ENHANCING OUR VIBRANT COMMUNITY AND IMPROVING OUR QUALITY OF LIFE

MOAB PLANNING COMMISSION
SEPTEMBER 25, 2025

REGULAR MEETING - 6:00 PM

City Council Chambers
217 East Center Street
Moab, Utah 84532

1. 6:00 P.M. Call To Order

2. Citizens To Be Heard

   To have your comments considered for the Citizens to Be Heard portion of the electronic meeting, please fill out the form found here:
   HTTPS://DOCS.GOOGLE.COM/FORMS/D/E/1FAIPQLSECP3KYU0F_F8J6J5ROFAEUPTNKW938GR8DVWEOJJH-AQFNGA/VIEWFORM?VC=0&C=0&W=1
   You must submit your comments by 5:00 pm on the day of the meeting. Please limit your comments to 400 words

3. Approval Of Minutes

   Approval of Minutes August 14th, 2025

   Documents:

   MIN-PC-2025-08-14 DRAFT.PDF

4. Action Item

4.1. Consideration And Possible Approval Of Planning Resolution #2025-13, A Planning Resolution Approving The Parking Special Exception Request, For (2) Two Parking Spaces, For The Desert & Tropics Health Bar Change Of Use For Property Located At 45 E Center Street, Moab, Utah 84532

   Documents:

   DESERT AND TROPICS PARKING EXCEPTION AGENDA SUMMARY 092525.PDF
   EXHIBIT 1_CITY OF MOAB PLANNING RESOLUTION 13-2025_DESERT AND TROPICS HEALTH BAR SPECIAL PARKING EXCEPTION_091125.PDF
   EXHIBIT 2_VICINITY MAP_DESERT AND TROPICS HEALTH BAR SPECIAL PARKING EXCEPTION_091125.PDF
   EXHIBIT 3_SITE PLAN_DESERT AND TROPICS HEALTH BAR SPECIAL PARKING EXCEPTION_091125.PDF
   EXHIBIT 4_LETTER TO PLANNING COMMISSION_DESERT AND TROPICS HEALTH BAR SPECIAL PARKING EXCEPTION_091125.PDF

4.2. Consideration And Possible Approval Of Planning Resolution #2025-15, A Planning Resolution Approving The Parking Special Exception Request, For (1) One Parking Space, For Property Located At Approximately 160 E 100 S, Moab, Utah 84532

Documents:

160 E 100 S PARKING EXCEPTION AGENDA SUMMARY.PDF
EXHIBIT 1_CITY OF MOAB PLANNING RESOLUTION 15-2025_160 E 100 S SPECIAL PARKING EXCEPTION_092525.PDF
EXHIBIT 2_VICINITY MAP_160 E 100 S PARKING EXCEPTION_PC092525.PDF
EXHIBIT 3_FLOOR PLAN_160 E 100 S PARKING EXCEPTION_PC 092525.PDF
EXHIBIT 4_LETTER TO PLANNING COMMISSION_160 E 100 S PARKING EXCEPTION_PC092525.PDF

4.3. Consideration And Possible Approval Of Planning Resolution No.14-2025, A Resolution Conditionally Approving A Level II Site Plan For The Cooperative 1581 For Property Located At Mill Creek Drive, Moab UT, 84532.

Documents:

THE COOPERATIVE SITE PLAN PC AGENDA SUMMARY.PDF
EXHIBIT 1 PLANNING RESOLUTION 14-2025 THE COOPERATIVE 1581 SITE PLAN_ 092525.PDF
EXHIBIT 2_VICINITY MAP_THE COOPERATIVE SITE PLAN_092525.PDF
EXHIBIT 3_SITE PLAN_THE COOPERATIVE SITE PLAN_092525.PDF
EXHIBIT 4_SITE PLAN REVIEW MATRIX_ THE COOPERATIVE SITE PLAN_092525.PDF

5. Future Agenda Items

6. Adjournment

Special Accommodations:

In compliance with the Americans with Disabilities Act, individuals needing special accommodations during this meeting should notify the Recorder's Office at 217 East Center Street, Moab, Utah 84532; or phone (435) 259-5121 at least three (3) working days prior to the meeting.
Check our website for updates at: www.moabcity.org

MOAB CITY PLANNING COMMISSION MINUTES—DRAFT
REGULAR MEETING
August 14, 2025

Call to Order and Attendance: Moab City Planning Commission held its regular meeting on the above date in City Council chambers. Audio is archived at www.utah.gov/pmn and video is archived at www.youtube.com/watch?v=VxRQtyzygeo. Commission Vice Chair Jill Tatton called the meeting to order at 6:07 p.m. Commission Members Miles Loftin and Shalee Bryant attended in person and Commission Members Carolyn Conant and Tatton attended via electronic means. Community Development Director Cory Shurtleff, Planning Technician Kelsi Garcia, Associate Planner Johanna Blanco and Strategic Initiatives and Sustainability Director Alexi Lamm also attended.

Approval of Minutes: Commission Member Loftin moved to approve the draft minutes of the July 10, 2025, regular Planning Commission meeting. Commission Member Conant seconded the motion. The motion passed unanimously.

Landscaping Special Exception Request for 1581 Millcreek Drive—Approved
Presentation and Discussion: Associate Planner Blanco introduced the proposed exception request. The applicant participated via electronic means. Potential foot traffic and the affordable nature of the development were discussed. Commission members expressed the request was straightforward and creative.
Motion and Vote: Commission Member Loftin moved to approve **Planning Resolution 2025-12**, a planning resolution approving the Landscaping Special Exception Request for property located at 1581 Millcreek Drive, Moab, Utah 84532. Commission Member Bryant seconded the motion. The motion passed unanimously.

Electric Vehicle (EV)-Readiness Ordinance—Public Hearing
Presentation: Strategic Initiatives and Sustainability Director Lamm introduced the public hearing by presenting the timeline for the proposed EV-Readiness ordinance. She said the proposed ordinance had been reviewed by the City Attorney and explained the City Council's greenhouse gas goals and their relationship to EVs. She presented the proposed code changes that would require EV-capable, EV-ready, and EVSE-installed elements, and described the cost savings for installing infrastructure up front as opposed to retrofitting. Lamm presented the text of the ordinance, highlighting percentages of parking spaces required to be compliant for multi-household developments. She also mentioned state code implications for fire and Americans with Disabilities Act (ADA) compliance, and electrical panel requirements. She outlined the planning review procedures, as well as exceptions. Commission Member Tatton asked for clarification regarding the intent of the code revision, specifically as it regards multi-household housing.
Public Hearing: Commission Member Tatton opened the public hearing at 6:42 p.m. Community Development Director Shurtleff stated staff reached out to stakeholders in the community. He said he got feedback from an electrician who stated the code revision was on the right track. Shurtleff added the national electrical code may adopt similar standards, in which case the City's code would be repealed. There were no public comments, and Tatton closed the public hearing at 6:45 p.m.
Discussion: Commission Member Bryant stated that multi-household developments are for lower income residents and EVs are more expensive cars to own, and she suggested that incentives rather than requirements would be more appropriate. Blanco explained the difficulty for renters to attain EV charging capabilities. Loftin explained the low up-front cost to a developer to provide EV-readiness. Shurtleff also explained the difficulty of providing incentives, as well as the negligible cost to developers to provide EV-readiness at the time of construction. Commission Member Conant thanked Lamm for her diligence and hard work on the proposed ordinance.

Code Amendment Recommendation Regarding Electric Vehicle Readiness–Approved
Motion and Vote: Commission Member Conant moved to forward a positive recommendation to City Council regarding Moab City **Ordinance 13-2025** - an ordinance amending the Moab Municipal Code (MMC), Section 17.09, to include additional regulations required for electric vehicle readiness of multi-household developments. Commission Member Loftin seconded the motion. The motion passed unanimously.

Cermak Zoning Map Amendment Recommendation—Approved
Presentation: Associate Planner Blanco explained the discretionary action to change the zoning map and the zoning of the particular property. She explained the nearby properties were annexed into the City after a full process, and the subject parcel was left out due to administrative error. She said the intention with this motion would be to include the missing parcel and ensure the entire subject property was included in a single zone.
Public Hearing: Commission Member Tatton opened the public hearing at 7:01 p.m. Applicant representative Courtney Kizer explained the most critical element was the adaptive services zoning. Commission Member Bryant asked if residential neighbors were notified about the rezone, and it was explained they were notified by mail regarding the zoning map amendment as well as the full annexation process. Energy efficiency and environmental requirements as expressed by Leadership in Energy and Environmental Design (LEED) standards were discussed. Community Development Director Shurtleff explained the public hearing cured the procedural defects of the omitted parcel. Commission Member Tatton closed the hearing at 7:09 p.m.
Motion and Discussion: Commission Member Bryant moved that the City of Moab Planning Commission forward a positive recommendation to the City Council on **Ordinance 2025-14**, to amend the Zoning Map for the parcel located at approximately 610 [Cermak], Moab, UT 84532 (parcel #01-0036-0040) adjusting the current boundary and zones from R-3 Multi-Household Residential and RA-1 Residential-Agricultural, to C-3 Central Commercial Zone and RA-1 Residential-Agricultural. Commission Member Conant seconded the motion. Commission Member Loftin brought up the apparent island effect of the zoning. Shurtleff explained that the one remaining R-3 parcel would be considered in the future.
Vote: The motion passed unanimously.

Future Agenda Items: Staff described an upcoming site plan consideration, potential discussion of the emergency water shortage plan, code updates, and downtown plan grant.

Adjournment: Commission Member Tatton adjourned the meeting at 7:18 p.m.

MOAB CITY PLANNING COMMISSION AGENDA September 25, 2025

TITLE: Consideration and Possible Approval of Planning Resolution #2025-13, A Planning Resolution Approving the Parking Special Exception Request, for (2) Two Parking Spaces, for the Desert & Tropics Health Bar Change of Use for Property located at 45 E Center Street, Moab, Utah 84532

DISPOSITION: Discussion and possible action

PRESENTER/S: Johanna Blanco, Associate Planner

ATTACHMENT/S:

-Exhibit 1: Draft Planning Resolution No. 13-2025
-Exhibit 2: Vicinity Map
-Exhibit 3: Proposed Site Plan
-Exhibit 4: Letter to Planning Commission

STAFF RECOMMENDATION: Approve Planning Resolution #2025-13 with or without modifications

OTHER OPTIONS: Continue or table action to a later meeting with specific direction to City Staff and Applicant as to additional information needed to make a decision; or Deny the Parking Special Exception Request, giving specific findings for decision.

RECOMMENDED MOTION:

SUMMARY:

Applicant Kassandra Washington submitted a business license application that requires a change of use. The change of use increases the parking requirement from 4 spaces to 6 spaces. On September 3rd, 2025, the applicant submitted a complete application for a parking exception for the remaining 2 spaces. The attached letter to the Planning Commission details her rationale for the exception.

RELEVANT LAWS, STUDIES & PLANS:
If laws at any level require this action or if laws, goals, studies, or plans have informed this action, then cite those here.

RESPONSIBLE DEPARTMENT:
Planning Department

FINANCIAL IMPACT:

N/A

CITY OF MOAB PLANNING RESOLUTION NO. 13-2025
A RESOLUTION APPROVING THE PARKING EXCEPTION REQUEST, FOR (2) TWO PARKING SPACES, FOR THE PRESS CHANGE OF USE FOR PROPERTY LOCATED AT 45 E CENTER STREET, MOAB, UT 84532.

WHEREAS, the following describes the intent and purpose of this resolution:

a. The Applicant, Kassandra Washington, on behalf of owner of record, Shalee Bryant, for property located at 45 E Center Street, Moab, Utah 84532, has requested approval for Special Exception for parking requirements as outlined in the Moab Municipal Code (MMC) 17.09.220 Q. through Planning Resolution No. 13-2025, for the submitted Desert & Tropics Health Bar Eating and Retail Establishment Change of Use; and

b. The Applicant has furnished a site plan and description of the property located at 45 E Center Street, Moab Utah, 84532; Parcels 01-0B17-0003; and

c. The City adopted Supplementary Requirements and Procedures Applicable within Zones in order to promote the health, safety and the general public welfare of the residents of the City by establishing standards for development in zones including the C-3 Central Commercial Zone, of which regulate Off-Street Parking and Loading – Number of Spaces & Location and Control of Facilities; and

d. Upon review, the proposed Change of Use would require accommodations through the available conditions for Special Exception to Parking Requirements procedures as outlined in the MMC Chapter 17.09, in order to attain sufficient compliance of standards; and

e. Based on the available provisions outlined in the MMC conditions for parking accommodations in the C-3 Central Commercial zone, the applicant is recommending of the (6) six total required spaces, (4) four spaces credited due to the existing commercial floor area, (2) two spaces be granted by special exception by the Planning Commission.

f. The Moab Planning Commission reviewed the request and submittal materials for Special Exceptions to the Parking Requirements, through Planning Resolution No. 13-2025 for Desert & Tropics Health Bar Eating and Retail Establishment Change of Use in a regularly scheduled meeting; and

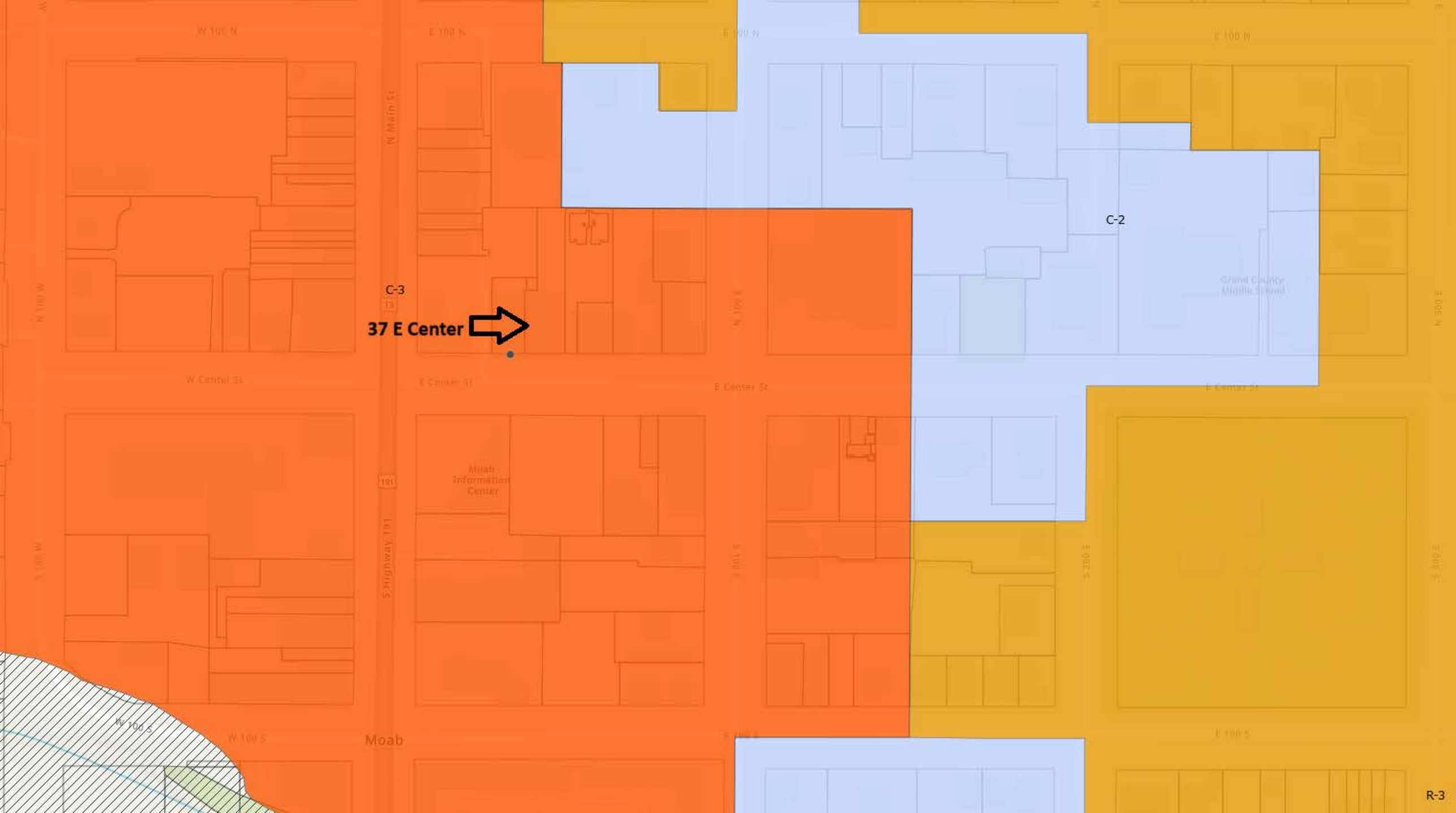
g. Following the consideration of the technical aspects of the pertinent code sections, the Moab Planning Commission, pursuant to Planning Resolution No. 13-2025, hereby finds, that all applicable provisions of the Moab Municipal Code have or can be met.

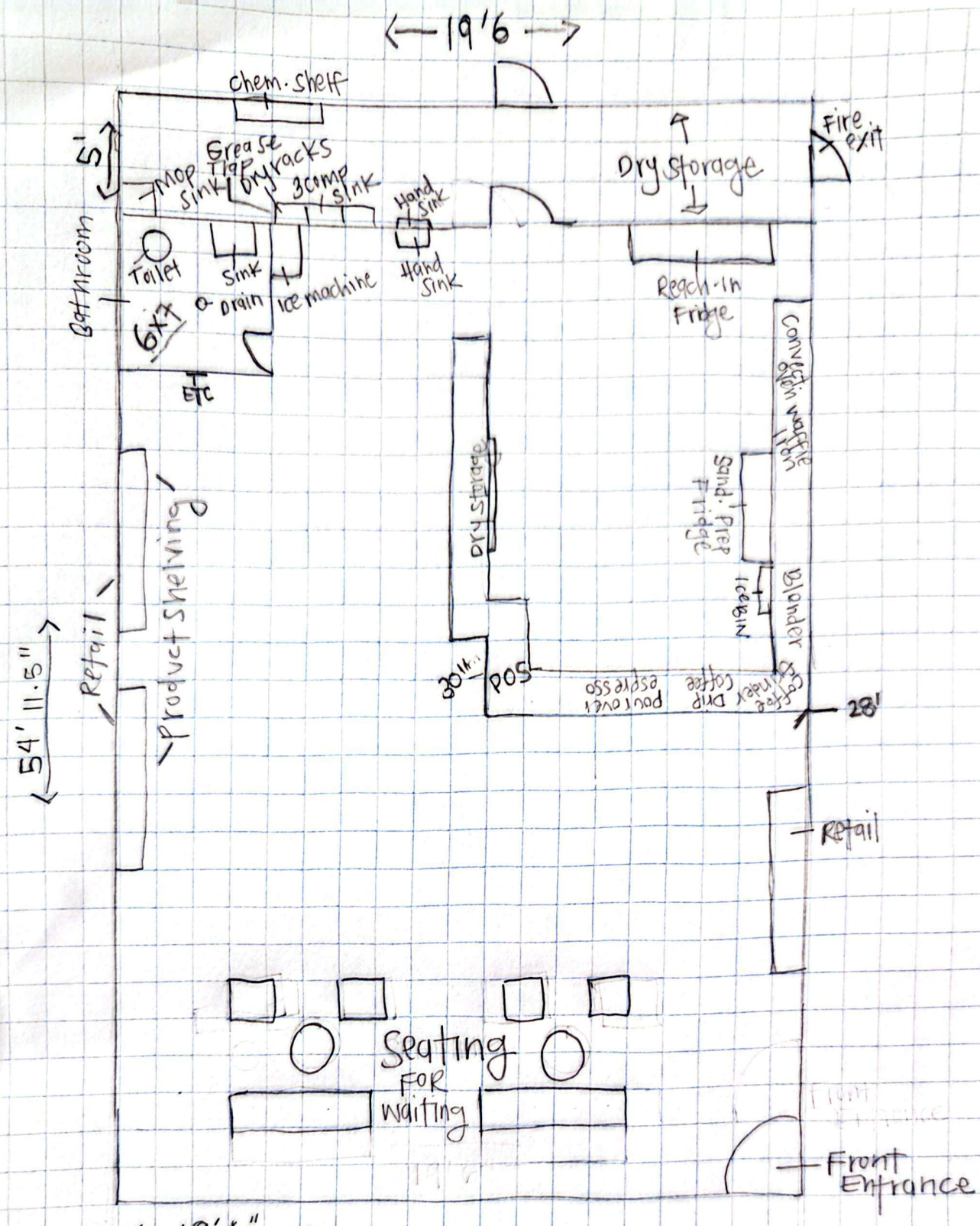
NOW, THEREFORE, BE IT RESOLVED BY THE MOAB PLANNING COMMISSION, the application for the Special Exception to the Parking Requirements, for Desert & Tropics Health Bar Eating and Retail Establishment Change of Use is hereby APPROVED.

PASSED AND APPROVED in an open meeting of the Planning Commission by a majority vote of the Governing Body of Moab Planning Commission on September 11th, 2025.

SIGNED: _____

Kya Marienfeld, Chair


C-3
37 E Center
C-2
R-3
Moab
W Center St
E Center St
N Main St
S Highway 191
Moab Information Center
Grand County Middle School
W 100 N
E 100 N
W 100 S
E 100 S



- Retail Shelves
  3- 20'x 2'
  Total SQ FT - 120

- Total SQ FT 1100
- Kitchen Area 9'x 20'
  180 SQ Ft.
- Back Room 19'6" x 5'
- Bathroom 6'x 7'

To the Moab City Planning Commission,

I'm writing to respectfully request a waiver for two of the six required parking stalls for my upcoming business, Desert & Tropics Health Bar, located in central Moab. While the current site allows for only four dedicated parking spaces, I believe this modest variance will not negatively impact traffic or accessibility—and that the benefits of this business to the local community and tourism economy will far outweigh the shortfall.

Desert & Tropics Health Bar is designed to be a walkable, health-focused destination that reflects Moab's unique blend of desert beauty and active lifestyle. Our menu—featuring cold-pressed juices, smoothies, acai bowls, avocado toasts, and locally inspired signature drinks—caters to both residents and visitors seeking nourishing, quick options in a vibrant, welcoming space. We've intentionally crafted our offerings to be efficient and portable, encouraging short visits and minimizing parking turnover.

Here's why we believe four stalls will be sufficient:

- Walkability and Bike Access: Our location is easily accessible by foot and bike, especially for locals and tourists staying nearby. We plan to promote eco-friendly transit options by installing bike racks.

- Short Dwell Times: Our service model is fast-casual, with most guests ordering to-go or staying briefly. This ensures high turnover and efficient use of the available parking.

- Community Integration: We're actively partnering with nearby fitness studios, wellness centers, and local events to encourage shared traffic and coordinated scheduling, reducing peak congestion.

- Seasonal and Lean Operations: Our business model is designed for lean staffing and seasonal menu planning, which limits the number of employees and guests on-site at any one time.

Moab is evolving, and we believe Desert & Tropics Health Bar represents the kind of thoughtful, health-conscious entrepreneurship that aligns with the city's values. We're committed to sustainability, local sourcing, and creating a space that feels rooted in the landscape—visually, culturally, and economically.

We respectfully ask for your support in granting this waiver, allowing us to move forward with a business that will serve the community, enhance the downtown experience, and contribute positively to Moab's identity as a destination for wellness and natural beauty.

Thank you for your time and consideration.

Warm regards,

Kassandra Washington

Founder, Desert & Tropics Health Bar

801-649-9591

Kass.washington19@gmail.com

MOAB CITY PLANNING COMMISSION AGENDA September 25, 2025

TITLE: Consideration and Possible Approval of Planning Resolution #2025-15, A Planning Resolution Approving the Parking Special Exception Request, for (1) One Parking Space, for property located at approximately 160 E 100 S, Moab, Utah 84532

DISPOSITION: Discussion and possible action

PRESENTER/S: Johanna Blanco, Associate Planner

ATTACHMENT/S:

-Exhibit 1: Draft Planning Resolution No. 15-2025
-Exhibit 2: Vicinity Map
-Exhibit 3: Proposed Site Plan
-Exhibit 4: Letter to Planning Commission

STAFF RECOMMENDATION: Approve Planning Resolution #2025-15 with or without modifications

OTHER OPTIONS: Continue or table action to a later meeting with specific direction to City Staff and Applicant as to additional information needed to make a decision; or Deny the Parking Special Exception Request, giving specific findings for decision.

RECOMMENDED MOTION:

SUMMARY:

Applicant Becky Byrd submitted a complete special exception application on September 18th, 2025. The application has been submitted to prepare the site for incoming businesses. The change of use increases the parking requirement from 28 spaces to 29 spaces. This special exception is for the remaining 1 space. The attached letter to the Planning Commission details her rationale for the exception.

RELEVANT LAWS, STUDIES & PLANS:
MMC 17.09.220.Q

RESPONSIBLE DEPARTMENT:
Planning Department

FINANCIAL IMPACT:

N/A

CITY OF MOAB PLANNING RESOLUTION NO. 15-2025
A RESOLUTION APPROVING THE PARKING EXCEPTION REQUEST, FOR (1) ONE PARKING SPACE, FOR PROPERTY LOCATED AT 160 E 100 S, MOAB, UT 84532.

WHEREAS, the following describes the intent and purpose of this resolution:

a. The Applicant, Becky Byrd, for property located at 160 E 100 S, Moab, Utah 84532, has requested approval for Special Exception for parking requirements as outlined in the Moab Municipal Code (MMC) 17.09.220 Q. through Planning Resolution No. 15-2025, for a Change of Use; and

b. The Applicant has furnished a site plan and description of the property located at 160 E 100 S, Moab, Utah, 84532; Parcels 01-0B08-0007; and

c. The City adopted Supplementary Requirements and Procedures Applicable within Zones in order to promote the health, safety and the general public welfare of the residents of the City by establishing standards for development in zones including the C-2 Commercial Residential Zone, of which regulates Off-Street Parking and Loading – Number of Spaces & Location and Control of Facilities; and

d. Upon review, the proposed Change of Use would require accommodations through the available conditions for Special Exception to Parking Requirements procedures as outlined in the MMC Chapter 17.09, in order to attain sufficient compliance of standards; and

e. Based on the available provisions outlined in the MMC conditions for parking accommodations in the C-2 Commercial Residential zone, the applicant is recommending of the (29) twenty-nine total required spaces, (28) twenty-eight spaces credited due to the existing commercial floor area, (1) one space be granted by special exception by the Planning Commission.

f. The Moab Planning Commission reviewed the request and submittal materials for Special Exceptions to the Parking Requirements, through Planning Resolution No. 15-2025 for property located at 160 E 100 S Change of Use in a regularly scheduled meeting; and

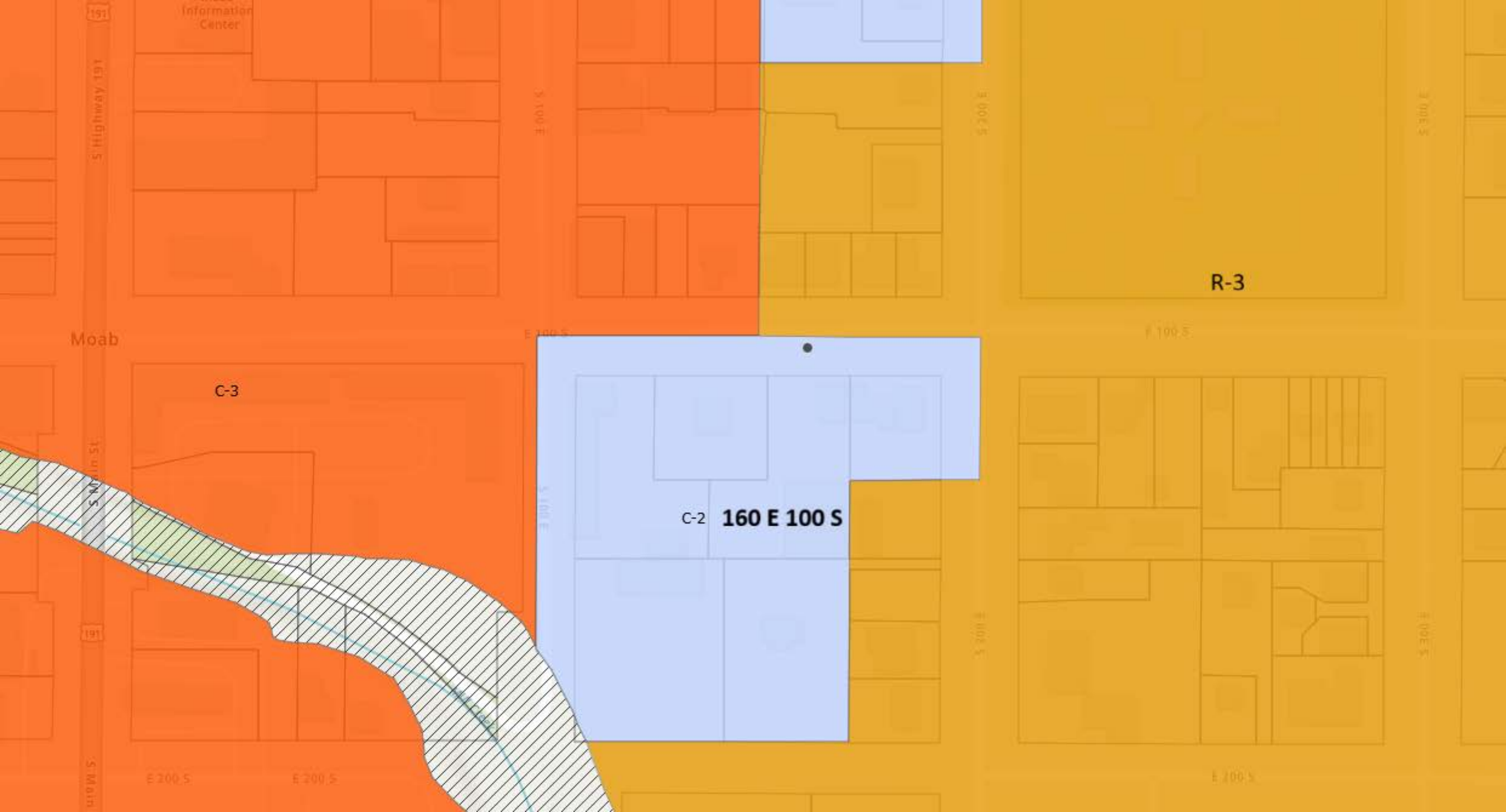
g. Following the consideration of the technical aspects of the pertinent code sections, the Moab Planning Commission, pursuant to Planning Resolution No. 15-2025, hereby finds, that all applicable provisions of the Moab Municipal Code have or can be met.

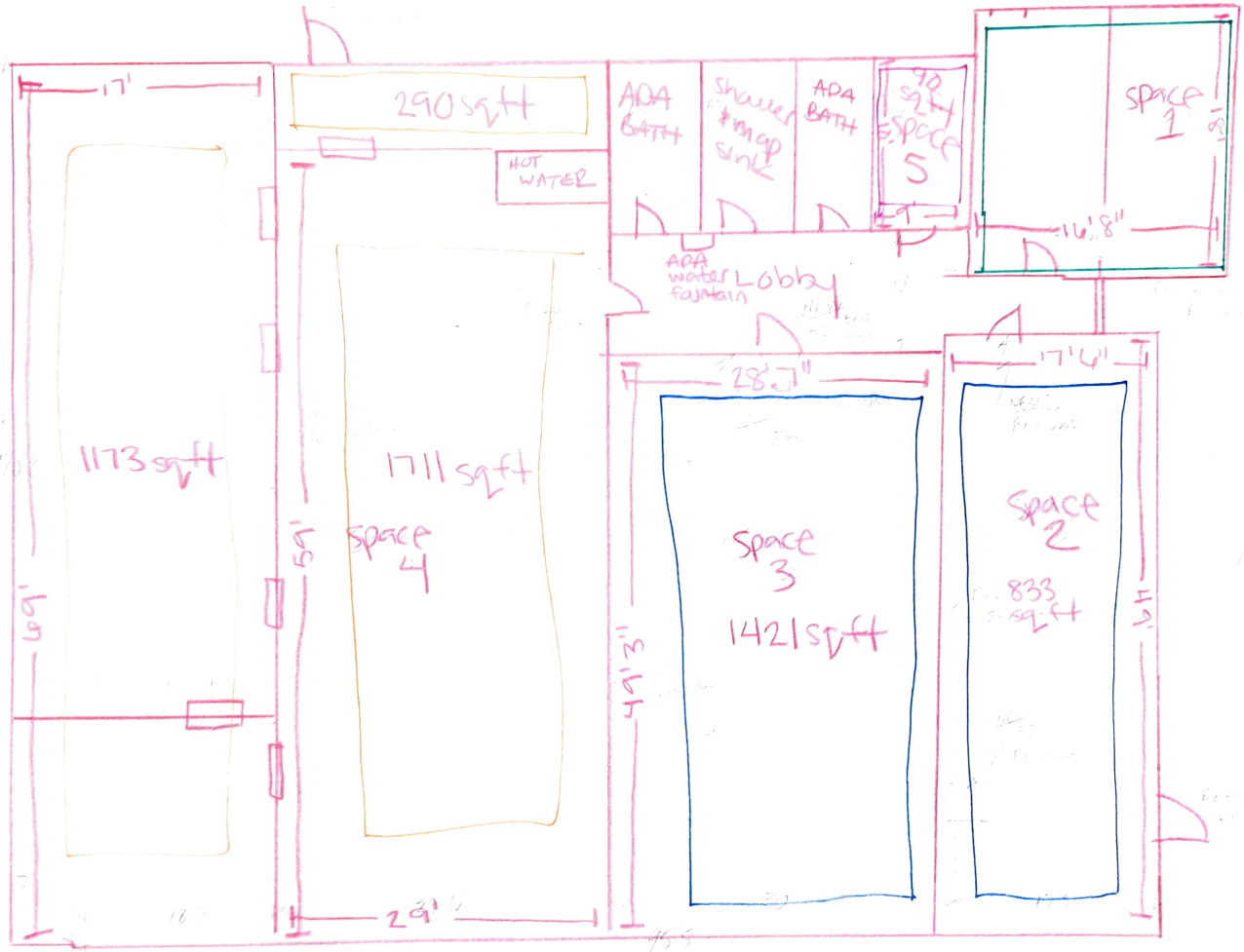
NOW, THEREFORE, BE IT RESOLVED BY THE MOAB PLANNING COMMISSION, the application for the Special Exception to the Parking Requirements, for property located at 160 E 100 S Change of Use is hereby APPROVED.

PASSED AND APPROVED in an open meeting of the Planning Commission by a majority vote of the Governing Body of Moab Planning Commission on September 25th, 2025.

SIGNED: _____

Kya Marienfeld, Chair


R-3
Moab
C-3
C-2
160 E 100 S
S Highway 191
S Main St
E 100 S
E 200 S
191



- outfitter
- hair salon
- fitness studio
- retail

Violet MW LLC

Rebecca Byrd

435.260.2842

becky@byrdproperties.com

59 E Center Street Moab UT 84532

Moab City Planning Commission

RE: 160 and 170 E 100 S Moab UT 84532 Parking Variance

September 22, 2025

Dear Planning Commission,

I would like to request a variance on the number of parking spaces at commercial complex in downtown Moab. I currently have 28 parking spaces and need 29 in order to lease each space within the existing buildings. The parking calculations have been based on uses including office space, professional services, retail, outfitters, medical services and a restaurant. A couple of my tenants going into the space encourage their customers to walk or ride bikes to their location and there will be 3 different bike racks located on the property. The property is also walkable to many neighborhoods and downtown overnight accommodations.

Thank you for your consideration,

Rebecca Byrd

MOAB CITY PLANNING COMMISSION AGENDA September 25, 2025

TITLE: Consideration and Possible Approval of Planning Resolution No.14-2025, A Resolution Conditionally Approving A Level II Site Plan for The Cooperative 1581 for Property Located at Mill Creek Drive, Moab UT, 84532.

DISPOSITION: Discussion and possible action

PRESENTER/S: Johanna Blanco, Associate Planner and Cory Shurtleff, Community Development Director

ATTACHMENT/S:

-Exhibit 1 Draft Planning Resolution No. 14-2025

-Exhibit 2 Vicinity Map

-Exhibit 3 Site Plan

-Exhibit 4 Site Plan Review Matrix

STAFF RECOMMENDATION: Conditionally Approve Moab Planning Resolution No. 14-2025, with or without modifications

OTHER OPTIONS: Continue or table action to a later meeting with specific direction to City Staff and Applicant as to additional information needed to make a decision; or Deny the Site Plan Application, giving specific findings for decision.

RECOMMENDED MOTION: I move that the City of Moab Planning Commission Conditionally Approve Planning Resolution No. 14-2025, A Planning Resolution Conditionally Approving the Level II Site Plan for The Cooperative 1581 on property located at 1581 Mill Creek Drive Moab, Utah 84532, with the following conditions:

a. Boundary Adjustment has been finalized

b. Grading Easement Agreement has been recorded after the Boundary Adjustment

SUMMARY:

Property Owner: Red Rock Partners
Applicant: 22 Communities / Jake Williams
Location: 1581 Mill Creek Drive, Moab, UT 84532
Parcel: 01-0017-0003, 01-0017-0005, 01-0017-0004
Zoning: C-4
Use: Multi-Family Residential Apartments

Jake Williams, the Owner Agent of record, for property located at 1581 Mill Creek Drive, Moab, Utah 84532, applied for a Level II Site Plan on May 6th, 2025. After 3 rounds of review, the Development Review Team has approved the provided plans with conditions. At this time, the Site Plan Application has been submitted for review by the Moab City Planning Commission, on September 25th, 2025.

RELEVANT LAWS, STUDIES & PLANS:
Moab Municipal Code 17.67

RESPONSIBLE DEPARTMENT:
Development Review Team

FINANCIAL IMPACT:
N/A

CITY OF MOAB PLANNING RESOLUTION NO. 14-2025

A RESOLUTION CONDITIONALLY APPROVING A LEVEL II SITE PLAN FOR THE COOPERATIVE 1581 AT PROPERTY LOCATED AT 1581 MILL CREEK DRIVE MOAB UT 84532.

WHEREAS, the following describes the intent and purpose of this resolution:

a. Jake Williams, the Owner Agent of record, for property located at 1581 Mill Creek Drive Moab, Utah 84532, has applied for a Level II Site Plan Approval; and

b. The Applicant has furnished a site plan and description of the property located at 1581 Mill Creek Drive Moab, Utah 84532 (parcel 01-0017-0003 (8.39 acres); and

c. The City adopted Site Plan Review regulations in order to promote the health, safety and the general public welfare of the residents of the City by establishing standards for development in zones including the C-4 General Commercial zone; and

d. The Moab Planning Commission reviewed the application for Level II Site Plan for the residential multi-household apartment development in a regularly scheduled meeting held on September 25, 2025; and

e. Sufficient evidence provided by the applicant proved that standards of development can meet or exceed the requirements and regulations outlined in the MMC Chapter 17.67 Site Plan Approval; and

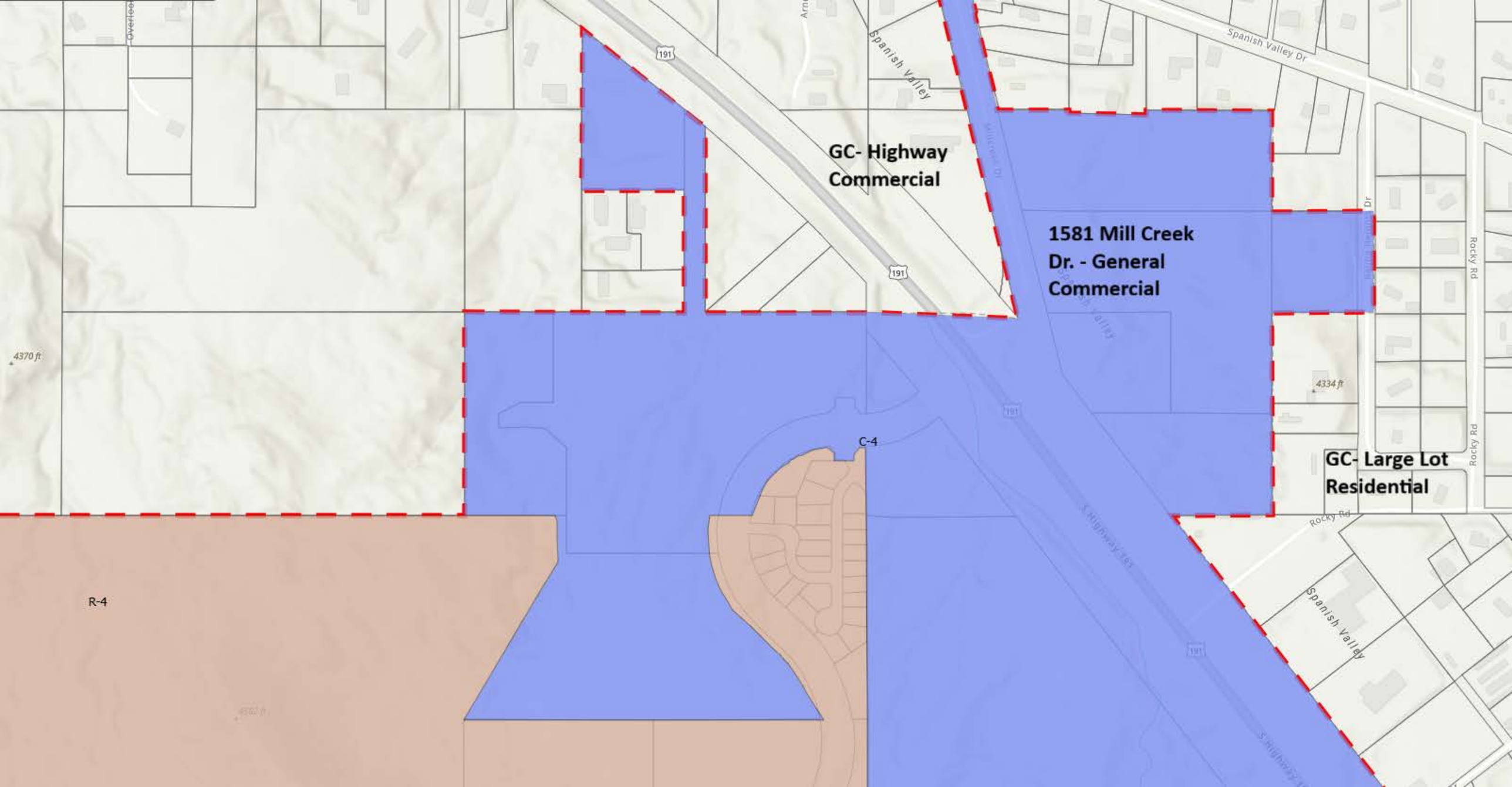
f. Following the consideration of the technical aspects of the pertinent code sections, the Moab Planning Commission, pursuant to Planning Resolution #14-2025, hereby finds, that all applicable provisions of the Moab Municipal Code have or can be met.

NOW, THEREFORE, BE IT RESOLVED BY THE MOAB PLANNING COMMISSION, the application for The Cooperative 1581 Site Plan is hereby CONDITIONALLY APPROVED, with the following condition:

1. All outstanding comments shall be addressed to the satisfaction of the Moab City Planning Department prior to Building Permit Application Approval, including:
    a. Boundary Adjustment has been finalized
    b. Grading Easement Agreement has been recorded after the Boundary Adjustment

PASSED AND APPROVED in an open meeting of the Planning Commission by a majority vote of the Governing Body of Moab Planning Commission on September 25, 2025.

SIGNED: _____
Kya Marienfeld, Chair

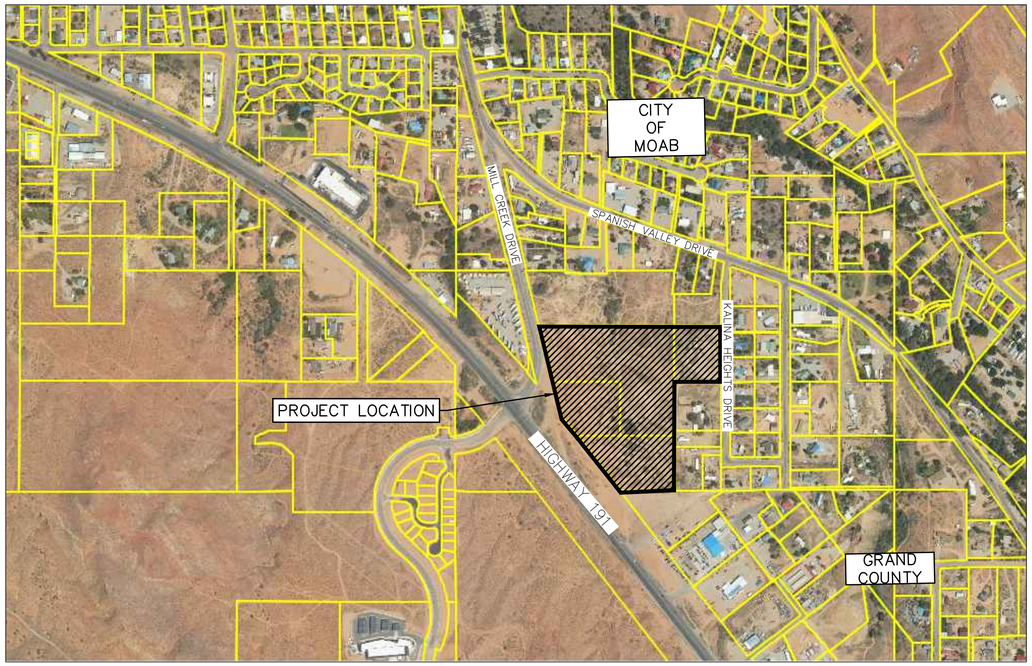

GC- Highway Commercial
1581 Mill Creek Dr. - General Commercial
GC- Large Lot Residential
C-4
R-4
191
Spanish Valley Dr
Spanish Valley
Rocky Rd
4370 ft
4334 ft

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT

PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

1581 MILL CREEK DRIVE

CITY OF MOAB, UTAH



VICINITY MAP
NTS

Sheet List Table		
SHEET NUMBER	SHEET PLAN	SHEET TITLE
1	C001	COVER SHEET
2	C002	NOTES & LEGEND
3	C101	OVERALL SITE PLAN
4	C102	PHASE 1 SITE PLAN
5	C103	PHASE 1 UTILITY PLAN
6	C201	PHASE 1 GRADING PLAN
7	C202	FINE GRADING PLAN I
8	C203	FINE GRADING PLAN II
9	C204	FINE GRADING PLAN III
10	C205	FINE GRADING PLAN IV
11	C206	FINE GRADING PLAN V
12	C207	FINE GRADING POINT TABLES I
13	C208	FINE GRADING POINT TABLES II
14	C209	INTERSECTION GRADING I
15	C210	INTERSECTION GRADING II
16	C301	ACCESS PLAN AND PROFILE
17	C401	STORM DRAIN INDEX PLAN
18	C402	STORMDRAIN RUN 1 PLAN AND PROFILE
19	C403	STORMDRAIN RUN 2 PLAN AND PROFILE
20	C404	STORMDRAIN RUN 3 PLAN AND PROFILE
21	C405	STORMDRAIN RUN 4 PLAN AND PROFILE
22	C406	STORMDRAIN RUN 5 & 6 PLAN AND PROFILE
23	C407	STORMDRAIN RUN 7 PLAN AND PROFILE
24	C408	STORM DRAIN DETAILS I
25	C409	STORM DRAIN DETAILS II
24	C501	SEWER PLAN AND PROFILE I
27	C502	SEWER PLAN AND PROFILE II
28	C601	WATER PLAN AND PROFILE
29	C602	WATER & SEWER DETAILS I
30	C603	WATER & SEWER DETAILS II
31	C701	EROSION CONTROL PLAN
32	C702	ECP DETAILS I
33	C703	ECP DETAILS II
34	C704	ECP DETAILS III

LAND USE DATA:

PARCEL IDS:	01-0017-0003 01-0017-0004 01-0017-0005
GROSS LAND AREA:	16.38 AC. ±
PHASE 1 AREA:	6.56 AC. ±

LEGAL DESCRIPTION & BASIS OF BEARINGS:
REFER TO ENGINEERING SURVEY PREPARED BY RED DESERT LAND SURVEYING DATED 05/02/2021.

COORDINATE SYSTEM & DATUM:
UTAH STATE PLANE, CENTRAL ZONE, US SURVEY FT, NAD83

CAUTION
LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE AND MAY NOT BE ACCURATE OR ALL INCLUSIVE. EXISTING UNDERGROUND UTILITIES MAY NOT BE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY LOCATION OF UTILITIES PRIOR TO PROCEEDING WITH CONSTRUCTION.

Know what's below. Call 811 before you dig.
BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

PROJECT SUMMARY:
PARCEL 1 DEVELOPMENT CONSISTS OF:
1. THREE - 48 UNIT RESIDENTIAL APARTMENT BUILDINGS (144 TOTAL UNITS)
2. UTILITY SERVICE IMPROVEMENTS.
3. DRAINAGE COLLECTION AND CONVEYANCE IMPROVEMENTS.
4. PARKING AREA GRADING, DRAINAGE, & SITE IMPROVEMENTS

OWNER & ARCHITECT
22 DESIGN LAB. LLC
279 S 1600 E
LAYTON, UT 84040
JAKE WILLIAMS
801-425-6520

UTILITY SERVICE PROVIDERS

WATER & SEWER
GRAND WATER & SEWER AGENCY

POWER
ROCKY MOUNTAIN POWER

GAS
EMBRIDGE ENERGY

TELECOMMUNICATIONS
FRONTIER COMMUNICATIONS
EMERY TELECOM

SURVEYOR
RED DESERT LAND SURVEYING
88 EAST CENTER STREET
MOAB, UT 84532
LUCAS BLAKE
435-259-8171

CIVIL ENGINEER
SET ENGINEERING, LLC
1309 E. 3RD AVE. #206
DURANGO, CO 81301
JEFF PILLUS
970-403-5088

GWWSA APPROVAL

SIGNATURE DATE

CITY OF MOAB APPROVAL:

SIGNATURE DATE

1 REVISION 1: GENERAL - REMOVED FUTURE BUILDINGS AND PHASING, AND UPDATED PARCEL BOUNDARIES PER BOUNDARY ADJUSTMENT. C101 - UPDATED SIDEWALK ALIGNMENT ALONG MILL CREEK DRIVE TO MATCH EXISTING PEDESTRIAN RAMP IMPROVEMENTS AT HWY 191. C103, C501, C502, & C601 - UPDATED UTILITY SERVICE STUBS AND EASEMENT. C203, C204, & C205 - ADDED SPOT ELEVATIONS AND GRADES TO ADDITIONAL DETAIL FOR THE ADA SPACES AND RAMPS.

Revisions:

#	DATE	DESCRIPTION
1	9/16/25	SEE DESCRIPTION ON SHEET C001

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

COVER SHEET

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C001

Sheet 1 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

GENERAL NOTES

1. ALL WORK SHALL BE CONSTRUCTED ACCORDING TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF MOAB, UTAH APWA, ADA, OSHA, LOCAL UTILITY PROVIDERS, PROJECT CIVIL ENGINEER, ARCHITECT, AND GEOTECHNICAL ENGINEER.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO THE COMMENCEMENT OF ANY WORK ON THE PROJECT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER/DEVELOPER AND ENGINEER OF ANY PROBLEMS IN CONFORMING WITH THE APPROVED PLANS PRIOR TO ITS CONSTRUCTION.
4. THE CONTRACTOR SHALL CONTACT THE APPROPRIATE AGENCIES, OR THIRD PARTY UTILITY LOCATION PROVIDERS, FOR LOCATION OF UNDERGROUND WATER, SEWER, GAS, ELECTRIC, AND TELEPHONE UTILITIES AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY, SHOW FOR REPRESENTATION ONLY, AND/OR ALL EXISTING LINES MAY NOT BE SHOWN.
5. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF PLANS AND SPECIFICATIONS WHICH HAVE BEEN APPROVED BY THE AGENCIES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COPY OF "RECORD DRAWING" PLANS TO THE APPROPRIATE AGENCIES PRIOR TO FINAL ACCEPTANCE OF WORK.
7. THE CONTRACTOR SHALL RESET ALL SURVEY MONUMENTS DISTURBED DURING CONSTRUCTION WITHIN 60 DAYS OF PROJECT COMPLETION.
8. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
9. ALL EXISTING IMPROVEMENTS SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
10. ANY IMPROVEMENTS CONSTRUCTED NOT IN ACCORDANCE WITH THE APPROVED PLANS, SHALL BE REMOVED AND IMPROVEMENTS SHALL BE RECONSTRUCTED ACCORDING TO THE PLANS AND SPECIFICATIONS.

GRADING, STORM DRAINAGE, AND EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH THE GEOTECHNICAL ENGINEER'S REPORT.
2. THE CONTRACTOR SHALL IMMEDIATELY FIX ANY EXCAVATIONS OR PAVEMENT FAILURES CAUSED BY THE DEVELOPMENT.
3. FINISHED GRADE ELEVATION REQUIREMENT. GENERAL REQUIREMENT: THE FINISHED GRADE ADJACENT TO BUILDING EXTERIORS SHALL BE A MINIMUM OF 6 INCHES BELOW THE FINISHED FLOOR ELEVATION (FFE) UNLESS OTHERWISE NOTED. PREFERRED CONDITION: A VERTICAL SEPARATION OF 8 INCHES BETWEEN THE FINISHED FLOOR AND THE FINISHED GRADE IS PREFERRED, OR AS SPECIFIED BY THE PROJECT ARCHITECT OR GEOTECHNICAL ENGINEER BASED ON PROJECT-SPECIFIC CONDITIONS. EXCEPTIONS TO THIS REQUIREMENT ARE PERMITTED AT DOORWAY THRESHOLDS, WHERE ALTERNATE GRADING STRATEGIES OR DRAINAGE MEASURES MAY BE APPLIED, SUBJECT TO APPROVAL. DEFINITION OF FINISHED GRADE: FOR THE PURPOSES OF THIS SPECIFICATION, FINISHED GRADE IS DEFINED AS THE TOP SURFACE OF ANY OF THE FOLLOWING: SOIL, CONCRETE, ROAD BASE, LANDSCAPING MATERIALS, ROCK MULCH, ETC.
5. THE CONTRACTOR SHALL VERIFY THAT THE CONSTRUCTED POND VOLUMES CONFORM TO THE FINISHED GRADE SURFACE ELEVATIONS AND THE VOLUMES SPECIFIED IN THE DESIGN. ANY DISCREPANCIES OR VOLUME SHORTFALLS SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER, INCLUDING ALL NECESSARY GRADING, EXCAVATION, OR FILL ADJUSTMENTS. THE CONTRACTOR IS REQUIRED TO VALIDATE POND VOLUMES PRIOR TO LANDSCAPING INSTALLATION TO ENSURE COMPLIANCE AND SHALL REPORT ALL FINDINGS TO THE ENGINEER FOR REVIEW AND APPROVAL.
6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MAINTAINING THE SITE IN A SAFE, ORDERLY, AND WELL-DRAINED CONDITION THROUGHOUT THE DURATION OF THE WORK. THIS INCLUDES, BUT IS NOT LIMITED TO, THE CONTROL OF STORMWATER, SURFACE WATER RUNOFF, SEDIMENTATION, EROSION, AND PROTECTION OF ADJACENT PROPERTIES, RIGHTS-OF-WAY, AND DRAINAGE SYSTEMS. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN ALL TEMPORARY DRAINAGE MEASURES, EROSION CONTROL DEVICES, AND OTHER BEST MANAGEMENT PRACTICES NECESSARY TO PREVENT DAMAGE OR NUISANCE CAUSED BY WATER ACCUMULATION OR FLOW ON THE SITE OR SURROUNDING AREAS. THE CONTRACTOR SHALL BEAR ALL COSTS AND LIABILITIES ARISING FROM FAILURE TO ADEQUATELY MANAGE SITE DRAINAGE AND RELATED CONDITIONS. ANY SETTLEMENT OR SOIL ACCUMULATIONS BEYOND THE PROPERTY LIMITS DUE TO GRADING OR EROSION SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR.
7. ANY CONSTRUCTION DEBRIS OR MUD TRACKING IN THE PUBLIC RIGHT-OF-WAY SHALL BE REMOVED AND CLEANED IMMEDIATELY BY THE CONTRACTOR.
8. ALL DISTURBED AREAS SHALL BE RESEEDED AND THE VEGETATION ESTABLISHED TO AT LEAST 70% COVERAGE PRIOR TO FINAL APPROVAL.

STREET CONSTRUCTION NOTES

1. THE PAVEMENT SECTION SHOWN ON THESE PLANS IS PRELIMINARY AND PROVIDED FOR BIDDING PURPOSES ONLY. THE CONTRACTOR SHALL REFER TO THE PROJECT GEOTECHNICAL REPORT FOR RECOMMENDED PAVEMENT SECTION THICKNESSES, MATERIALS, REINFORCEMENT, AND SUBGRADE PREPARATION REQUIREMENTS. THE FINAL PAVEMENT SECTION SHALL BE CONFIRMED IN THE FIELD BASED ON SUBGRADE CONDITIONS AND AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
2. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
3. PRIOR TO FINAL PLACEMENT OF SURFACE PAVEMENT, ALL UNDERGROUND UTILITY MAINS SHALL BE INSTALLED AND SERVICE CONNECTIONS STUBBED OUT TO BEYOND CURB LINE OR SHOULDER WHEN ALLOWED BY THE UTILITY. SERVICE FROM PUBLIC UTILITIES AND FROM SANITARY SEWERS SHALL BE MADE AVAILABLE FOR EACH LOT IN SUCH A MANNER THAT WILL NOT BE NECESSARY TO DISTURB THE STREET PAVEMENT, CURB, GUTTER, AND SIDEWALK WHEN CONNECTIONS ARE MADE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING ASPHALT FROM CONSTRUCTION EQUIPMENT. DAMAGED ASPHALT SHALL BE REPLACED BY THE CONTRACTOR AT CONTRACTORS EXPENSE.

CONCRETE GENERAL NOTES

1. CONCRETE STRENGTH: ALL SITE CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,500 PSI UNLESS OTHERWISE SPECIFIED.
2. TESTING REQUIREMENTS: CONCRETE TESTING SHALL BE PERFORMED AT A MINIMUM FREQUENCY OF ONE SET OF TESTS PER 50 CUBIC YARDS PLACED OR ONCE PER DAY, WHICHEVER IS MORE FREQUENT, IN ACCORDANCE WITH APWA AND PROJECT SPECIFICATIONS.
3. SURFACE QUALITY & CRACK CONTROL: THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL SITE CONCRETE EXHIBITING CRACKS IN EXCESS OF 1/16 INCH WIDTH, SPALLS, HONEYCOMBING, OR OTHER DEFECTS PRIOR TO THE FINAL PUNCH LIST INSPECTION AT NO ADDITIONAL COST TO THE OWNER. ALL CONCRETE PLACEMENT, FINISHING, CURING, AND CRACK CONTROL SHALL COMPLY WITH ACI 318 AND ACI 301. SURFACES SHALL RECEIVE A UNIFORM FINISH, FREE OF BLEMISHES, DISCOLORATION, AND SURFACE IRREGULARITIES.
4. CURING: CURING SHALL BE PERFORMED IN ACCORDANCE WITH ACI 308 TO ENSURE PROPER HYDRATION AND STRENGTH DEVELOPMENT.
5. CONTROL AND EXPANSION JOINTS: CONTROL JOINTS SHALL BE INSTALLED AT LOCATIONS, DEPTHS, AND SPACINGS SHOWN ON THE PLANS, OR AS RECOMMENDED BY ACI 318, TO MINIMIZE RANDOM CRACKING. EXPANSION JOINTS SHALL BE PROVIDED WHERE SHOWN ON THE PLANS AND AT REGULAR INTERVALS TO ACCOMMODATE THERMAL MOVEMENT.
6. JOINT FILLER AND SEALANT: EXPANSION JOINTS SHALL BE FILLED WITH PRE-MOLDED JOINT FILLER CONFORMING TO ASTM D1751 OR D1752. ALL JOINTS SUBJECT TO MOISTURE INFILTRATION SHALL BE SEALED WITH A POLYURETHANE OR POLYSULFIDE SEALANT CONFORMING TO ASTM C920, TYPE M, GRADE NS, CLASS 25, OR AS SPECIFIED. SEALANT COLOR SHALL MATCH ADJACENT CONCRETE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ALL SEALANT INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, INCLUDING JOINT PREPARATION, PRIMER APPLICATION (IF REQUIRED), AND PROPER TOOLING TO ENSURE WEATHER-TIGHTNESS.
7. COLD & HOT WEATHER CONCRETING:

COLD WEATHER CONCRETING SHALL COMPLY WITH ACI 306; HOT WEATHER CONCRETING SHALL COMPLY WITH ACI 305. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING PROPER HANDLING, PLACEMENT, PROTECTION, AND CURING DURING EXTREME TEMPERATURE CONDITIONS TO PREVENT THERMAL CRACKING, SCALING, OR STRENGTH LOSS.

GENERAL UTILITY NOTES

1. ALL WATER, IRRIGATION, AND SEWER WORK SHALL BE COMPLETED PER CURRENT GWSSA CONSTRUCTION STANDARDS.
2. THE EXISTING SANITARY SEWER MAINS SHALL REMAIN IN SERVICE DURING THE NEW SEWER SERVICE CONSTRUCTION.
3. ALL VERTICAL BENDS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED.
4. GWSSA WILL OPERATE ALL IN SERVICE WATER VALVES AS PART OF THIS PROJECT. COORDINATION BETWEEN GWSSA AND THE CONTRACTOR IS REQUIRED FOR ALL WATER MAIN TIE-INS. CONTRACTOR IS RESPONSIBLE FOR INTERRUPTION OF WATER SERVICE PERMIT. THREE (3) BUSINESS DAYS NOTICE TO THE CITY IS REQUIRED PRIOR TO PLANNED OUTAGES FOR MAIN LINE CONNECTIONS.
5. THE CONTRACTOR SHALL GUARANTEE REPAIRS FOR ONE (1) YEAR AFTER THE FINAL ACCEPTANCE OF CONSTRUCTION.
6. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY PUBLIC OR PRIVATE IMPROVEMENTS, IN KIND, INCLUDING, BUT NOT LIMITED TO: RESIDENTIAL SERVICES, WATER LINES, SEWER LINES, STORM DRAINS, ETC., THAT WERE REMOVED OR DAMAGED DURING CONSTRUCTION.
7. THE CONTRACTOR MAY TEMPORARILY BACKFILL TRENCHES TO THE EXISTING ROADWAY SURFACE WITH AGGREGATE ROAD BASE COARSE, PROVIDING A SMOOTH DRIVING SURFACE. IN THIS MANNER THE CONTRACTOR CAN ASPHALT PAVE LARGE SECTIONS OF TRENCH AT ONE TIME WHILE STILL PROVIDING A USABLE ROADWAY.
8. WHERE CONSTRUCTION OCCURS IN OR ACROSS ASPHALT OR CONCRETE PAVEMENT, SAW CUT THE PAVEMENT FOR A CLEAN STRAIGHT EDGE 6" OUTSIDE THE TRENCH LIMITS TO ALLOW CLEAN REMOVAL AND A GOOD SURFACE FOR PROPER PATCHING.
9. ALL PAVEMENT SAW CUTS SHALL BE 90° TO ONE ANOTHER.
10. ALL TRENCHES WITHIN CITY RIGHT OF WAY SHALL BE BACKFILLED PER APWA, CITY OF MOAB CONSTRUCTION STANDARDS, AND GWSSA CONSTRUCTION STANDARDS.

SANITARY SEWER UTILITY NOTES

1. ALL SANITARY SEWER SERVICE CONSTRUCTION AND CONNECTIONS SHALL COMPLY WITH GWSSA CONSTRUCTION STANDARDS.
2. A MINIMUM OF 18" OF VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN THE BOTTOM OF THE SANITARY SEWER LINE AND THE TOP OF ANY DRAINAGE PIPE OR STRUCTURE, UNLESS OTHERWISE NOTED.
3. WHEREVER WATER AND SEWER LINES ARE INSTALLED PARALLEL TO EACH OTHER, THE TYPICAL HORIZONTAL SEPARATION SHALL BE 10 FEET, AND THE WATER LINE SHALL BE AT LEAST 1 FEET HIGHER THAN THE SEWER LINE. UNLESS OTHERWISE NOTED OR AUTHORIZED, SEPARATE TRENCHES SHALL BE EXCAVATED IN ALL CASES, EVEN THOUGH ONE LINE MAY HAVE ALREADY EXISTED AT THE TIME OF INSTALLATION OF THE SECOND LINE.
4. ALL MATERIAL SUBMITTALS SHALL BE APPROVED BY GWSSA PRIOR TO CONSTRUCTION.

WATER UTILITY NOTES

1. ALL WATER SERVICE CONSTRUCTION AND CONNECTIONS SHALL COMPLY WITH CURRENT GWSSA CONSTRUCTION STANDARDS, MEET HIGHEST INDUSTRY STANDARDS, AS WELL AS THE AWWA SPECIFICATIONS AND REQUIREMENTS FOR POTABLE WATER LINES.
2. CONTRACTOR SHALL NOTIFY GWSSA FIVE DAYS PRIOR TO ANY WORK THAT MAY AFFECT THE EXISTING WATER SYSTEM.
3. ALL MATERIAL SUBMITTALS SHALL BE APPROVED BY GWSSA PRIOR TO CONSTRUCTION.

DRY UTILITY NOTES

1. CONTRACTOR SHALL COMPLY WITH REGIONAL GAS, ELECTRIC, OR COMMUNICATION UTILITY PROVIDER CONSTRUCTION STANDARDS.
2. CONTRACTOR SHALL COORDINATE ANY GAS INSTALLATION OR SERVICE REMOVAL WITH REGIONAL PROVIDER PRIOR TO CONSTRUCTION OR DEMOLITION.
3. CONTRACTOR SHALL COORDINATE ANY ELECTRICAL INSTALLATION OR SERVICE REMOVAL WITH REGIONAL PROVIDER PRIOR TO CONSTRUCTION OR DEMOLITION.
4. CONTRACTOR SHALL COORDINATE ANY COMMUNICATIONS INSTALLATION OR SERVICE REMOVAL WITH REGIONAL PROVIDER PRIOR TO CONSTRUCTION OR DEMOLITION.

ADA NOTES

1. ALL ADA ROUTES SHALL BE CONSTRUCTED PER ADA REQUIREMENTS.
2. ALL STAIRWAYS SHALL HAVE LANDINGS AT BOTH THE TOP AND BOTTOM, CONSTRUCTED IN ACCORDANCE WITH APPLICABLE AGENCY BUILDING CODE REQUIREMENTS. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 1:48 (APPROXIMATELY 2.08%) IN ALL DIRECTIONS TO ENSURE SAFE, LEVEL SURFACES. CONTRACTOR SHALL REFERENCE ARCHITECTS PLANS FOR STAIRWAY AND HANDRAIL DETAILS.
3. ALL SIDEWALKS SHALL BE CONSTRUCTED WITH A MAXIMUM CROSS SLOPE OF 2% AND A MAXIMUM RUNNING SLOPE OF 5%, UNLESS OTHERWISE SPECIFIED ON THE PLANS. THE CONTRACTOR SHALL VERIFY ALL SLOPES IN THE FIELD AND SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ANY SIDEWALK THAT DOES NOT MEET THESE REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.

LEGEND:

LINETYPE/HATCH — DESCRIPTION

EXISTING CONDITIONS:

- EXISTING ROAD CENTERLINE
- EXISTING CONCRETE
- EXISTING FLOWLINE
- EXISTING EASEMENT BOUNDARY
- EXISTING FENCE
- EXISTING GAS LINE
- EXISTING GRAVEL ROAD/PATH
- EXISTING IRRIGATION LINE
- EXISTING VEGETATION
- EXISTING PROPERTY BOUNDARY
- EXISTING POWER
- EXISTING RAILROAD
- EXISTING ASPHALT PAVEMENT EDGE
- EXISTING RIGHT-OF-WAY BOUNDARY
- EXISTING SEWER (GENERIC OR SERVICE LINE)
- EXISTING SEWER MAIN (SIZE DENOTED)
- EXISTING STORM DRAIN (SIZE DENOTED)
- EXISTING TELECOMM
- EXISTING COMBINATION OVERHEAD POWER/CABLE/FIBER
- EXISTING COMBINATION OVERHEAD POWER/CATV
- EXISTING COMBINATION OVERHEAD POWER/TELECOMM
- EXISTING LANDSCAPE WALL
- EXISTING WATER MAIN (SIZE DENOTED)
- EXISTING WATER SERVICE LINE
- EXISTING ITEM TO BE DEMOLISHED/REMOVED/RELOCATED (PER PLAN)
- EXISTING CONTOUR (LABELED W/ ELEVATIONS)

PROPOSED IMPROVEMENTS:

- PROPOSED CONTOUR (LABELED W/ ELEVATIONS)
- CENTERLINE/ALIGNMENT W/ STATIONING (0+00 — 1+00)
- CONCRETE PAVEMENT
- FLOWLINE (DIRECTION DENOTED W/ ARROWS)
- EASEMENT BOUNDARY
- SETBACK BOUNDARY
- FENCE
- GAS MAIN
- GRAVEL ROAD/SHOULDER/PATH
- EXISTING IRRIGATION LINE
- PROPERTY BOUNDARY
- POWER (UNDERGROUND)
- POWER (OVERHEAD)
- PAVEMENT MARKING
- ASPHALT PAVEMENT
- RIGHT-OF-WAY BOUNDARY
- SEWER SERVICE LINE (SIZE DENOTED)
- SEWER MAIN (PER PLAN & PROFILE)
- STORM DRAIN (PER PLAN & PROFILE)
- FOUNDATION DRAIN (PER STRUCTURAL PLANS)
- TELECOMM
- COMBINATION OVERHEAD ELECTRIC/CABLE/FIBER
- COMBINATION OVERHEAD ELECTRIC/CATV
- COMBINATION OVERHEAD ELECTRIC/TELECOMM
- CONCRETE WALL
- LANDSCAPE BOULDER WALL
- WATER MAIN (SIZE DENOTED)
- WATER SERVICE (PER PLAN)
- RIP RAP OUTFALL/LINER
- BUILDING/STRUCTURE
- PROJECT BOUNDARY
- REVISION CLOUD & TRIANGLE (REV. # DENOTED)

SYMBOL LEGEND:

- PROPERTY PIN
- BENCHMARK
- WATER MANHOLE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- WATER WELL
- WATER SHUT-OFF
- WATER LINE CAP
- WATER SPRINKLER
- WATER SPIGOT
- SEWER MANHOLE
- SEWER CLEANOUT
- GAS VALVE
- STORM DRAIN MANHOLE
- STORM DRAIN FLARED END SECTION
- STORM DRAIN AREA INLET
- STORM DRAIN CURB INLET
- POWER MANHOLE
- LIGHT POLE
- LUMINAIRE
- TRANSFORMER
- GUY WIRE
- TELECOMM PEDESTAL
- TELECOMM MANHOLE
- MAILBOX
- SIGN
- BOULDER
- ADA PARKING SPACE MARKING
- PEDESTRIAN RAMP
- CONIFEROUS TREE
- DECIDUOUS TREE

NOTATION LEGEND:

CL, ℄ = CENTERLINE
EX = EXISTING
EG = EXISTING GRADE
FG = FINISH GRADE
FL = FLOWLINE
IE = INVERT ELEVATION
BP = BOTTOM OF PIPE
TP = TOP OF PIPE
BTM = BOTTOM
GB = GRADE BREAK
TBC = TOP BACK OF CURB
ZBC = ZERO BACK OF CURB
TG = TOP OF GRATE
HP = HIGH POINT

BFE = BASE FLOOD ELEVATION
BFE(I) = BASE FLOOD ELEVATION INTERPOLATED
FF = FINISH FLOOR
FF1 = FINISH FLOOR, MAIN FLOOR
FFB = FINISH FLOOR, BASEMENT
R/W = RIGHT-OF-WAY
TBC = TOP BACK OF CURB
29 = LOT, TRACT, OR UNIT NUMBER
TH = TWIN-HOME LOT
SF = SINGLE-FAMILY LOT
EP/A/C/G = EDGE OF PVMT/ASPHALT/CONCRETE/GRAVEL
EOC = EDGE OF CONCRETE
EOA = EDGE OF ASPHALT
TOS = TOE OF SLOPE

Revisions:

#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

NOTES & LEGEND

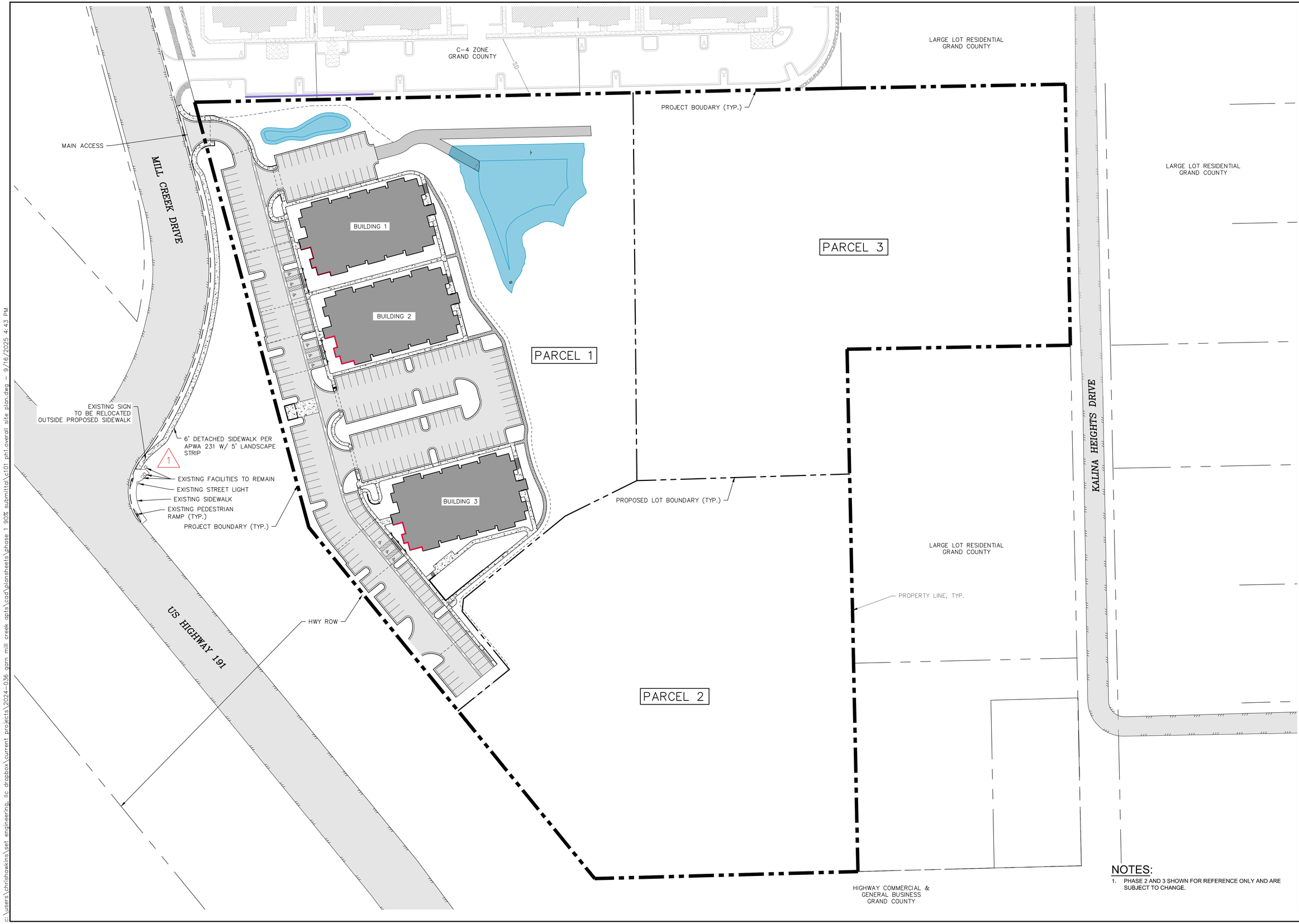
MOAB, UTAH

SET
CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C002

Sheet 2 of 34
Project: 2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH



NOTES:

1. PHASE 2 AND 3 SHOWN FOR REFERENCE ONLY AND ARE SUBJECT TO CHANGE.

GRAPHIC SCALE
0 25 50 FEET 100

Revisions:

#	DATE	DESCRIPTION
1	9/16/25	SEE DESCRIPTION ON SHEET C001

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

OVERALL SITE PLAN

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C101

Sheet 3 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

c:\users\chrishawkins\set engineering, llc dropbox\current projects\2024-036 gcm mill creek apts\cad\plansheets\phase 1 90% submittal\c101 ph1 overall site plan.dwg - 9/16/2025 4:43 PM

PARCEL 3

LOWER DETENTION FACILITY

1537 MILL CREEK LLC
01-0017-0010

C-4 ZONE
CITY OF MOAB

PROPOSED PARCEL BOUNDARY (TYP.)

PARCEL 2

4' GRAVEL TRAIL (TYP.)

9'x18.5' PARKING STALL (TYP.)

LANDSCAPE ISLAND (TYP.)

FIRE HYDRANT

STAIRS PER ARCHITECT

5' CONCRETE SIDEWALK (TYP.)

STAIRS PER ARCHITECT

GRAVEL ACCESS TO DETENTION FACILITY

PROPERTY BOUNDARY

UPPER DETENTION FACILITY

12'

12'

16'

R4'

DOORWAY (TYP.)

BUILDING 1

BUILDING 2

BUILDING 3

4' WALKWAY (TYP.)

4' WALKWAY (TYP.)

ADA VAN PARKING SIGN (TYP.)

ADA RAMP(TYP.)

ADA PARKING SIGN (TYP.)

2 STEPS

150' MAX

24'

24'

24'

4'

R26'

26'

11

10

5

13

6

8

3

15

4' CONCRETE SIDEWALK (TYP.)

AMENITY AREAS (PER ARCHITECT)

1 STEP

STAIRS PER ARCHITECT

3 STEPS

R23'

R23'

8'

11'

8'

24'

FIRE HYDRANT

45'

SECONDARY ACCESS FUTURE CONNECTION TO UDOT FRONTAGE ROAD

HWY ROW

END OF FIRE LANE SIGNAGE (TO BE REMOVED AFTER FUTURE PHASES)

ADA ROUTE (TYP.)

MONUMENT SIGN

R24'

STOP SIGN

24' (TYP.)

5'

8'

11'

5'

8'

26'

FIRE HYDRANT

19'

DRIVE AISLE NEAR HYDRANTS SHALL BE 26' IN WIDTH FOR 45'

REFUSE ENCLOSURE

LANDSCAPE ISLAND (TYP.)

LANDSCAPE BUFFER

MILL CREEK DRIVE

6' DETACHED SIDEWALK
5' LANDSCAPE STRIP

US HIGHWAY 191

C-4 ZONE
CITY OF MOAB

NOTES:

1. PARCEL 1 CONTAINS 144 TOTAL UNITS WITHIN 3 APARTMENT BUILDINGS.
2. THE TOTAL NUMBER OF PARKING STALLS IS 216, WHICH IS EQUAL TO THE REQUIRED 1.5 STALLS/UNIT.

PARCEL 1:

1.) 3 APARTMENT BUILDINGS CONSISTING OF
48 UNITS EACH
TOTAL PARKING SPACES: 216
ADA PARKING SPACES: 9
TOTAL AREA: 6.56 ACRES
OPEN SPACE: 3.30 ACRES

2.) THE TOTAL NUMBER OF PARKING STALLS IS 216, WHICH IS EQUAL TO THE REQUIRED 1.5 STALLS/UNIT

3.) ALL ADA PARKING STALLS SHALL BE COMPLIANT WITH STANDARDS.

4.) DRIVE AISLE NEAR HYDRANTS SHALL BE 26' IN WIDTH FOR 45'.

GRAPHIC SCALE
0 15 30 FEET 60

Revisions:

#	DATE	DESCRIPTION
1	9/16/25	SEE DESCRIPTION ON SHEET C001

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

PARCEL 1 SITE PLAN

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
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PLAN NO.

C102

Sheet 4 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

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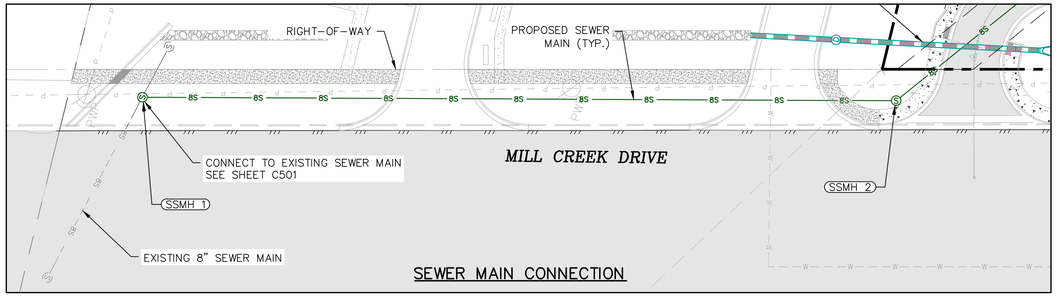
NOTES:

1. WATER & SEWER INFRASTRUCTURE MUST MEET GWSSA MATERIAL AND INSTALLATION STANDARDS, SEE DETAILS.



SEWER MAIN CONNECTION

GRAPHIC SCALE
0 15 30 FEET 60

Revisions:

#	DATE	DESCRIPTION
1	9/16/25	SEE DESCRIPTION ON SHEET C001

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

PARCEL 1 UTILITY PLAN

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

C103

Sheet 5 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER No. 8007340 JEFFREY M. PILLUS 8/4/2025 STATE OF UTAH

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NOTES:

1. ALL SLOPES GREATER THAN 5:1 TO BE STABILIZED.
2. ALL DRAINAGE CHANNELS TO BE LINED WITH ANGULAR RIP RAP.
3. TOE OF SLOPE ALONG DRAINAGE CHANNEL TO BE STABILIZED WITH REVETMENT.
4. RAW EARTHWORK CALCULATIONS (FROM EXISTING GRADE TO FINISHED SURFACE, NO ADJUSTMENTS).
   CUT = 31,145 CY
   FILL = 18,165 CY
   NET = 12,980 CY CUT

Elevations Table

Number	Minimum Elevation	Maximum Elevation	Color
1	-20	-15	
2	-15	-10	
3	-10	-5	
4	-5	0	
5	0	5	
6	5	10	
7	10	15	
8	15	20	

GRAPHIC SCALE
0 15 30 FEET 60

Revisions:

#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

PARCEL 1 GRADING PLAN

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C201

Sheet 6 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

NOTES:

1. ALL SLOPES STEEPER THAN 5:1 TO BE STABILIZED.
2. ALL DRAINAGE CHANNELS TO BE LINED WITH ANGULAR RIP RAP.
3. TOE OF SLOPE ALONG DRAINAGE CHANNEL TO BE STABILIZED WITH REVETMENT.

MILL CREEK DRIVE

SD RUN 7

BOUNDARY GRADING PER SEPARATE AGREEMENT BETWEEN OWNERS

2:1 FILL SLOPE (STABILIZE PER GEOTECHNICAL ENGINEER'S SPECIFICATIONS)

NEIGHBOR'S RETAINING WALL (REFER TO THEIR PLANS)

2:1 CUT SLOPE (STABILIZE PER GEOTECHNICAL ENGINEER'S SPECIFICATIONS)

BOUNDARY GRADING PER SEPARATE AGREEMENT BETWEEN OWNERS

INTERSECTION A SEE SH. C207

ADA ROUTE (TYP.)

GRADE BREAK (TYP.)

TOP OR TOE OF SLOPE (TYP.)

EXISTING OVERHEAD POWER, POLE, AND UTILITIES MAY NEED TO BE ADJUSTED TO GRADE

GRADE TRANSITION ZONE

DETENTION POND
BOTTOM ELEV = 4303.40'
100 YEAR WATER SURFACE ELEV =4305.50'
PRIMARY OUTLET 3" ORIFICE ELEV = 4303.40'
RIM ELEV = 4305.50'

VARIABLE FILL SLOPE (STABILIZE PER GEOTECHNICAL ENGINEER'S SPECIFICATIONS)

BREAK IN CURB PER DETAIL

INTERSECTION B SEE SH. C207

2 STEPS 6" EA.

BUILDING 1
FFE: 4312.90'

STAIRS (PER ARCHITECT)

RETAINING WALL (BY OTHERS)

3:1 FILL SLOPE (STABILIZE PER GEOTECHNICAL ENGINEER'S SPECIFICATIONS)

2:1 FILL SLOPE (STABILIZE PER GEOTECHNICAL ENGINEER'S SPECIFICATIONS)

6" THICK UDOT 1.5" ROAD BASE

SD RUN 2

MATCH LINE SHEET C203

GRAPHIC SCALE
0 6 12 FEET 24

Revisions:

#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

FINE GRADING PLAN I

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

C202

Sheet 7 of 34
Project: 2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

NOTES:

1. ALL SLOPES STEEPER THAN 5:1 TO BE STABILIZED.
2. ALL DRAINAGE CHANNELS TO BE LINED WITH ANGULAR RIP RAP.
3. TOE OF SLOPE ALONG DRAINAGE CHANNEL TO BE STABILIZED WITH REVETMENT.

MATCH LINE SHEET C202

BUILDING 1
FFE: 4312.90'

BUILDING 2
FFE: 4315.35'

RETAINING WALL BY OTHERS

STAIRS PER ARCH. PLANS

GRADE BREAK (TYP.)

FOUNDATION CURB (SEE ARCH. PLANS)

ADA ROUTE (TYP.)

VARIABLE FILL SLOPE (STABILIZED PER GEOTECHNICAL ENGINEER'S SPECIFICATION)

2:1 FILL SLOPE (STABILIZE PER GEOTECHNICAL ENGINEER'S SPECIFICATIONS)

SD RUN 3

SD RUN 4

BREAK IN CURB PER DETAIL

INTERSECTION C SEE SH. C207

REFUSE ENCLOSURE PER ARCHITECT

MATCH LINE SHEET C204

GRAPHIC SCALE
0 6 12 FEET 24

Revisions:

#	DATE	DESCRIPTION
1	9/16/25	SEE DESCRIPTION ON SHEET C001

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

FINE GRADING PLAN II

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

C203

Sheet 8 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

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NOTES:

1. ALL SLOPES STEEPER THAN 5:1 TO BE STABILIZED.
2. ALL DRAINAGE CHANNELS TO BE LINED WITH ANGULAR RIP RAP.
3. TOE OF SLOPE ALONG DRAINAGE CHANNEL TO BE STABILIZED WITH REVETMENT.

MATCH LINE SHEET C203

2:1 FILL SLOPE (STABILIZE PER GEOTECHNICAL ENGINEER'S SPECIFICATIONS)

VARIABLE FILL SLOPE (STABILIZE PER GEOTECHNICAL ENGINEER'S SPECIFICATIONS)

ADA ROUTE (TYP.)

SD RUN 4

INTERSECTION D SEE SH. C208

BREAK IN CURB

PROPOSED FLOWLINE

EXISTING FLOWLINE

3 STEPS 6" EA.

GRADE BREAK (TYP.)

BUILDING 3
FFE: 4324.10'

FOUNDATION CURB (SEE ARCH PLANS)

STAIRS (PER ARCHITECT)

AMENITY AREA (PER ARCHITECT)

RETAINING WALL DESIGNED BY OTHERS

RETAINING WALL (BY OTHERS)

SD RUN 5

MATCH LINE SHEET C205

GRAPHIC SCALE
0 6 12 FEET 24

Revisions:

#	DATE	DESCRIPTION
1	9/16/25	SEE DESCRIPTION ON SHEET C001

THE COOPERATIVE - MULTIHOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

FINE GRADING PLAN III

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

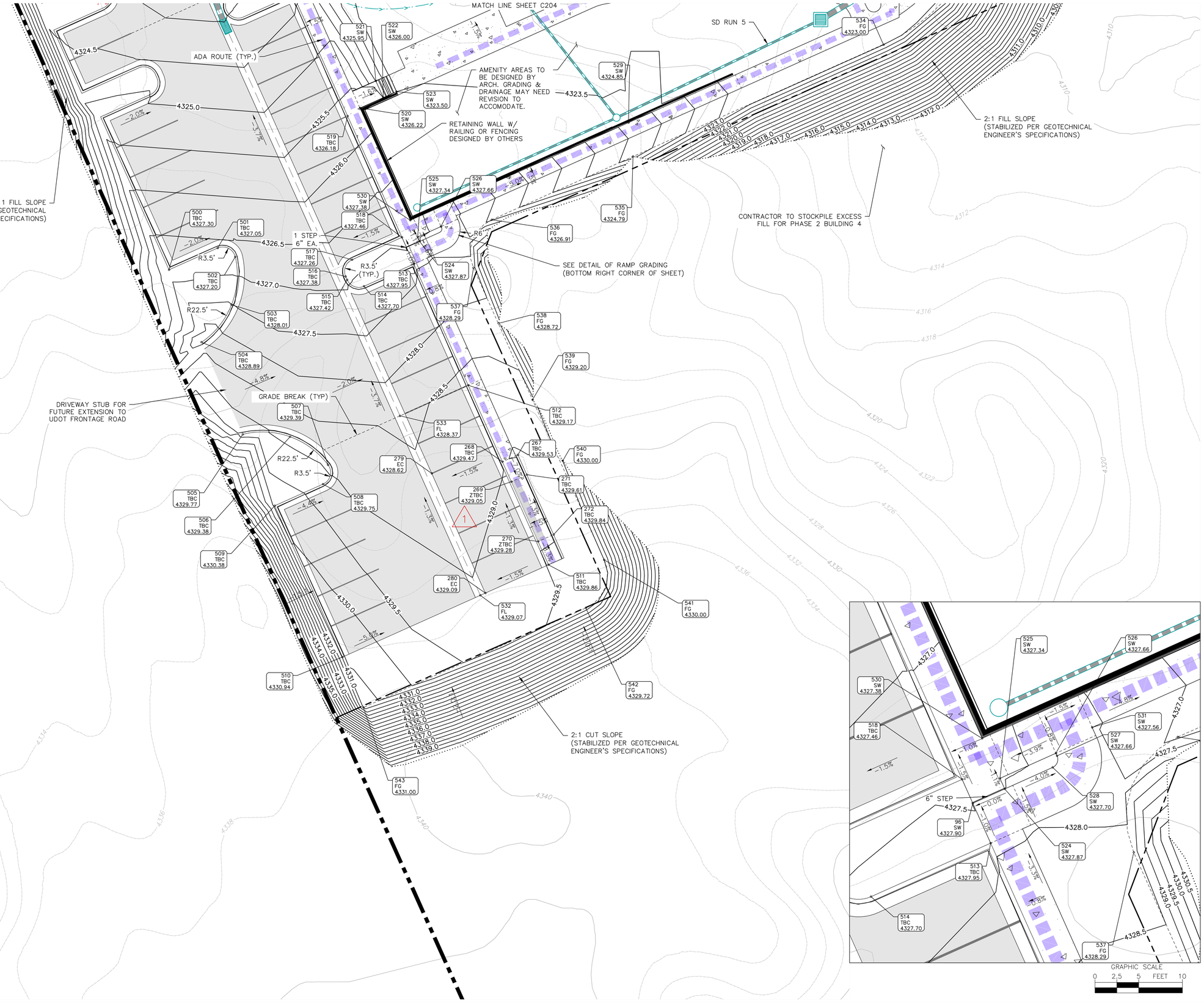
C204

Sheet 9 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

NOTES:

1. ALL SLOPES STEEPER THAN 5:1 TO BE STABILIZED.
2. ALL DRAINAGE CHANNELS TO BE LINED WITH ANGULAR RIP RAP.
3. TOE OF SLOPE ALONG DRAINAGE CHANNEL TO BE STABILIZED WITH REVETMENT.



Revisions:

#	DATE	DESCRIPTION
1	9/16/25	SEE DESCRIPTION ON SHEET C001

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

FINE GRADING PLAN IV

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

C205

Sheet 10 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

NOTES:

1. ALL SLOPES STEEPER THAN 5:1 TO BE STABILIZED.
2. ALL DRAINAGE CHANNELS TO BE LINED WITH ANGULAR RIP RAP.
3. TOE OF SLOPE ALONG DRAINAGE CHANNEL TO BE STABILIZED WITH REVETMENT.
4. LOWER DETENTION POND OUTLET STRUCTURE IS DESIGN SUCH THAT THE 100 YEAR RAINFALL VOLUME WILL NOT EXCEED THE OUTLET STRUCTURE RIM, EVEN WITHOUT CONSIDERATION OF EXFILTRATION OR THE ADDITIONAL 20% POND VOLUME BELOW THE PRIMARY OUTLET ORIFICE.

PARCEL 3

GRADING PER SEPARATE AGREEMENT BETWEEN PROPERTY OWNERS

RIP RAP RUNDOWN PER DETAIL

EXISTING FLOWLINE

CONNECTION TO NEIGHBOR'S STORM DRAIN PIPE

SD RUN 1

RIP RAP RUNDOWN PER DETAIL

3:1 FILL SLOPE (STABILIZE PER GEOTECHNICAL ENGINEER'S SPECIFICATIONS

GRADING PER SEPARATE AGREEMENT BETWEEN PROPERTY OWNERS

601 FG 4295.50

600 FG 4295.50

88 FG 4295.50

602 FG 4295.50

SPILLWAY ELEV = 4294.50'

DAYLIGHT (TYP)

3:1 CUT SLOPE TO BE STABILIZED PER THE GEOTECH FOR ENTIRE POND

109.76'

DETENTION POND
VOLUME = 70,000 CF
BOTTOM ELEV = 4286.00'
PRIMARY OUTLET 15" ORIFICE ELEV = 4288'
TOP OF GRATE ELEV = 4292.50' = 100-YR WS ELEV.
POND DATA DOES NOT INCLUDE ADDITIONAL 20% VOLUME BETWEEN ELEVATIONS 4286' & 4288'

68.83'

6" THICK UDOT 1.5" ROAD BASE

RIP RAP RUNDOWN PER DETAIL

2:1 FILL SLOPE (STABILIZE PER GEOTECHNICAL ENGINEER'S SPECIFICATIONS

605 FG 4286.00

606 FG 4286.00

607 FG 4286.24

604 FG 4295.50

603 FG 4298.61

608 FG 4296.74

609 FG 4300.25

610 FG 4303.75

611 FG 4304.55

SD RUN 2

SD RUN 3

SD RUN 4

ADA ROUTE (TYP.)

BUILDING 1

BUILDING 2

GRAPHIC SCALE
0 6 12 FEET 24

Revisions:

#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

FINE GRADING PLAN V

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

C206

Sheet	11 of 34
Project:	2025-016
Date:	09/16/2025
Drawn By:	CH
Checked By:	JG

PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

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1

Point #	Raw Description	Elevation	Northing	Easting
1	TBC	4307.29	6646741.32	2205926.13
2	TBC	4308.16	6646727.58	2205935.45
3	TBC	4308.51	6646722.49	2205951.26
4	HP	4308.50	6646720.83	2205967.94
5	TBC	4308.75	6646722.28	2205978.87
6	TBC	4308.61	6646715.76	2205996.93
7	TBC	4308.38	6646689.75	2206018.51
8	TBC	4308.38	6646685.98	2206019.71
9	TBC	4308.41	6646679.62	2206021.41
10	TBC	4309.01	6646665.23	2206031.58
12	TBC	4309.19	6646667.67	2206051.02
13	TBC	4308.58	6646679.47	2206047.86
14	TBC	4307.21	6646694.76	2206104.84
15	TBC	4305.83	6646710.05	2206161.83
16	TBC	4306.26	6646695.56	2206165.71
17	TBC	4306.26	6646693.09	2206170.00
18	TBC	4306.21	6646693.73	2206172.42
19	FS	4305.76	6646689.39	2206173.58
20	FS	4306.08	6646673.93	2206177.73
21	TBC	4306.65	6646669.59	2206178.89
22	TBC	4306.70	6646668.94	2206176.48
23	TBC	4306.88	6646664.65	2206174.01
24	TBC	4307.14	6646650.16	2206177.89
25	TBC	4308.82	6646634.88	2206120.91
26	TBC	4310.50	6646619.59	2206063.92
27	TBC	4310.34	6646624.30	2206062.66
28	TBC	4310.25	6646630.57	2206047.42
29	TBC	4310.49	6646623.77	2206042.70
30	TBC	4310.96	6646606.22	2206041.11
31	TBC	4311.05	6646604.17	2206041.65
32	TBC	4311.38	6646598.10	2206046.32
33	TBC	4311.66	6646597.11	2206053.90
34	TBC	4311.68	6646599.31	2206062.12
35	TBC	4311.25	6646668.19	2205945.93
36	TBC	4310.31	6646688.43	2205949.81
37	TBC	4310.09	6646692.38	2205953.56
38	TBC	4309.39	6646697.74	2205973.80
39	TBC	4309.17	6646692.77	2205986.38
40	TBC	4309.00	6646678.99	2205995.70
41	TBC	4309.06	6646669.65	2205998.21
42	TBC	4309.25	6646665.36	2205995.73
43	TBC	4309.51	6646661.48	2205981.24
44	SW	4309.24	6646665.48	2206040.41
46	SW	4305.20	6646711.25	2206167.39
47	SW	4311.61	6646605.11	2206060.56
48	SW	4310.54	6646616.97	2206057.38
49	SW	4310.52	6646618.49	2206057.58
50	SW	4310.51	6646619.50	2206058.16
51	SW	4310.49	6646621.02	2206058.36
53	SW	4310.57	6646620.81	2206046.85
54	SW	4311.62	6646604.14	2206060.82
55	SW	4311.66	6646605.18	2206064.68
56	SW	4311.66	6646606.14	2206064.43
57	SW	4310.61	6646613.01	2206062.58
58	SW	4310.58	6646615.46	2206064.00
59	SW	4306.33	6646659.09	2206211.16
60	SW	4306.14	6646659.61	2206223.90
61	SW	4306.11	6646654.61	2206235.63
62	SW	4306.23	6646644.53	2206238.33
63	SW	4306.30	6646643.24	2206233.51
64	SW	4306.15	6646652.05	2206231.14
65	SW	4306.12	6646653.31	2206230.12
66	FG	4306.26	6646645.52	2206243.83
67	FG	4305.16	6646679.89	2206199.94
68	FG	4304.84	6646695.35	2206195.80
69	FG	4304.23	6646699.08	2206204.56
70	FL	4310.41	6646606.20	2206039.04
71	FL	4308.21	6646669.17	2206022.15
72	FG	4310.40	6646611.60	2206080.66
73	FG	4308.53	6646631.24	2206142.08
74	FG	4307.90	6646636.94	2206163.33
75	FG	4306.26	6646650.68	2206226.33
77	SW	4310.66	6646606.07	2206060.30

Point #	Raw Description	Elevation	Northing	Easting
78	FG	4308.00	6646727.15	2205996.19
79	FG	4306.87	6646741.49	2206093.96
80	FG	4306.66	6646742.22	2206137.60
81	FG	4306.60	6646735.78	2206149.69
82	FG	4306.30	6646714.47	2206170.84
83	SW	4310.66	6646607.11	2206064.17
84	SW	4311.74	6646600.35	2206065.98
85	FG	4320.92	6646244.27	2206180.37
86	FG	4321.60	6646255.26	2206164.19
87	TOW	4322.66	6646244.05	2206169.68
88	FG	4295.50	6646714.60	2206382.95
89	FG	4313.43	6646537.91	2206095.25
90	FG	4312.40	6646528.57	2206118.89
91	FG	4315.86	6646438.28	2206121.98
92	FG	4314.85	6646417.34	2206148.74
93	FG	4314.85	6646423.04	2206169.98
95	FG	4323.60	6646184.31	2206233.96
96	SW	4327.90	6646114.39	2206263.22
97	TBC	4313.62	6646506.52	2206087.01
98	ZTBC	4312.78	6646531.22	2206080.39
99	ZTBC	4313.02	6646513.93	2206085.02
100	TBC	4312.74	6646571.58	2206069.56
101	TBC	4313.06	6646546.19	2206076.37
102	TBC	4312.86	6646542.30	2206061.88
103	TBC	4312.85	6646538.02	2206059.41
104	TBC	4313.20	6646537.01	2206078.83
105	TBC	4313.00	6646535.54	2206063.70
106	TBC	4313.20	6646539.43	2206078.18
107	TBC	4313.72	6646498.79	2206089.09
108	TBC	4315.23	6646459.26	2206099.69
109	TBC	4315.31	6646452.50	2206101.51
110	TBC	4314.96	6646455.38	2206085.20
111	TBC	4314.97	6646451.09	2206082.73
112	TBC	4315.12	6646448.62	2206087.02
113	TBC	4315.43	6646448.40	2206107.44
114	TBC	4315.37	6646447.19	2206102.93
115	TBC	4315.76	6646415.80	2206111.35
116	TBC	4315.57	6646411.91	2206096.87
117	TBC	4315.65	6646407.63	2206094.39
118	TBC	4315.82	6646403.09	2206095.61
119	TBC	4316.39	6646388.70	2206105.77
120	TBC	4316.23	6646384.28	2206122.23
121	TBC	4315.90	6646393.10	2206124.69
122	TBC	4315.60	6646402.94	2206122.05
123	TBC	4314.60	6646414.73	2206166.00
124	TBC	4313.26	6646538.22	2206083.34
125	TBC	4313.34	6646532.43	2206084.89
126	TBC	4313.89	6646448.26	2206290.99
127	TBC	4313.74	6646452.17	2206305.56
128	TBC	4314.00	6646437.69	2206309.45
129	TBC	4314.06	6646435.21	2206313.74
130	TBC	4313.87	6646440.65	2206334.02
131	TBC	4314.30	6646426.18	2206218.32
132	TBC	4314.66	6646414.10	2206221.56
133	TBC	4314.86	6646409.82	2206219.08
134	TBC	4314.86	6646409.56	2206218.12
135	TBC	4314.74	6646412.03	2206213.83
136	TBC	4314.36	6646424.10	2206210.59
137	TBC	4317.63	6646365.93	2206060.54
138	TBC	4317.34	6646369.82	2206075.03
139	TBC	4317.10	6646374.11	2206077.50
140	TBC	4317.07	6646375.07	2206077.24
141	TBC	4316.97	6646377.54	2206072.96
142	TBC	4317.23	6646373.66	2206058.47
143	TBC	4316.16	6646408.43	2206049.14
144	TBC	4316.20	6646407.91	2206047.21
145	TBC	4316.00	6646426.26	2206042.28
146	TBC	4315.74	6646430.15	2206056.77
147	TBC	4315.56	6646434.43	2206059.24
148	TBC	4315.55	6646435.40	2206058.99
149	TBC	4315.59	6646437.87	2206054.70
150	TBC	4315.85	6646433.99	2206040.21
151	TBC	4315.74	6646443.73	2206037.60

Point #	Raw Description	Elevation	Northing	Easting
152	TBC	4315.49	6646452.34	2206035.29
153	TBC	4315.45	6646452.86	2206037.22
154	TBC	4314.23	6646482.69	2206029.21
155	TBC	4313.72	6646522.40	2206018.56
156	TBC	4313.46	6646526.28	2206033.05
157	TBC	4313.28	6646530.57	2206035.52
158	TBC	4313.27	6646531.54	2206035.26
159	TBC	4313.31	6646534.01	2206030.97
160	TBC	4313.57	6646530.12	2206016.49
161	TBC	4313.25	6646555.44	2206009.69
162	SW	4312.81	6646571.94	2206073.60
163	SW	4312.84	6646570.53	2206076.05
164	SW	4312.90	6646571.31	2206078.97
165	SW	4312.90	6646563.58	2206081.05
166	SW	4312.91	6646562.80	2206078.12
167	SW	4312.96	6646560.35	2206076.71
168	SW	4313.68	6646507.59	2206090.87
169	SW	4313.59	6646508.62	2206094.73
170	SW	4311.85	6646530.25	2206175.34
171	SW	4310.94	6646551.88	2206255.95
172	SW	4310.94	6646554.33	2206257.36
173	SW	4312.25	6646579.59	2206250.58
174	SW	4312.80	6646590.21	2206247.73
175	SW	4312.87	6646596.70	2206245.99
176	SW	4312.90	6646595.41	2206241.16
177	SW	4312.89	6646605.74	2206248.74
178	SW	4310.85	6646553.69	2206262.71
179	SW	4310.91	6646549.83	2206263.74
180	SW	4311.18	6646528.48	2206269.47
181	SW	4315.17	6646521.72	2206271.29
182	SW	4315.35	6646507.45	2206275.11
183	SW	4315.35	6646504.86	2206265.46
184	SW	4315.35	6646512.59	2206263.40
185	SW	4315.33	6646513.88	2206268.21
186	SW	4315.26	6646519.46	2206266.72
187	SW	4315.25	6646520.42	2206266.46
188	SW	4311.20	6646531.05	2206263.61
189	SW	4311.01	6646546.60	2206259.43
190	SW	4311.00	6646548.01	2206256.98
191	SW	4311.91	6646526.39	2206176.38
192	SW	4313.65	6646504.76	2206095.77
193	SW	4313.78	6646499.86	2206092.94
194	SW	4315.27	6646460.72	2206103.44
195	SW	4315.32	6646459.30	2206105.89
196	SW	4315.35	6646460.09	2206108.82
197	SW	4315.35	6646452.36	2206110.89
198	SW	4315.36	6646451.58	2206107.97
199	SW	4315.41	6646449.13	2206106.55
200	SW	4315.71	6646407.95	2206117.60
201	SW	4315.67	6646406.54	2206120.05
202	SW	4314.00	6646450.31	2206283.20
203	SW	4314.03	6646452.76	2206284.61
204	SW	4314.76	6646468.37	2206280.42
205	SW	4315.25	6646478.99	2206277.57
206	SW	4315.32	6646485.48	2206275.83
207	SW	4315.35	6646484.19	2206271.00
208	SW	4315.35	6646491.96	2206268.92
209	SW	4315.35	6646494.50	2206278.59
210	SW	4312.80	6646631.65	2206236.62
211	SW	4312.88	6646625.11	2206238.37
212	SW	4312.90	6646623.81	2206233.54
213	SW	4312.90	6646616.08	2206235.61
214	SW	4312.90	6646618.67	2206245.27
215	FG	4307.44	6646621.36	2206257.70
216	FG	4307.79	6646613.97	2206261.36
217	FG	4308.13	6646606.34	2206264.58
218	FG	4308.67	6646594.28	2206269.02
219	FG	4309.22	6646581.99	2206272.90
220	FG	4310.10	6646561.97	2206278.51
221	FG	4311.51	6646505.41	2206294.37
222	FG	4311.80	6646498.70	2206297.72
223	FG	4313.64	6646452.00	2206333.26
224	FG	4313.77	6646443.69	2206337.35

Point #	Raw Description	Elevation	Northing	Easting
225	FG	4313.56	6646456.13	2206325.10
226	FG	4313.56	6646456.85	2206322.99
227	FG	4313.55	6646459.86	2206318.79
228	FG	4313.44	6646463.01	2206319.86
229	FG	4310.14	6646551.42	2206277.32
230	FG	4310.33	6646552.81	2206274.87
231	FG	4310.28	6646556.65	2206273.75
232	FG	4310.24	6646559.13	2206275.16
233	FL	4314.98	6646410.97	2206091.42
234	FL	4314.38	6646455.05	2206079.60
235	FL	4312.91	6646493.51	2206069.28
236	FL	4311.94	6646566.27	2206049.76
237	FG–HP	4313.90	6646529.50	2206102.69
238	FG	4311.88	6646543.20	2206165.70
239	FG	4311.62	6646548.90	2206186.95
240	FG	4311.80	6646568.59	2206248.36
241	FG	4313.50	6646500.38	2206110.50
242	FG	4312.04	6646520.02	2206171.92
243	FG	4311.76	6646525.72	2206193.17
244	FG	4311.15	6646539.46	2206256.17
245	FG–HP	4316.15	6646418.28	2206132.53
246	FG	4314.85	6646431.97	2206195.54
247	FG	4314.74	6646437.67	2206216.79
248	FG	4314.30	6646457.36	2206278.20
251	FG	4306.46	6646634.99	2206255.32
252	FG	4308.24	6646595.90	2206273.75
253	FG	4311.24	6646507.45	2206298.99
254	FG	4313.39	6646455.03	2206337.24
255	FG	4313.52	6646444.98	2206342.18
256	TBC	4313.58	6646515.14	2206089.53
257	ZTBC	4314.94	6646441.40	2206104.49
258	ZTBC	4315.16	6646424.01	2206109.15
259	TBC	4315.50	6646442.61	2206108.99
260	TBC	4315.72	6646425.22	2206113.66
261	TBC	4315.82	6646417.59	2206115.70
262	TBC	4324.25	6646202.27	2206197.72
263	TBC	4324.48	6646188.31	2206209.08
264	TBC	4324.12	6646203.98	2206190.32
265	ZTBC	4323.70	6646199.32	2206194.10
266	ZTBC	4323.92	6646185.36	2206205.46
267	TBC	4329.53	6646067.30	2206307.55
268	TBC	4329.47	6646064.36	2206303.93
269	ZTBC	4329.05	6646059.70	2206307.71
270	ZTBC	4329.28	6646045.74	2206319.07
271	TBC	4329.61	6646062.65	2206311.33
272	TBC	4329.84	6646048.69	2206322.69
273	EC	4312.40	6646534.24	2206059.90
274	EC	4312.88	6646498.29	2206069.55
275	EC	4314.52	6646447.32	2206083.22
276	EC	4315.01	6646411.14	2206092.93
277	EC	4323.27	6646195.86	2206172.42
278	EC	4323.78	6646166.99	2206195.92
279	EC	4328.62	6646056.25	2206286.03
280	EC	4329.09	6646028.32	2206308.75
300	TBC	4318.63	6646329.69	2206115.30
301	TBC	4316.70	6646358.21	2206126.90
303	TBC	4316.75	6646354.97	2206134.92
304	TBC	4316.96	6646343.05	2206138.12
305	TBC	4316.52	6646354.85	2206182.07
306	TBC	4316.09	6646366.64	2206226.01
307	TBC	4315.83	6646381.12	2206222.12
308	TBC	4315.66	6646385.41	2206224.60
309	TBC	4315.65	6646385.67	2206225.56
310	TBC	4315.71	6646383.20	2206229.85
311	TBC	4315.97	6646368.71	2206233.74
312	TBC	4315.55	6646380.63	2206278.17
313	TBC	4315.29	6646394.92	2206274.33
314	TBC	4315.12	6646399.30	2206277.28
315	TBC	4315.16	6646393.57	2206296.81
316	TBC	4315.30	6646386.20	2206301.52
317	TBC	4315.50	6646373.98	2206304.80
318	TBC	4315.68	6646365.24	2206304.41
319	TBC	4316.28	6646350.50	2206290.37

Revisions:

#	DATE	DESCRIPTION
1	9/16/25	SEE DESCRIPTION ON SHEET C001

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

FINE GRADING POINT TABLES I

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

C207

Sheet 12 of 34
Project: 2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

1

Point #	Raw Description	Elevation	Northing	Easting
320	TBC	4316.10	6646352.82	2206285.63
321	TBC	4315.85	6646367.11	2206281.79
322	TBC	4317.28	6646348.32	2206211.77
323	TBC	4318.67	6646329.53	2206141.75
324	TBC	4319.11	6646317.62	2206144.94
326	TBC	4319.37	6646310.80	2206139.59
327	TBC	4316.73	6646352.77	2206238.01
328	TBC	4316.95	6646340.70	2206241.25
329	TBC	4317.17	6646336.41	2206238.78
330	TBC	4317.19	6646336.15	2206237.81
331	TBC	4317.19	6646338.63	2206233.53
332	TBC	4316.97	6646350.70	2206230.29
333	TBC	4314.56	6646391.88	2206347.11
334	TBC	4315.25	6646343.10	2206360.19
335	TBC	4315.63	6646337.66	2206339.91
336	TBC	4316.04	6646333.37	2206337.44
337	TBC	4316.30	6646318.89	2206341.32
338	TBC	4318.04	6646295.31	2206253.43
339	TBC	4317.78	6646309.79	2206249.55
340	TBC	4317.78	6646312.27	2206245.26
341	TBC	4317.80	6646312.01	2206244.29
342	TBC	4318.02	6646307.72	2206241.82
343	TBC	4318.28	6646293.23	2206245.71
344	TBC	4320.02	6646269.65	2206157.81
345	TBC	4324.18	6646206.92	2206193.94
346	TBC	4324.58	6646182.10	2206214.13
347	TBC	4320.37	6646275.30	2206137.35
348	TBC	4321.29	6646259.51	2206134.35
349	TBC	4321.62	6646256.60	2206138.73
350	TBC	4321.82	6646260.44	2206153.04
351	TBC	4322.45	6646245.31	2206158.79
352	TBC	4323.24	6646232.29	2206167.28
353	TBC	4323.78	6646223.97	2206174.05
354	TBC	4324.52	6646178.71	2206210.63
355	TBC	4323.84	6646170.08	2206198.56
356	TBC	4324.37	6646165.15	2206198.06
357	TBC	4324.43	6646164.38	2206198.69
358	TBC	4324.91	6646173.34	2206215.25
359	TBC	4325.75	6646127.23	2206172.84
360	TBC	4325.49	6646136.69	2206184.47
361	TBC	4325.18	6646141.62	2206184.98
362	TBC	4325.14	6646142.39	2206184.35
363	TBC	4325.05	6646142.90	2206179.42
364	TBC	4325.32	6646133.43	2206167.79
365	TBC	4325.35	6646132.14	2206166.20
366	TBC	4325.08	6646139.48	2206160.23
367	TBC	4324.98	6646146.91	2206154.25
368	TBC	4324.72	6646156.37	2206165.88
369	TBC	4324.54	6646161.30	2206166.39
370	TBC	4324.52	6646162.07	2206165.75
371	TBC	4324.56	6646162.58	2206160.83
372	TBC	4324.82	6646153.11	2206149.20
373	TBC	4324.63	6646167.85	2206137.20
374	TBC	4324.59	6646169.11	2206138.76
375	TBC	4324.29	6646184.98	2206125.85
376	TBC	4323.90	6646193.16	2206119.19
377	TBC	4323.22	6646212.82	2206105.86
378	TBC	4322.61	6646234.51	2206096.16
379	TBC	4322.35	6646239.49	2206110.38
380	TBC	4322.06	6646243.84	2206112.56
381	TBC	4322.03	6646244.81	2206112.26
382	TBC	4321.95	6646247.17	2206108.00
383	TBC	4322.22	6646243.27	2206093.45
384	TBC	4320.44	6646291.56	2206080.49
385	TBC	4318.67	6646339.85	2206067.54
386	TBC	4318.41	6646343.74	2206082.03
387	TBC	4318.10	6646348.03	2206084.50
388	TBC	4318.06	6646348.99	2206084.24
389	TBC	4317.99	6646351.47	2206079.95
390	TBC	4318.28	6646347.58	2206065.46
391	SW	4316.46	6646349.96	2206130.69
392	SW	4317.48	6646332.02	2206124.00
393	SW	4318.49	6646319.83	2206138.77

Point #	Raw Description	Elevation	Northing	Easting
394	SW	4319.98	6646273.28	2206152.70
395	SW	4320.01	6646271.76	2206152.50
396	SW	4320.04	6646269.60	2206151.26
397	SW	4320.07	6646268.10	2206151.05
398	SW	4320.13	6646264.01	2206152.11
399	SW	4321.81	6646262.08	2206152.61
400	SW	4320.12	6646265.02	2206155.98
401	SW	4321.88	6646261.44	2206156.91
402	SW	4321.68	6646261.09	2206164.91
403	SW	4321.53	6646256.20	2206168.60
404	SW	4321.23	6646250.38	2206170.11
405	SW	4320.89	6646247.64	2206175.47
406	SW	4320.55	6646252.66	2206178.79
407	SW	4319.86	6646266.03	2206175.25
408	SW	4319.80	6646268.87	2206170.35
409	SW	4321.87	6646258.17	2206160.38
410	SW	4322.03	6646255.51	2206158.73
411	SW	4319.79	6646267.09	2206179.11
412	SW	4319.62	6646271.98	2206181.94
413	SW	4316.36	6646314.98	2206342.20
414	SW	4316.40	6646313.57	2206344.65
415	SW	4317.00	6646299.95	2206348.31
416	SW	4324.00	6646287.39	2206351.68
417	SW	4324.08	6646280.85	2206353.43
418	SW	4324.10	6646279.55	2206348.60
419	SW	4324.10	6646271.83	2206350.68
420	SW	4324.10	6646274.42	2206360.33
421	SW	4316.27	6646316.80	2206348.96
422	SW	4316.20	6646320.66	2206347.93
423	SW	4324.10	6646261.47	2206363.81
424	SW	4324.10	6646258.93	2206354.14
425	SW	4324.10	6646251.15	2206356.22
426	SW	4324.07	6646252.45	2206361.05
427	SW	4324.00	6646245.96	2206362.79
428	SW	4323.76	6646235.34	2206365.64
429	SW	4323.28	6646215.75	2206376.08
430	SW	4323.27	6646211.02	2206377.34
431	SW	4323.25	6646210.41	2206377.51
432	SW	4323.23	6646212.50	2206371.77
433	SW	4323.26	6646210.77	2206368.25
434	SW	4323.38	6646214.40	2206357.68
435	SW	4323.50	6646206.66	2206328.82
436	SW	4323.50	6646198.91	2206299.96
437	SW	4323.24	6646195.11	2206292.52
438	SW	4323.50	6646180.03	2206273.98
439	SW	4323.41	6646184.68	2206270.20
440	SW	4323.42	6646165.75	2206246.93
441	SW	4323.50	6646158.85	2206246.38
442	SW	4323.23	6646204.71	2206364.16
443	SW	4323.19	6646207.52	2206364.45
444	SW	4323.30	6646209.57	2206358.97
445	SW	4326.04	6646151.91	2206237.84
446	SW	4324.05	6646214.04	2206187.28
447	SW	4324.05	6646217.24	2206188.31
448	SW	4323.92	6646223.57	2206181.05
449	SW	4323.88	6646224.24	2206178.98
450	FG	4315.66	6646333.58	2206361.10
451	FG	4316.00	6646325.61	2206360.61
452	FG	4316.02	6646323.66	2206359.10
453	FG	4316.12	6646319.41	2206358.72
454	FG	4316.27	6646317.76	2206361.22
455	FG	4318.16	6646291.20	2206367.19
456	FG	4320.05	6646266.01	2206377.49
457	FG	4320.71	6646257.37	2206381.28
458	FG	4322.23	6646235.84	2206384.40
459	FL	4323.72	6646166.99	2206193.98
460	FL	4322.98	6646211.08	2206158.11
461	FL	4320.96	6646254.41	2206133.43
462	FG	4319.60	6646267.34	2206195.72
463	FG	4318.35	6646286.98	2206257.14
464	FG	4317.93	6646292.68	2206278.39
465	FG	4316.80	6646306.43	2206341.39
466	FG–HP	4324.80	6646185.25	2206217.75

Point #	Raw Description	Elevation	Northing	Easting
467	FG	4323.60	6646198.94	2206280.76
468	FG	4323.60	6646204.64	2206302.01
469	FG	4323.60	6646224.33	2206363.42
470	SW	4323.26	6646185.75	2206288.94
471	SW	4323.54	6646154.20	2206250.16
473	FG	4314.21	6646396.76	2206355.11
474	FG	4315.01	6646343.87	2206369.31
475	FG	4315.90	6646320.67	2206369.91
476	FG	4319.75	6646269.62	2206385.74
477	FG	4323.04	6646202.14	2206375.27
500	TBC	4327.30	6646091.55	2206201.87
501	TBC	4327.05	6646100.77	2206213.20
502	TBC	4327.20	6646099.67	2206218.52
503	TBC	4328.01	6646086.71	2206220.91
504	TBC	4328.89	6646074.63	2206215.63
505	TBC	4329.77	6646053.14	2206233.13
506	TBC	4329.38	6646055.86	2206245.83
507	TBC	4329.39	6646051.12	2206257.92
508	TBC	4329.75	6646045.65	2206257.96
509	TBC	4330.38	6646036.47	2206246.68
510	TBC	4330.94	6646001.18	2206275.40
511	TBC	4329.86	6646040.31	2206323.49
512	TBC	4329.17	6646082.20	2206289.41
513	TBC	4327.95	6646110.51	2206266.37
514	TBC	4327.70	6646101.04	2206254.74
515	TBC	4327.42	6646101.55	2206249.81
516	TBC	4327.38	6646102.32	2206249.18
517	TBC	4327.26	6646107.25	2206249.69
518	TBC	4327.46	6646116.72	2206261.32
519	TBC	4326.18	6646145.03	2206238.29
520	SW	4326.22	6646148.03	2206241.00
521	SW	4325.95	6646156.33	2206243.27
522	SW	4326.00	6646152.45	2206246.43
523	SW	4323.50	6646154.97	2206249.53
524	SW	4327.87	6646116.92	2206266.32
525	SW	4327.34	6646117.94	2206265.48
526	SW	4327.66	6646122.37	2206270.91
527	SW	4327.66	6646122.12	2206271.11
528	SW	4327.70	6646120.71	2206270.97
529	SW	4324.85	6646163.27	2206313.24
530	SW	4327.38	6646121.83	2206262.32
531	SW	4327.56	6646126.30	2206274.15
532	FL	4329.07	6646027.37	2206307.59
533	FL	4328.37	6646069.26	2206273.51
534	FG	4323.00	6646202.07	2206375.31
535	FG	4324.79	6646154.60	2206316.84
536	FG	4326.91	6646127.79	2206283.90
537	FG	4328.29	6646113.72	2206282.45
538	FG	4328.72	6646100.81	2206293.07
539	FG	4329.20	6646082.93	2206307.51
540	FG	4330.00	6646068.90	2206319.87
541	FG	4330.00	6646045.59	2206337.89
542	FG	4329.72	6646031.52	2206336.45
543	FG	4331.00	6645989.30	2206284.57
600	FG	4295.50	6646703.99	2206444.69
601	FG	4295.50	6646715.98	2206443.83
602	FG	4295.50	6646714.34	2206370.89
603	FG	4298.61	6646711.47	2206234.75
604	FG	4295.50	6646699.87	2206255.20
605	FG	4286.00	6646672.46	2206304.43
606	FG	4286.00	6646659.08	2206303.78
607	FG	4286.24	6646661.97	2206298.59
608	FG	4296.74	6646691.21	2206246.11
609	FG	4300.25	6646694.38	2206231.02
610	FG	4303.75	6646688.44	2206216.78
611	FG	4304.55	6646686.09	2206213.97

Revisions:

#	DATE	DESCRIPTION
1	9/16/25	SEE DESCRIPTION ON SHEET C001

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

FINE GRADING POINT TABLES II

MOAB, UTAH

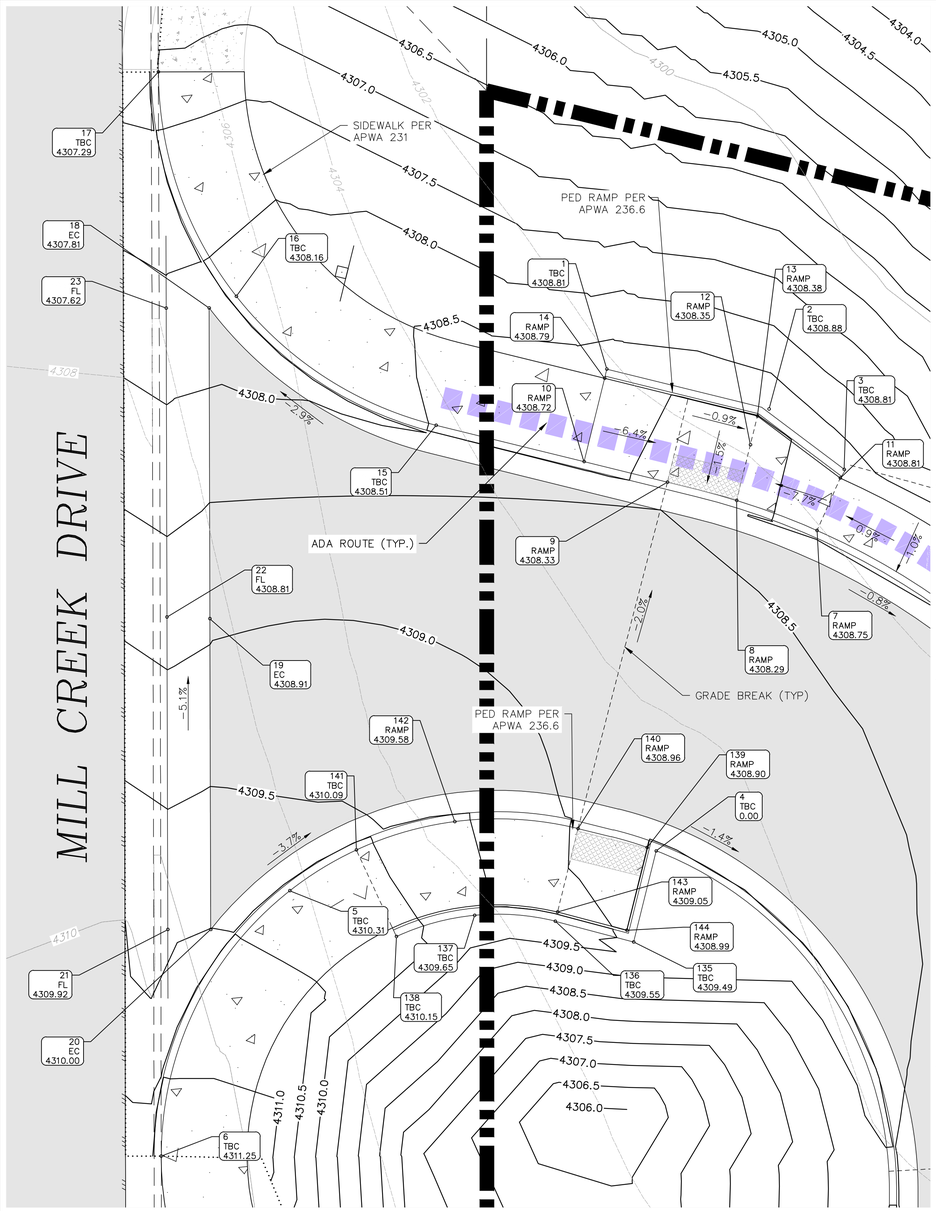
CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

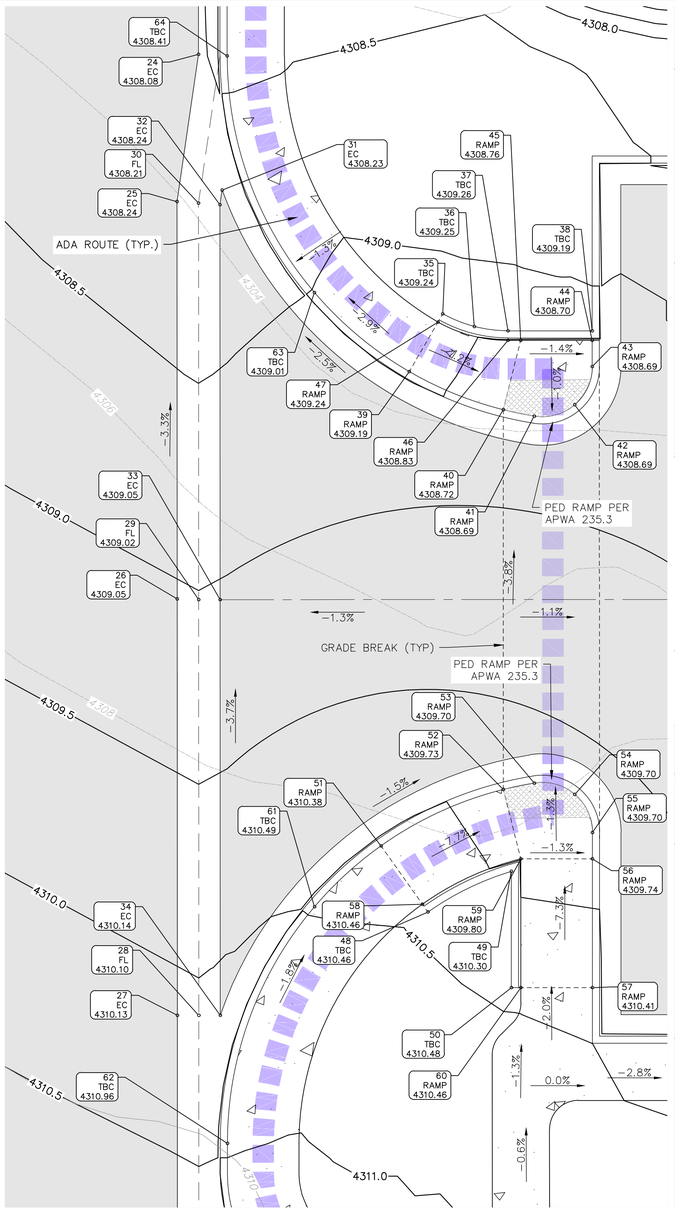
C208

Sheet 13 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

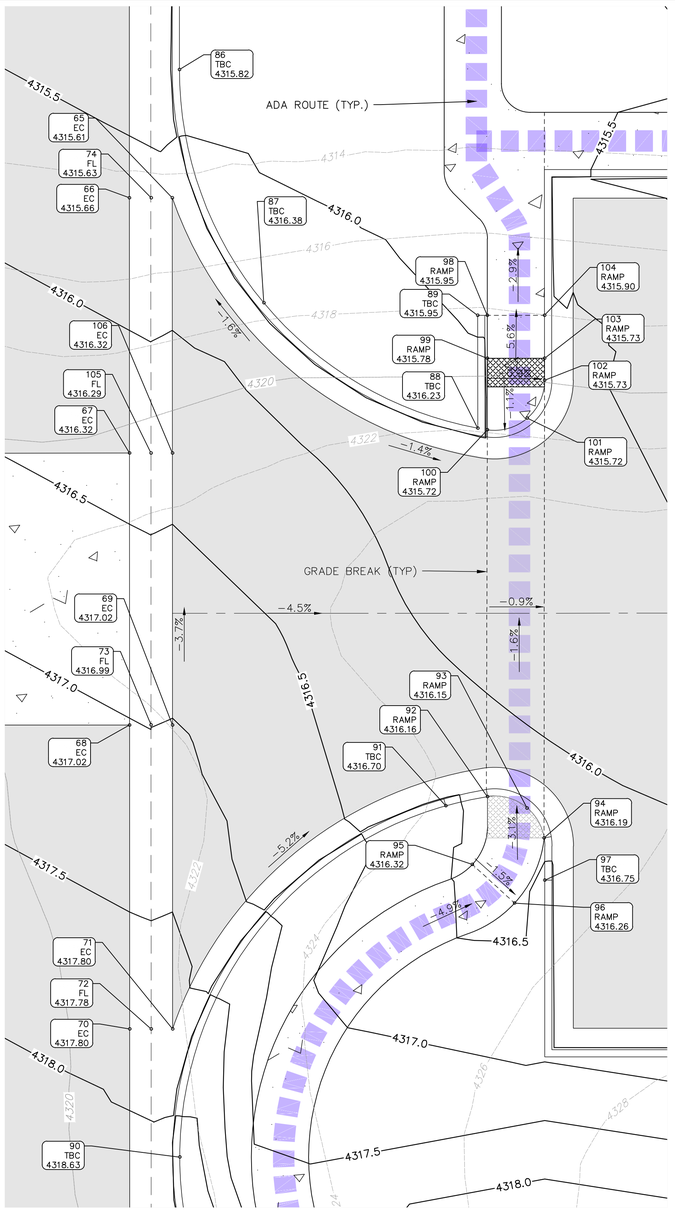
PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH



INTERSECTION A



INTERSECTION B



INTERSECTION C

GRAPHIC SCALE
0 2,5 5 FEET 10

Revisions: #	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

INTERSECTION GRADING I

MOAB, UTAH

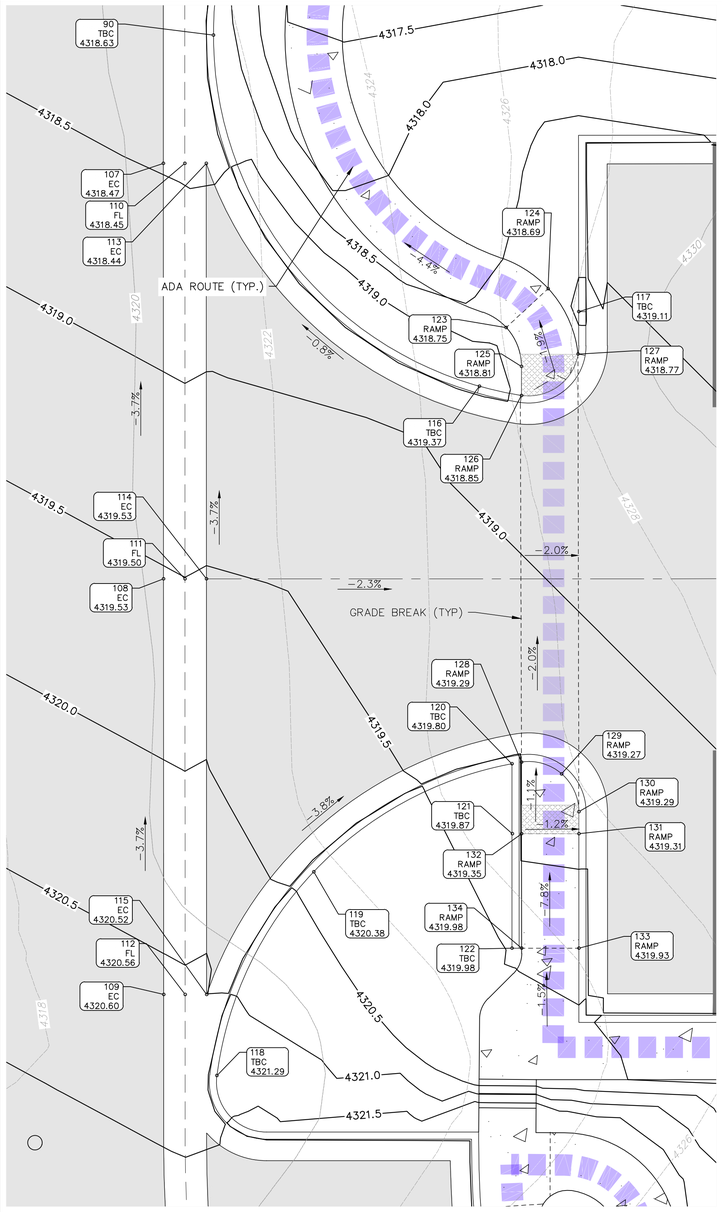
CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

C209

Sheet	14 of 34
Project:	2025-016
Date:	09/16/2025
Drawn By:	CH
Checked By:	JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH



INTERSECTION D

INTERSECTION POINT TABLES (SH. C209–C210)

Point #	Raw Description	Elevation	Northing	Easting
1	TBC	4308.81	6646729.37	2205961.76
2	TBC	4308.88	6646729.61	2205973.43
3	TBC	4308.81	6646726.89	2205979.59
4	TBC	0.00	6646697.74	2205973.80
5	TBC	4310.31	6646688.43	2205949.81
6	TBC	4311.25	6646668.19	2205945.93
7	RAMP	4308.75	6646722.28	2205978.87
8	RAMP	4308.29	6646722.85	2205972.90
9	RAMP	4308.33	6646722.83	2205967.90
10	RAMP	4308.72	6646722.71	2205961.90
11	RAMP	4308.81	6646726.23	2205979.48
12	RAMP	4308.35	6646726.86	2205972.82
13	RAMP	4308.38	6646728.93	2205972.77
14	RAMP	4308.79	6646728.71	2205961.78
15	TBC	4308.51	6646722.49	2205951.26
16	TBC	4308.16	6646727.58	2205935.45
17	TBC	4307.29	6646741.32	2205926.13
18	EC	4307.81	6646726.31	2205933.82
19	EC	4308.91	6646705.35	2205939.50
20	EC	4310.00	6646684.38	2205945.18
21	FL	4309.92	6646683.60	2205942.28
22	FL	4308.81	6646704.68	2205936.57
23	FL	4307.62	6646725.52	2205930.93
24	EC	4308.08	6646679.21	2206019.45
25	EC	4308.24	6646668.88	2206020.67
26	EC	4309.05	6646642.06	2206027.87
27	EC	4310.13	6646613.96	2206035.40
28	FL	4310.10	6646614.35	2206036.86
29	FL	4309.02	6646642.41	2206029.33
30	FL	4308.21	6646669.17	2206022.15
31	EC	4308.23	6646670.47	2206023.51
32	EC	4308.24	6646669.45	2206023.63
33	EC	4309.05	6646642.80	2206030.78
34	EC	4310.14	6646614.74	2206038.30
35	TBC	4309.24	6646666.11	2206040.63
36	TBC	4309.25	6646665.83	2206042.99
37	TBC	4309.26	6646666.15	2206045.34
38	TBC	4309.19	6646667.67	2206051.02
39	RAMP	4309.19	6646661.61	2206039.42
40	RAMP	4308.72	6646660.73	2206046.45
41	RAMP	4308.69	6646660.86	2206048.65
42	RAMP	4308.69	6646662.36	2206051.17
43	RAMP	4308.69	6646665.25	2206051.67
44	RAMP	4308.70	6646667.03	2206051.20
45	RAMP	4308.76	6646665.73	2206046.37
46	RAMP	4308.83	6646665.50	2206045.51
47	RAMP	4309.24	6646665.47	2206040.46
48	TBC	4310.46	6646625.47	2206050.46
49	TBC	4310.30	6646629.71	2206055.34
50	TBC	4310.48	6646621.87	2206057.45
51	RAMP	4310.38	6646629.08	2206046.09
52	RAMP	4309.73	6646635.10	2206053.32
53	RAMP	4309.70	6646636.09	2206055.30
54	RAMP	4309.70	6646636.06	2206058.23
55	RAMP	4309.70	6646633.80	2206060.11
56	RAMP	4309.74	6646632.03	2206060.59
57	RAMP	4310.41	6646623.33	2206062.92
58	RAMP	4310.46	6646625.89	2206049.94
59	RAMP	4309.80	6646630.73	2206055.76
60	RAMP	4310.46	6646622.04	2206058.09

Point #	Raw Description	Elevation	Northing	Easting
61	TBC	4310.49	6646623.77	2206042.70
62	TBC	4310.96	6646606.22	2206041.11
63	TBC	4309.01	6646665.23	2206031.58
64	TBC	4308.41	6646679.62	2206021.41
65	EC	4315.61	6646394.31	2206097.45
66	EC	4315.66	6646393.53	2206094.55
67	EC	4316.32	6646376.30	2206099.17
68	EC	4317.02	6646357.95	2206104.10
69	EC	4317.02	6646358.71	2206107.00
70	EC	4317.80	6646337.43	2206109.60
71	EC	4317.80	6646338.21	2206112.50
72	FL	4317.78	6646337.82	2206111.05
73	FL	4316.99	6646358.33	2206105.55
74	FL	4315.63	6646393.93	2206096.02
86	TBC	4315.82	6646403.09	2206095.61
87	TBC	4316.38	6646388.87	2206105.52
88	TBC	4316.23	6646384.28	2206122.23
89	TBC	4315.95	6646391.89	2206120.18
90	TBC	4318.63	6646329.69	2206115.30
91	TBC	4316.70	6646358.21	2206126.90
92	RAMP	4316.16	6646359.58	2206129.54
93	RAMP	4316.15	6646359.53	2206132.43
94	RAMP	4316.19	6646357.81	2206134.11
95	RAMP	4316.32	6646354.74	2206129.75
96	RAMP	4316.26	6646352.88	2206133.30
97	TBC	4316.75	6646354.97	2206134.92
98	RAMP	4315.95	6646392.06	2206120.83
99	RAMP	4315.78	6646389.17	2206121.61
100	RAMP	4315.72	6646384.34	2206122.90
101	RAMP	4315.72	6646385.85	2206125.39
102	RAMP	4315.73	6646388.72	2206125.87
103	RAMP	4315.73	6646390.20	2206125.47
104	RAMP	4315.90	6646393.10	2206124.69
105	FL	4316.29	6646376.69	2206100.62
106	EC	4316.32	6646377.07	2206102.07
107	EC	4318.47	6646320.13	2206114.24
108	EC	4319.53	6646292.08	2206121.77
109	EC	4320.60	6646264.03	2206129.31
110	FL	4318.45	6646320.52	2206115.69
111	FL	4319.50	6646292.47	2206123.22
112	FL	4320.56	6646264.42	2206130.75
113	EC	4318.44	6646320.91	2206117.14
114	EC	4319.53	6646292.85	2206124.67
115	EC	4320.52	6646264.80	2206132.19
116	TBC	4319.37	6646310.80	2206139.59
117	TBC	4319.11	6646317.62	2206144.94
118	TBC	4321.29	6646259.51	2206134.35
119	TBC	4320.38	6646275.02	2206137.20
120	TBC	4319.80	6646285.89	2206148.62
121	TBC	4319.87	6646281.18	2206149.91
122	TBC	4319.98	6646273.45	2206151.96
123	RAMP	4318.75	6646315.24	2206140.34
124	RAMP	4318.69	6646318.62	2206142.47
125	RAMP	4318.81	6646312.89	2206142.07
126	RAMP	4318.85	6646310.93	2206142.60
127	RAMP	4318.77	6646314.75	2206145.66
128	RAMP	4319.29	6646286.18	2206149.24
129	RAMP	4319.27	6646286.11	2206152.15
130	RAMP	4319.29	6646283.87	2206154.00
131	RAMP	4319.31	6646282.38	2206154.40

Point #	Raw Description	Elevation	Northing	Easting
132	RAMP	4319.35	6646281.35	2206150.53
133	RAMP	4319.93	6646274.66	2206156.47
134	RAMP	4319.98	6646273.62	2206152.61
135	TBC	4309.49	6646691.19	2205973.94
136	TBC	4309.55	6646691.16	2205968.27
137	TBC	4309.65	6646690.10	2205962.72
138	TBC	4310.15	6646687.26	2205957.83
139	RAMP	4308.90	6646697.80	2205973.14
140	RAMP	4308.96	6646697.83	2205968.13
141	TBC	4310.09	6646692.38	2205953.56
142	RAMP	4309.58	6646696.08	2205959.69
143	RAMP	4309.05	6646691.83	2205968.26
144	RAMP	4308.99	6646691.85	2205973.26

GRAPHIC SCALE
0 2.5 5 FEET 10

Revisions:

#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

INTERSECTION GRADING II

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C210

Sheet 15 of 34
Project: 2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

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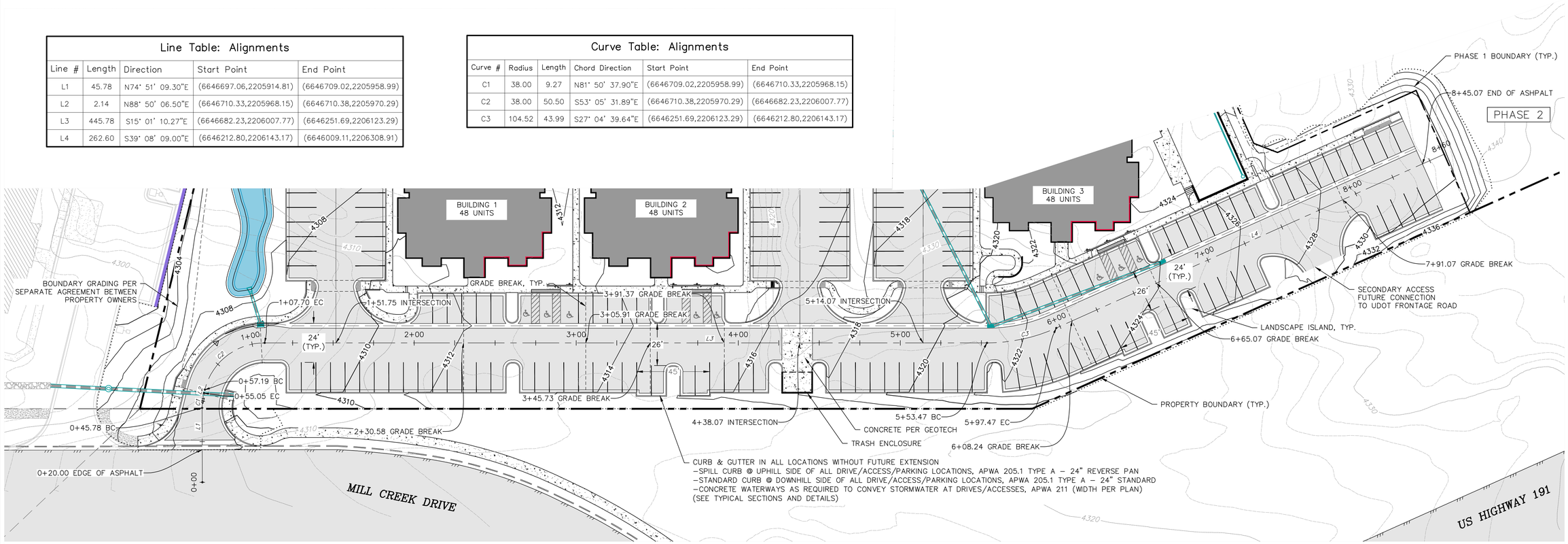
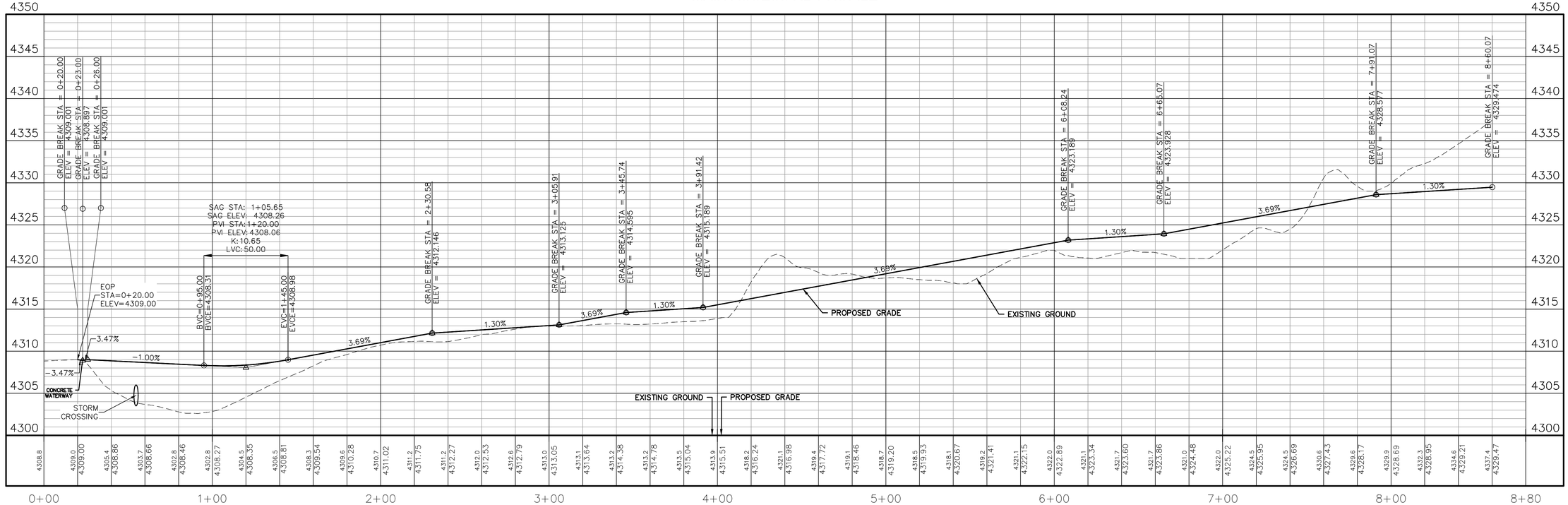
Line Table: Alignments				
Line #	Length	Direction	Start Point	End Point
L1	45.78	N74° 51' 09.30"E	(6646697.06,2205914.81)	(6646709.02,2205958.99)
L2	2.14	N88° 50' 06.50"E	(6646710.33,2205968.15)	(6646710.38,2205970.29)
L3	445.78	S15° 01' 10.27"E	(6646682.23,2206007.77)	(6646251.69,2206123.29)
L4	262.60	S39° 08' 09.00"E	(6646212.80,2206143.17)	(6646009.11,2206308.91)

Curve Table: Alignments					
Curve #	Radius	Length	Chord Direction	Start Point	End Point
C1	38.00	9.27	N81° 50' 37.90"E	(6646709.02,2205958.99)	(6646710.33,2205968.15)
C2	38.00	50.50	S53° 05' 31.89"E	(6646710.38,2205970.29)	(6646682.23,2206007.77)
C3	104.52	43.99	S27° 04' 39.64"E	(6646251.69,2206123.29)	(6646212.80,2206143.17)



MAIN ACCESS RD PROFILE



THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

ACCESS PLAN AND PROFILE

MOAB, UTAH

GRAPHIC SCALE
0 15 30 FEET 60

Revisions:
#	DATE	DESCRIPTION

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C301

Sheet 16 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

c:\users\chrishawkins\set engineering, llc dropbox\current projects\2024-036 gorn mill creek apts\cad\plansheets\phase 1 90% submittal\c301 access plan and profile.dwg – 9/16/2025 4:46 PM

NOTES:

1. STORM DRAINS 15" & UNDER SHALL BE SDR-35 PVC
2. STORM DRAINS 15" & OVER SHALL BE NON-CORRUGATED HDPE, LIKE ADS N-12 OR PS 46.
3. 18" MIN CLEARANCE FOR ALL UTILITY CROSSINGS

GRAPHIC SCALE
0 15 30 FEET 60

Revisions:

#	DATE	DESCRIPTION
1	9/16/25	SEE DESCRIPTION ON SHEET C001

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

STORM DRAIN INDEX PLAN

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C401

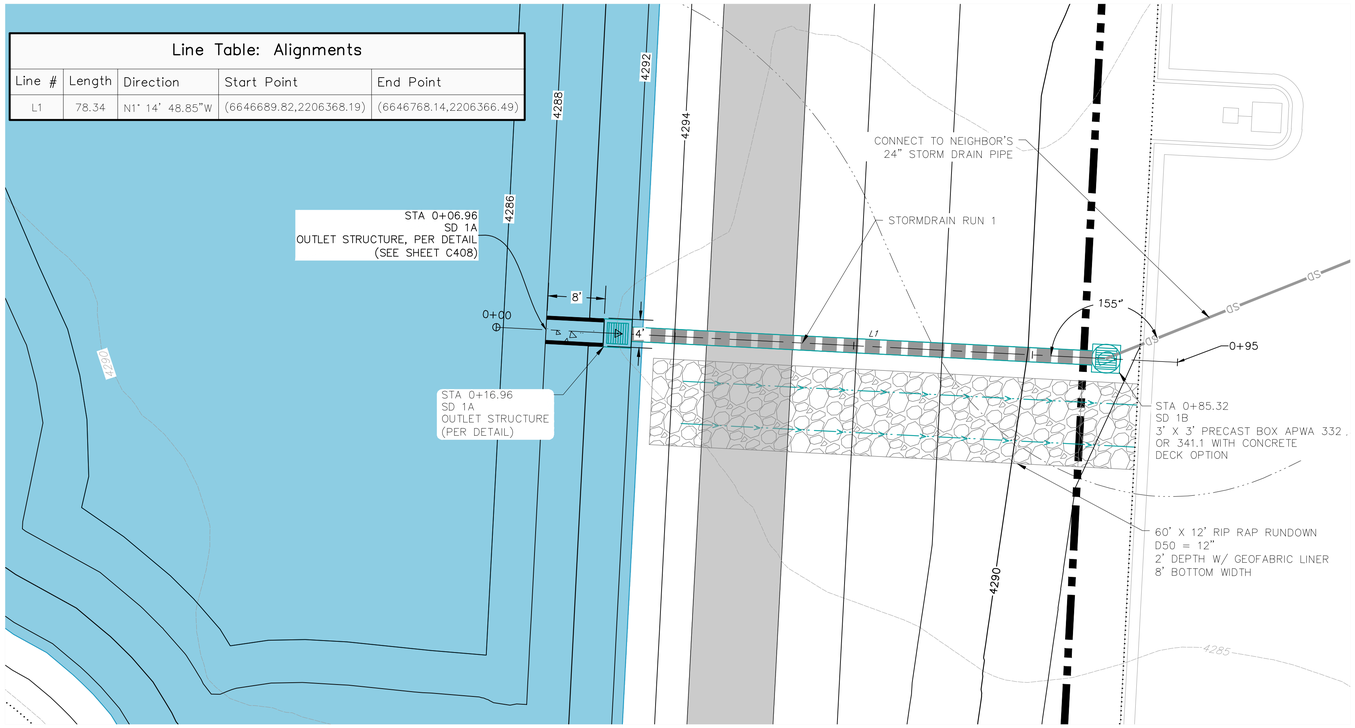
Sheet 17 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

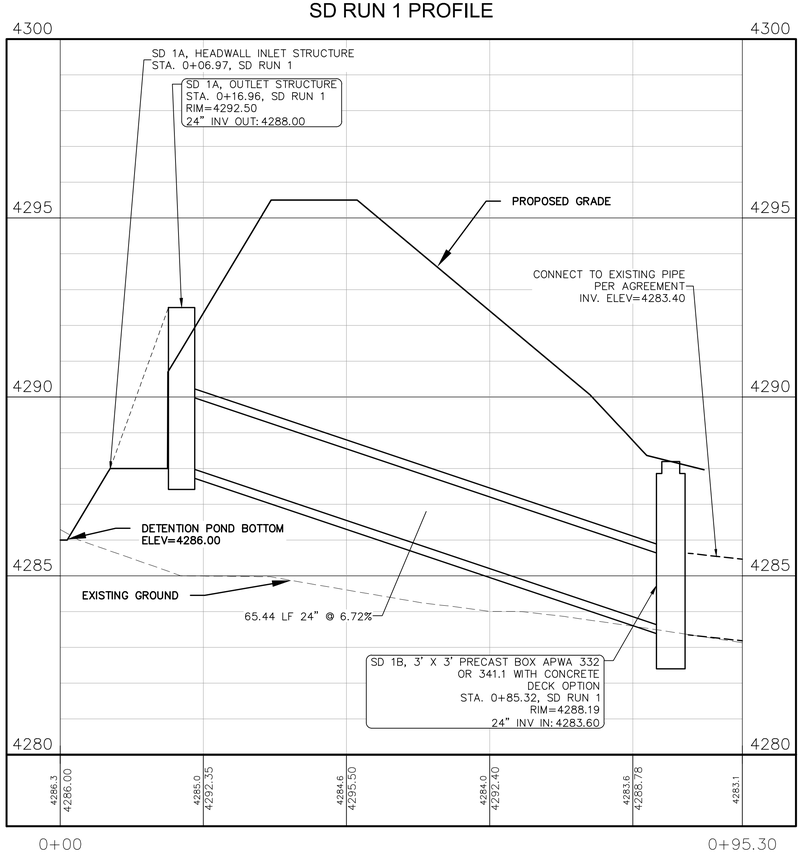
PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

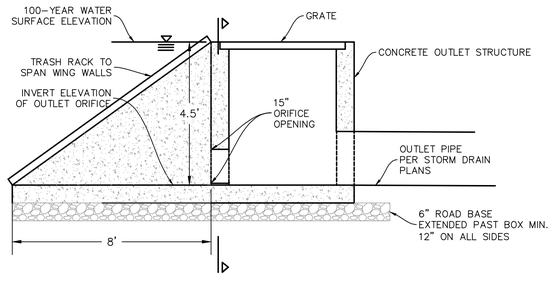
c:\users\chrishowkins\set engineering, llc dropbox\current projects\2024-036 gpm mill creek apts\cad\plansheets\phase 1 90% submittal\c401 phase 1 storm drain plan and profile.dwg – 9/16/2025 4:46 PM

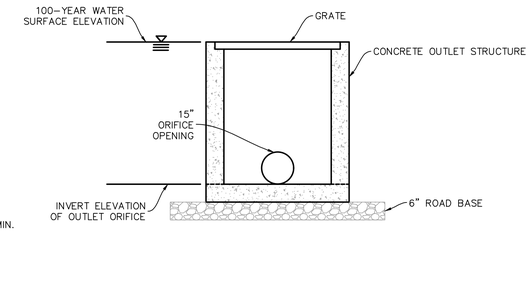
NOTES:

1. STORM DRAINS 15" & UNDER SHALL BE SDR-35 PVC
2. STORM DRAINS 15" & OVER SHALL BE NON-CORRUGATED HDPE. LIKE ADS N-12 OR PS 46.
3. 18" MIN CLEARANCE FOR ALL UTILITY CROSSINGS
4. "LINE TABLE: ALIGNMENTS" DATA ONLY REFLECTS THE PROPERTIES OF THE ALIGNMENT. STRUCTURE AND PIPE DATA ARE SHOWN IN THE PLAN & PROFILE, AND STRUCTURES ARE ASSIGNED STATIONS FOR LOCATION WITH RESPECT TO THE ALIGNMENT. CONTRACTOR SHALL SUBMIT RFI FOR EXACT STRUCTURE LOCATIONS IF MORE INFORMATION IS REQUIRED.
5. TRENCH AND PIPE ZONE BACKFILL PER APWA 381 AND 382.









DETENTION POND OUTLET STRUCTURE TYPICAL DETAIL
(N.T.S.)

DETENTION POND OUTLET STRUCTURE NOTES:

1. 4' X4' UDOT CB 5A STANDARD CATCH BASIN WITH WING WALL AND APRON AND MODIFIED GF 9A TRASH RACK. OR, 4' X 4' UDOT DB 2A STANDARD DIVERSION BOX WITH GRATING, TYPE S, 0-DEGREE WING WALLS WITH CONCRETE APRON, WITHOUT GATES, WITH MODIFIED GF 8A TRASH RACK.
2. CONTRACTOR TO PROVIDE SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.

PROFILE EXAGGERATION = 5V:1H

GRAPHIC SCALE
0 5 10 FEET 20

Revisions:
#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

STORMDRAIN RUN 1 PLAN AND PROFILE

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C402

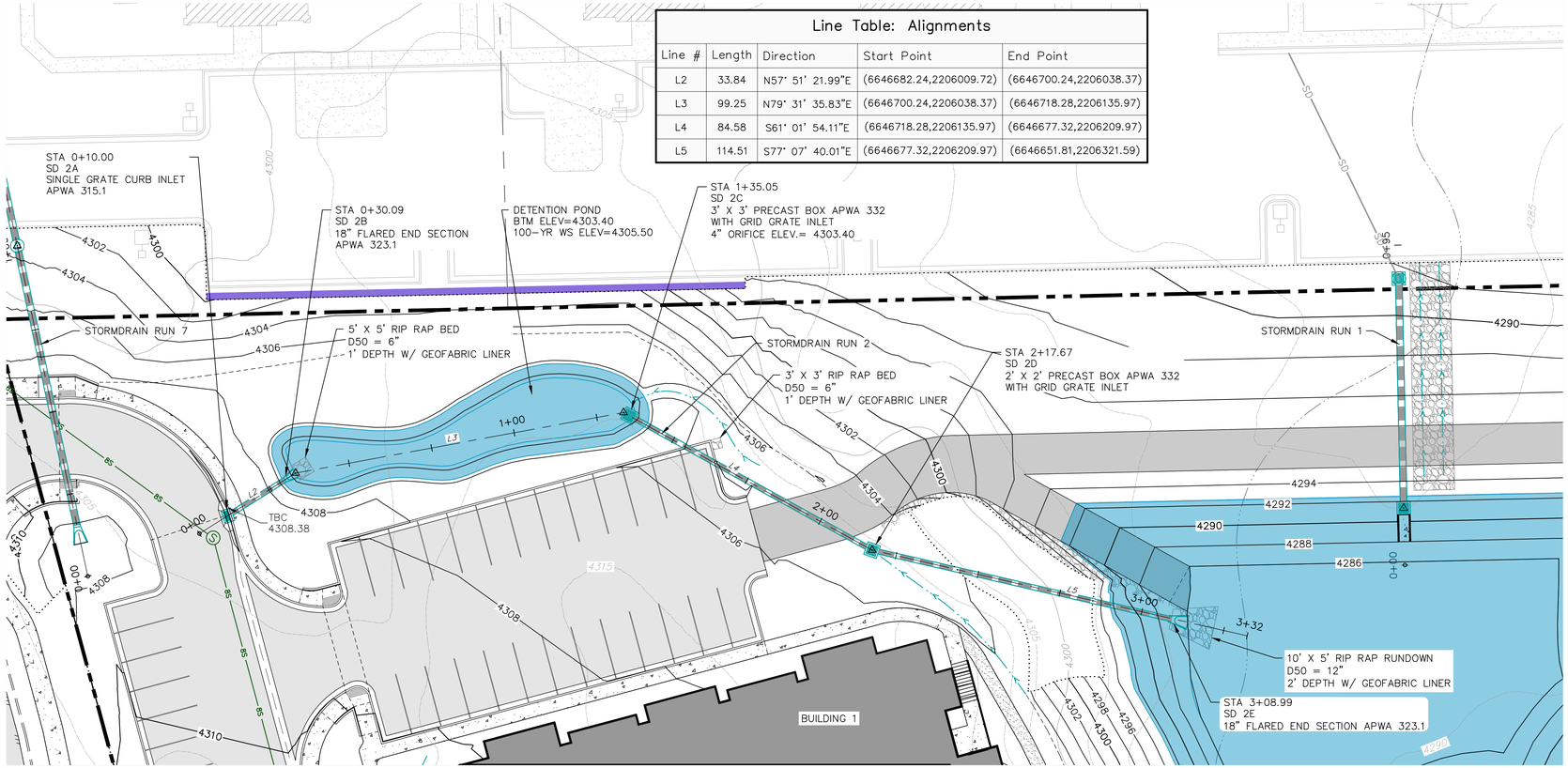
Sheet 18 of 34
Project: 2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

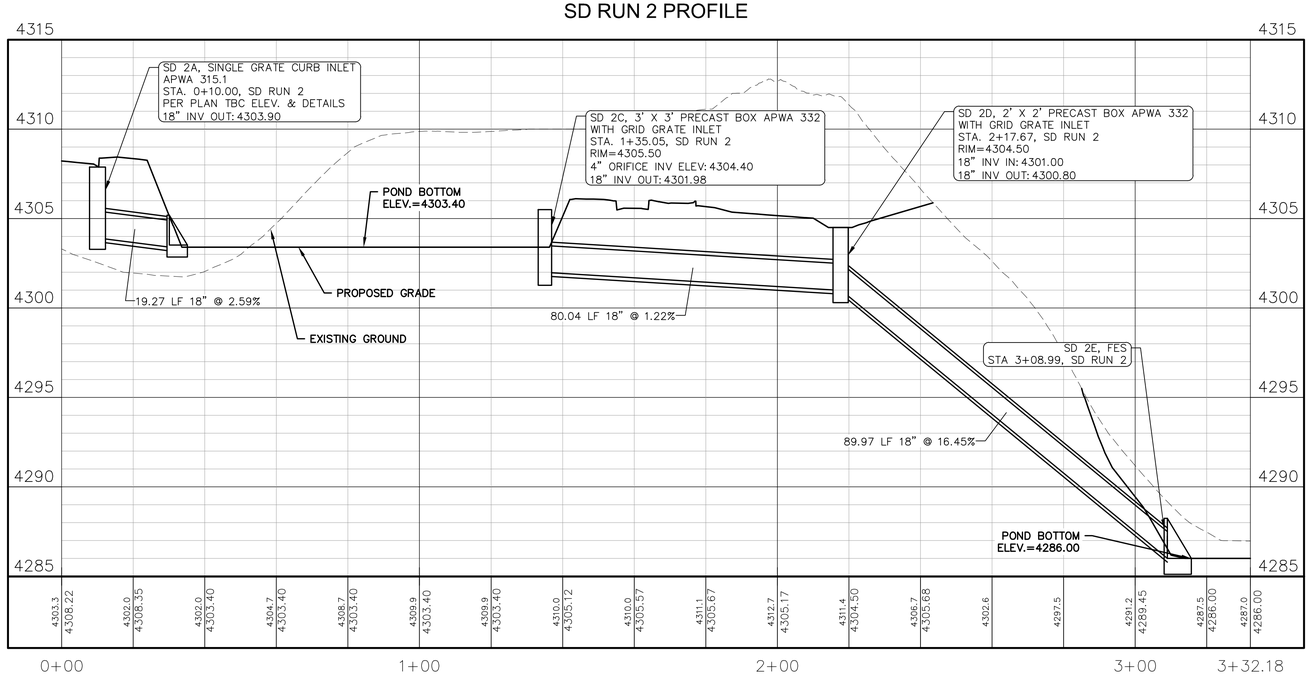
NOTES:

1. STORM DRAINS 15" & UNDER SHALL BE SDR-35 PVC
2. STORM DRAINS 15" & OVER SHALL BE NON-CORRUGATED HDPE. LIKE ADS N-12 OR PS 46.
3. 18" MIN CLEARANCE FOR ALL UTILITY CROSSINGS
4. "LINE TABLE: ALIGNMENTS" DATA ONLY REFLECTS THE PROPERTIES OF THE ALIGNMENT. STRUCTURE AND PIPE DATA ARE SHOWN IN THE PLAN & PROFILE, AND STRUCTURES ARE ASSIGNED STATIONS FOR LOCATION WITH RESPECT TO THE ALIGNMENT. CONTRACTOR SHALL SUBMIT RFI FOR EXACT STRUCTURE LOCATIONS IF MORE INFORMATION IS REQUIRED.
5. TRENCH AND PIPE ZONE BACKFILL PER APWA 381 AND 382.

Line Table: Alignments				
Line #	Length	Direction	Start Point	End Point
L2	33.84	N57° 51' 21.99"E	(6646682.24,2206009.72)	(6646700.24,2206038.37)
L3	99.25	N79° 31' 35.83"E	(6646700.24,2206038.37)	(6646718.28,2206135.97)
L4	84.58	S61° 01' 54.11"E	(6646718.28,2206135.97)	(6646677.32,2206209.97)
L5	114.51	S77° 07' 40.01"E	(6646677.32,2206209.97)	(6646651.81,2206321.59)



SD RUN 2 PROFILE



PROFILE EXAGGERATION = 5V:1H

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

STORMDRAIN RUN 2 PLAN AND PROFILE

MOAB, UTAH

Revisions:

#	DATE	DESCRIPTION

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

C403

Sheet 19 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

NOTES:

1. STORM DRAINS 15" & UNDER SHALL BE SDR-35 PVC
2. STORM DRAINS 15" & OVER SHALL BE NON-CORRUGATED HDPE. LIKE ADS N-12 OR PS 46.
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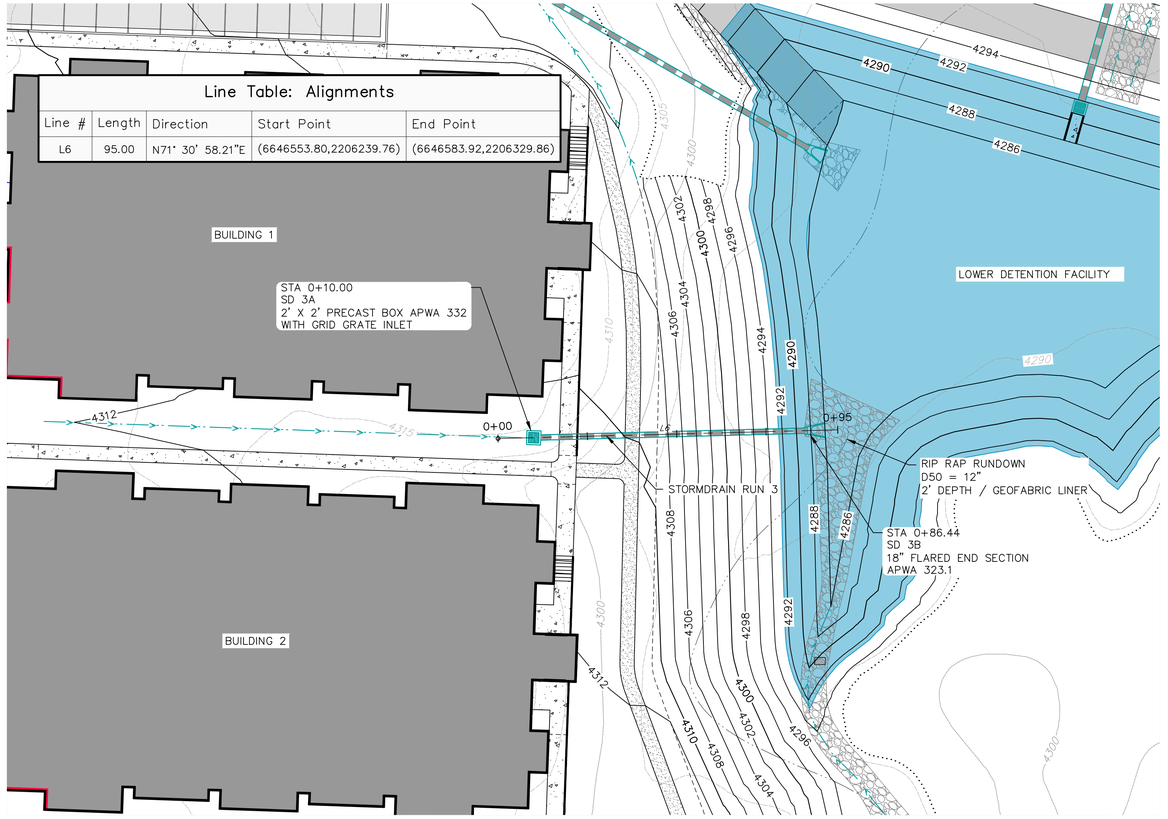
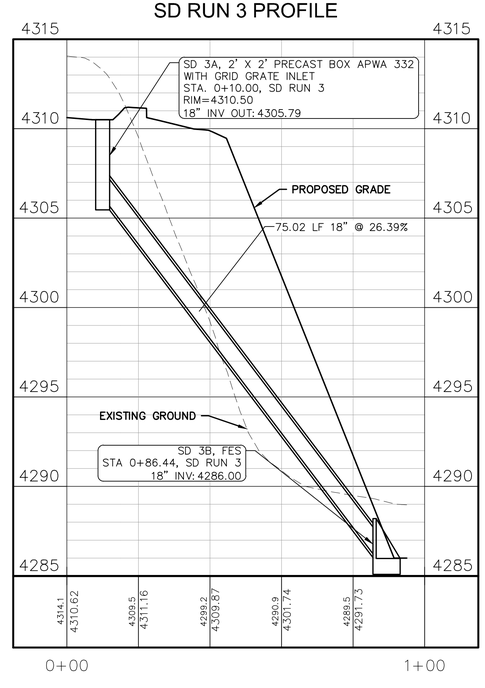


SD RUN 3 PROFILE



PROFILE EXAGGERATION = 5V:1H

GRAPHIC SCALE
0 10 20 FEET 40

Revisions:

#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

STORMDRAIN RUN 3 PLAN AND PROFILE

MOAB, UTAH

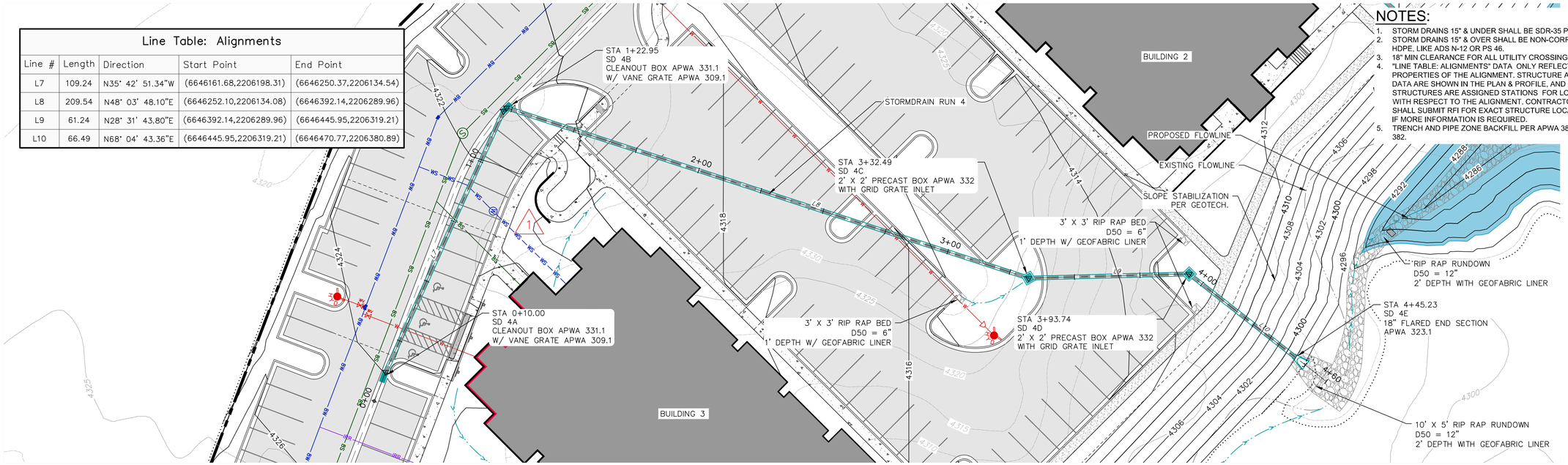
CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C404

Sheet 20 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

Line Table: Alignments				
Line #	Length	Direction	Start Point	End Point
L7	109.24	N35° 42' 51.34"W	(6646161.68,2206198.31)	(6646250.37,2206134.54)
L8	209.54	N48° 03' 48.10"E	(6646252.10,2206134.08)	(6646392.14,2206289.96)
L9	61.24	N28° 31' 43.80"E	(6646392.14,2206289.96)	(6646445.95,2206319.21)
L10	66.49	N68° 04' 43.36"E	(6646445.95,2206319.21)	(6646470.77,2206380.89)



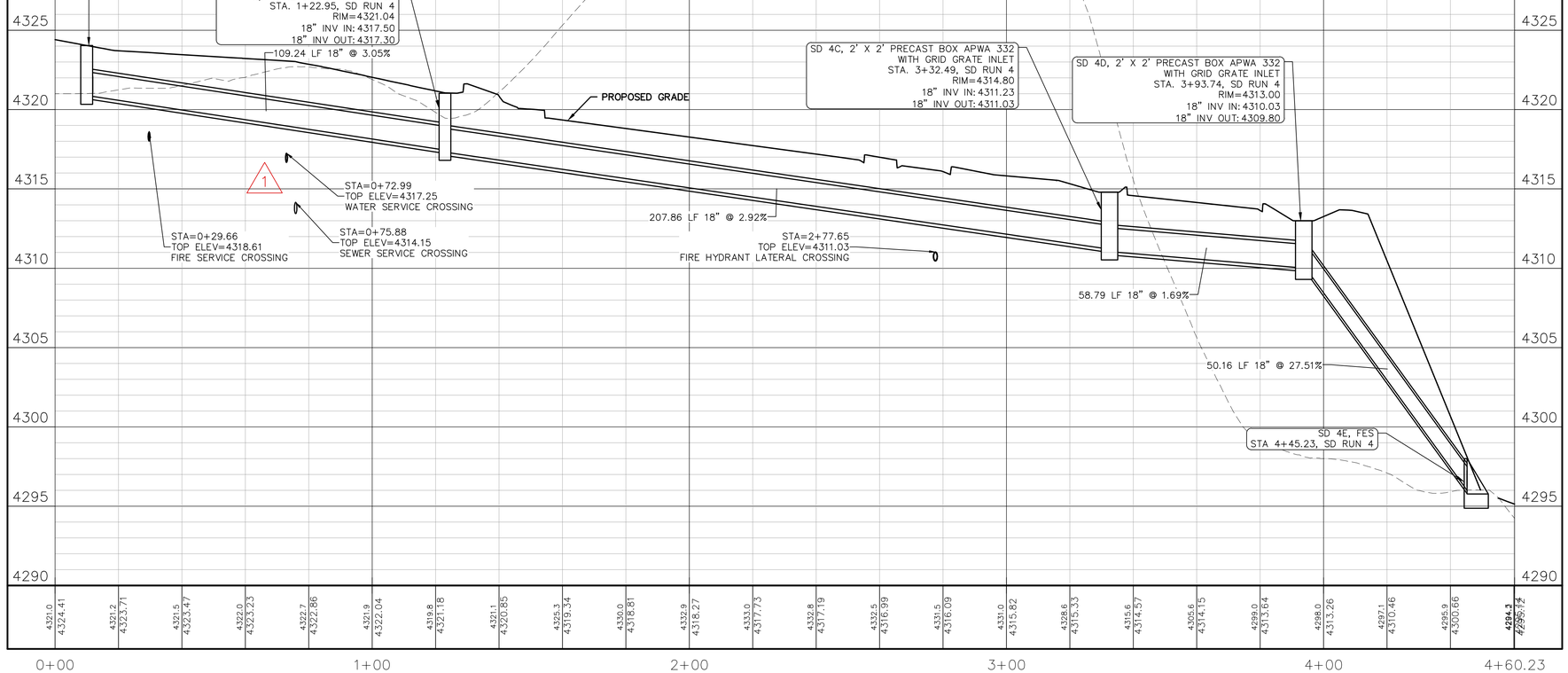
NOTES:

1. STORM DRAINS 15" & UNDER SHALL BE SDR-35 PVC
2. STORM DRAINS 15" & OVER SHALL BE NON-CORRUGATED HDPE, LIKE ADS N-12 OR PS 46.
3. 18" MIN CLEARANCE FOR ALL UTILITY CROSSINGS
4. "LINE TABLE: ALIGNMENTS" DATA ONLY REFLECTS THE PROPERTIES OF THE ALIGNMENT. STRUCTURE AND PIPE DATA ARE SHOWN IN THE PLAN & PROFILE, AND STRUCTURES ARE ASSIGNED STATIONS FOR LOCATION WITH RESPECT TO THE ALIGNMENT. CONTRACTOR SHALL SUBMIT RFI FOR EXACT STRUCTURE LOCATIONS IF MORE INFORMATION IS REQUIRED.
5. TRENCH AND PIPE ZONE BACKFILL PER APWA 381 AND 382.

GRAPHIC SCALE
0 10 20 FEET 40

Revisions:		
#	DATE	DESCRIPTION
1	9/16/25	SEE DESCRIPTION ON SHEET C001

SD RUN 4 PROFILE



PROFILE EXAGGERATION = 5V:1H

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

STORMDRAIN RUN 4 PLAN AND PROFILE

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

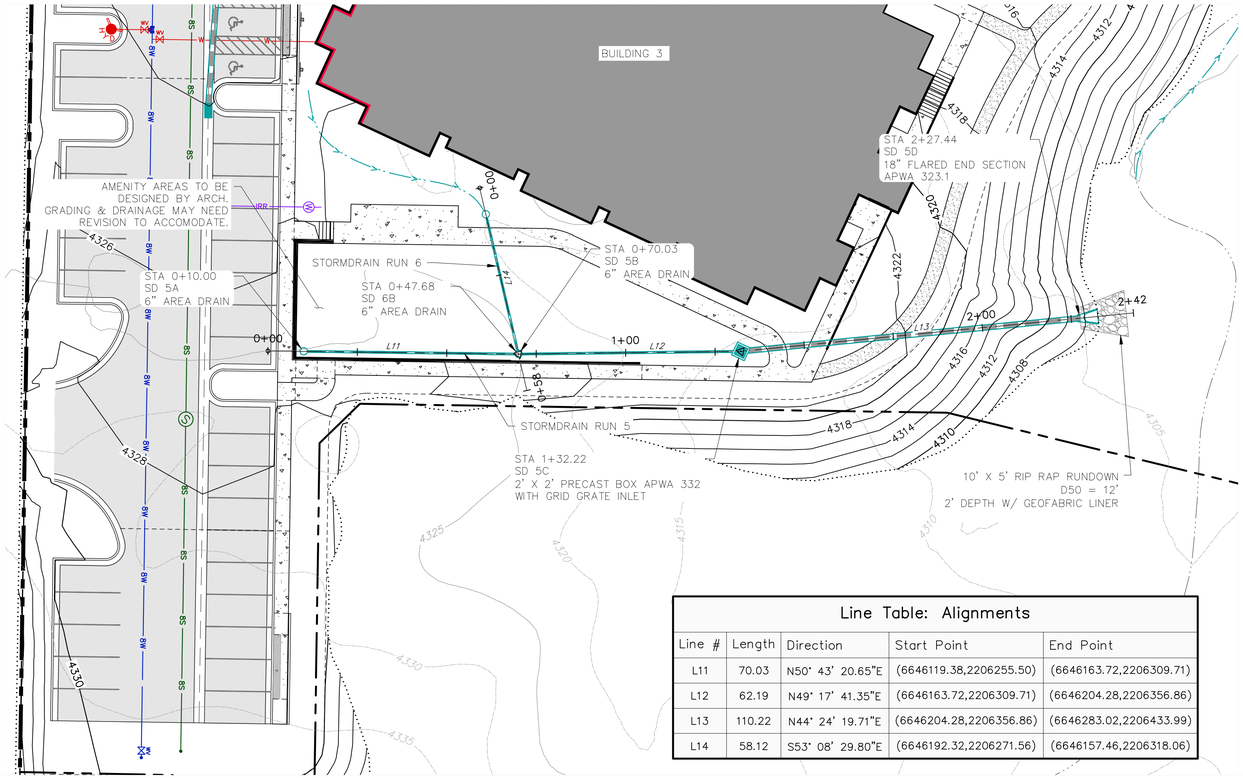
PLAN NO.
C405

Sheet 21 of 34
Project: 2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

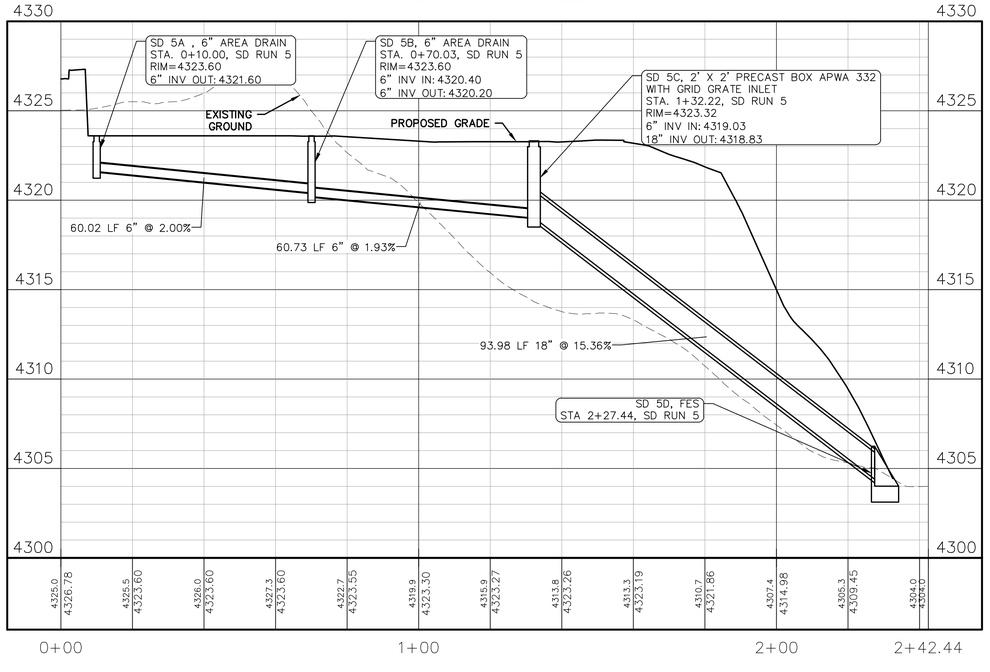
NOTES:

1. STORM DRAINS 15" & UNDER SHALL BE SDR-35 PVC
2. STORM DRAINS 15" & OVER SHALL BE NON-CORRUGATED HDPE. LIKE ADS N-12 OR PS 46.
3. 18" MIN CLEARANCE FOR ALL UTILITY CROSSINGS
4. "LINE TABLE: ALIGNMENTS" DATA ONLY REFLECTS THE PROPERTIES OF THE ALIGNMENT. STRUCTURE AND PIPE DATA ARE SHOWN IN THE PLAN & PROFILE, AND STRUCTURES ARE ASSIGNED STATIONS FOR LOCATION WITH RESPECT TO THE ALIGNMENT. CONTRACTOR SHALL SUBMIT RFI FOR EXACT STRUCTURE LOCATIONS IF MORE INFORMATION IS REQUIRED.
5. TRENCH AND PIPE ZONE BACKFILL PER APWA 381 AND 382.

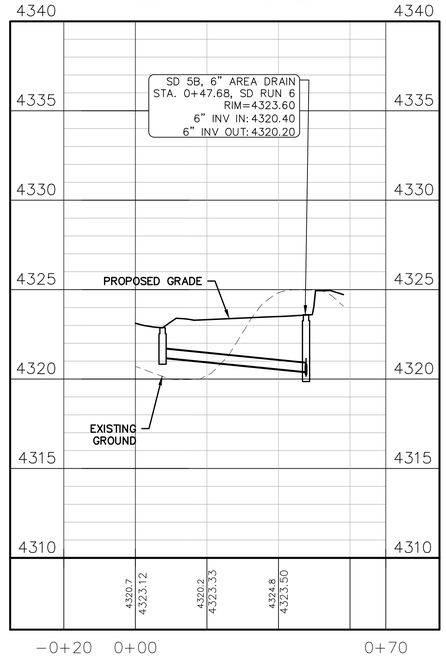


Line Table: Alignments				
Line #	Length	Direction	Start Point	End Point
L11	70.03	N50° 43' 20.65"E	(6646119.38,2206255.50)	(6646163.72,2206309.71)
L12	62.19	N49° 17' 41.35"E	(6646163.72,2206309.71)	(6646204.28,2206356.86)
L13	110.22	N44° 24' 19.71"E	(6646204.28,2206356.86)	(6646283.02,2206433.99)
L14	58.12	S53° 08' 29.80"E	(6646192.32,2206271.56)	(6646157.46,2206318.06)

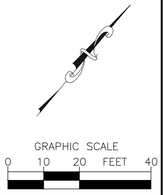
SD RUN 5 PROFILE



SD RUN 6 PROFILE



PROFILE EXAGGERATION = 5V:1H



Revisions:

#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

STORMDRAIN RUN 5 & 6 PLAN AND PROFILE

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

C406

Sheet 22 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

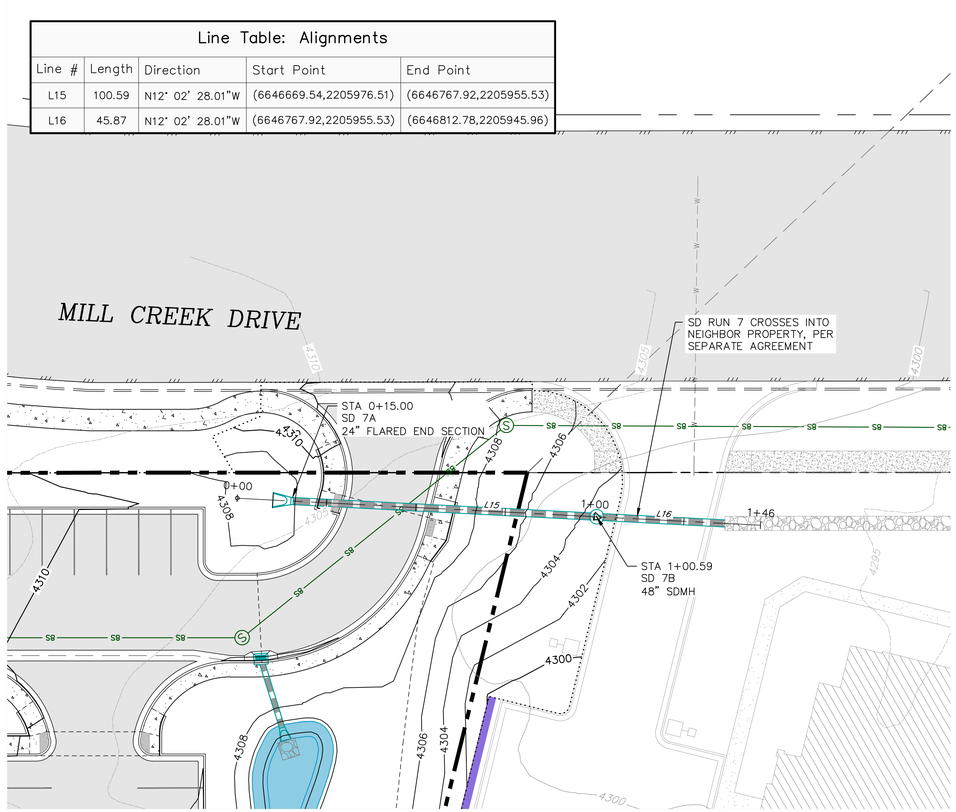
PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

NOTES:

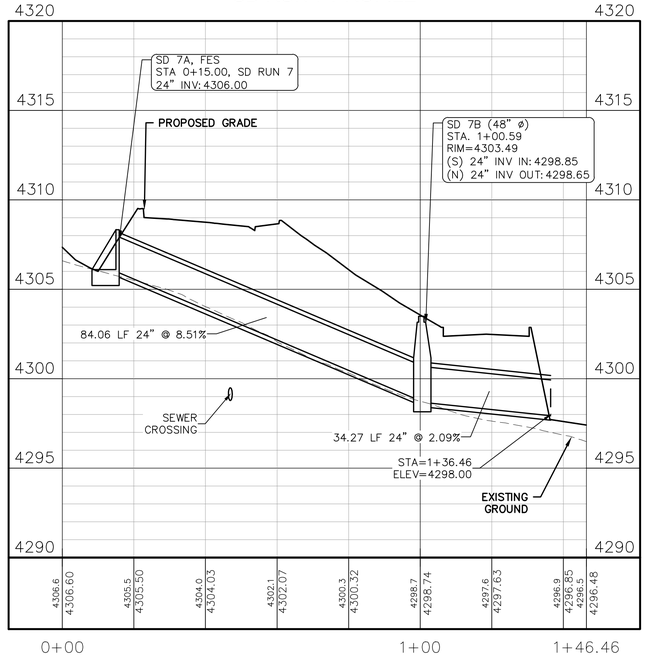
1. STORM DRAINS 15" & UNDER SHALL BE SDR-35 PVC
2. STORM DRAINS 15" & OVER SHALL BE NON-CORRUGATED HDPE. LIKE ADS N-12 OR PS 46.
3. 18" MIN CLEARANCE FOR ALL UTILITY CROSSINGS
4. "LINE TABLE: ALIGNMENTS" DATA ONLY REFLECTS THE PROPERTIES OF THE ALIGNMENT. STRUCTURE AND PIPE DATA ARE SHOWN IN THE PLAN & PROFILE, AND STRUCTURES ARE ASSIGNED STATIONS FOR LOCATION WITH RESPECT TO THE ALIGNMENT. CONTRACTOR SHALL SUBMIT RFI FOR EXACT STRUCTURE LOCATIONS IF MORE INFORMATION IS REQUIRED.
5. TRENCH AND PIPE ZONE BACKFILL PER APWA 381 AND 382.

Line Table: Alignments

Line #	Length	Direction	Start Point	End Point
L15	100.59	N12° 02' 28.01"W	(6646669.54,2205976.51)	(6646767.92,2205955.53)
L16	45.87	N12° 02' 28.01"W	(6646767.92,2205955.53)	(6646812.78,2205945.96)



SD RUN 7 PROFILE



PROFILE EXAGGERATION = 5V:1H

GRAPHIC SCALE
0 10 20 FEET 40

Revisions:

#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

STORMDRAIN RUN 7 PLAN AND PROFILE

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C407

Sheet 23 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

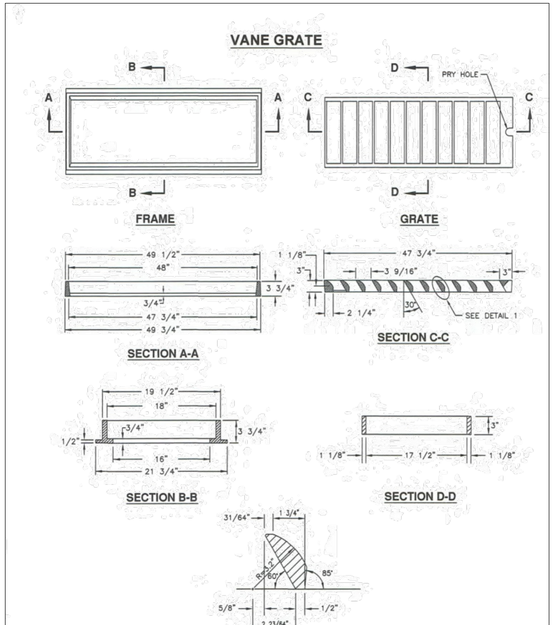
47 3/4" Grate and frame

1. **GENERAL**
   A. The grate and frame fits cleanout box Type A in Plan 331.

2. **PRODUCTS**
   A. Castings: Grey iron class 35 minimum per ASTM A48, coated with asphalt based paint or better (except on machined surfaces).

3. **EXECUTION** (Not used)

309.1



Utah Chapter

47 3/4" Grate and frame

Plan 309.1 June 2006

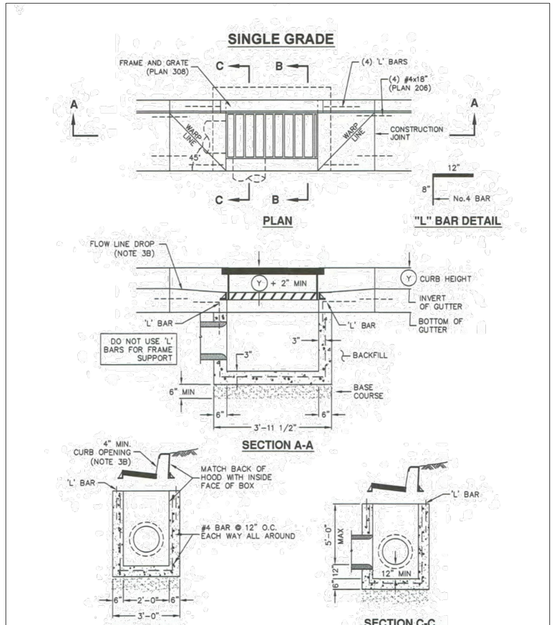
Catch basin

1. **GENERAL**
   A. The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the box.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Concrete: Class 4000, APWA Section 03 30 04.
   D. Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A615.

3. **EXECUTION**
   A. Base Course Placement: APWA Section 32 11 23. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Curb Face Opening: Make opening at least 4-inches high. Provide at least a 2-inch drop between the "warp line" in the gutter flow-line and the top of the grate at the curb face opening.
   C. Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   D. Backfill: Place backfill against the basin wall. Pea gravel and recycled RAP aggregate is NOT ALLOWED. Water jetting is NOT allowed. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.

315.1



Utah Chapter

Catch basin

Plan 315.1 September 2010

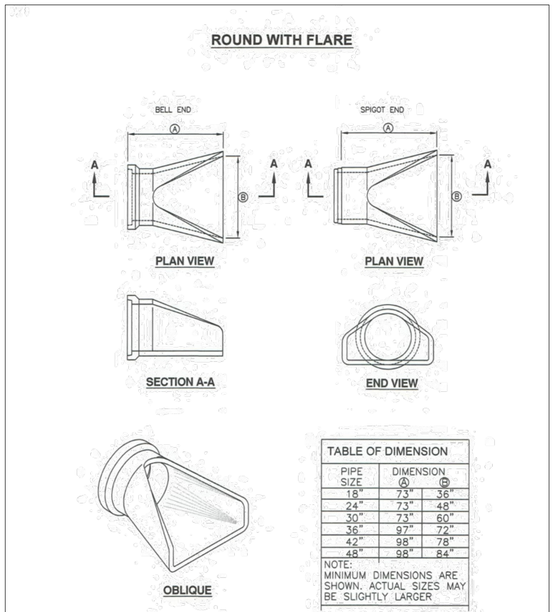
Pipe outfall

1. **GENERAL**
   A. Round concrete pipe application.
   B. Additional requirements are specified in APWA Section 33 05 02.

2. **PRODUCTS**
   A. Use the same quality of precast end section as the pipe.
   B. Use the joint material and connection that is the same as the joints in the pipeline.

3. **EXECUTION**
   A. General dimensions and geometric shapes may vary from manufacturer to manufacturer.
   B. Steel reinforcement is not required in the concrete end section shown.
   C. Provide joint restraint connectors if required by ENGINEER.

323.1



Utah Chapter

Pipe outfall

Plan 323.1 November 2010

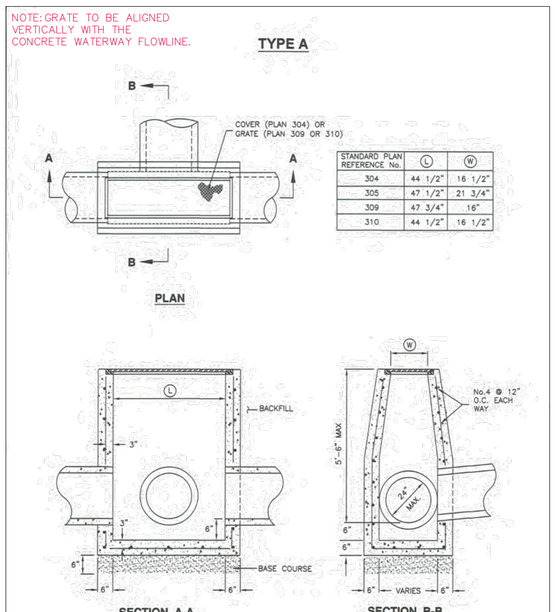
Cleanout box

1. **GENERAL**
   A. The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the box.
   B. This box may be used as an inlet box. Install the appropriate frame and grate.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Concrete: Class 4000, APWA Section 03 30 04.
   D. Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A615.
   E. Stabilization-Separation Geotextile: High MARV, woven or non-woven, APWA Section 31 05 19.

3. **EXECUTION**
   A. Foundation Stabilization: Get ENGINEER's permission to use a sewer rock or granular backfill borrow in a geotextile wrap to stabilize an unstable foundation.
   B. Base Course Placement: APWA Section 32 11 23. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   C. Joints: Place flexible gasket-type sealant in all manhole joints.
   D. Reinforcement: Center steel in walls and slabs with a typical cover of 3-inches. Keep steel 2-inches clear around pipe and lid opening. Tie-bars required at all corners, vertical and horizontal. Tie-bars connecting two walls must match wall bar size and spacing. Tie-bars connecting walls to top and bottom slabs must match slab steel size and spacing.
   E. Water stops. Install rubber-based water-stops on all plastic pipes when connecting plastic pipes to cleanout boxes. Hold water-stop in place with stainless steel bands.
   F. Concrete Placement: APWA Section 03 30 10. Adjust concrete dimensions at frame accordingly. Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   G. Pipe Connections: Grout around all concrete pipe openings.
   H. Backfill: Provide backfill against all of the box walls. Pea gravel and recycled RAP aggregate is NOT ALLOWED. Water jetting is NOT allowed. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.

331.1



Utah Chapter

Cleanout box

Plan 331.1 April 2010

Revisions:

#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PHASE 1 - FINAL CIVIL IMPROVEMENT PLANS

STORM DRAIN DETAILS II

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

C408

Sheet 24 of 34
Project:2025-016
Date: 06/25/2025
Drawn By: BRS
Checked By: JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

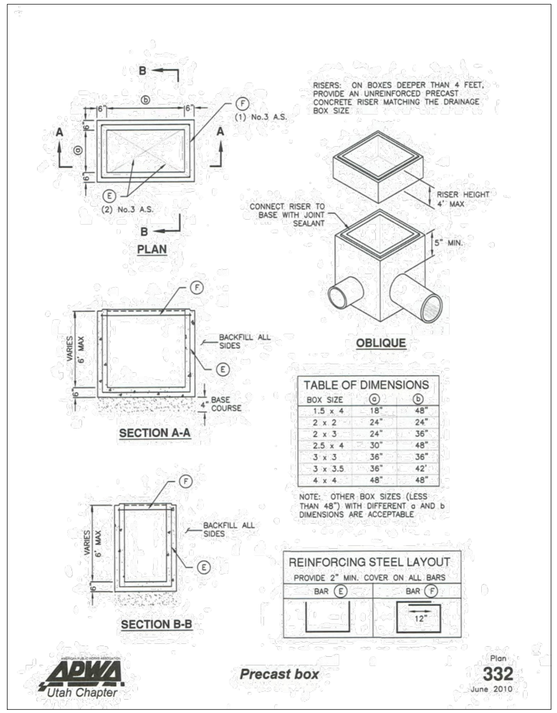
Precast box

1. **GENERAL**
   - A. The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the box.
   - B. This drawing is acceptable where the water table elevation is less than 3 feet above the floor of the box. If elevation of water table is higher, engineering calculations and drawings must be submitted to and approved by the ENGINEER.
   - C. Submit bar design detail for ENGINEER's review.

2. **PRODUCTS**
   - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   - B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   - C. Precast Concrete: Class 4000 precast, APWA Section 03 40 00.
   - D. Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A615. Coated steel is not required for small drainage structures shown on this drawing.
   - E. Frame and Cover (or Grate): Use the appropriate unit indicated in the Contract Documents.
   - F. Joint Sealant: Rubber-based, compressible.

3. **EXECUTION**
   - A. Concrete Placement: Provide 2-inches of concrete cover over reinforcing steel.
   - B. Lifting Points: Provide at least 2 lifting points per section that avoid interference with the reinforcing steel and that are designed according to PCI (Prestressed Concrete Institute) design handbook. Lift only from the engineered lifting points.
   - C. Depth: Drainage boxes and riser combinations that exceed 8-feet from finished grade to the bottom of the box requires ENGINEER's approval. Submit design calculations and shop drawings.
   - D. Core Holes:
     1) Provide core holes that are at least 4" larger than attaching outer pipe diameter. Cut core holes at the manufacturing plant unless ENGINEER permits field core holes.
     2) Center core holes to leave 2" of concrete measured horizontally from inside wall of the box to core hole. Locate core hole vertically so bottom of core hole will be at or above floor elevation with at least 5-inches of concrete directly above the core hole to the top of the box.
     3) Deviations from core hole tolerances require shop drawings. Shop drawings will identify lifting point number and location.
   - E. Precast Top: Design precast top for AASHTO HL-93 live loads and submit rebar detail and stamped design drawings to ENGINEER. Show connection detail for frame and grate or cover.

332



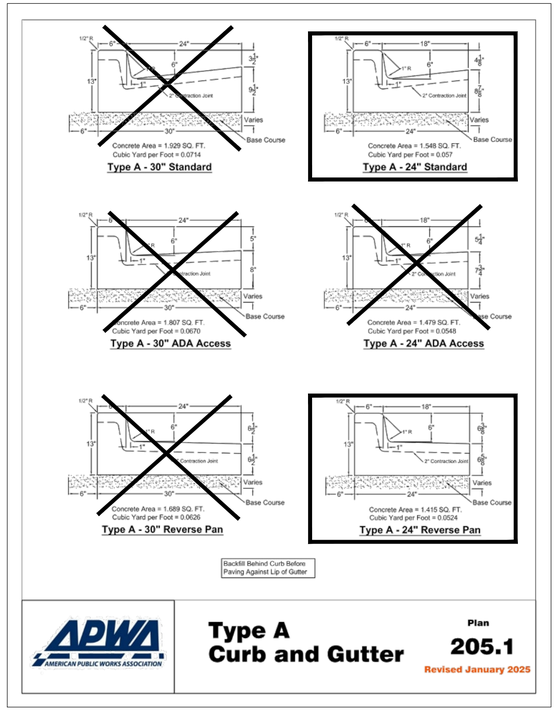
Curb and gutter

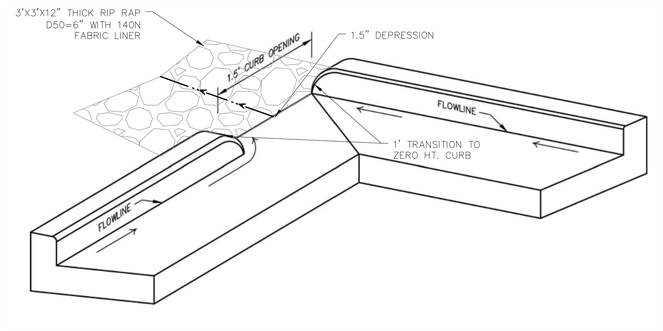
1. **GENERAL**
   - A. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   - B. Additional requirements are specified in APWA Section 32 16 13.

2. **PRODUCTS**
   - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   - B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
   - C. Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
   - D. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

3. **EXECUTION**
   - A. Base Course Placement: APWA Section 32 05 10. Thickness is 6-inches if flow-line grade is 0.5 percent (s=0.005) or greater. If slope is less, provide 8-inches. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   - B. Concrete Placement: APWA Section 03 30 10.
     1) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Install at the start or end of a street intersection curb return. Expansion joints are not required in concrete placement using slip-form construction.
     2) Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Match joint location in adjacent Portland-cement concrete roadway pavement.
     3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   - C. Protection and Repair: Protect concrete from deicing chemicals during cure. Repair construction that does not drain. If necessary, fill flow-line with water to verify.

205.1





CURB OPENING DETAIL
(N.T.S.)

Revisions:

#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PHASE 1 - FINAL CIVIL IMPROVEMENT PLANS

STORM DRAIN DETAILS II

MOAB, UTAH

SET
CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C409

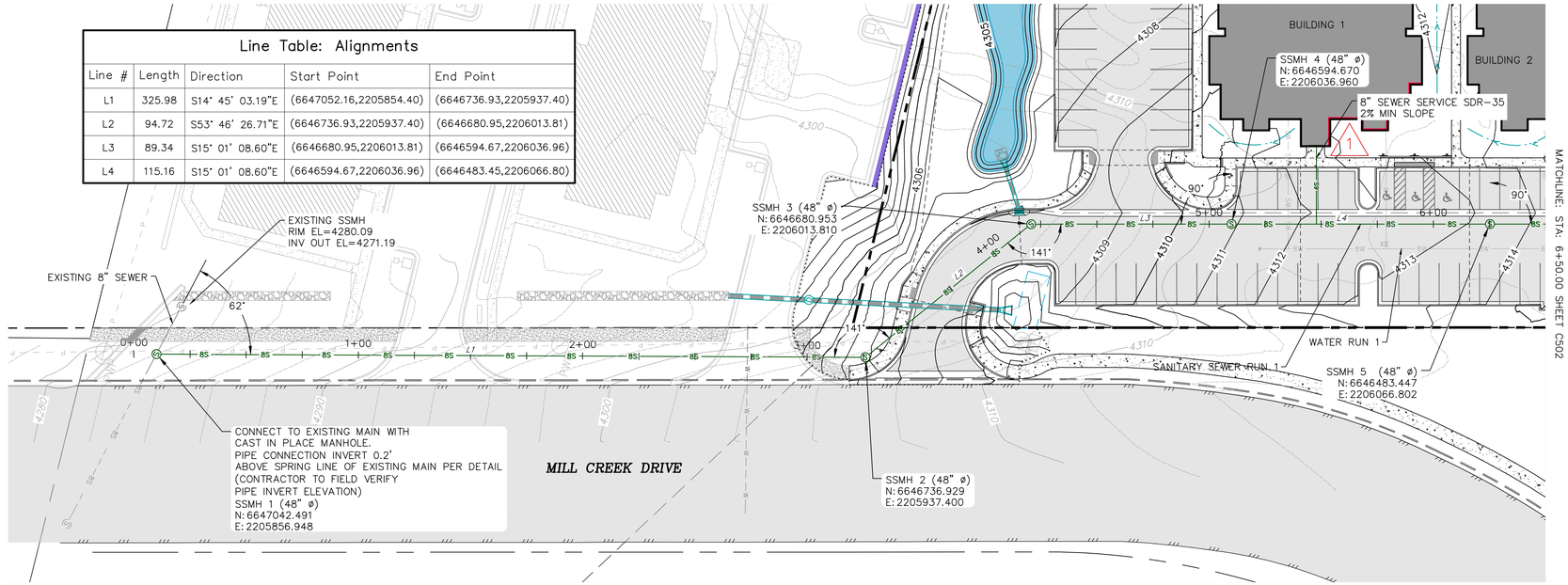
Sheet 25 of 34
Project:2025-016
Date: 06/25/2025
Drawn By: BRS
Checked By: JG

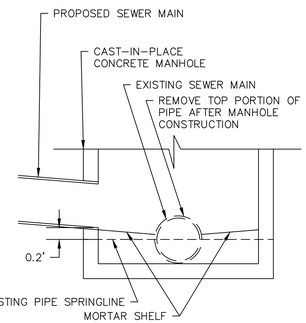
PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

NOTES:

1. SEWER PIPES TO BE SDR-35 SMOOTH BORE PVC.
2. UTILITY CROSSING TO BE 18" MINIMUM CLEAR DISTANCE OR 12" CLEAR WITH CONCRETE ENCASEMENT WATER PIPING.
3. PIPE LENGTHS CALCULATED TO INSIDE WALL OF MANHOLES.
4. TRENCH AND PIPE ZONE BACKFILL PER APWA 381 AND 382.

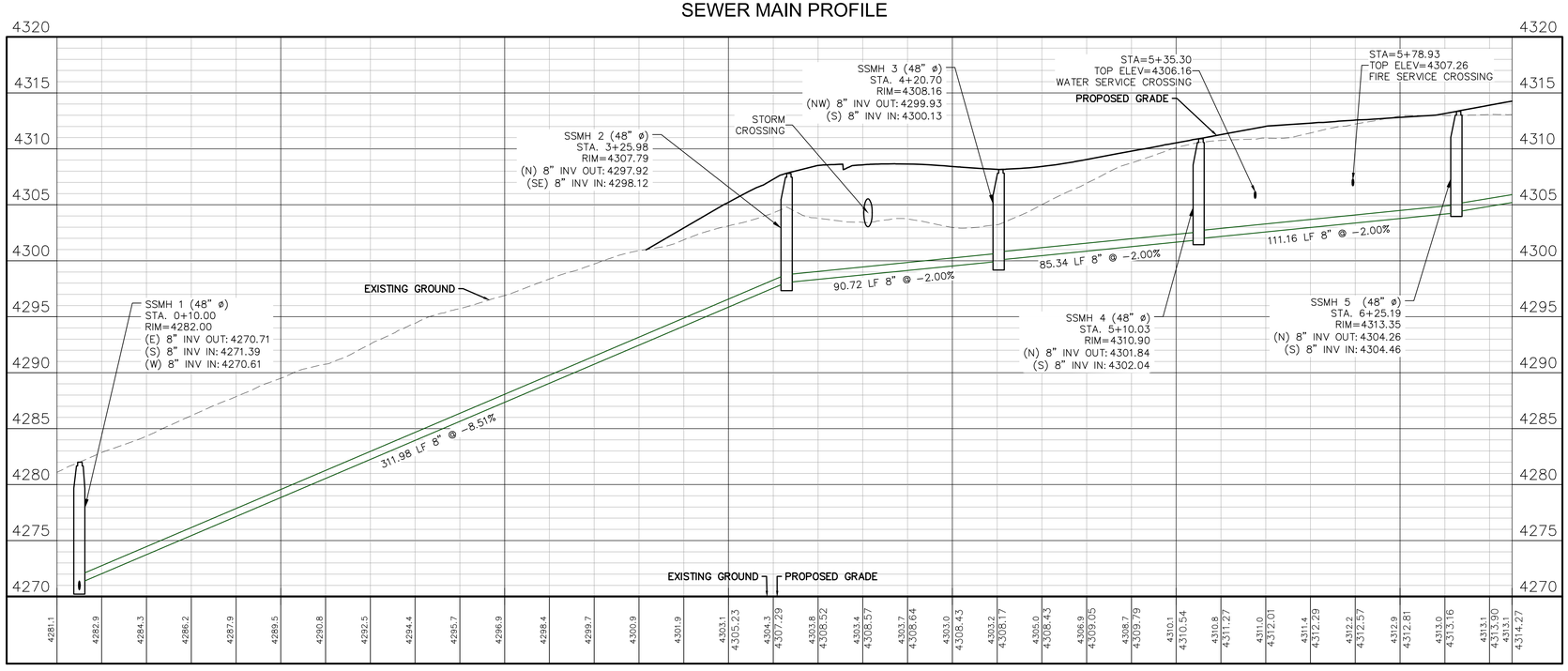
Line Table: Alignments				
Line #	Length	Direction	Start Point	End Point
L1	325.98	S14° 45' 03.19"E	(6647052.16,2205854.40)	(6646736.93,2205937.40)
L2	94.72	S53° 46' 26.71"E	(6646736.93,2205937.40)	(6646680.95,2206013.81)
L3	89.34	S15° 01' 08.60"E	(6646680.95,2206013.81)	(6646594.67,2206036.96)
L4	115.16	S15° 01' 08.60"E	(6646594.67,2206036.96)	(6646483.45,2206066.80)





EXISTING MAIN CONNECTION DETAIL

SEWER MAIN PROFILE



PROFILE EXAGGERATION = 5V:1H

GRAPHIC SCALE
0 15 30 FEET 60

Revisions:

#	DATE	DESCRIPTION
1	9/16/25	SEE DESCRIPTION ON SHEET C001

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

SEWER PLAN AND PROFILE I

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

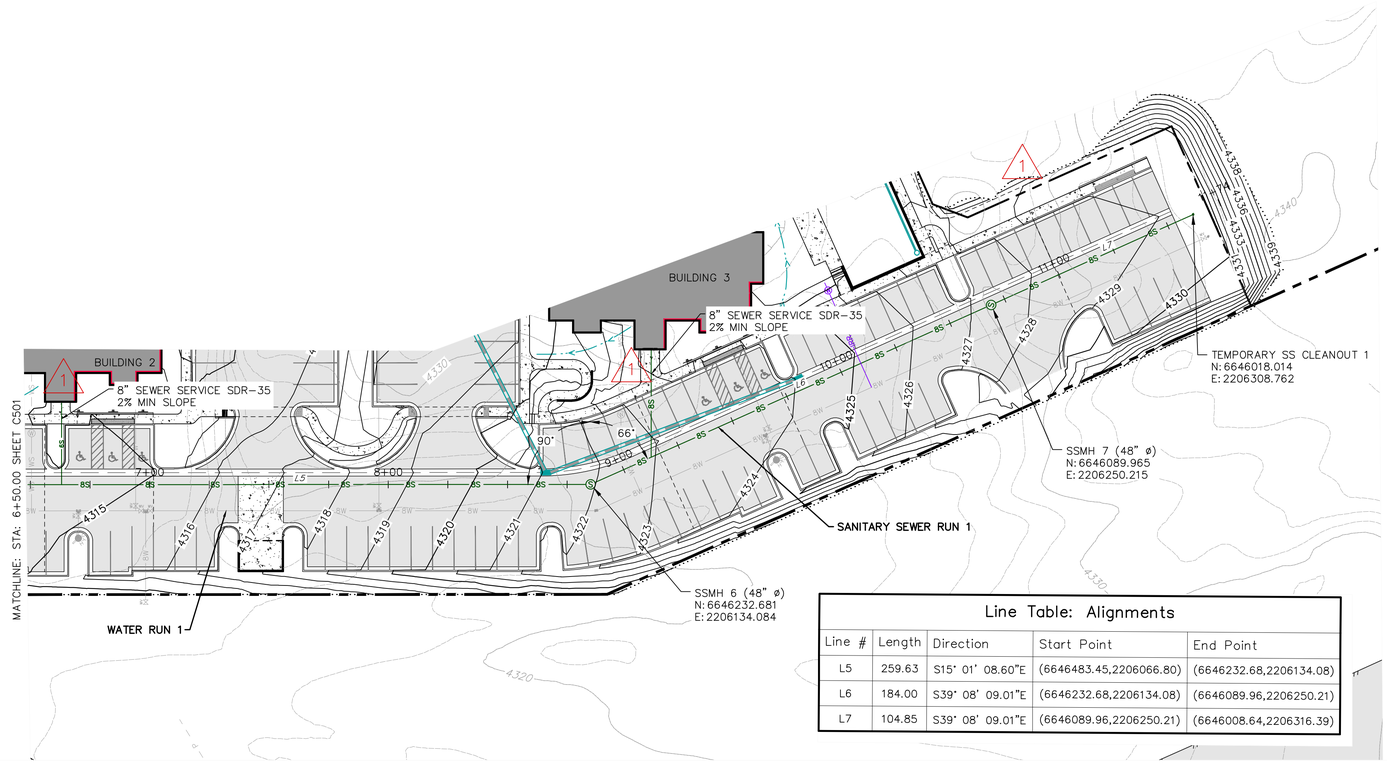
C501

Sheet 24 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

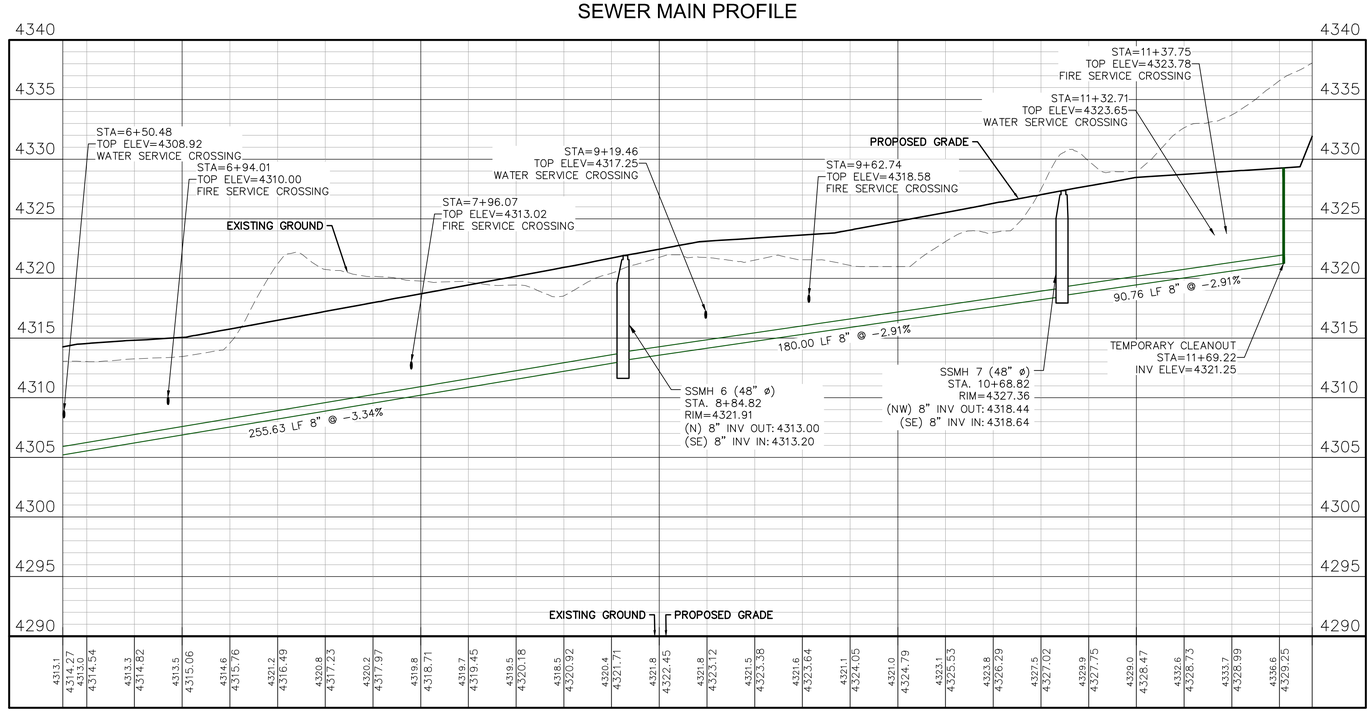
NOTES:

1. SEWER PIPES TO BE SDR-35 SMOOTH BORE PVC.
2. UTILITY CROSSING TO BE 18" MINIMUM CLEAR DISTANCE OR 12" CLEAR WITH CONCRETE ENCASEMENT WATER PIPING.
3. PIPE LENGTHS CALCULATED TO INSIDE WALL OF MANHOLES.
4. TRENCH AND PIPE ZONE BACKFILL PER APWA 381 AND 382.



Line Table: Alignments				
Line #	Length	Direction	Start Point	End Point
L5	259.63	S15° 01' 08.60"E	(6646483.45,2206066.80)	(6646232.68,2206134.08)
L6	184.00	S39° 08' 09.01"E	(6646232.68,2206134.08)	(6646089.96,2206250.21)
L7	104.85	S39° 08' 09.01"E	(6646089.96,2206250.21)	(6646008.64,2206316.39)

SEWER MAIN PROFILE



PROFILE EXAGGERATION = 5V:1H

GRAPHIC SCALE
0 15 30 FEET 60

Revisions:

#	DATE	DESCRIPTION
1	9/16/25	SEE DESCRIPTION ON SHEET C001

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

SEWER PLAN AND PROFILE II

MOAB, UTAH

CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

C502

Sheet 27 of 34
Project: 2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

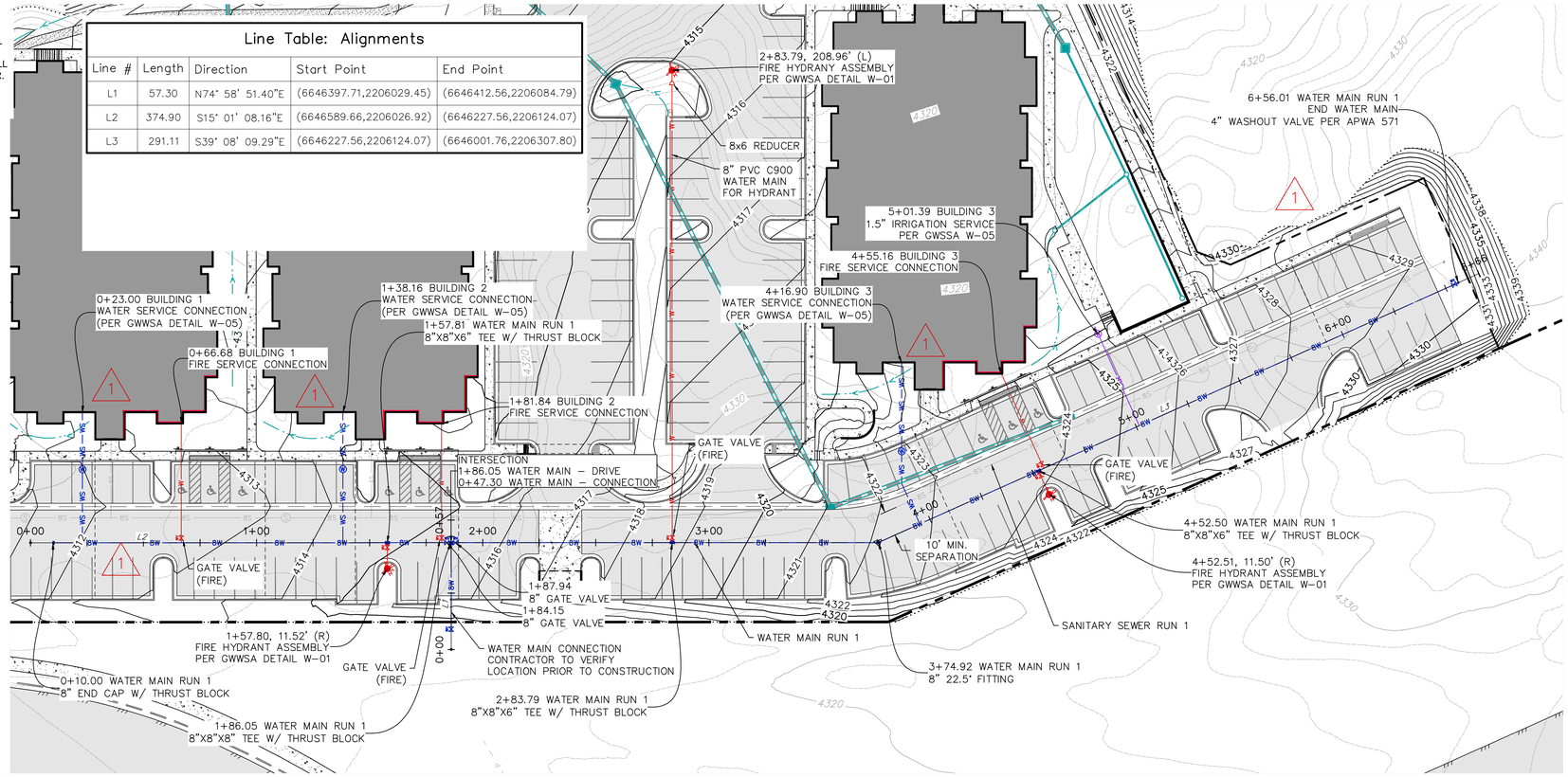
PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
9/4/2025
STATE OF UTAH

NOTES:

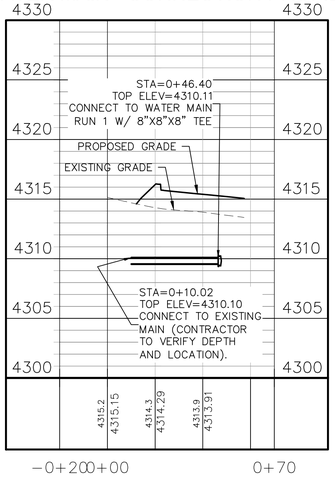
1. CONTRACTOR TO VERIFY LOCATION AND DEPTH OF ALL WATER MAIN CONNECTIONS.
2. MINIMUM 10' CLEAR DISTANCE TO BE MAINTAINED AT ALL TIMES BETWEEN WATER AND SANITARY/STORM SEWER.
3. WATER MAIN TO BE C900 PVC PIPE.
4. TRENCH AND PIPE ZONE BACKFILL PER APWA 381 AND 382.

Line Table: Alignments

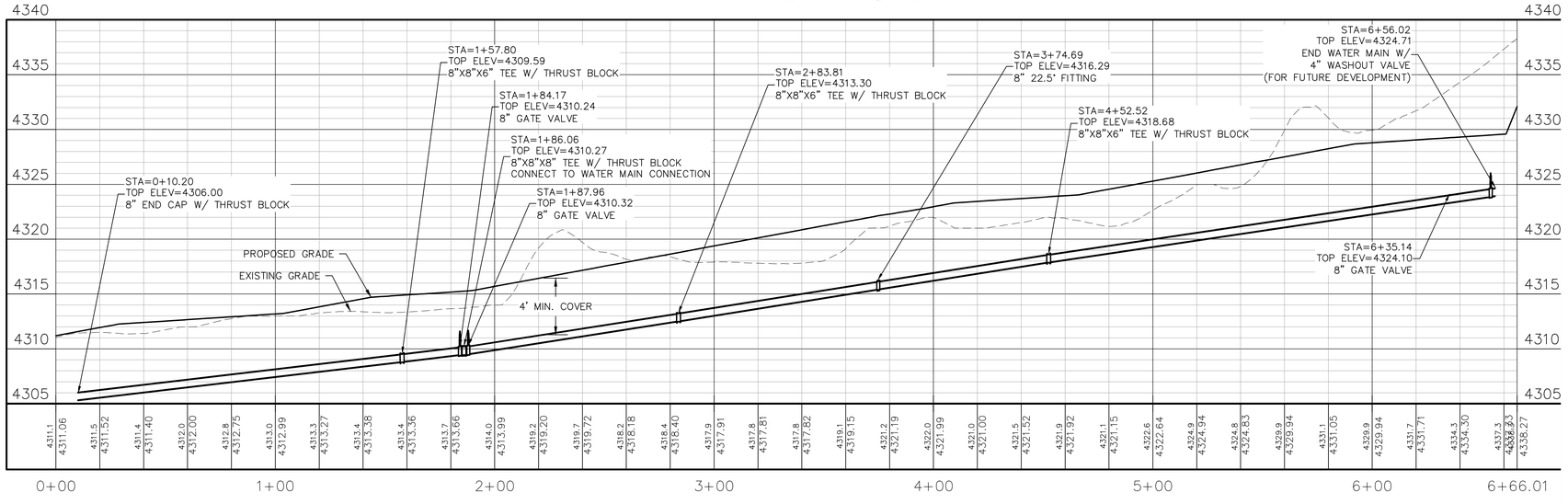
Line #	Length	Direction	Start Point	End Point
L1	57.30	N74° 58' 51.40"E	(6646397.71,2206029.45)	(6646412.56,2206084.79)
L2	374.90	S15° 01' 08.16"E	(6646589.66,2206026.92)	(6646227.56,2206124.07)
L3	291.11	S39° 08' 09.29"E	(6646227.56,2206124.07)	(6646001.76,2206307.80)



WATER MAIN - CONNECTION PROFILE



WATER MAIN - DRIVE PROFILE



PROFILE EXAGGERATION = 5V:1H

GRAPHIC SCALE
0 15 30 FEET 60

Revisions:

#	DATE	DESCRIPTION
1	9/16/25	SEE DESCRIPTION ON SHEET C001

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

WATER PLAN AND PROFILE

MOAB, UTAH

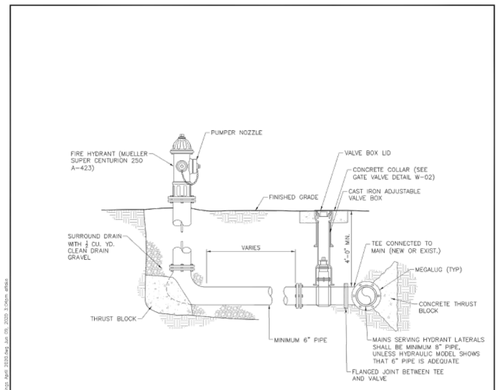
CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

C601

Sheet 28 of 34
Project: 2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

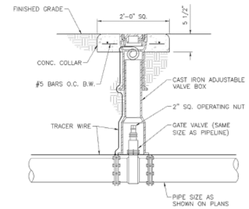


NOTES:
1. FIRE HYDRANT BREAKAWAY FLANGE SHALL BE NO GREATER THAN 5in. ABOVE FINISHED GRADE OR 1in. BELOW FINISHED GRADE
2. PIPE, JOINTS, FITTINGS, VALVES, AND FIRE HYDRANTS SHALL CONFORM TO ANSI/NSF STANDARD 61 AND APPLICABLE SECTIONS OF AWWA STANDARDS C104-A214-08 THROUGH C550-05 AND C900-07 THROUGH C950-07. BLOCKING OR MECHANICAL RESTRAINT SHALL BE PROVIDED PER DETAILS W-06 AND W-07.
3. HYDRANT DRAINS SHALL NOT BE LOCATED WITHIN 10 FEET OF SANITARY SEWERS.
4. ALL NEW MAINS SHALL BE PVC C900 OR C905 DR-18 PIPE UNLESS OTHERWISE APPROVED.

DETAIL - FIRE HYDRANT
N.T.S.

SUNRISE ENGINEERING
25 EAST 500 NORTH
FILLMORE, UTAH 84631
TEL 435.743.6151 • FAX 435.743.7900
www.sunrise-eng.com

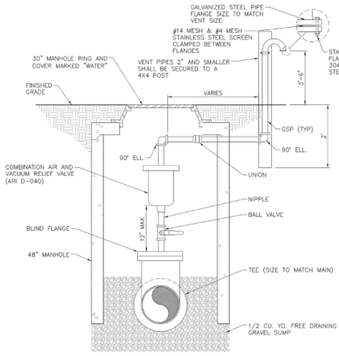
Grand Water & Sewer Service Agency
STANDARD DETAILS
WATER - FIRE HYDRANT
DATE 8/6/2025 | DESIGNED DJS | DRAWN TRB | CHECKED RWW | SHEET NO. W-01



NOTES:
1. ALL VALVES SHALL BE RESTRAINED ACCORDING TO DETAILS W-06 AND W-07 AND SHALL BE TREATED AS A DEAD END IN BOTH DIRECTIONS.
2. PIPE, JOINTS, FITTINGS, VALVES, AND FIRE HYDRANTS SHALL CONFORM TO ANSI/NSF STANDARD 61 AND APPLICABLE SECTIONS OF AWWA STANDARDS C104-A214-08 THROUGH C550-05 AND C900-07 THROUGH C950-07. BLOCKING OR MECHANICAL RESTRAINT SHALL BE PROVIDED PER DETAILS W-06 AND W-07.
3. FOR VALVES OVER 48" DEEP ADD VALVE STEM AND VALVE BOX EXTENSIONS AS NECESSARY FOR NORMAL OPERATION OF VALVE KEY.
4. TRACER WIRE SHALL BE BROUGHT INTO THE VALVE BOX THROUGH HOLE AT BELL. COIL 12" OF TRACER WIRE INSIDE VALVE BOX BELL SECTION.
5. VALVES SMALLER THAN 16" SHALL BE GATE VALVES. MAINLINE VALVES 16" AND LARGER SHALL BE SHORT-BODY BUTTERFLY VALVES.
6. ALL NEW MAINS SHALL BE PVC C900 OR C905 DR-18 PIPE UNLESS OTHERWISE APPROVED.

DETAIL - TYPICAL GATE VALVE
N.T.S.

Grand Water & Sewer Service Agency
STANDARD DETAILS
WATER - GATE VALVE
DATE 8/6/2025 | DESIGNED DJS | DRAWN TRB | CHECKED RWW | SHEET NO. W-02



NOTES:
1. COMBINATION AIR VALVES SHALL BE NO LESS THAN 1/8" THE SIZE OF THE MAIN.
2. PIPE, JOINTS, FITTINGS, VALVES, AND FIRE HYDRANTS SHALL CONFORM TO ANSI/NSF STANDARD 61 AND APPLICABLE SECTIONS OF AWWA STANDARDS C104-A214-08 THROUGH C550-05 AND C900-07 THROUGH C950-07. BLOCKING OR MECHANICAL RESTRAINT SHALL BE PROVIDED PER DETAILS W-06 AND W-07.
3. ALL PIPE FITTINGS SHALL BE GALVANIZED STEEL 3000lb. CLASS THREADED.
4. ALL AIR VALVE COMPONENT CONNECTING NIPPLES SHALL BE CSP SCHEDULE 40.
5. ALL PIPE PENETRATIONS SHALL BE SEALED WITH PORTLAND CEMENT GROUT.
6. PIPE NIPPLES, FITTINGS, GOOSENECK, & BALL VALVE SHALL BE SIZED TO MATCH SIZE OF AIR VALVE.
7. ALL NEW MAINS SHALL BE PVC C900 OR C905 DR-18 PIPE UNLESS OTHERWISE APPROVED.

DETAIL - COMBINATION AIR VALVE
N.T.S.

Grand Water & Sewer Service Agency
STANDARD DETAILS
WATER - COMBINATION AIR VALVE
DATE 8/6/2025 | DESIGNED DJS | DRAWN TRB | CHECKED RWW | SHEET NO. W-04

CONCRETE THRUST BLOCK RESTRAINING SYSTEM DETAILS

NOTE:
CONTRACTOR SHALL USE EITHER MECHANICAL RESTRAINTS OR CONCRETE THRUST RESTRAINING SYSTEM FOR WATERLINE INSTALLATION.

SECTION A-A

THRUST BLOCK BEARING AREA IN SQ. FT.

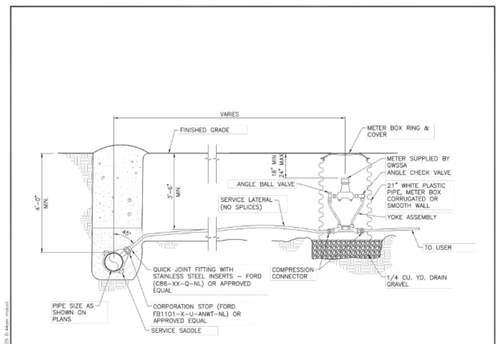
PIPE SIZE	CROSS	TEE	WYE	DEAD END	VALVE	90° BEND	45° BEND	22.5° BEND	11.25° BEND
4	2.4	1.7	1.7	1.7	–	2.4	1.3	1.0	1.0
6	5.4	3.8	3.8	3.8	–	5.4	2.9	1.5	1.0
8	9.6	6.8	6.8	6.8	–	9.6	5.2	2.7	1.4
10	15.0	10.6	10.6	10.6	–	15.0	8.1	4.2	2.1
12	21.5	15.2	15.2	15.2	21.5	11.7	6.0	3.0	
14	29.3	20.7	20.7	20.7	20.7	29.3	15.9	8.1	4.1
16	38.2	27.0	27.0	27.0	27.0	38.2	20.7	10.6	5.3
18	48.4	34.2	34.2	34.2	34.2	48.4	26.2	13.4	6.7
20	59.7	42.2	42.2	42.2	42.2	59.7	32.3	16.5	8.3
24	85.9	60.8	60.8	60.8	60.8	85.9	46.5	23.7	11.9

REDUCER

SIZE (IN)	6	8	10	12	14	16	18	20	24
4	2.1	5.1	8.8	13.4	–	–	–	–	–
6	–	3.0	6.7	11.3	16.8	23.1	–	–	–
8	–	–	3.8	8.4	13.8	20.1	27.2	–	–
10	–	–	–	4.6	10.1	16.3	23.5	31.4	–
12	–	–	–	–	5.5	11.7	18.8	26.8	45.2
14	–	–	–	–	–	6.3	13.4	21.3	39.8
16	–	–	–	–	–	–	7.1	15.1	33.5
18	–	–	–	–	–	–	–	8.0	26.3
20	–	–	–	–	–	–	–	–	18.4

NOTES:
1. ALL THRUST BLOCK BEARING FACES SHALL BE PLACED AGAINST UNDISTURBED SOIL OR APPROVED COMPACTED BACKFILL.
2. SQUARE ALL EDGES TO RECEIVE CONCRETE.
3. CONCRETE SHALL BE CLASS C.
4. CALCULATED ON 200 PSI TEST PRESSURE AND ALLOWABLE BEARING PRESSURE OF 1500 LBS. PER SQ. FT.
5. IN POORER SOILS SPECIAL DESIGN IS REQUIRED.
6. ALL FITTINGS AND VALVES SHALL BE ANCHORED WITH TWO EPOXY COATED #5 REBAR. ONLY ONE REQ'D FOR REDUCER
7. CENTER ALL FITTINGS OVER THRUST BLOCKS.

Grand Water & Sewer Service Agency
STANDARD DETAILS
WATER - CONCRETE THRUST BLOCKS
DATE 8/6/2025 | DESIGNED DJS | DRAWN TRB | CHECKED RWW | SHEET NO. W-06



NOTES:
1. LOCATION OF WATER SERVICE SHALL GENERALLY BE ON THE HIGH SIDE OF THE PROPERTY 5 FEET FROM THE LOT CENTERLINE AND SHALL NOT BE INSTALLED IN DRIVE APPROACH.
2. ALL NEW SERVICE CONNECTIONS SHALL INCLUDE DUAL CHECK VALVE SETTER ASSEMBLIES.
3. SERVICE LATERALS 2" AND 1" SHALL BE 250 PSI SDR 9 AWWA C901 (IPS) CENTENNIAL PLASTICS CENCORE HDPE OR EQUIVALENT. SERVICE LATERALS 1-1/4" AND 2" SHALL BE 250 PSI SDR 9 AWWA C901 (CTS) CENTENNIAL PLASTICS CENCORE HDPE OR EQUIVALENT. FUSION PIPE SHALL NOT BE ACCEPTED. SERVICE LINES LARGER THAN 2 INCH SHALL BE ASTM D2241 PVC (IPS), SERVICE LINES 4" AND LARGER SHALL BE AWWA C-900.
4. PIPE, JOINTS, FITTINGS, VALVES, AND FIRE HYDRANTS SHALL CONFORM TO ANSI/NSF STANDARD 61 AND APPLICABLE SECTIONS OF AWWA STANDARDS C104-A214-08 THROUGH C550-05 AND C900-07 THROUGH C950-07.
5. SERVICE LINES SHALL BE CAPPED UNTIL CONNECTED FOR SERVICE.
6. NEW WATER SERVICE CONNECTIONS SHALL BE 1" UNLESS OTHERWISE NOTED
7. SERVICE LATERAL FITTINGS SHALL HAVE NO COMPRESSION CONNECTIONS OUTSIDE OF THE METER BOX.

DETAIL - NEW WATER SERVICE CONNECTION
N.T.S.

Grand Water & Sewer Service Agency
STANDARD DETAILS
WATER - NEW WATER SERVICE CONNECTION
DATE 7/19/2025 | DESIGNED DJS | DRAWN TRB | CHECKED RWW | SHEET NO. W-05

MECHANICAL THRUST RESTRAINING SYSTEM DETAILS

* CALCULATIONS DERIVED FROM EBAA IRON SALES

PVC VERTICLE BEND RESTRAINED LENGTHS IN FT. (L_1–BEFORE CONNECTION/L_2 AFTER CONNECTION)

BEND ANGLE	PIPE SIZE 4	6	8	10	12	14	16	18	20	24
11.25	4/1	5/2	7/2	9/3	10/3	12/4	13/4	15/5	16/5	19/6
22.5	8/3	11/4	15/5	17/6	21/7	24/8	27/9	30/9	33/10	38/12
45	16/5	23/8	30/10	36/12	43/14	49/16	56/18	62/20	68/21	79/25

CALCULATIONS BASED ON THE ELEVATION OF THE PIPE REMAINING CONSTANT WITH THE CONTOUR OF THE GROUND.
L_1 OR BOTH SIDES OF FITTING. L_2 FOUND IN DISTRIBUTION SYSTEMS, USE

PVC HORIZONTAL BEND RESTRAINED LENGTHS L, IN FT.

BEND ANGLE	PIPE SIZE 4	6	8	10	12	14	16	18	20	24
11.25	1	2	2	3	3	4	4	5	5	6
22.5	3	4	5	6	7	8	9	10	11	12
45	5	8	10	12	14	16	18	20	21	25
90	13	18	24	29	34	38	43	47	52	60

1. ALL JOINTS WITHIN THE "L" DISTANCE SHALL BE RESTRAINED

PVC TEE RESTRAINED LENGTHS L, IN FT.

BRANCH SIZE DIA.	RUN SIZE DIAMETER 4	6	8	10	12	14	16	18	20	24
4	*	*	*	*	*	*	*	*	*	*
6	–	*	*	*	*	*	*	*	*	*
8	–	–	–	*	*	*	*	*	*	*
10	–	–	–	*	*	*	*	*	*	*
12	–	–	–	–	*	*	*	*	*	*
14	–	–	–	–	–	*	*	*	*	*
16	–	–	–	–	–	–	7	*	*	*
18	–	–	–	–	–	–	–	20	4	*
20	–	–	–	–	–	–	–	–	34	3
24	–	–	–	–	–	–	–	–	–	60

* = FOR THIS CONDITION NEED ONLY RESTRAIN THE OUTLETS OF TEE
NOTES:
1. RESTRAIN THE THREE MECHANICAL JOINTS ON THE TEE.
2. ALL JOINTS WITHIN THE "L" DISTANCE ON THE BRANCH SIDE OF TEE SHALL BE RESTRAINED AND ALL JOINTS WITHIN 18' ON THE RUN SIDE OF THE TEE SHALL BE RESTRAINED.

PVC REDUCER RESTRAINED LENGTHS L, IN FT. (SMALL SIDE/LARGE SIDE)

SIZE (IN)	PIPE SIZE 6	8	10	12	14	16	18	20	24
4	42/29	100/52	171/71	258/90	–	–	–	–	–
6	–	40/31	88/54	147/75	217/95	297/113	–	–	–
8	–	–	37/28	82/55	135/77	197/98	266/117	–	–
10	–	–	–	36/30	79/56	128/80	183/100	244/120	–
12	–	–	–	–	36/30	77/57	123/80	174/102	293/143
14	–	–	–	–	–	35/30	74/57	118/81	219/124
16	–	–	–	–	–	–	34/30	73/57	161/104
18	–	–	–	–	–	–	–	34/30	111/82
20	–	–	–	–	–	–	–	–	70/57

1. ALL JOINTS WITHIN THE "L" DISTANCE SHALL BE RESTRAINED

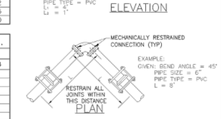
PVC DEAD END RESTRAINED LENGTHS L, IN FT.

PIPE SIZE 4	6	8	10	12	14	16	18	20	24
39	55	73	88	104	119	134	149	163	192

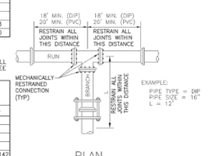
1. ALL JOINTS WITHIN THE "L" DISTANCE SHALL BE RESTRAINED

BASED ON:
TEST PRESSURE 200 PSI
SOIL TYPE GW – SILTY GRAVEL, GRAVEL–SAND–SILT MIXTURE
BURIAL DEPTH: 4 FT.
TRENCH TYPE: 5 – PIPE BEDDED IN COMPACTED GRANULAR MATERIAL TO THE CENTER LINE OF PIPE, 4" MIN. UNDER PIPE. COMPACTED GRANULAR OR SELECT MATERIAL TO TOP OF PIPE. (APPROX. 90% STANDARD PROCTOR, AASHTO T–99)
SAFETY FACTOR: 1.5

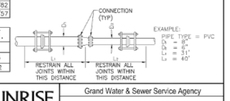
ELEVATION



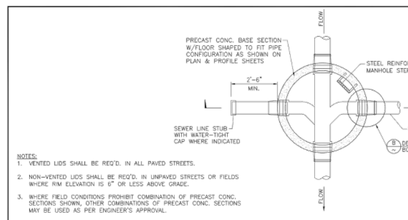
PLAN



PLAN

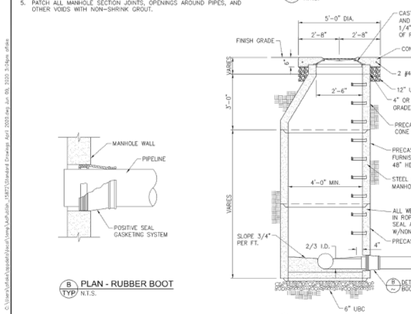


Grand Water & Sewer Service Agency
STANDARD DETAILS
WATER - MECHANICAL RESTRAINING SYSTEM (PVC PIPE)
DATE 8-21-2025 | DESIGNED DJS | DRAWN TRB | CHECKED RWW | SHEET NO. W-07



NOTES:
1. VENTED LIDS SHALL BE REQ'D. IN ALL PAVED STREETS.
2. NON-VENTED LIDS SHALL BE REQ'D. IN UNPAVED STREETS OR FIELDS WHERE RIM ELEVATION IS 6" OR LESS ABOVE GRADE.
3. WHERE FIELD CONDITIONS PROHIBIT COMBINATION OF PRECAST CONC. SECTIONS SHOWN, OTHER COMBINATIONS OF PRECAST CONC. SECTIONS MAY BE USED AS PER ENGINEER'S APPROVAL.
4. CONCRETE COLLAR REQ'D IN ASPHALT FINISH ROADS. THEY ARE NOT REQ'D. ON GRAVEL FINISH ROADS.
5. PATCH ALL MANHOLE SECTION JOINTS, OPENINGS AROUND PIPES, AND OTHER VOIDS WITH NON-SHRINK GROUT.

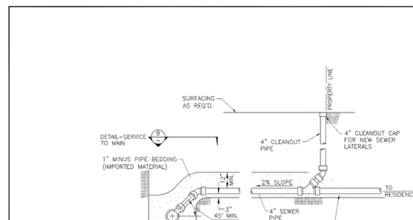
A PLAN - MANHOLE (TYP) N.T.S.



B PLAN - RUBBER BOOT (TYP) N.T.S.

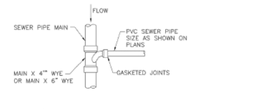
C SECTION - MANHOLE (TYP) N.T.S.

Grand Water & Sewer Service Agency
STANDARD DETAILS
SANITARY SEWER- STANDARD MANHOLE
DATE 8-6-2025 | DESIGNED DJS | DRAWN TRB | CHECKED RWW | SHEET NO. S-01



NOTE:
SEWER LATERALS ARE GENERALLY LOCATED ON THE LOW SIDE OF THE PROPERTY 5 FEET FROM THE LOT CENTERLINE.

A DETAIL - SEWER SERVICE LATERAL (TYP) N.T.S.



B DETAIL - SERVICE TO MAIN (TYP) N.T.S.

Grand Water & Sewer Service Agency
STANDARD DETAILS
SANITARY SEWER- STANDARD SERVICE CONNECTION
DATE 9-9-2025 | DESIGNED DJS | DRAWN TRB | CHECKED RWW | SHEET NO. S-03

GRAPHIC SCALE
0 10 20 FEET 40

Revisions: #	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

WATER & SEWER DETAILS I

MOAB, UTAH

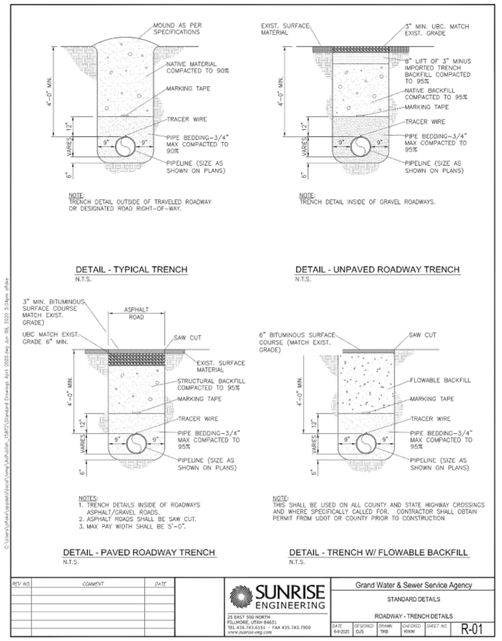
CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C602

Sheet 29 of 34
Project: 2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER No. 8007340 JEFFREY M. PILLUS 8/4/2025 STATE OF UTAH

c:\users\chrishawkins\set engineering, llc dropbox\current projects\2024-036 garn mill creek apts\cad\plansheets\phase 1 90% submittal\c603 water & sewer details ii.dwg – 9/16/2025 4:48 PM



DETAIL - TYPICAL TRENCH
N.T.S.

DETAIL - UNPAVED ROADWAY TRENCH
N.T.S.

DETAIL - PAVED ROADWAY TRENCH
N.T.S.

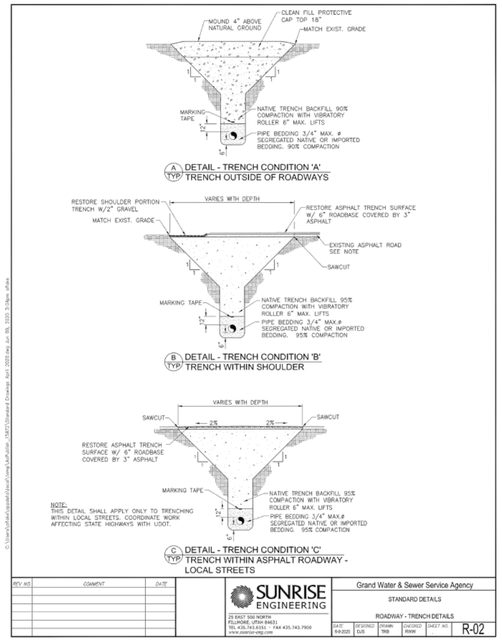
DETAIL - TRENCH W/ FLOWABLE BACKFILL
N.T.S.

REV. NO.	COMMENT	DATE

SUNRISE ENGINEERING
25 EAST 500 NORTH
FILLMORE, UTAH 84631
TEL 435.743.6151 / FAX 435.743.7900
www.sunrise-eng.com

Grand Water & Sewer Service Agency
STANDARD DETAILS
ROADWAY - TRENCH DETAILS

DATE	DESIGNED	DRAWN	CHECKED	SHEET NO.
9-9-2025	DJS	TRB	RWW	R-01



A TYP DETAIL - TRENCH CONDITION 'A'
TRENCH OUTSIDE OF ROADWAYS

B TYP DETAIL - TRENCH CONDITION 'B'
TRENCH WITHIN SHOULDER

C TYP DETAIL - TRENCH CONDITION 'C'
TRENCH WITHIN ASPHALT ROADWAY - LOCAL STREETS

REV. NO.	COMMENT	DATE

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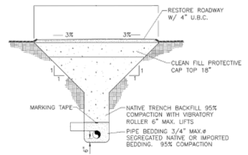
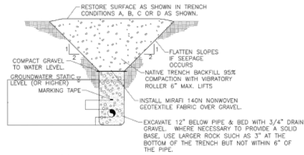
Grand Water & Sewer Service Agency
STANDARD DETAILS
ROADWAY - TRENCH DETAILS

DATE	DESIGNED	DRAWN	CHECKED	SHEET NO.
9-9-2025	DJS	TRB	RWW	R-02



D TYP DETAIL - TRENCH CONDITION 'D'
TRENCH WITHIN GRAVEL ROADWAY



E TYP DETAIL - TRENCH CONDITION 'E'
WET TRENCHING

NOTES:
1. CONSTRUCTION AS SHOWN IS REQUIRED WHEN GROUNDWATER STATIC LEVEL IS EQUAL TO OR ABOVE SEWER INVERT ELEVATION OR AS DIRECTED BY THE ENGINEER.
2. SHEET CUT-OFF WALLS AS QUIRED IN WET TRENCHING OR AS DIRECTED BY THE ENGINEER.
3. DEWATERING EFFORTS REQUIRED.
4. PLACE BACKFILL UP TO WATER LEVEL DURING CONSTRUCTION BEFORE DISCONTINUING THE DEWATERING.
5. DEWATERING OF EXCAVATIONS SHOULD BE FROM OUTSIDE THE EXCAVATED AREA TO MAINTAIN STABILITY.
6. THE FREE WATER LEVEL SHALL BE MAINTAINED AT LEAST 2ft. BELOW THE BASE OF THE EXCAVATION DURING CONSTRUCTION.

REV. NO.	COMMENT	DATE

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FILLMORE, UTAH 84631
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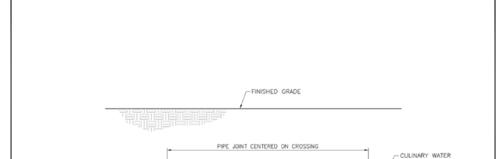
Grand Water & Sewer Service Agency
STANDARD DETAILS
ROADWAY - TRENCH DETAILS

DATE	DESIGNED	DRAWN	CHECKED	SHEET NO.
9-9-2025	DJS	TRB	RWW	R-03



NOTES:
1. IF THE MINIMUM SEPARATION SHOWN HERE CANNOT BE MET, ADDITIONAL COORDINATION WITH DWQSA AND DIVISION OF DRINKING WATER APPROVAL ARE REQUIRED.
2. WATER TRANSMISSION LINES THAT MAY BECOME UNPRESSURIZED SHALL NOT BE INSTALLED WITHIN 20 FEET OF SEWER LINES.
3. WHEN A NEW SEWER FORCE MAIN CROSSES UNDER AN EXISTING WATER MAIN, ALL PORTIONS OF THE SEWER FORCE MAIN WITHIN 10 FEET (HORIZONTALLY) OF THE WATER MAIN SHALL BE ENCLOSED IN A CONTINUOUS SLEEVE.
4. WHEN A NEW WATER MAIN CROSSES OVER AN EXISTING SEWER FORCE MAIN, THE WATER MAIN SHALL BE CONSTRUCTED OF PIPE MATERIALS WITH A MINIMUM RATED WORKING PRESSURE OF 200 PSI OR EQUIVALENT PRESSURE RATING.
5. THE SEPARATION STANDARDS SHOWN ALSO APPLY TO SERVICE LATERALS.

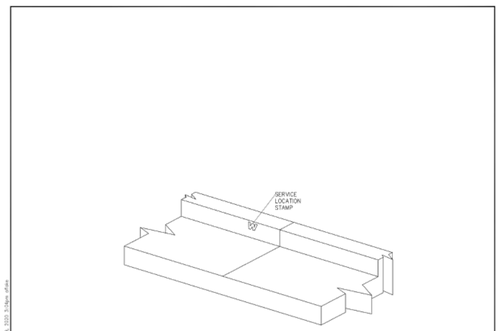
DETAIL - WATER AND SEWER SEPARATION
N.T.S.

REV. NO.	COMMENT	DATE

SUNRISE ENGINEERING
25 EAST 500 NORTH
FILLMORE, UTAH 84631
TEL 435.743.6151 / FAX 435.743.7900
www.sunrise-eng.com

Grand Water & Sewer Service Agency
STANDARD DETAILS
WATER - WATER AND SEWER SEPARATION

DATE	DESIGNED	DRAWN	CHECKED	SHEET NO.
9-9-2025	DJS	BN	RWW	M-01



NOTES:
1. NEW OR REPLACED CONCRETE CURBS SHALL BE STAMPED WITH 2" BLOCK LETTERS IDENTIFYING THE LOCATION WHERE A UTILITY SERVICE LINE CROSSES THE CURB.
2. THE FOLLOWING DESIGNATIONS SHALL BE USED TO IDENTIFY UTILITIES:
"W" – CULINARY WATER
"IW" – PRESSURIZED IRRIGATION
"S" – SEWER
"G" – GAS

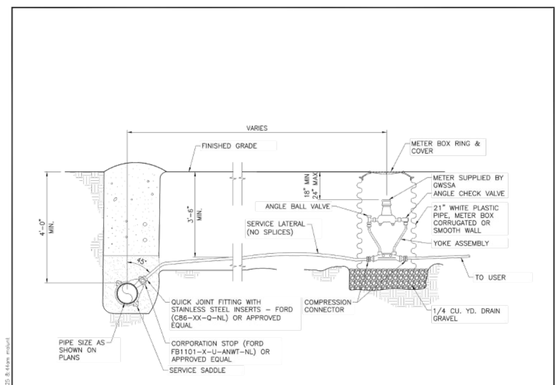
DETAIL - SERVICE LOCATION STAMP
N.T.S.

REV. NO.	COMMENT	DATE

SUNRISE ENGINEERING
25 EAST 500 NORTH
FILLMORE, UTAH 84631
TEL 435.743.6151 / FAX 435.743.7900
www.sunrise-eng.com

Grand Water & Sewer Service Agency
STANDARD DETAILS
MISC - SERVICE LOCATION STAMP

DATE	DESIGNED	DRAWN	CHECKED	SHEET NO.
9-9-2025	DJS	BN	RWW	M-02



NOTES:
1. LOCATION OF WATER SERVICE SHALL GENERALLY BE ON THE HIGH SIDE OF THE PROPERTY 5 FEET FROM THE LOT CENTERLINE AND SHALL NOT BE INSTALLED IN DRIVE APPROACH.
2. ALL NEW SERVICE CONNECTIONS SHALL INCLUDE DUAL CHECK VALVE SETTER ASSEMBLIES.
3. SERVICE LATERALS 2" AND 1" SHALL BE 250 PSI SDR 9 AWWA C901 (IPS) CENTENNIAL PLASTICS CENCORE HDPE OR EQUIVALENT. SERVICE LATERALS 1-1" AND 2" SHALL BE 250 PSI SDR 9 AWWA C901 (CTS) CENTENNIAL PLASTICS CENCORE HDPE OR EQUIVALENT. FUSION PIPE SHALL NOT BE ACCEPTED. SERVICE LINES LARGER THAN 2 INCH SHALL BE ASTM D2241 PVC (IPS), SERVICE LINES 4" AND LARGER SHALL BE AWWA C-900.
4. PIPE, JOINTS, FITTINGS, VALVES, AND FIRE HYDRANTS SHALL CONFORM TO ANSI/NSF STANDARD 61 AND APPLICABLE SECTIONS OF AWWA STANDARDS C104-A21.4-08 THROUGH C550-05 AND C900-07 THROUGH C950-07.
5. SERVICE LINES SHALL BE CAPPED UNTIL CONNECTED FOR SERVICE.
6. NEW WATER SERVICE CONNECTIONS SHALL BE 2" UNLESS OTHERWISE NOTED
7. SERVICE LATERAL FITTINGS SHALL HAVE NO COMPRESSION CONNECTIONS OUTSIDE OF THE METER BOX.

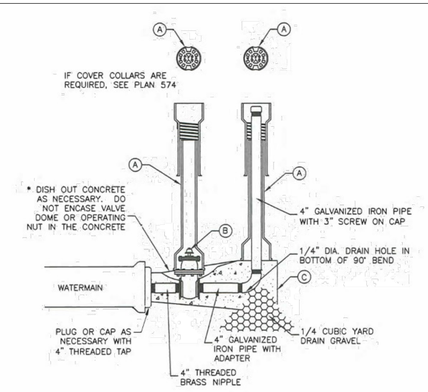
DETAIL - NEW WATER SERVICE CONNECTION
N.T.S.

REV. NO.	COMMENT	DATE

SUNRISE ENGINEERING
25 EAST 500 NORTH
FILLMORE, UTAH 84631
TEL 435.743.6151 / FAX 435.743.7900
www.sunrise-eng.com

Grand Water & Sewer Service Agency
STANDARD DETAILS
WATER - NEW WATER SERVICE CONNECTION

DATE	DESIGNED	DRAWN	CHECKED	SHEET NO.
9/16/2025	DJS	TRB	RWW	W-05



LEGEND		
No.	ITEM	DESCRIPTION
A	VALVE BOX WITH LID	2 PIECE CAST IRON
B	4" GATE VALVE WITH SCREW ENDS	2" x 2" OPERATING NUT
C	CONCRETE THRUST BLOCK	PLAN 561

Utah Chapter

4" Washout valve

Plan 571 February 2011

4" washout valve

1. **GENERAL**
   A. Before backfilling, secure inspection of installation by ENGINEER.
   B. Water mains 12-inches and larger will require a special washout assembly design.
   C. Additional requirements are specified in APWa Section 33 12 16.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Concrete: Class 4000, APWA Section 03 30 04.

3. **EXECUTION**
   A. Pour concrete against undisturbed soil.
   B. Apply tape wrap to the exterior of all galvanized pipe per AWWA C209.
   C. Place plastic sheet at least 6 mils thick over drain gravel to prevent silting.
   D. After installation of washout valve assembly, verify the washout valve riser drains to gravel.
   E. Backfill and Base Course Placement: Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater of a modified proctor density, APWA Section 31 23 26.

571

4" Washout valve

Revised January 2025

GRAPHIC SCALE
0 10 20 FEET 40

Revisions: #	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

WATER & SEWER DETAILS II

MOAB, UTAH

SET
CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C603

Sheet	30 of 34
Project:	2025-016
Date:	09/16/2025
Drawn By:	CH
Checked By:	JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

c:\users\chrishawkins\set engineering, llc dropbox\current projects\2024-036 garn mill creek apts\cad\plansheets\phase 1 90% submittal\c603 water & sewer details ii.dwg – 9/16/2025 4:48 PM

NOTES:

1. REFER TO URBAN DRAINAGE AND FLOOD CONTROL DISTRICT, URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3, CHAPTER 7 CONSTRUCTION BMPS FOR EROSION CONTROL AND BEST MANAGEMENT PLAN DETAILS AND INFO.
2. CONTRACTOR SHALL PREPARE A SWPPP AND OBTAIN A PERMIT FROM THE STATE PRIOR TO CONSTRUCTION.

1537 MILL CREEK LLC
01-0017-0010

BYNUM MICHAEL
01-0017-0003
01-0017-0004
01-0017-0005

SILT FENCE OR STRAW WADDLES (TYP.)

TEMPORARY BONDED FIBER MATRIX W/ HYDROSEED, FOLLOWED BY PERMANENT STABILIZATION (TYP.)

INLET PROTECTION (TYP.)

STABILIZED STAGING & MATERIAL DELIVERY AREA

CONCRETE WASHOUT AREA

CONSTRUCTION ENTRANCE

1+46

MILL CREEK DRIVE

US HIGHWAY 191

EROSION CONTROL SYMBOL LEGEND

- VTC — VEHICLE TRACKING CONTROL
- SSA — STAGING AND STORAGE AREA
- CWA — CONCRETE WASHOUT AREA
- CIP — CULVERT INLET PROTECTION
- PS — PERMANENT SEEDING (AND MULCH)
- SF — STRAW WATTLE (OR SILT FENCE)
- SS — STREET SWEEPING
- ECB — EROSION CONTROL BLANKET

EROSION CONTROL GENERAL PHASING NOTES PLAN:

1. PHASE 1 – MOBILIZATION
   - 1.1. ESTABLISH VTC, SSA, AND CWA AREAS FOR INFRASTRUCTURE CONSTRUCTION
   - 1.2. INSTALL SANITARY FACILITIES AND ANCHOR APPROPRIATELY.
   - 1.3. INSTALL PERIMETER CONTROLS (STRAW WATTLE, SILT FENCE, CONSTRUCTION FENCING) AS SHOWN OR REQUIRED TO PROTECT VEGETATION.
2. PHASE 2 – INFRASTRUCTURE CONSTRUCTION
   - 2.1. INSTALL CIP AT INLET OF EACH CULVERT AS CONSTRUCTED
   - 2.2. INSTALL RIP RAP OUTLET PROTECTION PER DRAINAGE PLANS
   - 2.3. PROVIDE STREET SWEEPING AS NECESSARY
   - 2.4. MAINTAIN CIP, SSA, VTC, AND CWA DURING CONSTRUCTION ACTIVITIES
   - 2.5. INSTALL ECB ON ALL SLOPES 3:1 AND GREATER
3. PHASE 3 – ESTABLISHMENT
   - 3.1. REMOVE VTC, SSA, AND CWA AREAS
   - 3.2. INSTALL PS IN ALL DISTURBED AREAS PER MANUFACTURES RECOMMENDATION. THIS INCLUDES NATIVE SEED AND MULCH OVER ALL DISTURBED AREAS. MULCH SHALL BE STRAW OR ECB ON SLOPES GREATER THAN 3:1
   - 3.3. CIP SHALL REMAIN IN PLACE UNTIL REVEGETATION IS 70% ESTABLISHED

GRAPHIC SCALE
0 15 30 FEET 60

Revisions:

#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

EROSION CONTROL PLAN

MOAB, UTAH

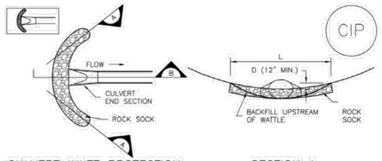
CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C701

Sheet	31 of 34
Project:	2025-016
Date:	09/16/2025
Drawn By:	CH
Checked By:	JG

PROFESSIONAL ENGINEER
No. 8007340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

Inlet Protection (IP) SC-6



CULVERT INLET PROTECTION PLAN SECTION A

SECTION B

CIP–1, CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR –LOCATION OF CULVERT INLET PROTECTION.

2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

CULVERT INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

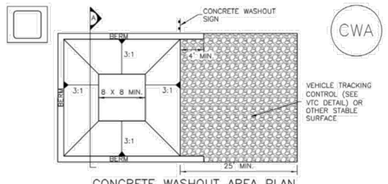
4. SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS ½ THE HEIGHT OF THE ROCK SOCK.

5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

Concrete Washout Area (CWA) MM-1



CONCRETE WASHOUT AREA PLAN

SECTION A

CWA–1, CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR: –CWA INSTALLATION LOCATION.

2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.

3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.

4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.

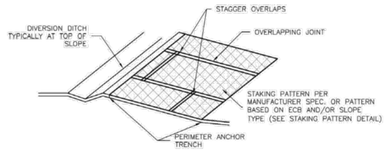
5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.

6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.

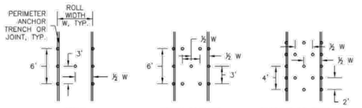
7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.

8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

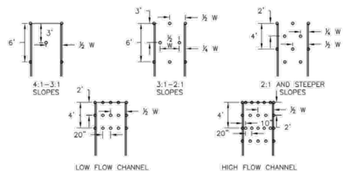
Rolled Erosion Control Products (RECP) EC-6



ECB–3, OUTSIDE OF DRAINAGEWAY



STAKING PATTERNS BY ECB TYPE



STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

Street Sweeping and Cleaning S-11

Description

Photograph SSC-1. Monthly street sweeping from April through November removed nearly 40,690 cubic yards of sediment/debris from Denver streets in 2009. Photo courtesy of Denver Public Works.

Street sweeping uses mechanical pavement cleaning practices to reduce sediment, litter and other debris washed into storm sewers by runoff. This can reduce pollutant loading to receiving waters and in some cases reduce clogging of storm sewers and prolong the life of infiltration oriented BMPs and reduce clogging of outlet structures in detention BMPs.

Different designs are available with typical sweepers categorized as a broom and conveyor belt sweeper, wet or dry vacuum-assisted sweepers, and regenerative-air sweepers. The effectiveness of street sweeping is dependent upon particle loadings in the area being swept, street texture, moisture conditions, parked car management, equipment operating conditions and frequency of cleaning (Pitt et al. 2004).

Appropriate Uses

Street sweeping is an appropriate technique in urban areas where sediment and litter accumulation on streets is of concern for aesthetic, sanitary, water quality, and air quality reasons. From a pollutant loading perspective, street cleaning equipment can be most effective in areas where the surface to be cleaned is the major source of contaminants. These areas include freeways, large commercial parking lots, and paved storage areas (Pitt et al. 2004). Where significant sediment accumulation occurs on pervious surfaces tributary to infiltration BMPs, street sweeping may help to reduce clogging of infiltration media. In areas where construction activity is occurring, street sweeping should occur as part of construction site stormwater management plans. Vacuuming of permeable pavement systems is also considered a basic routine maintenance practice to maintain the BMP in effective operating condition. See the maintenance chapter for more information on permeable pavement systems. Not all sweepers are appropriate for this application.

Practice Guidelines[1]

1. Post street sweeping schedules with signs and on local government websites so that cars are not parked on the street during designated sweeping days.
2. Sweeping frequency is dependent on local government budget, staffing, and equipment availability, but monthly sweeping during non-winter months is a common approach in the metro Denver urban

[1] Practice guidelines adapted from CASQA (2003) *California Stormwater BMP Handbook*, Practice SC-70 Road and Street Maintenance.

SC-6 Inlet Protection (IP)

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR: –LOCATION OF INLET PROTECTION. –TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)

2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.

3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR ¼ OF THE HEIGHT FOR STRAW BALES.

5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.

6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

MM-1 Concrete Washout Area (CWA)

CWA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.

5. 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.

6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

EC-6 Rolled Erosion Control Products (RECP)

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR: –LOCATION OF ECB. –TYPE OF ECB (STRAW, STRAW–COCONUT, COCONUT, OR EXCELSIOR). –AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.

2. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.

3. IN AREAS WHERE ECBs 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 ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.

4. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.

5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.

6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE–HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.

7. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.

8. MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB–1.

9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBS SHALL BE RESEEDED AND MULCHED.

10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM THOSE SHOWN HERE.

TABLE ECB–1. ECB 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

*STRAW ECBs MAY ONLY BE USED OUTSIDE OF STREAMS AND DRAINAGE CHANNEL.
**ALTERNATE NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS

S-11 Street Sweeping and Cleaning

area. Consider increasing sweeping frequency based on factors such as traffic volume, land use, field observations of sediment and trash accumulation, proximity to watercourses, etc. For example:

- Increase the sweeping frequency for streets with high pollutant loadings, especially in high traffic and industrial areas.
- Conduct street sweeping prior to wetter seasons to remove accumulated sediments.
- Increase the sweeping frequency for streets in special problem areas such as special events, high litter or erosion zones.

3. Perform street cleaning during dry weather if possible.
4. Avoid wet cleaning the street; instead, utilize dry methods where possible.
5. Maintain cleaning equipment in good working condition and purchase replacement equipment as needed. Old sweepers should be replaced with more technologically advanced sweepers (preferably regenerative air sweepers) that maximize pollutant removal.
6. Operate sweepers at manufacturer recommended optimal speed levels to increase effectiveness.
7. Regularly inspect vehicles and equipment for leaks and repair promptly.
8. Keep accurate logs of the number of curb-miles swept and the amount of waste collected.
9. Dispose of street sweeping debris and dirt at a landfill.
10. Do not store swept material along the side of the street or near a storm drain inlet.

Changes in Street Sweeper Technology (Source: Center for Watershed Protection 2002)

At one time, street sweepers were thought to have great potential to remove stormwater pollutants from urban street surfaces and were widely touted as a stormwater treatment practice in many communities. Street sweeping gradually fell out of favor, largely as a result of performance monitoring conducted as part of the National Urban Runoff Program (NURP). These studies generally concluded that street sweepers were not very effective in reducing pollutant loads (USEPA, 1983). The primary reason for the mediocre performance was that mechanical sweepers of that era were unable to pick up fine-grained sediment particles that carry a substantial portion of the stormwater pollutant load. In addition, the performance of sweepers is constrained by that portion of a street's stormwater pollutant load delivered from outside street pavements (e.g., pollutants that wash onto the street from adjacent areas or are directly deposited on the street by rainfall). Street sweeping technology, however, has evolved considerably since the days of the NURP testing. Today, communities have a choice in three basic sweeping technologies to clean their urban streets: traditional mechanical sweepers that utilize a broom and conveyor belt, vacuum-assisted sweepers, and regenerative-air sweepers (those that blast air onto the pavement to loosen sediment particles and vacuum them into a hopper).

For more information, see
http://www.cwp.org/Resource_Library/Center_Docs/PWP/ELC_PWP121.pdf

Revisions:

#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

ECP DETAILS I

MOAB, UTAH

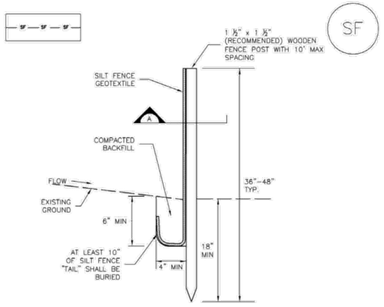
CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.
C702

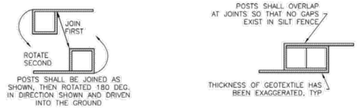
Sheet 32 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

Silt Fence (SF) SC-1



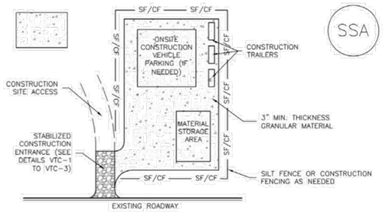
SILT FENCE



SECTION A

SF–1. SILT FENCE

Stabilized Staging Area (SSA) SM-6



SSA–1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF STAGING AREA(S).
   –CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.

3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.

4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

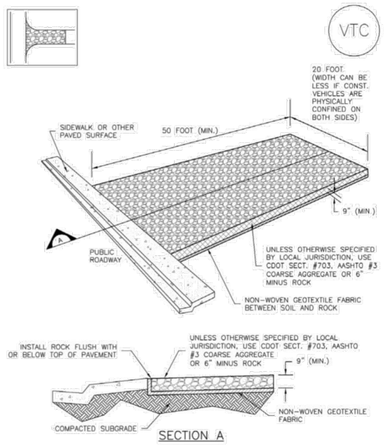
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

Vehicle Tracking Control (VTC) SM-4



SECTION A

VTC–1. AGGREGATE VEHICLE TRACKING CONTROL

SC-1 Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2–5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.

2. A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.

3. COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.

4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.

5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.

6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J–HOOK." THE "J–HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' – 20').

7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".

5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.

6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.

7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

SM-6 Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE–ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

SM-4 Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
   –TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).

2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.

3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT–OF–WAYS.

4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

5. A NON–WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.

6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

Revisions:

#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

ECP DETAILS II

MOAB, UTAH

CIVIL ENGINEERING
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Durango, CO 81301
970-403-5088

PLAN NO.

C703

Sheet 33 of 34
Project:2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH

Description

Temporary seeding can be used to stabilize disturbed areas that will be inactive for an extended period. Permanent seeding should be used to stabilize areas at final grade that will not be otherwise stabilized. Effective seeding includes preparing a seedbed, selecting an appropriate seed mixture, using proper planting techniques, and protecting the seeded area with mulch, geotextiles, or other appropriate measures.

Photograph TS/PS -1. Equipment used to drill seed. Photo courtesy of Douglas County.

Appropriate Uses

When the soil surface is disturbed and will remain inactive for an extended period (typically determined by local government requirements), proactive stabilization measures, including planting a temporary seed mix, should be implemented. If the inactive period is short-lived (on the order of two weeks), techniques such as surface roughening may be appropriate. For longer periods of inactivity of up to one year, temporary seeding and mulching can provide effective erosion control. Permanent seeding should be used on finished areas that have not been otherwise stabilized.

The USDCM Volume 2 *Revegetation* Chapter contains suggested annual grains and native seed mixes to use for temporary seeding. Alternatively, local governments may have their own seed mixes and timelines for seeding. Check jurisdictional requirements for seeding and temporary stabilization.

Design and Installation

Effective seeding requires proper seedbed preparation, selecting an appropriate seed mixture, using appropriate seeding equipment to ensure proper coverage and density, and protecting seeded areas with mulch or fabric until plants are established.

The USDCM Volume 2 *Revegetation* Chapter contains detailed seed mixes, soil preparation practices, and seeding and mulching recommendations that should be referenced to supplement this Fact Sheet.

Drill seeding is the preferred seeding method. Hydroseeding is not recommended except in areas where steep slopes prevent use of drill seeding equipment, and even in these instances it is preferable to hand seed and mulch. Some jurisdictions do not allow hydroseeding or hydromulching.

Temporary and Permanent Seeding	
Functions	
Erosion Control	Yes
Sediment Control	No
Site/Material Management	No

Seedbed Preparation

Prior to seeding, ensure that areas to be revegetated have soil conditions capable of supporting vegetation. Overlot grading can result in loss of topsoil and compaction, resulting in poor quality subsoils at the ground surface that

have low nutrient value, little organic matter content, few soil microorganisms, rooting restrictions, and conditions less conducive to infiltration of precipitation. As a result, it is typically necessary to provide stockpiled topsoil, compost, or other soil amendments and rototill them into the soil to a depth of 6 inches or more.

Topsoil should be salvaged during grading operations for use and spread on areas to be revegetated later. Topsoil should be viewed as an important resource to be utilized for vegetation establishment, due to its water-holding capacity, structure, texture, organic matter content, biological activity, and nutrient content. The rooting depth of most native grasses in the semi-arid Denver metropolitan area is 6 to 18 inches. If present, at a minimum of the upper 6 inches of topsoil should be stripped, stockpiled, and ultimately respread across areas that will be revegetated.

Where topsoil is not available, subsoils should be amended to provide an appropriate plant-growth medium. Organic matter, such as well digested compost, can be added to improve soil characteristics conducive to plant growth. Other treatments can be used to adjust soil pH conditions when needed. Soil testing, which is typically inexpensive, should be completed to determine and optimize the types and amounts of amendments that are required.

If the disturbed ground surface is compacted, rip or rototill the upper 12 inches of the surface prior to placing topsoil. If adding compost to the existing soil surface, rototilling is necessary. Surface roughening will assist in placing a stable topsoil layer on steeper slopes, and allow infiltration and root penetration to greater depth. Topsoil should not be placed when either the salvaged topsoil or receiving ground are frozen or snow covered.

Prior to seeding, the soil surface should be rough and the seedbed should be firm, but neither too loose nor compacted. The upper layer of soil should be in a condition suitable for seeding at the proper depth and conducive to plant growth. Seed-to-soil contact is the key to good germination.

Refer to MHFD's Topsoil Management Guidance for detailed information on topsoil assessment, design, and construction.

Temporary Vegetation

To provide temporary vegetative cover on disturbed areas which will not be paved, built upon, or fully landscaped or worked for an extended period (typically 30 days or more), plant an annual grass appropriate for the time of planting and mulch the planted areas. Temporary grain seed mixes suitable for the Denver metropolitan area are listed in Table TS/PS-1. Native temporary seed mixes are provided in USDCM Volume 2, Chapter 13, Appendix A. These are to be considered only as general recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

Permanent Revegetation

To provide vegetative cover on disturbed areas that have reached final grade, a perennial grass mix should be established. Permanent seeding should be performed promptly (typically within 14 days) after reaching final grade. Each site will have different characteristics and a landscape professional or the local jurisdiction should be contacted to determine the most suitable seed mix for a specific site. In lieu of a specific recommendation, one of the perennial grass mixes appropriate for site conditions and growth season listed in seed mix tables in the USDCM Volume 2 *Revegetation* Chapter can be used. The pure live seed (PLS) rates of application recommended in these tables are considered to be absolute minimum rates for seed applied using proper drill-seeding equipment. These are to be considered only as general

recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

If desired for wildlife habitat or landscape diversity, shrubs such as rubber rabbitbrush (*Chrysothamnus nauseosus*), fourwing saltbush (*Atriplex canescens*) and skunkbrush sumac (*Rhus trilobata*) could be added to the upland seed mixes at 0.25, 0.5 and 1 pound PLS/acre, respectively. In riparian zones, planting root stock of such species as American plum (*Prunus americana*), woods rose (*Rosa woodsii*), plains cottonwood (*Populus sargentii*), and willow (*Salix spp.*) may be considered. On non-topsoiled upland sites, a legume such as Ladak alfalfa at 1 pound PLS/acre can be included as a source of nitrogen for perennial grasses.

Timing of seeding is an important aspect of the revegetation process. For upland and riparian areas on the Colorado Front Range, the suitable timing for seeding is from October through May. The most favorable time to plant non-irrigated areas is during the fall, so that seed can take advantage of winter and spring moisture. Seed should not be planted if the soil is frozen, snow covered, or wet.

Seeding dates for the highest success probability of perennial species along the Front Range are generally in the spring from April through early May and in the fall after the first of September until the ground freezes. If the area is irrigated, seeding may occur in summer months, as well. See Table TS/PS-2 for appropriate seeding dates.

Table TS/PS-1. Minimum Drill Seeding Rates for Various Temporary Annual Grasses

Species[a] (Common name)	Growth Season[b]	Pounds of Pure Live Seed (PLS)/acre[c]	Planting Depth (inches)
1. Oats	Cool	35 - 50	1 - 2
2. Spring wheat	Cool	25 - 35	1 - 2
3. Spring barley	Cool	25 - 35	1 - 2
4. Annual ryegrass	Cool	10 - 15	½
5. Millet	Warm	3 - 15	½ - ¼
6. Winter wheat	Cool	20–35	1 - 2
7. Winter barley	Cool	20–35	1 - 2
8. Winter rye	Cool	20–35	1 - 2
9. Triticale	Cool	25–40	1 - 2

[a] Successful seeding of annual grass resulting in adequate plant growth will usually produce enough dead-plant residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches.

Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in the mulch.

[b] See Table TS/PS-2 for seeding dates. Irrigation, if consistently applied, may extend the use of cool season species during the summer months.

[c] Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brillion Drill or by hydraulic seeding.

Table TS/PS-2. Seeding Dates for Annual and Perennial Grasses

	Annual Grasses (Numbers in table reference species in Table TS/PS-1)		Perennial Grasses	
Seeding Dates	**Warm**	**Cool**	**Warm**	**Cool**
January 1–March 15			✓	✓
March 16–April 30		1,2,3	✓	✓
May 1–May 15			✓	
May 16–June 30	5			
July 1–July 15	5			
July 16–August 31				
September 1–September 30		6, 7, 8, 9		
October 1–December 31			✓	✓

Mulch

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the USDCM Volume 2 *Revegetation* Chapter and Volume 3 Mulching BMP Fact Sheet (EC-04) for additional guidance.

Maintenance and Removal

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

If a temporary annual seed was planted, the area should be reseeded with the desired perennial mix when there will be no further work in the area. To minimize competition between annual and perennial species, the annual mix needs time to mature and die before seeding the perennial mix. To increase success of the perennial mix, it should be seeded during the appropriate seeding dates the second year after the temporary annual mix was seeded. Alternatively, if this timeline is not feasible, the annual mix seed heads should be removed and then the area seeded with the perennial mix.

An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

Protect seeded areas from construction equipment and vehicle access.

Revisions:

#	DATE	DESCRIPTION

THE COOPERATIVE - MULTI-HOUSEHOLD RESIDENTIAL DEVELOPMENT
PARCEL 1 - FINAL CIVIL IMPROVEMENT PLANS

ECP DETAILS III

MOAB, UTAH

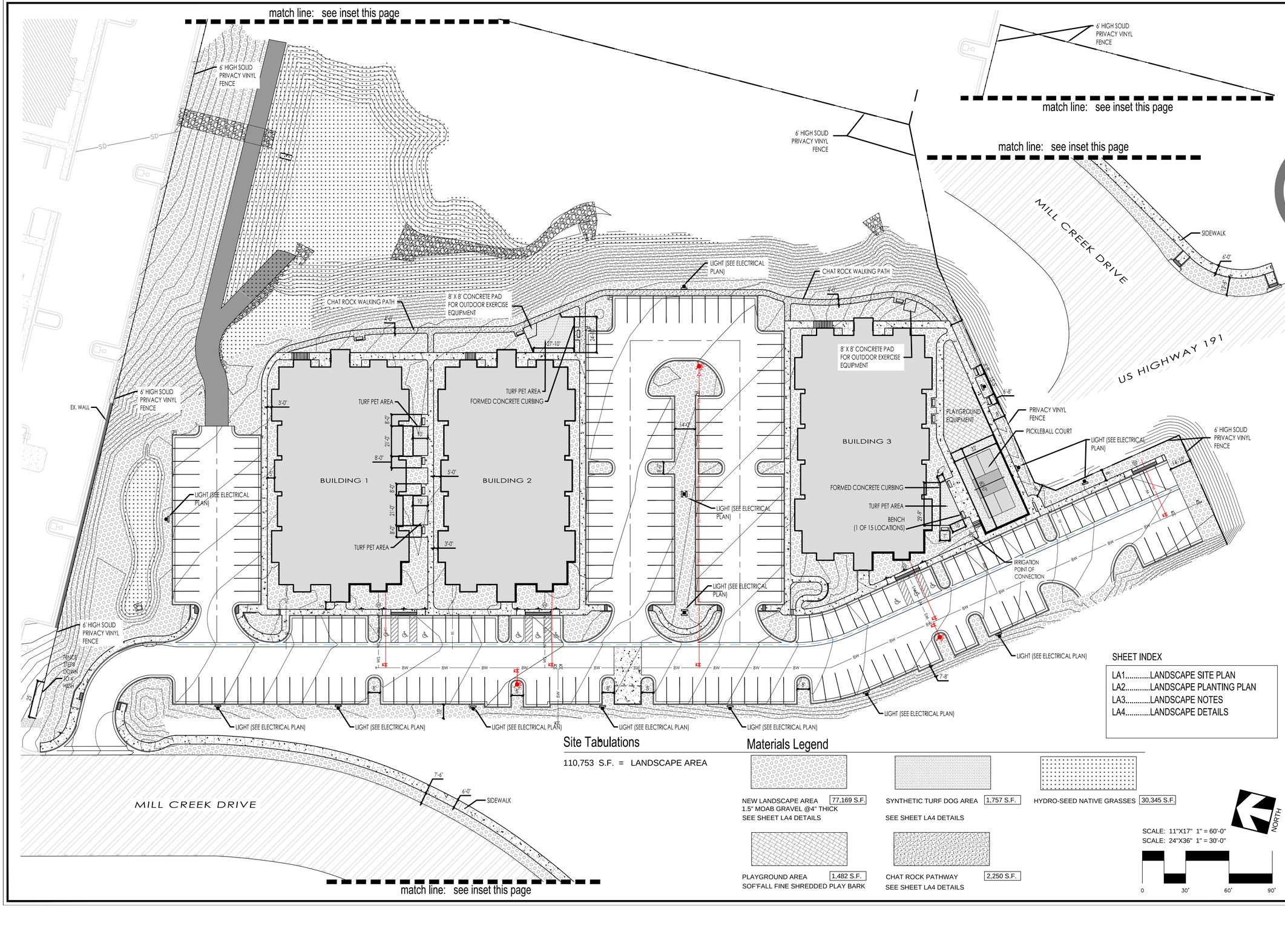
CIVIL ENGINEERING
1309 E. 3rd Ave., #206
Durango, CO 81301
970-403-5088

PLAN NO.

C704

Sheet 34 of 34
Project: 2025-016
Date: 09/16/2025
Drawn By: CH
Checked By: JG

PROFESSIONAL ENGINEER
No. 8001340
JEFFREY M. PILLUS
8/4/2025
STATE OF UTAH



Site Tabulations

110,753 S.F. = LANDSCAPE AREA

Materials Legend

NEW LANDSCAPE AREA 77,169 S.F.
1.5" MOAB GRAVEL @4" THICK
SEE SHEET LA4 DETAILS

SYNTHETIC TURF DOG AREA 1,757 S.F.
SEE SHEET LA4 DETAILS

HYDRO-SEED NATIVE GRASSES 30,345 S.F.

PLAYGROUND AREA 1,482 S.F.
SOF'FALL FINE SHREDDED PLAY BARK

CHAT ROCK PATHWAY 2,250 S.F.
SEE SHEET LA4 DETAILS

SHEET INDEX

NORTH

SCALE: 11"X17" 1" = 60'-0"
SCALE: 24"X36" 1" = 30'-0"

0 30' 60' 90'

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LANDSCAPE ARCHITECTURE
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2025-016

REID B. MITCHELL
STATE OF UTAH
No. 5301-5301
LANDSCAPE ARCHITECT

STAMP

REVISIONS

The Cooperative 1851
Multi-family Development
Phase 1 - Landscape Plans

Millcreek Drive
Moab, Utah 84532

Landscape Site Plan

SHEET NAME.

LA1

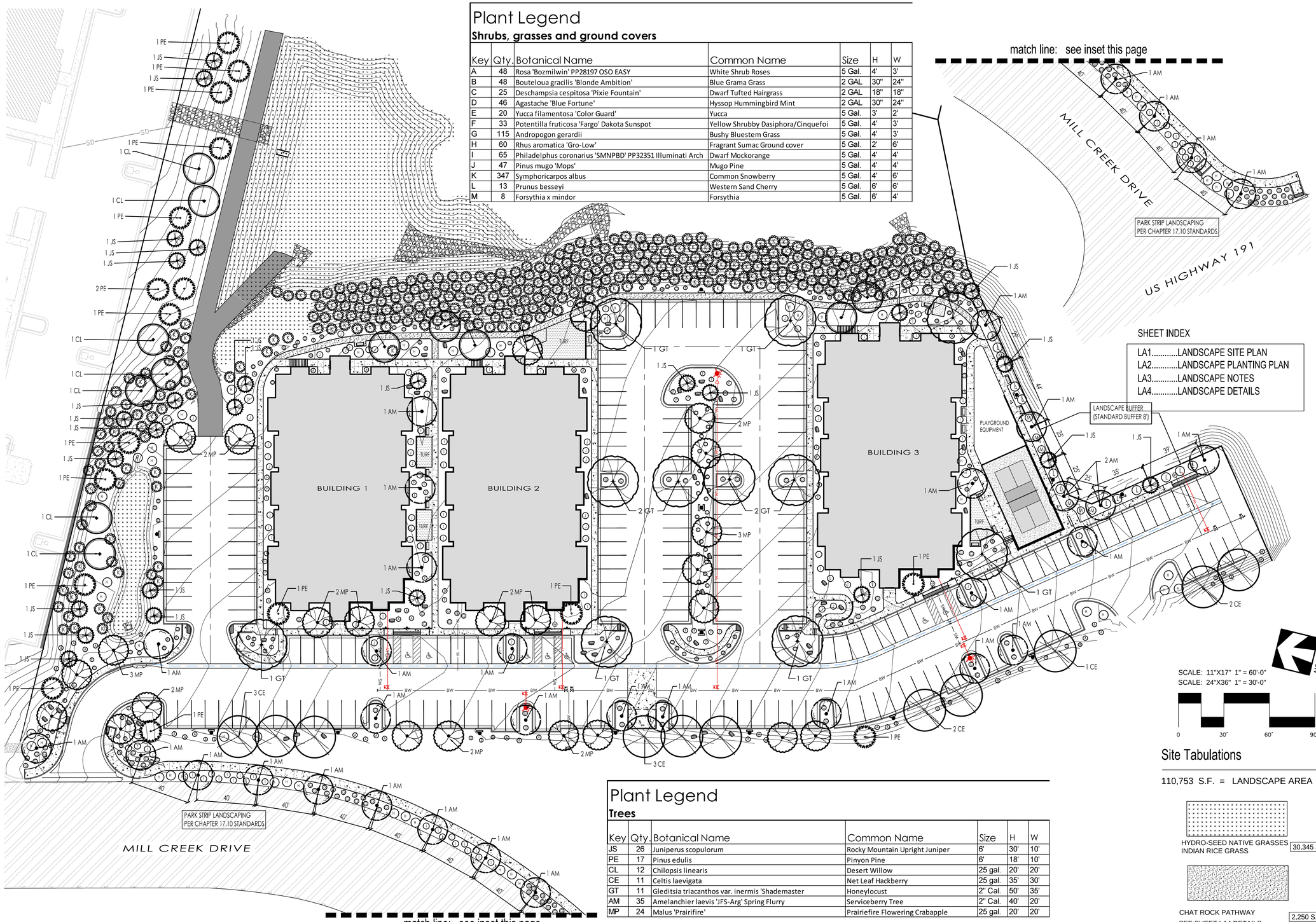
SHEET NO.

DATE. 9/15/2025

Plant Legend

Shrubs, grasses and ground covers

Key	Qty.	Botanical Name	Common Name	Size	H	W
A	48	Rosa 'Bozmilwin' PP28197 OSO EASY	White Shrub Roses	5 Gal.	4'	3'
B	48	Bouteloua gracilis 'Blonde Ambition'	Blue Grama Grass	2 GAL	30"	24"
C	25	Deschampsia cespitosa 'Pixie Fountain'	Dwarf Tufted Hairgrass	2 GAL	18"	18"
D	46	Agastache 'Blue Fortune'	Hyssop Hummingbird Mint	2 GAL	30"	24"
E	20	Yucca filamentosa 'Color Guard'	Yucca	5 Gal.	3'	2'
F	33	Potentilla fruticosa 'Fargo' Dakota Sunspot	Yellow Shrubby Dasiphora/Cinquefoi	5 Gal.	4'	3'
G	115	Andropogon gerardii	Bushy Bluestem Grass	5 Gal.	4'	3'
H	60	Rhus aromatica 'Gro-Low'	Fragrant Sumac Ground cover	5 Gal.	2'	6'
I	65	Philadelphus coronarius 'SMNPBD' PP32351 Illuminati Arch	Dwarf Mockorange	5 Gal.	4'	4'
J	47	Pinus mugo 'Mops'	Mugo Pine	5 Gal.	4'	4'
K	347	Symphoricarpos albus	Common Snowberry	5 Gal.	4'	6'
L	13	Prunus besseyi	Western Sand Cherry	5 Gal.	6'	6'
M	8	Forsythia x mindor	Forsythia	5 Gal.	6'	4'



Plant Legend

Trees

Key	Qty.	Botanical Name	Common Name	Size	H	W
JS	26	Juniperus scopulorum	Rocky Mountain Upright Juniper	6'	30'	10'
PE	17	Pinus edulis	Pinyon Pine	6'	18'	10'
CL	12	Chilopsis linearis	Desert Willow	25 gal.	20'	20'
CE	11	Celtis laevigata	Net Leaf Hackberry	25 gal.	35'	30'
GT	11	Gleditsia triacanthos var. inermis 'Shademaster	Honeylocust	2" Cal.	50'	35'
AM	35	Amelanchier laevis 'JFS-Arg' Spring Flurry	Serviceberry Tree	2" Cal.	40'	20'
MP	24	Malus 'Prairifire'	Prairiefire Flowering Crabapple	25 gal.	20'	20'

SHEET INDEX

SCALE: 11"X17" 1" = 60'-0"
SCALE: 24"X36" 1" = 30'-0"

NORTH

0 30' 60' 90'

Site Tabulations

110,753 S.F. = LANDSCAPE AREA

HYDRO-SEED NATIVE GRASSES
INDIAN RICE GRASS — 30,345 S.F.

CHAT ROCK PATHWAY
SEE SHEET LA4 DETAILS — 2,250 S.F.

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2025-016

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REVISIONS

The Cooperative 1851

Multi-family Development

Phase 1 - Landscape Plans

Millcreek Drive
Moab, Utah 84532

Landscape Planting Plan

SHEET NAME.

LA2

SHEET NO.

DATE. 9/15/2025

GENERAL CONSTRUCTION NOTES:

1. PRIOR TO BIDDING THE WORK, THE CONTRACTOR SHALL THOROUGHLY SATISFY HIMSELF AS TO THE ACTUAL CONDITIONS, REQUIREMENTS OF THE WORK AND EXCESS OR DEFICIENCY IN QUANTITIES, IF ANY. NO CLAIM SHALL BE MADE AGAINST THE OWNER/DEVELOPER OR LANDSCAPE DESIGNER FOR EXCESS OR DEFICIENCY THEREIN, ACTUAL OR RELATIVE.

2. THE LANDSCAPE DESIGNER WILL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, SEQUENCES OF PROCEDURES OR FOR SAFETY PRECAUTIONS OR PROGRAMS UTILIZED IN CONNECTION WITH THE WORK, AND WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

3. QUANTITIES SHOWN ARE THE BEST ESTIMATE OF THE LANDSCAPE DESIGNER. THE CONTRACTOR SHALL MAKE HIS OWN INDEPENDENT ESTIMATE OF QUANTITIES AND BASE HIS BID THEREON.

4. THE CONTRACTOR SHALL MAKE NO CLAIM AGAINST THE OWNER OR THE LANDSCAPE DESIGNER REGARDING ALLEGED INACCURACY OF CONSTRUCTION STAKES. REMEDIAL WORK REQUIRED TO CORRECT ANY ITEMS OR IMPROPER CONSTRUCTION WORK SHALL BE PERFORMED AT THE SOLE EXPENSE OF THE RESPONSIBLE CONTRACTOR OR SUBCONTRACTOR.

5. NOTHING CONTAINED IN THE CONTRACT DOCUMENTS SHALL CREATE, NOR SHALL BE CONSTRUED TO CREATE A CONTRACTUAL RELATIONSHIP BETWEEN THE LANDSCAPE DESIGNER AND THE CONTRACTOR OR SUBCONTRACTOR.

6. IT SHALL BE THE RESPONSIBILITY OF THE BIDDER TO VERIFY QUANTITIES INCLUDING EXCAVATION, BORROW, EMBANKMENT, SHRINK, OR SWELL, GROUND COMPACTION, HAUL AND OTHER ITEMS AFFECTING HIS BID TO COMPLETE THE GRADING TO THE ELEVATIONS SHOWN ON THE PLANS AND TO BASE HIS BID SOLELY UPON HIS OWN VERIFIED QUANTITIES. IT SHALL BE THE BIDDER'S RESPONSIBILITY TO NOTIFY THE LANDSCAPE DESIGNER OF MAJOR DISCREPANCIES PRIOR TO CONSTRUCTION.

PLANTING NOTES:

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY QUANTITIES INCLUDING TREES, GROUNDCOVERS, MULCH AND OTHER ITEMS SHOWN ON THE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER'S REPRESENTATIVE OF MAJOR DISCREPANCIES PRIOR TO CONSTRUCTION. SOME ADJUSTMENT IN THE FIELD MAY BE REQUIRED PER OWNER DISCRETION.

2. THE CONTRACTOR SHALL STAKE THE LOCATION OF PLANT MATERIAL AND SHALL HAVE LOCATIONS APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

3. GROUNDCOVERS SHALL BE PLANTED A MINIMUM OF 3' FROM EDGE OF WALKS, WALLS, BUILDINGS, AND CURBS UNLESS OTHERWISE DIRECTED BY THE OWNER'S REPRESENTATIVE.

4. BARK MULCH - AREAS NOT OTHERWISE COVERED BY TURF, PAVING, GROUNDCOVER OR BUILDINGS SHALL RECEIVE A MINIMUM OF 3" THICKNESS OF BARK MULCH AND SHALL BE COVERED WITH DEWITTS PRO-5 WEED BARRIER FABRIC OR APRROVED EQUAL. OVERLAP SEAMS 6 INCHES AND STAPLE AT 5 FEET ON CENTER EACH WAY WITH 2 AT EACH CORNER. A MULCH SAMPLE SHALL BE SUBMITTED TO LANDSCAPE DESIGNER OR OWNER FOR APPROVAL PRIOR TO INSTALLATION.

5. STONE MULCH - AREAS NOTED ON PLANS FOR STONE MULCH SHALL RECEIVE A MINIMUM OF 4" THICKNESS OF MULCH. A STONE MULCH SAMPLE SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

6. AREAS TO RECEIVE STONE MULCH TO BE SPRAYED WITH A CONTACT HERBICIDE AND SHALL BE COVERED WITH DEWITTS PRO-5 WEED BARRIER FABRIC OR APRROVED EQUAL. OVERLAP SEAMS 6 INCHES AND STAPLE AT 5 FEET ON CENTER EACH WAY WITH 2 AT EACH CORNER. CONTRACTOR SHALL ALSO APPLY A PRE-EMERGENT HERBICIDE PER MANUFACTURERS RECOMMENDATIONS.

7. ALL PLANT MATERIALS SHALL MEET ANLA & ANSI STANDARD SPECIFICATIONS. PLANT MATERIALS SHALL BE ORDERED BY BOTANICAL NAME. SUBSTITUTIONS SHALL NOT BE ALLOWED UNLESS AUTHORIZED IN WRITING AND IN ADVANCE, BY THE OWNER'S REPRESENTATIVE.

8. OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL DEEMED UNACCEPTABLE. PLANT MATERIAL SHALL BE WARRANTIED BY THE CONTRACTOR FOR 1 YEAR AFTER INSTALLATION HAS BEEN ACCEPTED AS COMPLETE.

9. PRIOR TO COMMENCENT OF WORK, THE CONTRACTOR SHALL VERIFY LOCATIONS AND DEPTHS OF UNDERGROUND UTILITY INSTALLATIONS THAT MAY BE AFFECTED BY HIS WORK AND SHALL BE RESPONSIBLE FOR DAMAGES TO SUCH INSTALLATIONS CAUSED AS A RESULT OF LANDSCAPE INSTALLATIONS.

10. CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN SODDED AREAS AND ALL PLANT MATERIALS FOR A PERIOD OF 90 DAYS AND 120 DAYS FOR SEEDED AREAS. UPON COMPLETION OF THE MAINTENANCE PERIOD, THE OWNER WILL ASSUME MAINTENANCE RESPONSIBILITES.

11. ACCEPTABLE TOPSOIL, WHETHER IMPORTED OR FROM SITE, SHALL BE FERTILE, LOOSE, FRIABLE SOIL MEETING THE FOLLOWING REQUIREMENTS:

CHEMICAL CHARACTERISTICS
1) pH: 5.5-8.0
2) EC (ELECTRICAL CONDUCTIVITY): < 3.0 MMHOS/CM
3) SAR (SODIUM ADSORPTION RATIO): < 6.0

PHYSICAL CHARACTERISTICS
1) SAND: 15 TO 60%
2) SILT: 10 TO 60%
3)CLAY: 5 TO 30%
4)ORGANIC MATTER: > 1%
5) CLEAN AND FREE FROM TOXIC MINERALS AND CHEMICALS, NOXIOUS WEEDS, ROCKS LARGER THAN 1 1/2 INCH 38 MM IN ANY DIMENSION, AND OTHER OBJECTIONABLE MATERIALS.
6) SOIL SHALL NOT CONTAIN MORE THAN 2% BY VOLUME OF ROCKS MEASURING OVER 3/32 INCH 2 MM IN LARGEST SIZE.

TOPSOIL SHOULD BE NATURAL, FERTILE, FRIABLE LOAM, CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH, FREE OF SUBSOIL, ROOTS, GRASS, AN EXCESSIVE AMOUNT OF WEEDS, STONE AND FOREIGN MATTER. OBTAIN ADDITIONAL TOPSOIL FROM LOCAL SOURCES OR FROM AREAS HAVING SIMILAR SOIL CHARACTERISTICS TO THAT FOUND AT THE PROJECT SITE. IF EXISTING TOPSOIL IS TO BE USED OBTAIN TOPSOIL ONLY FROM NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS IN A DEPTH OF NOT LESS THAN FOUR (4) INCHES. TOPSOIL SHALL CONFORM TO QUALITY CONTROL STANDARDS STATED ABOVE.

IRRIGATION NOTES:

1. THE IRRIGATION SYSTEM SHOWN IS SCHEMATIC AND APPROXIMATE. ACTUAL PLACEMENT MAY VARY SLIGHTLY AS REQUIRED TO ACHIEVE FULL, EVEN COVERAGE WITHOUT EXCESSIVE SPRAYING ONTO SIDEWALKS, FENCES, ETC. LOCATE LINES IN NON-PAVED AREAS WHERE POSSIBLE. NO TEES, ELS, OR OTHER CONNECTIONS SHALL BE PLACED UNDER A PAVED AREA IF POSSIBLE. SPECIFIC EMITTERS AND LOCATIONS ARE NOT SHOWN ON THE PLAN AND ARE SUBJECT TO FIELD ADJUSTMENT. THE ENDS OF ALL LATERALS SHALL HAVE AN AUTOMATIC DRAIN.

2. IRRIGATION CONTRACTOR SHALL VERIFY WATER PRESSURE ON-SITE PRIOR TO BEGINNING WORK. IF DISCREPANCY EXISTS BETWEEN WATER PRESSURE TESTED ON-SITE AND THAT NOTED ON PLAN, CONTRACTOR SHALL IMMEDIATELY NOTIFY LANDSCAPE ARCHITECT. SYSTEM IS DESIGNED BASED UPON 40PSI STATIC PRESSURE AT ALL P.O.C. (POINT OF CONNECTION) LOCATIONS. THE DESIGN OPERATING PRESSURE FOR EACH VALVE IS 35 PSI.

3. CONTRACTOR SHALL FURNISH AND INSTALL MATERIAL AND EQUIPMENT PERTAINING TO THE IRRIGATION SYSTEM HEREIN SPECIFIED OR SHOWN ON THE DRAWINGS. THIS SHALL INCLUDE ALL ITEMS OF A MINOR NATURE NECESSARY TO COMPLETE INSTALLATION.

4. THE CONTRACTOR SHALL MAKE NECESSARY IN-FIELD ADJUSTMENTS TO AVOID OBSTRUCTIONS OR COMPENSATE FOR DIFFERENCES BETWEEN THE SITE AND PLAN. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR REVISION OF MAJOR DEPARTURES FROM THE PLAN WITHOUT WRITTEN APPROVAL FROM THE OWNER. CONTRACTOR TO PROVIDE THE APPROPRIATE DEGREE OF ARC IN EACH HEAD THAT PROVIDES HEAD-TO-HEAD COVERAGE WITHOUT EXCESSIVE OVERSPRAY ONTO WALKS, BUILDINGS, ROADS, ETC.

5. IRRIGATION CONTRACTOR SHALL OBTAIN APPROVAL FROM THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO RELOCATING OR ALTERING SPRINKLER HEADS, VALVES, PIPING, ETC. DUE TO A CHANGE IN OR UNKNOWN SITE CONDITIONS.

6. IRRIGATION CONTRACTOR TO CAP ALL FLUSH CAP ENDS HAND TIGHT BEFORE BACKFILL.

7. ALL VALVE AND FLUSH BOX COVERS SHALL MATCH GROUND COVER. GREEN COVERS TO BE IN TURF AND TAN COVERS IN PLANTING BEDS.

8. EACH REMOTE CONTROL VALVE SHALL BE CONNECTED TO AN AUTOMATIC CONTROLLER WITH #14 PILOT WIRE AND #14 COMMON WIRE - TYPE U.F., COPPER, U.L. APPROVED, SOLID STRAND.

9. ALL AUTOMATIC CONTROLLERS, RISERS, BACKFLOW PREVENTERS AND HOSE BIBS SHALL BE SET PLUMB. SPRINKLER HEAD RISERS, QUICK COUPLER VALVES AND ALL VALVES WITH STEMS SHALL BE SET PERPENDICULAR TO FINISH GRADE.

10. IRRIGATION CONTRACTOR SHALL COORDINATE WORK W/ PLANTING PLANS TO AVOID CONFLICTING LOCATIONS BETWEEN PIPING AND PLANT PITS.

11. ALL MATERIALS SHALL BE INSTALLED AS DETAILED IN THE PLANS. IF THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS DO NOT THOROUGHLY DESCRIBE THE METHOD OR TECHNIQUES TO BE USED. THEN THE CONTRACTOR SHALL INSTALL PER MANUFACTURERS SPECIFICATIONS. IF A CONTRADICTION OCCURS, NOTIFY THE OWNER IMMEDIATELY.

12. ADJUST HEADS AND BUBBLERS (IF APPLICABLE) FOR PROPER HEAD TO HEAD COVERAGE.

13. USE SCH 40 PVC PIPE FROM WATER OR SHUT OFF VALVE TO BACKFLOW PREVENTER.

14. IRRIGATION CONTRACTOR TO USE TEFLON TAPE ON ALL THREADED JOINTS.

15. EACH DRIPLINE ZONE IS REQUIRED TO HAVE AN AIR RELIEF VALVE AND FLUSH VALVE. THE FLUSH VALVE IS TO BE INSTALLED AT THE LOWEST POINT OF THE ZONE.

16. BRAND EACH VALVE BOX W/ 2" LETTERING SHOWING ZONE NUMBER (EX. Z1) THIS STAMP IS TO MATCH THE ZONE AND CONTROLLER ASSOCIATED WITH THE VALVE'S OPERATION.

17. EXTEND ALL SLEEVES 1'-0" INTO EACH PLANTING AREA.

18. NO PIPES SHALL BE INSTALLED PARALLEL AND DIRECTLY OVER ANOTHER LINE. MINIMUM HORIZONTAL CLEARANCE FOR SLEEVES FOR THIS PROJECT SHALL BE 3 INCHES. CLEARANCE FROM LINE OF OTHER TRADES SHALL BE 6 INCHES.

19. CONTROL WIRING SHALL HAVE A 1" MINIMUM CONDUIT WITHIN THE SLEEVE.

20. SLEEVE LOCATIONS SHALL BE SHOWN ON THE RECORD DRAWINGS.

21. ALL SLEEVES SHALL BE CAPPED AND KEPT CLEAR OF DIRT AND DEBRIS.

22. INSTALL A 36" LENGTH OF #4 REBAR ADJACENT TO EACH END OF THE SLEEVE. TOP OF ROD SHALL BE THREE INCHES BELOW FINISH GRADE. A SECTION OF SURVEYOR'S VINYL TAPE SHALL BE TIED TO THE END OF THE ROD AND BROUGHT TO THE SURFACE. THE TAPE SHALL BE VISIBLE UNTIL ALL WORK IS COMPLETED.

23. ALL SLEEVES TO BE SCHEDULE 40 PVC. USE FULL LENGTHS WHERE POSSIBLE. SOLVENT WELD ALL FITTINGS WITH APPROPRIATE PRIMER AND SOLVENT. ANY REQUIRED ADDITIONAL FITTINGS TO BE SCHEDULE 40.

24. VALVES W/ LESS THAN 3 GPM SHALL RECEIVE A RAINBIRD RBY SERIES Y-STRAINER OR EQUAL UPSTREAM.

25. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL IRRIGATION SLEEVING. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR. VERIFY ANY EXISTING SLEEVES INSTALLED BY OTHER CONTRACTORS.

26. PRIOR TO OWNERS APPROVAL, AN IRRIGATION "TUNE-UP" SHALL BE PERFORMED AS FOLLOWS:
    a. ALL IRRIGATION EQUIPMENT (INCLUDING ALL PIPELINES AND SLEEVES) TO BE DOCUMENTED FROM TWO STATIONARY POINTS.
    b. ALL DRIP SYSTEMS TO BE FLUSHED BEGINNING WITH THE Y-STRAINER, AND WORKING AWAY FROM PRESSURE REGULATOR.
    c. IRRIGATION VALVES STATION NUMBER, CONTROLLER DESIGNATION, AND LOCATION ARE TO BE DOCUMENTED ON A SHEET OF PAPER. THIS SHEET TO BE PLACED IN A PLASTIC POUCH AND ATTACHED TO THE INSIDE OF CONTROLLER, AN ADDITIONAL COPY SHALL BE PROVIDED TO OWNER.

27. CONTRACTOR SHALL PERFORM THE FOLLOWING:
    a. VISIT SITE AND VERIFY EXISTING GRADES, CONSTRUCTION AND CONDITIONS.
    b. VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND MAKE ANY NOTIFICATIONS REQUIRED.
    c. NOTIFY OWNER OF DISCREPANCIES BETWEEN PLAN AND FIELD.
    d. RESTORE DAMAGED AREAS CAUSED BY CONTRACTOR TO THE SATISFACTION OF THE OWNER.
    e. BE SATISFIED THAT THE PLAN CAN BE CONSTRUCTED, FUNCTIONAL AND COMPLETE.

28. CONTRACTOR SHALL DETERMINE BIDDING QUANTITIES. ALL QUANTITIES SHOWN IN THESE PLANS ARE TO GIVE THE CONTRACTOR A COMPARISON COUNT ONLY.

29. ALL MATERIALS AND WORKMANSHIP SHALL BE TRUE TO TYPE, FORM, FINISH AND OF THE HIGHEST STANDARDS OF THE TRADE. DAMAGED OR INFERIOR MATERIALS SHALL BE REMOVED FROM THE SITE WITHOUT DELAY.

30. THE IRRIGATION CONTRACTOR SHALL COORDINATE ALL IRRIGATION WORK WITH OTHER CONTRACTORS AND OR SUBCONTRACTORS.

31. ALL EQUIPMENT SHALL BE MAINTAINED WHILE UNDER CONSTRUCTION. MAINTENANCE INCLUDES: WATER SCHEDULING, REPLACEMENT OF DEFECTIVE OR DAMAGED EQUIPMENT, ADJUSTMENT AND READJUSTMENT OF HEADS AND OTHER EQUIPMENT.

32. CONTRACTOR TO INSURE THE FOLLOWING:
    a. LINES AND VALVES ARE TO BE PLACED WITHIN PLANTING BEDS & PROJECT LIMITS. THESE PLANS ARE SCHEMATIC. CONTRACTOR SHALL SIZE PIPE, PLAN SIZES ARE MINIMUMS.
    b. 100% COVERAGE OF IRRIGATION SYSTEM (HEAD TO HEAD COVERAGE FOR TURF) TO ALL PLANTS REGARDLESS OF SIZE OR TYPE.

33. CONTRACTOR TO PROVIDE IRRIGATION MAINTENANCE AS DESCRIBED IN ITEM 31 AFTER ACCEPTANCE FOR THE PERIOD INDICATED IN THE LANDSCAPE SPECIFICATIONS OR 90 DAYS WHICHEVER IS GREATER.

34. CONTROLLER SHALL BE GROUNDED AND PROTECTED FROM LIGHTNING AND SURGE PROTECTION PER MANUFACTURER'S RECOMMENDATION.

35. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY QUANTITIES INCLUDING VALVES, HEADS, SLEEVES, GATE VALVES AND OTHER ITEMS SHOWN ON THE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER PRIOR TO CONSTRUCTION OF MAJOR DISCREPANCIES. IN CASE OF A DISCREPANCY BETWEEN THE NUMBER OF IRRIGATION PARTS INDICATED ON THE DRAWINGS AND THE TOTAL NUMBER INDICATED ON THE IRRIGATION LEGEND, THE DRAWINGS SHALL BE ACCEPTED AS CORRECT. SOME ADJUSTMENTS IN THE FIELD MAY BE REQUIRED PER OWNER DIRECTION.

SHEET INDEX

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STAMP

REVISIONS

The Cooperative 1851
Multi-family Development
Phase 1 - Landscape Plans

Millcreek Drive
Moab, Utah 84532

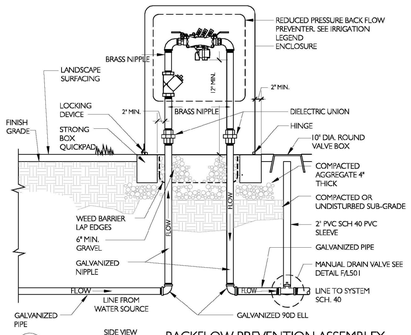
Landscape & Irrigation Notes

SHEET NAME.

LA3

SHEET NO.

DATE. 9/15/2025



BACKFLOW PREVENTION ASSEMBLEY

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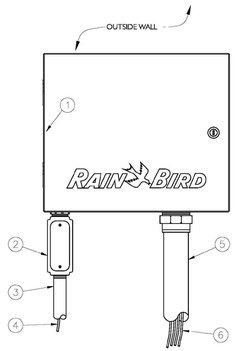
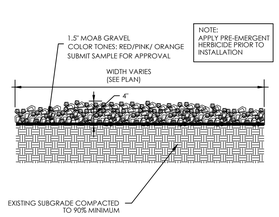


1. IRRIGATION CONTROLLER. RAIN BIRD ESP-LXME CONTROLLER IN LXMM METAL CABINET WITH OUTSIDE WALL MOUNT. INSTALL CONTROLLER AND CABINET ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
2. JUNCTION BOX
3. 1-INCH CONDUIT AND FITTINGS TO POWER SUPPLY
4. POWER SUPPLY WIRE
5. 2-INCH CONDUIT AND FITTINGS FOR STATION WIRES
6. WIRES TO REMOTE CONTROL VALVES

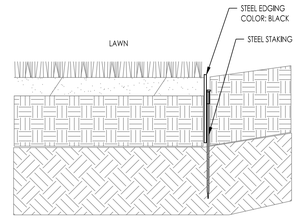
NOTES:
1. ESP-LXME CONTROLLER IS AVAILABLE IN 8- OR 12-STATION BASE MODELS. ADDITIONAL MODULES IN 4-, 8- AND 12-STATION VERSIONS MAY BE ADDED TO BRING THE CONTROLLER UP TO 48 STATIONS MAXIMUM.
2. FOR EASE OF INSTALLATION INTO A CONTROLLER WITH MORE THAN 24 STATIONS, INSTALL A JUNCTION BOX AT THE BASE OF CONTROLLER AND TRANSITION LARGER VALVE AND COMMON WIRES FROM FIELD TO 18 AWG MULTI CONDUCTOR WIRE TO BE USED IN CONTROLLER.
3. USE STEEL CONDUIT FOR ABOVE GRADE AND SCH 40 PVC CONDUIT FOR BELOW GRADE CONDITIONS.
4. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS.

WALL MOUNT CONTROLLER

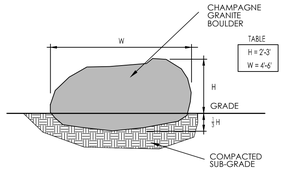
NOT TO SCALE



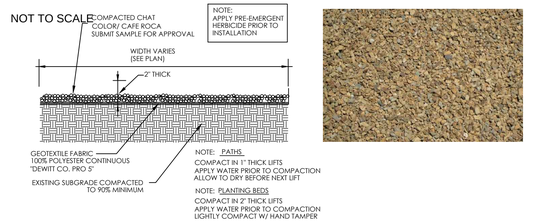
LANDSCAPE ROCK DETAIL



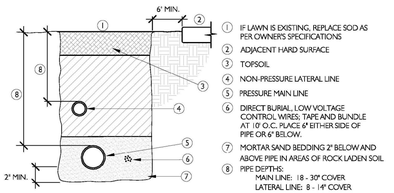
STEEL LANDSCAPE EDGING



LANDSCAPE BOULDER DETAIL



CHAT ROCK PATH DETAIL

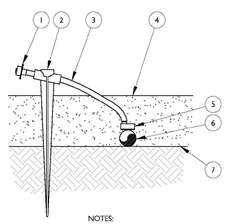


1. IF LAWN IS EXISTING, REPLACE SOD AS PER OWNER'S SPECIFICATIONS
2. ADJACENT HARD SURFACE
3. TOPSOIL
4. NON-PRESSURE LATERAL LINE
5. PRESSURE MAIN LINE
6. DIRECT BURIAL, LOW VOLTAGE CONTROL WIRES, TAPE AND BUNDLE AT 10' O.C. PLACE 6" EITHER SIDE OF PIPE OR 6" BELOW.
7. MORTAR SAND BEDDING 2" BELOW AND ABOVE PIPE IN AREAS OF ROCK LADEN SOIL
8. PIPE DEPTHS:
   MAIN LINE: 18 - 30" COVER
   LATERAL LINE: 8 - 14" COVER

NOTE: SEE SLEEVING DETAIL FOR TRENCHING IN PAVED AREAS.

PIPE TRENCH

NOT TO SCALE

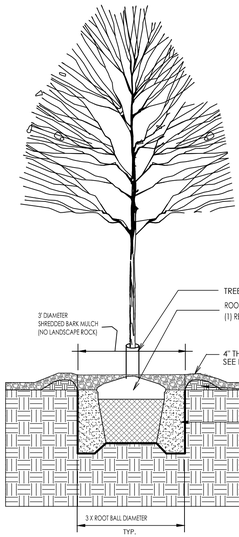


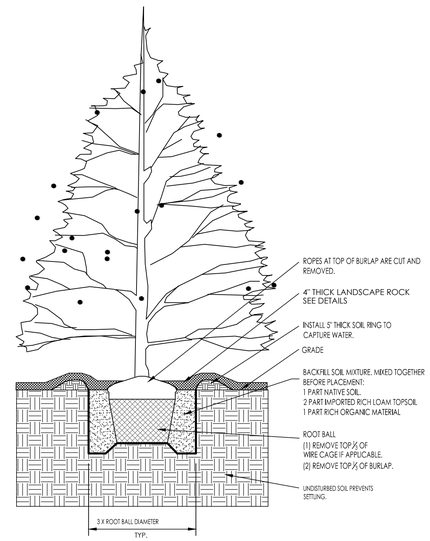
1. DIFFUSER BUG CAP: RAIN BIRD DBC-025
2. UNIVERSAL ½" TUBING STAKE: RAIN BIRD TS-025
3. ½" DISTRIBUTION TUBING: RAIN BIRD XQ TUBING (LENGTH AS REQUIRED)
4. TOP OF MULCH
5. SINGLE-OUTLET BARB INLET X BARB OUTLET EMITTER: RAIN BIRD XERI-BUG EMITTER
6. ½" POLYETHYLENE TUBING: RAIN BIRD XF SERIES TUBING OR RAIN BIRD XT-700 XERI-TUBE OR RAIN BIRD XBS BLACK STRIPE TUBING
7. FINISH GRADE

NOTES:
1. USE RAIN BIRD XERIMAN TOOL XM-TOOL TO INSERT EMITTER DIRECTLY INTO ½" POLYETHYLENE TUBING.
2. RAIN BIRD XERI-BUG BARB X BARB EMITTERS ARE AVAILABLE IN THE FOLLOWING MODELS:
   XB-05PC 0.5 GPH XB-10PC 1.0 GPH XB-20PC 2.0 GPH

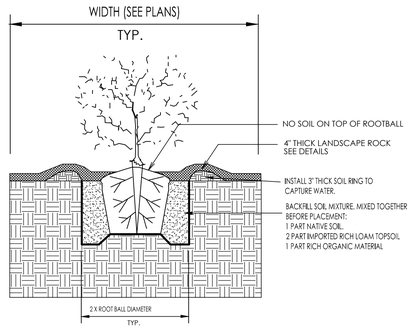
XERIBUG EMITTER

NOT TO SCALE

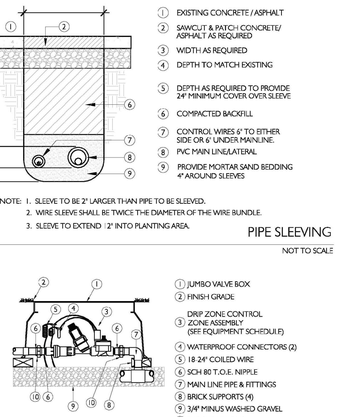




TREE PLANTING DETAILS



PLANTING DETAIL



1. EXISTING CONCRETE / ASPHALT
2. SAWCUT & PATCH CONCRETE/ ASPHALT AS REQUIRED
3. WIDTH AS REQUIRED
4. DEPTH TO MATCH EXISTING
5. DEPTH AS REQUIRED TO PROVIDE 24" MINIMUM COVER OVER SLEEVE
6. COMPACTED BACKFILL
7. CONTROL WIRES 6" TO EITHER SIDE OR 6' UNDER MAINLINE.
8. PVC MAIN LINE/LATERAL
9. PROVIDE MORTAR SAND BEDDING 4" AROUND SLEEVES

NOTE: 1. SLEEVE TO BE 2" LARGER THAN PIPE TO BE SLEEVED.
2. WIRE SLEEVE SHALL BE TWICE THE DIAMETER OF THE WIRE BUNDLE.
3. SLEEVE TO EXTEND 12" INTO PLANTING AREA.

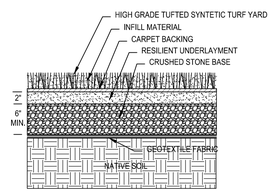
PIPE SLEEVING

NOT TO SCALE

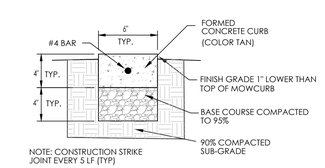
1. JUMBO VALVE BOX
2. FINISH GRADE
3. DRIP ZONE CONTROL ZONE ASSEMBLY (SEE EQUIPMENT SCHEDULE)
4. WATERPROOF CONNECTORS (2)
5. 18 24" COILED WIRE
6. SCH 80 T.O.E. NIPPLE
7. MAIN LINE PIPE & FITTINGS
8. BRICK SUPPORTS (4)
9. 3/4" MINUS WASHED GRAVEL
10. PVC SLIP UNIONS

DRIP IRRIGATION VALVE ASSEMBLY

NOT TO SCALE



TURF DETAIL



CONCRETE CURBING DETAIL

SHEET INDEX

LANDCURVE
LANDSCAPE ARCHITECTURE
2846 Beverly Street
Salt Lake City, Utah 84106
P. 801 209 1072
E reid.mitchell@gmail.com

2025-016

STATE OF UTAH
REID B. MITCHELL
9245014-5301
LANDSCAPE ARCHITECT

STAMP

REVISIONS

The Cooperative 1851
Multi-family Development
Phase 1 - Landscape Plans

Millcreek Drive
Moab, Utah 84532

Landscape & Irrigation Details

SHEET NAME.

LA4

SHEET NO.

DATE. 9/15/2025

THE CITY OF MOAB

EST. 1902

Site Plan Review Level II Matrix for Cooperative 1581 Apartments

Municipal Code Analysis

17.67

Section	Code Provision	Compliance	Rationale
17.67.040A.1	**Preliminary Site Plan:** Applicants shall submit a preliminary site plan (with requirements as listed below), drawn by an engineer, surveyor, or architect, to a scale of not less than one inch equals fifty feet that shall include: * Parcel Boundary Lines, * Drives, Streets, and Rights-of-Way, * Parking and Loading, Access, * Refuse Areas, * Common Open Spaces, Topography, * Use Types, * Public Dedications, Lots or Plots, Adjacent Zoning, Fire Hydrants, Title Block, Vicinity Map, Legal Description of Property.	Complies	
17.67.040A.2	**Floor Plan and Elevations**. A floor plan, at a minimum, shall consist of a drawing to scale showing a view from above, of the relationships between rooms, spaces and other physical features at each floor level of a structure. All dimensions shall be drawn between the walls to specify room sizes and wall lengths. The floor plan shall show the physical layout of: Interior Walls and Hallways, Restrooms, Windows, doors, landings, decks, and patios, Plumbing features, Interior Features such as fireplaces, saunas, hot tubs, and whirlpools; Locations of electrical panels and service connections, Planned Uses of Buildings and Rooms, All finished first floor elevations, and Elevation view drawings shall show all side elevations of existing and proposed structures, and shall depict exterior architectural elements and materials, as well as heights of the structure.	Complies	
17.67.040.B	**Narrative.** The narrative shall describe in reasonable detail the purpose of the proposed development, the types of all land uses that are anticipated, the phasing of development, and information regarding all accessory uses, structures, or major features. Statistical information as to the project area, developed area square footage, number of parking spaces, and the like shall be included.	Complies	
17.67.040.C	**Conceptual Master Sign Plan**. If signage is anticipated, applicants shall submit a master sign plan showing the location, dimensions, materials, and type of illumination for all signs. All signage shall comply with Chapter 17.93, Sign Code, and is subject to permitting under that process.	Complies	
17.67.040.D	**Lighting Plan**. The lighting plan shall show number and types of fixtures for walkways, building exterior lighting, and parking areas and comply with the requirements of sections 17.09.060 through 17.09.069.	Complies	

Section	Code Provision	Compliance	Rationale
17.67.040.E	**Landscape Plan.** The landscape plan shall include size and species of all plantings, an irrigation plan, xeriscape plan, and a care and maintenance plan. All applicable code sections of the Moab Municipal Code must be used to develop the landscape plan, including Chapter 12.24, Tree Stewardship. Proposed erosion control structures and details as to ground cover must also be noted on the landscape plan.	Complies	
17.67.040.F	**Wetlands, Riparian Areas, and Floodways**. If the development is adjacent to riparian areas, flood zones, probable wetlands, or areas where stream channels may be altered by planned development, a wetlands, riparian areas, and floodway plan drawn by an engineer, surveyor, or other appropriate consultant must be submitted. Probable wetlands shall be described and delineated. All applications shall show compliance with Chapter 15.40, Flood Damage Prevention. Flood zone boundaries and the base flood elevation must be shown. Where the application includes areas which may be subject to flooding the applicant shall show that the elevation of the lowest floor of all structures exceeds the elevation which is above the base flood elevation. All elevations on the plan shall be shown in the most current North American Vertical Datum (NAVD).	NA	
17.67.040.G.1	**Water Drainage Plan**. This report shall comply with the City of Moab/Grand County Design Criteria for Drainage Studies, as adopted or updated by the City from time to time. The storm water drainage plan shall be reviewed for compliance with other applicable advisory documents. The storm water drainage plan shall include, at a minimum, the following information: Project site , Existing Contours, proposed contours, Benchmark referencing mean sea level, Drainage system shown in plan view with estimated cubic-feet-per-second flow for a one-hundred-year storm event; Location of all natural drainage channels and water bodies; Existing and proposed drainage easements; Type, size, and location of existing and proposed drainage structures such as pipes, culverts, inlets, ditches, swales, retention ponds, detention areas, One -hundred-year event (base) flood areas; any additional information to satisfy FEMA floodplain requirements; Erosion control plans.	Complies	
17.67.040.G.2	**Minimum Standards**. All structures for drainage and flood control shall be designed, at a minimum, to successfully convey the anticipated one-hundred-year frequency storm event for maximum period of intensity over the entire drainage basin. The applicant shall submit calculations to show that all structures have adequate capacity to accommodate flows expected to result from the designated storm event.	Complies	

Section	Code Provision	Compliance	Rationale
17.67.040.G.3	**Water and Sewer System Protection**. All storm water facilities shall be designed to avoid or minimize damage to, or infiltration of, culinary water and sanitary sewer facilities.	Complies	
17.67.040.H	**Planned Grading.** A grading plan for surface drainage (shown by contours and spot elevations) shall be prepared by an engineer or surveyor. It shall show the planned grading and paving of driveways, access roads, and parking areas. Grading and paving shall be shown on plans, profiles, cross sections, and details as necessary to describe new construction. Details of curbs, gutters, sidewalks, drainage structures, and conveyance systems, dimensions of all improvements, size, location, thickness, materials, strengths, and necessary reinforcement can be shown on the site plan in the case of a Level I application, or on a separate drawing based on the complexity of the project.	Complies with conditions	Needs to record Granding Easement Agreement with Neighbor
17.67.040.I	**Utility Plan**. A utility plan shall be prepared by an engineer. It shall show the locations, dimensions, and elevations of all sewer facilities and culinary water facilities needed to serve the site. The utility plan shall specify in reasonable detail the types of equipment and materials to be used, and shall comply with all applicable advisory documents or City engineering requirements. Plans showing the locations of natural gas, electric, and telephone/data lines must also be shown.	Complies	
17.67.040.J	**Evidence of Title**. A current title insurance commitment, ownership and encumbrance report, or abstract of title prepared by a title insurance company or attorney showing all ownership interests, easements, and encumbrances which apply to the parcel(s) comprising the application must be submitted. If requested, the applicant shall provide copies of all recorded documents which may affect the property subject to the application. If common elements or private use restrictions are anticipated, the applicant must submit draft covenants, conditions, and restrictions (CC&Rs) for review.	Complies	
17.67.040.K	**Slopes**. If proposed development is likely to result in grading of hillsides, city staff may require submittal of a slope study prepared by an engineer or surveyor. Applications will also be reviewed for compliance with Chapter 17.55, Hillside Developments.	N/A	
17.67.040.L	**Surface and Subsurface Soils Report.** The application shall include a surface and subsurface soils report establishing soil suitability for the proposed development. The report shall be prepared by a geotechnical engineer or other professional, if approved by city staff. At a minimum, the report shall include: A description of soil types; Locations and characteristics with supporting soil maps; Soil Logs of test pits and bore holes; All other information necessary to determine soil suitability for the scope of the development and constraints on development based on findings; Analysis and evaluation of such information with recommendations regarding structural constraints, erosion control, and requirements for building design.	Complies	

Section	Code Provision	Compliance	Rationale
17.67.040.M	**Traffic Study**. A traffic study and parking and circulation study are required for projects which will generate in excess of five hundred peak daily trips. The study shall be prepared by an engineer.	Complies	Over 85 Units
17.67.040.N	The planning director has discretion to require a traffic study for applications which do not generate the level of trips specified above		
17.67.040.O	**Street Design Drawings.** The application shall include drawings by an engineer showing the design, grades, widths, and profiles of all streets, sidewalks, curbs, gutters, traffic control devices, traffic signs, and associated public improvements. All street designs shall conform to street classifications and design standards adopted by the City.	Complies	Private Streets
17.67.040.P	**Additional Submittals--Waiver of Certain Submittals**. The planning director has discretion to require other or additional submittals where necessary for the review of a particular application, or as required for Level II development under Chapter 17.80. Alternatively, the planning director has discretion to waive or modify any requirement for a particular submittal if it is determined that the document or report is not necessary, or if an alternate submittal is justified for the review of a particular application. Any waiver shall be in a writing labeled as a submittal waiver, shall identify the project by name and application number, and shall be signed and dated by the planning director.		
17.67.040.Q	**Conformity with Submittal Standards**. All submittals must conform to the land use submittal standards adopted by the City. Submittals which do not clearly or accurately depict elements required for review of the project may be rejected, or staff may require revisions during the review process	Complies	
17.67.060.A	The following criteria govern site plan approval: 1. Compliance with applicable Moab ordinances and building codes; 2. Availability of necessary utilities, including culinary water, sewer, electricity, natural gas, and the like; 3. Consistency of the design with Moab advisory documents; and 4. Accuracy and truthfulness of submittals or representations in the application.	Complies	
17.67.070.A	Will there be a Development Agreement Required?	No	One Phase
17.67.070.B	Any Land Dedications?	No	utilities and roads to be private.

Section	Code Provision	Compliance	Rationale
17.09.035	Except as otherwise provided for in this title, **at least one side of each lot used as a dwelling site shall abut upon a street** which has been designated or dedicated to the public for street purposes and the length of such abutting side measured at the setback line shall be at least as great as the width required for dwelling sites in the zone in which such building site is located.	Complies.	Mill Creek Drive
17.09.050	**Every part of a required yard shall be open to the sky and unobstructed** except for permitted accessory buildings and except for ordinary and customary projection of sills, belt courses, cornices, and other ornamental features and unenclosed steps and unwalled stoops, porches, and carports, which may project up to three feet into a required yard. No projection into a required court which is provided in connection with a court apartment shall be constructed except for customary sills, belt courses, and cornices which may extend into the court not more than sixteen inches.	Complies	
17.09.063	**Outdoor lighting** – Fully shielded fixture requirements.	Complies	Photometric Plan
17.09.064.B	**Residential.** Total outdoor light output shall not exceed ten thousand lumens of lighting for parcels one -half acre, or larger, in size. Parcels smaller than one-half acre shall be permitted five thousand lumens of lighting regardless of parcel size. Total outdoor light output of any apartment development shall not exceed	Complies	Photometric Plan
17.09.066	Outdoor lighting – **Color** not to exceed 3,000 Kelvins.	Complies	
17.09.067	Parking Lots may not utilize spot lights of flood lighting whether mounted on a post or exterior building wall. **Max Height** is 25' **Setback** is equal to two and a half times the height of the pole from a property line. **No light can shine outside the parking lot** Lights should be fully shielded and **pointed downward**.	Complies	

Section	Code Provision	Compliance	Rationale
17.09.120	A. **No dwelling** shall be erected which has a ceiling height of less than seven feet six inches or one story above grade, whichever is greater. B. **No fence or wall** shall be constructed higher than four feet above the ground in any required front or side yard that fronts on a street, except that in agricultural zones such fences may be constructed to a height of six feet.	Complies	
17.09.140	**Surface water** from roof tops, lots or irrigation ditches shall not be allowed to drain onto adjacent lots or streets, except after written agreement between the parties involved.	Complies	
17.09.150	In all zones which require a front yard, **no obstruction which will obscure the view of automobile drivers** shall be placed on any corner lot within a triangular area formed by the street property lines and a line connecting them at points forty-five feet from the intersection of the street lines.	Complies	Not on a corner no obstructions.
17.09.160	Wherever a front or side yard is required for a building which building abuts on a proposed street which has not been constructed but which has been designated by the Planning Commission as a future street, **the depth of such front or side yard shall be measured from the planned street lines.**	Complies	No proposed street
17.09.170	**The setback** from the street for any dwelling located between two existing dwellings in any residential zone may be the same as the average for said two existing dwellings, provided the existing dwellings are on the same side of the street and are located within one hundred fifty feet of each other.	NA	

Section	Code Provision	Compliance	Rationale
17.09.230	**Off-street parking and loading-Number of spaces.** Use(s): Apartments Required Parking: Multiple-household dwellings, one and	Complies	144 units * 1.5 = 216
17.09.270	A. **Access driveways** shall be provided for ingress to and egress from all parking and loading facilities. Each parking and loading space shall be easily accessible to the intended user. B. **Forward travel** to and from parking facilities from a dedicated street or alley shall be required for all uses... The parking area shall be adequate to facilitate the turning of vehicles to permit forward travel upon entering a street. C. **Access to all off-street parking** facilities shall be designed in a manner which will not interfere with the movements of vehicular and pedestrian traffic	Complies	
17.09.280	**Circulation within a parking area** shall comply with the following requirements: A. Parking area with more than one aisle must be so arranged that a car need not enter the street to reach another aisle within the same parking area. B. Directional signs shall be required to differentiate between entrance and exit access points to the street.	Complies	
17.09.290	**Parking and loading facilities** may be located any place on the premises except for areas that are required to be landscaped.	Complies	
17.09.330	A. **All off-street parking lots shall be bordered by a curb** B. For parking lots designed for **over five vehicle** spaces, shade trees shall be appropriately spaced around the perimeter of parking lots to provide a solid canopy of shade when the trees mature C. For parking lots **over four thousand square feet**, at least five percent of the interior of the lot shall be landscaped so as to define aisles and limit unbroken rows of parking. D. To provide for a pleasant, pedestrian environment in the central commercial district, **a landscaped strip at least ten feet in width** shall be provided along the edge of any parking lot adjacent to a public street E. Will the landscape requirements limit the function of the building site?	Complies	
17.09.340	**Off-street parking and loading space required** for every 5,000 sq ft of building area .	N/A	Not loading goods or materials

Section	Code Provision	Compliance	Rationale
17.09.670	**Apartments and court apartments that have nine or more dwelling units shall designate twenty-five percent of the lot** to be developed into recreation, play or landscaped areas. The designated twenty-five percent shall exclude parking, driveways, dwellings and required setbacks. Apartments and court apartments that have eight or less dwelling units shall designate fifteen percent of the lot to be developed into recreation, play or landscaped areas.	Complies	Designated playground, pickleball court, dog area, and 110,753 SF landscaped area.
17.09.700	**Residential short-term rentals prohibited.**	Complies	None are proposed

Section	Code Provision	Compliance	Rationale
17.27.020.A.10	**Permitted Uses Regulations**		
a	Minimum wall dimensions of the principal structure, excluding garage, shall be twenty-four feet.	Complies	Submitted floor plans meet his requirement.
b	All principal residential structures shall:	Complies	All criteria are met for section b
i.	Be placed on a slab-on-grade or perimeter foundation as approved by the Building Department;	Complies	All elevation plans meet the requirement of having a perimeter foundation.
ii.	Have a wood, brick or stucco exterior, or a material that looks similar to wood, brick or stucco;	Complies	Has wood and stucco finishing materials
iii.	Have a minimum four-to-twelve roof pitch and a one-foot overhang (structures constructed in the traditional southwest Spanish style are exempt from this requirement);	Complies	Does not meet the 4/12 roof pitch requirement. However, it meets the finished siding materials requirement. Because the final look of the building satisfy this requirements, the proposed building meets the purpose of this section of the ordinance.
iv.	The combined total area of all primary, secondary, and accessory buildings on a lot may cover not more than seventy-five percent of the lot area;	Complies	All buildings combine cover 44% of the site area.
v	Buffering is required in accordance with other provisions of this chapter;	Complies	Minimum buffer on all sides is 8 feet with 6 foot screening fence.
vi.	Setbacks for Residential Use	Complies	Proposed Setbacks
	Front yard: 30 feet		Front Yard: 30’ minimum from parking lot
	Side yard: 15 feet		Side Yards : 15’
	Rear yard: 20 feet		Rear Yard: 20’
c	Multi-household dwellings of seven or more units shall be subject to the following additional requirements:		
i	Access. Vehicular access shall be provided to the property in such a way that it does not impede traffic patterns on adjacent streets.	Complies	A traffic study was submitted and reviewed by Engineering staff.
ii	Parking. Off-street parking shall be designed in such a way as to allow vehicles to pull forward into the on-street traffic flow.	Complies	All parking stalls are completely contained on the project site.
iii	Garages or Carports. If provided, garages and carports shall not be located in the front yard and shall be set back from the front wall of the principal structure at least fifteen feet or be accessed from the rear or side of the property.	Complies	No accessory structures are in any yard requirement and are a minimum of 15’ from any principal building.

Section	Code Provision	Compliance	Rationale
iv	Landscaping. All off-street parking shall be landscaped and buffered from adjacent uses. A minimum of **fifteen percent** of the interior of the parking area shall be landscaped to provide shade and break up the expanse of asphalt.	Complies	The proposed parking landscape will provide coverage for 15% of the parking lot.
v	Buffering. All adjacent uses shall be buffered by a distance of not less than fifteen feet and contain berms, shrubs, and other plantings. Buffering may be combined with screens, fences and hedges.	Complies	All buffer requirements have been met. A buffer of 8' along the north and east property lines will be provided and a 6' tall fence will be installed.
vi.	Apartments and court apartments shall designate an open space/ recreation area that is a minimum of two hundred square feet in size to be developed into recreation, play or landscaped areas. The requirement can be met with the construction of a recreation room ("rec room") or club house of a similarly sized area that can be used for residents and their guests for recreation/social activities and/or relaxation.	Complies	Designated playground, pickleball court, dog area, and walking path.
17.27.030	Lot Coverage less than 50%	Complies	Section 17.27.020.10 allows the lot coverage to be 75% when building a multi-family project.
17.27.040.A	A strip of land at least fifteen feet in width adjacent to all public streets shall be landscaped as set forth in Sections 17.09.360 through 17.09.420 of this title, except for permitted driveways.	Complies	Frontage requires 15 foot landscaped area of 15 feet which was amended by landscaping exception.
B	No dust, odor, smoke, vibration or intermittent light, glare or noise shall be emitted which is discernible beyond the premises, except for normal traffic movements.	Complies	All driveways and parking areas will be hard surfaced.
C	Storage of all merchandise, material and products shall be carried on within a building or within an area enclosed with a sight obscuring fence or wall, except for vehicles in running order.	Complies	There is no outdoor storage proposed for this development.
D	All off-street parking shall be hard-surfaced	Complies	All proposed driveways and parking areas will be hard surfaced.