TOWN OF MONUMENT

PLANNING COMMISSION MEETING AGENDA

WEDNESDAY, MARCH 11, 2026 – 6:00 PM

Monument Town Hall - Council Chambers
645 Beacon Lite Road, Monument, Colorado 80132
Participate In-Person or Via Microsoft Teams

1. **Call to Order, Pledge of Allegiance, Roll Call**

2. **Approval of Minutes**
   a. Meeting Minutes - February 11, 2025

3. **New Business**

4. **Hearing Items**
   a. Request for the Approval of the Final Plat and Final Planned Unit Development Plan for the Alpine Dealership at Falcon Commerce Center. - *Jenna Gorney, Senior Planner*
   b. Final Plat and Rezone for the Monument Fire Training Facility - *Rey Medina, Planner I*

5. Public Comments For Items Not on the Agenda *Individuals attending in person may raise their hand to indicate their desire to comment. Individuals attending via Teams may "raise their hand" digitally to comment via connected devices. Please lower your hand when finished with your comments. Comments are limited to 3 minutes.*

6. **Reports, Communications and Announcements**

7. **Adjournment**

TOWN OF MONUMENT PLANNING COMMISSION - DRAFT
REGULAR MEETING
Wednesday February 11th, 2026
Hybrid Meeting-In person and remote participation Via Microsoft TEAMS

1. **Call to order, Pledge of Allegiance, Roll Call:**
   a. Chair Egley called the meeting/hearing of the Planning Commission of the Town of Monument, Colorado, to order at 6:00 pm at Monument Town Hall and led those assembled in the Pledge of Allegiance.

PLANNING COMMISSION	TOWN STAFF
PRESENT: Chair Ray Egley Vice-Chair Corey Petersen Commissioner John Parr Commissioner Martin Trujillo Commissioner Valerie Baumer	Rey Medina, Planner I Dan Ungerleider, Planning Director
ATTENDED REMOTELY:	
ABSENT: Commissioner Donna Hatch	

2. **Approval of Minutes/Agenda Modification**
   a. Move to approve the minutes of January 14th, 2025, Planning Commission Meeting.
   Commissioner Baumer motioned to approve the minutes; Commissioner Trujillo seconded; passed 5-0.

3. **Hearing/Meeting Items**
   a) N/A

4. **New Business**
   a. Conexus lot 1 Development, presentation of concept plans by Applicant.
   b. Commissioner Comments:
      i. Petersen – Has a noise study been completed with this early concept plan? Yes, a noise study was completed.
      ii. Petersen – Are there any proposed Traffic Signals? None currently.
      iii. Petersen – Discussion regarding employment and what entity they'd be hired by.
      iv. Parr – Density transition discussion.
      v. Baumer – Discussion around income range for potential renters in this multifamily development.
      vi. Baumer – reviewing design of entryway for the residents.
      vii. Trujillo – Where is the water coming from? Is the water renewable water or groundwater dependent? Applicant responds that the water is not groundwater dependent.
      viii. Trujillo – Discussion around water subsidies should there be a drought in Colorado or other changes. Does the developer bring anything in terms of water to benefit future water needs for the community? Monument Planning Director encourages the discussion to transfer to the Triview Metro District in a larger conversation.

ix. Trujillo – Should this development bring the school district to capacity, are there plans to dedicate more land to the school district? Applicants respond that through communication with the school district, they prefer fees in lieu of dedication rather than land.
x. Egley – Why only two bedroom multifamily and not a mixture of one, two and three bedroom options? Applicants responds based on their company history. They view the 2 bedroom market has been more of a success for their market. A wish list item from Chair Egley would be a more diverse blend of housing type for the multifamily units.
xi. Egley – Takes note of additional amenities being proposed in the early plans such as dog park, pickle ball courts, etc. which should not disappear come time for the full project review.
xii. Egley – Hopes for a better connection point to Santa Fe Trail rather than walking on the sidewalk along the new Old Denver Road.

5. **Other Topics:**
   a. Planning Director informed the Planning Commission of the renaming program for "new Old Denver Road".
   b. General Comprehensive Plan Update.
   c.

6. **Adjournment:** Chair Egley moved to adjourn the meeting/hearing of the Planning Commission at 7:20 pm.

Next Planning Commission Meeting: March 11th, 2026.

The public is welcome to attend either in person or online for the Planning Commission meetings. Town of Monument meetings/hearings Live Stream or video Meetings Online

- **Monument meetings/hearings live stream or video meeting recordings can be found online -** Please follow this (YouTube) link to view all PC meetings/hearings: http://bit.ly/2uZxjfa

- **Streaming meetings**: Instructions can be found on the Town website: https://www.townofmonument.org/263/Planning-Commission-Board-of-Adjustment

- **Meeting Minutes:** Minutes taken by staff are action summaries**.** As per the Planning Commission Bylaws, all public meetings of the Commission shall be recorded by electronic device. Any person desiring to have a meeting recorded by a stenographic reporter, at his or her expense, may do so, provided that it does not otherwise disrupt the proceedings.

IMPORTANT NOTE: Accommodations for the hearing impaired can be made upon request with 24 hours' notice. Please call 719-481-2954.

Reference: All Development project information can be found on the town website at https://www.townofmonument.org/235/Development-Projects.

Note that each project application submitted to the Town of Monument is reviewed fully by the Planning Department Staff prior to placement on the agenda of the Planning Commission or Town Council. At the meetings/hearings, applicants and Staff will provide details such as possible conditions, density, development capacity and all current and previous approvals. This will include project referrals, which are completed prior to all projects to verify conformance and approval criteria before being brought forth to the Planning Commission.

TOWN OF MONUMENT
645 Beacon Lite Road
Monument, CO 80132

PLANNING DEPARTMENT
719-884-8015
www.townofmonument.org/planning

STAFF REPORT

TO: **Planning Commission**

FROM: **Jenna Gorney, Senior Planner**

DATE: **March 11, 2026**

SUBJECT: **Case # 2024-008-FPUD**
Request for the Approval of the Final Plat and Final Planned Unit Development Plan for the Alpine Dealership at Falcon Commerce Center. [Public Hearing]

Applicant's Information.	Wesane Agent to Alpine Buick GMC 2109 South Wadsworth Blvd. Lakewood, CO 80227
Owner's Information:	Tom Blunk c/o Forest Lakes, LLC. 1201 Walnut St. STE 1100 Kansas City, MO 84106
Property Location.	Old Denver Road Falcon Commerce Center Property Schedule No. 7135000038
Property Size.	544,500sf or 12.5 acres
Comprehensive Plan Designation.	The subject property is designated Community Commercial (CC) on the east and Light Industrial (LI) on the west, by the Town's Comprehensive Plan, adopted 2017.
Zoning Designation.	PUD – Falcon Commerce Center Phase 2 (Resolution No. 56-2022)
Surrounding Property Information.	North – Pilot Gas Station West – Falcon Commerce Center Phase 2 Preliminary PUD, Area C East – CDOT, I-25 Corridor South – Falcon Commerce Center Phase 2 Preliminary PUD, Area B

Requested Action(s). Request for the Approval of the Alpine Dealership at Falcon Commerce Final Plat, and Approval of the Final Planned Unit Development for Alpine Dealership at Falcon Commerce Center.

Executive Summary. The Applicant, Wesane, is requesting approval of the Alpine Dealership at Falcon Commerce Final Plat and Final PUD Plan.

The 12.5 acres subject area is zoned Planned Unit Development (PUD) and is located south of the Pilot gas station near the southeast corner of Terrazzo Drive and West Baptist Road. Approval of the Final Plat and Final PUD Plan are requested to allow the development of an automotive dealership, sales, and service

Each request will be considered separately based on relevant review criteria and forwarded to Town Council for Consideration with a recommendation from Planning Commission.

Public Notice. Pursuant to Chapter 18 - Land Development Code, Section 18.01.260.D and Table 1.2, which requires a public notice at least fifteen (15) days prior to any public hearing for a land use change, be mailed to property owners with 500 feet and posted on the property. The Applicant has complied with aforementioned notice requirements. A copy of the public notice is included with this report as Attachment 2.

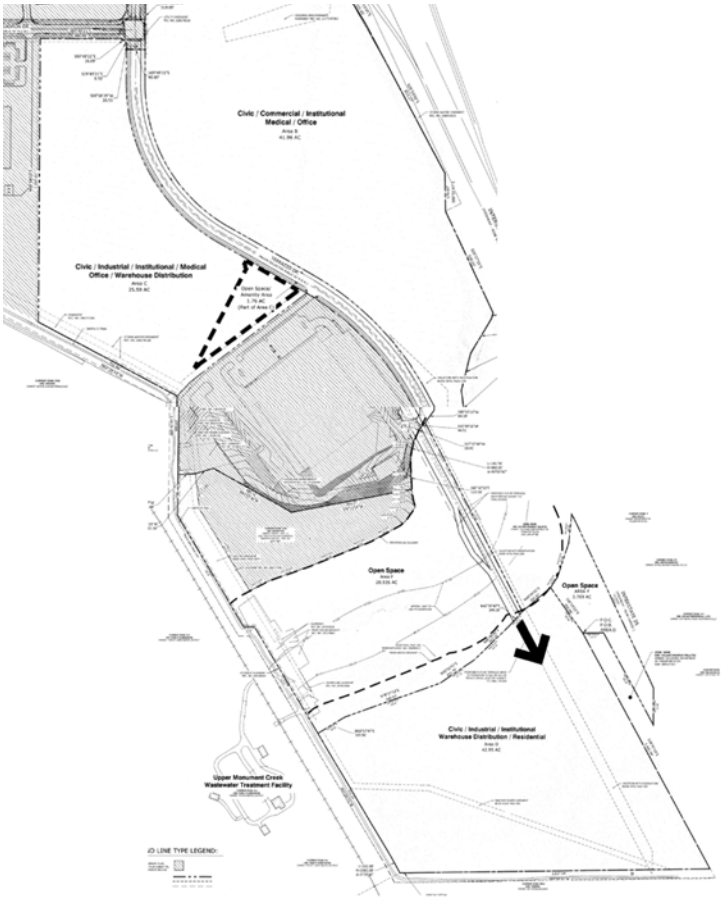
History/Background.

1. Falcon Commerce Rezone from Planned Industrial Park (PIP) to PD and PD Sketch Plan was approved on August 17, 2020 via Ordinance 16-2020 [link]
2. Falcon Commerce Center received approval for a Preliminary PD Site Plan for Phase 1 [link] on October 5th, 2020 via Ordinance 24-2020 [link] and was later recorded on March 9, 2021.
3. Falcon Commerce Center received approval for a Preliminary PUD Plan for Phase 2 [link] on July 18, 2022 via Resolution 56-2022 that was recorded on August 16, 2022 [link].

The current applications include the Final Plat for the northern 12.5 acres of Phase 2, and the Final PUD Plan for that space: The Alpine Dealership at Falcon Commerce Center.

The Preliminary Planned Unit Development (PUD) Plan for Phase 2 was organized into four distinct planning areas identified as Areas B, C, D, and F. Each area was structured to accommodate a specific mix of land uses while contributing to the overall vision for the development (Figure 1.)

Figure 1.



Area F (situated between areas C and D) included roughly 33 acres of Open Space, encompassing the Jackson Creek Floodplain area and an additional 1.75 acres of Open Space Amenity area east of area D.

Each of the development areas (B, C, and D) were all established to allow Civic and Institutional uses, providing flexibility for public and community-serving facilities throughout Phase 2. Beyond these shared uses, each area includes additional permitted uses tailored to its intended function within the broader development framework.

Area B permits a mix of Commercial, Medical, and Office uses, supporting employment-generating and service-oriented activities. Area C expands the common uses of Civic and Institutional by allowing Medical, and Office uses as well as Industrial and Warehouse Distribution uses, creating opportunities for a broader range of business and operational activities.

Area D permits the base Civic and Institutional uses, and also permits Industrial and Warehouse Distribution uses, while also allowing a Residential component, introducing the potential for a mixed-use environment within that portion of the site.

Together, these areas establish a development pattern that integrates open space preservation with civic, employment, and residential opportunities within Phase 2 of the PUD.

The focus of the subject applications is the northern 12.5 acres of Area B.

Each parcel within the Falcon Commerce Center development is required to obtain Final Plat and Final PUD approval (Sec. 18.03.460) prior to the issuance of land development and building permits.

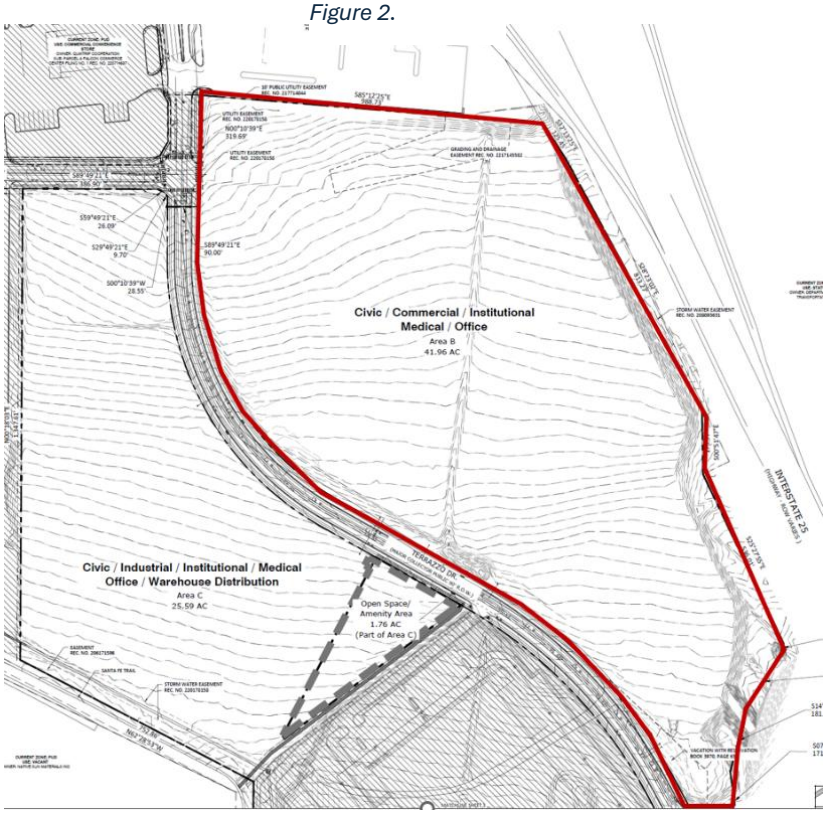
Project Details.

The Alpine Dealership at Falcon Commerce Center Final Plat proposes to subdivide the northern 12.5 acres within Phase Two of the Falcon Commerce Center development.

The Final PUD Plan proposed to develop that 12.5-acre Final Plat area into an automotive, sales, service, and repair development.

The Phase 2 Preliminary PUD Plan was approved for a mix of uses including civic, commercial, institutional, medical, office, warehouse distribution, and open space. Area B (Figure 2.) on the Phase 2 Preliminary Plan comprises approximately 42 acres designated for Civic/Commercial/Institutional/ Medical/Office uses. This Final PUD Plan for Automative Sales, Service and Repair relates to the concurrently proposed Final Plat of the northern 12.5 acres of Area B, immediately south of the Pilot Travel Center.

Figure 2.



The proposed development includes three buildings to be built out in two phases. The 65,096-square-foot, single-story Building A, proposed on the west side of the property, along with a centrally located, 7,486-square-foot vehicle wash facility and trash enclosure are intended to be built out in phase 1. Phase 2 will consist of a second single-story building, totaling 39,559 square feet planned for the east side of the site.

The proposed development is consistent with the permitted uses outlined in the approved Preliminary PUD for the property, which allows commercial development. As proposed, the development will include 112,141 square feet of single-story structures, associated parking, vehicle display areas, landscaping, grading, and drainage.

As described and depicted in the proposed Final PUD documents (Attachment 6.), the development permits a maximum building height of 70 feet; however, the applicant is proposing a maximum building height of 25 feet with this Final PUD. Similarly, while the approved Preliminary PUD allows for up to 40 percent lot coverage, the applicant's proposal reflects a reduced lot coverage of 20 percent for this project.

Architecture of the buildings includes complimentary colors and a mix of materials such as metal panels, low level stone accents, and clear glazed glass doors and windows enhanced by vertical vegetated green wall panels.

The Final PUD plan reflects that **building and landscape setbacks** from Terrazzo Drive are twenty feet, landscaping setbacks from I-25 are to be 25 feet and buildings setback at 50 feet. The Final PUD Plan

defines a minimum setback of 10' for the internal lot lines to the north and south. As proposed, the buildings are setback a minimum of 65' from the north lot line and 90' from the south lot line.

Landscaping on the northern and southern boundary includes the installation of a retaining wall along the property line. Rock mulch will be integrated on the north line while river rock and shrubs will be installed along the south line, interior to the retaining wall. Such retaining wall shall not exceed twelve feet in height.

Landscaping on the east property line fronting the I-25 corridor is comprised of buffer planting of native seed mix combined with edged tree and shrub plantings intended to screen roughly two-thirds of the vehicle parking while leaving landscaping low and open in front of the vehicle display area.

Landscaping within the site includes foundation planting on Building A facing Terrazzo Drive to compliment hearty street frontage landscaping as well as landscaped parking lot islands integrating lighting and a large array of tree and shrub plantings.

The overall landscape design uses hardy native species along the site edges and more structured planting internally. All planting have been chosen from the Approved Plant List for the Town of Monument.

Parking on the development includes 679 spaces; 254 of which will be utilized for vehicle display. This allocation meets the required parking needed for the development (425 required spaces). An additional area for display is located at the southeast corner of the lot facing the I-25 corridor. To avoid this southeast ancillary vehicle display area from being overutilized, staff is providing a possible condition inclusion limiting the number of vehicles permitted to be displayed in this area. An additional condition includes the requirement that all vehicles parked in the ancillary southeastern display area shall be parked on an approved surface consisting of durable, dust free, all weather material such as: concrete, asphalt, asphalt millings installed over a compacted base, pavers installed over a compacted base, or other similar hard-surfaced materials

Traffic Analysis Report. The Applicant provided a Traffic Generation Analysis for the project. The Report, prepared by SM Rocha, LLC, Traffic and Transportation Consultants, dated 7/21/2025, covering Areas A, B, C, and D of Falcon Commerce Center Phase 2.

Based on the conclusions presented in the analysis, the projected site-generated traffic associated with the proposed Conceptual Plan is not anticipated to adversely affect traffic operations on the surrounding roadway network, including the intersection of Baptist Road and Terrazzo Drive. The analysis concludes that the proposed development remains consistent with the assumptions and findings of the previously approved Falcon Commerce Center Traffic Impact Study. Accordingly, the conclusions and recommendations contained within the approved traffic study remain applicable and valid.

Stormwater Management. The Applicant provided a Drainage Report for the project [Attachment 9.]. The Report, prepared by Kiowa Engineering Corporation, dated December 22 2025, concludes that the stormwater drainage improvements have been prepared in accordance the Town of Monument standards and Colorado Springs Drainage Criteria Manual. The report concludes that the proposed stormwater management design has been engineered to properly convey and treat stormwater based on the requirements and guidance of the aforementioned manuals. . Based on the current data and analysis included in the Applicant's December 2025 Report, Town Staff concur with this assessment.

Comprehensive Plan. The subject property is designated Commercial Center (CC) on the east and Light Industrial (LI) on the west (Attachment 1.), by the Town's Comprehensive Plan, adopted 2017. An automotive sales and service development is generally consistent with the intent of the Commercial Centers (CC) designation as well as the Light Industrial designation. Providing goods and services to area residents and the traveling public, this vehicle-oriented use is appropriately located near a major transportation corridor (I-25) and the Baptist Road intersection as intended by the Plan. The high-quality landscaping together with the mixed materials and visual articulation of the structures minimizes visual impacts of the service component and provides interest and variation over large walls. Additionally, an automotive sales and service development aligns with the intent of the Light Industrial (LI) designation, particularly with respect to the service and repair components, which are similar in character to the contractor trades and small-scale business services called for in these designations.

Together, the 2017 Comprehensive Plan and the approved uses per the Preliminary PUD plan identifies this area for uses such as the proposed auto sales and service development.

ANALYSIS AND FINDINGS

Criteria for Review – 18.02.260 C. Final Plat

Pursuant to section 18.02.260 C. of the Land Development Code Final Plats are reviewed in accordance with the applicable approval criteria set forth in the Land Development Code. Staff has evaluated the submitted application against these criteria and provides the following analysis and determination regarding the extent to which the proposal complies with each standard.

1. *The plat conforms with the Town's Comprehensive Plan; Parks, Trails, and Open Space Plan; and other plans adopted by the Town from time to time;*

   Based on staff's analysis and input provided by the Town's Development Review Team (DRT) partners, the proposed project is consistent with all applicable development standards and Town guiding documents. The Final Plat is proposed on Area B of the Falcon Commerce Center PUD development area. The overall development area includes 33 acres of open space.

2. *The plat proposes a harmonious development and lot pattern that is compatible with the neighborhood and community;*

The proposed plat establishes a lot pattern that is compatible with surrounding development. Access is provided in alignment with the existing intersection of Squadron Drive and Terrazzo Drive while providing a secondary access on the southwest corner of the property. Consistent with other lots located east and west of Terrazzo Drive, the subject property includes substantial frontage along Terrazzo Drive and extends the full depth of the block from Terrazzo Drive to I-25.

3. *The lot and development pattern ensures there will be adequate light, air, parks, open space, and other places for public use;*

   The Final Plat for the Alpine Dealership at Falcon Commerce is part of the overall Falcon Commerce Center PUD which includes roughly 33 acres of Open Space. Lighting was evaluated as part of the review of the subsequent Final PUD Plan.

4. *The plat design provides for adequate access to all lots and tracts proposed in the subdivision;*

   The proposed plat is a single lot that would not create a landlocked parcel as it provides two points of access on Terrazzo Drive, ensuring adequate access.

5. *Adequate, safe, and efficient public improvements, utilities, and community facilities and services will be provided with sufficient capacity to serve the subdivision;*

   a. *A sufficient supply of water is available and sufficient water rights have been dedicated to the Town or applicable district, in conformance with the applicable district's water standards*.

      Forest Lakes Metro District provided a Water and Sewer Services Commitment letter confirming that the Metro District has the necessary water resources and wastewater systems to provide both water and sewer services to Alpine Auto in the Falcon Commerce Center.

   b. *The owners and/or developers of the property will bear the cost of improvements which benefit the land being developed and pay their fair share of any community improvements and/or facilities*.

      While not required as part of the Final Plat approval, during the development of the Final PUD development the applicant will be required to enter into an Improvements Agreement, provide financial securities and pay development impact fees as applicable.

6. *The plat design provides for adequate protection from fire, flood, geologic hazards, significant soil constraints, and other dangers, and provides for proper design of stormwater drainage, erosion control, and streets;*

   The application submittal materials included a Geologic Hazard Analysis that was approved and accepted by the Town Engineer.

7. *The plat conforms to all applicable provisions of these regulations and any other applicable provisions of the Monument Municipal Code, and all applicable County, State, and Federal Regulation;*

   Town Municipal Code, County, State, and Federal regulations have been met as required.

8. *The plat design provides for the preservation and conservation of unique or distinctive natural areas, scenic areas and views, natural landmarks, including rock outcroppings and unique landforms, significant wildlife habitats and migration areas, drainage areas, riparian areas, wetlands, historic features and archaeologically sensitive sites, recognizing the irreplaceable character of such resources and their importance to the quality of life in Monument;*

   The proposed plat does not impact any known unique or distinctive natural areas, scenic areas, natural landmarks, significant wildlife habitats, drainage or riparian areas, wetlands, historic features, or archaeologically sensitive sites. Therefore, the plat design is consistent with the preservation and conservation of such resources and meets this criterion.

9. *The plat design provides for the preservation and conservation of significant stands of vegetation; and*

   No significant stands of vegetation are known to be on the area.

10. *The final plat is generally consistent with the preliminary plat, as applicable*.

    The Final Plat contemplates the subdivision of the northern 12.5 acres of the existing Preliminary PUD. The proposed Final Plat area does not extend beyond the originally approved boundary area and the plat creates a reasonably logical lot within.

Staff find the above criterion has been met

Criteria for Review – 18.03.460 D. Final PUD Plans

Pursuant to section 18.03.460 D of the Land Development Code Final PUD Plans are reviewed in accordance with the applicable approval criteria set forth in the Land Development Code. Staff has evaluated the submitted application against these criteria and provides the following analysis and determination regarding the extent to which the proposal complies with each standard.

1. *The final PUD conforms to or is consistent with the Preliminary PUD*

   The Final PUD Plan proposes commercial development including Auto Sales, Service and Repair as consistent with the approved uses defined in the Falcon Commerce Center Phase 2 Preliminary Plan.

2. *Circulation is designed for the type of traffic generated, safety, separation from living areas, convenience, access, handicap access, noise and exhaust control. Though generally discouraged, private internal streets may be considered where appropriate to the development. A proper institutional framework, such as a metropolitan or special district must be established*

for maintenance thereof for the life of any private streets. All streets shall be accessible by police and fire department and other emergency vehicles for emergency purposes, and to service vehicles such as trash trucks. Bicycle and pedestrian circulation and connections shall be provided

The application materials included a Traffic Generation Analysis that concluded conformance with previous approvals and no additional impacts to Baptist Road or the Squadron Road and Terrazzo Drive intersections. On site parking and circulation followed Land Development Code Standards for handicapped parking, drive aisle widths and turn radius. The site is accessible for first responders via two access options on Terrazzo Drive, and access to the trash enclosure on the north property line has been provided for with a clear drive aisle route.

3. *Functional parks, open space, and trails in terms of recreation, views, density relief, convenience, function, connectivity, and optimum preservation of natural features including trees, shrubs, wildlife habitat, scenic areas and riparian and drainage areas are provided in conformance with the Comprehensive Plan, the Parks, Trails, and Open Space Master Plan, and the Development Standards (Chapter 18.05 of this title)*

   This element was considered during the design and overall layout of the Preliminary PUD and such elements for open space, natural features, and wildlife conservation were considered in the set aside of 33 acres of open space in the Jackson Creek Floodplain Area F.

4. *A variety of development and housing types and styles, and densities are proposed. Mixed land use is encouraged;*

   While this area is not planned for residential use, the combination of retail, and service contributes to the goal of mixed uses especially in locations that are auto dependent. As defined in the Final PUD Plan and above, the architectural design of the development provides visual variation and appeal while maintaining a low visual impact with single story structures and high quality landscaping.

5. *Privacy for individuals, families and neighbors is provided as appropriate;*

   This element is not applicable.

6. *Building design in terms of orientation, spacing, materials, exterior color and texture, storage and lighting result in a quality architectural design that is compatible with the surrounding neighborhood. The placement of identical or similar residential models on any two adjoining lots along a street is discouraged;*

   As noted above, the design elements blend a mix of complimentary colors and materials such as metal panels, low level stone accents, and clear glazed glass doors and windows complemented by vertical vegetated green walls. These combined elements create an attractive visual articulation as mass appropriate for the development's

location along the I-25 corridor and within the development area. Downlit shielded light poles not exceeding twenty-two feet will minimize light pollution.

7. *The landscaping is a quality design that enhances the site and is compatible with the surrounding neighborhood as shown by amount, types, and materials used. Entrance features are encouraged. The proposed landscaping must not create maintenance problems and shall be suitable for the site and neighborhood including plant hardiness. A xeriscape design that will conserve water is required;*

   Please see evaluation of the landscaping elements in the above landscaping section.

8. *Adequate off-street parking will be provided:*
   a. *Particularly for single-family residences in a PUD, required front-yard setbacks should be established and driveways should be arranged so as to provide off-street parking therein without causing parked autos to block sidewalks.*

      Adequate parking facilities and access has been provided as required as will not facilitate any additional parking required off site. Appropriate setbacks have been maintained.

   b. *The Town may increase or decrease the normally required number of off-street parking spaces:*

      Additional off street parking was not requested as the applicant provided 254 additional parking spaces beyond the minimum requirement.

9. *The final PUD has been shown to fit within the context of the planned land use pattern and roadway and utility systems of the larger surrounding area.*

   The proposed Final PUD Plan is consistent with the approved Preliminary PUD and the broader development framework for Falcon Commerce Center Phase 2. The automotive sales, service, and repair use aligns with the commercial and employment-oriented uses planned for Area B and surrounding properties. The site is served by Terrazzo Drive and is located near the Baptist Road and I-25 corridor, providing appropriate access for the type of use proposed. A Traffic Generation Analysis determined that the development will not adversely impact the surrounding roadway network. Water and sewer service have been confirmed by the Forest Lakes Metropolitan District, demonstrating that adequate utility infrastructure is available to support the development.

Staff find the above criterion has been met

Findings of Fact and Staff Recommendation

After reviewing the Alpine Dealership at Falcon Commerce Center Final Plat, the following finding of fact has been made:

1. The request has met the applicable criteria identified in Section 18.02.260 C. of the Land Development Code. Therefore, Staff recommends approval of the request.

After reviewing the Alpine Dealership at Falcon Commerce Center Final PUD Plan, the following finding of fact has been made:

1. The request has met the applicable criteria identified in Section 18.03.460 D of the Land Development Code. Therefore, Staff recommends approval of the request with the conditions as set forth in the recommended motion.

Recommended Motion/Action.

Motion 1) Mr. Chairman, on the request for approval of the Alpine Dealership at Falcon Commerce Center Final Plat, within Phase 2 of the Falcon Commerce Preliminary PUD Plan, for property located on parcel No. 7135000035, I move that the Planning Commission forward a recommendation of approval/denial to Town Council, supported by the attached documents and by the finding of fact as listed in the staff report.

Motion 2) Mr. Chairman, on the request for approval of the Alpine Dealership Falcon Commerce Center Final PUD Plan, within Phase 2 of the Falcon Commerce Preliminary PUD Plan, for property located on parcel No. 7135000035, I move that the Planning Commission forward a recommendation of approval/denial to Town Council, supported by the attached documents and by the finding of fact as listed in the staff report with the following conditions:

Possible Conditions if recommending approval.

1. The Vehicle Display Area in the south east corner of the lot, as shown on page 8 of the Final PUD Plan set, shall be utilized as presented, having a maximum of 13 vehicles parked or displayed in this area and, any vehicles parked or displayed in this area shall be parked on an approved surface consisting of durable, dust free, all weather material such as: concrete, asphalt, asphalt millings installed over a compacted base, pavers installed over a compacted base, or other similar hard-surfaced materials.
2. No vehicles shall be parked or displayed on the building pad for Phase 2 (Building B) during development.

Attachments Referenced and Additional

1. Attachment 1 - Aerial, Location Map and Future Land Use Map.
2. Attachment 2 - Public Hearing Notice.
3. Attachment 3 - Falcon Commerce Center Preliminary PD Site Plan Phase 1. [link]
4. Attachment 4 - Falcon Commerce Center Preliminary PUD Plan for Phase 2. [link]
5. Attachment 5 - Alpine Dealership at Falcon Commerce Center Final Plat. [link]
6. Attachment 6 - Alpine Dealership at Falcon Commerce Center Final PUD Plan [link] prepared by N.E.S. Inc. last revised 10/24/2025.
7. Attachment 7- Applicant Project Narrative, last revised September 2025. [link]

8. Attachment 8 - Traffic Generation Analysis, prepared by SM Rocha, dated 7/21/2025. [link]
9. Attachment 9 - Drainage Report , prepared by Kiowa Engineering, dated 12/22/2025. [link]
10. Attachment 10 - Geohazard Report, prepared by CTL Thompson, dated 2/26/2020. [link]
11. Attachment 11 - Grading and Erosion Control Plan, prepared by Kiowa Engineering, dated 5/1/2024. [link]
12. Attachment 12 – Town Engineer Recommendation of Approval [link]

Attachment 1
Maps: Aerial, Location, and Future Land Use

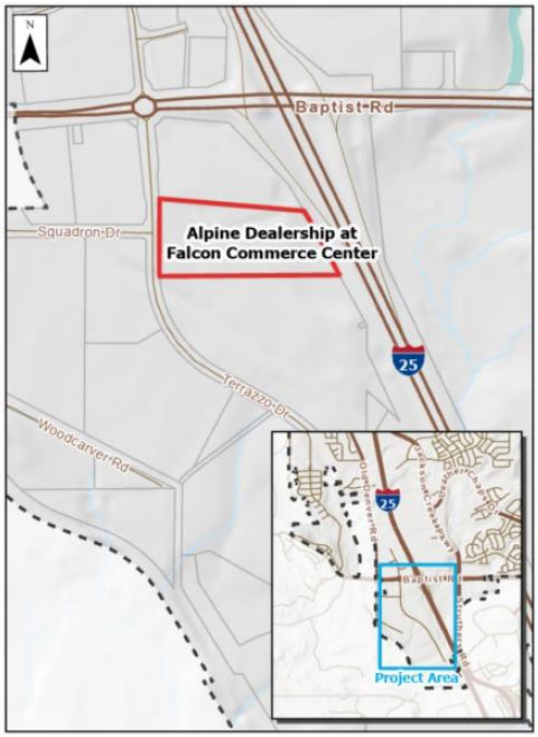


Figure 1 – Aeiral Map

Figure 2 – Location Map

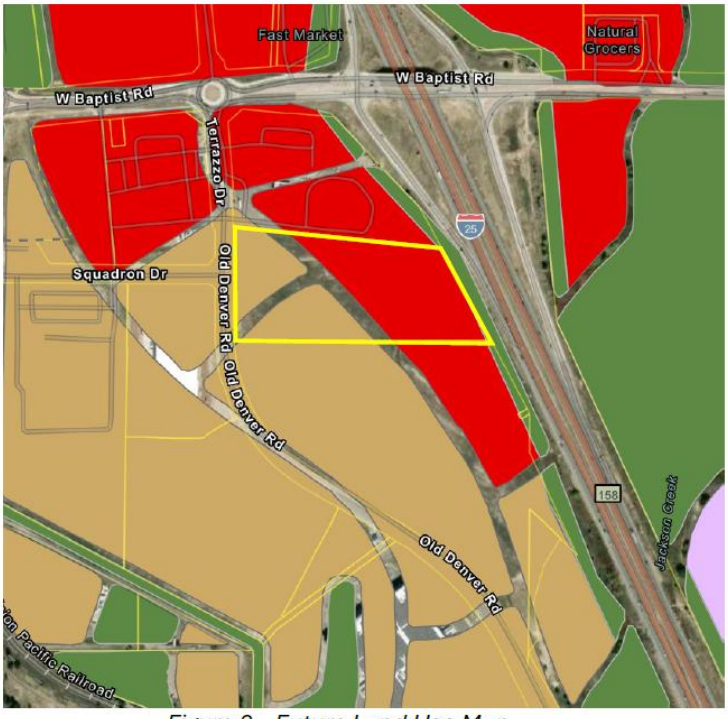


Figure 3 – Future Land Use Map

Falcon Commerce Center
Final PUD Plan
File Number: 2024-008-FPUD

AFFIDAVIT – MAILING
Final PUD Plan

I, Brooks Swenson, (print name) as the ☐ owner ☒ authorized agent, (check one) for the property located at property schedule number 7135000035, in the Town of Monument, El Paso County, Colorado do hereby attest that I reviewed the records of the El Paso County Assessor on the day of 2/24/2026, 2026, and have sent letters via first class U.S. mail to the owners of record for the properties within 500-feet of the perimeter property line of the proposed Final PUD Plan for the Buick/GMC Alpine auto dealership, giving notice of forthcoming public hearings for Planning Commission on **March 11, 2026** and Town Council on **April 6, 2026** in compliance with Town Code Section 18.01.260-Public notice requirements., F. Mailed notice. on 2/24/, 2026, which is at least 15 days prior to the date of the hearings.

Signed: J. Brooks Swenson

Print Name: J. Brooks Swenson

Owner/Authorized Agent *(circle one)*

State of, Colorado

County of: El Paso

Sworn and subscribed to before me, a Notary Public, by J. Brooks Swenson, this 24th day of 2026, who is either personally known to me or who has produced _____ as identification.

My Commission Expires: September 15, 2026

Notary Public for the State of Colorado; County of El Paso

Print Name: Gwendolyn D. Egbert

G. D. Egbert

GWENDOLYN DOWD EGBERT
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19954016648
MY COMMISSION EXPIRES SEPTEMBER 15, 2026

Falcon Commerce Center
Final PUD Plan
File Number: 2024-008-FPUD

AFFIDAVIT – POSTED NOTICE
Final PUD Plan

I, J. Brooks Swenson, (print name) as the ☐ owner ☑ authorized agent, (check one) for the property located at property schedule number 7135000035, in the Town of Monument, El Paso County, Colorado do hereby attest that I installed, ONE sign along Old Denver Road, facing out to traffic, in compliance with Town Code Section 18.01.260-Public notice requirements., E. Posted Notice. On 2/24 (month/day) ,2026, which is at least 15 days prior to the public hearing, scheduled for Planning Commission on March 11, 2026, and Town Council on April 6, 2026, for the proposed development application: Alpine Buick, Final PUD and Site Plan.

Signed: J. Brooks Swenson

Print Name: J. Brooks Swenson

Owner/Authorized Agent *(circle one)*

State of, Colorado

County of: El Paso

Sworn and subscribed to before me, a Notary Public, by J. Brooks Swenson, this 24th day of 2026, who is either personally known to me or who has produced ——— as identification.

My Commission Expires: September 15, 2026

Notary Public for the State of Colorado; County of El Paso

Print Name: Gwendolyn D. Egbert

G. D. Egbert

GWENDOLYN DOWD EGBERT
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19954016648
MY COMMISSION EXPIRES SEPTEMBER 15, 2026

FALCON COMMERCE CENTER
TOWN OF MONUMENT, COLORADO
PHASE 1 PRELIMINARY PD SITE PLAN

A PARCEL OF LAND LOCATED IN THE NORTHEAST ¼ OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE 6TH/ P.M. IN THE TOWN OF MONUMENT, EL PASO COUNTY, COLORADO

SIGNATURE BLOCKS:

OWNERSHIP CERTIFICATION:

KNOW ALL MEN BY THESE PRESENTS, THAT FOREST LAKES, LLC BEING THE OWNER(S), OF THE FOLLOWING DESCRIBED TRACT OF LAND:

LEGAL DESCRIPTION:

SEE LEGAL DESCRIPTION ON THIS PAGE

THE UNDERSIGNED ARE ALL OF THE OWNERS OF CERTAIN LANDS KNOWN AS FALCON COMMERCE CENTER PHASE 1 IN THE TOWN OF MONUMENT.

Dan Dickinson
LANDOWNER (NOTORIZED SIGNATURE)

SIGNED THIS 12th DAY OF February, 2021.

STATE OF ~~COLORADO~~ Missouri
} ss:
COUNTY OF ~~EL PASO~~ Jackson

CHRISTINE VanDEVENTER
Notary Public - Notary Seal
STATE OF MISSOURI
Ray County
My Commission Expires Aug. 25, 2022
Commission # 14010442

SIGNED THIS 12th DAY OF February, 2021,
COUNTY Jackson, STATE Missouri

Christine VanDeventer
NOTARY SIGNATURE

August 25, 2022
MY COMMISSION EXPIRES

TITLE CERTIFICATION:

I, Elizabeth Hall AN AUTHORIZED REPRESENTATIVE OF Land Title Guarantee Company

Land Title Guarantee Company, A TITLE INSURANCE COMPANY LICENSED TO DO BUSINESS IN THE STATE OF COLORADO, HAVE MADE AN EXAMINATION OF THE PUBLIC RECORDS AND STATE THAT ALL OWNERS, MORTGAGEES, AND LIENHOLDERS OF THE PROPERTY ARE LISTED IN THE CERTIFICATE OF OWNERSHIP AND LIENHOLDER SUBORDINATION CERTIFICATE.

AUTHORIZED SIGNATURE (NOTARIZED SIGNATURE)

SIGNED THIS 9th DAY OF February, 20 21

STATE OF COLORADO}
} SS:
COUNTY OF EL PASO }

SIGNED THIS 9th DAY OF February, 2021, COUNTY El Paso, STATE Colorado

Leah Hauck
NOTARY SIGNATURE

9-26-22
MY COMMISSION EXPIRES

LEAH HAUCK
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20184036199
My Commission Expires September 26, 2022

SURVEYOR'S CERTIFICATE:

I, JONATHAN W. TESSIN, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SURVEY AND LEGAL DESCRIPTION REPRESENTED BY FALCON COMMERCE CENTER PHASE 1 AND PD PRELIMINARY SITE PLAN WAS MADE UNDER MY SUPERVISION AND THE MONUMENTS SHOWN HEREON ACTUALLY EXIST AND THIS SITE PLAN ACCURATELY REPRESENTS THAT SURVEY.

JONATHAN W. TESSIN 37150 COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR

2/11/22

PROFESSIONAL LAND SURVEYOR DATE

PLANNING DEPARTMENT CERTIFICATION:

THE PRELIMINARY/FINAL PD SITE PLAN AND ZONING REGULATIONS FOR FALCON COMMERCE CENTER PHASE 1 WERE REVIEWED BY THE TOWN OF MONUMENT PLANNING DEPARTMENT THIS _____DAY OF _____, 20_____.

PLANNING DIRECTOR_____ DATE_____

BOARD OF TRUSTEES APPROVAL:

THIS PRELIMINARY PD SITE PLAN FOR FALCON COMMERCE CENTER PHASE 1 IS APPROVED BY THE BOARD OF TRUSTEES OF THE TOWN OF MONUMENT, COLORADO ON THIS_____ DAY OF_____, 20___.

MAYOR_____
DATE_____

ATTEST:
TOWN CLERK_____
DATE_____

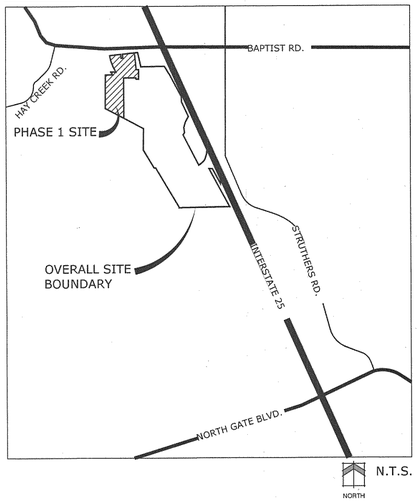
FOREST LAKES METROPOLITAN DISTRICT:

BY: _____ ~~TOM BLUNK~~ ~~GEORGE~~ LEWIS DATE Pres. 2/2/2021

THESE PLANS HAVE BEEN REVIEWED ONLY FOR GENERAL CONFORMANCE WITH THE RULES, REGULATIONS, AND POLICIES OF THE FOREST LAKES METROPOLITAN DISTRICT. APPROVAL OF THIS PLANNING DOCUMENT DOES NOT CONSTITUTE AS AN APPROVAL FOR ALTERATION, EXTENSION, OR CONNECTION TO ANY FOREST LAKES WATER OR SEWER INFRASTRUCTURE.

P:\CP Real Estate\Falcon Commerce Center\Drawings\Planning\Develop\Phase 1\Falcon Commerce Center Phase 1 Prelim Plan.dwg [FCC PHASE 1 PP Sheet 1] 9/3/2020 12:24:23 PM bitten

VICINITY MAP



APPLICANT:

Owner:	Forest Lakes, LLC 1111 Main St. Suite 1600 Kansas City, MO, 64105
Plan Preparer/ Land Planner:	N.E.S. Inc. 619 N. Cascade Avenue, Suite 200 Colorado Springs, CO 80903 (719) 471-0073
Engineer:	Kiowa Engineering Corporation 7175 West Jefferson Ave, Suite 2200 Lakewood, CO, 80235
Surveyor:	Edward-James Surveying, Inc. 926 Elkton Dr, Colorado Springs, CO, 809007

SITE DATA:

Zoning:	PD
Sketch Plan:	Falcon Commerce Sketch Plan Ord.#_____
Existing Use:	Agriculture
Proposed Use:	Commercial / Medical / Office / Warehouse / Distribution
Building Height:	100 FT Maximum
Building Setbacks:	
-Baptist Road:	25 FT
-Santa Fe Trail	20 FT
Landscape Setbacks:	
-Baptist Road:	25 FT
Internal Lot Setbacks:	
- Side	10 FT
- Rear	20 FT
Maximum Lot Coverage:	Forty (40) Percent of Lot area
Development Schedule:	2021
Total Acres:	32.036 AC

In the case of corner or double frontage lots, the required front setback shall apply. Parking shall be permitted to encroach into the building setback.

GENERAL NOTES:

1. All public streets and roads will be dedicated to, and maintained by, the Town of Monument
2. All streets will be constructed to the Town of Monument standards, including paving and street lights.
3. All Phase 1 lot lines are preliminary and will be finalized with final plats.
4. All detention and drainage tracts will be owned & maintained by the Pinon Pines Metropolitan District No. 3.
5. No uses shall be permitted that would generate toxic materials or waste.
6. The Pinon Pines Metropolitan District No. 3 will maintain all entry signs.
7. Signs shall be permitted in accordance with the requirements for signs in the General Commercial Zone (C1) and for Freeway Oriented Businesses as stated in Section 17.56.170 of the Town's Municipal Code, as amended. Sign design and the computation of the sign area shall conform to the standards in Section 17.56.140 and 17.56.220 of the Town's Municipal Code, as amended and to the Falcon Commerce Center Design and Development Guidelines.
8. Falcon Commerce Center Phase 1 is subject to the declarations of Covenants, Conditions, Restrictions and Easements (CC&RS) recorded on August 31st, 2017. These reference Design and Development Guidelines dated August 1st, 2017, which include specifications relating to site design, lighting design, sign design, landscape design and architectural design.
9. The Falcon Commerce Center Design Review Board will enforce the CC&RS, provide design review services and exercise the functions of the design review board for Falcon Commerce Center Phase 1.
10. The site Falcon Commerce Center Phase 1 is not within a designated FEMA floodplain as determined by the flood insurance rate map, community panel number 08041C0286G, effective December 7,2018.
11. Phasing of the development will consist of the public roads, utilities and the drainage/detention pond being built out in the first phase, followed by phasing on a lot-by-lot basis.
12. Site Plan provided is for illustrative purposes only. Final PD Site Plans and Landscape Plans will conform to the provisions of this Preliminary Plan.
13. Parking will conform to the standards outlined in the Town of Monument Municipal Code appropriate to proposed use.
14. Cross-access agreements will need to be put in place when required.
15. Sign easements will be provided for development, monument, and entry signs.
16. All proposed access points are for preliminary purposes only, final access points to be determined with final plats/final PD Site Plans.
17. Details of parking, lighting, striping and signage, additional landscaping and additional signage will be provided with Final PD Site Plan.
18. Recording of any Final PD Site Plan for Falcon Commerce Center that requires the use of Woodcarver Road, from the traffic circle to Squadron Drive will require Woodcarver Road to be improved to Town standards.

UNITED STATES AIRFORCE ACADEMY NOTES:

1. This property may be impacted by noise and other similar sensory effects of flight caused by aircraft both in the United States Air Force Academy's Airmanship Program and during special events. This notice shall remain in effect until the Air Force Academy shall cease to be used for flight training purposes, or until all airports on the Air Force Academy shall cease to be actively used. This notice shall run in perpetuity with the land.
2. A Private Avigation Easement acknowledging the USAFA Airmanship program will be established prior to recordation of the final subdivision plat(s) for this development.

Chuck Broerman
03/08/2021 03:35:41 PM
Doc $0.00 13
Rec $73.00 Pages
El Paso County, CO
221046639

LEGAL DESCRIPTION:

A TRACT OF LAND BEING A PORTION OF NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: A PORTION OF THE SOUTHERLY RIGHT-OF-WAY LINE OF BAPTIST ROAD AS DESCRIBED AS PARCEL NO: 2B Rev., IN THE DOCUMENT RECORDED UNDER RECEPTION NUMBER 208093631, RECORDS OF EL PASO COUNTY, BEING MONUMENTED ON THE WESTERLY END BY A 3-1/2" ALUMINUM CDOT ROW CAP STAMPED "PLS 26968 AND AT THE EASTERLY END BY A 1-1/2" ALUMINUM CAP STAMPED "CCES PLS 30118" FOUND 2' BELOW GROUND, ASSUMED TO BEAR N83°54'13" A DISTANCE OF 377.02 FEET. BEARINGS ARE BASED FROM THE SURVEY RECORDED UNDER RECEPTION NUMBER 217900186, RECORDS OF EL PASO COUNTY, COLORADO.

COMMENCING AT THE NORTH QUARTER CORNER OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO, THENCE S58°07'07"E, A DISTANCE OF 301.50 FEET, TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF BAPTIST ROAD, AS DESCRIBED AS PARCEL NO: 2B Rev. IN THE DOCUMENT RECORDED UNDER RECEPTION NUMBER 208093631, RECORDS OF EL PASO COUNTY, COLORADO, SAID POINT BEING THE POINT OF BEGINNING;
THENCE N83°54'13"E, ON SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 377.02 FEET TO A POINT ON THE WESTERLY LINE OF THE DILLON WELL TRACT AS DESCRIBED IN THE DOCUMENT RECORDED UNDER RECEPTION NO. 207009613, THENCE ON THE WESTERLY, SOUTHERLY AND EASTERLY LINE OF SAID DILLON WELL TRACT, THE FOLLOWING THREE (3) COURSES:

1. S04°46'04"E, A DISTANCE OF 128.11 FEET;
2. N85°13'56"E, A DISTANCE OF 60.00 FEET;
3. N04°46'04"W, A DISTANCE OF 129.50 FEET, TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF BAPTIST ROAD AS DESCRIBED AS PARCEL NO: 2 Rev.2, IN THE DOCUMENT RECORDED UNDER RECEPTION NO. 208093631;

THENCE N83°54'13"E ON SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 401.22 FEET, TO THE NORTHWEST CORNER OF PILOT TRAVEL CENTER FILING NO. 1, RECORDED UNDER RECEPTION NUMBER 217714044; THENCE ON THE WESTERLY AND SOUTHERLY BOUNDARY OF SAID PILOT TRAVEL CENTER THE FOLLOWING FOUR (4) COURSES:

1. S05°56'18"E, A DISTANCE OF 501.23 FEET;
2. S00°10'39"W, A DISTANCE OF 53.97 FEET;
3. S89°49'25"E, A DISTANCE OF 83.15 FEET;
4. S85°12'25"E, A DISTANCE OF 6.87 FEET;

THENCE S00°10'39"W, A DISTANCE OF 319.69 FEET; THENCE N89°49'21"W, A DISTANCE OF 90.00 FEET; THENCE N00°10'39"E, A DISTANCE OF 28.55 FEET; THENCE N29°49'21"W, A DISTANCE OF 9.70 FEET; THENCE N59°49'21"W, A DISTANCE OF 26.09 FEET; THENCE N89°49'19"W, A DISTANCE OF 386.90 FEET; THENCE S00°18'03"W, A DISTANCE OF 1,347.61 FEET TO A POINT ON THE NORTHERLY BOUNDARY LINE OF THE TRACT OF LAND DESCRIBED IN THE DOCUMENT RECORDED IN BOOK 5891 AT PAGE 176; THENCE ON THE BOUNDARY LINE OF SAID TRACT THE FOLLOWING FOUR (4) COURSES: SAID COURSES BEING THE SAME AS DESCRIBED AS IN THE DOCUMENT AS RECORDED UNDER RECEPTION NUMBER 217900186;

1. N62°28'53"W, A DISTANCE OF 698.3 FEET;
2. N00°18'03"E, A DISTANCE OF 1,113.12 FEET;
3. N89°19'15"E, A DISTANCE OF 251.51 FEET TO A POINT ON CURVE;
4. ON THE ARC OF A CURVE TO THE RIGHT WHOSE CENTER BEARS N55°59'03"E, HAVING A DELTA OF 03°53'26", A RADIUS OF 1,632.69 FEET AND A DISTANCE OF 110.86 FEET TO A POINT ON CURVE, SAID POINT BEING ON THE SOUTHERLY LINE OF PARCEL 4, AS DESCRIBED IN THE DOCUMENT RECORDED UNDER RECEPTION NUMBER 200152234;

THENCE ON THE SOUTHERLY AND EASTERLY LINE OF SAID PARCEL 4, THE FOLLOWING FIVE (5) COURSES: SAID COURSES BEING THE SAME AS DESCRIBED AS IN THE DOCUMENT AS RECORDED UNDER RECEPTION NUMBER 217900186:

1. S88°32'05"E, A DISTANCE OF 166.19 FEET;
2. N27°21'09"W, A DISTANCE OF 197.73 FEET;
3. N23°23'15"W, A DISTANCE OF 134.29 FEET;
4. N17°33'18"W, A DISTANCE OF 98.08 FEET;
5. N12°13'39"W, A DISTANCE OF 162.92; FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 1,395,477 SQUARE FEET OR 32.036 ACRES.

DEVELOPMENT GUIDELINES:

1. Project Description: Falcon Commerce Center Phase 1 is a planned commercial/office/industrial/distribution and warehousing development on approximately 32 acres of land located south of Baptist Road, east of Woodcarver Road and west of Interstate 25.

2. Permitted Uses: The Permitted uses for Falcon Commerce Center Phase 1 are:

   a. Commercial uses
   b. Distribution and Warehousing uses
   c. Industrial uses
   d. Office/Medical uses
   e. Miscellaneous uses:
      i. Communication/Broadcasting studios and services
      ii. Utilities and associated structures
      iii. Parking structures
      iv. Transit Facilities

3. Accessory Uses: The Accessory uses for Falcon Commerce Center Phase 1 shall be as follows:

   Any use, including outdoor storage, may be operated as an accessory subject to the following conditions:
   - It is clearly incidental and commonly associated with the operation of the permitted use;
   - It is operated and maintained under the same ownership/lessees/concessionaires and on the same site as the permitted use.

4. Temporary Uses: Temporary uses shall be subject to the provisions of Section 17.48.210 of the Town's Municipal Code, as amended.

5. Accessory Structures. Accessory structures must comply with the Falcon Commerce Center Design and Development Guidelines, and shall be subject to the provisions of Section 17.48.180 of the Town's Municipal Code, as amended.

6. Signs. Signs shall be permitted in accordance with the requirements for signs in the General Commercial Zone (C1) and for Freeway Oriented Businesses as stated in Section 17.56.170 of the Town's Municipal Code, as amended. Sign design and the computation of the sign area shall conform to the standards in Section 17.56.140 and 17.56.220 of the Town's Municipal Code, as amended and to the Falcon Commerce Center Design and Development Guidelines.

7. Development Standards.

   a. Setbacks:
   - I-25: Fifty (50) foot minimum
   - Baptist Road: Twenty-five (25) foot minimum
   - Santa Fe Trail: Twenty (20) foot minimum
   - Collector Streets: Twenty (20) foot minimum
   - Local Streets: Twenty (20) foot minimum
   - Lot Side Setbacks: Ten (10) feet minimum
   - Lot Rear Setbacks: Twenty (20) feet minimum

   In the case of corner or double frontage lots, the required front setback shall apply. Parking shall be permitted to encroach into the building setback.

   b. Maximum building height: One hundred (100) feet

   This height limitation shall not apply to church spires, belfries, cupolas, penthouses or domes not used for human occupancy, or to chimneys, ventilators, skylights, parapet walls, cornices without windows, antennas, or necessary mechanical appurtenances located above the roof level.

   c. Maximum Lot Coverage: Forty (40) percent of lot area.

8. Lot Sizes. The lot configuration on this Preliminary PD Site Plan is illustrative only. The Final PD Site Plan and the Final Plat will establish the lot sizes.

9. Streets. Streets within Falcon Commerce Center Phase 1 provide general vehicular circulation throughout the development. All streets shall be publicly owned and maintained. Design and construction will conform to the Town of Monument Engineering Criteria Manual, subject to any waiver that may be approved by the Town.

10. External Effects. All uses within the Falcon Commerce Center shall comply with the requirements of Section 17.43.100 of the Town's Municipal Code, as amended, in order to limit the potential external effects of some of the permitted uses.

11. Architecture and Design. The architecture and design of all buildings and signs will require the review and approval of the Falcon Commerce Center Design Review Board for conformance with the Falcon Commerce Center Design and Development Guidelines.

SHEET INDEX:

1 OF 13:	COVER SHEET	5 OF 13:	TYPICAL STREET SECTIONS	9 OF 13:	PRELIMINARY GRADING PLAN
2 OF 13:	PRELIMINARY SITE PLAN	6 OF 13:	PRELIMINARY GRADING PLAN	10 OF 13:	PRELIMINARY UTILITY PLAN
3 OF 13:	PRELIMINARY CIVIL SITE PLAN	7 OF 13:	PRELIMINARY GRADING PLAN	11 OF 13:	PRELIMINARY UTILITY PLAN
4 OF 13:	PRELIMINARY CIVIL SITE PLAN	8 OF 13:	PRELIMINARY GRADING PLAN	12 OF 13:	ENTRY LANDSCAPE PLAN
				13 OF 13:	ENTRY SIGNAGE DETAILS

Land Planning
Landscape Architecture
Urban Design
NES
N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
Fax 719.471.0267
www.nescolorado.com

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PLANNERS / LANDSCAPE ARCHITECTS

IN ASSOCIATION WITH

FALCON COMMERCE CENTER PHASE 1

PRELIMINARY PD SITE PLAN

W. BAPTIST ROAD

PROJECT INFO

DATE:	06.30.2020
PROJECT MGR:	J. ROMERO
PREPARED BY:	B. ITEN

SEAL

ISSUE INFO

ENTITLEMENT

DATE:	BY:	DESCRIPTION:
09.02.2020	B.I.	PER TOWN COMMENTS

ISSUE REVISION

SHEET TITLE

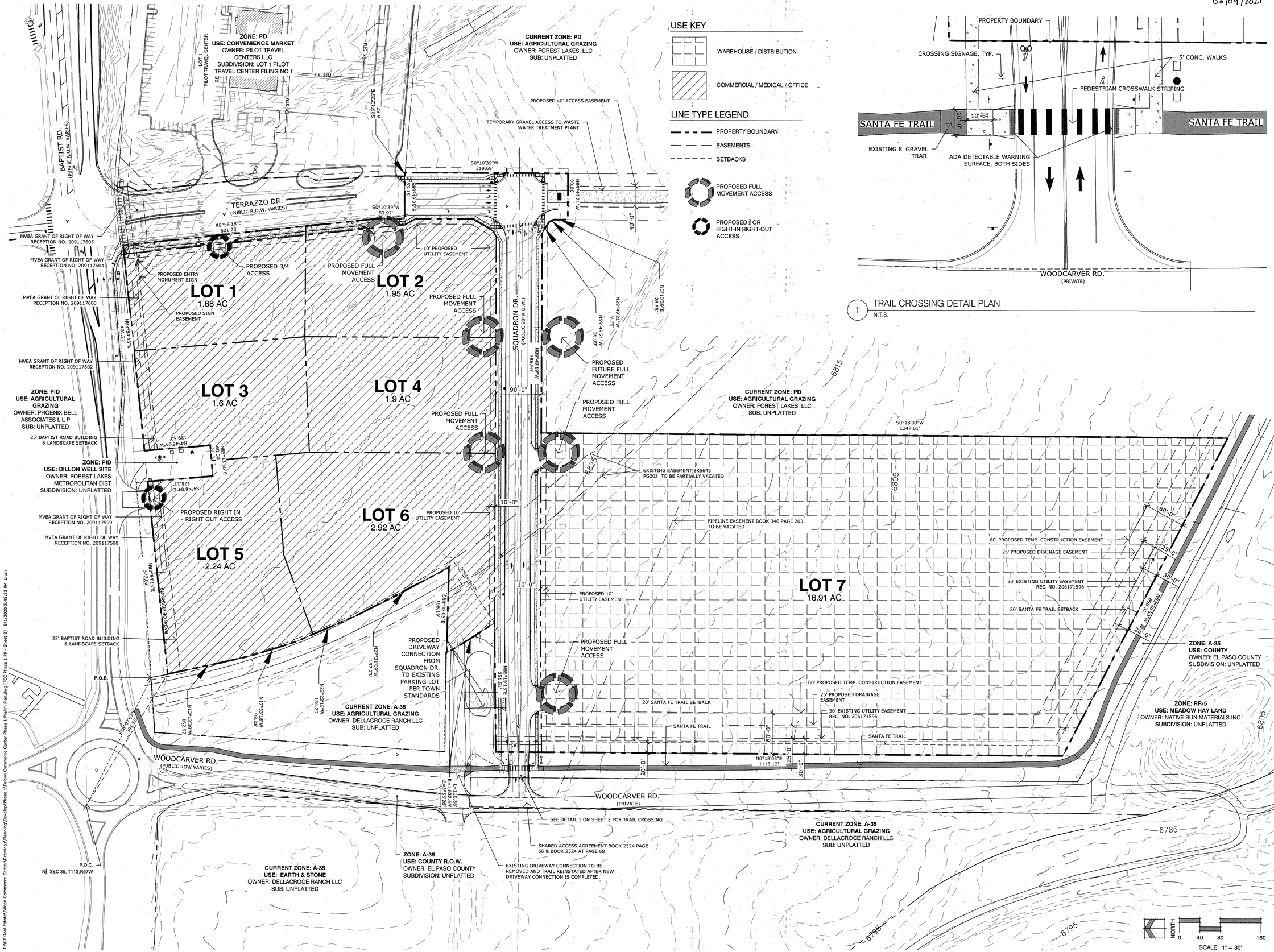
COVER SHEET

SHEET NUMBER

1 OF 13

PLAN FILE #

221046639
03/09/2021



1 TRAIL CROSSING DETAIL PLAN
N.T.S.

Land Planning
Landscape Architecture
Urban Design
NES
N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
Fax 719.471.0267
www.nescolorado.com

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PLANNER / LANDSCAPE ARCHITECT
IN ASSOCIATION WITH

FALCON COMMERCE CENTER PHASE 1

PRELIMINARY PD SITE PLAN
W. BAPTIST ROAD

PROJECT INFO
DATE: 06.30.2020
PROJECT MGR: J. ROMERO
PREPARED BY: B. ITEN

SEAL

ENTITLEMENT

ISSUE INFO

DATE:	BY:	DESCRIPTION:
09.02.2020	B.I.	PER TOWN COMMENTS

ISSUE / REVISION

SHEET TITLE
SITE PLAN

SHEET NUMBER
2
2 OF 13

PLAT FILE #

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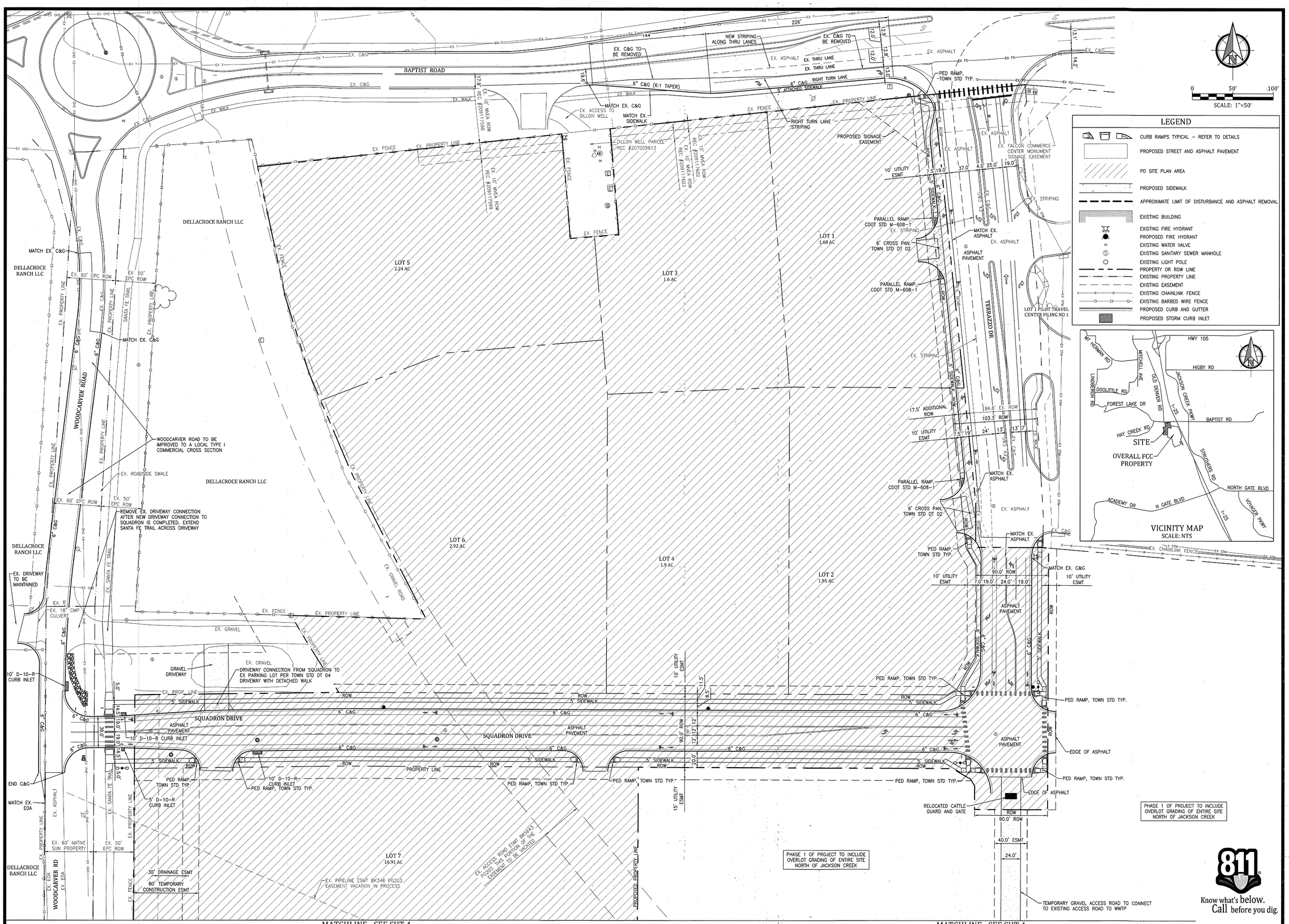
03/09/2021



0 50' 100'
SCALE: 1"=50'

LEGEND

- CURB RAMPS TYPICAL – REFER TO DETAILS
- PROPOSED STREET AND ASPHALT PAVEMENT
- PD SITE PLAN AREA
- PROPOSED SIDEWALK
- APPROXIMATE LIMIT OF DISTURBANCE AND ASPHALT REMOVAL
- EXISTING BUILDING
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING LIGHT POLE
- PROPERTY OR ROW LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING CHAINLINK FENCE
- EXISTING BARBED WIRE FENCE
- PROPOSED CURB AND GUTTER
- PROPOSED STORM CURB INLET

811 Know what's below. Call before you dig.

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

FALCON COMMERCE CENTER
PRELIMINARY PD SITE PLAN
PRELIMINARY CIVIL SITE PLAN
MONUMENT, COLORADO

Project No.:	19036
Date:	September 3, 2020
Design:	MWE/MTR
Drawn:	MTR
Check:	MWE
Revisions:	

SHEET 3 OF 13 SHEETS

2210466839
03/09/2021

MATCHLINE - SEE SHT 3

MATCHLINE - SEE SHT 3

EX. 30.0' UTIL ESMT REC. #2061781596

EX. PIPELINE ESMT BK346 PG203 EASEMENT VACATION IN PROCESS

EX. PROPERTY LINE

NATIVE SUN MATERIALS

EL PASO COUNTY

60' PRIVATE PROPERTY

50' EL PASO COUNTY

PROPERTY LINE

EX. SANTA FE TRAIL

EX. BARBED WIRE FENCE

DELLACROCE RANCH LLC

30.0' DRAINAGE ESMT

80.0' TEMPORARY CONSTRUCTION ESMT

LOT 7
16.91 AC

PROPOSED PROPERTY LINE

EX. ACCESS ROAD ESMT BK3641 PG2431 THIS PORTION OF THE EASEMENT TO BE VACATED

PHASE 1 OF PROJECT TO INCLUDE OVERLOT GRADING OF ENTIRE SITE NORTH OF JACKSON CREEK

GRAVEL ACCESS ROAD

TEMPORARY GRAVEL ACCESS ROAD TO CONNECT TO EXISTING ACCESS ROAD TO WWTP

PHASE 1 OF PROJECT TO INCLUDE OVERLOT GRADING OF ENTIRE SITE NORTH OF JACKSON CREEK

40.0' ESMT

24.0'

GRAVEL ACCESS ROAD

MATCH EX. GRAVEL ROAD

EX. GRAVEL ROAD

EX. 50.0' ACCESS ROAD ESMT BK3641 PG2431

N

0 50' 100'

SCALE: 1"=50'

WOODCARVER ROAD

EL PASO COUNTY

50' EL PASO COUNTY

30.0' DRAINAGE ESMT

80.0' TEMPORARY CONSTRUCTION ESMT

EX. 30.0' UTIL ESMT REC. #2061781596

WOODCARVER ROAD

MATCHLINE - SEE THIS SHT

MATCHLINE - SEE THIS SHT

30.0' DRAINAGE ESMT

EX. 30.0' UTIL ESMT REC. #2061781596

WOODCARVER ROAD

811 Know what's below. Call before you dig.

MATCHLINE - SEE THIS SHT

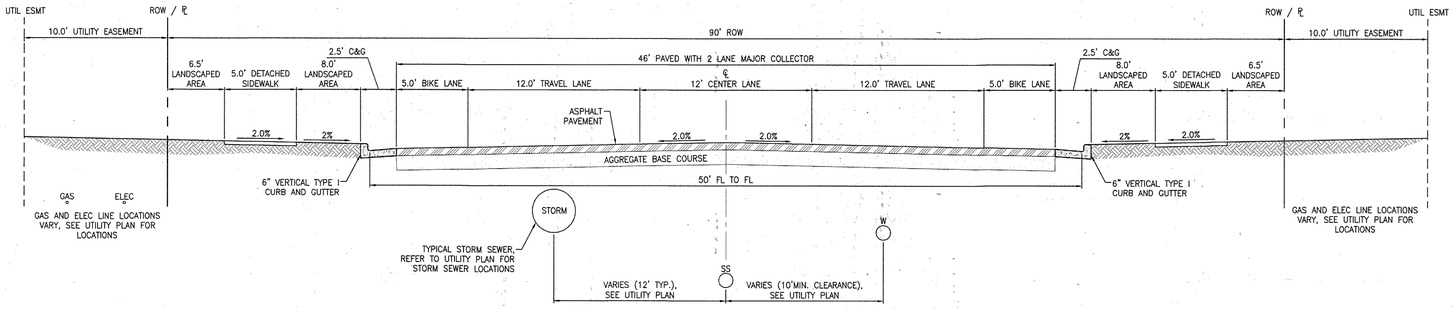
Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

FALCON COMMERCE CENTER
PRELIMINARY PD SITE PLAN
PRELIMINARY CIVIL SITE PLAN
MONUMENT, COLORADO

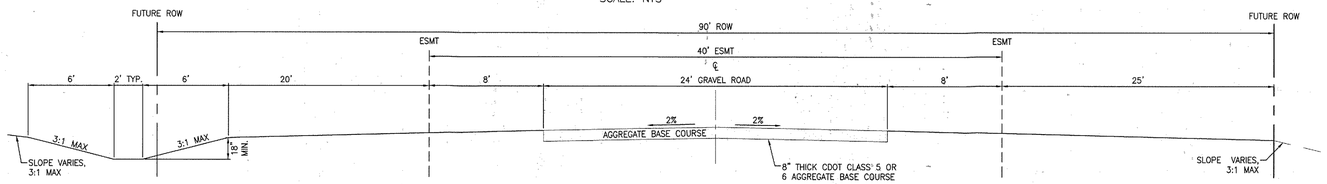
Project No.:	19036
Date:	September 3, 2020
Design:	MWE/MTR
Drawn:	MTR
Check:	MWE
Revisions:	

SHEET
4
OF 13 SHEETS

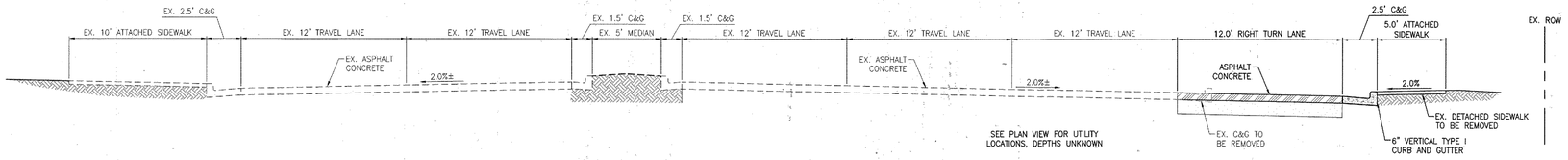
2210466639
03/09/2021



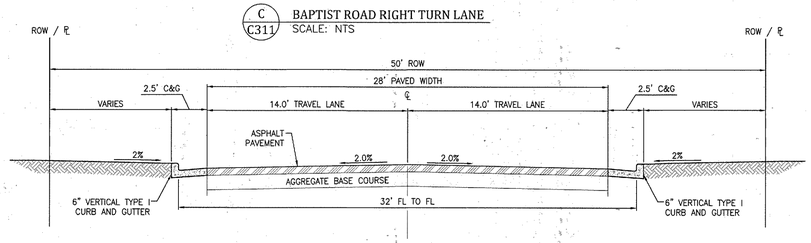
A C311 TYPICAL 2 LANE MAJOR COLLECTOR SECTION
SQUADRON DRIVE AND TERRAZZO DRIVE (SOUTH OF SQUADRON)
SCALE: NTS



B C311 TEMPORARY GRAVEL ACCESS ROAD
TO WWTP (ALONG TERRAZZO DRIVE)
SCALE: NTS



C C311 BAPTIST ROAD RIGHT TURN LANE
SCALE: NTS



D C311 LOCAL TYPE I CROSS-SECTION COMMERCIAL
(WOODCARVER ROAD)
SCALE: NTS

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FALCON COMMERCE CENTER
PRELIMINARY PD SITE PLAN
TYPICAL STREET SECTIONS
MONUMENT, COLORADO

Project No.:	19036
Date:	September 3, 2020
Design:	MWE/MTR
Drawn:	MTR
Check:	MWE
Revisions:	

SHEET 5 OF 13 SHEETS

2210466639
03109/2021

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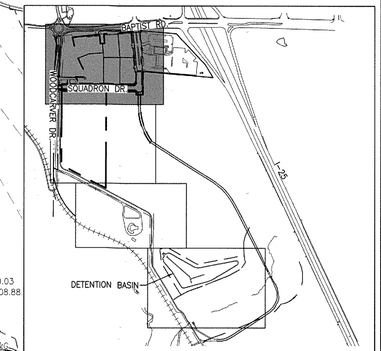
(719) 630-7342

FALCON COMMERCE CENTER
PRELIMINARY PD SITE PLAN
PRELIMINARY GRADING PLAN
MONUMENT, COLORADO

0 50' 100'
SCALE: 1"=50'

LEGEND

- EXISTING PROPERTY LINE
- PROPERTY OR ROW LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- EX W — EXISTING WATER LINE
- EX SS — EXISTING SANITARY SEWER
- EX STM — EXISTING STORM SEWER
- EX UGE — EXISTING UNDERGROUND ELECTRIC LINE
- EX T — EXISTING UNDERGROUND TELEPHONE LINE
- EX G — EXISTING GAS LINE
- 100 — EXISTING 100 YEAR FLOODPLAIN
- CURB RAMPS TYPICAL
- PROPOSED SIDEWALK
- EXISTING FENCE
- (6020) — EXISTING CONTOURS
- 6020 — PROPOSED CONTOURS
- (14.79) — EXISTING SPOT ELEVATION
- 15.41 — PROPOSED SPOT ELEVATION
- (2.3%) — EXISTING FLOW DIRECTION AND SLOPE
- 2.3% — PROPOSED FLOW DIRECTION AND SLOPE
- (4:1) — PROPOSED SLOPE
- APPROXIMATE LIMIT OF DISTURBANCE



KEY MAP
SCALE: NTS

Project No.:	19036
Date:	September 3, 2020
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Drawn:	MTR
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Revisions:	

SHEET
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OF 13 SHEETS

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MATCHLINE - SEE SHT 7

MATCHLINE - SEE SHT 7

2210466639
03/09/2021

MATCHLINE - SEE SHT 6

MATCHLINE - SEE SHT 6

EX. 30.0' UTIL ESMT REC. #2061781596

EX. SAN SEWER MH RIM=6786.28
INV IN(N)(EX.21"PVC)=6772.02
INV OUT(S)(EX.21"PVC)=6771.98

NATIVE SUN MATERIALS

EL PASO COUNTY

EX. PROPERTY LINE

PROPERTY LINE

EX. 8" WATER LINE

EX. 18" PVC WATER LINE

EX. 21" PVC SS MAIN

60' PRIVATE PROPERTY

50' EL PASO COUNTY

15.0' ESMT TO CL STORM

30.0' DRAINAGE ESMT

80.0' TEMPORARY CONSTRUCTION ESMT

DELLACROCE RANCH LLC

EX. SANTA FE TRAIL

EX. BARBED WIRE FENCE

EX. PIPELINE ESMT BK346 PG203 EASEMENT VACATION IN PROCESS

LOT 7
16.91 AC

PROPOSED PROPERTY LINE

EX. ACCESS ROAD ESMT BK5043 PG203 THIS PORTION OF THE EASEMENT TO BE VACATED

PHASE 1 OF PROJECT TO INCLUDE OVERLOT GRADING OF ENTIRE SITE NORTH OF JACKSON CREEK

GRAVEL ACCESS ROAD

TEMPORARY GRAVEL ACCESS ROAD TO CONNECT TO EXISTING ACCESS ROAD TO WWTP

40.0' ESMT

MATCH EX. GRAVEL ROAD

EX. GRAVEL ROAD ESMT

EX. 50.0' ACCESS ROAD ESMT BK5043 PG203

0 50' 100'
SCALE: 1"=50'

EX. SAN SEWER MH RIM=6775.97
INV IN(N)(EX.21"PVC)=6761.68
INV IN(E)(EX.8"PVC)=6761.82
INV OUT(S)(EX.21"PVC)=6761.69

EX. 30.0' UTIL ESMT REC. #2061781596

WOODCARVER ROAD

EX. SAN SEWER MH RIM=6768.80
INV IN(N)(EX.21"PVC)=6758.06
INV OUT(SE)(EX.21"PVC)=6758.00

EX. 12" CMP CULVERT

EX. 18" CMP CULVERT

EL PASO COUNTY

10.0' CL STORM ESMT

30.0' DRAINAGE ESMT

80.0' TEMPORARY CONSTRUCTION ESMT

EX. 30.0' UTIL ESMT REC. #2061781596

EX. SAN SEWER MH RIM=6767.00
INV IN(NW)(EX.21"PVC)=6754.35
INV OUT(SE)(EX.21"PVC)=6754.25

EX. 21" PVC SS MAIN

EX. 18" PVC WATER LINE

PHASE 1 OF PROJECT TO INCLUDE OVERLOT GRADING OF ENTIRE SITE NORTH OF JACKSON CREEK

BAPTIST RD

SQUADRON DR

WOODCARVER DR

DETENTION BASIN

KEY MAP
SCALE: NTS

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FALCON COMMERCE CENTER
PRELIMINARY PD SITE PLAN
PRELIMINARY GRADING PLAN
MONUMENT, COLORADO

Project No.:	19036
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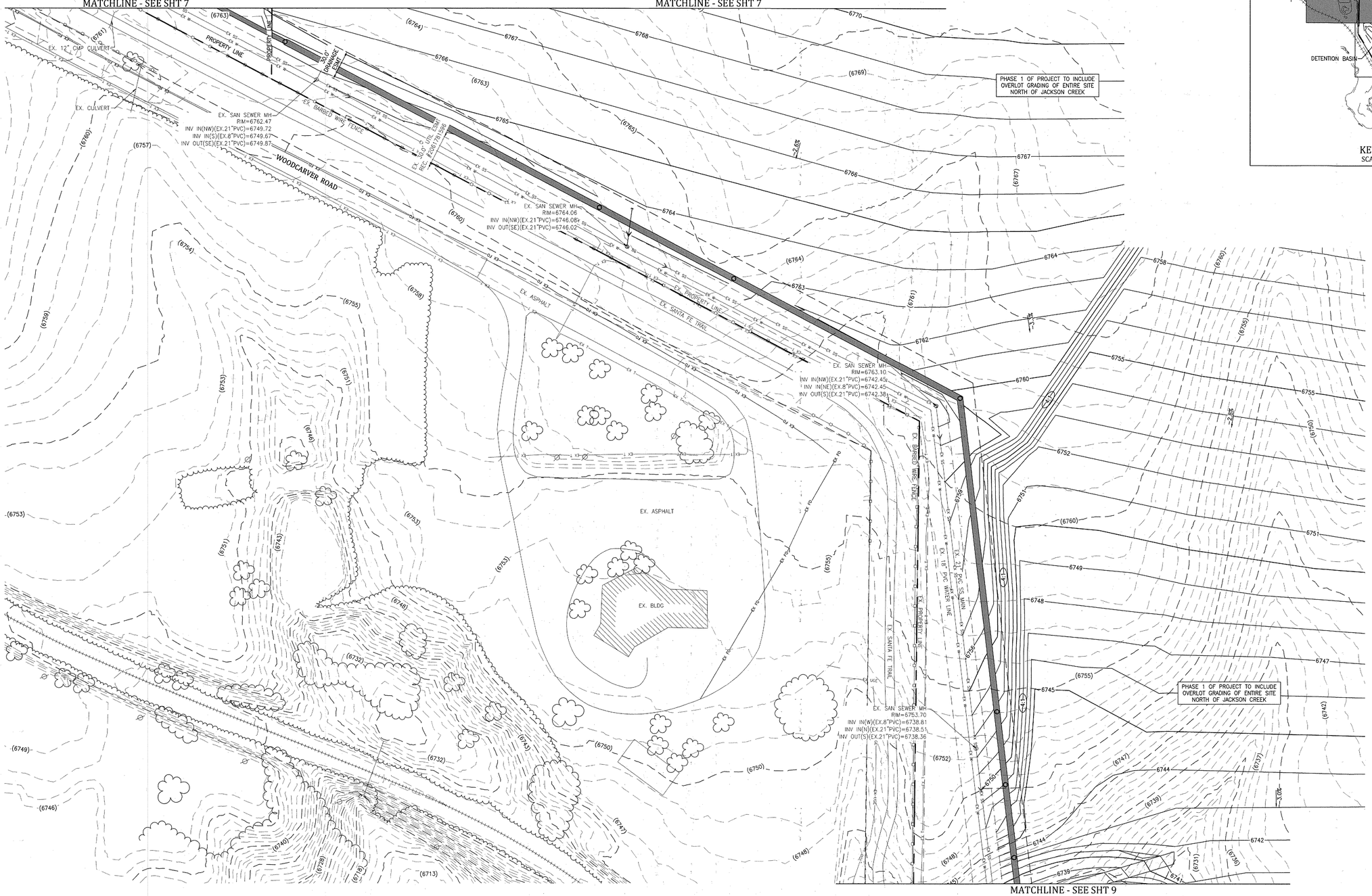
OF 13 SHEETS

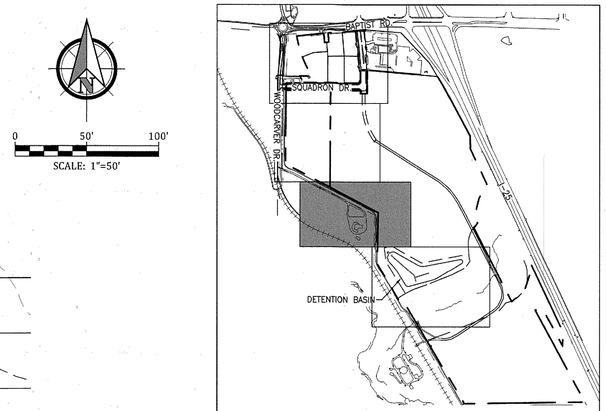
2210466039
03/09/2021

MATCHLINE - SEE SHT 7

MATCHLINE - SEE SHT 7



MATCHLINE - SEE SHT 9



KEY MAP
SCALE: NTS

SCALE: 1"=50'

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FALCON COMMERCE CENTER
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MATCHLINE - SEE SHT 8

72" RCP STORM SEWER

MAINTENANCE TRIAL

FOREBAY

TRICKLE CHANNEL

MAINTENANCE TRIAL

EX. SAN SEWER MH
RIM=6723.44
INV IN(N)(EX.21"PVC)=6707.09
INV OUT(S)(EX.21"PVC)=6707.04

EX. SANTA FE TRAIL

EX. 30.0' UTIL ESMT
REC. #2061781586

EX. 30.0' ELEC ESMT
BK.4185 PG.1077

EX. BARBED WIRE FENCE, TYP.

EX. CMP CULVERT

EX. SAN SEWER MH
RIM=6716.49
INV IN(NW)(EX.21"PVC)=6703.27
INV IN(E)(EX.8"PVC)=6703.09
INV OUT(SE)(EX.21"PVC)=6703.04

EX. 8" PVC SS MAIN
EX. 16" PVC WATER LINE

PROPERTY LINE

EX. SANTA FE TRAIL

SOUTHERN PACIFIC TRANSPORTATION COMPANY RAILROAD

FULL SPECTRUM DETENTION BASIN

TRICKLE CHANNEL

FSD OUTLET STRUCTURE

21.5' 24.00 24.00

EMERGENCY SPILLWAY

ORANGE CONSTRUCTION FENCE, DO NOT CROSS

36" STORM SEWER

EX. SAN SEWER MH
RIM=6713.51
INV IN(NW)(EX.21"PVC)=6697.83
INV IN(NE)(EX.21"PVC)=6696.36
INV OUT(SW)(EX.21"PVC)=6696.26

EX. SAN SEWER MH
RIM=6708.51
INV IN(N)(EX.21"PVC)=6694.11
INV OUT(SE)(EX.21"PVC)=6694.01

LOW TAILWATER RIPRAP BASIN, AREA=363FT²
FL=6701.20

36" STORM SEWER OUTLET
INV(36"RCP)=6702.20

EX. INV(42"CMP)=6698.68

EX. 3 X 42" CMP CULVERTS

PMJM HABITAT BUFFER

PMJM HABITAT BUFFER

ORANGE CONSTRUCTION FENCE, DO NOT CROSS

ORANGE CONSTRUCTION FENCE, DO NOT CROSS

EX. SAN SEWER MH
RIM=6722.05
INV IN(NE)(EX.18"PVC)=6715.24
INV OUT(SW)(EX.18"PVC)=6715.01

EX. 20.0' STORM ESMT
REC. #2041497

EX. SAN SEWER MH
RIM=6718.72
INV IN(NW)(EX.18"PVC)=6698.07
INV IN(NE)(EX.8"PVC)=6698.07
INV OUT(SW)(EX.18"PVC)=6698.00

JACKSON CREEK

0 50' 100'
SCALE: 1"=50'

KEY MAP
SCALE: NTS

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FALCON COMMERCE CENTER
PRELIMINARY PD SITE PLAN
PRELIMINARY GRADING PLAN
MONUMENT, COLORADO

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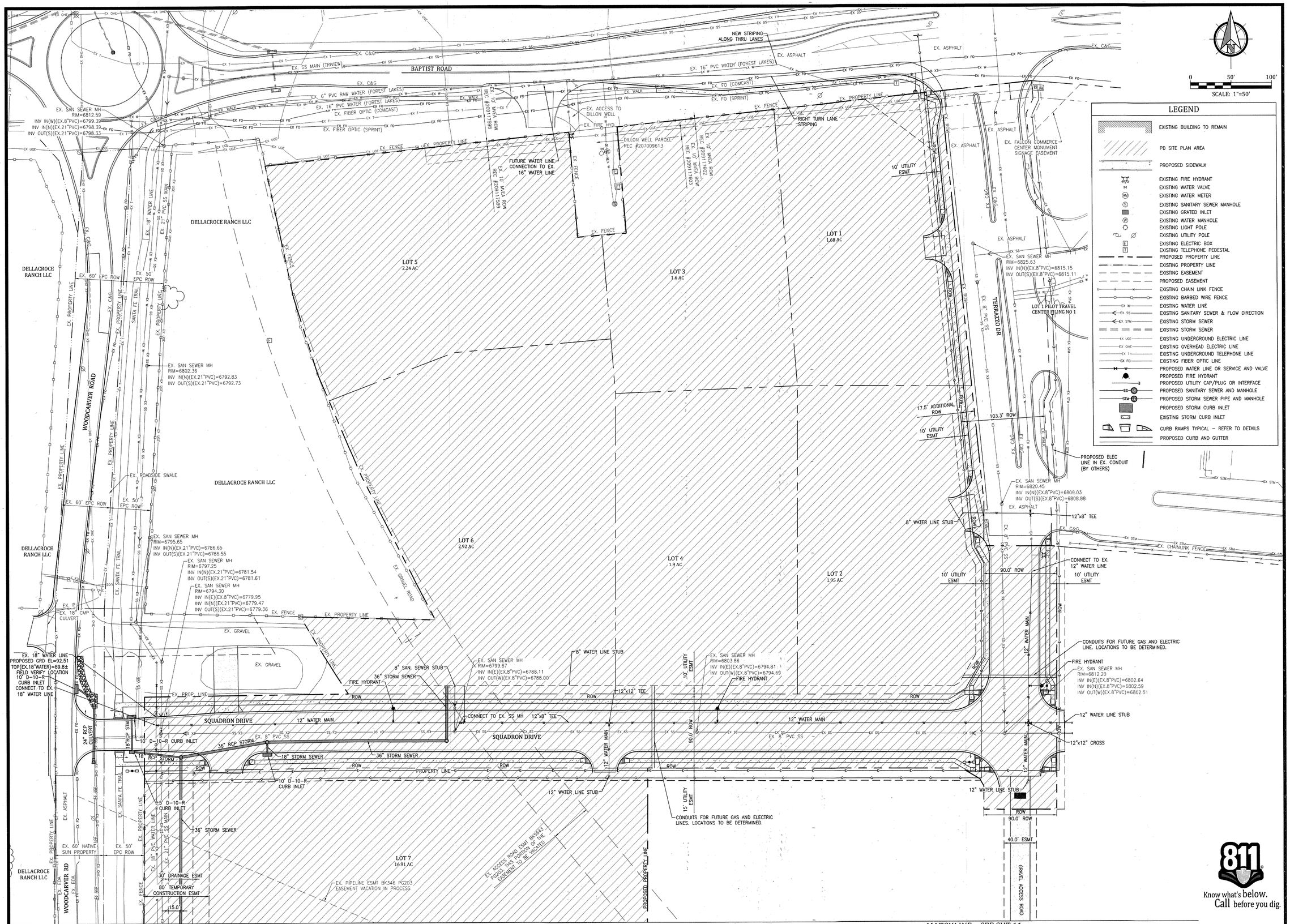
03/09/2021



LEGEND

- EXISTING BUILDING TO REMAIN
- PD SITE PLAN AREA
- PROPOSED SIDEWALK
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING SANITARY SEWER MANHOLE
- EXISTING GRATED INLET
- EXISTING WATER MANHOLE
- EXISTING LIGHT POLE
- EXISTING UTILITY POLE
- EXISTING ELECTRIC BOX
- EXISTING TELEPHONE PEDESTAL
- PROPOSED PROPERTY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- EXISTING CHAIN LINK FENCE
- EXISTING BARBED WIRE FENCE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER & FLOW DIRECTION
- EXISTING STORM SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND ELECTRIC LINE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING UNDERGROUND TELEPHONE LINE
- EXISTING FIBER OPTIC LINE
- PROPOSED WATER LINE OR SERVICE AND VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED UTILITY CAP/PLUG OR INTERFACE
- PROPOSED SANITARY SEWER AND MANHOLE
- PROPOSED STORM SEWER PIPE AND MANHOLE
- PROPOSED STORM CURB INLET
- EXISTING STORM CURB INLET
- CURB RAMPS TYPICAL – REFER TO DETAILS
- PROPOSED CURB AND GUTTER

MATCHLINE - SEE SHT 11

MATCHLINE - SEE SHT 11

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PRELIMINARY PD SITE PLAN
PRELIMINARY UTILITY PLAN
MONUMENT, COLORADO

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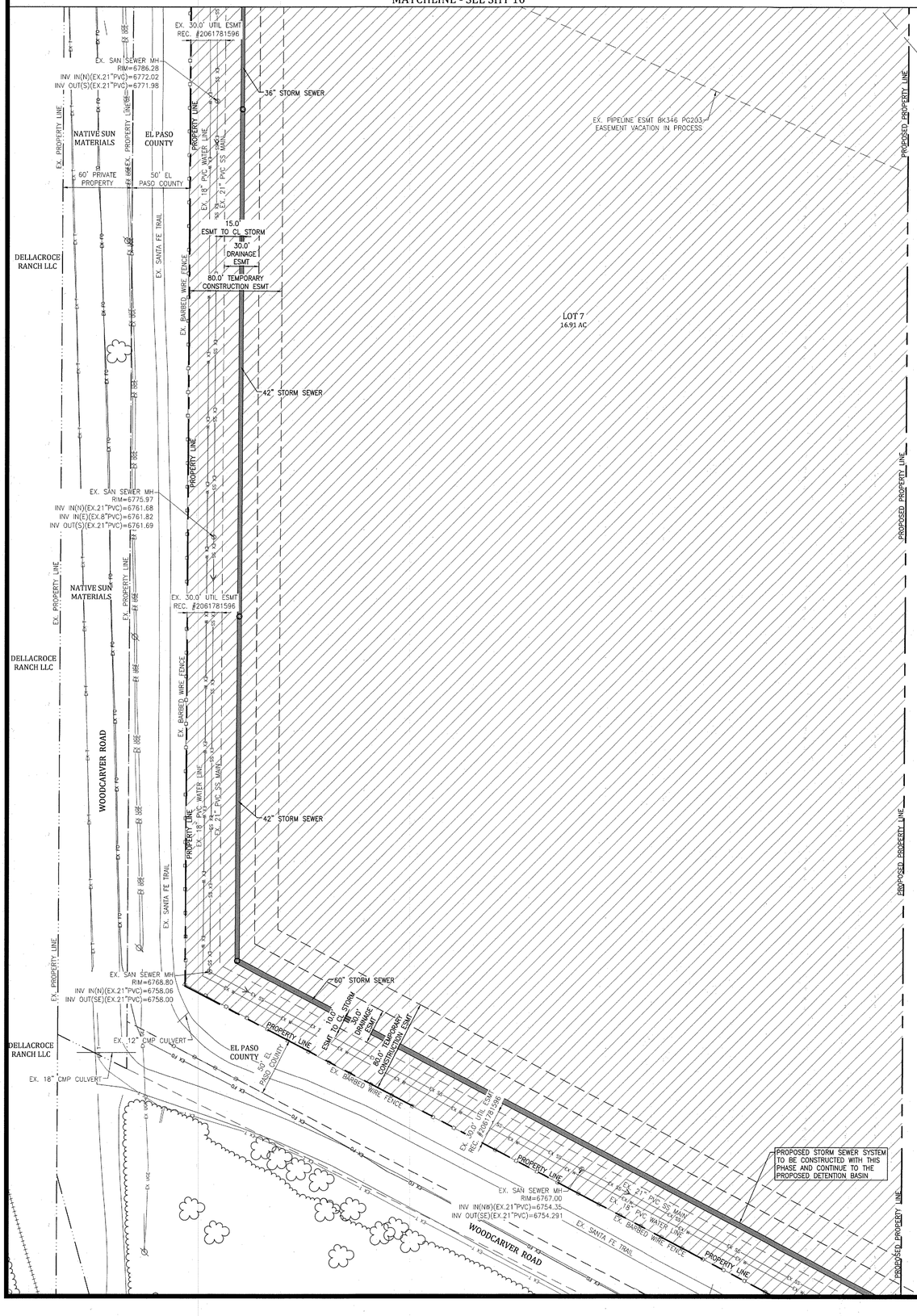
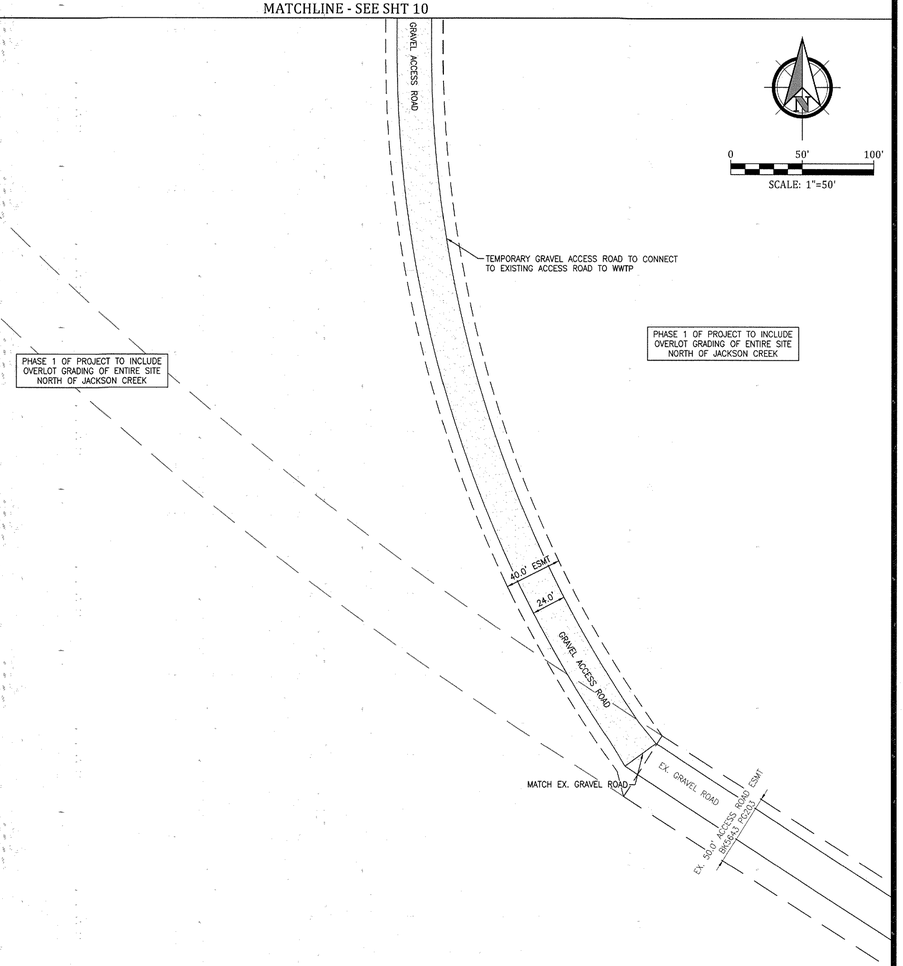
SHEET 10 OF 13 SHEETS

221046639
0310912021

MATCHLINE - SEE SHT 10

MATCHLINE - SEE SHT 10





PHASE 1 OF PROJECT TO INCLUDE OVERLOT GRADING OF ENTIRE SITE NORTH OF JACKSON CREEK

PHASE 1 OF PROJECT TO INCLUDE OVERLOT GRADING OF ENTIRE SITE NORTH OF JACKSON CREEK

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PRELIMINARY PD SITE PLAN
PRELIMINARY UTILITY PLAN
MONUMENT, COLORADO

Project No.:	19036
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SHEET
11
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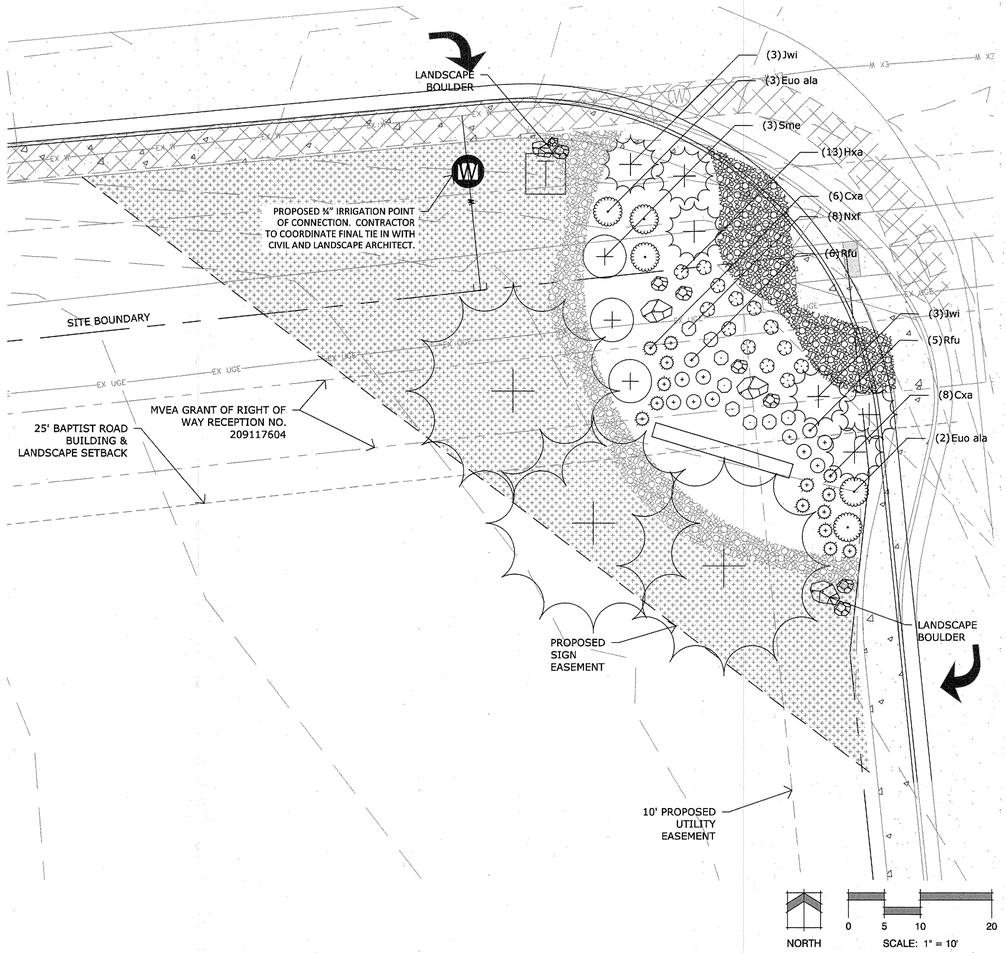
FALCON COMMERCE CENTER
TOWN OF MONUMENT, COLORADO
PHASE 1 PRELIMINARY PD SITE PLAN

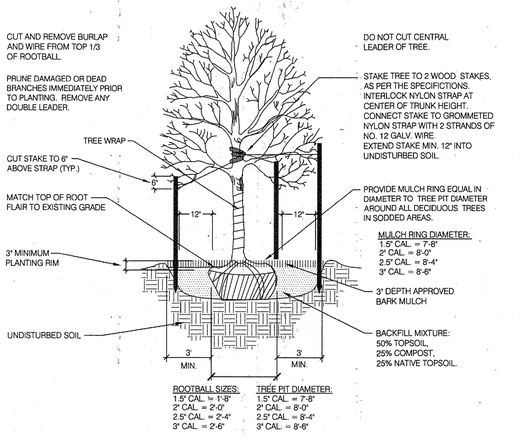


PLANT SCHEDULE

EVERGREEN TREES	CODE	QTY	BOTANICAL / COMMON NAME	HEIGHT	WIDTH	SIZE
	Ppu	3	Picea pungens / Colorado Spruce	60`	30`	8` HT
SHRUBS	**CODE**	**QTY**	**BOTANICAL / COMMON NAME**	**HEIGHT**	**WIDTH**	**SIZE**
	Euo ala	5	Euonymus alatus / Winged Euonymus	3`	3`	1 GAL
	Jwi	6	Juniperus horizontalis `Wiltonii` / Blue Rug Juniper	1`	8`	5 GAL
	Sme	3	Syringa meyeri / Korean Lilac	6`	6`	5 GAL
ANNUALS/PERENNIALS	**CODE**	**QTY**	**BOTANICAL / COMMON NAME**	**HEIGHT**	**WIDTH**	**SIZE**
	Hxa	13	Hemerocallis x `Autumn Red` / Autumn Red Daylily	3`	2`	1 GAL
	Nxf	8	Nepeta x faassenii / Catmint	2`	2`	1 GAL
	Rfu	11	Rudbeckia fulgida / Black-Eyed Susan/Coneflower	2`	2`	1 GAL
GRASSES	**CODE**	**QTY**	**BOTANICAL / COMMON NAME**	**HEIGHT**	**WIDTH**	**SIZE**
	Cxa	14	Calamagrostis x acutiflora `Karl Foerster` / Feather Reed Grass	5`	2`	1 GAL

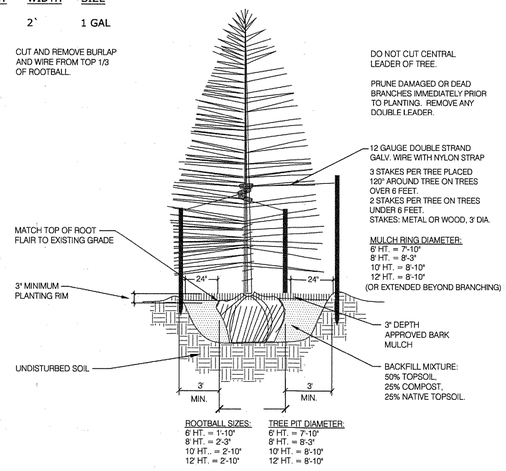
HATCH LEGEND

- Native Seed- Arkansas Valley Low Grow Mix
  - -35% Ephraim Crested Wheatgrass
  - -25% Sheep Fescue
  - -20% Perennial Rye
  - -15% Chewing Fescue
  - -10% Kentucky Bluegrass
- ¾" Blue Gray Gravel Mulch
- 2-4 Blue Grey Cobble



1 DECIDUOUS TREE PLANTING DETAIL

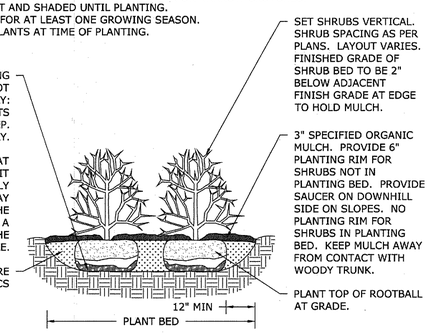
SCALE: NOT TO SCALE



2 CONIFEROUS TREE PLANTING DETAIL

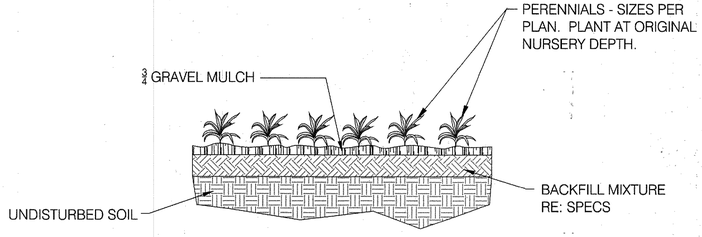
SCALE: NOT TO SCALE

NOTES:
1. PRUNE ONLY DEAD OR BROKEN BRANCHES AND WEAK OR NARROW CROTCHES.
2. KEEP PLANTS MOIST AND SHADED UNTIL PLANTING.
3. DO NOT FERTILIZE FOR AT LEAST ONE GROWING SEASON.
4. DEEP WATER ALL PLANTS AT TIME OF PLANTING.



3 SHRUB PLANTING DETAIL

SCALE: NOT TO SCALE



4 PERENNIAL / GROUNDCOVER PLANTING

SCALE: NOT TO SCALE

LANDSCAPE NOTES

1. SOIL AMENDMENT - INCORPORATE 3 CUBIC YARDS/1000 SF AREA OF "PREMIUM 3 ORGANIC COMPOST", OR APPROVED EQUAL, ON BLUEGRASS TURF AREAS. INCORPORATE 2 CUBIC YARDS/1000 SF AREA OF ORGANIC COMPOST (DECOMPOSED MANURE) TO ALL NATIVE SEED AREAS. TILL INTO TOP 8" OF SOIL. FOR PLANTING PIT AMENDMENTS, SEE LANDSCAPE DETAILS.
   RECOMMENDED SOIL AMENDMENT FOR PLANTING PITS:
   TRI-MIX III as supplied by C&C Sand
   -To be applied as backfill in planting pits
2. CONTRACTOR TO UTILIZE STOCKPILED TOPSOIL FROM GRADING OPERATION AS AVAIL. TILL INTO TOP 8" OF SOIL.-OR- TOPSOIL TO BE IMPORTED.
3. CONTRACTOR TO TEST AMENDED SOIL. FOR EACH STREET, TAKE 1 TEST IN FESCUE SOD/ALTERNATIVE TURF AREA, 1 TEST IN PLANTING BED AREA, AND 1 TEST IN SEEDED AREA, AND SUBMIT SOIL ANALYSIS TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLING LANDSCAPE.
4. SUBMIT FERTILIZER PRODUCT SHEET TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. EXAMPLES FOR SUBMITTALS ARE: FESCUE SOD FERTILIZER, LOW ALTERNATE TURF FERTILIZER, TALL NATIVE SEED MIX FERTILIZER, ETC.
5. ALL PRESERVATION AREAS CONTAINING VEGETATION DESIGNATED TO BE PRESERVED, SHALL BE FENCED OFF DURING CONSTRUCTION TO MINIMIZE DISTURBANCE IN THESE AREAS. ALL FENCING SHALL BE INSTALLED AROUND PRESERVED VEGETATION PRIOR TO ANY GRADING ON THE PROPERTY. A 4-FOOT ORANGE CONSTRUCTION SAFETY FENCE SHOULD BE USED IN THIS APPLICATION. SUBMIT PRODUCT INFO TO L.A. FOR APPROVAL PRIOR TO INSTALLATION.
6. A FULLY AUTOMATED SPRINKLER IRRIGATION SYSTEM WILL DRIP IRRIGATE ALL TREE, SHRUB, AND GROUND COVER PLANTING AREAS AND SPRAY ANY TURF. IRRIGATION PLAN WILL INCLUDE AN IRRIGATION SCHEDULE THAT NOTES APPLICATION RATES BASED ON TURF TYPE, AND NOTES RATES FOR NEWLY PLANTED PLANTS VS. ESTABLISHED PLANTS AND GENERAL RECOMMENDATIONS REGARDING SEASONAL ADJUSTMENTS (SPRING AND FALL).
7. NATIVE SEED AREAS TO USE SEED MIX SPECIFIED ON THIS SHEET. ALL SEED AREAS SHALL BE IRRIGATED UNTIL ESTABLISHMENT. SUBMIT SEED MIX PRODUCT INFORMATION TO L.A. FOR APPROVAL PRIOR TO INSTALLATION.
8. EROSION CONTROL BLANKET TO BE APPLIED ON ALL SEED AREAS WITH GREATER THAN 3:1 SLOPES. EROSION CONTROL BLANKET TO BE: S150BN WITH 6" STEEL STAKES AVAILABLE FROM NORTH AMERICAN GREEN DISTRIBUTOR, NILEXENVIRONMENTAL INC. (303)766-2000, OR APPROVED EQUAL. SUBMIT SAMPLE AND PRODUCT INFO TO LANDSCAPE ARCHITECT (L.A.) FOR APPROVAL PRIOR TO INSTALLATION. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
9. ALL SEED SHALL BE WARRANTED FOR ONE FULL YEAR AND BE IN SATISFACTORY CONDITION AT THE END OF THE WARRANTY PERIOD. NO AREA LARGER THAN 3"x3" WITHIN THE IRRIGATED SEEDING AREA, 12"x12" FOR NON-IRRIGATED SEEDING AREAS OF THIS PROJECT SHALL BE VOID OF SUBSTANTIAL GRASS 45 DAYS AFTER THE TIME OF SEEDING DURING THE GROWING SEASON.
10. ALL TREES AND SHRUBS TO RECEIVE A BACK FILL MIXTURE OF 50% IMPORTED LOAMY TOPSOIL, 25% COMPOST, AND 25% EXISTING SOIL.
11. ALL TREES TO BE STAKED WITH WOOD STAKES. FOR 3" CAL. DECIDUOUS TREES AND EVERGREEN TREES OVER 8' USE 3 WOOD STAKES (STAKE TO GROUND LEVEL). SUBMIT STAKING MATERIALS PRODUCT INFO TO L.A. FOR APPROVAL PRIOR TO INSTALLATION.
12. ALL TREES TO BE STAKED FOR A MINIMUM OF 18 MONTHS. REMOVE STAKING MATERIALS ONCE TREE IS ESTABLISHED, WHICH MAY DEPEND ON TREE SPECIES, MATURITY AND SITE CONDITIONS.
13. MINIMUM INSPECTIONS WILL INCLUDE:
    a. SELECTION OF SPECIMEN PLANT MATERIALS AT CONTRACTOR'S NURSERY OR WHOLESALER,
    b. APPROVAL OF PLANT LOCATION STAKES BEFORE PLANT MATERIALS ARE INSTALLED,
    c. 'PUNCH LIST' SITE INSPECTIONS, AND
    d. FINAL INSPECTION SITE VISIT.

    ANY ADDITIONAL VISITS CAUSED BY INCOMPLETE LANDSCAPE CONTRACTOR WORK, WILL BE CHARGED TO THE LANDSCAPE CONTRACTOR AT LANDSCAPE ARCHITECT'S HOURLY RATE.
16. CONTRACTOR TO APPLY PRE-EMERGENT HERBICIDE TO SHRUB BEDS PER MANUFACTURER'S SPECIFICATIONS. SUBMIT MANUFACTURER'S SPEC. SHEET TO L.A. FOR APPROVAL PRIOR TO APPLICATION OF HERBICIDE.
17. CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL PLANT MATERIAL SHOWN ON THIS PLAN. IF ANY DISCREPANCIES ARE FOUND BETWEEN THE LANDSCAPE PLAN AND THE PLANT SCHEDULE, THE QUANTITIES SHOWN ON THE LANDSCAPE PLAN SUPERSEDE THOSE SHOWN ON THE PLANT SCHEDULE.
18. PLANTS SHALL BE WARRANTED FOR THE DURATION OF ONE FULL YEAR AFTER THE INSTALLATION (WARRANTY SHALL COVER 100% OF THE REPLACEMENT COST).
19. SOD SHALL BE KENTUCKY BLUEGRASS BLEND. SOD SHALL BE LAID ON A FIRM BED WITH TIGHT JOINTS WITH NO VOIDS BETWEEN STRIPS. ANY MOUNDS OR DEPRESSIONS OCCURRING AFTER INSTALLATION SHALL BE CORRECTED PRIOR TO ACCEPTANCE. SOD TO BE FERTILIZED ACCORDING TO GROWERS RECOMMENDATIONS. SUBMIT PRODUCT INFORMATION TO L.A. FOR APPROVAL PRIOR TO INSTALLATION.
20. PSE: PERFORATED STEEL EDGING TO BE: ACME (14 GA. x 4" WIDE) GALVANIZED STEEL EDGING, WITH ROLLED EDGE AND GALVANIZED STEEL STAKES. AVAILABLE FROM ACME MANUFACTURING CO. IN DENVER (303)355-2344. SEE PLAN FOR LOCATIONS OF PSE. SUBMIT PRODUCT INFORMATION TO L.A. FOR APPROVAL PRIOR TO INSTALLATION.
21. ROCK MULCH TO BE: 1" BLUE GRAY GRAVEL MULCH AVAILABLE FROM C&C SAND COMPANY (719) 577-9900, OR EQUAL. GEOTEXTILE/FILTER FABRIC TO BE WEED CONTROL POLYSPUN 350, 3.5 OUNCES/SQ. YARD, OR EQUAL. PLACE FABRIC UNDER ALL ROCK MULCH AREAS. SUBMIT ROCK & FABRIC SAMPLES & PRODUCT INFORMATION TO L.A. FOR APPROVAL PRIOR TO INSTALLATION.
21. COBBLE ROCK TO BE: 2-4" BLUE GRAY COBBLAVAILABLE FROM C&C SAND COMPANY (719) 577-9900, OR EQUAL. GEOTEXTILE/FILTER FABRIC TO BE WEED CONTROL POLYSPUN 350, 3.5 OUNCES/SQ. YARD, OR EQUAL. PLACE FABRIC UNDER ALL ROCK MULCH AREAS. SUBMIT ROCK & FABRIC SAMPLES & PRODUCT INFORMATION TO L.A. FOR APPROVAL PRIOR TO INSTALLATION.

Land Planning
Landscape Architecture
Urban Design
NES
N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
Fax 719.471.0267
www.nescolorado.com

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PLANNER / LANDSCAPE ARCHITECT

IN ASSOCIATION WITH:

221046639
03109/2021

PROJECT INFO

FALCON COMMERCE CENTER PHASE 1

PRELIMINARY PD SITE PLAN

W. BAPTIST ROAD

DATE:	06.30.2020
PROJECT MGR:	J. ROMERO
PREPARED BY:	N. BROWER

SEAL

ISSUE INFO

ENTITLEMENT

DATE:	BY:	DESCRIPTION:
09.02.2020	B.I.	PER TOWN COMMENTS

ISSUE / REVISION

SHEET TITLE

ENTRY LANDSCAPE PLAN

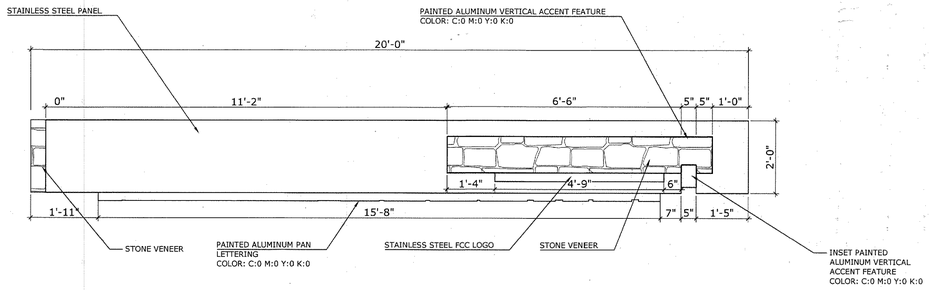
SHEET NUMBER

12 OF 13

PLAN FILE #

P:\CP Real Estate\Falcon Commerce Center\Drawings\Planning\Develop\Phase 1\Falcon Commerce Center Phase 1 Prelim Plan Signage and landscaping.dwg [24x36] 9/1/2020 5:41:57 PM bitan

FALCON COMMERCE CENTER
TOWN OF MONUMENT, COLORADO
PHASE 1 PRELIMINARY PD SITE PLAN

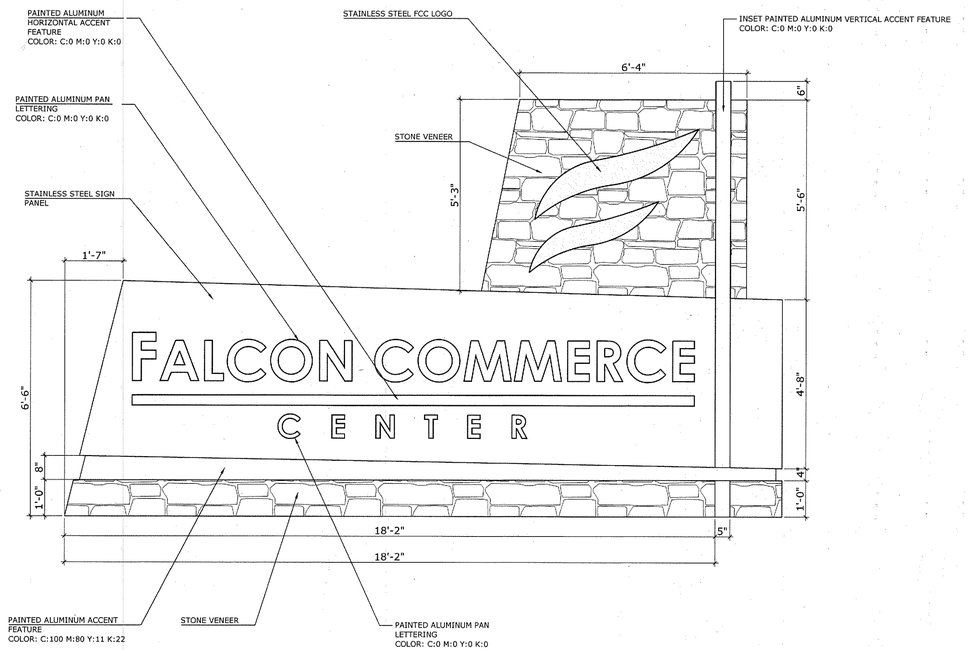


1/L1 FALCON COMMERCE CENTER (TOP VIEW)

0 1/4 1/2 1

SCALE: 1" = 1/2'

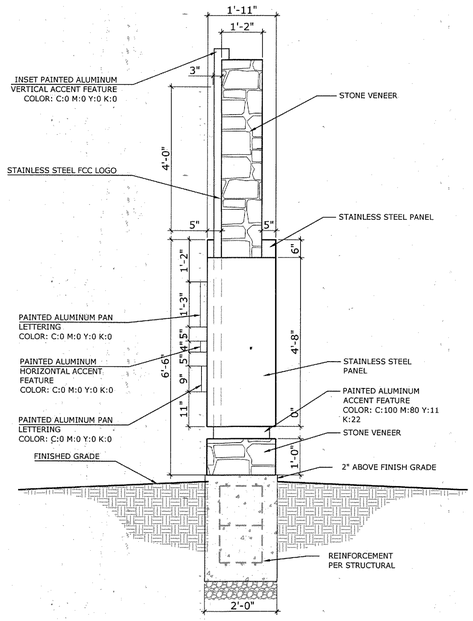
NOTES:
1. CONTRACTOR TO SELECT STONE VENEER COLOR WITH LANDSCAPE ARCHITECT AND OWNER



2/L2 FALCON COMMERCE CENTER SIGN (FRONT ELEVATION)

0 1/4 1/2 1

SCALE: 1" = 1/2'



3/L3 FALCON COMMERCE CENTER SIGN (SIDE ELEVATION)

0 1/4 1/2 1

SCALE: 1" = 1/2'

P:\CP Real Estate\Falcon Commerce Center\Drawings\Planning\Develop\Phase 1\Falcon Commerce Center Phase 1 Prelim Plan Signage and landscaping.dwg [Sign-24x36] 9/1/2020 5:44:33 PM bilon

2210466639
03/09/2021

Land Planning
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www.nescolorado.com

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PLANNER / LANDSCAPE ARCHITECT

IN ASSOCIATION WITH

FALCON COMMERCE CENTER PHASE 1

PRELIMINARY PD SITE PLAN

W. BAPTIST ROAD

PROJECT INFO

DATE: 06.30.2020
PROJECT MGR: J. ROMERO
PREPARED BY: N. BROWER

SEAL

ENTITLEMENT

ISSUE INFO

DATE:	BY:	DESCRIPTION:
09.02.2020	B.I.	PER TOWN COMMENTS

ISSUE / REVISION

SHEET TITLE

ENTRY SIGN DETAILS

SHEET NUMBER

13

13 OF 13

PLAN FILE #

Chuck Broerman
08/16/2022 10:35:56 AM
Doc $0.00 5
Rec $53.00 Pages
El Paso County, CO
222108422

FALCON COMMERCE CENTER PHASE 2

TOWN OF MONUMENT, COLORADO

PRELIMINARY PUD PLAN

A PARCEL OF LAND LOCATED IN THE EAST 1/2 OF SECTION 35 & WEST 1/2 SECTION 36, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE 6TH/ P.M. IN THE TOWN OF MONUMENT, EL PASO COUNTY, COLORADO

Signature Blocks:

OWNERSHIP CERTIFICATION:
THE UNDERSIGNED ARE ALL OF THE OWNERS OF CERTAIN LANDS KNOWN HEREIN AS FALCON COMMERCE CENTER PHASE 2 IN THE TOWN OF MONUMENT.

LEGAL DESCRIPTION ON THIS SHEET

Dan Dickinson
LANDOWNER (NOTARIZED SIGNATURE)

SIGNED THIS 2nd DAY OF AUGUST 2022

STATE OF Missouri)
COUNTY OF Jackson) SS

SIGNED THIS 2nd DAY OF August 2022 COUNTY Jackson
STATE Missouri

Christine VanDeventer
LANDOWNER (NOTARIZED SIGNATURE)

CHRISTINE VanDEVENTER
Notary Public - Notary Seal
STATE OF MISSOURI
Ray County
My Commission Expires Aug. 20, 2022
Commission # 14010442

SIGNED THIS ___ DAY OF _____, 20__.

STATE OF COLORADO)
) SS
COUNTY OF EL PASO)

SIGNED THIS ___ DAY OF ___, 20___ COUNTY_____
STATE _____

NOTARY SIGNATURE

MY COMMISSION EXPIRES

TOWN CERTIFICATION:

THE PRELIMINARY PUD PLAN FOR FALCON COMMERCE CENTER PHASE 2 WAS REVIEWED BY THE TOWN OF MONUMENT PLANNING DEPARTMENT THIS 8 DAY OF June 2022

PLANNING DIRECTOR — DATE 8-8-22

TOWN APPROVAL:

THIS PRELIMINARY PUD PLAN FOR FALCON COMMERCE CENTER PHASE 2 IS APPROVED.

SIGNED THIS 18 DAY OF July 2022

TOWN OF MONUMENT

MAYOR — DATE 8-8-22

ATTEST
TOWN CLERK — DATE 8-8-22

Legal Description Area B-C:

A TRACT OF LAND BEING A PORTION OF EAST HALF OF SECTION 35, AND A PORTION OF THE WEST HALF OF SECTION 36, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: THE EASTERLY LINE OF LOT 1, UNITED PARCEL SERVICE DISTRIBUTION CENTER FILING NO. 1, AS RECORDED UNDER RECEPTION NUMBER 221714740, RECORDS OF EL PASO COUNTY, COLORADO, BEING MONUMENTED ON THE SOUTHERLY END BY A NO. 5 REBAR AND ORANGE PLASTIC SURVEYORS CAP STAMPED "BARRON LAND PLS 38181" AND GROUND LEVEL AND AT THE NORTHERLY END BY A NO. 5 REBAR AND ORANGE PLASTIC SURVEYORS CAP STAMPED "BARRON LAND PLS 38181" AND GROUND LEVEL, ASSUMED TO BEAR N00°16'03"E A DISTANCE OF 1,347.61 FEET.

COMMENCING AT THE NORTHEAST CORNER OF LOT 1, UNITED PARCEL SERVICE DISTRIBUTION CENTER FILING NO. 1, AS RECORDED UNDER RECEPTION NUMBER 221714740, RECORDS OF EL PASO COUNTY, COLORADO; SAID POINT BEING ON THE SOUTHERLY BOUNDARY OF PARCEL A, FALCON COMMERCE CENTER FILING NO. 1, AS RECORDED UNDER RECEPTION NUMBER 220714537; SAID POINT BEING THE POINT OF BEGINNING; THENCE ON THE BOUNDARY OF SAID PARCEL A, THE FOLLOWING SIX (6) COURSES:

1. S89°49'21"E A DISTANCE OF 386.90 FEET;
2. S00°49'21"E A DISTANCE OF 20.09 FEET;
3. S89°49'21"E A DISTANCE OF 3.70 FEET;
4. S00°10'39"W A DISTANCE OF 28.55 FEET;
5. S89°49'21"E A DISTANCE OF 60.00 FEET;
6. N00°10'39"E A DISTANCE OF 313.00 FEET, TO A POINT ON THE SOUTHERLY BOUNDARY LINE OF PILOT TRAVEL CENTER FILING NO. 1, AS RECORDED UNDER RECEPTION NUMBER 217114044;

THENCE S85°12'25"E ON THE SOUTHERLY LINE OF SAID PILOT TRAVEL CENTER FILING NO. 1 A DISTANCE OF 668.73 FEET TO A POINT ON THE EASTERLY LINE OF PARCEL OF LAND DESCRIBED IN THE LAND SURVEY RECORDED UNDER RECEPTION NUMBER 217900186, THENCE ON THE BOUNDARY LINE OF SAID LAND SURVEY THE FOLLOWING NINE (9) COURSES:

1. S32°13'26"E A DISTANCE OF 125.45 FEET;
2. S28°23'02"E A DISTANCE OF 813.27 FEET;
3. S02°57'47"E A DISTANCE OF 779.97 FEET;
4. S25°27'55"E A DISTANCE OF 336.01 FEET;
5. S16°26'56"W A DISTANCE OF 28.40 FEET;
6. S31°15'21"W A DISTANCE OF 192.21 FEET;
7. S14°15'41"W A DISTANCE OF 181.10 FEET;
8. S07°38'14"E A DISTANCE OF 171.51 FEET;
9. S35°13'11"W A DISTANCE OF 84.39 FEET;

THENCE S41°49'16"W A DISTANCE OF 44.51 FEET; THENCE S07°27'46"W A DISTANCE OF 18.41 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT, HAVING A DELTA OF 09°23'30", A RADIUS OF 368.00 FEET, A DISTANCE OF 60.32 FEET TO A POINT ON CURVE; THENCE N28°17'53"W, A DISTANCE OF 317.71 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT, HAVING A DELTA OF 31°39'51", A RADIUS OF 1,306.00 FEET, A DISTANCE OF 721.98 FEET TO A POINT ON CURVE; THENCE S52°52'06"W, A DISTANCE OF 109.58 FEET; THENCE S43°08'10"W, A DISTANCE OF 89.82 FEET TO A POINT ON THE WESTERLY LINE THE LAND SURVEY AS RECORDED UNDER RECEPTION NUMBER 217900186; THENCE N02°08'52"W ON SAID WESTERLY LINE, A DISTANCE OF 752.96 FEET TO THE SOUTHEAST CORNER OF SAID LOT 1, UNITED PARCEL SERVICE DISTRIBUTION CENTER FILING NO. 1; THENCE N00°16'03"E, ON THE EASTERLY LINE OF SAID LOT 1, A DISTANCE OF 1,347.61 FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 3,173,322 SQUARE FEET OR 72.849 ACRES

Legal Description Area D:

A TRACT OF LAND BEING A PORTION OF EAST HALF OF SECTION 35, AND A PORTION OF THE WEST HALF OF SECTION 36, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE 6TH PRINCIPAL MERIDIAN COUNTY OF EL PASO, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: THAT COURSE ON THE EASTERLY LINE OF THE TRACT OF LAND AS DESCRIBED IN THE LAND SURVEY PLAT RECORDED UNDER RECEPTION NUMBER 217900186, RECORDS OF EL PASO COUNTY, COLORADO, BEING MONUMENTED ON THE NORTHERLY END BY A NO. 4 REBAR AND YELLOW PLASTIC SURVEYORS CAP STAMPED "KMC & ASSOC PLS 4842" 1' BELOW GROUND SURFACE AND AT THE SOUTHERLY END BY A NO. 4 REBAR AND YELLOW PLASTIC SURVEYORS CAP STAMPED "KMC & ASSOC PLS 4842" 6' BELOW GROUND SURFACE, ASSUMED TO BEAR S28°41'19"E A DISTANCE OF 1,446.99 FEET.

COMMENCING AT THE NORTHERLY END OF THAT COURSE ON THE EASTERLY BOUNDARY LINE OF THE LAND SURVEY RECORDED UNDER RECEPTION NUMBER 217900186 WHICH BEARS S28°41'19"E A DISTANCE OF 1,446.99 FEET BEING THE POINT OF BEGINNING; THENCE ON THE BOUNDARY OF SAID LAND SURVEY THE FOLLOWING FIVE (5) COURSES:

1. S28°41'19"E A DISTANCE OF 1,446.99 FEET;
2. S89°08'35"W A DISTANCE OF 1,837.54 FEET;
3. S09°20'27"W A DISTANCE OF 47.40 FEET TO A POINT ON CURVE;
4. ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS S62°30'36"W, HAVING A DELTA OF 03°23'44", A RADIUS OF 2,060.08 FEET, A DISTANCE OF 122.08 FEET TO A POINT OF TANGENT;
5. N31°03'05"W A DISTANCE OF 721.21 FEET;

THENCE N58°57'47"E, A DISTANCE OF 165.96 FEET; THENCE N70°27'12"E, A DISTANCE OF 549.57 FEET; THENCE N55°50'52"E, A DISTANCE OF 221.79 FEET; THENCE N45°09'02"E, A DISTANCE OF 262.25 FEET; THENCE N42°29'42"E, A DISTANCE OF 109.28 FEET; TO A POINT ON THE EASTERLY LINE OF SAID LAND SURVEY; THENCE N48°49'31"E ON SAID EASTERLY LINE, A DISTANCE OF 201.02 FEET; THENCE S35°19'12"E, ON SAID EASTERLY LINE, A DISTANCE OF 100.06 FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 1,871,136 SQUARE FEET OR 42.956 ACRES

Legal Description Area F:

TWO TRACTS OF LAND BEING A PORTION OF SOUTHEAST QUARTER OF SECTION 35, AND A PORTION OF THE SOUTHWEST QUARTER OF SECTION 36, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: THAT COURSE ON THE NORTHERLY LINE OF PARCEL B, FALCON COMMERCE CENTER FILING NO. 1, AS RECORDED UNDER RECEPTION NUMBER 220714537, RECORDS OF EL PASO COUNTY, COLORADO, THAT IS PLATTED TO BEAR N75°40'22"E, A DISTANCE OF 103.34 FEET, BEING MONUMENTED ON EACH END BY A NO. 5 REBAR AND YELLOW PLASTIC CAP STAMPED "EDWARD-JAMES PLS 23195" FOUND A GROUND LEVEL.

AREA F-1

COMMENCING AT THE NORTHWEST CORNER OF PARCEL B, FALCON COMMERCE CENTER FILING NO. 1, AS RECORDED UNDER RECEPTION NUMBER 220714537, RECORDS OF EL PASO COUNTY, COLORADO; SAID POINT BEING THE POINT OF BEGINNING; THENCE ON THE BOUNDARY OF SAID PARCEL B, THE FOLLOWING THIRTEEN (13) COURSES:

1. S06°48'01"E, A DISTANCE OF 191.24 FEET;
2. S31°14'03"E, A DISTANCE OF 516.18 FEET;
3. N62°43'55"E, A DISTANCE OF 117.43 FEET;
4. N70°36'00"E, A DISTANCE OF 226.38 FEET;
5. N68°07'52"E, A DISTANCE OF 243.28 FEET;
6. N68°02'10"E, A DISTANCE OF 125.92 FEET;
7. N61°19'43"E, A DISTANCE OF 180.23 FEET;
8. N51°27'02"E, A DISTANCE OF 31.79 FEET;
9. N34°37'07"E, A DISTANCE OF 97.11 FEET;
10. N17°16'06"W, A DISTANCE OF 22.18 FEET;
11. N13°31'02"W, A DISTANCE OF 25.70 FEET;
12. N02°49'06"W, A DISTANCE OF 23.69 FEET;
13. N06°44'37"W, A DISTANCE OF 26.31 FEET;

THENCE N69°32'53"W, A DISTANCE OF 123.58 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT, HAVING A DELTA OF 30°00'42", A RADIUS OF 368.00 FEET, A DISTANCE OF 192.76 FEET TO A POINT OF TANGENT; THENCE N27°27'46"E, A DISTANCE OF 18.41 FEET; THENCE N41°49'16"E, A DISTANCE OF 44.51 FEET TO A POINT ON THE EASTERLY BOUNDARY OF THE TRACT OF LAND AS DESCRIBED IN THE LAND SURVEY PLAT RECORDED UNDER RECEPTION NUMBER 217900186; THENCE S07°33'52"E ON SAID EASTERLY A DISTANCE OF 1,144.59 FEET; THENCE S42°39'40"W, A DISTANCE OF 169.28 FEET; THENCE S46°06'12"W, A DISTANCE OF 202.29 FEET; THENCE S55°50'52"W, A DISTANCE OF 221.79 FEET; THENCE S70°27'12"W A DISTANCE OF 549.57 FEET; THENCE S58°57'47"W A DISTANCE OF 165.96 FEET TO A POINT ON THE WESTERLY LINE OF THE TRACT OF LAND AS DESCRIBED IN THE LAND SURVEY PLAT RECORDED UNDER RECEPTION NUMBER 217900186; THENCE ON SAID WESTERLY LINE THE FOLLOWING FOUR (4) COURSES:

1. N31°19'25"W, A DISTANCE OF 870.53 FEET;
2. S89°41'13"W, A DISTANCE OF 52.97 FEET;
3. N01°32'25"W, A DISTANCE OF 700.08 FEET;
4. N00°41'45"E, A DISTANCE OF 216.67 FEET;

THENCE N89°09'27"E, A DISTANCE OF 33.90 FEET TO THE POINT OF BEGINNING
CONTAINING A CALCULATED AREA OF 1,266,007 SQUARE FEET OR 29.326 ACRES.

AREA F-2

COMMENCING AT THE NORTHWEST CORNER OF PARCEL B, FALCON COMMERCE CENTER FILING NO. 1, AS RECORDED UNDER RECEPTION NUMBER 220714537, RECORDS OF EL PASO COUNTY, COLORADO; THENCE S67°50'32"E, A DISTANCE OF 2,272.08 FEET TO THE NORTHERLY END OF THAT COURSE ON THE EASTERLY BOUNDARY LINE OF THE LAND SURVEY RECORDED UNDER RECEPTION NUMBER 217900186 WHICH BEARS S26°41'19"E, A DISTANCE OF 1,446.99 FEET; BEING THE POINT OF BEGINNING; THENCE ON THE BOUNDARY OF SAID LAND SURVEY THE FOLLOWING SEVEN (7) COURSES:

1. N35°13'12"W, A DISTANCE OF 300.08 FEET;
2. N33°26'04"E, A DISTANCE OF 65.68 FEET;
3. N18°07'56"E, A DISTANCE OF 150.56 FEET;
4. N05°56'06"E, A DISTANCE OF 155.55 FEET;
5. S25°28'08"E, A DISTANCE OF 1,055.57 FEET;
6. S20°17'56"W, A DISTANCE OF 187.96 FEET;
7. N28°42'05"W, A DISTANCE OF 956.05 FEET;
8. S68°18'39"W, A DISTANCE OF 113.17 FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 165,936 SQUARE FEET OR 3.809 ACRES.

General Notes:

1. No uses shall be permitted that would generate toxic materials or waste that exceed federal, state and local regulations.
2. Water and wastewater will be provided and maintained by the Forest Lakes Metropolitan District.
3. Falcon Commerce Center Phase 2 is expected and intended to be a phased development, with project improvements and development of parcels occurring over time. Appropriate levels of improvements shall be completed to serve each phase of the project (as determined by the Town of Monument staff).
4. The Final PUD Plan for individual uses/lots will determine final lot size, configuration, buildings and parking area layouts and will include detailed grading, utility, landscape, irrigation, elevations, general hours of operation, and photometric plans and their detail sheets.
5. All Final Plats shall comply with Section 18.02.330, Land Dedication Standards, of the Town of Monument Municipal Code (2021) by either the dedication of park land or by payment of fees in lieu of park land dedication. The Board of Trustees shall determine the requirement with each final plat filing.
6. The Pinon Pines Metropolitan District No. 3 or Forest Lakes Metropolitan District will act as the Design Review Board for building architecture and landscape improvements. The Pinon Pines Metropolitan District No. 3 and Forest Lakes Metropolitan District will maintain all entry signs.
7. A noise study will be required at the Final PUD Plan submittal for any residential use.
8. FLOODPLAIN STATEMENT A portion of this preliminary PUD plan area, adjacent to Jackson Creek, is mapped within Zone AE of the FEMA Floodplain Map No. 08041C0286G, dated December 7, 2018. The remainder of the preliminary PUD plan area is within Zone X, which is determined to be outside the 500-year floodplain. No development is proposed/shown within the floodplain.
9. NOTICE: This property may be impacted by noise and other similar sensory effects of flight caused by aircraft both in the United States Air Force Academy's Airmanship Program and during special events. This notice shall remain in effect until the Air Force Academy shall cease to be used for flight training purposes, or until all airports on the Air Force Academy shall cease to be actively used. This notice shall run in perpetuity with the land.
10. A private avigation easement acknowledging the USAFA airmanship program will be established prior to recordation of the final subdivision plat(s) for this development.
11. Falcon Commerce Center Phase 2 is subject to the declarations of Covenants, Conditions, Restrictions and Easements (CC&RS) recorded on August 31st, 2017. These reference Design and Development Guidelines dated August 1st, 2017 and amended October 1, 2021, which include specifications relating to site design, lighting design, sign design, landscape design and architectural design.
12. The Falcon Commerce Center Design Review Board and Forest Lakes Metropolitan District will enforce the design guidelines, provide design review services and exercise the functions of the design review board for Falcon Commerce Center Phase 2.
13. Parking will conform to the standards outlined in the Town of Monument Municipal Code appropriate to proposed use.
14. Cross-access agreements will need to be put in place when required.
15. Sign easements or tracts will be provided for development, monument, and entry signs.

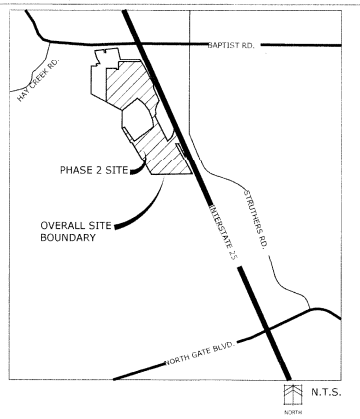
Land Use Chart:

Area Information Area	Acres	Proposed Use	Non-Residential Max SF	Non-Residential = Gross FAR	Residential Max Units	Residential Max Density	Max Height
Area B	41.96	Civic/Commercial/Institutional/ Medical/Office	275,000	≤0.15			70'
Area C	25.59	Civic/Industrial/Institutional/ Medical/Office/Warehouse Distribution	300,000	≤0.3			70'
Area D	42.95	Civic/Industrial/Institutional/ Warehouse Distribution / Residential	270,000	≤0.15	500	12 du/ac	70'
Area F	32.72	Open Space, Trail					
ROW	5.29	Vehicular/Pedestrian Circulation					
TOTAL	**148.51**		**845,000**		**500**		

The actual floor area/number of units and distribution among areas will be determined at the Final PUD Plan and Final Plat stage of review and can change between areas up to total maximum allowed for Phase 2.

Area D will be either non-residential or residential, not a combination of both

Vicinity Map



Site Data:

Existing Zoning:	PUD (Ord.# 20-2020)
Sketch Plan:	Falcon Commerce Sketch Plan (Ord.# 16-2020)
Existing Use:	Vacant
Proposed Use:	Reference Land Use Chart on sheet 1
Permitted Maximum Building Height:	100 Ft.
Proposed Maximum Building Height:	70 Ft.
Development Schedule:	2022
Total Acres:	148.519 Acres
Zoning Standards & Dimensions:	Reference sheet 2

Project Team:

Owner:	Forest Lakes , LLC 1111 Main St. Suite 1600 Kansas City., MO, 64105
Plan Preparer/ Land Planner:	N.E.S. Inc. 619 N. Cascade Avenue, Suite 200 Colorado Springs, CO 80903 (719) 471-0073
Engineer:	Kiowa Engineering Corporation 7175 West Jefferson Ave, Suite 2200 Lakewood, CO, 80235
Surveyor:	Edward-James Surveying, Inc. 926 Elkton Dr, Colorado Springs, CO, 80907

SHEET INDEX:

1 OF 5: Cover Sheet
2 OF 5: Zoning Regulations & Permitted Uses
3 OF 5: PUD Plan
4 OF 5: PUD Plan
5 OF 5: Preliminary Utility Plan

NES
N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
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Fax 719.471.0267
www.nescolorado.com
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PLANNER / LANDSCAPE ARCHITECT

ES ASSOCIATION WITH

FALCON COMMERCE CENTER PHASE 2

PRELIMINARY PUD PLAN

W. BAPTIST ROAD

PROJECT INFO

DATE: 03.31.2022
PROJECT MGR: A. BARLOW
PREPARED BY: B. ITEN / T. KNAB

SUBMIT

ENTITLEMENT

ISSUE INFO

DATE:	BY:	DESCRIPTION:
05.17.2022	BI	PER TOWN COMMENTS

ISSUE / REVISION

SHEET TITLE

COVER SHEET

SHEET NUMBER

1

1 OF 5

PLAN SIZE: 24

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Zoning Regulations & Development Guidelines:

Zoning Regulations:

A. Adoption/Authorization. The Board of Trustees has adopted the Preliminary PUD Plan and zoning regulations for Falcon Commerce Center Phase 2 pursuant to Chapter 18 of the Monument Municipal Code after appropriate public notice and hearing.

B. Applicability. The provisions of this Preliminary PUD Plan and zoning regulations shall run with the land and bind all landowners of record, their successors, heirs, or assigns of the land as approved by the Monument Board of Trustees.

C. Maximum level of development. The maximum level of development within the established use areas is the maximum allowed for platting development. The actual floor area/number of units and distribution among areas will be determined at the Final PUD Plan and Final Plat stage of review based upon environmental constraints, utility and street capacity, compatibility with surrounding land uses, and other relevant factors.

D. Relationship to Town regulations. The provisions of the Preliminary PUD Plan and these zoning regulations shall prevail and govern this planned unit development.

E. Definitions. The standard definitions found in the Monument Municipal Code Chapter 18.07 shall apply to this planned unit development, except as modified or otherwise defined in the Development Guidelines herein.

F. Overall Project Standards. The Falcon Commerce Center Phase 1 Planned Development (PD) Zoning and Sketch PD Plan approved in August 2020 for planned mixed-use development with a variety of civic, commercial, industrial, institutional, medical, office, residential, warehouse and distribution, and open space uses provide the zoning, land use, and development parameters for this Preliminary PUD Plan. The Falcon Commerce Center Phase 2 Preliminary PUD Plan further refines and defines the zoning regulations, permitted land uses, and development standards for the remaining Phase 2 portion of the property.

G. Severability of Provisions. In the event that any provisions hereof shall be determined to be illegal or void by the final order of any court of competent jurisdiction, the remaining provisions shall remain in full force and effect.

Development Guidelines:

1. Project Description: Falcon Commerce Center Phase 2 is a planned mixed-use development with a variety of civic, commercial, industrial, institutional, medical, office, residential, warehouse and distribution, and open space uses on 148.5 acres of land located west of I-25 and south of Baptist Road in the Town of Monument.
2. Allowed Uses.
   a. Permitted Uses: The permitted uses for the Falcon Commerce Center Phase 2 Preliminary PUD Plan are identified on the Permitted Use table on this Preliminary PUD Plan.
   b. Temporary Uses. Temporary uses shall be subject to the provisions of section 18.03.350 of the Town's Municipal Code, as amended.
   c. Accessory Structures. Accessory Structures must comply with development standard in Item (6) of these guidelines and shall be subject to the provisions of section 18.03.340 of the Town's Municipal Code, as amended.
3. Development Standards.
   a. Maximum Building Height: Seventy (70) feet
   b. Minimum Building Setbacks:
   i. Interstate 25: Fifty (50) foot
   ii. Santa Fe Trail: Twenty (20) foot
   iii. Terrazzo Drive: Twenty (20) Foot
   iv. Internal Lot Lines: The setbacks for individual lots will be determined with the Final PUD Plans.
   c. Maximum Lot Coverage (subject to the lot coverage definition set out in this Preliminary PUD Plan): Forty (40) percent of lot area for all non-residential and high-density residential uses on a single lot. The lot coverage for residential uses where the units are on individual lots will be determined with the Final PUD Plan.
   d. Maximum Industrial Floorspace: 1,125,000 square feet.
   e. Maximum Industrial Building Size: 250,000 square feet.
   f. Lot Size: The lot configuration on this Preliminary PUD Plan is illustrative only. The Final PUD Plans and Final Plats will establish the final lot configuration and lot sizes.
   g. Parking: The off-street parking standards set out in Table 5.1 of Section 18.05.215 of the Monument Municipal Code, as amended, shall apply to this planned unit development. All parking spaces and handicapped spaces and aisles are to be striped to Town of Monument standards. The surface treatment of all parking areas will be asphalt or concrete.
4. Design Standards: The Declarations of Covenants, Conditions, Restrictions and Easements (CC&Rs) for Falcon Commence Center were recorded on August 31st, 2017. These reference Design and Development Guidelines dated August 1st, 2017 (subsequently updated October 1, 2021), which include specifications relating to site design, lighting design, sign design, landscape design and architectural design. Through the Pinon Pines Metropolitan District No. 3 or Forest Lakes Metropolitan District, the Falcon Commerce Center Design Review Board will enforce the CC&Rs, provide design review services, and enforce maintenance standards for Falcon Commence Center.
   a. Architectural and site design standards:
   i. Building Elevations: Building elevations must provide an overall balance of architectural composition form and detail on all four sides to reduce building mass. Large, flat, unarticulated surfaces are not encouraged. Changes in vertical or horizontal plane, roof design, architectural elements, and changes in materials and color application are acceptable means of reducing mass.
   ii. Building Design: Four-sided/360-degree architectural treatment is encouraged. External details in building facades, entries, stairways, retaining walls and other features provide visual interests, enrichment, and texture to buildings.
   iii. Rooftop Forms: Rooftop forms should be broken to create variety in the roof-scape, avoiding singular, large or continuous roof lines or planes.
   iv. Building Materials: The materials of Falcon Commerce Center emphasize natural, earthen materials manufactured in units measurable in human proportions. Exterior materials should be aesthetically pleasing, of a high quality and durable. Visual continuity is desired throughout the development. Metal panel buildings are prohibited in Falcon Commerce Center, however, metal accents, awnings, etc... are allowed subject to Design Review Board approval.
   v. Material Colors: The colors of Falcon Commerce Center are centered on the muted and weathered colors found in the high plains environment, typically saturated by grey. Bright colors, while allowed, should be limited in area and application, and should be used to access elements such as architectural details, door and window frames, patterns and accessory elements.
   vi. Lighting: All free-standing lighting shall be similar in design style, form, and color while reflecting the architectural style and character of the building and the overall design theme of Falcon Commerce Center. Lighting shall comply with the standards of the Town Code and Falcon Commerce Center Design Guidelines. Exterior lighting may not include unshielded building mounted lighting or neon or gas lighting on buildings.
   vii. Signs: Signs should be designed in a comprehensive manner which is compatible with the overall site landscape and architectural design of Falcon Commerce Center. All permanent signs for any project are intended to have an integrated theme related to the architectural character of the building. Flashing, neon, moving or animated signs are not permitted. All signs should comply with applicable sign requirements of Chapter 18.06 of the Town's Municipal Code, as amended. Town sign permits are required, and review and approval by the Design Review Board is necessary prior to the installation/construction of any permanent or temporary signage.
   viii. Screening:
      - Service areas should be visually unobtrusive and should be integrated into the site design and building architecture. Service entrances, loading docks/areas, waste disposable areas, utility equipment and similar components should be oriented away from streets, open space, view corridors, primary building entrances and adjacent buildings, to the extent the site allows, or otherwise adequately screened.
      - All ground mounted or rooftop equipment, storage or trash enclosures should be screened, including, but not limited to, air conditioning, heating or ventilating equipment, trash dumpsters, air compressors, emergency generators and similar equipment. Screening should extend to the top of any such equipment.
   b. Landscape Standards: All Final PUD Plan submittals within Falcon Commence Center Phase 2 shall include a landscape plan and irrigation plan that conforms to the minimum specifications of the Design and Development Guidelines and requires review by the Design Review Board. Notwithstanding anything contained herein to the contrary, in the interest of water conservation, Xeriscape landscape design is strongly encouraged.
   i. Landscape Setbacks:
      - Interstate 25: Twenty-five (25) foot.
      - Terrazzo Drive: Twenty (20) foot.
      - South boundary: Twenty-five (25) foot if Area D is developed for non-residential uses; Fifty (50) foot if Area D is developed for residential.
   ii. Right of Way Landscaping: Right of way landscaping at Falcon Commerce Center should present a visually cohesive open space system. Similar landscaping treatments should be used at all entrances and intersections. Plant materials, rock mulching, massing, spacing, height, and characteristics should reinforce the hierarchy of roadways.
      - Collector/Arterial Streets: 20' minimum landscape setback required. One (1) tree per 20 linear feet of the right of way length. No ornamental trees are to be placed in this category of right of way. Forty percent (40%) of the trees in this category should be a large evergreen species.
      - Minor Arterials or Non-Arterial Streets: 10' minimum landscape setback required. One (1) tree per 30 feet of linear feet of the right of way length.
   iii. Entryway Landscaping: Additional focus and plant materials should be placed at the entry-ways of developments. Focused design in these areas should create a sense of arrival and placement.
   iv. Parking Lot Landscaping: Two thirds (2/3) of any parking lot fronting a right of way or shared property boundary is to be screened by 3-foot height plant materials. Thirty percent (30%) of the screening shall be evergreen or extended seasonal value substitute.
   v. Building Site and Foundation Landscaping: Landscaping shall be provided at the perimeter of buildings in a manner to identify, enhance and soften building entrances, and to accentuate building architecture.
   vi. Landscape Buffers and Screening:
      - Buffers: Landscape buffers are required between non-residential and residential uses to soften and filter the varying uses. These buffers are to be a minimum of 15' in width unless approved otherwise by the Design Review Board. When a buffer is required, 1 tree per 30 linear feet of the buffer length is to be provided. Fifty percent (50%) of the trees in the buffer are to be an evergreen species.
      - Screening & Screen Walls: Landscape screening shall be provided for all trash enclosures, mechanical equipment and loading areas. Screening of these areas should include some variety of upright planting materials and/or ornamental tree plantings that visually hide the noted improvements. The use of walls and fences is a requirement for any improvements over 4 feet in height and is to be in conjunction with all required screening planting. Screen walls may be used in conjunction with landscape berms, and the combined height will vary depending on what trying to shield, but generally eight (8') feet tall. For screen walls, the Falcon Commerce Center park standard is a stone veneer over block wall.
5. Definitions: The following definitions modify the standard definitions in Chapter 18.07 the Monument Municipal Code and shall apply to this planned unit development:
   a. LOT COVERAGE: The percentage of the lot area that may be covered by all of the footprints of the buildings and structures on a lot including detached garages, carports, sheds, gazebos, covered patios and decks. Driveways, dock areas, surface parking, uncovered patios and decks, and other impervious surfaces are not included.
6. Industrial uses: The following standards modify and supersede the Industrial Uses standards in Chapter 18.04.160 of the Monument Municipal Code, as amended, and shall govern this planned unit development:
   a. Buffers:
   i. Any structure containing an industrial use shall be located a minimum of five hundred (500) feet from the primary boundary of any residential use or zone district in existence prior to the approval of the Preliminary PUD Plan.
   ii. Landscape buffer requirements between industrial and residential uses or zone districts is set out in 4.b.vi above.
   iii. Screening. Screening requirements are set out in 4.a.viii and 4.b.vi above.
   b. Enclosure. Every industrial use, unless expressly exempted by the Board of Trustees, shall be operated in its entirety within a completely enclosed structure, except associated truck/vehicle loading and parking.
   c. Outdoor storage. Outdoor storage shall be behind any building setback line, screened from view from adjacent properties and abutting public streets in accordance with the screening requirements set out in 4.b.vi above.
   d. Building Design. One "cross-dock" capable building is within Falcon Commerce Center Phase 2 PUD.
   e. Truck / Trailer Parking. Truck/Trailer is only permitted in designated areas, to be further detailed on the Final PUD Plans. Any future Code restrictions on Truck/Trailer parking will not apply to this PUD.
   f. External Effects.
   i. Noise generated on the property shall not exceed eighty (80) dB between 6:00 a.m. and 6:00 p.m. and seventy-five (75) dB between 6:00 p.m. and 6:00 a.m. Noise generated on the property shall not exceed the above levels at the perimeter of the property.
   ii. The industrial use shall comply with all applicable federal, state and local regulations concerning the vibration, material handling and waste disposal, radioactive material, water pollution, air pollution, and other emissions.

Permitted Uses:

Permitted Uses	
Automotive repair and service facilities	Motor freight terminal and contractor yard for vehicles, equipment, materials and/or supplies
Automotive sales and rental facilities	Multi-family residential
Bottling and food processing	Offices (e.g. corporate, professional, business, commercial, medical, government offices and office showrooms
Clinics	Outdoor storage (as restricted pursuant to this article)
Community centers	Parking lots/structures, garages/transit terminals, park & ride
Community recreational facilities	Personal service establishments
Conference centers	Places of public assembly, entertainment and recreation
Convenience stores, including retail sale of gasoline	Public and private schools, colleges, universities and institutes
Drug stores	Public buildings, including libraries
Feed stores and lumber yards	Public lodging facilities, conference centers
Fences, golf courses, parks, open spaces, and lakes, parking areas, roadways, bike paths, pedestrian and equestrian trails	Public or private membership clubs and health clubs
Financial institutions	Religious facilities and institutions
Heliports	Repair, rental and servicing
Hospitals, nursing and convalescent homes, and other extended care facilities and clinics	Research facilities and laboratories
Industrial supply facilities	Restaurants, lounges and fast food establishments
Laundries and dry-cleaning establishments	Retail stores, sales and display rooms and shops, and retail uses ancillary to and associated with any permitted use
Liquor stores	Sale at wholesale or storage of wholesale items
Manufacturing, processing, fabrication and assembly	Service-related businesses
Mortuaries	Warehousing and distribution, including "mini storage" units
Conditional Uses	
Childcare centers	Electrical substations
Fire and police stations	Veterinary hospitals and boarding kennels
Accessory Uses	
Utility and communication distribution lines	Parking areas
Roadways, bike paths, pedestrian and equestrian trails	Storm drainage facilities
Incidental only to a permitted use, any use may be operated as an accessory use if it complies with the following conditions: • Is clearly incidental and customary to and commonly associated with the operation of the permitted use; • Is operated and maintained under the same ownership or lessees or concessionaires thereof, and on the same site as the permitted use.	
Temporary Uses	
Sales and information units	Construction offices, construction material processing and storage

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903

Tel. 719.471.0073
Fax 719.471.0267

www.nescolorado.com

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PLANNER / LANDSCAPE ARCHITECT

IN ASSOCIATION WITH

FALCON COMMERCE CENTER PHASE 2

PRELIMINARY PUD PLAN

W. BAPTIST ROAD

PROJECT INFO

DATE: 03.31.2022
PROJECT MGR: A. BARLOW
PREPARED BY: B. ITEN / T. KNAB

STAMP

ISSUE INFO

ENTITLEMENT

DATE:	BY:	DESCRIPTION:
05.17.2022	BI	PER TOWN COMMENTS

ISSUE / REVISION

SHEET TITLE

ZONING REGULATIONS & PERMITTED USES

SHEET NUMBER

2

2 OF 5

PLAN FILE #

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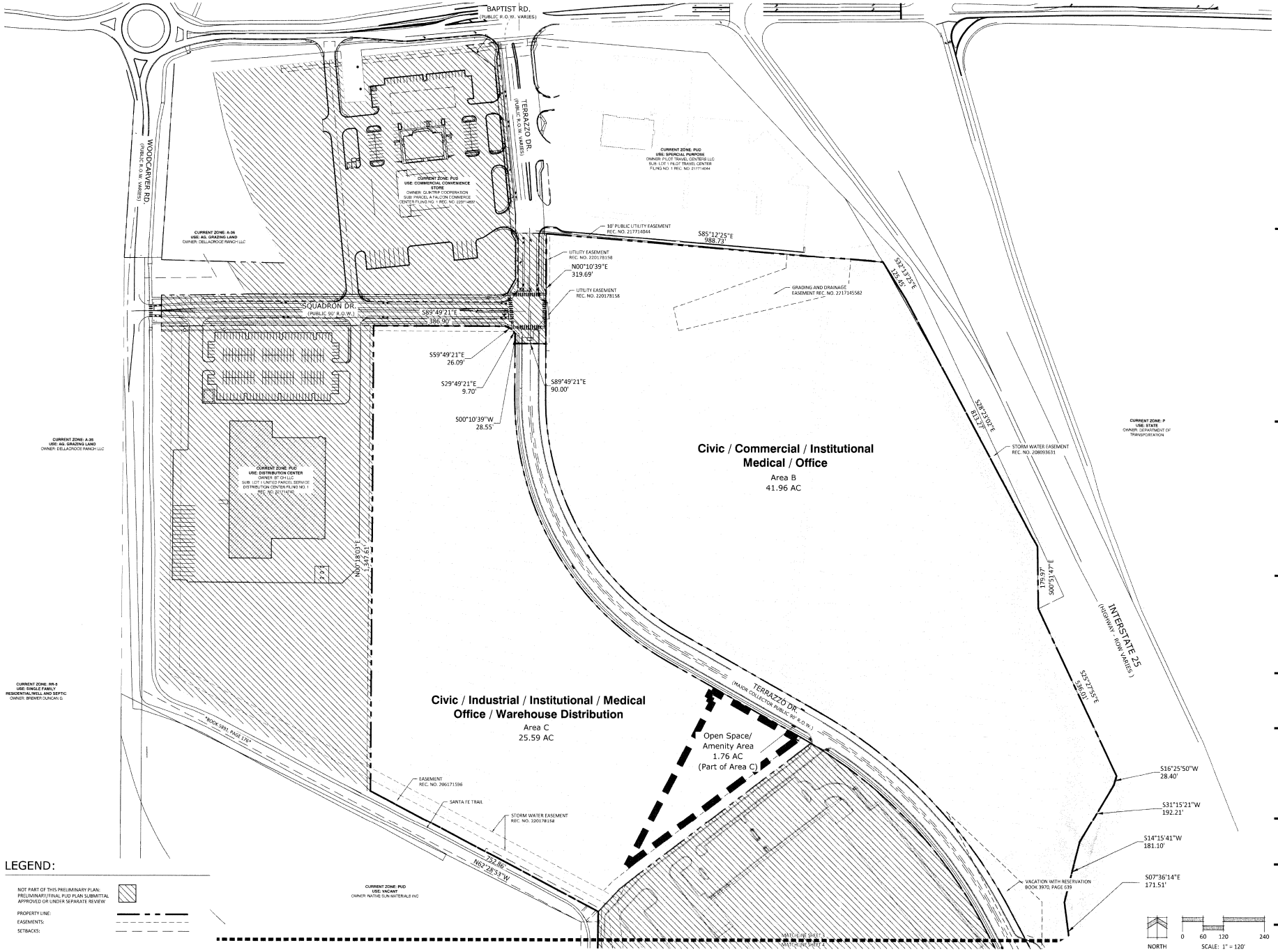

LEGEND:

NOT PART OF THIS PRELIMINARY PLAN; PRELIMINARY/FINAL PUD PLAN SUBMITTAL APPROVED OR UNDER SEPARATE REVIEW

PROPERTY LINE:

EASEMENTS:

SETBACKS:

NES

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Colorado Springs, CO 80903

Tel. 719.471.0073
Fax 719.471.0267

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PLANNING / LANDSCAPE ARCHITECT

IN ASSOCIATION WITH:

FALCON COMMERCE CENTER PHASE 2

PRELIMINARY PUD PLAN

W. BAPTIST ROAD

PROJECT INFO:

DATE: 03.31.2022
PROJECT MGR: A. BARLOW
PREPARED BY: B. ITEN / T. KNAB

TEAM:

TITLE INFO:

ENTITLEMENT

DATE:	BY:	DESCRIPTION:
05.16.2022	BI	PER TOWN COMMENTS

ISSUE / REVISION:

SHEET TITLE:

PRELIMINARY PUD PLAN

SHEET NUMBER:

3

OF 5

PLAN FILE #:

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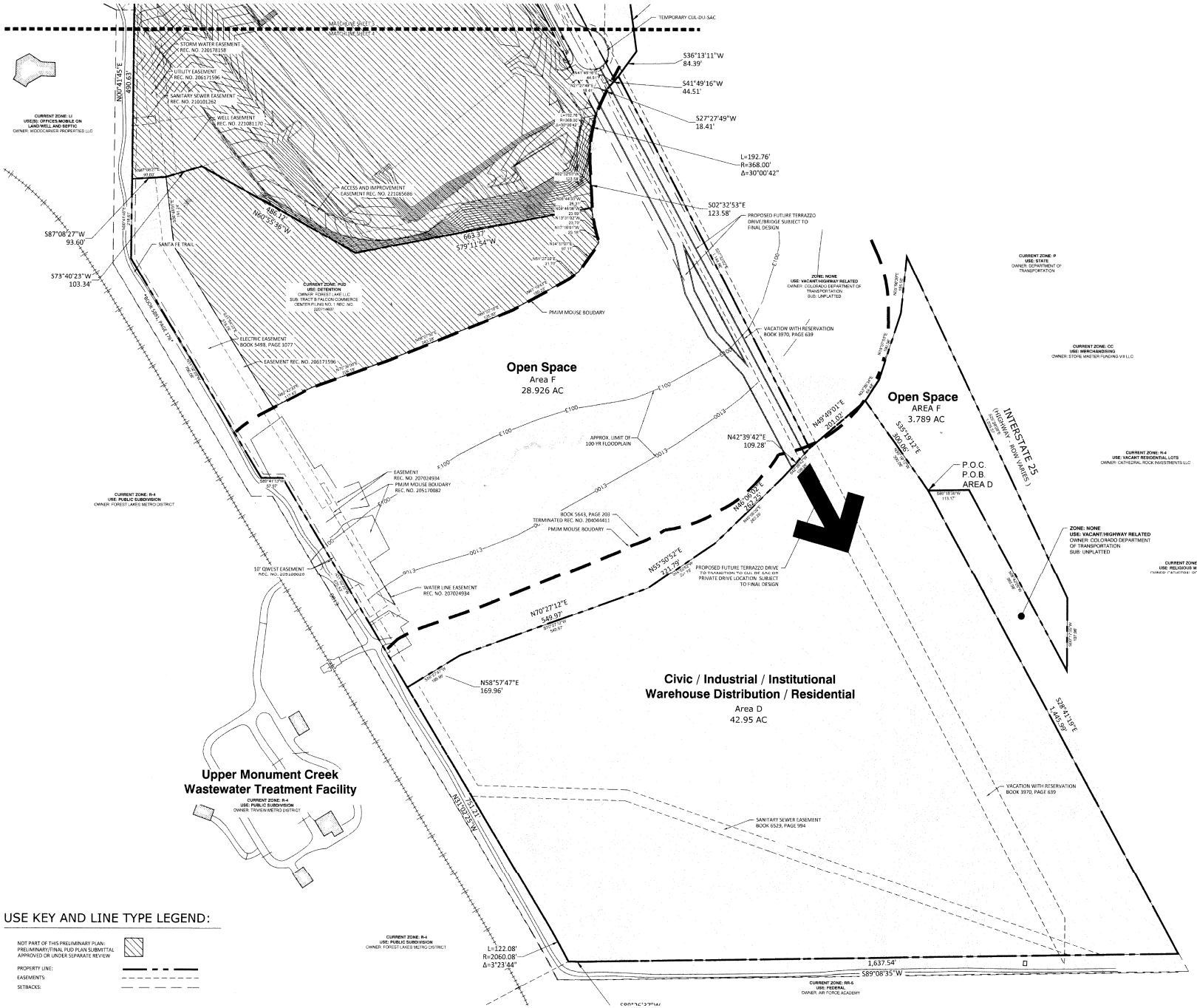

USE KEY AND LINE TYPE LEGEND:

NOT PART OF THIS PRELIMINARY PLAN: PRELIMINARY/FINAL PUD PLAN SUBMITTAL APPROVED OR UNDER SEPARATE REVIEW

PROPERTY LINE:

EASEMENTS:

SETBACKS:

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FALCON COMMERCE CENTER PHASE 2

PRELIMINARY PUD PLAN

W. BAPTIST ROAD

DATE: 03.31.2022
PROJECT MGR: A. BARLOW
PREPARED BY: B. ITEN / T. KNAB

ENTITLEMENT

DATE:	BY:	DESCRIPTION:
05.16.2022	BI	PER TOWN COMMENTS

PRELIMINARY PUD PLAN

4

OF 5

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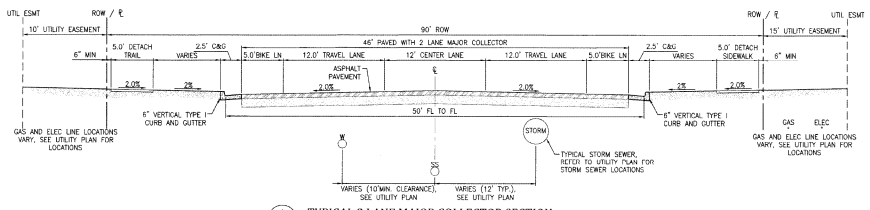


A C102 TYPICAL 2 LANE MAJOR COLLECTOR SECTION
SQUADRON DRIVE AND TERRAZZO DRIVE (SOUTH OF SQUADRON)
SCALE: NTS

NOTES:
1. THE PROPOSED UTILITY LINE SIZES WHICH ARE SHOWN ARE CONCEPTUAL AND WILL BE VERIFIED/DETERMINED AS THE TYPE AND LAYOUT OF THE DEVELOPMENT WITHIN THE SITE ARE DETERMINED.
2. WATER LINES SHALL BE LOCATED A MINIMUM 10-FT FROM SANITARY SEWER AND STORM SEWER PIPES.

SCALE: 1"=200'

TERRAZZO DRIVE
SQUADRON DRIVE
WOODCARVER ROAD
JACKSON CREEK
MONUMENT CREEK
REGIONAL DETENTION BASIN
PROPOSED DETENTION BASIN
UPPER MONUMENT CREEK REGIONAL WWTP
UNITED STATES AIR FORCE ACADEMY
EX. 30'x18' 3 SIDED BOX (JACKSON CREEK)
FUTURE EXTENSION OF TERRAZZO DR OVER JACKSON CREEK, LAYOUT TO BE DETERMINED
12" WATER MAIN EXTENSION TO THE SOUTH
12" WATER MAIN LOOP
WATER MAIN LOOP
PWUM HABITAT BUFFER
SANITARY SEWER MAIN
STORM SEWER TO CONVEY OFF-SITE FLOWS
CAPTURE OFF-SITE FLOWS AND ROUTE THROUGH SITE
STORM SEWER TO DISCHARGE INTO EX. SWALE
STORM SEWER TO SERVE INTERNAL LOTS
12" WATER MAIN EXTENSION TO THE SOUTH
SANITARY SEWER EXTENSION TO THE SOUTH
12" WATER MAIN TO EXTEND TO SOUTH SIDE OF JACKSON CREEK
INTERNAL SANITARY SEWER MAIN, EXTEND STORM SEWER EAST
STORM SEWER CONNECTION TO 36" STORM SEWER
FOREBAY & PIPE OUTLET
TRICKLE CHANNEL
12" WATER CONNECTION TO EX. 8" WATER LINE
INTERNAL WATER MAIN LOOP, TYPICAL
8" SANITARY SEWER
12" WATER MAIN
STORM SEWER OUTFALL TO DETENTION BASIN
STORM SEWER OUTFALL
FSD OUTLET STRUCTURE
FOREBAY
CONNECT TO STORM SEWER AND ROUTE TO TERRAZZO DRIVE STORM SEWER
CONCEPTUAL INTERNAL WATER MAIN LOOP
CONCEPTUAL INTERNAL SANITARY MAIN
EXTEND STORM SEWER EAST
12" WATER CONNECTION TO EX. 18" WATER LINE
EX. 72" STORM SEWER
42" STORM SEWER
48" STORM SEWER
EX. 72" STORM SEWER
SANITARY SEWER
WELL EASEMENT
SANITARY OUTFALL CONNECT TO EX. MH & 21" PVC SS
SANITARY OUTFALL CONNECT TO EX. 8" PVC SS STUB
SANITARY SEWER OUTFALL CONNECT TO EX. 8" PVC SS
INTERNAL WATER LOOP (TYP)
10' MIN. SEPARATION BETWEEN WATER AND SS (TYP)
12" WATER CONNECTION TO EX. 18" WATER LINE
SANITARY SERVICE FOR LOT
SANITARY SEWER FOR FUTURE CONNECTION
36" STORM SEWER
EX. 12" CMP CULVERT
12"WATER CONNECT TO EX. 18" WATER LINE
EX. 42" RCP CULVERT
EX. 24" STEEL PIPE CULVERT
EX. 12" CMP CULVERT
EX. DRAINAGE SWALE
STORM SEWER TO SERVE INTERNAL LOTS
STORM SEWER TO DISCHARGE INTO EX. SWALE
EX. OUTLET STRUCTURE EX. DETENTION AREA
COLORADO DEPARTMENT OF TRANSPORTATION REC# 2030080814
PARCEL 2A RECEPTION NO. 208093631
EX. 24" PIPE OUTLET
EX. DETENTION BASIN
EX. 12" PVC WATER
EX. 8" PVC SS
LOT 1 BLOT TRAVIS CENTER FILING #1
PHOENIX BELL ASSOCIATES L L P
DELLACROCE RANCH LLC
PARCEL 4 RECEPTION NO. 200152234
DILLON WELL PARCEL RECEPTION NO. 207029813
EX. 30' UTIL ESMT RECP. NO. 206171596
EX. 30' UTIL ESMT RECP. NO. 209106026
WOODCARVER PROPERTIES LLC REC# 202095013
EX. UNION PACIFIC RAILROAD
EX. ELEC ESMT BK5498 PG1077
EX. PERM ESMT #20014759
EX. SAN SEWER MH RIM=6738.82
EX. SAN SEWER MH RIM=6720.26
EX. SAN SEWER MH RIM=6717.57
EX. SAN SEWER MH RIM=6704.28 INV. IN(NE)(S-21"PVC)=6661.80 INV. OUT(SW)(S-21"PVC)=6661.52
EX. SAN SEWER MH RIM=6704.28 INV. IN(NE)(S-21"PVC)=6661.30 INV. OUT(SW)(S-21"PVC)=6661.18
EX. 21" PVC SS
EX. 12" WATER LINE
EX. 8" WATER LINE
EX. 8" PVC SS
EX. 12" WATER LINE
EX. 8" WATER LINE
EX. 8" PVC SS
EX. 8" WATER LINE
EX. 8" PVC SS
EX. 8" WATER LINE
EX. 8" PVC SS

ALPINE DEALERSHIP AT FALCON COMMERCE CENTER

FINAL PLAT

A TRACT OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO

KNOW ALL MEN BY THESE PRESENTS:

THAT _____, BEING THE OWNER OF THE FOLLOWING DESCRIBED TRACT OF LAND, TO WIT:

LEGAL DESCRIPTION:

A TRACT OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: A PORTION OF THE SOUTHERLY RIGHT-OF-WAY LINE OF BAPTIST ROAD AS DESCRIBED AS PARCEL NO: 2B Rev., IN THE DOCUMENT RECORDED UNDER RECEPTION NUMBER 208093631, RECORDS OF EL PASO COUNTY, BEING MONUMENTED ON THE WESTERLY END BY A 3-1/2" ALUMINUM CDOT ROW CAP STAMPED "PLS 26968 AND AT THE EASTERLY END BY A 1-1/2" ALUMINUM CAP STAMPED "CCES PLS 30118" FOUND .2' BELOW GROUND, ASSUMED TO BEAR N83°54'13"E A DISTANCE OF 377.02 FEET. BEARINGS ARE BASED FROM THE SURVEY RECORDED OCTOBER 11, 2017 UNDER RECEPTION NUMBER 217900186, RECORDS OF EL PASO COUNTY, COLORADO.

COMMENCING AT THE NORTH QUARTER CORNER OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO, THENCE S52°31'18"E, A DISTANCE OF 1,550.21 FEET TO THE SOUTHEAST CORNER OF TERRAZZO DRIVE AS PLATTED IN FALCON COMMERCIAL CENTER FILING NO. 1, RECORDED DECEMBER 10, 2020 UNDER RECEPTION NUMBER 220714637, RECORDS OF EL PASO COUNTY, COLORADO, SAID POINT BEING THE POINT OF BEGINNING; THENCE N00°10'39"E, ON THE EASTERLY LINE OF SAID TERRAZZO DRIVE, A DISTANCE OF 319.69 FEET TO A POINT ON THE SOUTHERLY LINE OF LOT 1, PILOT TRAVEL CENTER FILING NO. 1, AS RECORDED NOVEMBER 8, 2017 UNDER RECEPTION NUMBER 217714044, THENCE S85°12'25"E, ON SAID SOUTHERLY LINE, A DISTANCE OF 988.73 FEET, TO A POINT ON THE EASTERLY LINE OF THE LAND SURVEY RECORDED OCTOBER 11, 2017 UNDER RECEPTION 217900186, SAID POINT BEING ON THE WESTERLY RIGHT-OF-WAY LINE OF INTERSTATE 25; THENCE ON THE EASTERLY LINE OF SAID SURVEY, FOLLOWING TWO (2) COURSES:

1. S32°13'25"E, A DISTANCE OF 125.45 FEET;
2. S28°23'02"E, A DISTANCE OF 392.29 FEET;

THENCE N90°00'00"W, A DISTANCE OF 1,238.10 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT, WHOSE CENTER BEARS N85°51'53"E, HAVING A DELTA OF 04°18'46", A RADIUS OF 780.00 FEET; A DISTANCE OF 58.71 FEET TO A POINT OF TANGENT; THENCE N00°10'39"E, A DISTANCE OF 155.52 FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 544,528 SQUARE FEET OR 12.501 ACRES.

DEDICATION:

THE UNDERSIGNED OWNER HAS CAUSED SAID TRACT OF LAND TO BE PLATTED INTO A LOT AS SHOWN ON THIS PLAT, UNDER THE NAME AND SUBDIVISION OF ALPINE DEALERSHIP AT FALCON COMMERCE CENTER, THE UNDERSIGNED HEREBY FURTHER DEDICATE TO THE PUBLIC UTILITIES THE RIGHT TO INSTALL, MAINTAIN AND OPERATE MAINS, TRANSMISSION LINES, SERVICE LINES, AND APPURTENANCE TO PROVIDE SUCH UTILITY SERVICES WITHIN THIS SUBDIVISION OR PROPERTY CONTIGUOUS THERETO, UNDER, ALONG AND ACROSS PUBLIC ROADS AS SHOWN ON THIS PLAT AND ALSO UNDER, ALONG, AND ACROSS UTILITY EASEMENTS AS SHOWN HERE ON.

OWNER:

THE AFOREMENTIONED, _____, BY _____ MANAGER OF_____ HAS EXECUTED THIS DOCUMENT ON THIS _____ DAY OF _____, 20____ A.D.

_____

MANAGER OF_____

NOTARIAL:

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____,20_____

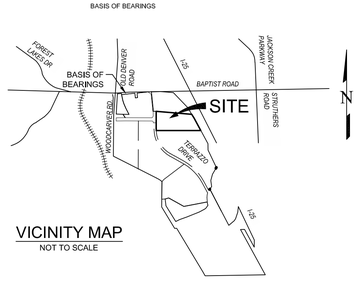
_____ AS MANAGER OF_____.

WITNESS MY HAND AND OFFICIAL SEAL:

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

BASIS OF BEARINGS



VICINITY MAP
NOT TO SCALE

GENERAL NOTES:

1. THE DATE OF PREPARATION IS FEBRUARY 20, 2024
2. BASIS OF BEARINGS: A PORTION OF THE SOUTHERLY RIGHT-OF-WAY LINE OF BAPTIST ROAD AS DESCRIBED AS PARCEL NO: 2B Rev., IN THE DOCUMENT RECORDED UNDER RECEPTION NUMBER 208093631, RECORDS OF EL PASO COUNTY, BEING MONUMENTED ON THE WESTERLY END BY A 3-1/2" ALUMINUM CDOT ROW CAP STAMPED "PLS 26968 AND AT THE EASTERLY END BY A 1-1/2" ALUMINUM CAP STAMPED "CCES PLS 30118" FOUND .2' BELOW GROUND, ASSUMED TO BEAR N83°54'13" A DISTANCE OF 377.02 FEET. BEARINGS ARE BASED FROM THE SURVEY RECORDED UNDER RECEPTION NUMBER 217900186, RECORDS OF EL PASO COUNTY, COLORADO.
3. FLOODPLAIN STATEMENT: THIS PROPERTY, IS NOT LOCATED WITHIN A DESIGNATED FLOODPLAIN AS DETERMINED BY FEMA PER FIRM PANEL 08041C0286G, EFFECTIVE DATE DECEMBER 7, 2018.
4. THIS PLAT, ALPINE DEALERSHIP AT FALCON COMMERCE CENTER IS SUBJECT TO THE DECLARATIONS OF COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS RECORDED UNDER RECEPTION NUMBER 217105250 ON AUGUST 31, 2017, RECORDS OF EL PASO COUNTY, COLORADO.
5. THE ADDRESS EXHIBITED ON THIS PLAT ARE FOR INFORMATIONAL PURPOSES ONLY. THEY ARE NOT THE LEGAL DESCRIPTION AND ARE SUBJECT TO CHANGE.
6. THIS PLAT DOES NOT CONSTITUTE A TITLE SEARCH BY EDWARD-JAMES SURVEYING, INC. TO: DETERMINE OWNERSHIP OF THIS TRACT, VERIFY THE DESCRIPTION SHOWN, VERIFY THE COMPATIBILITY OF THIS DESCRIPTION WITH THAT OF ADJACENT TRACTS, OR VERIFY EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHT-OF-WAY, OR TITLE OF RECORD, EDWARD-JAMES SURVEYING, INC. RELIED UPON POLICY NUMBER SC55113882, PREPARED BY LAND TITLE GUARANTEE COMPANY WITH AN EFFECTIVE DATE OF AUGUST 31, 2023 AT 5:00 P.M.
7. NOTICE: THIS PROPERTY MAY BE IMPACTED BY NOISE AND OTHER SIMILAR SENSORY EFFECTS OF FLIGHT CAUSED BY AIRCRAFT BOTH IN THE UNITED STATES AIR FORCE ACADEMY'S AIRMANSHIP PROGRAM AND DURING SPECIAL EVENTS. THIS NOTICE SHALL REMAIN IN EFFECT UNTIL THE AIR FORCE ACADEMY SHALL CEASE TO BE USED FOR FLIGHT TRAINING PURPOSES, OR UNTIL ALL AIRPORTS ON THE AIR FORCE ACADEMY SHALL CEASE TO BE ACTIVELY USED. THIS NOTICE SHALL RUN WITH THE LAND.
8. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENTS OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508, C.R.S.
9. THE LINEAL UNIT OF MEASURE IS THE U.S. SURVEY FOOT.

PLAT NOTES:

1. ALL PROPERTY WITHIN THIS SUBDIVISION IS INCLUDED WITHIN THE SERVICE ARA OF FOREST LAKES METROPOLITAN DISTRICT AND WITHIN THE BOUNDARIES OF PINION PINES METROPOLITAN DISTRICT NO. 3.
2. WATER AND SEWER FACILITIES WILL BE CONVEYED TO FOREST LAKES METROPOLITAN DISTRICT UPON COMPLETION AND COMPLIANCE WITH THE FOREST LAKES METROPOLITAN DISTRICT'S RULES AND REGULATIONS.
3. STORM WATER MAINTENANCE FACILITIES, INCLUDING ALL STORM PIPES UNDER ROADS AND LOCATED IN EASEMENTS ACROSS PRIVATELY OWNED LAND AS SHOWN ON THE PLAT, WILL BE CONVEYED TO THE TOWN UPON COMPLETION AND ACCEPTANCE BY THE TOWN IN ACCORDANCE WITH THE SUBDIVISION IMPROVEMENT AGREEMENT. ALL OF THESE STORM WATER MAINTENANCE FACILITIES ARE SPECIFIC TO LAND LOCATED WITHIN PINON PINES METROPOLITAN DISTRICT #3 AND CAN BE ONLY USED FOR THE BENEFIT OF THAT LAND. ALL IN ACCORDANCE WITH THE TOWN AND DEVELOPER APPROVED MASTER DEVELOPMENT DRAINAGE PLAN DATED OCTOBER 13, 2020 AND UPDATED MAY 17, 2022 PREPARED BY KIOWA ENGINEERING.

LIMITATION OF ACTIONS AGAINST LAND SURVEYORS:

ALL ACTIONS AGAINST ANY LAND SURVEYOR BROUGHT TO RECOVER DAMAGES RESULTING FROM ANY ALLEGED NEGLIGENT OR DEFECTIVE LAND SURVEY SHALL BE BROUGHT WITHIN THREE YEARS AFTER THE PERSON BRINGING THE ACTION EITHER DISCOVERED OR IN THE EXERCISE OF REASONABLE DILIGENCE AND CONCERN SHOULD HAVE DISCOVERED THE NEGLIGENCE OR DEFECT WHICH GAVE RISE TO SUCH ACTION, AND NOT THEREAFTER, BUT IN NO CASE SHALL SUCH AN ACTION BE BROUGHT MORE THAN TEN YEARS AFTER THE COMPLETION OF THE SURVEY UPON WHICH SUCH ACTION IS BASED.

SURVEYOR'S STATEMENT:

I, JONATHAN W. TESSIN, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY STATE THAT THIS PLAT HAS BEEN PREPARED UNDER MY DIRECTION IN ACCORDANCE WITH THE COLORADO REVISED STATUTES, AS AMENDED, AND THAT THIS PLAT DOES ACCURATELY SHOW THE DESCRIBED TRACTS OF LAND AND THE SUBDIVISION THEREOF, AND THAT THE REQUIREMENTS OF TITLE 38 OF THE COLORADO REVISED STATUTES, 1973 AS AMENDED, HAVE BEEN MET TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DRAFT

_____

JONATHAN W. TESSIN, PROFESSIONAL LAND SURVEYOR
COLORADO P.L.S. NO. 33196 FOR AND ON BEHALF OF EDWARD-JAMES SURVEYING, INC.

PLANNING DEPARTMENT REVIEW:

THIS PLAT WAS REVIEWED BY THE TOWN OF MONUMENT PLANNING DEPARTMENT THIS ____DAY OF _____ 20___.

_____ _____
PLANNING DIRECTOR DATE

TOWN APPROVAL:

THIS PLAT IS APPROVED FOR FILING AND THE TOWN HEREBY ACCEPTS THE DEDICATION SHOWN HEREON AND FURTHER ACCEPTS THE DEDICATION OF THE EASEMENTS SHOWN HEREON FOR THE PURPOSES STATED.

_____ _____
MAYOR DATE

ATTEST:

_____ _____
TOWN CLERK DATE

RECORDING:

STATE OF COLORADO)
) SS
COUNTY OF EL PASO)

I HEREBY CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN MY OFFICE AT

___ O'CLOCK ___.M., THIS _____ DAY OF_____, 20___A.D., AND

IS DULY RECORDED UNDER RECEPTION NUMBER _____ OF THE

RECORDS OF EL PASO COUNTY, COLORADO.

_____ STEVE SCHLEIKER, RECORDER

FEE: _____

BY: _____ SURCHARGE _____
DEPUTY

REVISIONS		
NO.	DESCRIPTION	DATE
1.	ADDRESS REVIEW COMMENTS	9-26-2025

EDWARD-JAMES SURVEYING, INC.
926 Elkton Drive
Colorado Springs, CO 80907
Office: (719) 576-1216
Fax: (719) 576-1206
4732 Eagleridge Circle
Pueblo, CO 81008
Office: (719) 545-6240
Fax: (719) 545-6247

ALPINE DEALERSHIP AT FALCON COMMERCE CENTER
FINAL PLAT

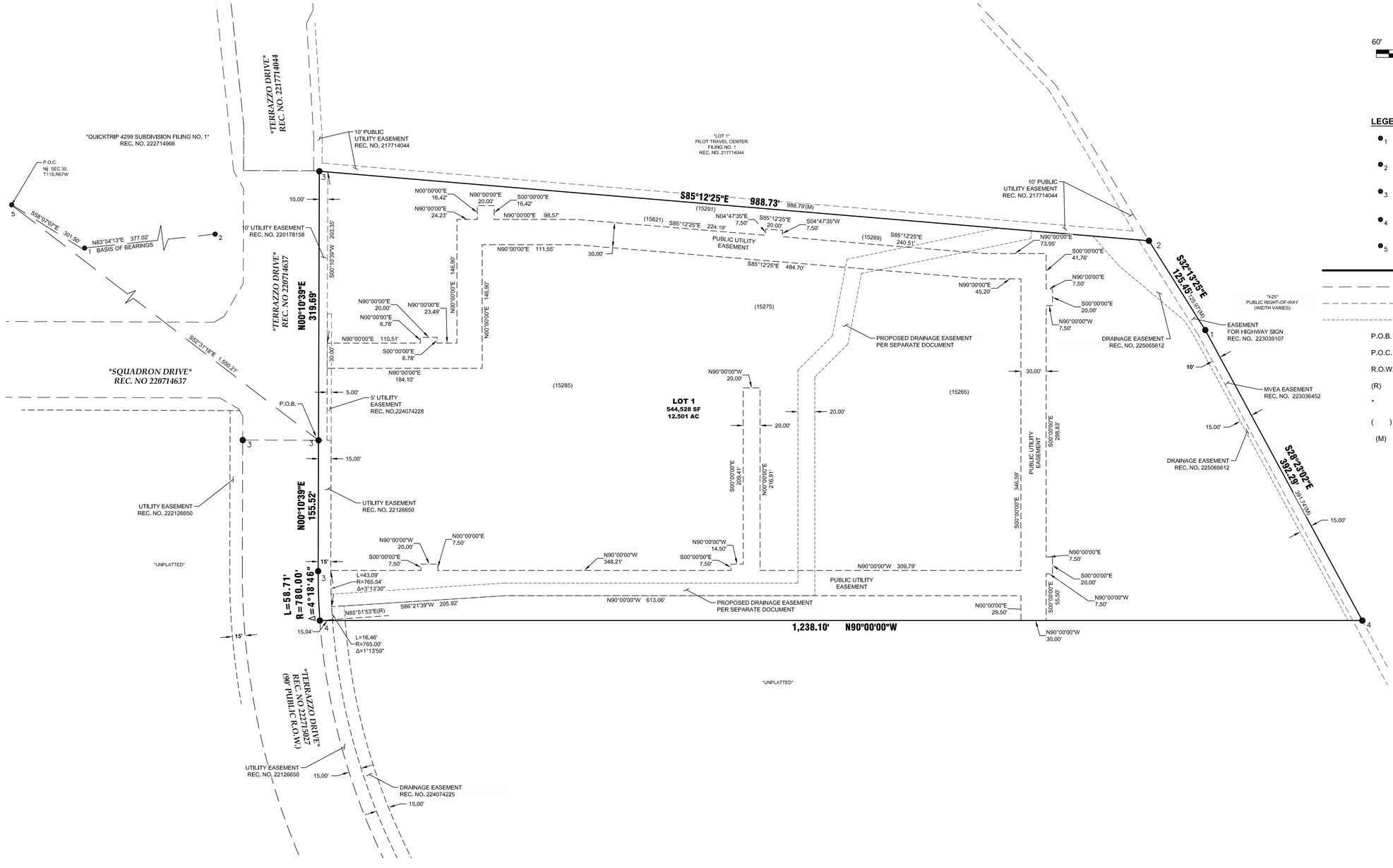
A TRACT OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO

DRAWN BY	JWT
CHECKED BY	ERF
H-SCALE	N/A
JOB NO.	2067-11
DATE CREATED	2/15/2024
DATE ISSUED	DRAFT
SHEET NO	1 OF 2

ALPINE DEALERSHIP AT FALCON COMMERCE CENTER

FINAL PLAT

A TRACT OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO



LEGEND:

●1	FOUND 3-1/4" ALUMINUM CDOT CAP STAMPED "PLS 36058"
●2	FOUND 1-1/2" ALUMINUM CAP STAMPED "CCES 30188"
●3	FOUND NO. 5 REBAR AND PLASTIC CAP STAMPED "EDWARD-JAMES PLS 33196".
●4	SET NO. 5 REBAR AND PLASTIC CAP STAMPED "EDWARD-JAMES PLS 33196"
●5	FOUND 2" BRASS CAP STAMPED "PLS 35585 2016"
———	BOUNDARY LINE
— — — —	ADJACENT BOUNDARY LINE
— — — —	PUBLIC UTILITY EASEMENT LINE
- - - -	DRAINAGE EASEMENT LINE
P.O.B.	POINT OF BEGINNING
P.O.C.	POINT OF COMMENCING
R.O.W.	RIGHT-OF-WAY
(R)	RADIAL BEARING
*	AREA NOT INCLUDED IN THIS SURVEY
( )	ADDRESS -TERRAZZO DRIVE
(M)	MEASURED DISTANCE

NO.	REVISIONS DESCRIPTION	DATE

EDWARD-JAMES SURVEYING, INC.
926 Elkton Drive
Colorado Springs, CO 80907
Office: (719) 576-1216
Fax: (719) 576-1206
4732 Eagleridge Circle
Pueblo, CO 81008
Office: (719) 545-6240
Fax: (719) 545-6247

ALPINE DEALERSHIP AT FALCON COMMERCE CENTER
FINAL PLAT

A TRACT OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO

DRAWN BY	JWT
CHECKED BY	ERF
H-SCALE	1" = 60'
JOB NO.	2067-11
DATE CREATED	2/15/2024
DATE ISSUED	DRAFT
SHEET NO	2 OF 2

ALPINE DEALERSHIP AT FALCON COMMERCE CENTER

TOWN OF MONUMENT, COLORADO

FINAL PUD PLAN

A TRACT OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO

Signature Blocks:

OWNERSHIP CERTIFICATION:

KNOW ALL MEN BY THESE PRESENTS, THAT FOREST LAKES LLC

BEING THE OWNER(S), OF THE FOLLOWING DESCRIBED TRACT OF LAND:

THE UNDERSIGNED ARE ALL OF THE OWNERS OF CERTAIN LANDS KNOWN AS ALPINE DEALERSHIP AT FALCON COMMERCE CENTER IN THE TOWN OF MONUMENT.

*REFRENCE LEGAL DESCRIPTION

OWNER(S) SIGNATURE(S) (NOTARIZED):

_____
DAN DICKINSON

STATE OF MISSOURI)
) ss:
COUNTY OF JACKSON)

SIGNED THIS___DAY OF_____, 20 _, COUNTY___, STATE ____

_____
NOTARY SIGNATURE

_____
MY COMMISSION EXPIRES

TITLE CERTIFICATION:

I,_____AN AUTHORIZED REPRESENTATIVE OF _____, A LAND TITLE GUARANTEE INSURANCE COMPANY LICENSED TO DO BUSINESS IN THE STATE OF COLORADO, HAVE MADE AN EXAMINATION OF THE PUBLIC RECORDS AND STATE THAT ALL OWNERS, MORTGAGEES, AND LIENHOLDERS OF THE PROPERTY ARE LISTED IN THE CERTIFICATE OF OWNERSHIP AND LIENHOLDER SUBORDINATION CERTIFICATE.

_____
AUTHORIZED SIGNATURE (NOTARIZED SIGNATURE)

SIGNED THIS____DAY OF_____, 20 _____

STATE OF COLORADO)
) ss: COUNTY OF EL PASO)

SIGNED THIS___DAY OF_____, 20 _, COUNTY___, STATE ____

_____
NOTARY SIGNATURE

_____
MY COMMISSION EXPIRES

TOWN CERTIFICATION:

THE FINAL PUD FOR THE ALPINE DEALERSHIP AT FALCON COMMERCE CENTER PLANNED UNIT DEVELOPMENT IS APPROVED BY THE TOWN COUNCIL OF THE TOWN OF MONUMENT, COLORADO, ON THIS_____DAY OF___, 20 .

_____ _____
MAYOR DATE

ATTEST:

_____ _____
TOWN CLERK DATE

SURVEYOR'S CERTIFICATE:

I, _____, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SURVEY AND LEGAL DESCRIPTION REPRESENTED BY THE ALPINE DEALERSHIP AT FALCON COMMERCE CENTER FINAL PUD WAS MADE UNDER MY SUPERVISION AND THE MONUMENTS SHOWN HEREON ACTUALLY EXIST AND THIS PUD ACCURATELY REPRESENTS THAT SURVEY.

_____
PROFESSIONAL LAND SURVEYOR

RECORDING STAMP

FOREST LAKES METROPOLITAN DISTRICT

_____ _____
NAME DATE

THESE PLANS HAVE BEEN REVIEWED ONLY FOR GENERAL CONFORMANCE WITH THE RULES, REGULATIONS, AND POLICIES OF THE FOREST LAKES METROPOLITAN DISTRICT. APPROVAL OF THIS PLANNING DOCUMENT DOES NOT CONSTITUTE AS AN APPROVAL FOR ALTERATION, EXTENSION, OR CONNECTION TO ANY FOREST LAKES WATER OR SEWER INFRASTRUCTURE.

Alpine Dealership at Falcon Commerce Center
Zoning Regulations & Development Guidelines:

Zoning Regulations:

A. Adoption/Authorization. The Town Council has adopted this Final PUD Plan and zoning regulations for the Alpine Dealership at Falcon Commerce Center pursuant to Chapter 18 of the Monument Municipal Code after appropriate public notice and hearing.

B. Applicability. The provisions of this Final PUD Plan and zoning regulations shall run with the land and bind all landowners of record, their successors, heirs, or assigns of the land as approved by the Town Council.

C. Maximum level of development. The maximum level of development within this final PUD established use areas is the maximum allowed for platting development.

D. Relationship to Town regulations. The provisions of this Final PUD Plan and these zoning regulations shall prevail and govern this planned unit development.

E. Definitions. The standard definitions found in the Monument Municipal Code Chapter 18.07 shall apply to this planned unit development, except as modified or otherwise defined in the Development Guidelines herein.

F. Overall Project Standards. The recorded Falcon Commerce Center Phase 2 Preliminary PUD Plan (Rec. No. 222108422) for planned mixed-use development with a variety of civic, commercial, industrial, institutional, medical, office, residential, warehouse and distribution, and open space uses provides the zoning, land use, and development parameters for this Final PUD Plan. The Alpine Dealership at Falcon Commerce Center Final PUD Plan further refines and defines the zoning regulations, permitted land uses, and development standards for this portion of the property.

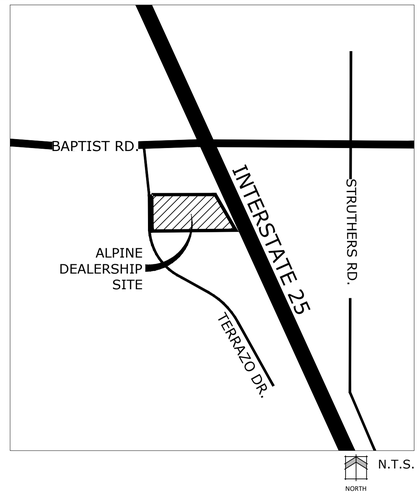
G. Severability of Provisions. In the event that any provisions hereof shall be determined to be illegal or void by the final order of any court of competent jurisdiction, the remaining provisions shall remain in full force and effect.

Development Guidelines:

1. Project Description: The Alpine Buick GMC Dealership at Falcon Commerce Center is a planned for automotive sales, service and repair.
2. Allowed Uses.
   a. Permitted Uses: The permitted uses for the Alpine Dealership at Falcon Commerce Center Final PUD Plan for automotive sales, service and repair.
   b. Temporary Uses. Temporary uses shall be subject to the provisions of section 18.03.350 of the Town's Municipal Code, as amended.
   c. Accessory Structures. Accessory Structures must comply with development standard in Item (3) of these guidelines and shall be subject to the provisions of section 18.03.340 of the Town's Municipal Code, as amended.
3. Development Standards.
   a. Maximum Building Height:
      Allowed: Seventy (70) Feet (Per Approved Preliminary PUD Plan)
      Proposed: Twenty Five (25) Feet (For this Final PUD)
   b. Minimum Building Setbacks:
      - Terrazzo Drive: Twenty (20) Foot
      - I-25: Twenty Five (50) Foot
      - Northern Boundary: Ten (10) Foot
      - Southern Boundary: Ten (10) Foot
   c. Maximum Lot Coverage: Forty (40) percent of lot area for all non-residential uses.
      - Proposed Lot Coverage: 20%
4. Design Standards: The Declarations of Covenants, Conditions, Restrictions and Easements (CC&Rs) for Falcon Commence Center were recorded on August 31st, 2017. These reference Development and Design Guidelines dated August 1st, 2017 (subsequently updated October 1, 2021), which include specifications relating to site design, lighting design, sign design, landscape design and architectural design. Through the Pinon Pines Metropolitan District No. 3 or Forest Lakes Metropolitan District, the Falcon Commerce Center Design Review Board will enforce the CC&Rs, provide design review services, and enforce maintenance standards for Falcon Commence Center.
   a. Architectural and site design standards:
   i. Building Elevations: Building elevations must provide an overall balance of architectural composition form and detail on all four sides to reduce building mass. Large, flat, unarticulated surfaces are not encouraged. Changes in vertical or horizontal plane, roof design, architectural elements, and changes in materials and color application are acceptable means of reducing mass.
   ii. Building Design: Four-sided/360-degree architectural treatment is encouraged. External details in building facades, entries, stairways, retaining walls and other features provide visual interests, enrichment, and texture to buildings.
   iii. Rooftop Forms: Rooftop forms should be broken to create variety in the roof-scape, avoiding singular, large or continuous roof lines or planes.
   iv. Building Materials: The materials of Falcon Commerce Center emphasize natural, earthen materials manufactured in units measurable in human proportions. Exterior materials should be aesthetically pleasing, of a high quality and durable. Visual continuity is desired throughout the development. Metal panel buildings are prohibited in Falcon Commerce Center, however, metal accents, awnings, etc… are allowed subject to Design Review Board approval.
   v. Material Colors: The colors of Falcon Commerce Center are centered on the muted and weathered colors found in the high plains environment, typically saturated by grey. Bright colors, while allowed, should be limited in area and application, and should be used to access elements such as architectural details, door and window frames, patterns and accessory elements.
   vi. Lighting: All free-standing lighting shall be similar in design style, form, and color while reflecting the architectural style and character of the building and the overall design theme of Falcon Commerce Center. Lighting shall comply with the standards of the Town Code and Falcon Commerce Center Design Guidelines. Exterior lighting may not include unshielded building mounted lighting or neon or gas lighting on buildings.
   vii. Signs: Signs should be designed in a comprehensive manner which is compatible with the overall site landscape and architectural design of Falcon Commerce Center. All permanent signs for any project are intended to have an integrated theme related to the architectural character of the building. Flashing, neon, moving or animated signs are not permitted. All signs should comply with applicable sign requirements of Chapter 18.06 of the Town's Municipal Code, as amended. Town sign permits are required, and review and approval by the Design Review Board is necessary prior to the installation/construction of any permanent or temporary signage.
   viii. Screening:
      - Service areas should be visually unobtrusive and should be integrated into the site design and building architecture. Service entrances, loading docks/areas, waste disposable areas, utility equipment and similar components should be oriented away from streets, open space, view corridors, primary building entrances and adjacent buildings, to the extent the site allows, or otherwise adequately screened.
      - All ground mounted or rooftop equipment, storage or trash enclosures should be screened, including, but not limited to, air conditioning, heating or ventilating equipment, trash dumpsters, air compressors, emergency generators and similar equipment. Screening should extend to the top of any such equipment.

   b. Landscape Standards: All Final PUD Plan submittals within Falcon Commence Center Phase 2 shall include a landscape plan and irrigation plan that conforms to the minimum specifications of the Design and Development Guidelines and requires review by the Design Review Board. Notwithstanding anything contained herein to the contrary, in the interest of water conservation, Xeriscape landscape design is strongly encouraged.
   i. Landscape Setbacks:
      - Interstate 25: Twenty-five (25) foot.
      - Terrazzo Drive: Twenty (20) foot.
      - South boundary: Ten (10) foot if Area D is developed for non-residential uses; twenty five (25) foot if Area D is developed for residential.
   ii. Right of Way Landscaping: Right of way landscaping at Falcon Commerce Center should present a visually cohesive open space system. Similar landscaping treatments should be used at all entrances and intersections. Plant materials, rock mulching, massing, spacing, height, and characteristics should reinforce the hierarchy of roadways.
      - Collector/Arterial Streets: 20' minimum landscape setback required. One (1) tree per 20 linear feet of the right of way length. No ornamental trees are to be placed in this category of right of way. Forty percent (40%) of the trees in this category should be a large evergreen species.
      - Minor Arterials or Non-Arterial Streets: 10' minimum landscape setback required. One (1) tree per 30 feet of linear feet of the right of way length.
   iii. Entryway Landscaping: Additional focus and plant materials should be placed at the entry-ways of developments. Focused design in these areas should create a sense of arrival and placement.
   iv. Parking Lot Landscaping: Two thirds (2/3) of any parking lot fronting a right of way or shared property boundary is to be screened by 3-foot height plant materials. Thirty percent (30%) of the screening shall be evergreen or extended seasonal value substitute.
   v. Building Site and Foundation Landscaping: Landscaping shall be provided at the perimeter of buildings in a manner to identify, enhance and soften building entrances, and to accentuate building architecture.
   vi. Landscape Buffers and Screening:
      - Buffers: Landscape buffers are required between non-residential and residential uses to soften and filter the varying uses. These buffers are to be a minimum of 15' in width unless approved otherwise by the Design Review Board. When a buffer is required, 1 tree per 30 linear feet of the buffer length is to be provided. Fifty percent (50%) of the trees in the buffer are to be an evergreen species.
      - Screening & Screen Walls: Landscape screening shall be provided for all trash enclosures, mechanical equipment and loading areas. Screening of these areas should include some variety of upright planting materials and/or ornamental tree plantings that visually hide the noted improvements. The use of walls and fences is a requirement for any improvements over 4 feet in height and is to be in conjunction with all required screening planting. Screen walls may be used in conjunction with landscape berms, and the combined height will vary depending on what trying to shield, but generally eight (8') feet tall. For screen walls, the Falcon Commerce Center park standard is a stone veneer over block wall.
5. Definitions: The following definitions modify the standard definitions in Chapter 18.07 of the Monument Municipal Code and shall apply to this planned unit development:
   a. LOT COVERAGE: The percentage of the lot area that may be covered by all of the footprints of the buildings and structures on a lot including detached garages, carports, sheds, gazebos, covered patios and decks. Driveways, dock areas, surface parking, uncovered patios and decks, and other impervious surfaces are not included.
6. Open Space Compliance: Open space requirements outlined in the Monument Municipal Code Section 18.05.140 are intended to be satisfied at the larger development scale. The Falcon Commerce Center Phase 2 Park Plan is designed to fulfill the open space obligations for the entirety of the Falcon Commerce Center, including this PUD. This submittal relies on the approved Phase 2 Park Plan to meet applicable open space requirements.

Vicinity Map



Site Data:

Tax ID:	71350-00-035
Total Area:	12.50 Acres (544,528 SF)
Zoning:	PUD (Ord.# 16-2020)
Sketch Plan:	Falcon Commerce Sketch Plan (Ord.# 16-2020)
Preliminary PUD Plan:	Falcon Commerce Center Phase 2 (Resolution No. 56-2022)
Existing Use:	Vacant
Proposed Use:	Commercial - Automotive Sales, Service and Repair
Development Schedule:	2025-2026
Proposed Building Size:	Building A - 65,096 sq.ft. Building B - 37,829 sq.ft. Car Wash - 7,486 sq.ft.
Proposed Lot Coverage:	110,411 sq.ft. (20%)
Proposed Building Height:	Building A - 23 ft Building B - 25 ft Car Wash - 22 ft

OFF-STREET PARKING REQUIERED PER TABLE 5.1 OF SECTION 18.05.215

REQUIREMENT	SPACE USAGE	SQ.FT	STRUCTURE	SPACES REQUIRED
1 SPACE/450 SF OF FLOOR AREA	SHOWROOM/ADMINISTRATIVE	26,780	(Building A)	60
4 SPACES/SERVICE BAY	42 SERVICE BAYS	38,316	(Building A)	168
TOTAL SQFT (Building A)		65,096		228
1 SPACE/450 SF OF FLOOR AREA	SHOWROOM/ADMINISTRATIVE	15,563	(Building B)	35
4 SPACES/SERVICE BAY	34 SERVICE BAYS	22,266	(Building B)	136
TOTAL SQFT (Building B)		37,829		171
1 SPACE/10% OUTSIDE VEHICLE DISPLAY AREA		254	DISPLAY SPACES	26
TOTAL REQUIRED				425
TOTAL PROVIDED				679
PHASE 1 TOTAL				574

SHEET INDEX:

1 OF 15: Cover Sheet
2 OF 15: Final PUD Site Plan
3 OF 15: Phase 1 - Interim Plan
4 OF 15: Preliminary Utility Plan
5 OF 15: Preliminary Grading Plan
6 OF 15: Landscape Details & Notes
7 OF 15: Preliminary Landscape Plan
8 OF 15: Preliminary Landscape Plan
9 OF 15: Architectural Elevations
10 OF 15: Architectural Elevations
11 OF 15: Architectural Elevations
12 OF 15: Floor Plans
13 OF 15: Photometric Plan
14 OF 15: Sign Plan & Elevations
15 OF 15: Architectural Sign Elevations

Legal Description:

A TRACT OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS:A PORTION OF THE SOUTHERLY RIGHT-OF-WAY LINE OF BAPTIST ROAD AS DESCRIBED AS PARCEL NO: 2B Rev., IN THE DOCUMENT RECORDED UNDER RECEPTION NUMBER 208093631, RECORDS OF EL PASO COUNTY, BEING MONUMENTED ON THE WESTERLY END BY A 3-1/2" ALUMINUM CDOT ROW CAP STAMPED "PLS 26968 AND AT THE EASTERLY END BY A 1-1/2" ALUMINUM CAP STAMPED "CCES PLS 30118" FOUND .2' BELOW GROUND, ASSUMED TO BEAR N83°54'13" A DISTANCE OF 377.02 FEET. BEARINGS ARE BASED ON THE SURVEY RECORDED UNDER RECEPTION NUMBER 217900186, RECORDS OF EL PASO COUNTY, COLORADO.

COMMENCING AT THE NORTH QUARTER CORNER OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO, THENCE S52°31'18"E, A DISTANCE OF 1,550.21 FEET TO THE SOUTHEAST CORNER OF TERRAZZO DRIVE AS PLATTED IN FALCON COMMERCIAL CENTER FILING NO. 1, RECORDED UNDER RECEPTION NUMBER 200714637, RECORDS OF EL PASO COUNTY, COLORADO, SAID POINT BEING THE POINT OF BEGINNING; THENCE N00°10'39"E, ON THE EASTERLY LINE OF SAID TERRAZZO DRIVE, A DISTANCE OF 319.69 FEET TO A POINT ON THE SOUTHERLY LINE OF LOT 1, PILOT TRAVEL CENTER FILING NO. 1, AS RECORDED UNDER RECEPTION NUMBER 217714044, THENCE S85°12'25"E, ON SAID SOUTHERLY LINE, A DISTANCE OF 988.73 FEET, TO A POINT ON THE EASTERLY LINE OF THE LAND SURVEY RECORDED UNDER RECEPTION 217900186, SAID POINT BEING ON THE WESTERLY RIGHT-OF-WAY LINE OF INTERSTATE 25; THENCE ON THE EASTERLY LINE OF SAID SURVEY, FOLLOWING TWO (2) COURSES:

1. S32°13'25"E, A DISTANCE OF 125.45 FEET;
2. S28°23'02"E, A DISTANCE OF 392.29 FEET;

THENCE N90°00'00"W, A DISTANCE OF 1,238.10 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT, WHOSE CENTER BEARS N85°51'53"E, HAVING A DELTA OF 04°18'46", A RADIUS OF 780.00 FEET; A DISTANCE OF 58.71 FEET TO A POINT OF TANGENT; THENCE N00°10'39"E, A DISTANCE OF 155.52 FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 544,528 SQUARE FEET OR 12.501 ACRES.

General Notes:

1. No uses shall be permitted that would generate toxic materials or waste that exceed federal, state and local regulations.
2. Water and wastewater will be provided and maintained by the Forest Lakes Metropolitan District.
3. All Final Plats shall comply with Section 18.02.330, Land Dedication Standards, of the Town of Monument Municipal Code (2021) by either the dedication of park land or by payment of fees in lieu of park land dedication. The Town Council shall determine the requirement with each final plat filing.
4. FLOODPLAIN STATEMENT: FEMA Floodplain Map No. 08041C0286G, dated December 7, 2018, indicates the area in the vicinity of this parcel of land to be a zone x(area determined to be out of the 500 year floodplain).
5. NOTICE: This property may be impacted by noise and other similar sensory effects of flight caused by aircraft both in the United States Air Force Academy's Airmanship Program and during special events. This notice shall remain in effect until the Air Force Academy shall cease to be used for flight training purposes, or until all airports on the Air Force Academy shall cease to be actively used. This notice shall run in perpetuity with the land.
6. A private avigation easement acknowledging the USAFA airmanship program will be established prior to recordation of the final subdivision plat(s) for this development.
7. The Falcon Commerce Center Design Review Board and Forest Lakes Metropolitan District will enforce the design guidelines, provide design review services and exercise the functions of the design review board for Alpine Dealership at Falcon Commerce Center.
8. The proposed facility is an automobile dealership for vehicle sales (new and pre-owned), automobile service, parts sales and parts for the service shop, and a car wash. The hours of operation are as follows: Sales: Monday through Saturday from 9:00 a.m. to 8:00 p.m. Service and Parts: 7:00 a.m-6:00 p.m., Monday through Friday; and 8:00 a.m. to 5:00 p.m. on Saturday. Closed Sundays.

Project Team:

Applicant:	Alpine Buick GMC 1313 Motor City Dr Colorado Springs, CO 80905
Owner:	Drawe Holdings , LLC 3106 W County Line Rd Highlands Ranch, CO 80129
Planner/ Landscsape Architecture:	NES Inc. 619 N. Cascade Avenue, Suite 200 Colorado Springs, CO 80903 (719) 471-0073
Engineer:	Kiowa Engineering Corporation 5951 S. Middlefield RD STE 200 Littleton, CO, 80903
Surveyor:	Edward-James Surveying, Inc. 926 Elkton Dr, Colorado Springs, CO, 80907
Architect:	Wesnae Architecture & Engineering 2109 Wadsworth Blvd Ste 303 Lakewood, CO 80227

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903

Tel. 719.471.0073
Fax 719.471.0267

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PLANNER / LANDSCAPE ARCHITECT

IN ASSOCIATION WITH

ALPINE DEALERSHIP AT FALCON COMMERCE CENTER

FINAL PUD PLAN

TERRAZZO DRIVE

PROJECT INFO

DATE: 03.1.2024
PROJECT MGR: A. BARLOW
PREPARED BY: B. SWENSON

STAMP

ISSUE INFO

ENTITLEMENT

ISSUE / REVISION

DATE:	BY:	DESCRIPTION:
03.13.2024	JBS	SUBMITTAL TO FCC DRB
04.16.2024	JBS	SUBMITTAL TO FCC DRB
05.07.2024	JBS	SUBMITTAL TO TOWN OF MONUMENT
05.29.2025	CAD	SECOND SUBMITTAL TO TOWN OF MONUMENT
09.25.2025	JBS	SUBMITTAL FCC DRB
10.10.2025	JBS	THIRD SUBMITTAL TOWN OF MONUMENT
12.23.2025	JBS	FOURTH SUBMITTAL TOWN OF MONUMENT

SHEET TITLE

COVER SHEET

SHEET NUMBER

1

1 OF 15

PLAN FILE #

#2024-008-PUD/Final Plat

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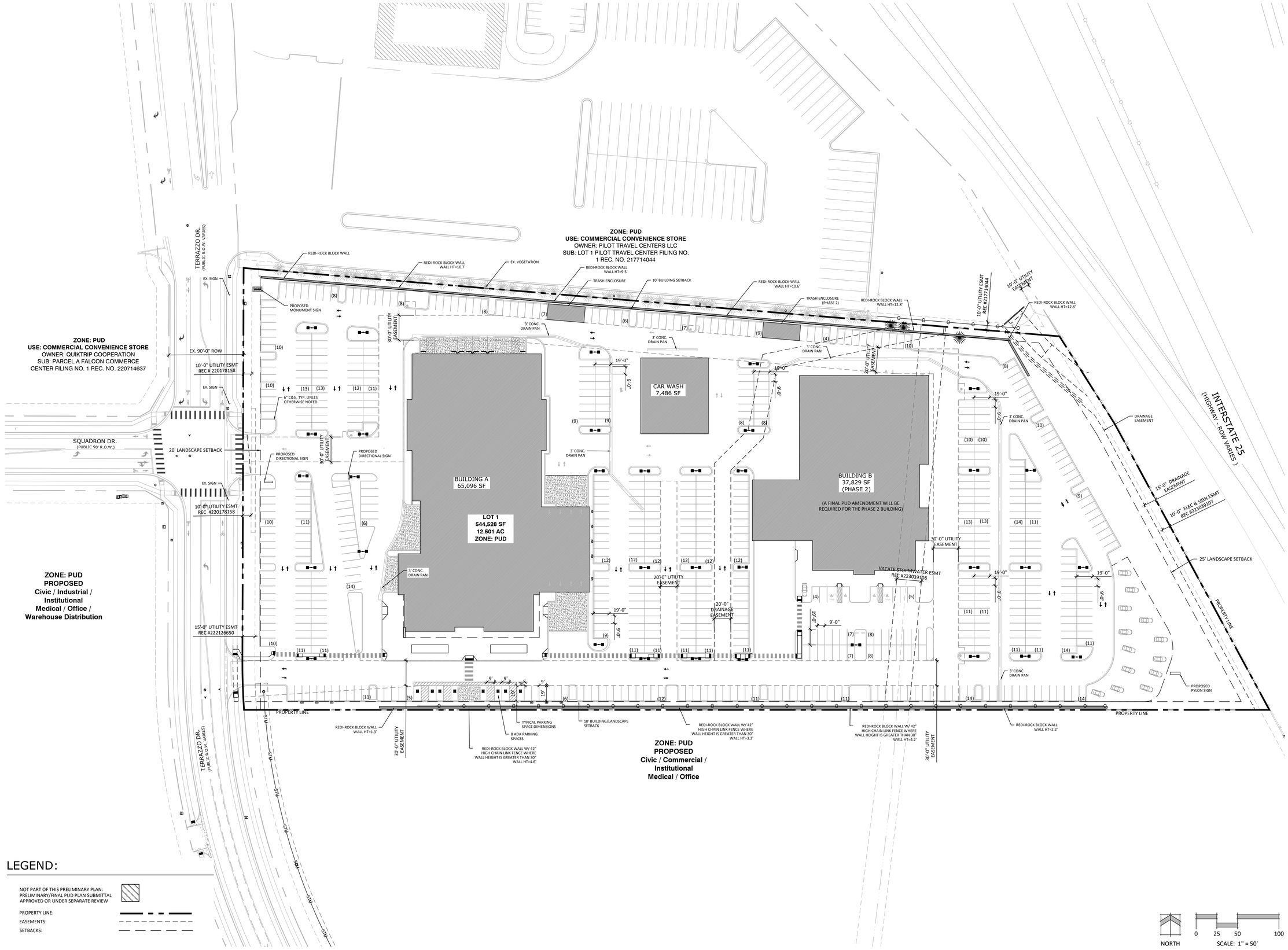

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PLANNER / LANDSCAPE ARCHITECT

IN ASSOCIATION WITH

ALPINE DEALERSHIP AT FALCON COMMERCE CENTER

FINAL PUD PLAN

TERRAZZO DRIVE

PROJECT INFO

DATE:	03.1.2024
PROJECT MGR:	A. BARLOW
PREPARED BY:	B. SWENSON

STAMP

ENTITLEMENT

ISSUE INFO

DATE:	BY:	DESCRIPTION:
03.13.2024	JBS	SUBMITTAL TO FCC DRB
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12.23.2025	JBS	FOURTH SUBMITTAL TOWN OF MONUMENT

ISSUE / REVISION

SHEET TITLE

FINAL PUD SITE PLAN

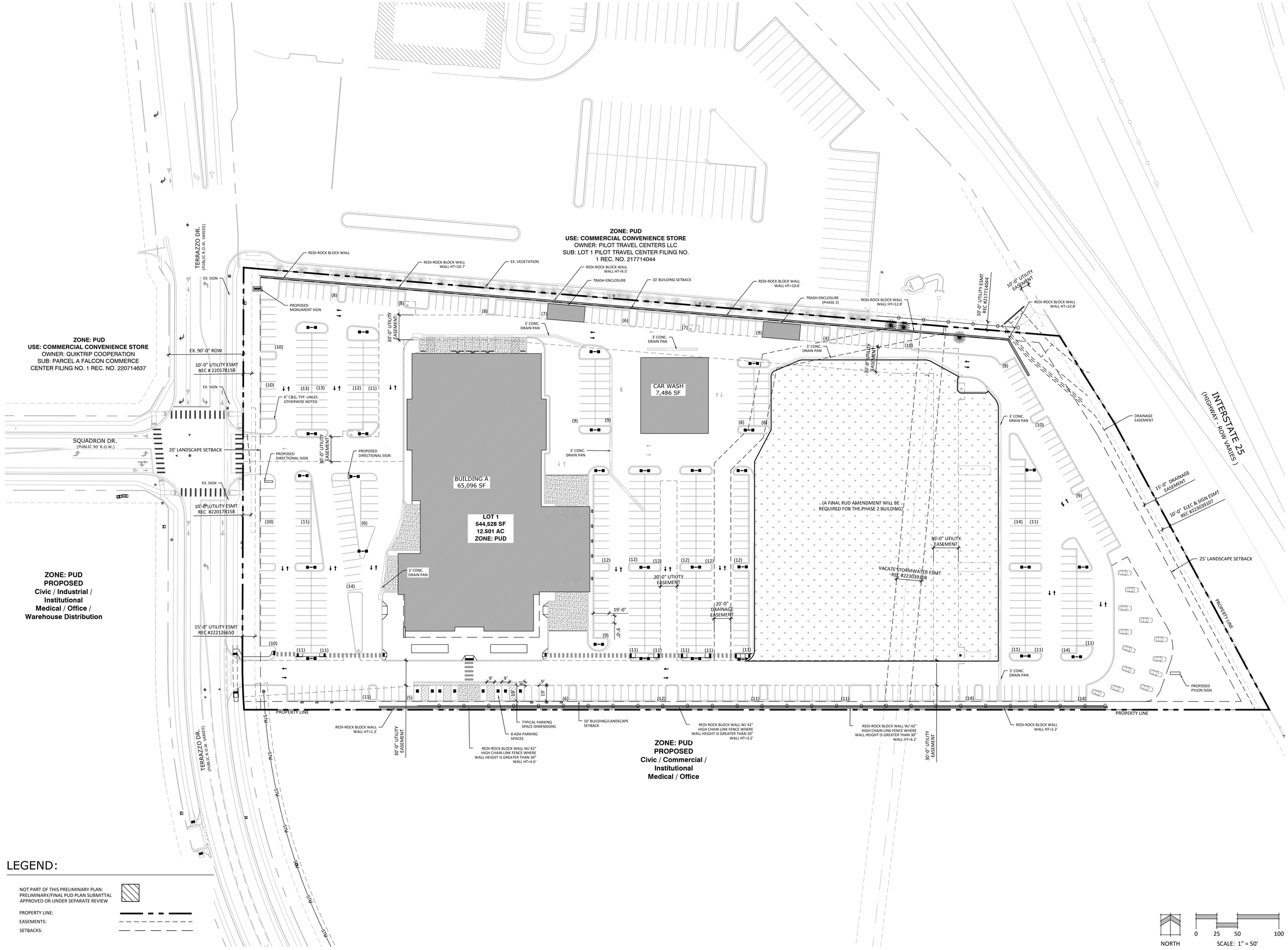
SHEET NUMBER

2

2 OF 15

PLAN FILE #

#2024-008-PUD/Final Plat



LEGEND:

NOT PART OF THIS PRELIMINARY PLAN:
PRELIMINARY/FINAL PUD PLAN SUBMITTAL
APPROVED OR UNDER SEPARATE REVIEW

PROPERTY LINE:

EASEMENTS:

SETBACKS:

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903

Tel. 719.471.0073
Fax 719.471.0267

www.nescolorado.com

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PLANNER / LANDSCAPE ARCHITECT

JV ASSOCIATION WITH

ALPINE DEALERSHIP AT FALCON COMMERCE CENTER

FINAL PUD PLAN

TERRAZZO DRIVE

PROJECT INFO

DATE:	03.1.2024
PROJECT MGR:	A. BARLOW
PREPARED BY:	B. SWENSON

STAMP

ISSUE INFO

ENTITLEMENT

ISSUE / REVISION

DATE:	BY:	DESCRIPTION:
03.13.2024	JBS	SUBMITTAL TO FCC DRB
04.16.2024	JBS	SUBMITTAL TO FCC DRB
05.07.2024	JBS	SUBMITTAL TO TOWN OF MONUMENT
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09.25.2025	JBS	SUBMITTAL FCC DRB
10.10.2025	JBS	THIRD SUBMITTAL TOWN OF MONUMENT
12.23.2025	JBS	FOURTH SUBMITTAL TOWN OF MONUMENT

SHEET TITLE

PHASE 1 - INTERIM PLAN

SHEET NUMBER

3

3 OF 15

PLAN FILE #

#2024-008-PUD/Final Plat

P:\Knova\Alpine Buick Dealership\Drawings\Planning\DP\Alpine Buick_FinalPUD.dwg [Plan-3] 12/23/2025 2:01:57 PM bswenson

LEGEND

PROPOSED BUILDING	EXISTING WATER LINE
EXISTING BUILDING TO REMAIN	EXISTING SANITARY SEWER & FLOW DIRECTION
EXISTING FIRE HYDRANT	EXISTING STORM SEWER
EXISTING WATER VALVE	EX. STORM SEWER TO BE REMOVED OR RELOCATED
EXISTING SANITARY SEWER MANHOLE	EXISTING UNDERGROUND ELECTRIC LINE
EXISTING STORM SEWER MANHOLE	EXISTING UNDERGROUND TELEPHONE LINE
EXISTING FIBER OPTIC VAULT	EXISTING FIBER OPTIC LINE
EXISTING CABLE TV PEDESTAL	EXISTING GAS LINE
EXISTING LIGHT POLE	PROPOSED GAS LINE
EXISTING UTILITY POLE	PROPOSED SANITARY SERVICE AND CLEAN OUT
EXISTING ELECTRIC BOX	PROPOSED WATER LINE OR SERVICE AND VALVE
LIGHTPOLE, SEE SITE LIGHTING PLAN FOR LAYOUT	PROPOSED WATER LINE, THRUST BLOCK & MJ RSTNTS
PROPOSED ELECTRIC TRANSFORMER	PROPOSED FIRE HYDRANT
EXISTING OR PROPOSED PROPERTY LINE	PROPOSED SANITARY SEWER AND MANHOLE
EXISTING EASEMENT	PROPOSED ROOF DRAIN PIPE
PROPOSED EASEMENT	PROPOSED STORM SEWER
EXISTING CHAIN LINK FENCE	PROPOSED STORM SEWER PIPE AND MANHOLE
CURB SECTION -- 6" CURB & GUTTER - 1' PAN	PROPOSED SINGLE STORM GRATED INLET
	PROPOSED STORM CURB INLET
	PHASE 2 LINE

BUILDING FIRE FLOW INFORMATION

BUILDING A:

BLDG CONSTRUCTION TYPE:	II-B
NFPA FIRE SPRINKLER SYSTEM:	YES
BUILDING FIRE AREA:	53,718 sf
FIRE FLOW REQUIRED:	2,500gpm @ 20psi Residual (ASSUMES 50% REDUCTION FOR FIRE SPRINKLER)
MIN # OF HYDRANTS:	3
MAX HOSE LAY LENGTH:	225-ft

BUILDING B:

BLDG CONSTRUCTION TYPE:	II-B
NFPA FIRE SPRINKLER SYSTEM:	YES
BUILDING FIRE AREA:	49,657 sf
FIRE FLOW REQUIRED:	2,500gpm @ 20psi Residual (ASSUMES 50% REDUCTION FOR FIRE SPRINKLER)
MIN # OF HYDRANTS:	3
MAX HOSE LAY LENGTH:	225-ft

CAR WASH:

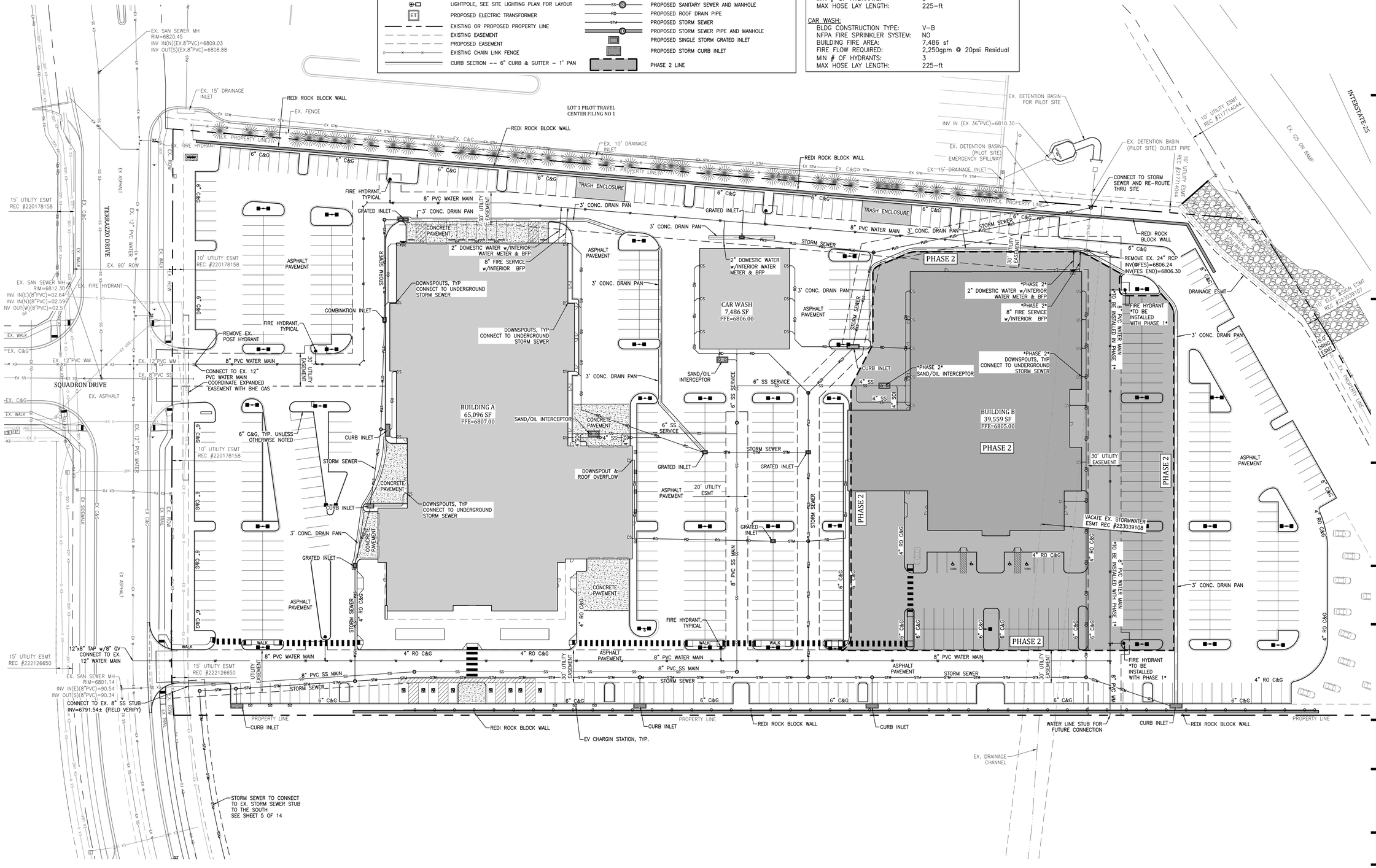
BLDG CONSTRUCTION TYPE:	V-B
NFPA FIRE SPRINKLER SYSTEM:	NO
BUILDING FIRE AREA:	7,486 sf
FIRE FLOW REQUIRED:	2,250gpm @ 20psi Residual
MIN # OF HYDRANTS:	3
MAX HOSE LAY LENGTH:	225-ft

NOTE:
ALL UTILITIES PERTAINING TO BUILDING B INCLUDING WATER AND WASTEWATER TAPS, DOWNSPOUTS, AND ROOF DRAINS WILL BE INSTALLED IN PHASE 2.

N

0 40' 80'

SCALE: 1"=40'



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PLANNER / LANDSCAPE ARCHITECT

IN ASSOCIATION WITH

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5951 Midfield Road, Suite 200
Littleton, Colorado 80123
(303) 692-0369

ALPINE DEALERSHIP AT FALCON COMMERCE CENTER

FINAL PUD PLAN

W. BAPTIST ROAD

PROJECT INFO

DATE:	05/01/2024
PROJECT MGR:	MWE
PREPARED BY:	JM

STAMP

ENTITLEMENT

ISSUE INFO

ISSUE / REVISION

DATE:	BY:	DESCRIPTION:
05/01/2024	MWE	INITIAL SUBMITTAL
05/30/2025	JIM	2ND SUBMITTAL
07/25/2025	JIM	3RD SUBMITTAL
12/22/2025	JIM	4TH SUBMITTAL

SHEET TITLE

FINAL UTILITY PLAN

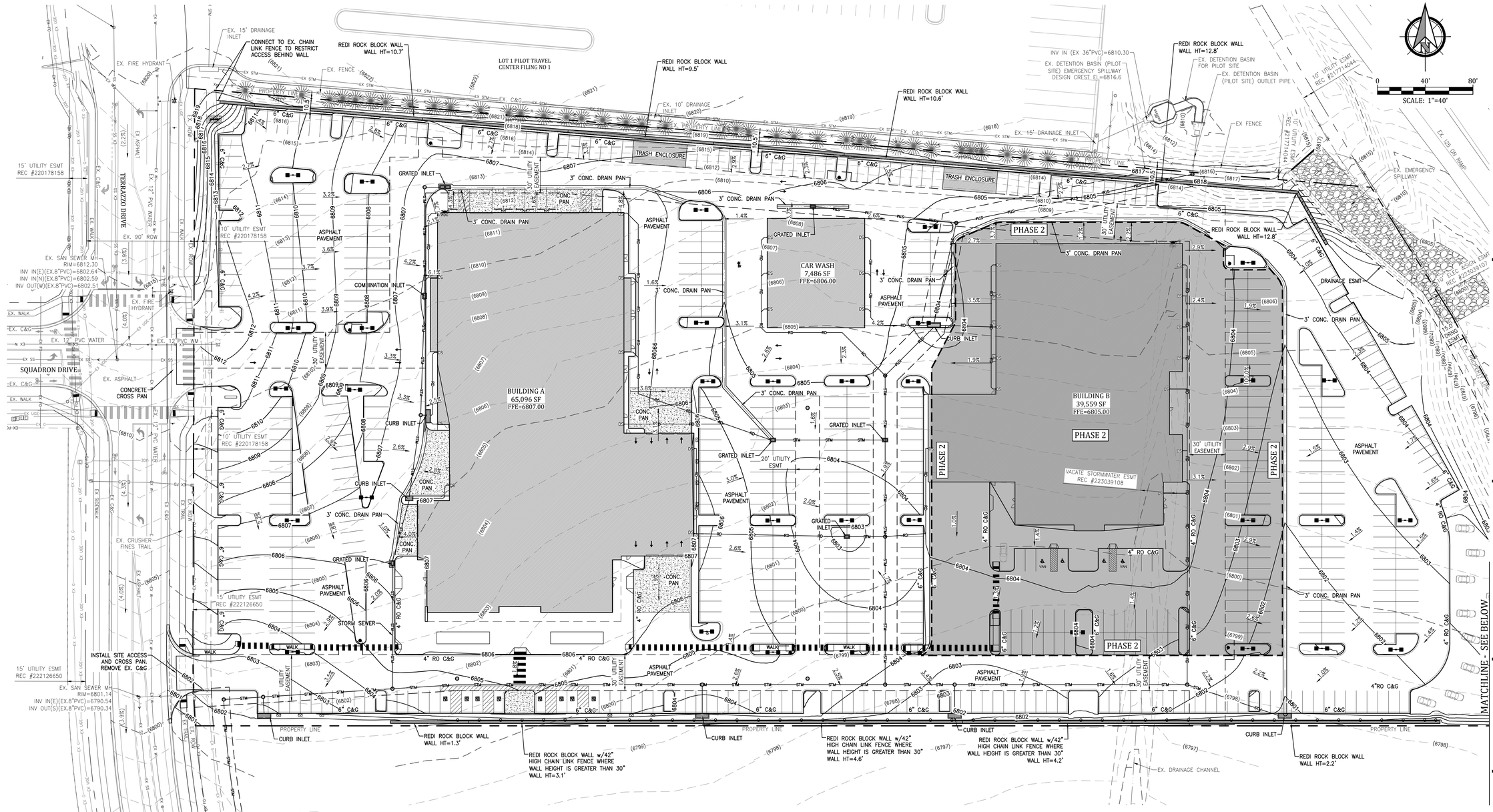
SHEET NUMBER

4

4 OF 15

PLAN FILE #

CPC #



LEGEND

- PROPERTY OR ROW LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PHASE 2 LINE
- EX W — EXISTING WATER LINE
- EX SS — EXISTING SANITARY SEWER
- EX STM — EXISTING STORM SEWER
- EX UGE — EXISTING UNDERGROUND ELECTRIC LINE
- EX T — EXISTING UNDERGROUND TELEPHONE LINE
- EX G — EXISTING GAS LINE
- (6020) — EXISTING CONTOURS
- 6020 — PROPOSED CONTOURS
- PROPOSED SPOT ELEVATION
- (2.3%) — EXISTING FLOW DIRECTION AND SLOPE
- 2.3% — PROPOSED FLOW DIRECTION AND SLOPE
- RD — PROPOSED ROOF DRAIN PIPE
- STM — PROPOSED STORM SEWER
- PROPOSED STORM SEWER PIPE AND MANHOLE
- PROPOSED SINGLE STORM GRATED INLET
- PROPOSED STORM CURB INLET

PLANNER / LANDSCAPE ARCHITECT

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ALPINE DEALERSHIP AT FALCON COMMERCE CENTER

FINAL PUD PLAN

W. BAPTIST ROAD

PROJECT INFO

DATE: 05/01/2024
PROJECT MGR: MWE
PREPARED BY: JM

STAMP

ENTITLEMENT

ISSUE INFO

DATE:	BY:	DESCRIPTION:
05/01/2024	MWE	INITIAL SUBMITTAL
05/30/2025	JIM	2ND SUBMITTAL
07/25/2025	JIM	3RD SUBMITTAL
12/22/2025	JIM	4TH SUBMITTAL

ISSUE / REVISION

FINAL GRADING PLAN

SHEET TITLE

SHEET NUMBER

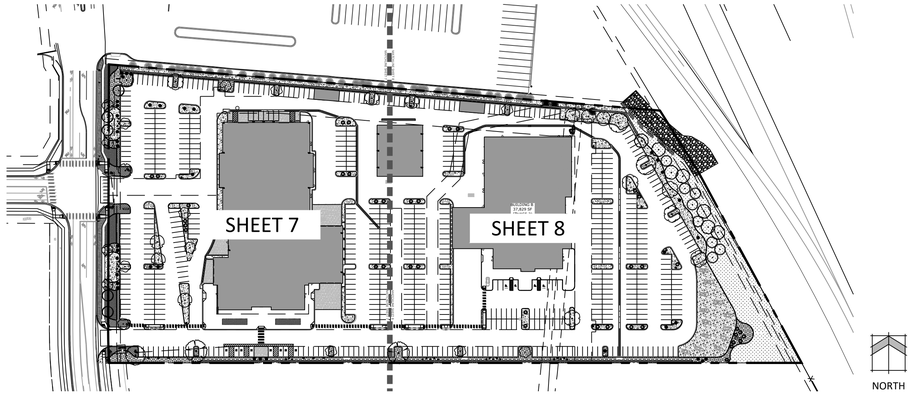
5

5 OF 15

PLAN FILE #

CPC #

KEY MAP



LANDSCAPE NOTES

1. ALL NATIVE SEED AREAS SHALL HAVE A TEMPORARY ABOVE-GROUND SPRAY IRRIGATION SYSTEM UTILIZED UNTIL SEED IS ESTABLISHED, AND ALL TREES AND SHRUBS WITHIN NATIVE SEED AREAS SHALL HAVE A PERMANENT DRIP IRRIGATION SYSTEM.
2. NO SOD SHALL BE PLANTED ON SLOPES IN EXCESS OF 6:1 GRADIENT.
3. CONTRACTOR TO APPLY EROSION CONTROL BLANKET TO ALL SEED AREAS WITH GREATER THAN 3:1 SLOPES.
4. CONTRACTOR TO UTILIZE STOCKPILED TOPSOIL FROM GRADING OPERATION AS AVAILABLE. SOIL AMENDMENTS ARE TO BE APPLIED BASED ON SOIL ANALYSIS WITH A MINIMUM OF 2 CUBIC YARDS/1000 S.F. AREA OF ORGANIC COMPOST TO BE INCORPORATED.
5. ALL PLANT SPECIES SHALL BE CHOSEN FROM THE TOWN OF MONUMENT PERMITTED PLANTS LIST. NATIVE AND DROUGHT RESISTANT SPECIES ARE ENCOURAGED.
6. NO TREES AND NO PLANTS OVER 2 FEET TALL SHALL BE INSTALLED WITHIN 5 FEET OF ANY FIRE HYDRANTS.
7. NO PLANTING OR STRUCTURES SHALL BE ALLOWED OVER THE HEIGHT OF 30 INCHES ABOVE THE LEVEL OF THE ROADWAYS WITHIN A 15' SIGHT DISTANCE TRIANGLE AT THE CORNERS OF INTERSECTIONS.
8. THESE PLANS ARE FOR TOWN OF MONUMENT APPROVALS ONLY AND ARE NOT TO BE UTILIZED FOR CONSTRUCTION.

LANDSCAPE REQUIREMENTS

Roadway Landscape

Street Name	Street Classification	Width Required	Linear Footage	Tree/Feet Required	Trees Required/Provided	40% Evergreen Required/Provided	Setback Abbr. Denoted on Plan
Interstate 25	Freeway	25'	517'	1 / 20'	26/26	10/13	IS
Terrazzo Drive	Collector	10'	449'	1 / 20'	23/23	9/15	TD

Motor Vehicle Lots

No. of Vehicles Spaces Provided	Shade Trees (1/10 spaces) Required /Provided	Abbr. on Plan	Vehicle Lot Frontages	Length of Frontage (excluding driveways)
679	67 / 67	MV	Terrazzo Drive	362
			I-25	268

Vehicle Lot Frontages	2/3 Length of Frontage (ft.)	Min. 3' Screening Plants Req. /Prov.	Evergreen Plants Req. (30%) / Prov.
Terrazzo Drive	210 ft	42 / 346	13 / 31
I-25	144 ft	29 / 20	9 / 9

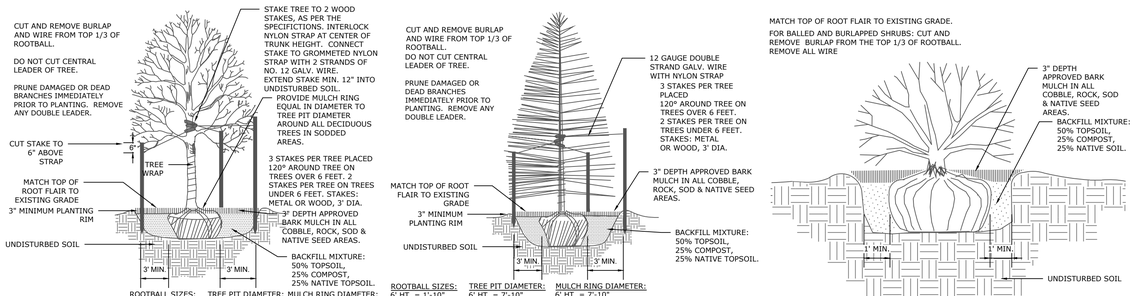
INTERNAL LANDSCAPE REQUIREMENTS

NET SITE AREA	INTERNAL AREA %	INTERNAL AREA REQ.	TREES (1 / 925 SF) Required/Provided		Abbr. on Plan
434,177 SF	10%	43,417 SF	47	47	IN

SHRUB BED AREA	SHRUBS / ORN. GRASSES/PERENNIALS (8 / 100 SF) Required / Provided		% LIVE GROUND PLANE Required	/ Provided
23,762 SF	1,901	1,901	75%	75%

PLANT SCHEDULE

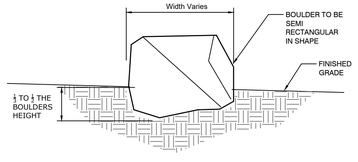
SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	HEIGHT	WIDTH	SIZE	CONDITION
DECIDUOUS TREES							
	Af	5	ACER GINNALA 'FLAME' / FLAME AMUR MAPLE	20`	20`	2.5" CAL.	B&B
	Ag	6	ACER GRANDIDENTATUM / BIGTOOTH MAPLE	30`	30`	2" CAL.	B&B
	AE	2	ACER RUBRUM 'AUTUMN FLAME' / AUTUMN FLAME RED MAPLE	40`	40`	1.5" CAL.	B&B
	As	10	ACER RUBRUM 'SUN VALLEY' / SUN VALLEY RED MAPLE	35`	25`	2" CAL.	B&B
	Gc	3	GLEDITSIA TRIACANTHOS V. INERMIS / THORNLESS COMMON HONEYLOCUST - 'NORTHERN ACCL	45`	35`	2" CAL.	B&B
EVERGREEN TREES							
	JC	38	JUNIPERUS CHINENSIS 'SPARTAN' / SPARTAN JUNIPER	15`	6`	6' HT.	B&B
	JS	28	JUNIPERUS SCOPULORUM 'SKYROCKET' / SKYROCKET JUNIPER	20`	3`	6` HT	B&B
	JW	39	JUNIPERUS SCOPULORUM 'WICHITA BLUE' / WICHITA BLUE JUNIPER	15`	6`	6` HT	B&B
	Pe	8	PINUS CEMBROIDES EDULIS / PINYON PINE	30`	20`	6` HT	B&B
ORNAMENTAL TREES							
	TM2	13	ACER TATARICUM 'GARANN' / HOT WINGS® TATARIAN MAPLE	25`	20'	1" CAL.	B&B
	Mp	7	MALUS X 'PROFUSION' / PROFUSION CRABAPPLE	20`	25`	2" CAL.	B&B
	SS2	4	MALUS X 'SPRING SNOW' / SPRING SNOW CRABAPPLE	20`	20'	1" CAL.	B&B
DECIDUOUS SHRUBS							
	Afl	72	ARTEMISIA FILIFOLIA / SAND SAGEBRUSH	5`	3`	5 GAL	CONT
	CB	152	CARYOPTERIS X CLANDONENSIS 'BLUE MIST' / BLUE MIST SPIREA	3`	3`	5 GAL	CONT
	Cr	87	CENTRANTHUS RUBER / RED VALERIAN	3`	2`	5 GAL	CONT
	Ena	11	ERICAMERIA NAUSEOSA / RUBBER RABBITBRUSH	5`	5`	5 GAL	CONT
	Pmo	154	PHYSOCARPUS MONOGYNUS / MOUNTAIN NINEBARK	4`	4`	5 GAL	CONT
	SS	87	SPIRAEA JAPONICA 'LITTLE PRINCESS' / LITTLE PRINCESS JAPANESE SPIREA	3`	3-4`	5 GAL	CONT
EVERGREEN SHRUBS							
	JHB	81	JUNIPERUS HORIZONTALIS 'BLUE CHIP' / BLUE CHIP CREEPING JUNIPER	1'	6'	#5 CONT	CONT
	JST	24	JUNIPERUS SABINA 'TAMARISCIFOLIA' / TAMMY/TAMARIX JUNIPER	4'	6'	#5 CONT	CONT
	PMM	81	PINUS MUGO `MOPS` / MOPS MUGO PINE	3`	3`	5 GAL	CONT
GRASSES							
	DC	630	DESCHAMPSIA CESPITOSA 'NORTHERN LIGHTS' / NORTHERN LIGHTS TUFTED HAIR GRASS	3`	2`	5 GAL	CONT
	MG	53	MISCANTHUS SINENSIS 'GRACILLIMUS' / EULALIA GRASS	6`	4`	5 GAL	CONT
	Ph	416	PANICUM VIRGATUM 'HEAVY METAL' / HEAVY METAL SWITCH GRASS	5`	2`	5 GAL	CONT
PERENNIALS							
	AM	44	ALLIUM X 'MILLENIUM' / MILLENIUM ORNAMENTAL ONION	1.5`	1.5`	1 GAL	CONT
	CR	3	CENTRANTHUS RUBER / RED VALERIAN	3`	2`	1 GAL	CONT
VINES							
	CAM MA2	2	CAMPSIS X TAGLIABUANA 'MADAME GALEN' / MADAME GALEN TRUMPET VINE	15'	8'	#5 CONT	CONT
	POL VA3	4	POLYGONUM AUBERTII 'VARIEGATA' / VARIEGATED SILVERLACE VINE	15'	8'	#5 CONT	CONT



1 DECIDUOUS TREE PLANTING DETAIL
N.T.S. 329503-01

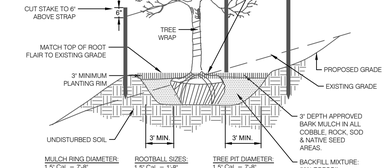
2 CONIFEROUS TREE PLANTING DETAIL
N.T.S. 329503-02

NOTES:
1. BOULDERS TO BE SILOAM STONE.
2. LANDSCAPE ARCHITECT TO APPROVE TYPICAL BOULDERS AT SUPPLIERS PRIOR TO CONTRACTOR BRINGING THE MATERIAL TO THE SITE.
3. BOULDER LOCATION SHALL BE STAKED BY CONTRACTOR FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO BRINGING THE MATERIAL TO THE SITE.
4. BOULDERS NEED TO BE PROTECTED FROM SCRAPING AND FRACTURING DURING TRANSPORT.
5. BURY BOULDERS SO THE TOP IS LEVEL. THE BURY DEPT MAY VARY BETWEEN BOULDERS.

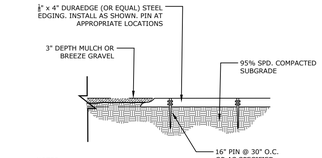


5 LANDSCAPE BOULDER
N.T.S. 329C-08

6 DECIDUOUS TREE PLACEMENT ON SLOPE
N.T.S. 329543-05

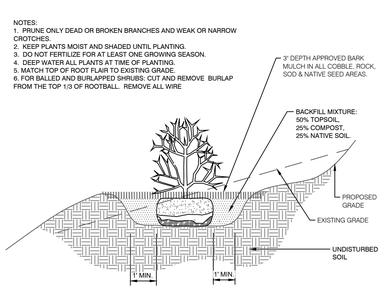


3 SHRUB PLANTING DETAIL
N.T.S. 329533-03

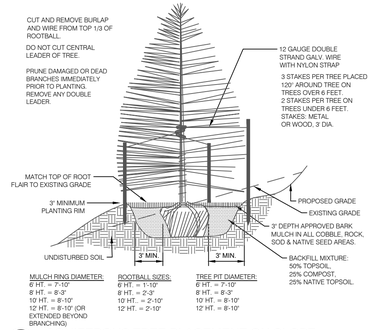


NOTES:
1. PLACE EDGING 2" DEEP BELOW GRADE AND TAPER MULCH DEPTH TO MEET TOP OF EDGING.

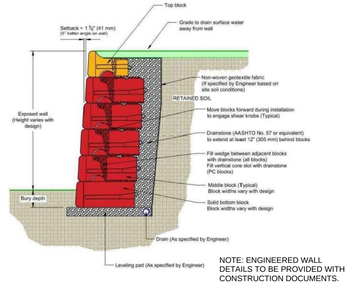
4 STEEL EDGING
N.T.S. 329413-09



7 SHRUB PLACEMENT ON SLOPE
N.T.S. 329333-07



8 CONIFEROUS TREE PLACEMENT ON SLOPE
N.T.S. 329543-06



NOTE: ENGINEERED WALL DETAILS TO BE PROVIDED WITH CONSTRUCTION DOCUMENTS.

9 REDI-ROCK WALL DETAIL
N.T.S.

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903

Tel. 719.471.0073
Fax 719.471.0267

www.nescolorado.com

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PLANNER / LANDSCAPE ARCHITECT

IN ASSOCIATION WITH

ALPINE DEALERSHIP AT FALCON COMMERCE CENTER

PROJECT INFO

FINAL PUD PLAN

W. BAPTIST ROAD

DATE: 02.06.2025
PROJECT MGR: A. BARLOW
PREPARED BY: B. SWENSON /A. LANGHANS

STAMP

ISSUE INFO

ENTITLEMENT

DATE:	BY:	DESCRIPTION:
05.20.2025	CAD	SECOND SUBMITTAL
09.19.2025	CAD	Client Changes
12.23.2025	CAD	FORTH SUBMITTAL

ISSUE / REVISION

SHEET TITLE

LANDSCAPE DETAILS & NOTES

SHEET NUMBER

6

6 OF 15

PLAN FILE #

#2024-008-PUD/Final Plat

P:\Xtras\Alpine Buick Dealership\Drawings\L-Arch\FILP\Alpine Buick_FLP.dwg [COVER] 12/23/2025 2:37:51 PM bswenson

ZONE: PUD
USE: COMMERCIAL CONVENIENCE STORE
OWNER: QUIKTRIP COOPERATION
SUB: PARCEL A FALCON COMMERCE CENTER FILING NO. 1 REC. NO. 220714637

ZONE: PUD
USE: COMMERCIAL CONVENIENCE STORE
OWNER: PILOT TRAVEL CENTERS LLC
SUB: LOT 1 PILOT TRAVEL CENTER FILING NO. 1 REC. NO. 217714044

ZONE: PUD
PROPOSED
Civic / Industrial / Institutional
Medical / Office / Warehouse Distribution

SQUADRON DR.
(PUBLIC 90' R.O.W.)

TERRAZZO DR.
(PUBLIC R.O.W. VARIES)

MATCHLINE SHEET 8
MATCHLINE SHEET 7

BUILDING A
65,096 SF

CAR WASH
7,486 SF

PROPOSED MONUMENT SIGN
EXISTING TREES TO REMAIN
PROPOSED WALL
MAX. HEIGHT 12'
EXISTING CHAIN LINK FENCE
EXISTING TREES TO REMAIN
EX. VEGETATION
TRASH ENCLOSURE
10'-0" UTILITY ESMT REC 3220178158
20' LANDSCAPE SETBACK
30'-0" UTILITY EASEMENT
PROPOSED DIRECTIONAL SIGN
10'-0" UTILITY ESMT REC #220178158
15'-0" UTILITY ESMT REC #222126650
PROPOSED WALL MAX. HEIGHT 3.4'
97'-0"
25'-0"
LINE-OF-SIGHT 1
LINE-OF-SIGHT 2

GROUND COVER LEGEND:

ROCK COBBLE 2"-4" BLUE GREY RIVER ROCK	22,668 SF
NATIVE SEED MIX EL PASO COUNTY CONSERVATION LOW GROW MIX BIG BLUESTEM - 20% WESTERN WHEATGRASS - 20% BLUE GRAMA - 10% GREEN NEEDLEGRASS - 10% SIDEOATS GRAMA - 10% SWITCHGRASS - 10% PRAIRIE SANDREED - 10% YELLOW INDIANGRASS - 10% DRILL SEED @ 21 PLS/ACRE HYDROSEED ON SLOPES 3:1 OR GREATER @ 42 PLS/ACRE	26,808 SF
ROCK MULCH 1-1/2" ARKANSAS TAN RIVER ROCK	39,445 SF
SOD KENTUCKY BLUEGRASS SOD	4,373 SF
EXISTING ROCK MULCH TO REMAIN	3,116 SF
WOOD MULCH GORILLA HAIR BROWN CEDAR MULCH	820 SF

NORTH
0 15 30 60
SCALE: 1" = 30'

P:\Civil\Alpine Buick Dealership\Drawings\L-Arch\FLP\Alpine Buick_FLP.dwg [FLP_L1] 12/23/2025 12:07:33 PM ddupuis

N.E.S. Inc.
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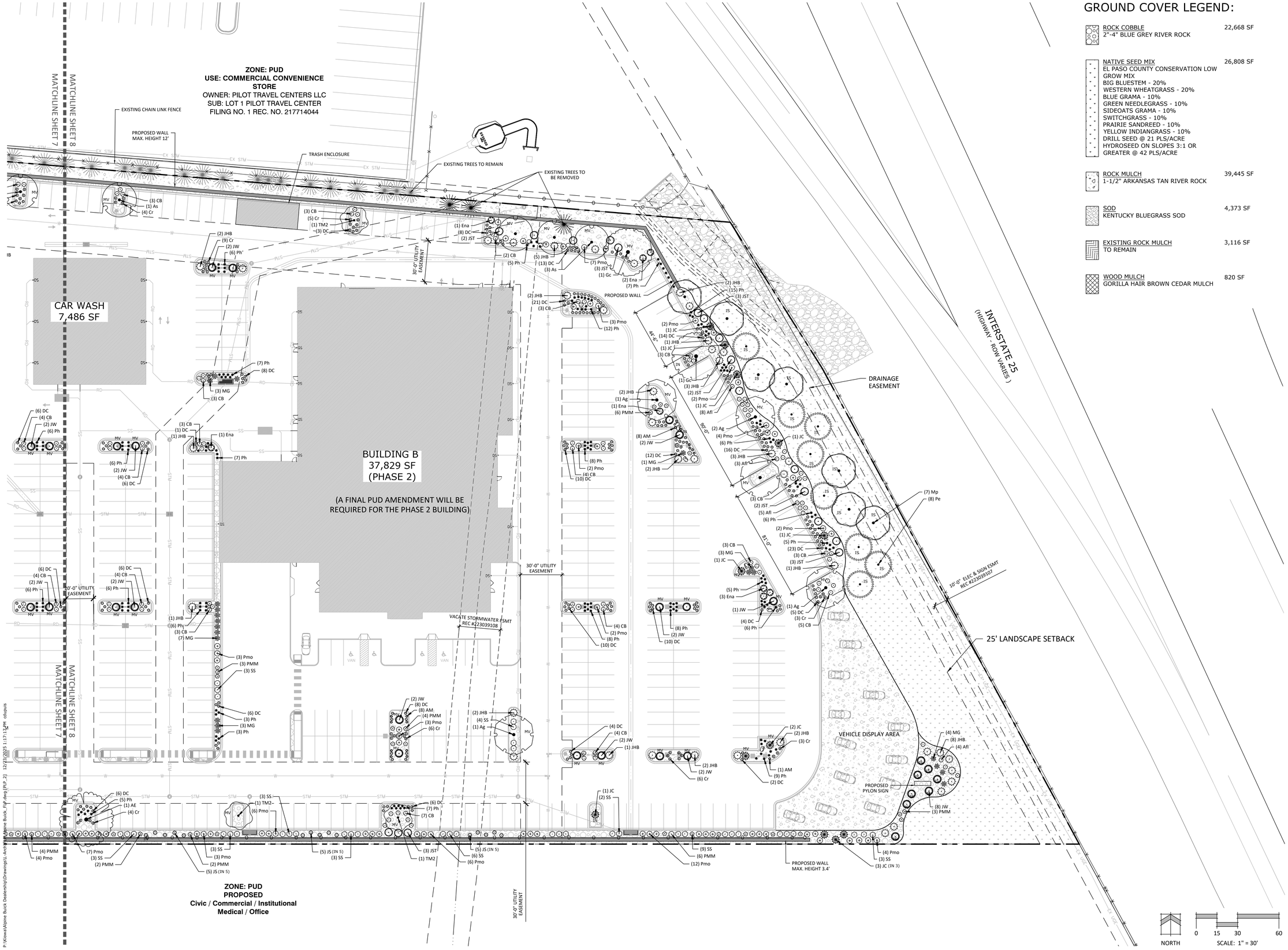
LANDSCAPE PLAN

SHEET NUMBER

7
7 OF 15

PLAN FILE #

#2024-008-PUD/Final Plat



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NORTH

0 15 30 60

SCALE: 1" = 30'

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LANDSCAPE PLAN

SHEET NUMBER

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8 OF 15

PLAN FILE #

#2024-008-PUD/Final Plat

P:\Kiowa\Alpine Buick Dealership\Drawings\L-Architect Alpine Buick_FP_dwg [FP_2] 12/23/2025 1:17:12 PM cdapuis

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2. EIFS (EXTERIOR INSULATION FINISHING SYSTEM). EP-1.
3. LOW-E 1" TEMPERED INSULATED CLEAR GLAZING. GL-1.
4. BUICK SIGNAGE PER GMFI STANDARDS TO BE PROVIDED BY GM'S DESIGNATED VENDOR, AGI.
5. GMC SIGNAGE PER GMFI STANDARDS TO BE PROVIDED BY GM'S DESIGNATED VENDOR, AGI.
6. BOLLARD, TYP
7. ½" ACM JOINT.
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10. STOREFRONT FULL GLAZED GLASS DOOR.
11. STOREFRONT FULL GLAZED VEHICLE ACCESS DOOR.
12. HOLLOW METAL DOOR AND FRAME, PAINTED MATCH ADJACENT WALL COLORS.
13. CLEAR ANOD. ALUM. FRAME STOREFRONT.
14. DIRECTION LANE INDICATORS
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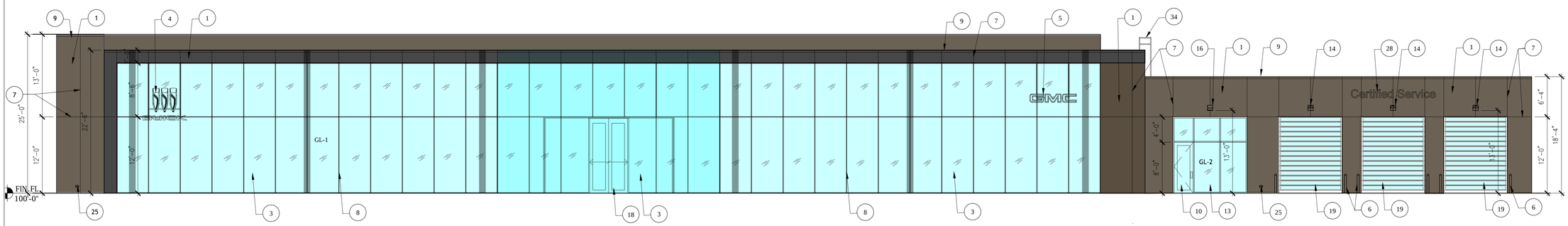
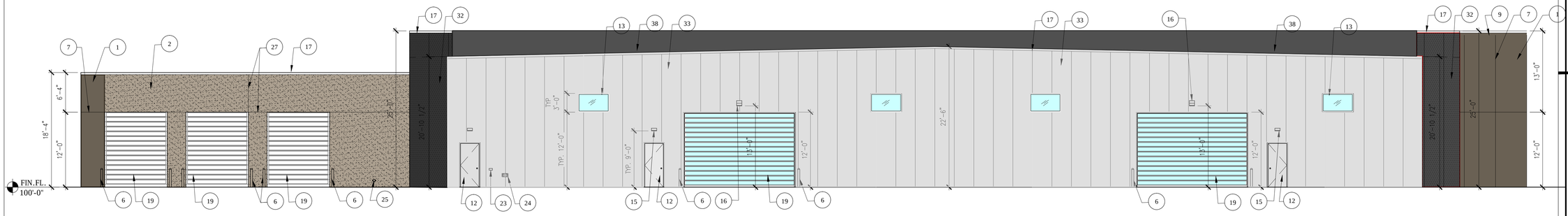
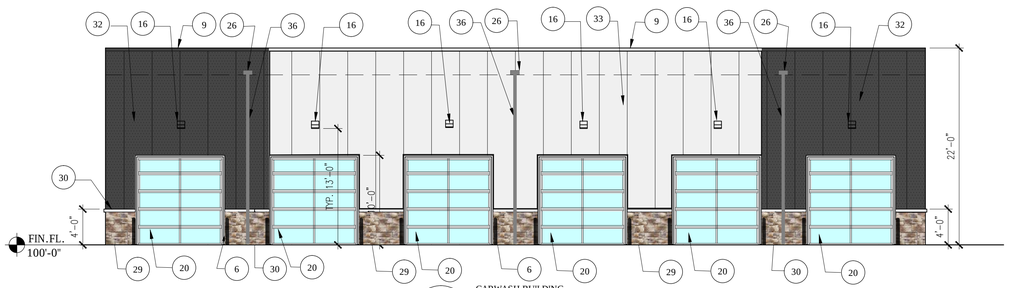
36. DOWNSPOUTS.
37. ROOF DRAIN LAMBS TONGUE DOWNSPOUT NOZZLE AT 16' ABOVE GRADE
38. PEMB METAL ROOF.
39. GREEN WALL. VERTICAL VEGETATION.



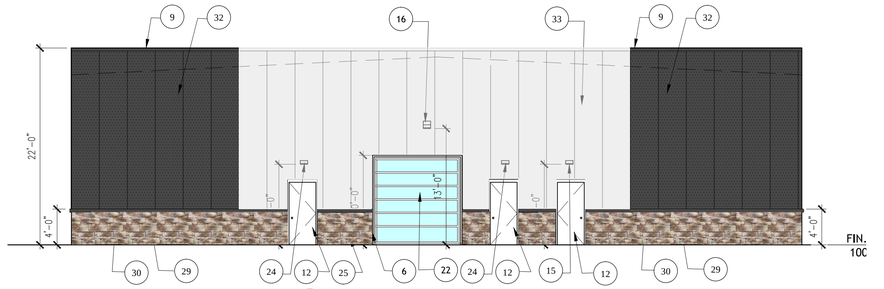
1/8 SOUTH ELEVATION
SCALE 1/8" = 1' - 0"



2/8 NORTH ELEVATION
SCALE 1/8" = 1' - 0"

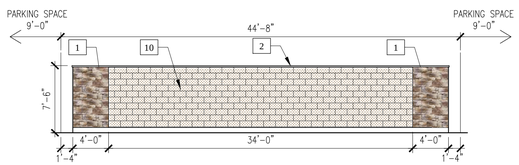


4/8 CARWASH BUILDING
EAST/WEST ELEVATION
SCALE 1/8" = 1' - 0"

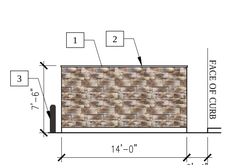


3/8 CARWASH BUILDING
SOUTH/NORTH ELEVATION
SCALE 1/8" = 1' - 0"

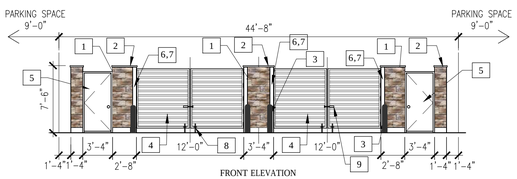
1. CANYON LEDGESTONE, LONE STAR STONE.
2. 2" PRECAST COPPING, NATURAL FINISH CONCRETE
3. BOLLARD, PAINT BLACK
4. GALV. METAL SIDING GATE, PAINT BLACK
5. HOLLOW METAL DOOR AND FRAME, 2" UNDERCUT, PAINT BLACK
6. BENT PLATE 10"X5"X½" JAMB EACH SIDE OF GATE, PAINT BLACK, SOLID GROUT EACH CELL WITH #5 REINF.
7. 6"X6" HEAVY DUTY INDUSTRIAL HINGES, 5 PER JAMB.
8. CANE BOLT AND CAST IN RECEIVER.
9. SLIDING BAR AND HASP, PAINT BLACK
10. 8"X8"X16" SPLIT FACE INTEGRALLY COLORED CMU.



REAR ELEVATION



SIDE ELEVATION



FRONT ELEVATION

5/8 TRASH ENCLOSURE ELEVATIONS
SCALE 1/8" = 1' - 0"

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ARCHITECTURE
&
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2109 S. WADSWORTH BLVD SUITE 303
LAKEWOOD CO, 80227

(720) 984-5835

IN ASSOCIATION WITH

FALCON COMMERCE CENTER PHASE 2
FILING NO. ___
ALPINE DEALERSHIP

FINAL PUD PLAN

W. BAPTIST ROAD

PROJECT INFO

DATE:	02/22/2024
PROJECT MGR:	B. SWENSON
PREPARED BY:	B. SWENSON

STAMP

ENTITLEMENT

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DATE:	BY:	DESCRIPTION:
02/22/2024	JBS	INITIAL SUBMITTAL
03/31/2024	JBS	SUBMITTAL

ISSUE / REVISION

SHEET TITLE

ARCHITECTURAL ELEVATIONS

SHEET NUMBER

9

9 OF 15

PLAN FILE #

CPC #

Z:\2023 ARCHITECTURE\ALPINE BUICK GMC MONUMENT\SHEETS\SDP ELEVATIONS.dwg [Layout1] 8/12/2025 11:23:48 AM WESNAE 2

1. ALUMINUM COMPOSITE METAL PANEL. ACM-1.
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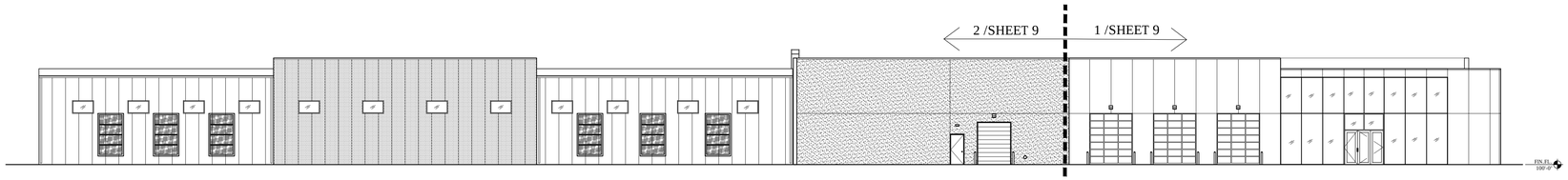
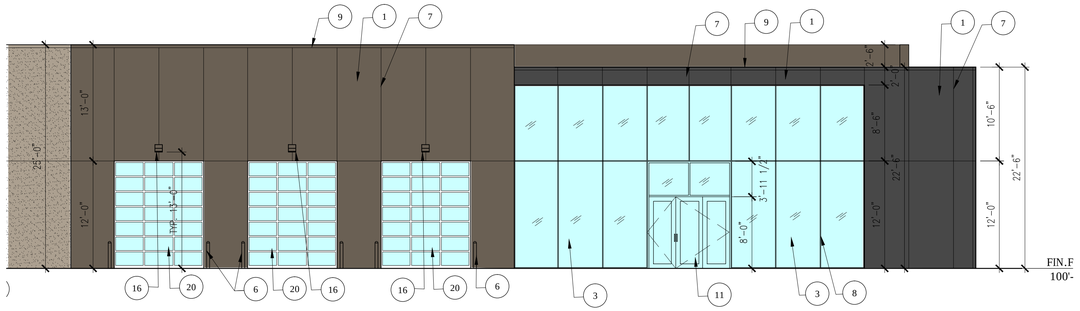
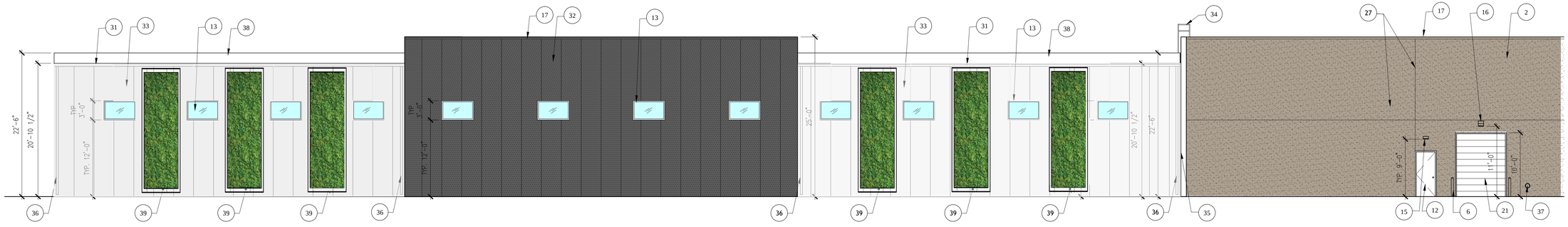




1/9 WEST ELEVATION
SCALE 1/8" = 1' - 0"



2/9 WEST ELEVATION
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ALPINE DEALERSHIP

FINAL PUD PLAN

W. BAPTIST ROAD

DATE: 02/22/2024
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PREPARED BY: B. SWENSON

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DATE:	BY:	DESCRIPTION:
02/22/2024	JBS	INITIAL SUBMITTAL
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SHEET TITLE

ARCHITECTURAL ELEVATIONS

SHEET NUMBER

10

10 OF 15

PLAN FILE #

CPC #

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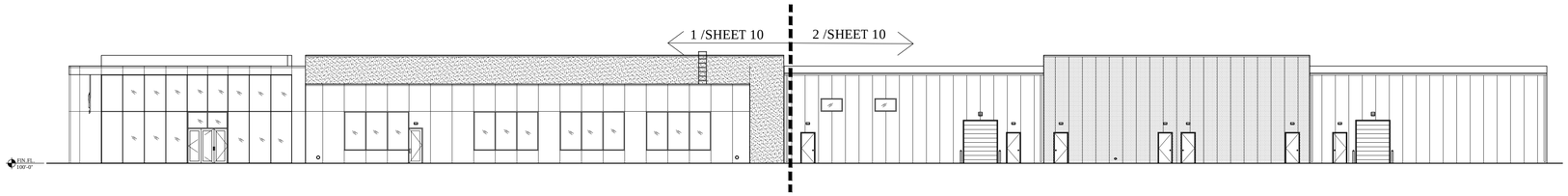
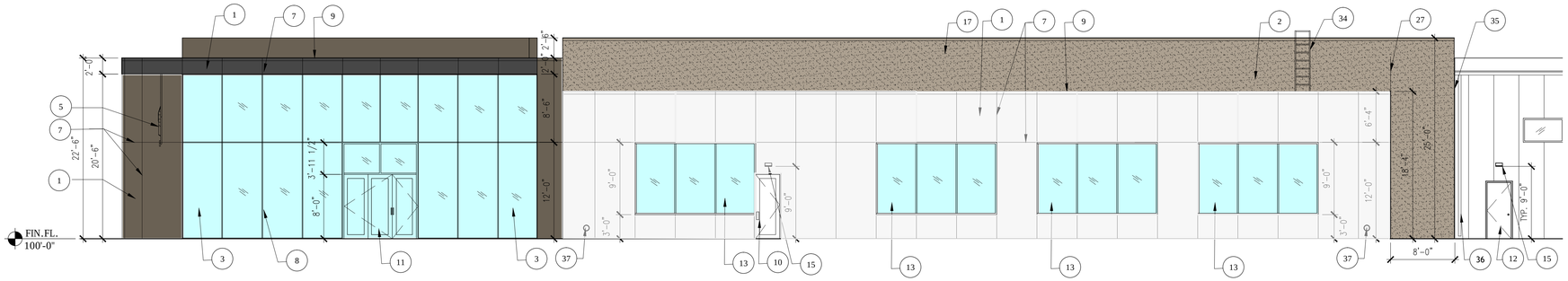
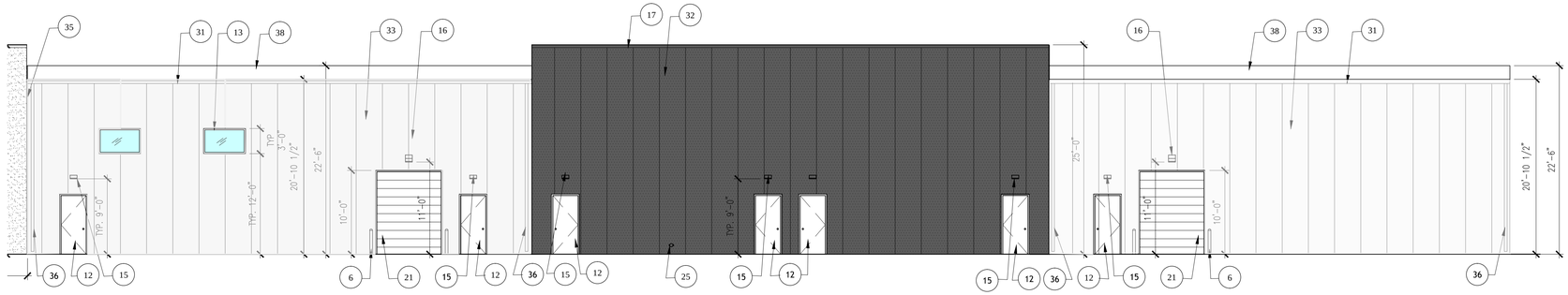




SERVICE DRIVE AND SERVICE SHOP SIDE ELEVATION
1/10 EAST ELEVATION
SCALE 1/8" = 1' - 0"



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ARCHITECTURAL ELEVATIONS

SHEET NUMBER

11

11 OF 15

PLAN FILE #

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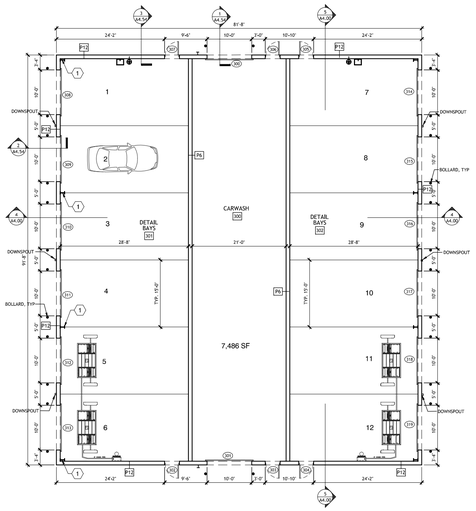
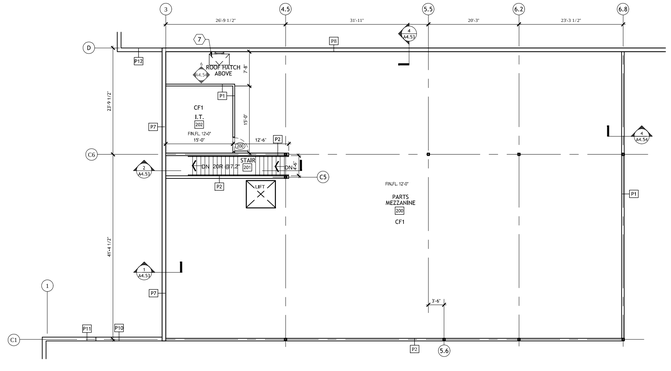
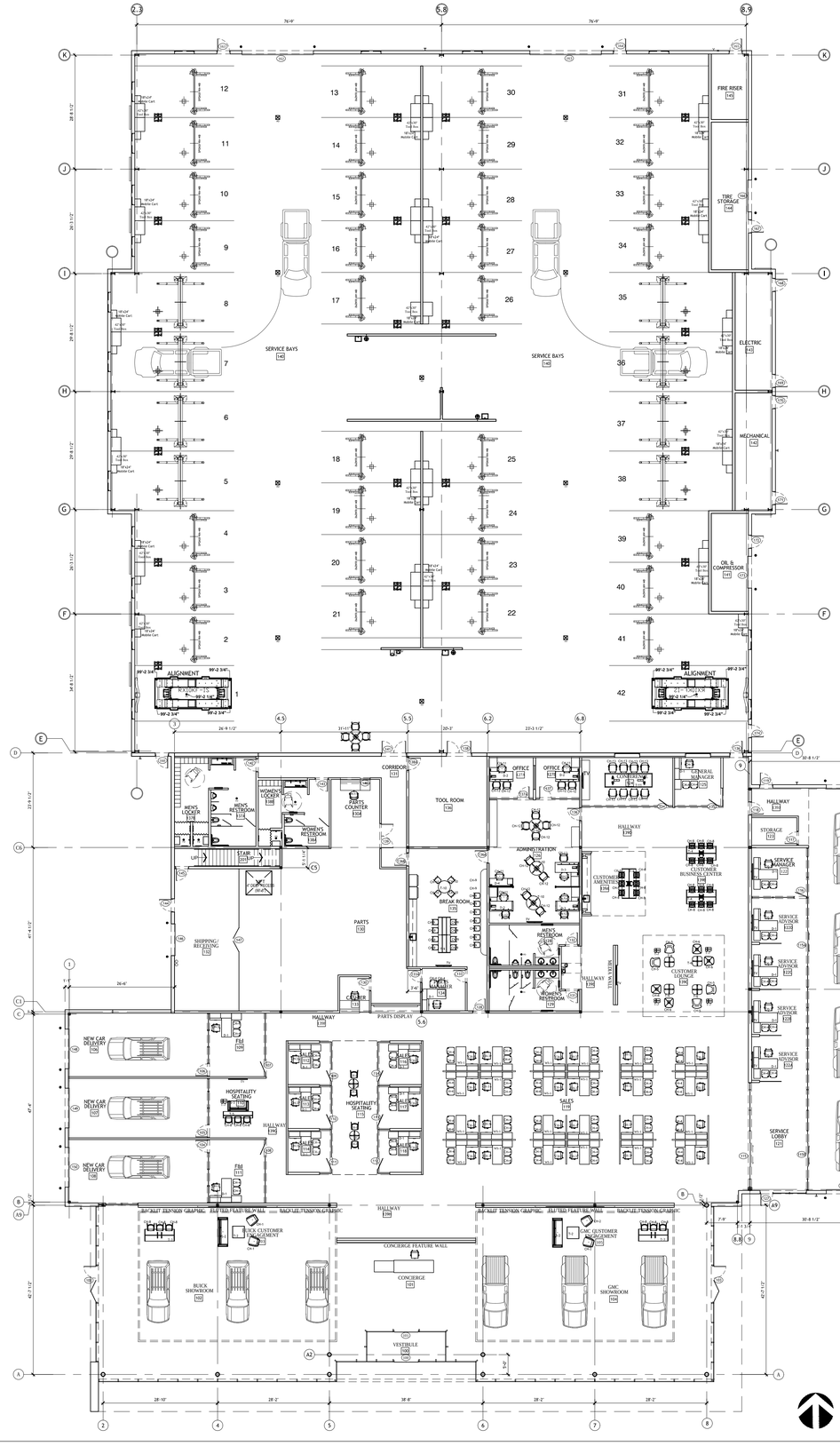


2 / 11 CARWASH BUILDING
FLOOR PLAN
SCALE 1/16" = 1' - 0"



3 / 11 MAIN BUILDING
FLOOR PLAN - MEZZANINE
SCALE 1/16" = 1' - 0"



1 / 11 MAIN BUILDING
FLOOR PLAN
SCALE 1/16" = 1' - 0"

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903

Tel. 719.471.0073
Fax 719.471.0267

www.nescolorado.com

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PLANNER / LANDSCAPE ARCHITECT

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WESNAE
ARCHITECTURE
&
ENGINEERING

2109 S. WADSWORTH BLVD SUITE 303
LAKEWOOD CO, 80227

(720) 984-5835

PROJECT INFO

FALCON COMMERCE CENTER PHASE 2
FILING NO. ___
ALPINE DEALERSHIP

FINAL PUD PLAN

W. BAPTIST ROAD

DATE: 02/22/2024
PROJECT MGR: B. SWENSON
PREPARED BY: B. SWENSON

STAMP

ISSUE INFO

ENTITLEMENT

ISSUE / REVISION

DATE:	BY:	DESCRIPTION:
02/22/2024	JBS	INITIAL SUBMITTAL
03/31/2024	JBS	SUBMITTAL

SHEET TITLE

ARCHITECTURAL
FLOOR PLANS

SHEET NUMBER

12

12 OF 15

PLAN FILE #

CPC #

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Luminaire Schedule

Symbol	Qty	Label	Arrangement	LMF	Lum. Lumens	Lum. Watts	Part Number
	5	S1	SINGLE	1.000	52800	447	OSQX-C-75L-50K9-AF-UL-NM-__-BML w/OSQ-X-C-DA-__
	24	S2	SINGLE	1.000	6275	55	OSQW-C-8L-50K9-4M-UL-NM-__-BML
	16	S3	2 @ 180°	1.000	37000	297	OSQX-C-50L-50K9-5L-UL-NM-__-BML w/OSQ-X-C-DA-__
	1	S4	SINGLE	1.000	33200	447	OSQX-C-75L-50K9-4B-UL-NM-__-BML w/OSQ-X-C-DA-__
	6	S5	2 @ 180°	1.000	38000	236	OSQX-C-50L-50K9-3M-UL-NM-__-BML w/OSQ-X-C-DA-__
	18	S6	SINGLE	1.000	26200	384	OSQX-C-65L-50K9-3M-UL-NM-__-BML w/OSQ-X-C-DA-__ + OSQ-X-C-BLS
	6	S7	SINGLE	1.000	28100	236	OSQL-C-40L-50K9-2M-UL-NM-__-BML w/OSQ-ML-C-AA-__ + PGM-1__
	2	S8	2 @ 180°	1.000	33200	447	OSQX-C-75L-50K9-4B-UL-NM-__-BML w/OSQ-X-C-DA-__
	19	S9	SINGLE	1.000	30300	447	OSQX-C-75L-50K9-4M-UL-NM-__-BML w/OSQ-X-C-DA-__ + OSQ-X-C-BLS

Calculation Summary (Footcandles calculated using LMF: 1.00)

Label	Units	Avg	Max	Min	Avg/Min	Max/Min
20' Past the PL	Fc	0.08	0.1	0.0	N.A.	N.A.
CalcPts	Fc	4.79	143.1	0.0	N.A.	N.A.
Verticals Along Display Area at 3ft AFG	Fc	52.13	179.0	0.8	65.16	223.75
Automotive Frontline	Fc	11.46	20.4	2.9	3.95	7.03
Automotive Frontline B	Fc	39.46	71.1	12.3	3.21	5.78
Center Inventory	Fc	9.74	94.9	0.9	10.82	105.44
Display Interior A	Fc	13.35	42.9	2.8	4.77	15.32
Display Interior B	Fc	9.25	19.6	1.8	5.14	10.89
Inventory North	Fc	7.98	15.1	1.9	4.20	7.95
Inventory South	Fc	5.87	13.7	1.0	5.87	13.70

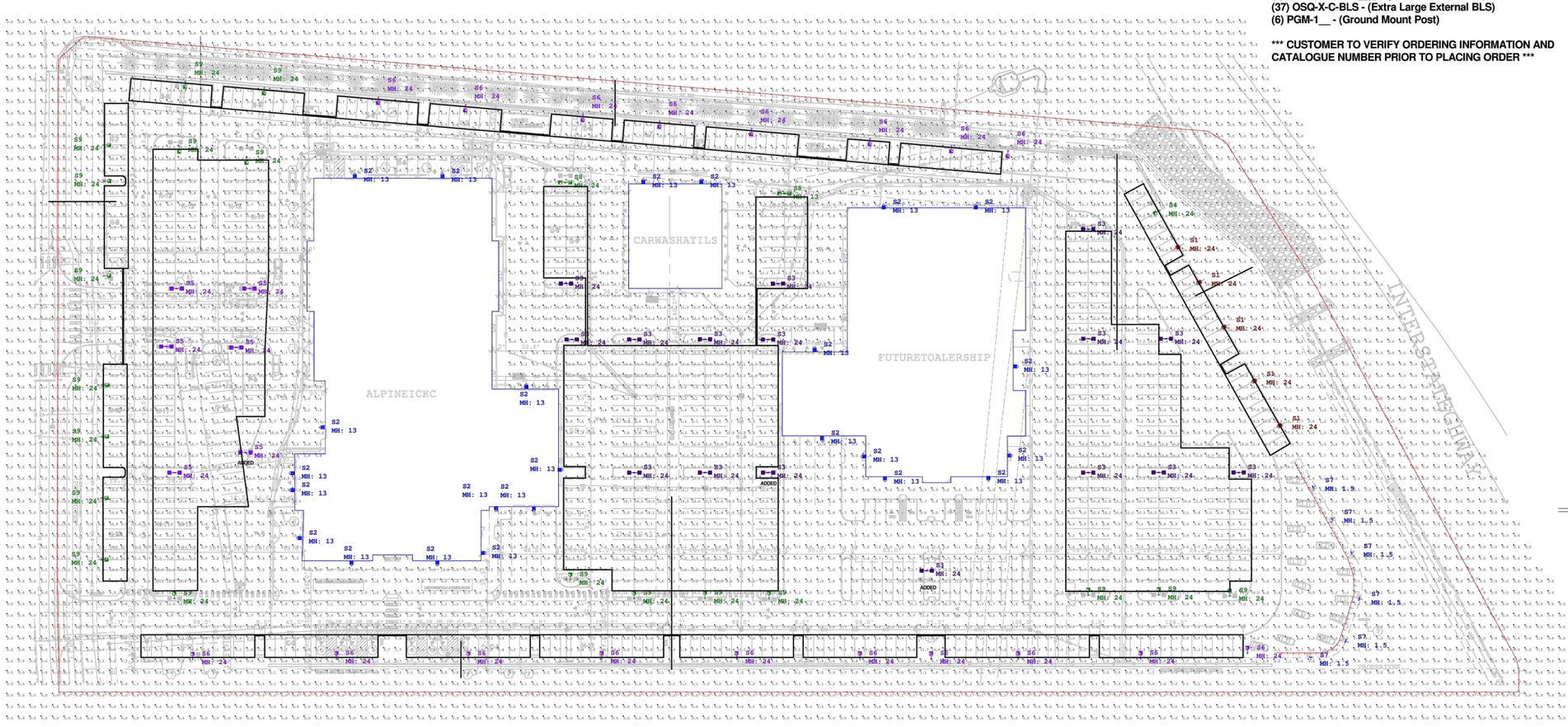
Fixture Mounting Height: 24' AFG (22' Pole + 2.0' Base)

Pole Schedule
(43) SRS-5-11-22-SW-BS-1D-Q-__ (5" x 22' x 11 ga STEEL ROUND POLE; Single)
(24) SRS-5-11-22-SW-BS-2D18-Q-__ (5" x 22' x 11 ga STEEL ROUND POLE; 2@180°)

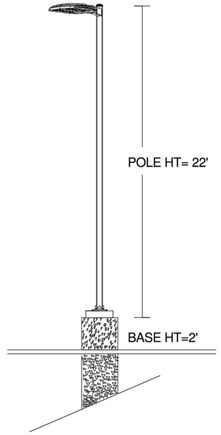
Proposed poles meet 130 MPH sustained winds.

Additional Equipment:
(91) OSQ-X-C-DA-__ (DIRECT ARM MOUNT)
(6) OSQ-ML-C-AA-__ (Adjustable Arm Mount)
(37) OSQ-X-C-BLS - (Extra Large External BLS)
(6) PGM-1__ - (Ground Mount Post)

***** CUSTOMER TO VERIFY ORDERING INFORMATION AND CATALOGUE NUMBER PRIOR TO PLACING ORDER *****



OSQ Area Luminaire



CREE LIGHTING

9201 Washington Ave, Racine, WI 53406 - (800) 236-6800
https://www.creelighting.com - Email: applications@creelighting.com

Illumination results shown on this lighting design are based on project parameters provided to Cree Lighting used inconjunction with luminaire test procedures conducted under laboratory conditions. Actual project conditions differing from these design parameters may affect field results. The customer is responsible for verifying dimensional accuracy along with compliance with any applicable electrical, lighting,or energy code.

Project Name: Buick GMC Apline Monument, CO - EXT

CASE #: CN-00604375
RC: AE-00700284

Footcandles calculated at 4' Afg

Filename: 240415AB1LJSR5.AGI

Layout By:
Collin Witherow

Date:12/10/2025

Scale 1" = 50'
0 100 200

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903

Tel. 719.471.0073
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LAKEWOOD CO, 80227

(720) 984-5835

IN ASSOCIATION WITH

PROJECT INFO

FALCON COMMERCE CENTER PHASE 2
FILING NO. ___
ALPINE DEALERSHIP

FINAL PUD PLAN

W. BAPTIST ROAD

DATE: 02/22/2024
PROJECT MGR: B. SWENSON
PREPARED BY: B. SWENSON

STAMP

ENTITLEMENT

ISSUE INFO

DATE:	BY:	DESCRIPTION:
02/22/2024	JBS	INITIAL SUBMITTAL

ISSUE / REVISION

SHEET TITLE

PHOTOMETRIC

SHEET NUMBER

13

13 OF 15

PLAN FILE #

CPC #

Z:\2023 ARCHITECTURE\ALPINE BUICK GMC MONUMENT\SHEETS\SDP SITE PLAN.dwg [Layout1] 12/12/2025 1:04:45 PM WESNAE 2

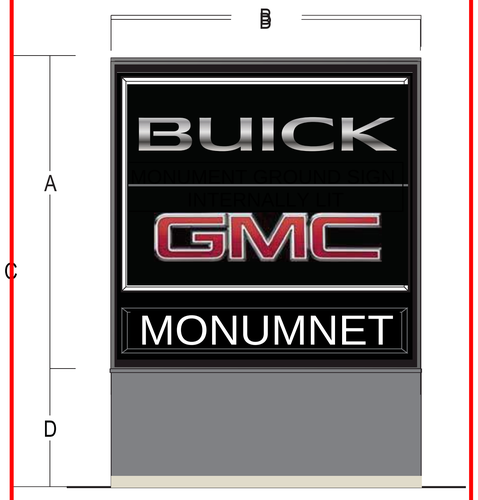
General Motors Facility Image
Dealer Signage Package

Essential Brand Elements EBE

General Motors Facility Image

Dealer Signage Package

ALPINE BUICK GMC SOUTH, INC (308382)



MONUMENT

GROUND MOUNT - MONUMENT			
Sign Type	A / B	C	D
M64	8'- 8 1/4"	12'- 0"	3'- 3 3/4"
M64	8'- 8 1/4"	11'- 0"	2'- 3 3/4"
M36	6'- 4 9/16"	10'- 0"	3'- 7 7/16"
M36	6'- 4 9/16"	8'- 0"	1'- 7 7/16"
M16	4'- 4 9/16"	6'- 0"	1'- 7 7/16"
M16	4'- 4 9/16"	5'- 0"	7 7/16"

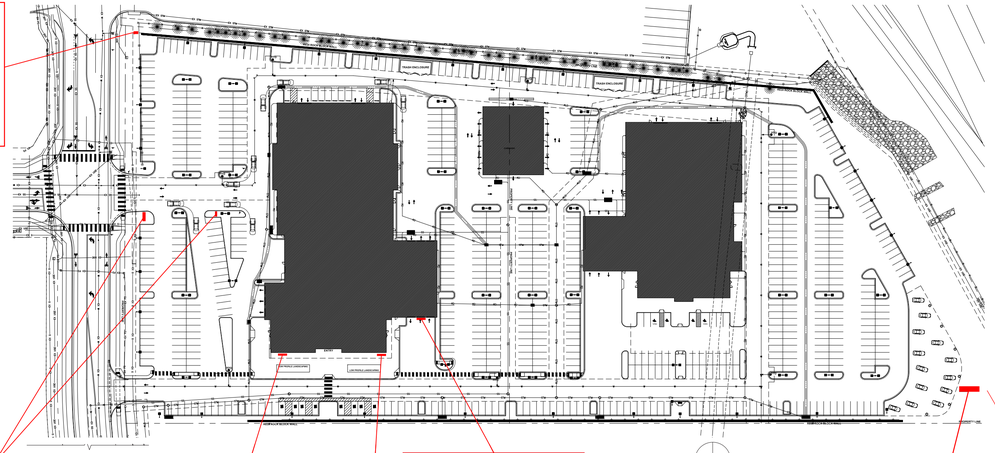
*Has no stainless on columns

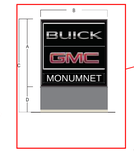
ILLUMINATED DIRECTIONALS			
Sign Type	A	B	C**
R36*	3'-1 9/16"	12'-4 9/16"	9'-1 9/16"
R16	2'-3 9/16"	8'-4 9/16"	8'-3 9/16"
RX9	1'-9"	6'-4 9/16"	7'-9"
RX4	1'-4"	4'-4 9/16"	7'-4"

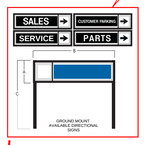
*Not available as a wall project sign
**Maximum heights

DIRECTIONAL GROUND SIGN
NOT LIT

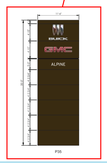
SITE MAP







ALL BUILDING SIGNS
INTERNALLY LIT



Drawn by: CA Scale: NTS
Project Mgr: K.LAPOINTE Date Created: 08.18.25
Sheet Number: 4 Date Revised:

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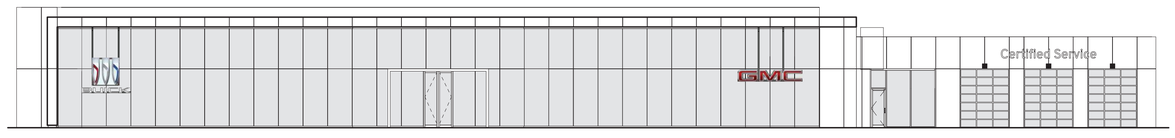
AGI
2655 International Pkwy., Virginia Beach, VA 23452
PHONE: (757) 427-1900 - FAX: (757) 430-1297
www.AGI.net

Dealer Approval:_____ Date: _____
Signature Required

General Motors Facility Image
Dealer Signage Package

Essential Brand Elements EBE



FRONT ELEVATION

PACKAGE

The Dealer Signage Package is issued to the Dealer Principal for review and approval. This document outlines the proposed FI signage for the Dealership.

APPROVAL

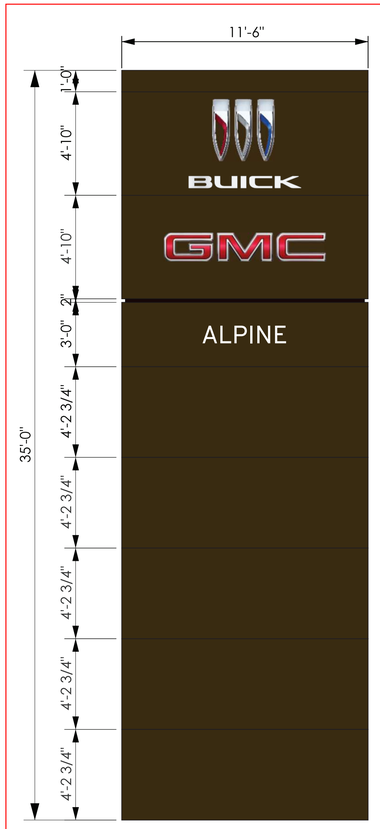
Dealer Principal is to review sign placement, sign size and enclosed quote. Once the Dealer Principal approves the sign package, Dealer Principal is to sign off on each enclosed rendering showing sign placement as well as the enclosed quote. Dealer Principal is to return to Architectural Graphics, Inc. copies of the approved renderings as well as signed quote and issue the 50% deposit payment.

NEXT STEPS

Upon receipt of the deposit payment, Architectural Graphics Inc. will proceed with permitting the signs. Once all signs are permitted, AGI will coordinate manufacturing, shipping and installing the signs based on FI building readiness.

AGI
2655 International Pkwy., Virginia Beach, VA 23452
PHONE: (757) 427-1900 - FAX: (757) 430-1297
www.AGI.net

PYLON GROUND SIGN
INTERNALLY LIT



P35

GRAPHIC SIZE BY SIGN					
SIGN			BUICK	GMC	DEALERNAME
P-35	4' - 2" (H) X 5' - 3 1/16" (W)	2' - 11" (H) X 2' - 11 3/8" (W)	6 13/16" (H) X 5' - 3 1/16" (W)	1' - 4 1/8" (H) X 7' - 6 15/16" (W)	9 7/8" (H) X 3'-10 3/4" (W)

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619 N. Cascade Avenue, Suite 200
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LAKEWOOD CO, 80227

(720) 984-5835

FALCON COMMERCE CENTER PHASE 2
FILING NO. ___
ALPINE DEALERSHIP

FINAL PUD PLAN

W. BAPTIST ROAD

PROJECT INFO
DATE: 02/22/2024
PROJECT MGR: B. SWENSON
PREPARED BY: B. SWENSON

STAMP

ENTITLEMENT

ISSUE INFO

DATE:	BY:	DESCRIPTION:
02/22/2024	JBS	INITIAL SUBMITTAL
03/31/2024	JBS	SUBMITTAL

ISSUE / REVISION

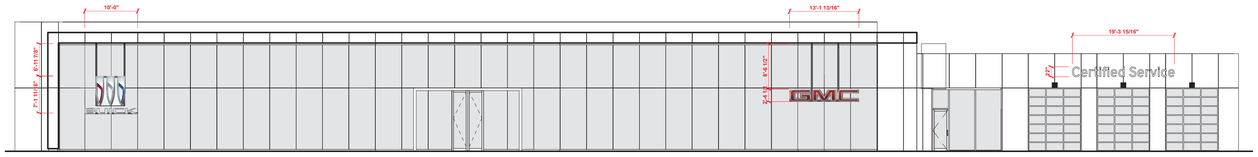
SHEET TITLE
ARCHITECTURAL
SIGN PACKAGE

SHEET NUMBER
14
14 OF 15

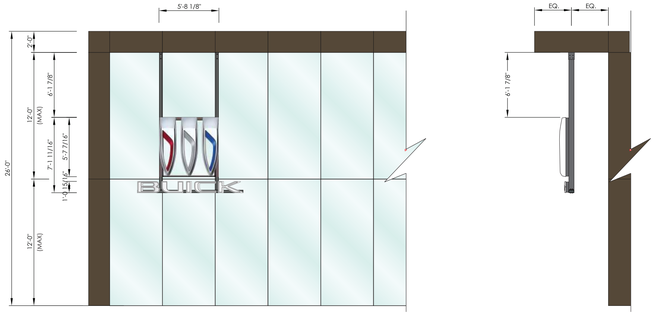
PLAN FILE #

Z:\2023 ARCHITECTURE\ALPINE BUICK GMC MONUMENT SHEETS SDP FLOOR PLAN.dwg [Layout1] 8/12/2025 11:36:28 AM WESNAE 2

ELECTRICAL REQUIREMENTS: Each sign requires a dedicated 120v circuit



FRONT ELEVATION



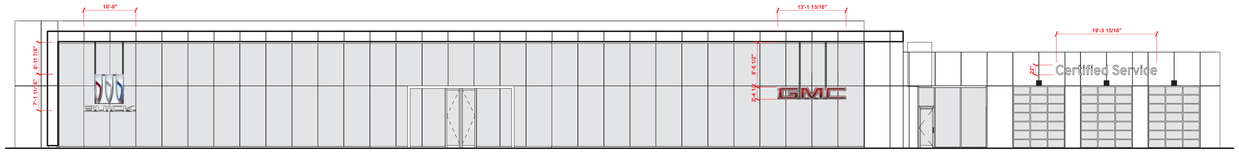
SIZE A
SCALE 3/16" = 1'-0"

VISTA PORTAL - ARMATURE LETTER SET GMDI-BUICK-SUS-RW-A-42.5-140

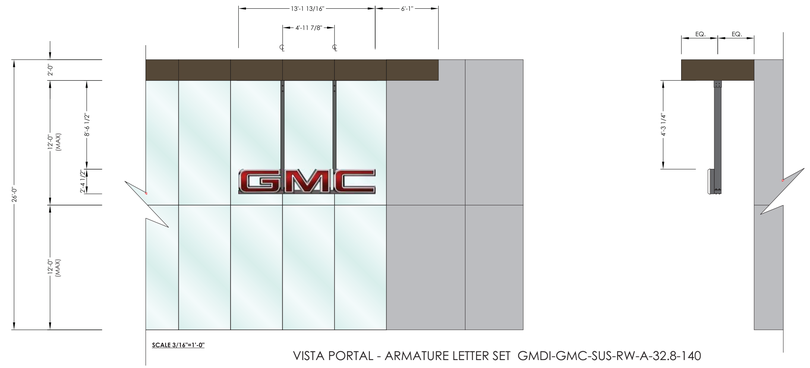
SIZE A: 42.50 SQ. FT.
ARMATURE SIZE: 8" X 4" X 1/4"
ESTIMATED SIGN WEIGHT: 390 LBS
Fy (Axial): 195lb
Fz (Shear): 990lb
Mx (Moment): 9900 lb. ft.

ELECTRICAL REQUIREMENTS:
1.) 120V/277V 20 AMP CIRCUIT REQ.
2.) DEALER TO PROVIDE POWER TO 6FT. OF MIDDLE OF SIGN UNLESS OTHERWISE AGREED UPON
3.) MIN. 14 GA WIRE REQUIRED FROM THE POWER SUPPLY BOX TO OUTSIDE OF THE SLEEVE

ELECTRICAL REQUIREMENTS: Each sign requires a dedicated 120v circuit



FRONT ELEVATION

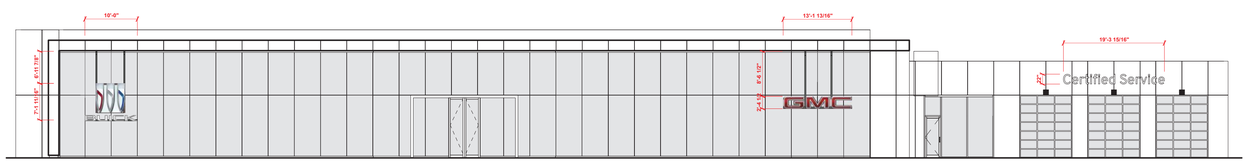


SCALE 3/16"=1'-0"

VISTA PORTAL - ARMATURE LETTER SET GMDI-GMC-SUS-RW-A-32.8-140

SIZE A: 32.80 SQ. FT.
ARMATURE SIZE: 8" X 4" X 1/4"
ESTIMATED SIGN WEIGHT: 330 LBS
Fy (Axial): 195lb
Fz (Shear): 990lb
Mx (Moment): 9900 lb. ft.

ELECTRICAL REQUIREMENTS: Each sign requires a dedicated 120v circuit



FRONT ELEVATION

CS-22

SIZE	Certified Service	
	A	B
CS-22	1' - 10"	19' - 7 11/16"

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Tel. 719.471.0073
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IN ASSOCIATION WITH

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FINAL PUD PLAN

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ARCHITECTURAL
SIGN PACKAGE

SHEET NUMBER

15

15 OF 15

PLAN FILE #

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ALPINE DEALERSHIP @ FALCON COMMERCE CENTER FINAL PUD PLAN

PROJECT NARRATIVE

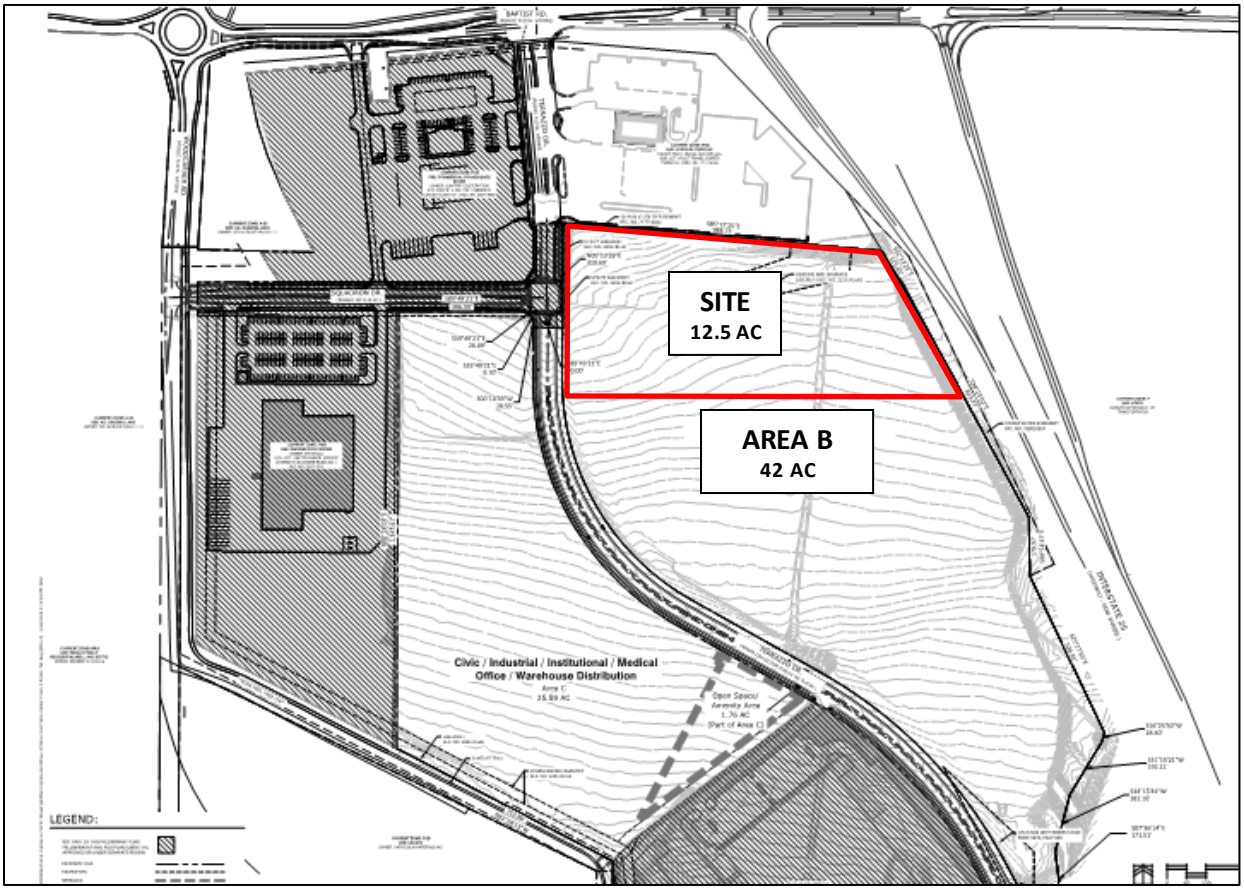
~~MAY 2024~~, ~~MAY 2025~~, SEPTEMBER 2025

REQUEST

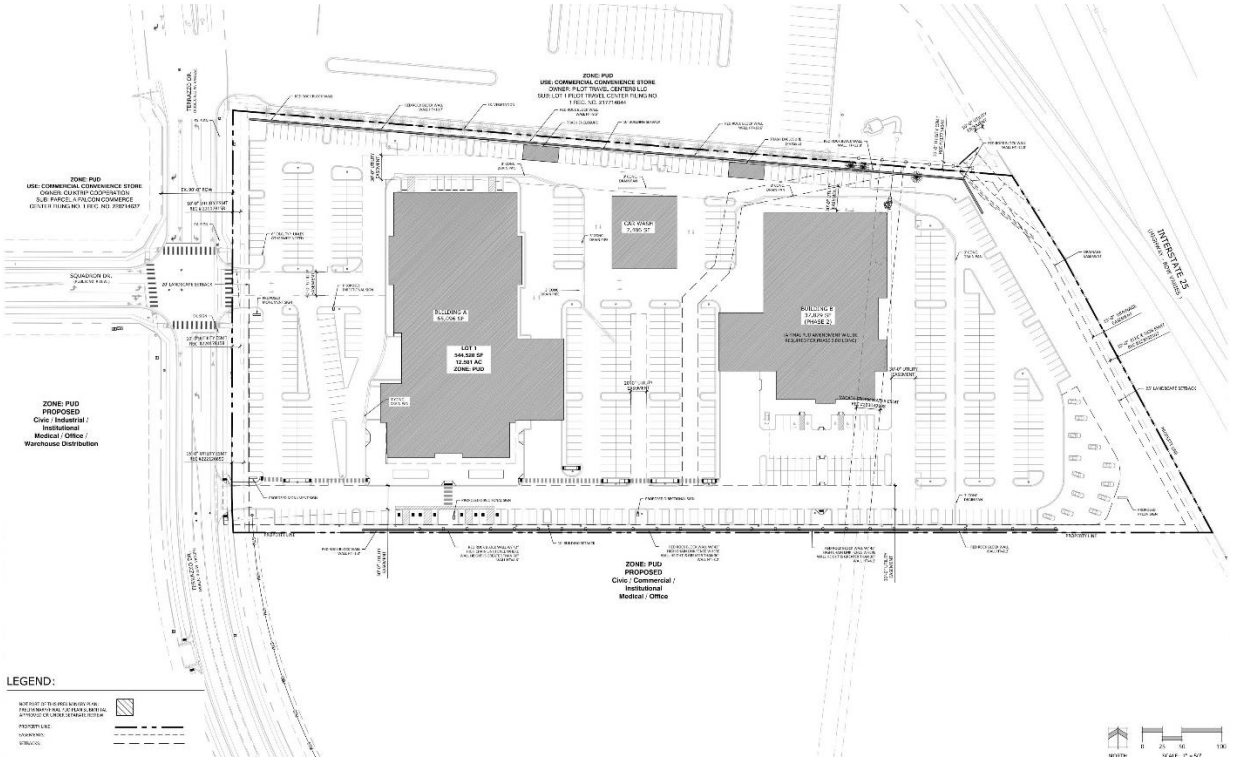
Alpine Buick GMC Dealership requests approval of a Final PUD Plan for an Automative Sales, Service and Repair center on 12.50 acres at Falcon Commerce Center.

PROJECT DESCRIPTION

Falcon Commerce Center is situated south of Baptist Road, west of I-25, and north of the United States Air Force Academy. The Phase 2 Preliminary PUD Plan was approved on July 18, 2022, for a mix of uses including civic, commercial, institutional, medical, office, warehouse distribution, and open space. Area B on the Phase 2 Preliminary Plan comprises approximately 42 acres designated for Civic/Commercial/Institutional/ Medical/Office uses. This Final PUD Plan for an Automative Sales, Service and Repair center relates to the northern 12.5 acres of Area B, immediately south of the Pilot Travel Center.



The proposed Alpine Dealership comprises three buildings; Building A is a 65,096 SF building (59116 SF main level, and 5980 SF mezzanine) located on the west portion of the site; Building B is a 37,829 SF single-story building situated on the east portion of the site. All buildings are to be used for vehicle sales, service, and repair. A 7,486 SF car wash facility for use by the dealership only is situated between the two primary buildings. A vehicle display area is identified in the southeast corner of the property adjacent to I-25.



The primary access to the site is provided off Terrazzo Drive, in alignment with Squadron Drive to the west. A secondary access is provided in the southwest corner of the site onto Terrazzo Drive . All stormwater runoff flows to the Falcon Commerce Center detention basin to the southwest of the Terrazzo Drive.

The project will be developed in two phases. Phase One will include Building A, the western trash enclosure, and the Car Wash building, along with site infrastructure and the majority of the parking lot. The Phase Two building pad will be temporarily revegetated with native grass. The footprint of Building B is shown conceptually on the Final PUD Plan; a PUD amendment will be required to approve the final design and architectural elevations.

The Phase 2 Preliminary Plan specifies zoning, development and design standards that govern the future development within Falcon Commerce Center. The Declarations of Covenants, Conditions, Restrictions and Easements (CC&Rs) for Falcon Commence Center were recorded on August 31st, 2017. These reference Development and Design Guidelines dated August 1st, 2017 (subsequently updated October 1, 2021), which include specifications relating to site design, lighting design, sign design, landscape

design and architectural design. The Falcon Commerce Center Design Review Board will enforce the CC&Rs, provide design review services, and enforce maintenance standards for Falcon Commence Center.

The dealership is projected to sell between $350,000 and $400,000 in parts and accessories each month, totaling approximately $4.2 to $4.8 million annually. With a 7% sales tax, the Town is expected to generate between $294,000 and $336,000 per year in tax revenue.

The approved PUD zoning, development, and design standards relevant to the Alpine Dealership Final PUD Plan are as follows:

Permitted Uses: The permitted uses for the Falcon Commerce Center Phase 2 Preliminary PUD Plan are identified on the Permitted Use table on this Preliminary PUD Plan.

The proposed Automative Sales, Service and Repair use is a permitted commercial use within Area B on the approved Phase 2 Preliminary Plan.

Maximum Building Height: Seventy (70) feet

The proposed height for this final PUD plan is 25 feet.

Minimum Building Setbacks:

1. **Interstate 25: Fifty (50) foot**

   Building B is the closest building to I-25 and is setback 185' from the eastern property line.

2. **Terrazzo Drive: Twenty (20) Foot**

   Building A is the closest building to Terrazzo Drive and is setback 204' from the eastern property line.

3. **Internal Lot Lines: The setbacks for individual lots will be determined with the Final PUD Plans.**

   The Final PUD Plan defines a minimum setback of 10' for the internal lot lines to the north and south. The buildings are setback a minimum of 65' from the north lot line and 90' from the south lot line.

Maximum Lot Coverage (subject to the lot coverage definition set out in this Preliminary PUD Plan): Forty (40) percent of lot area for all non-residential and high-density residential uses on a single lot.

[LOT COVERAGE DEFINITION: The percentage of the lot area that may be covered by all of the footprints of the buildings and structures on a lot including detached garages, carports, sheds, gazebos, covered patios and decks. Driveways, dock areas, surface parking, uncovered patios and decks, and other impervious surfaces are not included.]

The lot coverage of Buildings A and B and the car wash is 20%.

Lot Size: The lot configuration on this Preliminary PUD Plan is illustrative only. The Final PUD Plans and Final Plats will establish the final lot configuration and lot sizes.

The lot size defined by this Final PUD plan is 12.5 acres.

Parking: The off-street parking standards set out in Table 5.1 of Section 18.05.215 of the Monument Municipal Code, as amended, shall apply to this planned unit development. All parking spaces and handicapped spaces and aisles are to be striped to Town of Monument standards. The surface treatment of all parking areas will be asphalt or concrete.

The Town Municipal Code requires parking at a rate of one space per 10% of the vehicle outside display area, one space per 450 square feet of floor area, and four spaces per service bay. Based on these standards, a total of 448 spaces are required. The Final PUD Plan provides 679 spaces, exceeding the Code requirement. Phase 1 will include 574 of these spaces. In accordance with Town Code Section 18.05.250, nine accessible spaces are required; twelve ADA-compliant spaces are provided. All parking spaces will be striped in accordance with Town standards, and the surface treatment will consist of asphalt paving.

Architectural and site design standards:

- **Building Elevations: Building elevations must provide an overall balance of architectural composition form and detail on all four sides to reduce building mass. Large, flat, unarticulated surfaces are not encouraged. Changes in vertical or horizontal plane, roof design, architectural elements, and changes in materials and color application are acceptable means of reducing mass.**

  The elevations reflect a variegated roof parapet at the service shops with a two-color panel scheme that contains the two brand colors for Buick GMC, black and white. Extensive glazing is proposed on the south elevation. Stone veneer wainscoting is proposed on the car wash building. The west elevation is broken up with large steel trellises for vines.

- **Building Design: Four-sided/360-degree architectural treatment is encouraged. External details in building facades, entries, stairways, retaining walls and other features provide visual interests, enrichment, and texture to buildings.**

  The rooftop forms are broken up on the front and public street side of the building facades with stepped parapet features. The rear and side elevation are screened by a 9-foot-high retaining wall at the boundary of the site.

- **Rooftop Forms: Rooftop forms should be broken to create variety in the roof-scape, avoiding singular, large or continuous roof lines or planes.**

  All roof top equipment visible above the perimeter roof edge parapet will be screened by a panel system matching that of the service side building walls. The front and sides of the building will have variegated parapet steps.

- **Building Materials: The materials of Falcon Commerce Center emphasize natural, earthen materials manufactured in units measurable in human proportions. Exterior materials should be aesthetically pleasing, of a high quality and durable. Visual continuity is desired throughout the development. Metal panel buildings are prohibited in Falcon Commerce Center, however, metal accents, awnings, etc., are subject to Design Review Board approval.**

  The building materials of the Alpine Buick GMC Dealership incorporate extensive glazing, and the "brand" colors of black, white and silver throughout the façade. The FCC DRB has approved some architectural metal panel elements with varying colors to provide three primary building materials to help break up the massing.

- **Material Colors: The colors of Falcon Commerce Center are centered on the muted and weathered colors found in the "high plains" environment, typically saturated by grey. Bright colors, while allowed, should be limited in area and application, and should be used to access elements such as architectural details, door and window frames, patterns, and accessory elements.**

  The colors of the building will be the 'brand" required black, white, and silver colors. The trash enclosure will be a grey earthtone integrally color concrete block that will approximate the color of the Ledgestone Redi-rock retaining walls color palette in the design guidelines.

- **Lighting: All free-standing lighting shall be similar in design style, form, and color while reflecting the architectural style and character of the building and the overall design theme of Falcon Commerce Center. Lighting shall comply with the standards of the Town Code and Falcon Commerce Center Design Guidelines. Exterior lighting may not include unshielded building mounted lighting or neon or gas lighting on buildings.**

  The site lighting is 24 feet in total height above the ground, with bronze fixtures and wall mounted fixtures. Site lighting will be Dark Sky Compliant as required by the Town standards.

- **Signs: Signs should be designed in a comprehensive manner which is compatible with the overall site landscape and architectural design of Falcon Commerce Center. All permanent signs for any project are intended to have an integrated theme related to the architectural character of the building. Flashing, neon, moving, or animated signs are not permitted. All signs should comply with applicable sign requirements of Chapter 18.06 of the Town's Municipal Code, as amended. Town sign permits are required, and review and approval by the Design Review Board is necessary prior to the installation/construction of any permanent or temporary signage.**

  Sign locations are identified on the Final PUD Plan, but the sign design will be processed later time via a sign permit submittal to the Town. The above sign design standards will be incorporated in the sign permit submittal.

- **Screening:**

  - **Service areas should be visually unobtrusive and should be integrated into the site design and building architecture. Service entrances, loading docks/areas, waste disposable areas,**

utility equipment and similar components should be oriented away from streets, open space, view corridors, primary building entrances and adjacent buildings, to the extent the site allows, or otherwise adequately screened.

The service/repair bays are located on the east side of Building A and the west side of Building B and facing north toward the Pilot Travel Center. This internalizes the activity associated with the service bays and makes them visually unobtrusive as they are oriented away from the adjacent streets of I-25 and Terrazzo Drive.

- **All ground mounted or rooftop equipment, storage or trash enclosures should be screened, including, but not limited to, air conditioning, heating or ventilating equipment, trash dumpsters, air compressors, emergency generators and similar equipment. Screening should extend to the top of any such equipment.**

  Trash containers, dumpsters, and recycling containers shall all be screened on four sides. We request that the height of the enclosure be 7'-6" to all screening a oversize containers and to have man doors that do not have to be special sizes. It also allows a regular coursing of the block and the two-inch precast coping to be implemented easier. The trash enclosure backs up against the Redi Rock retaining wall. The enclosure will be constructed out of CMU blocks and clad with the FCC standard Canyon Ledgestone veneer.

  Rooftop mounted equipment shall be screened by the parapet walls.

Landscape Standards: Notwithstanding anything contained herein to the contrary, in the interest of water conservation, Xeriscape landscape design is strongly encouraged.

Xeric plant material has been specified throughout the plan. Turf grass is limited to the streetscape along Terrazzo Drive to create a sense of arrival.

- **Landscape Setbacks:**
  - **Interstate 25: Twenty-five (25) foot.** Provided.
  - **Terrazzo Drive: Twenty (20) foot.** Provided.
- **Right of Way Landscaping: Right of way landscaping at Falcon Commerce Center should present a visually cohesive open space system. Similar landscaping treatments should be used at all entrances and intersections. Plant materials, rock mulching, massing, spacing, height, and characteristics should reinforce the hierarchy of roadways.**

  The proposed rock mulch meets the Falcon Commerce Center Design Guidelines to create a visually cohesive open space system.

  - **Collector/Arterial Streets: 20' minimum landscape setback required. One (1) tree per 20 linear feet of the right of way length. No ornamental trees are to be placed in this**

category of right of way. Forty percent (40%) of the trees in this category should be a large evergreen species.

Required setback depth and number of trees provided along Terrazzo Drive. Smaller evergreen trees are proposed, due to the existing gas line and 10' Utility Easement along Terrazzo Drive.

- **Entryway Landscaping: Additional focus and plant materials should be placed at the entry-ways of developments. Focused design in these areas should create a sense of arrival and placement.**

  The site entrances are to be heavily planted to emphasize the entrances and create a sense of arrival.

- **Parking Lot Landscaping: Two thirds (2/3) of any parking lot fronting a right of way or shared property boundary is to be screened by 3-foot height plant materials. Thirty percent (30%) of the screening shall be evergreen or extended seasonal value substitute.**

  Required number of screening shrubs provided in the site category calculations.

- **Building Site and Foundation Landscaping: Landscaping shall be provided at the perimeter of buildings in a manner to identify, enhance and soften building entrances, and to accentuate building architecture.**

  There are four 8x15' steel trellis panels with climbing vines proposed along the western elevation of Building A.

- **Landscape Buffers and Screening:**

  - **Buffers: Landscape buffers are required between non-residential and residential uses to soften and filter the varying uses. These buffers are to be a minimum of 15' in width unless approved otherwise by the Design Review Board. When a buffer is required, 1 tree per 30 linear feet of the buffer length is to be provided. Fifty percent (50%) of the trees in the buffer are to be an evergreen species.**

    Buffer not required.

  - **Screening & Screen Walls: Landscape screening shall be provided for all trash enclosures, mechanical equipment and loading areas. Screening of these areas should include some variety of upright planting materials and/or ornamental tree plantings that visually hide the noted improvements. The use of walls and fences is a requirement for any improvements over 4 feet in height and is to be in conjunction with all required screening planting. Screen walls may be used in conjunction with landscape berms, and the combined height will vary depending on what trying to shield, but generally eight (8') feet tall. For screen walls, the Falcon Commerce Center standard is a stone veneer over block wall.**

Trash enclosure screening to be provided with final landscape plan.

PROJECT JUSTIFICATION

The Final PUD Plan for the Falcon Commerce Center Phase 2 park is consistent with the review criteria for Final PUD Plans in Section 18.03.460.D of the Municipal Code as follows:

1. **The final PUD conforms to or is consistent with the preliminary PUD;**

   Area B on the Phase 2 Preliminary Plan comprises 41.96 acres designated for Civic/Commercial/ Institutional/ Medical/Office uses. This Final PUD Plan for the Alpine Dealership relates to the northern 12.5 acres of Area B, immediately south of the Pilot Travel Center. The proposed Automative Sales, Service and Repair use is a permitted commercial use within Area B on the approved Phase 2 Preliminary Plan. The Final PUD exceeds the zoning standards set out in the Preliminary PUD Plan; it proposes substantially less than the allowed maximum height, greater than the required minimum building setbacks, and less lot coverage than allowed under the Preliminary PUD Plan. The design standards set out in the Preliminary PUD Plan have also been met.

2. **Circulation is designed for the type of traffic generated, safety, separation from living areas, convenience, access, handicap access, noise and exhaust control. Though generally discouraged, private internal streets may be considered where appropriate to the development. A proper institutional framework, such as a metropolitan or special district must be established for maintenance thereof for the life of any private streets. All streets shall be accessible by police and fire department and other emergency vehicles for emergency purposes, and to service vehicles such as trash trucks. Bicycle and pedestrian circulation and connections shall be provided;**

   The vehicular circulation within the property is designed to accommodate the proposed use of a car dealership. There is sufficient turning radii to allow for emergency vehicle access and there are no dead-ends. There is a sidewalk adjacent to Terrazzo Drive that provides pedestrian access to the site. There is a sidewalk connection from Terrazzo Drive through the site to access the main entrance of buildings A and B.

3. **Functional parks, open space, and trails in terms of recreation, views, density relief, convenience, function, connectivity, and optimum preservation of natural features including trees, shrubs, wildlife habitat, scenic areas and riparian and drainage areas are provided in conformance with the Comprehensive Plan, the Parks, Trails, and Open Space Master Plan, and the Development Standards (Chapter 18.05 of this title);**

   The Falcon Commerce Center Phase 2 Preliminary Plan included a 2-acre park to provide a recreation opportunity for employees of the commerce center. There is a trail alongside the park that connects to the adjacent Sante Fe Regional Trail. The Final PUD for this Plan was approved by the Town Council on March 4, 2024. The Preliminary PUD Plan also includes a 28-acre open space tract adjacent to Jackson Creek.

4. **A variety of development and housing types and styles, and densities are proposed. Mixed land use is encouraged;**

   Falcon Commerce center in its entirety includes a mix of industrial and commercial uses with park and open space tracts.

5. **Privacy for individuals, families and neighbors is provided as appropriate;**

   Not applicable as residential development is not prosed in this Final PUD Plan and there is no existing or proposed residential development adjacent to the site.

6. **Building design in terms of orientation, spacing, materials, exterior color and texture, storage and lighting result in a quality architectural design that is compatible with the surrounding neighborhood. The placement of identical or similar residential models on any two adjoining lots along a street is discouraged;**

   As noted above, the building architecture and lighting meets the design standards in the Preliminary PUD Plan. This creates a quality architectural design consistent with the Falcon Commerce Center aesthetic required by the Falcon Commence Center Development and Design Guidelines. The buildings are oriented so that the service bays are internally facing or facing north toward the Pilot Travel Center, so they are not visually obtrusive from adjacent streets.

7. **The landscaping is a quality design that enhances the site and is compatible with the surrounding neighborhood as shown by amount, types, and materials used. Entrance features are encouraged. The proposed landscaping must not create maintenance problems and shall be suitable for the site and neighborhood including plant hardiness. A xeriscape design that will conserve water is required;**

   As noted above, the proposed landscaping meets the design standards in the Preliminary PUD Plan. This creates a quality landscape consistent with the Falcon Commerce Center aesthetic required by the Falcon Commence Center Development and Design Guidelines. In the interest of water conservation, xeriscape landscape design is proposed. All proposed plants are on the Town of Monument's plant list as considered suitable for the Monument climate.

8. **Adequate off-street parking will be provided:**

   a. **Particularly for single-family residences in a PUD, required front-yard setbacks should be established and driveways should be arranged so as to provide off-street parking therein without causing parked autos to block sidewalks.**

      Not applicable.

   b. **The Town may increase or decrease the normally required number of off-street parking spaces based on a consideration of the following factors:**

i. The relationship of the proposed modifications to the stated purposes and intent of the PUD;

ii. Probable number of vehicles owned by residents;

iii. Parking needs in nonresidential areas;

iv. Varying time period of use, whenever joint use of common parking areas is proposed; and

v. **Availability and use of alternative transportation methods.**

As noted above, the parking requirements set out in the Town Code for the proposed uses are met on the Final PUD Plan.

9. The final PUD has been shown to fit within the context of the planned land use pattern and roadway and utility systems of the larger surrounding area.

The final PUD Plan is consistent with the permitted uses and development and design standards set out in the Preliminary PUD Plan. In approving the Preliminary PUD Plan, the Town determined that the Falcon Commence Center project fit within the context of the planned land use pattern and roadway and utility systems of the larger surrounding area. The Alpine Dealership will be accessed from the already constructed Terrazzo Drive and will receive water and wastewater service from Forest Lakes Metropolitan District.

SUMMARY

The Final PUD Plan for the Alpine Dealership Automative Sales, Service and Repair center at Falcon Commerce Center is consistent with the approved Falcon Commerce Center Phase 2 Preliminary PUD Plan in terms of permitted uses, zoning and development standards, and architectural and landscaping design standards. The Alpine Dealership Final PUD Plan meets all the Final PUD Plan review criteria.

SM ROCHA, LLC
TRAFFIC AND TRANSPORTATION CONSULTANTS

July 21, 2025

Walid Elkhoury
WESNAE
2109 S Wadsworth Boulevard, Suite 303
Lakewood, Colorado 80227

RE: Alpine Dealership / Traffic Generation Analysis
Monument, Colorado

Dear Walid,

SM ROCHA, LLC is pleased to provide traffic generation information for the development entitled Alpine Dealership. This development is located near the southeast corner of Baptist Road and Terrazzo Drive in Monument, Colorado.

This information has been revised to address Town Staff comments dated June 23, 2025 regarding updated building density and discussion throughout.

The intent of this analysis is to present traffic volumes likely generated by the proposed development, provide a traffic volume comparison to previous land use assumptions approved and proposed for the development site, and consider potential impacts to the adjacent roadway network.

The following is a summary of analysis results.

Site Description and Access

Land for the development is currently vacant and surrounded by a mix of commercial, institutional, and residential land uses. The proposed development is understood to entail the new construction of two automobile dealerships totaling approximately 104,700 square feet with an approximate 7,500 square foot automated car wash.

Proposed access to the development is provided at the following locations: one full-movement access at the intersection of Squadron Drive and Terrazzo Drive (referred to as Access A) and one full-movement access onto Terrazzo Drive (referred to as Access B).

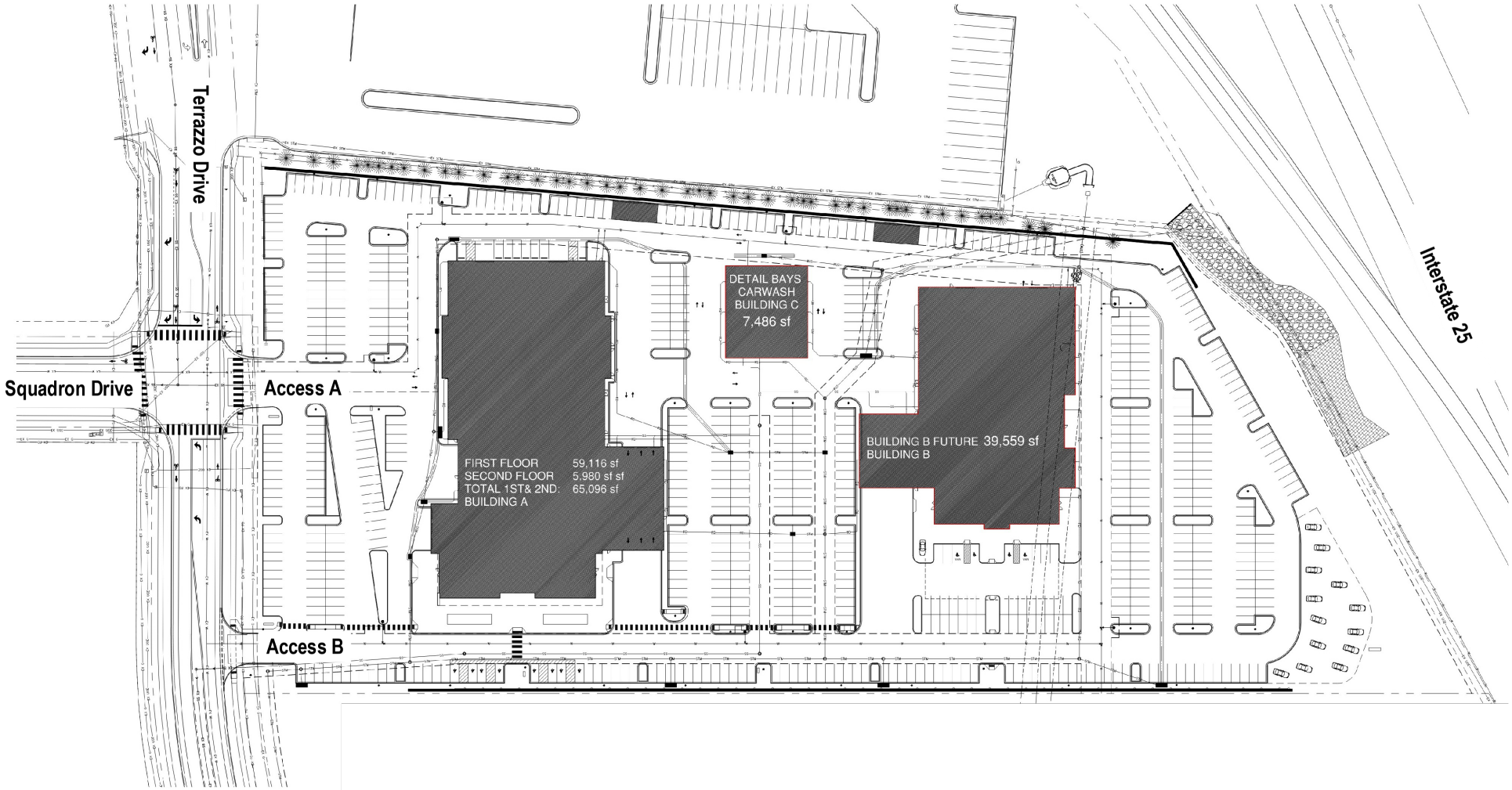
General site and access locations are shown on Figure 1.

A site plan, as prepared by WESNAE, is shown on Figure 2. This plan is provided for illustrative purposes only.

North
Not to Scale
Old Denver Road
Baptist Road
Woodcarver Road
Terrazzo Drive
Interstate 25
Squadron Drive
Access A
Development Site
Access B

North

Not to Scale



Vehicle Trip Generation

Standard traffic generation characteristics compiled by the Institute of Transportation Engineers (ITE) in their report entitled Trip Generation Manual, 11th Edition, were applied to the proposed land use in order to estimate the average daily traffic (ADT) and peak hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from point of origin to point of destination.

The approved Falcon Commerce Center Traffic Impact Study[1] prepared for the previous Sketch Plan used trip generation rates from ITE's Trip Generation Manual, 10th Edition, and included ITE land use code 750 (Office Park) in the same development area as currently proposed with this project.

Table 1 presents average trip generation rates for the proposed development area. Use of average trip generation rates presents a conservative analysis. ITE land use code 840 (Automobile Sales (New)) was used for analysis because of its conservative rates and best fit to the proposed land use.

It is important to note that the approximate 7,500 square foot car wash proposed is an ancillary use to the automobile dealership. As a result, the car wash is not expected to generate any external trips, therefore not included within the trip generation estimates evaluated below.

Table 1 – Trip Generation Rates

ITE			TRIP GENERATION RATES						
			24	AM PEAK HOUR			PM PEAK HOUR		
CODE	LAND USE	UNIT	HOUR	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
840	Automobile Sales (New)	KSF	27.84	1.36	0.50	1.86	0.97	1.45	2.42

Key: KSF = Thousand Square Feet Gross Floor Area.
Note: All data and calculations above are subject to being rounded to nearest value.

Table 2 summarizes the projected ADT and peak hour traffic volumes likely generated by the land use area proposed and provides comparison to traffic volume estimates from the previously approved Falcon Commerce Center Traffic Impact Study and the more recently proposed Falcon Commerce Center Phase 2 Traffic Generation Analysis[2], an analysis performed to reflect Phase Two of the Falcon Commerce Center Preliminary PUD Plan.

[1] Falcon Commerce Center: Traffic Impact Study, SM ROCHA, LLC, August 2020.
[2] Falcon Commerce Center Phase 2: Traffic Generation Analysis, SM ROCHA, LLC, May 17, 2022.

Table 2 – Trip Generation Summary

ITE CODE	LAND USE	SIZE	TOTAL TRIPS GENERATED						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
Site Development - Previously Approved *									
750	Office Park	133.1 KSF	1,474	171	21	192	10	132	142
	Previously Approved Total:		*1,474*	*171*	*21*	*192*	*10*	*132*	*142*
Site Development - Previously Proposed **									
840	Automobile Sales (New)	100.0 KSF	2,784	136	50	186	97	145	242
	Previously Proposed Total:		*2,784*	*136*	*50*	*186*	*97*	*145*	*242*
Site Development - Newly Proposed									
840	Automobile Sales (New)	104.7 KSF	2,914	142	53	195	101	152	253
	Newly Proposed Total:		*2,914*	*142*	*53*	*195*	*101*	*152*	*253*
	Previously Approved * vs Newly Proposed Total:		***1,440***	***-29***	***31***	***3***	***91***	***19***	***111***
	Previously Proposed ** vs Newly Proposed Total:		***130***	***6***	***2***	***9***	***5***	***7***	***11***

Key: KSF = Thousand Square Feet Gross Floor Area.
* = Falcon Commerce Center: Traffic Impact Study, SM ROCHA, LLC, August 2020.
** = Falcon Commerce Center Phase 2: Traffic Generation Analysis, SM ROCHA LLC, May 17, 2022.
Note: All data and calculations above are subject to being rounded to nearest value.

As Table 2 shows, the proposed development area has the potential to generate 2,914 daily trips with 195 of those occurring during the morning peak hour and 253 during the afternoon peak hour. Compared to the previously approved land use from the Sketch Plan, this represents a potential increase in site generation of approximately 1,440 daily trips with 3 of those occurring during the morning peak traffic hour and 111 during the afternoon peak traffic hour. Additionally, compared to the previously proposed land use from the Preliminary PUD Plan, the proposed development represents a potential increase in site generation of approximately 130 daily trips with 9 of those occurring during the morning peak traffic hour and 11 during the afternoon peak traffic hour.

Adjustments to Trip Generation Rates

While the overall development area of Falcon Commerce Center will attract trips from within area land uses, no trip reduction was taken in this analysis. This assumption provides for a conservative analysis.

As example, research obtained by the National Cooperative Highway Research Program (NCHRP) indicates an average trip generation reduction rate between 8 to 25 percent for automobile sales land use when considering the overall Falcon Commerce Center development, as shown in the Falcon Commerce Center Phase 2 Traffic Generation Analysis. Considering the lowest reduction percentage, primary trip generation for the proposed development equates to approximately 90 percent of trip generation volumes presented in Table 2. A primary trip is defined by ITE as a trip made for the specific purpose of visiting the destination generator.

Development Impacts

As Tables 2 shows, there is a modest increase in peak hour traffic volumes anticipated for the proposed development compared to the previously approved Falcon Commerce Center Traffic Impact Study. However, in reference to the previously proposed volumes in the Falcon Commerce Center Phase 2 Traffic Generation Analysis, the increase in peak hour traffic volumes anticipated for the proposed development are minor. These minor volumes are not likely to negatively impact operations of Baptist Road nor other adjacent roadways or intersections.

It is emphasized that while the proposed Alpine Dealership predicts a modest increase in peak hour traffic volumes when compared to the overall Falcon Commerce Center Traffic Impact Study, the overall Phase 2 Traffic Generation Analysis projects a significant decrease in trips when compared to the overall traffic study.

Conclusion

This analysis assessed traffic generation for the Alpine Dealership development, provided a traffic volume comparison to the previously approved and previously proposed land use assumptions for the development site, and considered potential impacts to the adjacent roadway network.

It is our professional opinion that the proposed site-generated traffic is expected to create no negative impact to traffic operations for the surrounding roadway network and proposed site accesses, nor at the Terrazzo Drive intersection with Baptist Road. Analysis of site-generated traffic concludes that proposed development traffic volumes are minor when compared to the previously submitted Falcon Commerce Center Phase 2 Traffic Generation Analysis. All conclusions and recommendations presented in the Falcon Commerce Center Traffic Impact Study remain valid.

We trust that our findings will assist in the planning and approval of the Alpine Dealership development. Please contact us should further assistance be needed.

Sincerely,

SM ROCHA, LLC
Traffic and Transportation Consultants

Zac Trotter, EIT
Traffic Engineer

COLORADO REGISTERED
FREDERICK C. LANTZ
23410
07/21/2025
PROFESSIONAL ENGINEER

Fred Lantz, PE
Traffic Engineer

Final Drainage Report
Alpine Dealership at Falcon Commerce Center
Alpine Auto Dealerships
Monument, Colorado

Prepared for:
Drawe Holdings, LLC
3106 West County Line Road
Littleton, CO 80129

Prepared by:

Kiowa Engineering Corporation
5951 Middlefield Road, Suite 200
Littleton, Colorado 80123
Ph: (303)692-0369

Kiowa Project No. 23050

December 22, 2025

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STATEMENTS AND APPROVALS

ENGINEER'S STATEMENT:

This report and plan for the final drainage design of Alpine Dealership at Falcon Commerce Center Alpine Auto Dealerships was prepared by me (or under my direct supervision) in accordance with the provisions of Town of Monument and Colorado Springs Drainage Design and Technical Criteria for the owners thereof. I understand that the Town of Monument does not and will not assume liability for drainage facilities designed by others.

Signature: _____

Jacob McMillen, PE (PE#56736)

For and on Behalf of Kiowa Engineering Corporation

DEVELOPER'S STATEMENT:

Drawe Holdings, LLC hereby certifies that the drainage facilities for Alpine Dealership at Falcon Commerce Center Alpine Auto Dealerships shall be constructed according to the design presented in this report. I understand that the Town of Monument does not and will not assume liability for the drainage facilities designed and/or certified by my engineer and that the Town of Monument reviews drainage plans pursuant to Colorado Revised Statutes, Title 30, Article 28; but cannot, on behalf of Alpine Dealership at Falcon Commerce Center Alpine Auto Dealerships, guarantee that final drainage design review will absolve Drawe Holdings, LLC and. or their successors and/or assigns of future liability for improper design. I further understand that approval of the final plat does not imply approval of my engineer's drainage design.

Drawe Holdings, LLC_____
Name of developer

Authorized Signature: _____ Date: _____

I. GENERAL DESCRIPTION

The purpose of this Final Drainage Report is to address and discuss the drainage patterns and impacts associated with the proposed improvements associated with the Alpine dealerships within the Falcon Commerce Center (FCC) development. The subject site is located directly south of Pilot Travel Center Filing No. 1, east of Terrazzo Drive and west of Interstate 25. This development will include construction of two automobile dealerships, a car wash, paved parking area, vehicle display areas, utilities and landscaping. The site development is planned to be completed in two phases with the first phase including the west building and nearly all of the storm drainage facilities. The second phase will include the east building and the remainder of the utilities. Refer to the Proposed Drainage Conditions section for additional phasing information. The property is located in Section 35, Township 11 South, Range 67 West of the Sixth Principal Meridian, El Paso County, Colorado. The location of the site is shown on the Vicinity Map (Figure 1). The site is bounded on the north by Pilot Travel Center Filing No. 1; on the east by Interstate 25; on the south by undeveloped FCC property; on the west by Terrazzo Drive. The undeveloped FCC properties are planned to be a mix of industrial and commercial uses. The property is approximately 12.501 acres in area.

There are no irrigation facilities located within the property.

II. SOIL CONDITIONS

Soils within the property are classified to be within Hydrologic Soils Group B based on the NRCS Soil Survey for the El Paso County area. Soils on the site are predominantly Pring coarse sandy loam and Peyton-Pring complex (Soil Group B). For the site drainage calculations, the soils were assumed to be Hydrologic Soil Group B. The existing vegetative cover within the development is in fair condition after the overlot grading associated with the first phase of the development in 2021 with mostly native grasses throughout the site. The existing ground slopes within a majority of the property range from 2 to 8 percent.

III. DRAINAGE CRITERIA

Hydrologic and hydraulic calculations for the site were performed using the methods outlined in the *City of Colorado Springs Drainage Criteria Manual Volumes 1 and 2*. Topography for the site was compiled using one-foot contour interval and is presented on the Drainage Plan. The hydrological calculations and design is in conformance with the FCC Master Development Drainage Plan (MDDP). The Drainage Plan – Proposed Conditions (Exhibits A) presents the proposed drainage patterns for the site, including the sub-basins impacted by this phase of the development. The peak flow rates for the sub-basins were estimated using the Rational Method. The 5-year (Minor Storm) and 100-year (Major Storm) recurrence intervals were determined. The one-hour rainfall depths were determined from Table 6-2 of the City's Drainage Criteria Manual, Volume 1.

Hydraulic calculations are provided for the proposed drainage facilities. Mile High Flood District (MHFD) spreadsheets and software were used to design the inlets and storm sewer. The UD-Inlet spreadsheet was used for inlet capacity calculations. The UD-Sewer software has been used to analyze and size the storm sewer system along with determining the Hydraulic Grade Line (HGL).

IV. EXISTING DRAINAGE CONDITIONS

The existing drainage patterns for the subject site were reviewed and described as part of the FCC MDDP. Refer to that document for detailed description and calculations.

The area subject to development is located to the south of the Pilot Travel Center which includes a full spectrum detention basin with an outlet pipe that discharges into this property. An existing drainage channel conveys those flows south to the storm sewer in Terrazzo Drive. The Pilot detention

basin also includes an emergency spillway which would discharge into this property. Interstate 25 is located to the east of the site and no runoff or flows enter the property subject to development from I25. Some minor off site flows enter the site from Terrazzo Drive at the intersection with Squadron Drive, however most of those gutter flows continue south along Terrazzo Drive. The property itself does not includes any drainage facilities other than what is described above for the Pilot detention basin outfall. The runoff from the existing site sheet flows to the south-southwest to Terrazzo Drive.

Sub-Basin OS-2: The Falcon Commerce Center Flg 2 FDR described this basin as follows. "Pilot Travel Center (PTC) detention basin provides both stormwater quality improvement and detention with their onsite Full Spectrum Detention basin. The peak flow rates from the detention basin are Q5=0.4 cfs and Q100=20.8 cfs. The outlet pipe from the detention basin is planned to be routed in the future to Storm 2 at DP 20. The water quality capture volume design for the sub-regional FCC Detention Basin was modified prior to construction to provide water quality treatment for the flows leaving the PTC site to account for the additional flows, since the stormwater will be draining through Storm 2. This is a modification to what is proposed in the FCC MDDP. The emergency spillway for the PTC detention basin is located at the southwest corner of the detention basin. The flows from the emergency spillway will need to be accounted for by the areas downstream of the detention basin or modify the existing spillway location."

V. PROPOSED DRAINAGE CONDITIONS

The proposed drainage patterns for the development are described below. Refer to the FCC MDDP for a description of the overall drainage patterns and to the Final Drainage Report Falcon Commerce Center Filing No. 1 for the design of the sub-regional detention basin.

The proposed drainage patterns for the property will generally include sheet flow and gutter flow to drain pans or curb inlets which will convey the flows to proposed inlets throughout the property to collect the flows up to the 100 year storm event. Storm sewer systems will route the flows from the inlets to a main storm sewer which will be routed west into a utility easement located adjacent to the east side of Terrazzo Drive right of way. This storm sewer will continue south to an existing 42-inch storm sewer system stub which was designed to convey the subject property's runoff to the existing FCC sub-regional stormwater quality and detention basin to the south. The Drainage Plan – Proposed Condition for the site is provided at the end of this report.

The on-site storm sewer system will include a connection to the Pilot detention basin outlet pipe. The detained flows from the Pilot detention will be routed through the property in the storm sewer. On-site inlets will be located along the storm sewer to capture and convey flows south to the storm sewer in Terrazzo Drive. The Pilot detention emergency spillway will be reoriented such that emergency flows will be directed toward the I-25 ROW and conveyed via an existing roadside swale. Minor grading adjustments, buried riprap installation, and check dam installation per CDOT standards are to be constructed per CDOT review.

Phasing: The project is planned to be phased. The west building (Building A) will be constructed with the first phase along with the associated utilities. The majority of storm sewer improvements will be constructed as part of Phase 1 with the exception of the roof drainage for Building B. The Building B pad will include parking spaces until Phase 2 when Building B will replace the parking and the remainder of the storm drainage improvements will be completed.

The proposed storm sewer that runs south along Terrazzo Drive ROW within a proposed easement will be maintained by the Forest Lakes Metro District. Following is a description of the proposed drainage basins and patterns.

Sub-basin A1: The sub-basin is located in the southeast corner of the site including mainly pavement with islands and landscape area. Runoff sheets flows to a centrally located drain pan which conveys

the flows south to a curb inlet in sump condition which is designed to capture the 100 year storm event. Off site flows will pass through the basin from the Pilot detention basin to the north through the existing outlet pipe. The on site storm sewer system has been designed to convey the Pilot detention basin release rates through the property. For the detention emergency flows, the existing spillway is planned to be shifted to the east where it will directed toward I-25 ROW and be conveyed via existing roadside swale, away from FCC properties.

Sub-basin A2: The sub-basin is located along the south side of the site to the south of Building B. The area consists of pavement and landscape islands. Runoff will sheet flows south to the curb line which will route the flows to the proposed curb inlet along the south curb in sump condition which is sized to capture the 100 year storm event. The flows from the inlet will be routed to the storm sewer system.

Sub-basin A3: The sub-basin is located along the north side of the site to the north of the car wash. The area consists of pavement, landscape islands and wall along the north property line. Runoff will sheet flow to the drain pan located to the north of the car wash. The drain pan will convey flows to the valley inlet in sump condition which is sized to capture the 100 year storm event. The flows from the inlet will be routed to the storm sewer system.

Sub-basin A4: The sub-basin is located along the north side of the site to the north of Building B. The area consists of pavement, landscape islands and wall along the north property line. Runoff will sheet flow to the drain pan which will route flows west and south to the proposed inlet in sump condition which is sized to capture the 100 year storm event. The storm sewer system will pass through this inlet.

Sub-basin A5: The sub-basin is located to the southeast of the car wash. The area consists of pavement and landscape islands. Runoff will sheet flow southeast to the valley inlet in sump condition which is sized to capture the 100 year storm event. The flows from the inlet will drop into the storm sewer system which is routed through the inlet.

Sub-basin A6: The sub-basin is located along the north side of the site to the north of Building A. The area consists of pavement, landscape islands and wall along the north property line. Runoff will sheet flow to the drain pan which will route flows south to the valley inlet in sump condition which is sized to capture the 100 year storm event. The flows from the inlet will be routed to the storm sewer system.

Sub-basin A7: The sub-basin is located in the center of the site between the two buildings. The area consists of pavement and landscape islands. Runoff will sheet flow to the valley inlet in the center of the basin in sump condition which is sized to capture the 100 year storm event. The flows from the inlet will be routed to the storm sewer system.

Sub-basin A8: The sub-basin is located along the south side of the site to the south-southeast of Building A. The area consists of pavement, vehicle parking and landscape islands. Runoff will sheet flow to the curb line which will convey the flows to the curb inlet in sump condition which is sized to capture the 100 year storm event. The flows from the inlet will be routed to the storm sewer system.

Sub-basin A10: The sub-basin is located along the north side of the site to the northwest of Building A. The area consists of pavement, vehicle parking, landscape islands and wall along the north property line. Runoff will sheet flow to the drain pan which will route flows to the valley inlet in sump condition which is sized to capture the 100 year storm event. The flows from the inlet will be routed to the storm sewer system.

Sub-basin A11, A12, A13: The sub-basins are located along the west side of the site to the west of Building A. The area consists of pavement, vehicle parking and landscape islands. Runoff will sheet flow east to the drain pan which will route flows to the valley inlet in sump condition which is sized

to capture the 100 year storm event. The flows from the inlet will be routed to the storm sewer system.

Sub-basin A14: The sub-basin is located along the southwest side of the site to the southwest of Building A. The area consists of pavement, vehicle parking, landscape islands and the southern entrance to the site. Runoff will sheet flow southwest to the curb line which will route flows to the curb inlet in sump condition which is sized to capture the 100 year storm event. The flows from the inlet will be routed to the storm sewer system.

Sub-basin A20: The sub-basin is located along the east side of the site. The area consists of landscaped area and a slope down to the I25 ROW. Minimal to no improvements are planned within this basin. Runoff will sheet flow east to the I25 ROW and roadside swale, as shown in the MDDP for the overall property.

Building Roof Sub-basins: These are the sub-basins with a .1. Downspouts are planned on all three buildings. The downspouts will be taken underground to a pipe which will convey the flows to the storm sewer system.

Sub-basin C1, C2, C3, C4: These are off site sub-basins located along Terrazzo Drive and are from the FCC Filing No. 2 FDR. These basins are relatively unchanged.

Sub-basin C7: The sub-basin is an off site sub-basins located along Terrazzo Drive and is from the FCC Filing No. 2 FDR. The basin previously extended into the Alpine site, however a high point has been added along the site entrance to keep these flows in the street.

Sub-basin C8, C9, C10: These are off site sub-basins located on the property to the south of the subject site and are from the FCC Filing No. 2 FDR. These basins are relatively unchanged and drainage patterns are maintained as described in the FCC Filing No. 2 FDR. However, a small portion of basin C9 and C10 will be routed to design point 20 via underground storm sewer as opposed to being directly routed to design point 23 as described in the FCC Filing No. 2. The flow summary at design point 23 will remain unchanged.

Both the FCC MDDP and FCC Filing No. 2 FDR assumed runoff coefficients of 0.66 and 0.75 for the 5-Year and 100-Year Storm Events, respectively, for the areas comprising the Alpine site. Per the Rational Calculations located in the appendix of this report, the 5-Year and 100-Year runoff coefficients are 0.62 and 0.72, respectively, demonstrating compliance with the reports of record (See 'A Basins' at bottom of runoff coefficient calculations located in the Appendix).

VI. WATER QUALITY AND DETENTION DESIGN

The proposed development will drain to the existing sub-regional storm water quality and detention basin at the south end of the FCC property (north of Jackson Creek) that was constructed as part of FCC Filing No. 1. The detention basin was designed and constructed to meet the requirements of the Town of Monument and the City of Colorado Spring's Drainage Criteria Manual (Volume 1 and 2). It is a Full Spectrum Detention (FSD) basin that provides stormwater quality and detention improvements for the overall development.

VII. FLOODPLAIN

The subject property is not located within a FEMA regulated floodplain based on Flood Insurance Rate Map 08041C0286 G (effective date of December 7, 2018).

VIII. SUMMARY

This Final Drainage Report has been prepared in general conformance with the Town of Monument standards and the *City of Colorado Springs Drainage Criteria Manual Volumes 1 and 2*. The proposed

stormwater management design for the subject site has been designed to properly convey and treat stormwater based on the requirements and guidance provided in the criteria manuals.

IX. REFERENCES

1) Final Drainage Report, Falcon Commerce Center Filing No. 2, prepared by Kiowa Engineering Corporation, dated May 24, 2022.

2) Final Drainage Report, Falcon Commerce Center Filing No. 1, prepared by Kiowa Engineering Corporation, dated December 7, 2020.

3) Master Development Drainage Plan, Falcon Commerce Center, prepared by Kiowa Engineering Corporation, dated October 13, 2020 and updated May 17, 2022.

4) City of Colorado Springs, Drainage Criteria Manual, Volumes 1 and 2 dated May 2014.

5) Urban Storm Drainage Criteria Manual, Vol. 1, 2 and 3, and Design Workbooks/Spreadsheets, Mile High Flood Control District, latest revisions.

6) Preliminary and Final Drainage Report for Pilot Travel Center Filing No. 1, prepared by Drexel, Barrell & Co. dated July 13, 2017.

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Inlet Summary and Calculations

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Drainage Plan – Proposed Condition

APPENDIX A

Figure 1: Vicinity Map

Soils Map

FEMA Flood Insurance Rate Map

SCALE: NTS

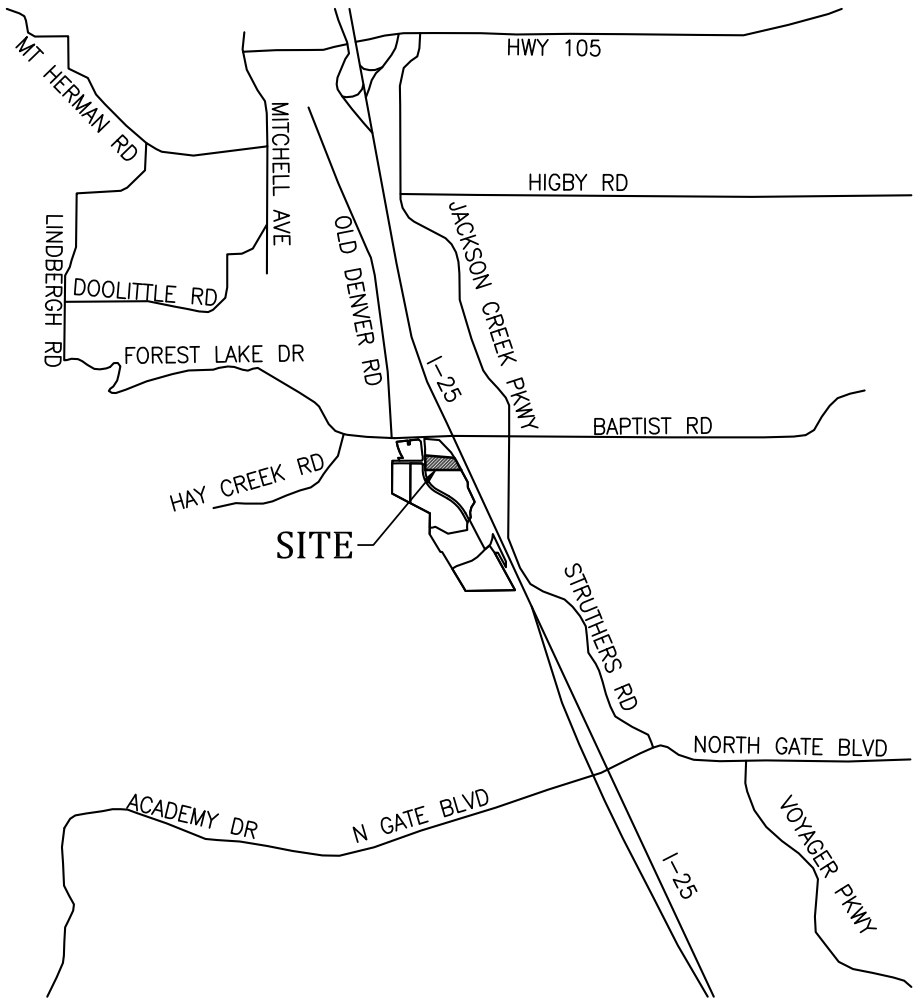
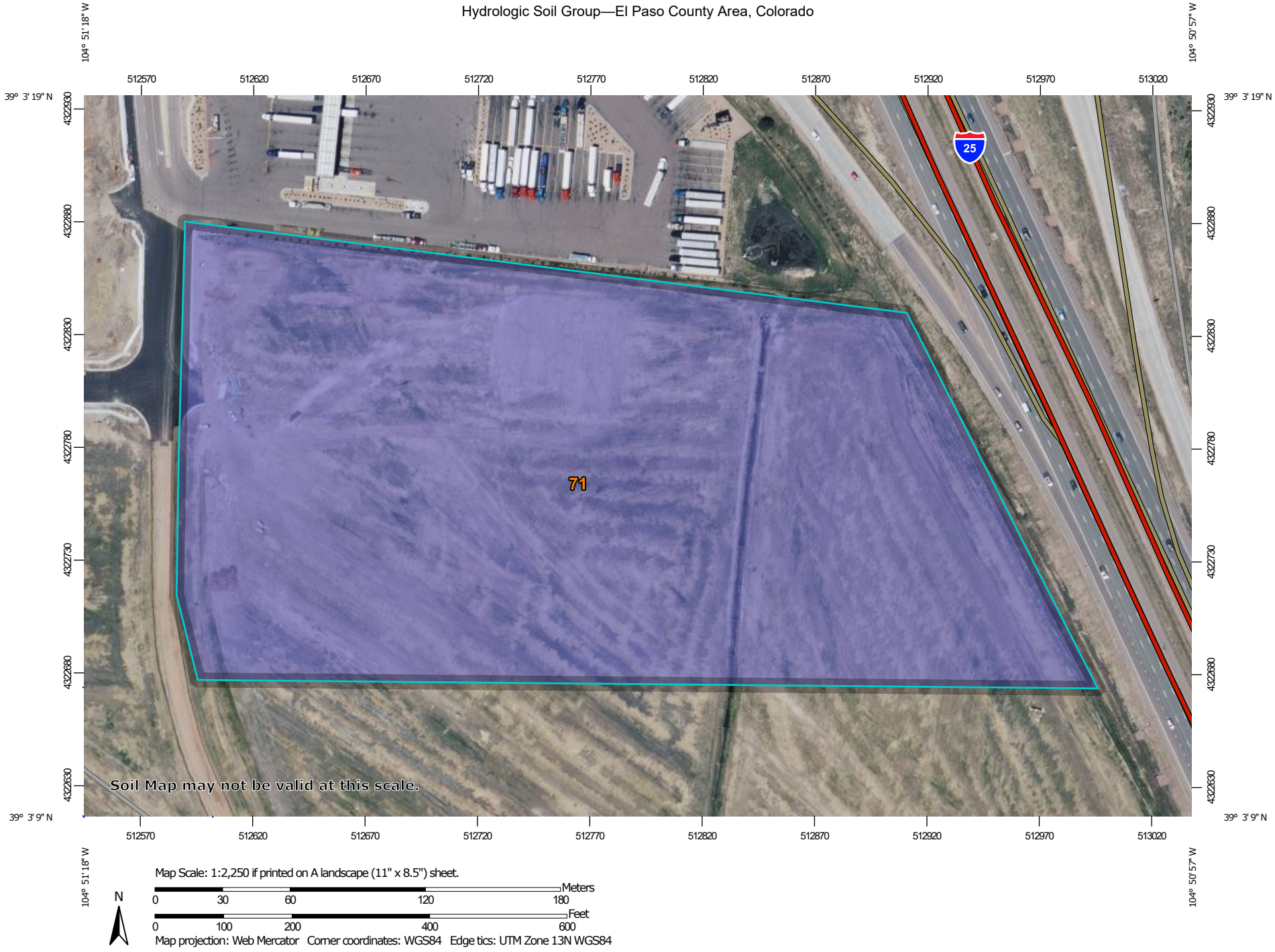


FIGURE 1
VICINITY MAP
ALPINE BUICK GMC



Map Scale: 1:2,250 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 30 60 120 180

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 21, Aug 24, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 9, 2021—Jun 12, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
71	Pring coarse sandy loam, 3 to 8 percent slopes	B	16.5	100.0%
Totals for Area of Interest			**16.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

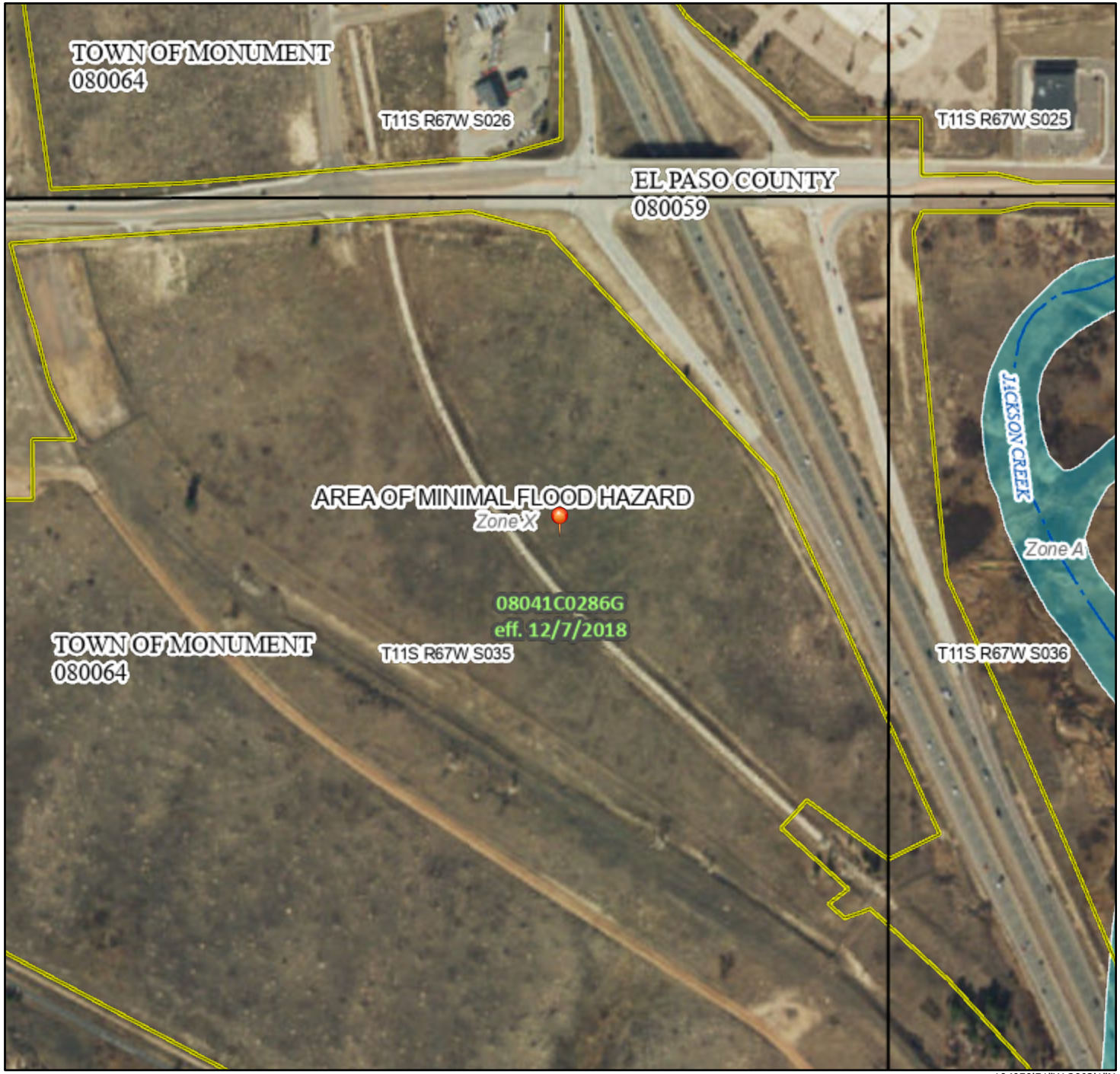
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

National Flood Hazard Layer FIRMette

FEMA

104°51'28"W 39°3'29"N



104°50'51"W 39°3'1"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/22/2024 at 5:37 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX B

Hydrologic Calculations

Runoff Coefficient and Percent Impervious Calculations
Time of Concentration and Drainage Basin Runoff Calculations

Alpine Dealerships - Falcon Commerce Center

Runoff Coeficient and Percent Impervious Calculation - Proposed Condition

Basin / DP	Basin or DP Area (DP contributing basins)		Soil Type	US1	Area 1 Land Use			US2	Area 2 Land Use			DR	Area 3 Land Use			RO	Area 4 Land Use			LA	Area 5 LandUse			Basin % Imperv	Basin Runoff Coef	
				% Imperv	Land Use Area	% Area	Comp Land Use % Imp	% Imperv	Land Use Area	% Area	Comp Land Use % Imp	% Imperv	Land Use Area	% Area	Comp Land Use % Imp	% Imperv	Land Use Area	% Area	Comp Land Use % Imp	% Imperv	Land Use Area	% Area	Comp Land Use % Imp		C_5	C_{100}
OS-2	534,917 sf	12.28ac	AB	85%		0%	0%	75%	-	0%	0%	100%	7.60ac	62%	62%	90%	0.55ac	4%	4%	0%	4.13ac	34%	0%	**65.9%**	**0.46**	**0.60**
A1	119,185 sf	2.74ac	AB	85%		0%	0%	75%		0%	0%	100%	2.16ac	79%	79%	90%		0%	0%	0%	0.58ac	21%	0%	**78.9%**	**0.58**	**0.69**
A1.1	23,535 sf	0.54ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.54ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A2	22,788 sf	0.52ac	AB	85%		0%	0%	75%		0%	0%	100%	0.50ac	95%	95%	90%		0%	0%	0%	0.02ac	5%	0%	**95.4%**	**0.81**	**0.88**
A3	8,493 sf	0.19ac	AB	85%		0%	0%	75%		0%	0%	100%	0.13ac	65%	65%	90%		0%	0%	0%	0.07ac	35%	0%	**65.3%**	**0.45**	**0.59**
A4	29,184 sf	0.67ac	AB	85%		0%	0%	75%		0%	0%	100%	0.56ac	83%	83%	90%		0%	0%	0%	0.11ac	17%	0%	**83.3%**	**0.63**	**0.73**
A4.1	9,013 sf	0.21ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.21ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A4.2	1,259 sf	0.03ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.03ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A4.3	1,225 sf	0.03ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.03ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A4.4	1,259 sf	0.03ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.03ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A5	4,291 sf	0.10ac	AB	85%		0%	0%	75%		0%	0%	100%	0.09ac	90%	90%	90%		0%	0%	0%	0.01ac	10%	0%	**89.5%**	**0.72**	**0.80**
A6	38,909 sf	0.89ac	AB	85%		0%	0%	75%		0%	0%	100%	0.79ac	88%	88%	90%		0%	0%	0%	0.10ac	12%	0%	**88.4%**	**0.70**	**0.79**
A6.1	4,237 sf	0.10ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.10ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A6.2	5,286 sf	0.12ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.12ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A6.3	4,678 sf	0.11ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.11ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A6.4	1,259 sf	0.03ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.03ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A6.5	1,225 sf	0.03ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.03ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A6.6	1,259 sf	0.03ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.03ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A7	38,105 sf	0.87ac	AB	85%		0%	0%	75%		0%	0%	100%	0.85ac	97%	97%	90%		0%	0%	0%	0.03ac	3%	0%	**97.0%**	**0.84**	**0.91**
A7.1	17,447 sf	0.40ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.40ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A7.2	11,428 sf	0.26ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.26ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A7.3	5,705 sf	0.13ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.13ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A8	21,019 sf	0.48ac	AB	85%		0%	0%	75%		0%	0%	100%	0.47ac	98%	98%	90%		0%	0%	0%	0.01ac	2%	0%	**97.8%**	**0.86**	**0.92**
A10	30,559 sf	0.70ac	AB	85%		0%	0%	75%		0%	0%	100%	0.46ac	66%	66%	90%		0%	0%	0%	0.24ac	34%	0%	**66.2%**	**0.46**	**0.60**
A11	20,985 sf	0.48ac	AB	85%		0%	0%	75%		0%	0%	100%	0.44ac	91%	91%	90%		0%	0%	0%	0.04ac	9%	0%	**91.2%**	**0.74**	**0.83**
A11.1	4,218 sf	0.10ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.10ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A11.2	5,314 sf	0.12ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.12ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A12	5,507 sf	0.13ac	AB	85%		0%	0%	75%		0%	0%	100%	0.11ac	90%	90%	90%		0%	0%	0%	0.01ac	10%	0%	**89.8%**	**0.72**	**0.81**
A12.1	4,700 sf	0.11ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.11ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A13	1,335 sf	0.03ac	AB	85%		0%	0%	75%		0%	0%	100%	0.03ac	87%	87%	90%		0%	0%	0%	0.00ac	13%	0%	**87.1%**	**0.69**	**0.77**
A13.1	13,589 sf	0.31ac	AB	85%		0%	0%	75%		0%	0%	100%	-	0%	0%	90%	0.31ac	100%	90%	0%		0%	0%	**90.0%**	**0.73**	**0.81**
A14	15,289 sf	0.35ac	AB	85%		0%	0%	75%		0%	0%	100%	0.32ac	92%	92%	90%		0%	0%	0%	0.03ac	8%	0%	**92.2%**	**0.76**	**0.84**
A15	42,820 sf	0.98ac	AB	85%		0%	0%	75%		0%	0%	100%	0.85ac	87%	87%	90%		0%	0%	0%	0.13ac	13%	0%	**86.8%**	**0.68**	**0.77**
A20	26,552 sf	0.61ac	AB	85%		0%	0%	75%		0%	0%	100%		0%	0%	90%		0%	0%	0%	0.61ac	100%	0%	**0.0%**	**0.08**	**0.35**
C-1	36,054 sf	0.83ac	AB	85%	-	0%	0%	75%	0.83ac	100%	75%	100%		0%	0%	90%		0%	0%	0%		0%	0%	**75.0%**	**0.54**	**0.66**
C-2	33,561 sf	0.77ac	AB	85%	-	0%	0%	75%	0.77ac	100%	75%	100%		0%	0%	90%		0%	0%	0%		0%	0%	**75.0%**	**0.54**	**0.66**

Alpine Dealerships - Falcon Commerce Center
Runoff Coeficient and Percent Impervious Calculation - Proposed Condition

C-3	35,401 sf	0.81ac	AB	85%	-	0%	0%	75%	0.81ac	100%	75%	100%		0%	0%	90%		0%	0%	0%		0%	0%	**75.0%**	**0.54**	**0.66**
C-4	36,316 sf	0.83ac	AB	85%	-	0%	0%	75%	0.83ac	100%	75%	100%		0%	0%	90%		0%	0%	0%		0%	0%	**75.0%**	**0.54**	**0.66**
C-7	11,700 sf	0.27ac	AB	85%	0.27ac	100%	85%	75%		0%	0%	100%		0%	0%	90%		0%	0%	0%		0%	0%	**85.0%**	**0.66**	**0.75**
C-8	136,400 sf	3.13ac	AB	85%	3.13ac	100%	85%	75%		0%	0%	100%		0%	0%	90%		0%	0%	0%		0%	0%	**85.0%**	**0.66**	**0.75**
C-9	221,000 sf	5.07ac	AB	85%	5.07ac	100%	85%	75%		0%	0%	100%		0%	0%	90%		0%	0%	0%		0%	0%	**85.0%**	**0.66**	**0.75**
C-10	446,600 sf	10.25ac	AB	85%	10.25ac	100%	85%	75%		0%	0%	100%		0%	0%	90%		0%	0%	0%		0%	0%	**85.0%**	**0.66**	**0.75**
A Basins		12.43ac	AB	85%	-	0%	0%	75%	0.00ac	0%	0%	100%	7.76ac	62%	62%	90%	2.68ac	22%	19%	0%	2.00ac	16%	0%	**81.8%**	**0.62**	**0.72**

Basin Runoff Coefficient is based on % Imperviousness Calculation

Based on Table 6-6: Runoff Coefficients for Rational Method from City of Colo Springs DCM

Runoff Coefficients and Percents Impervious

Hydrologic Soil Type:	**AB**	**Runoff Coef Method**			%Imp	
Land Use	Abb	%	C_5	C_{10}	C_{100}	Weighted
Commercial Area	CO	95%	0.81	0.83	0.88	%Imp
Drives and Walks	DR	100%	0.90	0.92	0.96	A
Streets - Gravel (Packed)	GR	80%	0.59	0.63	0.70	AB
Historic Flow Analysis	HI	2%	0.09	0.17	0.36	CD
Industrial-Heavy	IH	90%	0.73	0.75	0.81	D
Industrial-Light	IL	80%	0.59	0.63	0.70	
Lawns	LA	0%	0.08	0.15	0.35	
Off-site flow-Undeveloped	OF	45%	0.32	0.38	0.51	
Streets - Paved	PV	100%	0.90	0.92	0.96	
Roofs	RO	90%	0.73	0.75	0.81	
User Input 1	US1	85%	0.66	0.69	0.75	
User Input 2	US2	75%	0.54	0.58	0.66	

*Planned commercial areas are assumed to be 85% impervious

*Street right of way areas are planned to have an average impervious area of 75% based on the typical street section.

Alpine Dealerships -Falcon Commerce Center
Time of Concentration Calculation - Proposed Condition

Sub-Basin Data				Time of Concentration Estimate										Min. Tc in Urban		Final t_c
Basin / Design Point	Contributing Basins	Area	C_5	Initial/Overland Time (t_i)			Travel Time (t_t)						Comp.	Tc Check (urban)		
				Length	Slope	t_i	Length	Slope	Land Type	Cv	Velocity	t_t	t_c	Total Length	t_c Check	
OS-2		12.28ac	0.46													**15.9 min.**
A1		2.74ac	0.58	20lf	25.0%	1.5 min.	500lf	0.8%	PV	20	1.8 ft/sec	4.7 min.	6.1 min.	520lf	12.9 min.	**6.1 min.**
A1.1		0.54ac	0.73	20lf	4.0%	1.9 min.	400lf	2.0%	PV	20	2.8 ft/sec	2.4 min.	5.0 min.	420lf	12.3 min.	**5.0 min.**
A2		0.52ac	0.81	20lf	1.0%	2.4 min.	140lf	3.0%	PV	20	3.5 ft/sec	0.7 min.	5.0 min.	160lf	10.9 min.	**5.0 min.**
A3		0.19ac	0.45	20lf	25.0%	1.8 min.	40lf	2.5%	PV	20	3.2 ft/sec	0.2 min.	5.0 min.	60lf	10.3 min.	**5.0 min.**
A4		0.67ac	0.63	20lf	2.3%	2.9 min.	210lf	2.0%	PV	20	2.8 ft/sec	1.2 min.	5.0 min.	230lf	11.3 min.	**5.0 min.**
A4.1		0.21ac	0.73	20lf	4.0%	1.9 min.	140lf	1.0%	PV	20	2.0 ft/sec	1.2 min.	5.0 min.	160lf	10.9 min.	**5.0 min.**
A4.2		0.03ac	0.73	20lf	4.0%	1.9 min.	20lf	1.0%	PV	20	2.0 ft/sec	0.2 min.	5.0 min.	40lf	10.2 min.	**5.0 min.**
A4.3		0.03ac	0.73	20lf	4.0%	1.9 min.	20lf	1.0%	PV	20	2.0 ft/sec	0.2 min.	5.0 min.	40lf	10.2 min.	**5.0 min.**
A4.4		0.03ac	0.73	20lf	4.0%	1.9 min.	20lf	1.0%	PV	20	2.0 ft/sec	0.2 min.	5.0 min.	40lf	10.2 min.	**5.0 min.**
A5		0.10ac	0.72	20lf	2.0%	2.5 min.	80lf	2.0%	PV	20	2.8 ft/sec	0.5 min.	5.0 min.	100lf	10.6 min.	**5.0 min.**
A6		0.89ac	0.70	20lf	25.0%	1.1 min.	340lf	0.8%	PV	20	1.8 ft/sec	3.2 min.	5.0 min.	360lf	12.0 min.	**5.0 min.**
A6.1		0.10ac	0.73	20lf	4.0%	1.9 min.	58lf	1.0%	PV	20	2.0 ft/sec	0.5 min.	5.0 min.	78lf	10.4 min.	**5.0 min.**
A6.2		0.12ac	0.73	20lf	4.0%	1.9 min.	64lf	1.0%	PV	20	2.0 ft/sec	0.5 min.	5.0 min.	84lf	10.5 min.	**5.0 min.**
A6.3		0.11ac	0.73	20lf	4.0%	1.9 min.	250lf	1.0%	PV	20	2.0 ft/sec	2.1 min.	5.0 min.	270lf	11.5 min.	**5.0 min.**
A6.4		0.03ac	0.73	20lf	4.0%	1.9 min.	20lf	1.0%	PV	20	2.0 ft/sec	0.2 min.	5.0 min.	40lf	10.2 min.	**5.0 min.**
A6.5		0.03ac	0.73	20lf	4.0%	1.9 min.	20lf	1.0%	PV	20	2.0 ft/sec	0.2 min.	5.0 min.	40lf	10.2 min.	**5.0 min.**
A6.6		0.03ac	0.73	20lf	4.0%	1.9 min.	20lf	1.0%	PV	20	2.0 ft/sec	0.2 min.	5.0 min.	40lf	10.2 min.	**5.0 min.**
A7		0.87ac	0.84	20lf	2.0%	1.7 min.	160lf	2.0%	PV	20	2.8 ft/sec	0.9 min.	5.0 min.	180lf	11.0 min.	**5.0 min.**
A7.1		0.40ac	0.73	20lf	4.0%	1.9 min.	200lf	1.0%	PV	20	2.0 ft/sec	1.7 min.	5.0 min.	220lf	11.2 min.	**5.0 min.**
A7.2		0.26ac	0.73	20lf	4.0%	1.9 min.	222lf	1.0%	PV	20	2.0 ft/sec	1.9 min.	5.0 min.	242lf	11.3 min.	**5.0 min.**
A7.3		0.13ac	0.73	20lf	4.0%	1.9 min.	136lf	1.0%	PV	20	2.0 ft/sec	1.1 min.	5.0 min.	156lf	10.9 min.	**5.0 min.**
A8		0.48ac	0.86	20lf	4.0%	1.3 min.	230lf	1.8%	PV	20	2.7 ft/sec	1.4 min.	5.0 min.	250lf	11.4 min.	**5.0 min.**
A10		0.70ac	0.46	40lf	3.6%	4.8 min.	150lf	2.8%	PV	20	3.3 ft/sec	0.7 min.	5.6 min.	190lf	11.1 min.	**5.6 min.**
A11		0.48ac	0.74	20lf	25.0%	1.0 min.	184lf	3.5%	PV	20	3.7 ft/sec	0.8 min.	5.0 min.	204lf	11.1 min.	**5.0 min.**
A11.1		0.10ac	0.73	20lf	4.0%	1.9 min.	58lf	1.0%	PV	20	2.0 ft/sec	0.5 min.	5.0 min.	78lf	10.4 min.	**5.0 min.**
A11.2		0.12ac	0.73	20lf	4.0%	1.9 min.	64lf	2.0%	PV	20	2.8 ft/sec	0.4 min.	5.0 min.	84lf	10.5 min.	**5.0 min.**
A12		0.13ac	0.72	20lf	25.0%	1.1 min.	180lf	2.0%	PV	20	2.8 ft/sec	1.1 min.	5.0 min.	200lf	11.1 min.	**5.0 min.**
A12.1		0.11ac	0.73	20lf	4.0%	1.9 min.	58lf	1.0%	PV	20	2.0 ft/sec	0.5 min.	5.0 min.	78lf	10.4 min.	**5.0 min.**
A13		0.03ac	0.69	20lf	25.0%	1.2 min.	44lf	2.0%	PV	20	2.8 ft/sec	0.3 min.	5.0 min.	64lf	10.4 min.	**5.0 min.**
A13.1		0.31ac	0.73	20lf	4.0%	1.9 min.	121lf	1.0%	PV	20	2.0 ft/sec	1.0 min.	5.0 min.	141lf	10.8 min.	**5.0 min.**
A14		0.35ac	0.76	20lf	25.0%	1.0 min.	217lf	1.5%	PV	20	2.4 ft/sec	1.5 min.	5.0 min.	237lf	11.3 min.	**5.0 min.**
A15		0.98ac	0.68	20lf	25.0%	1.2 min.	250lf	3.0%	PV	20	3.5 ft/sec	1.2 min.	5.0 min.	270lf	11.5 min.	**5.0 min.**
A20		0.61ac	0.08	40lf	25.0%	4.1 min.	400lf	2.0%	SP	7	1.0 ft/sec	6.7 min.	10.8 min.	440lf	12.4 min.	**10.8 min.**
C-1		0.83ac	0.54	30lf	4.0%	3.5 min.	700lf	4.0%	PV	20	4.0 ft/sec	2.9 min.	6.5 min.	730lf	14.1 min.	**6.5 min.**
C-2		0.77ac	0.54	30lf	4.0%	3.5 min.	700lf	4.0%	PV	20	4.0 ft/sec	2.9 min.	6.5 min.	730lf	14.1 min.	**6.5 min.**
C-3		0.81ac	0.54	30lf	2.0%	4.5 min.	730lf	1.3%	PV	20	2.3 ft/sec	5.3 min.	9.8 min.	760lf	14.2 min.	**9.8 min.**
C-4		0.83ac	0.54	30lf	2.0%	4.5 min.	730lf	1.3%	PV	20	2.3 ft/sec	5.3 min.	9.8 min.	760lf	14.2 min.	**9.8 min.**
C-7		0.27ac	0.66	40lf	3.0%	3.6 min.	740lf	3.0%	PV	20	3.5 ft/sec	3.6 min.	7.1 min.	780lf	14.3 min.	**7.1 min.**

C-8		3.13ac	0.66	40lf	3.0%	3.6 min.	700lf	3.0%	PV	20	3.5 ft/sec	3.4 min.	6.9 min.	740lf	14.1 min.	**6.9 min.**
C-9		5.07ac	0.66	40lf	3.0%	3.6 min.	900lf	3.0%	PV	20	3.5 ft/sec	4.3 min.	7.9 min.	940lf	15.2 min.	**7.9 min.**
C-10		10.25ac	0.66	40lf	3.0%	3.6 min.	850lf	3.0%	PV	20	3.5 ft/sec	4.1 min.	7.7 min.	890lf	14.9 min.	**7.7 min.**

*OS-2 Final t_c based on Pilot Travel Center FDR, prepared by Drexel, Barrell & CO, dated July 13. 2017.

Alpine Dealerships -Falcon Commerce Center
Time of Concentration Calculation - Proposed Condition

Equations:

t_i (Overland) = $0.395(1.1-C_5)L^{0.5} S^{-0.333}$

C_5 = Runoff coefficient for 5-year

L = Length of overland flow (ft)

S = Slope of flow path (ft/ft)

tc Check = (L/180)+10 (Developed Cond. Only)

L = Overall Length

Velocity (Travel Time) = $CvS^{0.5}$

Cv = Conveyance Coef (see table)

S = Watercourse slope (ft/ft)

Table 6-7: Conveyance Coef (City CS DCM, Vol 1)

Type of Land Surface	Land Type	Cv
Grassed Waterway	GW	15
Heavy Meadow	HM	2.5
Nearly Bare Ground	NBG	10
Paved Area	PV	20
Riprap (Not Buried)	RR	6.5
Short Pasture/Lawns	SP	7
Tillage/Fields	TF	5

Alpine Dealerships -Falcon Commerce Center
Runoff Calculation- Proposed Condition

Design Storm: 5 Year

	Direct Runoff							Total Runoff				Street/Cha		Pipe			Travel Time			
Design Point	Area Designation	Area	C	T_c	C*A (acre)	i (in/hr)	Q	T_c	Sum C*A	i (in/hr)	Q	Slope	Q	Q	Slope	Pipe Size	L (ft)	Vel (ft/s)	T_t	Remarks
	OS-2	12.28 ac	0.46	15.9min	5.61	3.4	19.3 cfs	Pilot site calc'd undetained flow.												To DP4
	OS-2 FDR	12.28 ac					0.4 cfs	Pilot site 5-Yr Detention Release									250'	7	0.6min	To DP4
	A1	2.74 ac	0.58	6.1min	1.59	4.9	7.7 cfs			---	---						85'	7	0.2min	To DP 1
	A1.1	0.54 ac	0.73	5.0min	0.39	5.2	2.0 cfs			---	---						160'	7	0.4min	To DP 1
	A2	0.52 ac	0.81	5.0min	0.43	5.2	2.2 cfs			---	---						22'	7	0.1min	To DP 2
	A3	0.19 ac	0.45	5.0min	0.09	5.2	0.5 cfs			---	---								---	
	A4	0.67 ac	0.63	5.0min	0.42	5.2	2.2 cfs			---	---									
	A4.1	0.21 ac	0.73	5.0min	0.15	5.2	0.8 cfs			---	---								---	
	A4.2	0.03 ac	0.73	5.0min	0.02	5.2	0.1 cfs			---	---								---	
	A4.3	0.03 ac	0.73	5.0min	0.02	5.2	0.1 cfs			---	---								---	
	A4.4	0.03 ac	0.73	5.0min	0.02	5.2	0.1 cfs			---	---								---	
	A5	0.10 ac	0.72	5.0min	0.07	5.2	0.4 cfs			---	---								---	
	A6	0.89 ac	0.70	5.0min	0.63	5.2	3.2 cfs			---	---								---	
	A6.1	0.10 ac	0.73	5.0min	0.07	5.2	0.4 cfs			---	---								---	
	A6.2	0.12 ac	0.73	5.0min	0.09	5.2	0.5 cfs			---	---								---	
	A6.3	0.11 ac	0.73	5.0min	0.08	5.2	0.4 cfs			---	---									
	A6.4	0.03 ac	0.73	5.0min	0.02	5.2	0.1 cfs			---	---								---	
	A6.5	0.03 ac	0.73	5.0min	0.02	5.2	0.1 cfs			---	---									
	A6.6	0.03 ac	0.73	5.0min	0.02	5.2	0.1 cfs			---	---								---	
	A7	0.87 ac	0.84	5.0min	0.74	5.2	3.8 cfs			---	---								---	
	A7.1	0.40 ac	0.73	5.0min	0.29	5.2	1.5 cfs			---	---								---	
	A7.2	0.26 ac	0.73	5.0min	0.19	5.2	1.0 cfs			---	---						120'	7	0.3min	To DP8
	A7.3	0.13 ac	0.73	5.0min	0.10	5.2	0.5 cfs			---	---								---	
	A8	0.48 ac	0.86	5.0min	0.41	5.2	2.1 cfs			---	---								---	
	A10	0.70 ac	0.46	5.6min	0.32	5.0	1.6 cfs			---	---						95'	7	0.2min	To DP14
	A11	0.48 ac	0.74	5.0min	0.36	5.2	1.9 cfs												---	
	A11.1	0.10 ac	0.73	5.0min	0.07	5.2	0.4 cfs												---	
	A11.2	0.12 ac	0.73	5.0min	0.09	5.2	0.5 cfs												---	
	A12	0.13 ac	0.72	5.0min	0.09	5.2	0.5 cfs												---	
	A12.1	0.11 ac	0.73	5.0min	0.08	5.2	0.4 cfs												---	
	A13	0.03 ac	0.69	5.0min	0.02	5.2	0.1 cfs												---	
	A13.1	0.31 ac	0.73	5.0min	0.23	5.2	1.2 cfs										32'	7	0.1min	To DP16
	A14	0.35 ac	0.76	5.0min	0.27	5.2	1.4 cfs												---	

Alpine Dealerships -Falcon Commerce Center
Runoff Calculation- Proposed Condition

Design Point	Area Designation	Area	C	T_c	C*A (acre)	i (in/hr)	Q	T_c	Sum C*A	i (in/hr)	Q	Slope	Q	Q	Slope	Pipe Size	L (ft)	Vel (ft/s)	T_t	Remarks
	A15	0.98 ac	0.68	5.0min	0.67	5.2	3.5 cfs												---	
	A20	0.61 ac	0.08	10.8min	0.05	4.0	0.2 cfs			---	---								---	
	C-1	0.83 ac	0.54	6.5min	0.45	4.8	2.1 cfs			---	---								---	To DP21
	C-2	0.77 ac	0.54	6.5min	0.42	4.8	2.0 cfs			---	---						15'	7	0.0min	To DP22
	C-3	0.81 ac	0.54	9.8min	0.44	4.2	1.8 cfs			---	---						36'	7	0.1min	To DP24
	C-4	0.83 ac	0.54	9.8min	0.45	4.2	1.9 cfs			---	---						15'	7	0.0min	To DP24
	C-7	0.27 ac	0.66	7.1min	0.18	4.6	0.8 cfs			---	---						750'	7	1.8min	To DP21
	C-8	3.13 ac	0.66	6.9min	2.06	4.7	9.6 cfs			---	---								---	To DP20
	C-9	5.07 ac	0.66	7.9min	3.33	4.5	14.9 cfs			---	---						400'	7	1.0min	To DP23
	C-10	10.25 ac	0.66	7.7min	6.73	4.5	30.5 cfs			---	---								---	To DP23
DP 1	A1, A1.1							6.3min	1.98	4.8	9.6 cfs						195'	7	0.5min	To DP2
DP 2	DP1, A2							6.8min	2.41	4.7	11.4 cfs									
DP 4	A3, OS-2							16.5min	5.70	3.4	19.6 cfs	Added Pilot Detention Release					85'	7	0.2min	To DP5
DP 5	DP4, A4, A4.1, A4.2,A4.3,A4.4							16.7min	5.91	3.4	20.3 cfs	Added Pilot Detention Release					55'	7	0.1min	To DP5.5
DP5.5	DP5, A6.4, A6.5, A6.6							16.8min	5.97	3.3	20.4 cfs	Added Pilot Detention Release					55'	7	0.1min	To DP6
DP 6	DP5.5, A5, DP7							17.0min	6.91	3.3	23.5 cfs	Added Pilot Detention Release					90'	7	0.2min	To DP9
DP 7	A6, A6.1, A6.2, A6.3							5.0min	0.86	5.2	4.9 cfs						90'	7	0.2min	To DP6
DP 8	A7, A7.2, A7.3							5.0min	1.02	5.2	5.3 cfs								---	
DP 9	DP6, DP8, A7.1							17.2min	8.22	3.3	27.7 cfs	Added Pilot Detention Release					123'	7	0.3min	To DP10
DP 10	DP9, DP2							17.5min	10.63	3.3	35.4 cfs	Added Pilot Detention Release					150'	7	0.4min	To DP11
DP 11	DP10, A8							17.8min	11.04	3.3	36.4 cfs	Added Pilot Detention Release					400'	7	1.0min	To DP18
DP14	A10, A11, A11.1, A11.2							5.8min	0.84	4.9	4.6 cfs						100'	7	0.2min	To DP15
DP 15	DP14, A12,A12.1							6.1min	1.01	4.9	4.9 cfs						110'	7	0.3min	To DP17
DP 16	A13, A13.1							5.0min	0.25	5.2	1.3 cfs								---	
DP 17	DP15,DP16,A14							6.3min	1.52	4.8	7.3 cfs								---	
DP 18	DP17, DP11							18.8min	12.57	3.2	40.4 cfs	Added Pilot Detention Release					110'	7	0.3min	To DP19
DP 19	DP18, A15							19.0min	13.24	3.2	42.3 cfs	Added Pilot Detention Release					480'	7	1.1min	To DP20
DP 20	DP19, C8							20.2min	15.29	3.1	47.0 cfs									
											47.4 cfs	Added Pilot Detention Release					16'	7	0.0min	To DP21

Equations (taken from Fig 6-5, City of Colorado Springs DCM):

i_2=-1.19 ln(T_c) + 6.035

i_5=-1.50 ln(T_c) + 7.583

i_{10}=-1.75 ln(T_c) + 8.847

Q = CiA

Q = Peak Runoff Rate (cubic feet/second)

C = Runoff coef representing a ration of peak runoff rate to ave rainfall intensity for a duration equal to the runoff time of concentration.

Alpine Dealerships -Falcon Commerce Center
Runoff Calculation- Proposed Condition

Design Point	Area Designation	Area	C	T_c	C*A (acre)	i (in/hr)	Q	T_c	Sum C*A	i (in/hr)	Q	Slope	Q	Q	Slope	Pipe Size	L (ft)	Vel (ft/s)	T_t	Remarks

i_{100}=-2.52 ln(T_c) + 12.735

i = average rainfall intensity in inches per hour

A = Drainage area in acres

Alpine Dealerships - Falcon Commerce Center
Runoff Calculation- Proposed Condition

Design Storm: 100 Year

	Direct Runoff							Total Runoff				Street/Char		Pipe			Travel Time			
Design Point	Area Designation	Area	C	T_c	C*A (acre)	i (in/hr)	Q	T_c	Sum C*A	i (in/hr)	Q	Slope	Q	Q	Slope	Pipe Size	L (ft)	Vel (ft/s)	T_t	Remarks
	OS-2	12.28 ac	0.60	15.9min	7.31	5.8	42.1 cfs	Pilot site calc'd undetained flow.												To DP4
	OS-2 FDR	12.28 ac					20.8 cfs	Pilot site 100-Yr Detention Release									200'	7	0.5min	To DP4
	A1	2.74 ac	0.69	6.1min	1.89	8.2	15.4 cfs			---	---						85'	7	0.2min	To DP 1
	A1.1	0.54 ac	0.81	5.0min	0.44	8.7	3.8 cfs			---	---						160'	7	0.4min	To DP 1
	A2	0.52 ac	0.88	5.0min	0.46	8.7	4.0 cfs			---	---						22'	7	0.1min	To DP 2
	A3	0.19 ac	0.59	5.0min	0.12	8.7	1.0 cfs			---	---								---	
	A4	0.67 ac	0.73	5.0min	0.49	8.7	4.3 cfs			---	---									
	A4.1	0.21 ac	0.81	5.0min	0.17	8.7	1.5 cfs			---	---								---	
	A4.2	0.03 ac	0.81	5.0min	0.02	8.7	0.2 cfs			---	---								---	
	A4.3	0.03 ac	0.81	5.0min	0.02	8.7	0.2 cfs			---	---								---	
	A4.4	0.03 ac	0.81	5.0min	0.02	8.7	0.2 cfs			---	---								---	
	A5	0.10 ac	0.80	5.0min	0.08	8.7	0.7 cfs			---	---								---	
	A6	0.89 ac	0.79	5.0min	0.71	8.7	6.1 cfs			---	---								---	
	A6.1	0.10 ac	0.81	5.0min	0.08	8.7	0.7 cfs			---	---								---	
	A6.2	0.12 ac	0.81	5.0min	0.10	8.7	0.9 cfs			---	---								---	
	A6.3	0.11 ac	0.81	5.0min	0.09	8.7	0.8 cfs			---	---						120'	7	0.3min	To DP8
	A6.4	0.03 ac	0.81	5.0min	0.02	8.7	0.2 cfs			---	---								---	
	A6.5	0.03 ac	0.81	5.0min	0.02	8.7	0.2 cfs			---	---									
	A6.6	0.03 ac	0.81	5.0min	0.02	8.7	0.2 cfs			---	---								---	
	A7	0.87 ac	0.91	5.0min	0.79	8.7	6.9 cfs			---	---								---	
	A7.1	0.40 ac	0.81	5.0min	0.32	8.7	2.8 cfs			---	---								---	
	A7.2	0.26 ac	0.81	5.0min	0.21	8.7	1.8 cfs			---	---						199'	7	0.5min	To DP8
	A7.3	0.13 ac	0.81	5.0min	0.11	8.7	0.9 cfs			---	---								---	
	A8	0.48 ac	0.92	5.0min	0.44	8.7	3.9 cfs			---	---								---	
	A10	0.70 ac	0.60	5.6min	0.42	8.4	3.5 cfs			---	---						95'	7	0.2min	To DP14
	A11	0.48 ac	0.83	5.0min	0.40	8.7	3.4 cfs			---	---								---	
	A11.1	0.10 ac	0.81	5.0min	0.08	8.7	0.7 cfs			---	---								---	
	A11.2	0.12 ac	0.81	5.0min	0.10	8.7	0.9 cfs			---	---								---	
	A12	0.13 ac	0.81	5.0min	0.10	8.7	0.9 cfs			---	---								---	
	A12.1	0.11 ac	0.81	5.0min	0.09	8.7	0.8 cfs			---	---								---	
	A13	0.03 ac	0.77	5.0min	0.02	8.7	0.2 cfs			---	---								---	
	A13.1	0.31 ac	0.81	5.0min	0.25	8.7	2.2 cfs			---	---								---	
	A14	0.35 ac	0.84	5.0min	0.29	8.7	2.6 cfs			---	---								---	

Alpine Dealerships - Falcon Commerce Center
Runoff Calculation- Proposed Condition

Design Point	Area Designation	Area	C	T_c	C*A (acre)	i (in/hr)	Q	T_c	Sum C*A	i (in/hr)	Q	Slope	Q	Q	Slope	Pipe Size	L (ft)	Vel (ft/s)	T_t	Remarks
	A15	0.98 ac	0.77	5.0min	0.76	8.7	6.6 cfs			---	---								---	
	A20	0.61 ac	0.35	10.8min	0.21	6.7	1.4 cfs			---	---								---	
	C-1	0.83 ac	0.66	6.5min	0.54	8.0	4.4 cfs			---	---								---	To DP21
	C-2	0.77 ac	0.66	6.5min	0.51	8.0	4.1 cfs			---	---						15'	7	0.0min	To DP22
	C-3	0.81 ac	0.66	9.8min	0.53	7.0	3.7 cfs			---	---						36'	7	0.1min	To DP24
	C-4	0.83 ac	0.66	9.8min	0.55	7.0	3.8 cfs			---	---						15'	7	0.0min	To DP24
	C-7	0.27 ac	0.75	7.1min	0.20	7.8	1.6 cfs			---	---						750'	7	1.8min	To DP21
	C-8	3.13 ac	0.75	6.9min	2.35	7.9	18.5 cfs			---	---								---	To DP20
	C-9	5.07 ac	0.75	7.9min	3.81	7.5	28.7 cfs			---	---						400'	7	1.0min	To DP23
	C-10	10.25 ac	0.75	7.7min	7.70	7.6	58.6 cfs			---	---									To DP23
										---	---									
DP 1	A1, A1.1							6.3min	2.33	8.1	18.8 cfs						195'	7	0.5min	To DP2
DP 2	DP1, A2							6.8min	2.79	7.9	22.1 cfs								---	
DP 4	A3, OS-2							16.4min	7.42	5.7	63.0 cfs	Added Pilot Detention Release					85'	7	0.2min	To DP5
DP 5	DP4, A4, A4.1, A4.2,A4.3,A4.4							16.6min	8.15	5.7	66.9 cfs	Added Pilot Detention Release					55'	7	0.1min	To DP5.5
DP5.5	DP5, A6.4, A6.5, A6.6							16.7min	8.22	5.6	67.2 cfs	Added Pilot Detention Release					55'	7	0.1min	To DP6
DP 6	DP5.5, A5, DP7							16.8min	9.27	5.6	72.9 cfs	Added Pilot Detention Release					90'	7	0.2min	To DP9
DP 7	A6, A6.1, A6.2, A6.3							5.0min	0.97	8.7	8.8 cfs						90'	7	0.2min	To DP6
DP 8	A7, A7.2, A7.3							5.0min	1.33	8.7	11.5 cfs								---	
DP 9	DP6, DP8, A7.1							17.1min	10.92	5.6	81.8 cfs	Added Pilot Detention Release					123'	7	0.3min	To DP10
DP 10	DP9, DP2							17.3min	13.71	5.5	96.8 cfs	Added Pilot Detention Release					150'	7	0.4min	To DP11
DP 11	DP10, A8							17.7min	14.16	5.5	98.6 cfs	Added Pilot Detention Release					400'	7	1.0min	To DP18
DP14	A10, A11, A11.1, A11.2							5.6min	0.99	8.4	8.3 cfs						105'	7	0.3min	To DP15
DP 15	DP14, A12,A12.1,							5.8min	1.18	8.3	9.8 cfs						110'	7	0.3min	To DP17
DP 16	A13, A13.1							5.0min	0.28	8.7	2.4 cfs								---	
DP 17	DP15,DP16,A14							6.1min	1.75	8.2	35.1 cfs								---	
DP 18	DP17, DP11							18.7min	15.91	5.4	106.1 cfs	Added Pilot Detention Release					110'	7	0.3min	To DP 19
DP 19	DP18, A15							18.9min	18.26	5.3	97.3 cfs	Added Pilot Detention Release					480'	7	1.1min	To DP 20
DP 20	DP 19, C-8							20.1min	22.07	5.2	114.3 cfs								---	
											118.1 cfs	Added Pilot Detention Release					16'	7	0.0min	To DP21

Equations (taken from Fig 6-5, City of Colorado Springs DCM):

i_2=-1.19 ln(T_c) + 6.035

i_5=-1.50 ln(T_c) + 7.583

i_{10}=-1.75 ln(T_c) + 8.847

Q = CiA

Q = Peak Runoff Rate (cubic feet/second)

C = Runoff coef representing a ration of peak runoff rate to ave rainfall intensity for a duration equal to the runoff time of concentration.

Alpine Dealerships - Falcon Commerce Center
Runoff Calculation- Proposed Condition

Design Point	Area Designation	Area	C	T_c	C*A (acre)	i (in/hr)	Q	T_c	Sum C*A	i (in/hr)	Q	Slope	Q	Q	Slope	Pipe Size	L (ft)	Vel (ft/s)	T_t	Remarks

i_{100}=-2.52 ln(T_c) + 12.735

i = average rainfall intensity in inches per hour

A = Drainage area in acres

APPENDIX B.1

Supporting Hydrologic Tables and Figures

For Colorado Springs and much of the Fountain Creek watershed, the 1-hour depths are fairly uniform and are summarized in Table 6-2. Depending on the location of the project, rainfall depths may be calculated using the described method and the NOAA Atlas maps shown in Figures 6-6 through 6-17.

Table 6-2. Rainfall Depths for Colorado Springs

Return Period	1-Hour Depth	6-Hour Depth	24-Hour Depth
2	1.19	1.70	2.10
5	1.50	2.10	2.70
10	1.75	2.40	3.20
25	2.00	2.90	3.60
50	2.25	3.20	4.20
100	2.52	3.50	4.60

Where Z= 6,840 ft/100

These depths can be applied to the design storms or converted to intensities (inches/hour) for the Rational Method as described below. However, as the basin area increases, it is unlikely that the reported point rainfalls will occur uniformly over the entire basin. To account for this characteristic of rain storms an adjustment factor, the Depth Area Reduction Factor (DARF) is applied. This adjustment to rainfall depth and its effect on design storms is also described below. The UDFCD UD-Rain spreadsheet, available on UDFCD's website, also provides tools to calculate point rainfall depths and Intensity-Duration-Frequency curves[2] and should produce similar depth calculation results.

2.2 Design Storms

Design storms are used as input into rainfall/runoff models and provide a representation of the typical temporal distribution of rainfall events when the creation or routing of runoff hydrographs is required. It has long been observed that rainstorms in the Front Range of Colorado tend to occur as either short-duration, high-intensity, localized, convective thunderstorms (cloud bursts) or longer-duration, lower-intensity, broader, frontal (general) storms. The significance of these two types of events is primarily determined by the size of the drainage basin being studied. Thunderstorms can create high rates of runoff within a relatively small area, quickly, but their influence may not be significant very far downstream. Frontal storms may not create high rates of runoff within smaller drainage basins due to their lower intensity, but tend to produce larger flood flows that can be hazardous over a broader area and extend further downstream.

- **Thunderstorms**: Based on the extensive evaluation of rain storms completed in the Carlton study (Carlton 2011), it was determined that typical thunderstorms have a duration of about 2 hours. The study evaluated over 300,000 storm cells using gage-adjusted NEXRAD data, collected over a 14-year period (1994 to 2008). Storms lasting longer than 3 hours were rarely found. Therefore, the results of the Carlton study have been used to define the shorter duration design storms.

  To determine the temporal distribution of thunderstorms, 22 gage-adjusted NEXRAD storm cells were studied in detail. Through a process described in a technical memorandum prepared by the City of Colorado Springs (City of Colorado Springs 2012), the results of this analysis were interpreted and normalized to the 1-hour rainfall depth to create the distribution shown in Table 6-3 with a 5 minute time interval for drainage basins up to 1 square mile in size. This distribution represents the rainfall

Table 6-6. Runoff Coefficients for Rational Method
(Source: UDFCD 2001)

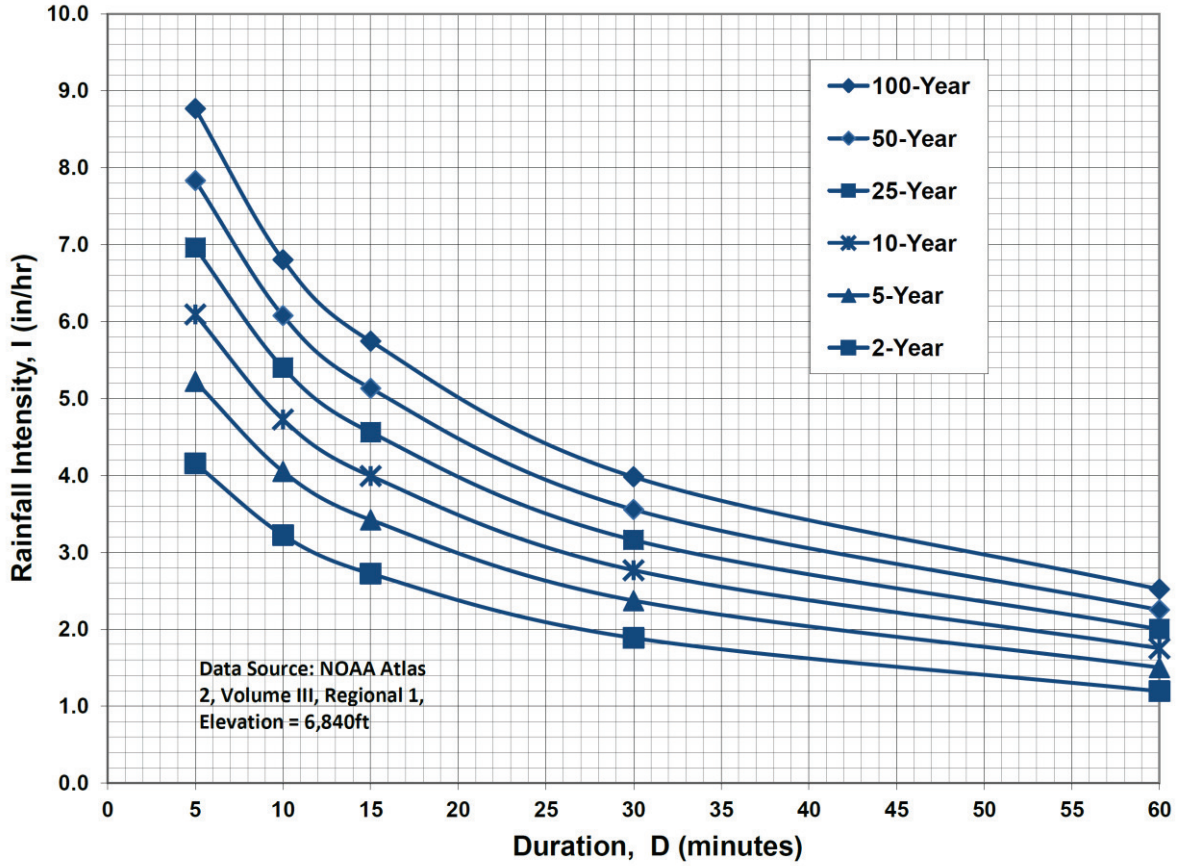
Land Use or Surface Characteristics	Percent Impervious	Runoff Coefficients											
		2-year		5-year		10-year		25-year		50-year		100-year	
		HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D
Business													
Commercial Areas	95	0.79	0.80	0.81	0.82	0.83	0.84	0.85	0.87	0.87	0.88	0.88	0.89
Neighborhood Areas	70	0.45	0.49	0.49	0.53	0.53	0.57	0.58	0.62	0.60	0.65	0.62	0.68
Residential													
1/8 Acre or less	65	0.41	0.45	0.45	0.49	0.49	0.54	0.54	0.59	0.57	0.62	0.59	0.65
1/4 Acre	40	0.23	0.28	0.30	0.35	0.36	0.42	0.42	0.50	0.46	0.54	0.50	0.58
1/3 Acre	30	0.18	0.22	0.25	0.30	0.32	0.38	0.39	0.47	0.43	0.52	0.47	0.57
1/2 Acre	25	0.15	0.20	0.22	0.28	0.30	0.36	0.37	0.46	0.41	0.51	0.46	0.56
1 Acre	20	0.12	0.17	0.20	0.26	0.27	0.34	0.35	0.44	0.40	0.50	0.44	0.55
Industrial													
Light Areas	80	0.57	0.60	0.59	0.63	0.63	0.66	0.66	0.70	0.68	0.72	0.70	0.74
Heavy Areas	90	0.71	0.73	0.73	0.75	0.75	0.77	0.78	0.80	0.80	0.82	0.81	0.83
Parks and Cemeteries	7	0.05	0.09	0.12	0.19	0.20	0.29	0.30	0.40	0.34	0.46	0.39	0.52
Playgrounds	13	0.07	0.13	0.16	0.23	0.24	0.31	0.32	0.42	0.37	0.48	0.41	0.54
Railroad Yard Areas	40	0.23	0.28	0.30	0.35	0.36	0.42	0.42	0.50	0.46	0.54	0.50	0.58
Undeveloped Areas													
Historic Flow Analysis--Greenbelts, Agriculture	2	0.03	0.05	0.09	0.16	0.17	0.26	0.26	0.38	0.31	0.45	0.36	0.51
Pasture/Meadow	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50
Forest	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50
Exposed Rock	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Offsite Flow Analysis (when landuse is undefined)	45	0.26	0.31	0.32	0.37	0.38	0.44	0.44	0.51	0.48	0.55	0.51	0.59
Streets													
Paved	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Gravel	80	0.57	0.60	0.59	0.63	0.63	0.66	0.66	0.70	0.68	0.72	0.70	0.74
Drive and Walks	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Roofs	90	0.71	0.73	0.73	0.75	0.75	0.77	0.78	0.80	0.80	0.82	0.81	0.83
Lawns	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50

3.2 Time of Concentration

One of the basic assumptions underlying the Rational Method is that runoff is a function of the average rainfall rate during the time required for water to flow from the hydraulically most remote part of the drainage area under consideration to the design point. However, in practice, the time of concentration can be an empirical value that results in reasonable and acceptable peak flow calculations.

For urban areas, the time of concentration (t_c) consists of an initial time or overland flow time (t_i) plus the travel time (t_t) in the storm sewer, paved gutter, roadside drainage ditch, or drainage channel. For non-urban areas, the time of concentration consists of an overland flow time (t_i) plus the time of travel in a concentrated form, such as a swale or drainageway. The travel portion (t_t) of the time of concentration can be estimated from the hydraulic properties of the storm sewer, gutter, swale, ditch, or drainageway. Initial time, on the other hand, will vary with surface slope, depression storage, surface cover, antecedent rainfall, and infiltration capacity of the soil, as well as distance of surface flow. The time of concentration is represented by Equation 6-7 for both urban and non-urban areas.

Figure 6-5. Colorado Springs Rainfall Intensity Duration Frequency



IDF Equations

$I_{100} = -2.52 \ln(D) + 12.735$

$I_{50} = -2.25 \ln(D) + 11.375$

$I_{25} = -2.00 \ln(D) + 10.111$

$I_{10} = -1.75 \ln(D) + 8.847$

$I_{5} = -1.50 \ln(D) + 7.583$

$I_{2} = -1.19 \ln(D) + 6.035$

Note: Values calculated by equations may not precisely duplicate values read from figure.

APPENDIX C

Hydraulic Calculations

Flg 2 Inlet Summary and Calculations
Inlet Summary and Calculations
Pipe Sizing Calculations and UD-Sewer Output

MHFD-Inlet, Version 5.01 (April 2021)

INLET MANAGEMENT

Worksheet Protected

INLET NAME	Terrazzo Drive Inlet 1	Terrazzo Drive Inlet 2	Terrazzo Drive Inlet 3	Terrazzo Drive Inlet 4	Terrazzo Drive Inlet 5
Site Type (Urban or Rural)					
Inlet Application (Street or Area)	STREET	STREET	STREET	STREET	STREET
Hydraulic Condition	On Grade	On Grade	On Grade	On Grade	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows					
Minor Q_{Known} (cfs)	2.9	2.0	1.8	1.9	3.3
Major Q_{Known} (cfs)	6.0	4.1	3.7	3.8	6.8

Bypass (Carry-Over) Flow from Upstream					
Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	Terrazzo Drive Inlet 1	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.6	0.0	0.0

Watershed Characteristics					
Subcatchment Area (acres)					
Percent Impervious					
NRCS Soil Type					

Watershed Profile					
Overland Slope (ft/ft)					
Overland Length (ft)					
Channel Slope (ft/ft)					
Channel Length (ft)					

Minor Storm Rainfall Input					
Design Storm Return Period, T_r (years)					
One-Hour Precipitation, P_1 (inches)					

Major Storm Rainfall Input					
Design Storm Return Period, T_r (years)					
One-Hour Precipitation, P_1 (inches)					

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**2.9**	**2.0**	**1.8**	**1.9**	**3.3**
Major Total Design Peak Flow, Q (cfs)	**6.0**	**4.1**	**4.3**	**3.8**	**6.8**
Minor Flow Bypassed Downstream, Q_b (cfs)	0.0	0.0	0.0	0.0	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	0.6	0.0	0.0	0.0	N/A

MHFD-Inlet, Version 5.01 (April 2021)

INLET MANAGEMENT

Worksheet Protected

INLET NAME	Terrazzo Drive Inlet 6
Site Type (Urban or Rural)	
Inlet Application (Street or Area)	STREET
Hydraulic Condition	On Grade
Inlet Type	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	2.2
Major Q_{Known} (cfs)	4.5

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0

Watershed Characteristics

Subcatchment Area (acres)	
Percent Impervious	
NRCS Soil Type	

Watershed Profile

Overland Slope (ft/ft)	
Overland Length (ft)	
Channel Slope (ft/ft)	
Channel Length (ft)	

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)	
One-Hour Precipitation, P_1 (inches)	

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)	
One-Hour Precipitation, P_1 (inches)	

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**2.2**
Major Total Design Peak Flow, Q (cfs)	**4.5**
Minor Flow Bypassed Downstream, Q_b (cfs)	0.0
Major Flow Bypassed Downstream, Q_b (cfs)	0.2

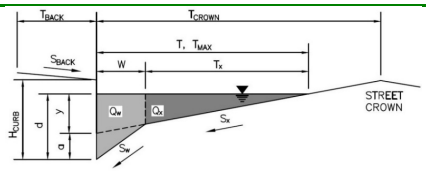
MHFD-Inlet, Version 5.01 (April 2021)

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **Falcon Commerce Center Filing No. 2**

Inlet ID: **Terrazzo Drive Inlet 1**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	25.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.021	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	12.0	25.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	12.0	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

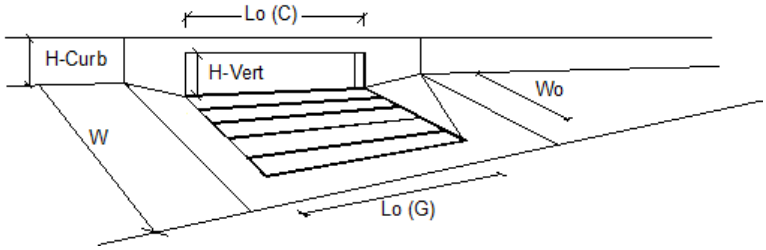
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Spread Criterion				
MAJOR STORM Allowable Capacity is based on Spread Criterion	**Q_{allow} =**	**6.8**	**42.6**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	3.0	3.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	2	2	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f-G =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f-C =	0.10	0.10	
Street Hydraulics: OK - Q < Allowable Street Capacity'		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**2.9**	**5.4**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**0.6**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**89**	**%**

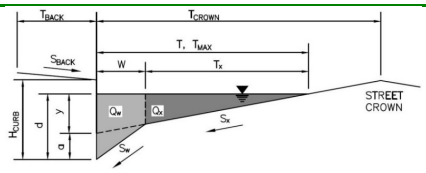
MHFD-Inlet, Version 5.01 (April 2021)

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **Falcon Commerce Center Filing No. 2**

Inlet ID: **Terrazzo Drive Inlet 3**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	25.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.014	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	12.0	25.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	12.0	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

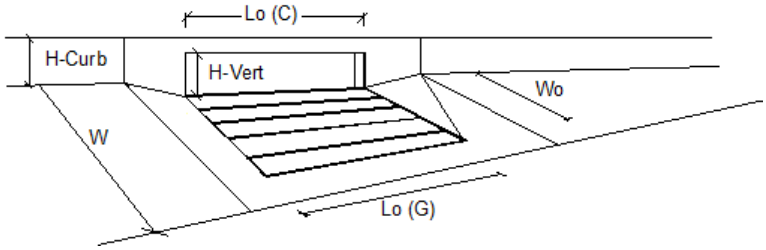
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Spread Criterion MAJOR STORM Allowable Capacity is based on Spread Criterion	Q_{allow} =	**4.4**	**27.7**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	3.0	3.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	2	2	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f-G =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f-C =	0.10	0.10	
Street Hydraulics: OK - Q < Allowable Street Capacity'		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**1.8**	**4.3**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**99**	**%**

MHFD-Inlet, Version 5.03 (August 2023)

INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 10	Inlet 12	Inlet 16
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	Denver No. 16 Valley Grate

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	7.7	2.2	0.5
Major Q_{Known} (cfs)	15.4	4.0	1.0

Bypass (Carry-Over) Flow from Upstream Inlets must be organized from upstream (left) to downstream (right) in order for bypass flows to be linked.

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**7.7**	**2.2**	**0.5**
Major Total Design Peak Flow, Q (cfs)	**15.4**	**4.0**	**1.0**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

MHFD-Inlet, Version 5.03 (August 2023)

INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 18	Inlet 19	Inlet 20
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	On Grade	On Grade
Inlet Type	CDOT Type R Curb Opening	Denver No. 16 Valley Grate	Denver No. 16 Valley Grate

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	2.2	3.2	0.4
Major Q_{Known} (cfs)	4.3	6.1	0.7

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**2.2**	**3.2**	**0.4**
Major Total Design Peak Flow, Q (cfs)	**4.3**	**6.1**	**0.7**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	1.5	0.0
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	3.7	0.1

MHFD-Inlet, Version 5.03 (August 2023)

INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 21	Inlet 24	Inlet 26
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	Denver No. 16 Valley Grate	CDOT Type R Curb Opening	Denver No. 16 Valley Grate

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	3.8	2.1	1.6
Major Q_{Known} (cfs)	6.9	3.9	3.5

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	User-Defined	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	1.5	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	3.8	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**5.3**	**2.1**	**1.6**
Major Total Design Peak Flow, Q (cfs)	**10.7**	**3.9**	**3.5**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

MHFD-Inlet, Version 5.03 (August 2023)

INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 27	Inlet 28	Inlet 29
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	On Grade	On Grade
Inlet Type	Denver No. 16 Combination	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	1.9	0.5	0.1
Major Q_{Known} (cfs)	3.4	0.9	0.2

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	User-Defined	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	1.8	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**1.9**	**0.5**	**0.1**
Major Total Design Peak Flow, Q (cfs)	**5.2**	**0.9**	**0.2**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	0.0	0.0
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	0.0	0.0

MHFD-Inlet, Version 5.03 (August 2023)

INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 30	Inlet 31
Site Type (Urban or Rural)	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET
Hydraulic Condition	On Grade	In Sump
Inlet Type	Denver No. 16 Valley Grate	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	1.4	3.5
Major Q_{Known} (cfs)	2.6	6.6

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	Inlet 30
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.6
Major Bypass Flow Received, Q_b (cfs)	0.0	1.5

Watershed Characteristics

Subcatchment Area (acres)		
Percent Impervious		
NRCS Soil Type		

Watershed Profile

Overland Slope (ft/ft)		
Overland Length (ft)		
Channel Slope (ft/ft)		
Channel Length (ft)		

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)		
One-Hour Precipitation, P_1 (inches)		

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)		
One-Hour Precipitation, P_1 (inches)		

CALCULATED OUTPUT

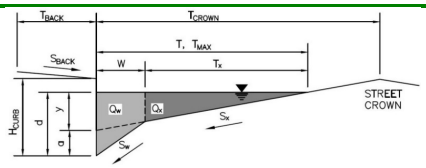
Minor Total Design Peak Flow, Q (cfs)	**1.4**	**4.1**
Major Total Design Peak Flow, Q (cfs)	**2.6**	**8.1**
Minor Flow Bypassed Downstream, Q_b (cfs)	0.6	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	1.5	N/A

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Inlet ID: Inlet 10



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =		ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.015	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	70.0	ft
Gutter Width	W =	1.00	ft
Street Transverse Slope	S_X =	0.008	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	70.0	70.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

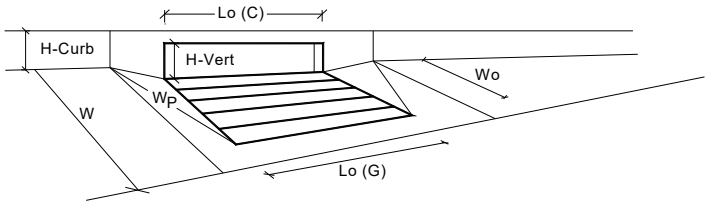
MINOR STORM Allowable Capacity is not applicable to Sump Condition

MAJOR STORM Allowable Capacity is not applicable to Sump Condition

	Minor Storm	Major Storm	
Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.03 (August 2023)



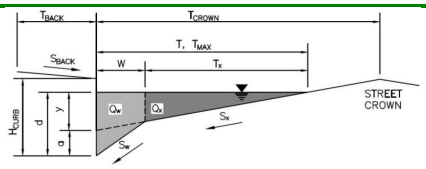
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	2	2	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	8.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	1.00	1.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.42	0.58	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.93	1.00	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**10.0**	**17.8**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	7.7	15.4	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Inlet ID: **Inlet 12**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =		ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.015	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	14.0	ft
Gutter Width	W =	1.00	ft
Street Transverse Slope	S_X =	0.031	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	14.0	14.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

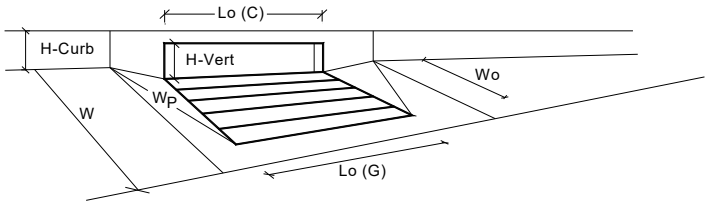
MINOR STORM Allowable Capacity is not applicable to Sump Condition

MAJOR STORM Allowable Capacity is not applicable to Sump Condition

	Minor Storm	Major Storm	
Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.03 (August 2023)



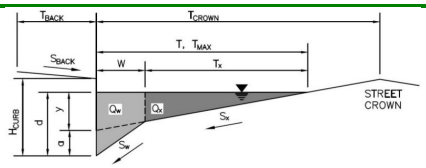
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	5.8	5.8	inches
Grate Information		MINOR	MAJOR	☐ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	1.00	1.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.40	0.40	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.6**	**5.6**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	2.2	4.0	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Inlet ID: **Inlet 16**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.050	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.015	
Height of Curb at Gutter Flow Line	H_{CURB} =	0.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	20.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.022	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	9.0	9.0	ft
Warning 02 Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	4.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

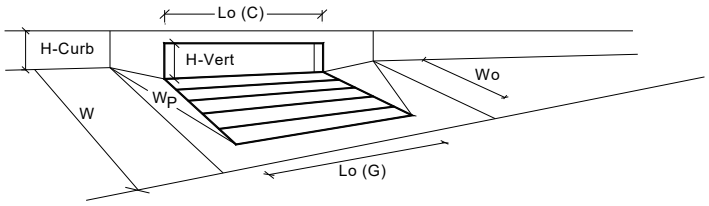
MINOR STORM Allowable Capacity is not applicable to Sump Condition

MAJOR STORM Allowable Capacity is not applicable to Sump Condition

	Minor Storm	Major Storm	
Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.03 (August 2023)



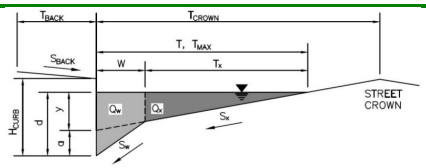
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	Denver No. 16 Valley Grate		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	2.00	2.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	3.8	3.8	inches
Grate Information		MINOR	MAJOR	☐ Override Depths
Length of a Unit Grate	L_o (G) =	3.00	3.00	feet
Width of a Unit Grate	W_o =	1.73	1.73	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	0.31	0.31	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	0.50	0.50	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	3.60	3.60	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	0.60	0.60	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	N/A	N/A	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	N/A	N/A	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	N/A	N/A	inches
Angle of Throat	Theta =	N/A	N/A	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	N/A	N/A	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	N/A	N/A	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	N/A	N/A	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	N/A	N/A	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	0.34	0.34	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	N/A	N/A	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	0.60	0.60	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	N/A	N/A	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**1.0**	**1.0**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	0.5	1.0	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Inlet ID: **Inlet 18**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	4.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =		ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.015	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	1.00	ft
Street Transverse Slope	S_X =	0.025	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

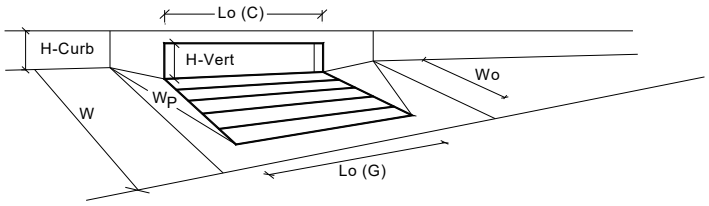
MINOR STORM Allowable Capacity is not applicable to Sump Condition

MAJOR STORM Allowable Capacity is not applicable to Sump Condition

	Minor Storm	Major Storm	
Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.03 (August 2023)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	6.0	inches
Grate Information		MINOR	MAJOR	☐ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	1.00	1.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.42	0.42	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.9**	**5.9**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	2.2	4.3	cfs

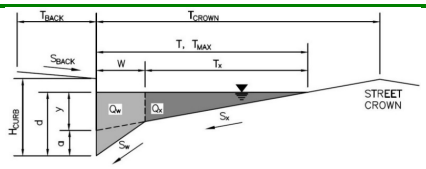
MHFD-Inlet, Version 5.03 (August 2023)

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Inlet ID: **Inlet 19**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.005	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.015	
Height of Curb at Gutter Flow Line	H_{CURB} =	0.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	62.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.037	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.012	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	62.0	62.0	ft
Warning 02 Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

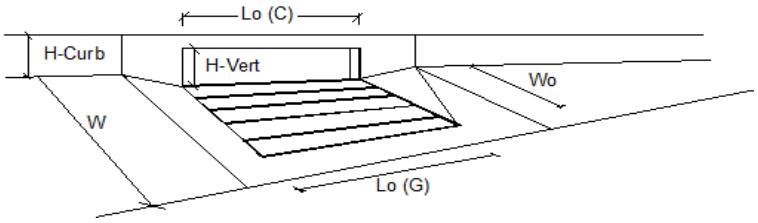
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**11.0**	**11.0**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 3.20 cfs on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design peak flow of 6.10 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet (Denver No. 16 Valley Grate)	Type =	Denver No. 16 Valley Grate		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	2.0	2.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	3.00	3.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	1.73	1.73	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f (G) =	0.50	0.50	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f (C) =	N/A	N/A	

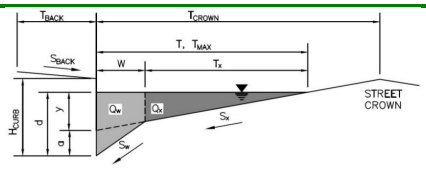
Street Hydraulics: OK - Q < Allowable Street Capacity'		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**1.7**	**2.4**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**1.5**	**3.7**	**cfs**
Capture Percentage = Q_a/Q_o	**C% =**	**52**	**40**	**%**

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Inlet ID: **Inlet 20**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.013	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.015	
Height of Curb at Gutter Flow Line	H_{CURB} =	0.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	35.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.010	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.009	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	35.0	35.0	ft
Warning 02 Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

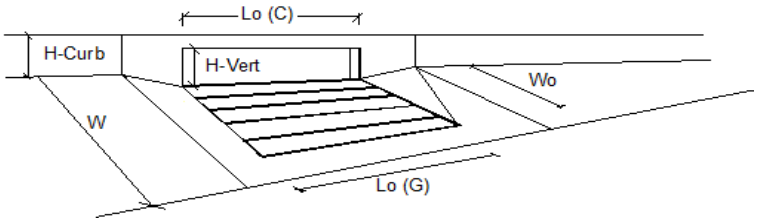
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Spread Criterion				
MAJOR STORM Allowable Capacity is based on Spread Criterion	**Q_{allow} =**	**22.8**	**22.8**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 0.40 cfs on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design peak flow of 0.70 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet (Denver No. 16 Valley Grate)	Type =	Denver No. 16 Valley Grate		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	2.0	2.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	3.00	3.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	1.73	1.73	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f (G) =	0.50	0.50	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f (C) =	N/A	N/A	

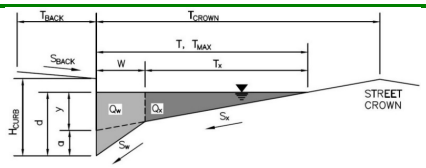
Street Hydraulics: OK - Q < Allowable Street Capacity'		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**0.4**	**0.6**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**0.1**	**cfs**
Capture Percentage = Q_a/Q_o	**C% =**	**88**	**79**	**%**

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Inlet ID: **Inlet 21**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.000	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.015	
Height of Curb at Gutter Flow Line	H_{CURB} =	0.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	108.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	108.0	108.0	ft
Warning 02 Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	19.0	19.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

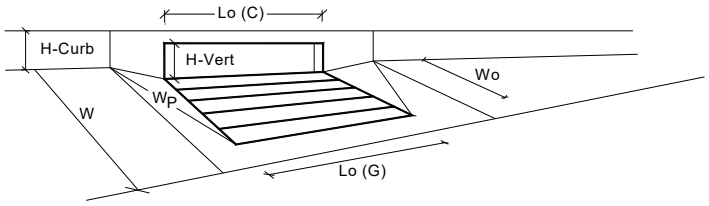
MINOR STORM Allowable Capacity is not applicable to Sump Condition

MAJOR STORM Allowable Capacity is not applicable to Sump Condition

	Minor Storm	Major Storm	
Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.03 (August 2023)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	Denver No. 16 Valley Grate		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	2.00	2.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	3	3	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	7.0	9.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	3.00	3.00	feet
Width of a Unit Grate	W_o =	1.73	1.73	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	0.31	0.31	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	0.50	0.50	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	3.60	3.60	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	0.60	0.60	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	N/A	N/A	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	N/A	N/A	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	N/A	N/A	inches
Angle of Throat	Theta =	N/A	N/A	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	N/A	N/A	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	N/A	N/A	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	N/A	N/A	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	N/A	N/A	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	0.61	0.77	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	N/A	N/A	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	0.66	0.85	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	N/A	N/A	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**7.2**	**12.5**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	5.3	10.7	cfs

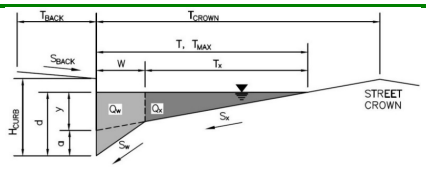
MHFD-Inlet, Version 5.03 (August 2023)

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Inlet ID: Inlet 24



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =		ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.015	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	15.0	ft
Gutter Width	W =	1.00	ft
Street Transverse Slope	S_X =	0.033	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	15.0	15.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

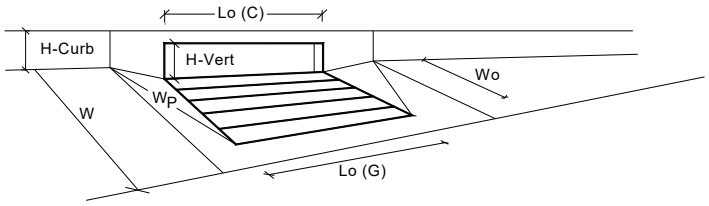
MINOR STORM Allowable Capacity is not applicable to Sump Condition

MAJOR STORM Allowable Capacity is not applicable to Sump Condition

	Minor Storm	Major Storm	
Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.03 (August 2023)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	6.0	inches
Grate Information		MINOR	MAJOR	☐ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	1.00	1.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.42	0.42	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.9**	**5.9**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	2.1	3.9	cfs

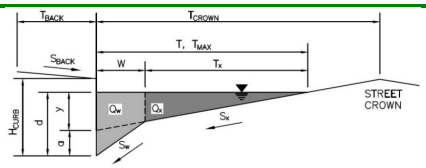
MHFD-Inlet, Version 5.03 (August 2023)

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Inlet ID: Inlet 26



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.000	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.015	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	8.0	ft
Gutter Width	W =	3.00	ft
Street Transverse Slope	S_X =	0.009	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	8.0	8.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	3.0	3.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

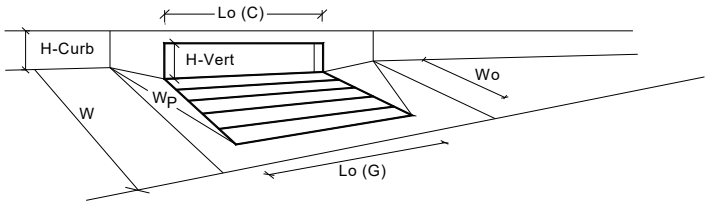
MINOR STORM Allowable Capacity is not applicable to Sump Condition

MAJOR STORM Allowable Capacity is not applicable to Sump Condition

	Minor Storm	Major Storm	
Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.03 (August 2023)



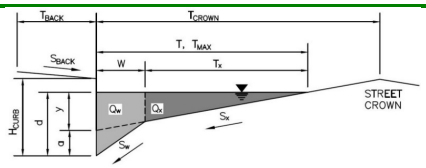
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	Denver No. 16 Valley Grate		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	2.00	2.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	2	2	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	4.0	4.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	3.00	3.00	feet
Width of a Unit Grate	W_o =	1.73	1.73	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	0.31	0.31	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	0.50	0.50	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	3.60	3.60	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	0.60	0.60	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	N/A	N/A	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	N/A	N/A	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	N/A	N/A	inches
Angle of Throat	Theta =	N/A	N/A	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	N/A	N/A	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	N/A	N/A	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	N/A	N/A	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	N/A	N/A	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	0.38	0.38	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	N/A	N/A	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	0.47	0.47	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	N/A	N/A	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**1.7**	**1.7**	**cfs**
WARNING: Inlet Capacity < Q Peak for Major Storm	$Q_{PEAK\ REQUIRED}$ =	1.6	3.5	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Inlet ID: Inlet 27



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =		ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.015	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	10.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.048	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	10.0	10.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

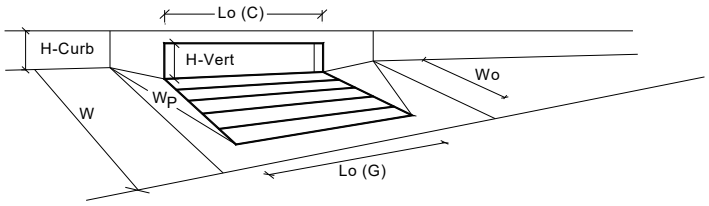
MINOR STORM Allowable Capacity is not applicable to Sump Condition

MAJOR STORM Allowable Capacity is not applicable to Sump Condition

	Minor Storm	Major Storm	
Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.03 (August 2023)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	Denver No. 16 Combination		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	2.00	2.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	6.0	inches
Grate Information		MINOR	MAJOR	☐ Override Depths
Length of a Unit Grate	L_o (G) =	3.00	3.00	feet
Width of a Unit Grate	W_o =	1.73	1.73	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	0.31	0.31	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	0.50	0.50	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	3.60	3.60	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	0.60	0.60	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	3.00	3.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.50	6.50	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	5.25	5.25	inches
Angle of Throat	Theta =	0.00	0.00	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.70	3.70	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.66	0.66	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	0.52	0.52	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.33	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	0.94	0.94	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	N/A	N/A	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.94	0.94	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.6**	**5.6**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	1.9	5.2	cfs

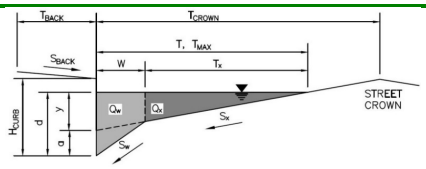
MHFD-Inlet, Version 5.03 (August 2023)

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Inlet ID: Inlet 28



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =		ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.015	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	14.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.035	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.007	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	14.0	14.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

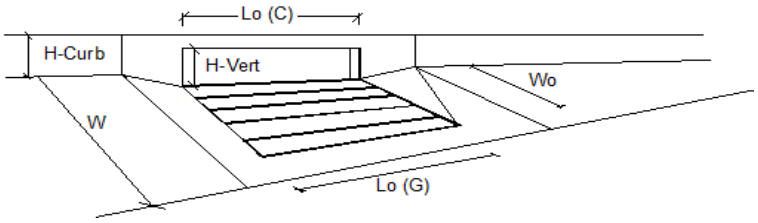
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**8.7**	**8.7**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 0.50 cfs on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design peak flow of 0.90 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet (CDOT Type R Curb Opening)	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	3.0	3.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f (G) =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f (C) =	0.10	0.10	

Street Hydraulics: OK - Q < Allowable Street Capacity'		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**0.5**	**0.9**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Q_a/Q_o	**C% =**	**100**	**100**	**%**

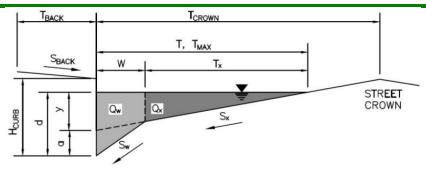
MHFD-Inlet, Version 5.03 (August 2023)

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Inlet ID: Inlet 29



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =		ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.014	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.015	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	14.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.005	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.010	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	14.0	14.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

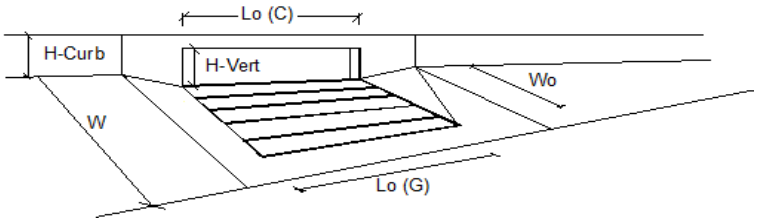
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Spread Criterion				
MAJOR STORM Allowable Capacity is based on Spread Criterion	**Q_{allow} =**	**1.2**	**1.2**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 0.10 cfs on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design peak flow of 0.20 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet (CDOT Type R Curb Opening)	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	3.0	3.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f (G) =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f (C) =	0.10	0.10	

Street Hydraulics: OK - Q < Allowable Street Capacity'		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**0.1**	**0.2**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Q_a/Q_o	**C% =**	**100**	**100**	**%**

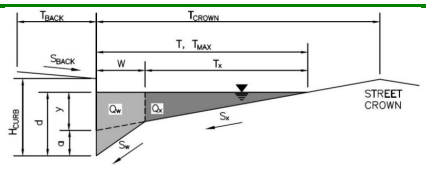
MHFD-Inlet, Version 5.03 (August 2023)

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Inlet ID: Inlet 30



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =		ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =		ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.015	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	67.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.009	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.007	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	67.0	67.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

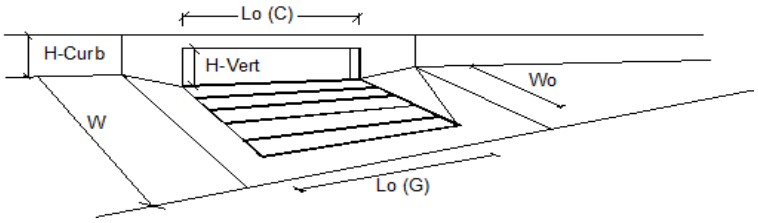
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**22.5**	**22.5**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 1.40 cfs on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design peak flow of 2.60 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet (Denver No. 16 Valley Grate)	Type =	Denver No. 16 Valley Grate		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	2.0	2.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	3.00	3.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	1.73	1.73	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f (G) =	0.50	0.50	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f (C) =	N/A	N/A	

Street Hydraulics: OK - Q < Allowable Street Capacity'		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**0.8**	**1.1**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.6**	**1.5**	**cfs**
Capture Percentage = Q_a/Q_o	**C% =**	**58**	**43**	**%**

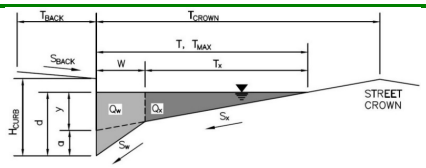
MHFD-Inlet, Version 5.03 (August 2023)

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Inlet ID: Inlet 31



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =		ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.015	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	23.0	ft
Gutter Width	W =	1.00	ft
Street Transverse Slope	S_X =	0.021	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	23.0	23.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.8	4.8	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

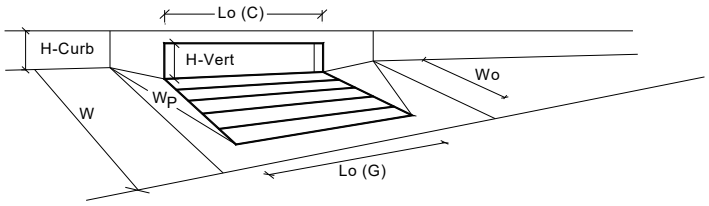
MINOR STORM Allowable Capacity is not applicable to Sump Condition

MAJOR STORM Allowable Capacity is not applicable to Sump Condition

	Minor Storm	Major Storm	
Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.03 (August 2023)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet (CDOT Type R Curb Opening)	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	2	2	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	4.8	5.5	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	1.00	1.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.32	0.38	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.85	0.90	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**6.1**	**8.3**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	4.1	8.1	cfs

Alpine Dealerships - Falcon Commerce Center
Pipe Diameter Calculations

Pipe #	5yr Flow	100yr Flow	Contributing Flows	Manning 'n'	Pipe Slope	Calculated Pipe Diameter	**Pipe Diameter**	Minimum Slope of Pipe	Full Pipe Flow Velocity	**Mannings Pipe Capacity**	Capacity Check
S10	7.7 cfs	15.4 cfs	A1	0.013	**2.0%**	18-inch	**24-inch**	0.47%	10.2 ft/sec	**32.1 cfs**	OK
S11	9.6 cfs	18.8 cfs	DP 1	0.013	**0.9%**	23-inch	**24-inch**	0.69%	6.8 ft/sec	**21.5 cfs**	OK
S12	2.2 cfs	4.0 cfs	A2	0.013	**2.0%**	11-inch	**18-inch**	0.15%	8.4 ft/sec	**14.9 cfs**	OK
S13	11.4 cfs	22.1 cfs	DP 2	0.013	**0.8%**	25-inch	**30-inch**	0.29%	7.5 ft/sec	**36.8 cfs**	OK
S15	0.4 cfs	20.8 cfs	OS-2 FDR	0.013	**2.0%**	20-inch	**24-inch**	0.85%	10.2 ft/sec	**32.1 cfs**	OK
S16	0.5 cfs	1.0 cfs	A3	0.013	**2.0%**	7-inch	**18-inch**	0.01%	8.4 ft/sec	**14.9 cfs**	OK
S17	19.6 cfs	63.0 cfs	DP 4	0.013	**2.0%**	31-inch	**42-inch**	0.39%	14.8 ft/sec	**142.7 cfs**	OK
S18	20.4 cfs	67.2 cfs	DP5.5	0.013	**2.0%**	32-inch	**42-inch**	0.45%	14.8 ft/sec	**142.7 cfs**	OK
S19	4.9 cfs	8.8 cfs	DP 7	0.013	**2.0%**	15-inch	**18-inch**	0.70%	8.4 ft/sec	**14.9 cfs**	OK
S20	23.5 cfs	72.9 cfs	DP 6	0.013	**2.0%**	33-inch	**42-inch**	0.53%	14.8 ft/sec	**142.7 cfs**	OK
S21	5.3 cfs	11.5 cfs	DP 8	0.013	**2.0%**	16-inch	**18-inch**	1.21%	8.4 ft/sec	**14.9 cfs**	OK
S22	27.7 cfs	81.8 cfs	DP 9	0.013	**2.0%**	34-inch	**42-inch**	0.66%	14.8 ft/sec	**142.7 cfs**	OK
S23	35.4 cfs	96.8 cfs	DP 10	0.013	**2.0%**	36-inch	**42-inch**	0.93%	14.8 ft/sec	**142.7 cfs**	OK
S24	2.1 cfs	3.9 cfs	A8	0.013	**2.0%**	11-inch	**18-inch**	0.13%	8.4 ft/sec	**14.9 cfs**	OK
S25	36.4 cfs	98.6 cfs	DP 11	0.013	**2.0%**	37-inch	**42-inch**	0.96%	14.8 ft/sec	**142.7 cfs**	OK
S26	1.6 cfs	3.5 cfs	A10	0.013	**2.0%**	10-inch	**18-inch**	0.11%	8.4 ft/sec	**14.9 cfs**	OK
S27	4.9 cfs	8.3 cfs	DP14	0.013	**2.0%**	15-inch	**18-inch**	0.63%	8.4 ft/sec	**14.9 cfs**	OK
S28	1.3 cfs	9.8 cfs	DP 15	0.013	**2.0%**	15-inch	**18-inch**	0.87%	8.4 ft/sec	**14.9 cfs**	OK
S29	7.3 cfs	2.4 cfs	DP 16	0.013	**2.0%**	9-inch	**24-inch**	0.01%	10.2 ft/sec	**32.1 cfs**	OK
S30	7.3 cfs	35.1 cfs	DP 17	0.013	**0.8%**	30-inch	**30-inch**	0.73%	7.5 ft/sec	**36.8 cfs**	OK
S31	42.3 cfs	106.1 cfs	DP 18	0.013	**2.0%**	38-inch	**42-inch**	1.11%	14.8 ft/sec	**142.7 cfs**	OK
S32	3.5 cfs	6.6 cfs	A15	0.013	**2.0%**	13-inch	**18-inch**	0.40%	8.4 ft/sec	**14.9 cfs**	OK
S33	42.3 cfs	97.3 cfs	DP19	0.013	**2.0%**	36-inch	**42-inch**	0.94%	14.8 ft/sec	**142.7 cfs**	OK
S34	42.3 cfs	97.3 cfs	DP19	0.013	**2.0%**	36-inch	**42-inch**	0.94%	14.8 ft/sec	**142.7 cfs**	OK
S62	47.0 cfs	114.3 cfs	DP20	0.013	**2.0%**	39-inch	**42-inch**	1.29%	14.8 ft/sec	**142.7 cfs**	OK
S63	1.8 cfs	3.7 cfs	C3	0.013	**2.0%**	11-inch	**18-inch**	0.12%	8.4 ft/sec	**14.9 cfs**	OK

Equations:

Pipe Dia=$((2.16Qn)/(S^{0.5}))^{0.375}$

Q = Discharge in cubic feet per second

n = Manning's roughness coefficient

RCP=0.013, CMP=0.024, HDPE (smooth)=0.012

S = Slope of the pipe

R_h = Hydraulic Radius

Flow Velocity = $(1.49/n)R_h^{2/3} S^{1/2}$

Pipe Capacity = $(1.49/n)AR_h^{2/3} S^{1/2}$

A = Cross-sectional area of pipe

$A=p(D^2/4)$

D = Inside Diameter of Pipe

$R_h = A_w/W_p$

$A_w = p(d^2/4)$

A_w = Water Cross Sectional Area

d = Water (Flow) Depth Within Pipe

W_p = pd (For Capacity Calculation)

W_p=Wetted Perimeter of Pipe

Alpine Dealerships - Falcon Commerce Center
Swale Capacity Calculations

Description	Storm Event	DP or Basin	Design Flow	Bottom Width	Channel Side		Flow Depth	Channel Slope	Manning "n"	Top Width	Channel Area	Wetted Perimeter	Hydraulic Radius	Flow Velocity	Channel Flow Capacity
					Left	Right									
Sect. A-A Drain Pan	100yr		15.4 cfs	0.0 ft	13:1	13:1	0.13 ft	0.7%	0.013	3.4 ft	0.22 sf	3.4 ft	0.06 ft	1.5 ft/sec	**0.3 cfs**
Sect. A-A Asphalt	100yr		15.1 cfs	3.0 ft	36:1	80:1	0.31 ft	0.7%	0.016	39.0 ft	6.52 sf	39.0 ft	0.17 ft	2.4 ft/sec	**15.4 cfs**
Sect. A-A Combined	100yr		**15.4 cfs**				0.44 ft								**15.7 cfs**

Equations:

Area (A) = $b(d)+zd^2$

b = width

d = depth

Perimeter (P) = $b+2d*(1+z^2)^{0.5}$

z = side slope

Hydraulic Radius = A/P

Velocity = $(1.49/n)R_h^{2/3} S^{1/2}$

S = Slope of the channel

n = Manning's number

R_h = Hydraulic Radius

Flow = $(1.49/n)AR_n^{2/3} S^{1/2}$

Program: UDSEWER Math Model Interface 2.1.1.4 **Run Date:** 4/17/2025 5:24:55 PM	**Project Title:** Alpine Buick CMF FCC **Project Description:** West Storm

UDSewer Results Summary

System Input Summary

Rainfall Parameters

Rainfall Return Period: 100
Rainfall Calculation Method: Formula

One Hour Depth (in):
Rainfall Constant "A": 28.5
Rainfall Constant "B": 10
Rainfall Constant "C": 0.786

Rational Method Constraints

Minimum Urban Runoff Coeff.: 0.20
Maximum Rural Overland Len. (ft): 500
Maximum Urban Overland Len. (ft): 300
Used UDFCD Tc. Maximum: Yes

Sizer Constraints

Minimum Sewer Size (in): 12.00
Maximum Depth to Rise Ratio: 0.90
Maximum Flow Velocity (fps): 18.0
Minimum Flow Velocity (fps): 2.0

Backwater Calculations:

Tailwater Elevation (ft): 6894.53

Manhole Input Summary:

		Given Flow		Sub Basin Information						
Element Name	**Ground Elevation (ft)**	**Total Known Flow (cfs)**	**Local Contribution (cfs)**	**Drainage Area (Ac.)**	**Runoff Coefficient**	**5yr Coefficient**	**Overland Length (ft)**	**Overland Slope (%)**	**Gutter Length (ft)**	**Gutter Velocity (fps)**
MDDP DP 8	6804.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

I30-S30	6806.18	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I29-S29	6806.88	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S28.1	6806.14	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I28-S28	6810.69	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I27-S27	6806.07	3.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S26.1	6806.55	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I26-S26	6806.06	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Manhole Output Summary:

	Local Contribution					Total Design Flow				
Element Name	**Overland Time (min)**	**Gutter Time (min)**	**Basin Tc (min)**	**Intensity (in/hr)**	**Local Contrib (cfs)**	**Coeff. Area**	**Intensity (in/hr)**	**Manhole Tc (min)**	**Peak Flow (cfs)**	**Comment**
MDDP DP 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Surface Water Present (Upstream)
I30-S30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.60	Surface Water Present (Downstream)
I29-S29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	Surface Water Present (Downstream)
S28.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	Surface Water Present (Downstream)
I28-S28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	Surface Water Present (Downstream)
I27-S27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.40	Surface Water Present (Downstream)
S26.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	Surface Water Present (Downstream)
I26-S26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	Surface Water Present (Downstream)

Sewer Input Summary:

		Elevation			Loss Coefficients			Given Dimensions		
Element Name	**Sewer Length (ft)**	**Downstream Invert (ft)**	**Slope (%)**	**Upstream Invert (ft)**	**Mannings n**	**Bend Loss**	**Lateral Loss**	**Cross Section**	**Rise (ft or in)**	**Span (ft or in)**
I30-S30	105.14	6795.48	-0.9	6794.53	0.013	0.03	0.00	CIRCULAR	24.00 in	24.00 in
I29-S29	56.14	6794.77	0.1	6794.83	0.013	0.05	0.25	CIRCULAR	18.00 in	18.00 in
S28.1	70.44	6794.84	0.6	6795.26	0.013	0.28	0.25	CIRCULAR	30.00 in	30.00 in
I28-S28	6.05	6795.35	-1.5	6795.26	0.013	0.24	0.00	CIRCULAR	18.00 in	18.00 in
I27-S27	99.99	6795.21	0.8	6796.01	0.013	0.28	0.45	CIRCULAR	18.00 in	18.00 in
S26.1	91.06	6796.10	1.2	6797.19	0.013	0.05	0.00	CIRCULAR	18.00 in	18.00 in
I26-S26	14.90	6797.19	0.8	6797.31	0.013	0.05	0.00	CIRCULAR	18.00 in	18.00 in

Sewer Flow Summary:

	Full Flow Capacity		Critical Flow		Normal Flow						
Element Name	Flow (cfs)	Velocity (fps)	Depth (in)	Velocity (fps)	Depth (in)	Velocity (fps)	Froude Number	Flow Condition	Flow (cfs)	Surcharged Length (ft)	Comment
I30-S30	2.60	0.83	24.00	0.83	24.00	0.83	0.00	Pressurized	2.60	105.14	Velocity is Too Low
I29-S29	3.33	1.88	1.97	1.90	2.99	1.04	0.44	Pressurized	0.20	56.14	Velocity is Too Low
S28.1	31.86	6.49	3.69	2.60	3.47	2.85	1.13	Pressurized	0.90	70.44	
I28-S28	0.90	0.51	18.00	0.51	18.00	0.51	0.00	Pressurized	0.90	6.05	Velocity is Too Low
I27-S27	9.42	5.33	8.44	4.18	7.48	4.90	1.26	Pressurized	3.40	99.99	
S26.1	11.54	6.53	8.56	4.22	6.80	5.72	1.56	Pressurized	3.50	91.06	
I26-S26	9.42	5.33	8.56	4.22	7.60	4.94	1.26	Pressurized	3.50	14.90	

- A Froude number of 0 indicates that pressured flow occurs (adverse slope or undersized pipe).
- If the sewer is not pressurized, full flow represents the maximum gravity flow in the sewer.
- If the sewer is pressurized, full flow represents the pressurized flow conditions.

Sewer Sizing Summary:

			Existing		Calculated		Used			
Element Name	Peak Flow (cfs)	Cross Section	Rise	Span	Rise	Span	Rise	Span	Area (ft^2)	Comment
I30-S30	2.60	CIRCULAR	24.00 in	24.00 in	12.00 in	12.00 in	24.00 in	24.00 in	3.14	Exceeds max. Depth/Rise
I29-S29	0.20	CIRCULAR	18.00 in	18.00 in	12.00 in	12.00 in	18.00 in	18.00 in	1.77	
S28.1	0.90	CIRCULAR	30.00 in	30.00 in	12.00 in	12.00 in	30.00 in	30.00 in	4.91	
I28-S28	0.90	CIRCULAR	18.00 in	18.00 in	12.00 in	12.00 in	18.00 in	18.00 in	1.77	Exceeds max. Depth/Rise
I27-S27	3.40	CIRCULAR	18.00 in	18.00 in	15.00 in	15.00 in	18.00 in	18.00 in	1.77	
S26.1	3.50	CIRCULAR	18.00 in	18.00 in	12.00 in	12.00 in	18.00 in	18.00 in	1.77	
I26-S26	3.50	CIRCULAR	18.00 in	18.00 in	15.00 in	15.00 in	18.00 in	18.00 in	1.77	

- Calculated diameter was determined by sewer hydraulic capacity rounded up to the nearest commercially available size.
- Sewer sizes should not decrease downstream.
- All hydraulics where calculated using the 'Used' parameters.

Grade Line Summary:

Tailwater Elevation (ft): 6894.53

	Invert Elev.		Downstream Manhole Losses		HGL		EGL		
Element Name	Downstream (ft)	Upstream (ft)	Bend Loss (ft)	Lateral Loss (ft)	Downstream (ft)	Upstream (ft)	Downstream (ft)	Friction Loss (ft)	Upstream (ft)
I30-S30	6795.48	6794.53	0.00	0.00	6894.53	6894.54	6894.54	0.01	6894.55
I29-S29	6794.77	6794.83	0.00	0.01	6894.56	6894.57	6894.57	0.00	6894.57
S28.1	6794.84	6795.26	0.00	0.00	6894.57	6894.57	6894.57	0.00	6894.57
I28-S28	6795.35	6795.26	0.00	0.00	6894.57	6894.57	6894.57	0.00	6894.57
I27-S27	6795.21	6796.01	0.02	0.00	6894.58	6894.69	6894.64	0.10	6894.74
S26.1	6796.10	6797.19	0.00	0.00	6894.69	6894.79	6894.75	0.10	6894.85
I26-S26	6797.19	6797.31	0.00	0.00	6894.79	6894.81	6894.85	0.02	6894.87

- Bend and Lateral losses only apply when there is an outgoing sewer. The system outfall, sewer #0, is not considered a sewer.
- Bend loss = Bend K * V_fi ^ 2/(2*g)
- Lateral loss = V_fo ^ 2/(2*g)- Junction Loss K * V_fi ^ 2/(2*g).
- Friction loss is always Upstream EGL - Downstream EGL.

Excavation Estimate:

The trench side slope is 1.0 ft/ft
The minimum trench width is 2.00 ft

					Downstream			Upstream				
Element Name	Length (ft)	Wall (in)	Bedding (in)	Bottom Width (ft)	Top Width (ft)	Trench Depth (ft)	Cover (ft)	Top Width (ft)	Trench Depth (ft)	Cover (ft)	Volume (cu. yd)	Comment
I30-S30	105.14	3.00	4.00	5.50	16.89	9.53	6.69	22.30	12.23	9.40	433.53	
I29-S29	56.14	2.50	4.00	4.92	22.31	11.95	9.70	23.60	12.59	10.34	294.81	
S28.1	70.44	3.50	6.00	6.08	22.59	12.83	9.25	20.26	11.67	8.09	348.81	
I28-S28	6.05	2.50	4.00	4.92	21.08	11.33	9.08	30.36	15.97	13.72	40.49	
I27-S27	99.99	2.50	4.00	4.92	21.36	11.47	9.22	19.62	10.60	8.35	426.20	
S26.1	91.06	2.50	4.00	4.92	19.45	10.51	8.26	18.22	9.90	7.65	332.87	
I26-S26	14.90	2.50	4.00	4.92	18.22	9.90	7.65	17.00	9.29	7.04	48.31	

Total earth volume for sewer trenches = 1925 cubic yards.

- The trench was estimated to have a bottom width equal to the outer pipe diameter plus 36 inches.
- If the calculated width of the trench bottom is less than the minimum acceptable width, the minimum acceptable width was used.
- The sewer wall thickness is equal to: (equivalent diameter in inches/12)+1 inches
- The sewer bedding thickness is equal to:
  - Four inches for pipes less than 33 inches.
  - Six inches for pipes less than 60 inches.
  - Eight inches for all larger sizes.

Program: UDSEWER Math Model Interface 2.1.1.4
Run Date: 4/17/2025 5:58:13 PM

UDSewer Results Summary

Project Title: Apline Buick GMC FCC
Project Description: South Storm

System Input Summary

Rainfall Parameters

Rainfall Return Period: 100
Rainfall Calculation Method: Formula

One Hour Depth (in):
Rainfall Constant "A": 28.5
Rainfall Constant "B": 10
Rainfall Constant "C": 0.786

Rational Method Constraints

Minimum Urban Runoff Coeff.: 0.20
Maximum Rural Overland Len. (ft): 500
Maximum Urban Overland Len. (ft): 300
Used UDFCD Tc. Maximum: Yes

Sizer Constraints

Minimum Sewer Size (in): 12.00
Maximum Depth to Rise Ratio: 0.90
Maximum Flow Velocity (fps): 18.0
Minimum Flow Velocity (fps): 2.0

Backwater Calculations:

Tailwater Elevation (ft): 6792.25

Manhole Input Summary:

		Given Flow		Sub Basin Information						
Element Name	Ground Elevation (ft)	Total Known Flow (cfs)	Local Contribution (cfs)	Drainage Area (Ac.)	Runoff Coefficient	5yr Coefficient	Overland Length (ft)	Overland Slope (%)	Gutter Length (ft)	Gutter Velocity (fps)
MDDP	6802.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

MH6-S31.1	6802.16	97.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MH5-S14	6804.42	106.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S25.1	6804.25	98.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MH4-S25	6804.25	98.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I24-S24	6803.72	3.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MH3-S23	6806.63	96.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MH2-S13	6802.77	22.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MH1-S11	6802.59	18.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I10-S10	6801.00	15.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I12-S12	6802.23	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I31-S18.1	6805.36	6.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Manhole Output Summary:

	Local Contribution					Total Design Flow				
Element Name	**Overland Time (min)**	**Gutter Time (min)**	**Basin Tc (min)**	**Intensity (in/hr)**	**Local Contrib (cfs)**	**Coeff. Area**	**Intensity (in/hr)**	**Manhole Tc (min)**	**Peak Flow (cfs)**	**Comment**
MDDP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
MH6-S31.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	97.30	
MH5-S14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	106.10	
S25.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	98.60	Surface Water Present (Upstream)
MH4-S25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	98.60	Surface Water Present (Downstream)
I24-S24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.90	Surface Water Present (Downstream)
MH3-S23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	96.80	Surface Water Present (Downstream)
MH2-S13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.10	Surface Water Present (Downstream)
MH1-S11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.80	Surface Water Present (Downstream)
I10-S10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.40	Surface Water Present (Downstream)
I12-S12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	Surface Water Present (Downstream)
I31-S18.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.60	Surface Water Present (Downstream)

Sewer Input Summary:

		Elevation			Loss Coefficients			Given Dimensions		
Element Name	Sewer Length (ft)	Downstream Invert (ft)	Slope (%)	Upstream Invert (ft)	Mannings n	Bend Loss	Lateral Loss	Cross Section	Rise (ft or in)	Span (ft or in)
MH6-S31.1	33.06	6795.60	-1.2	6795.20	0.013	0.03	0.00	CIRCULAR	42.00 in	42.00 in
MH5-S14	108.60	6795.26	0.3	6795.59	0.013	0.05	0.25	CIRCULAR	42.00 in	42.00 in
S25.1	54.35	6796.35	-0.7	6795.97	0.013	0.28	0.25	CIRCULAR	42.00 in	42.00 in
MH4-S25	205.17	6795.54	0.4	6796.36	0.013	0.28	0.45	CIRCULAR	42.00 in	42.00 in
I24-S24	26.20	6795.46	-0.5	6795.33	0.013	0.58	0.00	CIRCULAR	18.00 in	18.00 in
MH3-S23	153.25	6793.77	1.1	6795.46	0.013	0.05	0.00	CIRCULAR	30.00 in	30.00 in
MH2-S13	58.15	6793.49	1.3	6794.25	0.013	0.05	0.00	CIRCULAR	30.00 in	30.00 in
MH1-S11	194.80	6792.40	0.7	6793.76	0.013	0.05	0.00	CIRCULAR	24.00 in	24.00 in
I10-S10	65.89	6792.25	0.1	6792.32	0.013	0.05	0.00	CIRCULAR	24.00 in	24.00 in
I12-S12	26.00	6793.76	-0.5	6793.63	0.013	0.05	0.00	CIRCULAR	18.00 in	18.00 in
I31-S18.1	15.66	6802.82	-2.5	6802.43	0.013	1.00	0.00	CIRCULAR	18.00 in	18.00 in

Sewer Flow Summary:

	Full Flow Capacity		Critical Flow		Normal Flow						
Element Name	Flow (cfs)	Velocity (fps)	Depth (in)	Velocity (fps)	Depth (in)	Velocity (fps)	Froude Number	Flow Condition	Flow (cfs)	Surcharged Length (ft)	Comment
MH6-S31.1	97.30	10.11	42.00	10.11	42.00	10.11	0.00	Pressurized	97.30	33.06	
MH5-S14	55.25	5.74	42.00	11.03	42.00	11.03	0.00	Pressurized	106.10	108.60	
S25.1	98.60	10.25	42.00	10.25	42.00	10.25	0.00	Pressurized	98.60	54.35	
MH4-S25	63.80	6.63	42.00	10.25	42.00	10.25	0.00	Pressurized	98.60	205.17	
I24-S24	3.90	2.21	18.00	2.21	18.00	2.21	0.00	Pressurized	3.90	26.20	
MH3-S23	43.13	8.79	30.00	19.72	30.00	19.72	0.00	Pressurized	96.80	153.25	Velocity is Too High
MH2-S13	46.89	9.55	19.18	6.67	14.49	9.41	1.71	Pressurized	22.10	58.15	
MH1-S11	18.98	6.04	18.72	7.15	19.47	6.89	0.92	Pressurized	18.80	194.80	
I10-S10	7.17	2.28	24.00	4.90	24.00	4.90	0.00	Pressurized	15.40	65.89	
I12-S12	4.00	2.26	18.00	2.26	18.00	2.26	0.00	Pressurized	4.00	26.00	
I31-S18.1	6.60	3.73	18.00	3.73	18.00	3.73	0.00	Pressurized	6.60	15.66	

- A Froude number of 0 indicates that pressured flow occurs (adverse slope or undersized pipe).

- If the sewer is not pressurized, full flow represents the maximum gravity flow in the sewer.
- If the sewer is pressurized, full flow represents the pressurized flow conditions.

Sewer Sizing Summary:

			Existing		Calculated		Used			
Element Name	**Peak Flow (cfs)**	**Cross Section**	**Rise**	**Span**	**Rise**	**Span**	**Rise**	**Span**	**Area (ft^2)**	**Comment**
MH6-S31.1	97.30	CIRCULAR	42.00 in	42.00 in	33.00 in	33.00 in	42.00 in	42.00 in	9.62	Exceeds max. Depth/Rise
MH5-S14	106.10	CIRCULAR	42.00 in	42.00 in	54.00 in	54.00 in	42.00 in	42.00 in	9.62	Existing height is smaller than the suggested height. Existing width is smaller than the suggested width. Exceeds max. Depth/Rise
S25.1	98.60	CIRCULAR	42.00 in	42.00 in	33.00 in	33.00 in	42.00 in	42.00 in	9.62	Exceeds max. Depth/Rise
MH4-S25	98.60	CIRCULAR	42.00 in	42.00 in	54.00 in	54.00 in	42.00 in	42.00 in	9.62	Existing height is smaller than the suggested height. Existing width is smaller than the suggested width. Exceeds max. Depth/Rise
I24-S24	3.90	CIRCULAR	18.00 in	18.00 in	12.00 in	12.00 in	18.00 in	18.00 in	1.77	Exceeds max. Depth/Rise
MH3-S23	96.80	CIRCULAR	30.00 in	30.00 in	42.00 in	42.00 in	30.00 in	30.00 in	4.91	Existing height is smaller than the suggested height. Existing width is smaller than the suggested width. Exceeds max. Depth/Rise
MH2-S13	22.10	CIRCULAR	30.00 in	30.00 in	24.00 in	24.00 in	30.00 in	30.00 in	4.91	
MH1-S11	18.80	CIRCULAR	24.00 in	24.00 in	24.00 in	24.00 in	24.00 in	24.00 in	3.14	
I10-S10	15.40	CIRCULAR	24.00 in	24.00 in	33.00 in	33.00 in	24.00 in	24.00 in	3.14	Existing height is smaller than the suggested height. Existing width is smaller

										than the suggested width. Exceeds max. Depth/Rise
I12-S12	4.00	CIRCULAR	18.00 in	18.00 in	12.00 in	12.00 in	18.00 in	18.00 in	1.77	Exceeds max. Depth/Rise
I31-S18.1	6.60	CIRCULAR	18.00 in	18.00 in	12.00 in	12.00 in	18.00 in	18.00 in	1.77	Exceeds max. Depth/Rise

- Calculated diameter was determined by sewer hydraulic capacity rounded up to the nearest commercially available size.
- Sewer sizes should not decrease downstream.
- All hydraulics where calculated using the 'Used' parameters.

Grade Line Summary:

Tailwater Elevation (ft): 6792.25

	Invert Elev.		Downstream Manhole Losses		HGL		EGL		
Element Name	**Downstream (ft)**	**Upstream (ft)**	**Bend Loss (ft)**	**Lateral Loss (ft)**	**Downstream (ft)**	**Upstream (ft)**	**Downstream (ft)**	**Friction Loss (ft)**	**Upstream (ft)**
MH6-S31.1	6795.60	6795.20	0.00	0.00	6799.10	6799.40	6800.68	0.31	6800.99
MH5-S14	6795.26	6795.59	0.09	1.12	6800.61	6801.82	6802.50	1.20	6803.70
S25.1	6796.35	6795.97	0.46	1.48	6804.01	6804.53	6805.64	0.52	6806.16
MH4-S25	6795.54	6796.36	0.46	0.90	6805.88	6807.84	6807.51	1.96	6809.47
I24-S24	6795.46	6795.33	0.04	0.00	6809.44	6809.48	6809.52	0.04	6809.55
MH3-S23	6793.77	6795.46	0.30	0.00	6808.15	6816.64	6814.18	8.49	6822.67
MH2-S13	6793.49	6794.25	0.02	0.00	6822.38	6822.54	6822.69	0.17	6822.86
MH1-S11	6792.40	6793.76	0.03	0.00	6822.57	6823.91	6823.13	1.34	6824.47
I10-S10	6792.25	6792.32	0.02	0.00	6824.11	6824.41	6824.48	0.30	6824.79
I12-S12	6793.76	6793.63	0.00	0.00	6822.78	6822.82	6822.86	0.04	6822.90
I31-S18.1	6802.82	6802.43	0.22	0.00	6804.32	6804.38	6804.54	0.06	6804.60

- Bend and Lateral losses only apply when there is an outgoing sewer. The system outfall, sewer #0, is not considered a sewer.
- Bend loss = Bend K * V_fi ^ 2/(2*g)
- Lateral loss = V_fo ^ 2/(2*g)- Junction Loss K * V_fi ^ 2/(2*g).
- Friction loss is always Upstream EGL - Downstream EGL.

Excavation Estimate:

The trench side slope is 1.0 ft/ft
The minimum trench width is 2.00 ft

					Downstream			Upstream				
Element Name	**Length (ft)**	**Wall (in)**	**Bedding (in)**	**Bottom Width (ft)**	**Top Width (ft)**	**Trench Depth (ft)**	**Cover (ft)**	**Top Width (ft)**	**Trench Depth (ft)**	**Cover (ft)**	**Volume (cu. yd)**	**Comment**
MH6-S31.1	33.06	4.50	6.00	7.25	11.41	7.83	3.08	11.42	7.84	3.09	74.83	
MH5-S14	108.60	4.50	6.00	7.25	11.29	7.77	3.02	15.16	9.71	4.96	294.48	
S25.1	54.35	4.50	6.00	7.25	13.64	8.94	4.19	14.06	9.16	4.41	154.01	
MH4-S25	205.17	4.50	6.00	7.25	14.92	9.59	4.84	13.28	8.77	4.02	595.92	
I24-S24	26.20	2.50	4.00	4.92	17.08	9.33	7.08	16.28	8.93	6.68	77.17	
MH3-S23	153.25	3.50	6.00	6.08	19.45	11.27	7.68	20.84	11.96	8.38	682.32	
MH2-S13	58.15	3.50	6.00	6.08	24.77	13.93	10.34	15.54	9.31	5.73	270.34	
MH1-S11	194.80	3.00	4.00	5.50	19.75	10.96	8.12	16.66	9.41	6.58	699.54	
I10-S10	65.89	3.00	4.00	5.50	19.67	10.92	8.09	16.36	9.26	6.43	232.69	
I12-S12	26.00	2.50	4.00	4.92	17.52	9.55	7.30	16.70	9.14	6.89	80.09	
I31-S18.1	15.66	2.50	4.00	4.92	0.00	0.00	0.00	5.36	3.47	1.22	4.96	Sewer Too Shallow

Total earth volume for sewer trenches = 3166 cubic yards.

- The trench was estimated to have a bottom width equal to the outer pipe diameter plus 36 inches.
- If the calculated width of the trench bottom is less than the minimum acceptable width, the minimum acceptable width was used.
- The sewer wall thickness is equal to: (equivalent diameter in inches/12)+1 inches
- The sewer bedding thickness is equal to:
  - Four inches for pipes less than 33 inches.
  - Six inches for pipes less than 60 inches.
  - Eight inches for all larger sizes.

Program: UDSEWER Math Model Interface 2.1.1.4
Run Date: 4/18/2025 9:07:15 AM

UDSewer Results Summary

Project Title: Apline Buick GMC FCC
Project Description: Central Storm

System Input Summary

Rainfall Parameters

Rainfall Return Period: 100
Rainfall Calculation Method: Formula

One Hour Depth (in):
Rainfall Constant "A": 28.5
Rainfall Constant "B": 10
Rainfall Constant "C": 0.786

Rational Method Constraints

Minimum Urban Runoff Coeff.: 0.20
Maximum Rural Overland Len. (ft): 500
Maximum Urban Overland Len. (ft): 300
Used UDFCD Tc. Maximum: Yes

Sizer Constraints

Minimum Sewer Size (in): 12.00
Maximum Depth to Rise Ratio: 0.90
Maximum Flow Velocity (fps): 18.0
Minimum Flow Velocity (fps): 2.0

Backwater Calculations:

Tailwater Elevation (ft): 6793.83

Manhole Input Summary:

		Given Flow		Sub Basin Information						
Element Name	Ground Elevation (ft)	Total Known Flow (cfs)	Local Contribution (cfs)	Drainage Area (Ac.)	Runoff Coefficient	5yr Coefficient	Overland Length (ft)	Overland Slope (%)	Gutter Length (ft)	Gutter Velocity (fps)
MDDP DP 10	6803.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

MH11-S22	6803.33	46.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I20-S20	6804.48	41.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I19-S19	6809.04	4.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MH10-S18.1	6804.88	37.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I18-S18	6803.78	24.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MH9-S17	6804.21	13.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MH8-S15	6809.29	9.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I16-S16	6808.75	3.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I21-S21	6807.87	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Manhole Output Summary:

	Local Contribution					Total Design Flow				
Element Name	**Overland Time (min)**	**Gutter Time (min)**	**Basin Tc (min)**	**Intensity (in/hr)**	**Local Contrib (cfs)**	**Coeff. Area**	**Intensity (in/hr)**	**Manhole Tc (min)**	**Peak Flow (cfs)**	**Comment**
MDDP DP 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
MH11-S22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.10	
I20-S20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41.10	
I19-S19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.90	
MH10-S18.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37.10	
I18-S18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.60	Surface Water Present (Downstream)
MH9-S17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.10	Surface Water Present (Downstream)
MH8-S15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.90	Surface Water Present (Downstream)
I16-S16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.10	Surface Water Present (Downstream)
I21-S21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	

Sewer Input Summary:

		Elevation			Loss Coefficients			Given Dimensions		
Element Name	**Sewer Length (ft)**	**Downstream Invert (ft)**	**Slope (%)**	**Upstream Invert (ft)**	**Mannings n**	**Bend Loss**	**Lateral Loss**	**Cross Section**	**Rise (ft or in)**	**Span (ft or in)**
MH11-S22	124.00	6794.50	-0.5	6793.88	0.013	0.03	0.00	CIRCULAR	30.00 in	30.00 in

I20-S20	81.00	6794.99	-0.6	6794.50	0.013	0.05	0.25	CIRCULAR	30.00 in	30.00 in
I19-S19	94.00	6795.50	-0.5	6795.03	0.013	1.00	0.00	CIRCULAR	18.00 in	18.00 in
MH10-S18.1	54.00	6796.23	-1.9	6795.20	0.013	0.28	0.25	CIRCULAR	24.00 in	24.00 in
I18-S18	58.65	6795.57	1.1	6796.22	0.013	0.28	0.45	CIRCULAR	24.00 in	24.00 in
MH9-S17	86.72	6793.84	2.0	6795.57	0.013	0.05	0.00	CIRCULAR	18.00 in	18.00 in
MH8-S15	204.59	6796.90	-1.5	6793.83	0.013	0.05	0.00	CIRCULAR	18.00 in	18.00 in
I16-S16	118.31	6793.83	-0.5	6793.24	0.013	0.05	0.00	CIRCULAR	18.00 in	18.00 in
I21-S21	32.00	6794.50	-0.5	6794.34	0.013	1.00	0.00	CIRCULAR	18.00 in	18.00 in

Sewer Flow Summary:

	Full Flow Capacity		Critical Flow		Normal Flow						
Element Name	**Flow (cfs)**	**Velocity (fps)**	**Depth (in)**	**Velocity (fps)**	**Depth (in)**	**Velocity (fps)**	**Froude Number**	**Flow Condition**	**Flow (cfs)**	**Surcharged Length (ft)**	**Comment**
MH11-S22	46.10	9.39	30.00	9.39	30.00	9.39	0.00	Pressurized	46.10	124.00	
I20-S20	41.10	8.37	30.00	8.37	30.00	8.37	0.00	Pressurized	41.10	81.00	
I19-S19	4.90	2.77	18.00	2.77	18.00	2.77	0.00	Pressurized	4.90	94.00	
MH10-S18.1	37.10	11.81	24.00	11.81	24.00	11.81	0.00	Pressurized	37.10	54.00	
I18-S18	23.79	7.57	24.00	7.83	24.00	7.83	0.00	Pressurized	24.60	58.65	
MH9-S17	14.90	8.43	16.25	7.80	13.10	9.51	1.65	Pressurized	13.10	86.72	
MH8-S15	9.90	5.60	18.00	5.60	18.00	5.60	0.00	Pressurized	9.90	204.59	
I16-S16	3.10	1.75	18.00	1.75	18.00	1.75	0.00	Pressurized	3.10	118.31	Velocity is Too Low
I21-S21	2.00	1.13	18.00	1.13	18.00	1.13	0.00	Pressurized	2.00	32.00	Velocity is Too Low

- A Froude number of 0 indicates that pressured flow occurs (adverse slope or undersized pipe).
- If the sewer is not pressurized, full flow represents the maximum gravity flow in the sewer.
- If the sewer is pressurized, full flow represents the pressurized flow conditions.

Sewer Sizing Summary:

			Existing		Calculated		Used			
Element Name	**Peak Flow (cfs)**	**Cross Section**	**Rise**	**Span**	**Rise**	**Span**	**Rise**	**Span**	**Area (ft^2)**	**Comment**
MH11-S22	46.10	CIRCULAR	30.00 in	30.00 in	24.00 in	24.00 in	30.00 in	30.00 in	4.91	Exceeds max. Depth/Rise
I20-S20	41.10	CIRCULAR	30.00 in	30.00 in	21.00 in	21.00 in	30.00 in	30.00 in	4.91	Exceeds max. Depth/Rise

I19-S19	4.90	CIRCULAR	18.00 in	18.00 in	12.00 in	12.00 in	18.00 in	18.00 in	1.77	Exceeds max. Depth/Rise
MH10-S18.1	37.10	CIRCULAR	24.00 in	24.00 in	21.00 in	21.00 in	24.00 in	24.00 in	3.14	Exceeds max. Depth/Rise
I18-S18	24.60	CIRCULAR	24.00 in	24.00 in	27.00 in	27.00 in	24.00 in	24.00 in	3.14	Existing height is smaller than the suggested height. Existing width is smaller than the suggested width. Exceeds max. Depth/Rise
MH9-S17	13.10	CIRCULAR	18.00 in	18.00 in	18.00 in	18.00 in	18.00 in	18.00 in	1.77	
MH8-S15	9.90	CIRCULAR	18.00 in	18.00 in	12.00 in	12.00 in	18.00 in	18.00 in	1.77	Exceeds max. Depth/Rise
I16-S16	3.10	CIRCULAR	18.00 in	18.00 in	12.00 in	12.00 in	18.00 in	18.00 in	1.77	Exceeds max. Depth/Rise
I21-S21	2.00	CIRCULAR	18.00 in	18.00 in	12.00 in	12.00 in	18.00 in	18.00 in	1.77	Exceeds max. Depth/Rise

- Calculated diameter was determined by sewer hydraulic capacity rounded up to the nearest commercially available size.
- Sewer sizes should not decrease downstream.
- All hydraulics where calculated using the 'Used' parameters.

Grade Line Summary:

Tailwater Elevation (ft): 6793.83

	Invert Elev.		Downstream Manhole Losses		HGL		EGL		
Element Name	**Downstream (ft)**	**Upstream (ft)**	**Bend Loss (ft)**	**Lateral Loss (ft)**	**Downstream (ft)**	**Upstream (ft)**	**Downstream (ft)**	**Friction Loss (ft)**	**Upstream (ft)**
MH11-S22	6794.50	6793.88	0.00	0.00	6797.00	6798.56	6798.37	1.56	6799.93
I20-S20	6794.99	6794.50	0.05	1.10	6799.99	6800.80	6801.08	0.81	6801.89
I19-S19	6795.50	6795.03	0.12	0.00	6801.89	6802.09	6802.01	0.20	6802.21
MH10-S18.1	6796.23	6795.20	0.61	0.55	6801.95	6803.40	6804.12	1.44	6805.56
I18-S18	6795.57	6796.22	0.27	1.74	6806.62	6807.30	6807.57	0.69	6808.26
MH9-S17	6793.84	6795.57	0.04	0.00	6807.45	6808.79	6808.30	1.34	6809.64
MH8-S15	6796.90	6793.83	0.02	0.00	6809.18	6810.99	6809.67	1.81	6811.47
I16-S16	6793.83	6793.24	0.00	0.00	6809.60	6809.70	6809.64	0.10	6809.75
I21-S21	6794.50	6794.34	0.02	0.00	6799.93	6799.94	6799.95	0.01	6799.96

- Bend and Lateral losses only apply when there is an outgoing sewer. The system outfall, sewer #0, is not considered a sewer.
- Bend loss = Bend K * V_fi ^ 2/(2*g)
- Lateral loss = V_fo ^ 2/(2*g)- Junction Loss K * V_fi ^ 2/(2*g).
- Friction loss is always Upstream EGL - Downstream EGL.

Excavation Estimate:

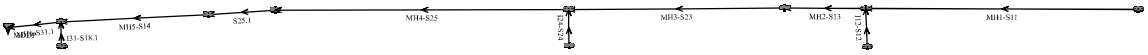
The trench side slope is 1.0 ft/ft
The minimum trench width is 2.00 ft

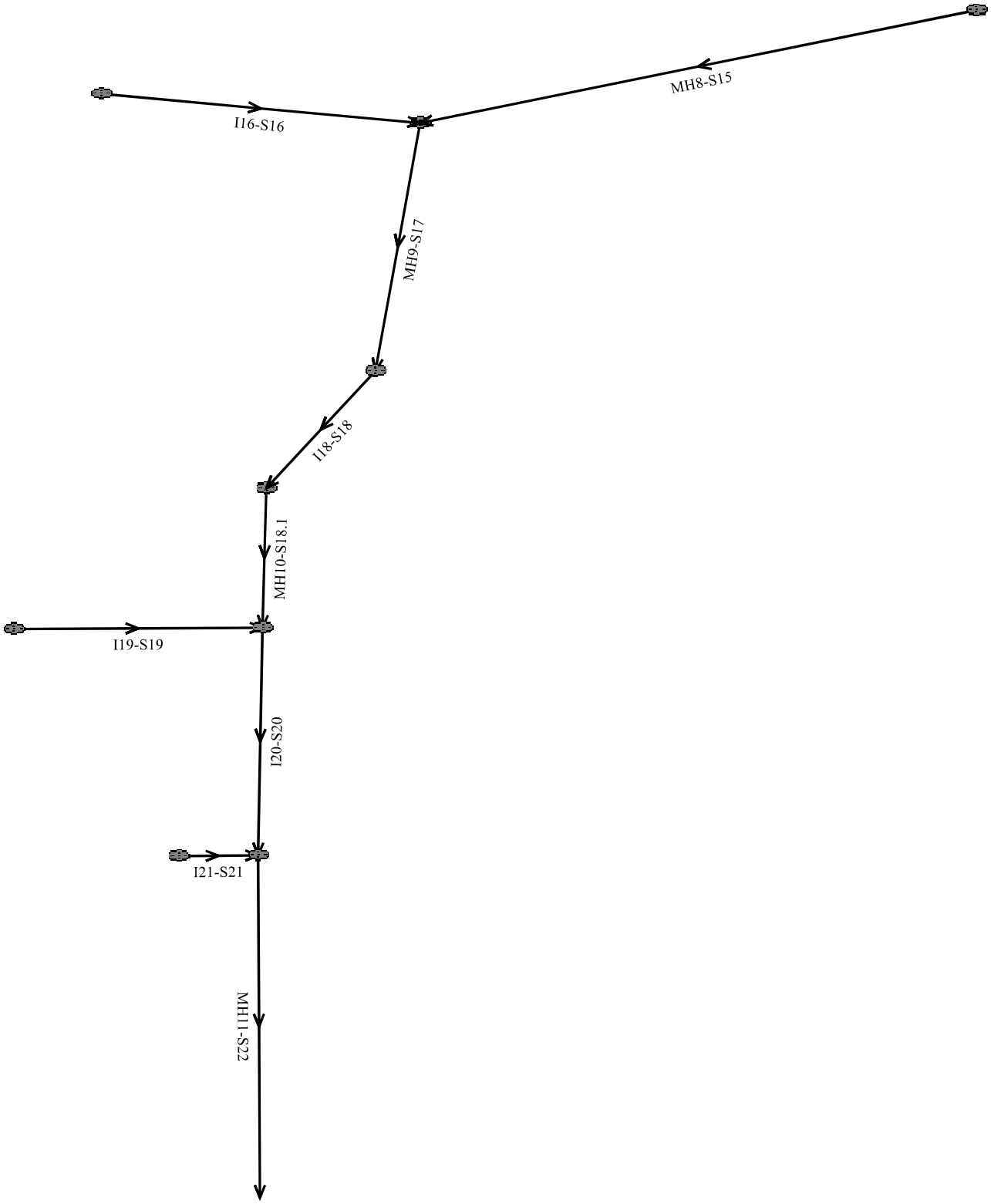
					Downstream			Upstream				
Element Name	**Length (ft)**	**Wall (in)**	**Bedding (in)**	**Bottom Width (ft)**	**Top Width (ft)**	**Trench Depth (ft)**	**Cover (ft)**	**Top Width (ft)**	**Trench Depth (ft)**	**Cover (ft)**	**Volume (cu. yd)**	**Comment**
MH11-S22	124.00	3.50	6.00	6.08	16.76	9.92	6.34	17.40	10.24	6.66	420.62	
I20-S20	81.00	3.50	6.00	6.08	15.19	9.14	5.55	18.46	10.77	7.19	270.18	
I19-S19	94.00	2.50	4.00	4.92	17.46	9.52	7.27	27.52	14.55	12.30	496.85	
MH10-S18.1	54.00	3.00	4.00	5.50	15.51	8.84	6.00	18.36	10.26	7.43	171.44	
I18-S18	58.65	3.00	4.00	5.50	17.61	9.89	7.06	14.12	8.14	5.31	167.71	
MH9-S17	86.72	2.50	4.00	4.92	19.39	10.49	8.24	16.78	9.18	6.93	295.88	
MH8-S15	204.59	2.50	4.00	4.92	14.12	7.85	5.60	30.42	16.00	13.75	1140.69	
I16-S16	118.31	2.50	4.00	4.92	20.26	10.92	8.67	30.52	16.05	13.80	778.49	
I21-S21	32.00	2.50	4.00	4.92	17.16	9.37	7.12	26.56	14.07	11.82	159.91	

Total earth volume for sewer trenches = 3902 cubic yards.

- The trench was estimated to have a bottom width equal to the outer pipe diameter plus 36 inches.
- If the calculated width of the trench bottom is less than the minimum acceptable width, the minimum acceptable width was used.
- The sewer wall thickness is equal to: (equivalent diameter in inches/12)+1 inches
- The sewer bedding thickness is equal to:
  - Four inches for pipes less than 33 inches.
  - Six inches for pipes less than 60 inches.
  - Eight inches for all larger sizes.

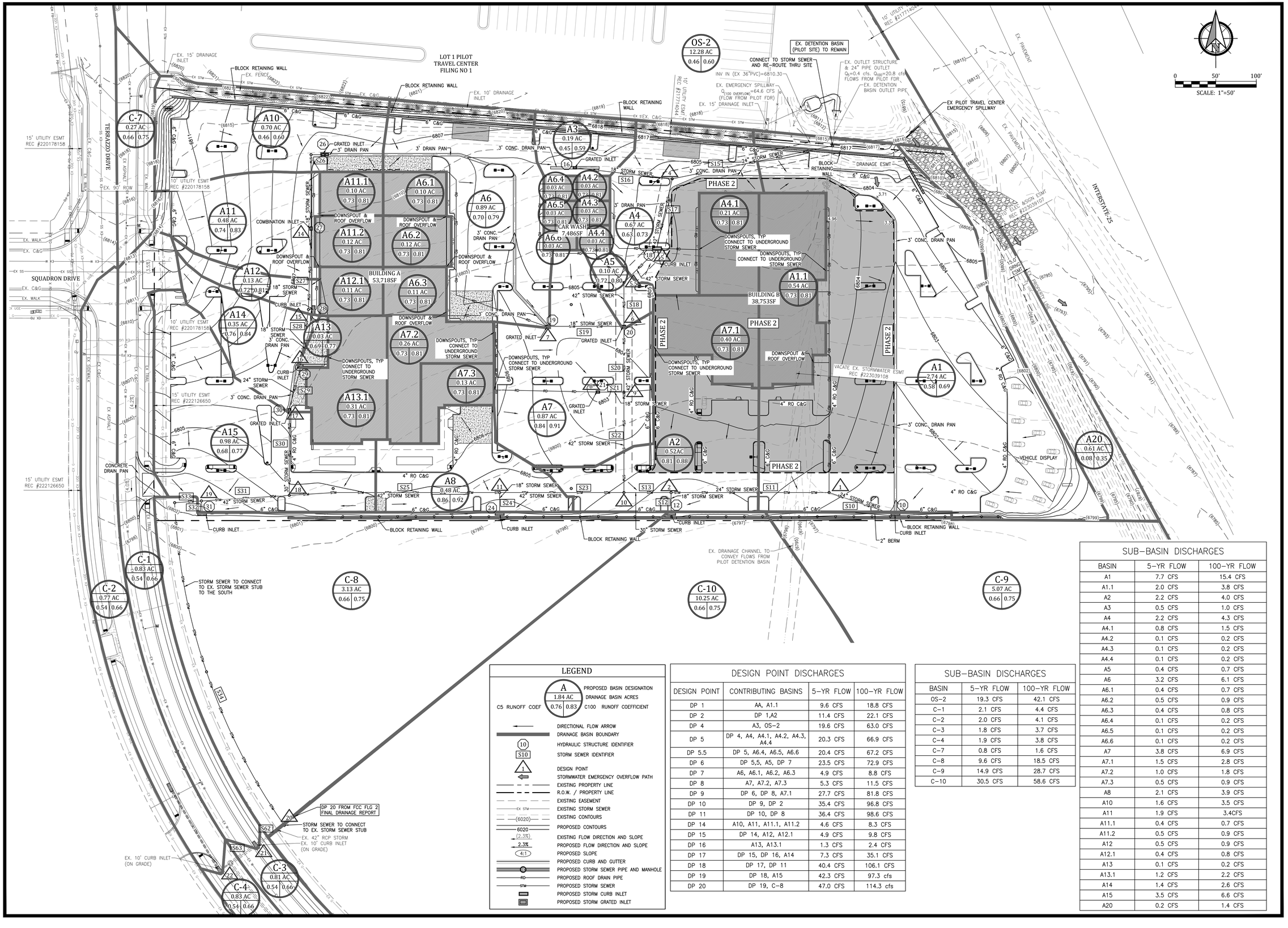
I26-S26
S26.1
I27-S27
I28-S28
S28.1
I29-S29
I30-S30


MH6-S31.1
C31-S18.1
MH5-S14
S25.1
MH4-S25
C25-S24.1
MH3-S23
MH2-S13
C13-S12.1
MH1-S11


MH8-S15
I16-S16
MH9-S17
I18-S18
MH10-S18.1
I19-S19
I20-S20
I21-S21
MH11-S22

APPENDIX D

Drainage Plan – Proposed Condition



LEGEND

- A / 1.84 AC / C5 0.76 / C100 0.83 — PROPOSED BASIN DESIGNATION; DRAINAGE BASIN ACRES; C5 RUNOFF COEF; C100 RUNOFF COEFFICIENT
- DIRECTIONAL FLOW ARROW
- DRAINAGE BASIN BOUNDARY
- 10 — HYDRAULIC STRUCTURE IDENTIFIER
- S10 — STORM SEWER IDENTIFIER
- 1 — DESIGN POINT
- STORMWATER EMERGENCY OVERFLOW PATH
- EXISTING PROPERTY LINE
- R.O.W. / PROPERTY LINE
- EXISTING EASEMENT
- EX STM — EXISTING STORM SEWER
- (6020) — EXISTING CONTOURS
- 6020 — PROPOSED CONTOURS
- (2.3%) — EXISTING FLOW DIRECTION AND SLOPE
- 2.3% — PROPOSED FLOW DIRECTION AND SLOPE
- 4:1 — PROPOSED SLOPE
- PROPOSED CURB AND GUTTER
- PROPOSED STORM SEWER PIPE AND MANHOLE
- RD — PROPOSED ROOF DRAIN PIPE
- STM — PROPOSED STORM SEWER
- PROPOSED STORM CURB INLET
- PROPOSED STORM GRATED INLET

DESIGN POINT DISCHARGES

DESIGN POINT	CONTRIBUTING BASINS	5-YR FLOW	100-YR FLOW
DP 1	AA, A1.1	9.6 CFS	18.8 CFS
DP 2	DP 1,A2	11.4 CFS	22.1 CFS
DP 4	A3, OS-2	19.6 CFS	63.0 CFS
DP 5	DP 4, A4, A4.1, A4.2, A4.3, A4.4	20.3 CFS	66.9 CFS
DP 5.5	DP 5, A6.4, A6.5, A6.6	20.4 CFS	67.2 CFS
DP 6	DP 5,5, A5, DP 7	23.5 CFS	72.9 CFS
DP 7	A6, A6.1, A6.2, A6.3	4.9 CFS	8.8 CFS
DP 8	A7, A7.2, A7.3	5.3 CFS	11.5 CFS
DP 9	DP 6, DP 8, A7.1	27.7 CFS	81.8 CFS
DP 10	DP 9, DP 2	35.4 CFS	96.8 CFS
DP 11	DP 10, DP 8	36.4 CFS	98.6 CFS
DP 14	A10, A11, A11.1, A11.2	4.6 CFS	8.3 CFS
DP 15	DP 14, A12, A12.1	4.9 CFS	9.8 CFS
DP 16	A13, A13.1	1.3 CFS	2.4 CFS
DP 17	DP 15, DP 16, A14	7.3 CFS	35.1 CFS
DP 18	DP 17, DP 11	40.4 CFS	106.1 CFS
DP 19	DP 18, A15	42.3 CFS	97.3 cfs
DP 20	DP 19, C-8	47.0 CFS	114.3 cfs

SUB-BASIN DISCHARGES

BASIN	5-YR FLOW	100-YR FLOW
OS-2	19.3 CFS	42.1 CFS
C-1	2.1 CFS	4.4 CFS
C-2	2.0 CFS	4.1 CFS
C-3	1.8 CFS	3.7 CFS
C-4	1.9 CFS	3.8 CFS
C-7	0.8 CFS	1.6 CFS
C-8	9.6 CFS	18.5 CFS
C-9	14.9 CFS	28.7 CFS
C-10	30.5 CFS	58.6 CFS

SUB-BASIN DISCHARGES

BASIN	5-YR FLOW	100-YR FLOW
A1	7.7 CFS	15.4 CFS
A1.1	2.0 CFS	3.8 CFS
A2	2.2 CFS	4.0 CFS
A3	0.5 CFS	1.0 CFS
A4	2.2 CFS	4.3 CFS
A4.1	0.8 CFS	1.5 CFS
A4.2	0.1 CFS	0.2 CFS
A4.3	0.1 CFS	0.2 CFS
A4.4	0.1 CFS	0.2 CFS
A5	0.4 CFS	0.7 CFS
A6	3.2 CFS	6.1 CFS
A6.1	0.4 CFS	0.7 CFS
A6.2	0.5 CFS	0.9 CFS
A6.3	0.4 CFS	0.8 CFS
A6.4	0.1 CFS	0.2 CFS
A6.5	0.1 CFS	0.2 CFS
A6.6	0.1 CFS	0.2 CFS
A7	3.8 CFS	6.9 CFS
A7.1	1.5 CFS	2.8 CFS
A7.2	1.0 CFS	1.8 CFS
A7.3	0.5 CFS	0.9 CFS
A8	2.1 CFS	3.9 CFS
A10	1.6 CFS	3.5 CFS
A11	1.9 CFS	3.4CFS
A11.1	0.4 CFS	0.7 CFS
A11.2	0.5 CFS	0.9 CFS
A12	0.5 CFS	0.9 CFS
A12.1	0.4 CFS	0.8 CFS
A13	0.1 CFS	0.2 CFS
A13.1	1.2 CFS	2.2 CFS
A14	1.4 CFS	2.6 CFS
A15	3.5 CFS	6.6 CFS
A20	0.2 CFS	1.4 CFS

Kiowa Engineering Corporation
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Littleton, Colorado 80123
(303) 692-0369

ALPINE DEALERSHIPS
FALCON COMMERCE CENTER
FINAL DRAINAGE PLAN - PROPOSED DRAINAGE CONDITIONS
MONUMENT, COLORADO

Project No.:	23050
Date:	December 22 , 2025
Design:	JIM
Drawn:	JIM/MWE
Check:	MWE
Revisions:	

EXHIBIT

A

CTL|THOMPSON INCORPORATED

CONCEPT LEVEL GEOLOGIC HAZARDS EVALUATION
FALCON COMMERCE CENTER
SOUTHWEST OF I-25 AND BAPTIST ROAD
EL PASO COUNTY, COLORADO

Prepared for:

CP Capital Real Estate
1650 Lake Cook Road
Deerfield, Illinois

Attention: Tom Blunk

CTL|T Project No. CS19214-100

February 26, 2020

5170 Mark Dabling Blvd | Colorado Springs, Colorado 80918 | Telephone: 719-528-8300 Fax: 719-528-5362

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SCOPE

This report presents the results of our Concept Level Geologic Hazards Evaluation for an approximately 213-acre parcel south of Baptist Road and west of Interstate-25 (I-25) in El Paso County, Colorado. Our purpose was to evaluate the parcel for the occurrence of potential geologic hazards that may impact development of the site and to investigate the potential impacts of the general geologic conditions for the proposed project. We understand the property is planned for commercial and light industrial with potentially some multi-family housing at the south end of the site. This report includes a summary of subsurface and groundwater conditions found in our exploratory borings performed during our 1999 study of the site, and our opinion of the potential influence of the geologic conditions on the planned structures and other site improvements. The scope of our services was described in our proposal (CS-20-008) dated January 20th, 2020.

The report was prepared based on conditions interpreted from field reconnaissance of the site, review of our previous study performed at the site in 1999 including conditions found in our exploratory borings and results of laboratory tests, and our previous experience with this and surrounding properties. The conclusions made in this concept level report are applicable for preliminary site planning.

Evaluation of the property for the possible presence of potentially hazardous materials (Environmental Site Assessment) was beyond the scope of this investigation. Assessment of the site for the potential for wildfire hazards, corrosive soils, erosion problems, or flooding is also beyond the scope of this investigation.

The following section summarizes the report. A more complete description of the conditions found at the site and our interpretations are included in the report.

SUMMARY

1. We did not identify geologic hazards we believe preclude development of the site for the construction planned. Geologic conditions including expansive soil and bedrock, shallow hard bedrock and the occurrence of

shallow groundwater will influence design. Regional geologic conditions that impact the site include seismicity and radioactivity. We believe each of these conditions can be mitigated with engineering design and construction methods commonly employed in this area.

2. Subsurface conditions encountered during our 1999 investigation at the site consisted of 2 to 29.5 feet of overburden soils consisting predominantly of slightly silty to silty and clayey to very clayey sand. Sporadic layers of sandy clay are present beneath the sand. Sandstone and claystone bedrock were encountered in all but one of the borings below the surficial soils and extended to the boring termination depths.

3. Groundwater was measured in all but three of our 1999 exploratory borings at depths ranging from 5 to 26 feet. The shallower groundwater was present in the southern half of the site. Groundwater levels will vary with seasonal precipitation and landscaping irrigation.

SITE CONDITIONS

The site covers approximately 213-acres south of Baptist Road and Interstate-25 (I-25) in El Paso County, Colorado. The site is in the eastern half of Section 35 and the southeast quarter of Section 36, both of Township 11, Range 67 West of the 6th Principal Meridian, El Paso County. The general location is shown in Fig. 1.

The parcel is relatively flat and slopes down to the southwest at grades estimated to be less than 5 percent. A perennial stream (Jackson Creek) bisects the southern portion of the site. Other ephemeral drainages bisect the middle portion of the site and also originate within the site in the northern half. The sides of these drainages slope at grades estimated to be less than 15 percent. The site is accessed from Baptist Road. An abandoned railroad bed, including remnants of an old timber bridge across Jackson Creek, is present, and unimproved dirt roads transect north/south across the eastern portion of the site. The property is bordered to the east by I-25, to the north by Baptist Road and the existing Pilot Travel Center, to the south by the Air Force Academy, and to the west by the Santa Fe regional trail. The Upper Monument Creek Regional Wastewater Treatment Plant is also located west of the site. Vegetation consists of natural grasses and occasional pine trees. The general size, shape, topography and vicinity of the site and the location of our 1999 test holes are presented on Figure 1.

PROPOSED DEVELOPMENT

We were provided with conceptual development plans for the parcel. Based on the concept plan, the project will be a commercial development involving the design and construction of approximately 40 predominantly low-rise buildings and possibly mid-rise hotel buildings. Occupants are expected to include office, hotel, retail, restaurant, and light industrial buildings. The area south of Jackson Creek may potentially be developed with multi-family housing. We anticipate the structures will be serviced by municipal water and wastewater systems. Other improvements will include a southward extension of Terrazzo Drive and a new street to be called Squadron Drive, as well as numerous private access driveways and parking areas. As mentioned previously, the southern half of the site is bisected by Jackson Creek. Development is precluded within a 300-foot buffer zone on both sides of the creek for protection of the endangered Preble's jumping mouse.

PREVIOUS INVESTIGATION

Our firm performed a Geologic Hazards Evaluation and Preliminary Geotechnical Investigation (CTL|T Job No. CS-10,148; report dated December 17, 1999) for a larger 320-acre site that included the property covered by this investigation. The 1999 study included the drilling of 22 widely spaced exploratory borings. The locations of the borings can be found on Fig. 1. Summary logs of exploratory borings are included in Appendix A.

Surficial Deposits

The subsurface conditions encountered in our borings at the site consisted of 2 to 29.5 feet of overburden soils overlying sedimentary bedrock. The surficial and near surface soils consisted of natural silty and clayey sands. The sand exhibits relative density ranging from loose to dense and nil to low potential for expansion (measured expansion of 0.0 to 1.6 percent). A natural clay layer was encountered below sand in localized areas of the western portion of the site at depths ranging from 9 to 16 feet.

The natural clay layer was 1.5 feet to greater than 6 feet in thickness. The clays were stiff and exhibit moderate potential for expansion (measured expansion of 2.2 percent).

Bedrock

Claystone and sandstone bedrock was encountered in all but 1 of our 22 borings advanced during our 1999 exploration. Bedrock was generally below a depth of 10 feet in the northern portion of the site and frequently below 20 feet in the far north end of the site. In the southern portion of the site, bedrock is sporadically present at depths shallower than 10 feet and as shallow as 2 feet immediately west of the remnants of the old railroad bridge that once spanned Jackson Creek.

Two samples of the sandstone bedrock were subjected to swell-consolidation testing. One of the tested samples exhibited low potential for expansion (measured swell of 1.6 percent), and the other tested sample exhibited moderate potential for expansion (measured swell of 2.4 percent).

Groundwater

Groundwater was measured during September 1999 in all but two borings at depths ranging from 5 to 26 feet below the existing ground surface. Groundwater levels will vary with seasonal precipitation, flows in Jackson Creek, landscaping irrigation and other factors. The construction process itself can alter groundwater levels particularly where grading cuts are performed in areas where more permeable natural sands overlie less permeable bedrock.

GEOLOGIC SETTING

The site lies approximately 3.5 miles east of the southern Rocky Mountains in the Colorado Piedmont section of the Great Plains physiographic province. While the Laramide Orogeny was occurring that uplifted the Rocky Mountains during the late Cretaceous and early Tertiary, energetic braided streams were delivering a mixture of coarse gravel, sand, and finer silt and clay particles, derived primarily from Precambrian Pikes Peak Granite, to the Colorado Piedmont that would become the Dawson

Formation. The upper part of the Dawson Formation shares similar characteristics with the Upper Arapahoe, Denver, and Dawson Formations mapped in the Denver area. The source area for these granitic arkosic materials of the Dawson Formation was immediately west across the mountain-front fault system called the Rampart Range Fault. The coarser materials are cross bedded, filled broad channels and generally cut into the finer grained lower portions of the Dawson Formation. Interbedded with the thick channel deposits are occasional massive structureless beds deposited by mud flows. (Thorson and Madole, 2003)

SITE GEOLOGY

Geologic conditions were evaluated through the review of published geologic maps, field reconnaissance, and our previous investigation. Information from these sources was used to produce our interpretation of site geology, as shown in Fig. 2. A list of references is included at the end of this report.

Dawson Formation Bedrock

The bedrock in this region has been mapped by the United States Geological Survey (USGS) as the Dawson Formation (upper part) of Cretaceous age. Underlying the surficial deposits, various facies of Dawson Formation bedrock is present. The Dawson Formation bedrock is highly variable and includes sandstone, claystone, and interbedded sandstone and claystone. The depth to bedrock varies between 2 and 29.5 feet and is shown on Fig. 1 where test holes were drilled during our 1999 study. No bedrock outcrops were observed on this site. Sandstone “float” was observed in areas of shallow bedrock. Bedrock encountered during drilling included medium hard to very hard sandstone, slightly sandy to sandy claystone and interbedded sandstone and claystone. Bedrock in this region dips at very slight angles (less than 5 degrees) toward the north and northeast.

Surficial Deposits

The entire site contains variable thicknesses of Quaternary-age surficial deposits overlying the bedrock. These are terrace deposits of various ages including (from oldest

to youngest) Slocum Alluvium (Map Unit “Qs”), Louviers Alluvium (Map unit “Qlo”), Post Piney Creek and Piney Creek Alluvium (Map Unit “Qp”), and recent alluvium (Map unit “Qal”). These deposits are similar in composition and are characterized by sand, clay and silt and in places may have gravel lenses. There are several areas within the site where drainages originate, and these have been mapped as colluvial deposits (Map Unit “Qac”) of mixed origin. The colluvial deposits include recent alluvium and material weathered from underlying deposits.

A former railroad grade crosses the site from north to south and fill associated with the railroad bed is located primarily along the sites eastern side. Several abandoned roads are also found crossing the site from north to south. These areas are mapped as “Fill/da” and are areas of fill and/or areas disturbed by previous grading activity.

GEOLOGIC HAZARDS

Colorado is a challenging location to practice geotechnical engineering. The climate is relatively dry and the near-surface soils are typically dry and relatively stiff. These soils and related sedimentary bedrock formations tend to react to changes in moisture conditions. Some of the soils swell as they increase in moisture and are called expansive soils. Other soils can settle significantly upon wetting and are referred to as collapsing soils. Most of the land available for development east of the Front Range is underlain by expansive clay or claystone bedrock near the surface. The soils that exhibit collapse are more likely west of the Continental Divide; however, both types of soils occur all over the state.

Covering the ground with houses, streets, driveways, patios, etc., coupled with lawn irrigation and changing drainage patterns, leads to an increase in subsurface moisture conditions. As a result, some soil movement is inevitable. It is critical that all recommendations in this report are followed to increase the chances that the foundation and slabs-on-grade will perform satisfactorily. After construction, homeowners must assume responsibility for maintaining the structure and use appropriate practices regarding drainage and landscaping.

We did not identify geologic hazards that we believe preclude development of the project for the planned purpose. Conditions we identified that may pose hazards or constraints to development include expansive soil and bedrock. Regional geologic conditions that impact the site include seismicity and radioactivity. We believe each of these conditions can be mitigated with engineering design and construction methods commonly employed in this area. These conditions are discussed in greater detail in the sections that follow.

Expansive Soils and Bedrock

The presence of expansive materials at the site constitutes a geologic hazard. Moisture changes to bedrock or surficial deposits containing swelling clays can result in volumetric expansion and collapse of those units. Changes in soil moisture content can result from precipitation, irrigation, pipeline leakage, surface drainage, perched groundwater, drought, or other factors. Swelling of expansive soil and bedrock may cause excessive cracking and heaving of structures with shallow foundations, concrete slabs-on-grade, or pavements supported on these materials.

As part of our 1999 study, samples were tested in the laboratory for swell consolidation characteristics. Generally, sites are rated as low, medium, high or very high swell potential based on heave calculations utilizing swell test results. The rating of a site as low or high swell potential is not absolute. Rather, this represents a judgement. The natural clay soils found sporadically at depths greater than 9 feet and the sandstone bedrock exhibit low to moderate potential for expansion. Based on our experience, the claystone bedrock exhibits moderate to high potential for expansion.

Shallow Bedrock

Shallow bedrock conditions exist generally in the southern portion of the site. Along the southeastern portion of the site bedrock was encountered at less than 5 feet below the ground surface. The depth to bedrock in our test borings advanced during our 1999 study is shown on Figure 1. The risk of damage to structures is significantly higher where expansive soils and bedrock are exposed at the ground surface as a result of site grading.

Shallow Groundwater

The depth to groundwater measured during our 1999 study is shown on Figure 1. Shallow groundwater is found in areas mapped as “sw”, and “Qal” on Fig.2. Depth to water will likely change due to natural environmental variations and from irrigation and modified surface drainage after development. The significant permeability differences between surficial sandy soils and the bedrock are favorable for the development of “perched” groundwater at the interface. When bedrock is naturally shallow or shallow due to grading “cuts”, conditions are favorable for the formation of a shallow perched water table. Man-induced conditions, such as lawn irrigation and changes in surface drainage, can contribute to the formation of shallow perched water tables. Potential mitigation procedures include construction of interceptor drains, subdrains below sewers, and foundation drains.

Flooding

There is a flooding hazard associated with Jackson Creek and the other drainages that originate off-site. The Federal Emergency Management Agency (FEMA) has identified the majority of the site as lying in unshaded Zone X, or outside the limits of a 500-year flood plain. The Jackson Creek stream channel and adjacent areas are mapped as lying in shaded Zone A. Areas within Zone A are subject to inundation by the 1-percent-annual-chance flood event. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown. It is noted that the 300-foot buffer zone extending from both sides of Jackson Creek for protection of the endangered Preble’s jumping mouse precludes development within the area mapped as Zone A. The project Civil Engineer should determine the flood potential for Jackson Creek and other drainages that originate off-site and design the surface drainage accordingly.

Seismicity

This area, like most of central Colorado, is subject to a degree of seismic activity. Geologic evidence indicates that movement along some Front Range faults has occurred during the last two million years (Quaternary). This includes the Rampart

Range Fault, which is located about 3.5 miles west of the site. Based on current International Building Code (IBC) criteria, we judge the property is Seismic Site Class D where thick deposits of soils or fill exists.

Underground Mines

No underground mining is known to have taken place at the site and we did not observe any evidence of subsurface mining at the site. We believe, the project site is not underlain by abandoned mine workings and should not be subject to future ground surface movements due to mine subsidence.

Radon and Radioactivity

We do not believe there are any unusual hazards from naturally occurring sources of radioactivity on this site. The principal radioactive hazard produced by soil deposits commonly found in the Colorado Springs area is radon gas. Higher concentrations of radon gas normally occur in residential structures that have been sealed to prevent exchange of outside air. Commercial buildings are normally well ventilated. Radon tends to collect in below-grade areas due to limited outside air exchange and interior ventilation. Passive and active mitigation systems are commonly employed in this region to effectively reduce the buildup of radon gas. Measures that can be taken after a structure is enclosed during construction include installing a negative pressure system below the floor and sealing the joints and cracks in concrete slabs and foundation walls. If the occurrence of radon is a concern, we recommend the structures be tested after they are enclosed and mitigation systems can be installed to reduce the risk.

LIMITATIONS

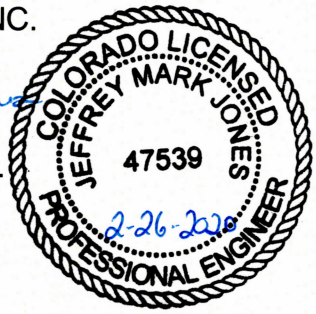
The recommendations and conclusions presented in this report were prepared based on conditions disclosed by our exploratory borings, geologic reconnaissance, engineering analyses, and our experience. Variations in the subsurface conditions not indicated by the borings are possible and should be expected. Geotechnical

investigations are recommended to develop site specific geotechnical design and construction criteria recommendations.

We believe this report was prepared with that level of skill and care ordinarily used by geologists and geotechnical engineers practicing under similar conditions. No warranty, express or implied, is made.

Should you have any questions regarding the contents of this report or the project from a geological point-of-view, please call.

CTL | THOMPSON, INC.



Jeffrey M. Jones, P.E.
Associate Engineer

William C. Hoffmann, Jr., P.E.
Senior Principal Engineer

JMJ:WCH:cw
(2 copies sent)

Via email: tblunk@cprecapital.com ; abarlow@nescolorado.com

REFERENCES

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CTL Thompson, Inc., Geologic Hazards Evaluation and Preliminary Geotechnical Investigation, SW Corner I-25 and Baptist Road, Colorado Springs, Colorado (CTL|T Job No. CS10,148; dated December 17, 1999).

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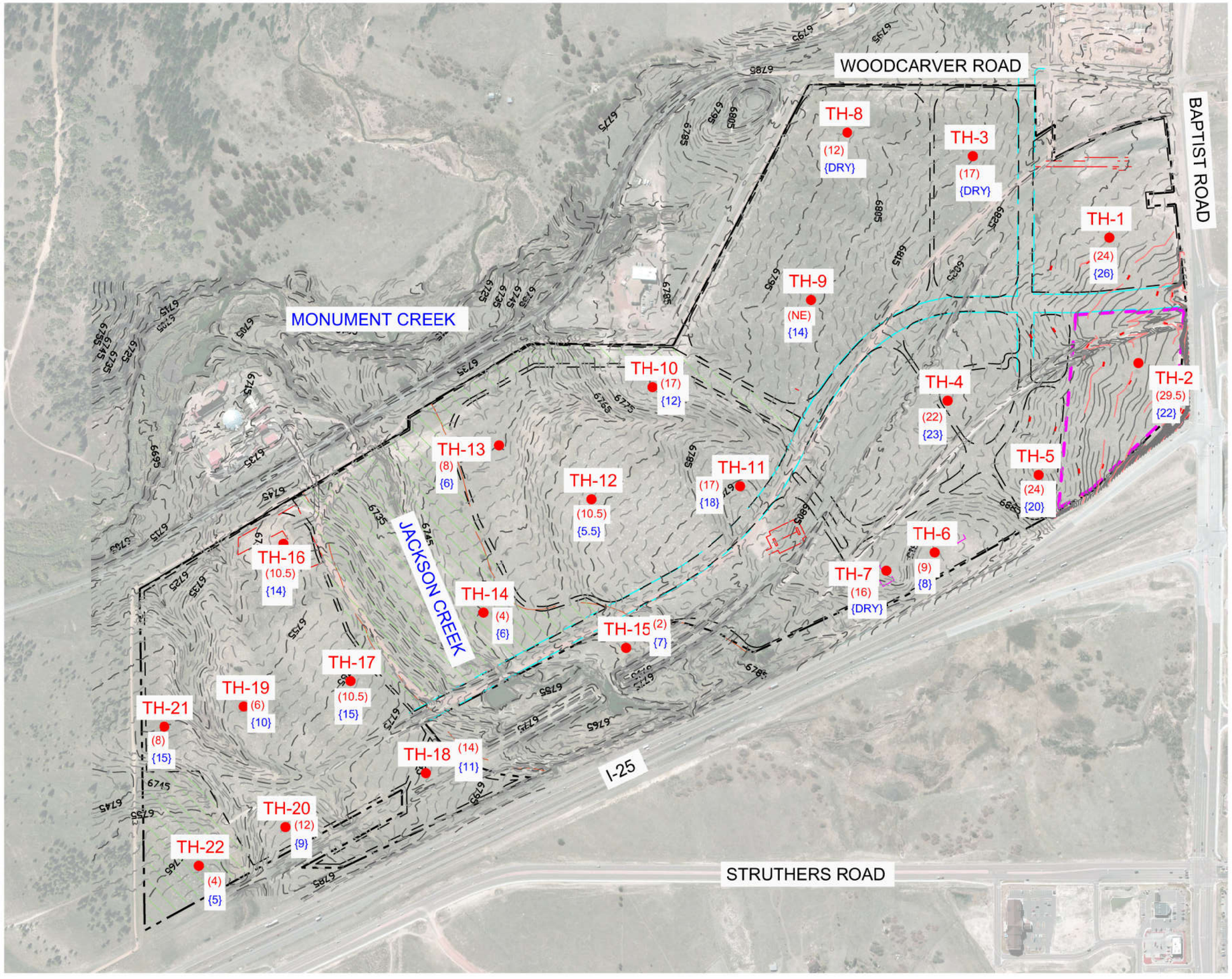


LEGEND:

TH-1 ●	APPROXIMATE LOCATION OF 1999 EXPLORATORY BORINGS DRILLED FOR CS-10,148 DATED SEPTEMBER, 1999.
(24)	DEPTH TO BEDROCK
{26}	DEPTH TO GROUNDWATER
≈≈≈	EXISTING TOPOGRAPHY

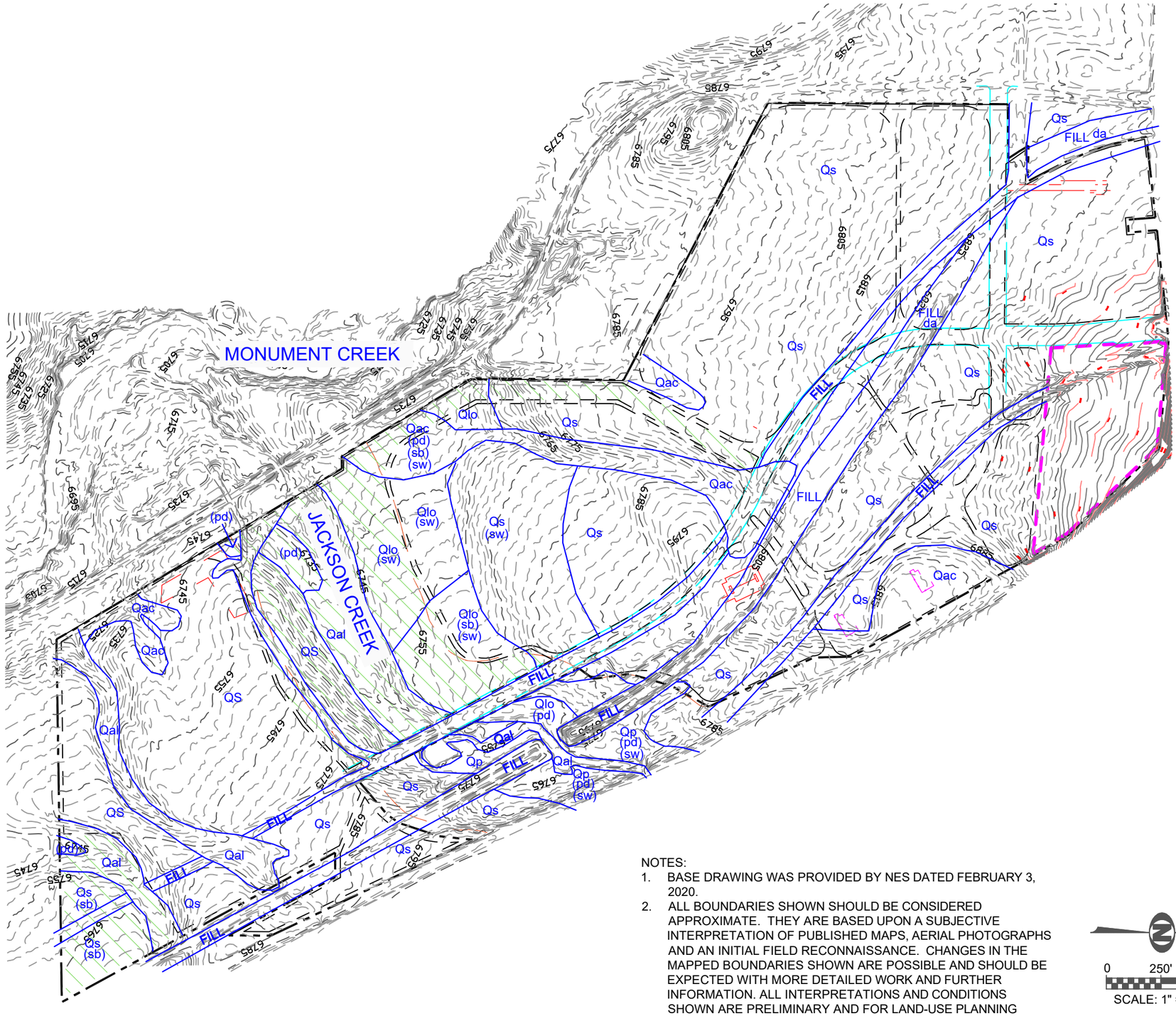
NOTE:
GROUNDWATER MEASUREMENTS TAKEN SEPTEMBER, 1999

0 250' 500'
SCALE: 1" = 500'

Location of Exploratory Borings

FIG. 1

CP CAPITAL REAL ESTATE
FALCON COMMERCE CENTER
CTL|T PROJECT NO. CS19214-100



LEGEND:

EXISTING TOPOGRAPHY

PROJECT BOUNDARY

EXISTING PILOT TRAVEL CENTER (NOT A PART OF PROJECT)

GEOLOGIC UNITS AND (MODIFIERS)

SURFICIAL GEOLOGIC CONTACTS

FILL ARTIFICIAL FILL. THE FILL OBSERVED ON THE SITE IS ASSOCIATED WITH ABANDONED ROADS AND RAILROAD BEDS.

Qac COLLUVIAL DEPOSITS. THIS MAP UNIT CONSISTS OF ALLUVIUM IN PART AS WELL AS WEATHERED REMNANTS OF BEDROCK. THE MAP UNIT INCLUDES AREAS OF DEPOSITION AND/OR EROSION.

Qal ALLUVIUM. UNIT INCLUDES STREAM DEPOSITS OF SAND, SILT AND CLAY THAT MAY HAVE GRAVEL IN PLACES. UNIT INCLUDES AREAS PRONE TO EROSION AND/OR DEPOSITION DURING FLOOD STAGE. THIS UNIT INCLUDES THE STREAM CHANNEL WITH AREAS OF SURFACE WATER FLOW AND AREAS OF HIGH GROUNDWATER.

Qp POST-PINEY CREEK AND PINEY CREEK ALLUVIUM (UPPER HOLOCENE). LOWER TERRACES OF SAND, SILT, AND CLAY THAT MAY HAVE GRAVEL IN PLACES.

Qlo LOUVIERS ALLUVIUM (UPPER PLEISTOCENE) TERRACES OF STRATIFIED SAND, SILT AND CLAY, THAT MAY HAVE GRAVEL IN PLACES.

Qs SLOCUM ALLUVIUM (PLEISTOCENE).TERRACES OF STRATIFIED SAND, SILT, AND CLAY THAT MAY HAVE GRAVEL IN PLACES.

(da) DISTURBED AREAS. AREAS MODIFIED BY GRADING ASSOCIATED WITH BOTH ABANDONED AND CURRENTLY USED ROADWAYS AND AN ABANDONED RAILROAD.

(sw) SEASONALLY WET. AREAS THAT MAY SEASONALLY HAVE HIGH GROUNDWATER.

(pd) POORLY DRAINED. AREAS THAT MAY SEASONALLY POND WITH SURFACE RUNOFF.

(sb) SHALLOW BEDROCK. (LESS THAN 5 FEET)

NOTES:
1. BASE DRAWING WAS PROVIDED BY NES DATED FEBRUARY 3, 2020.
2. ALL BOUNDARIES SHOWN SHOULD BE CONSIDERED APPROXIMATE. THEY ARE BASED UPON A SUBJECTIVE INTERPRETATION OF PUBLISHED MAPS, AERIAL PHOTOGRAPHS AND AN INITIAL FIELD RECONNAISSANCE. CHANGES IN THE MAPPED BOUNDARIES SHOWN ARE POSSIBLE AND SHOULD BE EXPECTED WITH MORE DETAILED WORK AND FURTHER INFORMATION. ALL INTERPRETATIONS AND CONDITIONS SHOWN ARE PRELIMINARY AND FOR LAND-USE PLANNING ONLY.

N

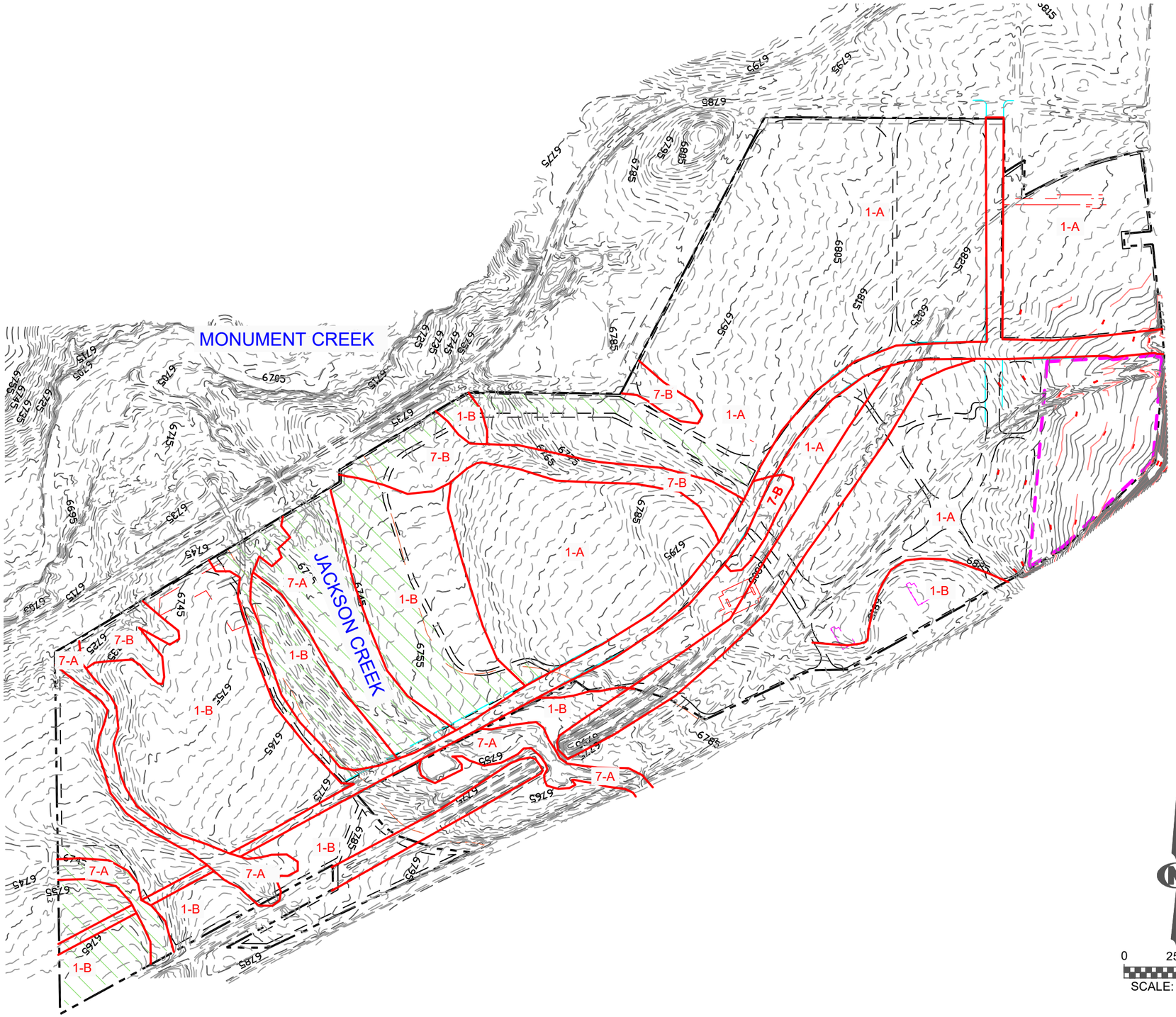
0 250' 500'

SCALE: 1" = 500'

CP CAPITAL REAL ESTATE
FALCON COMMERCE CENTER
CTL|T PROJECT NO. CS19214-100

Surficial Geologic Conditions

FIG. 2



LEGEND:

EXISTING TOPOGRAPHY

PROJECT BOUNDARY

EXISTING PILOT TRAVEL CENTER (NOT A PART OF PROJECT)

ENGINEERING UNITS AND (MODIFIERS)

ENGINEERING CONTACTS

1-A STABLE ALLUVIUM WITH GENTLE SLOPES (<6%). GRADES ARE STEEPER (<15%) ADJACENT TO THE DRAINAGES. DEPTH TO BEDROCK IS GENERALLY MORE THAN 10 FEET BELOW THE GROUND SURFACE AS INDICATED BY OUR TEST HOLES. EMPHASIS ON SURFACE AND SUBSURFACE DRAINAGE DEPTH TO BEDROCK, DEPTH TO GROUNDWATER AND EXPANSION POTENTIAL.

1-B STABLE ALLUVIUM WITH GENTLE SLOPES (<6%) OVERLAYING RELATIVELY SHALLOW BEDROCK (<10 FEET) AS INDICATED BY OUR TEST HOLES. GRADES ARE STEEPER (<15%) ADJACENT TO DRAINAGES. MAP UNIT INCLUDES AREAS OF RELATIVELY SHALLOW GROUNDWATER. EMPHASIS ON SURFACE AND SUBSURFACE DRAINAGE, DEPTH TO BEDROCK, DEPTH TO GROUNDWATER AND EXPANSION POTENTIAL.

7-A PHYSIOGRAPHIC FLOODPLAIN WHERE EROSION AND DEPOSITION PRESENTLY OCCUR AND IS GENERALLY SUBJECT TO RECURRENT FLOODING. EMPHASIS ON FREQUENCY, DEPTH AND CONTROL. THE AREAS ARE ASSOCIATED WITH SAND CREEK, AND TYPICALLY HAVE HIGH GROUNDWATER, ARE SEASONALLY WET, AND AT TIMES HAVE ACTIVE SEEPAGE.

7-B DRAINAGE AREAS THAT ORIGINATE ON-SITE SUBJECT TO INTERMITTENT SURFACE RUNOFF AND SEASONALLY HIGH GROUNDWATER.

N

0 250' 500'

SCALE: 1" = 500'

NOTES:

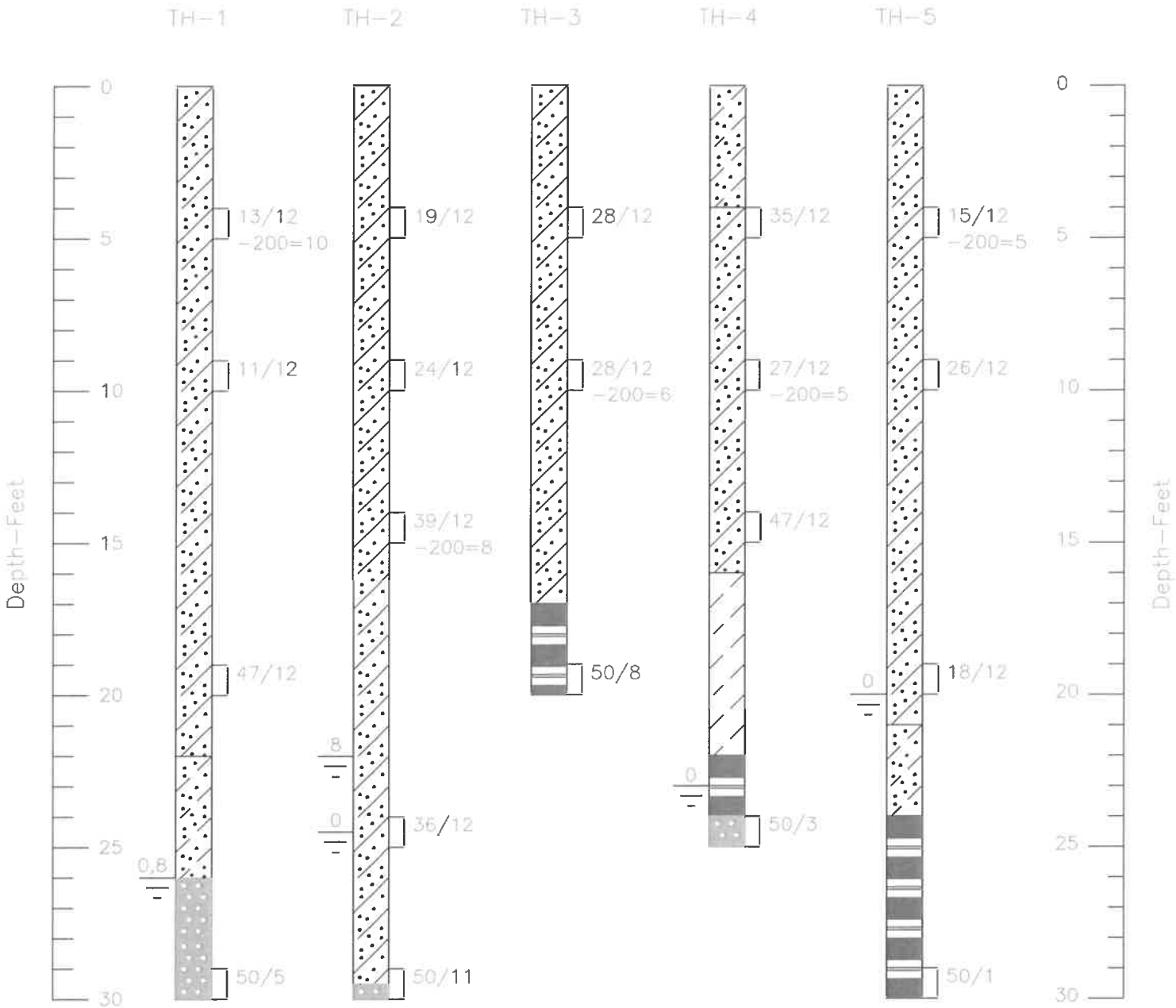
1. BASE DRAWING WAS PROVIDED BY NEW DATED FEBRUARY 3, 2020..
2. ALL BOUNDARIES SHOWN SHOULD BE CONSIDERED APPROXIMATE. THEY ARE BASED UPON A SUBJECTIVE INTERPRETATION OF PUBLISHED MAPS, AERIAL PHOTOGRAPHS AND AN INITIAL FIELD RECONNAISSANCE. CHANGES IN THE MAPPED BOUNDARIES SHOWN ARE POSSIBLE AND SHOULD BE EXPECTED WITH MORE DETAILED WORK AND FURTHER INFORMATION. ALL INTERPRETATIONS AND CONDITIONS SHOWN ARE PRELIMINARY AND FOR INITIAL LAND-USE PLANNING ONLY.
3. MAP LEGEND IS MODIFIED FROM CHARLES S. ROBINSON & ASSOCIATES, INC., GOLDEN, COLORADO, DATED 1977.

CP CAPITAL REAL ESTATE
FALCON COMMERCE CENTER
CTL|T PROJECT NO. CS19214-100

Engineering Geologic Map

FIG. 3

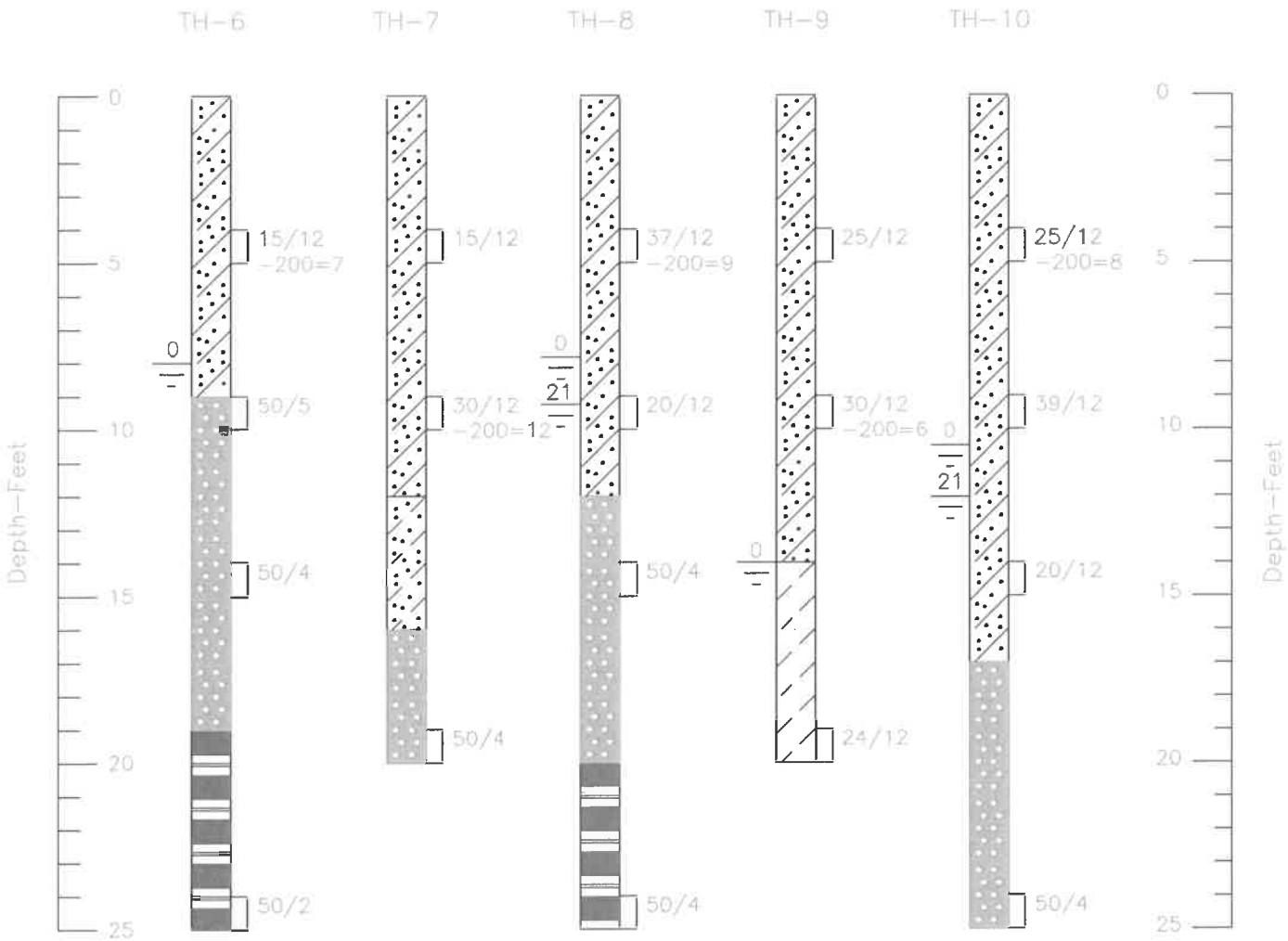
APPENDIX A
LOGS OF EXPLORATORY BORINGS (SEPTEMBER 1999)



Logs of Exploratory Borings

SCHUCK INTERESTS, INC.
I-25 & BAPTIST ROAD PARCEL
Job No. CS-10,148

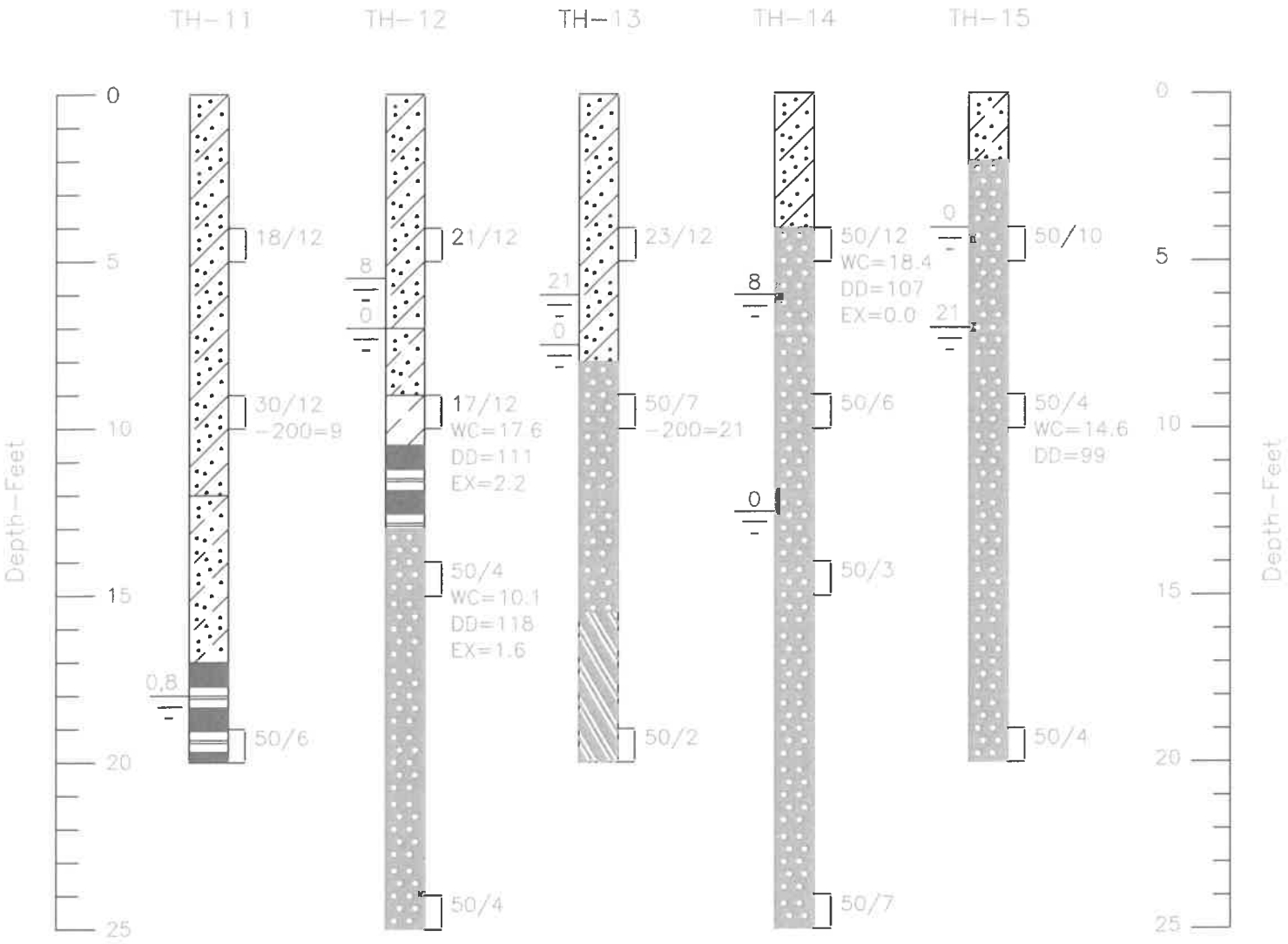
Fig. 4



Logs of Exploratory Borings

SCHUCK INTERESTS, INC.
I-25 & BAPTIST ROAD PARCEL
Job No. CS-10,148

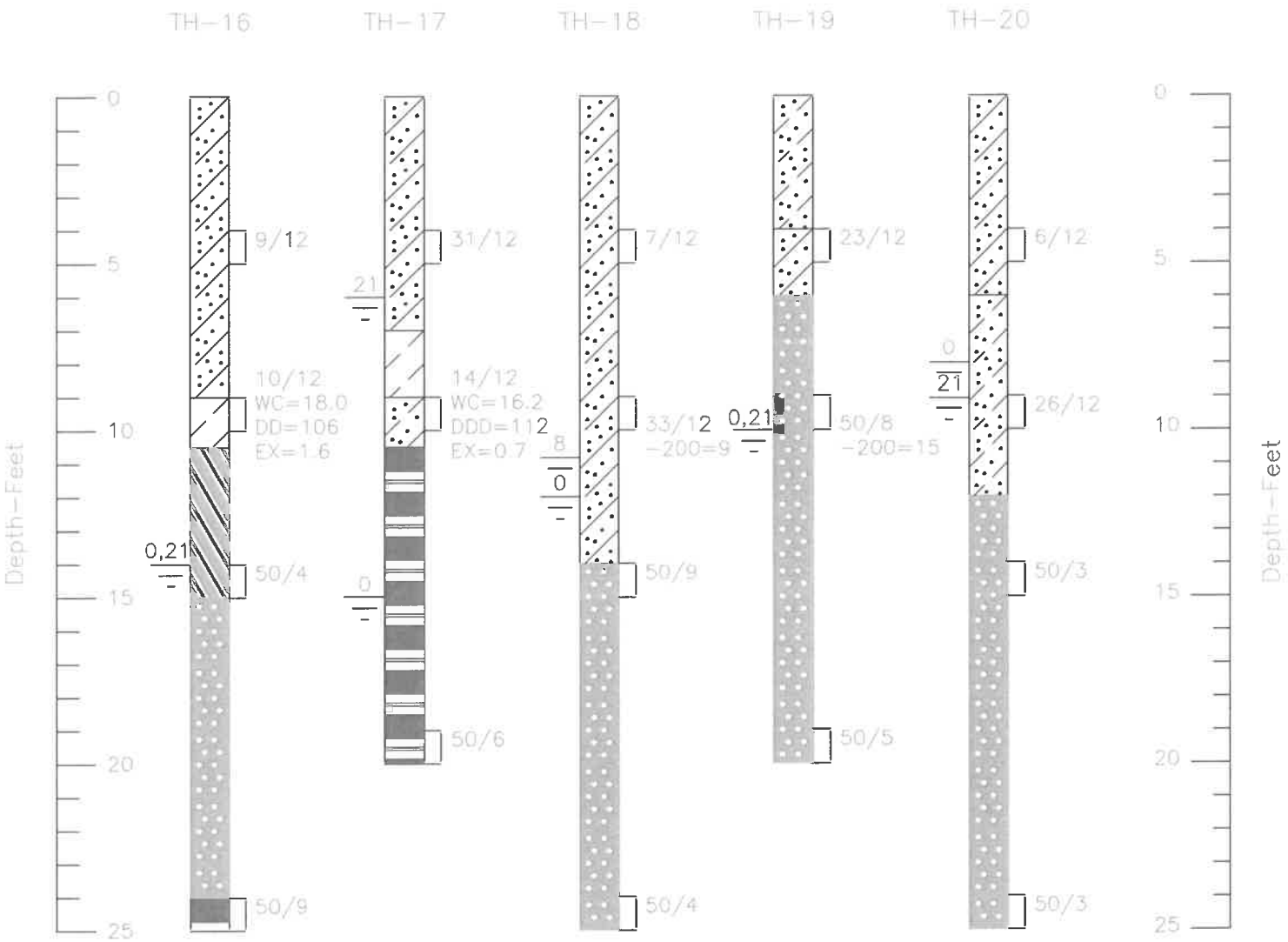
Fig. 5



Logs of Exploratory Borings

SCHUCK INTERESTS, INC.
I-25 & BAPTIST ROAD PARCEL
Job No. CS-10,148

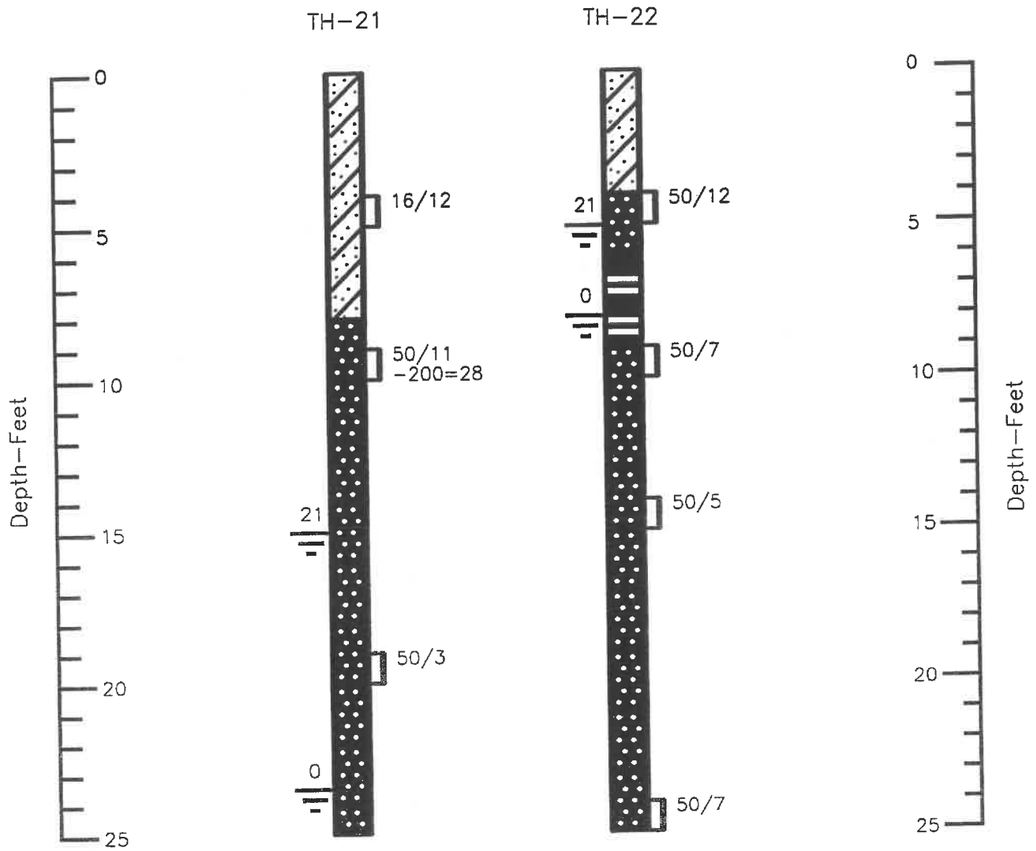
Fig. 6



Logs of Exploratory Borings

SCHUCK INTERESTS, INC.
I-25 & BAPTIST ROAD PARCEL
Job No. CS-10,148

Fig. 7



LEGEND:

Sand, slightly silty to silty with occasional gravel, loose to dense, slightly moist to moist, tan to light brown. (SM)

Sand, slightly clayey to very clayey, dense, slightly moist to very moist, reddish brown to gray. (SC)

Clay, sandy, very stiff, moist to very moist, reddish brown. (CL)

Interbedded sandstone and claystone bedrock, very hard, very moist, brown to gray.

Sandstone bedrock, silty and clayey to very silty and clayey, hard to very hard, moist to very moist, gray to light brown.

Claystone bedrock, slightly sandy to sandy, hard to very hard, moist, gray, red and brown.

Drive Sample. The symbol 13/12 indicates that 13 blows of a 140-pound hammer falling 30 inches were required to drive a 2.5-inch O.D. sampler 12 inches.

0.8.21 Indicates the level of groundwater and the number of days after drilling the measurement was taken.

NOTES:

1. The borings were drilled September 2 and 15, 1999 using a 4-inch diameter, continuous-flight, truck-mounted, power auger.
2. The borings are subject to the explanations, limitations, and conclusions as contained in the report.
3. WC - Indicates natural moisture content (%)
   DD - Indicates dry density (pcf)
   EX - Indicates percent expansion when sample wetted under a surcharge pressure of 1000 psf
   -200 - Indicates the percent passing the No. 200 sieve.

Logs of Exploratory Borings

SCHUCK INTERESTS, INC.
I-25 & BAPTIST ROAD PARCEL
Job No. CS-10,148

Fig. 8

ALPINE DEALERSHIP AT FALCON COMMERCE CENTER

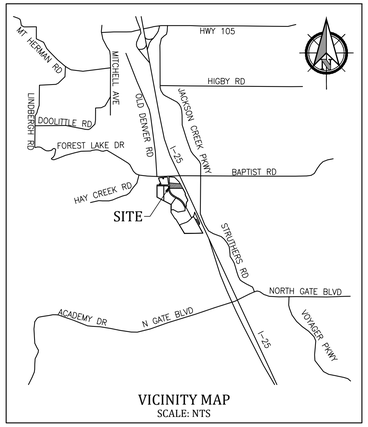
MONUMENT, COLORADO

GRADING AND EROSION CONTROL PLAN

A TRACT OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO

LEGEND

- EXISTING BUILDING
- PROPOSED BUILDING
- EXISTING OR PROPOSED PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING STORM SEWER MANHOLE
- EXISTING FIBER OPTIC VAULT
- EXISTING CABLE TV PEDESTAL
- EXISTING LIGHT POLE
- EXISTING UTILITY POLE
- EXISTING ELECTRIC BOX
- EXISTING FENCE
- (6020) EXISTING CONTOURS
- 6020 PROPOSED CONTOURS
- (2.3%) EXISTING FLOW DIRECTION AND SLOPE
- 2.3% PROPOSED FLOW DIRECTION AND SLOPE
- 6" CURB & GUTTER – 1' PAN, SEE DETAIL
- 10" CURB & GUTTER – 1' PAN, SEE DETAIL
- PROPOSED FIRE HYDRANT
- EX W EXISTING WATER LINE
- EX SS EXISTING SANITARY SEWER & FLOW DIRECTION
- EX STM EXISTING STORM SEWER
- EX UGE EXISTING UNDERGROUND ELECTRIC LINE
- EX T EXISTING UNDERGROUND TELEPHONE LINE
- EX FO EXISTING FIBER OPTIC LINE
- EX G EXISTING GAS LINE
- PROPOSED DRAINAGE GRATED INLET
- PROPOSED DRAINAGE CURB INLET
- PROPOSED STORM SEWER PIPE AND MANHOLE
- LOC APPROXIMATE LIMIT OF CONSTRUCTION
- CF CONSTRUCTION FENCE
- CS CURB SOCK
- CWA CONCRETE WASHOUT AREA
- DD TEMPORARY DRAINAGE DITCH
- ECB EROSION CONTROL BLANKET
- IP INLET PROTECTION
- RS ROCK SOCK
- SB SEDIMENT BASIN
- SCL SEDIMENT CONTROL LOG
- SF SILT FENCE EROSION BARRIER
- SM SEEDING AND MULCHING
- SP STOCKPILE AREA
- SSA STABILIZED STAGING AREA
- VTC VEHICLE TRACKING CONTROL
- SM SEEDING AND MULCHING



VICINITY MAP
SCALE: NTS

INDEX OF SHEETS

1	COVER SHEET - EROSION CONTROL PLAN
2	EROSION CONTROL PLAN - INITIAL
3	EROSION CONTROL PLAN - INTERIM
4	EROSION CONTROL PLAN - FINAL
5-6	DETAIL SHEET - EROSION CONTROL PLAN

APPROXIMATE EARTHWORK QUANTITIES

CUT =	18,110 CY
FILL =	33,480 CY
SHRINKAGE (10% OF FILL) =	3,480 CY
NET FILL (w/SHRINKAGE) =	11,890 CY

NOTES:
1. EARTHWORK QUANTITIES SHOWN ABOVE ARE APPROXIMATE. THE VOLUMES ARE BASED ON THE DIFFERENCE BETWEEN EXISTING AND PROPOSED GROUND SURFACES AND DO NOT ACCOUNT FOR PAVEMENT OR BUILDING FOUNDATION THICKNESSES.
2. SHRINKAGE FACTOR IS ASSUMED, CONSULT GEOTECHNICAL ENGINEER FOR SHRINKAGE FACTOR.

PRE-EXCAVATION CHECKLIST

GAS AND OTHER UTILITY LINES OF RECORD SHOWN ON PLANS.

UTILITIES CENTRAL LOCATING CALLED AT LEAST 2 BUSINESS DAYS AHEAD.

UTILITIES LOCATED AND MARKED.

EMPLOYEES BRIEFED ON MARKING AND COLOR CODES.*

EMPLOYEES TRAINED ON EXCAVATION AND SAFETY PROCEDURES FOR NATURAL GAS LINES.

WHEN EXCAVATION APPROACHES GAS LINES, EMPLOYEES EXPOSE LINES BY CAREFUL PROBING AND HAND DIGGING.

*A.G.A./A.P.W.A. STANDARD UTILITY MARKING COLOR CODE

NATURAL GAS	YELLOW	WATER	BLUE
ELECTRIC	RED	WASTEWATER	GREEN

811 Know what's below. Call before you dig.

ABBREVIATIONS

ASSY	ASSEMBLY	NTS	NOT TO SCALE
BNDY	BOUNDARY	OD	OUTSIDE DIAMETER
BOP	BOTTOM OF PIPE	PC	POINT OF HORIZONTAL CURVATURE
C&G	CURB & GUTTER	PLBG	PLUMBING
CL	CENTERLINE	POC	POINT OF CONNECTION
CO	CLEAN OUT	PP	PROPOSED
CRA	CONCRETE REVERSE ANCHOR	PRC	POINT OF REVERSE CURVE
CR	POINT OF CURB RETURN	PROP	PROPERTY
CS	CROSS SLOPE	PT	POINT OF HORIZONTAL TANGENCY
CTB	CONCRETE THRUST BLOCK	PVC	POLY VINYL CHLORIDE PIPE
DIP	DUCTILE IRON PIPE	PVC	POINT OF VERTICAL CURVATURE
DTL	DETAIL	PVI	POINT OF VERTICAL INTERSECTION
EL	ELEVATION	PVT	POINT OF VERTICAL TANGENCY
EOA	EDGE OF ASPHALT	R	RADIUS
ESMT	EASEMENT	R	RIGHT
EX	EXISTING	RCP	REINFORCED CONCRETE PIPE
FC	FACE OF CURB	RD	ROOF DRAIN (STORM LINE)
FES	FLARED END SECTION	ROW	RIGHT OF WAY
FLG	FLANGE	RT	RIGHT
FL	FLOWLINE	QL	QUALITY LEVEL
GB	GRADE BREAK	SHT	SHEET
GI	GREASE INTERCEPTOR	SOI	SAND OIL INTERCEPTOR
HP	HIGH POINT	SS	SANITARY SEWER
HORIZ	HORIZONTAL	STA	STATION
HYD	HYDRANT	STD	STANDARD
ID	INSIDE DIAMETER	TA	TOP OF ASPHALT
L	LEFT	TB	THRUST BLOCK
LT	LEFT	TC	TOP OF CURB
LF	LINEAR FEET	TOA	TOP OF ASPHALT
LP	LOW POINT	TOC	TOP OF CONCRETE
MAX	MAXIMUM	TOP	TOP OF PIPE
MH	MANHOLE	TYP	TYPICAL
MIN	MINIMUM	VC	VERTICAL CURVE

STANDARD GRADING AND EROSION CONTROL PLAN NOTES:
1. ANY LAND DISTURBANCE BY ANY OWNER, DEVELOPER, BUILDER, CONTRACTOR, OR OTHER PERSON SHALL COMPLY WITH THE BASIC GRADING, EROSION AND STORMWATER QUALITY CONTROL REQUIREMENTS AND GENERAL PROHIBITIONS NOTED IN THE CITY OF COLORADO SPRINGS DRAINAGE CRITERIA MANUAL VOLUME 2.
2. NO CLEARING, GRADING, EXCAVATION, FILLING OR OTHER LAND DISTURBING ACTIVITIES SHALL BE PERMITTED UNTIL SIGN OFF AND ACCEPTANCE OF THE GRADING AND EROSION CONTROL PLAN IS RECEIVED FROM THE TOWN.
3. THE INSTALLATION OF THE FIRST LEVEL OF TEMPORARY EROSION CONTROL FACILITIES AND BMP'S SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY EARTH DISTURBANCE OPERATIONS TAKING PLACE. CALL TOWN FOR INSPECTIONS, 48 HOURS PRIOR TO CONSTRUCTION.
4. SEDIMENT (MUD AND DIRT) TRANSPORTED ONTO A PUBLIC ROAD, REGARDLESS OF THE SIZE OF THE SITE, SHALL BE CLEANED IMMEDIATELY.
5. CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN TWENTY-ONE (21) CALENDAR DAYS AFTER FINAL GRADING OR FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN THIRTY (30) DAYS SHALL ALSO BE MULCHED WITHIN TWENTY-ONE (21) DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN SIXTY (60) DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMP'S SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.
7. THE GRADING AND EROSION CONTROL PLAN WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY THE TOWN SHOULD ANY OF THE FOLLOWING OCCUR: GRADING DOES NOT COMMENCE WITHIN TWELVE (12) MONTHS OF THE TOWN'S ACCEPTANCE OF THE PLAN, A CHANGE IN PROPERTY OWNERSHIP, PROPOSED DEVELOPMENT CHANGES, OR PROPOSED GRADING REVISIONS.
8. AREAS TO BE DISTURBED SHALL HAVE THE TOPSOIL STRIPPED AND STOCKPILED FOR LATER USE.

ADDITIONAL EROSION CONTROL NOTES:
1. SOILS ON THE SITE ARE CLASSIFIED WITHIN HYDROLOGIC SOIL GROUP B (PRING COARSE SANDY LOAM).
2. 100 YEAR RUNOFF COEFFICIENTS. EXISTING: C100=0.60. PROPOSED: C100=0.72.
3. ANTICIPATED SCHEDULE: REFER TO THE SWMP REPORT
4. APPROXIMATE TOTAL DISTURBED AREA: 12.5 ACRES.
5. RECEIVING WATERS: JACKSON CREEK.
6. SOIL STOCKPILES: LOCATION IS SHOWN ON THE PLAN, THE CONTRACTOR MAY ADJUST THE LOCATION. IF THE LOCATION IS ADJUSTED THE CONTRACTOR MUST REDLINE THIS PLAN WITH THE LOCATION.
7. STABILIZED STAGING AREA: LOCATION IS SHOWN ON THE PLAN, THE CONTRACTOR MAY ADJUST THE LOCATION. IF THE LOCATION IS ADJUSTED THE CONTRACTOR MUST REDLINE THIS PLAN WITH THE LOCATION.

ENGINEER'S STATEMENT

This Erosion and Stormwater Quality Control/Grading Plan was prepared under my direction and supervision and is correct to the best of my knowledge and belief. If such work is performed in accordance with the Grading and Erosion Control Plan, the work will not become a hazard to life and limb, endanger property, or adversely affect the safety, use, or stability of a public way, drainage channel, or other property.

For and on Behalf of Kiowa Engineering Corporation — Date

Matthew Erichsen, P.E.
Printed Name

DEVELOPER'S/OWNER'S STATEMENT

The Owner will comply with the requirements of the Erosion and Stormwater Quality Control Plan including temporary BMP inspection requirements and final stabilization requirements. I acknowledge the responsibility to determine whether the construction activities on these plans require Colorado Discharge Permit System (CDPS) permitting for Stormwater discharges associated with Construction Activity.

Developer/Owner Signature: _____ Date: _____

Name of Developer/Owner: _____

Title: _____
Phone: _____ Email: _____
Address: _____ Fax: _____

TOWN OF MONUMENT ACCEPTANCE:

These plans have been reviewed by the Town of Monument staff and found to be in general compliance with Town of Monument and Triview standards. It is the responsibility of the site engineer and general contractor to ensure construction is in compliance with these plans and in conformance with the Town of Monument Design Criteria & Construction Specifications, Regulations, Triview Metropolitan District Design Criteria Construction Specifications, and the City of Colorado Springs Drainage Criteria manuals Volumes 1 and 2 shall prevail in any instances where these plans differ with those requirements. The Development Services department shall be notified if any changes need to be made.

Town of Monument — Date

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Littleton, Colorado 80123
(303) 692-0369

ALPINE DEALERSHIP AT FALCON COMMERCE CENTER

FINAL PUD GESC PLAN

W. BAPTIST ROAD

PROJECT INFO
DATE: 05/01/2024
PROJECT MGR: MWE
PREPARED BY: JM

STAMP

ISSUE INFO
ENTITLEMENT

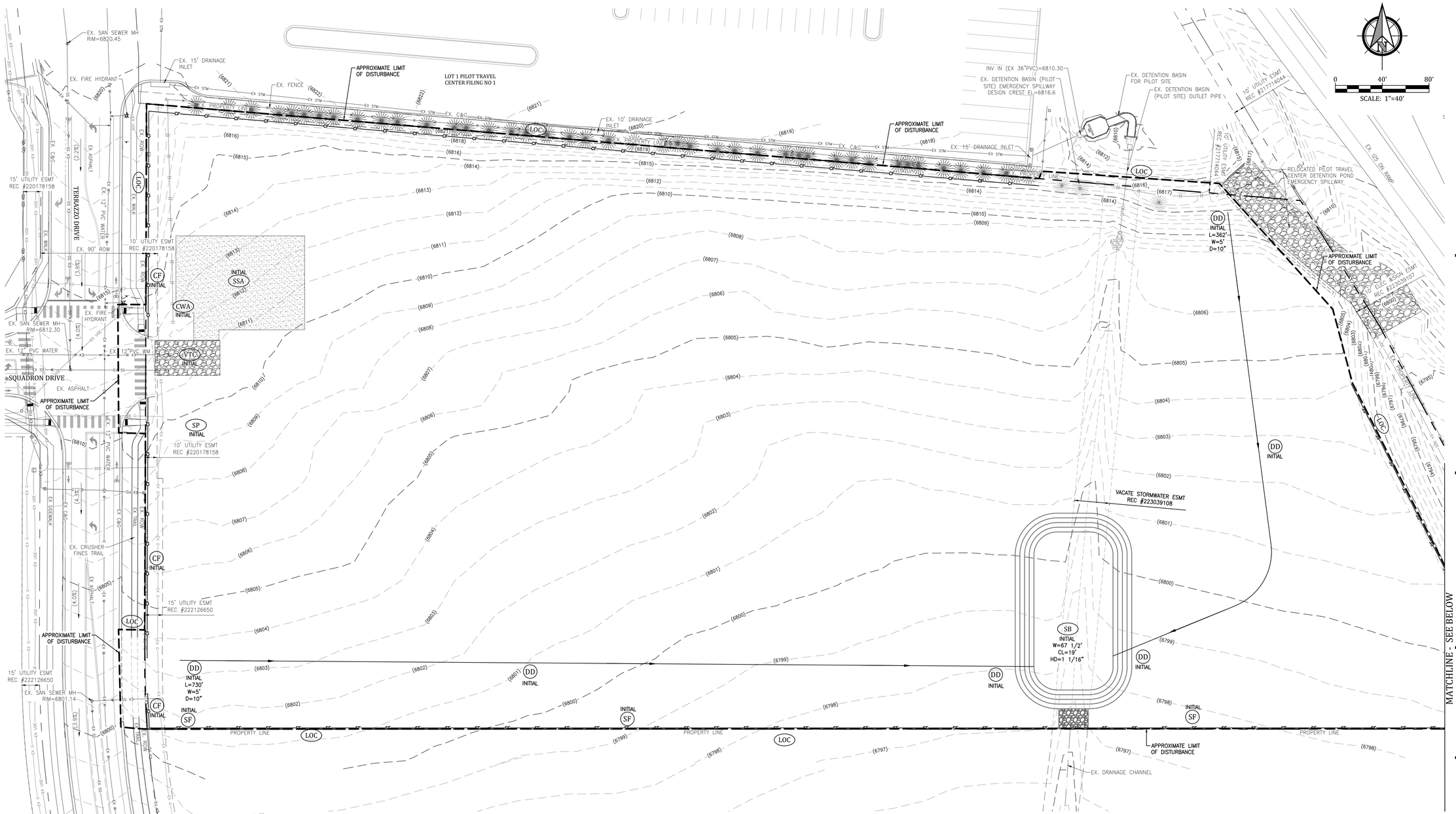
ISSUE / REVISION

DATE:	BY:	DESCRIPTION:

SHEET TITLE
COVER SHEET-EROSION AND GRADING CONTROL PLAN

SHEET NUMBER
1 OF 6

PLAN FILE #
CPC #



EROSION CONTROL NOTES:

1. REFER TO THE COVER SHEET FOR EROSION CONTROL NOTES AND LEGEND.
2. THE TIMING FOR THE INSTALLATION OF THE CONTROL MEASURE IS INDICATED ON THE PLAN. THE PHASES ARE AS FOLLOWS: INITIAL (PRIOR TO EARTHMOVING ACTIVITIES OCCURRING), INTERIM (AFTER INSTALLATION OF THE PROPOSED FACILITY IT WILL BE INSTALLED ALONG OR DOWNSTREAM OF) AND FINAL (AT THE END OF CONSTRUCTION).
3. CONTROL MEASURES INSTALLED IN INITIAL OR INTERIM PHASE, SHALL BE LEFT IN PLACE UNTIL AREA TRIBUTARY TO CONTROL MEASURE IS STABILIZED.
4. CONTRACTOR TO REDLINE PLAN IF CONTROL MEASURE LOCATIONS ARE DIFFERENT THAN SHOWN ON THE PLAN. TOWN INSPECTOR SHALL APPROVE REDLINES.
5. REFER TO LANDSCAPING PLANS FOR FINAL TREATMENT OF LANDSCAPED AREAS.

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DATE:	BY:	DESCRIPTION:

ISSUE / REVISION

SHEET TITLE

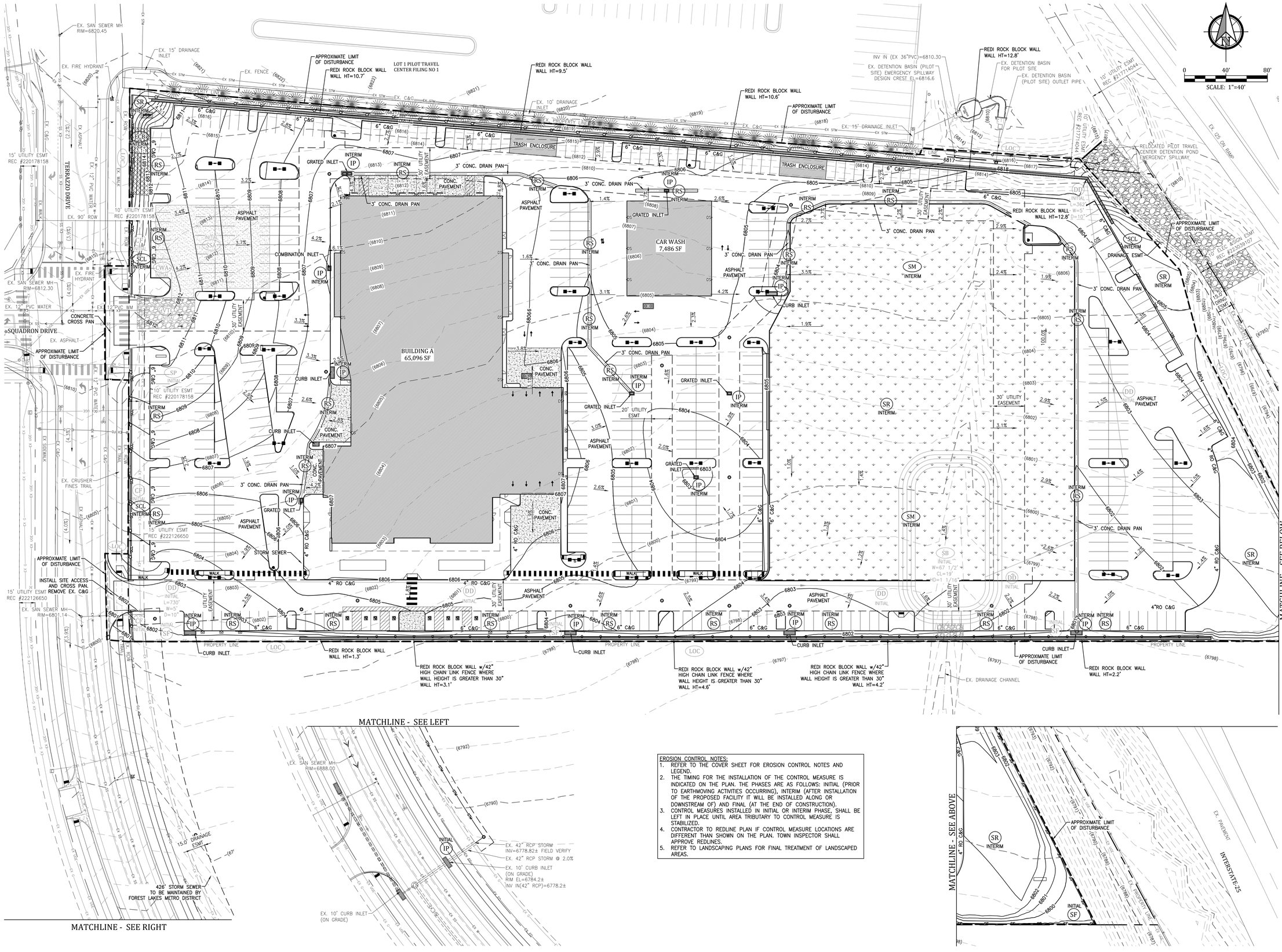
GRADING AND EROSION CONTROL PLAN-INITIAL

SHEET NUMBER

2 OF 6

PLAN FILE #

CPC #



EROSION CONTROL NOTES:

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FINAL PUD GESC PLAN

W. BAPTIST ROAD

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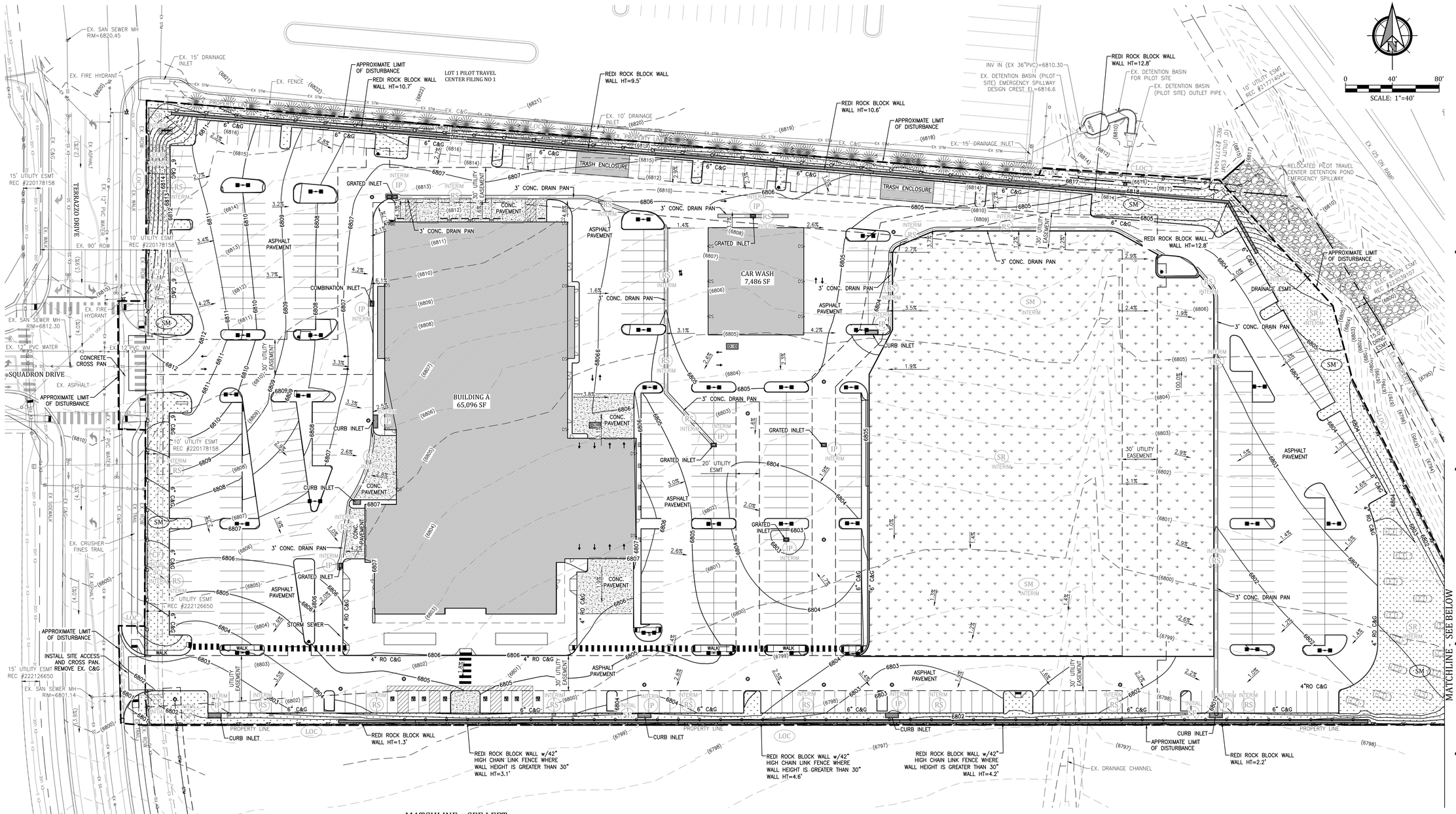
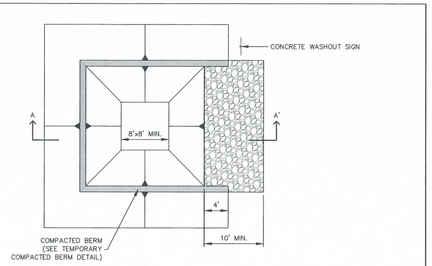
DATE: BY: DESCRIPTION:

SHEET TITLE
GRADING AND EROSION CONTROL PLAN-INTERIM

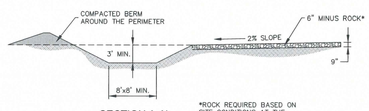
SHEET NUMBER
3 OF 6

PLAN FILE #
CPC #


EX. SAN SEWER MH RIM=6820.45
EX. 15' DRAINAGE INLET
EX. FIRE HYDRANT
EX. FENCE
PROPERTY LINE
APPROXIMATE LIMIT OF DISTURBANCE
REDI ROCK BLOCK WALL WALL HT=10.7'
LOT 1 PILOT TRAVEL CENTER FILING NO 1
REDI ROCK BLOCK WALL WALL HT=9.5'
EX. 10' DRAINAGE INLET
REDI ROCK BLOCK WALL WALL HT=10.6'
INV IN (EX 36"PVC)=6810.30
EX. DETENTION BASIN (PILOT SITE) EMERGENCY SPILLWAY DESIGN CREST EL=6816.6
REDI ROCK BLOCK WALL WALL HT=12.8'
EX. DETENTION BASIN FOR PILOT SITE
EX. DETENTION BASIN (PILOT SITE) OUTLET PIPE
10' UTILITY ESMT REC #217114044
RELOCATED PILOT TRAVEL CENTER DETENTION POND EMERGENCY SPILLWAY
EX. I25 ON RAMP
N
0 40' 80'
SCALE: 1"=40'
15' UTILITY ESMT REC #220178158
TERRAZZO DRIVE
EX. 90' ROW
EX. 12" PVC WATER
EX. SAN SEWER MH RIM=6812.30
EX. FIRE HYDRANT
SQUADRON DRIVE
EX. ASPHALT
CONCRETE CROSS PAN
GRATED INLET
3' CONC. DRAIN PAN
CONC. PAVEMENT
ASPHALT PAVEMENT
COMBINATION INLET
CURB INLET
BUILDING A 65,096 SF
CAR WASH 7,486 SF
TRASH ENCLOSURE
20' UTILITY ESMT
30' UTILITY EASEMENT
10' UTILITY ESMT REC #220178158
15' UTILITY ESMT REC #222126650
EX. CRUSHER FINES TRAIL
STORM SEWER
4" RO C&G
6" C&G
WALK
APPROXIMATE LIMIT OF DISTURBANCE
INSTALL SITE ACCESS AND CROSS PAN. REMOVE EX. C&G
EX. SAN SEWER MH RIM=6801.14
DRAINAGE ESMT
15.0' DRAINAGE ESMT
426' STORM SEWER TO BE MAINTAINED BY FOREST LAKES METRO DISTRICT
EX. 12" PVC WM
EX. 8" SEWER
EX. 6" WATER
EX. 4" GAS
EX. 12" GAS
EX. 8" GAS
EX. 6" GAS



CONCRETE WASHOUT AREA PLAN



SECTION A-A'

*ROCK REQUIRED BASED ON SITE CONDITIONS AT THE DISCRETION OF THE GEC INSPECTOR

CWA

STORMWATER ENTERPRISE	CONCRETE WASHOUT AREA		
APPROVED: CMENT MANAGER			
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-CWA-1	

INSTALLATION NOTES

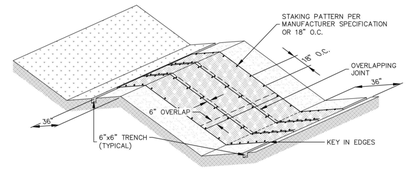
1. SEE PLAN VIEW FOR:
   –LOCATION OF CONCRETE WASHOUT AREA
2. LOCATE AT LEAST 50' AWAY FROM STATE WATERS MEASURED HORIZONTALLY.
3. AN IMPERMEABLE LINER (16 MIL. MINIMUM THICKNESS) IS REQUIRED IF CONCRETE WASH AREA IS LOCATED WITHIN 400' OF STATE WATERS OR 1000' OF WELLS OR DRINKING WATER SOURCES.
4. DO NOT LOCATE IN AREAS WHERE SHALLOW GROUNDWATER MAY BE PRESENT.
5. THE CONCRETE WASH AREA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
6. CONCRETE WASH AREA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'.
7. BERM SURROUNDING SIDES AND BACK OF CONCRETE WASH AREA SHALL HAVE A MINIMUM HEIGHT OF 2 FEET.
8. CONCRETE WASH AREA ENTRANCE SHALL BE SLOPED 2% TOWARDS THE CONCRETE WASH AREA.
9. SIGNS SHALL BE PLACED AT THE CONCRETE WASH AREA.
10. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

MAINTENANCE NOTES

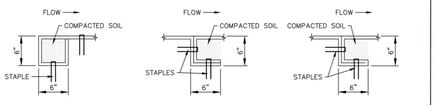
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. THE CONCRETE WASH AREA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN THE PIT SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF ⅓ THE HEIGHT OF THE CONCRETE WASH AREA.
3. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE, AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER–TIGHT CONTAINER AND DISPOSED OF PROPERLY.
4. THE CONCRETE WASH AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
5. PERMANENTLY STABILIZE AREA AFTER CONCRETE WASH AREA IS REMOVED.

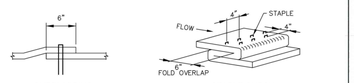
CWA

STORMWATER ENTERPRISE	CONCRETE WASHOUT AREA		
APPROVED: CMENT MANAGER			
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-CWA-2	



EROSION CONTROL BLANKET





ECB

STORMWATER ENTERPRISE	EROSION CONTROL BLANKET		
APPROVED: CMENT MANAGER			
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-ECB-1	

INSTALLATION NOTES

1. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE REQUIRED FOR EROSION CONTROL BLANKETS. TRM PRODUCTS MAY ME USED WHERE APPROPRIATE AS DESIGNATED BY THE ENGINEER.
2. IN AREAS WHERE EROSION CONTROL BLANKETS ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO EROSION CONTROL BLANKET INSTALLATION, AND THE EROSION CONTROL BLANKET SHALL BE IN FULL CONTACT WITH THE SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
3. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
4. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL EROSION CONTROL BLANKETS.
5. INTERMEDIATE CHECK SLOT OR STAPLE CHECK SHALL BE INSTALLED EVERY 15' DOWN SLOPES. IN DRAINAGEWAYS, INSTALL CHECK SLOTS EVERY 25' PERPENDICULAR TO FLOW DIRECTION.
6. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER FOR EROSION CONTROL BLANKETS ON SLOPES.
7. MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKETS SHALL CONFORM TO TABLE ECB–1.
8. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKETS SHALL BE RESEEDED AND MULCHED.
9. STRAW EROSION CONTROL BLANKETS SHALL NOT BE USED WITHIN STREAMS AND DRAINAGE CHANNELS.
10. COMPACT ALL TRENCHES.

MAINTENANCE NOTES

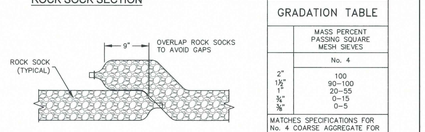
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. EROSION CONTROL BLANKETS SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE. TRM MUST BE REMOVED AT THE DISCRETION OF THE GEC INSPECTOR.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW GEOTEXTILE THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

TABLE ECB–1, EROSION CONTROL BLANKET MATERIAL SPECIFICATIONS

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING
STRAW	–	100%	–	DOUBLE/ NATURAL
STRAW–COCONUT	30% MIN.	70% MAX.	–	DOUBLE/ NATURAL
COCONUT	100%	–	–	DOUBLE/ NATURAL
EXCELSIOR	–	–	100%	DOUBLE/ NATURAL

ECB

STORMWATER ENTERPRISE	EROSION CONTROL BLANKET		
APPROVED: CMENT MANAGER			
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-ECB-2	



ROCK SOCK SECTION

ROCK SOCK PLAN

ROCK SOCK OVERLAP

GRADATION TABLE

	MASS PERCENT PASSING SQUARE MESH SIEVES
	No. 4
2"	100
1½"	90–100
1"	20–55
¾"	0–15
⅜"	0–5

MATCHES SPECIFICATIONS FOR No. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M–43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES

INSTALLATION NOTES

1. CRUSHED ROCK SHALL BE BETWEEN MAX. 1½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET AND MIN. ¾" CRUSHED ROCK.
2. WIRE MESH SHALL HAVE OPENINGS SMALLER THAN THE SMALLEST SIZE ROCK.
3. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

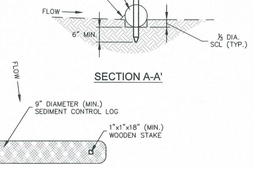
MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED OR DAMAGED BEYOND REPAIR.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN THE DEPTH REACHES ½ OF THE HEIGHT OF THE ROCK SOCK.
4. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL DISTURBED AREA IS STABILIZED.
5. PERMANENTLY STABILIZE AREA AFTER ROCK SOCKS HAVE BEEN REMOVED.

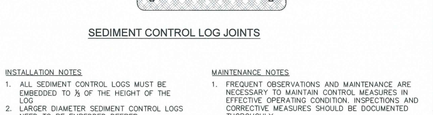
RS

STORMWATER ENTERPRISE	ROCK SOCK		
APPROVED: CMENT MANAGER			
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-RS	

SEDIMENT CONTROL LOG



SECTION A-A'



SEDIMENT CONTROL LOG JOINTS

INSTALLATION NOTES

1. ALL SEDIMENT CONTROL LOGS MUST BE EMBEDDED TO ⅓ OF THE HEIGHT OF THE LOG
2. LARGER DIAMETER SEDIMENT CONTROL LOGS NEED TO BE EMBEDDED DEEPER.
3. PLACE SEDIMENT CONTROL LOG AGAINST SIDEWALK OR BACK OF CURB WHEN ADJACENT TO THESE FEATURES.
4. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BR FREE FROM ANY NOXIOUS WEED SEEDS OF DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
5. IF USING AS SLOPE PROTECTION, INSTALL SEDIMENT CONTROL LOGS ALONG THE CONTOUR.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
3. PERMANENTLY STABILIZE AREA AFTER SEDIMENT CONTROL LOGS HAVE BEEN REMOVED.

SCL

STORMWATER ENTERPRISE	SEDIMENT CONTROL LOGS		
APPROVED: CMENT MANAGER			
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-SCL	

SILT FENCE

J-HOOK INSTALLATION

SECTION A-A'

INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED ON A FLAT SURFACE 2'–5' AWAY FROM TOE OF THE SLOPE TO ALLOW FOR PONDING AND DEPOSITION.
2. COMPACT THE TRENCH USING A JUMPING JACK OR WHEEL ROLLING TO THE POINT THAT THE FENCE RESISTS BEING PULLED OUT OF THE GROUND BY HAND.
3. SILT FENCE SHALL BE TAUT WITH NO SAGS AFTER IT HAS BEEN ANCHORED.
4. FABRIC SHALL BE ATTACHED TO POSTS WITH 1" HEAVY DUTY STAPLES OR 1" NAILS. THESE SHOULD BE PLACED VERTICALLY DOWN THE POST, 3" APART.
5. THE PREFERRED INSTALLATION METHOD USES A TRENCHER OR SLIT FENCE INSTALLATION DEVICE.
6. INSTALL SILT FENCE ALONG THE CONTOUR OF THE SLOPES OR IN A MANNER TO AVOID CREATING CONCENTRATED FLOW (SUCH AS A "J–HOOK" INSTALLATION).

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN HEIGHT OF THE SILT FENCE.
3. SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER SILT FENCE IS REMOVED.

SF

STORMWATER ENTERPRISE	SILT FENCE		
APPROVED: CMENT MANAGER			
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-SF	

SURFACE ROUGHENING

INSTALLATION NOTES

1. SURFACE ROUGHENING MAY BE USED IN AREAS FLATTER THAN 3:1. INSTALL FURROWS ALONG CONTOUR TO INTERCEPT SHEET FLOW.
2. SURFACE ROUGHENING MAY BE ACCOMPLISHED BY FURROWING, SCARIFYING, RIPPING OR DISKING THE SOIL.
3. FURROWS MUST BE A MINIMUM OF 4" IN DEPTH.
4. SURFACE ROUGHENING SHALL NOT BE USED ON EXTREMELY SANDY OR ROCKY SOILS.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SURFACE ROUGHENED.

SR

STORMWATER ENTERPRISE	SURFACE ROUGHENING		
APPROVED: CMENT MANAGER			
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-SR	

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GRADING AND EROSION CONTROL PLAN-DETAIL

SHEET NUMBER

5 OF 6

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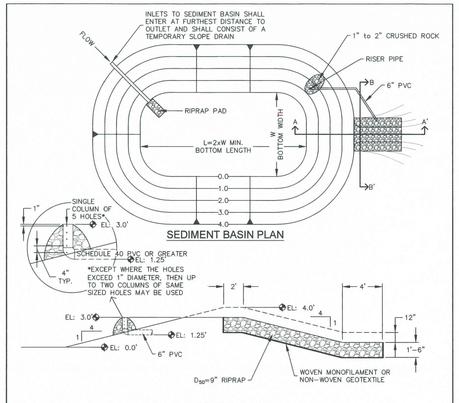


TSB

STORMWATER ENTERPRISE	TEMPORARY SEDIMENT BASIN		
APPROVED: CMENT MANAGER			
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. SCD-TSB-1	

TABLE SB-1, SIZING INFORMATION FOR STANDARD SEDIMENT BASIN

UPSTREAM DRAINAGE AREA (ROUNDED TO NEAREST ACRE), (AC)	BASIN BOTTOM WIDTH (W), (FT)	SPILLWAY CREST LENGTH (CL), (FT)	HOLE DIAMETER (HD), (IN)
1	12½"	2	9/32
2	21	3	11/64
3	28	5	7/32
4	33½	6	9/64
5	38½	8	25/64
6	43	9	29/64
7	47¼	11	29/64
8	51	12	23/32
9	55	13	5/8
10	58¾	15	15/16
11	61	16	29/32
12	64	18	1"
13	67½	19	13/16
14	70½	21	1⅛
15	73¼	22	1 3/16

INSTALLATION NOTES

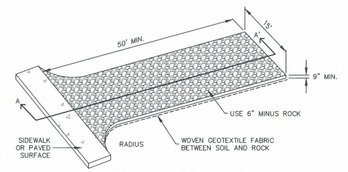
1. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
2. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES, AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE No. 200 SIEVE.
3. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-698.
4. PIPE SCHEDULE 40 OR GREATER SHALL BE USED.
5. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES. DESIGN CALCULATIONS MUST BE APPROVED PRIOR TO IMPLEMENTATION.

MAINTENANCE NOTES

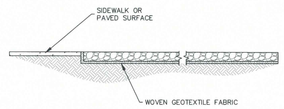
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN CONTROL MEASURE EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E. TWO FEET BELOW SPILLWAY CREST).
3. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER SEDIMENT BASIN REMOVAL.

TSB

STORMWATER ENTERPRISE	TEMPORARY SEDIMENT BASIN		
APPROVED: CMENT MANAGER			
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. SCD-TSB-2	



AGGREGATE VEHICLE TRACKING CONTROL



SECTION A-A'

INSTALLATION NOTES

1. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHOULD BE LOCATED AT ALL POINTS WHERE VEHICLES EXIT THE CONSTRUCTION SITE TO ADJACENT ROADWAY.
2. STABILIZED CONSTRUCTION ENTRANCE/EXITS SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. RADIUS MUST BE ADEQUATE FOR INTENDED CONSTRUCTION VEHICLE TURNING.
4. ROCK SHOULD CONSIST OF 6" MINUS ROCK.
5. INSTALL CONSTRUCTION FENCE ON BOTH SIDES OF VEHICLE TRACKING CONTROL PAD WHEN NEEDED OR REQUIRED BY INSPECTOR.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. SEDIMENT TRACKED ONTO THE ADJACENT ROAD SHALL BE REMOVED DAILY, BY SWEEPING OR SHOVELING, AND NEVER WASHED DOWN STORM DRAINS.
3. ROUGHEN, REPLACE AND/OR ADD ROCK AS NEEDED TO MAINTAIN CONSISTENT DEPTH AND TO PREVENT SEDIMENT TRACKING ONTO ADJACENT STREET.
4. PERMANENTLY STABILIZE AREA AFTER VEHICLE TRACKING CONTROL IS REMOVED.

VTC

STORMWATER ENTERPRISE	VEHICLE TRACKING CONTROL		
APPROVED: CMENT MANAGER			
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. SCD-VTC	

PLANNER / LANDSCAPE ARCHITECT

NES

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903

Tel. 719.471.0073
Fax 719.471.0267

www.nescolorado.com

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IN ASSOCIATION WITH

Kiowa Engineering Corporation
5951 Middlefield Road, Suite 200
Littleton, Colorado 80123
(303) 692-0369

ALPINE DEALERSHIP AT FALCON COMMERCE CENTER

FINAL PUD GESC PLAN

W. BAPTIST ROAD

PROJECT INFO

DATE: 05/01/2024
PROJECT MGR: MWE
PREPARED BY: JM

STAMP

ENTITLEMENT

ISSUE INFO

DATE:	BY:	DESCRIPTION:

ISSUE / REVISION

GRADING AND EROSION CONTROL PLAN-DETAIL

SHEET TITLE

SHEET NUMBER

6 OF 6

PLAN FILE #

CPC #

Date: February 24, 2026
To: Town of Monument Planning Department
Attn: Jenna Gorney, Senior Planner
Rey Medina, Planner I
From: Taylor Goertz, PE, Town Engineer
RE: Alpine Dealership, Final PUD

The referenced project has been reviewed for compliance based on the Applicant's submittal of documents as required for a Final PUD in accordance with Title 18 of the Town of Monument Land Development Code (LDC). Documents reviewed as part of the project include:

Project Submittal History			
Description	**Prepared by**	**Dated**	**Reviewed/Approved by:**
Final PUD Plan	NES	3-1-2024	Jacobs/IMEG
Updated Traffic Generation Analysis	SM Rocha	7/21/2025	Jacobs
Project Narrative	NES	9/2025	Jacobs/IMEG
Drainage Report*	Kiowa Engineering	12/22/2025	Jacobs/IMEG
Geohazard Report	CTL Thompson	2/26/2020	Jacobs/IMEG
Final Plat**	Edward James Surveying	9/26/25	IMEG
Geotechnical Report	N/A	N/A	To be submitted with Construction Drawings

* Seal and signature of a Colorado Licensed Professional Engineer is required, resubmit with Construction Drawings

**Seal and signature of a Colorado Licensed Surveyor is required, resubmit with Construction Drawings

RECOMMENDATION:

Based on the submitted information approval of the Final PUD and associated documents is recommended, with exceptions as noted. This approval recommendation is based on the review of the Final PUD submittal package, which did not include final construction drawings or a geotechnical report. The Applicant is advised that more detailed and specific comments will be provided during the review of the construction document submittal to ensure compliance with all applicable standards and design criteria prior to commencement of construction.

If there are any questions regarding any of the comments provided, or if further clarification is desired, please contact the Town's Planning Department to schedule a meeting.

Sincerely,

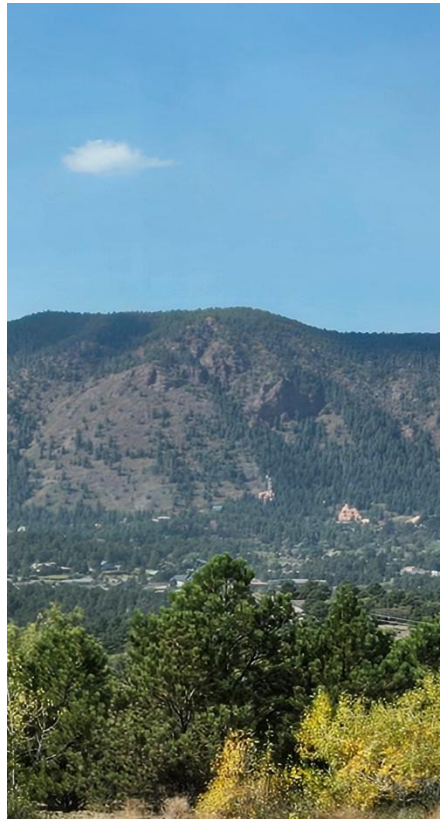
Taylor C. Goertz, P.E.
Town Engineer, Town of Monument, CO
Cc: Dan Ungerlieder, Planning Department Director

Alpine Dealership at Falcon Commerce Center Phase 2

Final Plat & Final PUD Plan

Staff Presentation

Planning Commission Meeting – 3/11/2026



INTRODUCTION

The Applicant, Wesane, is seeking approval of the Final Plat and Final Planned Unit Development (FPUD) for Alpine Buick Dealership at Falcon Commerce Center. The 12.5 acres subject area is zoned Planned Unit Development (PUD) and is located south of the Pilot gas station near the southeast corner of Terrazzo Drive and West Baptist Road in Phase 2 Lot 2 of the Falcon Commence Center planned development.

The proposed development is consistent with the permitted uses outlined in the approved Preliminary PUD for the property, which allows commercial development of automotive sales, service, and repair.

PUBLIC HEARING NOTICE

Falcon Commerce Center
Final PUD Plan
File Number: 2024-008-FPUD

AFFIDAVIT – POSTED NOTICE
Final PUD Plan

I, Brooks Swenson, (print name) as the ☐ owner ☑ authorized agent, (check one) for the property located at property schedule number 7135000035, in the Town of Monument, El Paso County, Colorado do hereby attest that I installed, ONE sign along Old Denver Road, facing out to traffic, in compliance with Town Code Section 18.01.260-Public notice requirements., E. Posted Notice. On 2/24 (month/day) ,2026, which is at least 15 days prior to the public hearing, scheduled for Planning Commission on March 11, 2026, and Town Council on April 6, 2026, for the proposed development application: Alpine Buick, Final PUD and Site Plan.

Signed: J. Brooks Swenson

Print Name: J. Brooks Swenson

Owner/Authorized Agent *(circle one)*

State of, COLORADO

County of: EL PASO

Sworn and subscribed to before me, a Notary Public, by J. Brooks Swenson, this 24th day of 2026, who is either personally known to me or who has produced — as identification.

My Commission Expires: September 15, 2026

Notary Public for the State of Colorado; County of El Paso

Print Name: Gwendolyn D. Egbert

GWENDOLYN DOWD EGBERT
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19954016648
MY COMMISSION EXPIRES SEPTEMBER 15, 2026

Falcon Commerce Center
Final PUD Plan
File Number: 2024-008-FPUD

AFFIDAVIT – MAILING
Final PUD Plan

I, Brooks Swenson, (print name) as the ☐ owner ☒ authorized agent, (check one) for the property located at property schedule number 7135000035, in the Town of Monument, El Paso County, Colorado do hereby attest that I reviewed the records of the El Paso County Assessor on the day of 2/24/2026, 2026, and have sent letters via first class U.S. mail to the owners of record for the properties within 500-feet of the perimeter property line of the proposed Final PUD Plan for the Buick/GMC Alpine auto dealership, giving notice of forthcoming public hearings for Planning Commission on **March 11, 2026** and Town Council on **April 6, 2026** in compliance with Town Code Section 18.01.260-Public notice requirements., F. Mailed notice. on 2/24/, 2026, which is at least 15 days prior to the date of the hearings.

Signed: J. Brooks Swenson

Print Name: J. Brooks Swenson

Owner/Authorized Agent *(circle one)*

State of, COLORADO

County of: EL PASO

Sworn and subscribed to before me, a Notary Public, by J. Brooks Swenson, this 24th day of 2026, who is either personally known to me or who has produced — as identification.

My Commission Expires: September 15, 2026

Notary Public for the State of Colorado; County of El Paso

Print Name: Gwendolyn D. Egbert

GWENDOLYN DOWD EGBERT
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19954016648
MY COMMISSION EXPIRES SEPTEMBER 15, 2026

INCLUDED ATTACHMENTS WITH STAFF REPORT

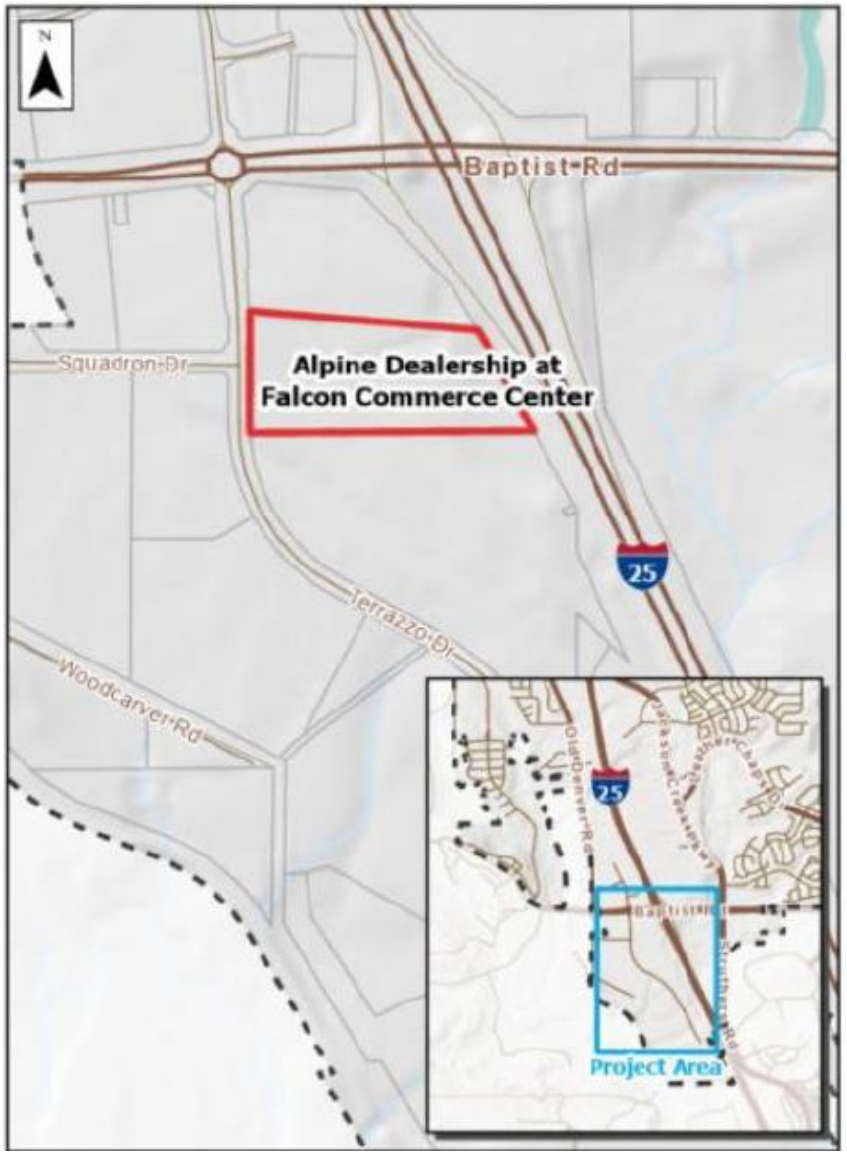
1. Aerial, Location Map and Future Land Use Map.
2. Public Hearing Notice.
3. Falcon Commerce Center Preliminary PD Site Plan Phase 1.
4. Falcon Commerce Center Preliminary PUD Plan for Phase 2.
5. Alpine Dealership at Falcon Commerce Center Final Plat.
6. Alpine Dealership at Falcon Commerce Center Final PUD Plan
7. Applicant Project Narrative
8. Traffic Generation Analysis
9. Drainage Report
10. Geohazard Report
11. Grading and Erosion Control Plan
12. Town Engineer Recommendation of Approval

* Link to original pdf document provided in Staff Report

APPLICATION/REQUEST

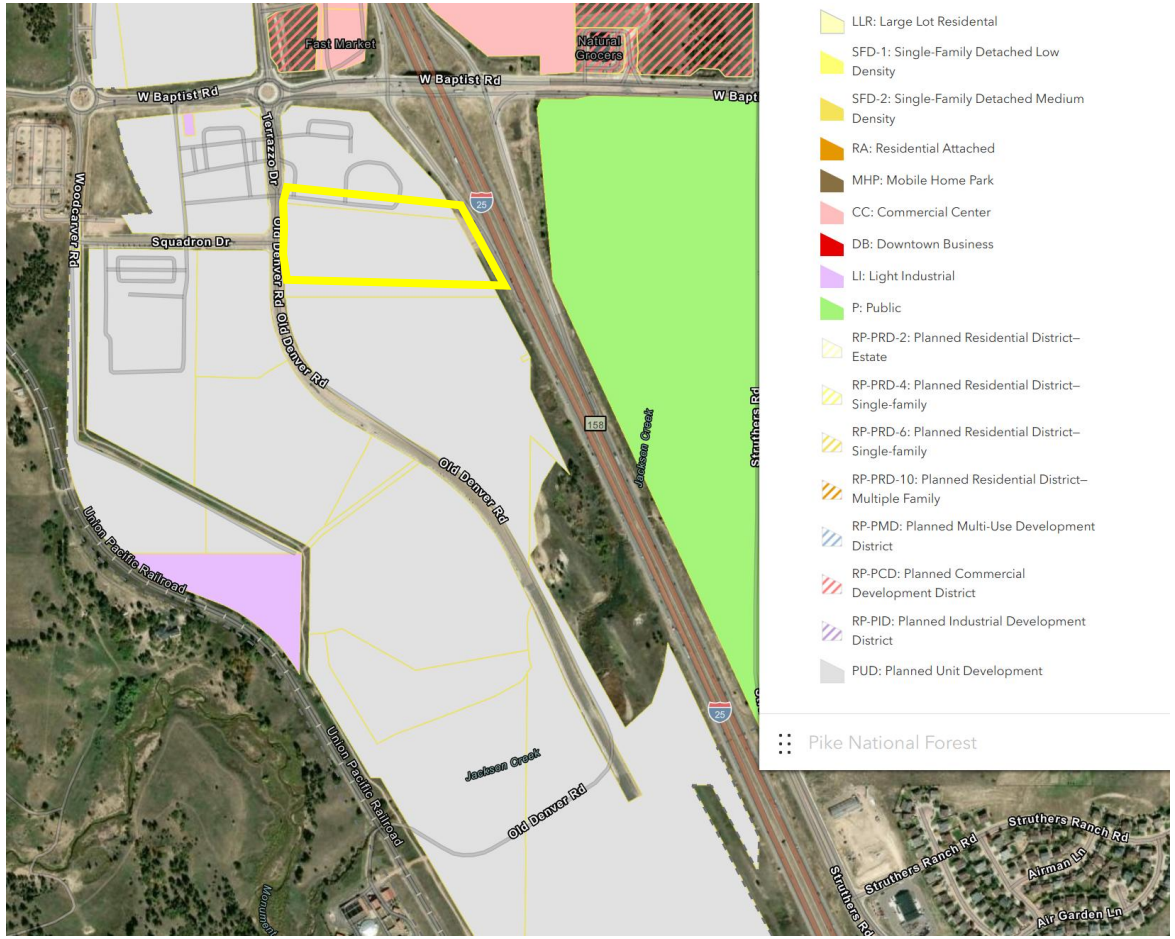
- **Applicant** - Wesane
- **Representative –** N.E.S.
- **Property Owner -** Forest Lakes LLC
- **Location.**
  Terrazzo Drive east of Squadron Drive, Falcon Commerce Center Phase 2
- **Request -** Approval of the
  - Final Plat
  - Final Planned Unit Development

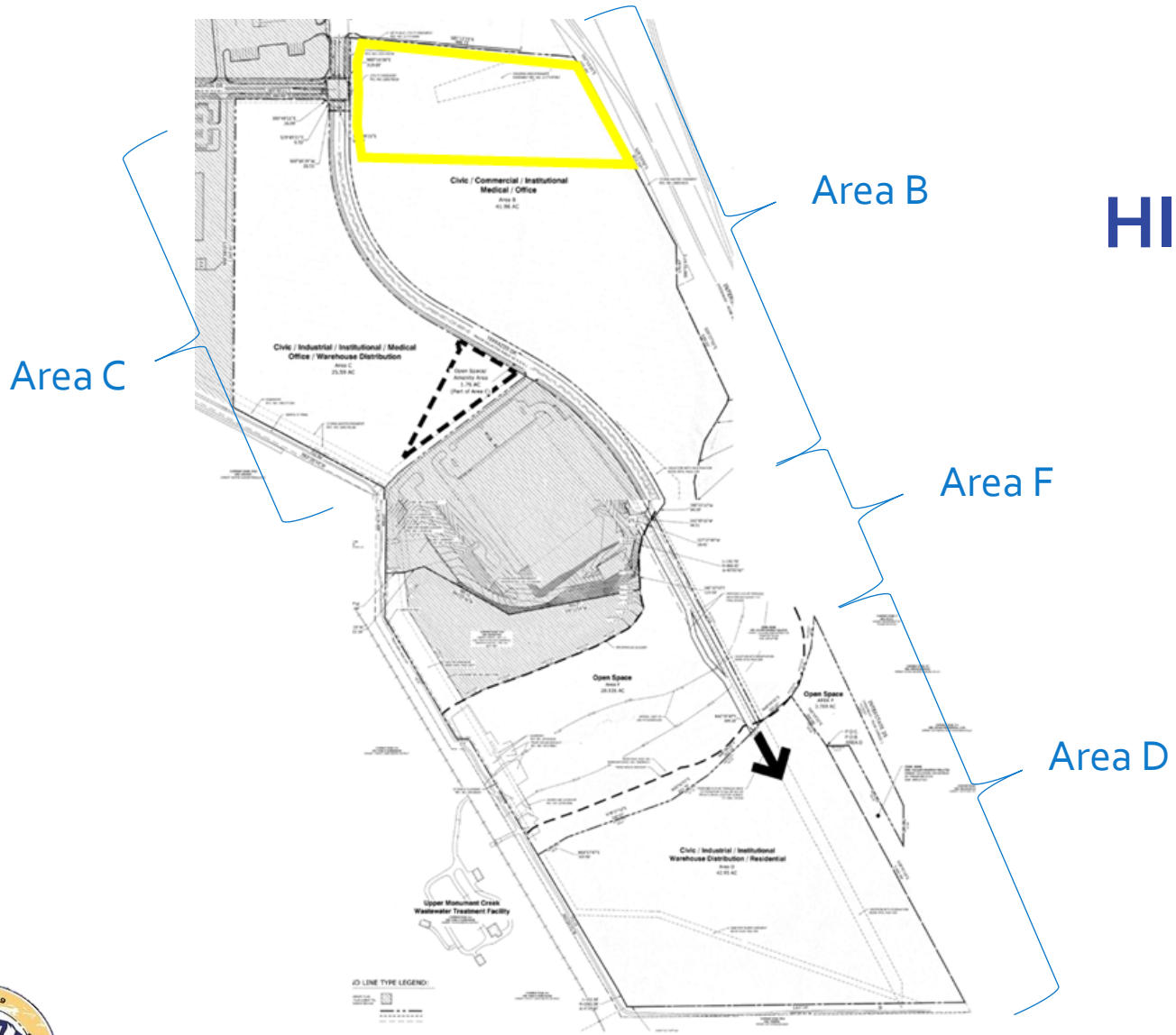
LOCATION MAP



SURROUNDING ZONING AND LAND USE

- **Subject Property:**
  Property Schedule No. 7135000038
- **North** – Falcon Commerce Center Final PUD – Phase 1 – Pilot Travel Center
- **South** – Falcon Commerce Center Preliminary PUD - Phase 2, Area B
- **East** – Interstate 25
- **West** – Falcon Commerce Center Preliminary PUD, Phase 2, Area C

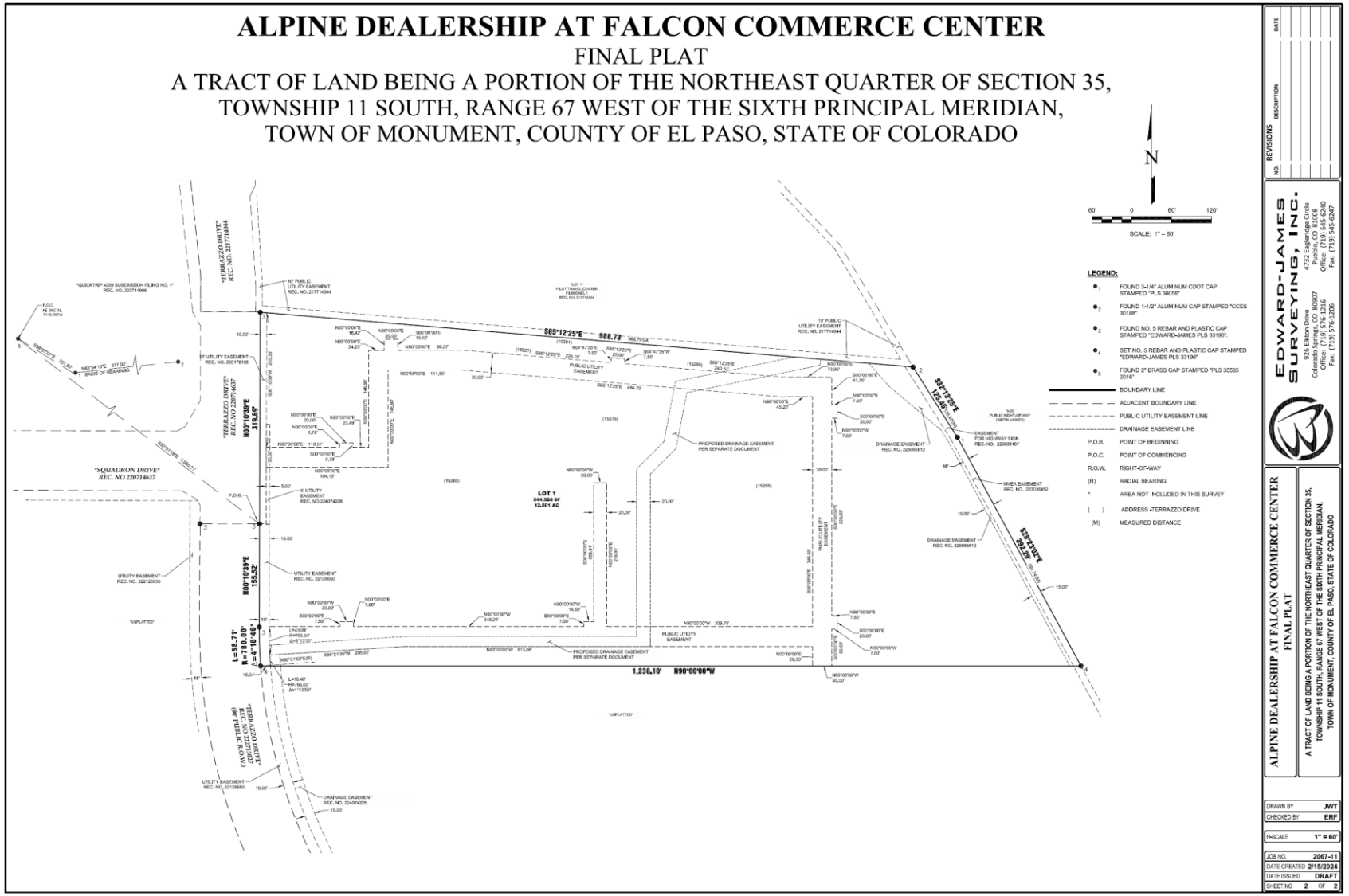


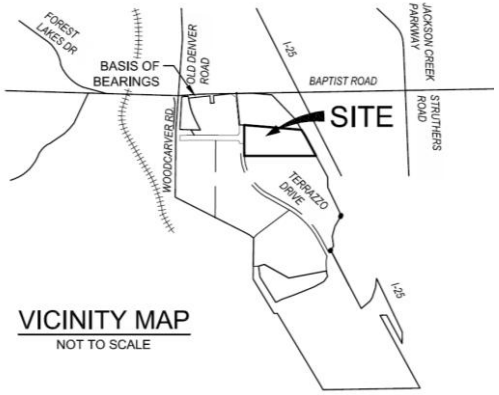


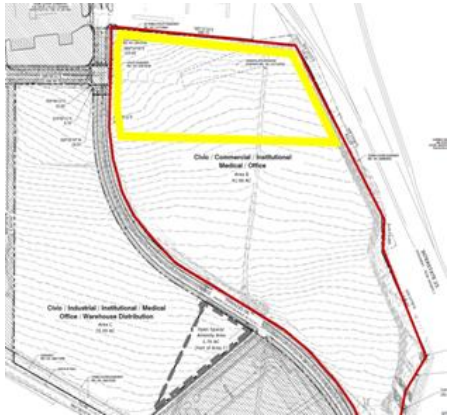
HISTORY AND BACKGROUND

Falcon Commerce Center Phase 2

FINAL PLAT

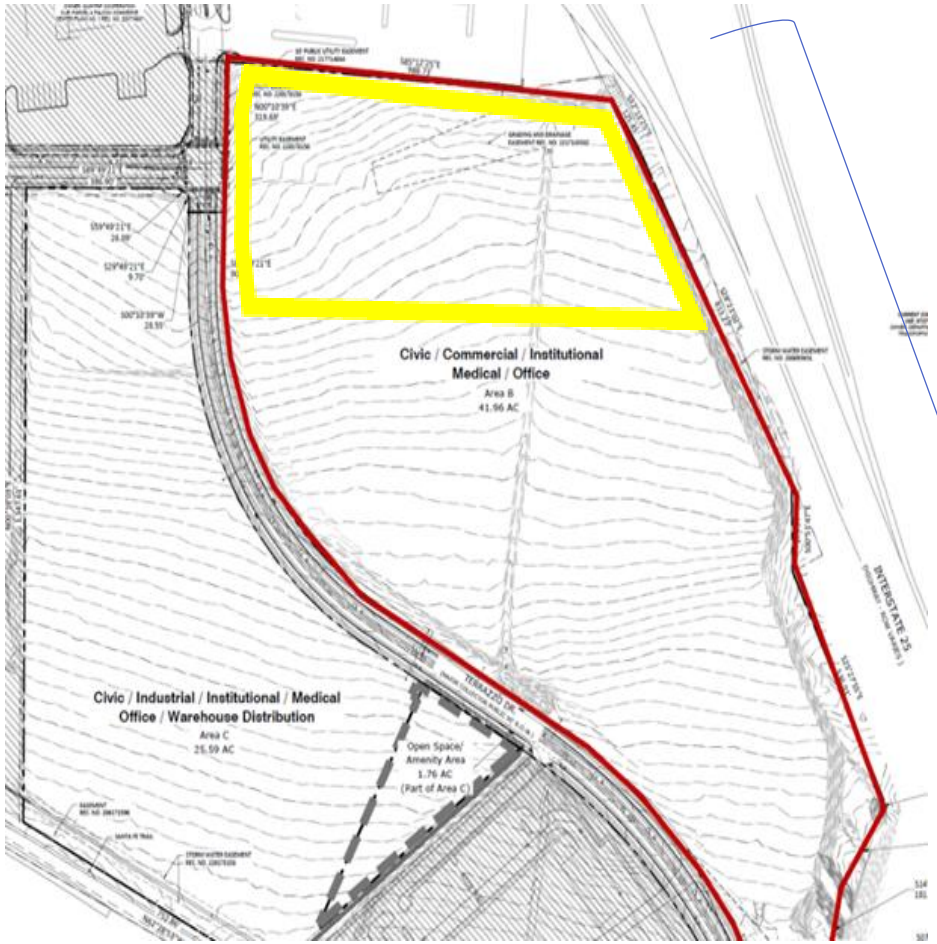

ALPINE DEALERSHIP AT FALCON COMMERCE CENTER
FINAL PLAT
A TRACT OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 35,
TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO
N
SCALE: 1" = 60'
LEGEND:
BOUNDARY LINE
ADJACENT BOUNDARY LINE
PUBLIC UTILITY EASEMENT LINE
DRAINAGE EASEMENT LINE
P.O.B. POINT OF BEGINNING
P.O.C. POINT OF COMMENCING
R.O.W. RIGHT-OF-WAY
(R) RADIAL BEARING
AREA NOT INCLUDED IN THIS SURVEY
( ) ADDRESS -TERRAZZO DRIVE
(M) MEASURED DISTANCE
S85°12'25"E 988.73'
N90°00'00"W 1,238.10'
LOT 1
544,528 SF
12.501 AC
"SQUADRON DRIVE"
REC. NO 220714637
"TERRAZZO DRIVE"
REC. NO 220714637
"TERRAZZO DRIVE"
REC. NO. 217714044
EDWARD-JAMES SURVEYING, INC.
926 Elkton Drive
Colorado Springs, CO 80907
Office: (719) 545-6240
Fax: (719) 545-6247
4732 Eagleridge Circle
Pueblo, CO 81008
Office: (719) 543-2516
Fax: (719) 576-1206
ALPINE DEALERSHIP AT FALCON COMMERCE CENTER
FINAL PLAT
A TRACT OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO
DRAWN BY JWT
CHECKED BY ERF
H-SCALE 1" = 60'
JOB NO. 2067-11
DATE CREATED 2/15/2024
DATE ISSUED DRAFT
SHEET NO 2 OF 2


FOREST LAKES DR
BASIS OF BEARINGS
OLD DENVER ROAD
I-25
BAPTIST ROAD
JACKSON CREEK PARKWAY
STRUTHERS ROAD
SITE
WOODCARVER RD
TERRAZZO DRIVE
I-25
VICINITY MAP
NOT TO SCALE


Civic / Commercial / Institutional
Medical / Office
Civic / Industrial / Institutional / Medical
Office / Warehouse Distribution

Project Details

FINAL PUD PLAN



Area B

Area B – 42 acres

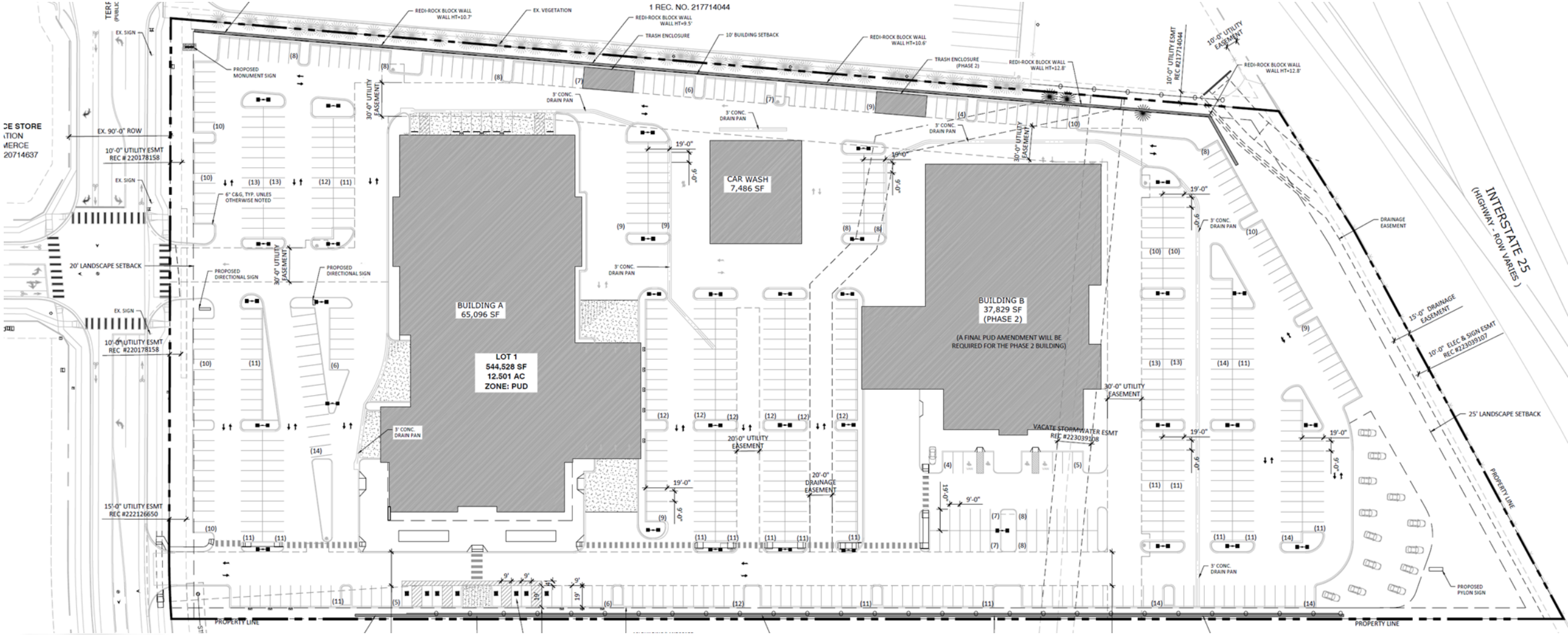
Final PUD Plan 12.5 acres of Area B

Preliminary Plan permitted uses:
Civic/Commercial/Institutional/ Medical/Office

Proposed Use: Automotive sales, service and repair

Project Details

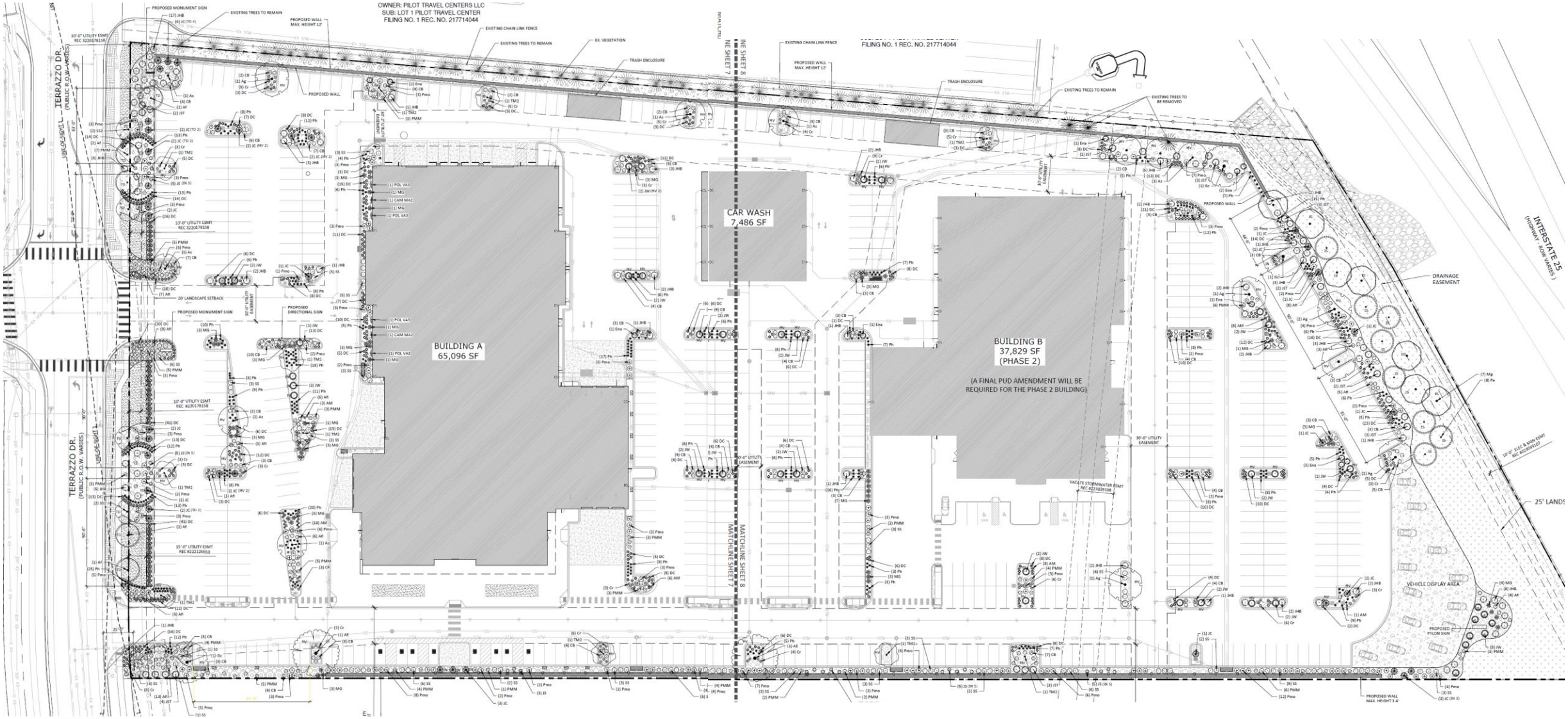
FINAL PUD PLAN



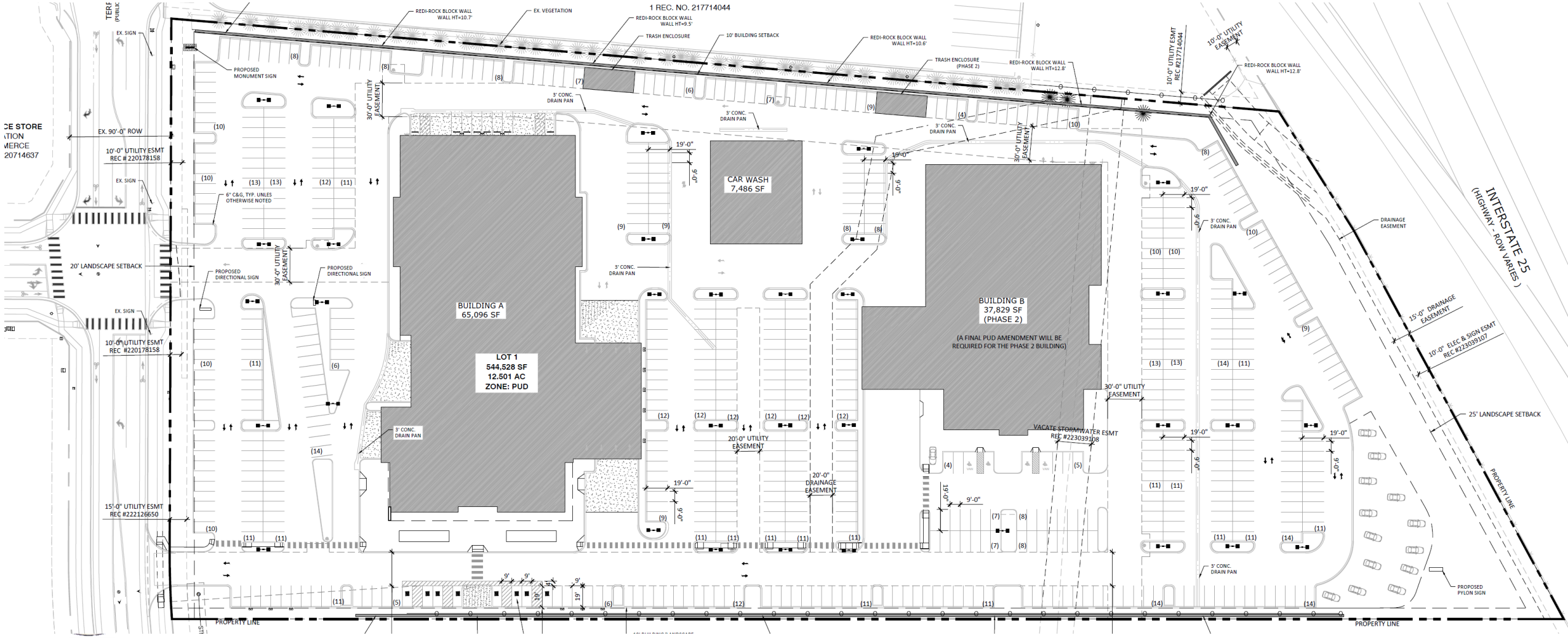
Project Summary – Final PUD Plan

ARCHITECTURE

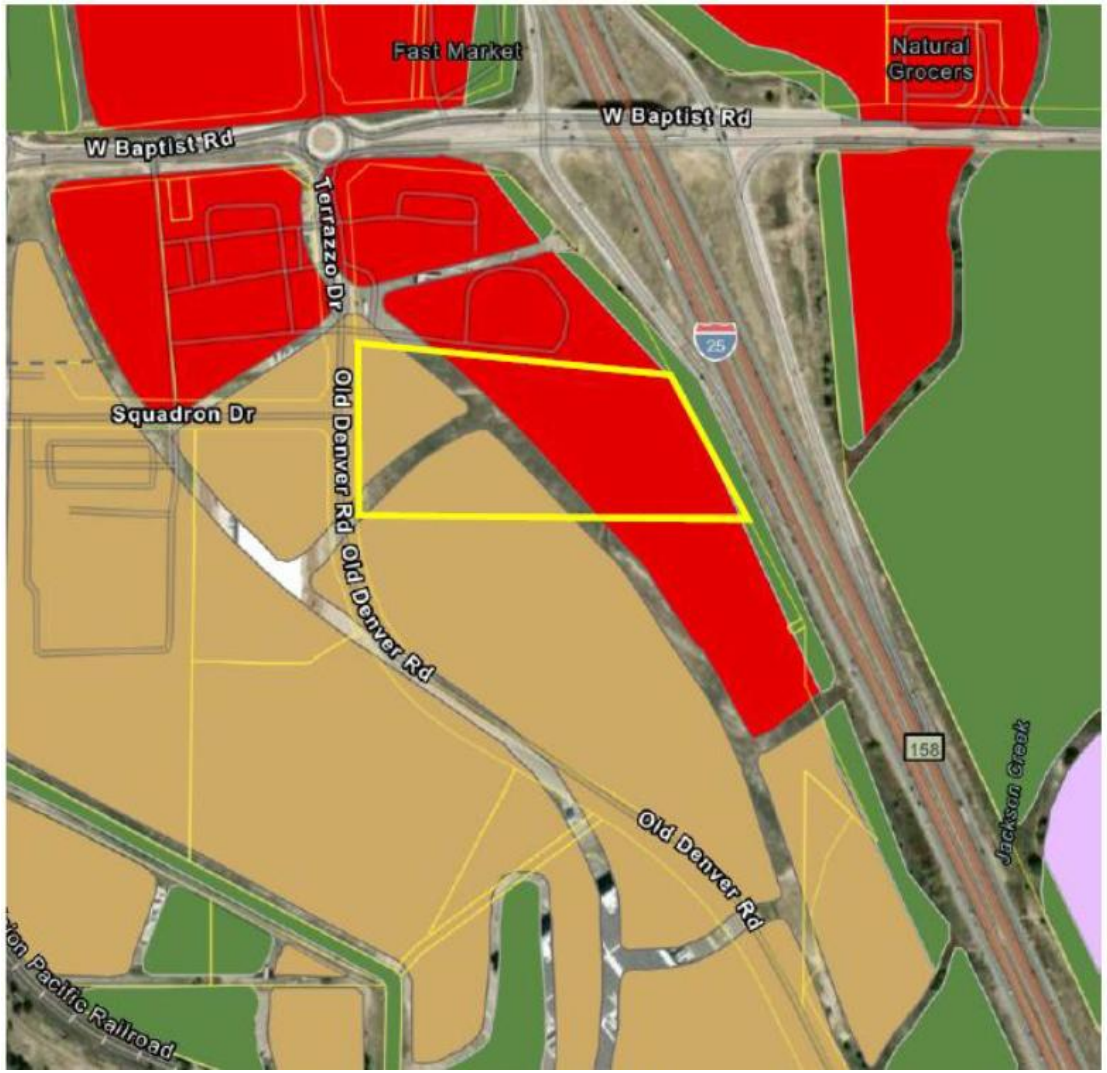
LANDSCAPING



PARKING and TRAFFIC



STORMWATER AND COMPREHENSIVE PLAN



2017 Future Land Use Plan

- BC - Business Campus
- CC - Community Commercial
- D - Downtown
- LI - Light Industrial/Warehouse
- LL - Large Lot Residential
- MU - Mixed Use
- PR - Parks, Trails, Open Space
- PS - Public/Quasi-public/Utility
- RA - Residential Attached
- SFD - Single Family Dwellings
- PS - (School) Public/Quasi-public/Utility

ANALYSIS AND FINDINGS – Final Plat Review Criteria §18.02.260 C.

1. *The plat conforms with the Town's Comprehensive Plan; Parks, Trails, and Open Space Plan; and other plans adopted by the Town from time to time;*
2. *The plat proposes a harmonious development and lot pattern that is compatible with the neighborhood and community;*
3. *The lot and development pattern ensures there will be adequate light, air, parks, open space, and other places for public use;*
4. *The plat design provides for adequate access to all lots and tracts proposed in the subdivision;*
5. *Adequate, safe, and efficient public improvements, utilities, and community facilities and services will be provided with sufficient capacity to serve the subdivision;*
   a. *A sufficient supply of water is available and sufficient water rights have been dedicated to the Town or applicable district, in conformance with the applicable district's water standards.*
   b. *The owners and/or developers of the property will bear the cost of improvements which benefit the land being developed and pay their fair share of any community improvements and/or facilities.*

ANALYSIS AND FINDINGS – Final Plat – Final Plat Review Criteria §18.02.260 C.

6. *The plat design provides for adequate protection from fire, flood, geologic hazards, significant soil constraints, and other dangers, and provides for proper design of stormwater drainage, erosion control, and streets;*
7. *The plat conforms to all applicable provisions of these regulations and any other applicable provisions of the Monument Municipal Code, and all applicable County, State, and Federal Regulation;*
8. *The plat design provides for the preservation and conservation of unique or distinctive natural areas, scenic areas and views, natural landmarks, including rock outcroppings and unique landforms, significant wildlife habitats and migration areas, drainage areas, riparian areas, wetlands, historic features and archaeologically sensitive sites, recognizing the irreplaceable character of such resources and their importance to the quality of life in Monument;*
9. *The plat design provides for the preservation and conservation of significant stands of vegetation; and*
10. *The final plat is generally consistent with the preliminary plat, as applicable.*

ANALYSIS AND FINDINGS – Final PUD Plan Criteria §18.03.460 D.

1. *The final PUD conforms to or is consistent with the Preliminary PUD*
2. *Circulation is designed for the type of traffic generated, safety, separation from living areas, convenience, access, handicap access, noise and exhaust control….*
3. *Functional parks, open space, and trails in terms of recreation, views, density relief, convenience, function, connectivity, and optimum preservation of natural features including trees, shrubs, wildlife habitat, scenic areas and riparian and drainage areas are provided in conformance with the Comprehensive Plan, the Parks, Trails, and Open Space Master Plan, and the Development Standards*
4. *A variety of development and housing types and styles, and densities are proposed. Mixed land use is encouraged;*
5. *Privacy for individuals, families and neighbors is provided as appropriate;*
6. *Building design in terms of orientation, spacing, materials, exterior color and texture, storage and lighting result in a quality architectural design that is compatible with the surrounding neighborhood. The placement of identical or similar residential models on any two adjoining lots along a street is discouraged;*

ANALYSIS AND FINDINGS – Final Plat

7. The landscaping is a quality design that enhances the site and is compatible with the surrounding neighborhood as shown by amount, types, and materials used. Entrance features are encouraged. The proposed landscaping must not create maintenance problems and shall be suitable for the site and neighborhood including plant hardiness. A xeriscape design that will conserve water is required;

7. Adequate off-street parking will be provided:

a. Particularly for single-family residences in a PUD, required front-yard setbacks should be established and driveways should be arranged so as to provide off-street parking therein without causing parked autos to block sidewalks.

b. The Town may increase or decrease the normally required number of off-street parking spaces based on a consideration of the following factors:

i. The relationship of the proposed modifications to the stated purposes and intent of the PUD;

ii. Probable number of vehicles owned by residents;

iii. Parking needs in nonresidential areas;

iv. Varying time period of use, whenever joint use of common parking areas is proposed; and

v. Availability and use of alternative transportation methods.

9. The final PUD has been shown to fit within the context of the planned land use pattern and roadway and utility systems of the larger surrounding area.

FINDINGS OF FACT & STAFF RECOMMONDATION

After reviewing the Alpine Dealership at Falcon Commerce Center Final Plat, the following finding of fact has been made:

1. The request has met the applicable criteria identified in Section 18.02.260 C. of the Land Development Code. Therefore, Staff recommends approval of the request.

After reviewing the Alpine Dealership at Falcon Commerce Center Final PUD Plan, the following finding of fact has been made:

1. The request has met the applicable criteria identified in Section 18.03.460 D of the Land Development Code. Therefore, Staff recommends approval of the request with the conditions as set forth in the recommended motion

RECOMMENDED MOTION/ACTION

Motion 1) On the request for approval of the Alpine Dealership at Falcon Commerce Center Final Plat, within Phase 2 of the Falcon Commerce Preliminary PUD Plan, for property located on parcel No. 7135000035, I move that the Planning Commission forward a recommendation of approval/denial to Town Council, supported by the attached documents and by the finding of fact as listed in the staff report.

Motion 2) On the request for approval of the Alpine Dealership Falcon Commerce Center Final PUD Plan, within Phase 2 of the Falcon Commerce Preliminary PUD Plan, for property located on parcel No. 7135000035, I move that the Planning Commission forward a recommendation of approval/denial to Town Council, supported by the attached documents and by the finding of fact as listed in the staff report with the following conditions:

1. The Vehicle Display Area in the south east corner of the lot, as shown on page 8 of the Final PUD Plan set, shall be utilized as presented, having a maximum of 13 vehicles parked or displayed in this area and, any vehicles parked or displayed in this area shall be parked on an approved surface consisting of durable, dust free, all weather material such as: concrete, asphalt, asphalt millings installed over a compacted base, pavers installed over a compacted base, or other similar hard-surfaced materials.
2. No vehicles shall be parked or displayed on the building pad for Phase 2 (Building B) during development.

TOWN OF MONUMENT
645 Beacon Lite Road
Monument, CO 80132

PLANNING DEPARTMENT
719-884-8015
www.townofmonument.org/planning

STAFF REPORT

TO: **Planning Commission**

FROM: **Rey Medina, Planner**

DATE: **March 11, 2025**

SUBJECT: **Case No. 009-2024 RZ/FP/SP**
Final Plat and Rezone for the Monument Fire Training Facility [Public Hearing]

Applicant's Information.	OZ Architecture Kevin Schaffer 3003 Larimer St Denver, CO 80205
Owner's Information:	Jamey Bumgarner Monument Fire Protection District 16055 Old Forest Point, Suite 102 Monument, CO 80132
Property Location.	18650 West Highway 105 Monument, CO 80132 Property Schedule No. 7115118002
Property Size.	15.849 Acres
Comprehensive Plan Designation.	The subject properties are designated Single Family Detached (SFD) by the Town's Comprehensive Plan, adopted 2017.
Zoning Designation.	Triview Metropolitan District Promontory Pointe Water Tank Facility - P-Public Sanctuary Pointe PUD Open Space
Surrounding Property Information.	North – Residential R3 (El Paso County) West – Commercial and Residential (El Paso County) East – Light Industrial (Monument) South – Residential (El Paso County)

Requested Action(s).

1. A Final Plat for the Monument Fire District Subdivision.
2. A Rezone of 15.849 acres from PUD (Planned Unit Development) to P (Public).

Executive Summary. The Applicant, OZ Architecture on behalf of the Monument Fire Protection District, requests a Final Plat approval and Rezoning for the Monument Fire Training project located at 18650 West Highway 105 Monument, CO 80132. The proposal involves expansion of the existing Fire Department facility, including construction of an 11,040-square-foot classroom and garage building, a training tower, and a future training area. Each request will be considered separately based on relevant review criteria and forwarded to Town Council for Consideration with a recommendation from Planning Commission.

Public Notice. Pursuant to Chapter 18 - Land Development Code, Section 18.01.260.D and Table 1.2, which requires a public notice at least fifteen (15) days prior to any public hearing for a land use change, be mailed to property owners with 500 feet and posted on the property. The Applicant has complied with notice requirements.

History/Background. The Monument Fire District operates an existing facility at 18650 West Highway 105 that serves as a primary location for operational support. The district has identified the need to expand its training capacity to meet current operational demands and accommodate future growth. The proposed Training Center project includes construction of an 11,040-square-foot classroom and garage building, a training tower, and a future training area, all intended to enhance the district's ability to provide essential public safety services.

The Fire District has maintained operations at this location for several years. September 23, 2020, a PD zoning and sketch PD plan were approved for the property known as Fire Station No.1. This site has since consistently been used for public-safety functions. Existing improvements include the primary fire station and associated parking areas. The training center represents the next phase of development to support the district's long-term operational objectives.

The property is currently zoned Planned Unit Development, which has accommodated the existing fire facility but does not fully align with the scope or nature of the proposed expansion. To support the Training Center, the applicant requests rezoning to the Public (p) zoning district, which is intended for civic, governmental, and public-service uses such as fire protection and emergency-response facilities. The Town of Monument's 2017 Comprehensive Plan designates this area for park space. However, seeing as the property was zoned PUD for the construction of the Fire Department back in 2020, Public zoning supports the continued presence and expansion of essential community-service infrastructure. Plan policies encourage the enhancement of public-safety facilities in locations that can effectively serve the community, and the proposed rezoning is consistent with these adopted land-use objectives. The Final Plat and Rezoning applications have been reviewed by Town Staff and referred to applicable agencies in accordance with standard procedures.

Project Details. The Monument Fire District is proposing to divide its existing property into two separate parcels, designated as Parcel A and Parcel B. Parcel A will continue to house the Tri-Lakes Monument Fire Rescue Station, which will remain fully operational. Planned improvements on Parcel A include the construction of a classroom/garage building and a new training tower to support firefighter training needs. Parcel B will remain vacant for the time being, with the intention

of developing it in the future as a wildland training and staging area once the district is ready to proceed (Attachment 4D-Site Plan).

Architecture. The fire station's architecture incorporates a coordinated palette of durable materials that express both functionality and civic presence. The west elevation is defined primarily by insulated metal panels, using a combination of standard grey tones and a distinctive red accent at the roofline to emphasize the building's operational identity. The east elevation introduces greater material richness, featuring extensive use of Norman brick in red and brown hues, which adds texture, and a grounded, institutional character to the façade. Along the south elevation, the design shifts toward transparency with insulated glazing at the building-front, paired with a standing seam metal roof that reinforces the building's resilient aesthetic. Together, these elements create a cohesive architectural expression that balances durability, visibility, and a professional public-facing image.

Their proposed site plan demonstrates compliance with the Town of Monument's public-building setback standards, providing the required 25-foot setback along the front, rear, and side property lines.

Landscaping. Landscaping around the site is designed to provide both visual buffering and compliance with the Town's landscape standards. Along the north property line, adjacent to the residential subdivision and separated by an existing fence, a continuous row of evergreen trees is proposed to create year-round screening. Within interior parking areas, the plan incorporates a mix of deciduous trees, ornamental species, shrubs, and grasses selected directly from the Town of Monument's approved landscaping palette. This combination provides seasonal variety, shade, and a cohesive landscape throughout the site. Additional landscaping is concentrated at the driveway entrances, where enhanced plantings frame the access points and improve sightlines into and out of the property. These areas include a higher density of shrubs and ornamental trees than required, demonstrating a clear effort to elevate the site's appearance and provide safer, more visually open entry conditions.

Parking. Parking requirements for Parcel A are fully met under Section 18.05.215, with calculations based on the three proposed uses on that parcel: the existing fire station, the new classroom/garage, and the training tower. The site plan provides 68 standard spaces and 4 accessible spaces, for a total of 72 parking spaces, satisfying the code's minimum standards. Parking for Parcel B will be evaluated in the future once the Fire District advances its site-planning efforts for the wildland training and staging area.

Stormwater Management. The Applicant provided a Drainage Report for the Training Facility (Attachment 5). The Report, prepared by Strategic Site Designs, LLC, dated October 17, 2025, concludes the following. The proposed drainage design has been prepared in accordance with applicable industry standards and local regulatory requirements. The design maintains the two existing off-site flow paths that currently cross the property en route to the Highway 105 culvert, minimizing disturbance and reducing overall development cost. A small portion of the northern

basin (Design Point 181 in the Final Drainage Report, Attachment 5) will be temporarily redirected around site improvements before rejoining its natural drainage path.

All new impervious surfaces, along with a substantial portion of existing impervious areas, will be routed to a new extended-detention basin. This facility is designed to reduce peak discharge rates to the Highway 105 culvert (Design Point 9 in the Final Drainage Report, Attachment 5). Under existing conditions, the 19.03-acre drainage area contributes 36.93 CFS to the culvert. With the proposed improvements on Parcel A, peak flow is projected to decrease to 26.45 CFS—a reduction of approximately 28 percent.

Based on the submitted hydrologic and hydraulic analysis, the proposed drainage system adequately mitigates runoff generated by the development and reduces downstream impacts relative to existing conditions.

The analysis does not include future development of Parcel B. Additional drainage evaluation will be required at the time Parcel B is developed, including assessment of off-site flows and the previously identified capacity limitations of the Highway 105 culvert documented in the Dirty Woman Creek and Crystal Creek Study.

Based on the current data and analysis included in the Applicant's October 2025 Report and review of the Drainage Report completed by IMEG (Monument Engineer), Town Staff concurs with this assessment.

Traffic Analysis Report. The Applicant provided a Traffic Analysis Letter for the project. The Report, prepared by Strategic Site Designs, dated October 29, 2025, concludes the following (Attachment 6). The proposed Monument Fire District Training Facility is expected to generate low traffic volumes, and the analysis concludes that no roadway improvements are required. The combined daily trips from the existing Station #1 and the new classroom/training uses are estimated at approximately 55 vehicles per day, well below the 100-vehicle threshold that would trigger a full Traffic Impact Study. As noted in the letter, the project "will not generate those volumes due to the use, the operation of the facility, and the staffing plan for the existing station."

Peak-hour activity remains limited, with most trips associated with shift changes and periodic classroom use. Classroom operations are not expected to occur daily. The analysis confirms that projected volumes do not meet CDOT thresholds for turn-lane construction, stating that "the turn lane does not seem warranted."

Sight-distance requirements along Highway 105 are met, and existing curb-return radii comply with Town standards. The letter also notes that "adequate sight-distance exists to provide motorists with sufficient decision time."

Overall, the existing access points are considered sufficient, and the development is not anticipated to create negative impacts on the roadway network. The report concludes that "no roadway improvements [are] warranted."

Based on the current data and analysis included in the Applicant's October 2025 Report and review of the Traffic Analysis Letter completed by IMEG (Monument Engineer), Town Staff concurs with this assessment.

Comprehensive Plan. The subject property is designated Parks, Trails, and Open Space (PR) on the western portion and Residential Attached (RA) on the eastern portion under the Town's 2017 Comprehensive Plan (Attachment 1). In 2020, the Town approved a Fire Training Facility on the site, establishing a new and more appropriate long-term public-safety function for the property. Given this shift in intended use, rezoning the property from its current Planned Unit Development (PUD) designation to Public (P) zoning is the most appropriate action. The Public zoning district aligns with and supports the site's planned use as a Fire Station and associated public-safety facilities.

ANALYSIS AND FINDINGS

Criteria for Review – 18.02.260 C. Final Plat

1. *The plat conforms with the Town's Comprehensive Plan; Parks, Trails, and Open Space Plan; and other plans adopted by the Town from time to time*.
    a. Based on staff's review and the input of the Town's Development Review Team (DRT) partners, the proposed project complies with all applicable development standards. The purpose of this Final Plat is to support and expand the Monument Fire District's ability to provide public-safety services to the community. Because the project's intent is to facilitate a public-safety facility rather than park or recreational improvements, the provisions of the Parks, Trails, and Open Space Plan are not applicable to this request.
2. *The plat proposes a harmonious development and lot pattern that is compatible with the neighborhood and community*.
    a. The proposed plat establishes a lot pattern that is compatible with surrounding development of the Monument Fire Station.
3. *The lot and development pattern ensures there will be adequate light, air, parks, open space, and other places for public use*.
    a. The Monument Fire District's role as a public-safety provider establishes the site as a community benefit, and its use as a Fire Station meets the intent of serving the public without requiring compliance with park or open-space standards. The lot's function as essential public infrastructure therefore satisfies the public-benefit purpose envisioned for the property.
4. *The plat design provides for adequate access to all lots and tracts proposed in the subdivision*.
    a. The proposed plat maintains access to the property in a manner consistent with existing conditions. At this time, the inclusion of Parcel B does not create a demonstrated need for an additional access point, and no changes to the current access configuration are warranted based on the information available.

5. *Adequate, safe, and efficient public improvements, utilities, and community facilities and services will be provided with sufficient capacity to serve the subdivision*.
    a. *A sufficient supply of water is available and sufficient water rights have been dedicated to the Town or applicable district, in conformance with the applicable district's water standards*.
        - A sufficient supply of water remains available for the expansion of this property's services. Furthermore, this property receives its sanitation service from the Palmer Lake Sanitation District.
    b. *The owners and/or developers of the property will bear the cost of improvements which benefit the land being developed and pay their fair share of any community improvements and/or facilities*.
        - A site improvement agreement will be reviewed by the Planning Director to ensure the development has paid its fair share of community improvement.
6. *The plat design provides for adequate protection from fire, flood, geologic hazards, significant soil constraints, and other dangers, and provides for proper design of stormwater drainage, erosion control, and street*.
    a. The Final Plat application alone would not provide for adequate protections; however, the site plan documentation alongside the Final Drainage Report do provide adequate protections from adverse impacts.
7. *The plat conforms to all applicable provisions of these regulations and any other applicable provisions of the Monument Municipal Code, and all applicable County, State, and Federal Regulations*.
    a. The contents and form of the proposed Final Plat conform with technical plat requirements.
8. *The plat design provides for the preservation and conservation of unique or distinctive natural areas, scenic areas and views, natural landmarks, including rock outcroppings and unique landforms, significant wildlife habitats and migration areas, drainage areas, riparian areas, wetlands, historic features and archaeologically sensitive sites, recognizing the irreplaceable character of such resources and their importance to the quality of life in Monument*.
    a. The plat design does not identify any unique features in need of additional preservation or conservation efforts.
9. *The plat design provides for the preservation and conservation of significant stands of vegetation*.
    a. No significant stands of vegetation exist on this property.
10. *The final plat is generally consistent with the preliminary plat, as applicable*.
    a. No such Preliminary Plat was identified in Planning Department records. The property was initially platted for the existing Fire Station and in this case is being re-platted for improvement and expansion of services.

18.03.140.D – Rezoning evaluation criteria

1. *The compatibility of the rezoning proposal with the surrounding zone districts and land uses in the vicinity of the site of the rezoning, including the characteristics of the existing neighborhood, the applicable area and bulk requirements, and the suitability of the site for development in terms of on-site characteristics.*
    a. The proposed rezoning is compatible with the surrounding zone districts and existing land uses, which include a mix of residential, commercial, and civic functions. A fire station is consistent with the character and service needs of the neighborhood and does not introduce a use that is out of scale or incompatible with nearby development.
2. *The impacts of the rezoning upon expected traffic generation and road safety availability of on-site and off-site parking and the availability of adequate utility services and street access on the site.*
    a. The traffic analysis demonstrates that the rezoning will not create adverse impacts on traffic generation or roadway safety. The proposed training facility and existing Station #1 together are expected to generate approximately 55 daily trips, which is well below the 100-trip threshold that would require a full Traffic Impact Study. The report also concludes that the existing access points are sufficient, and the development is not expected to create negative impacts on the surrounding roadway network.
3. *That the land proposed for rezoning, or adjacent land, has changed or is changing to a degree such that it is in the public interest and consistent with the intent, purpose and provisions of this chapter to encourage different densities or uses within the land in question.*
    a. Staff analysis concluded that the fire station rezoning show that conditions in and around the site have evolved in a way that makes a civic/public-safety use both appropriate and in the public interest.
4. *That the proposed rezoning is needed to provide land for a demonstrated community need or service and such rezoning will be consistent with the goals, objectives and policies contained within the Comprehensive Plan.*
    a. The Public zoning district aligns with and supports the site's planned use as a Fire Station and associated public-safety facilities.
5. *That the existing zoning classification currently recorded on the Official Zoning Map is in error.*
    a. N/A
6. *That the proposed rezoning is in conformance, or will bring the property into conformance, with the Comprehensive Plan goals, objectives and policies, and other related policies or plans for the area.*
    a. The property has already transitioned to a public-safety use with the establishment of the Fire Station, which differs from the land-use designation shown in the 2017

Comprehensive Plan. Rezoning the site will bring the zoning classification into closer alignment with the existing and long-term use of the property, ensuring that the regulatory framework reflects current conditions and supports the community's public-safety needs. This adjustment strengthens consistency with the Comprehensive Plan by matching the zoning to the established civic function of the site.

7. *That adequate infrastructure/facilities are available to serve the type of uses allowed by the change of zoning, or that the applicant will upgrade and provide such where non-existent or under capacity.*
    a. Staff analysis confirms that the existing infrastructure and public facilities are adequate to support the expanded fire-station and training-facility use on the property. Available utilities, roadway access, and supporting services meet the operational needs of the project, and no system upgrades are required to accommodate the proposed expansion onto parcel A.
8. *The impacts of the rezoning upon expected traffic generation and road safety, availability of onsite and off-site parking and the availability of adequate utility services and street access to the site.*
    a. The rezoning, together with the updated site plan, demonstrates that the property provides sufficient on-site parking, reliable utility services, and appropriate street access to support the fire-station and training-facility use

Findings of Fact and Staff Recommendation

After reviewing the Monument Fire District Subdivision Final Plat, the following finding of fact has been made:

- The request has met the applicable criteria identified in Section 18.02.260 C. of the Land Development Code. Therefore, Staff recommends approval of the request.

After reviewing the request for rezoning alongside the Fire Training Facility Site Plan, the following finding of fact has been made:

- The request has met the applicable criteria identified in Section 18.03.140 D of the Land Development Code. Therefore, Staff recommends approval of the request.

Recommended Action.

Motion 1) Mr. Chairman, on the request for approval of the Monument Fire District Subdivision Final Plat, for property located on parcel No. 7115118002, I move that the Planning Commission forward a recommendation of approval/denial to Town Council, supported by the attached documents and by the finding of fact as listed in the staff report.

Motion 2) Mr. Chairman, on the request for approval of the rezoning from Planned Unit Development (PUD) to Public (P), for property located on parcel No. 7115118002, I move that the Planning Commission forward a recommendation of approval/denial to Town Council, supported by the attached documents and by the finding of fact as listed in the staff report.

Attachments Referenced and Additional

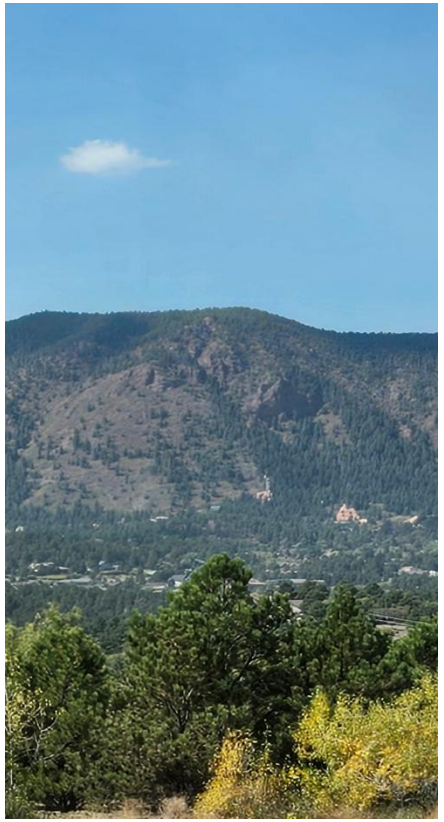
- Attachment 1 – Location Map and Future Land Use Map. [link]
- Attachment 2 – Public Hearing Notice. [link]
- Attachment 3 – Applicant Project Narrative [link]
- Attachment 4 – Monument Fire District Subdivision (Final Plat), prepared by Strategic Site Designs, last revised September 26, 2025. [link]
- Attachment 5 – Drainage Report for Monument Fire Training Facility, prepared by Strategic Site Designs, dated October 17, 2025. [link]
- Attachment 6 – Traffic Analysis Letter for Monument Fire Training Facility, prepared by Strategic Site Designs, dated October 29, 2025. [link]
- Attachment 7 – Monument Fire Training Facility Site Plan, prepared Strategic Site Designs, last revised October 27, 2025. [link]
- Attachment 8 – Town Engineer Recommendation of Approval [link]

Monument Fire District Training Center

Final Plat & Rezoning

Staff Presentation

Planning Commission Meeting – 3/11/2026



INTRODUCTION

The Applicant, OZ Architecture on behalf of the Monument Fire Protection District, requests a Final Plat approval and Rezoning for the Monument Fire Training project located at 18650 West Highway 105 Monument, CO 80132. The proposal involves expansion of the existing Fire Department facility, including construction of an 11,040-square-foot classroom and garage building, a training tower, and a future training area. Each request will be considered separately based on relevant review criteria and forwarded to Town Council for Consideration with a recommendation from Planning Commission.

PUBLIC HEARING NOTICE

Monument Fire Training Center
Rezone & Final Plat
File Numbers: 2024-009

AFFIDAVIT – POSTED NOTICE
Rezone & Final Plat

I, Jimmy Bumgarner Jr., *(print name)* as the ☐ owner ☒ authorized agent, *(check one)* for the property located at property schedule number 7115118002, in the Town of Monument, El Paso County, Colorado do hereby attest that I installed, ONE sign along W HWY 105, facing out to traffic, in compliance with Town Code Section 18.01.260-Public notice requirements., E. Posted Notice. on FEBRUARY *(month/day)*23 ,2026, which is at least 15 days prior to the public hearing, scheduled for Planning Commission on **March 11**, 2026, and Town Council on **April 6**, 2026, for the proposed development application: **Monument Fire Training Facility.**

Signed: J C Bumgarner
Print Name: Jimmy Bumgarner Jr.
Owner/Authorized Agent *(circle one)*

State of CO,
County of El Paso:

Sworn and subscribed to before me, a Notary Public, by Jimmy Bumgarner Jr., this 24 day of February 2026, who is either personally known to me or who has produced Colorado Driver's License as identification.

My Commission Expires: July 8, 2026
Notary Public for the State of Colorado
Print Name: Jennifer Paige Martin

JENNIFER PAIGE MARTIN
NOTARY PUBLIC - STATE OF COLORADO
NOTARY ID 20104021851
MY COMMISSION EXPIRES JUL 8, 2026

Monument Fire Training Center
Rezone & Final Plat
File Numbers: 2024-009

AFFIDAVIT – MAILING
Rezone & Final Plat

I, Jimmy Bumgarner Jr., *(print name)* as the ☐ owner ☒ authorized agent, *(check one)* for the property located at property schedule number 7115118002, in the Town of Monument, El Paso County, Colorado, do hereby attest that I reviewed the records of the El Paso County Assessor on the day of 2/20, 2026, and have sent letters via first class U.S. mail to the owners of record for the properties within 500-feet of the perimeter property line of the proposed **Monument Fire Training Center,** giving notice of forthcoming public hearings for Planning Commission on **March 11, 2026** and Town Council on **April 6, 2026** in compliance with Town Code Section 18.01.260-Public notice requirements., F. Mailed notice. on FEBRUARY 20, 2026, which is at least 15 days prior to the date of the hearings.

Signed: J C Bumgarner
Print Name: Jimmy Bumgarner JR
Owner/Authorized Agent *(circle one)*

State of CO,
County of El Paso:

Sworn and subscribed to before me, a Notary Public, by Jimmy Bumgarner JR, this 24 day of February 2026, who is either personally known to me or who has produced Colorado Driver's license as identification.

My Commission Expires: July 8, 2026
Notary Public for the State of Colorado
Print Name: Jennifer Paige Martin

JENNIFER PAIGE MARTIN
NOTARY PUBLIC - STATE OF COLORADO
NOTARY ID 20104021851
MY COMMISSION EXPIRES JUL 8, 2026

INCLUDED ATTACHMENTS WITH STAFF REPORT

1. Location Map and Future Land Use Map.
2. Public Hearing Notice.
3. Applicant Project Narrative
4. Monument Fire District Subdivision (Final Plat), prepared by Strategic Site Designs, last revised September 26, 2025.
5. Drainage Report for Monument Fire Training Facility, prepared by Strategic Site Designs, dated October 17, 2025.
6. Traffic Analysis Letter for Monument Fire Training Facility, prepared by Strategic Site Designs, dated October 29, 2025.
7. Monument Fire Training Facility Site Plan, prepared Strategic Site Designs, last revised October 27, 2025.
8. Town Engineer Recommendation of Approval

* Link to original pdf document provided in Staff Report

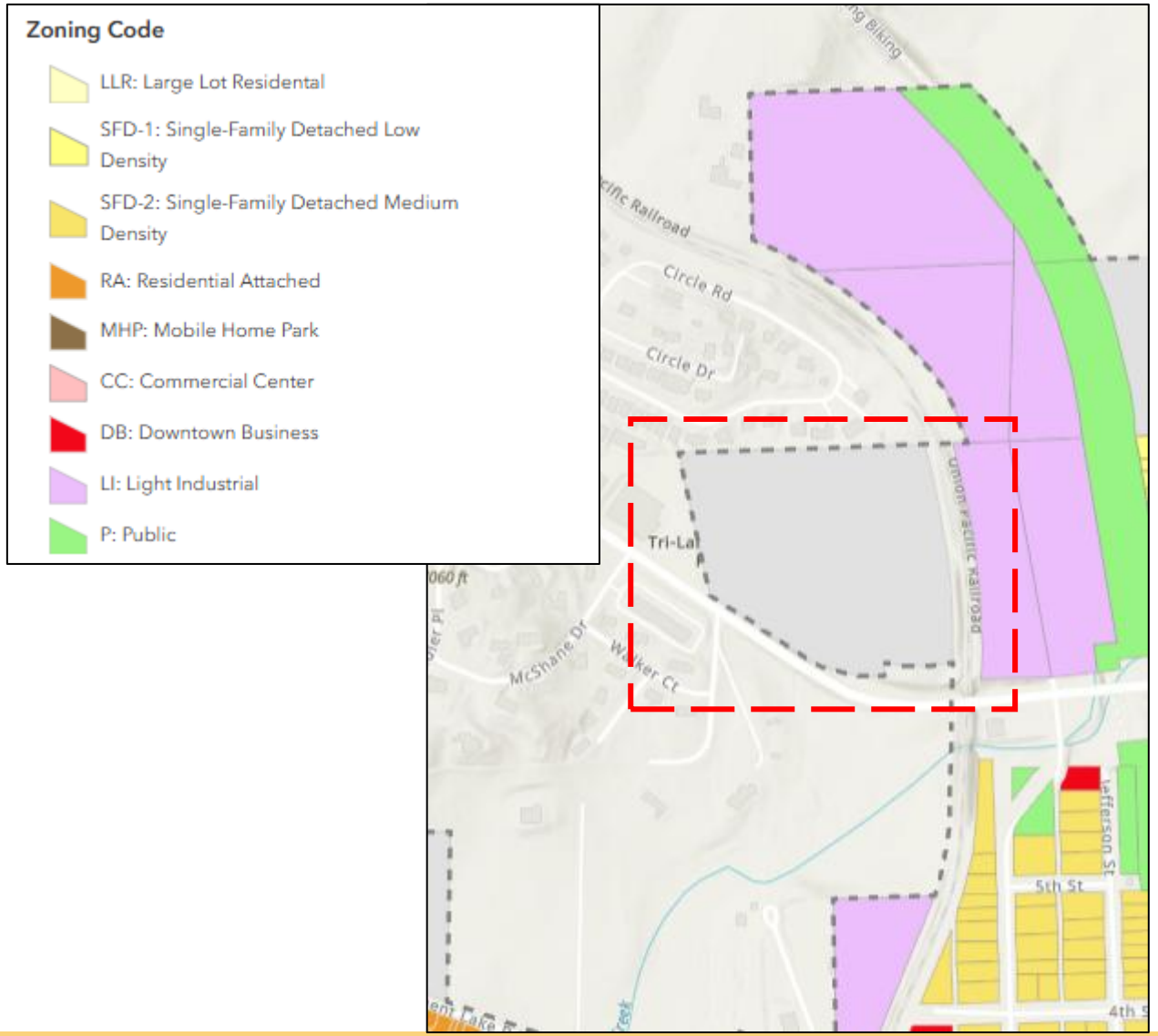
APPLICATION/REQUEST

- **Applicant** – OZ Architecture
- **Representative –** Chris Perdue
- **Property Owner –** Monument Fire Protection District
- **Location -**
  18650 West Highway 105
  Monument, CO 80132
- **Request -** Approval of the
  - Final Plat
  - Rezoning

LOCATION MAP

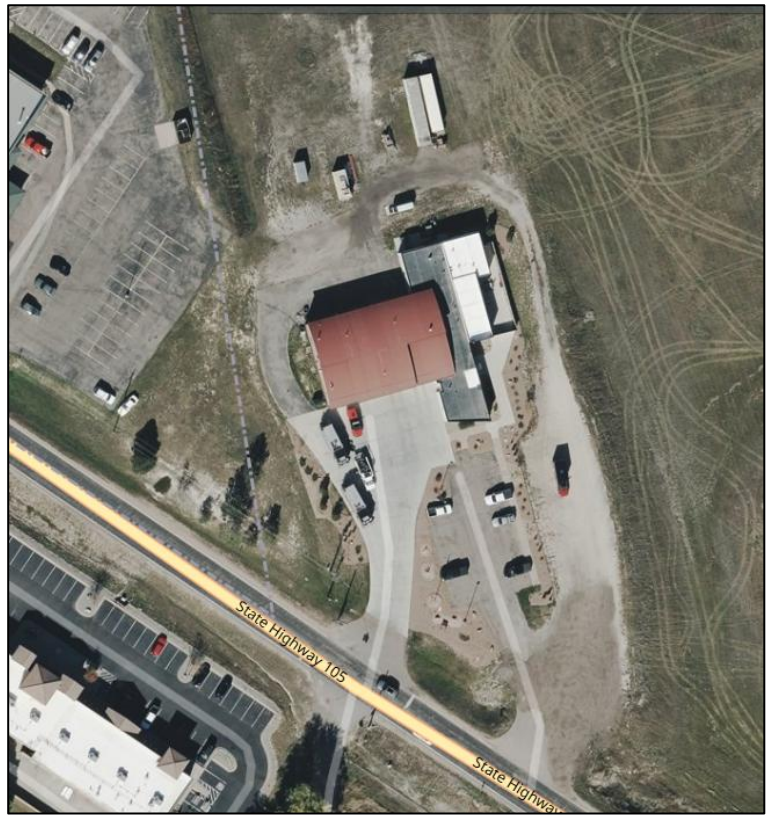
SURROUNDING ZONING AND LAND USE

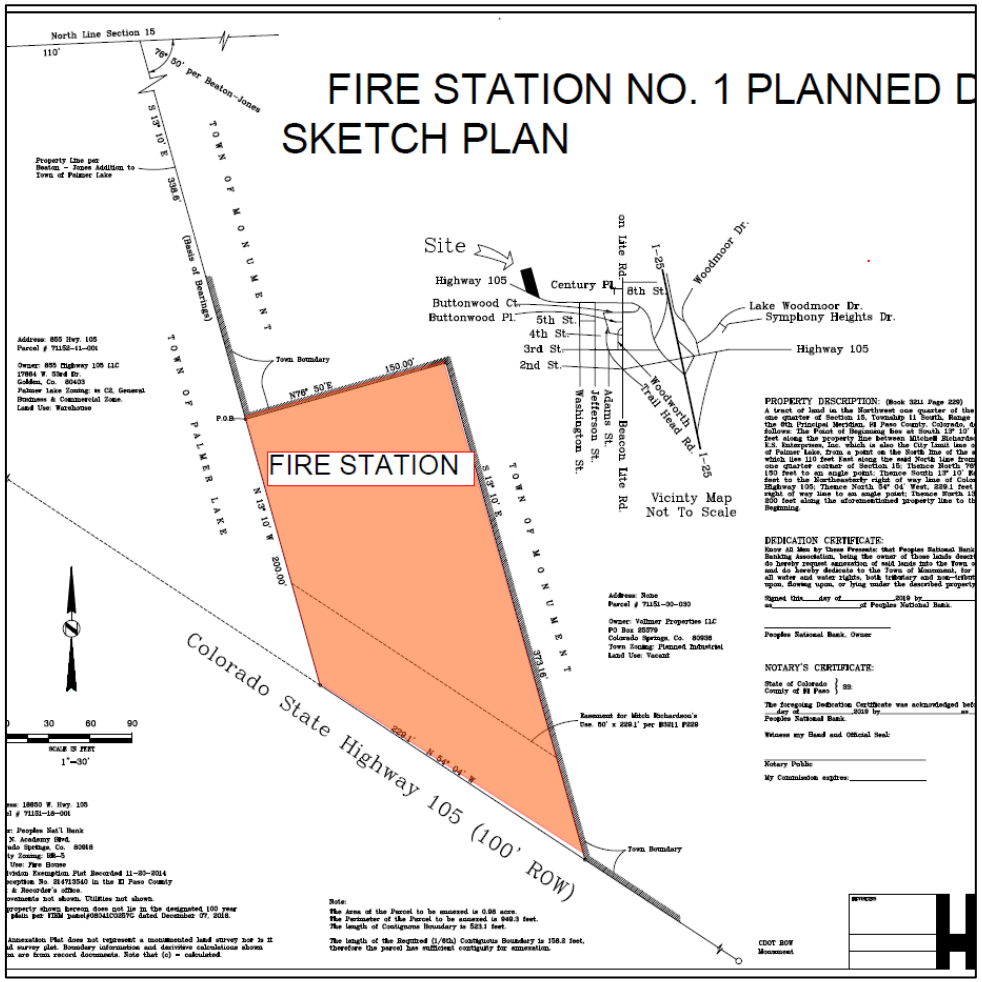
- **Subject Property:**
  Property Schedule No. 7115118002
- **North** – Residential R3 (El Paso County)
- **South** – Residential (El Paso County)
- **East** – Light Industrial (Monument)
- **West** – Commercial and Residential (El Paso County)



HISTORY/BACKGROUND

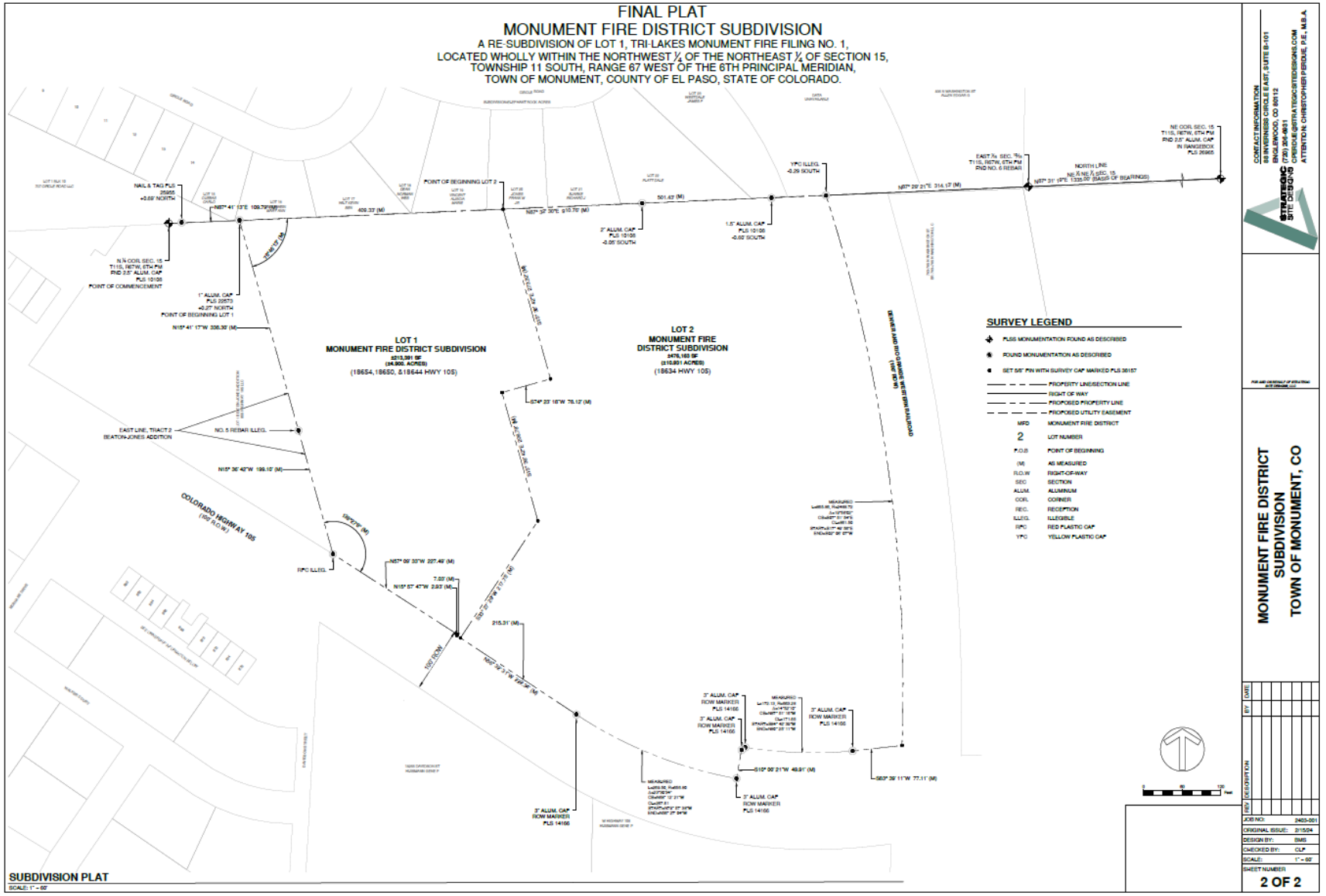
- PD Sketch Plan approved for Monument Fire Station No.1 in September of 2020.





Project Details

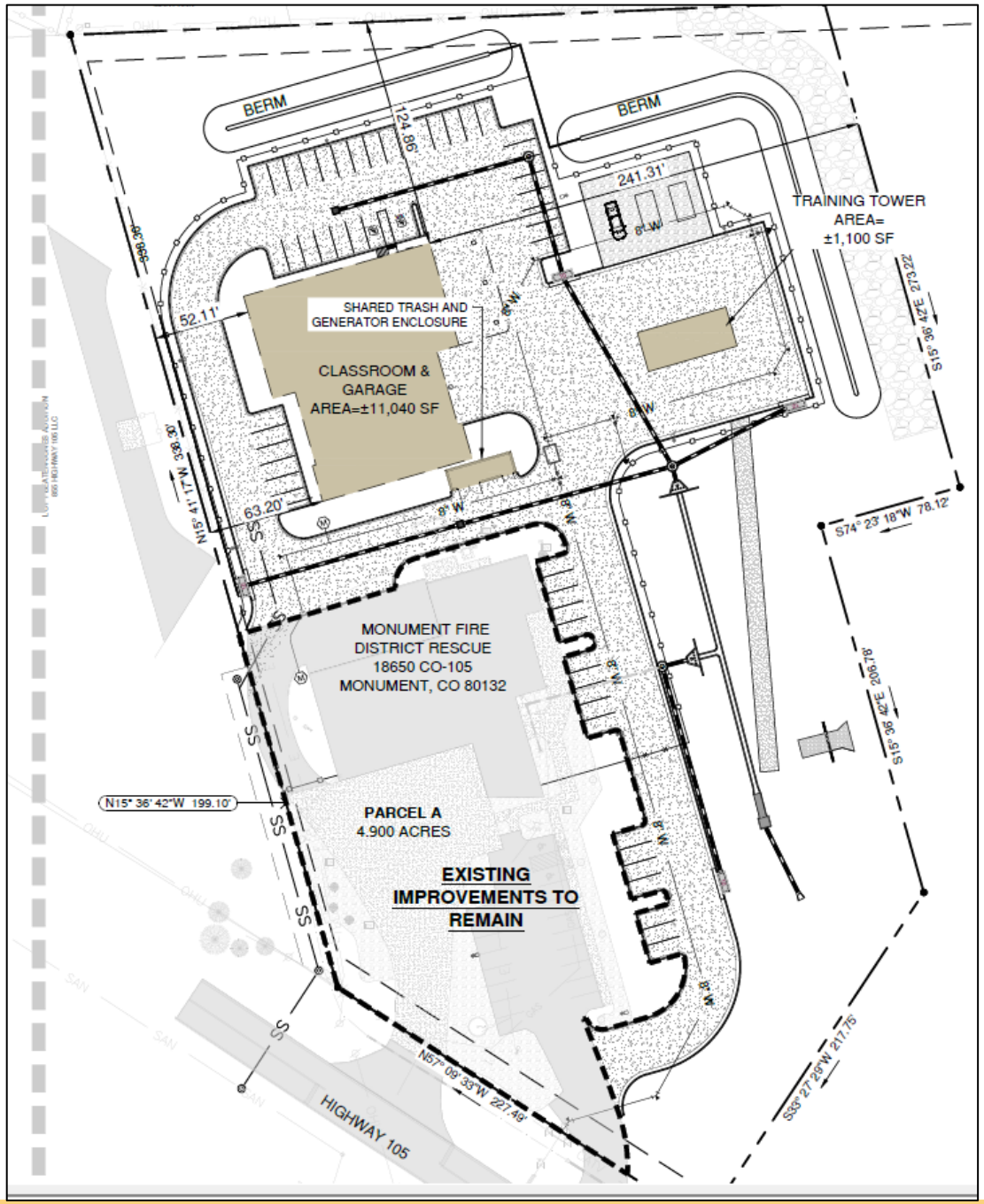
FINAL PLAT



Project Details

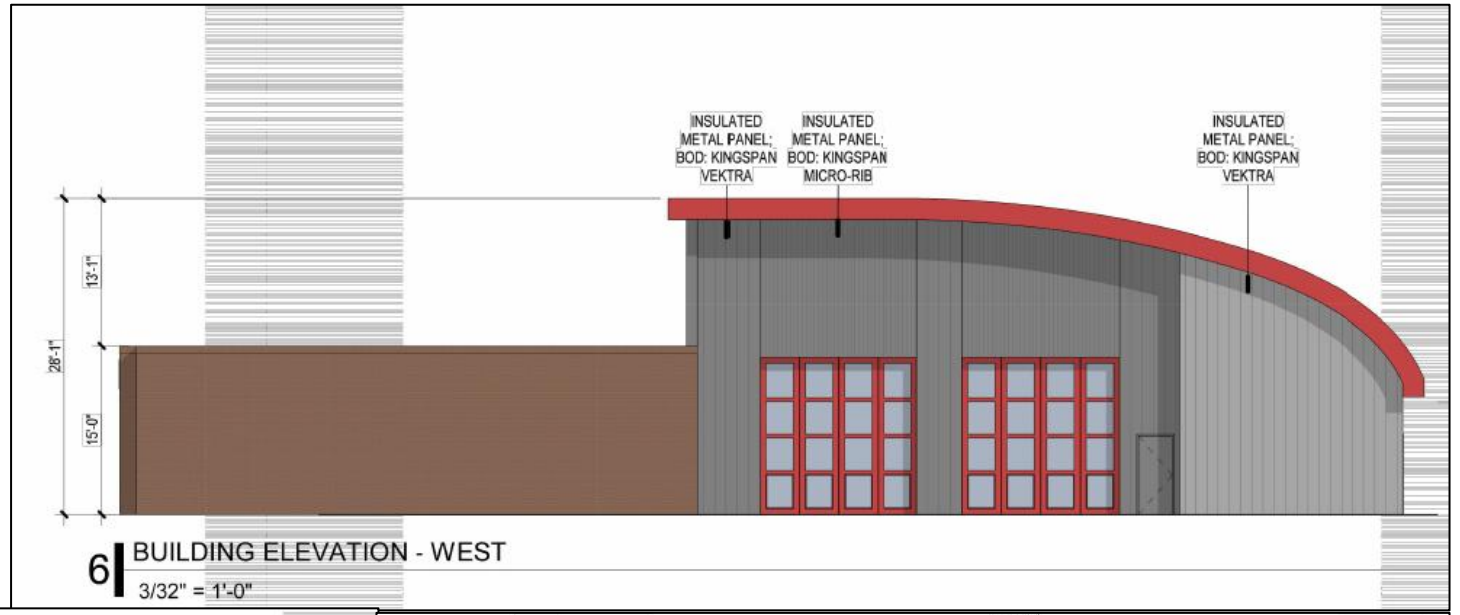
SITE PLAN

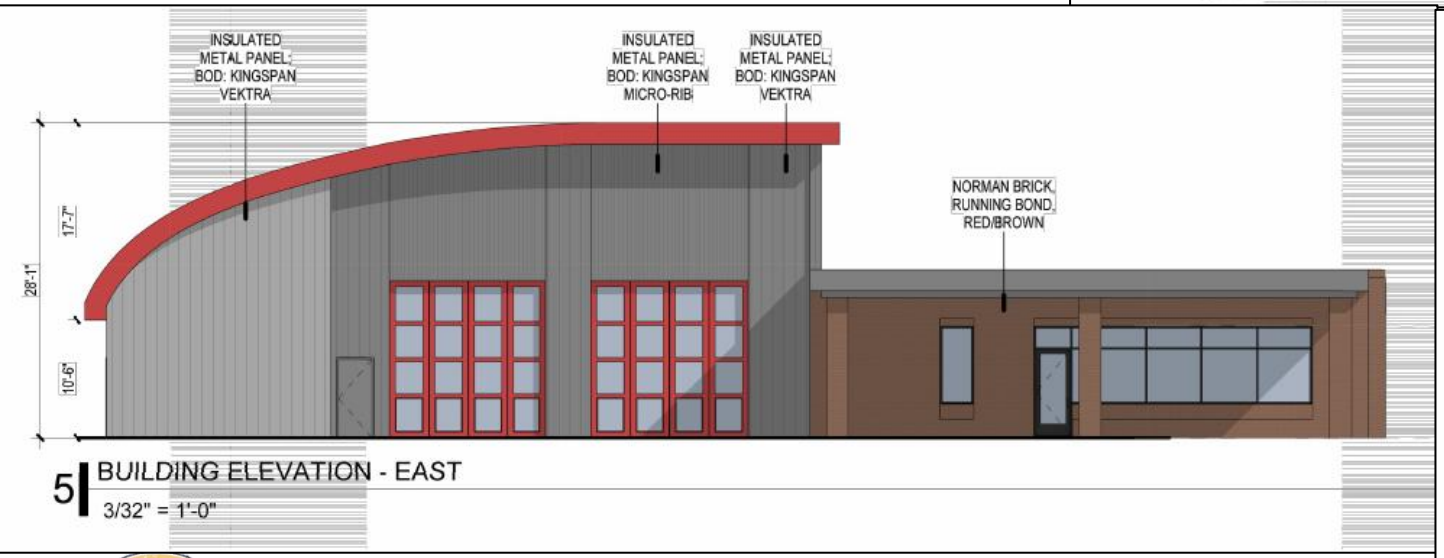
- Their proposed site plan demonstrates compliance with the Town of Monument's public-building setback standards, providing the required 25-foot setback along the front, rear, and side property lines.

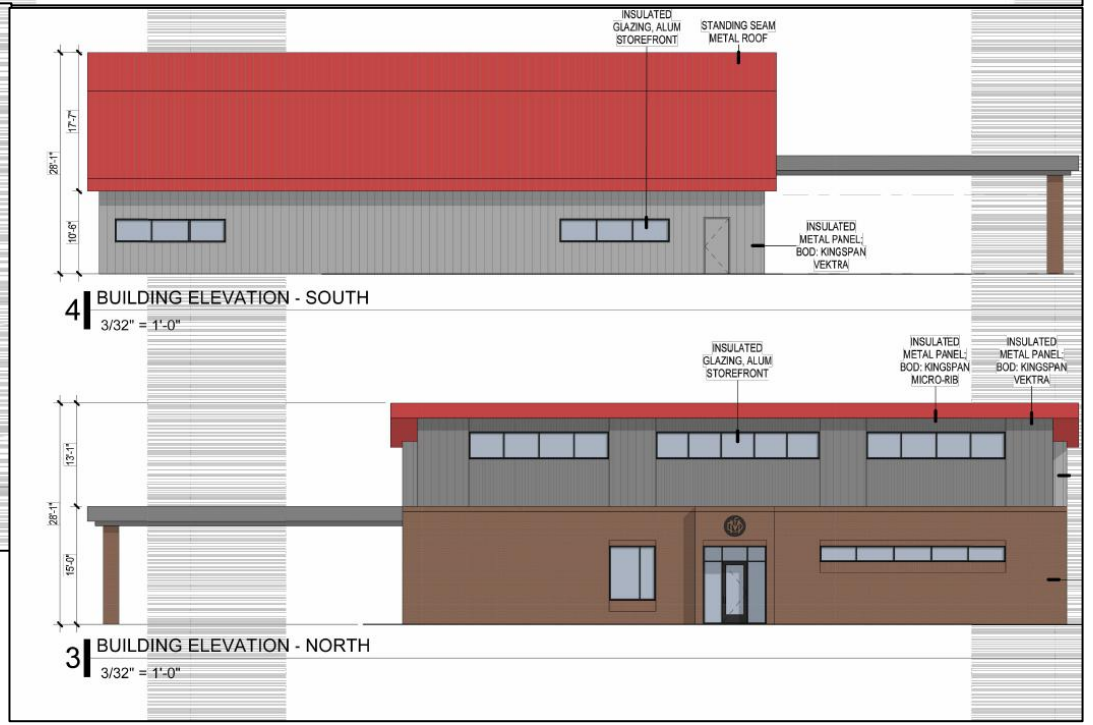


Project Summary – SITE PLAN

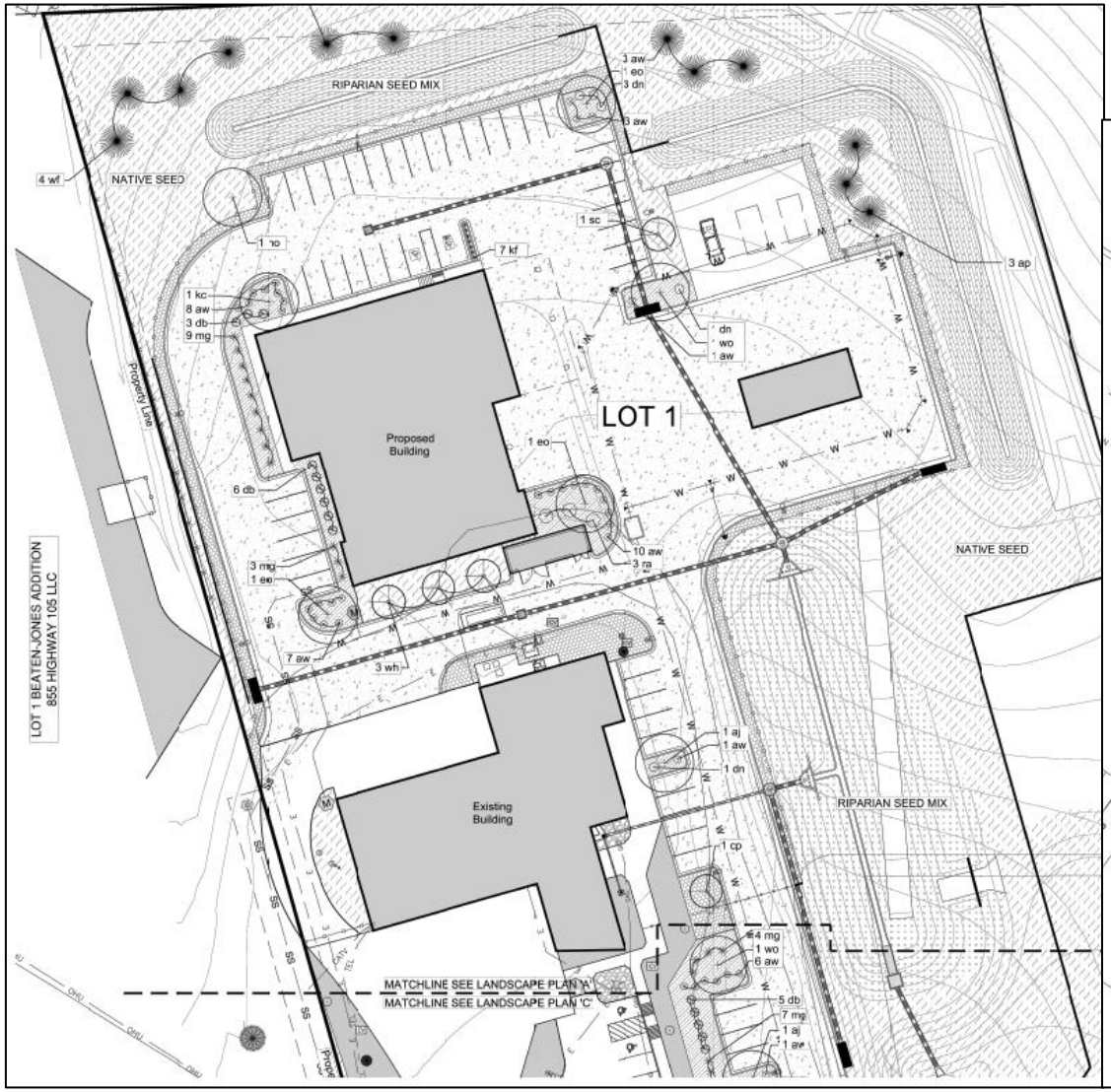
ARCHITECTURE







LANDSCAPING



STORMWATER AND TRAFFIC ANALYSIS

STORMWATER

- Based on the submitted hydrologic and hydraulic analysis, the proposed drainage system adequately mitigates runoff generated by the development and reduces downstream impacts relative to existing conditions.
- The analysis does not include future development of Parcel B. Additional drainage evaluation will be required at the time Parcel B is developed.
- Based on the current data and analysis included in the Applicant's October 2025 Report and review of the Drainage Report completed by IMEG (Monument Engineer), Town Staff concurs with this assessment.

TRAFFIC ANALYSIS

- The proposed Monument Fire District Training Facility is expected to generate low traffic volumes, and the analysis concludes that no roadway improvements are required. The combined daily trips from the existing Station #1 and the new classroom/training uses are estimated at approximately 55 vehicles per day, well below the 100-vehicle threshold that would trigger a full Traffic Impact Study.
- Peak-hour activity remains limited, with most trips associated with shift changes and periodic classroom use.
- Based on the current data and analysis included in the Applicant's October 2025 Report and review of the Traffic Analysis Letter completed by IMEG (Monument Engineer), Town Staff concurs with this assessment.

ANALYSIS AND FINDINGS – Final Plat Review Criteria §18.02.260 C.

1. *The plat conforms with the Town's Comprehensive Plan; Parks, Trails, and Open Space Plan; and other plans adopted by the Town from time to time;*
2. *The plat proposes a harmonious development and lot pattern that is compatible with the neighborhood and community;*
3. *The lot and development pattern ensures there will be adequate light, air, parks, open space, and other places for public use;*
4. *The plat design provides for adequate access to all lots and tracts proposed in the subdivision;*
5. *Adequate, safe, and efficient public improvements, utilities, and community facilities and services will be provided with sufficient capacity to serve the subdivision;*
   a. *A sufficient supply of water is available and sufficient water rights have been dedicated to the Town or applicable district, in conformance with the applicable district's water standards.*
   b. *The owners and/or developers of the property will bear the cost of improvements which benefit the land being developed and pay their fair share of any community improvements and/or facilities.*

ANALYSIS AND FINDINGS – Final Plat – Final Plat Review Criteria §18.02.260 C.

6. *The plat design provides for adequate protection from fire, flood, geologic hazards, significant soil constraints, and other dangers, and provides for proper design of stormwater drainage, erosion control, and streets;*
7. *The plat conforms to all applicable provisions of these regulations and any other applicable provisions of the Monument Municipal Code, and all applicable County, State, and Federal Regulation;*
8. *The plat design provides for the preservation and conservation of unique or distinctive natural areas, scenic areas and views, natural landmarks, including rock outcroppings and unique landforms, significant wildlife habitats and migration areas, drainage areas, riparian areas, wetlands, historic features and archaeologically sensitive sites, recognizing the irreplaceable character of such resources and their importance to the quality of life in Monument;*
9. *The plat design provides for the preservation and conservation of significant stands of vegetation; and*
10. *The final plat is generally consistent with the preliminary plat, as applicable.*

ANALYSIS AND FINDINGS – Rezoning Criteria §18.03.140 D.

1. *The compatibility of the rezoning proposal with the surrounding zone districts and land uses in the vicinity of the site of the rezoning, including the characteristics of the existing neighborhood, the applicable area and bulk requirements, and the suitability of the site for development in terms of on-site characteristics.*
2. *The impacts of the rezoning upon expected traffic generation and road safety availability of on-site and off-site parking and the availability of adequate utility services and street access on the site.*
3. *That the land proposed for rezoning, or adjacent land, has changed or is changing to a degree such that it is in the public interest and consistent with the intent, purpose and provisions of this chapter to encourage different densities or uses within the land in question.*
4. *That the proposed rezoning is needed to provide land for a demonstrated community need or service and such rezoning will be consistent with the goals, objectives and policies contained within the Comprehensive Plan.*
5. *That the existing zoning classification currently recorded on the Official Zoning Map is in error.*
6. *That the proposed rezoning is in conformance, or will bring the property into conformance, with the Comprehensive Plan goals, objectives and policies, and other related policies or plans for the area.*
7. *That adequate infrastructure/facilities are available to serve the type of uses allowed by the change of zoning, or that the applicant will upgrade and provide such where non-existent or under capacity.*
8. *The impacts of the rezoning upon expected traffic generation and road safety, availability of onsite and off-site parking and the availability of adequate utility services and street access to the site.*

FINDINGS OF FACT & STAFF RECOMMONDATION

After reviewing the Monument Fire District Subdivision Final Plat, the following finding of fact has been made:

- The request has met the applicable criteria identified in Section 18.02.260 C. of the Land Development Code. Therefore, Staff recommends approval of the request.

After reviewing the request for rezoning alongside the Fire Training Facility Site Plan, the following finding of fact has been made:

- The request has met the applicable criteria identified in Section 18.03.140 D of the Land Development Code. Therefore, Staff recommends approval of the request.

RECOMMENDED MOTION/ACTION

Motion 1) On the request for approval of the Monument Fire District Subdivision Final Plat, for property located on parcel No. 7115118002, I move that the Planning Commission forward a recommendation of approval/denial to Town Council, supported by the attached documents and by the finding of fact as listed in the staff report.

Motion 2) On the request for approval of the rezoning from Planned Unit Development (PUD) to Public (P), for property located on parcel No. 7115118002, I move that the Planning Commission forward a recommendation of approval/denial to Town Council, supported by the attached documents and by the finding of fact as listed in the staff report.

Attachment 1
Location and Future Land Use Map

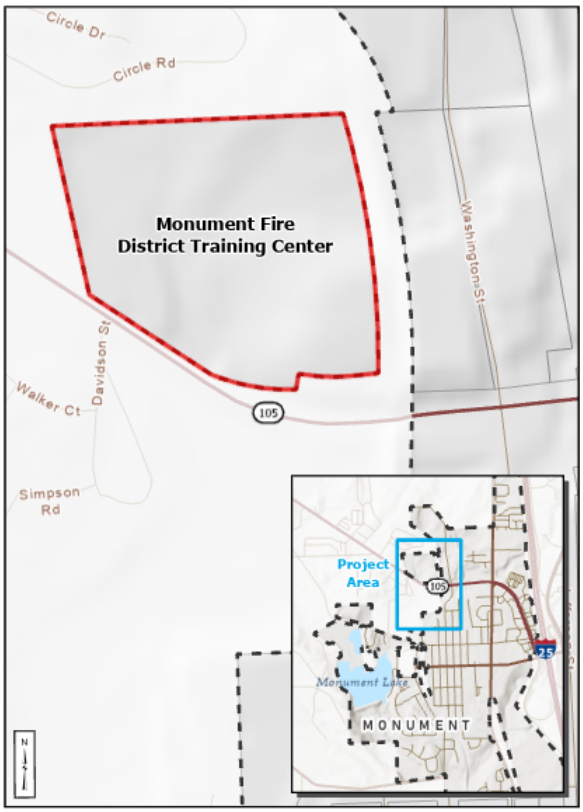


Figure 1 - Location Map

Figure 2 - Future Land Use Map

Monument Fire Training Center

Rezone & Final Plat

File Numbers: 2024-009

AFFIDAVIT – POSTED NOTICE
Rezone & Final Plat

I, Jimmy Bumgarner JR., *(print name)* as the ☐ owner ☒ authorized agent, *(check one)* for the property located at property schedule number 7115118002, in the Town of Monument, El Paso County, Colorado do hereby attest that I installed, ONE sign along W HWY 105, facing out to traffic, in compliance with Town Code Section 18.01.260-Public notice requirements., E. Posted Notice. on FEBRUARY *(month/day)*23 ,2026, which is at least 15 days prior to the public hearing, scheduled for Planning Commission on **March 11**, 2026, and Town Council on **April 6**, 2026, for the proposed development application: **Monument Fire Training Facility.**

Signed: JC Bumgarner

Print Name: Jimmy Bumgarner JR.

Owner/Authorized Agent *(circle one)*

State of CO,

County of El Paso:

Sworn and subscribed to before me, a Notary Public, by Jimmy Bumgarner Jr., this 24 day of February 2026, who is either personally known to me or who has produced Colorado Driver's License as identification.

My Commission Expires: July 8, 2024

Notary Public for the State of Colorado

Print Name: Jennifer Paige Martin

JENNIFER PAIGE MARTIN
NOTARY PUBLIC - STATE OF COLORADO
NOTARY ID 20104021851
MY COMMISSION EXPIRES JUL 8, 2026

Monument Fire Training Center

Rezone & Final Plat

File Numbers: 2024-009

AFFIDAVIT – MAILING
Rezone & Final Plat

I, Jimmy Bumgarner JR, *(print name)* as the ☐ owner ☒ authorized agent, *(check one)* for the property located at property schedule number 7115118002, in the Town of Monument, El Paso County, Colorado, do hereby attest that I reviewed the records of the El Paso County Assessor on the day of 2/20, 2026, and have sent letters via first class U.S. mail to the owners of record for the properties within 500-feet of the perimeter property line of the proposed **Monument Fire Training Center,** giving notice of forthcoming public hearings for Planning Commission on **March 11, 2026** and Town Council on **April 6, 2026** in compliance with Town Code Section 18.01.260-Public notice requirements., F. Mailed notice. on FEBRUARY 20, 2026, which is at least 15 days prior to the date of the hearings.

Signed: J C Bumg

Print Name: Jimmy Bumgarner JR

Owner/Authorized Agent *(circle one)*

State of CO,

County of El Paso:

Sworn and subscribed to before me, a Notary Public, by Jimmy Bumgarner JR, this 24 day of February 2026, who is either personally known to me or who has produced Colorado Drivers license as identification.

My Commission Expires: July 8, 2026

Notary Public for the State of Colorado.

Print Name: Jennifer Paige Martin

JENNIFER PAIGE MARTIN
NOTARY PUBLIC - STATE OF COLORADO
NOTARY ID 20104021851
MY COMMISSION EXPIRES JUL 8, 2026

MONUMENT FIRE DISTRICT – TRAINING FACILITY – SITE PLAN

PROJECT NARRATIVE

April 2024 (Revised January 8, 2026)

OWNER:
Monument Fire Protection District
Jamey Bumgarner
19775 Mitchell Avenue
Monument, CO 80132
(719) 650-9975

APPLICANT:
Monument Fire Protection District
Jamey Bumgarner
19775 Mitchell Avenue
Monument, CO 80132
(719) 650-9975

CONSULTANT:
Strategic Site Designs, LLC
Christopher Perdue, P.E.
88 Inverness Cir. East
Suite E 101
Englewood, CO 80112
(720) 206-6931

SITE DETAILS:
Legal Description: Lot 1, Tri-Lakes Monument Fire Filing No. 1, Reception #221714810, of the Records of El Paso County, Colorado.
Acreage: Lot 1 = 4.90 Acres and Lot 2 = 10.93 Acres
Current Zoning: Planned Unit Development **(**PUD) **Current Use:** Existing Fire Station and Vacant Land (Open Space)

Request

Strategic Site Designs, LLC, on behalf of Oz Architecture, requests approval of a Preliminary/Final Plat subdividing the existing parcel into two parcels, and a rezone from Planned Unit Development (PUD) to the Public (P) Zone District outlined in Section 18.03.255 of the Town's Municipal Code. In addition to the Subdivision Plat and Rezone, we also request administrative approval of a Site Plan to allow for construction of the new training center on Lot 1.

Location

Monument Fire District—Training Facility is located at 18650 CO-105, Monument, Colorado 80132. The site is located wholly within the Northwest 1/4 of the Northeast 1/4 of Section 15, Township 11 South, Range 67 West of the 6th Principal Meridian, in Lot 1 of Tri-Lakes Monument Fire Filing No.1, of the Town of Monument, County of El Paso, State of Colorado. The site was previously annexed into the Town of Monument, the governing body of this land use case.

It is bound by Highway 105 to the south, a manufacturing business to the west, single-family homes to the north, and the Denver and Rio Grande Railroad to the east. The site encompasses approximately 15.83 acres, 14.17 acres of which are undeveloped. The remainder of the parcel is occupied by existing Station #1, which will remain in place and active throughout development.

The District intends to subdivide the existing parcel and create a new lot (Parcel B) and plans to construct a new series of training facilities on the undeveloped portions of Parcel A. The training facilities will include a new training tower, prop storage areas, a new classroom (provided in a standalone building), and a training area for wildland firefighting activities.

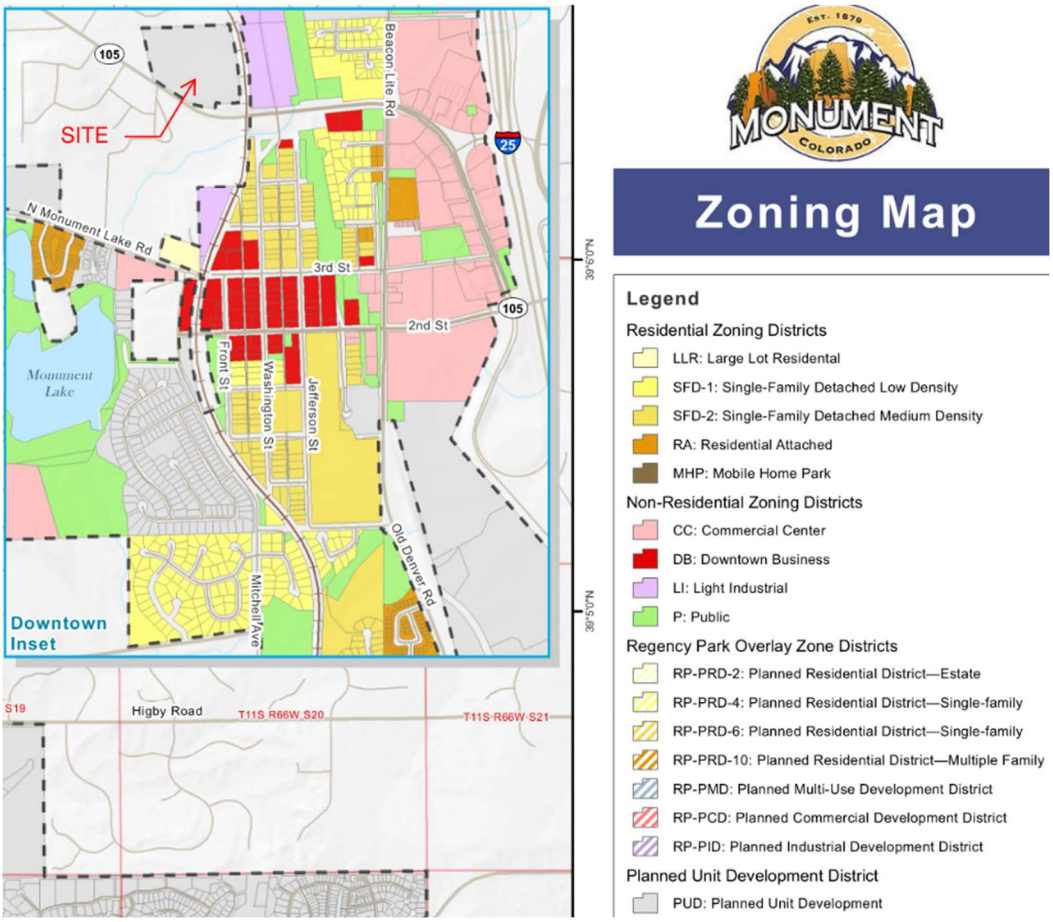
MAP 1: MONUMENT FIRE DISTRICT – TRAINING FACILITY SITE LOCATION

Project Description

Current Zoning

On September 23, 2020, a PD Zoning and Sketch PD Plan were approved for a property previously known as Fire Station No. 1. The project entails a combination of commercial (including automotive repair and apparatus repair shops), office, industrial, storage, and warehousing facilities. It's worth noting that the PD Zoning and Sketch PD Plan were approved under the old Municipal Code, which classified the zone as a Planned Development (PD). However, the Town has since adopted a new Land Development Code (LDC), and the zoning nomenclature has been updated from PD to PUD (Planned Unit Development).

MAP 1: MONUMENT FIRE DISTRICT – TRAINING FACILITY ZONING



Project Description

The Monument Fire District Training Facility is expanding its existing facilities significantly. The expansion plan includes the construction of a new 6,000-square-foot classroom/garage, a training tower, and an extraction training area. These new facilities will be built on currently undeveloped parts of the site.

It's important to note that the existing Tri-Lakes Monument Fire Rescue Station will continue to serve the community without any changes. However, the Monument Fire District plans to subdivide the existing parcel creating two parcels (Parcel A and Parcel B).

The expansion, all planned within Parcel A, will offer extensive training opportunities, including a the training tower, a standalone classroom building, and a dedicated area to train for vehicle extraction or other activities that are invaluable to the fire rescue team. It should be noted that the development of Parcel A will occur in two phases. Phase 1 will include construction of the primary drive isle and parking due east of the existing station, the detention pond, and the training tower and hardscape surrounding it. The Classroom and associated parking/drive isles will be constructed as part of the second phase, which will be permitted for construction at a later date. During the round of entitlements/permitting, the owner seeks to gain Site Plan approval for the entire project (Phase 1 and Phase 2) and then construction approval (CD's) for Phase 1.

The ultimate development plan for Parcel B is not known as of this draft. It is assumed that any

development to occur on that parcel will have to be one of the many land uses identified as permitted, conditional, or special per Section 18.03.380 of Title 18 of the Town's Municipal Code within the Public (P) Zoning District. MFD or another future tenant/owner would also have the option to pursue a rezoning of the parcel that would expand the types of use allowed, pending approval by the Town.

Overall, this expansion will enable the Monument Fire District Training Facility to continue providing high-quality training and service to the community.

MAP 2: MONUMENT FIRE DISTRICT – TRAINING FACILITY SITE PLAN

Access and Circulation

The circulation around the site has been thoughtfully designed to provide ample space for vehicles to move around the parking drive aisles and training facilities without conflict. The appropriate aisle widths and turning radii have been planned to accommodate emergency vehicles. The site will be accessible through two locations via Highway 105, a public street. Both access points are proposed as a whole movement intersection. A Traffic Letter, which analyzes the traffic generated by the development, has been prepared for the Monument Fire District - Training Facility site by Strategic Site Designs, LLC, and is included with this submittal.

Drainage

Strategic Site Designs, LLC has prepared a Drainage Report specific to the site. The report analyzes the stormwater runoff that may result from the proposed development while considering the historic flows from adjacent development. All stormwater quality and detention will be managed within Lot 1 of the Tri-Lakes Monument Fire Filing No. 1. The pond has been designed to handle a 100-year flood event. It will have water quality treatment measures in place before releasing the water downstream into Crystal Creek. It is important to note that the Monument Fire District will own and maintain this detention pond.

Utilities

The property currently receives domestic water and sanitary sewer services from the Town of Monument Sanitation District, and will be developed per the Districts' standards and regulations. Black Hills Energy will provide gas service, and Mountain View Electric Association will provide electric service. Please refer to the "Will Serve" letters submitted with this application for more information.

Landscaping

The developer of Lot 1/Parcel A will install landscaping in the designated areas within the development. Additionally, entryway monument signage and landscaping will be included at the access point off Highway 105. This will provide screening for the users and create an attractive appearance along arterial streets and throughout the development.

PROJECT JUSTIFICATION

1. The Plan is consistent with the Town's Comprehensive Plan.

The Generalized Zoning Map 3 in the 2017 Comprehensive Plan identifies the site as Planned Industrial Development, defined as "a small office, contractor trades, small-scall fabrication, warehouses, manufacturing, and business services." The proposed development is located in the planned industrial development and encourages the areas to develop from existing industrial character to more organized small businesses and contractor trades areas. It also allows for small existing business areas in Town to remain and expand to meet the needs of the area population. The location also agrees with the 2017 Comprehensive Plan that the location of light industrial is generally the area east of Beacon Lite Road north of Highway 105, particularly areas with a view from I-25.

Rezoning Evaluation Criteria

Section 18.03.140.D of the Town of Monument's newly adopted Land Development Code states that the following criteria shall be evaluated when considering a rezoning application.

1. **The compatibility of the rezoning proposal with the surrounding zone districts and land uses in the vicinity of the site of the rezoning, including the characteristics of the existing neighborhood, the applicable area and bulk requirements, and the suitability of the site for development in terms of on-site characteristics;**

   In this case, the proposed rezoning is being undertaken to eliminate the existing PUD Zoning in favor of the current Public Zone District. The proposed use on the property is intended to remain the same as today, so the rezoning will not serve as a tool to change uses, increase density, etc. The current Fire Station is listed as an allowable use in the PUD; however the training center and classroom expansion the District desires to construct is not allowed under the old PUD Document for the subdivision. As such, the request to rezone to P would allow them to construct the new improvements within the context of allowable uses in the zoning district.

2. **The impacts of the rezoning upon expected traffic generation and road safety availability of on-site and off-site parking and the availability of adequate utility services and street access on the site;**

   As demonstrated throughout the review process, the proposed site plan which will hopefully be approved post rezoning approval demonstrates that the development will not pose any adverse impacts to the existing roadways, access points nor utilities in the vicinity of the Project.

3. **That the land proposed for rezoning, or adjacent land, has changed or is changing to a degree such that it is in the public interest and consistent with the intent, purpose and provisions of this chapter to encourage different densities or uses within the land in question;**

   As stated prior, the underlying proposed use on the property is not changing from the current use. The desire is to add additional facilities for the District's use in training personnel and those uses are not allowed under the current zoning due to limited allowable uses in the PUD Document previously approved. These facilities would be allowed under the Public Zone District.

4. **That the proposed rezoning is needed to provide land for a demonstrated community need or service and such rezoning will be consistent with the goals, objectives and policies contained within the Comprehensive Plan;**

   From our perspective, we could state that this rezoning aligns with a demonstrated community need. As the greater Monument area grows and the District is tasked with developing more and more firefighting personnel to respond to growing need within the community, they will need to be educated, trained and integrated into the team(s). Having the District's own facilities to train their staff allows them more flexibility with training, more opportunity because they won't share facilities, and helps the public by allowing training exercises to occur within the District's service boundary.

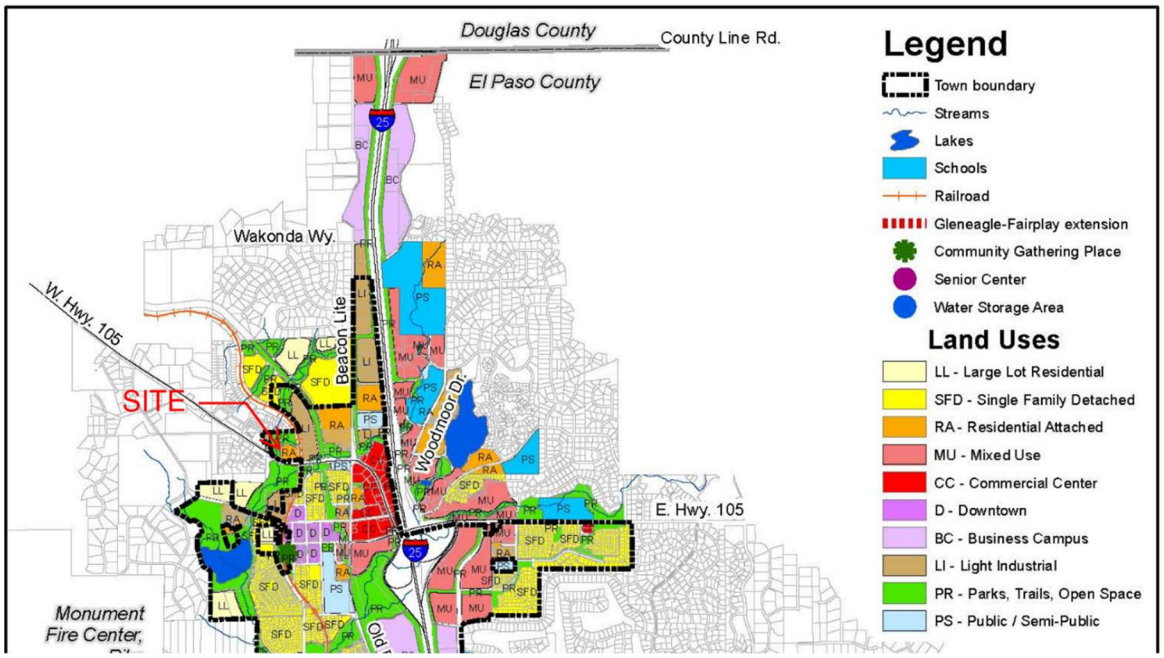
5. **That the existing zoning classification currently recorded on the Official Zoning Map is in error;**

   This item is not relevant to this request since we don't believe the existing zoning is in error based on our research.

6. That the proposed rezoning is in conformance, or will bring the property into conformance, with the Comprehensive Plan goals, objectives and policies, and other related policies or plans for the area;

   The proposed development is located in an area designated as Residential Attached (RA) and Parks, Trails, Open Space (PR) in the Future Land Use Map 5 of the 2017 Comprehensive Plan. It is to be noted that this Future Land Use Map does not align with the current existing use of the land as Monument Fire Station 1 currently occupies the RA and PR area. The Land is more in line with the Generalized Zoning Map 3 of the 2017 Comprehensive Plan and the reason for the PUD Major Amendment to define the proposed land use. This designation defines the area as suitable for small-scale fabrication, warehouses, manufacturing, business services, contractor trades, and small offices. This designation aims to encourage the area's development from its existing industrial character to a more organized space for small businesses and contractor trades. Additionally, it allows small existing businesses in the Town to remain and expand to meet the needs of the local population. The location of the proposed development aligns with the 2017 Comprehensive Plan, which generally designates the location of light industrial areas as east of Beason Lite Road, north of Highway 105, specifically those with a view from I-25.

MAP 3: Future Land Use Map



SUMMARY

7. **That adequate infrastructure/facilities are available to serve the type of uses allowed by the change of zoning, or that the applicant will upgrade and provide such where non-existent or under capacity; and**

   Throughout the review of our Site Plan Proposal, we have coordinated with the local utility service providers and determined that existing facilities are adjacent to the property and will allow for development to occur without the need for upgrades, extensions, etc.

8. **The impacts of the rezoning upon expected traffic generation and road safety, availability of onsite and off-site parking and the availability of adequate utility services and street access to the site.**

   See our response to Item 2. This requirement is currently listed twice in the municipal code.

SUMMARY

The proposed Monument Fire District—Training Facility, as proposed, would align with the region's existing and proposed land uses, which mainly comprise industrial-type uses. Moreover, the existing road and utility network can accommodate the facility's proposed development and would not have any significant or adverse impacts on the public or private infrastructure.

The applicant has evaluated the justifications outlined in section 18.03.450.D of the Town's Land Development Code and believes that the Monument Fire District – Training Facility project is justified and would be highly beneficial to the Town.

If you require further information or clarification, please don't hesitate to contact us.

Sincerely,
Strategic Site Designs, LLC,

Christopher Perdue, P.E.
Principal

FINAL PLAT
MONUMENT FIRE DISTRICT SUBDIVISION

A RE-SUBDIVISION OF LOT 1, TRI-LAKES MONUMENT FIRE FILING NO. 1,
LOCATED WHOLLY WITHIN THE NORTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 15,
TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE 6TH PRINCIPAL MERIDIAN,
TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO.

CERTIFICATE OF DEDICATION AND OWNERSHIP:

THE UNDERSIGNED CERTIFIES TO AND FOR THE BENEFIT OF THE BOARD OF COUNTY COMMISSIONERS OF EL PASO COUNTY, THAT AS OF THE DATE SET FORTH BELOW AND THE DATE OF RECORDING OF THIS DOCUMENT, THE UNDERSIGNED CONSTITUTE ALL OF THE OWNERS OF THE PROPERTY WHICH IS SUBJECT OF THIS PLAT, THAT THE UNDERSIGNED HAVE GOOD RIGHT AND FULL POWER TO CONVEY, ENCUMBER AND SUBDIVIDE SAME, AND THAT THE PROPERTY IS FREE AND CLEAR OF ALL LIENS, ENCUMBRANCES, EASEMENTS AND RIGHTS-OF-WAY EXCEPT THE EASEMENTS AND RIGHTS-OF-WAY DEPICTED ON THIS PLAT, AND THE LIENS HELD BY OTHER SIGNATORIES TO THIS DOCUMENT. IN THE EVENT OF DEFECT IN SAID TITLE WHICH BREACHES THE WARRANTIES IN THIS CERTIFICATE, THE UNDERSIGNED, JOINTLY AND SEVERALLY, AGREE(S) TO REMEDY SUCH DEFECT UPON DEMAND BY EL PASO COUNTY, WHICH REMEDY SHALL NOT BE DEEMED EXCLUSIVE.

KNOW ALL MEN BY THESE PRESENTS, THAT THE UNDERSIGNED, BEING ALL OF THE OWNER(S), MORTGAGEE(S) AND LIENHOLDER(S) OF THE CERTAIN LANDS IN THE TOWN OF MONUMENT, EL PASO COUNTY, COLORADO, DESCRIBED THE FOLLOWS:

LOT 1, TRI-LAKES MONUMENT FIRE FILING NO. 1, RECEPTION NUMBER 221714810, OF THE RECORDS OF EL PASO COUNTY, COLORADO.

FURTHERMORE, WITHIN THE PREVIOUSLY DESCRIBED TRACT, LOTS 1 AND 2 ARE DESCRIBED AS FOLLOWS;

LOT 1

COMMENCING AT THE NORTH QUARTER CORNER OF SAID SECTION 15, MONUMENTED BY A 2.5" ALUMINUM CAP WITH A PLS NUMBER OF 10108; THENCE N 87 DEGREES 41 MINUTES 13 SECONDS E, 109.79 FEET TO A POINT ON THE SOUTHERN BOUNDARY OF SUBDIVISION ELEPHANT ROCK ACRES, SAID POINT BEING THE TRUE **POINT OF BEGINNING FOR LOT 1;**

THENCE N 87 DEGREES 32 MINUTES 30 SECONDS E A DISTANCE OF 409.33 FEET;
THENCE S 51 DEGREES 36 MINUTES 42 SECONDS E A DISTANCE OF 273.32 FEET;
THENCE S 74 DEGREES 23 MINUTES 18 SECONDS W A DISTANCE OF 78.12 FEET;
THENCE S 15 DEGREES 36 MINUTES 42 SECONDS E A DISTANCE OF 206.78 FEET:
THENCE S 33 DEGREES 27 MINUTES 29 SECONDS W A DISTANCE OF 217.75 FEET TO A POINT ON THE NORTHERN RIGHT OF WAY OF HIGHWAY 105;
THENCE ALONG THE THE NORTHERN RIGHT OF WAY OF HIGHWAY 105 THE FOLLOWING COURSES:
N 56 DEGREES 32 MINUTES 31 SECONDS W A DISTANCE OF 7.03 FEET;
THENCE N 15 DEGREES 57 MINUTES 47 SECONDS WEST A DISTANCE OF 2.93 FEET;
THENCE N 57 DEGREES 09 MINUTES 33 SECONDS WEST A DISTANCE OF 227.49 FEET;
THENCE LEAVING SAID HIGHWAY 105 RIGHT OF WAY N 15 DEGREES 36 MINUTES 42 SECONDS WEST A DISTANCE OF 199.10 FEET TO A POINT ON THE EASTERN BOUNDARY OF BEATEN-JONE ADDITION;
THENCE N 15 DEGREES 41 MINUTES 17 SECONDS W A DISTANCE OF 338.30 FEET TO THE POINT OF BEGINNING.

CONTAINING 4.900 ACRES, 213,391 SQUARE FEET, MORE OR LESS.

LOT 2

COMMENCING AT THE NORTH QUARTER CORNER OF SAID SECTION 15, MONUMENTED BY A 2.5" ALUMINUM CAP WITH A PLS NUMBER OF 10108; THENCE N 87 DEGREES 41 MINUTES 13 SECONDS E, 109.79 FEET; THENCE S 87 DEGREES 32 MINUTES 30 SECONDS E, 409.33 FEET TO THE **TRUE POINT OF BEGINNING FOR LOT 2;**

THENCE N 87 DEGREES 32 MINUTES 30 SECONDS E A DISTANCE OF 910.76 FEET, TO A POINT ON THE WESTERN RIGHT - OF - WAY OF THE DENVER AND RIO GRANDE WESTERN RAILROAD;
THENCE ALONG A CURVE TO THE RIGHT HAVING A CHORD BEARING S 07 DEGREES 51 MINUTES 54 SECONDS E, CHORD DISTANCE OF 861.50 FEET, A RADIUS OF 2488.72 FEET, AN ARC LENGTH OF 865.86 FEET TO A POINT ON THE NORTHERN RIGHT - OF - WAY OF HIGHWAY 105;
THENCE ALONG THE NORTHERN RIGHT-OF-WAY OF HIGHWAY 105 THE FOLLOWING COURSES:
S 83 DEGREES 39 MINUTES 11 SECONDS W A DISTANCE OF 77.11 FEET;
THENCE ALONG A CURVE TO THE RIGHT HAVING A CHORD BEARING N 87 DEGREES 51 MINUTES 16 SECONDS W, CHORD DISTANCE OF 171.65 FEET, A RADIUS OF 663.28 FEET, AN ARC LENGTH OF 172.13 FEET;
THENCE S 10 DEGREES 00 MINUTES 21 SECONDS W A DISTANCE OF 49.91 FEET;
THENCE ALONG A CURVE TO THE RIGHT HAVING A CHORD BEARING N 79 DEGREES 57 MINUTES 38 SECONDS W, CHORD DISTANCE OF 267.61 FEET, A RADIUS OF 656.80 FEET, AN ARC LENGTH OF 269.50 FEET;
THENCE N 56 DEGREES 32 MINUTES 31 SECONDS WEST A DISTANCE OF 215.31 FEET;
THENCE LEAVING SAID HIGHWAY 105 NORTHERN RIGHT OF WAY N 33 DEGREES 27 MINUTES 29 SECONDS EAST A DISTANCE OF 217.75 FEET;
THENCE N 15 DEGREES 36 MINUTES 42 SECONDS WEST A DISTANCE OF 206.78 FEET;
THENCE N 74 DEGREES 23 MINUTES 18 SECONDS EAST A DISTANCE OF 78.12 FEET;
THENCE N 15 DEGREES 36 MINUTES 42 SECONDS WEST A DISTANCE OF 273.32 FEET TO THE POINT OF BEGINNING.

CONTAINING 10.931 ACRES, 476,163 SQUARE FEET, MORE OR LESS.

HAVE BY THESE PRESENTS LAID OUT, SUBDIVIDED AND PLATTED THE SAME INTO LOTS, TRACTS, AND EASEMENTS AS SHOWN ON THIS PLAT, UNDER THE NAME AND STYLE OF MONUMENT FIRE DISTRICT SUBDIVISION, AND DO HEREBY DEDICATE TO THE TOWN OF MONUMENT AS PUBLIC ROADS, THE STREETS AND ROADS AS SHOWN ON SAID PLAT. THE UNDERSIGNED HEREBY FURTHER DEDICATE ALL UTILITY EASEMENTS AND DEDICATE TO THE TOWN (OR THE TRI-VIEW METROPOLITAN DISTRICT, WOODMOOR WATER AND SANITATION DISTRICT, AS APPLICABLE) FOR PUBLIC USE ALL WATER AND WATER RIGHTS, BOTH TRIBUTARY AND NON-TRIBUTARY, ARISING UPON, FLOWING UPON OR LYING UNDER THE PROPERTY AS DESCRIBED AND SHOWN HEREON.

THE UNDERSIGNED HEREBY FURTHER DEDICATE TO THE PUBLIC UTILITIES THE RIGHT TO INSTALL, MAINTAIN AND OPERATE MAINS, TRANSMISSION LINES, SERVICE LINES AND APPURTENANCES TO PROVIDE SUCH UTILITY SERVICES WITHIN THIS SUBDIVISION OR PROPERTY CONTIGUOUS THERETO, UNDER, ALONG AND ACROSS PUBLIC ROADS AS SHOWN ON THIS PLAT AND ALSO UNDER, ALONG AND ACROSS UTILITY EASEMENTS AS SHOWN HEREON.

OWNER:

MONUMENT FIRE DISTRICT SUBDIVISION, HAS EXECUTED THIS INSTRUMENT THIS_____DAY OF _____,20_____.

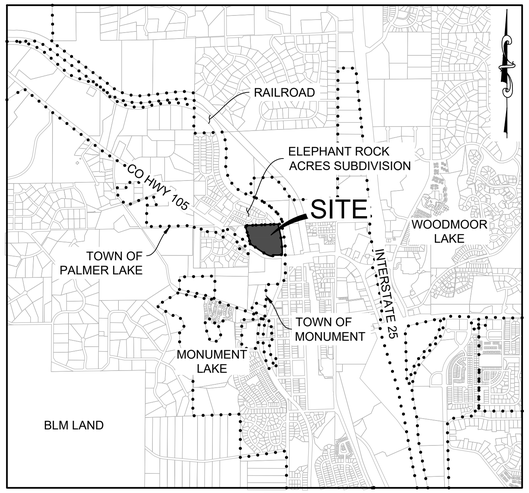
_____
(NAME)
(TITLE), (COMPANY)

NOTARIAL:

STATE OF COLORADO)
) SS
COUNTY OF EL PASO)

SIGNED THIS_____DAY OF___, 20__, COUNTY__, STATE _____

_____
NOTARY SIGNATURE MY COMMISSION EXPIRES_____



VICINITY MAP
SCALE: 1" = 2000'

SHEET INDEX	
1	COVER SHEET
2	SUBDIVISION PLAT

GENERAL NOTES

1. MONUMENTS FOUND OR SET ARE SHOWN HEREON THIS PLAT
2. DISTANCE ON THIS SURVEY ARE EXPRESSED IN US SURVEY FEET AND DECIMALS
3. THE DATE OF THE INITIAL FIELD WORK WAS COMPLETED ON OCTOBER 16, 2023.
4. BASIS OF BEARING: IS THE NORTH LINE OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 15, BEING N87°31'19"E,1335.00'. AS MEASURED FROM THE EAST SIXTEEN CORNER BETWEEN SECTION 10 AND 15 TO THE NORTHEAST CORNER OF SAID SECTION 15.
5. FLOODPLAIN STATEMENT: THIS PROPERTY, IS NOT LOCATED WITHIN A DESIGNATED FLOODPLAIN AS DETERMINED BY FEMA PER FIRM PANEL 08041C0257G, EFFECTIVE DATE DECEMBER 7, 2018 AND 08041C0276G, EFFECTIVE DATE DECEMBER 7, 2018.
6. NOTICE: THIS PROPERTY MAY BE IMPACTED BY NOISE AND OTHER SIMILAR SENSORY EFFECTS OF FLIGHT CAUSED BY AIRCRAFT USED IN BOTH THE UNITED STATES AIR FORCE ACADEMY'S AIRMANSHIP PROGRAM AND DURING SPECIAL EVENTS. THIS NOTICE SHALL REMAIN IN EFFECT UNTIL THE AIR FORCE ACADEMY SHALL CEASE TO BE SUED FOR FLIGHT TRAINING PURPOSES OR UNTIL ALL AIRPORT ON THE AIR FORCE ACADEMY SHALL CEASE TO BE ACTIVELY USED. THIS NOTICE SHALL RUN IN PERPETUITY WITH THE LAND.
7. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENTS OR ACCESSORY. COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUE 18-4-508, C.R.S.
8. EXISTING ZONING: PUD
9. UTILITY EASEMENTS AS SHOWN ARE HEREBY DEDICATED TO THE MONUMENT FIRE DISTRICT.

LIMITATION OF ACTIONS AGAINST LAND SURVEYORS:

ALL ACTIONS AGAINST ANY LAND SURVEYOR BROUGHT TO RECOVER DAMAGES RESULTING FROM ANY ALLEGED NEGLIGENT OR EFFECTIVE LAND SURVEY SHALL BE BROUGHT WITHIN THREE YEARS AFTER THE PERSON BRINGING THE ACTION EITHER DISCOVERED OR IN THE EXERCISE OF REASONABLE DILIGENCE AND CONCERN SHOULD HAVE DISCOVERED THE NEGLIGENCE OR DEFECT WHICH GAVE RISE TO SUCH ACTION, AND NOT THEREAFTER, BUT IN NO CASE SHALL SUCH ACTION BE BROUGHT MORE THAN TEN YEARS AFTER THE COMPLETION OF THE SURVEY UPON WHICH SUCH ACTION IS BASED.

SURVEYOR'S CERTIFICATE:

I, ANTHONY KNIEVEL, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SURVEY REPRESENTED BY THIS PLAT WAS MADE UNDER MY DIRECT SUPERVISION AND THE MONUMENTS SHOWN HEREON ACTUALLY EXIST AND THIS PLAT ACCURATELY REPRESENTS SAID SURVEY.

_____
COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR
ANTHONY KNIEVEL. PLS 38157
FOR AND ON BEHALF OF GEOVISTA SURVEY AND MAPPING
88 INVERNESS CIR EAST, SUITE B101
ENGLEWOOD, COLORADO 80112
(303) 549 - 5903

TITLE CERTIFICATE:

I, AN AUTHORIZED REPRESENTATIVE OF_____, A TITLE INSURANCE COMPANY LICENSED TO DO BUSINESS IN THE STATE OF COLORADO, HAVE MADE AN EXAMINATION OF THE PUBLIC RECORDS AND STATE THAT ALL OWNERS, MORTGAGEES, AND LIENHOLDERS OF THE PROPERTY ARE LISTED IN THE CERTIFICATE OF OWNERSHIP AND DEDICATION.

SIGNED THIS_____DAY OF___, 20___.

BY:_____AS_____OF_____, STATE OF COLORADO)
) SS.
COUNTY OF EL PASO)

SIGNED THIS_____DAY OF_____, 20_, COUNTY__, STATE ___

_____
NOTARY SIGNATURE

_____
MY COMMISSION EXPIRES

PLANNING DEPARTMENT REVIEW:

THIS PLAT WAS REVIEWED BY THE TOWN OF MONUMENT PLANNING DEPARTMENT THIS____DAY OF_____,20_____.

_____
PLANNING DIRECTOR

STREET MAINTENANCE:

IT IS MUTUALLY UNDERSTOOD AND AGREED BY THE SUBDIVIDER AND THE TOWN OF MONUMENT THAT THE DEDICATED PUBLIC ROADS SHOWN ON THIS PLAT WILL NOT BE MAINTAINED BY THE TOWN UNTIL AND UNLESS THE SUBDIVIDER CONSTRUCTS THE STREETS AND ROADS IN ACCORDANCE WITH THE SUBDIVISION IMPROVEMENT AGREEMENT, IF ANY, AND THE SUBDIVISION REGULATIONS AND OTHER ORDINANCES OF THE TOWN OF MONUMENT IN EFFECT AT THE DATE OF THE RECORDING OF THIS PLAT, AND APPROVAL OF THE TOWN HAS BEEN ISSUED TO THAT EFFECT.

TOWN APPROVAL:

This plat is approved for filing and the Town hereby accepts the dedications shown hereon subject to the provisions in " Street Maintenance" set forth above, and further accepts the dedication of the easements shown hereon for the purposes stated.

_____
MAYOR DATE

ATTEST:

_____
TOWN CLERK DATE

RECORDERING STAMP

PROJECT TEAM:

APPLICANT: **TRI - LAKES MONUMENT FIRE PROTECTION DISTRICT**
16055 OLD FOREST POINT, #102
MONUMENT, CO 80132
ATTENTION: JAMEY BUMGARNER
(719) 650-9975

ENGINEER: **STRATEGIC SITE DESIGNS, LLC**
88 INVERNESS CIRCLE EAST, SUITE B101
ENGLEWOOD, CO 80112
ATTENTION: CHRISTOPHER PERDUE
(720) 633-0219

SURVEYOR: **GEOVISTA SURVEY AND MAPPING**
88 INVERNESS CIRCLE EAST, SUITE B101
ENGLEWOOD, CO 80112
ATTENTION: GEORGE PRIEN
(303) 549 - 5903

CONTACT INFORMATION
88 INVERNESS CIRCLE EAST, SUITE B-101
ENGLEWOOD, CO 80112
(720) 206-6931
CPERDUE@STRATEGICSITEDESIGNS.COM
ATTENTION: CHRISTOPHER PERDUE, P.E., M.B.A.

STRATEGIC SITE DESIGNS

FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

MONUMENT FIRE DISTRICT SUBDIVISION
TOWN OF MONUMENT, CO

REV	DESCRIPTION	BY	DATE

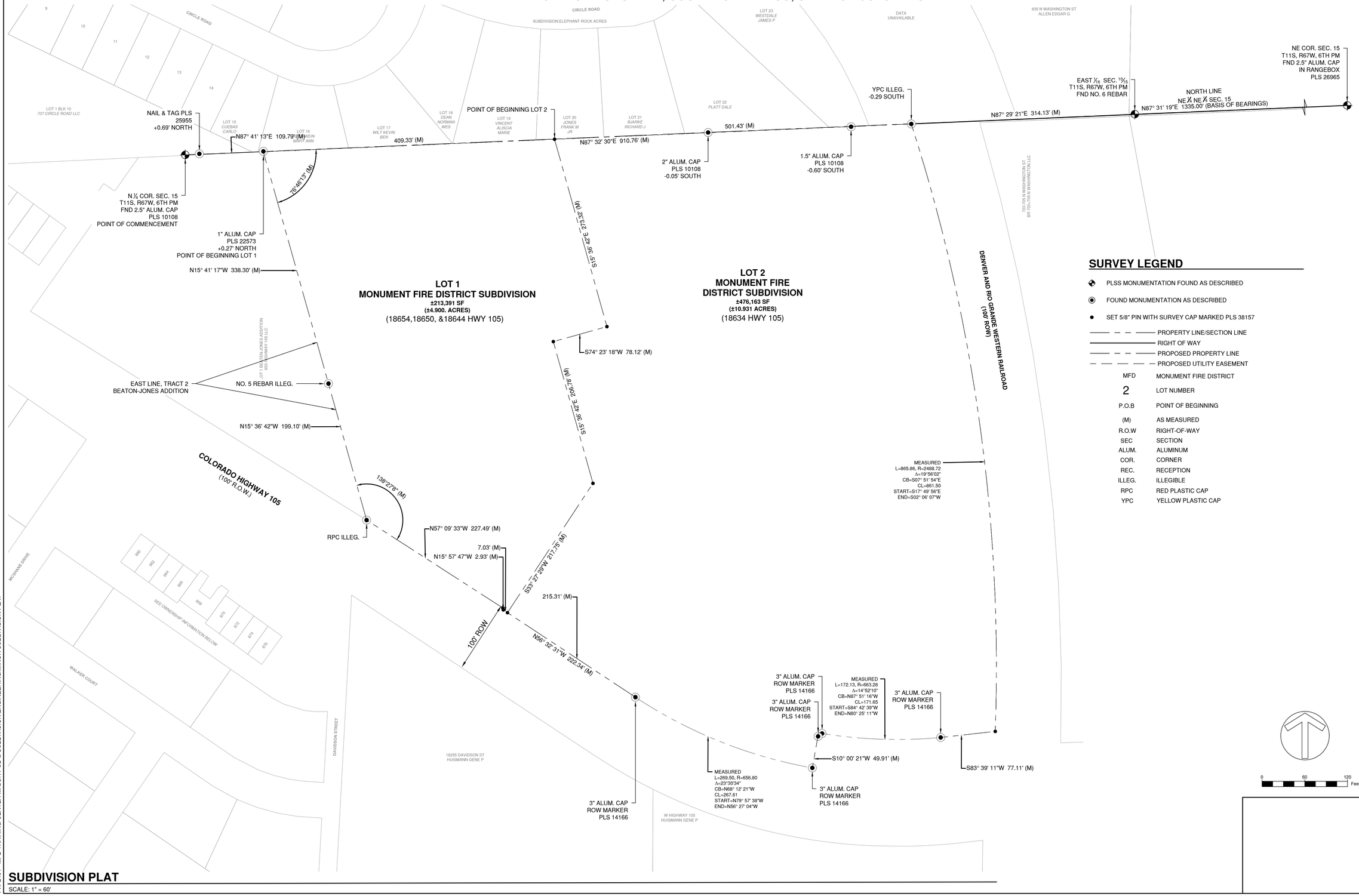
JOB NO:	2403-001
ORIGINAL ISSUE:	2/15/24
DESIGN BY:	BMS
CHECKED BY:	CLP
SCALE:	NTS

SHEET NUMBER
1 OF 2

P:\P2404 - MFD TRAINING CENTER MAJOR PUD & SUBDIVISION\ENGINEERING\MINOR SUBDIVISION PLAT

FINAL PLAT
MONUMENT FIRE DISTRICT SUBDIVISION

A RE-SUBDIVISION OF LOT 1, TRI-LAKES MONUMENT FIRE FILING NO. 1,
LOCATED WHOLLY WITHIN THE NORTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 15,
TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE 6TH PRINCIPAL MERIDIAN,
TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO.



SURVEY LEGEND

- PLSS MONUMENTATION FOUND AS DESCRIBED
- FOUND MONUMENTATION AS DESCRIBED
- SET 5/8" PIN WITH SURVEY CAP MARKED PLS 38157
- PROPERTY LINE/SECTION LINE
- RIGHT OF WAY
- PROPOSED PROPERTY LINE
- PROPOSED UTILITY EASEMENT

MFD	MONUMENT FIRE DISTRICT
2	LOT NUMBER
P.O.B	POINT OF BEGINNING
(M)	AS MEASURED
R.O.W	RIGHT-OF-WAY
SEC	SECTION
ALUM.	ALUMINUM
COR.	CORNER
REC.	RECEPTION
ILLEG.	ILLEGIBLE
RPC	RED PLASTIC CAP
YPC	YELLOW PLASTIC CAP

0 60 120 Feet

SUBDIVISION PLAT

SCALE: 1" = 60'

P:\P2404 - MFD TRAINING CENTER MAJOR PUD & SUBDIVISION\ENGINEERING\MINOR SUBDIVISION PLAT

CONTACT INFORMATION
88 INVERNESS CIRCLE EAST, SUITE B-101
ENGLEWOOD, CO 80112
STRATEGIC SITE DESIGNS (720) 206-6931
CPERDUE@STRATEGICSITEDESIGNS.COM
ATTENTION: CHRISTOPHER PERDUE, P.E., M.B.A.

FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

MONUMENT FIRE DISTRICT SUBDIVISION
TOWN OF MONUMENT, CO

REV	DESCRIPTION	BY	DATE

JOB NO:	2403-001
ORIGINAL ISSUE:	2/15/24
DESIGN BY:	BMS
CHECKED BY:	CLP
SCALE:	1" = 60'
SHEET NUMBER	2 OF 2

Final Drainage Report

For

Monument Fire District – Training Center (V2.0)

Monument, Colorado

Drainage Report Prepared for:
Town of Monument
Planning Department
645 Beacon Lite Road
Monument, CO 80132

Prepared by:
Strategic Site Designs, LLC
88 Inverness Circle East, Suite B101
Englewood, CO 80112
Contact: Christopher Perdue
(720) 206 – 6931

SSD Project Number: 2404-001

1st Submittal October 17, 2025

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Certifications

Engineer Certification

"This Preliminary Drainage Report for Monument Fire District – Training Facility in Monument, CO was prepared under my direct supervision in accordance with the provisions of the El Paso County – Drainage Criteria Manual Volume 1 for the owners thereof. I understand that The Town of Monument and El Paso County and any other applicable jurisdiction will not assume the liability for drainage facilities designed by others."

(AFFIX SEAL)

Signature: _____

Christopher L Perdue, P.E.
Registered Professional Engineer
State of Colorado No. 50745

Developer/Owner Certification

"The Developer hereby certifies that the drainage facilities for the Monument Fire District – Training Facility located in Monument, CO shall be constructed and operated according to the design presented in this report. I understand that The Town of Monument, and El Paso County do not and will not assume liability for the drainage facilities designed and/or certified by my engineer and that each jurisdiction reviews drainage plans pursuant to Colorado Revised Statutes, Title 30, Article 28; but cannot, on behalf of the County guarantee that final drainage design review will absolve the Developer and/or their successors and/or assigns of future liability for improper design."

_____
Name of Developer/Owner

_____
Authorized Representative

Purpose

This document is a Preliminary Drainage Plan (PDP) to accompany the Site Plan Application for Monument Fire District's proposed Training Campus Project located adjacent to existing Fire Station #1 off of Highway 105. The purpose of the PDP is to describe the proposed stormwater management approach for the overall development of Parcels A and B. The general flow patterns, impervious area(s), extended detention facility location, and general routing of flows are described throughout this report and the appendices to present a conceptual understanding of how stormwater management will be addressed for new flows and existing flow will be routed through the project site.

Section I – General Location and Description

1.1 Site Location

Monument Fire District—Training Facility is located at 18650 CO-105, Monument, Colorado 80132. The site is located wholly within the Northwest 1/4 of the Northeast 1/4 of Section 15, Township 11 South, Range 67 West of the 6th Principal Meridian, in Lot 1 of Tri-Lakes Monument Fire Filing No.1, of the Town of Monument, County of El Paso, State of Colorado. The site was previously annexed into the Town of Monument, who is the governing body of this land use case.

It is bounded by Highway 105 to the south, a manufacturing business to the west, single-family homes to the north, and the Denver and Rio Grande Railroad to the east. The site encompasses approximately 15.84 acres; 14.17 acres of which are undeveloped. The remainder of the parcel is occupied by existing Station #1, which will remain in place and active throughout development.

Generally, the District plans to construct a new series of training facilities on a portion of the existing un-developed open space east and north of existing Station 1. They also intend to sub-divide the existing parcel and create a new lot (Parcel B). Parcel B will remain un-developed open space. The plan is to convey that parcel to another entity in the future who will be responsible for developing it in accordance with the Town's Code. The training facilities are expected to include a new training tower, prop storage areas, and a new classroom (provided in a standalone building). More details regarding the uses and their respective locations on the site are provided in the Site Plan Drawing Package.

According to FEMA and Dirty Woman/Crystal Creek Drainage Basin Planning Study shows that the only major existing drainage way in the area is Crystal Creek, which runs adjacent to our site. This existing major drainage way runs along the north side of Highway 105 until it crosses underneath Highway 105 just before Washington Street.

1.2 Description of Property

The property has a natural slope towards Highway 105 from both the west and east sides, further facilitated by an existing 5-foot wide and 7-foot-high concrete box culvert underneath Highway 105. The land's topography is particularly steep in a small segment of the eastern side, which runs parallel to the railroad, with slopes that rise as high as 2(H):1(V). Meanwhile, the other slopes on the property are significantly flatter, ranging from 1.0% to 4(H):1(V), per the topographic survey completed by GeoVista Survey and Mapping, LLC.

The site's ground cover condition in the undeveloped portion(s), are primarily comprised of native grasses. These grasses are well-established and have been able to thrive in the local environment. Their dense growth also helps to prevent soil erosion and maintain the stability of the ground.

FEMA Flood Insurance Rate Map Panel 08041C0257G, effective 12-07-218, depicts the parcel(s) lying within the Area of Minimal Flood Hazard Zone X and outside of the 0.2% annual chance floodplain.

Utilizing the USDA's online Soil Survey, our team determined that the following soils underly the site:

Unit Symbol	Map Unit Name	% of AOI	Hydrologic Soil Group
1	Alamosa loam, 1 to 3 percent slopes	30.4%	D
92	Tomah-Crowfoot loamy sands, 3 to 8 percent slopes	9.9%	B
93	Tomah-Crowfoot complex, 8 to 15 percent slopes	59.7%	B

A detailed soils report containing additional characteristics of the on-site soils is included in the appendices.

Section II – Existing Conditions

2.1 Existing Major Drainage Basins

Based on our review of the FEMA Flood Map Service Center, the site lies within the Crystal Creek Major Basin. Directly on the south side of Highway 105, Crystal Creeks has an established and delineated floodplain.

The existing conditions of Crystal Creek have been analyzed by the Drainage Basin Planning Study of Dirty Woman Creek and Crystal Creek El Paso County, Colorado, which, was prepared by Kiowa Engineering Corporation in September 1993. The study found that "*The most significant areas of existing flood hazard occur along I-25, between Crystal Creek and Dirty Woman Creek. An inadequate capacity culvert under the I-25 Frontage Road forces the 100-year discharge into Crystal Creek to be diverted south along I-25 and into Dirty Woman Creek. Though no structures are threatened, Colorado Highway 105 and the northbound I-25 embankment could be eroded*."

Though the conditions above do not necessarily affect the subject parcel, there is information within the study that can be used to assist our analysis.

According to the Dirty Woman and Crystal Creeks Drainage Basin Planning Study, there are two design points in which flows from northeast of the site pass beneath the railroad ROW and discharge in locations that pass through the subject parcels. These flows are provided later in the report and are shown in the reference material section. In addition to the flow information, recommendations were made to install a second box culvert where these two design points converge and generate 630 CFS that pass beneath Highway 105 towards the existing delineated floodplain. It should be noted that Basin CC 183 is also tributary towards the box culvert underneath Highway 105, which would increase the 630 CFS to 674.29 CFS. Refer to Refer to Appendix F for further clarification. The existing 5'(W) by 7'(H) concrete box culvert in this location; however, it is not sufficient to convey these flows as shown in Appendix B. The existing study recommends the installation of a second culvert of the same dimensions, which has not been constructed to date.

2.2 Existing Minor Drainage Basins

The "Dirty Woman and Crystal Creek Drainage Basin Planning Study" has identified the presence of 9 minor sub-basins that lie upstream or overtop of the current site. These basins combine to create the flow rates discussed above and later in the study.

To better understand each of these basins, a detailed description of their characteristics and attributes was extracted from the existing Planning Study and provided in the table below. Additionally, please refer to Appendix G of this report for a visual representation of the existing drainage system.

Ex-Basin	Area (Acres)	Ex-Q_{100} (CFS)	IMP(%)	Initial Ex-Design Point	Final Ex-Design Point
CC 165	43.2	121	73.0	DP 167	DP 169
CC 167	45.9	116	73.0	DP 167	DP 169

Ex-Basin	Area (Acres)	Ex-Q_{100} (CFS)	IMP(%)	Initial Ex-Design Point	Final Ex-Design Point
CC 169	67.6	119	51.0	DP 169	N/A
CC 171	27.3	90	73.0	DP 167	DP 169
CC 173	20.1	56	73.0	DP 177	DP 181
CC 175	22.4	46	57.0	DP 177	DP 181
CC 177	45.6	89	62.0	DP 177	DP 181
CC 179	37.2	42	51.0	DP 179	DP 181
CC 181	24.1	49	51.0	DP 181	N/A
CC 183	54.3	1,213	62.0	DP 169, 181	DP 183

As discussed in Section 2.1, the existing Drainage Basin Planning Study indicates that there are two design points and a portion of CC 183 that enter the site. Design Point (DP) 169 has a total of 397 cubic feet per second (CFS) of water released onto the existing site, while DP 181 has 232 CFS of water that flows into the site. Design Point 169 releases flows under the railroad through a 6'(W) by 4'(H) concrete box culvert. The culvert is required to remain. On the other hand, Design Point 181 flows are released via a single 42" CMP pipe that ultimately flows overland to a set of three 42” CMP pipes that discharge into an open swale conveying flow through a single-family residential home's backyard. Once flows pass through their fence(s) the flow reaches the subject property and flows overland to the south in a shallow concentrated swale towards the Highway 105 box culvert. The study presents a table of Sub-basin Hydrologic Data that provides comprehensive details on the basins' existing conditions, which are critical in understanding the site's drainage system, can be found in Appendix B and G.

Section III – Proposed Conditions

3.1 Proposed Major Drainage Basins

As outlined in previous sections, the proposed site will lie within the Crystal Creek Major Drainage Basin. Due to the site’s overall size and location within the major basin, no proposed impacts are expected to the overall basin. The project will include development of additional impervious area; however, runoff reduction practices will be implemented to offset the additional runoff. As such, our study will primarily focus on the impacts within the localized minor basins.

To date, our research has not discovered any former drainage studies that were performed with a specific focus on this property, thus the remainder of this report will develop our team’s approach to addressing the offsite flow from the Planning Study and the increase in runoff that will occur as a result of this project’s construction.

To ensure that our approach is effective and aligns with the best practices, we have implemented Storm Drainage Analysis and Design Criteria for this project from the “Drainage Criteria Manual” of El Paso County, the “Drainage Criteria Manual” of the City of Colorado Springs, and the “Urban Storm Drainage Criteria Manual” of Mile High Flood District (MHFD). These manuals provide detailed guidelines on how to manage stormwater runoff in a sustainable and efficient way.

By adhering to these guidelines, we are confident that our design will not only effectively reduce stormwater runoff in the basins where these practices are implemented but also promote the health and safety of the surrounding environment and communities.

3.2 Proposed Minor Basins

As outlined in Section 2.2, the proposed site lies within minor sub-basin “CC 183” outlined in the existing Planning Study. Based on the basin characteristics identified in that study, approximately 75% of that basin lies north of Highway 105 and about 25% south of Highway 105. The existing study does not have a specific design point at the Highway 105 culvert; however, an estimated flow at this culvert is 630 CFS (Reach CC-U-41).

It should be noted that our original design for this site contemplated a much larger training campus that required significant drainage improvements to convey the off-site flows through the project. The District worked with the general contractor to establish construction estimates, and the project was well outside their ability. Following that effort, our team re-scoped the project to eliminate most of the development that occurred within the flow paths of these off-site basins. The design presented herein will largely develop the Northwest Corner of the existing site and preserve the existing swales conveying flows to the existing Highway 105 Box Culvert.

As such, our general approach to this stormwater management design is to define a portion of Basin CC183 and determine if the flow within the area being analyzed is reduced, thereby mitigating any impacts to downstream infrastructure as a result of the new impervious area(s). As shown in the drainage maps in Appendix G, the basin that we have identified is 19.03 acres and encompasses the entire property discussed herein plus some additional off-site tributary area. The 19.03 acres delineated is directly tributary to the existing box culvert under Highway 105, identified as Design Point 9. In the existing condition, the entire basin flows un-detained to DP 9. In the proposed condition, 3.86 acres of the overall basin will be captured and conveyed to a proposed Extended Detention Basin (EDB). This 3.86 acres contains all new impervious surfaces and a large portion of existing Station 1. Note that no stormwater management is currently provided for Station 1.

A detailed summary of each sub-basin is provided on the following pages.

Basin	Basin Description	DP	Area (acres)	HSG	IMP %	Land Cover	C_5	C_{100}	Q_5	Q_{100}
DEVELOPED BASIN CHARACTORISTICS TRIBUTARY TO NEW EDB										
CI-1.0	The sheet flows across the parking lot into a low point with a Type "C" Inlet.	1	0.73	D[1]	37	Concrete pavement, and landscape area	0.39	0.66	0.32	1.09
DI-1.0	Sheet flows in a low point with a Type "C" Inlet	2	0.27	D	46	Commercial development with concrete pavement, and landscape area	0.43	0.68	0.88	2.52
DI-2.0	The sheet flows across the parking lot into a low point with a Type "C" Inlet.	3	0.24	D	33	Concrete Pavement, and some landscape area	0.66	0.80	0.35	1.34
CI-2.0	The sheet flows across the parking lot into a low point with a Type "C" Inlet.	4	0.40	D	68	Concrete pavement, and landscape area	0.42	0.68	1.14	2.52
CI-3.0	Sheet flows into swale with three (3) Type "C" Inlets.	5	0.33	D	2	Landscape area	0.42	0.68	0.01	0.48
CI-4.0	The sheet flows across the parking lot into Basin I with a Type "C" Inlet.	7	0.98	D	74	Commercial development with concrete pavement, and landscape area	0.69	0.81	15.83	33.19
Station 1 Roof	Sheet flows across the parking lot into Basin O	6	0.25	D	76	Commercial development with concrete pavement, and landscape area	0.81	0.87	3.50	7.17
Prop CLS RM Roof	Sheet flows to Basin I that has a Type "C" Inlet.	8	0.22	D	94	Commercial development with concrete pavement	0.81	0.87	1.19	2.14

[1] Note that the proposed site contains both HSG B and D soils per the USDA Web Soil Survey. To simplify our rational method computations, we have used HSG D for all calculations. The EDB was designing using the appropriate percentage of HSG B and D soils.

Basin	Basin Description	DP	Area (acres)	HSG	IMP %	Land Cover	C_5	C_{100}	Q_5	Q_{100}
DEVELOPED BASIN CHARACTORISTICS TRIBUTARY TO NEW EDB										
Pond	Sheet flows to a Type "C" Inlet.	n/a	0.44	D	2	Landscape area	0.08	0.50	0.01	0.58
CHARACTORISTICS OF UN-DETAINED PORTION OF 19.03 ACRES IN DEVELOPED CONDITION										
Un-Detained	Westernmost portion of 19.03 acres consisting of un-developed open space and portions of existing Highway 105 Right of Way.	9	15.17	D	10.6	Native grasses and small segments of pavement along Highway 105	0.12	0.53	3.96	28.92
CHARACTORISTICS OF EXISTING 19.03 ACRES IN PRE-DEVELOPED CONDITION										
EX Pre Development	Entire 19.03 acres discussed herein.	9	19.03	D	11.8	Native grasses and pavement associated with Station 1 and Highway 105.	0.13	0.53	10.54	36.93[2]

[2] The 36.93 flow rate is based on the Rational Method. In order to integrate the release rate from the EDB, the flow for this basin was developed using CUHP, which nets a 100-year flow rate of 34.32 CFS.

Section IV – Drainage Design Criteria

4.1 Regulations

All storm drainage infrastructure proposed for construction in connection with this Project has been designed using the following criteria as required by local jurisdictions.

- El Paso County Drainage Criteria Manual (EPDCM)
- City of Colorado Springs "Drainage Criteria Manual Volumes 1 & 2" (CCDCM)
- Drainage Basin Planning Study – Dirty Woman Creek and Crystal Creek El Paso County, Colorado – September 1993
- Mile High Flood Control District's (MHFD) Technical Criteria Manual
    - Volumes One, Two and Three

The project was developed following the guidelines of the Drainage Basin Planning Study of Dirty Woman Creek and Crystal Creek, which was conducted by the Kiowa Engineering Corporation. The on-site drainage system was designed to align with the overall development plan presented in the study, which can be found in Appendix F.

Section V – Four Step Process

The site was planned to use a four-step process to reduce the negative effects of urbanization. This four-step process, as outlined by the criteria, recommends guidelines and criteria for choosing the location of structural Best Management Practices (BMPs) for new development and significant redevelopment.

5.1 Step 1: Runoff Reduction Practices

In our experience working throughout the front range and the soil types that are present, infiltration and other means of runoff reduction are difficult to implement. Most of the clay soils that underlay these types of sites have tremendously low percolation rates and thus the water doesn't necessarily infiltrate, and it leads to long term operations and maintenance issues. As part of our drainage plan for the developed site, we have proposed a full spectrum extended detention pond which will capture a large percentage of the impervious area being added to the basin which will detain flows beneath the existing flow rate to the Highway 105 culvert. As shown in the appendixes the existing flow to Design Point 9 attributable to the 19.03-acre basin in the existing condition is 34.32 CFS. In the post developed condition, the 19.03-acre basin will contribute 26.45 CFS to Design Point 9. This reduction in flow is directly correlation to the detention pond.

To be clear, runoff reduction practices will not be implemented with the proposed design due to the constraints mentioned in the prior paragraph. The primary means of controlling runoff for this development is to use detention to reduce the peak outflow from the site to pre-development levels to mitigate the potential impacts to downstream properties.

5.2 Step 2: Stabilization of Drainage Ways

The delineated Crystal Creek floodplain is located directly downstream of the project, south of Highway 105. To mitigate impacts to downstream drainage ways, our design will seek to reduce existing studied flow rates. To accomplish this goal, our design will capture all new impervious area proposed with this project, and portions of existing Station 1 that currently flow to Design Point 9 un-detained. It is important to note that the historical drainage patterns and proposed drainage patterns for the Project Site are tributary to Crystal Creek and no additional area will be tributary to the Highway 105 culvert because of this development. There is no proposal within the proposed project to modify any characteristics of the watercourse which would adversely impact this drainageway.

Note that some drainage improvements are proposed in the northwest corner of the project where the existing 232 CFS of off-site flow enters the project site. Our proposed design will adjust the

grading in that area to better intercept these flows and convey them around the training campus site.

5.3 Step 3: Provide Water Quality Capture Volume (WQCV)

To ensure that water quality standards are met at the conclusion of development, a small private extended detention basin will be utilized to treat runoff from impervious surfaces before being released to the main drainage channel. This basin will detain the water, allowing ample time for the contaminants to settle down and improve the quality of the water. Moreover, the water will be released via outlet structures, which are designed to ensure that the quality of water remains high even after being discharged.

5.4 Step 4: Implement Site Specific and other Source Control BMPs

The Project's day-to-day operations will involve the frequent arrival and departure of fire trucks and emergency vehicles. These vehicles will be utilized both for training purposes and for maintenance to ensure optimal performance. Site-specific and other source control BMPs will not be necessary for outdoor material storage. Furthermore, it is not expected that specific permanent BMPs for spill prevention outside the building will be required, as most operations are anticipated to be internal. However, a spill prevention, containment, and control plan will be created and executed by the future building occupants. As the project develops throughout the later stages and a better understanding of potential contaminants is known, additional BMP's will be implemented as needed to mitigate point source pollution.

Section VI – Hydrologic Criteria

6.1 Hydrology

In order to determine the rainfall and runoff for the proposed drainage system in accordance with the criteria, the 5-year (minor) and 100-year (major) design storm events were used.

To determine the runoff coefficients for the proposed development, weighted impervious values were calculated for each specific sub-basin.

The outlet controls for the extended detention basin were designed to release the Water Quality Capture Volume (WQCV) in 40 hours and achieve 99% drain down of the 100-year storm event detention volume in less than 72 hours.

To calculate the flow rates needed to size collection and conveyance infrastructure, the Rational Method was used. Rainfall intensities for the 5-year and 100-year storm return frequencies were obtained from Table 6-2 of the Colorado Springs criteria. The chart below provides the one-hour point rainfall data for the storm events. The proposed land use and data from Table 6-6 from the CCDCM were used to determine the runoff coefficients. Equations from the CCDCM were used to develop the time of concentrations. All runoff calculations, charts, and graphs are included in Appendix A.

Furthermore, the Urban Drainage UD-Detention Spreadsheet was utilized to calculate the detention volume and release rates for the detention facility. Copies of the UD-Detention Spreadsheet(s) are provided in Appendix C.

Table 1-hr Point Rainfall Data	
Storm	**Rainfall (in.)**
5-year	1.50
100-year	2.52

6.2 Hydraulics

The drainage facilities proposed for the project have been designed in accordance with the established criteria. To identify and access floodplain impacts to the site, FEMA's FIRM panels have been utilized.

The hydraulic calculations have been computed using Stormwater Studio, which employs the energy-based Standard Step method to compute the hydraulic profile. The results of the hydraulic calculations have been summarized in Appendix B.

Inlet capacity calculations were evaluated using the Type C inlet nomographs included in Chapter 13 of the CDOT Drainage Design Manual. Copies of that evaluation can be found in Appendix B of this Report. Type R inlets were evaluated using the MHFD's UD-Inlet Software. Those results are also provided in Appendix B. Note that this project is not proposing to construct any traveled roadways, therefore, street capacity is not a particular concern. All proposed curb inlets are locate in sump conditions. The allowable spread has been determined using best engineering judgment to avoid localized flooding of structures. No curb overtopping was allowed, and all inlet were sized for 100% capture of the minor and major events.

To construct the new project, some removal of the onsite vegetation of native weeds, brush, grasses, and trees is required. Proposed improvements include the construction of three commercial/training buildings, parking lots, drive aisles, and an access road.

One extended detention basin with water quality, EURV, and 100-year outlet structures will provide on-site water quality treatment and 100-year detention. The basin has been designed with an outlet structure and restrictor plate to release the WQCV in the specified time frames. The top of overflow chamber with the 100-year outlet control has been set at the EURV water surface elevation. Additional information on the detention facility is provided in the following section.

Section VII – Drainage Facility Design

7.1 Water Quality and Detention Storage Required

Based on local regulations, this project will disturb enough area to facilitate implementation of detention practices.

Detailed calculations for the extended detention basins are provided in Appendix C. These calculations include the determination of the storage volume(s) necessary for water quality control, EURV, 100-year detention, and the allowable release rates.

Sub-basins CI-1.0 through CI-4.0, the roof of existing Station 1 and the new classroom building are tributary to EDB-1. Those basins combine to include 3.86 acres, with a land cover condition of approximately 57.7% imperviousness. Based on the tributary area characteristics, the table below summarizes the pond requirements.

	WQCV (AF)	EURV (AF)	100-Year (AF)	Total (AF)[3]
Required	0.074	0.155	0.166	0.395
Provided	0.074	0.155	0.166	0.395

As shown, the pond will provide sufficient volumes to meet all the required minimums. Additional information is provided in Section 7.2 regarding the outlet structure configuration, overflow, forebays and initial surcharge.

[3] Note that our pond design does provide a limited amount of additional storage not accounted for in this table to allow for construction tolerances.

7.2 Outlet Requirements

Ussing the UD-Detention Spreadsheet, the proposed facility will have a typically outlet structure designed in accordance with MHFD T-12 (https://www.mhfd.org/wp-content/uploads/2014/07/T-12-Outlet-Structures.pdf). The outlet structure has been designed to release significantly less than 90% of the pre-development flow rate. Per the UD-Detention Spreadsheet, this facility will discharge a peak 100-year flow rate of 4.2 CFS, or 41% of the peak predevelopment flow of 10.2 CFS.

The outlet structure has been designed using an 18" RCP outlet pipe, with a restrictor plate set 5-inches above the invert of the pipe. The proposed 100-year ponded water surface elevation is 5378.35 (or Stage 4.68). the emergency overflow is set at stage 4.80 to ensure that all of the 100-year event will pass through the outlet structure. The proposed pond will discharge to the to the existing swale that flows directly to the existing culvert under Highway 105. The emergency overflow will also discharge to this same swale.

The proposed detention facility will have two piped outlets discharging into the pond. One is located on the north side of the pond and discharges runoff primarily collected on the northern portion of the newly developed area. The other outfall is located on the west side of the pond, which collects runoff from the existing Fire Station and portions of the existing parking lot, apron, and the new access drive to the rear of the property. Given that the required forebay volume is 1% of the Water Quality Capture Volume per the new MHFD regulations, each forebay has been sized to provide this volume at a minimum while draining down over the course of 4.5 minutes. Each individual forebay is sized based on its contributing impervious area. The table below summarizes the forebay sizing.

Location	Total Drainage Area (AC)	Impervious %	WQCV (CF)	Required Forebay Volume at Discharge Location (CF)	Volume Provided (CF)
North	2.22	54.6	1766.80	17.67	35.57
West	1.20	82.9	1512.63	15.13	35.57

In addition to the forebay volume, our team also addressed the release rate out of the forebays. The new MHFD requirements is to size the forebay based on 1% of the WQCV as outlined above, then release that volume over a selected length of time using a Equation 4-1 of the MHFD manual. In most cases, this is 4 to 5 minutes. We have selected 4.5 minutes for our forebay design. Using a forebay depth of 12", the required notch widths are as follows:

Location	Notch Width (Inches)
North	1.22"
South	1.22"

Spreadsheets are provided in Appendix C detailing the forebay designs.

The new MHFD manual also removed the requirement to provide an initial surcharge volume. The current standard is to provide a depth of 6-inches within the outlet structure. This is accomplished by using a 6" trickle channel.

7.3 Storm Sewer Requirements

Appendix B contains the necessary calculations to determine the capacity of the storm sewer, the type of flow, the pipe losses, and the hydraulic grade and energy lines. As shown in the Profiles and Tables, all proposed pipes will convey the 100-year event while keeping the hydraulic grade lines within the underground system.

7.4 Channel Design and Soil Erodibility

As outlined previously in this report, there are two major off-site basins that contribute flow to the subject property. Of the two, only the northern outfall onto the property is being impacted.

In order to install the proposed improvements in the northwest corner of the site, some minimal grading is required that would capture the flows at Design Point 181 (Q=232 CFS) and route them around the proposed improvements and discharge back into the natural existing watercourse that drains to the Highway 105 box culvert at Design Point 9.

A summary of this channels design are provided in Appendix B.

Based on the calculations provided, the anticipated depth of flow is 1.98 feet within the 3-foot deep channel section, netting a freeboard in excess of 1-foot. The calculated velocity within the channel is 7.84 feet per second, indicating that riprap lining will be required. Our civil construction documents provide a detailed channel section using buried riprap lining.

Section VIII – Hydrologic Criteria

8.1 Compliance With Standards

As demonstrated throughout the body of this Report and the supplemental material in the Appendices, the drainage design for this Project has been prepared in accordance with and complies with the El Paso County's Drainage Criteria Manual, the City of Colorado Springs Drainage Criteria Manual, and the Mile High Flood District Urban Strom Drainage Criteria Manual.

8.2 Summary

In conclusion, our drainage design for this project has been prepared in accordance with industry standards and in compliance with local codes referenced herein.

To reduce cost of development, the two flow paths conveying the major off-site basins through the parcel to the Highway 105 Culvert are largely unaffected. As shown in the design documents, a small segment of the northern basin at Design Point 181 is being rerouted around the proposed improvements and discharged back into its natural, existing flow path.

As shown in the drainage maps and supporting calculations, all new impervious surfaces are being collected and conveyed to the new detention pond. Also, large portions of existing impervious surfaces on the site are also being collected and conveyed to the pond. This EDB will provide extended detention which will ultimately lower the flow rate currently tributary to the existing Highway 105 Culvert at Design Point 9. As demonstrated by the Hydrographs in Appendix C, the existing flow generated by the 19.03 acre site delineated herein is 36.93 CFS. Upon completion of development on Parcel A and implementation of the infrastructure outlined in this report, the total flow from the 19.03 acres at Design Point 9 will be 26.45 CFS, a reduction of almost 28% from the existing condition.

Based on these findings, it is our opinion that the drainage design proposed for the proposed development of this site is sufficient to address the increased runoff created by the land cover conditions modified by this project, and reduces the existing impact to downstream properties as a result of less flow to the Highway 105 box culvert.

It should be noted that our analysis did not focus an any development on Parcel B. Once that site is developed, further drainage analysis and design will be required to address the off-site flows

conveyed through the property and potentially, the inadequacy of the existing Highway 105 culvert identified in the Dirty Woman Creek and Crystal Creek Study.

Section IX – References

9.1 References

1. El Paso County Drainage Criteria Manual (EPDCM)
2. City of Colorado Springs “Drainage Criteria Manual Volumes 1 & 2” (CCDCM)
3. Drainage Basin Planning Study – Dirty Woman Creek and Crystal Creek El Paso County, Colorado – September 1993
4. Mile High Flood Control District’s (MHFD) Technical Criteria Manual
    i. Volumes One, Two and Three

Appendix A

Hydrology

Impervious Percentage Calculations

MFD Training Campus
Monument, Colorado

Designer *Christopher Perdue*
Company *SSD*
Date *7/1/2025*
Project *MFD Training Campus*
Location *MFD Station #1*

Overall Inputs *(MHFD Tables 6-2 & 6-3 - Updated Mar. 2024)*

Land Use	% Impervious	Surface Type	% Impervious
Res - SF Rural	35%	Open Space/Native Grass	5%
Res - SF Low-Med	55%	Paved	95%
Res - SF High	65%	Roofs	95%
Res - Multi Fam	65%	Gravel (pedestrian)	40%
Commercial - Low	65%	Gravel (Low Traffic)	60%
Commercial - Med	80%	Gravel (High Traffic)	80%
School	55%	Lawns/Landscape Areas	20%
Office/Institutional	65%	Extended Detention Basin	25%
Industrial	75%	Lawns/Landscape Areas	20%
Parks - Neighborhood	15%	Extended Detention Basin	25%
Parks - Community	25%	Bioretention	10%

Subcatchment Name	Total Area (ac)	NRCS Hydrologic Soil Group	Open Space/Lawn Area (ac)	Roadways /Pavement Area (ac)	Gravel (Packed) Area (ac)	Park Area (ac)	Single Family (Low-Med) Area (ac)	Single Family (High) Area (ac)	Building Roof Area (ac)	School/Public Area (ac)	% Check	Percent Impervious
CI - 1.0	0.73	D	0.41	0.29	0.03						100%	43.0%
DI - 1.0	0.27	D	0.14	0.13							100%	48.3%
DI - 2.0	0.24	D	0.05	0.19							100%	76.3%
CI - 2.0	0.40	D	0.21	0.19							100%	47.8%
CI - 3.0	0.33	D	0.16	0.13	0.04						100%	47.1%
CI - 4.0	0.98	D	0.13	0.77	0.08						100%	80.2%
Roof (Station 1)	0.22	D							0.22		100%	95.0%
Roof (Classroom)	0.25	D							0.25		100%	95.0%
Pond Direct	0.44	D	0.44								100%	5.0%
EDB A TOTAL	**3.86**		**1.54**	**1.70**	**0.15**	**0.00**	**0.00**	**0.00**	**0.47**	**0.00**	**100%**	**57.7%**
Un-Detained (Post Developed)	15.17	D	14.20	0.92	0.05						100%	10.6%
UN-DETAINED TOTAL	**15.17**		**14.20**	**0.92**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**100%**	**10.6%**
Existing (Pre-Developed)	19.03	D	17.57	1.19	0.05				0.22		100%	11.8%
UN-DETAINED TOTAL	**19.03**		**17.57**	**1.19**	**0.05**	**0.00**	**0.00**	**0.00**	**0.22**	**0.00**	**100%**	**11.8%**

Impervious Percentage Calculations

MFD Training Campus
Monument, Colorado

TABLE 6-2. RECOMMENDED IMPERVIOUSNESS BY LAND USE

LAND USE/DENSITY	IMPERVIOUSNESS
Residential	
Single-family Housing (SFH) – Rural (0 – 3 du/ac)	35%
SFH – Low & Medium-density (3 – 5 du/ac)	55%
SFH – High-density (5 - 20 du/ac)	65%
Manufactured Housing (>= 10 du/ac)	65%
Multi-family Housing (MFH) – Medium-density (5 – 20 du/ac)	65%
MFH – High-density MFH (>20 du/ac)	70%
Commercial	
Commercial – Low-density	65%
Commercial – Medium- to High-density	80%
Commercial – Urban Core	90%
Industrial/Institutional	
Schools	55%
Office/institutional	65%
Industrial Areas	75%
Solar Fields, Gravel Cover[1,2]	60%
Solar Fields, Grass Cover[1,2]	45%
Parks and Open Space	
Open Space, Undisturbed Native Grasses	5%
Community Parks	25%
Neighborhood Parks	15%
Golf Courses	30%
Cemeteries	25%

Note: Recommended imperviousness values shown in the table are the minimum imperviousness values for a specific land use. It is the engineer's responsibility to select imperviousness values that appropriately reflect the actual density of the proposed development.

[1] Use these values at the master planning scale or when the specific layout of panels is not known. Use values from the surface type (Table 6-3) at the site planning and design stage when panel width, panel spacing, and panel orientation relative to contours are known.

[2] Assumes 1:1 ratio of panels to aisles. See MHFD's technical memorandum regarding *Determination of Solar Panel Field Runoff Coefficients and Imperviousness Values* for additional information on procedures to reflect other impervious areas such as roads and pads that may be part of a solar field and layouts with wider inter-panel spacing.

TABLE 6-3. RECOMMENDED IMPERVIOUSNESS BY SURFACE TYPES

SURFACE TYPES		IMPERVIOUSNESS
Roadways and Paved Streets		95%
Concrete Driveways and Walks		95%
Roofs		95%
Gravel	No Traffic (Pedestrian Use)	40%
	Low-traffic Areas (Maintenance Paths and Substations)	60%
	High-traffic Areas (Roadways and Parking)	80%
Disturbed Soil (Including Lawns, Managed/Active Turf, Landscaped Areas with Water-Wise Vegetation, and Uncompacted Gravel/Mulch Planting Beds)		20%
Undisturbed or Decompacted Soil (Native Grasses and Open Space Areas)		5%
Artificial Turfs[1]	Landscape Applications (without Subgrade Drainage Layer)	25% – 45%
	Sport Fields (with Underdrain Pipe System)	60% – 80%
Water Surfaces (Lakes/Reservoirs/Irrigation Ponds)		100%
Solar Fields[2]	Grass Cover (Varies with Panel Orientation Relative to Ground Contours)	10% – 45%
	Gravel Cover (Varies with Panel Orientation Relative to Ground Contours)	50% – 75%
Historic Flow Analysis, Greenbelts, Agricultural		5%
Newly Graded Areas		65%
Stormwater Control Measures[3]	Retention Ponds & Constructed Wetland Ponds	100%
	Rooftop Systems – Blue Roofs	95%
	Rooftop Systems – Green Roofs (extensive)	65%
	Rooftop Systems – Green Roofs (intensive)	50%
	Permeable Pavement – CGP/PGP/RGP	55%
	Permeable Pavement – PICP	45%
	Extended Detention Basins	25%
	Receiving Pervious Areas (incl. Grass Buffers & Grass Swales)	20%
	Bioretention & Sand Filters	10%

[1] Consult with the manufacturer to get a recommended value.

[2] Assumes 1:1 ratio of panels to aisles. See MHFD's technical memorandum regarding *Determination of Solar Panel Field Runoff Coefficients and Imperviousness Values* for additional information on procedures for determining percent imperviousness based on panel width, panel spacing, and panel orientation relative to ground contours and how to reflect other impervious areas such as roads and pads that may be part of a solar field and layouts with wider inter-panel spacing.

[3] See MHFD's technical memorandum regarding *Evaluation of Percent Imperviousness for Stormwater Control Measures* for background information.

Table 6-4. Runoff coefficient equations based on NRCS soil group and storm return period

NRCS Soil Group	Storm Return Period						
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	500-Year
A	$C_A = 0.84i^{1.302}$	$C_A = 0.86i^{1.276}$	$C_A = 0.87i^{1.232}$	$C_A = 0.88i^{1.124}$	$C_A = 0.85i+0.025$	$C_A = 0.78i+0.110$	$C_A = 0.65i+0.254$
B	$C_B = 0.84i^{1.169}$	$C_B = 0.86i^{1.088}$	$C_B = 0.81i+0.057$	$C_B = 0.63i+0.249$	$C_B = 0.56i+0.328$	$C_B = 0.47i+0.426$	$C_B = 0.37i+0.536$
C/D	$C_{C/D} = 0.83i^{1.122}$	$C_{C/D} = 0.82i+0.035$	$C_{C/D} = 0.74i+0.132$	$C_{C/D} = 0.56i+0.319$	$C_{C/D} = 0.49i+0.393$	$C_{C/D} = 0.41i+0.484$	$C_{C/D} = 0.32i+0.588$

Where:

i = % imperviousness (expressed as a decimal)

C_A = Runoff coefficient for Natural Resources Conservation Service (NRCS) HSG A soils

C_B = Runoff coefficient for NRCS HSG B soils

$C_{C/D}$ = Runoff coefficient for NRCS HSG C and D soils.

The values for various catchment imperviousness and storm return periods are presented graphically in Figures 6-1 through 6-3, and are tabulated in Table 6-5. These coefficients were developed for the Denver region to work in conjunction with the time of concentration recommendations in Section 2.4. Use of these coefficients and this procedure outside of the semi-arid climate found in the Denver region may not be valid. The UD-Rational Excel workbook performs all the needed calculations to find the runoff coefficient given the soil type and imperviousness and the reader may want to take advantage of this macro-enabled Excel workbook that is available for download from the UDFCD's website www.udfcd.org.

See Examples 7.1 and 7.2 that illustrate the Rational Method.

Calculation of Peak Runoff using Rational Method

Designer: Christopher Perdue
Company: SSD
Date: 10/2/2025
Project: MFD Training Campus
Location: MFD Station #1

Version 2.00 released May 2017

Cells of this color are for required user-input
Cells of this color are for optional override values
Cells of this color are for calculated results based on overrides

$$t_i = \frac{0.395(1.1 - C_5)\sqrt{L_i}}{S_i^{0.33}}$$

$$t_t = \frac{L_t}{60K\sqrt{S_t}} = \frac{L_t}{60V_t}$$

Computed $t_c = t_i + t_t$

Regional $t_c = (26 - 17i) + \frac{L_t}{60(14i + 9)\sqrt{S_t}}$

$t_{minimum}$ = 5 (urban)
$t_{minimum}$ = 10 (non-urban)

Selected $t_c = \max\{t_{minimum}, \min(\text{Computed } t_c, \text{Regional } t_c)\}$

Select UDFCD location for NOAA Atlas 14 Rainfall Depths from the pulldown list OR enter your own depths obtained from the NOAA website (click this link)

	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
1-hour rainfall depth, P1 (in) =	1.19	1.50	1.75	2.00	2.25	2.52	3.14

Rainfall Intensity Equation Coefficients =	a	b	c
	28.50	10.00	0.786

$$I(in/hr) = \frac{a * P_1}{(b + t_c)^c}$$

$$Q(cfs) = CIA$$

Subcatchment Name	Area (ac)	NRCS Hydrologic Soil Group	Percent Imperviousness	Runoff Coefficient, C							Overland (Initial) Flow Time					Channelized (Travel) Flow Time							Time of Concentration			Rainfall Intensity, I (in/hr)							Peak Flow, Q (cfs)						
				2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr	Overland Flow Length L_i (ft)	U/S Elevation (ft) (Optional)	D/S Elevation (ft) (Optional)	Overland Flow Slope S_i (ft/ft)	Overland Flow Time t_i (min)	Channelized Flow Length L_t (ft)	U/S Elevation (ft) (Optional)	D/S Elevation (ft) (Optional)	Channelized Flow Slope S_t (ft/ft)	NRCS Conveyance Factor K	Channelized Flow Velocity V_t (ft/sec)	Channelized Flow Time t_t (min)	Computed t_c (min)	Regional t_c (min)	Selected t_c (min)	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
CI - 1.0	0.73	D	43.0	0.32	0.39	0.45	0.56	0.61	0.66	0.72	75.00			0.057	6.29	337.00			0.016	20	2.53	2.22	8.51	21.65	8.51	3.42	4.31	5.03	5.75	6.47	7.25	9.03	0.81	1.21	1.65	2.35	2.86	3.49	4.77
DI - 1.0	0.27	D	48.3	0.37	0.43	0.49	0.59	0.63	0.68	0.74	79.00			0.059	6.00	94.00			0.045	20	4.22	0.37	6.38	18.26	6.38	3.77	4.75	5.54	6.33	7.12	7.98	9.94	0.37	0.55	0.73	1.01	1.21	1.47	1.99
DI - 2.0	0.24	D	76.3	0.62	0.66	0.69	0.75	0.77	0.80	0.83	17.00			0.038	2.13	81.00			0.017	20	2.59	0.52	2.65	13.56	5.00	4.04	5.09	5.94	6.78	7.63	8.55	10.65	0.60	0.80	0.99	1.22	1.41	1.63	2.12
CI - 2.0	0.40	D	47.8	0.36	0.42	0.48	0.59	0.63	0.68	0.74	84.00			0.075	5.75	220.00			0.006	20	1.55	2.37	8.12	20.89	8.12	3.48	4.39	5.12	5.85	6.58	7.37	9.18	0.51	0.74	0.99	1.37	1.66	2.00	2.71
CI - 3.0	0.33	D	47.1	0.36	0.42	0.48	0.58	0.63	0.68	0.74	70.00			0.150	4.21	168.00			0.005	20	1.41	1.98	6.19	20.53	6.19	3.80	4.79	5.59	6.39	7.19	8.05	10.03	0.45	0.66	0.88	1.23	1.48	1.80	2.44
CI - 4.0	0.98	D	80.2	0.65	0.69	0.72	0.77	0.79	0.81	0.84	225.00			0.011	10.86	138.00			0.005	20	1.41	1.63	12.49	13.97	12.49	2.94	3.70	4.32	4.93	5.55	6.22	7.75	1.87	2.50	3.05	3.71	4.29	4.95	6.38
Roof (Station 1)	0.22	D	95.0	0.79	0.81	0.83	0.85	0.86	0.87	0.89	10.00			0.020	1.32	10.00			0.020	20	2.83	0.06	1.38	9.90	5.00	4.04	5.09	5.94	6.78	7.63	8.55	10.65	0.70	0.91	1.08	1.27	1.45	1.64	2.08
Roof (Classrm)	0.25	D	95.0	0.79	0.81	0.83	0.85	0.86	0.87	0.89	10.00			0.020	1.32	10.00			0.020	20	2.83	0.06	1.38	9.90	5.00	4.04	5.09	5.94	6.78	7.63	8.55	10.65	0.79	1.03	1.23	1.44	1.65	1.86	2.36
Pond (Direct)	0.44	D	5.0	0.03	0.08	0.17	0.35	0.42	0.50	0.60	118.00			0.100	9.40	158.00			0.008	20	1.79	1.47	10.87	28.19	10.87	3.11	3.92	4.58	5.23	5.89	6.59	8.22	0.04	0.13	0.34	0.80	1.08	1.46	2.18
Un-Detained	15.17	D	10.6	0.07	0.12	0.21	0.38	0.45	0.53	0.62	44.00			0.480	3.27	1025.00			0.024	2.5	0.38	44.58	47.84	34.83	34.83	1.71	2.15	2.51	2.87	3.23	3.62	4.50	1.74	3.96	7.99	16.47	21.81	28.92	42.46
Ex Pre-Developed	19.03	D	11.8	0.08	0.13	0.22	0.39	0.45	0.53	0.63	44.00			0.480	3.23	1025.00			0.024	2.5	0.39	44.11	47.34	34.35	34.35	1.72	2.17	2.53	2.89	3.26	3.65	4.54	2.48	5.42	10.54	21.20	27.96	36.93	54.05

Appendix B

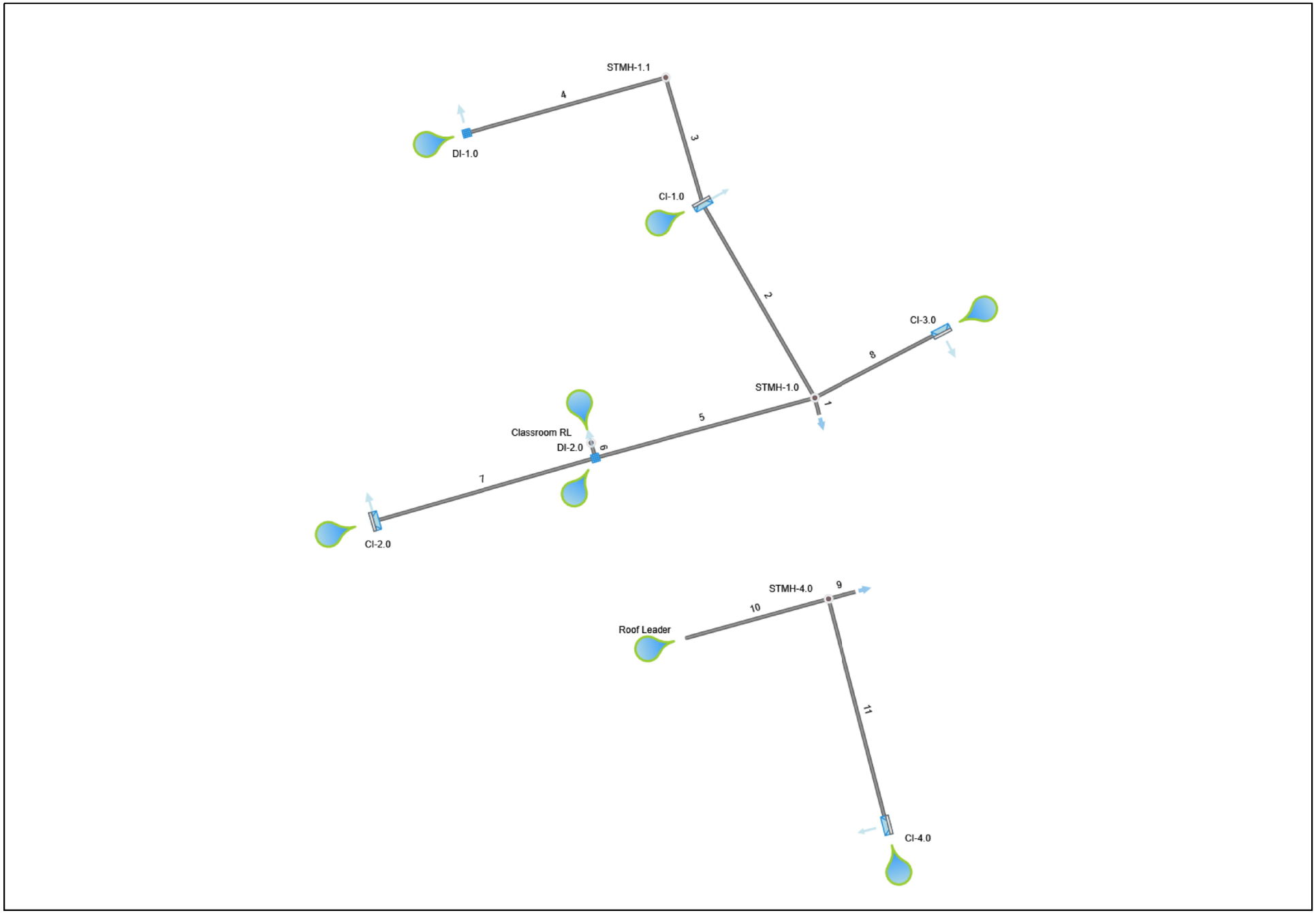
Hydraulics

Plan View

Stormwater Studio 2026 v 3.0.0.40

Project Name: Storm Sewer - Training Complex V2.0

10-18-2025

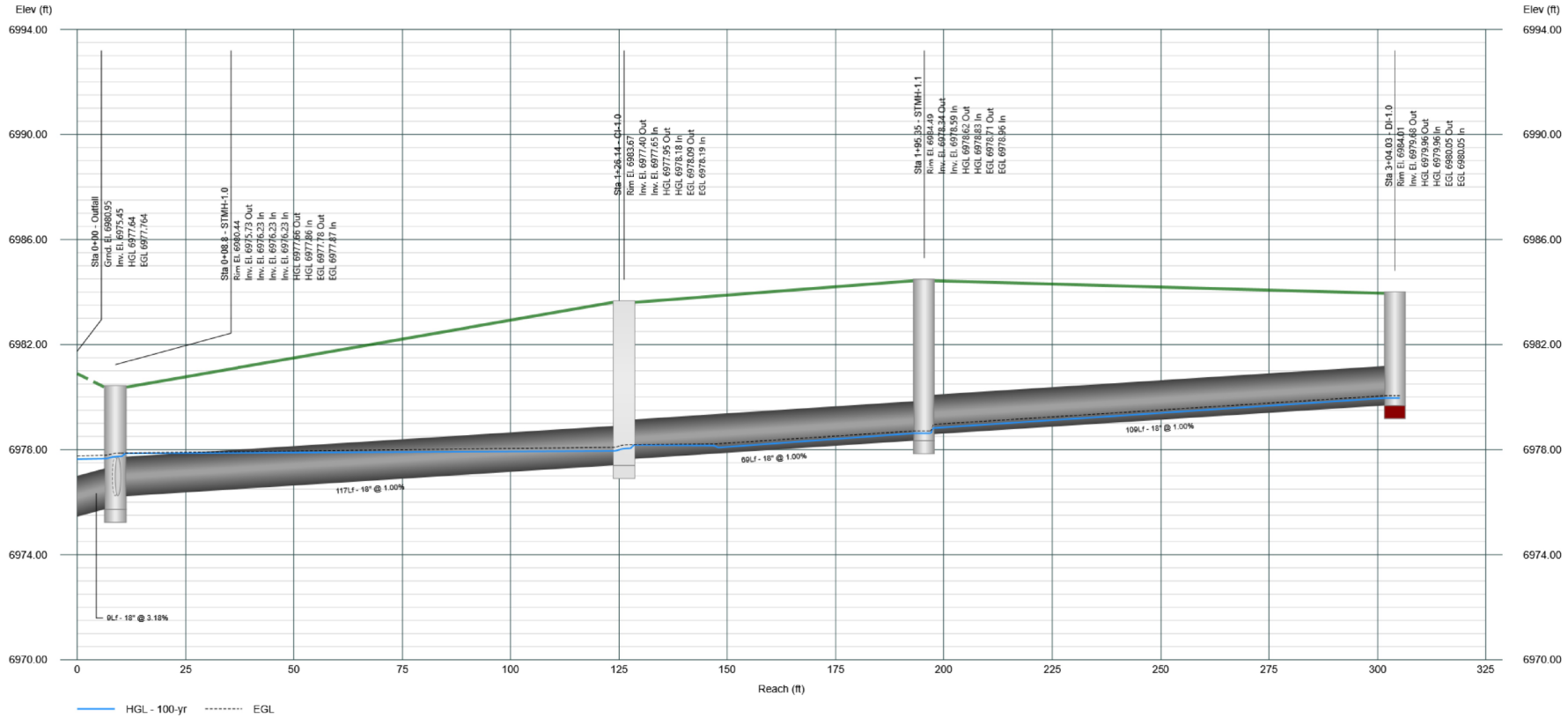


Profile View

Stormwater Studio 2026 v 3.0.0.40

Project Name: Storm Sewer - Training Complex V2.0

10-18-2025

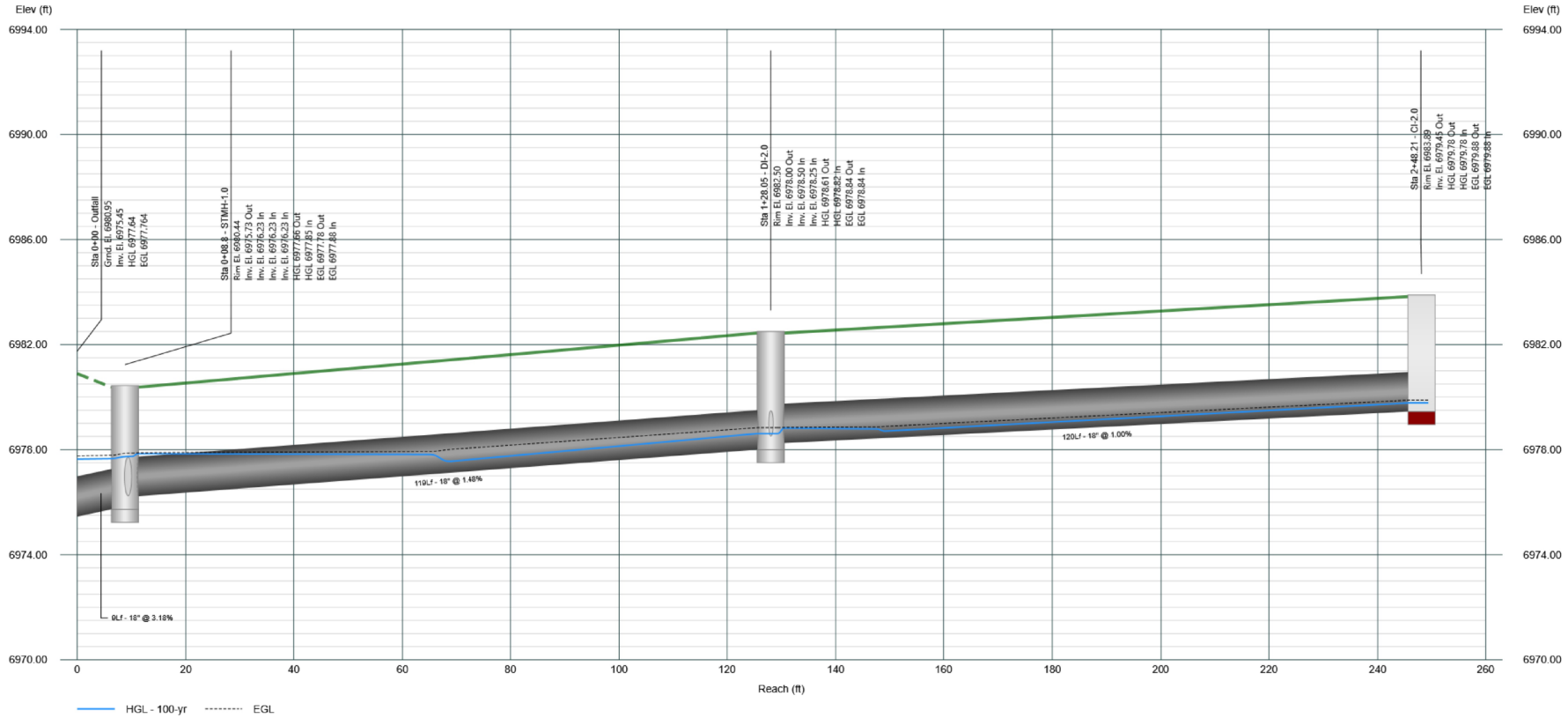


Profile View

Stormwater Studio 2026 v 3.0.0.40

Project Name: Storm Sewer - Training Complex V2.0

10-18-2025

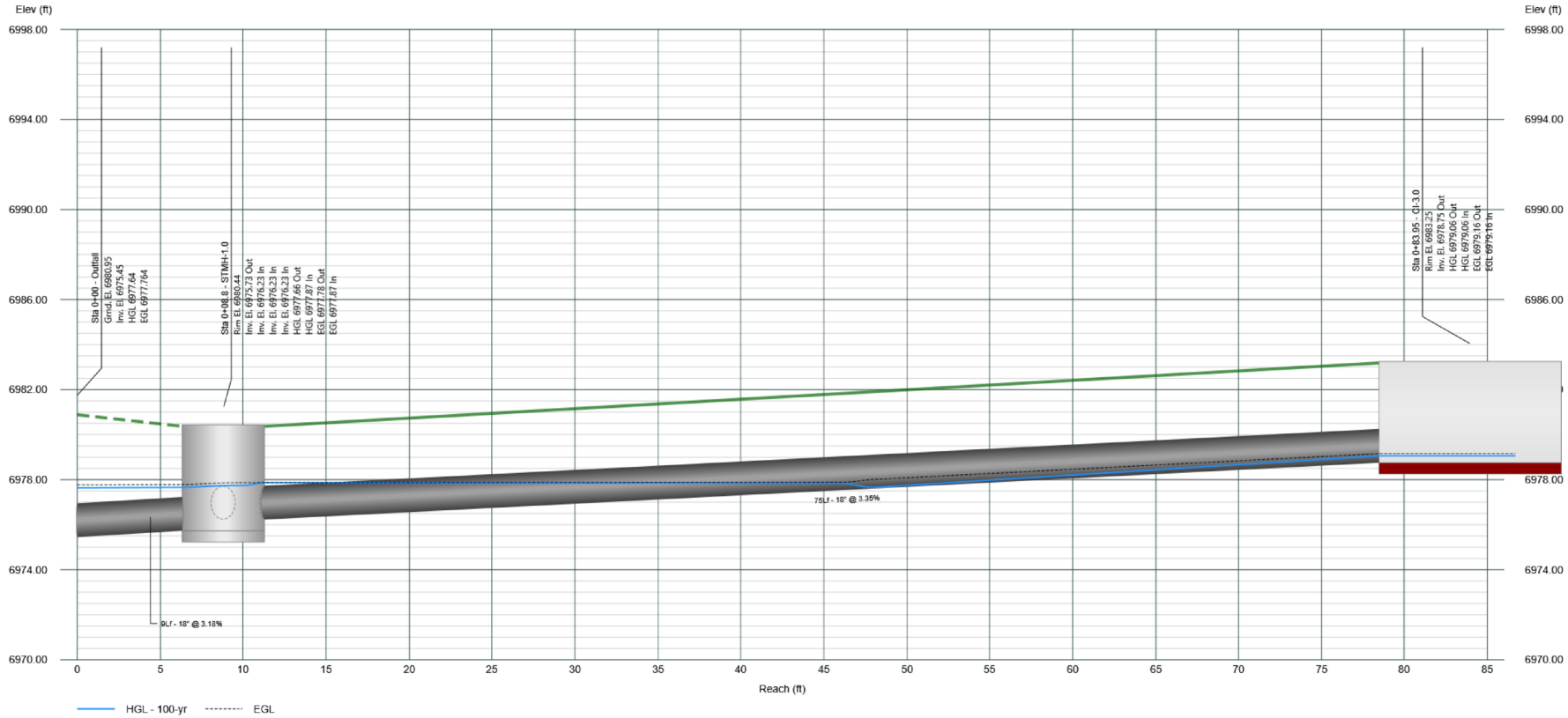


Profile View

Stormwater Studio 2026 v 3.0.0.40

Project Name: Storm Sewer - Training Complex V2.0

10-18-2025

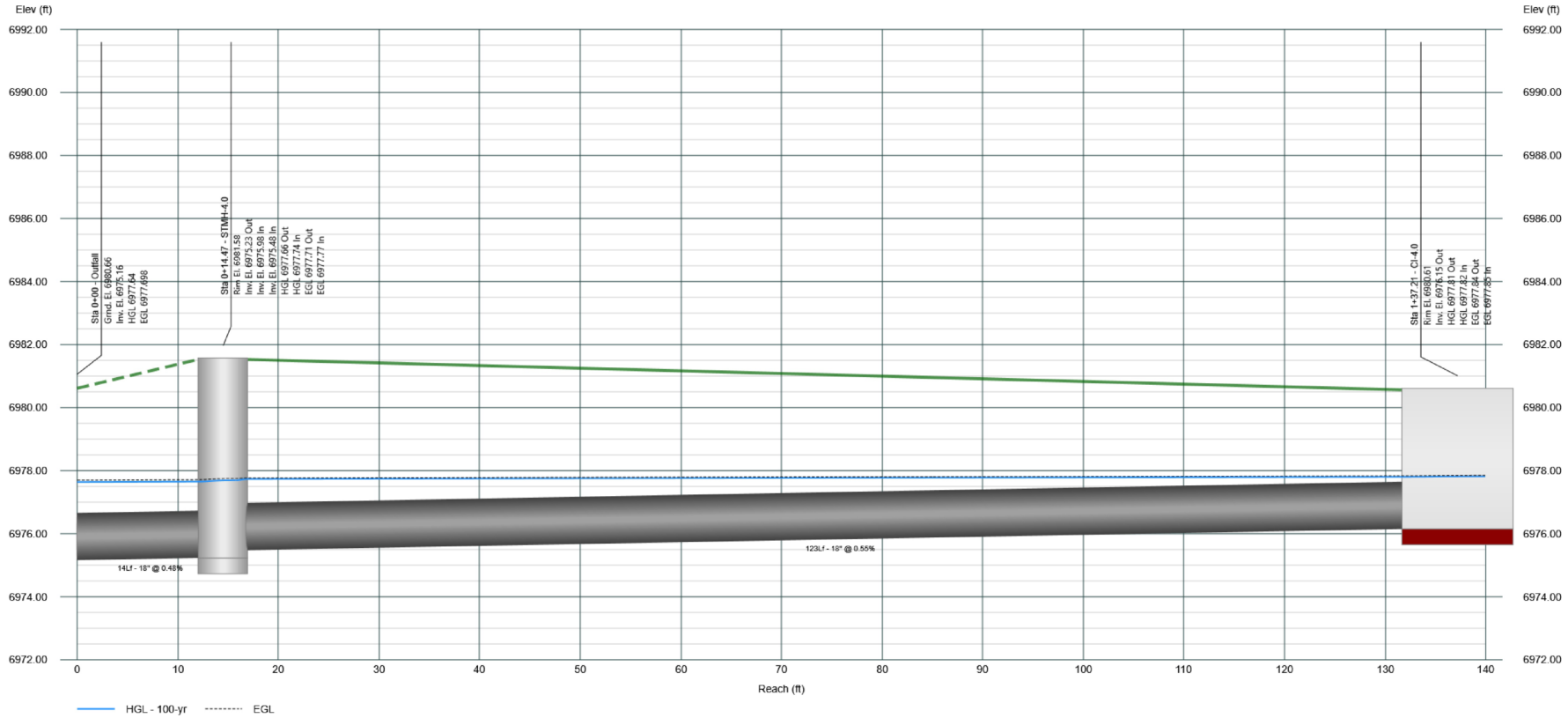


Profile View

Stormwater Studio 2026 v 3.0.0.40

Project Name: Storm Sewer - Training Complex V2.0

10-18-2025

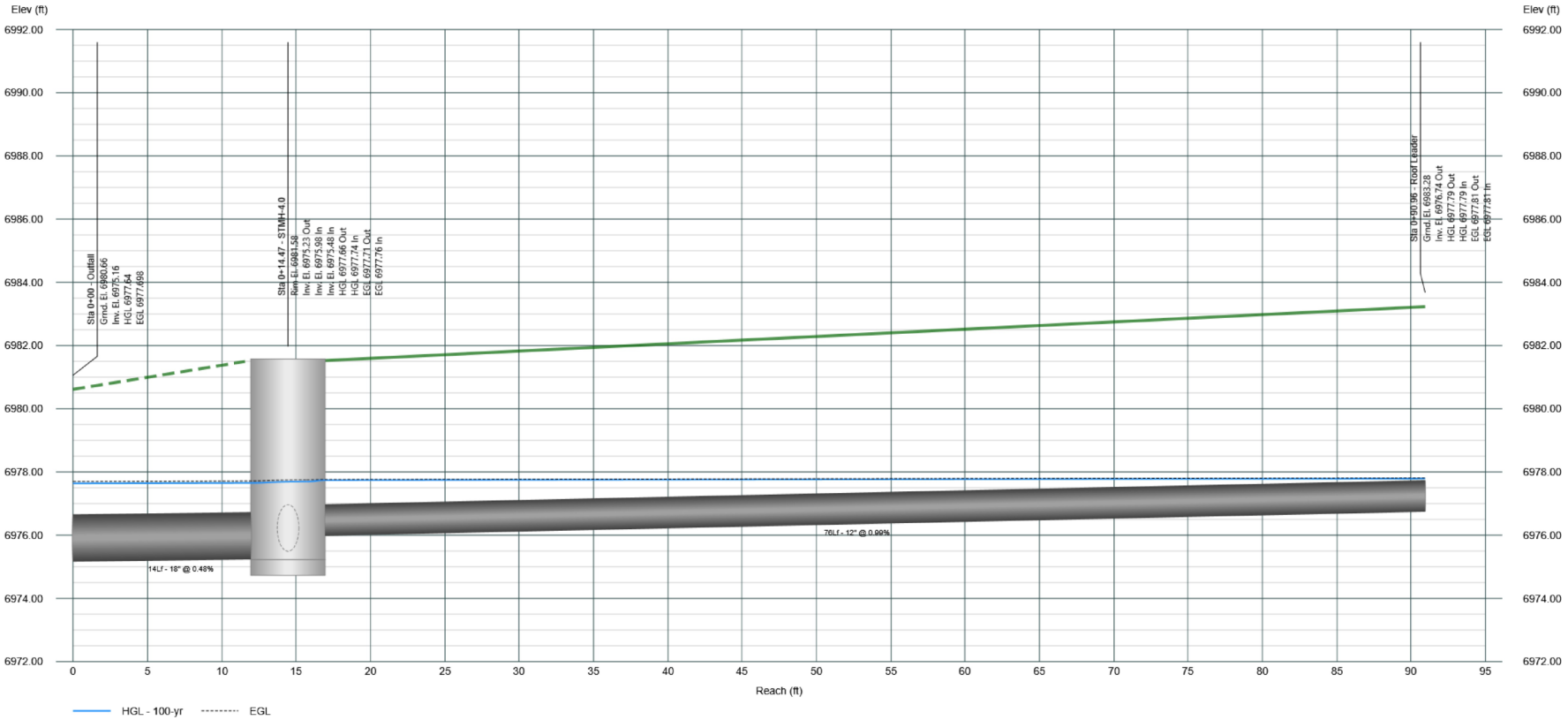


Profile View

Stormwater Studio 2026 v 3.0.0.40

Project Name: Storm Sewer - Training Complex V2.0

10-18-2025



Storm Sewer Tabulation

Project Name: Storm Sewer - Training Complex V2.0

Stormwater Studio 2026 v 3.0.0.40

10-17-2025

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
Pipe - (35)	8.80	0.000	0.000	0.00	0.00	0.00	0.0	1.39	10.85	4.99	18.73	2.82	18	3.18	6975.73	6975.45	6977.66	6977.64	6980.44	0.00	1
Pipe - (34) (1)	117.34	0.000	0.000	0.00	0.00	0.00	0.0	0.94	10.85	1.76	10.49	2.00	18	1.00	6977.40	6976.23	6977.95	6977.86	6983.67	6980.44	2
Pipe - (34)	69.21	0.000	0.000	0.00	0.00	0.00	0.0	0.58	10.85	0.55	10.49	1.68	18	1.00	6978.34	6977.65	6978.62	6978.18	6984.49	6983.67	3
Pipe - (33)	108.68	0.000	0.000	0.00	0.00	0.00	0.0	0.00	10.85	0.55	10.52	2.74	18	1.00	6979.68	6978.59	6979.96	6978.83	6984.01	6984.49	4
Pipe - (38)	119.25	0.000	0.000	0.00	0.00	0.00	0.0	0.58	10.85	2.57	12.79	2.62	18	1.48	6978.00	6976.23	6978.61	6977.85	6982.50	6980.44	5
Pipe - (43)	8.23	0.000	0.000	0.00	0.00	0.00	0.0	0.00	10.85	1.03	3.51	3.33	12	0.97	6978.58	6978.50	6979.01	6978.90	6982.66	6982.50	6
Pipe - (40)	120.16	0.000	0.000	0.00	0.00	0.00	0.0	0.00	10.85	0.74	10.49	1.89	18	1.00	6979.45	6978.25	6979.78	6978.82	6983.89	6982.50	7
Pipe - (39)	75.15	0.000	0.000	0.00	0.00	0.00	0.0	0.00	10.85	0.66	19.23	1.44	18	3.35	6978.75	6976.23	6979.06	6977.87	6983.25	6980.44	8
Pipe - (36)	14.47	0.000	0.000	0.00	0.00	0.00	0.0	0.52	10.85	3.41	7.29	1.93	18	0.48	6975.23	6975.16	6977.66	6977.64	6981.58	0.00	9
Pipe - (42)	76.49	0.000	0.000	0.00	0.00	0.00	0.0	0.00	10.85	0.91	3.55	1.16	12	0.99	6976.74	6975.98	6977.79	6977.74	6979.43	6981.58	10
Pipe - (41)	122.74	0.000	0.000	0.00	0.00	0.00	0.0	0.00	10.85	2.50	7.76	1.41	18	0.55	6976.15	6975.48	6977.81	6977.74	6980.61	6981.58	11

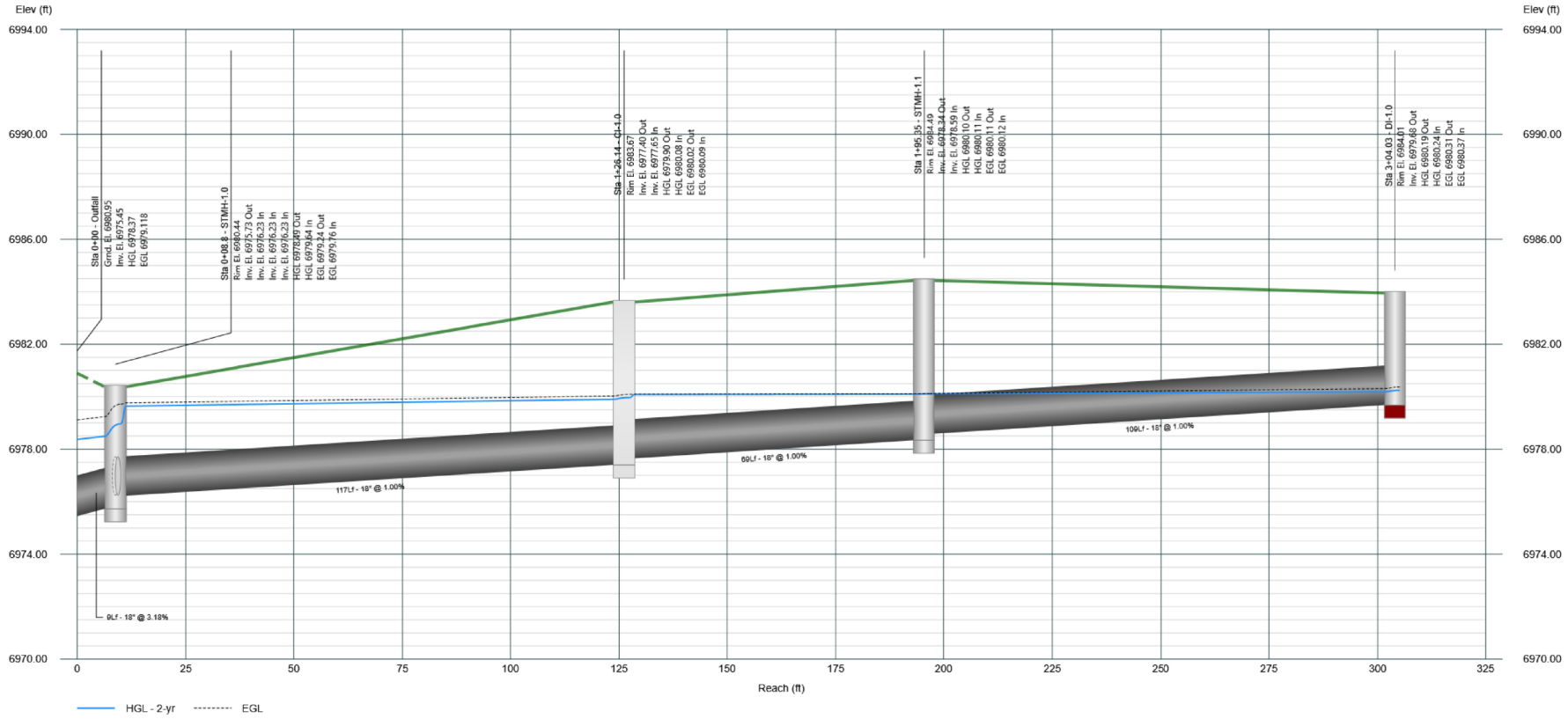
Notes: IDF File = SampleIDF.idf, Return Period = 100-yrs.

Profile View

Stormwater Studio 2026 v 3.0.0.40

Project Name: Storm Sewer - Training Complex V2.0

10-18-2025

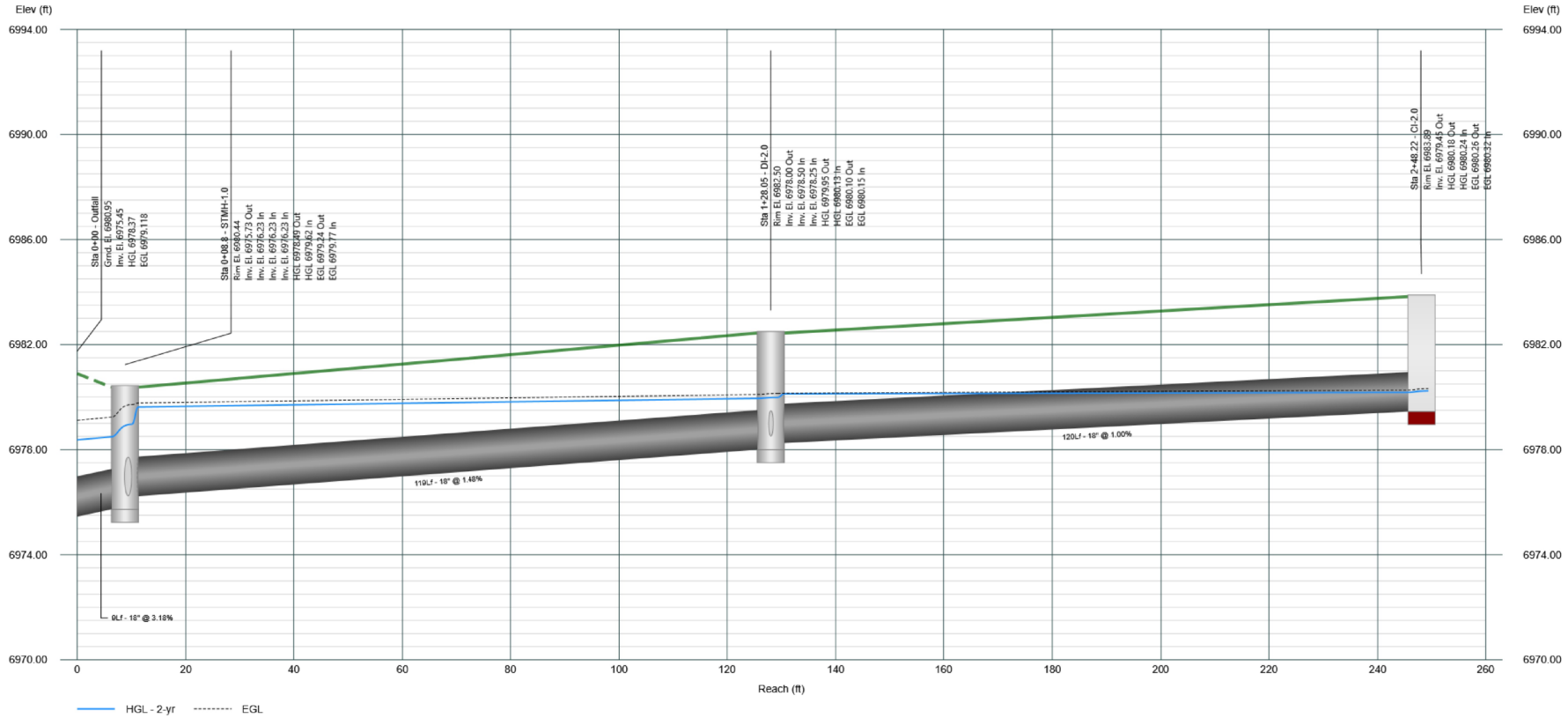


Profile View

Stormwater Studio 2026 v 3.0.0.40

Project Name: Storm Sewer - Training Complex V2.0

10-18-2025

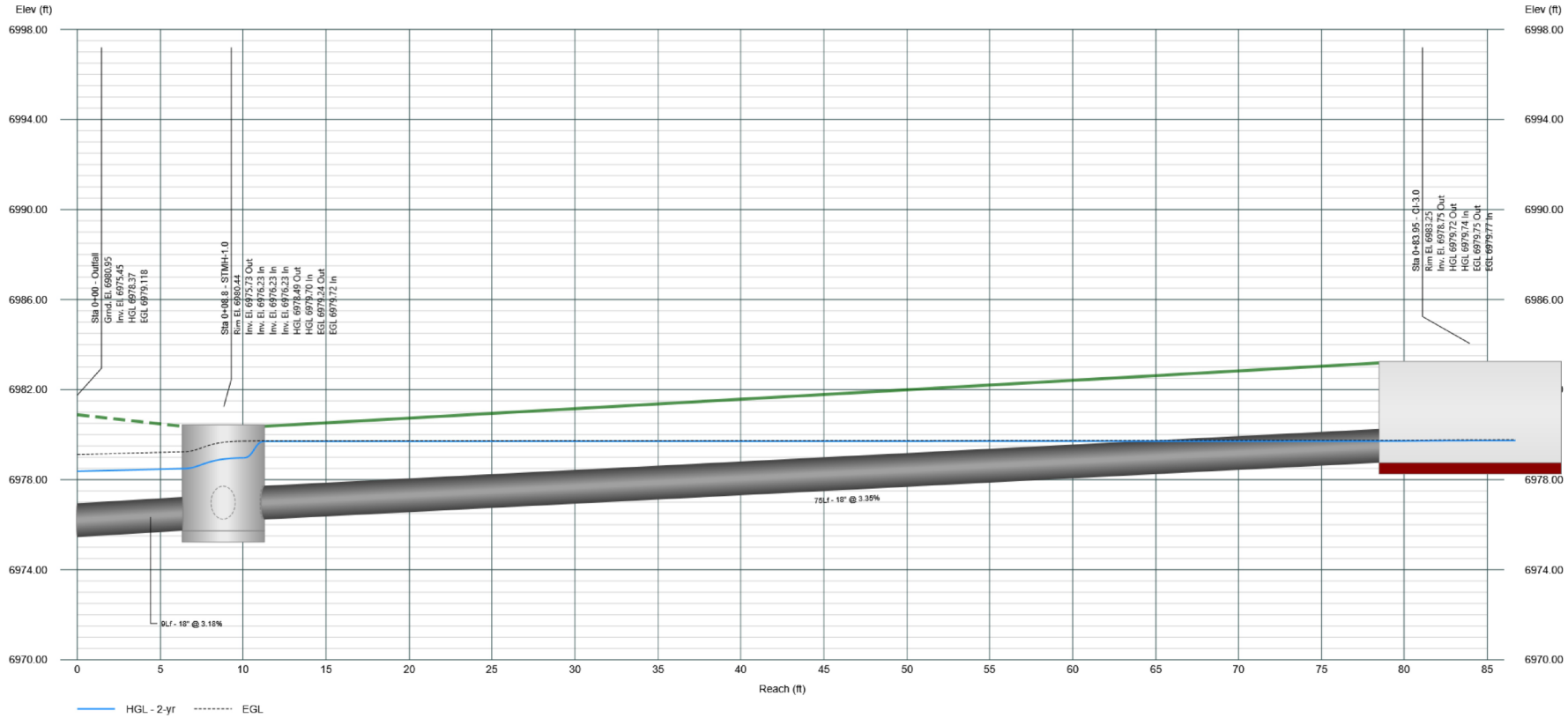


Profile View

Stormwater Studio 2026 v 3.0.0.40

Project Name: Storm Sewer - Training Complex V2.0

10-18-2025

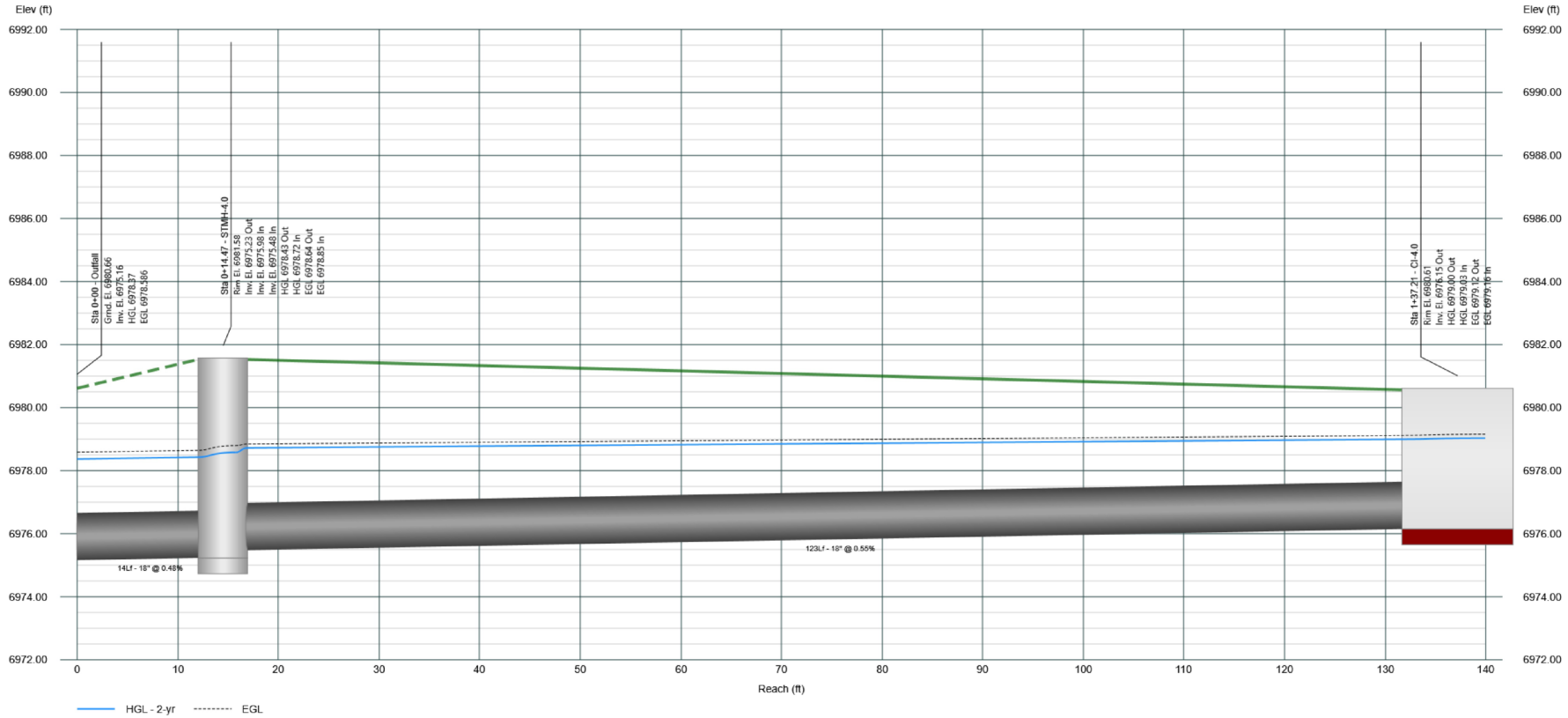


Profile View

Stormwater Studio 2026 v 3.0.0.40

Project Name: Storm Sewer - Training Complex V2.0

10-18-2025

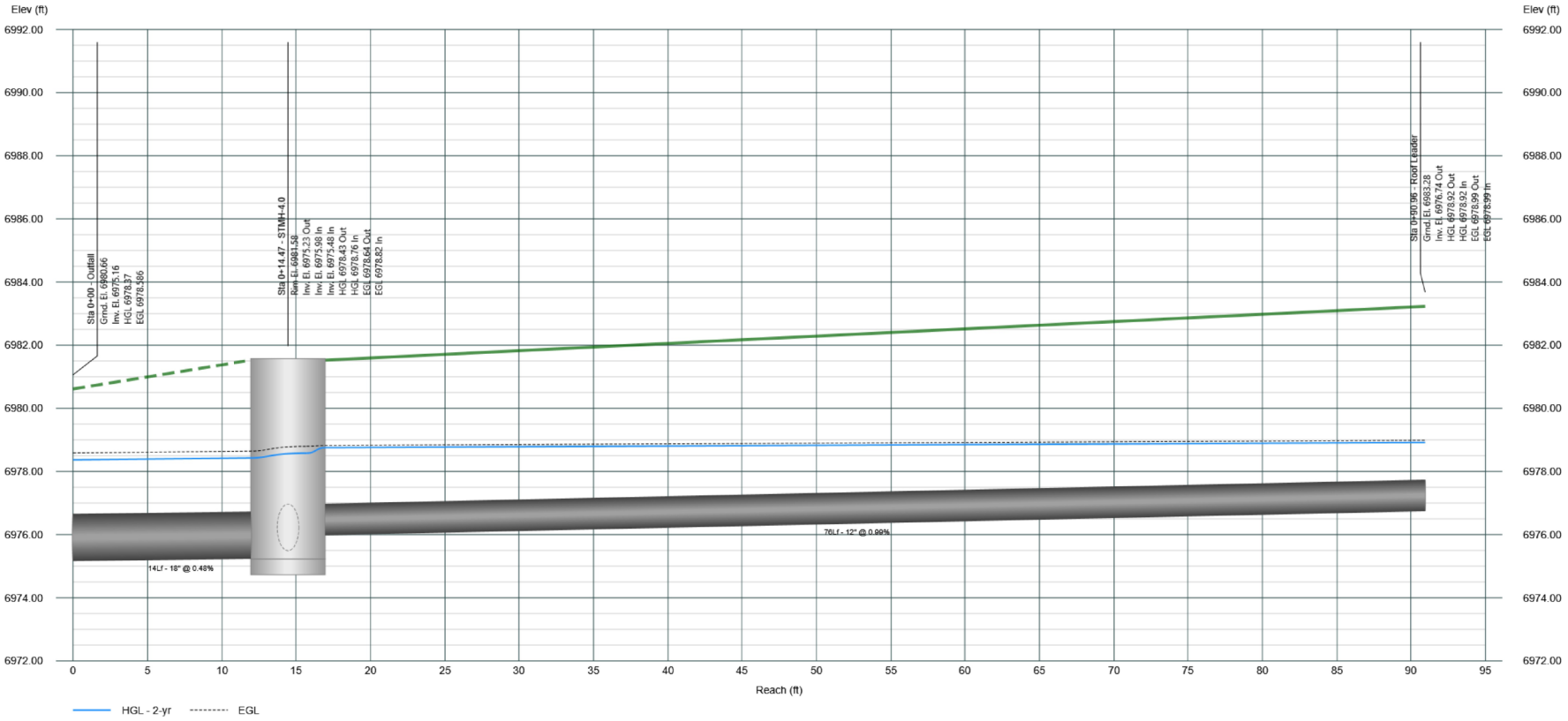


Profile View

Stormwater Studio 2026 v 3.0.0.40

Project Name: Storm Sewer - Training Complex V2.0

10-18-2025



Storm Sewer Tabulation

Project Name: Storm Sewer - Training Complex V2.0

Stormwater Studio 2026 v 3.0.0.40

10-17-2025

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
Pipe - (35)	8.80	0.000	0.000	0.00	0.00	0.00	0.0	1.04	6.37	12.25	18.73	6.93	18	3.18	6975.73	6975.45	6978.49	6978.37	6980.44	0.00	1
Pipe - (34) (1)	117.34	0.000	0.000	0.00	0.00	0.00	0.0	0.71	6.37	4.96	10.49	2.81	18	1.00	6977.40	6976.23	6979.90	6979.64	6983.67	6980.44	2
Pipe - (34)	69.21	0.000	0.000	0.00	0.00	0.00	0.0	0.43	6.37	1.47	10.49	0.83	18	1.00	6978.34	6977.65	6980.10	6980.08	6984.49	6983.67	3
Pipe - (33)	108.68	0.000	0.000	0.00	0.00	0.00	0.0	0.00	6.37	1.47	10.52	1.82	18	1.00	6979.68	6978.59	6980.19	6980.11	6984.01	6984.49	4
Pipe - (38)	119.25	0.000	0.000	0.00	0.00	0.00	0.0	0.44	6.37	5.49	12.79	3.11	18	1.48	6978.00	6976.23	6979.95	6979.62	6982.50	6980.44	5
Pipe - (43)	8.23	0.000	0.000	0.00	0.00	0.00	0.0	0.00	6.37	1.86	3.51	2.37	12	0.97	6978.58	6978.50	6980.11	6980.09	6982.66	6982.50	6
Pipe - (40)	120.16	0.000	0.000	0.00	0.00	0.00	0.0	0.00	6.37	2.00	10.49	1.74	18	1.00	6979.45	6978.25	6980.18	6980.13	6983.89	6982.50	7
Pipe - (39)	75.15	0.000	0.000	0.00	0.00	0.00	0.0	0.00	6.37	1.80	19.23	1.26	18	3.35	6978.75	6976.23	6979.72	6979.70	6983.25	6980.44	8
Pipe - (36)	14.47	0.000	0.000	0.00	0.00	0.00	0.0	0.44	6.37	6.59	7.29	3.73	18	0.48	6975.23	6975.16	6978.43	6978.37	6981.58	0.00	9
Pipe - (42)	76.49	0.000	0.000	0.00	0.00	0.00	0.0	0.00	6.37	1.64	3.55	2.09	12	0.99	6976.74	6975.98	6978.92	6978.76	6979.43	6981.58	10
Pipe - (41)	122.74	0.000	0.000	0.00	0.00	0.00	0.0	0.00	6.37	4.95	7.76	2.80	18	0.55	6976.15	6975.48	6979.00	6978.72	6980.61	6981.58	11

Notes: IDF File = SampleIDF.idf, Return Period = 2-yrs.

MHFD-Inlet, Version 6.00 (August 2025)

INLET MANAGEMENT

Project: MFD Training Campus
Minor: 5-year
Major: 100-year

Worksheet Protected

INLET NAME	CI-1.0	CI-2.0	CI-3.0	CI-4.0
Inlet Application (Street or Area)	STREET	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening
Number of Inlet Units	1	1	1	1

USER-DEFINED INPUT

User-Defined Peak Flows

Minor Peak Flow, Q (cfs)	1.21	0.74	0.66	2.50
Major Peak Flow, Q (cfs)	3.49	2.00	1.80	4.95

Bypass (Carry-Over) Flow from Upstream Inlets must be organized from upstream (left) to downstream (right) in order for bypass flows to be linked.

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Bypass Flow Description (Optional):				
Minor Bypass Flow Received, Q_b (cfs)	0.00	0.00	0.00	0.00
Major Bypass Flow Received, Q_b (cfs)	0.00	0.00	0.00	0.00

CALCULATED OUTPUT

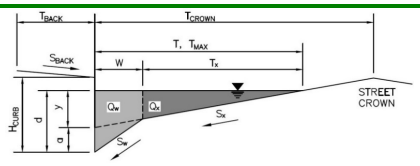
Minor Total Design Peak Flow, Q (cfs)	1.21	0.74	0.66	2.50
Major Total Design Peak Flow, Q (cfs)	3.49	2.00	1.80	4.95
Minor Inlet Interception Capacity, Q_a (cfs)	8.28	2.81	8.28	8.28
Major Inlet Interception Capacity, Q_a (cfs)	8.28	2.81	8.28	8.28
Minor Flow Bypassed Downstream, Qb (cfs)	N/A	N/A	N/A	N/A
Major Flow Bypassed Downstream, Qb (cfs)	N/A	N/A	N/A	N/A
Minor Flow Capture Percentage, C%	100%	100%	100%	100%
Major Flow Capture Percentage, C%	100%	100%	100%	100%

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **MFD Training Campus**

Inlet ID: **CI-1.0**



Gutter Geometry:

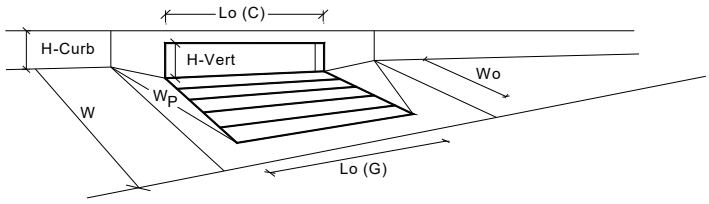
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	3.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	28.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.015	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.013	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	28.0	28.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is not applicable to Sump Condition				
MAJOR STORM Allowable Capacity is not applicable to Sump Condition	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 6.00 (August 2025)



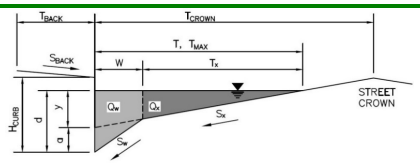
Design Information (Input)		MINOR	MAJOR	
Type of Inlet (CDOT Type R Curb Opening)	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	6.0	inches
Grate Information		MINOR	MAJOR	Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	10.00	10.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.33	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.93	0.93	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**8.3**	**8.3**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	1.2	3.5	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **MFD Training Campus**

Inlet ID: **CI-2.0**



Gutter Geometry:

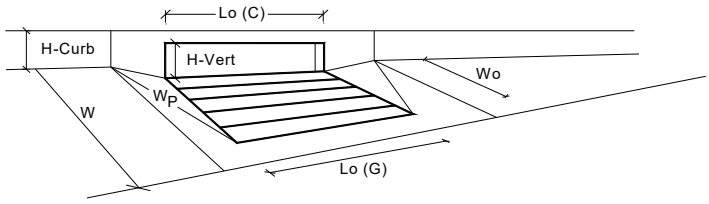
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	3.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	28.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.010	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.013	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	20.0	20.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is not applicable to Sump Condition				
MAJOR STORM Allowable Capacity is not applicable to Sump Condition	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 6.00 (August 2025)



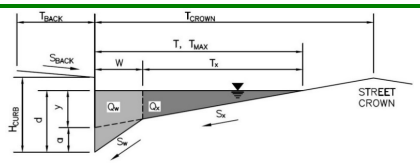
Design Information (Input)		MINOR	MAJOR	
Type of Inlet (CDOT Type R Curb Opening)	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	4.2	4.2	inches
Grate Information		MINOR	MAJOR	☐ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	10.00	10.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.18	0.18	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.80	0.80	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**2.8**	**2.8**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	0.7	2.0	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **MFD Training Campus**

Inlet ID: **CI-3.0**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	3.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	40.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.017	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	40.0	40.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

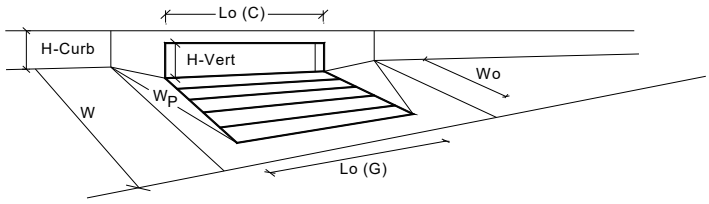
MINOR STORM Allowable Capacity is not applicable to Sump Condition

MAJOR STORM Allowable Capacity is not applicable to Sump Condition

	Minor Storm	Major Storm	
Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 6.00 (August 2025)



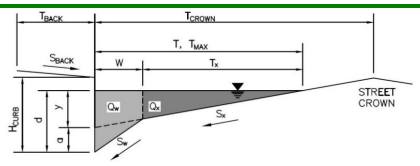
Design Information (Input)		MINOR	MAJOR	
Type of Inlet (CDOT Type R Curb Opening)	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	6.0	inches
Grate Information		MINOR	MAJOR	Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	10.00	10.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.33	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.93	0.93	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**8.3**	**8.3**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	0.7	1.8	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **MFD Training Campus**

Inlet ID: **CI-4.0**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	3.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	28.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.015	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	28.0	28.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

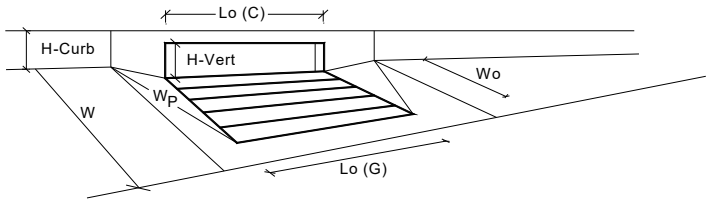
MINOR STORM Allowable Capacity is not applicable to Sump Condition

MAJOR STORM Allowable Capacity is not applicable to Sump Condition

	Minor Storm	Major Storm	
Q_{allow} =	**SUMP**	**SUMP**	**cfs**

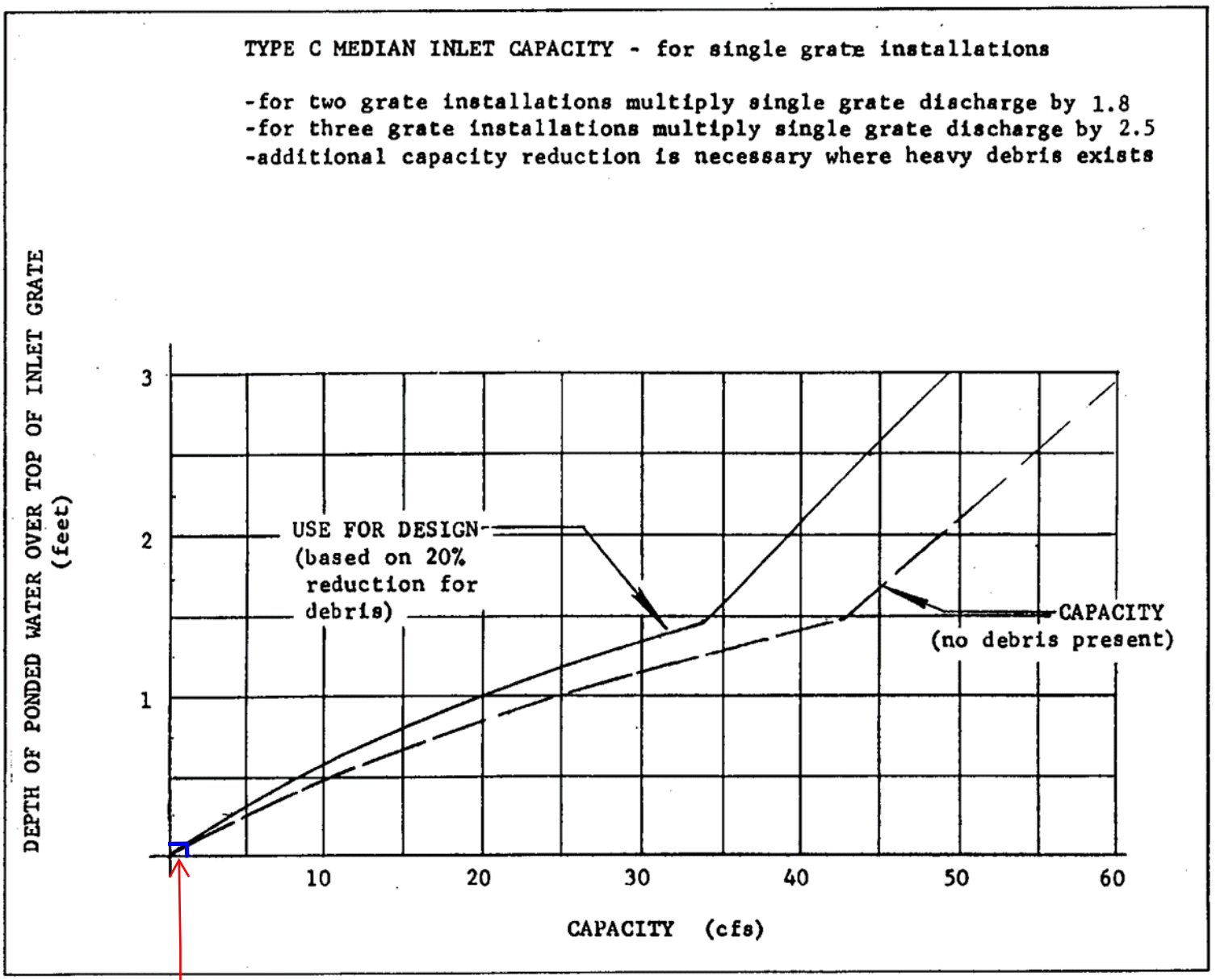
INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 6.00 (August 2025)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet (CDOT Type R Curb Opening)	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	6.0	inches
Grate Information		MINOR	MAJOR	☐ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	10.00	10.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.33	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.93	0.93	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**8.3**	**8.3**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	2.5	5.0	cfs

Nomograph for CDOT Type C Inlet Capacity taken from Chapter 13 of CDOT Drainage Design Manual.



Maximum Depth at both Inlets = +/- 0.10' during major event

Flow Rates
DI-1.0, 5-YR = 0.55 cfs, 100-YR = 1.47 cfs
DI-2.0, 5-YR = 0.80 cfs, 100-YR = 1.63 cfs

Channel Report

Project Name: New Project

Studio Express by Hydrology Studio v 1.0.0.20

10-05-2025

Design Point 181 Channel

Channel 1

TRAPEZOIDAL

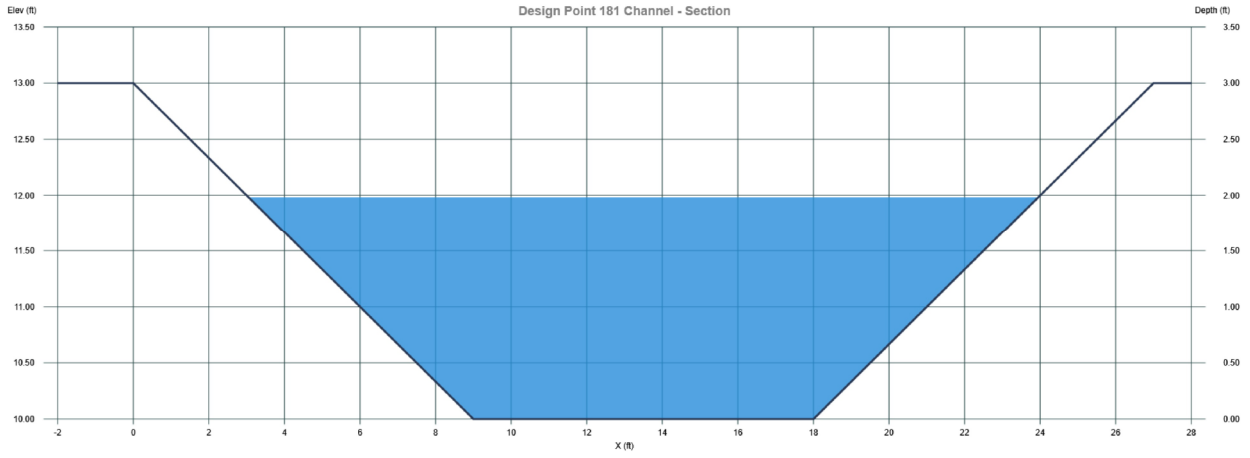
Bottom Width	= 9.00 ft
Side Slope Left, z:1	= 3.00
Side Slope Right, z:1	= 3.00
Total Depth	= 3.00 ft
Invert Elevation	= 10.00 ft
Channel Slope	= 1.240 %
Manning's n	= 0.026

DISCHARGE

Method	= Known Q
Known Q	= 232.00 cfs

CALCULATION SAMPLE

Flow	Depth	Area	Velocity	WP	n-value	Crit Depth	HGL	EGL	Max Shear	Top Width
(cfs)	(ft)	(sqft)	(ft/s)	(ft)		(ft)	(ft)	(ft)	(lb/sqft)	(ft)
232.00	1.98	29.58	7.84	21.52	0.026	2.16	11.98	12.94	1.53	20.88



Appendix C

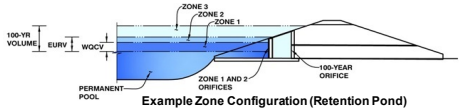
Pond Spreadsheets and Calculations

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.07 (June 2025)

Project: Monument Fire District - Station 1 Training Campus Expansion

Basin ID: EDB 1



Example Zone Configuration (Retention Pond)

Add 1,600 to values

Watershed Information

Selected SCM Type =	**EDB**	
Watershed Area =	3.86	acres
Watershed Length =	725	ft
Watershed Length to Centroid =	330	ft
Watershed Slope =	0.018	ft/ft
Watershed Imperviousness =	57.70%	percent
Percentage Hydrologic Soil Group A =	0.0%	percent
Percentage Hydrologic Soil Group B =	55.0%	percent
Percentage Hydrologic Soil Groups C/D =	45.0%	percent
Target WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	User Input	

After providing required inputs above including 1-hour rainfall depths, click 'Run CUHP' to generate runoff hydrographs using the embedded Colorado Urban Hydrograph Procedure.

			Optional User Overrides
Water Quality Capture Volume (WQCV) =	0.074	acre-feet	acre-feet
Excess Urban Runoff Volume (EURV) =	0.228	acre-feet	acre-feet
2-yr Runoff Volume (P1 = 1.19 in.) =	0.225	acre-feet	1.19 inches
5-yr Runoff Volume (P1 = 1.5 in.) =	0.313	acre-feet	1.50 inches
10-yr Runoff Volume (P1 = 1.75 in.) =	0.390	acre-feet	1.75 inches
25-yr Runoff Volume (P1 = 2 in.) =	0.481	acre-feet	2.00 inches
50-yr Runoff Volume (P1 = 2.25 in.) =	0.561	acre-feet	2.25 inches
100-yr Runoff Volume (P1 = 2.52 in.) =	0.659	acre-feet	2.52 inches
500-yr Runoff Volume (P1 = 3.14 in.) =	0.864	acre-feet	inches
Approximate 2-yr Detention Volume =	0.187	acre-feet	
Approximate 5-yr Detention Volume =	0.261	acre-feet	
Approximate 10-yr Detention Volume =	0.319	acre-feet	
Approximate 25-yr Detention Volume =	0.344	acre-feet	
Approximate 50-yr Detention Volume =	0.357	acre-feet	
Approximate 100-yr Detention Volume =	0.395	acre-feet	

Define Zones and Basin Geometry

Zone 1 Volume (WQCV) =	0.074	acre-feet
Zone 2 Volume (EURV - Zone 1) =	0.155	acre-feet
Zone 3 Volume (100-year - Zones 1 & 2) =	0.166	acre-feet
Total Detention Basin Volume =	0.395	acre-feet
Initial Surcharge Volume (ISV) =	user	ft^3
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H_{total}) =	user	ft
Depth of Trickle Channel (H_{TC}) =	user	ft
Slope of Trickle Channel (S_{TC}) =	user	ft/ft
Slopes of Main Basin Sides (S_{main}) =	user	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	user	

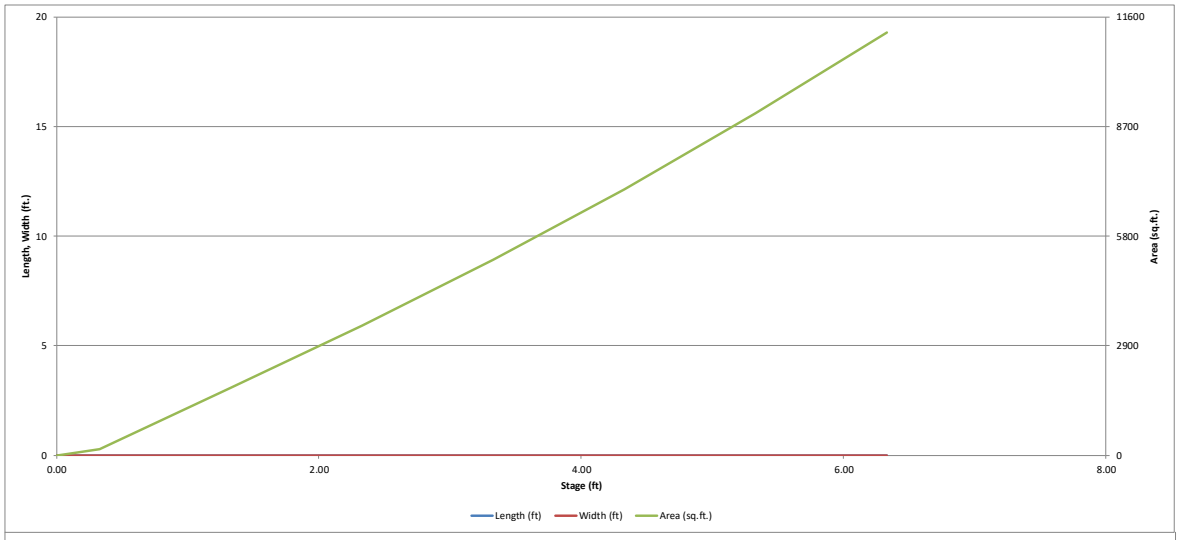
Initial Surcharge Area (A_{ISV}) =	user	ft^2
Surcharge Volume Length (L_{ISV}) =	user	ft
Surcharge Volume Width (W_{ISV}) =	user	ft
Depth of Basin Floor (H_{FLOOR}) =	user	ft
Length of Basin Floor (L_{FLOOR}) =	user	ft
Width of Basin Floor (W_{FLOOR}) =	user	ft
Area of Basin Floor (A_{FLOOR}) =	user	ft^2
Volume of Basin Floor (V_{FLOOR}) =	user	ft^3
Depth of Main Basin (H_{MAIN}) =	user	ft
Length of Main Basin (L_{MAIN}) =	user	ft
Width of Main Basin (W_{MAIN}) =	user	ft
Area of Main Basin (A_{MAIN}) =	user	ft^2
Volume of Main Basin (V_{MAIN}) =	user	ft^3
Calculated Total Basin Volume (V_{total}) =	**user**	acre-feet

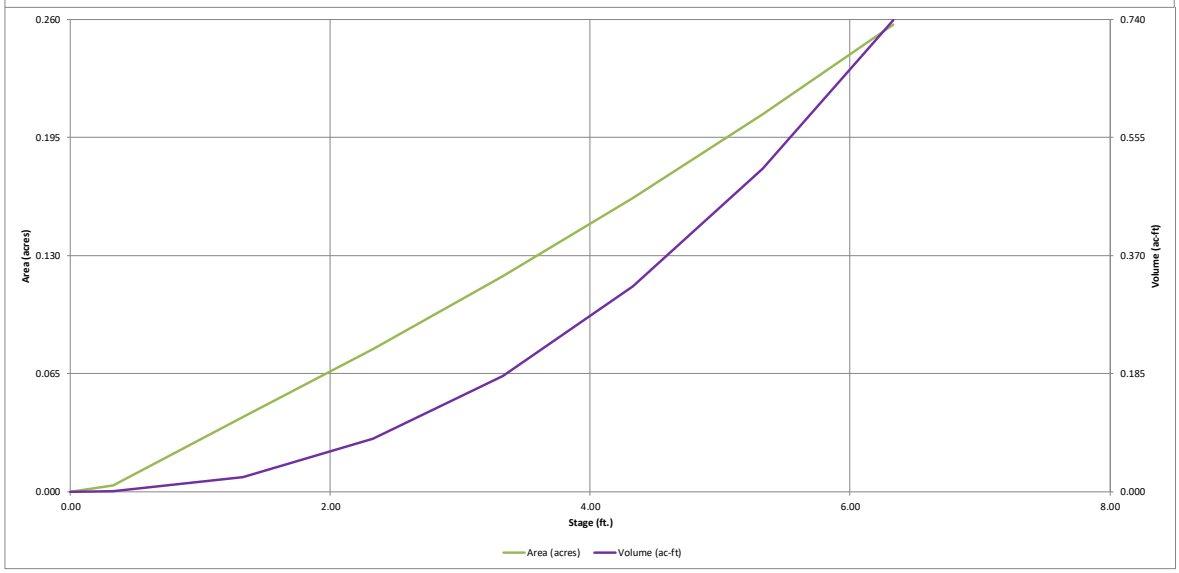
Depth Increment = ft

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	--	0.00	--	--	--	0	0.000		
5374	--	0.33	--	--	--	156	0.004	26	0.001
5375	--	1.33	--	--	--	1,791	0.041	999	0.023
5376	--	2.33	--	--	--	3,422	0.079	3,606	0.083
5377	--	3.33	--	--	--	5,173	0.119	7,903	0.181
5378	--	4.33	--	--	--	7,046	0.162	14,013	0.322
5379	--	5.33	--	--	--	9,052	0.208	22,062	0.506
5380	--	6.33	--	--	--	11,206	0.257	32,191	0.739

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.07 (June 2025)



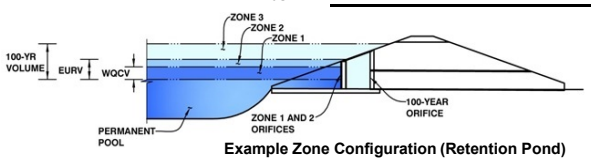


DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.07 (June 2025)

Project: **Monument Fire District - Station 1 Training Campus Expansion**

Basin ID: **EDB 1**



Example Zone Configuration (Retention Pond)

	Estimated Stage (ft)	Estimated Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	2.21	0.074	Orifice Plate
Zone 2 (EURV)	3.71	0.155	Orifice Plate
Zone 3 (100-year)	4.76	0.166	Weir&Pipe (Restrict)
Total (all zones)		0.395	

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration SCM)

Underdrain Orifice Invert Depth =	N/A	ft (distance below the filtration media surface)	Underdrain Orifice Area =	N/A	ft^2
Underdrain Orifice Diameter =	N/A	inches	Underdrain Orifice Centroid =	N/A	feet

Calculated Parameters for Underdrain

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation SCM)

Centroid of Lowest Orifice =	0.00	ft (relative to basin bottom at Stage = 0 ft)	WQ Orifice Area per Row =	2.986E-03	ft^2
Depth at top of Zone using Orifice Plate =	3.71	ft (relative to basin bottom at Stage = 0 ft)	Elliptical Half-Width =	N/A	feet
Orifice Plate: Orifice Vertical Spacing =	15.30	inches	Elliptical Slot Centroid =	N/A	feet
Orifice Plate: Orifice Area per Row =	0.43	sq. inches (diameter = 3/4 inch)	Elliptical Slot Area =	N/A	ft^2

Calculated Parameters for Plate

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00	1.24	2.47					
Orifice Area (sq. inches)	0.43	0.43	0.43					

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)								
Orifice Area (sq. inches)								

User Input: Vertical Orifice (Circular or Rectangular)

	Not Selected	Not Selected			Not Selected	Not Selected	
Invert of Vertical Orifice =	N/A	N/A	ft (relative to basin bottom at Stage = 0 ft)	Vertical Orifice Area =	N/A	N/A	ft^2
Depth at top of Zone using Vertical Orifice =	N/A	N/A	ft (relative to basin bottom at Stage = 0 ft)	Vertical Orifice Centroid =	N/A	N/A	feet
Vertical Orifice Diameter =	N/A	N/A	inches				

Calculated Parameters for Vertical Orifice

User Input: Overflow Weir (Dropbox with Flat or Sloped Grate and Outlet Pipe OR Rectangular/Trapezoidal Weir and No Outlet Pipe)

	Zone 3 Weir	Not Selected			Zone 3 Weir	Not Selected	
Overflow Weir Front Edge Height, Ho =	3.71	N/A	ft (relative to basin bottom at Stage = 0 ft)	Height of Grate Upper Edge, H_t =	4.96	N/A	feet
Overflow Weir Front Edge Length =	1.00	N/A	feet	Overflow Weir Slope Length =	5.15	N/A	feet
Overflow Weir Grate Slope =	4.00	N/A	H:V	Grate Open Area / 100-yr Orifice Area =	10.18	N/A	
Horiz. Length of Weir Sides =	5.00	N/A	feet	Overflow Grate Open Area w/o Debris =	4.08	N/A	ft^2
Overflow Grate Type =	Close Mesh Grate	N/A		Overflow Grate Open Area w/ Debris =	4.08	N/A	ft^2
Debris Clogging % =	0%	N/A	%				

Calculated Parameters for Overflow Weir

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

	Zone 3 Restrictor	Not Selected			Zone 3 Restrictor	Not Selected	
Depth to Invert of Outlet Pipe =	0.25	N/A	ft (distance below basin bottom at Stage = 0 ft)	Outlet Orifice Area =	0.40	N/A	ft^2
Outlet Pipe Diameter =	18.00	N/A	inches	Outlet Orifice Centroid =	0.25	N/A	feet
Restrictor Plate Height Above Pipe Invert =	5.00		inches	Half-Central Angle of Restrictor Plate on Pipe =	1.11	N/A	radians

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage=	4.80	ft (relative to basin bottom at Stage = 0 ft)	Spillway Design Flow Depth=	0.44	feet
Spillway Crest Length =	10.00	feet	Stage at Top of Freeboard =	6.24	feet
Spillway End Slopes =	4.00	H:V	Basin Area at Top of Freeboard =	0.25	acres
Freeboard above Max Water Surface =	1.00	feet	Basin Volume at Top of Freeboard =	0.72	acre-ft

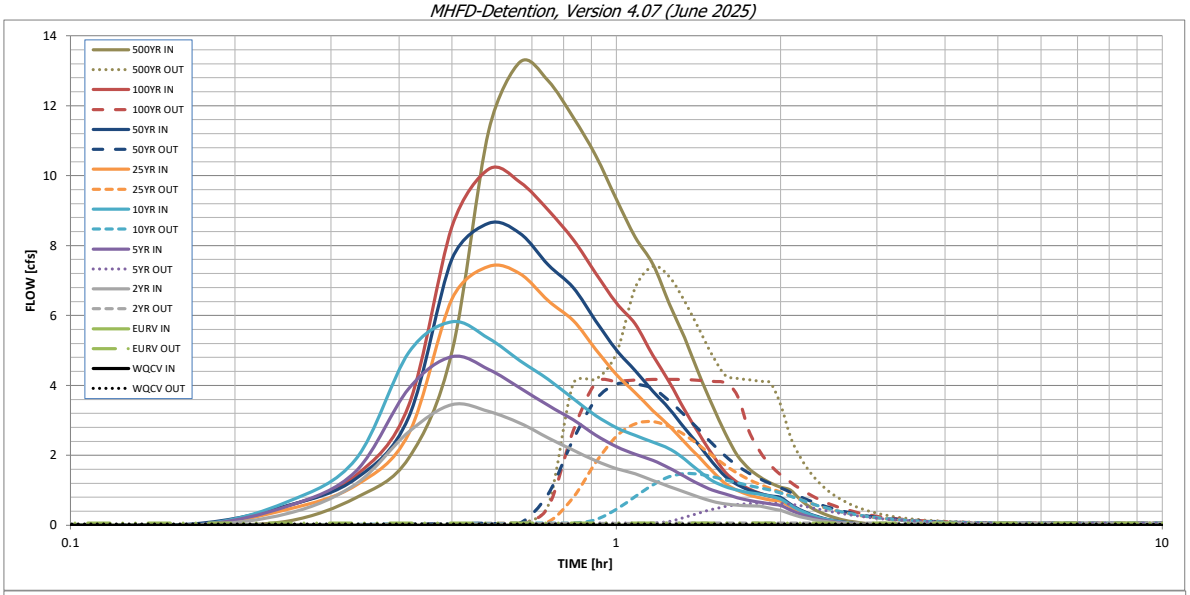
Calculated Parameters for Spillway

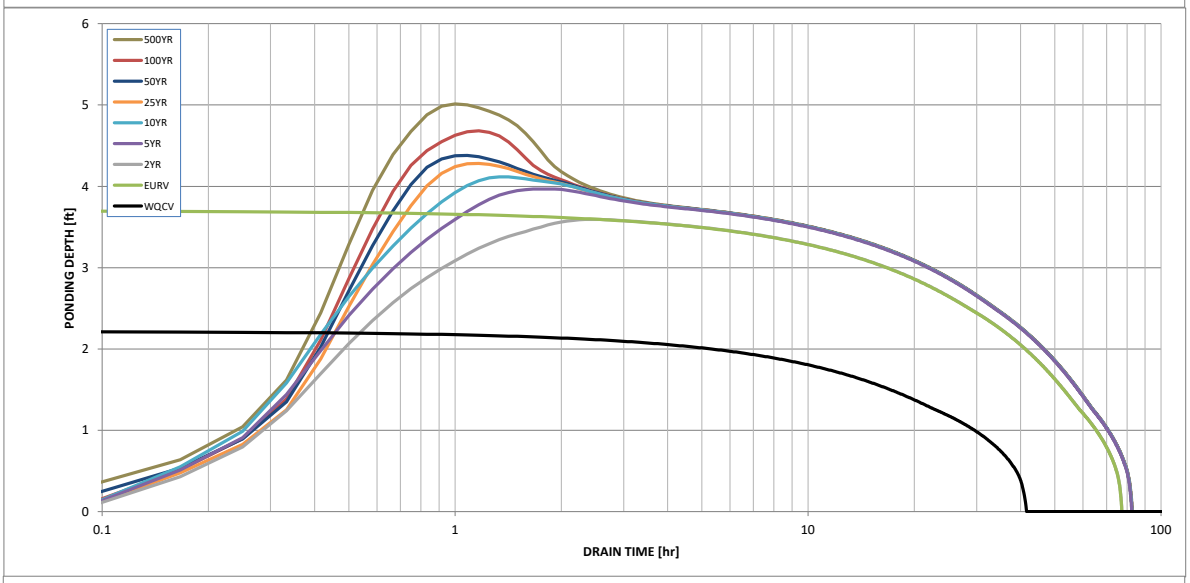
Routed Hydrograph Results *The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF).*

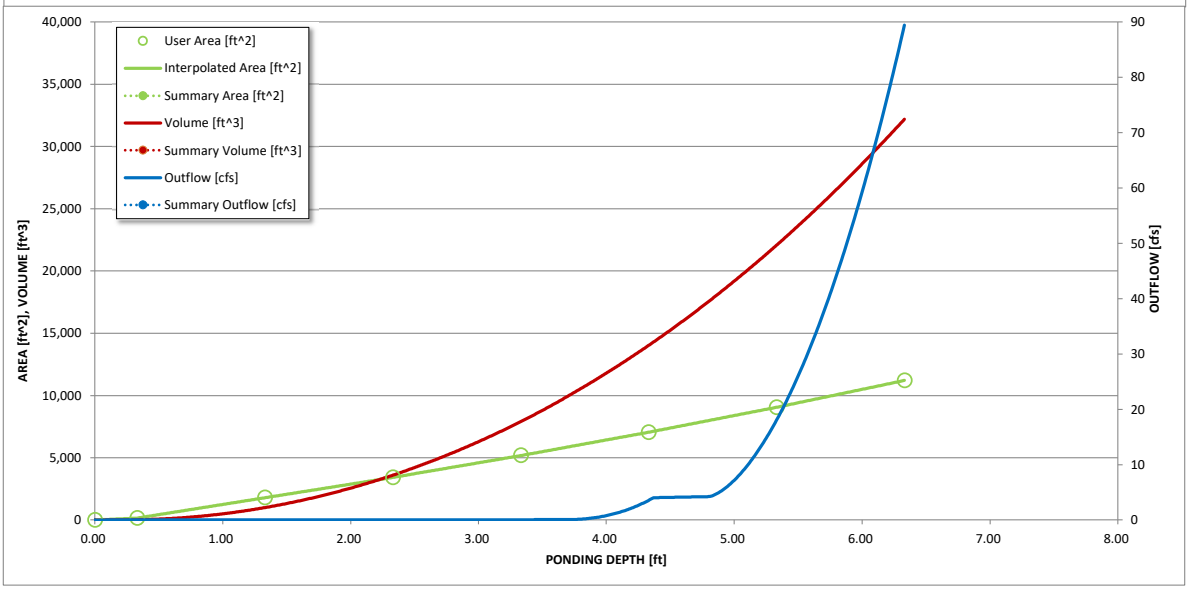
Design Storm Return Period =	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
One-Hour Rainfall Depth (in) =	N/A	N/A	1.19	1.50	1.75	2.00	2.25	2.52	3.14
CUHP Runoff Volume (acre-ft) =	0.074	0.228	0.225	0.313	0.390	0.481	0.561	0.659	0.864
Inflow Hydrograph Volume (acre-ft) =	N/A	N/A	0.225	0.313	0.390	0.481	0.561	0.659	0.864
CUHP Predevelopment Peak Q (cfs) =	N/A	N/A	0.6	1.3	1.8	3.0	3.7	4.7	6.5
OPTIONAL Override Predevelopment Peak Q (cfs) =	N/A	N/A							
Predevelopment Unit Peak Flow, q (cfs/acre) =	N/A	N/A	0.15	0.33	0.47	0.78	0.96	1.21	1.69
Peak Inflow Q (cfs) =	N/A	N/A	3.5	4.8	5.8	7.4	8.6	10.2	13.2
Peak Outflow Q (cfs) =	0.0	0.1	0.1	0.6	1.5	3.0	4.0	4.2	7.4
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	0.5	0.8	1.0	1.1	0.9	1.1
Structure Controlling Flow =	Plate	Plate	Plate	Overflow Weir 1	Overflow Weir 1	Overflow Weir 1	Outlet Plate 1	Outlet Plate 1	Spillway
Max Velocity through Grate 1 (fps) =	N/A	N/A	N/A	0.1	0.4	0.7	1.0	1.0	1.0
Max Velocity through Grate 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours) =	38	70	70	72	71	68	67	64	61
Time to Drain 99% of Inflow Volume (hours) =	**40**	74	74	78	78	77	76	75	73
Maximum Ponding Depth (ft) =	2.22	3.70	3.59	3.97	4.12	4.28	4.38	4.68	5.01
Area at Maximum Ponding Depth (acres) =	0.07	0.13	0.13	0.15	0.15	0.16	0.16	0.18	0.19
Maximum Volume Stored (acre-ft) =	0.074	0.228	0.214	0.265	0.287	0.314	0.328	0.381	0.442

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.07 (June 2025)







S-A-V-D Chart Axis Override	X-axis	Left Y-Axis	Right Y-Axis
minimum bound			
maximum bound			

DETENTION BASIN OUTLET STRUCTURE DESIGN

Outflow Hydrograph Workbook Filename: *MFD Training Campus - EDB-1 Outflow Hydrograph*

Inflow Hydrographs

The user can override the calculated inflow hydrographs from this workbook with inflow hydrographs developed in a separate program.

	SOURCE	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP
Time Interval	TIME	WQCV [cfs]	EURV [cfs]	2 Year [cfs]	5 Year [cfs]	10 Year [cfs]	25 Year [cfs]	50 Year [cfs]	100 Year [cfs]	500 Year [cfs]
5.00 min	0:00:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:05:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:10:00	0	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.12
	0:15:00	0	0.00	0.33	0.55	0.68	0.45	0.56	0.55	0.79
	0:20:00	0	0.00	1.18	1.55	1.90	1.15	1.33	1.43	1.92
	0:25:00	0	0.00	2.67	3.91	4.94	2.62	3.09	3.43	4.96
	0:30:00	0	0.00	3.45	4.83	5.82	6.47	7.61	8.54	11.29
	0:35:00	0	0.00	3.25	4.46	5.34	7.41	8.63	10.18	13.25
	0:40:00	0	0.00	2.92	3.92	4.70	7.19	8.35	9.81	12.71
	0:45:00	0	0.00	2.50	3.43	4.17	6.42	7.45	9.01	11.67
	0:50:00	0	0.00	2.15	3.02	3.62	5.85	6.79	8.17	10.58
	0:55:00	0	0.00	1.85	2.58	3.14	5.04	5.85	7.21	9.33
	1:00:00	0	0.00	1.62	2.25	2.79	4.31	5.02	6.36	8.24
	1:05:00	0	0.00	1.47	2.03	2.57	3.79	4.42	5.75	7.47
	1:10:00	0	0.00	1.28	1.85	2.38	3.28	3.83	4.86	6.34
	1:15:00	0	0.00	1.11	1.64	2.19	2.84	3.33	4.10	5.37
	1:20:00	0	0.00	0.95	1.40	1.89	2.37	2.78	3.31	4.33
	1:25:00	0	0.00	0.81	1.18	1.55	1.96	2.29	2.62	3.43
	1:30:00	0	0.00	0.68	1.00	1.27	1.55	1.80	2.02	2.63
	1:35:00	0	0.00	0.61	0.90	1.11	1.20	1.40	1.52	2.00
	1:40:00	0	0.00	0.57	0.79	1.01	1.00	1.16	1.23	1.62
	1:45:00	0	0.00	0.55	0.71	0.93	0.87	1.01	1.04	1.38
	1:50:00	0	0.00	0.54	0.66	0.89	0.78	0.91	0.91	1.21
	1:55:00	0	0.00	0.48	0.61	0.83	0.72	0.84	0.82	1.09
	2:00:00	0	0.00	0.43	0.56	0.75	0.69	0.79	0.75	1.01
	2:05:00	0	0.00	0.33	0.44	0.57	0.52	0.61	0.56	0.75
	2:10:00	0	0.00	0.25	0.33	0.43	0.39	0.45	0.41	0.55
	2:15:00	0	0.00	0.19	0.25	0.32	0.29	0.34	0.31	0.41
	2:20:00	0	0.00	0.14	0.18	0.24	0.22	0.25	0.23	0.31
	2:25:00	0	0.00	0.11	0.14	0.17	0.16	0.18	0.17	0.23
	2:30:00	0	0.00	0.08	0.10	0.13	0.12	0.13	0.13	0.17
	2:35:00	0	0.00	0.06	0.07	0.09	0.09	0.10	0.09	0.12
	2:40:00	0	0.00	0.04	0.05	0.06	0.06	0.07	0.07	0.09
	2:45:00	0	0.00	0.02	0.03	0.04	0.04	0.05	0.04	0.06
	2:50:00	0	0.00	0.01	0.02	0.02	0.03	0.03	0.03	0.04
	2:55:00	0	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.02
	3:00:00	0	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
	3:05:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:10:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:15:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:20:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:25:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:30:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:35:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:40:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:45:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:50:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:55:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:00:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:05:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:10:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:15:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:20:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:25:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:30:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:35:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	5:00:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:05:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:10:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:15:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:20:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:25:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:30:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:35:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:40:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:45:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:50:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:55:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6:00:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.07 (June 2025)

Summary Stage-Area-Volume-Discharge Relationships

The user can create a summary S-A-V-D by entering the desired stage increments and the remainder of the table will populate automatically.
The user should graphically compare the summary S-A-V-D table to the full S-A-V-D table in the chart to confirm it captures all key transition points.

Stage - Storage Description	Stage [ft]	Elevation [ft]	Area [ft^2]	Area [acres]	Volume [ft^3]	Volume [ac-ft]	Total Outflow [cfs]

MFD Station #1 Training Campus
EDB-1 Northern Forebay Notch Sizing

Total Tributary Area to Forebay	2.22	Acres
Impervious Coefficient	54.6%	
Impervious Area Tributary to Forebay	1.21	Acres
Calculated WQCV (Per Equation 3-1)	0.2192	Watershed Inches
Calculated WQCV (Per Equation 3-2)	1766.80	Cubic Feet
100-Year Inflow (Per UD-Rational)	12.25	CFS

Size Forebay and Notch per Table 4-12 of Volume 3, MHFD Criteria Manual

Minimum Forebay Volume	17.67	CF (Assumes 1.0% of the WQCV)
Specified Forebay Depth	12	Inches (12 to 15 Inch allowable)

Drain Down Time Calculation (Equation 4-1)

$$w = 9.23\ (A_{FB} / t)\ (1 / \sqrt{h_{max}})$$

Where:

w = width of the rectangular vertical notch (inches)

A_{FB} = surface area of the forebay (square feet)

t = emptying time of the brim-full forebay (seconds)

h_{max} = maximum depth of the forebay (feet)

A_{FB}	35.57	SF
t	270	Seconds (Assume 4.5 Minutes)
h_{max}	1	Feet
w	**1.22**	Inches

MFD Station #1 Training Campus
EDB-1 Western Forebay Notch Sizing

Total Tributary Area to Forebay	1.20	Acres
Impervious Coefficient	82.9%	
Impervious Area Tributary to Forebay	0.99	Acres
Calculated WQCV (Per Equation 3-1)	0.3473	Watershed Inches
Calculated WQCV (Per Equation 3-2)	1512.63	Cubic Feet
100-Year Inflow (Per UD-Rational)	6.59	CFS

Size Forebay and Notch per Table 4-12 of Volume 3, MHFD Criteria Manual

Minimum Forebay Volume	15.13	CF (Assumes 1.0% of the WQCV)
Specified Forebay Depth	12	Inches (12 to 15 Inch allowable)

Drain Down Time Calculation (Equation 4-1)

$$w = 9.23\ (A_{FB} / t)\ (1 / \sqrt{h_{max}})$$

Where:

w = width of the rectangular vertical notch (inches)

A_{FB} = surface area of the forebay (square feet)

t = emptying time of the brim-full forebay (seconds)

h_{max} = maximum depth of the forebay (feet)

A_{FB}	35.57	SF
t	270	Seconds (Assume 4.5 Minutes)
h_{max}	1	Feet
w	**1.22**	Inches

Channel Report

Project Name: New Project

Studio Express by Hydrology Studio v 1.0.0.20

10-05-2025

Trickle Channel Capacity

Channel 2

RECTANGULAR

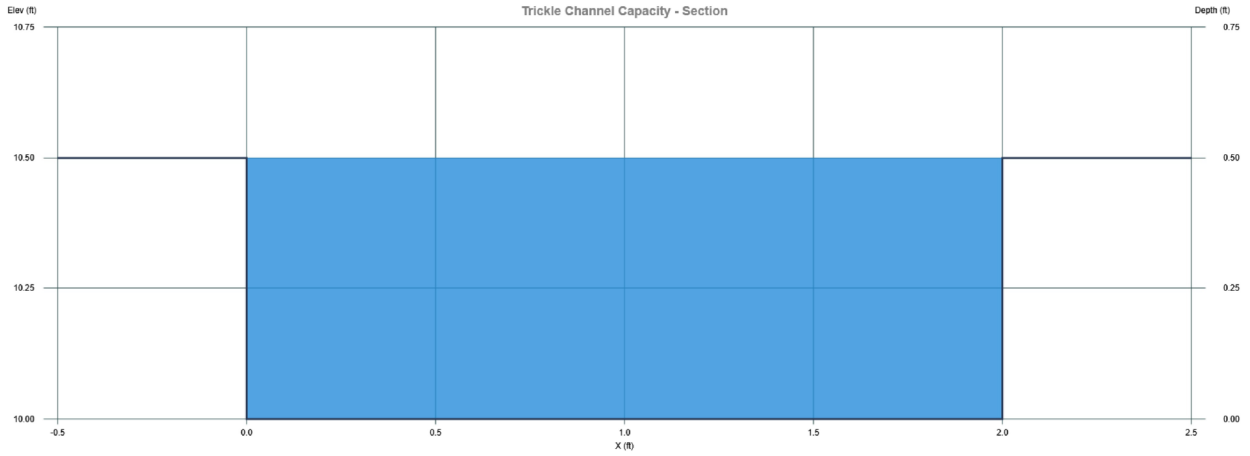
Bottom Width	= 2.00 ft
Total Depth	= 0.50 ft
Invert Elevation	= 10.00 ft
Channel Slope	= 0.500 %
Manning's n	= 0.013

DISCHARGE

Method	= Known Depth
known Depth	= 0.50 ft

CALCULATION SAMPLE

Flow	Depth	Area	Velocity	WP	n-value	Crit Depth	HGL	EGL	Max Shear	Top Width
(cfs)	(ft)	(sqft)	(ft/s)	(ft)		(ft)	(ft)	(ft)	(lb/sqft)	(ft)
3.88	0.50	1.00	3.88	3.00	0.013	0.49	10.50	10.73	0.16	2.00



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Hydrology Studio v 3.0.0.38

10-05-2025

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Basin Model

Hydrology Studio v 3.0.0.38

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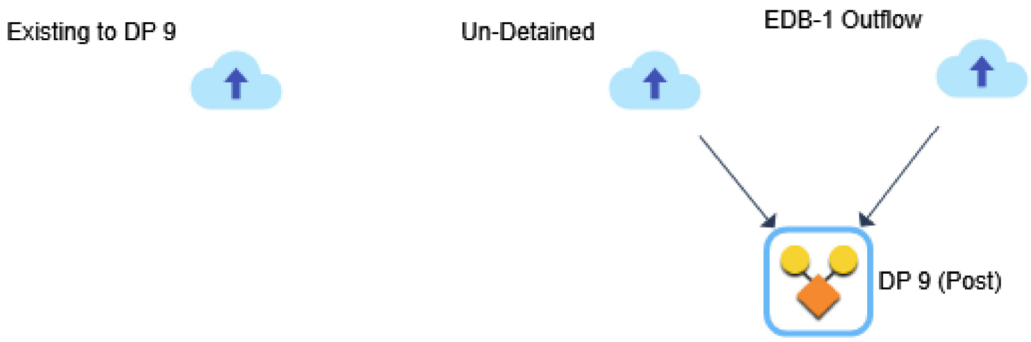


Hydrograph by Return Period

Hydrology Studio v 3.0.0.38

File: HydroGraphs.hys
10-05-2025

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Outflow (cfs)							
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
1	Manual	Existing to DP 9		0.000			0.000			34.32
2	Manual	Un-Detained		0.000			0.000			23.18
3	Manual	EDB-1 Outflow		0.000			0.000			4.170
4	Junction	DP 9 (Post)		0.000			0.000			26.45

Hydrograph 100-yr Summary

Hydrology Studio v 3.0.0.38

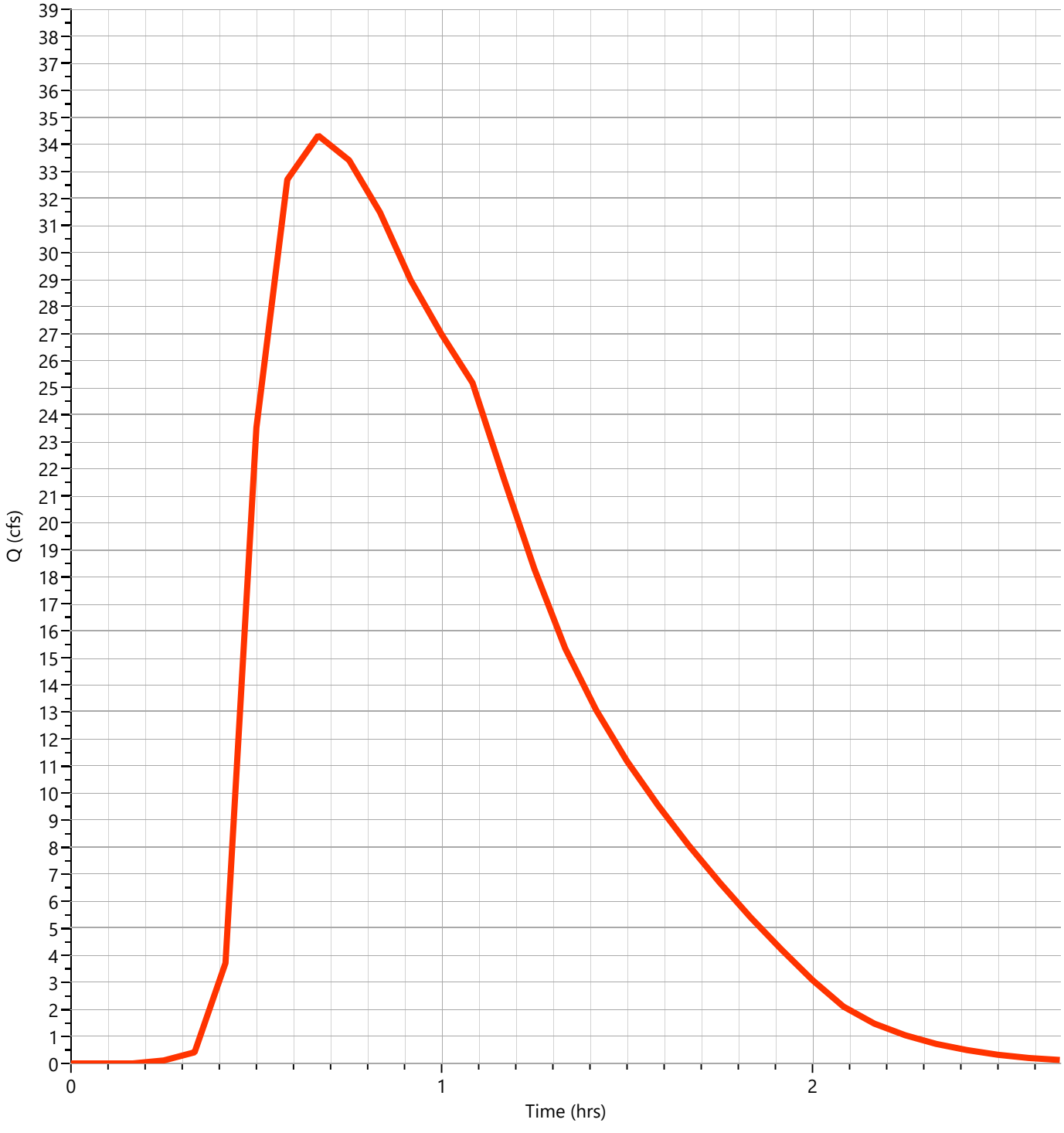
File: HydroGraphs.hys
10-05-2025

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	Manual	Existing to DP 9	34.32	0.67	109,245	----		
2	Manual	Un-Detained	23.18	0.67	86,580	----		
3	Manual	EDB-1 Outflow	4.170	1.08	18,969	----		
4	Junction	DP 9 (Post)	26.45	0.83	105,549	2, 3		

Existing to DP 9

Hyd. No. 1

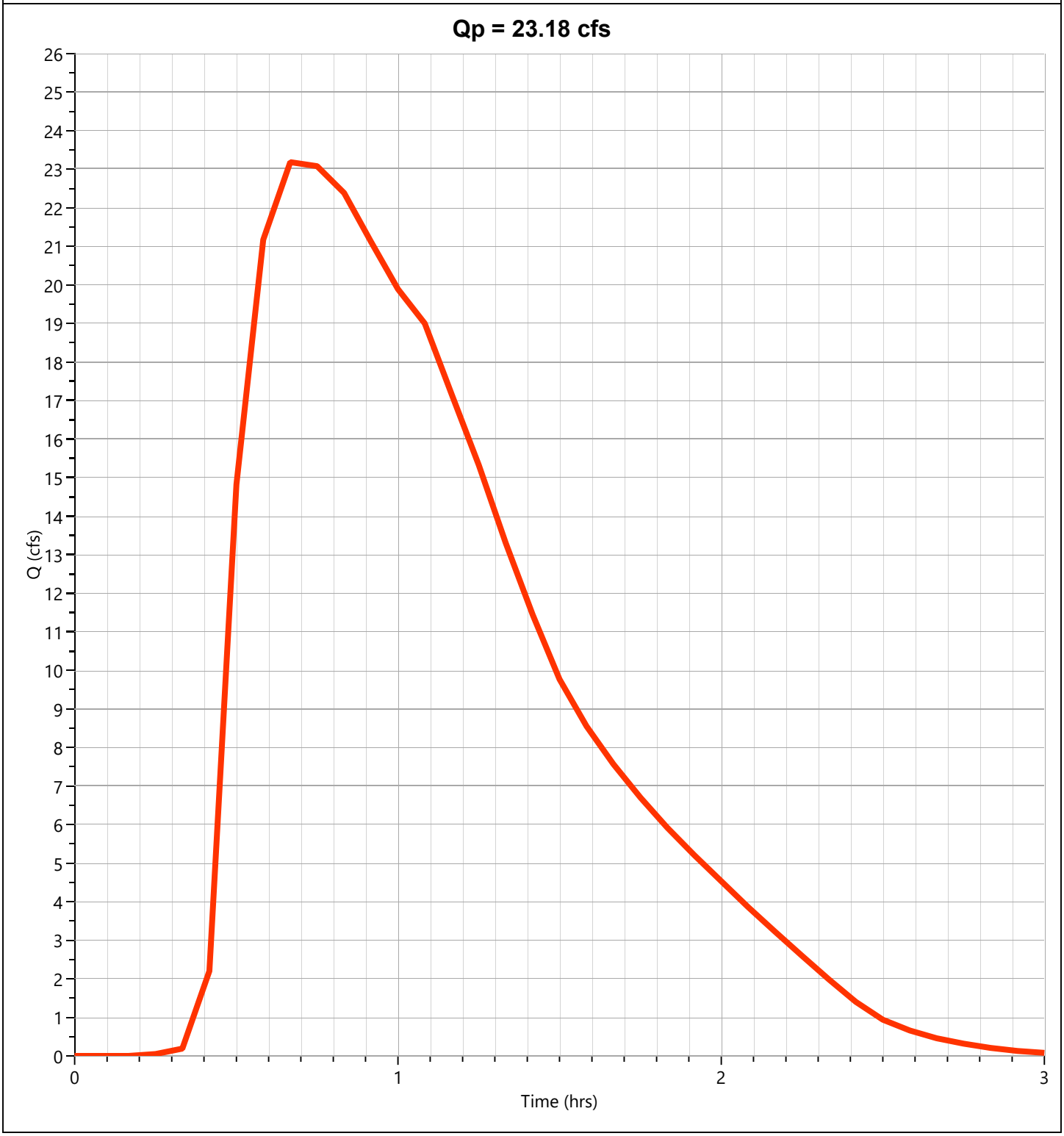
Hydrograph Type	= Manual	Peak Flow	= 34.32 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.67 hrs
Time Interval	= 5 min	Hydrograph Volume	= 109,245 cuft



Un-Detained

Hyd. No. 2

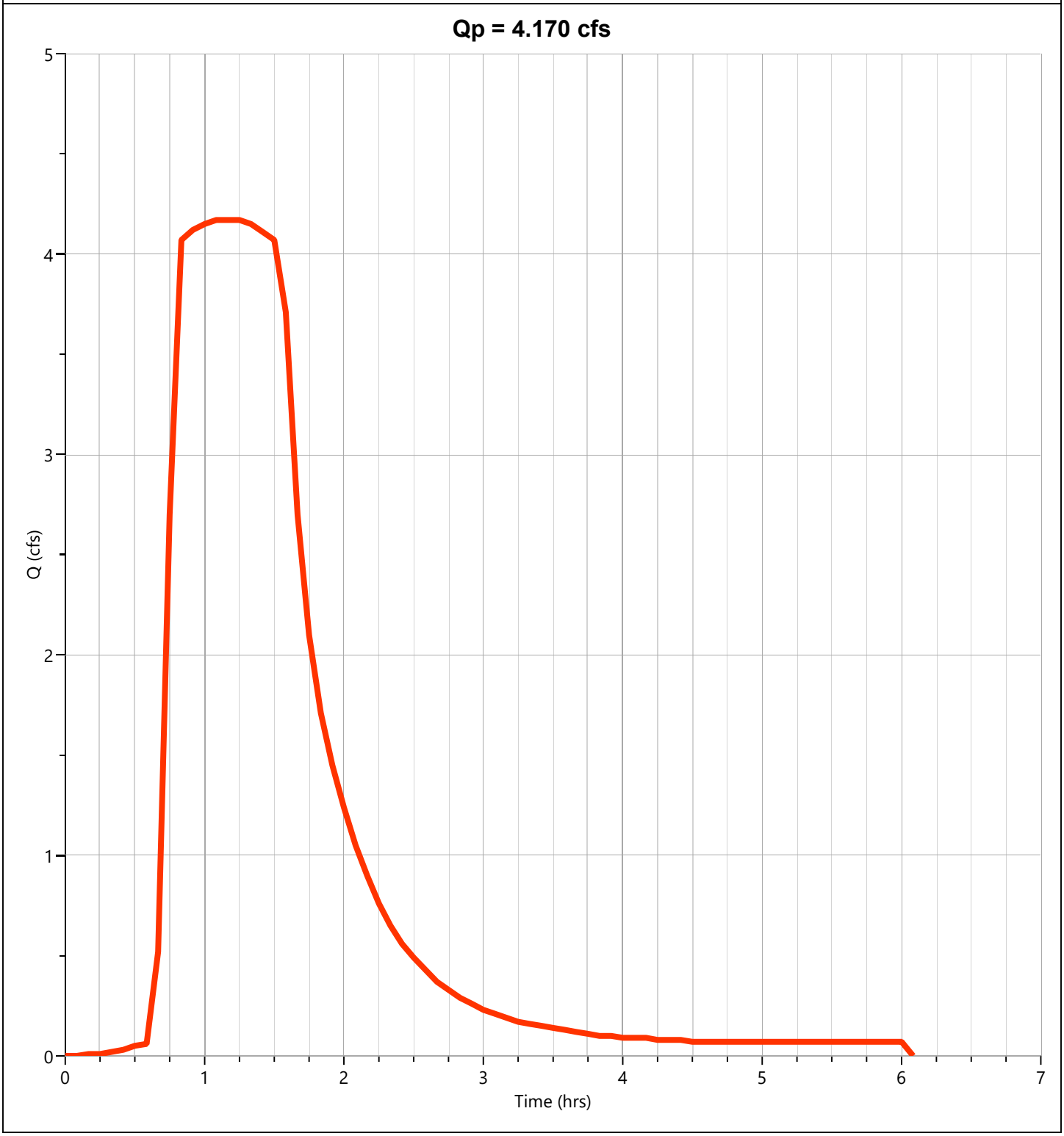
Hydrograph Type	= Manual	Peak Flow	= 23.18 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.67 hrs
Time Interval	= 5 min	Hydrograph Volume	= 86,580 cuft



EDB-1 Outflow

Hyd. No. 3

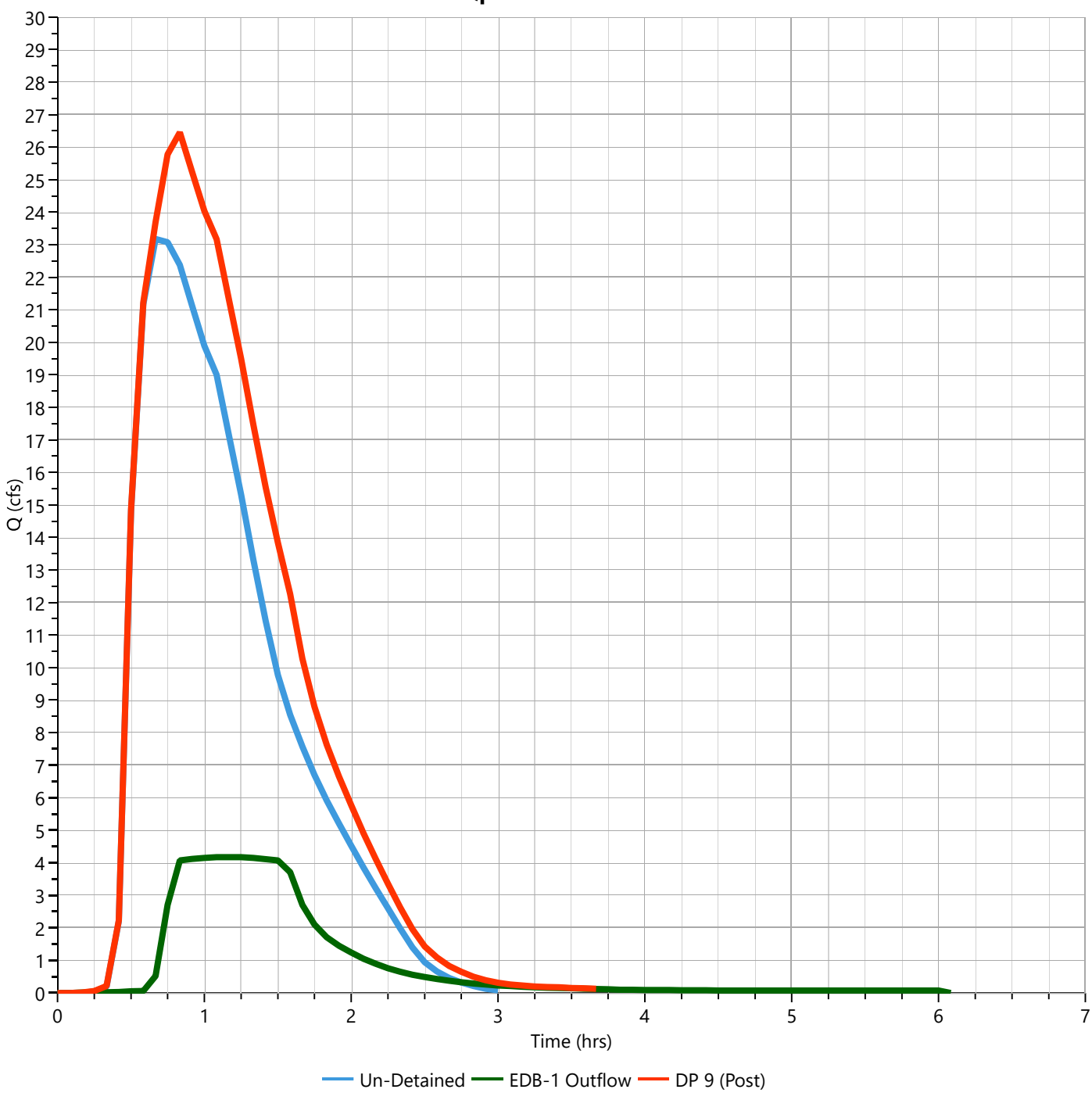
Hydrograph Type	= Manual	Peak Flow	= 4.170 cfs
Storm Frequency	= 100-yr	Time to Peak	= 1.08 hrs
Time Interval	= 5 min	Hydrograph Volume	= 18,969 cuft



DP 9 (Post)

Hyd. No. 4

Hydrograph Type	= Junction	Peak Flow	= 26.45 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.83 hrs
Time Interval	= 5 min	Hydrograph Volume	= 105,549 cuft
Inflow Hydrographs		Total Contrib. Area	= 0.0 ac



IDF Report

IDF filename: SampleIDF.idf

Hydrology Studio v 3.0.0.38

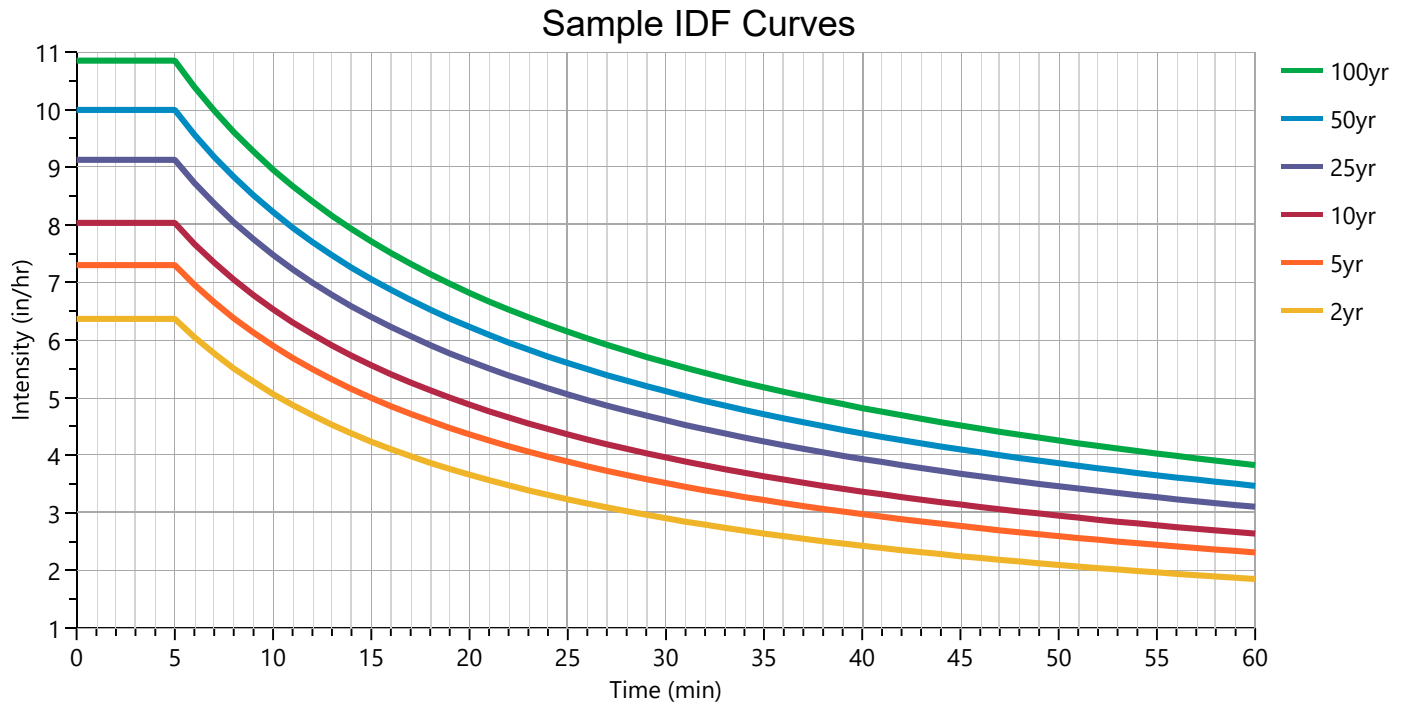
10-05-2025

Equation Coefficients	Intensity = B / (Tc + D)^E (in/hr)								
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
B	0.0000	58.1215	0.0000	57.1446	58.8780	63.5498	67.7965	72.2003	
D	0.0000	10.3000	0.0000	10.3000	10.3000	10.4000	10.5000	10.6000	
E	0.0000	0.8106	0.0000	0.7542	0.7303	0.7097	0.6986	0.6898	

Minimum Tc = 5 minutes

Tc (min)	Intensity Values (in/hr)								
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
Cf	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
5	0	6.37	0	7.30	8.03	9.13	9.99	10.85	
10	0	5.06	0	5.90	6.53	7.48	8.22	8.96	
15	0	4.24	0	5.00	5.56	6.40	7.06	7.71	
20	0	3.66	0	4.36	4.88	5.63	6.23	6.82	
25	0	3.23	0	3.89	4.36	5.06	5.60	6.14	
30	0	2.90	0	3.52	3.96	4.60	5.11	5.61	
35	0	2.64	0	3.22	3.64	4.24	4.71	5.18	
40	0	2.43	0	2.98	3.37	3.94	4.38	4.82	
45	0	2.25	0	2.77	3.14	3.68	4.10	4.52	
50	0	2.10	0	2.60	2.95	3.46	3.86	4.26	
55	0	1.96	0	2.44	2.78	3.27	3.65	4.03	
60	0	1.85	0	2.31	2.64	3.10	3.47	3.83	

Cf = Correction Factor applied to Rational Method runoff coefficient.



Precipitation Report

Precipitation filename: SamplePrecip.pcp

Hydrology Studio v 3.0.0.38 (Rainfall totals in Inches)

10-05-2025

	Active	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Active			✔			✔			✔
SCS Storms	**> SCS Dimensionless Storms**								
SCS 6hr		1.20	1.50	0	1.86	2.18	2.64	3.01	3.41
Type I, 24-hr		1.82	2.28	0	2.85	3.31	3.94	4.43	4.94
Type IA, 24-hr		1.82	2.28	0	2.85	3.31	3.94	4.43	4.94
Type II, 24-hr		1.82	2.28	0	2.85	3.31	3.94	4.43	4.94
Type II FL, 24-hr		1.82	2.28	0	2.85	3.31	3.94	4.43	4.94
Type III, 24-hr		1.82	2.28	0	2.85	3.31	3.94	4.43	4.94
Synthetic Storms	**> IDF-Based Synthetic Storms**								
1-hr		0	1.85	0	2.31	2.64	3.10	3.47	3.83
2-hr		0	2.24	0	2.90	3.36	4.01	4.51	5.01
3-hr		0	2.48	0	3.27	3.82	4.60	5.20	5.79
6-hr	✔	0	2.89	0	3.96	4.70	5.73	6.53	7.32
12-hr		0	3.33	0	4.75	5.73	7.08	8.13	9.17
24-hr		0	3.82	0	5.66	6.94	8.70	10.07	11.42
Huff Distribution	**> 1st Quartile (0 to 6 hrs)**								
1-hr		0.76	0.98	0	1.33	1.61	2.01	2.34	2.69
2-hr		0.89	1.14	0	1.50	1.80	2.24	2.60	2.99
3-hr		0.98	1.24	0	1.59	1.90	2.33	2.68	3.07
6-hr		1.20	1.50	0	1.86	2.18	2.64	3.01	3.41
Huff Distribution	**> 2nd Quartile (>6 to 12 hrs)**								
8-hr		0	0	0	0	0	0	0	0
12-hr		0	0	0	0	0	0	0	0
Huff Distribution	**> 3rd Quartile (>12 to 24 hrs)**								
18-hr		0	0	0	0	0	0	0	0
24-hr		0	0	0	0	0	0	0	0
Custom Storms	**> Custom Storm Distributions**								
My Custom Storm 1		0	0	0	0	0	0	0	0
My Custom Storm 2		0	0	0	0	0	0	0	0
My Custom Storm 3		0	0	0	0	0	0	0	0
My Custom Storm 4		0	0	0	0	0	0	0	0
My Custom Storm 5		0	0	0	0	0	0	0	0
My Custom Storm 6		0	0	0	0	0	0	0	0
My Custom Storm 7		0	0	0	0	0	0	0	0
My Custom Storm 8		0	0	0	0	0	0	0	0
My Custom Storm 9		0	0	0	0	0	0	0	0
My Custom Storm 10		0	0	0	0	0	0	0	0

Precipitation Report Cont'd

Precipitation filename: SamplePrecip.pcp

Rainfall totals in Inches

10-05-2025

	Active	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Active			✔			✔			✔
Huff Indiana	**> Indianapolis**								
30-min		0.99	1.19	0	1.44	1.63	1.89	2.08	2.28
1-hr		1.21	1.46	0	1.81	2.08	2.45	2.75	3.06
2-hr		1.46	1.77	0	2.22	2.57	3.05	3.44	3.85
3-hr		1.57	1.90	0	2.38	2.76	3.30	3.75	4.21
6-hr		1.92	2.31	0	2.88	3.36	4.01	4.56	5.13
12-hr		0	0	0	0	0	0	0	0
24-hr		0	0	0	0	0	0	0	0
Huff Indiana	**> Evansville**								
30-min		0.99	1.19	0	1.44	1.63	1.89	2.08	2.28
1-hr		1.21	1.46	0	1.81	2.08	2.45	2.75	3.06
2-hr		1.46	1.77	0	2.22	2.57	3.05	3.44	3.85
3-hr		1.57	1.90	0	2.38	2.76	3.30	3.75	4.21
6-hr		1.92	2.31	0	2.88	3.36	4.01	4.56	5.13
12-hr		0	0	0	0	0	0	0	0
24-hr		0	0	0	0	0	0	0	0
Huff Indiana	**> Fort Wayne**								
30-min		0.99	1.19	0	1.44	1.63	1.89	2.08	2.28
1-hr		1.21	1.46	0	1.81	2.08	2.45	2.75	3.06
2-hr		1.46	1.77	0	2.22	2.57	3.05	3.44	3.85
3-hr		1.57	1.90	0	2.38	2.76	3.30	3.75	4.21
6-hr		1.92	2.31	0	2.88	3.36	4.01	4.56	5.13
12-hr		0	0	0	0	0	0	0	0
24-hr		0	0	0	0	0	0	0	0
Huff Indiana	**> South Bend**								
30-min		0.99	1.19	0	1.44	1.63	1.89	2.08	2.28
1-hr		1.21	1.46	0	1.81	2.08	2.45	2.75	3.06
2-hr		1.46	1.77	0	2.22	2.57	3.05	3.44	3.85
3-hr		1.57	1.90	0	2.38	2.76	3.30	3.75	4.21
6-hr		1.92	2.31	0	2.88	3.36	4.01	4.56	5.13
12-hr		0	0	0	0	0	0	0	0
24-hr		0	0	0	0	0	0	0	0

Precipitation Report Cont'd

Precipitation filename: SamplePrecip.pcp

Rainfall totals in Inches

10-05-2025

	Active	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Active			✔			✔			✔
NRCS Storms	**> NRCS Dimensionless Storms**								
NRCS MSE1, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCS MSE2, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCS MSE3, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCS MSE4, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCS MSE5, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCS MSE6, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NOAA-A, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NOAA-B, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NOAA-C, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NOAA-D, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCC-A, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCC-B, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCC-C, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCC-D, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
CA-1, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
CA-2, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
CA-3, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
CA-4, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
CA-5, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
CA-6, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
FDOT Storms	**> Florida DOT Storms**								
FDOT, 1-hr		0	2.14	2.36	2.58	2.92	3.35	3.66	3.95
FDOT, 2-hr		0	2.70	3.00	3.26	3.69	4.24	4.64	5.00
FDOT, 4-hr		0	3.28	3.76	4.00	4.80	5.50	6.20	6.80
FDOT, 8-hr		0	3.76	4.32	4.80	5.60	6.20	7.20	8.00
FDOT, 24-hr		0	4.28	4.75	5.21	6.11	7.53	8.78	10.20
FDOT, 72-hr		0	5.44	6.10	6.74	7.98	9.92	11.60	13.40
SFWMD, 72-hr		0	5.44	6.10	6.74	7.98	9.92	11.60	13.40
Austin Storms	**> Austin Frequency Storms**								
Austin Zone 1, 24-hr		0	4.14	0	5.51	6.84	8.90	10.69	12.80
Austin Zone 2, 24-hr		0	4.06	0	5.38	6.65	8.59	10.28	12.23

Appendix D

FEMA FIRM Panel(s)

National Flood Hazard Layer FIRMette

FEMA

104°52'54"W 39°6'11"N

104°52'16"W 39°5'43"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/4/2024 at 1:24 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix E

Web Soil Survey

Map Scale: 1:2,480 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 21, Aug 24, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 9, 2021—Jun 12, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Alamosa loam, 1 to 3 percent slopes	D	5.8	30.4%
92	Tomah-Crowfoot loamy sands, 3 to 8 percent slopes	B	1.9	9.9%
93	Tomah-Crowfoot complex, 8 to 15 percent slopes	B	11.3	59.7%
Totals for Area of Interest			**18.9**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

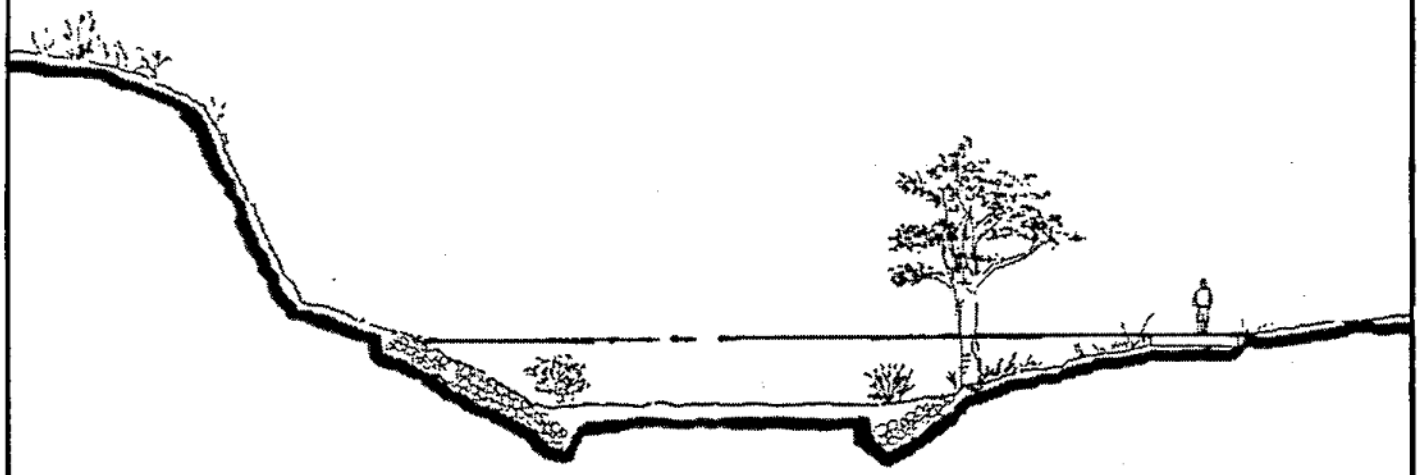
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Appendix F

Reference Material

Drainage Basin Planning Study

Dirty Woman Creek and Crystal Creek
El Paso County, Colorado



Prepared for:

El Paso County Department of Public Works
3105 North Stone
Colorado Springs, Colorado 80907

Prepared by:

Kiowa Engineering Corporation
419 West Bijou
Colorado Springs, Colorado 80905

September, 1993

Floodplains

Floodplains for the 100-year existing and future condition discharges have been delineated for Dirty Woman Creek and Crystal Creek. The floodplain was estimated in order to assess where hydraulic inadequacies exist along the major drainageways. Floodways were also delineated as part of the hydraulic analysis. This analysis assumed rigid boundary conditions to exist along the channel cross sections. The field inventory supplied roughness and bridge opening data for use in the HEC-2 modeling. These floodplains are presented on the Preliminary Design drawings. The previously mentioned technical addendum contains input and output data for the hydrology, floodplain and floodway analyses.

The most significant areas of existing flood hazard occurs along I-25, between Crystal Creek and Dirty Woman Creek. An inadequate capacity culvert under the I-25 Frontage Road forces the 100-year discharge in Crystal Creek to be diverted south along I-25 and into Dirty Woman Creek. Though no structures are threatened, Colorado Highway 105 and the northbound I-25 embankment could be eroded. The crossing of I-25 by Dirty Woman Creek will overtop the roadway in its current configuration. No structures are threatened, but the potential for erosion and localized roadway destruction is great. Elsewhere along Dirty Woman Creek, a single family residence in the vicinity of Augusta Drive lies within the 100-year floodplain. The floodplain at this location is wide because of the inadequate culverts under Augusta Drive and Lake Woodmoor Drive. Along Crystal Creek, there are two locations in which flooding potentially threatens a structure. The crossings of Crystal Creek at both Willow Park Way and Emigrant Trail East pose potential flooding problems. In general, habitable structures adjacent to Dirty Woman and Crystal Creeks have been elevated above the 100-year water surface.

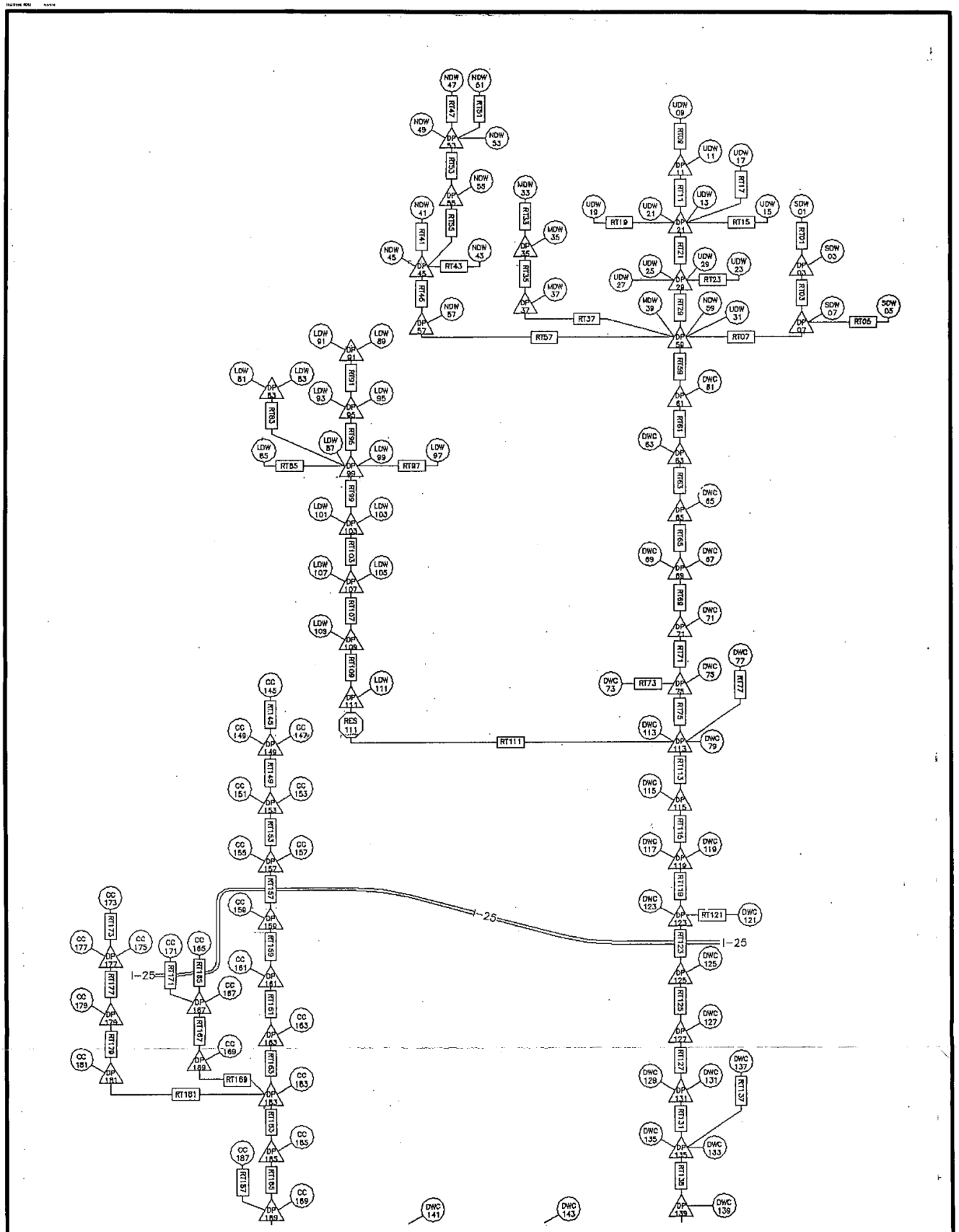


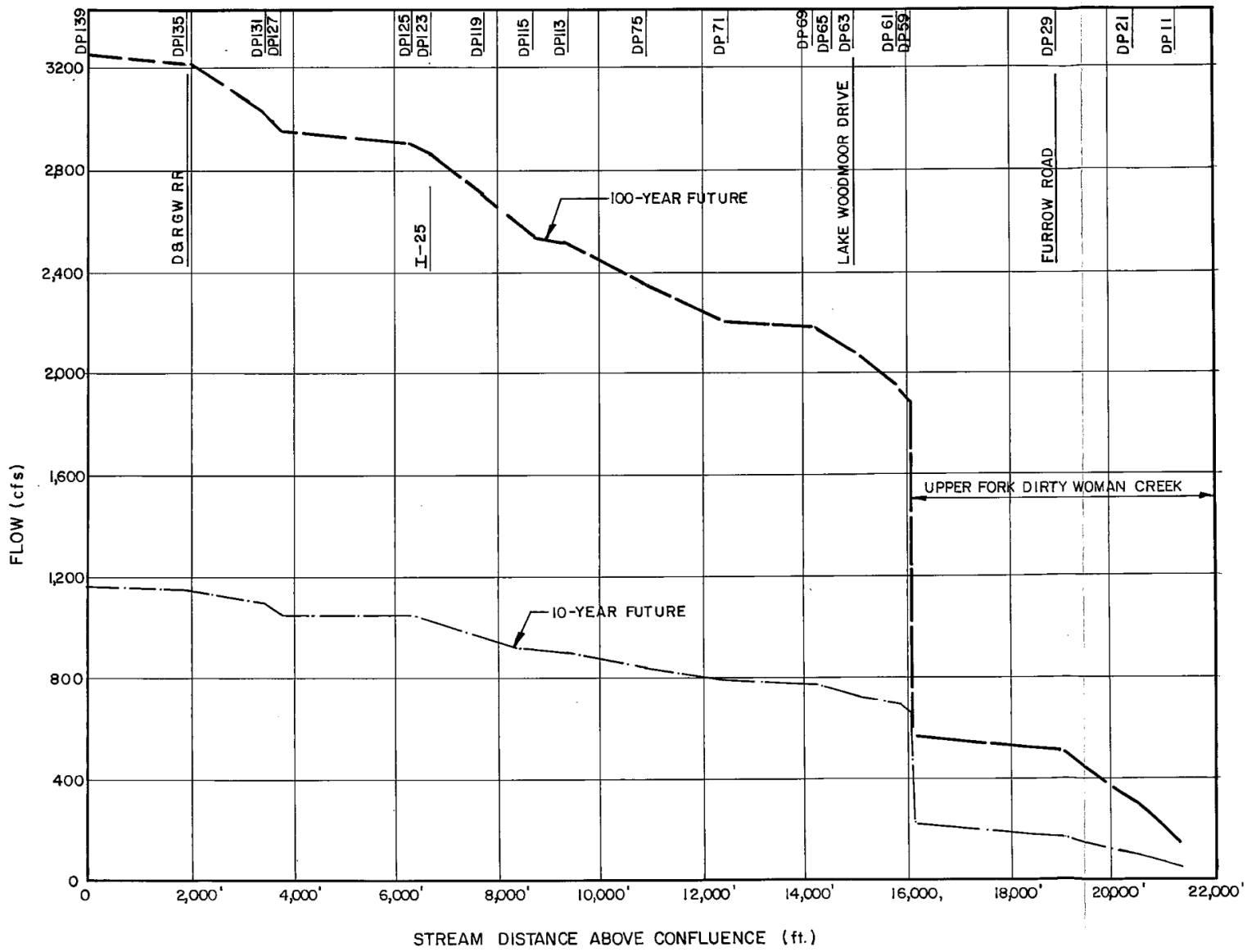
FIG. 4

Project No. 91-07-18
Date: 12/91
Design: AWM.C.
Drawn: AWM.C.
Check: RNW
Revisions:

DIRTY WOMAN CREEK & CRYSTAL CREEK
DRAINAGE BASIN PLANNING STUDY
HYDROLOGIC FLOW CHART

Kiowa Engineering Corporation
419 W. Bijou Street
Colorado Springs, Colorado
80905-1308

DIRTY WOMAN CREEK

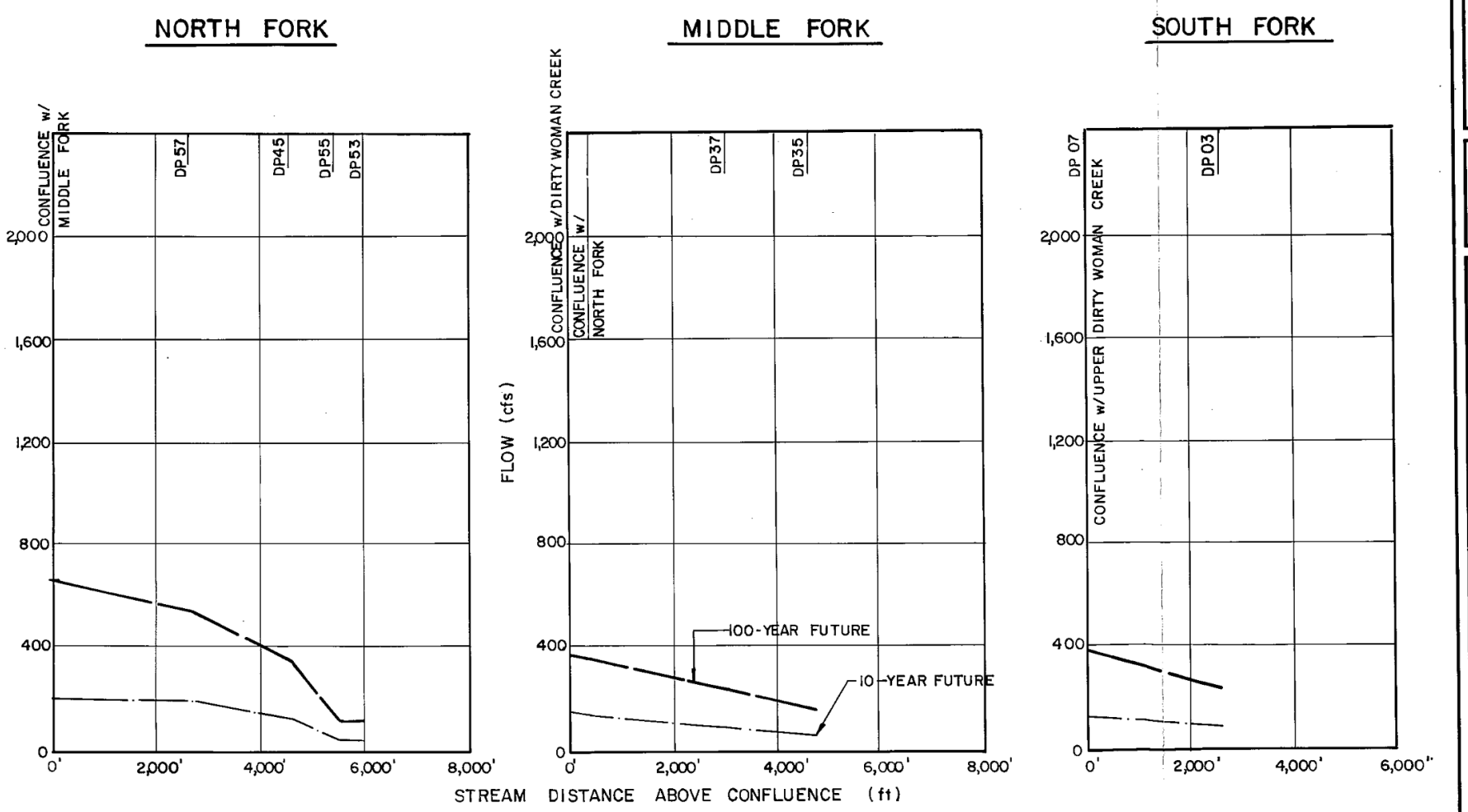


Kiowa Engineering Corporation
419 W. Bijou Street
Colorado Springs, Colorado
80905-1308

DIRTY WOMAN CREEK & CRYSTAL CREEK
DRAINAGE BASIN PLANNING STUDY
FLOOD DISCHARGE PROFILE

Project No.	91-07-17
Date:	4/92
Design:	
Drawn:	EAK
Check:	
Revisions:	

FIG. 5

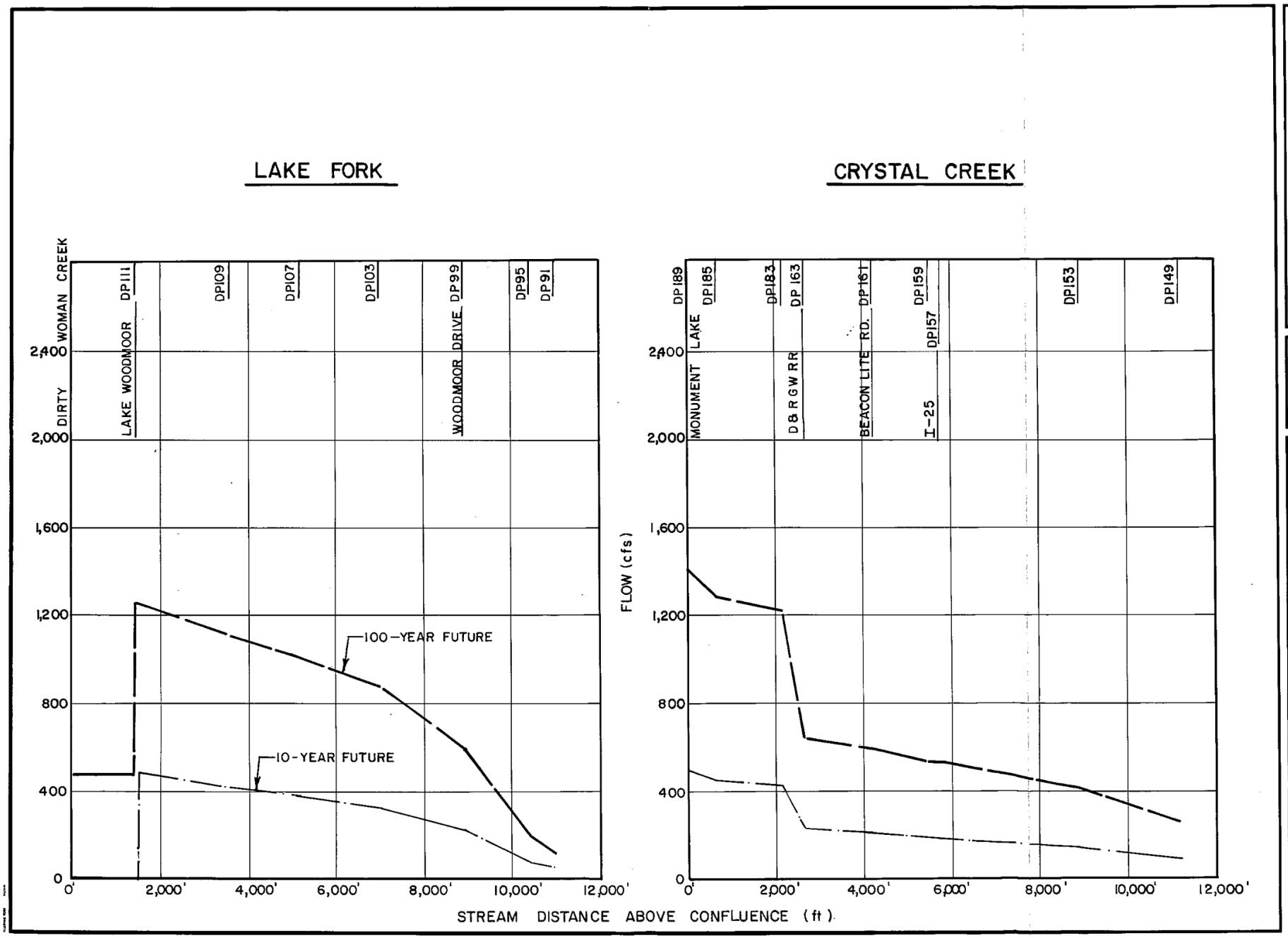


Kiowa Engineering Corporation
419 W. Bijou Street
Colorado Springs, Colorado
80905-1308

DIRTY WOMAN CREEK & CRYSTAL CREEK
DRAINAGE BASIN PLANNING STUDY
FLOOD DISCHARGE PROFILE

Project No.	91-07-17
Date:	4/92
Design:	
Drawn:	EAK
Check:	
Revisions:	

FIG. 6



Kiowa Engineering Corporation
419 W. Bijou Street
Colorado Springs, Colorado
80905-1308

DIRTY WOMAN CREEK & CRYSTAL CREEK
DRAINAGE BASIN PLANNING STUDY
FLOOD DISCHARGE PROFILE

Project No.	91-07-17
Date:	4/92
Design:	
Drawn:	EAK
Check:	
Revisions:	

FIG. 7

BASIN DESIGNATION IS
FOR FUTURE 100 YEAR
2-HOUR.

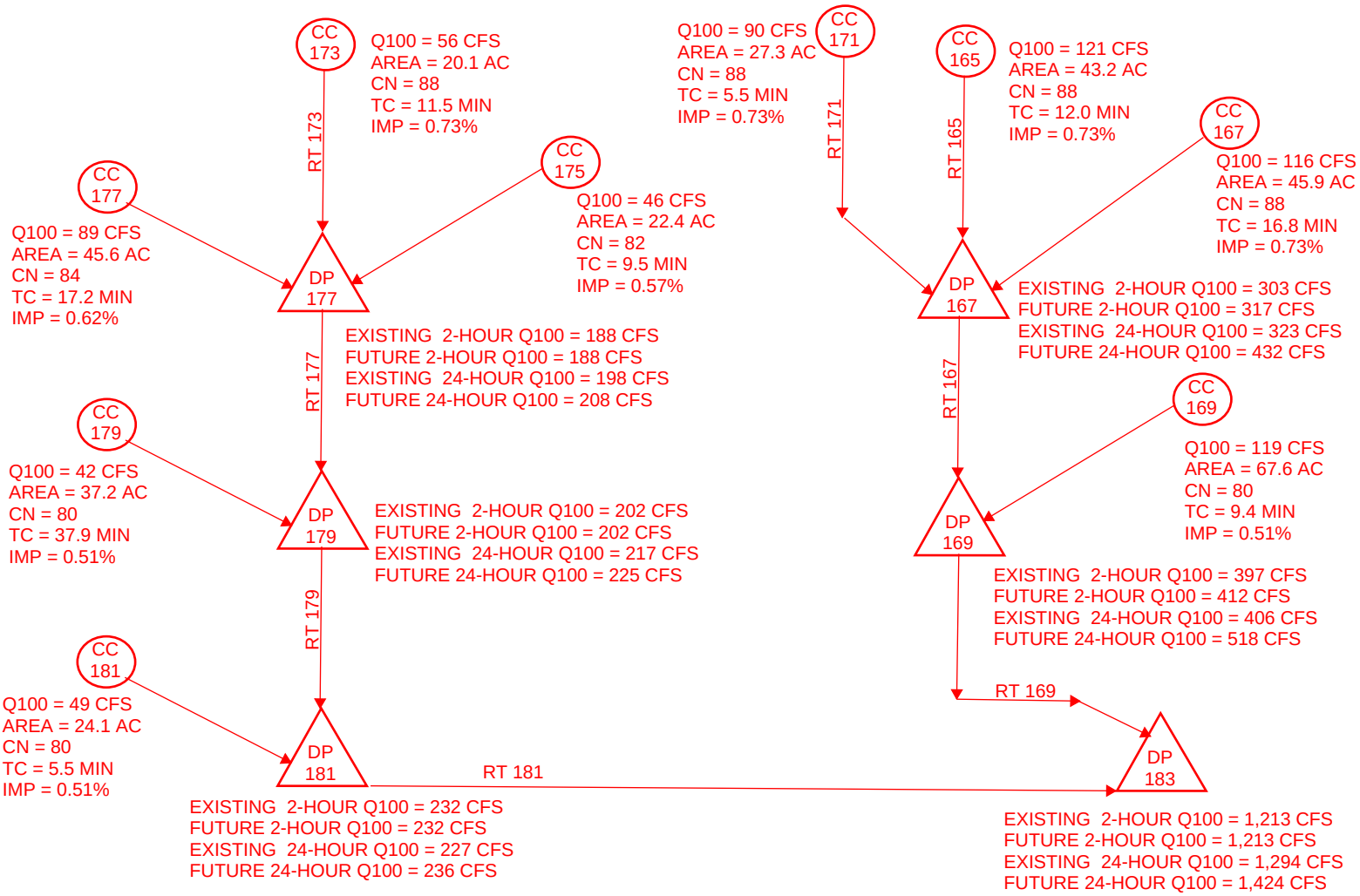


TABLE 1
Summary of Sub-basin Peak Discharges

Basin Designation	Future 100 Year 2 Hour	Future 10 Year 2 Hour	Basin Designation	Future 100 Year 2 Hour	Future 10 Year 2 Hour	Basin Designation	Future 100 Year 2 Hour	Future 10 Year 2 Hour
SDW01	147	49	DWC79	118	42	CC157	111	46
SDW03	90	31	LDW81	136	54	CC159	22	9
SDW05	120	40	LDW83	74	28	CC161	132	57
SDW07	91	38	LDW85	47	18	CC163	127	51
UDW09	103	34	LDW87	112	43	CC165	121	52
UDW11	57	20	LDW89	94	35	CC167	116	49
UDW13	32	12	LDW91	26	10	CC169	119	37
UDW15	76	25	LDW93	46	18	CC171	90	40
UDW17	26	9	LDW95	53	20	CC173	56	24
UDW19	33	11	LDW97	50	19	CC175	46	15
UDW21	47	16	LDW99	57	25	CC177	89	32
UDW23	24	8	LDW101	170	66	CC179	42	13
UDW25	44	15	LDW103	136	50	CC181	49	15
UDW27	80	29	LDW105	95	38	CC183	136	50
UDW29	80	27	LDW107	47	18	CC185	111	36
UDW31	82	35	LDW109	131	53	CC187	96	37
MDW33	131	47	LDW111	215	89	CC189	64	23
MDW35	33	11	DWC113	44	15			
MDW37	81	29	DWC115	91	40			
MDW39	116	46	DWC117	198	84			
NDW41	146	56	DWC119	72	31			
NDW43	61	23	DWC121	211	88			
NDW45	87	33	DWC123	77	34			
NDW47	62	23	DWC125	73	31			
NDW49	14	5	DWC127	102	32			
NDW51	32	12	DWC129	137	58			
NDW53	17	6	DWC131	58	18			
NDW55	18	7	DWC133	102	38			
NDW57	153	57	DWC135	81	26			
NDW59	129	50	DWC137	65	25			
DWC61	76	29	DWC139	117	47			
DWC63	130	50	DWC141	79	32			
DWC65	59	23	DWC143	101	38			
DWC67	42	15	CC145	89	33			
DWC69	41	17	CC147	103	35			
DWC71	72	29	CC149	69	22			
DWC73	81	30	CC151	114	38			
DWC75	153	61	CC153	77	29			
DWC77	50	19	CC155	43	19			

TABLE 2
Summary of Peak Discharges

Design Point	Creek Symbol	Existing 100 Year 2 Hour	Existing 10 Year 2 Hour	Future 100 Year 2 Hour	Future 10 Year 2 Hour
Dirty Woman Creek					
11	UDW	150	50	150	50
21	UDW	308	103	308	103
29	UDW	514	172	514	172
53	NFDW	108	40	108	40
55	NFDW	117	43	117	43
45	NFDW	354	132	354	132
57	NFDW	501	186	501	186
35	MFDW	156	55	156	55
37	MFDW	235	84	235	84
3	SFDW	229	77	229	77
7	SFDW	377	127	377	127
59	DWC	1,876	663	1,876	663
61	DWC	1,952	692	1,952	692
63	DWC	2,075	735	2,075	735
65	DWC	2,126	756	2,126	756
69	DWC	2,175	777	2,175	777
71	DWC	2,202	791	2,202	791
75	DWC	2,335	836	2,337	838
91	DWC	112	41	112	41
95	DWC	198	74	198	74
83	DWC	195	75	195	75
99	DWC	594	226	594	226
103	DWC	883	334	883	334
107	DWC	1016	381	1016	381
109	DWC	1107	417	1107	417
111	DWC	1240	413	1240	413
113	DWC	2,513	896	2,515	898
115	DWC	2,539	908	2,541	910
119	DWC	2,679	960	2,686	694
123	DWC	2,810	1,000	2,868	1,031
125	DWC	2,850	1,015	2,909	1,046
127	DWC	2,879	1,028	2,943	1,057
131	DWC	2,989	1,068	3,055	1,098
135	DWC	3,142	1,124	3,212	1,154
139	DWC	3,192	1,136	3,258	1,170
Crystal Creek					
149	CC	260	90	260	90
153	CC	416	142	416	142
157	CC	527	185	527	185
159	CC	536	188	536	188
161	CC	594	211	594	211
163	CC	644	231	644	231
177	CC	188	70	188	70
179	CC	202	74	202	74
181	CC	232	81	232	81
167	CC	303	126	317	135
169	CC	397	148	412	157
183	CC	1,213	423	1,223	430
185	CC	1,277	442	1,288	450
189	CC	1,394	481	1,406	487

VII. PRELIMINARY DESIGN

The results of the preliminary design analysis are summarized in this section. The alternative improvements have been quantitatively and qualitatively evaluated, and presented to El Paso County and other interested agencies and individuals. Field review of specific areas of concern have been conducted in order to refine the treatments suggested for use along Dirty Woman and Crystal Creeks and its major tributaries. The preliminary plan for the recommended alternative is shown on the drawings contained at the rear of this report. The preliminary design plan reflects the refinement of the recommended plan brought forth in the *Development of Alternatives Report.* The Preliminary Design Plan presented in this section is the plan which is recommended for implementation in both the Dirty Woman Creek and Crystal Creek drainage basins. As with all preliminary designs, further refinement and the need for additional improvements may be needed or identified during the final design stage prior to actual construction. This Preliminary Design Plan is intended for use as a guide in the overall stormwater management plan for the two drainage basins.

Criteria

The *City of Colorado Springs / El Paso County Drainage Criteria Manual* was used in the development of the typical sections and plans for the drainageways within the basins. The *City/County Criteria Manual* was supplemented by various criteria manuals with more specific application. These were:

1. *Storm Drainage Criteria Manual, Town of Monument, Colorado*, prepared by Gelvin Engineering, 1986.
2. *Urban Storm Drainage Criteria Manual, Volumes I, II, and III*, prepared by the Urban Drainage and Flood Control District.

Hydrology

Presented on Table 10 is selected hydrologic data to be used for the sizing of major drainageway improvements within the basins. Peak flow rates for the 10-year and 100-year storm frequency future condition are summarized for key points along the major drainageways. Contained within the Technical Addendum of the *Development of Alternatives* report is a complete listing of peak discharges for all the sub-basins and design points shown on Exhibit 1.

TABLE 10
SUMMARY OF SELECTED PEAK DISCHARGES
Dirty Woman and Crystal Creeks Drainage Basin Planning Study
SELECTED ALTERNATIVE
2-HOUR, AMC III

Design Point	Location	Area s.m.	100-YEAR (CFS)	10-YEAR (CFS)
	DIRTY WOMAN CREEK			
45	Woodmoor Country Club	0.36	355	135
57	Woodmoor Country Club	0.50	500	185
59	@ Confluence w/ North Fork	2.03	1,880	665
61	Augusta Drive	2.10	1,950	690
63	Lake Woodmoor Drive	2.23	2,080	735
65	South Park Drive	2.28	2,130	755
71	Between Knollwood & South Park	2.40	2,200	790
75	Knollwood Drive	2.57	2,340	840
113	@ Confluence w/ Lake Fork	3.96	2,520	900
115	State Highway 105	4.00	2,540	910
119	@ Confluence w/ Split Flow	4.17	2,690	965
123	I-25 Inlet	4.36	2,870	1,030
125	I-25 Outlet	4.40	2,910	1,050
131	Santa Fe Trail	4.64	3,060	1,100
135	Railroad	4.85	3,210	1,150
139	@ Confluence w/ Monument Ck	4.93	3,260	1,170
	CRYSTAL CREEK			
153	Emmigrant Trail East	0.46	415	140
157	Frontage Road	0.58	525	185
159	I-25	0.59	535	190
161	Beacon Lite Road	0.66	595	210
163	Railroad	0.74	645	230
183	@ Confluence w/ N. Side Trib	1.34	1,225	430
185	North Monument Lake Road	1.43	1,290	450
189	@ Monument Lake Spillway	1.55	1,410	490

Note: See Table 2 for a complete listing of Design Point Discharges

APPENDIX TABLE 1
Summary of Sub-basin Hydrologic Data

Basin Designation	Area (Acres)	Curve Number	Tc (min)	Basin Designation	Area (Acres)	Curve Number	Tc (min)	Basin Designation	Area (Acres)	Curve Number	Tc (min)
SDW01	119.6	82	39.2	DWC79	78.1	84	32.9	CC157	56.5	88	29.9
SDW03	60.0	83	28.6	LDW81	54.6	86	12.9	CC159	7.8	88	11.6
SDW05	69.7	82	17.5	LDW83	40.5	85	23.8	CC161	47.2	88	12.0
SDW07	37.7	88	18.3	LDW85	24.2	86	24.0	CC163	47.5	86	9.7
UDW09	61.2	82	19.3	LDW87	65.3	86	31.7	CC165	43.2	88	12.0
UDW11	27.2	83	12.6	LDW89	61.8	85	35.8	CC167	45.9	88	16.8
UDW13	18.6	84	23.4	LDW91	11.6	86	16.5	CC169	67.6	80	9.4
UDW15	62.0	82	39.7	LDW93	21.1	86	17.8	CC171	27.3	88	5.5
UDW17	19.6	82	33.3	LDW95	28.7	85	22.9	CC173	20.1	88	11.5
UDW19	23.0	83	32.7	LDW97	17.8	85	6.5	CC175	22.4	82	9.5
UDW21	21.1	83	9.3	LDW99	21.1	88	14.5	CC177	45.6	84	17.2
UDW23	11.9	83	13.8	LDW101	79.9	86	19.7	CC179	37.2	80	37.9
UDW25	33.6	83	39.6	LDW103	81.2	85	29.1	CC181	24.1	80	5.5
UDW27	42.4	84	19.5	LDW105	51.7	87	30.2	CC183	54.3	84	8.2
UDW29	51.1	83	26.8	LDW107	26.8	85	26.7	CC185	53.0	82	8.9
UDW31	30.5	88	14.6	LDW109	55.9	87	17.1	CC187	47.6	86	22.1
MDW33	90.8	84	35.5	LDW111	122.0	88	37.3	CC189	30.6	83	12.2
MDW35	18.1	83	18.6	DWC113	19.6	83	9.0				
MDW37	56.1	84	36.2	DWC115	27.7	88	7.7				
MDW39	58.6	87	26.8	DWC117	79.2	88	17.1				
NDW41	61.8	85	11.0	DWC119	28.2	88	16.6				
NDW43	37.1	85	30.7	DWC121	98.4	88	24.2				
NDW45	56.4	86	39.8	DWC123	21.5	88	3.8				
NDW47	31.2	85	20.4	DWC125	30.2	88	18.6				
NDW49	7.1	85	18.8	DWC127	57.6	81	13.8				
NDW51	23.8	84	40.5	DWC129	58.7	88	20.8				
NDW53	7.5	85	14.7	DWC131	33.7	80	11.8				
NDW55	6.4	85	6.1	DWC133	48.5	85	16.5				
NDW57	89.0	85	27.8	DWC135	54.5	82	26.3				
NDW59	69.2	86	26.9	DWC137	33.9	86	25.2				
DWC61	43.4	86	29.6	DWC139	50.6	87	17.4				
DWC63	81.7	86	36.4	DWC141	29.3	87	10.9				
DWC65	34.4	86	31.7	DWC143	40.2	85	9.7				
DWC67	26.2	85	33.3	CC145	54.8	85	32.0				
DWC69	13.1	87	7.2	CC147	68.8	83	28.8				
DWC71	31.9	87	19.3	CC149	52.1	81	29.1				
DWC73	48.5	85	29.7	CC151	87.6	82	35.0				
DWC75	60.5	86	10.8	CC153	34.0	85	14.2				
DWC77	30.1	85	29.7	CC155	15.5	88	11.3				

APPENDIX TABLE 2
Summary of 24 Hr. Peak Discharges

Design Point	Existing 100 Year 24 Hour	Existing 10 Year 24 Hour	Future 100 Year 24 Hour	Future 10 Year 24 Hour
Dirty Woman Creek				
11	127	42	127	42
21	243	81	243	81
29	421	142	421	142
53	97	38	97	38
55	101	39	101	39
45	322	131	322	131
57	459	178	459	178
35	133	50	133	50
37	202	75	202	75
3	172	55	172	55
7	310	113	310	113
59	1,567	595	1,567	595
61	1,634	622	1,634	622
63	1,736	660	1,736	660
65	1,781	670	1,781	670
69	1,817	678	1,817	678
71	1,828	687	1,830	688
75	1,877	706	1,879	708
91	96	37	96	37
95	177	70	177	70
83	182	76	182	76
99	547	226	547	226
103	809	328	809	328
107	919	373	919	373
109	974	394	974	394
111	1206	469	1206	469
113	2,009	747	2,016	751
115	2,008	745	2,016	750
119	2,079	766	2,102	778
123	2,137	775	2,275	840
125	2,172	788	2,314	855
127	2,158	789	2,308	856
131	2,208	803	2,397	884
135	2,295	821	2,490	904
139	2,302	819	2,495	905
Crystal Creek				
149	209	74	209	74
153	322	111	322	111
157	489	201	489	201
159	502	207	502	207
161	566	238	566	238
163	610	266	610	266
177	198	94	208	101
179	217	95	225	104
181	227	96	236	103
167	323	158	432	240
169	406	175	518	267
183	1,294	542	1,424	639
185	1,313	556	1,449	650
189	1,370	581	1,491	673

TABLE 13: Recommended Culvert Improvements
Dirty Woman/Crystal Creek Drainage Basin Planning Study

Roadway Location	Reach Number	Creek/ Station	Existing Culvert	Q100 Q10	Description	Quantit	Unit	Unit Cost	Amount
Mitchell Avenue	DW-A-01	Dirty Woman 11+30	72" CMP	3,258 1,170	Triple 10'X10' CBC	80	lf	$1,323	$105,800
Old Denver Highway	DW-A-03	Dirty Woman 32+30	64" CMP	3,055 1,098	Twin 10'x11' CBC	95	lf	$1,303	$123,750
I-25	DW-A-05	Dirty Woman 65+40	8'x8' CBC	2,868 1,031	Additional 10'x8' CBC	375	lf	$363	$136,250
Knollwood Drive	DW-B-07	Dirty Woman 107+70	36" CMP	2,337 838	Twin 12'x8' CBC w/ Drop Jlt & Ovrf	60	lf	$1,433	$86,000
South Park Drive	DW-B-08	Dirty Woman 142+80	24" CMP	2,126 756	Twin 10'x6' CBC	50	lf	$1,225	$61,250
Lake Woodmoor Drive	DW-B-09	Dirty Woman 148+60	(2) 24" CMP	2,075 735	Twin 10'x6' CBC	95	lf	$1,441	$136,875
Augusta Drive	DW-B-11	Dirty Woman 155+00	(2) 24" CMP	2,075 735	Triple 12'x4' CBC	60	lf	$1,193	$71,600
Furrow Road	UFDW-A-12	Upper Dirty Woman 188+30	(3) 48" RCP	514 172	2-36" RCP (Additional)	60	lf	$116	$6,960
Augusta Drive	NFDW-A-21	North Fork Dirty Wo 3+80	? CMP Plugged	627 186	3-42" CMP	45	lf	$351	$15,800
Tam-O-Shanter Way	NFDW-A-23	North Fork Dirty Wo 60+50	? CMP Plugged	117 43	53"x34" Ell. RCP	210	lf	$110	$23,100
Woodmoor Drive	NFDW-A-23	North Fork Dirty Wo 69+70	? Plugged	108 40	48" RCP	60	lf	$80	$4,800
Heatherdown	NFDW-U-46	North Fork Dirty Wo 60+50	24" CMP	87 33	3-24" CMP	60	lf	$75	$4,500
Tam-O-Shanter Way	NFDW-U-46	North Fork Dirty Wo 69+70	18" CMP	87 33	3-24" CMP	60	lf	$75	$4,500
Will O The Wis Way	MFDW-A-17	Middle Fork Dirty W 14+00	18" CMP	349 129	2-60" CSP	80	lf	$303	$24,200
Lost Creek Way	MFDW-A-18	Middle Fork Dirty W 33+00	24" CMP	235 84	54" CSP	80	lf	$100	$8,000
Furrow Road	MFDW-A-19	Middle Fork Dirty W 37+30	24" CMP	235 84	3-42" RCP	50	lf	$325	$16,250
Ato Way	MFDW-A-20	Middle Fork Dirty W 45+00	18" CMP	235 84	Twin 48" CMP	70	lf	$160	$11,200
Winding Mead Way	SFDW-A-15	South Fork Dirty Wo 10+30	24" CMP	377 127	3-42" RCP w/ Otlt & Flow Cn	100	lf	$725	$72,500
Furrow Road	SFDW-A-16	South Fork Dirty Wo 26+20	36" CMP	229 77	Twin 54" RCP	70	lf	$200	$14,000
Martingale Road	SFDW-A-16	South Fork Dirty Wo 42+00	18" CMP	90 31	36" CSP	60	lf	$58	$3,480
Lake Woodmoor Drive	LFDW-A-24	Lake Fork Dirty Wom 12+50	—	480 0	16'x4' CBC	80	lf	$1,013	$81,000
Autumn Way	LFDW-A-25	Lake Fork Dirty Wom 52+60	24" CMP	1,016 381	3-60" CSP	80	lf	$360	$28,800
Deer Creek Road	LFDW-B-26	Lake Fork Dirty Wom 63+50	24" CMP	1,016 381	Twin 12'x5' CBC	80	lf	$1,190	$95,200
Deer Creek Road	LFDW-B-27	Lake Fork Dirty Wom 72+50	24" CMP	1,016 381	4-60" CSP	60	lf	$563	$33,800
Deer Creek Road	LFDW-B-28	Lake Fork Dirty Wom 87+60	18" CMP	883 334	3-72" RCP	50	lf	$700	$35,000
Woodmoor Drive	LFDW-B-29	Lake Fork Dirty Wom 93+20	24" CMP	594 226	2-60" RCP 1-72" RCP	50	lf	$540	$27,000
Broken Fence Way	LFDW-U-44	Upper Lake Fork Dirty Wom	24" CMP	195 75	4-30" RCP	50	lf	$168	$8,400
Fawnwood Road	LFDW-U-44	Upper Lake Fork Dirty Wom	24" CMP	195 75	4-30" RCP	50	lf	$168	$8,400
								Dirty Woman Creek Total Culvert Costs	$1,248,415

Roadway Location	Reach Number	Creek/ Station	Existing Culvert	Q100 Q10	Description	Quantit	Unit	Unit Cost	Amount
N. Monument L Road	CC-A-31	Crystal Creek 5+90	(2) 72" CMP	1,288 450	2-72" CSP (Additional)	40	lf	$400	$16,000
Beaconlite Road	CC-B-36	Crystal Creek 43+00	36" CMP	594 211	2-66" CSP	210	lf	$364	$76,400
Frontage Road	CC-C-38	Crystal Creek 58+50	24" CMP	527 185	10'x5' CBC	120	lf	$1,042	$125,000
Willow Park Way	CC-C-39	Crystal Creek 63+30		527 185	42" CSP 2-72" CSP	60	lf	$400	$24,000
Deer Creek Road	CC-C-39	Crystal Creek 83+70	60" CMP	527 185	84" CSP (Additional)	70	lf	$350	$24,500
Emmigrant Trail East	CC-C-40	Crystal Creek 89+80	(2) 24" CMP	416 139	3-48" CSP	60	lf	$240	$14,400
Highway 105	CC-U-41	Upper Crystal Creek	5'x7' CB	630 235	5'x7' CBC (Additional)	120	lf	$542	$65,000
Santa Fe Trail	CC-U-41	Upper Crystal Creek	24" Stl	202 75	3-30" CSP	120	lf	$126	$15,120
Beaconlite Road	CC-U-42	Upper Crystal Creek	48" CMP	317 135	Twin 7'x4' CBC	80	lf	$613	$49,000
								Crystal Creek Total Culvert Costs	$409,420

Design Q for Highway 105 Box Culvert

Kiowa Engineering Corporation
419 West Bijou Street
Colorado Springs, Colorado
80905-1308

Dirty Woman & Crystal Creeks Drainage Basin Planning Study

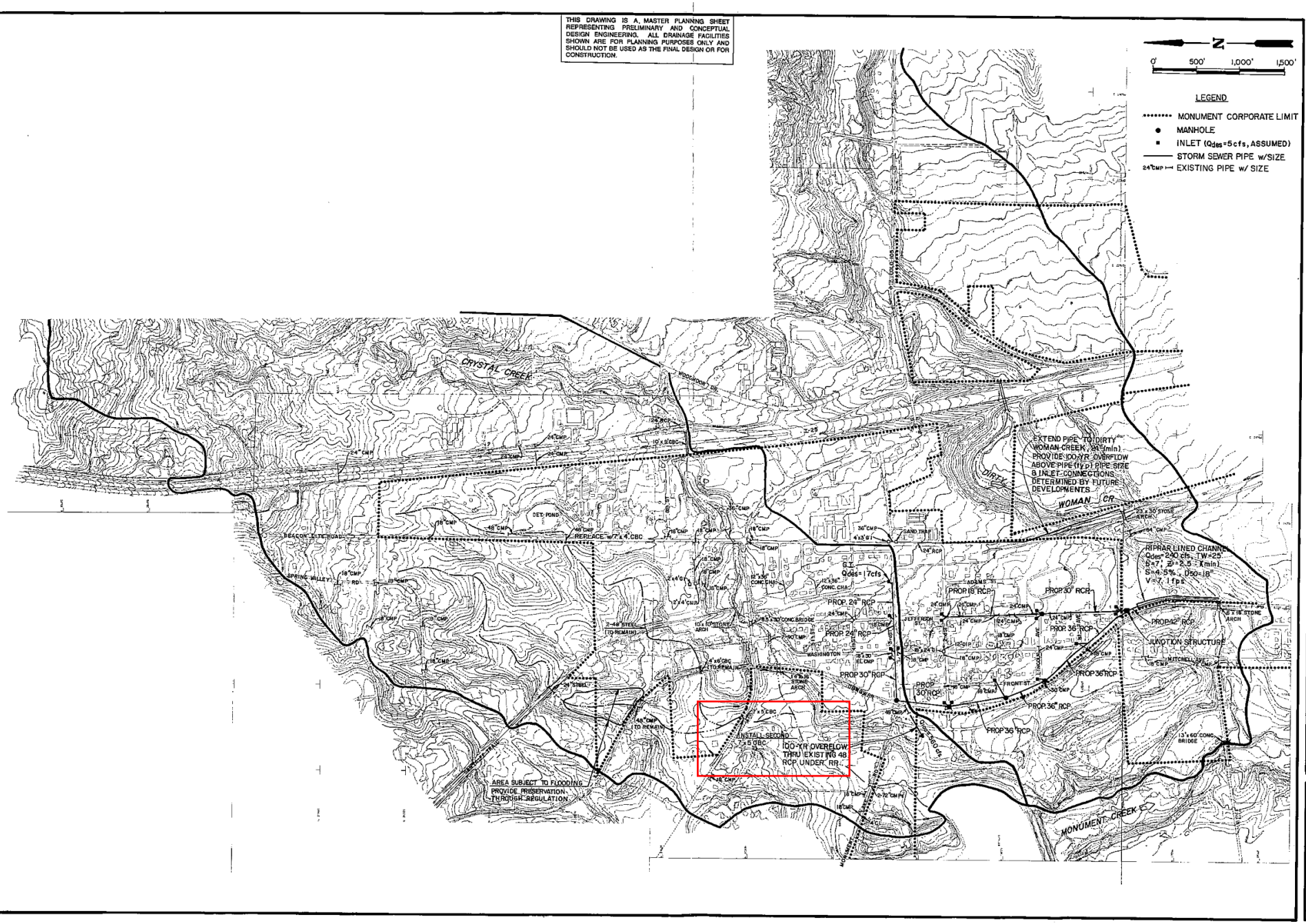
PRELIMINARY DESIGN

Upper Reaches Dirty Woman & Crystal Creeks

El Paso County Department of Public Works Stormwater Management Division

Project No.	91-07-17
Date:	4/93
Design:	AWMc
Drawn:	EAK
Check:	RNW
Revisions:	

UR1



Kiowa Engineering Corporation
419 W. Bijou Street
Colorado Springs, Colorado
80905-1308

Dirty Woman & Crystal Creeks Drainage Basin Planning Study

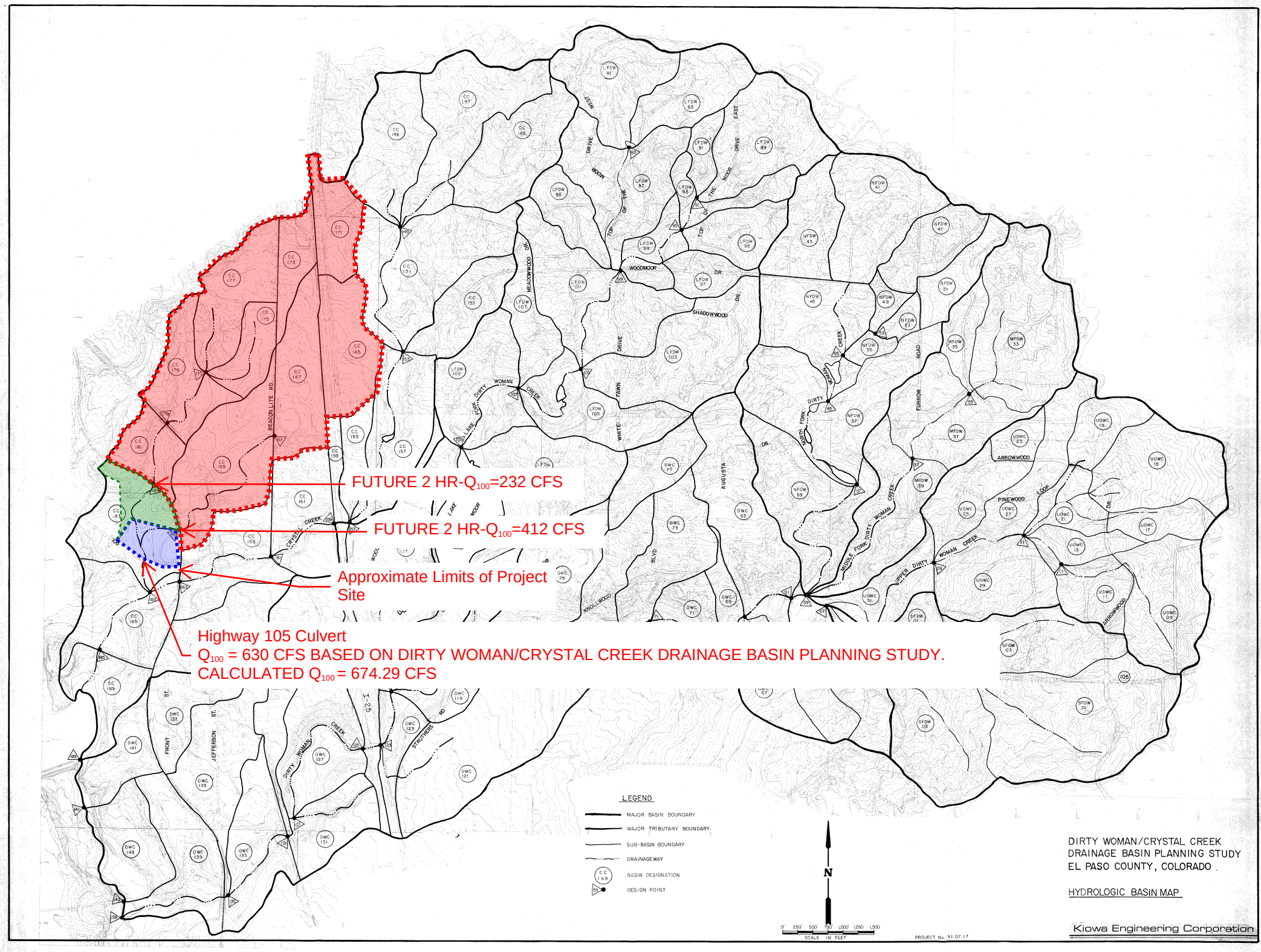
PRELIMINARY DESIGN

Conceptual Outfall System Town of Monument

El Paso County Department of Public Works Stormwater Management Division

Project No.	91-07-17
Date:	1/93
Design:	AWMc
Drawn:	EAK
Check:	RNW
Revision	

MNT


FUTURE 2 HR-Q_{100}=232 CFS
FUTURE 2 HR-Q_{100}=412 CFS
Approximate Limits of Project Site
Highway 105 Culvert
Q_{100} = 630 CFS BASED ON DIRTY WOMAN/CRYSTAL CREEK DRAINAGE BASIN PLANNING STUDY.
CALCULATED Q_{100} = 674.29 CFS
LEGEND
MAJOR BASIN BOUNDARY
MAJOR TRIBUTARY BOUNDARY
SUB-BASIN BOUNDARY
DRAINAGEWAY
BASIN DESIGNATION
DESIGN POINT
N
SCALE IN FEET
PROJECT No. 91.07.17
DIRTY WOMAN/CRYSTAL CREEK
DRAINAGE BASIN PLANNING STUDY
EL PASO COUNTY, COLORADO
HYDROLOGIC BASIN MAP
Kiowa Engineering Corporation

Appendix G

Drainage Maps

DP 181
FUTURE 2-HR Q_{100}=232

HSG B

HSG B

HSG B

HSG B

HSG BOUNDARY

HSG D

EX. 72" (W) X 32" (H)
CONCRETE BOX
CULVERT
DP 169
FUTURE 2-HR Q_{100}=412

EX PRE
19.03 AC
0.13
0.53

HSG D

HSG D

HSG B

HSG B

HSG B

12" CMP

24" CMP

HSG D

HSG B

24" CMP

HSG B

9

5' (W) X 7' (H) CON. BOX CULVERT

DRAINAGE MAP LEGEND

- J1 — DESIGN POINT (JUNCTION)
- O1 — DESIGN POINT (OUTFALL)
- I4 — DESIGN POINT (INLET)
- FLOW PATH
- ON-SITE DRAINAGE DIVIDE

BASIN NAME
ACREAGE | Q5 | Q100
BASIN IDENTIFIER

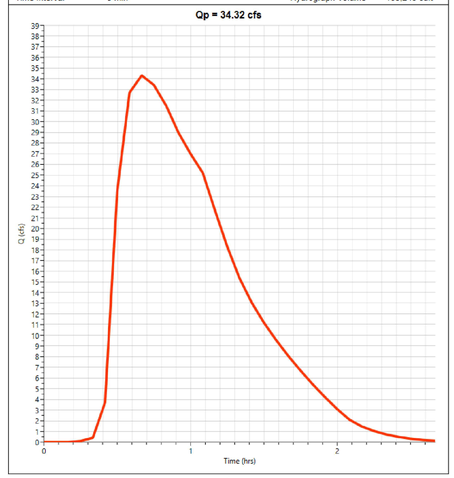
BASIN ID	AREA	IMP%	Q5 (CFS)	Q100 * (CFS)
EX PRE	19.03	12%	5.42	36.93

***NOTE THAT OUR ANALYSIS TO DEMONSTRATE COMPLIANCE WITH PRE AND POST DEVELOPMENT RELEASE RATES ARE BASED ON HYDROGRAPHS. THE 5-YEAR AND 100-YEAR RATES IN THE TABLE ABOVE ARE BASED ON THE RATIONAL METHOD (REFER TO UD-RATIONAL SPREADSHEET). THE RATE USED FOR OUR ANALYSIS IS 34.32 CFS AND IS BASED ON CUHP. THE HYDROGRAPH IS PROVIDED BELOW.**

Hydrograph Report
Hydrology Studio v 3.0.0.16
File: HydroGraphs.hys
10-02-2025

Existing to DP 9 **Hyd. No. 1**

Hydrograph Type	= Manual	Peak Flow	= 34.32 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.67 hrs
Time Interval	= 5 min	Hydrograph Volume	= 109,245 cuft



4

CONTACT INFORMATION
88 INVERNESS CIRCLE EAST, SUITE B-101
ENGLEWOOD, CO 80112
(720) 206-6931
CPERDUE@STRATEGICSITEDESIGNS.COM
ATTENTION: CHRISTOPHER PERDUE, P.E., M.B.A.

STRATEGIC SITE DESIGNS

FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

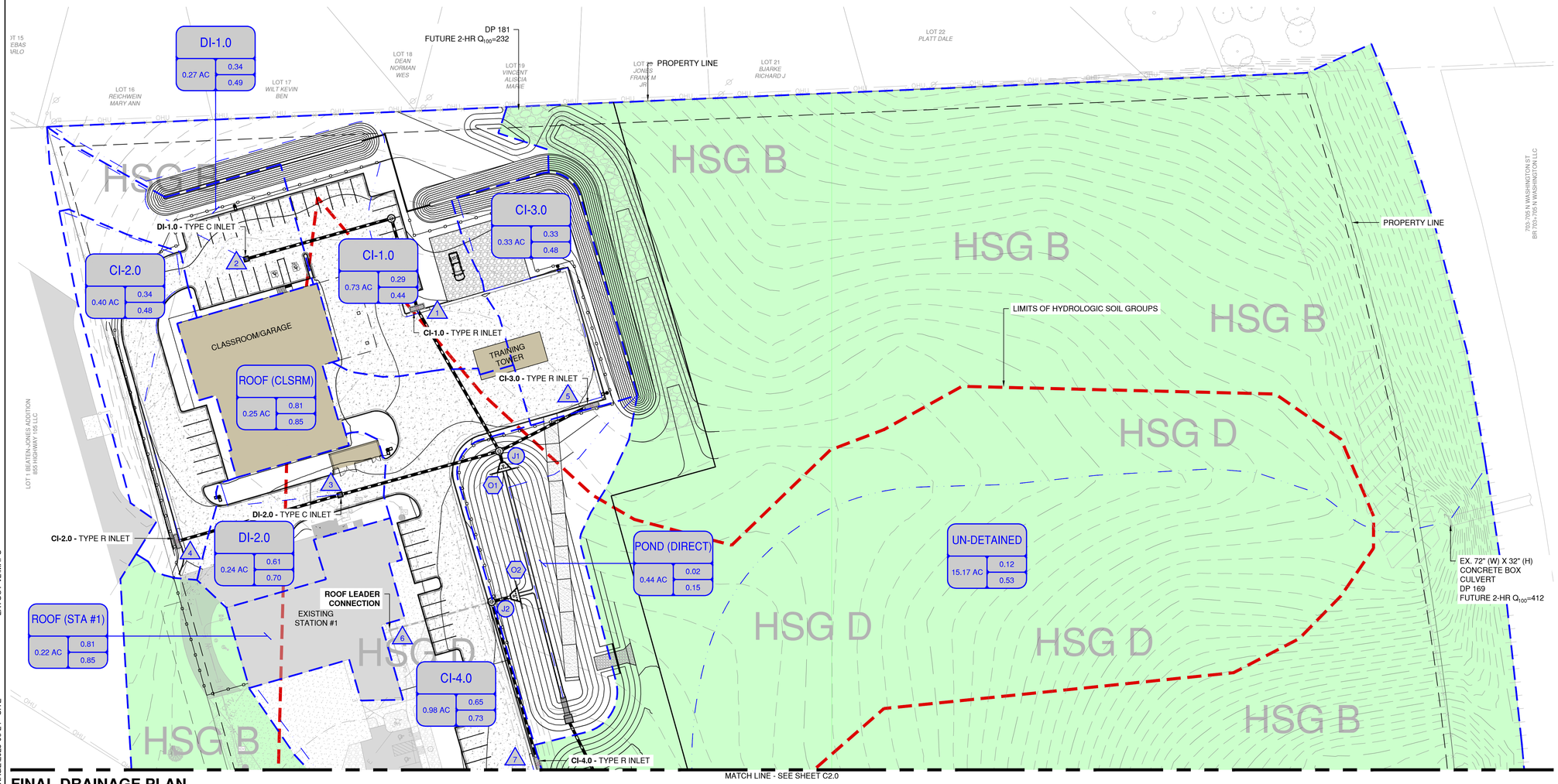
MONUMENT FIRE DISTRICT - TRAINING FACILITY
MONUMENT, CO
EXISTING DRAINAGE MAP

REV	DESCRIPTION	BY	DATE
	1ST SUBMITTAL TO TOM	AS	2/30/24

JOB NO:	2403-001
ORIGINAL ISSUE:	2/15/24
DESIGN BY:	BMS
CHECKED BY:	CLP
SCALE:	1" = 50'
SHEET NUMBER	DM-100

EXISTING DRAINAGE MAP
SCALE: 1"=50'

P:\P2404 - MFD TRAINING CENTER MAJOR PUD & SUBDIVISION\ENGINEERING\DRAINAGE\2025-06-24 - SITE LAYOUT V2\MAPS



FINAL DRAINAGE PLAN

SCALE: 1" = 40'

NOTE:
THIS PROPOSED DRAINAGE MAP IS FOR ON-SITE COLLECTION SYSTEM AND INLETS. THE VALUES BELOW ARE FROM THE MHFD RATIONAL METHOD SPREADSHEET.

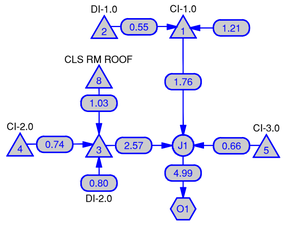
BASIN ID	DESIGN POINT	AREA	IMP%	Q5* (CFS)	Q100 (CFS)
CI-1.0	1	0.73	43%	1.21	3.49
DI-1.0	2	0.27	48%	0.55	1.47
DI-2.0	3	0.24	76%	0.80	0.63
CI-2.0	4	0.40	48%	0.74	2.00
CI-3.0	5	0.33	47%	0.66	1.80
CI-4.0	7	0.98	80%	2.50	4.95
ROOF (CLRM)	8	0.22	95%	0.91	1.64
ROOF (STA 1)	6	0.25	95%	1.03	1.86
POND (DIRECT)	NA	0.44	5%	0.13	1.46
UN-DETAINED	9	15.17	11%	3.96	28.92

AREA NOT TRIBUTARY TO POND = 15.17 ACRES

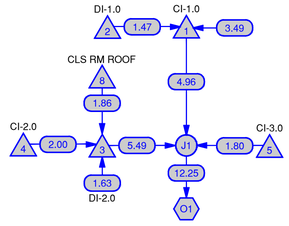
DRAINAGE MAP LEGEND

- J1 — DESIGN POINT (JUNCTION)
- O1 — DESIGN POINT (OUTFALL)
- I4 — DESIGN POINT (INLET)
- FLOW PATH
- DRAINAGE DIVIDE

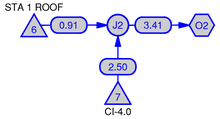
BASIN NAME
ACREAGE | Q5 / Q100 — BASIN IDENTIFIER



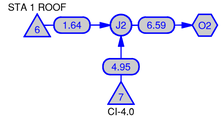
5-YEAR EVENT SUMMARY



100-YEAR EVENT SUMMARY



5-YEAR EVENT SUMMARY



100-YEAR EVENT SUMMARY

CONTACT INFORMATION
88 INVERNESS CIRCLE EAST, SUITE B-101
ENGLEWOOD, CO 80112
(720) 206-6931
CPERDUE@STRATEGICSITEDESIGNS.COM
ATTENTION: CHRISTOPHER PERDUE, P.E., M.B.A.
STRATEGIC SITE DESIGNS

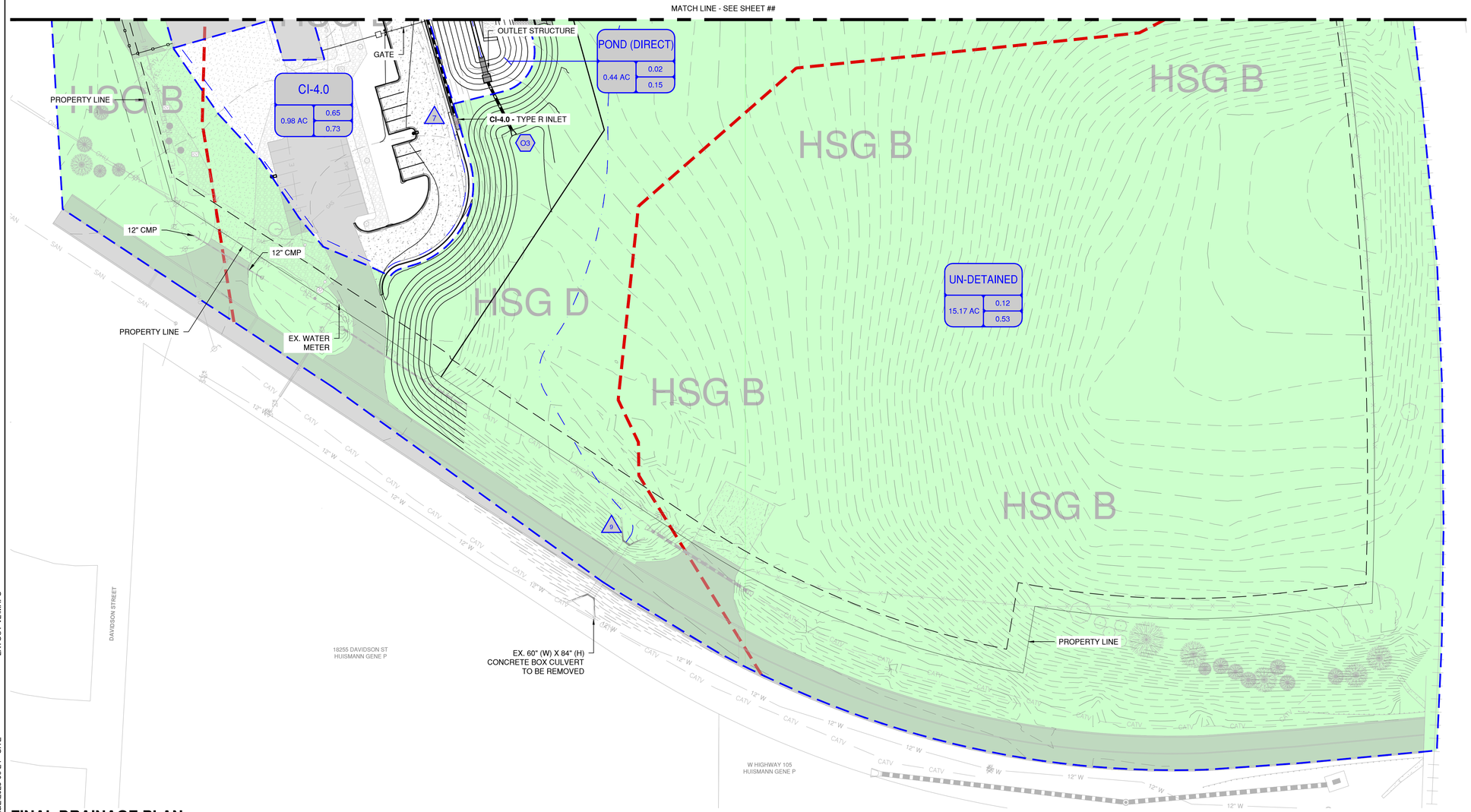
FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

FINAL DRAINAGE PLAN
PUD MAJOR AMENDMENT
TOWN OF MONUMENT, CO

REV	DESCRIPTION	BY	DATE

JOB NO:	2403-001
ORIGINAL ISSUE:	2/15/24
DESIGN BY:	BMS
CHECKED BY:	CLP
SCALE:	1"=40'
SHEET NUMBER	DM-200

P:\P2404 - MFD TRAINING CENTER MAJOR PUD & SUBDIVISION\ENGINEERING\DRAINAGE\2025-06-24 - SITE LAYOUT V2\MAPS



FINAL DRAINAGE PLAN

SCALE: 1" = 40'

DRAINAGE MAP LEGEND

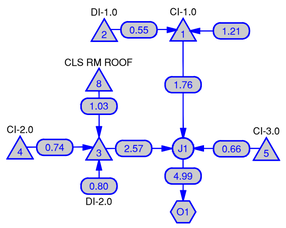
- J1 — DESIGN POINT (JUNCTION)
- O1 — DESIGN POINT (OUTFALL)
- I — DESIGN POINT (INLET)
- FLOW PATH
- DRAINAGE DIVIDE

BASIN NAME
ACREAGE | Q5 | Q100 — BASIN IDENTIFIER

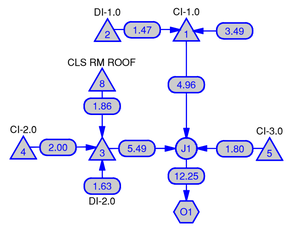
NOTE:
THIS PROPOSED DRAINAGE MAP IS FOR ON-SITE COLLECTION SYSTEM AND INLETS. THE VALUES BELOW ARE FROM THE MHFD RATIONAL METHOD SPREADSHEET.

BASIN ID	DESIGN POINT	AREA	IMP%	Q5* (CFS)	Q100 (CFS)
CI-1.0	1	0.73	43%	1.21	3.49
DI-1.0	2	0.27	48%	0.55	1.47
DI-2.0	3	0.24	76%	0.80	0.63
CI-2.0	4	0.40	48%	0.74	2.00
CI-3.0	5	0.33	47%	0.66	1.80
CI-4.0	7	0.98	80%	2.50	4.95
ROOF (CLRM)	8	0.22	95%	0.91	1.64
ROOF (STA 1)	6	0.25	95%	1.03	1.86
POND (DIRECT)	NA	0.44	5%	0.13	1.46
UN-DETAINED	9	15.17	11%	3.96	28.92

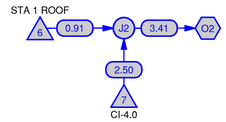
AREA NOT TRIBUTARY TO POND = 15.17 ACRES



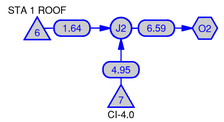
5-YEAR EVENT SUMMARY



100-YEAR EVENT SUMMARY



5-YEAR EVENT SUMMARY



100-YEAR EVENT SUMMARY

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ATTENTION: CHRISTOPHER PERDUE, P.E., M.B.A.
STRATEGIC SITE DESIGNS

FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

FINAL DRAINAGE PLAN
PUD MAJOR AMENDMENT
TOWN OF MONUMENT, CO

REV	DESCRIPTION	BY	DATE

JOB NO:	2403-001
ORIGINAL ISSUE:	2/15/24
DESIGN BY:	BMS
CHECKED BY:	CLP
SCALE:	1"=40'
SHEET NUMBER	DM-201

P:\P2404 - MFD TRAINING CENTER MAJOR PUD & SUBDIVISION\ENGINEERING\DRAINAGE\2025-06-24 - SITE LAYOUT V2\MAPS

Appendix H

Maintenance Information

October 29, 2025

Monument Fire District
16055 Old Forest Point, #102
Monument, CO 80132
Attention: Jamey Bumgarner, Division Chief, Administration

Re: Monument Fire District – Training Facility
Major PUD Amendment & Subdivision Plat
Traffic Letter

Dear Jamey,

Our team is drafting this letter to address various traffic related items that will need to be addressed by the development of the new training facility and Front Range Fire Building immediately adjacent to existing Station #1 at 18650 Colorado Highway 105.

Based on the uses proposed and the anticipated traffic, our team does not feel as though a full Traffic Impact Study is warranted for this Development. Paragraph 5 of the Colorado Department of Transportation's Access Code states that a Traffic Impact Study is required when the land use will generate a daily vehicle volume of 100 vehicles or more. As we'll demonstrate further in the study, this project will not generate those volumes due to the use, the operation of the facility, and the staffing plan for the existing station.

In addition to the traffic generation rates, our team will also evaluate sight distance for the proposed access, access spacing, curb return radii, and others pertinent to the safe development and operation of the access points.

Traffic Generation Rates, Projected Distribution and Auxiliary Turn Lane Discussion

At the time of this draft, SSD has engineered more than fifteen (20) fire stations throughout the I-25 corridor in Colorado and, in our experience with each, these uses do not align well with any codes currently listed in the ITE Trip Generation Manual. The 11th edition of the Manual does list Fire and Rescue Stations (Land Use Code 575) but there are only three (3) data points, and the studied information varies widely. In our experience, the best method for estimating trips is to evaluate the staffing level and shift change times to get an estimate of the traffic rates (which excludes emergent responses with Fire Apparatus which will have the ROW emerging onto the Roadway). The Station also utilizes emergency flashers with stop control thus mitigating service issues resulting from apparatus alone.

According to the District, Station #1 is currently staffed with five (5) individuals who work 48 hours on and 96 hours off. Shift change occurs every two (2) days at 8:00. As such, we can conclude that three times per week, five (5) cars will enter and (5) cars will exit the site as the shift change occurs. That would be 30 vehicles per week, or approximately 4.5 vehicles per day. For this analysis, our team will assume that the daily vehicles will occur on a shift change day whereby ten (10) vehicles will be generated. This building exists, so our analysis assumes this as background traffic using the existing Highway 105 access at Station #1.

As the project develops per the plans outlined in the PUD Amendment, additional uses will be constructed that will generate traffic. The current plan is to construct a classroom for training behind existing Station #1 as well as training tower. Academic resources suggest that the required gross instructional space per student is approximately 130.75 square feet[1]. Using a gross building square footage of 6,000 square feet would allow for approximately 45 students. Given that no uses listed in the ITE closely align with the operational intent of this facility, our team has assumed that the training center will generate 45 vehicles per day.

Vehicle estimates are based on the proposed plan for how these uses are operated. It is assumed that all cars entering the Classroom and the Front Range Fire Facility will enter during AM and exit during PM peak hours.

[1] This figure includes all corridor space, auxiliary spaces, and others required to construct a functional facility.

In summary, the total estimated number of trips generated by this development is listed in the following table:

Use	Code	Vehicles	Entering	Exiting
Existing Fire Station #1	n/a	10	5	5
New Classroom	n/a	45	45	45
	Totals	**55**	**50**	**50**

The existing Station #1 access will remain in place and will serve the training center, classroom and existing Fire Station. Given the expected facility operations and site location, it is assumed that 90% of the AM trips to the site will make a right hand turn into the site and 90% will make a left hand turn out of the site and onto Highway 105 in the PM.

Time Frame	Left into Site	Right into Site	Left out of Site	Right out of Site
AM Peak	5	45	4	1
PM Peak	0	0	40	5

It should be noted that this scenario is based on the worst case with all of these uses being active on the same day during the AM and PM Peak Hours. Classroom use is not intended to be a daily activity.

Note that the CDOT Highway Access Code requires construction of left turn deceleration lanes when 10 left turns per hour are projected into the site and right turn deceleration lanes when 25 right turn movements into the site are projected during the peak hour. If use of the classroom building were proposed for daily use, our team would recommend the installation of the right turn deceleration lane at the existing Station #1 access; however, with the limited use planned, the turn lane does not seem warranted. Highway 105 also appears to have minimal traffic westbound during the AM peak due to the employment centers being east of this location. As such, the increase in right turns is not anticipated to create a problematic delay for existing motorists. The District could also schedule classes to begin and end outside of the peak hours and stage training exercises to control traffic concentration. Many variables are available to address this issue outside of constructing the additional lane.

Sight Distance

Access sight-distance requirements are noted in Tables 5.5 and 5.6 of the Town of Monument Roadway Design and Technical Criteria Manual, specifying the stopping sight distance requirements based on design speed and approach grades.

Based upon a review of the existing road grade and applying Table 5.5 of the town's criteria:

- Slope: 0.7%
- Posted Speed Limit: 35 MPH
- Stopping Sight Distance: 305 FT. *(Design Speed of 40MPH applied)*

The sight distance profiles are provided on the PUD Amendment documents at both access points. As shown, adequate sight-distance exists to provide motorists with sufficient decision time. It is our opinion that the requirements outlined in Section 1-5.G.2 are adequately addressed.

Curb Return Radii

Section 1-6.D states that all curb return radii shall follow the standard set forth for a local street. Reviewing Table 5.2, we assume the minimum radii to be 30-feet. It is the intent of the District to use the existing access points that have already been installed. Based on the field survey information, all of the curb returns are at or exceeding a 30-foot radius. Should those fall short as the design progresses, they will be adjusted to meet the current standard.

Signal Warrant Analysis

Based on the low volume of traffic generated by the development and the location within the community, none of the signal warrants outlined in the MUTCD are anticipated to be met.

Conclusions

Having prepared this analysis for the subject property and the intended development plan, it is our opinion that the existing access points are sufficient to safely convey traffic to and from Highway 105. The existing conditions provide the required sight distance, and the existing geometry conforms with the Town's published standards. Furthermore, the traffic volumes generated by the site are expected to be minor and it has been determined that no negative impacts on the existing roadway network would result and no roadway improvements warranted.

Should you have any questions or require additional information, please don't hesitate to contact me directly at CPerdue@ssdeng.com or (720) 206-6931.

Sincerely,
Strategic Site Designs, LLC

Christopher L. Perdue, P.E., M.B.A.
Owner

CP

Attachments: Major PUD Amendment
Minor Subdivision Plat

MONUMENT FIRE DISTRICT - TRAINING FACILITY SITE PLAN

A RE-SUBDIVISION OF LOT 1, TRI-LAKES MONUMENT FIRE FILING NO. 1, LOCATED WHOLLY WITHIN THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 15, TOWNSHIP 11 SOUTH, RANGE 67 WEST, SIXTH P.M., TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO 15.85 ACRES

CERTIFICATION BLOCKS:

LEGAL DESCRIPTION:

SEE LEGAL DESCRIPTION ON THIS PAGE

PROPERTY OWNER ACKNOWLEDGEMENT:

MONUMENT FIRE DISTRICT, BEING THE OWNER(S) OF THE LAND DESCRIBED HEREIN HAVE CAUSED SAID LAND TO BE SITE PLANNED UNDER THE NAME OF MONUMENT FIRE DISTRICT - TRAINING FACILITY. ALL CONDITIONS, TERMS, AND SPECIFICATIONS DESIGNATED OR DESCRIBED ON THIS DOCUMENT SHALL BE BINDING ON THE OWNERS, THEIR HEIRS, SUCCESSORS AND ASSIGNS.

NO CHANGES MAY BE MADE TO THIS SITE PLAN WITHOUT TOWN APPROVAL. MINOR CHANGES TO THE SITE PLAN MAY BE APPROVED ADMINISTRATIVELY BY THE PLANNING DIRECTOR. MAJOR CHANGES TO THIS SITE PLAN, ESPECIALLY DELETIONS OF APPROVED ITEMS OR SUBSTANTIAL CHANGES IN BUILDING LOCATION SHALL BE SUBJECT TO THE SAME APPLICATION, REVIEW AND APPEAL PROCESSES APPLICABLE TO THE ORIGINAL SITE PLAN. ENGINEERING, GRADING, AND CONSTRUCTION PLANS ARE NOT PART OF THIS APPROVAL.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20__.

_____ _____

[PROPERTY OWNER]

NOTARY CERTIFICATE

STATE OF COLORADO)
)SS
COUNTY OF EL PASO)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____,
20__, BY _____(NAME AND TITLE)

MY COMMISSION EXPIRES: _____

ADDRESS OF NOTARY:_____

_____
NOTARY PUBLIC

TOWN CERTIFICATION OF APPROVAL:

THIS SITE PLAN FOR *MONUMENT FIRE DISTRICT - TRAINING FACILITY* IS HEREBY APPROVED BY THE TOWN OF MONUMENT, COLORADO, ON THIS____DAY OF____, 20_. CONDITIONS OF APPROVAL, IF ANY, SHALL BE LISTED ON THE PLAN.

_____ _____
PLANNING DIRECTOR DATE

SURVEYING CERTIFICATE:

I,_____, A REGISTERED (PROFESSIONAL LAND SURVEYOR OR CIVIL ENGINEER) IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SITE PLAN AND LEGAL DESCRIPTION REPRESENTED BY THE _____ WERE PREPARED UNDER MY SUPERVISION AND IN ACCORD WITH APPLICABLE STATE OF COLORADO REQUIREMENTS ON THIS ____ DAY OF _____, 20__.

BY (NAME & PROFESSION/TITLE)

RECORDING STAMP

STANDARD NOTES:

THE PARTIES RESPONSIBLE FOR THIS PLAN HAVE FAMILIARIZED THEMSELVES WITH ALL CURRENT ACCESSIBILITY CRITERIA AND SPECIFICATION AND THE PROPOSED PLAN REFLECTS ALL SITE ELEMENTS REQUIRED BY THE APPLICABLE ADA DESIGN STANDARDS AND GUIDELINES AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE. APPROVAL OF THIS PLAN BY THE TOWN OF MONUMENT DOES NOT ASSURE COMPLIANCE WITH THE ADA OR ANY OTHER FEDERAL OR STATE ACCESSIBILITY LAWS OR ANY REGULATIONS OR GUIDELINES ENACTED OR PROMULGATED UNDER OR WITH RESPECT TO SUCH LAWS.

LEGAL DESCRIPTION:

LOCATED WHOLLY WITHIN THE NW 1/4 OF THE NE 1/4 OF SECTION 15, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE 6TH P.M., TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO.

LOT 1 MORE PARTICULARLY DESCRIBED AS FOLLOWS;

COMMENCING AT THE NORTH QUARTER CORNER OF SAID SECTION 15, MONUMENTED BY A 2.5" ALUMINUM CAP WITH A PLS NUMBER OF 10108; THENCE N 87 DEGREES 41 MINUTES 13 SECONDS E, 109.79 FEET TO A POINT ON THE SOUTHERN BOUNDARY OF SUBDIVISION ELEPHANT ROCK ACRES, SAID POINT BEING THE TRUE **POINT OF BEGINNING FOR LOT 1;**

THENCE N 87 DEGREES 32 MINUTES 30 SECONDS E A DISTANCE OF 409.33 FEET;
THENCE S 51 DEGREES 36 MINUTES 42 SECONDS E A DISTANCE OF 273.32 FEET;
THENCE S 74 DEGREES 23 MINUTES 18 SECONDS W A DISTANCE OF 78.12 FEET;
THENCE S 15 DEGREES 36 MINUTES 42 SECONDS E A DISTANCE OF 206.78 FEET:
THENCE S 33 DEGREES 27 MINUTES 29 SECONDS W A DISTANCE OF 217.75 FEET TO A POINT ON THE NORTHERN RIGHT OF WAY OF HIGHWAY 105;
THENCE ALONG THE THE NORTHERN RIGHT OF WAY OF HIGHWAY 105 THE FOLLOWING COURSES:
N 56 DEGREES 32 MINUTES 31 SECONDS W A DISTANCE OF 7.03 FEET;
THENCE N 15 DEGREES 57 MINUTES 47 SECONDS WEST A DISTANCE OF 2.93 FEET;
THENCE N 57 DEGREES 09 MINUTES 33 SECONDS WEST A DISTANCE OF 227.49 FEET;
THENCE LEAVING SAID HIGHWAY 105 RIGHT OF WAY N 15 DEGREES 36 MINUTES 42 SECONDS WEST A DISTANCE OF 199.10 FEET TO A POINT ON THE EASTERN BOUNDARY OF BEATEN-JONES ADDITION;
THENCE N 15 DEGREES 41 MINUTES 17 SECONDS W A DISTANCE OF 338.30 FEET TO THE POINT OF BEGINNING.

CONTAINING 4.900 ACRES, 213,391 SQUARE FEET, MORE OR LESS.

LOT 2 MORE PARTICULARLY DESCRIBED AS FOLLOWS;

COMMENCING AT THE NORTH QUARTER CORNER OF SAID SECTION 15, MONUMENTED BY A 2.5" ALUMINUM CAP WITH A PLS NUMBER OF 10108; THENCE N 87 DEGREES 41 MINUTES 13 SECONDS E, 109.79 FEET; THENCE S 87 DEGREES 32 MINUTES 30 SECONDS E, 409.33 FEET TO THE **TRUE POINT OF BEGINNING FOR LOT 2;**

THENCE N 87 DEGREES 32 MINUTES 30 SECONDS E A DISTANCE OF 910.76 FEET, TO A POINT ON THE WESTERN RIGHT - OF - WAY OF THE DENVER AND RIO GRANDE WESTERN RAILROAD;
THENCE ALONG A CURVE TO THE RIGHT HAVING A CHORD BEARING S 07 DEGREES 51 MINUTES 54 SECONDS E, CHORD DISTANCE OF 861.50 FEET, A RADIUS OF 2488.72 FEET, AN ARC LENGTH OF 865.86 FEET TO A POINT ON THE NORTHERN RIGHT - OF - WAY OF HIGHWAY 105;
THENCE ALONG THE NORTHERN RIGHT-OF-WAY OF HIGHWAY 105 THE FOLLOWING COURSES:
S 83 DEGREES 39 MINUTES 11 SECONDS W A DISTANCE OF 77.11 FEET;
THENCE ALONG A CURVE TO THE RIGHT HAVING A CHORD BEARING N 87 DEGREES 51 MINUTES 16 SECONDS W, CHORD DISTANCE OF 171.65 FEET, A RADIUS OF 663.28 FEET, AN ARC LENGTH OF 172.13 FEET;
THENCE S 10 DEGREES 00 MINUTES 21 SECONDS W A DISTANCE OF 49.91 FEET;
THENCE ALONG A CURVE TO THE RIGHT HAVING A CHORD BEARING N 68 DEGREES 12 MINUTES 21 SECONDS W, CHORD DISTANCE OF 267.61 FEET, A RADIUS OF 656.80 FEET, AN ARC LENGTH OF 269.50 FEET;
THENCE N 56 DEGREES 32 MINUTES 31 SECONDS WEST A DISTANCE OF 215.31 FEET;
THENCE LEAVING SAID HIGHWAY 105 NORTHERN RIGHT OF WAY N 33 DEGREES 27 MINUTES 29 SECONDS EAST A DISTANCE OF 217.75 FEET;
THENCE N 15 DEGREES 36 MINUTES 42 SECONDS WEST A DISTANCE OF 206.78 FEET;
THENCE N 74 DEGREES 23 MINUTES 18 SECONDS EAST A DISTANCE OF 78.12 FEET;
THENCE N 15 DEGREES 36 MINUTES 42 SECONDS WEST A DISTANCE OF 273.32 FEET TO THE POINT OF BEGINNING.

CONTAINING 10.931 ACRES, 476,163 SQUARE FEET, MORE OR LESS.

GENERAL PROVISIONS

1. NO USE SHALL BE PERMITTED THAT WOULD GENERATE TOXIC MATERIALS OR WASTE THAT EXCEEDS FEDERAL, STATE AND LOCAL REGULATIONS.
2. THE PROPERTY IS CURRENTLY SERVED BY A WELL FOR DOMESTIC WATER AND BY PALMER LAKE SANITATION DISTRICT FOR WASTEWATER.
3. THE TOWN ACKNOWLEDGES SANITARY SEWER SERVICES TO THE PROPERTY IS PROVIDED BY THE PALMER LAKE SANITATION DISTRICT.
4. THE PRIVATE PROPERTY OWNERS WILL MAINTAIN ALL MONUMENT SIGNS.
5. FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NUMBER 08041C0257G, EFFECTIVE DATE: DECEMBER 7, 2018, INDICATES THE AREA IN THE VICINITY OF THIS PARCEL OF LAND TO BE A ZONE X (AREA DETERMINED TO BE OUT OF THE 500 YEAR FLOODPLAIN). ADJACENT FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NUMBER 08041C0276G, EFFECTIVE DATE: DECEMBER 7, 2018, INDICATED THE AREA IN THE VICINITY OF THIS PARCEL OF LAND TO BE A ZONE X (AREA DETERMINED TO BE OUT OF THE 500 YEAR FLOODPLAIN).
6. SIGNS REQUIRE SUBMITTAL OF A SEPARATE SIGN PERMIT TO THE PLANNING DEPARTMENT FOR REVIEW AND APPROVAL.
7. LANDSCAPING WITHIN THE R.O.W. WILL BE MAINTAINED BY THE MONUMENT JUNCTION METROPOLITAN DISTRICT.
8. PAVING SECTIONS WILL BE PER TOWN OF MONUMENT PAVING AND CONSTRUCTION STANDARDS SUBSECTION 4.
9. PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE OF PRIVATE STORM PIPING, ALL DRAINAGE CONVEYANCE ELEMENTS (IE. DRAINAGE CHANNEL, SWALES, CULVERTS, ETC) AND INLETS. FUTURE BUILDING OCCUPANTS OF LOT 2 WILL BE REQUIRED TO PREPARE AN O&M FOR THE PORTION OF THE DETENTION POND WITHIN THE HIGHWAY 105 RIGHT-OF-WAY.
10. PARKING WILL CONFORM TO THE STANDARDS OUTLINED IN THE TOWN OF MONUMENT MUNICIPAL CODE APPROPRIATE TO PROPOSED USE.
11. ALL PARKING SPACES AND HANDICAPPED SPACES AND AISLES ARE TO BE STRIPED TO TOWN OF MONUMENT STANDARDS.
12. HANDICAP RAMPS WILL BE PROVIDED FOR ACCESS FROM HANDICAP SPACES TO BUILDING ENTRANCES AND TO BE BUILT TO TOWN OF MONUMENT STANDARDS.
13. NOTICE: THIS PROPERTY MAY BE IMPACTED BY NOISE AND OTHER SIMILAR SENSORY EFFECTS OF FLIGHT CAUSED BY AIRCRAFT USED IN BOTH THE UNITED STATES AIR FORCE ACADEMY'S AIRMANSHIP PROGRAM AND DURING SPECIAL EVENTS. THIS NOTICE SHALL REMAIN IN EFFECT UNTIL THE AIR FORCE ACADEMY SHALL CEASE TO BE SUED FOR FLIGHT TRAINING PURPOSES OR UNTIL ALL AIRPORT ON THE AIR FORCE ACADEMY SHALL CEASE TO BE ACTIVELY USED. THIS NOTICE SHALL RUN IN PERPETUITY WITH THE LAND.

ZONING REGULATIONS:

GENERAL PROVISIONS

A. ADOPTION/AUTHORIZATION. TOWN COUNCIL HAS ADOPTED THIS SITE PLAN AND ZONING REGULATIONS PURSUANT TO CHAPTER 18 OF THE MONUMENT MUNICIPAL CODE AFTER APPROPRIATE PUBLIC NOTICE AND HEARING.

B. APPLICABILITY. THE PROVISIONS OF THIS SITE PLAN AND ZONING REGULATIONS SHALL RUN WITH THE LAND AND BIND ALL LANDOWNERS OF RECORD, THEIR SUCCESSOR, HEIRS, OR ASSIGNS OF THE LAND AS APPROVED BY THE MONUMENT TOWN COUNCIL.

C. MAXIMUM LEVEL OF DEVELOPMENT. THE TOTAL COMMERCIAL, INDUSTRIAL, OR OTHER NONRESIDENTIAL FOR DEVELOPMENT WITHIN THIS ESTABLISHED USE AREAS IS THE MAXIMUM ALLOWED FOR PLATTING AND DEVELOPMENT. THE ACTUAL FLOOR AREA APPROVED WILL BE DETERMINED AT THE SITE PLAN AND FINAL PLAT STAGE OF REVIEW BASED UPON ENVIRONMENTAL CONSTRAINTS, UTILITY AND STREET CAPACITY, COMPATIBILITY WITH SURROUNDING LAND USES, AND OTHER RELEVANT FACTORS.

D. RELATIONSHIP TO TOWN REGULATIONS. THE PROVISION OF THIS SITE PLAN AND THESE ZONING REGULATIONS SHALL PREVAIL AND GOVERN THIS SITE PLAN AND SUPERCEDE THE RELEVANT PROVISIONS OF THE MONUMENT MUNICIPAL CODE, AS AMENDED, OR ANY OTHER APPLICABLE RESOLUTIONS OR REGULATIONS OF THE TOWN OF MONUMENT.

E. DEFINITIONS. THE STANDARD DEFINITIONS FOUND IN THE MONUMENT MUNICIPAL CODE CHAPTER 18 SHALL APPLY TO THIS SITE PLAN. THE FOLLOWING DEFINITIONS ARE NOT INCLUDED IN THE TOWN'S MUNICIPAL CODE AND ARE HEREBY DEFINED BELOW.

FIRE TRAINING CENTER - A FACILITY USED BY LOCAL FIRE AND OTHER EMERGENCY SERVICES TO TRAIN PERSONNEL ON A RANGE OF LIFE SAFETY EXERCISES. A TRAINING CENTER MAY CONTAIN ONE OR MORE OF THE FOLLOWING FACILITIES: 1) TRAINING TOWER, 2) CLASSROOM, 3) GARAGE, 4) CONFINED SPACE ENTRY FACILITY, 5) OTHER PROPS AS NECESSARY TO PERFORM TRAINING EXERCISES.

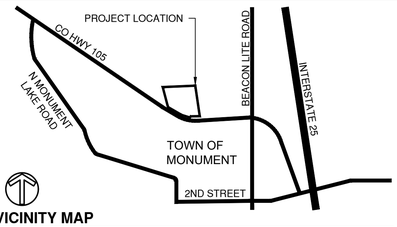
F. OVERALL PROJECT STANDARDS. THE STANDARD ZONING REQUIREMENTS OF THE MONUMENT MUNICIPAL CODE CHAPTER 18, AS AMENDED, INCLUDING OFF-STREET PARKING, LANDSCAPING, SITE DEVELOPMENT, ACCESSORY AND TEMPORARY USES, AND USE BY SPECIAL REVIEW AND VARIANCE PROCESSES SHALL APPLY TO THIS SITE PLAN, EXCEPT AS MODIFIED BELOW.

G. SERVICEABILITY OF PROVISIONS. IN THE EVENT THAT ANY PROVISIONS HEREOF SHALL BE DETERMINED TO BE ILLEGAL OR VOID BY FINAL ORDER OF ANY COURT OF COMPETENT JURISDICTION, THE REMAINING PROVISIONS SHALL REMAIN IN FULL FORCE AND EFFECT.

DEVELOPMENT GUIDELINES

1. **PROJECT DESCRIPTION:** A SITE PLAN FOR MONUMENT FIRE DISTRICT DEVELOPMENT PLAN IS A PLANNED COMMERCIAL/OFFICE/INDUSTRIAL DEVELOPMENT ON 15.831 ACRES OF LAND LOCATED NORTH OF CO HWY 105 AND WEST OF BEACON LITE ROAD.
2. **PERMITTED USES:**
   2.1. ALL USES ALLOWABLE IN THE "PUBLIC" ZONING DISTRICT
   2.2. ALL USES ALLOWABLE IN THE "PUBLIC" ZONING DISTRICT
3. **TEMPORARY USES:** TEMPORARY USES SHALL BE SUBJECT TO THE PROVISIONS OF SECTION 18.03.350 OF THE TOWN'S MUNICIPAL CODE, AS AMENDED.
4. **ACCESSORY STRUCTURE:** AN ACCESSORY USE AND/OR STRUCTURE MUST COMPLY WITH THE FOLLOWING REQUIREMENTS:
   AN ACCESSORY USE AND/OR STRUCTURE MUST:
   4.1. BE CLEAR INCIDENTAL AND CUSTOMARY TO, AND COMMONLY TO, AND COMMONLY ASSOCIATED WITH THE PERMITTED USE;
   4.2. BE OPERATED AND MAINTAINED UNDER THE SAME OWNERSHIP OR LESSEES OR CONCESSIONAIRES THEREOF, AND ON THE SAME LOT AS PERMITTED USE;
   4.3. STRUCTURES OR STRUCTURAL FEATURES MUST BE COMPATIBLE WITH, AND ARCHITECTURALLY CONSISTENT WITH, THE PERMITTED USE AND PRINCIPAL STRUCTURE(S) ON THE PROPERTY, AND WITH THE PRINCIPAL STRUCTURES ON ADJACENT PROPERTIES.
5. **SIGNS:** SIGNS SHALL BE PERMITTED IN ACCORDANCE WITH THE REQUIREMENTS FOR SIGNS IN NON-RESIDENTIAL ZONING DISTRICTS AS STATED IN SECTION 18.06.310 OF THE TOWN'S MUNICIPAL CODE, AS AMENDED. SIGN DESIGN AND THE COMPUTATION OF THE SIGH AREA SHALL CONFORM TO THE STANDARDS IN SECTION 18.06.410 AND 18.06.340 OF THE TOWN'S MUNICIPAL CODE, AS AMENDED. ANY SIGNAGE THAT MAY OCCUR ALONG HIGHWAY 105 WILL NEED TO BE REVIEWED AND APPROVED SEPARATELY BY CDOT.
6. **DEVELOPMENT STANDARDS:**
   ALL DEVELOPMENT GUIDELINES SHALL BE CONSISTENT WITH MONUMENT MUNICIPAL CODE CHAPTER 18.0

SHEET INDEX	
1	COVER SHEET
2	OVERALL SITE PLAN
3	SITE PLAN
4	GRADING PLAN
5	UTILITY PLAN
6	LANDSCAPE PLAN 'A'
7	LANDSCAPE PLAN 'B'
8	LANDSCAPE NOTES
9	LANDSCAPE DETAILS
TBD	IRRIGATION PLAN 'A'
TBD	IRRIGATION PLAN 'B'
TBD	IRRIGATION NOTES
TBD	IRRIGATION DETAILS
TBD	IRRIGATION DETAILS
TBD	IRRIGATION DETAILS
A-101	FOOTPRINT & ELEVATIONS
A-103	FOOTPRINT & ELEVATIONS
E101	ELECTRICAL SITE PHOTOMETRIC PLAN
E102	SITE LIGHTING DETAILS



VICINITY MAP

SCALE: 1" = 2000'

PROJECT TEAM

APPLICANT: MONUMENT FIRE DISTRICT
16055 OLD FOREST POINT, #102
MONUMENT, CO 80132
ATTENTION: JAMEY BUMGARNER
(719) 650-9975

ENGINEER: STRATEGIC SITE DESIGNS, LLC
88 INVERNESS CIRCLE EAST, SUITE B101
ENGLEWOOD, CO 80112
ATTENTION: CHRISTOPHER PERDUE
(720) 633-0219

LANDSCAPE ARCHITECT: STACKLOT, LLC
5639 S. CURTICE STREET
LITTLETON, CO 80120
ATTENTION: STEVE WIENS
(303) 888-2735

ARCHITECT: OZ ARCHITRECTURE
3003 LARIMER ST,
DENVER, CO 80205
ATTENTION: KEVIN M. SCHAFFER
(303)861 - 5704

SURVEYOR: GEOVISTA SURVEY AND MAPPING
88 INVERNESS CIRCLE EAST, SUITE B101
ENGLEWOOD, CO 80112
ATTENTION: GEORGE PRIEN
(303) 549 - 5903

DATA BLOCK		
ZONE DISTRICT	P - PUBLIC	
GENERAL ZONE LOT INFORMATION	SQ. FT.	ACRES
ZONE LOT SIZE (GROSS PROJECT AREA)	689,597	15.831
PARCEL A LOT SIZE	213,391	4.900
PARCEL B LOT SIZE	476,163	10.931
PRIMARY AND SIDE STREET DESIGNATIONS	PRIMARYSTREET: HIGHWAY 105	SIDE STREET: NONE
PROPOSED USE	PARCEL A: FIRE STATION AND TRAINING CAMPUS, PARCEL B: ANY USE ALLOWED IN THE PUBLIC (P) ZONING DISTRICT	
PARCEL A TOTAL BUILDING AREA	20,141 SQ. FT	
EXISTING STATION #1	9,761 SQ. FT	
CLASSROOM/GARAGE	11,040 SQ. FT	
TRAINING TOWER	1,100 SQ. FT	
LOT COVERAGE PARCEL A	SQUARE FEET	PERCENTAGE
PARKING LOT, ACCESS DRIVES, ETC (INC GRAVEL)	52,272	51.0
BUILDING	20,141	3.0
LANDSCAPE	281,623	46.0
DESIGN ELEMENTS	MAX	PROVIDED
BUILDING HEIGHT, FEET	35'-0"	35'-0"
PARCEL A SETBACKS	REQUIRED	PROVIDED
PRIMARY STREET (MIN)	25'-0" MIN.	112'-0"
SIDE INTERIOR (MIN)	25'-0" MIN.	126'-10"
REAR, NO ALLEY (MIN)	25'-0" MIN.	26'-0"
PARKING PARCEL A	REQUIRED	PROVIDED
STANDARD SPACES	N/A	68
ACCESSIBLE SPACES	N/A	4
APPARATUS PARKING	N/A	0
TOTAL SPACES	N/A	72

NOTE:

1. LOT 1 WILL CORRESPOND TO MONUMENT FIRE DISTRICT PARCEL A WHILE LOT 2 WILL CORRESPOND TO PARCEL B.

CONTACT INFORMATION
88 INVERNESS CIRCLE EAST, SUITE B-101
ENGLEWOOD, CO 80112
STRATEGIC SITE DESIGNS (720) 206-6931
CPERDUE@STRATEGICSITEDESIGNS.COM
ATTENTION: CHRISTOPHER PERDUE, P.E., M.B.A.

FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

COVER SHEET
SITE PLAN
TOWN OF MONUMENT, CO

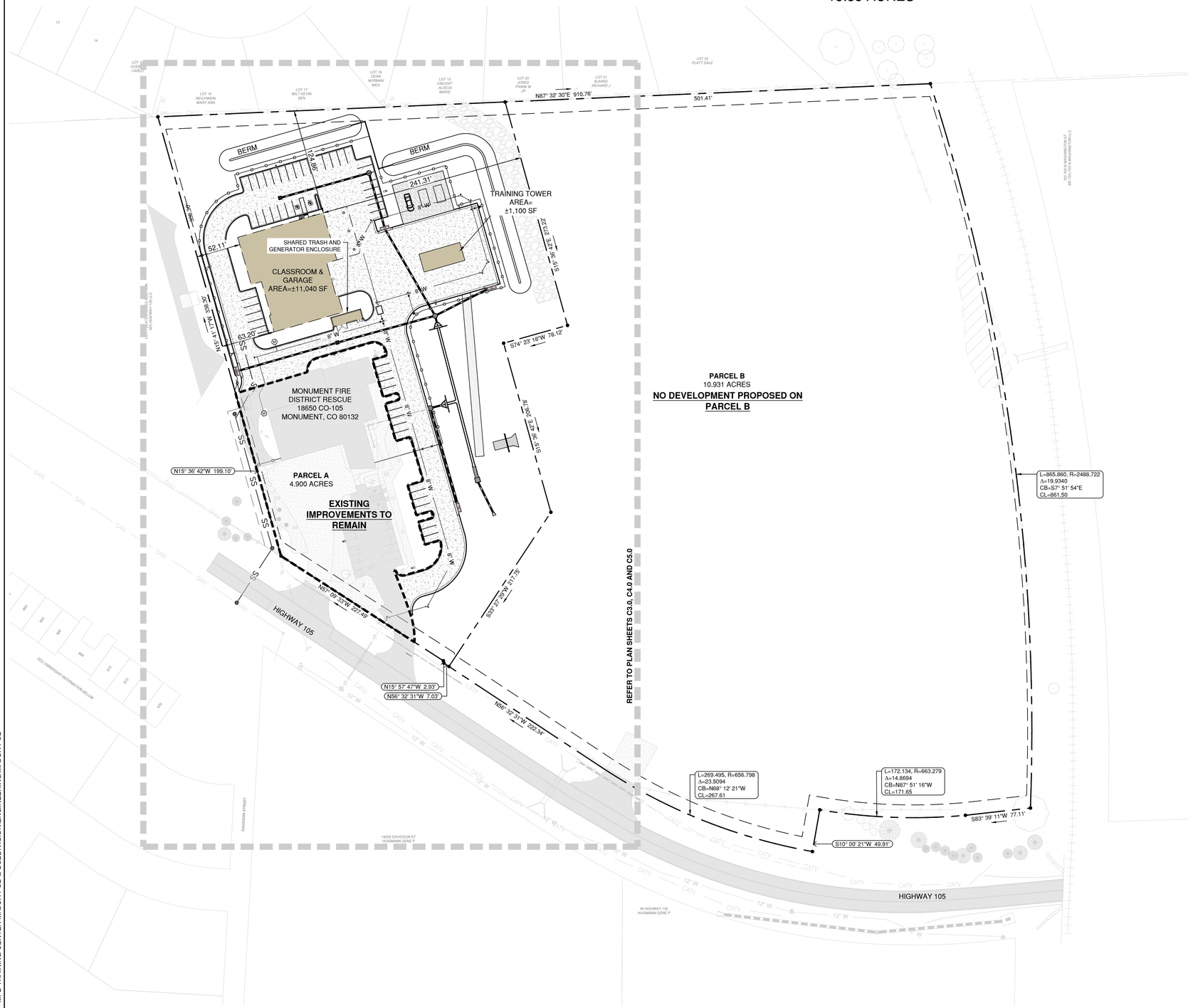
REV	DESCRIPTION	BY	DATE
1	2ND SUBMITTAL	BMS	8/22/24
2	3RD SUBMITTAL	BMS	11/1/24
3	4TH SUBMITTAL	BMS	12/3/24
4	5TH SUBMITTAL (RE-SCOPED)	CLP	10/1/25

JOB NO:	2403-001
ORIGINAL ISSUE:	2/15/24
DESIGN BY:	BMS
CHECKED BY:	CLP
SCALE:	N/A
SHEET NUMBER	01

P:\P2404 - MFD TRAINING CENTER MAJOR PUD & SUBDIVISION\ENGINEERING\MAJOR PUD

MONUMENT FIRE DISTRICT - TRAINING FACILITY SITE PLAN

A RE-SUBDIVISION OF LOT 1, TRI-LAKES MONUMENT FIRE FILING NO. 1,
LOCATED WHOLLY WITHIN THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 15,
TOWNSHIP 11 SOUTH, RANGE 67 WEST, SIXTH P.M., TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO
15.85 ACRES



OVERALL SITE PLAN

SCALE: 1" = 60'

LEGEND

- PROPERTY LINE/SECTION LINE
- RIGHT OF WAY
- PROPOSED LOT LINE
- PROPOSED BUILDING ENVELOPE
- PROPOSED UTILITY EASEMENT
- PROPOSED RETAINING WALL
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED SPILL CURB
- PROPOSED CATCH CURB
- PROPOSED SANITARY SEWER
- PROPOSED WATER LINE
- PROPOSED STORM SEWER
- PROPOSED WATER METER
- LIGHT FIXTURE
- PROPOSED SANITARY SERVICE
- PROPOSED HYDRANT SYSTEM
- PROPOSED STORM INLET
- PROPOSED STORM INLET
- PROPOSED SANITARY MANHOLE
- EXISTING UNDERGROUND CABLE
- EXISTING UNDERGROUND SANITARY SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND WATER LINE
- EXISTING UNDERGROUND TELEPHONE LINE
- STRUCTURE
- GRAVEL
- CONCRETE PAVEMENT

CONTACT INFORMATION
88 INVERNESS CIRCLE EAST, SUITE B-101
ENGLEWOOD, CO 80112
(720) 206-6931
CPERDUE@STRATEGICSITEDESIGNS.COM
ATTENTION: CHRISTOPHER PERDUE, P.E., M.B.A.
STRATEGIC SITE DESIGNS

FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

REV	DESCRIPTION	BY	DATE
1	2ND SUBMITTAL	BMS	8/22/24
2	3RD SUBMITTAL	BMS	11/1/24
3	4TH SUBMITTAL	BMS	12/3/24
4	5TH SUBMITTAL (RE-SCOPED)	CLP	10/1/25

JOB NO:	2403-001
ORIGINAL ISSUE:	2/15/24
DESIGN BY:	BMS
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SCALE:	1"=60'
SHEET NUMBER	02

P:\P2404 - MFD TRAINING CENTER MAJOR PUD & SUBDIVISION\ENGINEERING\MAJOR PUD

MONUMENT FIRE DISTRICT - TRAINING FACILITY SITE PLAN

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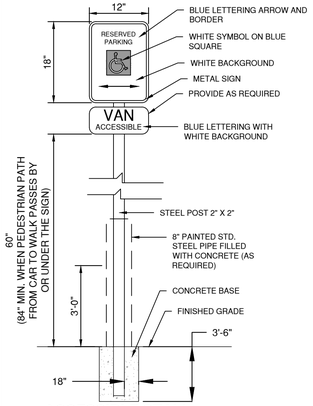

ACCESSIBLE STALL SIGNAGE

PARCEL B
±14.076 ACRES

PARCEL A
±14.076 ACRES

S15° 36' 42"E 273.32'

S15° 36' 42"E 206.76'

S33° 27' 28"W 212.76'

N49° 22' 41"E 217.91'

N56° 32' 31"W 222.49'

N67° 09' 57"W 227.49'

N15° 57' 47"W 2.93'

N56° 32' 31"W 7.03'

N15° 36' 42"W 199.10'

N15° 41' 17"W 338.30'

N89° 32' 40"E 310.26'

LOT 18 DEAN NORMAN WES

LOT 19 VINCENT ALISCIA MARIE

LOT 17 WILT KEVIN BEN

LOT 16 REICHWEIN MARY ANN

LOT 1 BEATEN-JONES ADDITION
855 HIGHWAY 105 LLC

8' HIGH LANDSCAPE BERM

SECURITY FENCE

CONCRETE CUTOFF WALL

STORM MANHOLE

ENERGY DISSIPATER

PROPOSED EXTENDED DETENTION POND

SECURITY GATE

TRAINING TOWER

LANDSCAPE ISLAND

SOUNDPROOFING/SCREEN WALL

LANDSCAPE ISLAND (TYP)

OUTDOOR CLASSROOM

ACCESSIBLE VAN PARKING

ACCESSIBLE ROUTE

ACCESSIBLE PARKING

ACCESSIBLE VAN PARKING SIGN (TYP.)

CLASSROOM & GARAGE
AREA=±11,040 SQ FT

TRASH/GEN

SHARED TRASH/GENERATOR ENCLOSURE

MONUMENT FIRE DISTRICT
18650 CO-105
MONUMENT, CO 80132

15.00' REAR SETBACK

15.00' FRONT SETBACK

5.00' SIDE SETBACK

5.00' SIDE SETBACK

15' SSWR EASMT

SANITARY SEWER MAIN EXTENSION

PROPOSED SEWER SERVICE

EX. EDGE OF ADJACENT ASPHALT PARKING

LANDSCAPE WALL (HEIGHT <2'-0")

TABLE 6.5 - RIGHT TURN LEG SIGHT DISTANCE = 385'

TABLE 6.5 - LEFT TURN LEG SIGHT DISTANCE = 305'

GENERAL NOTES:

1. ALL DIMENSIONS ARE TO FLOWLINE AND BUILDING FACE UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES FROM PLANS.
3. CONTRACTOR SHALL REMOVE AND REPLACE DAMAGED CURB, GUTTER, PAVING, AND LANDSCAPED AREAS OUTSIDE THE LIMITS OF SITE AND RESTORE BACK TO ITS ORIGINAL CONDITIONS.
4. PAVEMENT THICKNESS PER GEOTECH REPORT.
5. ALL ENTRANCES ARE PRIVATE UNLESS OTHERWISE NOTED.

SIGNAGE NOTES:

1. ALL SIGNS TO BE PER CURRENT MUTCD STANDARDS.

LEGEND

- PROPERTY LINE/SECTION LINE
- RIGHT OF WAY
- PROPOSED LOT LINE
- PROPOSED BUILDING ENVELOPE
- PROPOSED UTILITY EASEMENT
- PROPOSED RETAINING WALL
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED SPILL CURB
- PROPOSED CATCH CURB
- PROPOSED SANITARY SEWER
- PROPOSED WATER LINE
- PROPOSED STORM SEWER
- PROPOSED WATER METER
- LIGHT FIXTURE
- PROPOSED SANITARY SERVICE
- PROPOSED HYDRANT SYSTEM
- PROPOSED STORM INLET
- PROPOSED STORM INLET
- PROPOSED SANITARY MANHOLE
- EXISTING UNDERGROUND CABLE
- EXISTING UNDERGROUND SANITARY SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND WATER LINE
- EXISTING UNDERGROUND TELEPHONE LINE
- STRUCTURE
- GRAVEL
- CONCRETE PAVEMENT

0 40 80 Feet

SITE PLAN

SCALE: 1" = 30'

P:\P2404 - MFD TRAINING CENTER MAJOR PUD & SUBDIVISION\ENGINEERING\MAJOR PUD

CONTACT INFORMATION
88 INVERNESS CIRCLE EAST, SUITE B-101
ENGLEWOOD, CO 80112
STRATEGIC SITE DESIGNS (720) 206-6931
CPERDUE@STRATEGICSITEDESIGNS.COM
ATTENTION: CHRISTOPHER PERDUE, P.E., M.B.A.

FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

SITE PLAN
SITE PLAN
TOWN OF MONUMENT, CO

REV	DESCRIPTION	BY	DATE
1	2ND SUBMITTAL	BMS	8/22/24
2	3RD SUBMITTAL	BMS	11/1/24
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4	5TH SUBMITTAL (RE-SCOPED)	CLP	10/1/25

JOB NO:	2403-001
ORIGINAL ISSUE:	2/15/24
DESIGN BY:	BMS
CHECKED BY:	CLP
SCALE:	1" = 30'
SHEET NUMBER	03

MONUMENT FIRE DISTRICT - TRAINING FACILITY SITE PLAN

A RE-SUBDIVISION OF LOT 1, TRI-LAKES MONUMENT FIRE FILING NO. 1,
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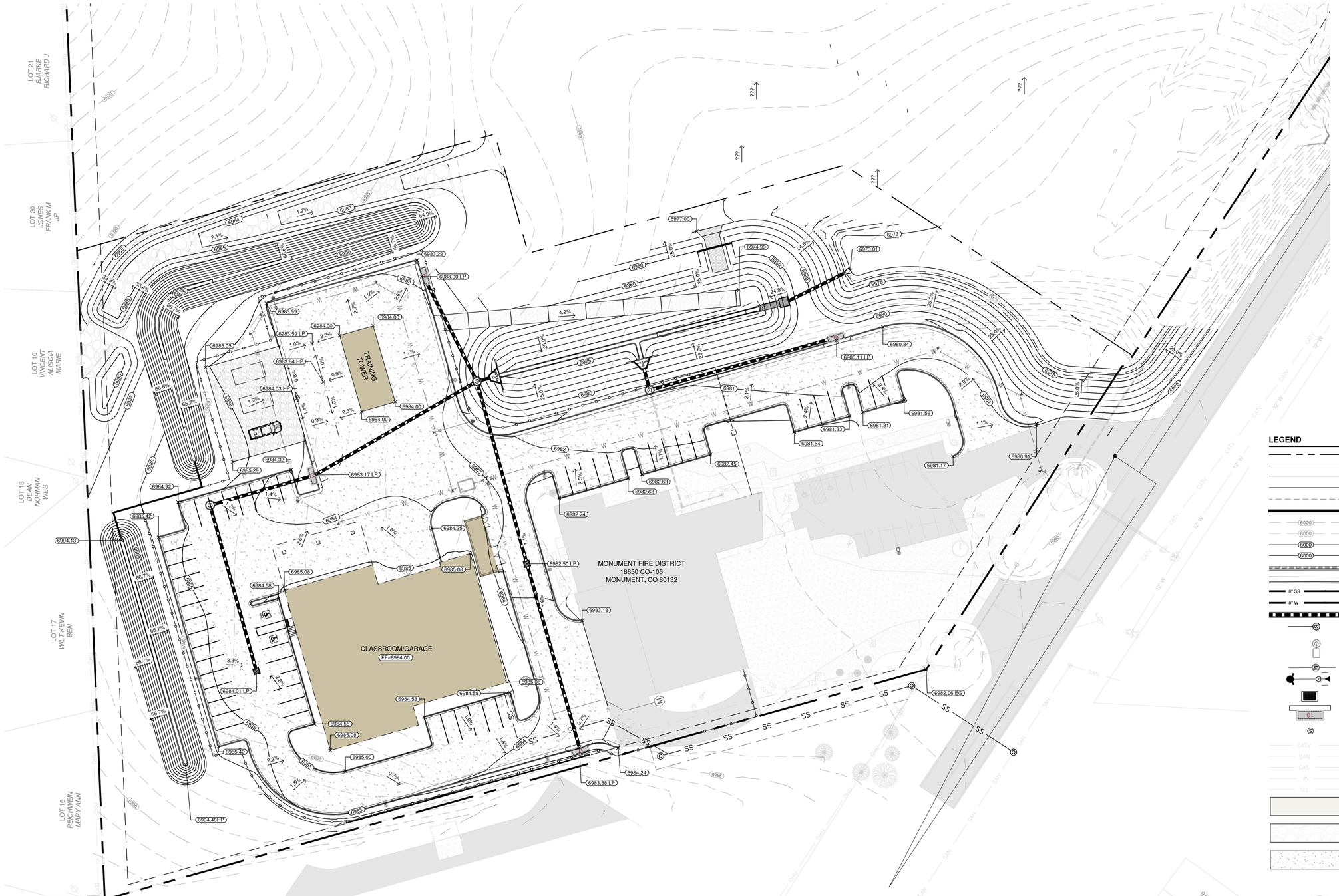
15.85 ACRES



GRADING PLAN

SCALE: 1" = 30'

LEGEND

- PROPERTY LINE/SECTION LINE
- RIGHT OF WAY
- PROPOSED LOT LINE
- PROPOSED BUILDING ENVELOPE
- PROPOSED UTILITY EASEMENT
- PROPOSED RETAINING WALL
- (6000) EXISTING MAJOR CONTOUR
- (6000) EXISTING MINOR CONTOUR
- 6000 PROPOSED MAJOR CONTOUR
- 6000 PROPOSED MINOR CONTOUR
- PROPOSED SPILL CURB
- PROPOSED CATCH CURB
- 8" SS PROPOSED SANITARY SEWER
- 8" W PROPOSED WATER LINE
- PROPOSED STORM SEWER
- PROPOSED WATER METER
- LIGHT FIXTURE
- PROPOSED SANITARY SERVICE
- PROPOSED HYDRANT SYSTEM
- PROPOSED STORM INLET
- 01 PROPOSED STORM INLET
- S PROPOSED SANITARY MANHOLE
- CATV EXISTING UNDERGROUND CABLE
- SAN EXISTING UNDERGROUND SANITARY SEWER
- GAS EXISTING UNDERGROUND GAS LINE
- W EXISTING UNDERGROUND WATER LINE
- TEL EXISTING UNDERGROUND TELEPHONE LINE
- STRUCTURE
- GRAVEL
- CONCRETE PAVEMENT

0 40 80 Feet

CONTACT INFORMATION
88 INVERNESS CIRCLE EAST, SUITE B-101
ENGLEWOOD, CO 80112
STRATEGIC SITE DESIGNS (720) 206-6931
CPERDUE@STRATEGICSITEDESIGNS.COM
ATTENTION: CHRISTOPHER PERDUE, P.E., M.B.A.

FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

GRADING PLAN
SITE PLAN
TOWN OF MONUMENT, CO

REV	DESCRIPTION	BY	DATE
1	2ND SUBMITTAL	BMS	8/22/24
2	3RD SUBMITTAL	BMS	11/1/24
3	4TH SUBMITTAL	BMS	12/3/24
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JOB NO:	2403-001
ORIGINAL ISSUE:	2/15/24
DESIGN BY:	BMS
CHECKED BY:	CLP
SCALE:	1" = 30'
SHEET NUMBER	04

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MONUMENT FIRE DISTRICT - TRAINING FACILITY SITE PLAN

A RE-SUBDIVISION OF LOT 1, TRI-LAKES MONUMENT FIRE FILING NO. 1,
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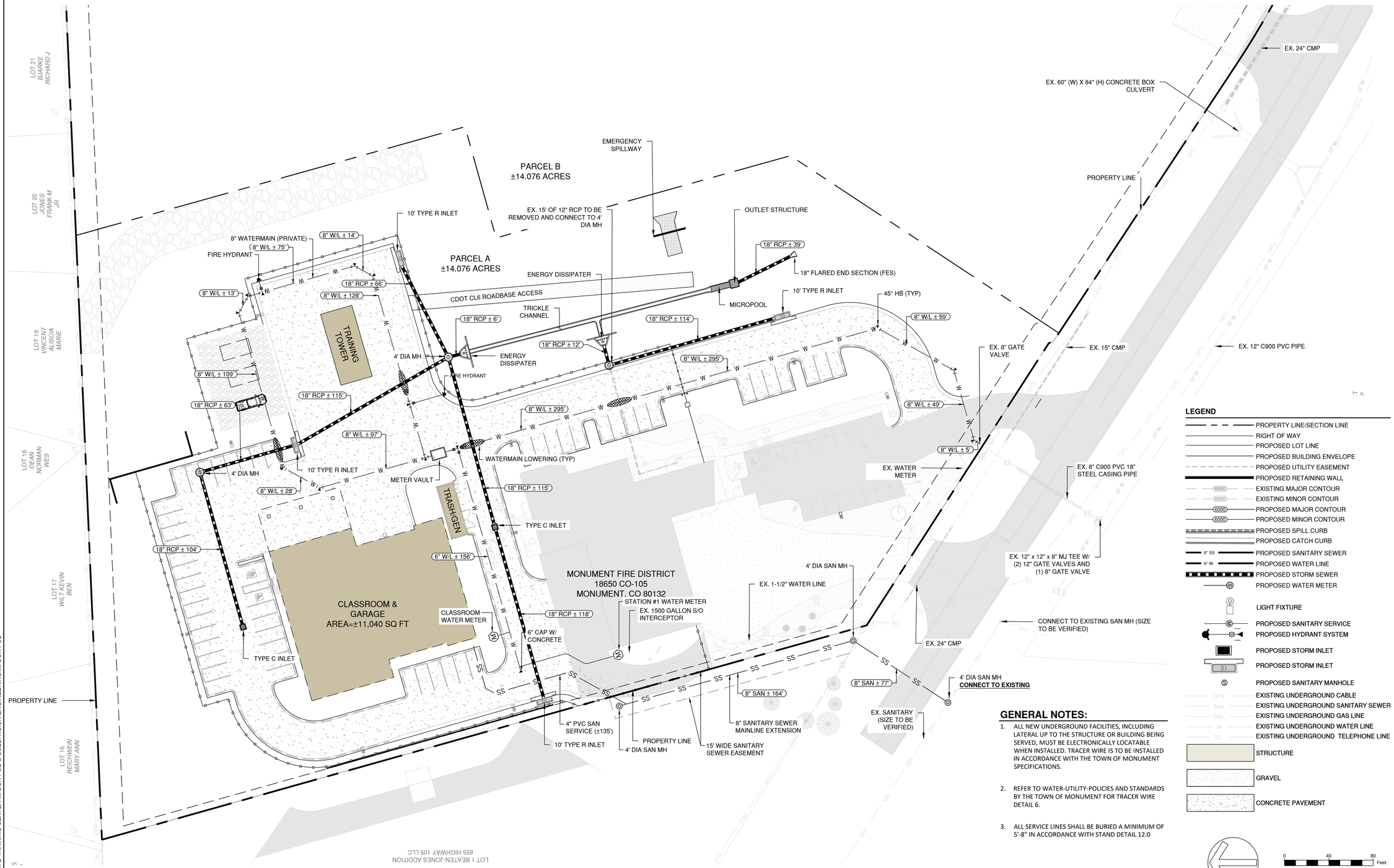

UTILITY PLAN

SCALE: 1" = 30'

GENERAL NOTES:

1. ALL NEW UNDERGROUND FACILITIES, INCLUDING LATERAL UP TO THE STRUCTURE OR BUILDING BEING SERVED, MUST BE ELECTRONICALLY LOCATABLE WHEN INSTALLED. TRACER WIRE IS TO BE INSTALLED IN ACCORDANCE WITH THE TOWN OF MONUMENT SPECIFICATIONS.
2. REFER TO WATER-UTILITY-POLICIES AND STANDARDS BY THE TOWN OF MONUMENT FOR TRACER WIRE DETAIL 6.
3. ALL SERVICE LINES SHALL BE BURIED A MINIMUM OF 5'-8" IN ACCORDANCE WITH STAND DETAIL 12.0

LEGEND

- PROPERTY LINE/SECTION LINE
- RIGHT OF WAY
- PROPOSED LOT LINE
- PROPOSED BUILDING ENVELOPE
- PROPOSED UTILITY EASEMENT
- PROPOSED RETAINING WALL
- (6000) EXISTING MAJOR CONTOUR
- (6000) EXISTING MINOR CONTOUR
- (6000) PROPOSED MAJOR CONTOUR
- (6000) PROPOSED MINOR CONTOUR
- PROPOSED SPILL CURB
- PROPOSED CATCH CURB
- 8" SS PROPOSED SANITARY SEWER
- 8" W PROPOSED WATER LINE
- PROPOSED STORM SEWER
- PROPOSED WATER METER
- LIGHT FIXTURE
- PROPOSED SANITARY SERVICE
- PROPOSED HYDRANT SYSTEM
- PROPOSED STORM INLET
- PROPOSED STORM INLET
- PROPOSED SANITARY MANHOLE
- CATV EXISTING UNDERGROUND CABLE
- SAN EXISTING UNDERGROUND SANITARY SEWER
- GAS EXISTING UNDERGROUND GAS LINE
- W EXISTING UNDERGROUND WATER LINE
- TEL EXISTING UNDERGROUND TELEPHONE LINE
- STRUCTURE
- GRAVEL
- CONCRETE PAVEMENT

0 40 80 Feet

CONTACT INFORMATION
88 INVERNESS CIRCLE EAST, SUITE B-101
ENGLEWOOD, CO 80112
(720) 206-6931
CPERDUE@STRATEGICSITEDESIGNS.COM
ATTENTION: CHRISTOPHER PERDUE, P.E., M.B.A.
STRATEGIC SITE DESIGNS

FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

UTILITY PLAN
SITE PLAN
TOWN OF MONUMENT, CO

REV	DESCRIPTION	BY	DATE
1	2ND SUBMITTAL	BMS	8/22/24
2	3RD SUBMITTAL	BMS	11/1/24
3	4TH SUBMITTAL	BMS	12/3/24
4	5TH SUBMITTAL (RE-SCOPED)	CLP	10/1/25

JOB NO:	2403-001
ORIGINAL ISSUE:	2/15/24
DESIGN BY:	BMS
CHECKED BY:	CLP
SCALE:	1"=40'
SHEET NUMBER	05

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MONUMENT FIRE DISTRICT - TRAINING FACILITY SITE PLAN

A RE-SUBDIVISION OF LOT 1, TRI-LAKES MONUMENT FIRE FILING NO. 1,
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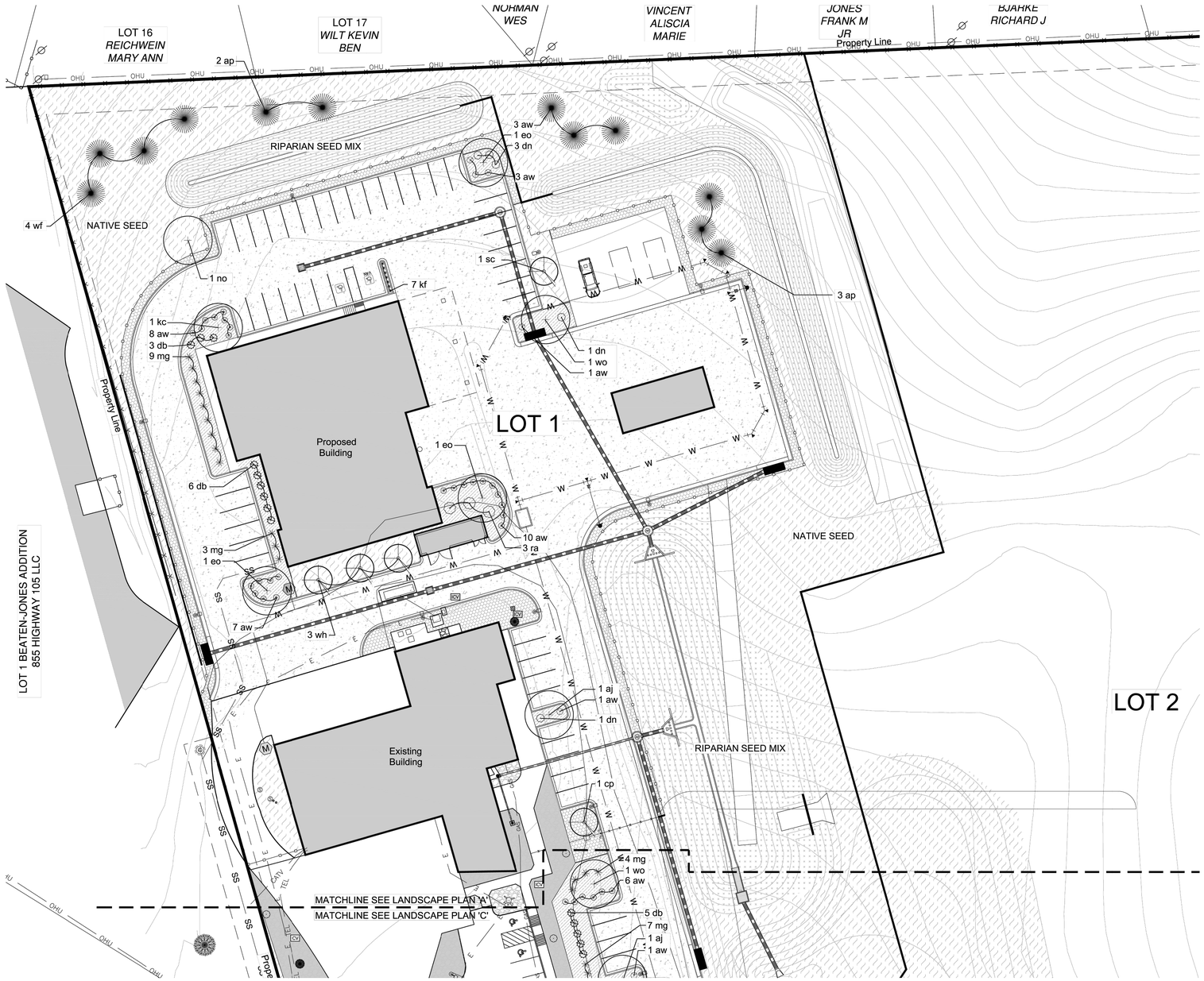

LANDSCAPE LEGEND:

- DECIDUOUS TREE
- EVERGREEN TREE
- ORNAMENTAL TREE
- SHRUB
- ORNAMENTAL GRASS

NATIVE SEED MIX - NON-IRRIGATED

COMMON NAME	SCIENTIFIC NAME	% OF TOTAL	PLS PER ACRE
BLUE GRAMA	BOUTELOUA GRACILIS	25%	1.8 LBS.
SAND DROPSEED	SPOROBOLUS CRYPTANDRUS	20%	0.20 LBS.
SIDEOATS GRAMA	BOUTELOUA CURTIPENDULA	20%	6.3 LBS.
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	15%	8.2 LBS.
BUFFALO GRASS	BOUTELOUA DACTYLOIDES	10%	10.7 LBS.
INLAND SALTGRASS	DISTICHLIS SPICATA	1%	0.60 LBS.
PASTURE SAGE	ARTEMISIA FRIGIDA	1%	0.01 LBS.
BLANKET FLOWER	GAILLARDIA ARTISTATA	1%	0.5 LBS.
PRAIRIE CONEFLOWER	RATIBIDA COLUMNIFERA	1%	0.1 LBS.
PURPLE PRAIRIECLOVER	DALEA PURPUREA	1%	0.3 LBS.
BLUE FLAX	LINUM LEWISII	1%	0.4 LBS.

RIPARIAN SEED MIX

COMMON NAME	SCIENTIFIC NAME	% OF TOTAL	PLS PER ACRE
BLUE GRAMA	BOUTELOUA GRACILIS	20%	1.5 LBS.
SAND DROPSEED	SPOROBOLUS CYRPTANDRUS	20%	0.20 LBL.
SWITCHGRASS	PANICUM VIRGATUM	20%	3.2 LBS.
SIDEOATS GRAMA	BOUTELOUA CURIPENDULA	15%	4.7 LBS.
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	10%	5.5 LBS.
GREEN NEEDLEGRASS	NASELLA VIRIDULA	10%	3.3 LBS.

- GRAVEL - RE: CIVIL
- 1"-3" COBBLE
- SHREDDED CEDAR MULCH
- STEEL EDGING

LANDSCAPE PLAN 'A'

0" 15' 30' 60' 90'

NORTH

SCALE 1" = 30' - 0"

CONTACT INFORMATION
88 INVERNESS CIRCLE EAST, SUITE B-101
ENGLEWOOD, CO 80112
(720) 206-6931
CPERDUE@STRATEGICSITEDESIGNS.COM
ATTENTION: CHRISTOPHER PERDUE, P.E., M.B.A.

STRATEGIC SITE DESIGNS

FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

LANDSCAPE PLAN 'A'
SITE PLAN
TOWN OF MONUMENT, CO

REV	DESCRIPTION	BY	DATE
1	2ND SUBMITTAL	BMS	8/22/24
2	3RD SUBMITTAL	BMS	11/1/24
3	4TH SUBMITTAL	BMS	12/3/24
4	5TH SUBMITTAL (RE-SCOPED)	CLP	10/1/25

JOB NO:	2403-001
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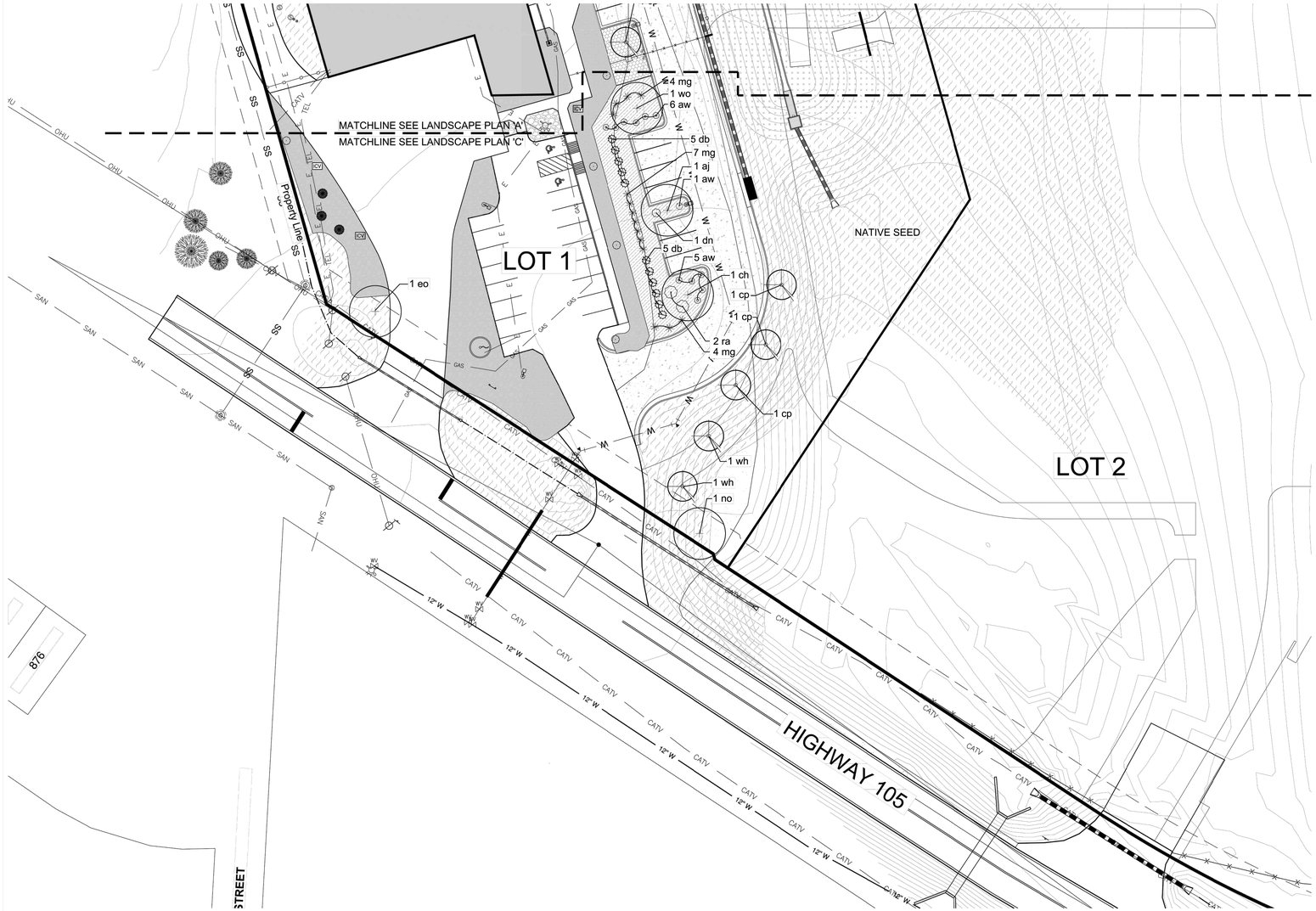
DESIGN BY:	BMS
CHECKED BY:	CLP
SCALE:	NA
SHEET NUMBER	06

P:\P2404 - MFD TRAINING CENTER MAJOR PUD & SUBDIVISION\ENGINEERING\MAJOR PUD

MONUMENT FIRE DISTRICT - TRAINING FACILITY SITE PLAN

A RE-SUBDIVISION OF LOT 1, TRI-LAKES MONUMENT FIRE FILING NO. 1,
LOCATED WHOLLY WITHIN THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 15,
TOWNSHIP 11 SOUTH, RANGE 67 WEST, SIXTH P.M., TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO
15.85 ACRES



LANDSCAPE LEGEND:

- DECIDUOUS TREE
- EVERGREEN TREE
- ORNAMENTAL TREE
- SHRUB
- ORNAMENTAL GRASS

NATIVE SEED MIX - NON-IRRIGATED

COMMON NAME	SCIENTIFIC NAME	% OF TOTAL	PLS PER ACRE
BLUE GRAMA	BOUTELOUA GRACILIS	25%	1.8 LBS.
SAND DROPSEED	SPOROBOLUS CRYPTANDRUS	20%	0.20 LBS.
SIDEOATS GRAMA	BOUTELOUA CURTIPENDULA	20%	6.3 LBS.
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	15%	8.2 LBS.
BUFFALO GRASS	BOUTELOUA DACTYLOIDES	10%	10.7 LBS.
INLAND SALTGRASS	DISTICHLIS SPICATA	1%	0.60 LBS.
PASTURE SAGE	ARTEMISIA FRIGIDA	1%	0.01 LBS.
BLANKET FLOWER	GAILLARDIA ARTISTATA	1%	0.5 LBS.
PRAIRIE CONEFLOWER	RATIBIDA COLUMNIFERA	1%	0.1 LBS.
PURPLE PRAIRIECLOVER	DALEA PURPUREA	1%	0.3 LBS.
BLUE FLAX	LINUM LEWISII	1%	0.4 LBS.

RIPARIAN SEED MIX

COMMON NAME	SCIENTIFIC NAME	% OF TOTAL	PLS PER ACRE
BLUE GRAMA	BOUTELOUA GRACILIS	20%	1.5 LBS.
SAND DROPSEED	SPOROBOLUS CYRPTANDRUS	20%	0.20 LBL.
SWITCHGRASS	PANICUM VIRGATUM	20%	3.2 LBS.
SIDEOATS GRAMA	BOUTELOUA CURIPENDULA	15%	4.7 LBS.
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	10%	5.5 LBS.
GREEN NEEDLEGRASS	NASELLA VIRIDULA	10%	3.3 LBS.

- GRAVEL - RE: CIVIL
- 1"-3" COBBLE
- SHREDDED CEDAR MULCH
- STEEL EDGING

LANDSCAPE PLAN 'B'

0" 15' 30' 60' 90'

NORTH

SCALE 1" = 30' - 0"

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STRATEGIC SITE DESIGNS

FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

LANDSCAPE PLAN 'B'
SITE PLAN
TOWN OF MONUMENT, CO

REV	DESCRIPTION	BY	DATE
1	2ND SUBMITTAL	BMS	8/22/24
2	3RD SUBMITTAL	BMS	11/1/24
3	4TH SUBMITTAL	BMS	12/3/24
4	5TH SUBMITTAL (RE-SCOPED)	CLP	10/1/25

JOB NO:	2403-001
ORIGINAL ISSUE:	2/15/24
DESIGN BY:	BMS
CHECKED BY:	CLP
SCALE:	NA
SHEET NUMBER	07

P:\P2404 - MFD TRAINING CENTER MAJOR PUD & SUBDIVISION\ENGINEERING\MAJOR PUD

MONUMENT FIRE DISTRICT - TRAINING FACILITY SITE PLAN

A RE-SUBDIVISION OF LOT 1, TRI-LAKES MONUMENT FIRE FILING NO. 1,
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TOWNSHIP 11 SOUTH, RANGE 67 WEST, SIXTH P.M., TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO
15.85 ACRES

LANDSCAPE NOTES:

1. PRIOR TO BEGINNING ANY WORK ON THE SITE THE LANDSCAPE CONTRACTOR SHALL CONTACT THE OFFICE OF THE GENERAL CONTRACTOR AND/OR LANDSCAPE ARCHITECT FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE SEQUENCING OF WORK.
2. LANDSCAPE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND SERVICE NECESSARY TO FURNISH AND INSTALL PLANTINGS AND MATERIALS AS SPECIFIED HEREIN AND AS SHOWN ON PLANS.
3. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REVISE PLANT MATERIAL LIST AS DEEMED NECESSARY.
4. ALL PLANT LOCATIONS ARE APPROXIMATE. ADJUST AS NECESSARY TO AVOID CONFLICTS.
5. QUANTITIES OF MATERIALS SHOWN ON THE PLANTING PLAN TAKE PRECEDENCE OVER QUANTITIES SHOWN ON THE PLANT MATERIAL SCHEDULE. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFY ALL QUANTITIES ON THE PLANTING PLAN(S).
6. LANDSCAPE CONTRACTOR SHALL LOCATE ALL UTILITIES BEFORE COMMENCEMENT OF WORK. VERIFY EXACT LOCATION OF ALL UTILITIES BY CONTACTING APPROPRIATE UTILITY COMPANIES. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE REPAIR / REPLACEMENT FOR HE DAMAGE CAUSED TO UTILITIES.
7. FINISH GRADE SHALL BE ADJUSTED FOR TURF THICKNESS.
8. ALL PLANT MATERIALS SHALL HAVE BACKFILL, CAREFULLY PLACED AROUND BASE AND IDES OF BALL TO TWO-THIRDS (2/3) DEPTH OF BALL THEN THOROUGHLY SOAKED WITH WATER TO ALLOW SETTLEMENT. ALL WIRE, BURLAP FASTENERS, TOP ONE-THIRD (⅓) OF BURLAP AND LOOSE BURLAP SHALL BE REMOVED AT THIS TIME THE REMAINDER OF HE PIT SHALL THEN BE BACKFILLED, ALLOWING FOR THE DEPTH OF THE MULCH SAUCER AND SETTLEMENT OF BACKFILL. BACKFILL SHALL THEN BE THOROUGHLY WATERED ONCE AGAIN.
9. AFTER PLANTING IS COMPLETED REPAIR INJURIES TO ALL PLANTS AS REQUIRED. LIMIT AMOUNT OF PRUNING TO A MINIMUM NECESSARY TO REMOVE DEAD OR INJURED TWIGS AND BRANCHES. PRUNE IN SUCH A MANNER AS NOT TO CHANGE THE NATURAL GROWING HABIT OR SHAPE OF THE PLANT. MAKE ALL CUTS FLUSH, LEAVING NO STUBS. CENTRAL LEADERS SHALL NOT BE REMOVED. IF THE CENTRAL LEADER OF A PLANT IS DEAD THE PLANT SHALL BE REPLACED.
10. COMMERCIAL GRADE $\frac{3}{16}$ INCH BY 4" POWDER COATED STEEL EDGING W/ ROLLED EDGE SHALL BE USED TO SEPARATE ALL TURF AREAS FROM PLANTING BEDS. PLACE EDGING FLUSH WITH GRADE AND STAKE TO GROUND PER MANUFACTURES RECOMMENDATIONS.
12. LANDSCAPE CONTRACTOR TO PROVIDE THE LANDSCAPE CONTRACTOR A SAMPLE OF PROPOSED STEEL EDGING FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
13. USE SHREDDED CEDAR MULCH IN ALL PLANTING BEDS AND TREE SAUCERS. LANDSCAPE CONTRACTOR SHALL PROVIDE A 1 CUBIC FOOT SAMPLE OF PROPOSED MULCH TO LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL.
14. PLACE FOUR INCHES OF MULCH IN ALL SHRUB BEDS, PLACE FOUR INCHES OF MULCH IN ALL GROUND COVER, PERENNIAL BEDS AND PLACE 4 INCHES OF MULCH AT ALL TREE SAUCERS.
15. PLANTING BEDS RECEIVING MULCH MULCH ARE TO BE FREE OF WEEDS AND GRASS. TREAT BEDS WITH A PRE-EMMERGENT HERBICIDE PRIOR TO PLANTING AND MULCH PLACEMENT. DO NOT APPLY HERBICIDE IN PERENNIAL OR ANNUAL BEDS.
16. LANDSCAPE CONTRACTOR TO REMOVE TREE STAKES AND ALL DEAD WOOD ON TREES AND SHRUBS ONE YEAR AFTER SUBSTANTIAL COMPLETION IS GRANTED ON THE COMPLETE PROJECT.
17. REPORT ANY DISCREPANCIES IN THE PLANTING PLAN TO THE LANDSCAPE ARCHITECT PRIOR TO STARTING CONSTRUCTION.
18. NO MATERIAL SUBSTITUTIONS SHALL BE MADE WITHOUT OWNER/LANDSCAPE ARCHITECT'S APPROVAL.
19. INSTALLATION OF LANDSCAPE AND IRRIGATION SHALL CONFORM TO ALL APPLICABLE STATE AND LOCAL CODES AND SPECIFICATIONS.
20. STANDARDS SET FORTH IN "AMERICAN STANDARD FOR NURSERY STOCK" REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
21. PLANTS SHALL EXCEED THE MINIMUM SIZES PER "ASNS" STANDARDS AND NOTED ON THE PLANS, REGARDLESS OF THE SIZE OF THE CONTAINER. NO EXCEPTIONS.
22. NO TREES OR SHRUBS SHALL BE PLANTED WITHIN 3 FEET OF A FIRE HYDRANT.
23. PLACE FOUR INCHES OF SPECIFIED MULCH IN ALL SHRUB BEDS, GROUNDCOVER BEDS, ANNUAL BEDS, AND TREE RINGS.
24. THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR BEGINNING ON THE DATE OF FINAL ACCEPTANCE. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS BEFORE THE END OF THE GUARANTEE PERIOD.
25. AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM AS SHALL BE BE INSTALLED FOR ALL TREE, SHRUBS AND TURF GRASS.
26. WHERE DISSIMILAR MATERIAL BUT ONE ANOTHER, STEEL EDGING SHALL BE USED TO SEPARATE THE MATERIALS.
27. ALL NATIVE SEED AREAS SHALL HAVE TEMPORARY IRRIGATION UNTIL ESTABLISHMENT OF NATIVE TURF.
28. PROPERTY OWNER SHALL BE RESPONSIBLE FOR ON-SITE MAINTENANCE AND REPLACEMENT OF DEAD LANDSCAPE MATERIAL AFTER THE ONE YEAR WARRANTY PERIOD PROVIDED BY GENERAL CONTRACTOR HAS EXPIRED.

PLANT MATERIAL SCHEDULE:

SYMBOL	QTY.	I.D.	COMMON NAME	BOTANICAL NAME	SIZE	COND.
SHADE TREES						
	2	aj	AUTUMN BLAZE MAPLE	ACER X FREEMANII 'JEFFERSRED'	1 1/2" CAL.	B & B
	1	ch	COMMON HACKBERRY	CELTIS OCCIDENTALIS	1 1/2" CAL.	B & B
	1	kc	KENTUCKY COFFEE TREE	GYMNOCLADUS DIOICUS	1 1/2" CAL.	B & B
	2	wo	SWAMP WHITE OAK	QUERCUS BICOLOR	1 1/2" CAL.	B & B
	2	no	NORTHERN RED OAK	QUERCUS RUBRA	1 1/2" CAL.	B & B
	4	eo	ENGLISH OAK	QUERCUS ROBUR	1 1/2" CAL.	B & B
ORNAMENTAL TREES						
	4	cp	CHANTICLEER PEAR	PYRUS CALLERYANA	1 1/2" CAL.	B & B
	1	sc	SPRING SNOW CRABAPPLE	MALUS 'SPRING SNOW'	1 1/2" CAL.	B & B
	5	wh	WASHINGTON HAWTHORN	CRATAEGUS PHAENOPYRUM	1 1/2" CAL.	B & B
EVERGREEN TREES						
	4	wf	WHITE FIR	ABIES CONCOLOR	6' HT.	B & B
	5	ap	AUSTRIAN PINE	PINUS NIGRA	6' HT.	B & B
SHRUBS						
	45	aw	ANOTHONY WATERER SPIREA	SPIREA JAPONICA 'ANTHONY WATER'	1 GAL.	CONT.
	19	db	DWARF BURNING BUSH	EOUNYMUS ALATA 'DWARF NANA'	1 GAL.	CONT.
	6	dn	DWARF NINEBARK	PHYSOCARPUS OPULIFOLIUS 'NANUS'	1 GAL.	CONT.
	5	ra	GRO-LOW SUMAC	RHUS AROMATICA 'GROW LOW'	1 GAL.	CONT.
ORNAMENTAL GRASSES						
	27	mg	MAIDEN GRASS	MISCANTHUS SINENSIS 'GRACILLIMUS'	1 GAL.	CONT.
	7	kf	KARL REED FEATHER GRASS	CALAMGROSTIS ACUTIFLORA	1 GAL.	CONT.

LANDSCAPE DATA TABLE:

	LOT 1	
	SQ. FT.	%
TOTAL LOT AREA	213,444	100
PARKING LOT, ACCESS DRIVES, ETC (INC GRAVEL)	79,273	37
BUILDING	21,901	10
LANDSCAPE	112,270	53
SECTION 18.05.440 DEVELOPMENT STANDARDS OF MONUMENT MUNICIPAL CODE "MINIMUM OF TEN (10%) PERCENT OF LOT SHALL BE LANDSCAPED AREA.	21,344	10
LANDSCAPING PROVIDED (EX DRAINAGE IMP)	75,776	36
IRRIGATED LANDSCAPING PROVIDED	7,726	4
MAXIMUM NON-IRRIGATED NATIVE GRASSES ALLOWED PER SECTION 18.05.440.B.4 ***(IF IRRIGATED MAKES UP MORE THAN 5%, NO MAXIMUM VALUE)***	N/A	-
EXISTING NON-IRRIGATED LANDSCAPING USED TOWARDS ALLOWANCE (IN ADDITION TO 197,479)	7,545	
TOTAL TREES **REQUIRED** PER 18.05.440.B.2 (1 PER 925 SF OF LANDSCAPING)	24 TREES	
TOTAL TREES PROVIDED	31 TREES	

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FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

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SHEET NUMBER	08

LANDSCAPE NOTES
SITE PLAN
TOWN OF MONUMENT, CO

P:\P2404 - MFD TRAINING CENTER MAJOR PUD & SUBDIVISION\ENGINEERING\MAJOR PUD

MONUMENT FIRE DISTRICT - TRAINING FACILITY SITE PLAN

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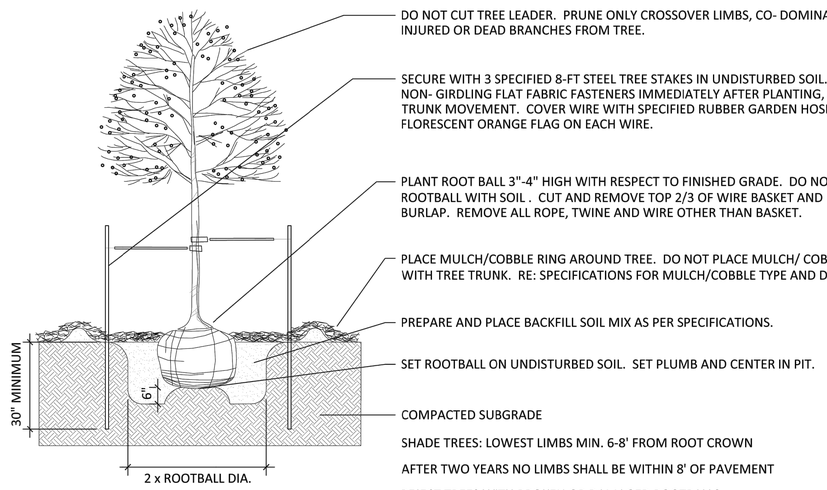
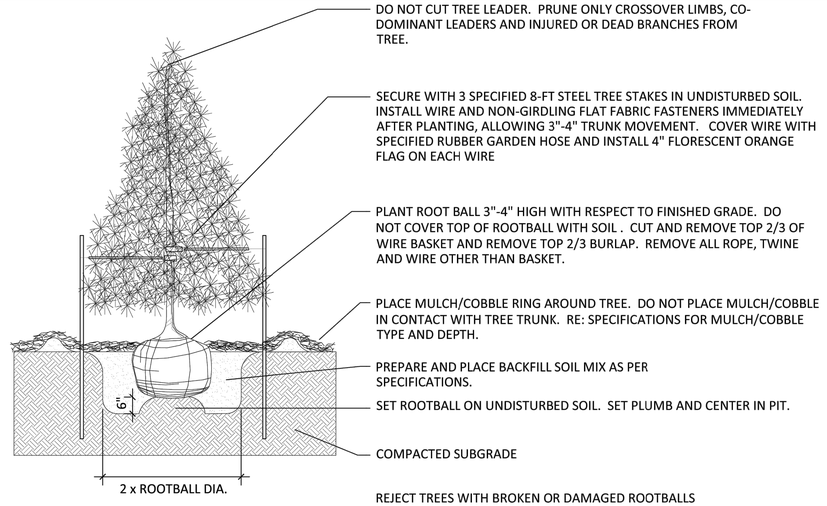


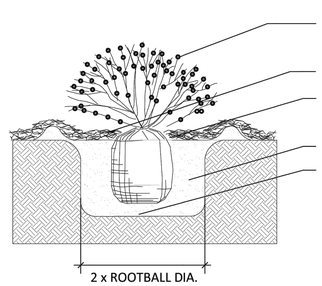
1 DECIDUOUS TREE

NOT TO SCALE



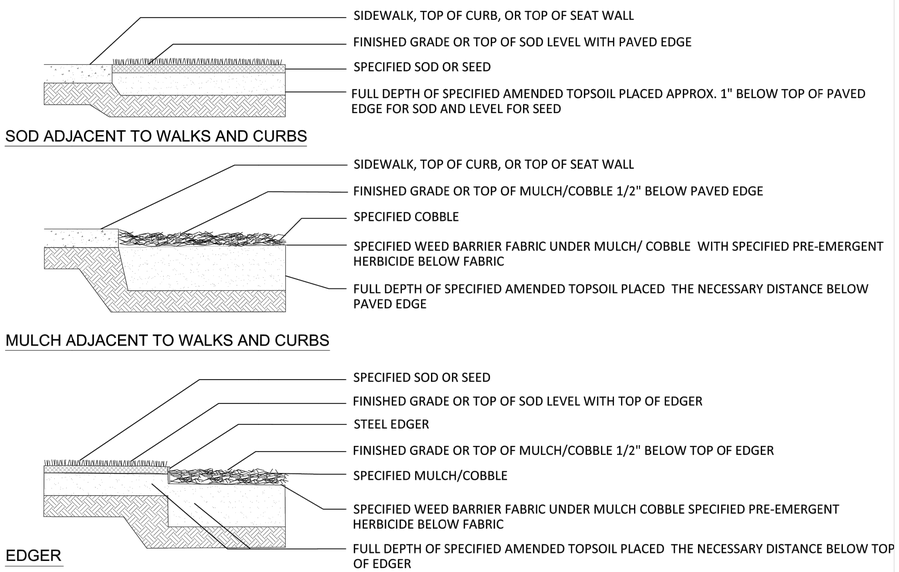
2 EVERGREEN TREE PLANTING

NOT TO SCALE



3 SHRUB PLANTING

NOT TO SCALE



4 EDGE TREATMENT

NOT TO SCALE

CONTACT INFORMATION
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FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

LANDSCAPE DETAILS
SITE PLAN
TOWN OF MONUMENT, CO

REV	DESCRIPTION	BY	DATE
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2	3RD SUBMITTAL	BMS	11/1/24
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JOB NO:	2403-001
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SCALE:	NA
SHEET NUMBER	09

P:\P2404 - MFD TRAINING CENTER MAJOR PUD & SUBDIVISION\ENGINEERING\MAJOR PUD

MONUMENT FIRE DISTRICT - TRAINING FACILITY SITE PLAN

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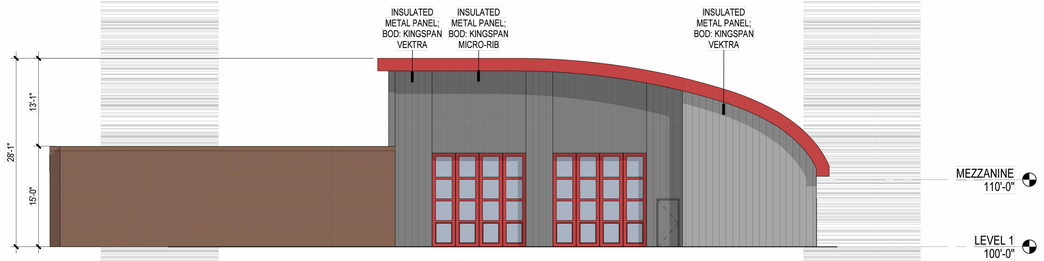
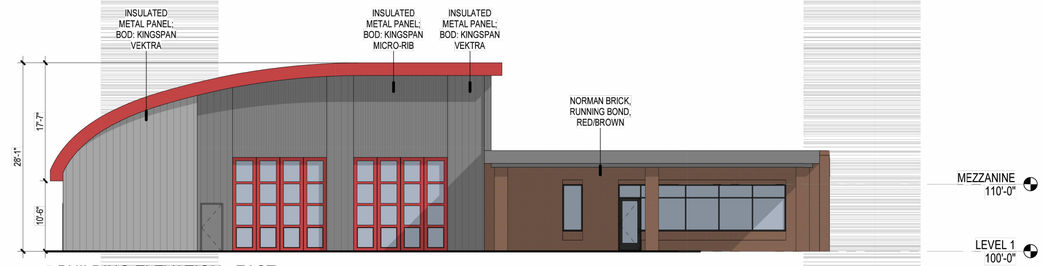


6 BUILDING ELEVATION - WEST
3/32" = 1'-0"



5 BUILDING ELEVATION - EAST
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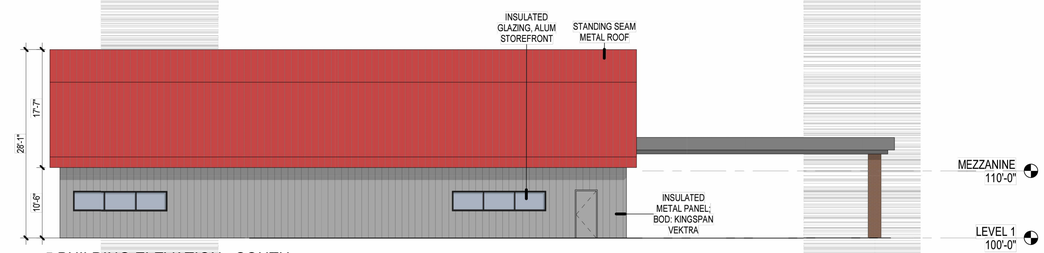
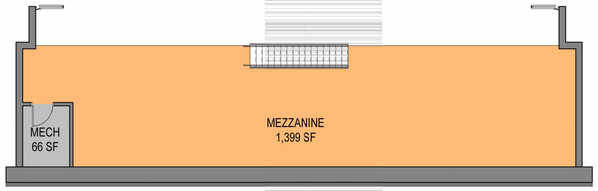


4 BUILDING ELEVATION - SOUTH
3/32" = 1'-0"

3 BUILDING ELEVATION - NORTH
3/32" = 1'-0"



2 FLOOR PLAN - MEZZANINE
3/32" = 1'-0"

1 LEVEL 1 FLOOR PLAN - CLASSROOM
3/32" = 1'-0"

0' 4' 8' 16'

Department Legend
- APPARATUS GARAGE
- APPARATUS SUPPORT
- BUILDING SUPPORT
- CLASSROOM
- DECON

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STRATEGIC SITE DESIGNS

FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

BUILDING ELEVATIONS & ARCH. FLOOR PLAN
SITE PLAN
TOWN OF MONUMENT, CO

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JOB NO:	2403-001
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SHEET NUMBER	A 101

P:\P2404 - MFD TRAINING CENTER MAJOR PUD & SUBDIVISION\ENGINEERING\MAJOR PUD

MONUMENT FIRE DISTRICT - TRAINING FACILITY SITE PLAN

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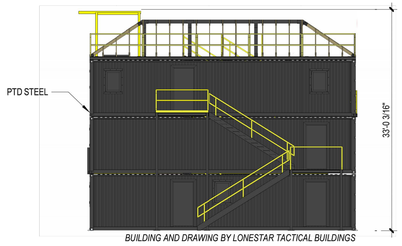
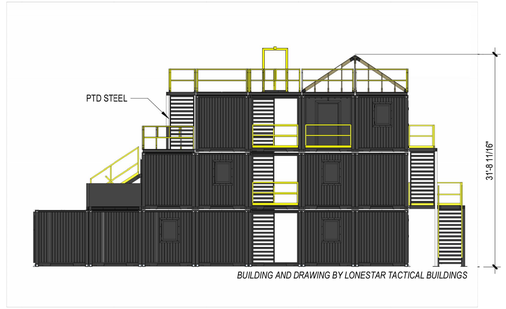
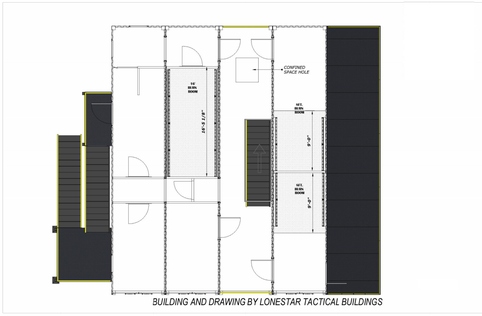


8 TRAINING BUILDING - WEST ELEVATION
3/32" = 1'-0"

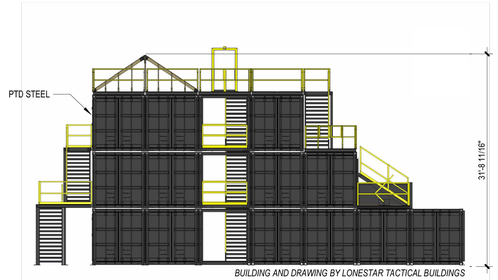


6 TRAINING BUILDING - SOUTH ELEVATION
3/32" = 1'-0"

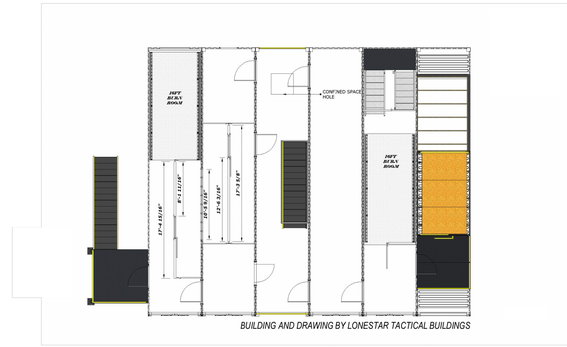


3 TRAINING BUILDING - FLOOR PLAN - LEVEL 3
3/32" = 1'-0"
0' 4' 8' 16'

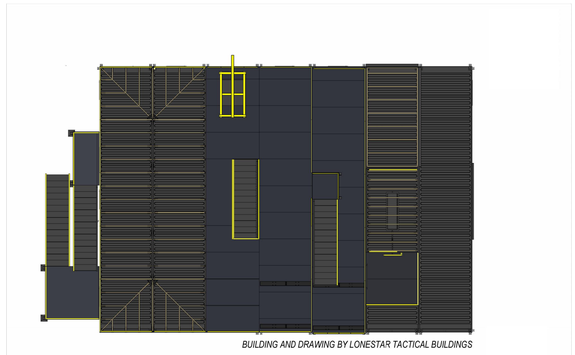
7 TRAINING BUILDING - EAST ELEVATION
3/32" = 1'-0"



5 TRAINING BUILDING - NORTH ELEVATION
3/32" = 1'-0"



2 TRAINING BUILDING - FLOOR PLAN - LEVEL 2
3/32" = 1'-0"
0' 4' 8' 16'



4 TRAINING BUILDING - ROOF PLAN
3/32" = 1'-0"

1 TRAINING BUILDING - FLOOR PLAN - LEVEL 1
3/32" = 1'-0"
0' 4' 8' 16'

P:\P2404 - MFD TRAINING CENTER MAJOR PUD & SUBDIVISION\ENGINEERING\MAJOR PUD

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STRATEGIC SITE DESIGNS

NOT FOR CONSTRUCTION

FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

BUILDING ELEVATIONS & FLOOR PLANS
SITE PLAN
TOWN OF MONUMENT, CO

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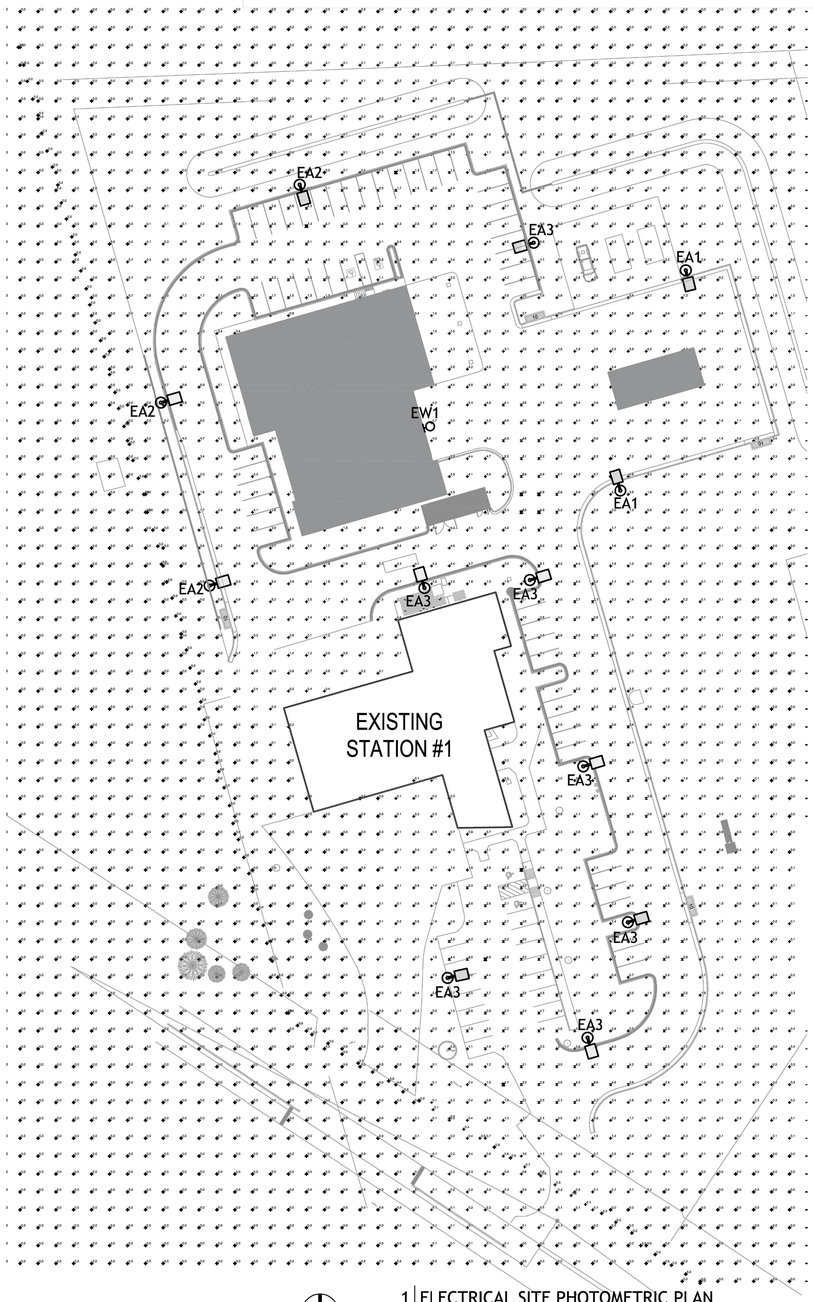
CHECKED BY:	CLP
SCALE:	NA
SHEET NUMBER	A 103

MONUMENT FIRE DISTRICT - TRAINING FACILITY SITE PLAN

A RE-SUBDIVISION OF LOT 1, TRI-LAKES MONUMENT FIRE FILING NO. 1,
LOCATED WHOLLY WITHIN THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 15,
TOWNSHIP 11 SOUTH, RANGE 67 WEST, SIXTH P.M., TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO
15.85 ACRES



NORTH

1 | ELECTRICAL SITE PHOTOMETRIC PLAN
E1.0 | SCALE: 1" = 50'

LEGEND

KEY VALUE	
◇	
1.	ANTICIPATED HIGH MAST FLOOD LIGHTING TO BE USED DURING TRAINING EXERCISES IN THIS AREA. SEE FIXTURE TYPE 'EAS' IN LUMINAIRE SCHEDULE FOR BASIS OF DESIGN. FIXTURE LOCATIONS SHOWN ON PLAN ARE FOR REFERENCE ONLY AND THE FIXTURE WAS NOT INCLUDED IN THE PHOTOMETRIC CALCULATION.
2.	EXEMPTION - PROPERTY LINE ILLUMINANCE VALUES NOT INCLUDED AT THIS LOCATION AS IT FALLS WITHIN THE PUBLIC R.O.W.

LIGHTING FIXTURES

A a	LUMINAIRE TYPE, REFERENCING LUMINAIRE SCHEDULE, TYPICAL ALL FIXTURES. SUBSCRIPT, IF SHOWN, REFERENCES WALL SWITCH.
	PEDESTRIAN/EXTERIOR AREA LIGHT
	WALL-MOUNTED AREA LIGHT/SCONCE

GENERAL NOTES

A. ALL LIGHT FIXTURES ARE FULL CUTOFF WITH SHIELDING TO PREVENT GLARE AND LIGHT TRESPASS ON ADJACENT PROPERTIES UNLESS OTHERWISE NOTED.

B. THE PHOTOMETRIC GRID IS NO GREATER THAN (10) FEET BY (10) FEET AND PROVIDES LIGHTING LEVELS AT GRADE AND DIRECTLY UNDER THE FIXTURES.

C. ILLUMINANCE VALUES SHOWN ARE AT GRADE AND SHOULD BE CONSIDERED INITIAL USING A LIGHT LOSS FACTOR OF 1.0.

D. ILLUMINANCE VALUES SHOWN HERE REPRESENT LIGHTING FROM LUMINAIRES SHOWN EXPLICITLY ON THIS DRAWING UNLESS OTHERWISE NOTED.

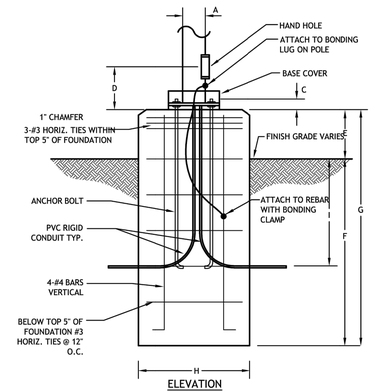
E. REFER TO FIXTURE SCHEDULE FOR MOUNTING HEIGHTS.

F. ALL BUILDING MOUNTED AND POLE MOUNTED LIGHTING SHALL BE DIRECTED DOWNWARD, UNLESS OTHERWISE NOTED.

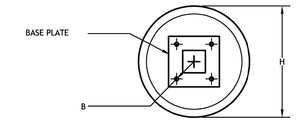
G. ALL LIGHT SOURCES SHALL BE FULLY SHIELDE SO THE LIGHT SOURCE IS NOT VISIBLE FROM ADJACENT PROPERTIES AND PUBLIC RIGHTS OF WAY AND TO PREVENT GLARE, UNLESS OTHERWISE NOTED.

H. ALL SITE LIGHTING RELATED TO WORK AND MATERIALS SHALL COMPLY WITH CITY, COUNTY, AND OTHER APPLICABLE GOVERNING AUTHORITY REQUIREMENTS.

Statistics							
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
DRIVE LANE	+	3.6 fc	5.6 fc	1.7 fc	3.3:1	2.1:1
EXISTING PARKING	+	2.4 fc	4.6 fc	1.7 fc	6.6:1	3.4:1
CLASSROOM PARKING	+	3.9 fc	7.6 fc	1.6 fc	4.8:1	2.4:1
SITE	+	0.8 fc	8.7 fc	0.0 fc	N/A	N/A
PROPERTY LINE 20' SETBACK	X	0.1 fc	0.8 fc	0.0 fc	N/A	N/A



ELEVATION



TOP VIEW

POLE KEY	OVERALL HEIGHT	A	ANCHOR BOLT DATA B	SIZE	C	D	E	F	G	H	I
EA1	24'0"	4"	PER MANUFACTURER				2'0"	8'0"	10'0"	24"	36"
EA2											
EA3											

2 | POLE BASE DETAIL
E1.0 | SCALE: NONE

AE DESIGN
Integrated Lighting, Technology, and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com
Project #: 6753.00

CONTACT INFORMATION
88 INVERNESS CIRCLE EAST, SUITE B-101
ENGLEWOOD, CO 80112
(720) 206-6931
CPERDUE@STRATEGICSITEDESIGNS.COM
ATTENTION: CHRISTOPHER PERDUE, P.E., M.B.A.
STRATEGIC SITE DESIGNS

FOR AND ON BEHALF OF STRATEGIC SITE DESIGNS, LLC

PHOTOMETRIC PLAN
PUD MAJOR AMENDMENT
TOWN OF MONUMENT, CO

REV	DESCRIPTION	BY	DATE
4	5TH SUBMITTAL (RE-SCOPED)	CI	10/10/25

JOB NO:	2403-001
ORIGINAL ISSUE:	08/27/24
DESIGN BY:	SA
CHECKED BY:	KD, BJ
SCALE:	NA
SHEET NUMBER	E101

J:\6753.00 - MONUMENT FIRE TRAINING FACILITY\ELEC

MONUMENT FIRE DISTRICT - TRAINING FACILITY SITE PLAN

A RE-SUBDIVISION OF LOT 1, TRI-LAKES MONUMENT FIRE FILING NO. 1,
LOCATED WHOLLY WITHIN THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 15,
TOWNSHIP 11 SOUTH, RANGE 67 WEST, SIXTH P.M., TOWN OF MONUMENT, COUNTY OF EL PASO, STATE OF COLORADO
15.85 ACRES

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLTAGE	SOURCE				MAX	LUMEN	IESNA	DIMMING	FIXTURE	MOUNTING	INFORMATION	NOTES
					QTY	WATT	TYPE	CCT/CRI	WATTS	OUTPUT	CUTOFF		FINISH	LOCATION	BOF/RFD/OFH	
EA1	SINGLE HEAD LED AREA POLE LIGHT, TYPE IV FORWARD THROW, WITH INTEGRAL BI-LEVEL MOTION SENSOR AND EXTERNAL GLARE SHIELD	LITHONIA	DSX2-LED-P6-30K-70CRI-TFTM-MVOLT-RPA-NLTAIR2 PIRHN-EGSR-DBLXD	277	1	345	LED	3000K 70CRI	345	44021	FULL CUTOFF	SWITCHING	BLACK	POLE GROUND	35'-0" OFH	
EA2	SINGLE HEAD LED AREA POLE LIGHT, TYPE III BACKLIGHT CONTROL, WITH INTEGRAL BI-LEVEL MOTION SENSOR AND EXTERNAL GLARE SHIELD	LITHONIA	DSX2-LED-P4-30K-70CRI-BLC3-MVOLT-RPA-NLTAIR2 PIRHN-EGSR-DBLXD	277	1	277	LED	3000K 70CRI	277	24456	FULL CUTOFF	SWITCHING	BLACK	POLE GROUND	24'-0" OFH	
EA3	DOUBLE HEAD 90 DEGREE ORIENTATION LED AREA POLE LIGHT, TYPE IV FORWARD THROW, WITH INTERNAL BI-LEVEL MOTION SENSOR AND GLARE SHIELD	LITHONIA	DSX2-LED-P4-30K-70CRI-TFTM-MVOLT-RPA-NLTAIR2 PIRHN-EGSR-DBLXD	277	2	277	LED	3000K 70CRI	554	34359	FULL CUTOFF	SWITCHING	BLACK	POLE GROUND	24'-0" OFH	
EA4	SINGLE HEAD LED AREA POLE LIGHT, TYPE III DISTRIBUTION, WITH INTEGRAL BI-LEVEL MOTION SENSOR AND EXTERNAL GLARE SHIELD	LITHONIA	DSX2-LED-P4-30K-70CRI-T3M-MVOLT-RPA-NLTAIR2 PIRHN-EGSR-DBLXD	277	1	277	LED	3000K 70CRI	277	33622	FULL CUTOFF	SWITCHING	BLACK	POLE GROUND	24'-0" OFH	
EA5	LED HIGH MAST AREA POLE LIGHT, INTEGRAL PHOTOCONTROL SENSOR	HOLOPHANE	HMLED4 SERIES	277	1		LED	3000K 70CRI			FULL CUTOFF	SWITCHING	BLACK	POLE GROUND	35'-0" OFH	
EW1	SINGLE HEAD LED AREA POLE LIGHT, TYPE IV FORWARD THROW, WITH INTEGRAL BI-LEVEL MOTION SENSOR AND EXTERNAL GLARE SHIELD	LITHONIA	DSX2-LED-P1-30K-70CRI-TFTM-MVOLT-RPA-NLTAIR2 PIRHN-EGSR-DBLXD	277	1	135	LED	3000K 70CRI	135	19101	FULL CUTOFF	SWITCHING	BLACK	SURFACE WALL	15'-0" BOF	

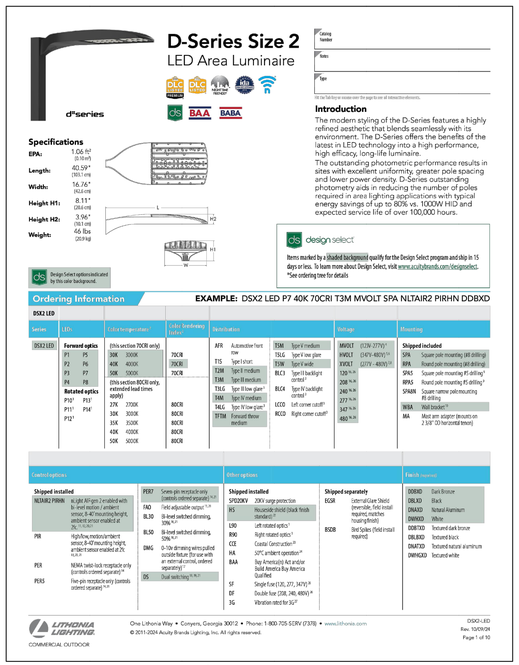
ABBREVIATIONS: BOF - BOTTOM OF FIXTURE, RFD - RECESSED FIXTURE DEPTH, OFH - OVERALL FIXTURE HEIGHT, AFF(AFG) - ABOVE FINISHED FLOOR (GRADE), WFD - WALL FIXTURE DEPTH

GENERAL NOTES:

A. ALL REFLECTOR LAMPS SHALL BE PROVIDED AS WIDE FLOOD DISTRIBUTION, UON.
B. LUMENS LISTED ARE DELIVERED LUMENS, NOT INITIAL.
C. FOR ALL SPECIFIED LUMINAIRES, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MOUNTING HARDWARE, ACCESSORIES, COMPONENTS, LEADER/JUMPER CABLES, WIRE FEED, CONNECTORS, END CAPS, REMOTE POWER SUPPLIES, AND ANY OTHER NECESSARY COMPONENT AS REQUIRED FOR INSTALLING A SECURE AND FULLY FUNCTIONAL SYSTEM.
D. ALL FINISH SELECTIONS SHALL BE VERIFIED BY ARCHITECT/INTERIOR DESIGNER/OWNER AS PART OF THE SUBMITTAL PROCESS. UNLESS OTHERWISE NOTED, EC SHALL ASSUME STANDARD LUMINAIRE FINISH OPTION FOR PRICING.
E. EC SHALL VERIFY ALL FIXTURE MOUNTING HEIGHTS WITH ARCHITECTURAL ELEVATIONS PRIOR TO ANY ROUGH-IN.
F. REMOTE DRIVER(S)/TRANSFORMER(S) SHALL BE LOCATED IN A CONCEALED, ACCESSIBLE, AND VENTILATED LOCATION AS PROPOSED BY THE EC AND APPROVED BY THE ARCHITECT.
G. REFER TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR MINIMUM REQUIRED CLEARANCES FROM ADJACENT MATERIALS, AND WIRING REQUIREMENTS TO PREVENT VOLTAGE DROP. DO NOT EXCEED MANUFACTURER'S RECOMMENDATIONS REGARDING WIRE GAGE AND MAXIMUM WIRE RUN LENGTHS.
H. FOR LUMINAIRES SPECIFIED WITH 0-10V DIMMING, 0-10V DIMMING DRIVER(S) REQUIRE ADDITIONAL LOW VOLTAGE CONTROL WIRES IN ADDITION TO STANDARD WIRING FOR POWER.
I. EXTERIOR LUMINAIRES SHALL BE COLD WEATHER RATED FOR 0 DEG. F / -18 DEG. C., AND RATED FOR OUTDOOR USE.
J. SPECIFICATIONS DO NOT INCLUDE FIXTURE QUANTITIES, FINAL DIMENSIONS WITH ARCHITECTURAL FINISHES, WEIGHTS OR GAUGES, FABRICATION PROCESSES, CONSTRUCTION MEANS OR METHODS, SAFETY PRECAUTIONS, ALL OF WHICH ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

SPECIFIC NOTES:

1.



1 | EA1 THRU EA4, EW1
E2.0 | SCALE: NONE

2 | EA5
E2.0 | SCALE: NONE

STRATEGIC SITE DESIGNS

AE DESIGN
Integrated Lighting, Technology, and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com
Project #: 6753.00

LIGHTING DETAILS

NA

E102

Date: January 27, 2026
To: Town of Monument Planning Department
Attn: Dan Ungerleider, Planning Director
Rey Medina, Planner I
From: Taylor Goertz, PE, Town Engineer
RE: Monument Fire Training Center

Based on review of the final plans, reports, and supporting documentation submitted for the referenced project, and subject to the conditions noted herein, the Town Engineer finds the proposed project to be in general conformance with the Town of Monument Code, adopted engineering standards, and applicable agency requirements. All outstanding engineering comments have been satisfactorily addressed. Accordingly, the project is recommended for final approval from an engineering standpoint, subject to compliance with all conditions of approval, execution and recordation of required agreements and plats.

The following documents have been submitted and reviewed for this project :

Project Submittal History: Engineering Documents				
Document Description	**Prepared By**	**Reviewed By**	**Professional Seal and Signature**	**Approval Date**
Site Plan Narrative	Strategic Site Designs	Jacobs/IMEG	N/A	1/26/2026
Site Plan		Jacobs/IMEG	N/A	1/26/2026
Traffic Impact Analysis		Jacobs/IMEG	CDOT Permit required	11/14/2025
Geotechnical Report	Kumar	Jacobs/IMEG	YES	11/14/2025
Wildlife Impact Report	Strategic Site Designs	Jacobs	N/A	7/16/2024
Drainage Report		IMEG	YES	1/26/2026
Plat-Monument Fire District Subdivision		Jacobs/IMEG	YES	1/26/2026
Construction Drawings		Jacobs/IMEG	**NEEDED**	1/26/2026
Utility Service Letters				
MVEA Will Serve Letter	Received on 7/15/2024			
Palmer Lake Sanitation District	Petition of Inclusion: **May still be needed**			
Monument Water	Will Serve Letter: **May still be needed**			

7600 East Orchard Road, Suite 250-S, Greenwood Village, CO 80111
303.796.6000 Fax: 720.501.6713 imegcorp.com

Conditions of Approval Recommendation

1. Prior to commencement of construction the Applicant shall furnish the required CDOT Access Permit for inclusion to the Town's project files.
2. All Utility Service Letters must be provided for the Town's project archives.
3. Remaining signatures and seals must be provided as noted in the Project Submittal History Table herein.
4. Prior to commencement of construction, the Applicant must secure all required Building, Wall, Sign and Construction Discharge Stormwater Permits and other appropriate permits, from the applicable permitting agency.

Deviation from Approved Plans

All construction shall be performed in strict accordance with the plans, reports, and specifications approved by the Town of Monument. Any proposed deviation from the approved documents, including changes to layout, grades, materials, drainage, or construction methods, shall be submitted to the Town Engineer for review and approval prior to implementation. Unauthorized deviations may result in suspension of construction activities, rejection of completed work, or required removal and replacement at the Applicant's expense. Approved deviations shall be documented and incorporated into the record drawings, as applicable. No deviation shall relieve the Applicant of responsibility for compliance with the Town of Monument Code, adopted standards, or conditions of approval.

Warranty and Inspection Requirements

Pursuant to the Town of Monument Land Development Code (Monument LDC § 18.02.440), the warranty period for public improvements is applicable as follows:

- Streets, curbs, gutters, sidewalks, trails, potable water distribution systems, sanitary sewer systems, drainage, associated grading, erosion control systems, and all their appurtenances must be warranted by the Applicant for a period of two (2) years from the date the Town issues preliminary approval of the installed improvements.
- Landscape and irrigation improvements must be warranted for no less than two (2) full growing seasons.
- All other improvements must be warranted for one year from the date of preliminary approval.
- No warranty period expires until such improvements receive final acceptance by the Town, even if the period would otherwise have run out by calendar time.

All public and private improvements shall be subject to inspection by the Town of Monument or its authorized representatives during construction and prior to acceptance. Following completion of construction and approval of record drawings, the Applicant may be required to provide warranty securities in accordance with the Town of Monument Code to guarantee the workmanship and

materials for all required public improvements. The warranty period shall commence upon formal acceptance by the Town and remain in effect for the duration specified by Code. Any deficiencies identified during the warranty period shall be promptly corrected by the Applicant at no cost to the Town. Final release of warranty securities shall be contingent upon satisfactory completion of all required repairs and a final warranty inspection confirming compliance with the approved plans and Town standards.

SWMP and Erosion Control Inspection Requirements

Prior to commencement of construction, the Applicant shall prepare and submit a project-specific Stormwater Management Plan (SWMP) in accordance with the Town of Monument Code and applicable State and Federal stormwater regulations, and secure a Construction Stormwater Discharge Permit from the CDPHE for all land disturbance greater than 1 acre. The Applicant and/or Contractor shall be responsible for implementing the approved erosion and sediment control measures and conducting required self-inspections at the frequency specified in the SWMP and permit conditions, including after qualifying storm events. Self-inspection reports must be maintained on-site and forwarded via email mail bi-monthly to the Town's inspector. In addition, the Town of Monument will perform periodic stormwater and erosion control inspections, typically on a monthly basis or as otherwise deemed necessary, to verify compliance with the approved plans and regulatory requirements. Any deficiencies identified during self-inspections or Town inspections shall be corrected promptly by the Applicant at no cost to the Town.

Post-Construction Acceptance Process

Upon completion/ of construction, the Applicant shall notify the Town of Monument and request a final inspection of the improvements installed. Prior to acceptance, the Applicant shall submit record drawings, letters of/ certification, test results, and any other close-out documentation required by the Town. The Town will conduct a final inspection to verify conformance with the approved plans, Town standards, and conditions of approval. Any deficiencies identified shall be corrected by the Applicant prior to acceptance. Upon satisfactory completion of all requirements, the Town may grant formal acceptance of the improvements, at which time applicable warranty periods shall commence and warranty securities shall be required in accordance with the Town's Code.

Approval Limitations

This approval is contingent upon execution and recordation of all required documents, submission of any remaining required securities, and construction of improvements in accordance with the approved plans. The Applicant remains responsible for obtaining all applicable permits and approvals and for coordinating inspections with the Town throughout construction and acceptance. Approval by the Town of Monument and the Town Engineer is limited to a determination of general conformance with the Town of Monument Code, adopted standards, and approved plans, based on the information submitted.

Such approval does not constitute a guarantee or warranty of the design, construction, or performance of the improvements, nor does it relieve the Applicant, Owner, Engineer, or Contractor of responsibility for errors, omissions, compliance with applicable laws and regulations, or the adequacy and safety of the work. The Town assumes no responsibility for damages or failures resulting from construction activities or the use of the approved plans.

Accordingly, approval of the Monument Fire Training Center, located at 18650 W. Highway 105, is recommended by the Town Engineer.

Date: January 27, 2026

By:

Taylor C. Goertz, PE
Town Engineer