADMINISTRATIVE
- ☐ TRAFFIC CIRCULATION LAYOUT FOR DFT APPROVAL
- ☐ TRAFFIC IMPACT STUDY (TIS)
- ☐ STREET LIGHT LAYOUT
- ☐ OTHER (SPECIFY)_____

TYPE OF APPROVAL SOUGHT:

- ☐ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY
- ☐ CONCEPTUAL TCL DFT APPROVAL
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ SITE PLAN FOR BLDG PERMIT DFT APPROVAL
- ☐ SIA/RELEASE OF FINANCIAL GUARANTEE
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ GRADING PERMIT APPROVAL
- ☐ SO-19 APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ GRADING PAD CERTIFICATION
- ☐ WORK ORDER APPROVAL
- ☐ CLOMR/LOMR
- ☐ OTHER (SPECIFY)_____

DATE SUBMITTED: 1/4/2024

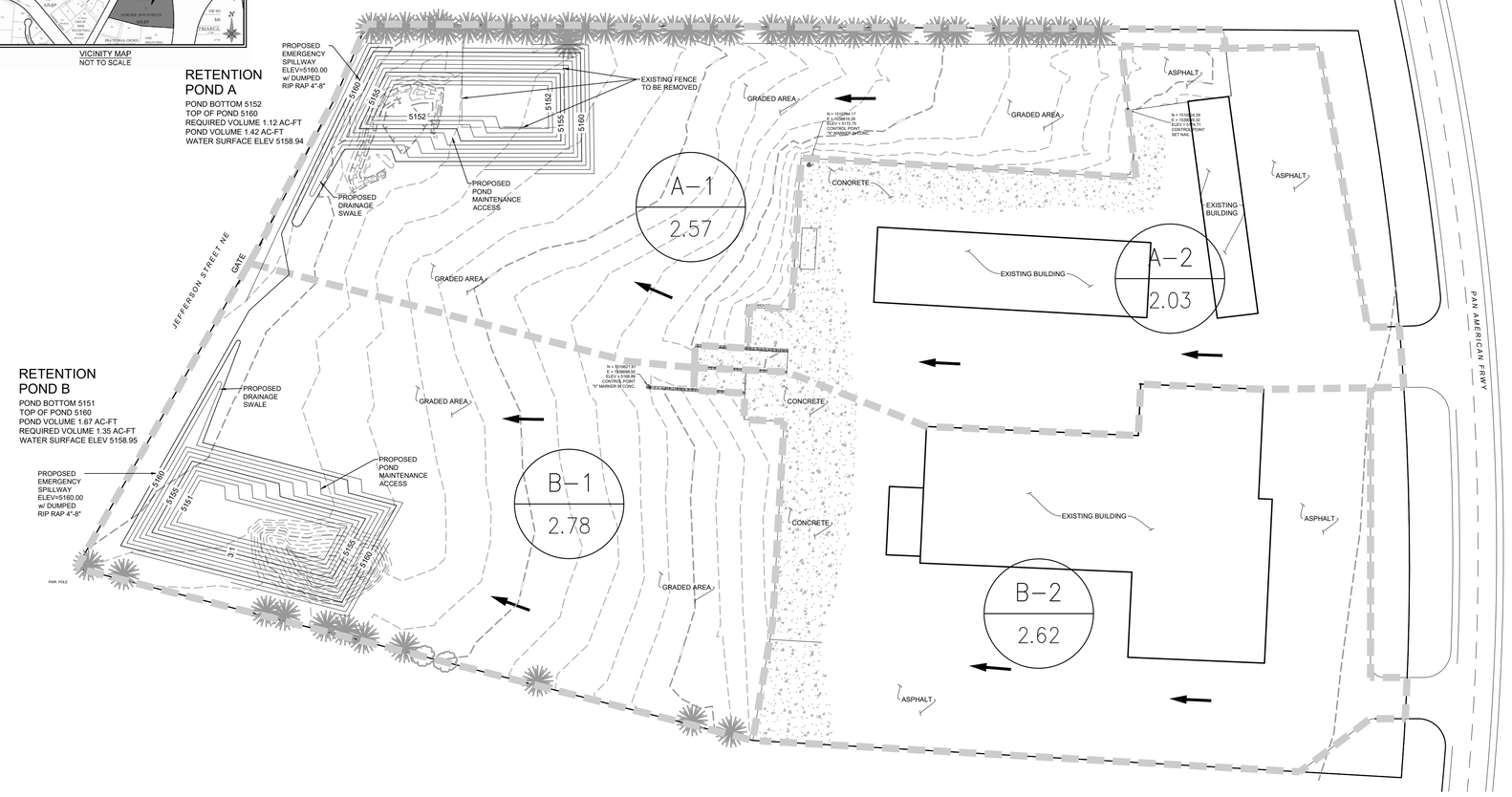
REV. 09/13/23



VICINITY MAP
NOT TO SCALE

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 02/02/24
BY: Renée C. Brissette
HydroTrans # E17D004

THE APPROVAL OF THESE PLANS/REPORT SHALL NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT THE CITY FROM REQUIRING THE CORRECTION OF ERRORS, CORRECTION, OR ERROR OR OMISSIONS IN DWG, SPECIFICATIONS, OR CONSTRUCTIONS. SUCH APPROVED PLANS SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION.



GENERAL NOTES

1. ALL DISTURBED AREAS SHALL BE STABILIZED.
2. SEE PLAT FOR LOT DIMENSIONS.
3. EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL JURISDICTIONAL REQUIREMENTS.
4. THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PROJECT.
5. EXISTING UTILITIES ARE SHOWN ARE FOR REFERENCE ONLY. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATION TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS.

LEGAL DESCRIPTION

T11N R3E SEC 26 TRACT A
ADDRESS: 6101 PAN AMERICAN FWY, NE, ALBUQUERQUE, NM 87109

OVERALL ACREAGE - 10.0 AC
DISTURBED ACREAGE - 10.0 AC

ENGINEER'S CERTIFICATION

I PERSONALLY INSPECTED THIS SITE SINCE THE PREPARATION OF THE TOPOGRAPHY SHOWN ON THIS PLAN.

EROSION CONTROL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GET INTO THE EXISTING RIGHT OF WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL ACCEPTANCE OF ANY PROJECT.

GENERAL LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPERTY LINE
- RIGHT OF WAY
- EXISTING ASPHALT
- UTILITY EASEMENTS — 5605
- PROPOSED CONTOUR - 1'
- PROPOSED CONTOUR - 5'
- DRAINAGE SWALE
- EXISTING SANITARY SEWER — SAS
- EXISTING WATER — W
- PROPOSED SEWER — SAS
- PROPOSED WATER — W — 5605
- BASIN DESIGNATION / AREA IN ACRES (A-1 / 2.29)
- DRAINAGE BASIN BOUNDARY

GRAPHIC SCALE
50 0 25 50
(IN FEET)
1 inch = 50 ft.

BENCHMARK

BRASS CAP STAMPED "SC 27 26 34 35 1965", LOCATED 264 FEET NORTH OF SINGER BLVD AND MIDWAY PARK BLVD AND 179 FEET WEST OF THIS POINT. IT IS SET IN CONCRETE 0.4 FEET BELOW GROUND.

FLOOD ZONE

NO PORTION OF THE PROPERTY LIES WITHIN A FLOOD HAZARD AREA.

REFERENCE: FLOOD INSURANCE RATE MAP, NEW MEXICO PANEL 35001C0139G
EFFECTIVE DATE: 9/26/2008.

DRAINAGE PLAN

THE PROJECT SITE IS LOCATED AT 6101 PAN AMERICAN FREEWAY NE, WHICH IS SOUTH OF SAN MATEO BLVD. ON THE WEST SIDE OF I-25. THERE IS DEVELOPMENT BOTH ON THE NORTH AND SOUTH SIDE OF THE SITE AND JEFFERSON STREET IS ON THE WEST SIDE OF THE SITE. A DRAINAGE REPORT FOR THE ORIGINAL DEVELOPMENT OF THE SITE WAS PREPARED AND APPROVED JULY 22, 1976. THE ORIGINAL PROPOSED DESIGN WAS TO DIVIDE THE SITE INTO 3 DISTINCT DRAINAGE BASINS. THE FIRST 2 BASINS WOULD BE RETAINED ON SITE TO INFILTRATE AND EVAPORATE, THE THIRD BASIN WOULD DISCHARGE INTO KIRCHER BLVD., WHICH IS NOW JEFFERSON STREET. THE SITE GENERALLY SLOPES FROM EAST TO WEST.

EXISTING CONDITIONS:
THE PROJECT SITE IS DEVELOPED WITH THREE EXISTING BUILDINGS ON THE EAST SIDE OF THE SITE. THE EAST SIDE OF THE SITE HAS AN IMPERVIOUS SURFACING MADE UP OF THE BUILDINGS, ASPHALT AND CONCRETE. THE WEST SIDE OF THE SITE IS USED FOR GRADING PURPOSES TO DEMONSTRATE NEW EARTHMOVING EQUIPMENT. THE SITE GENERALLY SLOPES FROM EAST TO WEST.

PROPOSED CONDITIONS:
GIVEN THE CURRENT STORM WATER QUALITY REQUIREMENTS, THE SITE WILL BE REQUIRED TO RETAIN ALL STORM WATER RUNOFF. THE PROJECT SITE IS TO REMAIN IN ITS CURRENT CONDITION.

FOR THESE DRAINAGE CALCULATIONS THE SITE IS DIVIDED INTO 2 PRIMARY DRAINAGE BASINS WITH AN ADDITIONAL 2 SUB-BASINS. BASIN A CONSISTS OF THE NORTHERN PORTION OF THE SITE AND IS APPROXIMATELY 4.60 ACRES. THIS PORTION OF THE SITE CONVEYS STORM RUNOFF TO THE WEST VIA SURFACE RUNOFF, WEST TO THE PROPOSED RETENTION POND. BASIN A-1 IS THE WESTERN PORTION OF THE SITE, WHICH CONSISTS OF GRADED EARTH. BASIN A-2 IS THE EASTERN PORTION OF THE SITE AND CONSISTS OF THE BUILDINGS, ASPHALT AND CONCRETE SURFACING. RUNOFF FROM BASIN IS COLLECTED IN THE PROPOSED RETENTION POND LOCATED AT THE NORTHWEST CORNER OF THE SITE.

BASIN B CONSISTS OF THE SOUTHERN PORTION OF THE SITE AND IS APPROXIMATELY 5.40 ACRES. THIS PORTION OF THE SITE CONVEYS STORM RUNOFF TO THE WEST VIA SURFACE RUNOFF, TO THE PROPOSED RETENTION POND. BASIN B-1 IS THE WESTERN PORTION OF THE SITE, WHICH CONSISTS OF GRADED EARTH. BASIN B-2 IS THE EASTERN PORTION OF THE SITE AND CONSISTS OF THE BUILDINGS, ASPHALT AND CONCRETE SURFACING. RUNOFF FROM BASIN IS COLLECTED IN THE PROPOSED RETENTION POND LOCATED AT THE SOUTHWEST CORNER OF THE SITE.

THE RETENTION POND HAS BEEN SIZED TO THE 100-YEAR, 10-DAY VOLUME WITH STORM WATER QUALITY VOLUME. THE POND WILL BE LOCATED ON THE WEST SIDE OF THE PROPERTY. THE DRAINAGE CALCULATIONS ANALYZED THE EXISTING DEVELOPED CONDITIONS OF THE SITE.

Weighted E Method (Zone 2)

Currant Conditions To Remain

Basin	Area (sf)	Area (acres)	Treatment A %	Treatment A (acres)	Treatment B %	Treatment B (acres)	Treatment C %	Treatment C (acres)	Treatment D %	Treatment D (acres)	100-Year Weighted E (in)	100-Year Volume (ac-ft)	100-Year Flow cfs	10-Year Weighted E (in)	10-Year Volume (ac-ft)	10-Year Flow cfs	2-Year Weighted E (in)	2-Year Volume (ac-ft)	2-Year Flow cfs
A1	111,920	2.57	0%	0	0%	0.00	100%	2.57	0%	0.00	1.030	0.221	7.84	0.480	0.103	4.09	0.160	0.034	1.57
A2	88,243	2.03	0%	0	0%	0.00	0%	0.00	100%	2.03	2.330	0.393	8.79	1.510	0.255	5.49	0.980	0.165	3.36
A1+A2	**200,163**	**4.60**	**0%**	**0**	**0%**	**0.00**	**56%**	**2.57**	**44%**	**2.03**	**1.604**	**0.614**	**16.63**	**0.935**	**0.358**	**9.58**	**0.522**	**0.200**	**4.93**
B1	120,807	2.78	0%	0	0%	0.00	100%	2.78	0%	0.00	1.030	0.239	8.48	0.480	0.111	4.42	0.160	0.037	1.70
B2	114,046	2.62	0%	0	0%	0.00	0%	0.00	100%	2.62	2.330	0.509	11.37	1.510	0.330	7.10	0.980	0.214	4.35
B1+B2	**234,853**	**5.40**	**0%**	**0**	**0%**	**0.00**	**51%**	**2.78**	**49%**	**2.62**	**1.662**	**0.748**	**19.86**	**0.981**	**0.441**	**11.53**	**0.559**	**0.251**	**6.05**
		10.0																	

Equations:

Weighted E = Ea*Aa + Eb*Ab + Ec*Ac + Ed*Ad / (Total Area)

Volume = Weighted D * Total Area

Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad

Excess Precipitation, E (inches)			
Zone 2	100-Year	10 - Year	2 - Year
E_a	0.62	0.15	0
E_b	0.8	0.3	0.02
E_c	1.03	0.48	0.16
E_d	2.33	1.51	0.98

Peak Discharge (cfs/acre)			
Zone 2	100-Year	10 - Year	2 - Year
Q_a	1.71	0.41	0
Q_b	2.36	0.95	0.08
Q_c	3.05	1.59	0.61
Q_d	4.34	2.71	1.66

Zone 2 Precipitation 100-year		
Duration	Depth (in)	Intensity (in/hr)
5 min	0.565	6.78
10 min	6.66	0.86
15 min	5.52	1.07
30 min	3.72	1.44
60 min	1.78	1.12
2 hr	2.03	1.02
6 hr	2.29	0.38
24 hr	2.59	0.11
4 day	2.96	0.03
10 day	3.62	0.02

Storm Water Quality Volume		
Basin A		
Vol = R/12 x Area		
R = 80th precentile even rainfall depth		
Area = area of developed in SF		
R =	0.615	
Area =	200,163.00	SF
SWQV=	10,258.35	CF
SWQV=	0.24	Acre-Ft

Storm Water Quality Volume		
Basin B		
Vol = R/12 x Area		
R = 80th precentile even rainfall depth		
Area = area of developed in SF		
R =	0.615	
Area =	234,853.00	SF
SWQV=	12,036.22	CF
SWQV=	0.28	Acre-Ft

Retention Volume Basin A		
Retention Volume For 100-year, 10-Day Storm:		
V(10-day) = V(360) + A(d) * (P(10-day)-p(360)) / 12 in/ft		
V(10-day) = 1.361 + 10 * (3.62 - 2.290) / 12		
V(10-day)=	**1.12**	**Acre-ft**

Retention Basin A

ELEVATION	SQ. FT.	VOLUME	CUM. VOLUME
5152	3,050		
		3,541	3,541
5153	4,055		
		4,585	8,126
5154	5,137		
		5,706	13,832
5155	6,294		
		6,901	20,733
5156	7,527		
		8,173	28,906
5157	8,836		
		9,520	38,426
5158	10,221		
		10,943	49,369
5159	11,682		
		12,443	61,812
5160	13,219		

TOTAL VOLUME (CF) =	**61,812**
TOTAL VOLUME (AF) =	**1.42**
REQUIRED VOLUME (AF) =	**1.12**
WATER SURFACE ELEVATION =	**5,158.94**

Retention Volume Basin B		
Retention Volume For 100-year, 10-Day Storm:		
V(10-day) = V(360) + A(d) * (P(10-day)-p(360)) / 12 in/ft		
V(10-day) = 1.361 + 10 * (3.62 - 2.290) / 12		
V(10-day)=	**1.35**	**Acre-ft**

Retention Basin B

ELEVATION	SQ. FT.	VOLUME	CUM. VOLUME
5151	2,937		
		3,407	3,407
5152	3,900		
		4,409	7,816
5153	4,938		
		5,484	13,300
5154	6,049		
		6,633	19,933
5155	7,235		
		7,857	27,790
5156	8,495		
		9,154	36,944
5157	9,830		
		10,527	47,471
5158	11,239		
		11,973	59,444
5159	12,722		
		13,494	72,937
5160	14,280		

TOTAL VOLUME (CF) =	**72,937**
TOTAL VOLUME (AF) =	**1.67**
REQUIRED VOLUME (AF) =	**1.35**
WATER SURFACE ELEVATION =	**5,158.95**

EIGHT 14 SOLUTIONS
IL BOSTON CONTROL of ENVIRONMENTAL CONSULTING

6101 PAN AMERICAN FRWY, NE ALBUQUERQUE, NM

DECEMBER 12, 2023

GRADING & DRAINAGE PLAN

BRYAN R. ARAGON
NEW MEXICO
20214
12-12-23
REGISTERED PROFESSIONAL ENGINEER

Plotted: 1/31/2024 4:11:02 PM, By:Bryan Aragon
C:\$Work\Bryan\0-PROJECTS\Komatsu\Komatsu G&D 11-17-2023.dwg
Last Saved: 1/17/2024 6:36:42 PM, BAragon