

# CITY OF ALBUQUERQUE

Planning Department  
Alan Varela, Director



Mayor Timothy M. Keller

July 12, 2024

Verlyn Miller, P.E.  
Miller Engineering Consultants, Inc  
3500 Comanche NE Bldg. F  
Albuquerque, NM 87107

**RE: AFD Fire Station 4  
Grading and Drainage Plans  
Engineer's Stamp Date: no stamp  
Hydrology File: H14D120**

Dear Mr. Miller:

Based upon the information provided in your submittal received 06/28/2024, the Grading & Drainage Plan is approved for action by the Development Facilitation Team (DFT) on Site Plan for Building Permit.

**PRIOR TO BUILDING PERMIT:**

1. Please submit a more detailed Grading & Drainage Plan to Hydrology for review and approval. This digital (.pdf) is emailed to [PLNDRS@cabq.gov](mailto:PLNDRS@cabq.gov) along with the Drainage Transportation Information Sheet.

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](mailto:jhughes@cabq.gov), 924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 924-3314 or [amontoya@cabq.gov](mailto:amontoya@cabq.gov).

Sincerely,

Anthony Montoya, Jr., P.E.  
Senior Engineer, Hydrology  
Planning Department, Development Review Services



## DRAINAGE REPORT

### SITE LOCATION

The existing site is an approximate 4.25-acre piece of land located west of 3<sup>rd</sup> Street and south of I-40 and Indian School in Albuquerque, New Mexico. The site can be accessed via 3<sup>rd</sup> Street. (see vicinity map this sheet)

### EXISTING CONDITIONS

The existing site is estimated at 4.25 acres and is currently developed as a city park and existing fire station. The site is relatively flat with a very mild slope to the south and west. The site does not lie within a 100-year FEMA floodplain. However, 3<sup>rd</sup> Street and McKnight both have a FEMA designated Zone AO floodplain as indicated on the FEMA panel on this sheet. Discharge from the site must be limited to existing conditions as indicated in the Mid-Valley DMP.

### PROPOSED CONDITIONS

The proposed project will consist of a new fire station building, a new driveway entrance from 3<sup>rd</sup> Street and parking lot areas on the west side of the site. The site will also have several landscape areas and a large water harvesting feature on the northwest side of the property. The site has been divided into two drainage basins, Basin A and B. Basin A is the total site area of 3.05 acres that will be developed as the new fire station site and will be routed to the new detention pond. Basin B is estimated at 1.2 acres and consists of the southern portion of the overall site that represents the existing fire station development and what will free discharge from the site.

Storm water will be routed to the new detention pond via surface flow and underground storm sewer pipes that will collect roof drainage from the building and the south parking lot area. A 12" storm sewer outfall pipe has been added to the pond so that the pond can slowly discharge into the existing storm sewer system in McKnight at a controlled rate per the Mid-Valley DMP. An orifice plate will be added to the inlet of the 12" storm drainpipe as needed to control the release rate from the pond.

### CONCLUSIONS

When fully developed as indicated on the grading and drainage plan, runoff from the new fire station site will discharge to a water harvest feature on the northwest side of the site. Basin A will be routed through the proposed detention pond. Runoff from the detention pond discharge to the McKnight storm drain system at a controlled rate per the Mid-Valley DMP. Basin B will free discharge from the site as it does under existing conditions.

## HYDROLOGY CALCULATIONS

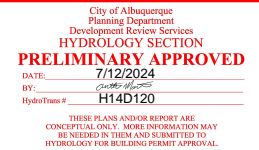
| Precipitation Zone 2 - 100-year Storm |                 | P(360) = 2.29 in       |       |       |       | P(1440) = 2.59 in |               |                |              |
|---------------------------------------|-----------------|------------------------|-------|-------|-------|-------------------|---------------|----------------|--------------|
| Basin                                 | Basin Area (Ac) | Land Treatment Factors |       |       |       | Ew (in)           | V(100-6) (af) | V(100-24) (af) | Q(100) (cfs) |
|                                       |                 | A                      | B     | C     | D     |                   |               |                |              |
| Existing Conditions                   |                 |                        |       |       |       |                   |               |                |              |
| Site                                  | 4.250           | 0.000                  | 2.960 | 0.000 | 1.290 | 1.264             | 0.448         | 0.49           | 12.58        |
| Total                                 | 4.250           |                        |       |       |       |                   |               | 0.49           | 12.58        |
| Proposed Conditions                   |                 |                        |       |       |       |                   |               |                |              |
| A                                     | 3.050           | 0.000                  | 0.000 | 1.820 | 1.230 | 1.55              | 0.395         | 0.44           | 10.89        |
| B                                     | 1.200           | 0.000                  | 0.000 | 0.320 | 0.880 | 1.98              | 0.198         | 0.23           | 4.80         |
| Total                                 | 4.250           |                        |       |       |       |                   |               | 0.66           | 15.68        |

## WATER HARVEST AREA

| WHA #1            |              |              |                  |
|-------------------|--------------|--------------|------------------|
| Pond Rating Table |              |              |                  |
| Elev. (ft)        | Area (sq ft) | Volume (cfs) | Cum Volume (cfs) |
| 61                | 3766         | 0            | 0                |
| 62                | 5127         | 4446.500     | 4446.500         |
| 63                | 6645         | 5886.500     | 10332.500        |

## STORM WATER QUALITY CALCULATIONS

$$SQWV = (0.42" / 12 * 91,511 \text{ SF}) = 3,217 \text{ CUBIC FEET}$$



## GENERAL NOTES:

- EXISTING TOPOGRAPHIC SURVEY PERFORMED AND COMPILED BY PRECISION SURVEYS, INC., ALBUQUERQUE, NEW MEXICO JANUARY, 2024. MILLER ENGINEERING CONSULTANTS HAS UNDERTAKEN NO FIELD VERIFICATION OF THIS INFORMATION.
- PROJECT BENCHMARK IS A NATIONAL GEODETIC SURVEY (NGS) A STAINLESS STEEL ROD SET BENEATH A 5 1/2" ACCESS COVER, STAMPED "4-436, 1984", IN THE NORTHWEST QUADRANT OF MENAUL BOULEVARD NORTHWEST AND THE BNSF RAILROAD TRACKS, ELEVATION = 4,975.35 FEET (NAVD 88 VERTICAL DATUM).
- THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES DURING THE CONSTRUCTION PHASE.
- CONTRACTOR SHALL OBTAIN A GRADING PERMIT FROM THE CITY OF ALBUQUERQUE, PRIOR TO ANY GRADING OR CONSTRUCTION.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 260-1990 FOR LOCATION OF EXISTING UTILITIES.
- ALL EMBANKMENTS SHALL BE PLACED AND COMPACTED IN LIFTS OF MAXIMUM OF 8". THE EMBANKMENTS SHALL BE WETTED AND COMPACTED TO 95% OPTIMUM DENSITY PER ASTM D1557 AND 95% UNDER ALL STRUCTURES INCLUDING DRIVEWAYS AND PARKING LOTS.
- THE CONTRACTOR SHALL FIELD VERIFY LOCATION AND SIZE OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- ALL WORK PERFORMED SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY OF ALBUQUERQUE "STORM DRAINAGE REGULATIONS. ALL WORK PERFORMED SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY OF ALBUQUERQUE "GRADING AND DRAINAGE DESIGN REQUIREMENTS AND POLICIES FOR LAND DEVELOPMENT."
- THE OWNER, CONTRACTOR AND/OR BUILDER SHALL COMPLY WITH ALL APPROPRIATE LOCAL, STATE AND FEDERAL REGULATIONS AND REQUIREMENTS.
- THE CONTRACTOR SHALL TAKE ALL APPROPRIATE AND REASONABLE MEASURES TO PREVENT SEDIMENT OR POLLUTANT LOADS STORM WATER FROM EXISTING THE SITE DURING CONSTRUCTION. STORMWATER MAY BE DISCHARGED IN A MANNER, WHICH COMPLIES WITH THE APPROVED GRADING AND DRAINAGE PLAN.
- THE CONTRACTOR SHALL TAKE ALL APPROPRIATE MEASURES TO PREVENT THE MOVEMENT OF CONSTRUCTION RELATED SEDIMENT, DUST, MUD, POLLUTANTS, DEBRIS, WASTE, ETC FROM THE SITE BY WIND, STORM FLOW OR ANY OTHER METHOD EXCLUDING THE INTENTIONAL, LEGAL TRANSPORTATION OF SAME IN A MANNER ACCEPTABLE BY THE CITY.
- THE CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE THE AREAS SHOWN AS "SLOPE LIMITS" ON THE GRADING AND DRAINAGE PLAN.
- SEE ARCHITECTURAL DRAWINGS FOR SIDEWALK AND HANDICAPPED RAMPS, DETAILS AROUND THE BUILDING.
- THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER FOR CLARIFICATION IF THERE ARE ANY SPOT ELEVATIONS ON THE GRADING AND DRAINAGE PLAN WHICH APPEAR TO BE AMBIGUOUS OR DO NOT MEET THE INTENT OF THE GRADING AND DRAINAGE PLAN.
- THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER FOR CLARIFICATION IF THERE ARE SIDEWALKS OR CONCRETE FLATWORK WHICH DOES NOT MEET ADA ACCESSIBILITY REQUIREMENTS. ALL SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.0%, ALL SIDEWALKS SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 5.0%, AND ALL RAMPS SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 15:1.
- ALL SIDEWALKS AND CONCRETE FLATWORK SHALL HAVE A MINIMUM OF 0.5% SLOPE. CONTRACTOR SHALL CONTACT PROJECT ENGINEER IF THERE ARE SIDEWALKS OR CONCRETE FLATWORK WHICH DO NOT MEET THIS REQUIREMENT.
- THE CONTRACTOR SHALL SUBMIT MATERIAL SUBMITTALS, CUT SHEETS AND SHOP DRAWINGS FOR ALL CIVIL RELATED ITEMS FOR REVIEW PRIOR TO CONSTRUCTION.
- THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2019 EDITION OF THE NEW MEXICO STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION (GRAY BOOK). ALL UTILITY WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN PUBLIC WORKS ASSOCIATION, NEW MEXICO CHAPTER, STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- ALL EXISTING MANHOLES, VALVES AND METERS SHALL BE ADJUSTED TO NEW FINISH GRADE.
- THE CONTRACTOR SHALL SUBMIT A SEED MIX DESIGN TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO STARTING THE SEEDING ON THE PROJECT. THE SEED MIX DESIGN SHALL BE A SEED MIX RECOMMENDED BY NRCS FIELD OFFICE REPRESENTATIVE APPROPRIATE FOR PROJECT LOCATION.

ALL DISTURBED AREAS, NOT ADDRESSED BY ARCHITECTURAL LANDSCAPE PLAN WITH SLOPES OF LESS THAN 3:1 SHALL RECEIVE CLASS "A" SEEDING. ANY SLOPES THAT ARE 3:1 OR STEEPER SLOPES SHALL RECEIVE STEEP SLOPE SEEDING. THE STEEP SLOPE SEEDING SHALL CONSIST OF SEEDING IN CONJUNCTION WITH A 100% COCONUT FIBER BLEND EROSION BLANKET (NORTH AMERICAN GREEN C125) OR APPROVED EQUAL.



**CITY OF ALBUQUERQUE**  
CAPITAL IMPLEMENTATION PROGRAM

**AFD FIRE STATION 4**  
351 MANHATTAN AVENUE, N.E.  
ALBUQUERQUE, NM 87125

|                         |                        |                  |             |
|-------------------------|------------------------|------------------|-------------|
| Drawing Title           |                        | HYDROLOGY PLAN   |             |
| Design Review Committee | City Engineer Approval | Mo./Day/Yr.      | Mo./Day/Yr. |
| Issue Date:             |                        | City Project No. | Sheet       |
| JUNE, 2024              |                        | .                | CG-101      |

