

DRAINAGE LETTER

MONUMENT HILL BUSINESS PARK
LOT 3, GREATER EUROPE MISSION SUBDIVISION FILING NO. 1
1945 Deer Creek Road
El Paso County, Colorado

PREPARED FOR OWNER/DEVELOPER:

MONUMENT HILL BUSINESS PARK, LLC
16152 Old Forest Point, Unit 2-202
Monument, CO 80132
Phone:
Contact: Stan Sievers
Email: stansrco@aol.com

PREPARED BY:

KELLY DEVELOPMENT SERVICES, LLC
9301 Scrub Oak Drive
Lone Tree, Colorado 80124
Phone: 303-888-6338
Contact: Greg Kelly, PE
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October 23, 2018

PCD Project No. PPR-17-007

Design Engineer's Statement:

The attached drainage letter was prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage letter has been prepared according to the criteria established by the County for drainage reports and said report is in conformity with the applicable master plan of the drainage basin. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this report.



PREPARED UNDER THE DIRECT SUPERVISION OF
GREGORY S. KELLY, PE COLORADO LIC. #15813
FOR AND ON BEHALF OF KELLY DEVELOPMENT SERVICES, LLC

Date

Owner/Developer's Statement:

I, the owner/developer have read and will comply with all of the requirements specified in this drainage letter.

Stan Sievers, Manager
Monument Hill Business Park, LLC
16152 Old Forest Point, Unit 2-202
Monument, CO 80132

Date

El Paso County:

Filed in accordance with the requirements of the Drainage Criteria Manual, Volumes 1 and 2, El Paso County Engineering Criteria Manual and Land Development Code as amended.

Jennifer Irvine, P.E. Date
County Engineer / ECM Administrator

Conditions:

DRAINAGE LETTER MONUMENT HILL BUSINESS CENTER

GENERAL LOCATION AND DESCRIPTION

Project Location

The Monument Hill Business Center project is located at the northeast corner of the intersection of Monument Hill Road and Deer Creek Road in El Paso County, Colorado. The site address is 1945 Deer Creek Road. The site is located within the Southwest Quarter of Section 11, Township 11 South, Range 67 West of the 6th P. M., County of El Paso, State of Colorado. The property is platted as Lot 3, Greater Europe Missions Subdivision Filing No. 1.

The site is currently 3.27 acres bounded on the north by Deer Creek Road; on the east by an RV and Self-Storage facility on Lot 18A, Woodmoor Business Technological Park 3; to the south by a church on Lot 20A Woodmoor Business Technological Park Filing No. 1A; and to the west by Monument Hill Road. The site will be reduced to 2.99 acres once a 30' wide right-of-way is acquired by El Paso County for improvements to Monument Hill Road and Deer Creek Road.

Property Description

The site is currently vacant and is covered by native grasses and weeds. Historically, the ground surface sloped to the southwest at approximately a 2.5 to 3 percent slope. The soil is classified as Tomah-Crowfoot loamy sands, which are considered as Hydrologic Soil Type B.

The site is not located within a floodplain as shown on the FEMA FIRM Map No. 08041CO276F dated March 17, 1997. The site is located within unshaded Zone X. This zone is described as "Areas determined to be outside the 0.2% annual chance floodplain".

The proposed development is a small office/warehouse/self-storage facility consisting of two buildings of 14,000 SF and 17,500 SF with access drives, parking spaces and landscaped areas.

EXISTING AND PROPOSED DRAINAGE CHARACTERISTICS

Existing Stormwater Drainage

Currently, stormwater runoff flows from the northeast corner of the site towards the southwest corner. Approximately the eastern one-half of the site flows onto the property to the south. The proposed stormwater improvements will minimize the amount of runoff flowing onto the adjacent property. The northwest one-quarter of the site drains to the roadside swale next to Monument Hill Road, where it combines with the runoff from the Deer Creek Road swale and flows into a 24" RCP culvert under Monument Hill Road and Interstate 25 to the west. The southwest one-quarter of the site drains to the roadside swale along Monument Hill Road and then to the south.

Historically, runoff from the property to the east flowed onto the site. A self-storage facility was constructed, and the drainage improvements diverted runoff to the east. Only a very small

portion of the adjacent site (approximately the west 5') flows onto the site. Because this portion of the adjacent site is landscaped, these flows are very minor.

Stormwater Conveyance Facilities

The general concept for the site drainage will be for storm runoff to surface flow from the building roofs and pavement to the southwest to a series of inlets located along the curb and gutter of parking area and access drives. Runoff will be captured by these inlets and piped to a stormwater detention and water quality facility along the southerly property line of the site. This facility will be an Extended Detention Basin designed in accordance with El Paso County criteria. Discharge from the EDB will be controlled by a standard outlet structure. The discharge will be piped to the roadside drainage channel along Monument Hill Road, where it will flow under the road to the west. The on-site storm sewers and EDB will be private and will be maintained by the property owner.

SITE AMENDMENT

The Final Drainage Report for the Monument Hill Business Center dated September 20, 2017 was approved by El Paso County on March 14, 2018. Since then, there has been a site amendment with minor revisions to buildings, parking areas and access drives. The amended site is in general conformance with the approved Final Drainage Report. No changes to the drainage or detention facilities are required.

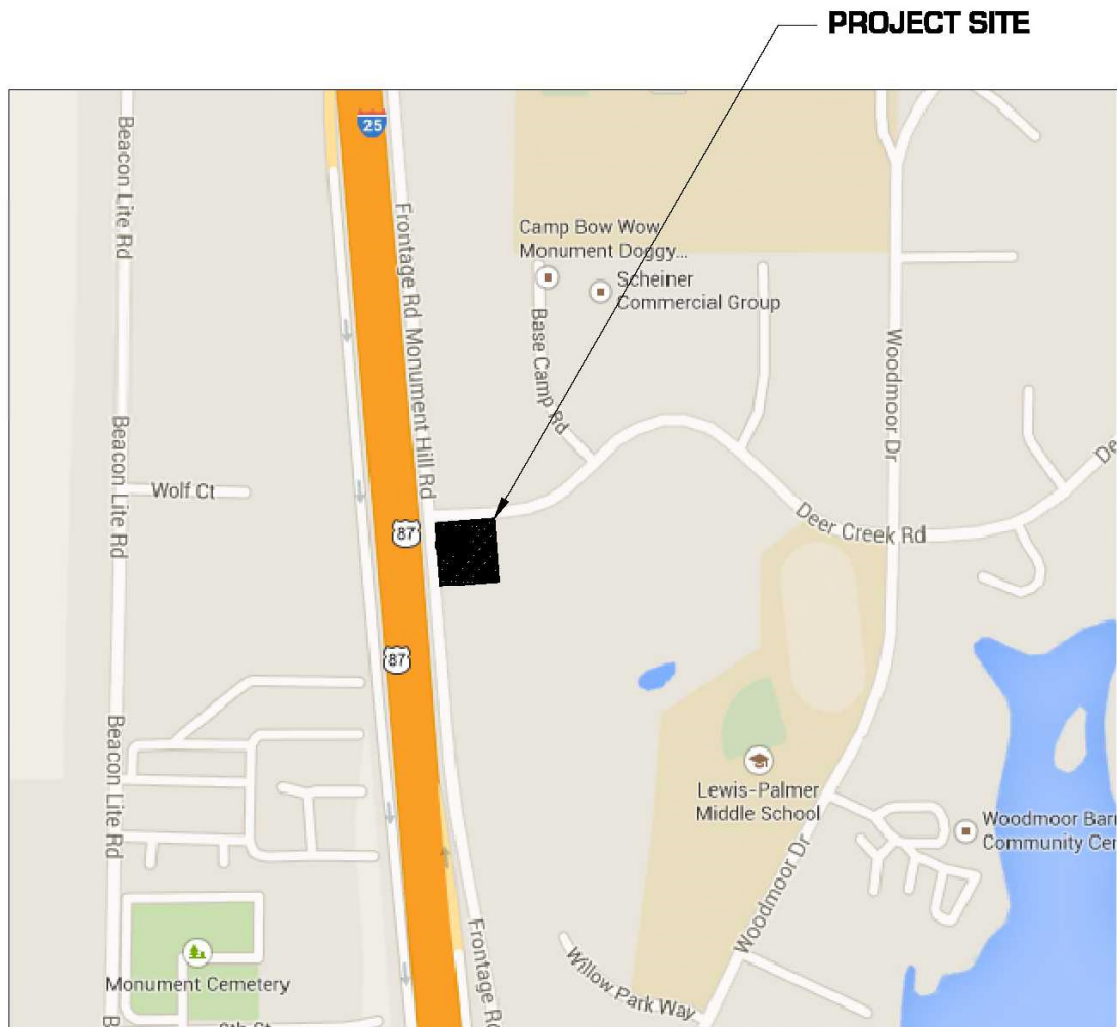
Drainage fees have been determined in accordance with the latest ordinances/resolutions and applicable basin fees. The site amendment alters the percent impervious of the site slightly. It is increased from 81.9% to 83.4% or 1.5% with the loss of several landscaped islands. This increase is minimal and does not significantly impact the detention volumes. The additional volume due to the increased percent impervious would be 130 cubic feet with an increase in the 100-year water surface elevation of .01 feet or 1/8 inch. Therefore, no revisions to the detention/water quality facility are required and no additional drainage fees are required.

FOUR STEP PROCESS TO MINIMIZE ADVERSE IMPACTS OF URBANIZATION

El Paso County requires the four-step process for receiving water protection that focuses on reducing runoff volumes, treating the water quality capture volume, stabilizing drainageways and implementing source controls. The first step utilizes low impact development (LID) including MDCIA. The site is small, especially with the loss of property for additional right-of-way for improvements to Monument Hill Road. There are no efficient ways to incorporate LID and MDCIA features into the site. This was taken into consideration when determining the required Water Quality Capture Volume.

The WQCV is treated in an Extended Detention Basin on-site. The WQCV is released over a 40-hour period, allowing pollutants and sediment to settle out prior to being released to the upgraded roadside ditch along Monument Hill Road. This ditch is being upgraded as part of the road improvements and will be stabilized as part of that construction.

The development, which is office/warehouse/self-storage, contains source control BMPs. There is no outside storage allowed. Good housekeeping methods will be used by the owner(s). Trash will be collected and stored in a covered and enclosed dumpster for pickup. No vehicle servicing or long-term storage will be allowed. Hazardous material storage will not be allowed. There is minimal landscaping on site. The landscaping will be maintained, and the use of fertilizers will be only as needed to maintain the landscaping.



VICINITY MAP