



STAFF REPORT

MEETING DATE: July 9, 2024

AGENDA ITEM TITLE: Shaken Roost Major Subdivision – Major Impact Review

AGENDA SECTION: Public Hearing

REQUEST:

The hearing is regarding a major impact review application submitted by Joni Baker of Shaken Roost LLC, for a major subdivision of a .95 acre parcel located on the south side of Illinois Avenue, between Milford and Teller Streets. The proposed subdivision will consist of 14 duplex lots for the construction of 14 residential units configured as seven (7) duplex residential structures. The site is zoned Commercial District (C-1). The Planning Commission will forward a recommendation to the City Council.

APPLICANT:

The applicant is Joni Baker of Shaken Roost LLC of Salida.

LOCATION:

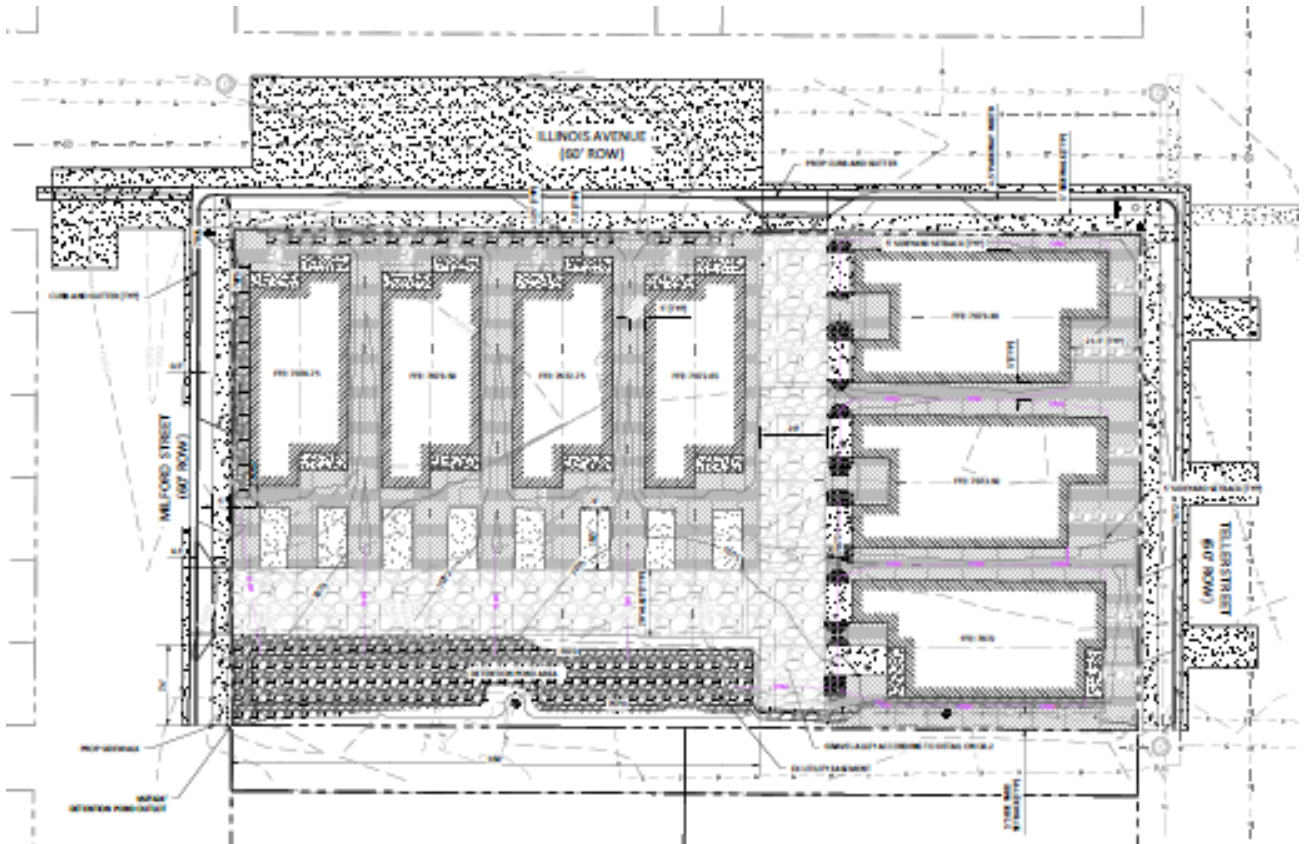


BACKGROUND:

The Planning Commission and City Council held a conceptual review meeting of the proposed subdivision on March 18, 2024. The proposed major subdivision reconfigures the north half of Block 17, Roberd’s Addition to the City of Salida into 14 duplex lots. The site is surrounded by commercial, multi-family and public uses which includes the Salida High and Middle Schools, Early Childhood Education Center and the Salida Apartments.

The site is zoned C-1, which is a commercial district, but does allow duplex residential units subject to a Limited Impact Review by the Planning Commission. Because these lots are being reviewed by the Planning Commission through the major subdivision, subsequent approval of the duplex units will be Administrative.

Today’s development plan is like the Conceptual Plan reviewed last March by having eight units on Illinois Avenue and six fronting Teller Street. However, the new proposal includes a private alley that connects Milford to Illinois, at the back of the lots, which will be the principal vehicle access to the units and the location of the off-street parking spaces. The proposal shown at the conceptual review included all access to the units would be from the adjacent streets. A retention basin has been added on the south side of the site.



PROCESS:

A public hearing is conducted by the Planning Commission for the major subdivision process, after public notice in a newspaper of general circulation, mailing letters to property owners within 175 feet and posting a sign on the property 15 days prior to the hearing. The Commission makes a recommendation to Council for final action. After approval of the Shaken Roost Major Subdivision, staff will review the development of the lots to ensure conformance with the duplex conversion subdivision. This will principally entail reviewing for conformance with this plat, and recording a maintenance agreement for the common wall between the units.

OBSERVATIONS: This section is intended to highlight concerns raised by staff to assist the Commission in doing the same. Additional concerns or questions may arise after a presentation by the applicant.

- 1) The site is zoned C-1 which allows duplex residences on the three lots. Because this is a major subdivision, built affordable housing units must be part of the project. This also affords the project reduced lot areas and increased coverage.

Lot #	C-1 Requirements			Shaken Roost Major Subdivision		
	*Min Lot Area for attached units (SF)	*Lot coverage for attached units	Lot Frontage for attached units (feet)	Lot Area (SF)	Lot Frontage (feet)	Lot Coverage
1	2,520	66%	20	2,520.7	20	TBD
2	2,520	66%	20	2,520.9	20	TBD
3	2,520	66%	20	2,521.1	20	TBD
4	2,520	66%	20	2,521.3	20	TBD
5	2,520	66%	20	2,521.5	20	TBD
6	2,520	66%	20	2,521.7	20	TBD
7	2,520	66%	20	2,521.9	20	TBD
8	2,520	66%	20	2,522.1	20	TBD
9	2,520	66%	20	2,880.4	25.03	TBD
10	2,520	66%	20	2,880.0	25.03	TBD
11	2,520	66%	20	2,879.8	25.03	TBD
12	2,520	66%	20	2,879.1	25.03	TBD
13	2,520	66%	20	2,878.7	25.03	TBD
14	2,520	66%	20	2,878.4	25.03	TBD

*Because the major subdivision will provide affordable housing within the project in compliance with Chapter 13, the above reduced lot area and frontage is allowed.

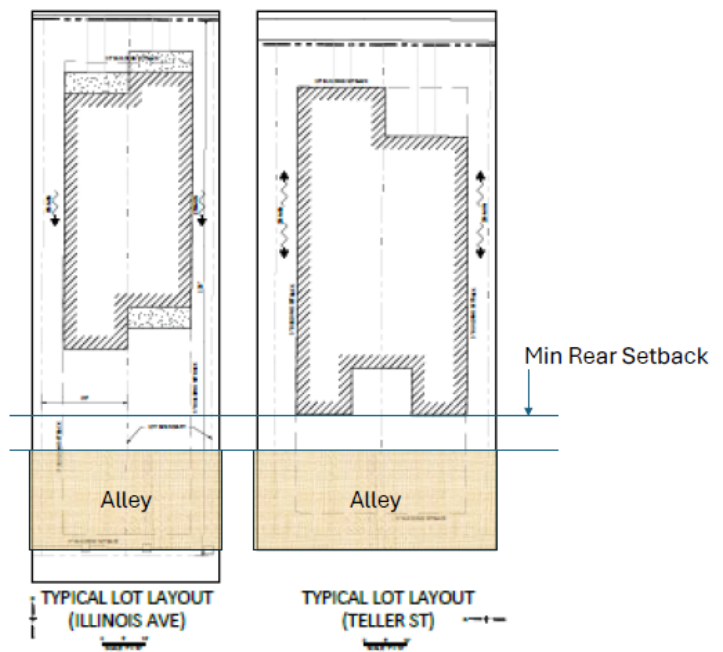
- 2) Fees-in-Lieu: Major subdivisions require the collection of the following fees-in-lieu at an amount that are in place at the time of submission of building permits:
 - a) 16.7% of the units in the project must be affordable = 14/6 = 2 built units (must meet the maximum AMI sales price requirements of Sec. 16-13-60 of the SMC in

place at the time of major subdivision application submittal. A fee-in-lieu for the fractional remainder of 2 units (2/6) must be paid per the requirements of Sec. 16-13-40.

- b) Fair Contribution to Schools is collected at the time a building permit is issued per the fee schedule in place at time of building permit.
 - c) Open space fees-in-lieu are required at the time of issuing a building permit per the fee schedule in place at time of building permit.
- 3) Each lot will have separate connections to the City water and sewer services. Each unit will be metered individually.

- 4) The private access ways are included as a part of each lot. Staff is requiring the rear yard of five feet be applied to the edge of the private alley to allow easier vehicle access and to keep structures out of the alley.

- 5) Xcel Energy (electric) identified some unresolved issues regarding service provision through the site and to individual units. They have requested 10' PUE's (public utility easements) on the front and back of all the lots. There should be plenty of room in the rear utilizing the private alley, but the proposed Illinois easement requirement will potentially squeeze the north side of Lot 9. The developer's consultant explained they are continuing to work with Xcel. But the designation of PUE's should be resolved before Council finalizes the subdivision.



There is an existing overhead electric line that crosses the south side of the site. All or a portion of this line may have to be buried. Also, the location of transformers was commented on by Xcel. These are additional details that must be worked out with Xcel.

- 6) The private access ways and the southern retention basin will not be maintained by the City of Salida. Therefore, a homeowner's association, or other entity, will have to be created to maintain these spaces.

- 7) Prior to recording the subdivision, a subdivision improvement / inclusionary housing agreement will have to be approved by Council. The agreements generally address the amount, timing and guarantee of the construction of public improvements that are necessary for the project; provision of any fees-in-lieu (schools and open space) and the provision of affordable housing consistent with Article XIII of Chapter 16 of the Salida Municipal Code.

SUBDIVISION REVIEW STANDARDS: (Section 16-6-120)

1. **Conformance with the Comprehensive Plan.** The proposed subdivision shall carry out the purpose and spirit of the Comprehensive Plan and conform to all of the Plan's applicable objectives, guiding principles and recommended actions. It shall be designed to be compatible with surrounding land uses and to protect neighbors from undesirable noise, glare and shadows, and shall not cause adverse effects on their privacy, solar access and views.
 - The proposed subdivision is zoned for commercial uses, but the residential use is allowed and is consistent with the Future Land Use Map adopted last August which designates the area as Higher Efficiency Residential Neighborhoods. The applicant accurately identified this site as a great use given the adjoining school sites. Hopefully it will become home for current and future teachers.
 - New development should complement the neighborhood's mass and scale. The allowed residential development is compatible with the surrounding land uses.
2. **Complies with the Zone District Standards.** The proposed subdivision shall comply with the use and dimensional standards of the underlying zone district and shall provide off-street parking as required for those uses.
 - The newly created lots are zoned Commercial District (C-1) and meet the zone district standards.
 - The off-street parking requirement of one space for each unit must be met.
 - Staff is recommending the rear setback be north of the private alley for Lots 1-8; and east of the alley for Lots 9-14.
3. **Design Standards.** The proposed subdivision shall be provided with improvements which comply with Article VII and landscaping which complies with Section 16-8-90 of this Chapter.
 - a. **Streets.** Existing and proposed streets shall be suitable and adequate to carry anticipated traffic within and in the vicinity of the proposed subdivision.

- Curb, gutter and sidewalks will be constructed around the perimeter of the project. Portions of Illinois Avenue and Teller Street will be repaved as well.
- b. Utilities. Existing and proposed utility services shall be suitable and adequate to meet the needs of the proposed subdivision.
- Adequate utilities are in place to serve the development. Each new unit will have separate utilities. The site is presently served by a commercial $\frac{3}{4}$ tap for sewer and water; and a residential $\frac{3}{4}$ tap for sewer and water. There will be a credit for the existing taps to apply to future taps. Final inspections are required with Public Works prior to Certificate of Occupancy.
 - Xcel Energy has requested additional easements and questioned the proximity of the existing overhead lines and location of proposed transformers.
- c. Phases. If the subdivision is to be developed in phases, each phase shall contain the required parking spaces, landscape areas, utilities and streets that are necessary for creating and sustaining a stable environment.'
- There will not be phases with this development.
4. **Natural Features.** The layout of lots and blocks shall provide desirable settings for structures by making use of natural contours and maintaining existing views, affording privacy for residents and protecting them from adverse noise and vehicular traffic. The system of roadways and the lot layout shall be designed to take advantage of visual qualities of the area. Natural features and native vegetation shall be preserved whenever possible. Tree masses and individual trees of six-inch caliper or greater shall be preserved.
- There are no major natural features located within this subdivision.
5. **Floodplains.** Tracts of land or portions thereof lying within the one-hundred-year floodplain may only be subdivided for open space until the subdivider has shown that compliance with the requirements of the City's floodplain regulations can be met.
- The property is not located within the 100-year floodplain.
6. **Noise Reduction.** Where a subdivision borders on or contains a highway right-of-way, the City shall require adequate provisions for reduction of noise. A parallel street, landscaping, screening, easement, greater lot depth, increased rear yard setbacks and fencing are potentially appropriate solutions, among others.

- This subdivision does not border a highway right-of-way.
7. **Future Streets.** When a tract is subdivided into lots or parcels which are intended for future re-subdivision, such lots or parcels shall be arranged to permit the logical location and opening of future streets and appropriate re-subdivision, with provision for adequate utility easements and connectors for such re-subdivision.
- This subdivision is not intended for future re-subdivision.
8. **Parks, Trails and Open Space.** Each subdivision, minor or major, or condominium project with five (5) units or more, shall dedicate and develop land or pay a fee-in-lieu for the purpose of providing active parks, open space, passive recreation facilities and/or recreation trails or other public purposes as determined by the City for the benefit of those who occupy the property and be made accessible to the public. The intent of this regulation is to ensure that a comprehensive, integrated network of parks, trails and open spaces is developed and preserved as the community grows.
- This subdivision will be required to provide the open space fees that will be collected at the time of issuance of the building permit per the fee schedule in place at time of building permit.
9. **Common Recreation Facilities.** Where a development is proposed to contain common recreation facilities, such facilities shall be located within the development so as to be easily accessible to the residents and to least interfere with neighboring developments.
- This development does not include any common recreation facilities.
10. **Lots and Blocks.**
- a. **Pattern.** The size, shape and orientation of lots shall be appropriate to the design and location of the proposed subdivision and to the type of development contemplated. Where appropriate, lots shall be laid out to respect the existing City pattern. Blocks generally shall not be less than three hundred (300) feet nor more than one thousand two hundred (1,200) feet in length.
 - The pattern of the lots within the subdivision is generally consistent with the surrounding lots.
 - b. **Frontage.** Residential lots should front only on local streets; however, when necessary, lots designated to face a collector street shall provide adequate means for automobile turnaround within the lot and should provide consolidated access points to the maximum extent feasible.
 - The lots front on local streets.

- c. Right angles. Side lot lines shall be approximately at right angles or radial to street lines.
 - This standard has been met.
- d. Double frontage lots. Double frontage lots are prohibited, except where they are necessary to provide for the separation of residential development from collector or arterial streets or to overcome specific limitations of topography or orientation. A planting and screening easement of at least ten (10) feet shall be provided along the portion of the lot which abuts such a collector or arterial street. There shall be no right of access across a planting and screening easement. The screening easement shall be maintained by the property owner.
 - There are no double frontage lots.
- e. "T" intersections. The building area of lots shall not face directly into the oncoming traffic of an intersecting street of a "T" intersection.
 - There will not be any building areas facing a "T" intersection.
- f. Solar energy. For purposes of protecting and enhancing the potential of utilizing solar energy in the proposed subdivision, detached single-family lots are encouraged to be laid out in such a manner that the houses will be oriented so that their long axis will run east/west and so that the houses will not block the solar access of adjacent houses.
 - The new lots are oriented east/west and north/south.

11. Architecture.

- The minimum standard is the same building front elevation cannot be repeated more than every fifth lot or directly across the street. This will be stipulated for the new subdivision.

12. Codes. The subdivision shall comply with all applicable City building, fire and safety codes for the proposed development.

- It will comply with all applicable building, fire and safety codes.

13. Inclusionary Housing.

- The inclusionary housing requirements will be met by requiring two of the units in the project to be affordable per the requirements of Sec. 16-13-60. The remaining fraction of the inclusionary housing requirement (2/6) will be required as fee-in-lieu at the time of development per Sec. 16-13-40.

REVIEW AGENCY COMMENTS: The Public Works Director, Fire Chief, Police Chief, Finance Department, Xcel Energy, Atmos Energy and Salida Public Schools were invited to comment on the subdivision plat application. The following comments were received in response to this request.

Finance Department: System development fees must be paid at the time of issuance of a building permit. There is currently one ¾ inch water meter and sewer tap serving the existing home; and one ¾ inch water meter and sewer tap serving the commercial use.

Salida Fire Department, Kathy Rohrich, Assistant Chief: Fire has no concerns with this subdivision.

Salida Police Department, Russ Johnson, Chief: No issues from PD at this time.

Public Works Director, David Lady: Provide a five-foot-wide sidewalk, or a fee-in-lieu equal to the construction cost of the sidewalk, at the discretion of the PW Director.

Xcel Energy: As stated above under Observations: Xcel Energy (electric) identified some unresolved issues regarding service provision through the site and to individual units. They have requested 10' PUE's (public utility easements on the front and back of all the lots. There should be room in the rear utilizing the private alley, but the requirement will squeeze the north side of Lot 9. The developer's consultant explained they are continuing to work with Xcel. But the designation of PUE's should be resolved before Council finalizes the subdivision.

There is an existing overhead electric line that crosses the south side of the site. All or a portion of this line may have to be buried. Also, the location of transformers was commented on. These are additional details that must be worked out with Xcel.

Atmos Energy: No concerns at this time.

Salida Public Schools: The district superintendent responded that they will accept the Fair Contribution to School Sites fee-in-lieu.

RECOMMENDED FINDINGS: The purpose of the process for a major subdivision is to determine the compliance of the application with the review standards contained in Section 16-6-120.

1. The application complies with the comprehensive plan and the proposed subdivision shall carry out the purpose and spirit of the comprehensive plan and conform to all of the applicable objectives, guiding principles and recommended actions.
2. The applicant has complied with the review standards for subdivisions.

STAFF RECOMMENDATION:

Staff recommends the Planning Commission recommend the Council find that the findings have been met and approve the major subdivision application for Shaken Roost, subject to the following conditions:

1. Prior to Council review of the major subdivision, the applicant will work with Xcel Energy to determine if additional public utility easements are required to serve the subdivision. If so, the plat shall be amended to show the new easements.
2. Prior to recordation of the final plat, Council shall approve a subdivision improvement / inclusionary housing agreement for the project to generally address the amount, timing and guarantee of the construction of public improvements that are necessary for the project; require the provision of any fees-in-lieu (schools and open space) and affordable housing consistent with Article XIII of Chapter 16 of the Salida Municipal Code.
 - a. Two (2) built inclusionary housing units shall be provided per the requirements of Sec. 16-13-60 of the Salida Municipal Code. Additionally, fees-in-lieu for the remaining two (2) proposed units (2/6) shall be paid per the fee schedule in place at time of building permit.
3. The final plat shall have the following notes and additions:
 - a. Pursuant to Section 16-6-140 of the Salida Municipal Code (SMC), Fair Contributions to School Sites as may be amended, at the time that residential dwelling units are constructed on any of the lots herein, a payment in lieu of land dedication for Fair Contributions to Public School Sites shall be paid by the owner of each lot within this subdivision prior to issuance of a building permit for any new residence on such lot.
 - b. Pursuant to Section 16-6-120(8) of the SMC, Parks, Trails and Open Space fees-in-lieu shall be provided at the time of development (issuance of a building permit) per the fee schedule in place at time of building permit.
 - c. Provide a Typical Building Setback exhibit like as shown under Observations #4 above.
 - d. Provide a note stating the Access Easements and Outlot for Retention Pond will not be maintained by the City of Salida; or will be maintained by the homeowners association per the C.C.&R.s recorded at Reception No._____.
 - e. The Shaken Roost Major Subdivision meets the standards of Chapter 16 of the SMC and is subject to the terms of the executed Subdivision Improvement and Inclusionary Housing Agreement as recorded at Reception No._____.

- f. Pursuant to Section 16-6-120(11) of the SMC, no residential façade elevation may be repeated more than once per five (5) lots on the same side of the street.
4. Water and sewer system development fees are due at the time of issuance of a building permit per the fee schedule in place at time of building permit.
5. The applicant will continue to work with Xcel Energy to receive approval of utility access and maintenance as outlined in Attachment 6.

RECOMMENDED MOTION: “I make a motion to recommend the City Council approve the Shaken Roost Major Subdivision as it meets the review standards for a subdivision, subject to the conditions recommended by staff.”

Attachments:

1. Proof of Publication
2. Application Materials
3. Shaken Roost Major Subdivision Plat
4. Development Plan
5. Utility Plan
6. Letter from Xcel Energy

PUBLIC NOTICE

NOTICE OF A PUBLIC HEARING BEFORE THE PLANNING COMMISSION FOR THE CITY OF SALIDA CONCERNING A MAJOR IMPACT REVIEW APPLICATION FOR SHAKEN ROOST MAJOR SUBDIVISION TO ALL MEMBERS OF THE PUBLIC AND INTERESTED PERSONS: PLEASE TAKE

NOTICE that on Tuesday, July 9, 2024 at or about the hour of 6:00 p.m., a public hearing will be conducted by the City of Salida Planning Commission at City Council Chambers, 448 E. 1st Street, Salida, Colorado and online at the following link: <https://attendee.gotowebinar.com/rt/1909092342220683277> The hearing is regarding a major impact review application submitted by Joni Baker for a major subdivision of a .95 acre parcel located on the south side of Illinois Avenue, between Milford and Teller Streets. The proposed subdivision will consist of 14 duplex lots for the construction of 14 residential units configured as seven (7) duplex residential structures. The site is zoned Commercial District (C-1). The Planning Commission will forward a recommendation to the City Council.

Interested individuals may make comments during the public hearing via GoToWebinar at the above link. Comments may also be submitted via email ahead of time to glen.vannimwegen@cityofsalida.com by 12:00pm on July 9, 2024. Further information on the application may be obtained from the Community Development Department by calling (719) 530-2631.

Published in The Mountain Mail June 25, 2024

SHAKEN ROOST SUBDIVISION
 LOCATED IN THE
 NORTH 1/2 OF BLOCK 17, ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA
CHAFFEE COUNTY, COLORADO
 SHEET 1 OF 2

CERTIFICATE OF DEDICATION AND OWNERSHIP:

KNOW ALL MEN BY THESE PRESENTS THAT THE UNDERSIGNED, BEING ALL OF THE OWNERS, MORTGAGEES AND LIEN HOLDERS OF CERTAIN LAND IN THE CITY OF SALIDA, CHAFFEE COUNTY, COLORADO, DESCRIBED AS FOLLOWS:
 That part of the Northwest Quarter of the Southeast Quarter (NW1/4 SE1/4) of Section 5, Township 44 North, Range 9 East of the New Mexico Principal Meridian, (City of Salida), Chaffee County, Colorado, described as follows:
 Beginning at the intersection of the south line of Illinois Avenue with the west line of Teller Street, the same being the northeast corner of Block No. 17 of Roberd's Third Addition to the City of Salida, Colorado;
 thence running South along the west line of Teller Street 150 feet to the intersection of the west line of Teller Street with the north line of the East-West alley in said Block;
 thence at right angles and due West along said alleyway boundary 275 feet to the east line of Milford Street;
 thence Northerly along the easterly line of Milford Street 150 feet to the intersection of the east line of Milford Street with the south line of Illinois Avenue;
 thence East along the south line of Illinois Avenue 275 feet to the place of beginning, being the North half (N1/2) of said Block No. 17, Roberd's Third Addition.

DO HEREBY LAY-OUT, FLAT AND SUBDIVIDE THE ABOVE DESCRIBED PROPERTY INTO LOTS, AN OUTLOT AND EASEMENTS WITH DISTANCES AND DIRECTIONS, AS SHOWN ON PLAT SHEET 2, TO BE KNOWN AS:

SHAKEN ROOST SUBDIVISION
 LOCATED WITHIN
 BLOCK 17, ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA
 CHAFFEE COUNTY, COLORADO

AND THE OUTLOT AND DUPLEX LOT 14 ARE SUBJECT TO A 10.0 FOOT WIDE UTILITY EASEMENT FOR THE EXISTING AND FUTURE PUBLIC UTILITY LINES.

AND DUPLEX LOTS 1 THRU 8, INCLUSIVE, ARE SUBJECT TO A 23.67 FOOT WIDE ACCESS EASEMENT, THE LOCATION OF WHICH IS SHOWN ON THIS PLAT.

AND DUPLEX LOTS 9 THRU 14, INCLUSIVE ARE SUBJECT TO A 20.0 FOOT WIDE ACCESS EASEMENT, THE LOCATION OF WHICH IS SHOWN HEREON.

AND DUPLEX LOTS 8 AND 9 MAY BE SUBJECT TO THE RIGHTS OF THE OWNERS OF THE SCOTT & SWALLOW DITCH TO OPERATE, MAINTAIN INSPECT AND REPAIR SAID DITCH PURSUANT TO COLORADO LAW RELATIVE TO DITCH RIGHTS.

AND OUTLOT A IS RESERVED FOR DRAINAGE PURPOSES, INCLUDING A DETENTION POND, SUBJECT TO AN EASEMENT FOR EXISTING OVERHEAD UTILITY LINES EXISTING OVERHEAD PUBLIC UTILITY LINES, AS SHOWN.

ACKNOWLEDGEMENT:

IN WITNESS WHEREOF, THE UNDERSIGNED HAVE CAUSED THESE PRESENTS TO BE EXECUTED ON THIS _____ DAY OF _____, 2024.

SHAKEN ROOST LLC, A COLORADO LIMITED LIABILITY COMPANY (OWNER)

 JONI L. BAKER, PRESIDENT FOR HIGH COUNTRY BANK, MORTGAGEE

STATE OF COLORADO }
 COUNTY OF CHAFFEE } ss

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS _____ DAY OF _____, 2024.

WITNESS MY HAND AND OFFICIAL SEAL
 MY COMMISSION EXPIRES _____

NOTARY PUBLIC _____
 ADDRESS _____

CERTIFICATE OF TITLE INSURANCE COMPANY:

I, JAMES L. TREAT, A LICENSED TITLE INSURANCE AGENT REPRESENTING STEWART TITLE GUARANTY COMPANY IN THE STATE OF COLORADO DO CERTIFY THAT I HAVE EXAMINED THE TITLE TO THE REAL PROPERTY SHOWN AND DESCRIBED ON THIS PLAT AND FOUND TITLE VESTED IN SHAKEN ROOST LLC, A COLORADO LIMITED LIABILITY COMPANY FREE AND CLEAR OF ALL LIENS AND ENCUMBRANCES, EXCEPT:

LAND SURVEYOR'S STATEMENT:

I, MICHAEL K. HENDERSON, A REGISTERED LAND SURVEYOR LICENSED TO PRACTICE IN THE STATE OF COLORADO DO HEREBY STATE THAT THIS PLAT WAS PREPARED BY ME AND/OR UNDER MY DIRECT SUPERVISION, AND IS BASED ON A MONUMENTED LAND SURVEY OF THE PROPERTY AND LOTS SHOWN AND DESCRIBED HEREIN, WHICH SURVEY WAS PERFORMED UNDER MY RESPONSIBLE CHARGE, AND THAT SAID PLAT AND SURVEY ARE TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DATED THIS _____ DAY OF _____, 2024.

 JAMES L. TREAT

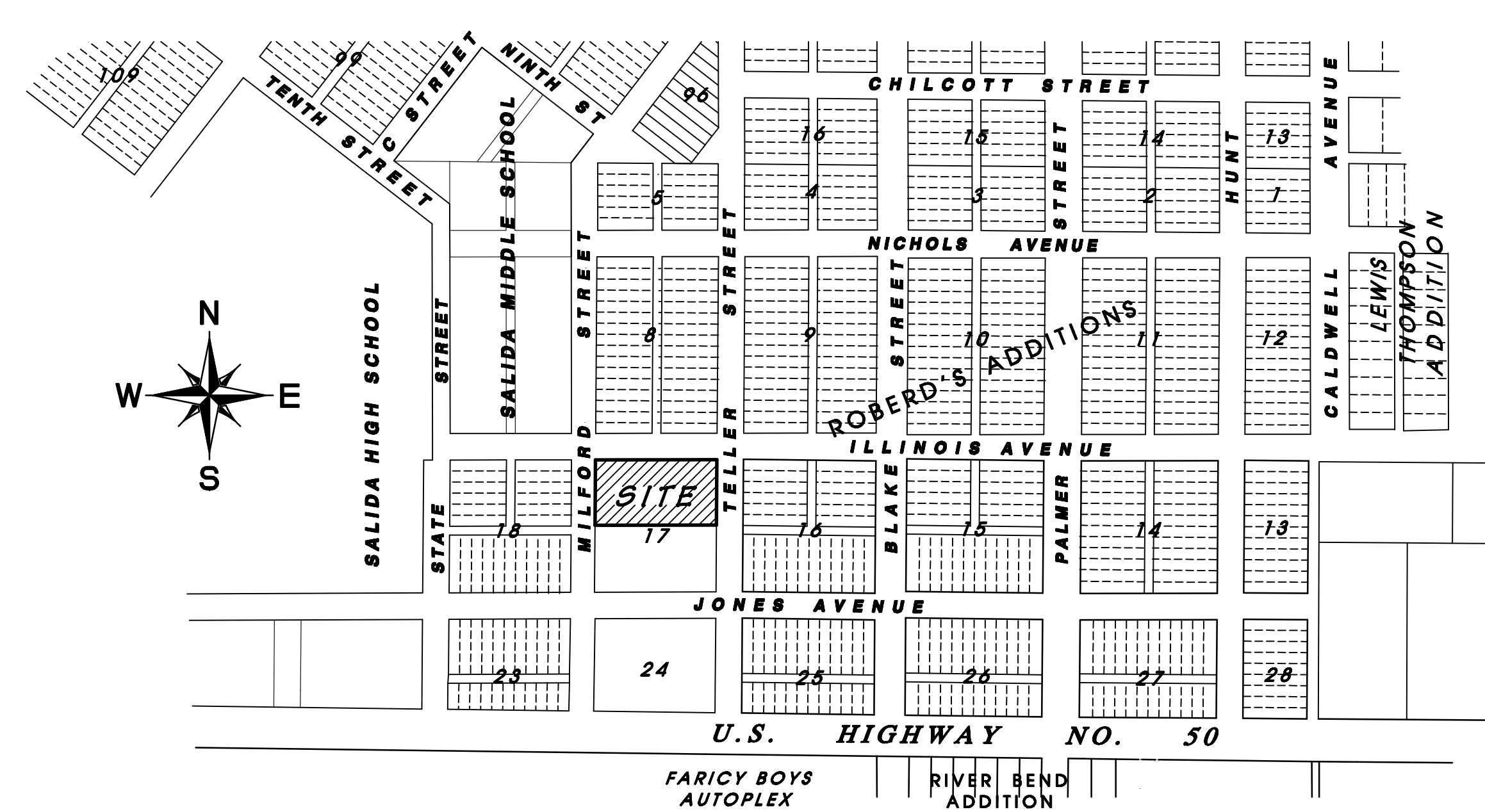
 MICHAEL K. HENDERSON
 REG. L.S. NO. 16117
 STATE OF COLORADO

GENERAL LAND SURVEYOR'S NOTES:

- 1) PROPERTY DESCRIPTION AND RECORD EASEMENT RESEARCH BASED ON STEWART TITLE GUARANTY COMPANY COMMITMENT NO. 210817, ISSUED BY CHAFFEE TITLE & ESCROW, INC, EFFECTIVE APRIL 15, 2022.
- 2) DEED LINES ARE BASED ON AFOREMENTIONED PROPERTY DESCRIPTION, ON THE PLAT OF ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA (RECEPTION NO. 34756) AND ON THE LOCATIONS OF THE RECOVERED REBAR SURVEY MONUMENTS SHOWN AND DESCRIBED ON SHEET 2.
- 3) A JOINT DRIVEWAY EASEMENT WAS RESERVED IN A CONVEYANCE OF A PORTION OF THE SUBJECT PROPERTY IN WARRANTY DEED RECORDED ON MAY 1, 1971 IN BOOK 573 AT PAGE 423. THERE IS NO EVIDENCE OF JOINT USE OF A DRIVEWAY AS THE SUBJECT PROPERTY NOW INCLUDES BOTH PROPERTIES PREVIOUSLY SUBJECT TO AND BENEFITING FROM THE EASEMENT.
- 4) BLOCK 17 OF ROBERD'S THIRD ADDITION WAS NOT PLATTED INTO LOTS AND THERE IS NO ALLEY PLATTED IN SAID BLOCK PER THE AFOREMENTIONED PLAT OF ROBERD'S THIRD ADDITION, HOWEVER THERE ARE REFERENCES TO LOTS AND AN ALLEY IN SOME DEED DESCRIPTIONS FOR PROPERTIES LOCATED IN BLOCK 17.

VICINITY MAP

NOT TO SCALE



CITY OF SALIDA PLANNING COMMISSION APPROVAL:

THIS PLAT IS APPROVED BY THE CITY OF SALIDA PLANNING COMMISSION ON THIS _____ DAY OF _____, 2024.

 CHAIRMAN

CITY COUNCIL APPROVAL:

THIS PLAT IS APPROVED FOR BY THE SALIDA CITY COUNCIL ON THIS _____ DAY OF _____, 2024.

CITY ADMINISTRATOR APPROVAL:

THIS PLAT IS APPROVED BY THE SALIDA CITY ADMINISTRATOR ON THIS _____ DAY OF _____, 2024.

 CITY ADMINISTRATOR, CITY OF SALIDA

CLERK AND RECORDER'S CERTIFICATE:

THIS PLAT WAS FILED IN THE OFFICE OF THE CLERK AND RECORDER OF CHAFFEE COUNTY, COLORADO, AT _____ M., ON THIS _____ DAY OF _____, A.D., 2024.

RECEPTION NO. _____

 CHAFFEE COUNTY CLERK & RECORDER

SHEET 1 OF 2

Revisions and Additions: 5/30/24 M.K.H. 6/4/24 M.K.H.

SHAKEN ROOST MINOR SUBDIVISION	
IN THE N1/2 BLOCK 17, ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA CHAFFEE COUNTY, COLORADO	
Job Number: J-23-183 TPC FILE: J-11-005 DRAWN BY: TWD, JGD M.K.H.	HENDERSON LAND SURVEYING CO., INC. 203 G STREET SALIDA, COLORADO
CHECKED: _____ Filed Book: S335 Page 32	DATE: 2/19/24 DRAWING NO. L-24-06

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE SURVEYOR'S STATEMENT CONTAINED HEREON.

SHAKEN ROOST SUBDIVISION

LOCATED IN THE
NORTH 1/2 OF BLOCK 17, ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA
CHAFFEE COUNTY, COLORADO
SHEET 2 OF 2

BLOCK 8

17

16

Lid Elevation=7073.89
Manhole Invert out East=7067.45

Lid Elevation=7061.07
Invert in West=7064.89
Invert out South=7064.89

ILLINOIS

AVENUE

18" CMP

Scott & Swallow Ditch

Measured: N89°54'42" E 275.11 Deed: East 275

Light Pole

18" CMP

1

2

3

4

5

6

7

8

9

10

11

12

13

14

MILFORD STREET

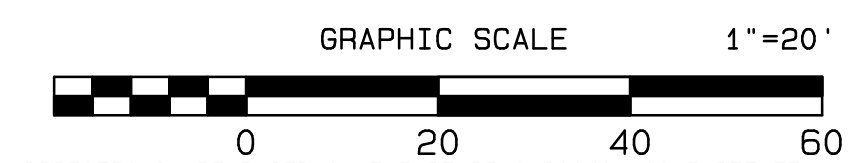
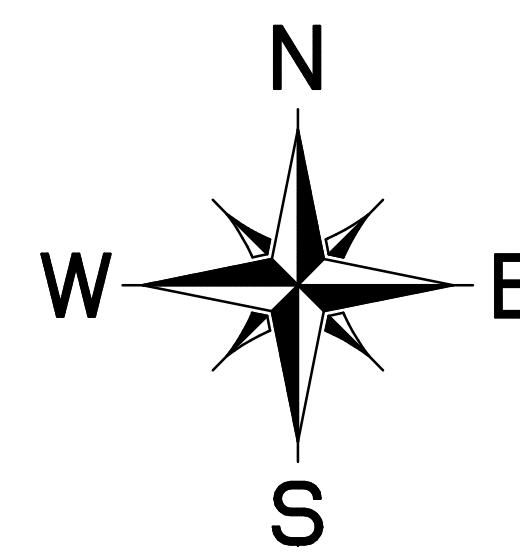
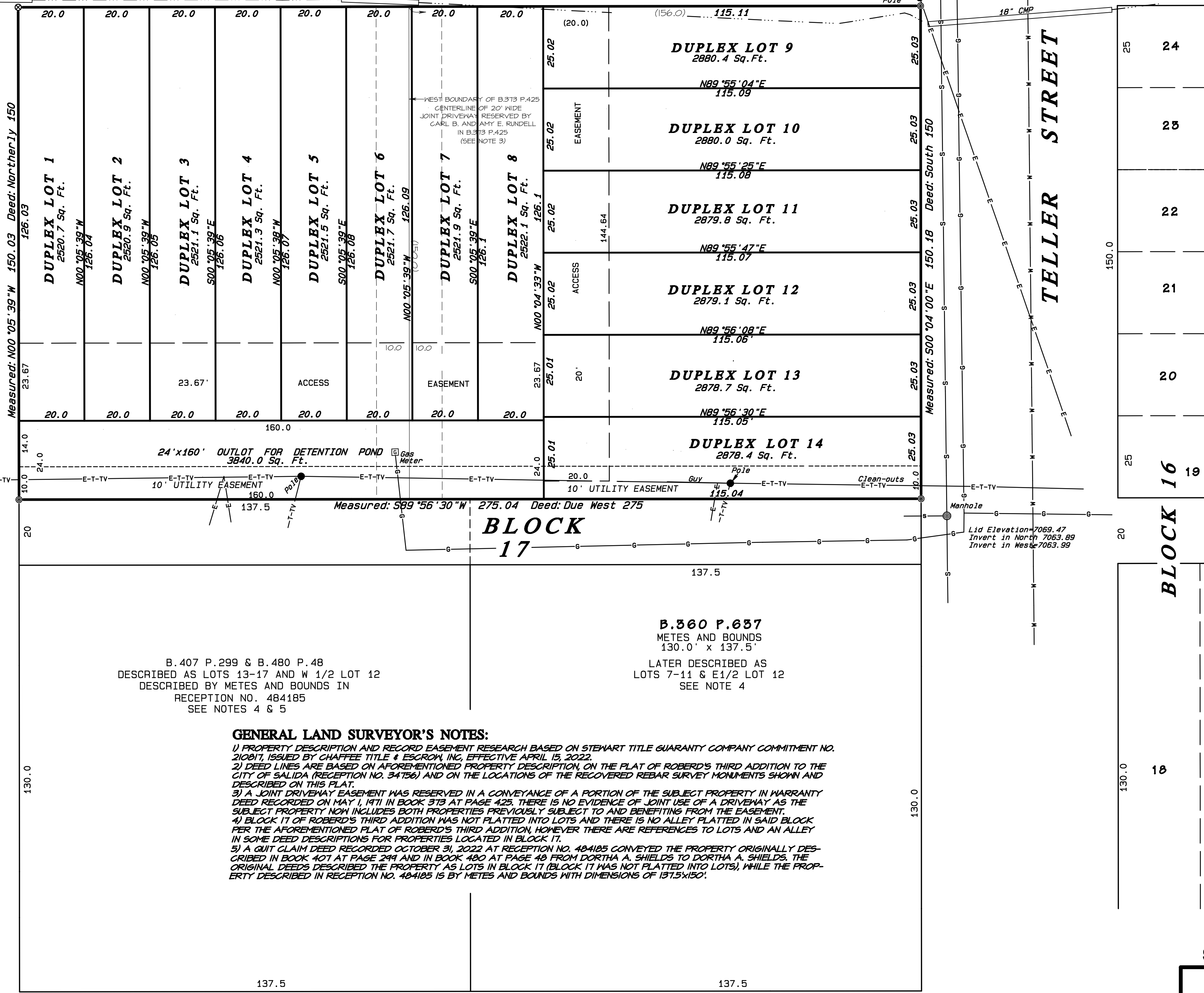
TELLER STREET

BLOCK 18

BLOCK 17

BLOCK 16

BLOCK 15



- DIRECTIONS ARE BASED ON THE BEARING 500°04'00"E BETWEEN RECOVERED REBAR SURVEY MONUMENTS AT THE NORTHEAST AND THE SOUTHWEST CORNERS OF THE PROPERTY, AS SHOWN AND DESCRIBED ON THIS PLAT.
- LEGEND:**
- DENOTES A RECOVERED 5/8" REBAR WITH A 1 3/4" STEEL DISC STAMPED "6753".
 - ⊙ DENOTES A 5/8"x24" REBAR WITH A 1 1/2" ALUMINUM CAP STAMPED "LS 16117". SET FOR THIS SURVEY.
 - S— DENOTES APPROXIMATE LOCATION OF A SANITARY SEWER LINE.
 - W— DENOTES A CITY OF SALIDA WATER MAIN.
 - G— DENOTES APPROXIMATE LOCATION OF A GAS LINE.
 - E— DENOTES AN OVERHEAD ELECTRIC LINE.
 - T— DENOTES AN OVERHEAD TELEPHONE LINE.
 - TV— DENOTES AN OVERHEAD TELEVISION LINE.

ZONING:
BLOCK 17 IS ZONED COMMERCIAL (C1)

B. 407 P. 299 & B. 480 P. 48
DESCRIBED AS LOTS 13-17 AND W 1/2 LOT 12
DESCRIBED BY METES AND BOUNDS IN
RECEPTION NO. 484185
SEE NOTES 4 & 5

B. 560 P. 637
METES AND BOUNDS
130.0' x 137.5'
LATER DESCRIBED AS
LOTS 7-11 & E 1/2 LOT 12
SEE NOTE 4

GENERAL LAND SURVEYOR'S NOTES:

- 1) PROPERTY DESCRIPTION AND RECORD EASEMENT RESEARCH BASED ON STEWART TITLE GUARANTY COMPANY COMMITMENT NO. 210017, ISSUED BY CHAFFEE TITLE & ESCROW, INC. EFFECTIVE APRIL 15, 2022.
- 2) DEED LINES ARE BASED ON AFOREMENTIONED PROPERTY DESCRIPTION ON THE PLAT OF ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA (RECEPTION NO. 34766) AND ON THE LOCATIONS OF THE RECOVERED REBAR SURVEY MONUMENTS SHOWN AND DESCRIBED ON THIS PLAT.
- 3) A JOINT DRIVENWAY EASEMENT WAS RESERVED IN A CONVEYANCE OF A PORTION OF THE SUBJECT PROPERTY IN WARRANTY DEED RECORDED ON MAY 1, 1971 IN BOOK 378 AT PAGE 425. THERE IS NO EVIDENCE OF JOINT USE OF A DRIVENWAY AS THE SUBJECT PROPERTY NOW INCLUDES BOTH PROPERTIES PREVIOUSLY SUBJECT TO AND BENEFITING FROM THE EASEMENT.
- 4) BLOCK 17 OF ROBERD'S THIRD ADDITION WAS NOT PLATTED INTO LOTS AND THERE IS NO ALLEY PLATTED IN SAID BLOCK PER THE AFOREMENTIONED PLAT OF ROBERD'S THIRD ADDITION, HOWEVER THERE ARE REFERENCES TO LOTS AND AN ALLEY IN SOME DEED DESCRIPTIONS FOR PROPERTIES LOCATED IN BLOCK 17.
- 5) A QUIT CLAIM DEED RECORDED OCTOBER 31, 2022 AT RECEPTION NO. 484185 CONVEYED THE PROPERTY ORIGINALLY DESCRIBED IN BOOK 407 AT PAGE 299 AND IN BOOK 480 AT PAGE 48 FROM DORTHA A. SHIELDS TO DORTHA A. SHIELDS. THE ORIGINAL DEEDS DESCRIBED THE PROPERTY AS LOTS IN BLOCK 17 (BLOCK 17 WAS NOT PLATTED INTO LOTS), WHILE THE PROPERTY DESCRIBED IN RECEPTION NO. 484185 IS BY METES AND BOUNDS WITH DIMENSIONS OF 137.5x130.0.

SHEET 2 OF 2

Revisions and Additions: 5/30/24 M.K.H. 6/4/24 M.K.H.

SHAKEN ROOST MINOR SUBDIVISION
IN THE N1/2 BLOCK 17, ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA
CHAFFEE COUNTY, COLORADO

Job Number: J-23-183
TPC FILE: J-11-005
DRAWN BY: B.S.H.
M.K.H.

HENDERSON LAND SURVEYING CO., INC.
203 G STREET
SALIDA, COLORADO

DATE: 2/19/24
DRAWING NO. L-24-06

CHECKED: [Signature]
Field Book: S335 Page 32

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE SURVEYOR'S STATEMENT CONTAINED HEREON.

Development Plan Application FOR Shaken Roost Major Subdivision

N ½ Block 17 Salida, CO 81201

Nathan Curtis, PE

Civil Engineer



430 Main St,
Cañon City, CO 81212

719.430.5333

www.3rocksengineering.com



Contents

Description of Proposed Development.....	3
Request for Zoning Action.....	3
Subdivision Request.....	3
Tabular Development Summary.....	4
Subdivision Naming.....	4

Appendices

- Appendix A: General Development Application
- Appendix B: Limited Impact
- Appendix C: Survey Map
- Appendix D: Development Plan Map
- Appendix E: Subdivision Plat Map
- Appendix F: Utility Plan Map
- Appendix G: Soils Report
- Appendix H: Engineer’s Specs
- Appendix I: Erosion, Sediment Control, Stabilization, and Revegetation
- Appendix J: Drainage Report
- Appendix K: Water & Sanitary Documentation
- Appendix L: Fire Service Plan
- Appendix M: Sewage Treatment Plan
- Appendix N: Preliminary Estimate of Cost
- Appendix O: Floodplain/FIRMette
- Appendix P: Wetland Study
- Appendix Q: Landscape Plan



Description of Proposed Development

The applicant proposes to subdivide the North ½ of Block 71 Salida, CO into 14 individual duplex lots. This type of development will classify and conform to Inclusionary Housing Units. Each lot will be developed resulting in 7 total duplex structures. Access for the duplexes will be accomplished through a drive lane that connects Milford Street and Illinois Street. Parking for the duplexes is provided on site. This type of development will classify and conform to the requirements for Inclusionary Housing Units as set forth by The City of Salida.

Applicant Signature:  _____

Applicant Name (Print): Joni Baker Date: 06/05/2024

Public Notice

A list of adjoining property owners’ names and addresses is as follows:

- Miller Ellen E - 73 ILLINOIS AVE SALIDA, CO 81201
- Salida School District R32-J – 520 MILFORD ST SALIDA, CO 81201
- Salida School District R32-J – 516 TELLER ST SALIDA, CO 81201
- Salida Apartments LTD – 518 TELLER ST SALIDA, CO 81201
- Talbert William E / Talbert Donna M – 103 ILLINOIS AVE SALIDA, CO 81201
- Salida Circus Outreach Foundation – 605 TELLER ST SALIDA, CO 81201
- Myers Milton G II / Myers JO ANN A – 504 JONES AVE SALIDA, CO 81201
- Kapushion Leonard J – 96 JONES AVE SALIDA, CO 81201
- Sheilds Dortha A – 785 MILFORD ST SALIDA, CO 81201
- Miller Ronald E / Miller Renee R – 60 JONES AVE SALIDA, CO 81201

Subdivision Request

The applicant requests to subdivide the original 0.948-acre lot into 14 individual lots. Each lot will conform to the minimum lot requirements as set forth by The City of Salida for zone C-1 and for Inclusionary Housing. A subdivision plat has been provided in Appendix C.

Tabular Development Summary

	Required	Proposed
Total Development Area (acre)	N/A	0.950
% Duplex Dwelling Unit Lots	N/A	91%
% Out Lots	N/A	9%
# Duplex Units	N/A	7
Proposed Nonresidential Space (acre)	N/A	0.0
# Proposed Lots	N/A	15
Minimum Lot Area (sqft)	2520	2520
# Parking Spaces Per Dwelling Unit	1	1
Total # Parking Spaces	14	14
% Landscaping Per Lot	10%	25-36%

Subdivision Naming

The Subdivision is to be named the Shaken Roost Subdivision

Appendix A: General Development Application



GENERAL DEVELOPMENT APPLICATION

448 East First Street, Suite 112
Salida, CO 81201

Phone: 719-539-4555 Fax: 719-539-5271
Email: planning@cityofsalida.com

1. TYPE OF APPLICATION (Check-off as appropriate)

- | | |
|--|---|
| <input type="checkbox"/> Annexation | <input type="checkbox"/> Administrative Review:
(Type)_____ |
| <input type="checkbox"/> Pre-Annexation Agreement | |
| <input type="checkbox"/> Appeal Application (Interpretation) | <input type="checkbox"/> Limited Impact Review:
(Type)_____ |
| <input type="checkbox"/> Certificate of Approval | |
| <input type="checkbox"/> Creative Sign Permit | <input checked="" type="checkbox"/> Major Impact Review:
(Type) <u>Major Subdivision</u> |
| <input type="checkbox"/> Historic Landmark/District | |
| <input type="checkbox"/> License to Encroach | <input type="checkbox"/> Other:_____ |
| <input type="checkbox"/> Text Amendment to Land Use Code | |
| <input type="checkbox"/> Watershed Protection Permit | |
| <input type="checkbox"/> Conditional Use | |

2. GENERAL DATA (To be completed by the applicant)

A. Applicant Information

Name of Applicant: Joni Baker

Mailing Address: 1501 H Street, Salida, CO 81201

Telephone Number: 740-438-1279 FAX: _____

Email Address: jlrjdbaker@gmail.com

Power of Attorney/ Authorized Representative: _____
(Provide a letter authorizing agent to represent you, include representative's name, street and mailing address, telephone number, and FAX)

B. Site Data

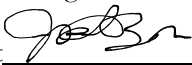
Name of Development: Shaken Roost Subdivision

Street Address: 77 Illinois Avenue

Legal Description: Lot _____ Block 17 Subdivision Roberd's Thir (attach description)

Disclosure of Ownership: List all owners' names, mortgages, liens, easements, judgments, contracts and agreements that run with the land. (May be in the form of a current certificate from a title insurance company, deed, ownership and encumbrance report, attorney's opinion, or other documentation acceptable to the City Attorney)

I certify that I have read the application form and that the information and exhibits herewith submitted are true and correct to the best of my knowledge.

Signature of applicant/agent  Date 06-06-2024

Signature of property owner  Date 06-06-2024

Appendix B: Limited Impact & Major Impact Submittal Requirements Checklist



LIMITED IMPACT & MAJOR IMPACT SUBMITTAL REQUIREMENTS

448 East First Street, Suite 112
Salida, CO 81201
Phone: 719-530-2626 Fax: 719-539-5271
Email: planning@cityofsalida.com

An application is meant to highlight the requirements and procedures of the Land Use Code. With any development application, it is the responsibility of the applicant to read, understand, and follow all of the provisions of the Land Use Code.

1. PROCEDURE (Section 16-3-80)

A. Development Process (City Code Section 16-3-50) Any application for approval of a development permit shall include a written list of information which shall constitute the applicant's development plan, which shall be that information necessary to determine whether the proposed development complies with this Code. The development plan shall include the following, as further specified for each level of review on the pre-application checklist:

1. Pre-Application Conference (Limited Impact and Major Impact Review Applications)
2. Submit Application
3. Staff Review. Staff report or decision forwarded to the applicant (Administrative review)
4. Public Notice
5. Public Hearing with Planning Commission (Limited Impact and Major Impact Review Applications)
6. Public Notice
7. Hearing Conducted by City Council (Major Impact Review)

B. Application Contents (City Code Section 16-3-50)

1. A General Development Application
2. A copy of a current survey or the duly approved and recorded subdivision plat covering the subject lots where the proposal is for development on previously subdivided or platted lots;
3. A brief written description of the proposed development signed by the applicant;
4. Special Fee and Cost Reimbursement Agreement completed. **major impact only*
5. Public Notice.
 - a) List. A list shall be submitted by the applicant to the city of adjoining property owners' names and addresses. A property owner is considered adjoining if it is within 175 feet of the subject property regardless of public ways. The list shall be created using the current Chaffee County tax records.
 - b) Postage Paid Envelopes. Each name on the list shall be written on a postage-paid envelope. Postage is required for up to one ounce. Return Address shall be: City of Salida, 448 E. First Street, Suite 112, Salida, CO 81201.
 - c) Applicant is responsible for posting the property and submittal of proof of posting the public notice.

6. Developments involving construction shall provide the following information:
- (i) A development plan map, at a scale of one (1) inch equals fifty (50) feet or larger with title, date, north arrow and scale on a minimum sheet size of eight and one-half (8½) inches by eleven (11) inches, which depicts the area within the boundaries of the subject lot, including:
 - a. The locations of existing and proposed land uses, the number of dwelling units and the square footage of building space devoted to each use;
 - b. The location and dimensions, including building heights, of all existing and proposed Buildings or structures and setbacks from lot lines or building envelopes where exact dimensions are not available;
 - c. Parking spaces;
 - d. Utility distribution systems, utility lines, and utility easements;
 - e. Drainage improvements and drainage easements;
 - f. Roads, alleys, curbs, curb cuts and other access improvements;
 - g. Any other improvements;
 - h. Any proposed reservations or dedications of public right-of-way, easements or other public lands, and
 - i. Existing topography and any proposed changes in topography, using five-foot contour intervals or ten-foot contour intervals in rugged topography.
 - (ii) 24" x 36" paper prints certified by a licensed engineer and drawn to meet City specifications to depict the following:
 - a. Utility plans for water, sanitary sewer, storm sewer, electric, gas and telephone lines;
 - b. Plans and profiles for sanitary and storm sewers; and
 - c. Profiles for municipal water lines; and
 - d. Street plans and profiles.
 - (iii) Developments in the major impact review procedure shall provide a development plan map on paper prints of twenty-four (24) inches by thirty-six (36) inches, with north arrow and scale, and with title and date in lower right corner, at a scale of one (1) inch equals fifty (50) feet or larger which depicts the area within the boundaries of the subject lots and including those items in Section 16-3-40(a)(3).

N/A 7. Any request for zoning action, including review criteria for a requested conditional use (Sec. 16-4-190) or zoning variance (Sec. 16-4-180);

8. Any subdivision request including a plat meeting the requirements of Section 16-6-110;
9. Any other information which the Administrator determines is necessary to determine whether the proposed development complies with this Code, including but not limited to the following:
- (i) A tabular summary of the development proposal, which identifies the total proposed development area in acres, with a breakdown of the percentages and amounts devoted to specific land uses; total number and type of proposed residential units; total number of square feet of proposed nonresidential space; number of proposed lots; and sufficient information to demonstrate that the plat conforms with all applicable dimensional standards and off-street parking requirements.
 - (ii) A description of those soil characteristics of the site which would have a significant influence on the proposed use of the land, with supporting soil maps, soil logs and classifications sufficient to enable evaluation of soil suitability for development purposes. Data furnished by the USDA Natural Resource Conservation Service or a licensed engineer shall be used. The data shall include the shrink/swell potential of the soils, the groundwater levels and the resulting foundation requirements. Additional data may be required by the City if deemed to be warranted due to unusual site conditions.
 - (iii) A report on the geologic characteristics of the area, including any potential natural or man-made hazards which would have a significant influence on the proposed use of the land, including but not limited to hazards from steep or unstable slopes, rockfall, faults, ground subsidence or radiation, a determination of what effect such factors would have, and proposed corrective or protective measures.
 - (iv) Engineering specifications for any improvements.
 - (v) A plan for erosion and sediment control, stabilization and revegetation.
 - (vi) A traffic analysis prepared by a qualified expert, including projections of traffic volumes to be generated by the development and traffic flow patterns, to determine the impacts of a proposed development on surrounding City streets and to evaluate the need for road improvements to be made.
 - (vii) A storm drainage analysis consisting of the following:
 - (a) A layout map (which may be combined with the topographic map) showing the method of moving storm sewer water through the subdivision shall be provided. The map shall also show runoff concentrations in acres of drainage area on each street entering each intersection. Flow arrows shall clearly show the complete runoff flow pattern at each intersection. The location, size and grades of culverts, drain inlets and storm drainage sewers shall be shown, as applicable.
 - (b) The applicant shall demonstrate the adequacy of drainage outlets by plan, cross-section and/or notes and explain how diverted stormwater will be handled after it leaves the subdivision. Details for ditches and culverts shall be submitted, as applicable.
 - (c) The projected quantity of stormwater entering the subdivision naturally from areas outside of subdivision and the quantities of flow at each pickup point shall be calculated.
 - (viii) Evidence of adequate water supply and sanitary sewer service - Data addressing the population planned to occupy the proposed subdivision and future development phases and other developments that may need to be served by extensions of the proposed water supply and sewage disposal systems. The resulting domestic, irrigation and fire flow demands shall be expressed in terms of gallons of

water needed on an average day and at peak time, and the resulting amounts of sewage to be treated shall be expressed in gallons per day.

(ix) An analysis shall be submitted addressing how water for domestic use and for fire flows is to be provided, along with the collection and treatment of sewage generated by the property to be subdivided.

(x) A statement shall be submitted addressing the quantity, quality and availability of any water that is attached to the land.

(xi) A preliminary estimate of the cost of all required public improvements, tentative development schedule (with development phases identified), proposed or existing covenants and proposed maintenance and performance guarantees. The applicant shall submit, at least in summary or outline form, any agreements as may be required by Section 16-2-70, relating to improvements and dedications.

(xii) If intending to use solar design in the development, include a description of the steps that have been taken to protect and enhance the use of solar energy in the proposed subdivision. This shall include how the streets and lots have been laid out and how the buildings will be sited to enhance solar energy usage.

(xiii) If applicable, a report shall be submitted identifying the location of the one-hundred-year floodplain and the drainageways near or affecting the property being subdivided. If any portion of a one-hundred-year floodplain is located on the property, the applicant shall also identify the floodway and floodway fringe area. The applicant shall also describe the steps that will be taken to ensure that development locating in the floodway fringe area is accomplished in a manner which meets Federal Insurance Administration standards.

(xiv) If applicable, a report shall be submitted on the location of wetlands, as defined by the U.S. Army Corp of Engineers, on or affecting the property being subdivided. The report shall outline the development techniques planned to ensure compliance with federal, state and local regulations.

(xv) A landscape plan, meeting the specifications of Section 16-8-90.

(xvi) If applicable, a description of how the proposal will comply with the standards of any of the overlays.

(xvii) A site plan for parks, trails and/or open space meeting the requirements of Section 16-6-110 below. If an alternate site dedication or fee in lieu of dedication is proposed, detailed information about the proposal shall be submitted.

(xviii) All development and subdivision naming shall be subject to approval by the City. No development or subdivision name shall be used which will duplicate or be confused with the name of any existing street or development in the City or the County;

N/A 10. An access permit from the Colorado Department of Transportation; and

N/A 11. A plan for locations and specifications of street lights, signs and traffic control devices.

2. REVIEW STANDARDS (If necessary, attach additional sheets)

The application for Limited or Major Impact Review shall comply with the following standards.

1. Consistency with Comprehensive Plan. The use shall be consistent with the City's Comprehensive Plan.

The development maintains consistency with the City's comprehensive plan in several manners. At the forefront, this is an attempt for more affordable housing units in downtown Salida. The developer's hope that these units can provide housing for teacher's at the schools located directly adjacent to the development.

The proposed layout maintains a small city feel by providing dense housing unit development. The surrounding right-of-way will be developed with sidewalk to provide more multi-modal transportation.

The developer is a local to Salida, support of the project will be supporting a local business that hopes to establish itself as a reliable and quality developer within the city.

2. Conformance to Code. The use shall conform to all other applicable provisions of this Land Use Code, including, but not limited to:

- a. **Zoning District Standards.** The purpose of the zone district in which it is located, the dimensional standards of that zone district, and any standards applicable to the particular use, all as specified in Article 5, Use and Dimensional Standards.

The site is zoned C-1. Inclusionary Housing Development standards are being upheld. The site has been reviewed to meet the dimensional standard set forth in Table 16-F.

- b. **Site Development Standards.** The parking, landscaping, sign and improvements standards.

1 Parking space has been provided for each unit. Landscaping will be provided in accordance with the land use and development code.

3. Use Appropriate and Compatible. The use shall be appropriate to its proposed location and be compatible with the character of neighboring uses, or enhance the mixture of complementary uses and activities in the immediate vicinity.

While the property is zoned commercial, the area consists of a school and residential property. Therefore, adding more residential units within the commercial zoning is deemed appropriate with this property to conform with the surrounding residential and education uses.

4. Nuisance. The operating characteristics of the use shall not create a nuisance and the impacts of the use on surrounding properties shall be minimized with respect to noise, odors, vibrations, glare, and similar conditions.

The proposed duplex units are not anticipated to create a nuisance. The architecture will be in conformance with more standard residential developments.

5. Facilities. There shall be adequate public facilities in place to serve the proposed use, or the applicant shall propose necessary improvements to address service deficiencies which the use would cause.

The development has begun coordination with Public Works who has indicated that no extensions or improvements will be required to connect the proposed residential units to the existing sewer and water infrastructure.

6. Environment. The use shall not cause significant deterioration to water resources, wetlands, wildlife habitat, scenic characteristics, or other natural features. As applicable, the proposed use shall mitigate its adverse impacts on the environment.

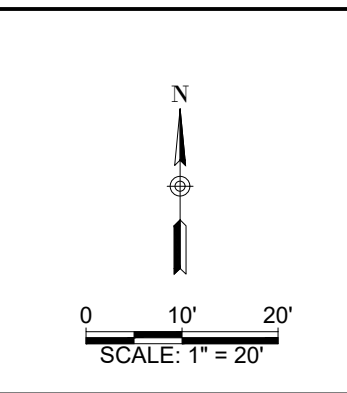
The developments design mitigates significant impacts to the environment through using stormwater infrastructure to reduce the post development flows to the historic level.

Appendix C: Survey Map

See Appendix C, Survey Plat Map

Appendix D: Development Plan Map

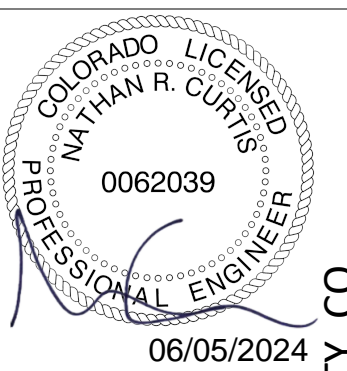
- LEGEND:
- G — G — EX GAS LINE
 - P — P — PROP GAS LINE
 - E — E — EX ELECTRIC
 - PE — PE — PROP ELECTRIC
 - W — W — EX WATER LINE
 - PW — PW — PROP WATER LINE
 - S — S — EX SANSWR
 - PS — PS — PROP SANSWR
 - — — — — PROP PROPERTY BOUNDARY
 - — — — — EX MAJOR CONTOURS
 - — — — — EX MINOR CONTOURS
 - — — — — PROP MAJOR CONTOURS
 - — — — — PROP MINOR CONTOURS
 - — — — — PROPERTY SETBACK
 - — — — — PROP SETBACK
 - — — — — PROP STORMSWR
- [Pattern] CONCRETE
 - [Pattern] GRAVEL
 - [Pattern] SOD
 - [Pattern] PAVEMENT
 - [Symbol] PROP STOP SIGN



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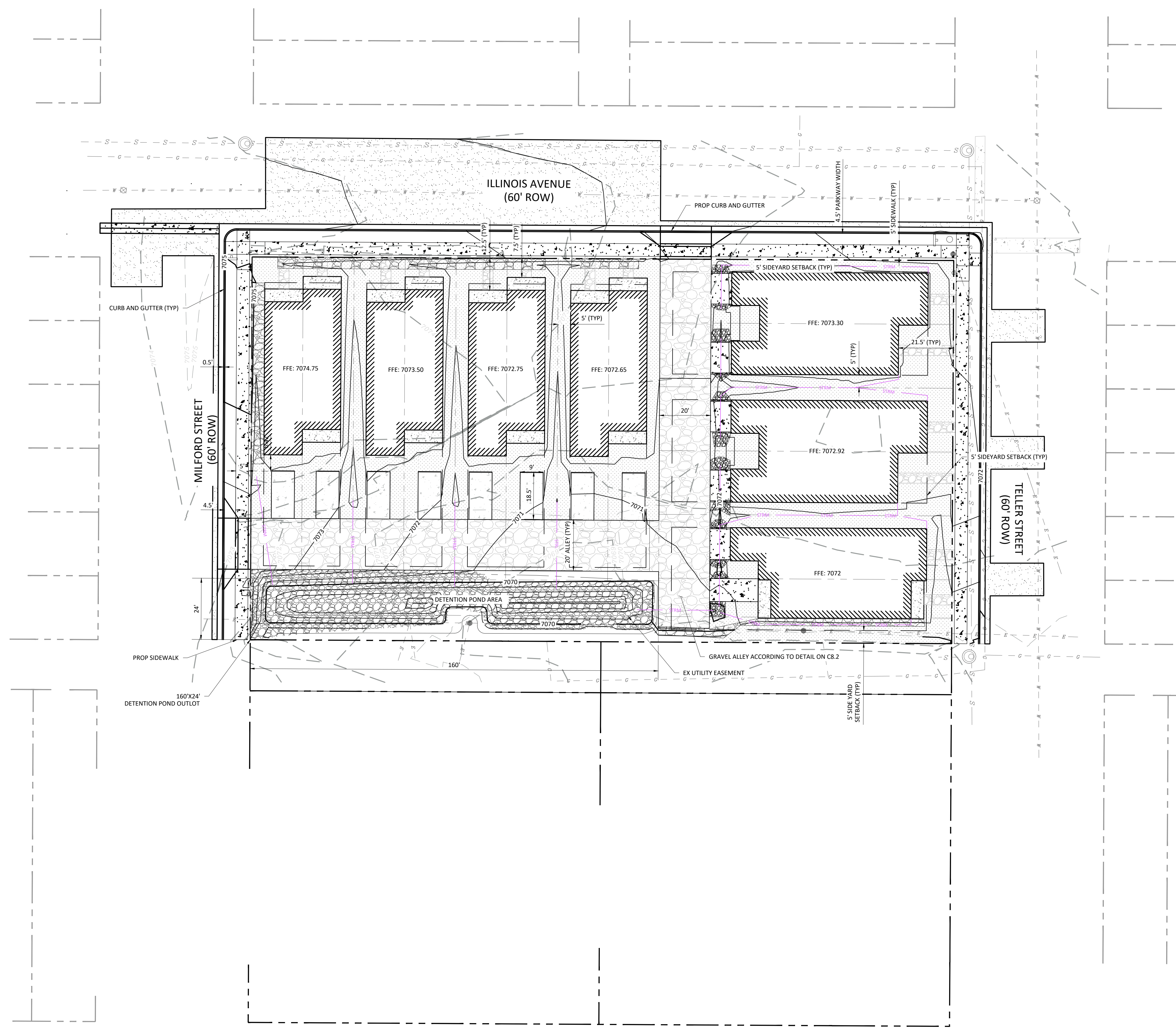
FOR MUNICIPAL USE:



LAND USE SUMMARY	
LANDSCAPING	
REQUIRED (PER LOT)	10%
PROPOSED (PER LOT)	25-36%

PARKING SUMMARY	
REQUIRED PARKING SPOTS	1 PER DUPLEX
PROPOSED PARKING SPOTS	14 TOTAL

GENERAL INFORMATION TABLE	
PROPOSED BUILDING HEIGHT	26'-11 3/4"
TOTAL NUMBER OF HOUSING UNITS	7
TOTAL NUMBER OF PROPOSED LOTS	14



SHAKEN ROOST SUBDIVISION

NORTH 1/2 OF BLOCK 17, ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA, CHAFFEE COUNTY, CO

FOR JURISDICTIONAL REVIEW
NOT FOR CONSTRUCTION

ISSUED DATES	
V1.0-06/05/2024 PERMIT SET	----
----	----
----	----

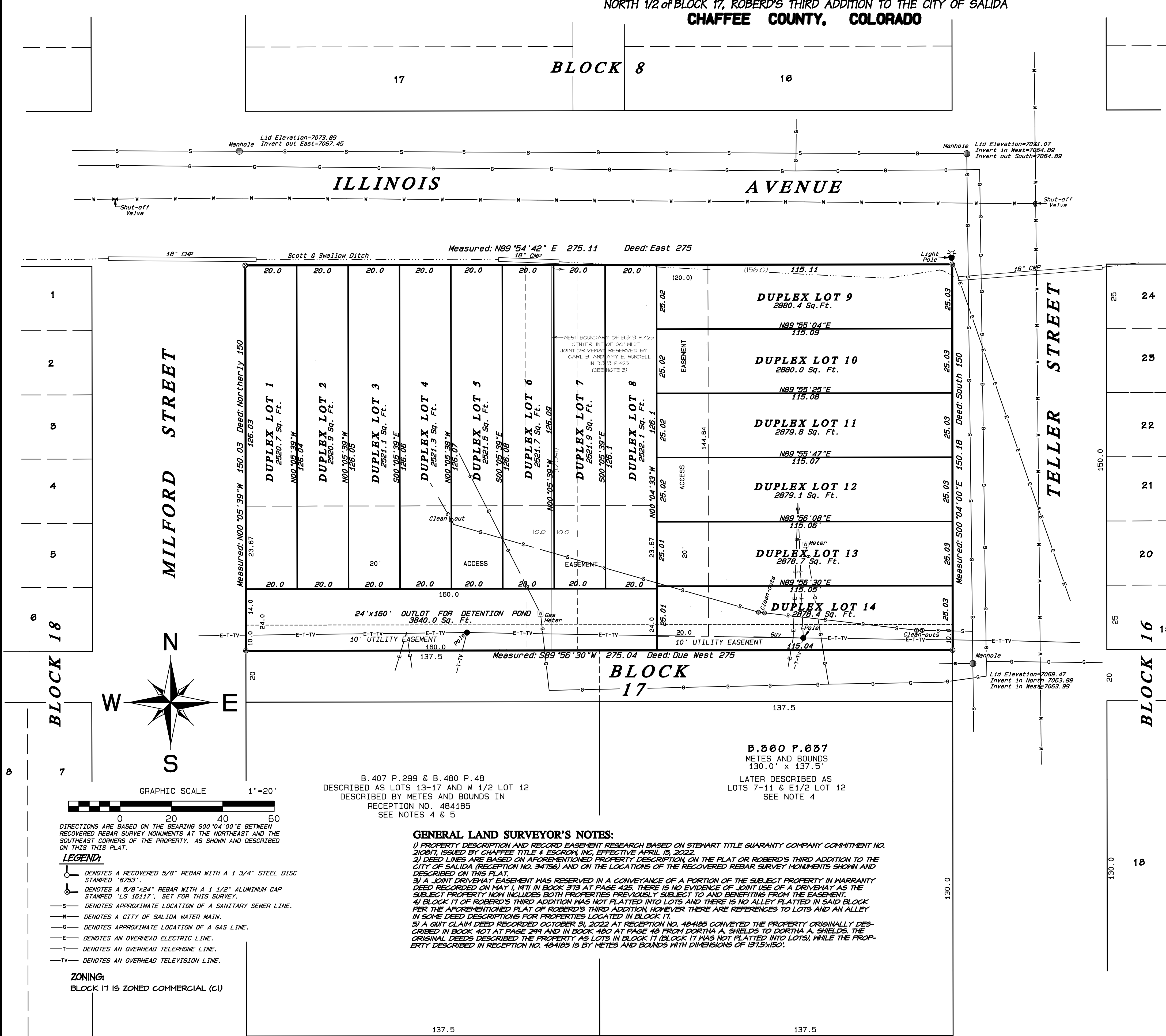
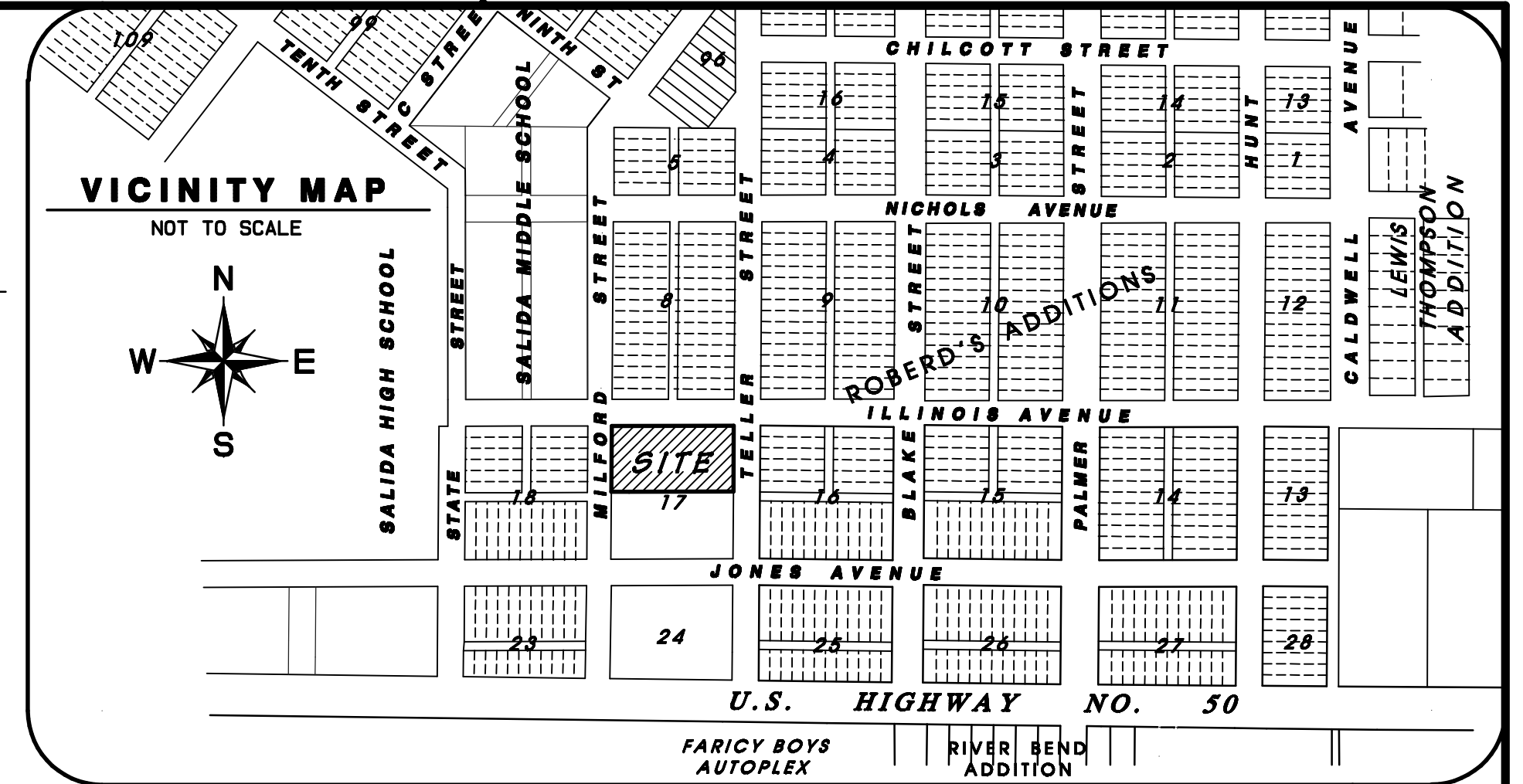
PROJECT ENG: NRC
QA/QC: PMS
DRAWN BY: MPH
PRI # 23.152
DATE: 11/28/2023

C3.0 /16
DEVELOPMENT PLAN
MAP

P:\2023\3.152-shakenroost\1-dwg\civilshakenroost-sheets-c3.dwg 6/5/2024 3:38:38 PM PABLO BOLAÑOS

Appendix E: Subdivision Plat Map

SHAKEN ROOST SUBDIVISION
 LOCATED IN THE
 NORTH 1/2 OF BLOCK 17, ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA
CHAFFEE COUNTY, COLORADO



PROPERTY DESCRIPTION:
 That part of the Northwest Quarter of the Southeast Quarter (NW1/4 SE1/4) of Section 5, Township 49 North, Range 9 East of the New Mexico Principal Meridian, (City of Salida), Chaffee County, Colorado, described as follows:
 Beginning at the intersection of the south line of Illinois Avenue with the west line of Teller Street, the same being the northeast corner of Block No. 17 of Roberd's Third Addition to the City of Salida, Colorado; thence running South along the west line of Teller Street 150 feet to the intersection of the west line of Teller Street with the north line of the East-West alley in said Block; thence at right angles and due West along said alleyway boundary 275 feet to the east line of Milford Street; thence North along the easterly line of Milford Street 150 feet to the intersection of the east line of Milford Street with the south line of Illinois Avenue; thence East along the south line of Illinois Avenue 275 feet to the place of beginning, being the North half (N1/2) of said Block No. 17, Roberd's Third Addition.

DIMENSIONAL STANDARDS:
DUPLEX UNITS (14):
 MINIMUM LOT SIZE W/O AFFORDABLE UNITS: 2800 SQ. FT.
 MINIMUM LOT SIZE WITH AFFORDABLE UNITS: 2520 SQ. FT.
 PROPOSED LOT SIZE: 2520.7-2880.46 SQ. FT.
 MAXIMUM COVERAGE PER LOT W/O AFFORDABLE UNITS (60%): 1801-1802 SQ. FT.
 MAXIMUM COVERAGE PER LOT W/AFFORDABLE UNITS (66%): 1981-1982 SQ. FT.
 MINIMUM DWELLING UNITS DEDICATED FOR AFFORDABLE HOUSING UNIT (16.7%)
 14 DWELLING UNITS x 167 = 2,338 ROUNDED UP TO 3 DWELLING UNITS
ZONING: C1

B.407 P.299 & B.480 P.48
 DESCRIBED AS LOTS 13-17 AND W 1/2 LOT 12
 DESCRIBED BY METES AND BOUNDS IN
 RECEPTION NO. 484185
 SEE NOTES 4 & 5

B.360 P.637
 METES AND BOUNDS
 130.0' x 137.5'
 LATER DESCRIBED AS
 LOTS 7-11 & E1/2 LOT 12
 SEE NOTE 4

GENERAL LAND SURVEYOR'S NOTES:
 1) PROPERTY DESCRIPTION AND RECORD EASEMENT RESEARCH BASED ON STEWART TITLE GUARANTY COMPANY COMMITMENT NO. 210071, ISSUED BY CHAFFEE TITLE & ESCROW, INC., EFFECTIVE APRIL 15, 2022.
 2) DEED LINES ARE BASED ON AFORESAID PROPERTY DESCRIPTION ON THE PLAT OR ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA (RECEPTION NO. 34758) AND ON THE LOCATIONS OF THE RECOVERED REBAR SURVEY MONUMENTS SHOWN AND DESCRIBED ON THIS PLAT.
 3) A JOINT DRIVEWAY EASEMENT WAS RESERVED IN A CONVEYANCE OF A PORTION OF THE SUBJECT PROPERTY IN WARRANTY DEED RECORDED ON MAY 1, 1971 IN BOOK 3178 AT PAGE 425. THERE IS NO EVIDENCE OF JOINT USE OF A DRIVEWAY AS THE SUBJECT PROPERTY NOW INCLUDES BOTH PROPERTIES PREVIOUSLY SUBJECT TO AND BENEFITING FROM THE EASEMENT.
 4) BLOCK 17 OF ROBERD'S THIRD ADDITION WAS NOT PLATTED INTO LOTS AND THERE IS NO ALLEY PLATTED IN SAID BLOCK FOR THE AFORESAID PLAT OF ROBERD'S THIRD ADDITION, HOWEVER THERE ARE REFERENCES TO LOTS AND AN ALLEY IN SOME DEED DESCRIPTIONS FOR PROPERTIES LOCATED IN BLOCK 17.
 5) A QUIT CLAIM DEED RECORDED OCTOBER 31, 2022 AT RECEPTION NO. 484185 CONVEYED THE PROPERTY ORIGINALLY DESCRIBED IN BOOK 407 AT PAGE 299 AND IN BOOK 480 AT PAGE 48 FROM DORTHA A. SHIELDS TO DORTHA A. SHIELDS. THE ORIGINAL DEEDS DESCRIBED THE PROPERTY AS LOTS IN BLOCK 17 (BLOCK 17 WAS NOT PLATTED INTO LOTS), WHILE THE PROPERTY DESCRIBED IN RECEPTION NO. 484185 IS BY METES AND BOUNDS WITH DIMENSIONS OF 137.5x130.

- LEGEND:**
- DENOTES A RECOVERED 5/8" REBAR WITH A 1 3/4" STEEL DISC STAMPED '6753'
 - ⊗ DENOTES A 5/8" x 24" REBAR WITH A 1 1/2" ALUMINUM CAP STAMPED 'LS 16117'. SET FOR THIS SURVEY.
 - S— DENOTES APPROXIMATE LOCATION OF A SANITARY SENEY LINE.
 - W— DENOTES A CITY OF SALIDA WATER MAIN.
 - G— DENOTES APPROXIMATE LOCATION OF A GAS LINE.
 - E— DENOTES AN OVERHEAD ELECTRIC LINE.
 - T— DENOTES AN OVERHEAD TELEPHONE LINE.
 - TV— DENOTES AN OVERHEAD TELEVISION LINE.

ZONING:
 BLOCK 17 IS ZONED COMMERCIAL (C1)

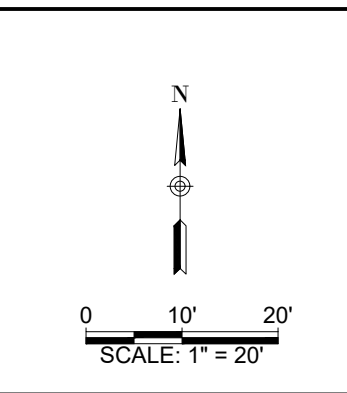
NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BE COMPLETED MORE THAN TEN YEARS FROM THE DATE OF THE SURVEYOR'S STATEMENT CONTAINED HEREON.

Revisions and Additions: 5/30/24 M.K.H. 6/1/24 M.K.H.

SHAKEN ROOST MINOR SUBDIVISION	
IN THE N1/2 BLOCK 17, ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA, CHAFFEE COUNTY, COLORADO	
Job Number: J-23-183 TPC FILE: J-11-005 B.S.:	HENDERSON LAND SURVEYING CO., INC. 203 G STREET SALIDA, COLORADO
DRAWN BY: T.W. GARDNER M.K.H.	DATE: 2/19/24 DRAWING NO. L-24-06
CHECKED: [Signature] Field Book: S335 Page 32	

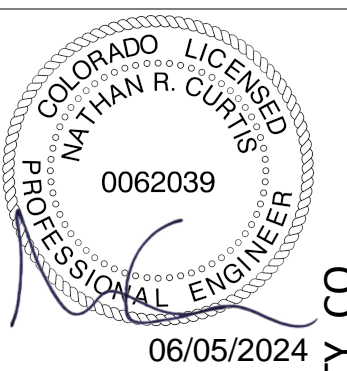
Appendix F: Utility Plan Map

- LEGEND:
- EX TELEPHONE
 - PROP TELEPHONE
 - EX GAS LINE
 - PROP GAS LINE
 - EX CABLE TELEVISION LINE
 - PROP CABLE TELEVISION LINE
 - EX ELECTRIC
 - PROP ELECTRIC
 - EX WATER LINE
 - PROP WATER LINE
 - EX SANSWR
 - PROP SANSWR
 - PROPERTY BOUNDARY



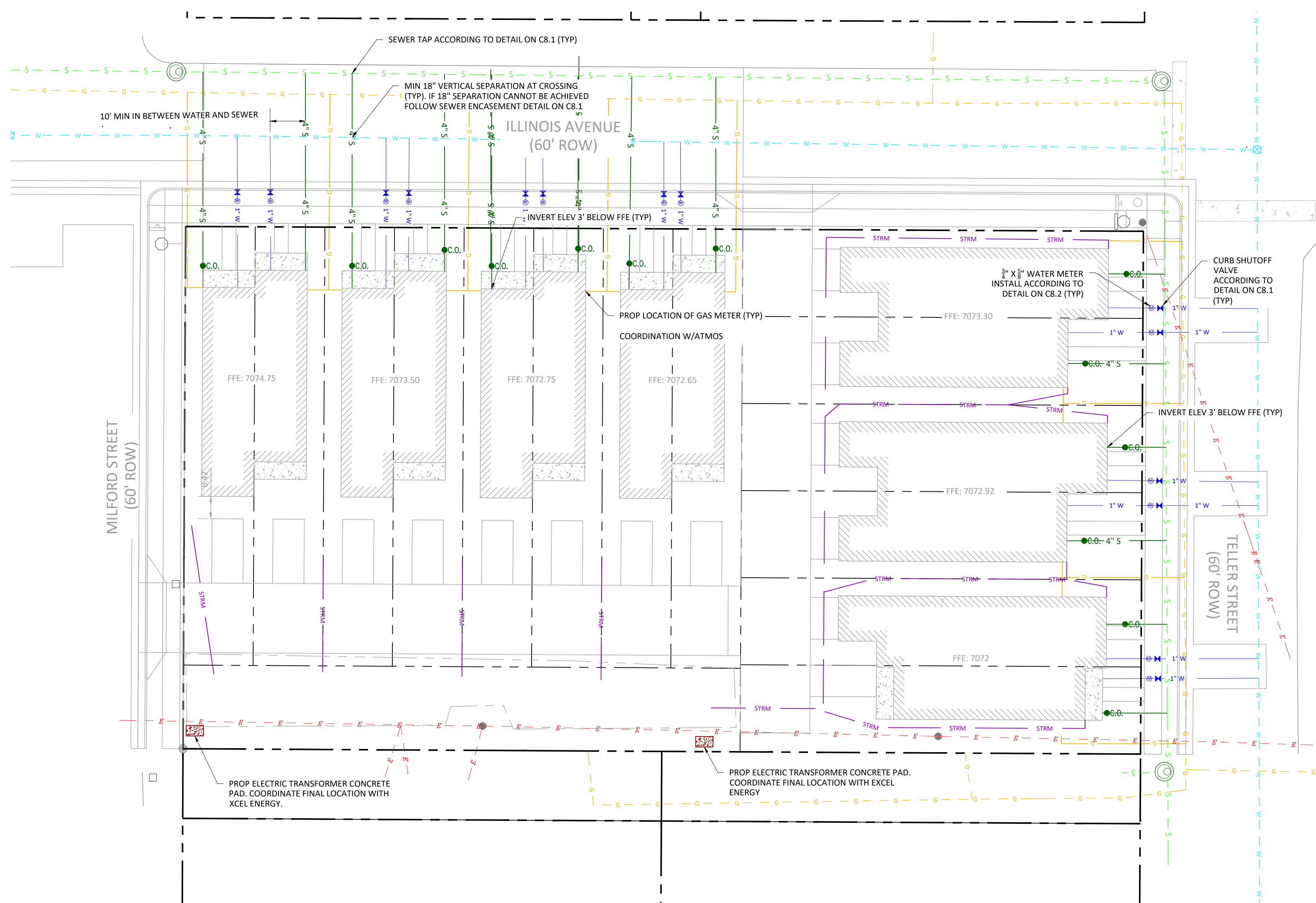
3 ROCKS
ENGINEERING
& SURVEYING
430 Main Street
Cañon City, CO 81212
719.430.5333
www.3rockengineering.com

FOR MUNICIPAL USE:



NORTH 1/2 OF BLOCK 17, ROBERT'S THIRD ADDITION TO THE CITY OF SALIDA, CHAFFEE COUNTY, CO

SHAKEN ROOST SUBDIVISION



- WATER NOTES:
- ALL WATER TO MAINTAIN 60" MINIMUM COVER UNLESS NOTED OTHERWISE.
 - IN NO CASE SHALL FIELD DEFLECTIONS EXCEED MANUFACTURER'S RECOMMENDATIONS.
 - THE CONTRACTOR SHALL ENSURE PIPES ARE FREE OF GRAVEL AND DEBRIS PRIOR TO BEING INSTALLED IN THE TRENCH. IF THE PIPE IS DIRTY, HAS GRAVEL OR DEBRIS INSIDE, OR HAS SAT UNUSED FOR A LONG PERIOD OF TIME, THE PIPE WILL REQUIRE CLEANING PRIOR TO INSTALLATION.
 - WATER LINES TO HAVE BLUE ID TAPE INSTALLED 2' ABOVE PIPE.
 - MIN 10' HORIZONTAL SEPARATION BETWEEN WATER AND SANITARY SEWER LINES EXCEPT FOR AT CROSSINGS.
 - WATER SERVICES SHALL BE 1" HDPE DR9 PRESSURE CLASS 200 PSI, C.T.S. CONTRACTOR SHALL FOLLOW THE CITY OF SALIDA STANDARD CONSTRUCTION SPECIFICATIONS, SECTION 02512 SITE WATER DISTRIBUTION FOR ALL TAPPING, INSTALLATION AND MATERIAL SPECIFICATIONS.
 - MIN 18" VERTICAL SEPARATION BETWEEN WATER AND SANITARY SEWER LINES AT CROSSINGS WITH WATER OVER SEWER UNLESS USING CITY CROSSING DETAIL W/FLOW FILL. SEE SHEET C8.1 FOR DETAIL.
 - SET VALVES ON SOLID 3'x3'x6" MIN CONCRETE BLOCKS ON SUBSOIL.
 - SET VALVE BOX COVERS FLUSH WITH FINISHED GRADE.
 - WATER PIPE MATERIAL AND CLASS, WATER METER, AND VALVES SHALL CONFORM TO THE CITY OF SALIDA APPROVED MATERIALS LIST.

- SANITARY NOTES:
- CLEANOUTS SHALL BE LOCATED WITHIN 5' OUTSIDE OF THE STRUCTURES AT THE POINT OF THE SANITARY SEWER SERVICE.
 - ENSURE SANITARY LINES ARE AT A MINIMUM 2% SLOPE ACCORDING TO THE CITY OF SALIDA DETAIL. SEE DETAIL ON SHEET C8.1
 - ALL SANITARY TO MAINTAIN 42" MINIMUM COVER UNLESS NOTED OTHERWISE.
 - SEWER LINES TO HAVE GREEN ID TAPE INSTALLED 2' ABOVE PIPE.
 - MIN 10' HORIZONTAL SEPARATION BETWEEN WATER AND SANITARY SEWER LINES EXCEPT FOR AT CROSSINGS.
 - MIN 18" VERTICAL SEPARATION BETWEEN WATER AND SANITARY SEWER LINES AT CROSSINGS WITH WATER OVER SEWER UNLESS USING CITY CROSSING DETAIL W/FLOW FILL.
 - SEWER LINE INSTALLATION TO CONFORM TO CITY OF SALIDA STANDARD SPECIFICATIONS.
 - ALTERNATE PIPE MATERIALS, CLASS FITTINGS, AND APPURTENANCES TO CONFORM TO THE CITY OF SALIDA APPROVED MATERIALS LIST.

- UTILITY NOTES:
- ALL WORK TO BE DONE IN STRICT COMPLIANCE WITH RESPECTIVE UTILITY COMPANY REQUIREMENTS.
 - ALL PRIMARY ELECTRIC LINES TO MAINTAIN 42" MINIMUM COVER.
 - ALL SECONDARY ELECTRIC LINES TO MAINTAIN 36" MINIMUM COVER.
 - CONTRACTOR TO PROVIDE SHORING TO OSHA STANDARDS WHEN EXCAVATION IS 5' IN DEPTH OR MORE.
 - TRACER WIRE TO BE INSTALLED ON ALL NEW WATER AND SANITARY LINES.

FOR JURISDICTIONAL REVIEW
NOT FOR CONSTRUCTION

ISSUED DATES

V1.0-06/05/2024 PERMIT SET

PROJECT ENG: NRC
QA/QC: PMS
DRAWN BY: MPH
PRI # 23.152
DATE: 11/28/2023

C7.0 /16

UTILITY PLAN

P:\2023\3.152-shakenroost\sub\1-dwg\civil\shakenroost-sheets-c7.dwg 6/5/2024 3:41:34 PM PABLO BOLAÑOS

Appendix G: Soils Report



Jamie and Joni Baker
1501 H Street
Salida, CO 81201

April 16, 2024

Subject: Geotechnical Engineering Study
Proposed Shaken Roost Minor Subdivision
77 Illinois Street, Salida, CO 81201

Project No. 24-054

Dear Mr. and Mrs. Baker:

This geotechnical engineering study was performed to evaluate the subsurface soil and ground water conditions to provide geotechnical engineering criteria for the structural foundation design at the subject project. As requested, a representative of Mountain Engineering and Testing (MET) visited the subject site on March 28, 2024 to record the subsurface conditions in two exploratory test pits and determine stormwater infiltration rates within three percolation tests at the site. The project was performed based on our proposal P-24-049.

Proposed Construction: The proposed construction includes 7 duplex structures with parking areas. Foundation plans were not provided to us at the time of this study. Foundation loads are anticipated to be light to moderate and typical of the proposed construction. If loads, locations, or conditions are significantly different from those described above or depicted in this report, MET should be notified to reevaluate the recommendations contained herein.

Site Conditions: The 0.95 acre lot is located at 77 Illinois Avenue, Salida, CO. The proposed residences are planned for the northern and eastern portion of the lot, with parking along the southern portion and throughout the center of the lot. The lot currently has multiple structures planned for demolition, and a low lying grassy area along the southern property boundary. The lot is flat, with a low lying area where the percolation test holes were excavated. Surface conditions include areas of gravel, fill material, grass, and native trees.

Subsurface Conditions: Subsurface conditions at the site were observed in two test pit excavations extending to a maximum depth of 8 feet. The location of the test pits are shown on the Test Pit Location Plan, Figure 1. The test pit logs with the legend and notes are presented on Figures 2 through 4.

The density of the native soil was evaluated with a 5/8-inch penetrometer driven into the various strata with blows from a 10-pound hammer falling 12-inches. This test is similar to the standard penetration test described by ASTM D 1586. Depths of the penetrometer testing and the corresponding resistance values are shown on the test pit logs.

The subsurface conditions encountered in test pit TP1 consisted of 3 feet of brown, medium dense sandy loam with gravel. The sandy loam consisted of fine to coarse grained sand, sub-rounded gravel and cobble to 6 inches in diameter, and silt fines. The sandy loam was underlain by tan, dense, well

GES 24-054

1537 G Street Salida, CO 81201 (719)539-2312 Fax (719)530-9111	 MOUNTAIN ENGINEERING AND TESTING, INC.	2035 1/2 Grande Avenue Monte Vista, CO 81144 (719)628-2069 Fax(719)530-9111
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graded gravel (GW), with fine to coarse grained sand, and sub-rounded gravel and cobble to 12 inches in diameter. The test pit was concluded at 7 feet.

The subsurface conditions encountered in test pit TP2 consisted of 2.5 feet of fill material consisting of dark brown silty sand with gravel. The fill material was underlain by light brown, loose, silty sand (SM), consisting of fine grained sand and silt fines. At 6 feet, the gravel and cobble content of the silty sand increased, with sub-rounded gravel and cobble to 8 inches in diameter. The test pit was concluded at 8 feet.

Three percolation tests were conducted near the proposed storm water detention area as shown on Figure 1. Percolation test locations were excavated to a depth of approximately 2 feet below grade. The three locations were pre-wet using clean water. Infiltration rates were monitored over the course of two hours via pipe sections with graded float measurement apparatus. The average percolation rate was 35.7 minutes per inch (see Table 1).

Ground water was not encountered in the test pits TP1 or TP2 at the time of excavation. Seasonal ground water was estimated at a depth greater than 8 feet. Ground water observations and estimated seasonal ground water are based on current conditions and may not be indicative of other times or locations. Ground water levels may fluctuate with varying seasonal and weather conditions.

Conclusions and Recommendations: The native soils consist of varying soil types and densities, including loose, silty sands and dense, well graded gravels. The allowable bearing pressure for foundations on the native, loose, silty sands have an unacceptably low threshold for bearing capacity failure. The density and compressibility of loose sands can be erratic resulting in excessive differential settlement between foundation components bearing on the subgrade soils. Estimated total settlement for construction on the silty sand soils is on the order of 1 inch. The dense, well graded gravels encountered result in higher bearing capacities, acceptable for shallow foundation systems.

The risk of foundation settlement can be reduced by additional site preparation involving over-excavation of the native subgrade below foundation elements and replacing with a compacted structural fill material (see Site Preparation). This method will create a more uniform subgrade less prone to settlement under loaded conditions.

Due to the limited depth of exploration using a backhoe, recommendations cannot be provided for a deep foundation system. Should a deep foundation be considered for the proposed buildings, it is recommended that the site be explored with a drill rig to a depth of approximately 25 feet.

Site Preparation: All fill materials encountered in foundation excavations must be penetrated, removed, or replaced as they are not a suitable bearing material. As observed in the test pit TP2, the native, loose, silty sands extend to depths too deep to either penetrate or to remove and replace in a cost effective manner. The following recommendations have been provided to reduce the risk of foundation movement by improving the foundation subgrade soils and reducing the risk of foundation settlement for the areas of the lot where the silty sand is encountered.

The site preparation should consist of excavating the native, loose, silty sands to 12-inches below the footing subgrade elevation and re-compacting the disturbed surface of the excavation. The compacted subgrade should then be leveled and brought to design elevation using a minimum of 12-inches of compacted structural fill, as discussed in the “Fill Materials, Placement and Compaction” section listed below.

Mountain Engineering and Testing must be contacted to observe both the base of the overexcavation prior to placing the structural fill, and perform density testing on the compacted structural fill during replacement. Mountain Engineering and Testing should be contacted to review structural fill soils for acceptance prior to placement. If unexpected fills or underground facilities are encountered below the building footprint, they should be removed prior to stabilization and/or backfill placement.

Footings bearing on the medium dense to dense sandy gravels may be excavated to bottom of footing elevation, recompacted, and foundation elements placed directly on the native soils. In an effort to guard against differential settlements, foundations shall not bear on a combination of native gravels and compacted structural fill material. **Should a foundation excavation encounter both loose sands and dense gravels at subgrade elevation, the site preparation for the foundation shall follow the above recommendations for the loose sands.**

Foundation Recommendations: The following design and construction criteria are recommended for a shallow, spread footing foundation system with site subgrade preparation as detailed above.

- Footings (interior and exterior) should have a minimum embedment from the native surface sufficient to bear directly on the structural fill placed and compacted per the above recommendations or directly on the well graded gravel and designed for:
 - **An allowable soil bearing pressure of 2,000 psf.**
 - **An allowable coefficient of friction of 0.40.**
- Exterior footings and footings beneath unheated areas should be placed at least 24 inches below the exterior grade for frost protection.
- Spread footings should have a minimum width of 16 inches for continuous footings and 24 inches for isolated pads.
- Continuous foundations walls expected to span greater than 8 feet should have additional reinforcement top and bottom sufficient to achieve the expected span, under the maximum expected factored load.
- Subgrade soils disturbed by excavation operations should be re-compacted prior to placement of structural fill. If the presence of large rocks makes disturbing the native soil below the footing elevation unavoidable, then the rocks should be removed and replaced with compacted structural fill. MET recommends a 4-6 inch leveling course of structural fill to avoid point loading of rock/cobble on the foundation elements.
- If soft or yielding soils are encountered, MET should be contacted to assess the soil conditions and recommend remedial measures. Typical procedures involve removing soft/yielding subgrade soils to firm material and replacing them with compacted structural fill. Any structural

fill should be compacted in 6 inch lifts per the recommendations discussed in "Fill Materials" until the desired footing elevation is achieved.

- If groundwater is encountered, MET should be contacted to assess the soil conditions and recommend remedial measures. Typical procedures involve removing any soft/yielding subgrade soils below the groundwater surface to firm material and replacing them with crushed rock.
- Estimated settlement of footings bearing on structural fill is less than 0.5 inches under dry, drained conditions.
- **Once the excavation is exposed, but prior to placement of any fill or footing formwork, a representative of MET must be called out to verify the nature and density of the foundation excavations to ensure that relatively uniform soil conditions are present and to confirm that MET's recommendations are consistent with actual conditions. If MET is not able to verify the soil conditions, MET cannot be held responsible for recommendations that may be inconsistent with actual conditions.**

Floor Slabs: A minimum depth of 6 inches of compacted structural fill or gravel is recommended below floor slabs placed in accordance with the recommendations in the "Fill Material, Placement and Compaction" section of this report. Topsoil, fills, and deleterious material; if encountered below slab areas, should be removed and replaced with the structural fill material recommended under the heading "Fill Materials, Placement and Compaction" in this report.

Floor slab control joints should be used to reduce damage due to shrinkage cracking. Joint spacing is dependent on slab thickness and aggregate size, and should be consistent with recognized guidelines such the Portland Cement Association (PCA) and the American Concrete Institute (ACI). A vapor retarder membrane is recommended for slabs with moisture sensitive floor coverings to reduce moisture in the concrete slab. Concrete placement and curing should be in accordance with the American Concrete Institute recommendations. Improper curing techniques and/or high slump concrete can cause excessive shrinkage, cracking and/or curling of the concrete slab. Floor slab control joints should be used to reduce damage due to shrinkage cracking.

Concrete placement and curing should be in accordance with the American Concrete Institute recommendations. Improper curing techniques and/or high slump concrete can cause excessive shrinkage, cracking and/or curling of the concrete slab.

Lateral Earth Pressures: The lateral equivalent fluid pressures for soils above a free water surface are recommended below:

<u>Backfill Material</u>	<u>Active</u>	<u>Passive</u>	<u>At Rest</u>
Onsite Silty Sand	30 pcf	267 pcf	45 pcf
Onsite Gravel with Sand	30 pcf	480 pcf	48 pcf
Imported Structural Fill	34 pcf	400 pcf	53 pcf

All foundation walls should be designed for appropriate surcharge pressures such as adjacent buildings, traffic, construction materials and equipment. The pressures recommended above assume

drained conditions behind the walls and a horizontal backfill surface. If water or sloping backfill conditions occur, we should be contacted to reevaluate our recommendations.

The natural on-site soils, exclusive of topsoil and other organic matter, can be used as foundation wall backfill. However, the on-site materials placed within 3 feet of foundation walls should **not** contain materials greater than 3 inches in diameter.

Site Clearing and Subgrade Preparation: Strip and remove existing vegetation, debris and other deleterious materials from the proposed subgrade areas. All exposed surfaces should be free of mounds and depressions that could prevent uniform compaction. Foundation subgrade should be free of any surficial fill material and penetrate to bear on the well graded gravel or structural fill.

Stripped materials consisting of vegetation and organic materials should be used to revegetate exposed areas after completion of grading operations. Organic materials should only be placed in non-structural areas. **Onsite rounded or subrounded cobble is not suitable for stabilization aggregate.**

Fill Materials, Placement and Compaction: The on-site well graded gravel and silty sand, exclusive of topsoil and materials greater than 2 inches in diameter, is suitable for use as backfill material but not as structural fill. Imported structural fill should conform to the following:

<u>Sieve Size</u>	<u>Percent Finer</u>	<u>Plasticity</u>
2 inch	100	Liquid Limit 30 max.
1.5 inch	90-100	Plasticity Index 10 max.
¾ inch	50-90	
No. 4 Sieve	30-50	
No. 200 Sieve	3-12	

Frozen soils should not be used as fill or backfill, and fill should not be placed over frozen ground. The subgrade preparation during winter should follow ACI 306 Chapter 6 when temperatures fall below freezing.

The following compaction recommendations are provided for structural fill depths less than five (5) feet. If fill materials are placed in excess of five feet, we should be contacted to review the conditions and provide additional recommendations, if necessary. The compaction and moisture contents shown in the following table are recommended for granular soils.

FILL AREA	MINIMUM COMPACTION	MOISTURE CONTENT
Below Foundations	98% Std. Proctor (ASTM D698) or 93% Mod. Proctor (ASTM D1557)	Optimum Moisture, +/- 3%
Below Floor Slabs	95% Std. Proctor (ASTM D698) or 90% Mod. Proctor (ASTM D1557)	Optimum Moisture, +/- 3%
Landscape & Wall Backfill	90% Std. Proctor (ASTM D698)	Optimum Moisture, +/- 3%

Compliance: Performance of the foundations supported on compacted fills or prepared subgrade depend upon compliance with the above earthwork recommendations. To assess compliance, observation and testing should be performed under the direction of the geotechnical engineer. We recommend that any structural fill placement below foundations should be observed and tested by an MET representative.

Surface Drainage: The exterior ground surface within 10 feet of the building should have a minimum positive slope of 6 inches over 10 feet. A minimum slope of 2½ inches over 10 feet is recommended in paved areas. Drains and roof downspouts should discharge well beyond the limits of all backfill.

Subsurface Drain System: The granular soils encountered classify as GW and SM and are considered Group I soils per the 2015 IRC Table R405.1. Therefore a subsurface perimeter drain system is not necessary for the foundation due to the well-draining soils along with the fact that below grade areas are not being pursued. If plans change, MET should be contacted to revise these recommendations.

Crawlspaces, if used, should have proper ventilation and the surface of the crawlspaces should be covered with a vapor retarder membrane to reduce the moisture levels in crawl crawlspaces. Regardless of these precautions, elevated moisture levels may occur in the crawl space area or below slabs from extended periods of shallow ground water that can result in mold or mildew. Mold and mildew spores can adversely affect the air quality in the building potentially resulting in adverse health effects

Concrete: Based on the soils encountered in the test pit and a sulfate concentration of 0 ppm, we recommend that Type I-II cement be specified for concrete exposed to the on-site soils. Material testing of foundation concrete for slump, entrained air, and compressive strength is recommended during placement.

Limitations: This study has been conducted in accordance with generally accepted geotechnical engineering practices in this area for use by the client for design purposes. The conclusions and

recommendations submitted in this letter are based upon the data obtained from the exploratory test pits and the proposed type of construction. The nature and extent of subsurface variations across the site may not become evident until excavation is performed. If during construction, fill, soil, rock or water conditions appear to be different from those described herein, this office should be advised at once so reevaluation of the recommendations may be made. We recommend on-site observation of excavations by a representative of the geotechnical engineer.

The scope of services for this project does not include either specifically or by implication any environmental or biological (e.g. mold, fungi, and bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential of such contamination or pollution, other studies should be undertaken.

Please contact us at 719-539-2312 if you have any questions of if we can be of further assistance.

Sincerely,

MOUNTAIN ENGINEERING AND TESTING, Inc.



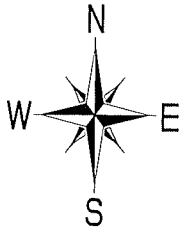
Frank Block, P.E.
Project Engineer

Attachments:

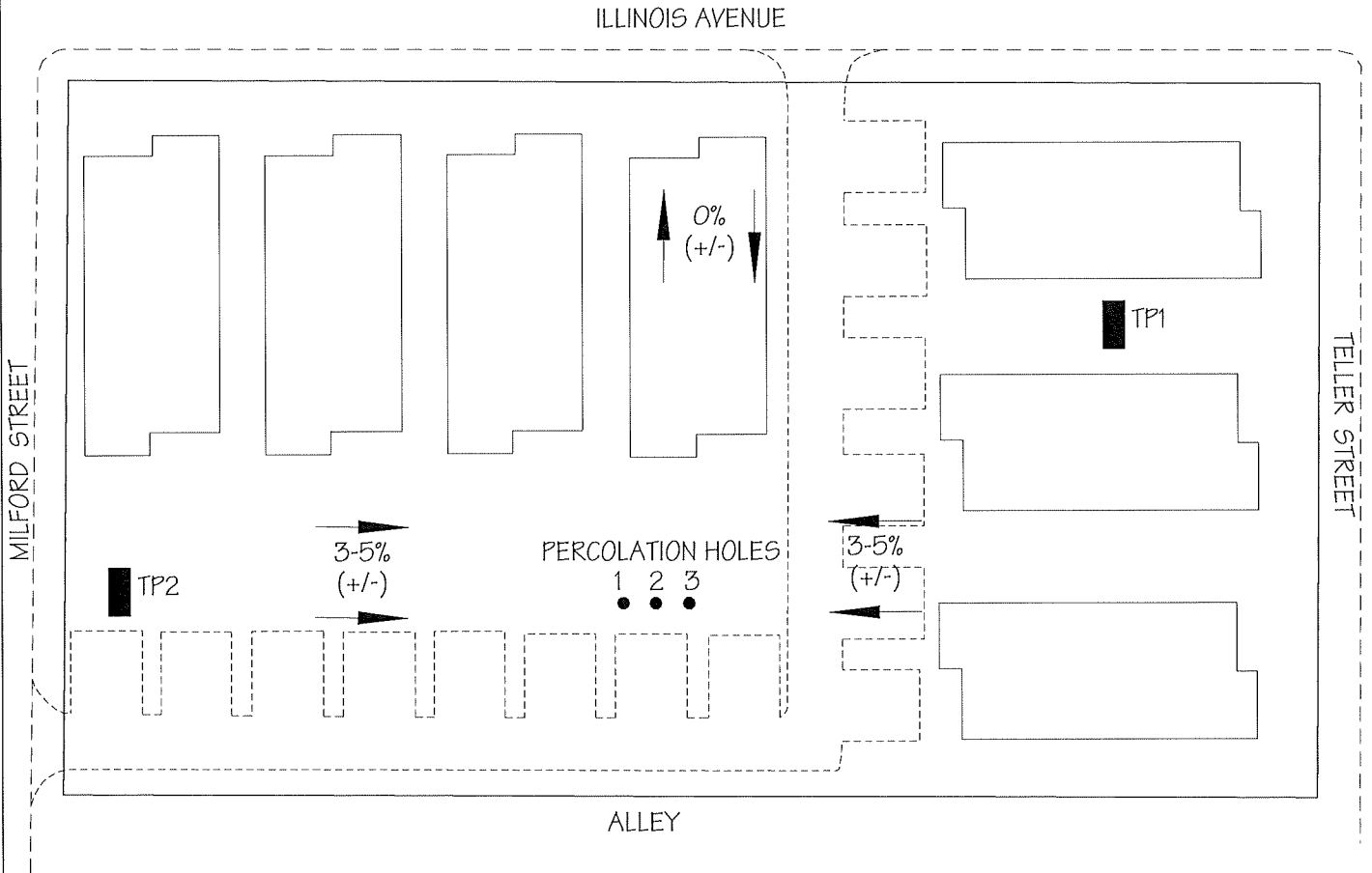
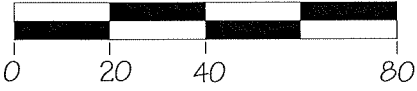
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|-----------------|---|
| Figure 1 | Test Pit Location Plan |
| Figures 2 and 3 | Log of Exploratory Test Pits |
| Figure 4 | Legend and Notes |
| Figure 5 | Structural Fill Detail |
| Figure 6 | TP1 Gradation Test Results |
| Figure 7 | TP2 Gradation Test Results |
| Figure 8 | Log of Percolation Test Results |
| Appendix A | General Engineered Fill Recommendations |

GES 24-054

1537 G Street Salida, CO 81201 (719)539-2312 Fax (719)530-9111	 MOUNTAIN ENGINEERING AND TESTING, INC.	2035 1/2 Grande Avenue Monte Vista, CO 81144 (719)628-2069 Fax(719)530-9111
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1" = 40'



SYMBOLS

■ TP1 TEST PIT NUMBER AND APPROXIMATE LOCATION

GEOTECHNICAL ENGINEERING STUDY
 PROPOSED SHAKEN ROOST MINOR SUBDIVISION
 77 ILLINOIS AVENUE, SALIDA, CO

TEST PIT LOCATION PLAN

1537 G Street Salida, CO 81201 (719) 539-2312 Fax (719) 530-9111	 MOUNTAIN ENGINEERING AND TESTING, INC.	2035 1/2 Grande Avenue Monte Vista, CO 81144 (719) 628-2069 Fax (719) 530-9111
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FIGURE: 1

TEST PIT LOG NUMBER IP1

PROJECT NAME SHAKEN ROOST MINOR SUBDIVISION		PROJECT LOCATION 77 ILLINOIS AVENUE, SALIDA, CO		PROJECT NUMBER 24-054	
SURFACE CONDITIONS GRAVEL PARKING LOT		COORDINATES 38°31.5409' 105°59.5551'		ELEVATION --	
METHOD OF EXCAVATION 60G EXCAVATOR		CONTRACTOR JAMIE BAKER		DATE 3/28/24	
				TOTAL DEPTH 7 FT	
				WATER DEPTH +7 FT	
				GEOLOGIST C. CARPENTER	
				CHECKED BY FRANK BLOCK	

SAMPLE TYPE & NUMBER	PENETROMETER BLOW COUNTS	DEPTH IN FEET	CLASSIFICATION AND DESCRIPTION OF MATERIAL
		1	SILTY SAND WITH GRAVEL, DARK BROWN, FINE TO COARSE GRAINED SAND, SUB-ROUNDED GRAVEL TO 3", SUB-ROUNDED COBBLE TO 6", SILT FINES, DRY
		2	
	100/9" (N=20)	3	
BULK 4'	100/6" (N=31)	4	WELL GRADED GRAVEL WITH SAND (GW), TAN, FINE TO COARSE GRAINED SAND, SUB-ROUNDED GRAVEL TO 3", SUB-ROUNDED COBBLE TO 12", DRY BULK @ 4 FT +4 = 72%; LL = NV -200 = 3%; PI = NP MC = 2.1%
		5	
		6	
		7	
		8	END @ 7'
		9	

FIGURE 2

TEST PIT LOG NUMBER IP2

PROJECT NAME SHAKEN ROOST MINOR SUBDIVISION		PROJECT LOCATION 77 ILLINOIS AVENUE, SALIDA, CO		PROJECT NUMBER 24-054	
SURFACE CONDITIONS GRAVEL FILL PAD		COORDINATES 38°31.5214' 105°59.5949'		ELEVATION --	
METHOD OF EXCAVATION 60G EXCAVATOR		CONTRACTOR JAMIE BAKER		DATE 3/28/24	
				TOTAL DEPTH 7 FT	
				WATER DEPTH +7 FT	
				GEOLOGIST C. CARPENTER	
				CHECKED BY FRANK BLOCK	

SAMPLE TYPE & NUMBER	PENETROMETER BLOW COUNTS	DEPTH IN FEET	CLASSIFICATION AND DESCRIPTION OF MATERIAL
		1	FILL MATERIAL, SILTY SAND WITH GRAVEL, DARK BROWN
		2	
	100/10" (N=18)	3	SILTY SAND (SM), LOOSE, LIGHT BROWN, FINE GRAINED SAND, SILT FINES, DRY BULK @ 4 FT +4 = 10%; LL = NV -200 = 18.5%; PI = NP MC = 4.5%
		4	
		5	
BULK 5'	40/12" (N=6)	6	SILTY SAND WITH GRAVEL (SM), DARK BROWN, FINE GRAINED SAND, SUBROUNDED GRAVEL TO 3", SUB-ROUNDED COBBLE TO 8", DRY
		7	
		8	END @ 8'
		9	

FIGURE 3

LEGEND AND NOTES


PARTICLE SIZE IDENTIFICATION

- Clay - Particles finer than 0.005 millimeters.
- Silt - Particles finer than 0.074 millimeters and larger than 0.005 millimeters.
- Sand - Particles finer than No. 4 Sieve and larger than the No. 200 Sieve .
- Gravel - From 1/4-inch to 3 inches in diameter.
- Cobble - From 3 to 12 inches in diameter.
- Boulder - Larger than 12 inches in diameter.

SOIL DESCRIPTION MODIFIERS

- Trace - Represents 0 to 5 percent by weight.
- With (Coarse Grained Material) - Represents 15 to 29 percent by weight.
- With (Fine Grained Material) - Represents 5 to 12 percent by weight.

NOTES

- 100/6" - (N=15) - Indicates the number of blows required to drive a 5/8-inch penetrometer into the various strata with blows from a 10-pound hammer falling 12 inches. Number in parenthesis represents our calculated N-Value.
- - - - - Dashed line between materials shown on the test pit logs are approximate and the transitions may be gradual.
- DATE  Groundwater level and the date of measurement.

The exploratory test pits were located based on the features shown on site plan.

Test pits are drawn to depth.

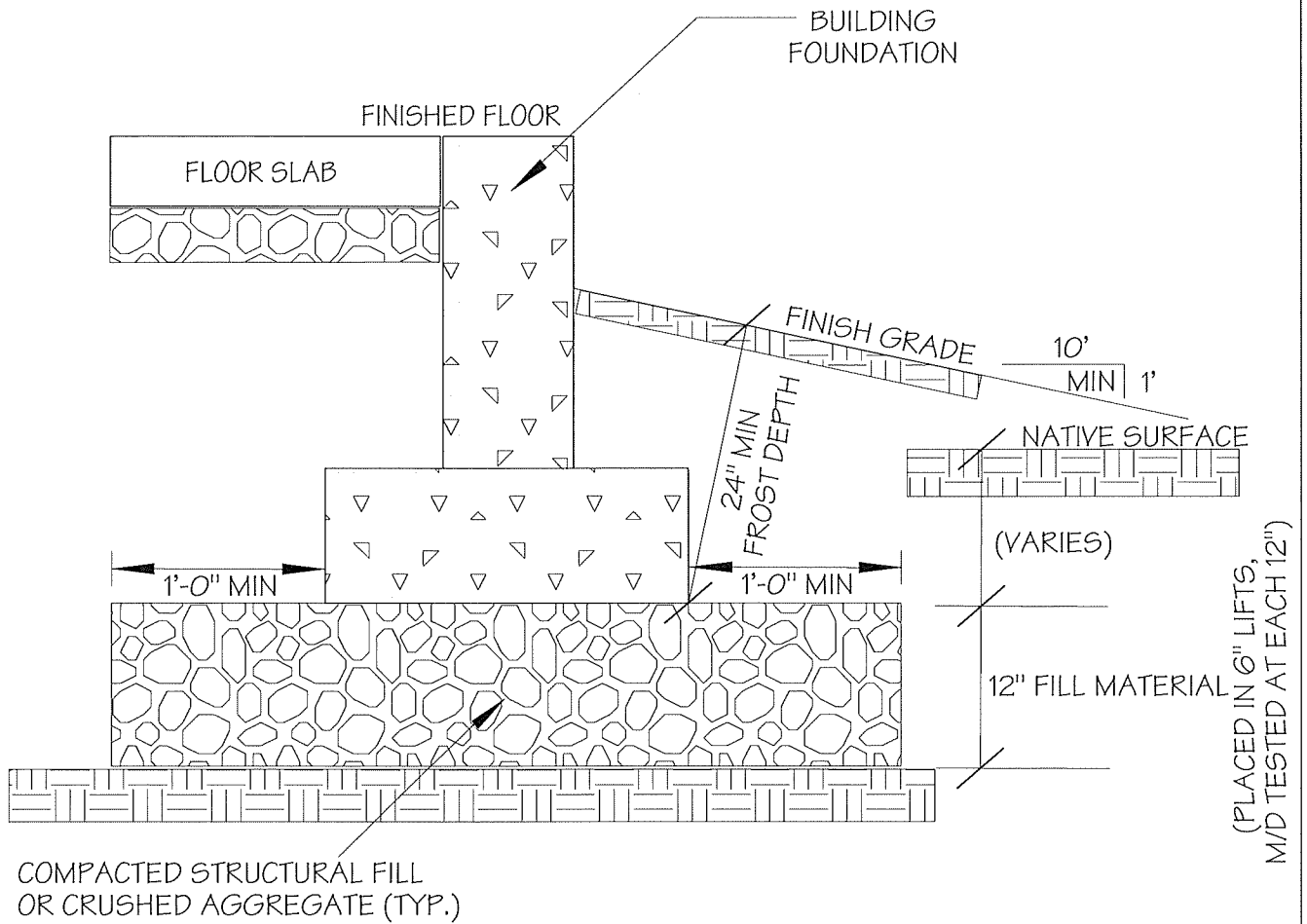
The exploratory test pit locations and elevations should be considered accurate only to the degree implied by the method used.

LABORATORY TEST RESULTS

- +4 = Percent retained on No. 4 sieve;
- 200 = Percentage passing the No. 200 sieve;
- LL = Liquid Limit;
- PI = Plasticity Index;
- NP = Non-plastic;
- MC = Moisture Content (%);
- WSS = Water Soluble Sulfates (ppm);
- DD = Dry Density (pcf);

FIGURE: 4

1537 G Street Salida, CO 81201 (719) 539-2312 Fax (719) 530-9111	 MOUNTAIN ENGINEERING AND TESTING, INC.	2035 1/2 Grande Avenue Monte Vista, CO 81144 (719) 628-2069 Fax (719) 530-9111
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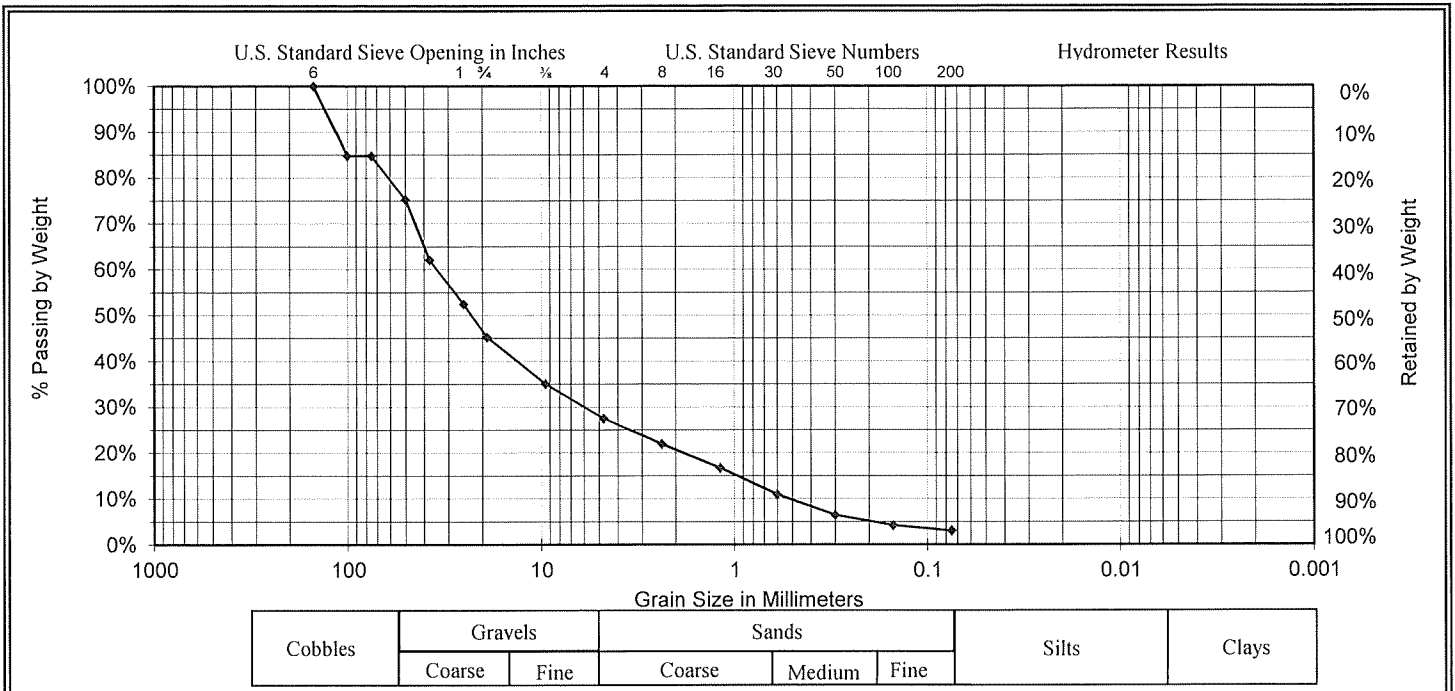


GEOTECHNICAL ENGINEERING STUDY
 PROPOSED SHAKEN ROOST MINOR SUBDIVISION
 77 ILLINOIS AVENUE, SALIDA, CO
 STRUCTURAL FILL DETAIL

FIGURE: 5

1537 G Street Salida, CO 81201 (719)539-2312 Fax (719)530-9111	 MOUNTAIN ENGINEERING & TESTING	2035 1/2 Grande Avenue Monte Vista, CO 81144 (719)628-2069 Fax(719)530-9111
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Gradation Test Results AASHTO T 27



Date : 04/01/24	D ₁₀ = 0.54	USCS Classification (ASTM D2487)	Gravel
Sample #: 1	D ₃₀ = 6.31	GW, Well Graded Gravel with Sand	72.5%
Sample Use: Classification	D ₆₀ = 34.81	AASHTO Classification	Sand
Source: Native	C _c = 2.13	A-1-a	24.5%
Client: Shaken Roost, LLC	C _u = 64.65	Atterberg Classification	Silt & Clay
Project Location: Salida, CO	Liquid Limit= NV	NP, Non-Plastic	3.0%
Test Pit #: 1	Plastic Limit= NP	Water Soluble Sulfates	Moisture Content
Depth: 4 Feet	Plasticity Index= NP	N/A	2.1%

Coarse Section					Fines Section						
Sieve Size		Cumulative	Cumulative	Specs	Specs	Sieve Size		Cumulative	Cumulative	Specs	Specs
US (in.)	Metric (mm)	Percent Retained	Percent Passing	Max	Min	US (in.)	Metric (mm)	Percent Retained	Percent Passing	Max	Min
6.00"	150.00	0%	100%			#8	2.360	78%	22%		
4.00"	100.00	15%	85%			#16	1.180	83%	17%		
3.00"	75.00	15%	85%			#30	0.600	89%	11%		
2.00"	50.00	25%	75%			#50	0.300	94%	6%		
1.50"	37.50	38%	62%			#100	0.150	96%	4%		
1.00"	25.00	48%	52%			#200	0.075	97.0%	3.0%		
3/4"	19.00	55%	45%								
3/8"	9.50	65%	35%								
#4	4.75	72%	28%								

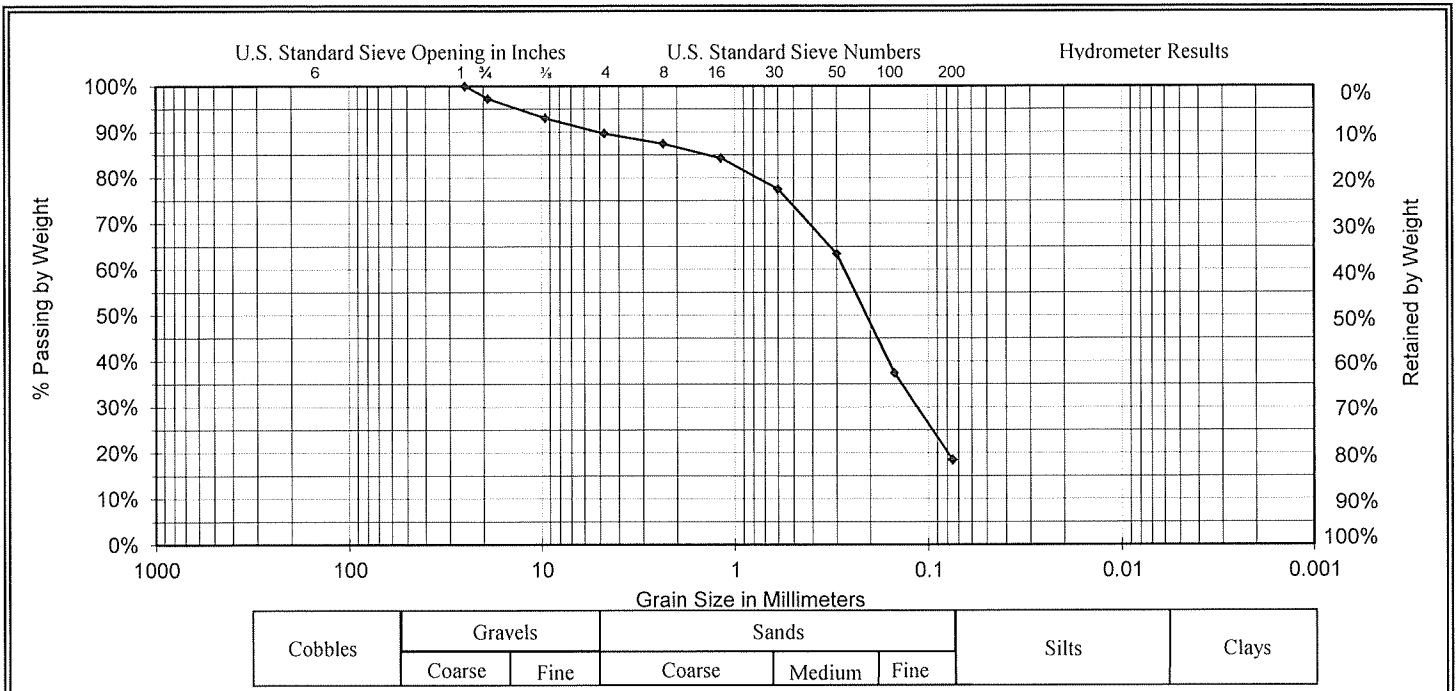
Project Name: 77 Illinois Street, Shaken Roost	Project Number: 24-054	Figure 6
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1537 G Street
Salida, CO 81201
(719)539-2312
Fax(719)530-9111



2035 1/2 Grande Avenue
Monte Vista, CO 81144
(719)628-2069

Gradation Test Results AASHTO T 27



Date : 04/01/24	D ₁₀ = 0.04	USCS Classification (ASTM D2487)	Gravel
Sample #: 2	D ₃₀ = 0.12	SM, Silty Sand	10.3%
Sample Use: Classification	D ₆₀ = 0.28	AASHTO Classification	Sand
Source: Native	C _c = 1.28	A-2-4	71.2%
Client: Shaken Roost, LLC	C _u = 6.91	Atterberg Classification	Silt & Clay
Project Location: Salida, CO	Liquid Limit= NV	NP, Non-Plastic	18.5%
Test Pit #: 2	Plastic Limit= NP	Water Soluble Sulfates	Moisture Content
Depth: 5 Feet	Plasticity Index= NP	0 ppm	4.5%

Coarse Section						Fines Section					
Sieve Size		Cumulative Percent Retained	Cumulative Percent Passing	Specs Max	Specs Min	Sieve Size		Cumulative Percent Retained	Cumulative Percent Passing	Specs Max	Specs Min
US (in.)	Metric (mm)					US (in.)	Metric (mm)				
1.00"	25.00	0%	100%			#8	2.360	13%	87%		
3/4"	19.00	3%	97%			#16	1.180	16%	84%		
3/8"	9.50	7%	93%			#30	0.600	23%	77%		
#4	4.75	10%	90%			#50	0.300	37%	63%		
						#100	0.150	63%	37%		
						#200	0.075	81.5%	18.5%		

Project Name: 77 Illinois Street, Shaken Roost	Project Number: 24-054	Figure 7
--	------------------------	----------

1537 G Street
Salida, CO 81201
(719)539-2312
Fax(719)530-9111



2035 1/2 Grande Avenue
Monte Vista, CO 81144
(719)628-2069

**PERCOLATION TEST RESULTS
FIGURE 8**

Project No. 24-054
Client: Jamie Baker
1501 H Street
Salida, CO 81201

Property: Proposed Shaken Roost Subdivisor
77 Illinois Street
Salida, CO

Date Holes Prepared: 3/28/2024
Date Perc Test Run: 3/28/2024

Location of Test Holes
Relative to Profile Hole

PH	TH-1	TH-2	TH-3
----	------	------	------

Percolation Test Hole No.1					
Hole Depth (in)	Soil Type	Elapsed Time	Time Interval (min)	Reading (in)	Percolation Rate (min/in)
30	SM	10:16 AM	0	14.75	-
		10:21 AM	5	14.50	20.00
		10:26 AM	5	14.38	40.00
		10:31 AM	5	14.25	40.00
		10:47 AM	16	13.50	21.33
		11:17 AM	30	13.00	60.00
		12:00 PM	43	12.00	43.00
		12:47 PM	47	10.50	31.33
		2:17 PM	90	8.25	40.00
1" inch Drop in Last 6" or 30 Minutes:					-
Average Last 3 Readings:					38.11

Percolation Test Hole No.2					
Hole Depth (in)	Soil Type	Elapsed Time	Time Interval (min)	Reading (in)	Percolation Rate (min/in)
30	SM	10:16 AM	0	14.00	-
		10:21 AM	5	13.38	8.06
		10:26 AM	5	12.25	4.42
		10:31 AM	5	11.50	6.67
		10:47 AM	16	9.50	8.00
		11:17 AM	30	5.75	8.00
		12:00 PM	43	3.00	15.64
1" inch Drop in Last 6" or 30 Minutes:					-
Average Last 3 Readings:					10.55

Percolation Test Hole No.3					
Hole Depth (in)	Soil Type	Elapsed Time	Time Interval (min)	Reading (in)	Percolation Rate (min/in)
30	SM	10:16 AM	0	14.50	-
		10:21 AM	5	14.25	20.00
		10:26 AM	5	14.38	-38.46
		10:31 AM	5	14.00	13.16
		10:47 AM	16	13.88	128.00
		11:17 AM	30	12.25	18.46
		12:00 PM	43	10.75	28.67
1" inch Drop in Last 6" or 30 Minutes:					-
Average Last 3 Readings:					58.38

LOG OF PROFILE HOLE	
Depth Below Ground (ft)	Soil Type/Description
1'	Silty Sand, Tan, Fine Grained Sand, Silt Fines, Dry
2'	
3'	Hole Dry
4'	
5'	
6'	Hole Dry
7'	
8'	Hole Dry

AVERAGE PERC RATE (min/in): 35.7

Appendix A General Engineered Fill Recommendations

- A. Clearing and Grubbing
- a. Areas where excavation or fill placement will be undertaken shall be cleared of all trees, stumps, roots, brush, rubbish, organic soil, or other objectionable matter as determined by the Soil Engineer. Organic soil which is suitable for topsoil shall be stockpiled for later use in landscaping,
- B. Preparation of Area to be Filled
- a. Scarification: After vegetation and other unsuitable material have been removed, the ground surface of the area to be filled shall be scarified to a depth of at least six (6) inches, and the ground surface is free from ruts, ridges and other uneven features.
 - b. Benching: Where fills are placed upon hillsides or slopes where the slope ratio of the original ground exceeds 5 horizontal to 1 vertical (20%), the original ground slope shall be stepped or benched, and the surfaces of benches scarified to a depth of at least six (6) inches. Ground slopes which are flatter than 5 horizontal to 1 vertical shall be benched when considered necessary by the Soil Engineer.
 - c. Subgrade Compaction: After the foundation for the fill has been scarified and benched as necessary, the ground surface shall be bladed until it is uniform size and brought to the proper moisture content for compaction. The ground surface shall then be compacted to the densities recommended in the geotechnical report.
 - d. Existing Earth Fill: Any unsuitable existing fill on the site shall be removed until undisturbed native soil is exposed. The native soil shall then be scarified, prepared, and compacted and suitable structural fill shall be placed, in accordance with these guidelines.
- C. Compacted Fill
- a. Fill Materials: Material for fill shall consist of suitable soil as identified in soil reports and/or approved by the Soil Engineer. The fill materials used shall be free of vegetation, frozen material, or other deleterious material. The fill shall no contain particles having a diameter greater than three (3) inches.
 - b. Rock: The maximum rock size in fill materials shall be three (3) inches. Large rocks shall not be allowed to nest and voids between rocks shall be carefully filled with properly compacted soil. No large rocks will be permitted within twelve (12) inches of finished grade.
 - c. Fill Placement: Fill shall be placed in uniform, level layers which do not exceed six (6) inches thickness after compaction. Each layer shall be placed, mixed, and spread in such a manner as to insure uniformity of each layer, and to prevent the formation of layers or zones of material which differ significantly in characteristics from the surrounding fill.

- d. Moisture Control: Prior to compaction, the fill material shall be brought to its Proctor optimum moisture content, plus or minus 3% to insure even and uniform moisture conditions within the layer. The contractor may be required to add water to material in the excavation or borrow areas prior to transporting to the fill if, in the opinion of the Soil Engineer, proper moisture control cannot be obtained by adding water directly to the fill surface.
- e. Compaction Procedure: After each layer has been spread, mixed, and brought to the proper moisture content, it shall be mechanically compacted to the recommended density. Other levels of compaction may also be specified by the Soil Engineer depending upon the type of soil encountered. Compaction of each layer shall be continuous over the entire area of the layer, and compaction equipment shall make sufficient passes to insure uniform and adequate compaction of each layer.
- f. Compaction of Slopes: The face slopes of fills shall be properly compacted. Compaction on face slopes of fills may be accomplished progressively in increments of three (3) to five (5) feet in fill height, or may be done after the fill is brought to its total height.

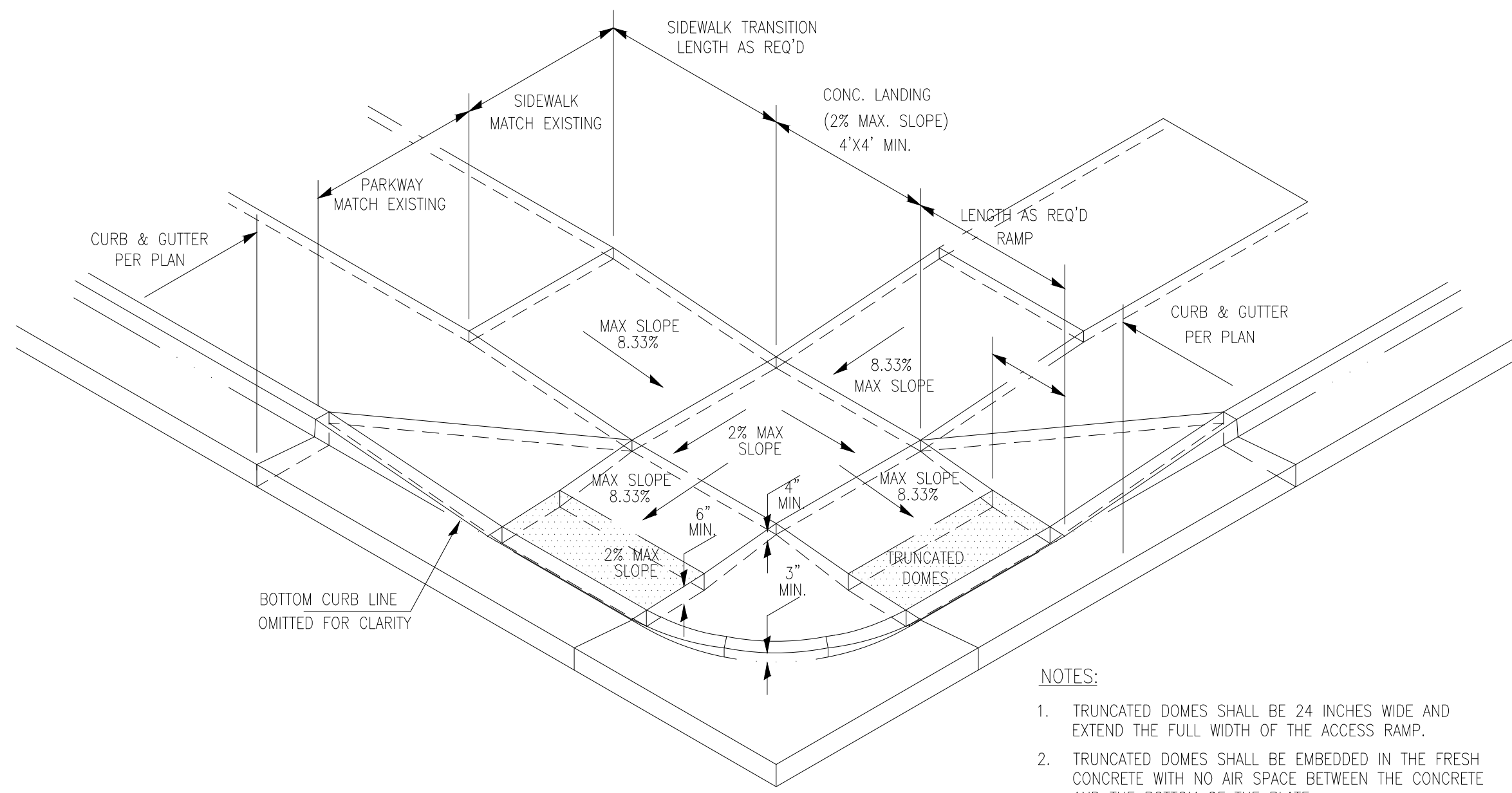
D. Quality Control

- a. Moisture Density Tests: Prior to commencement of fill operations, a Proctor test, shall be made for each soil material anticipated in the excavation and borrow areas. Additional Proctor tests shall be made during construction if different materials are encountered, or if soil mixtures on the fill warrant additional testing. Occasional single-point density tests shall be performed if necessary to verify the appropriateness of the Proctor values being used.
- b. Density Testing: Field density tests shall be made by the Soil Engineer of the compaction of each layer of fill. At least one test shall be made for each layer of fill, and sufficient suitable compaction of each layer has been achieved. Density tests shall be taken in the compacted material below the disturbed surface. When these tests indicate that the density of any layer of fill or portion thereof has not been properly compacted, the particular layer or portion shall be reworked until the required density has been obtained.

E. Seasonal Limits

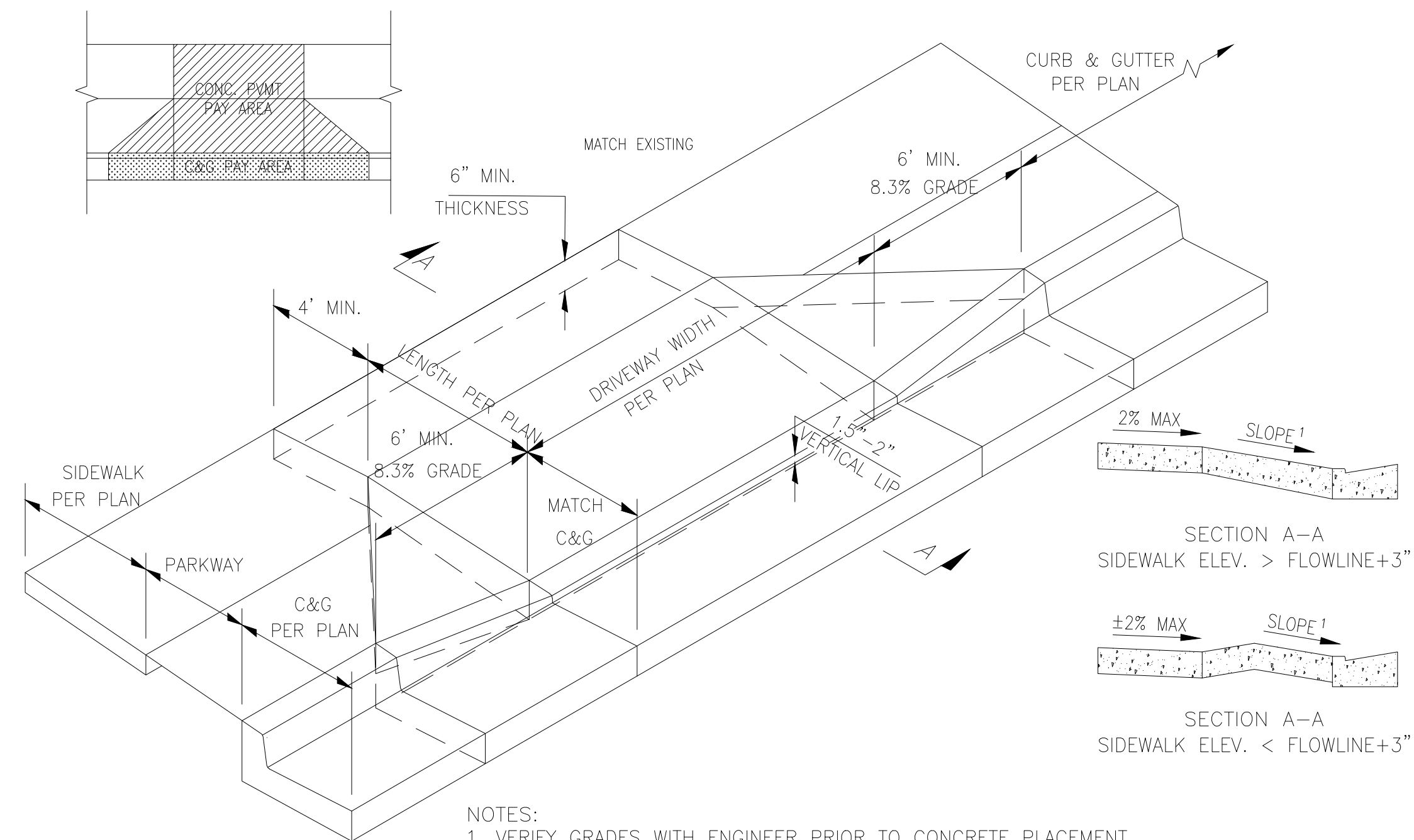
- a. No fill material shall be placed, spread, or rolled while it is frozen or thawing, or during unfavorable weather conditions. When fill operations are interrupted by weather conditions, fill operations shall not be resumed until the moisture content and density of the previously placed fill are tested for density.

Appendix H: Engineer's Specs



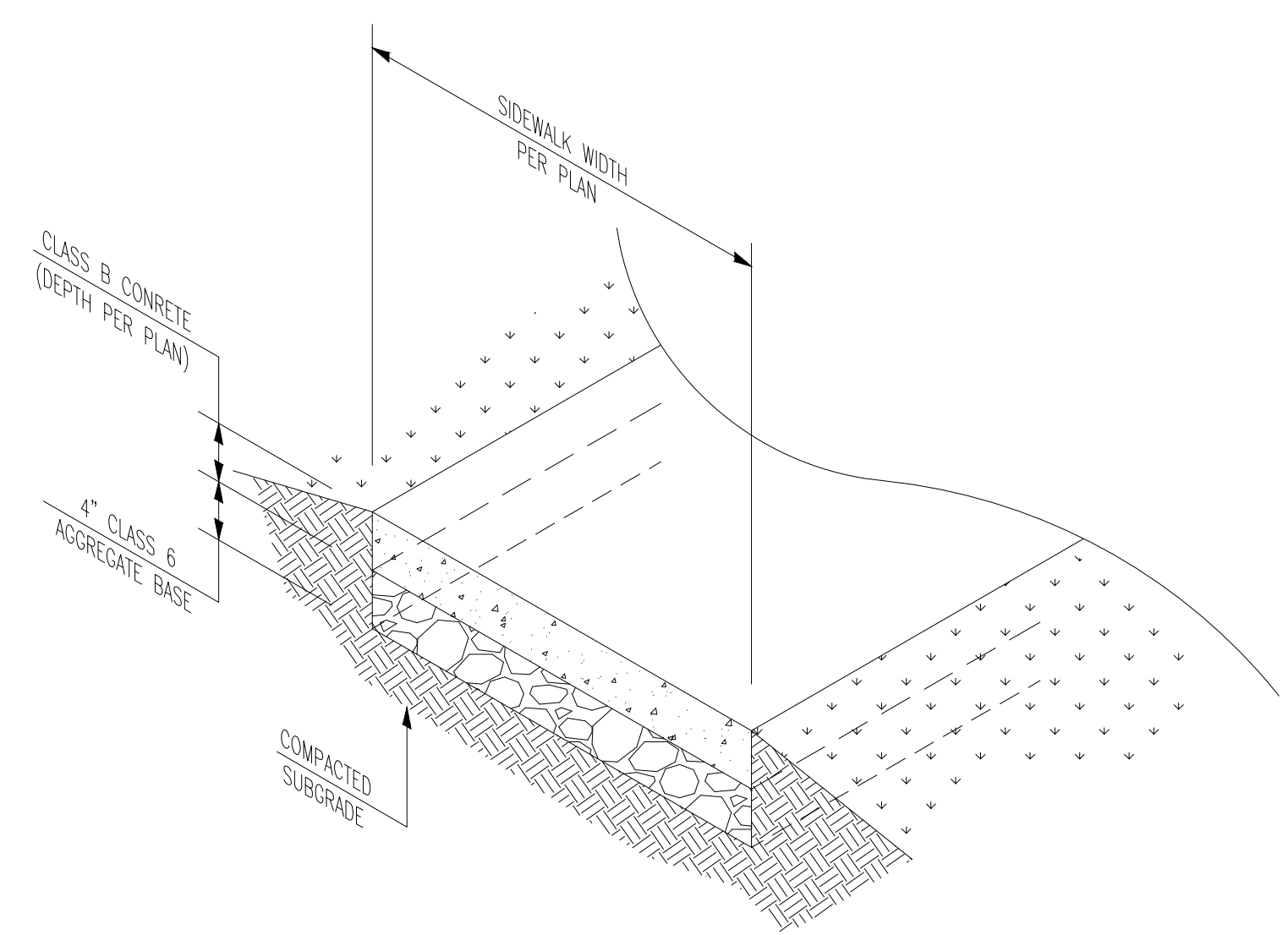
- NOTES:
1. TRUNCATED DOMES SHALL BE 24 INCHES WIDE AND EXTEND THE FULL WIDTH OF THE ACCESS RAMP.
 2. TRUNCATED DOMES SHALL BE EMBEDDED IN THE FRESH CONCRETE WITH NO AIR SPACE BETWEEN THE CONCRETE AND THE BOTTOM OF THE PLATE.
 3. TRUNCATED DOMES SHALL BE CONSTRUCTED OF UNPAINTED CAST IRON CONFORMING TO ASTM A-48 CLASS 30B.

ST ADA CURB RAMP - TYPE 2
2 DETAIL

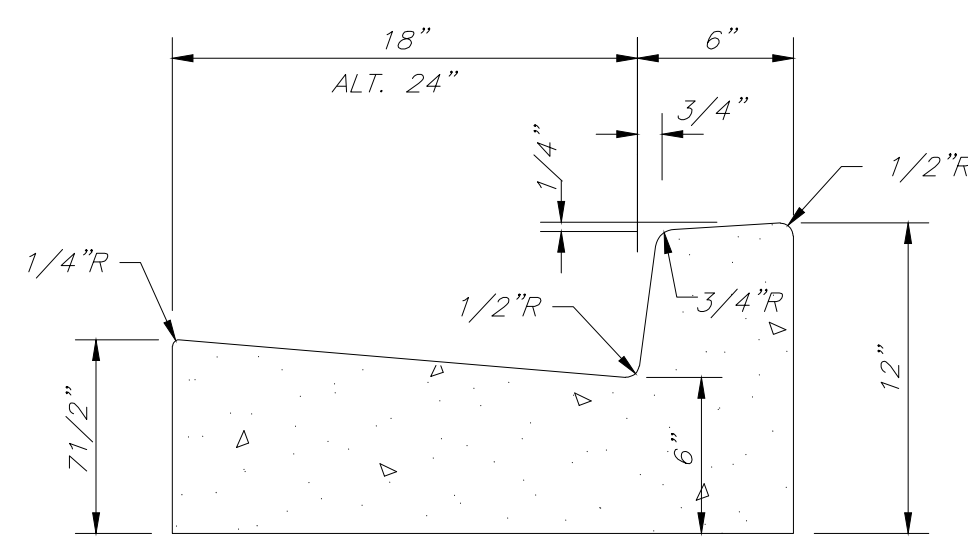


- NOTES:
1. VERIFY GRADES WITH ENGINEER PRIOR TO CONCRETE PLACEMENT.

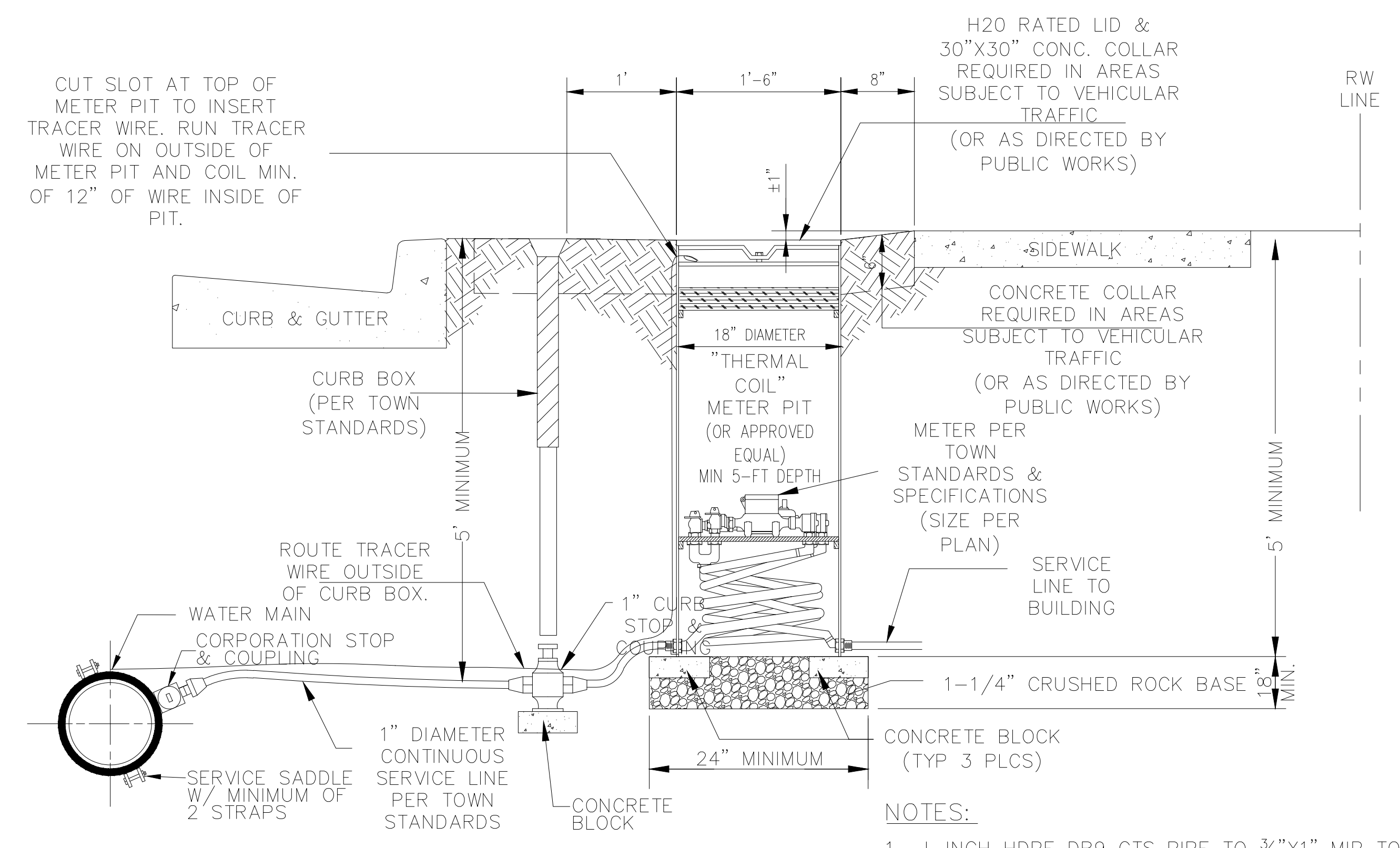
ST TYPE 1 DRIVEWAY
3 DETAIL



ST SIDEWALK
7 DETAIL

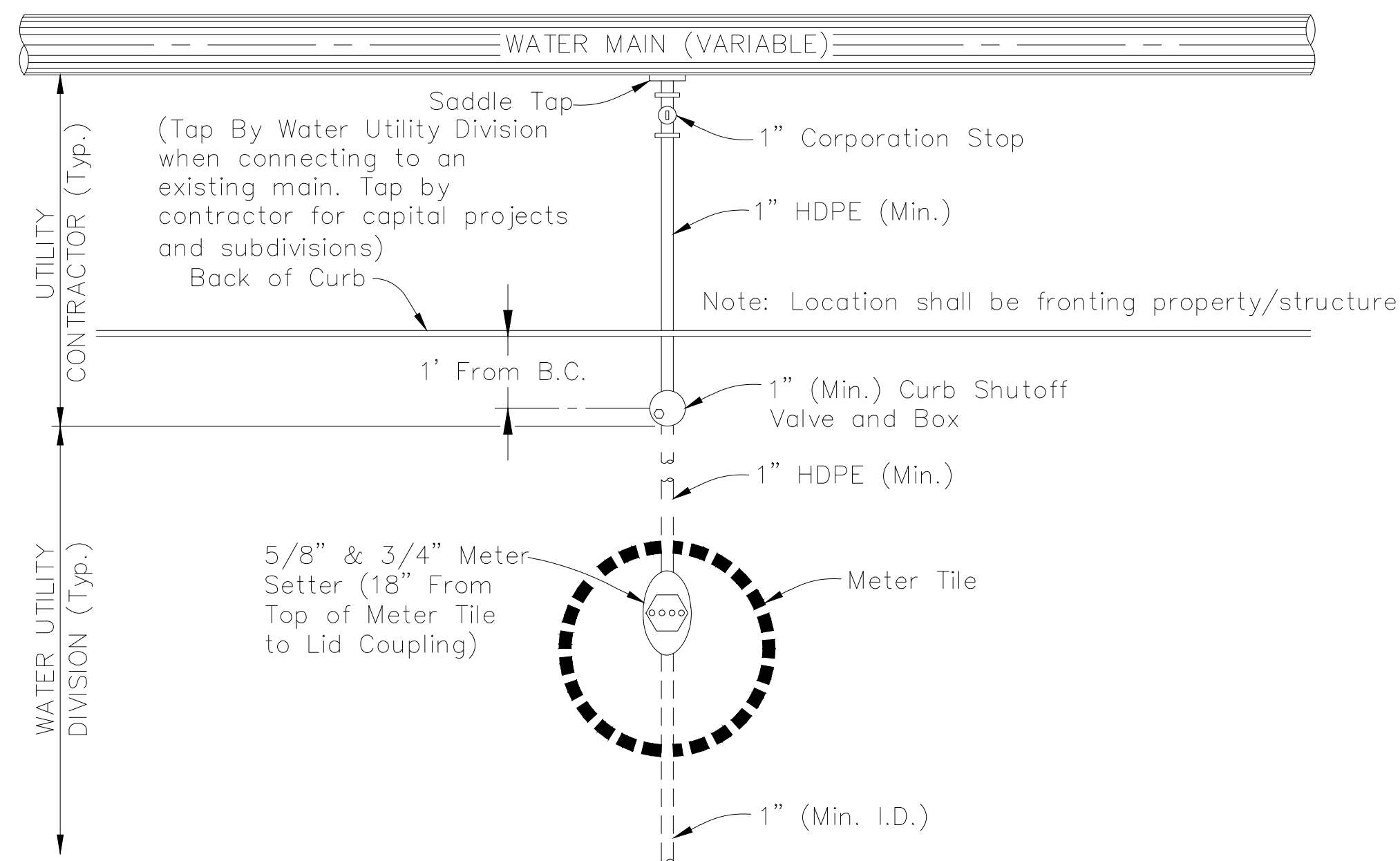


ST STANDARD 24-IN CURB AND GUTTER
4 DETAIL



- NOTES:
1. 1-INCH HDPE DR9 CTS PIPE TO 3/4"x1" MIP TO COMPRESSION FITTING ON METER PIT.
 2. CURB STOP SHALL HAVE 1-INCH BODY.
 3. INSTALL TRACER WIRE PER SPECIFICATIONS
 4. SETTER RING TO BE LOCATED AT LOWEST LEVEL
 5. 6-INCH INSULATION PLUG TO BE PROVIDED WITH STOPPED 18-IN FROM TOP

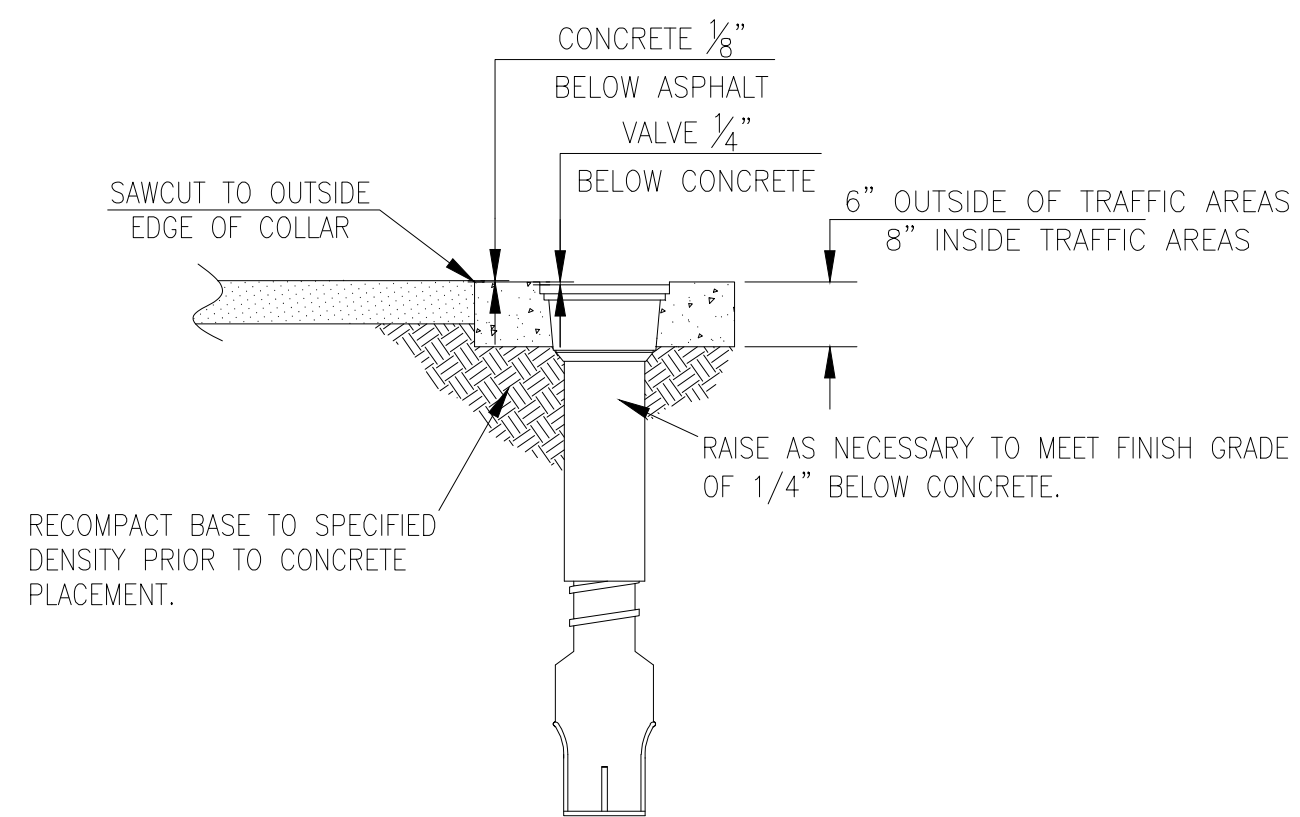
WS SERVICE AND METER PIT (TYP)
1 DETAIL



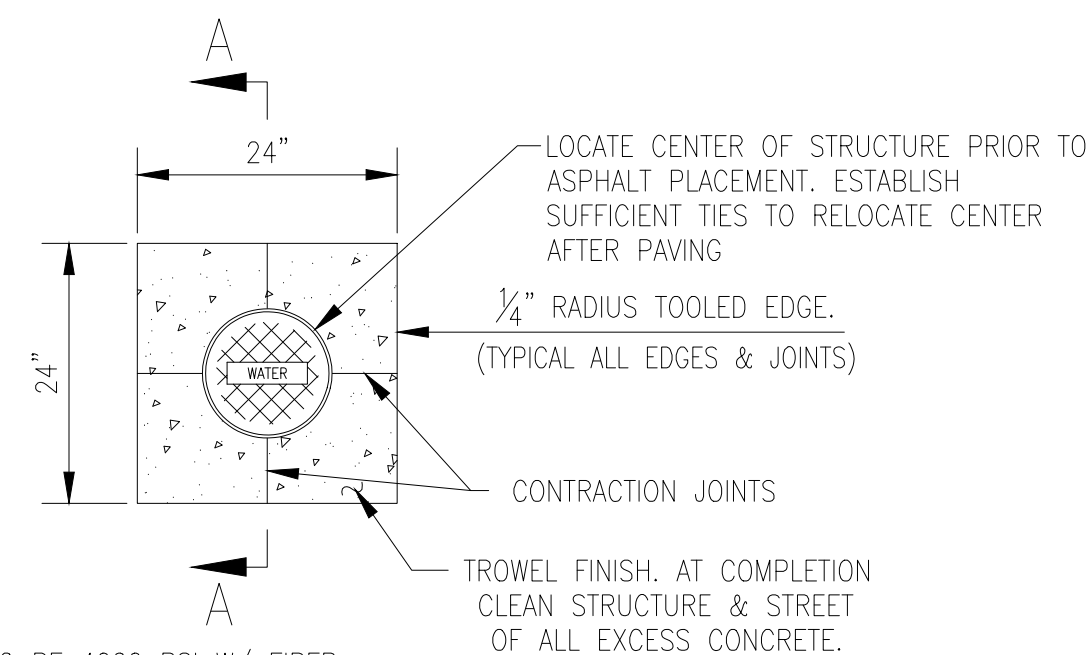
WS 1-IN AND SMALLER METER
2 DETAIL

GENERAL NOTES

1. Water Lines Shall Have A Minimum Cover Of 4'-6" Or More As Shown On Profiles.
2. All Valves On Mains & Fire Hydrant Leads Shall Be Installed With Valve Box Assemblies.
3. The Size Of Valve Box Assembly To Be Installed Shall Be Determined By The Type And Size Of Valve.
4. Valve Box Caps Shall Have The Word "water" Cast In The Top

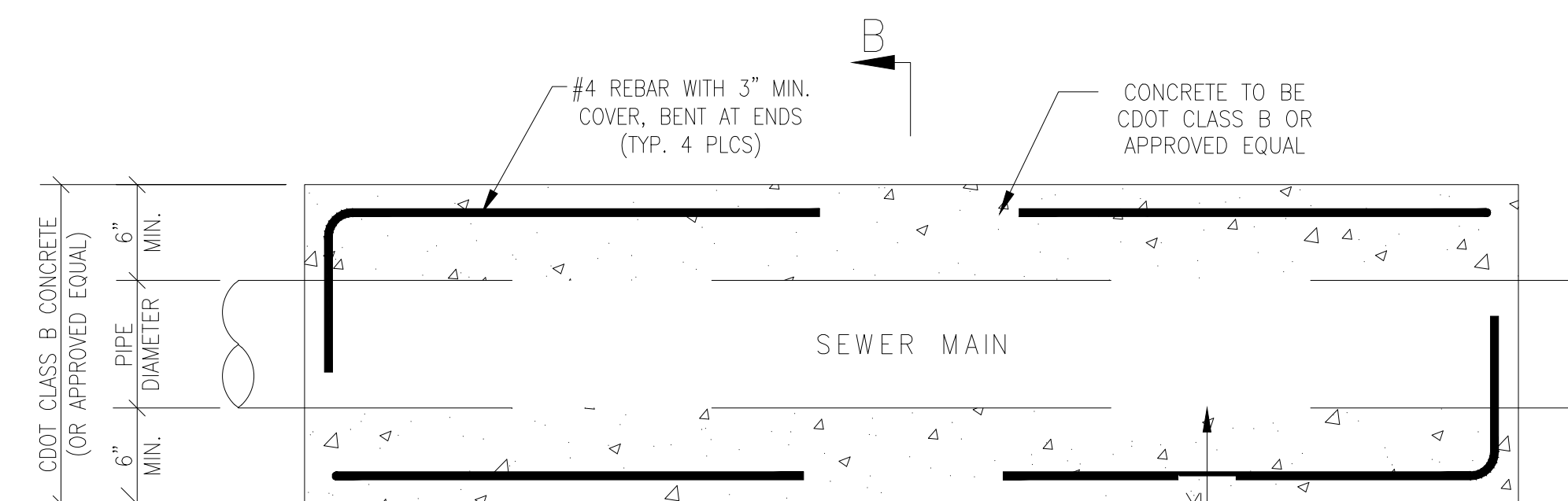


SECTION A-A

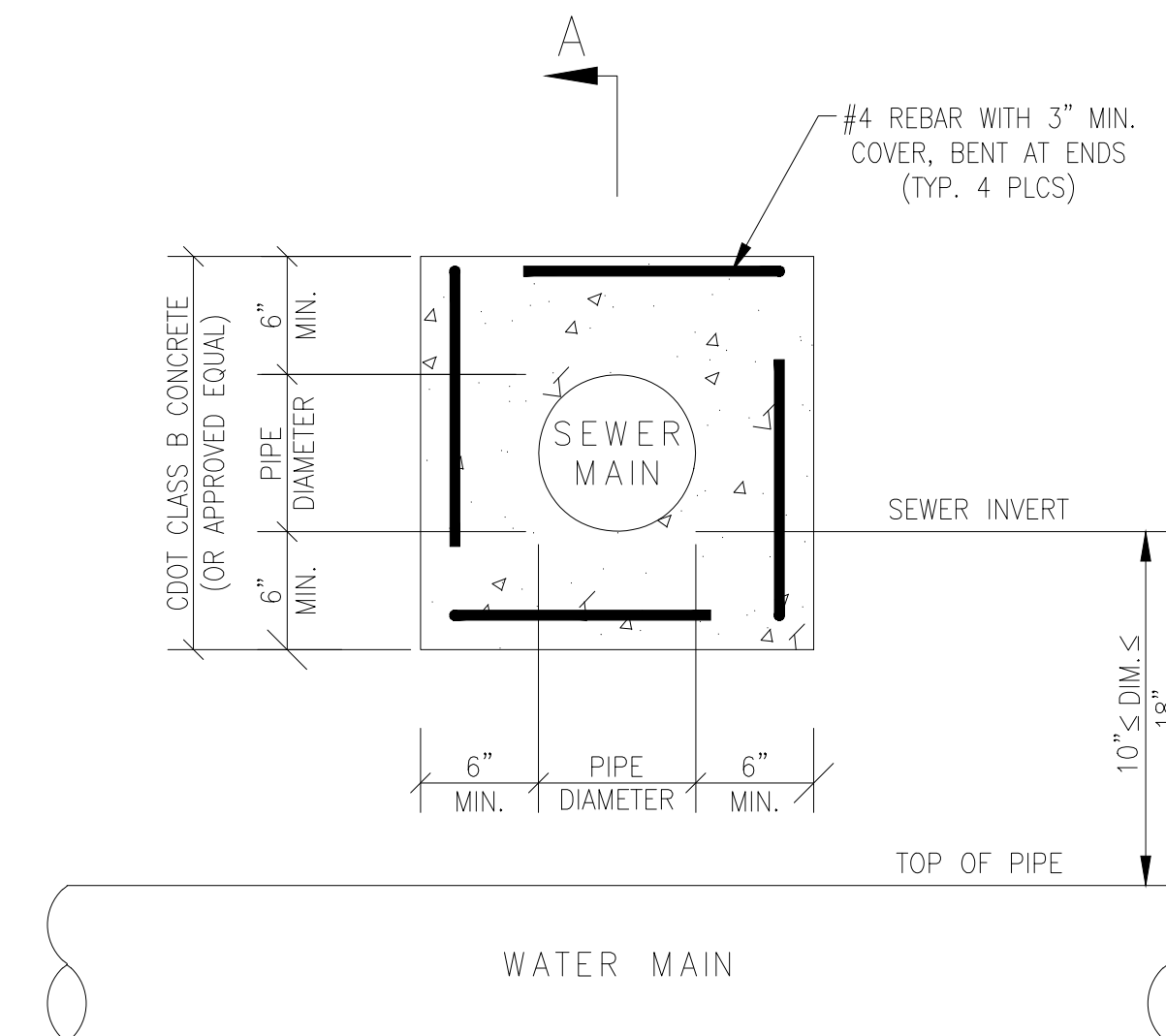


PLAN VIEW

WD WATER VALVE CONCRETE COLLAR
3 DETAIL



SECTION A-A

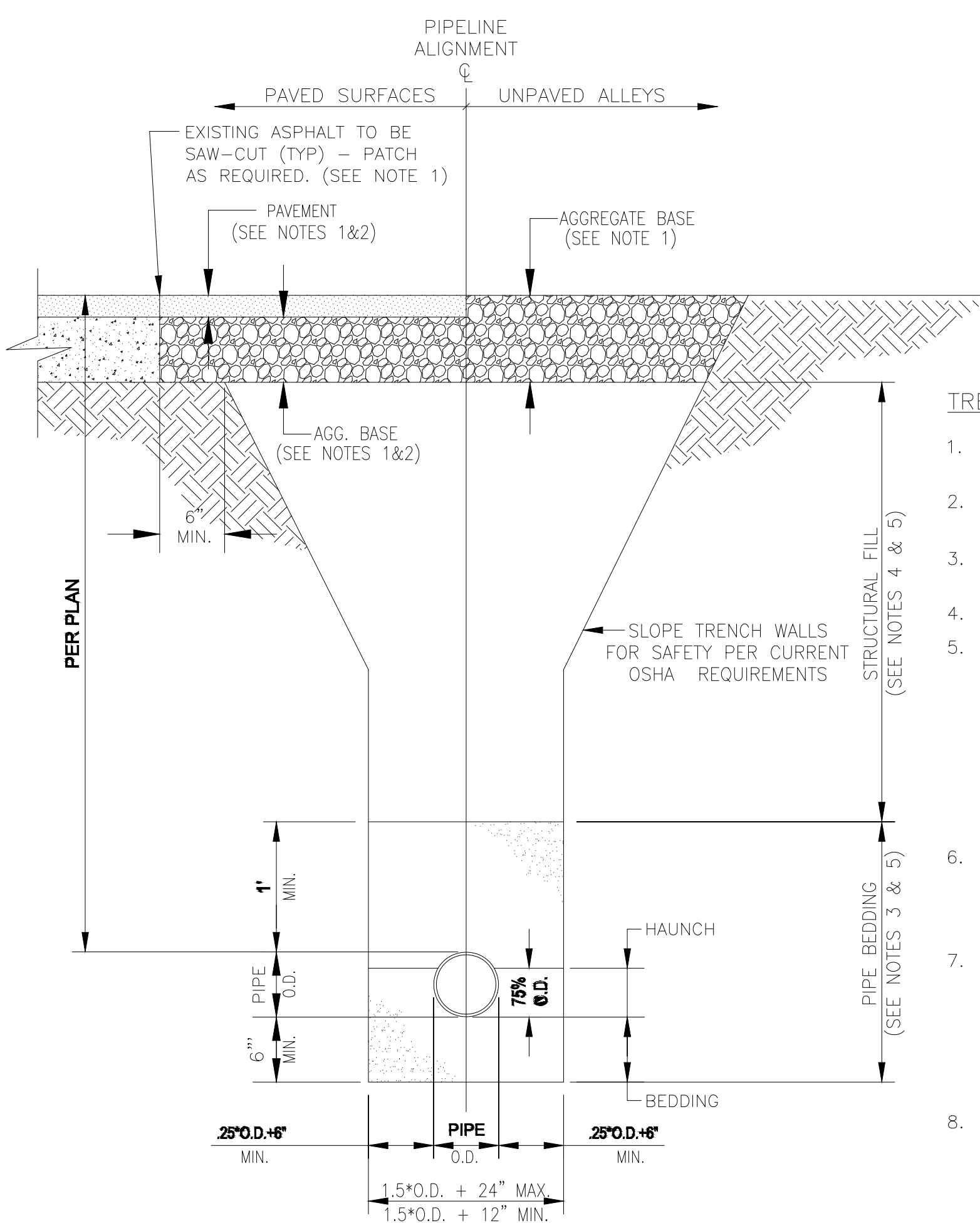


SECTION B-B

NOTES:

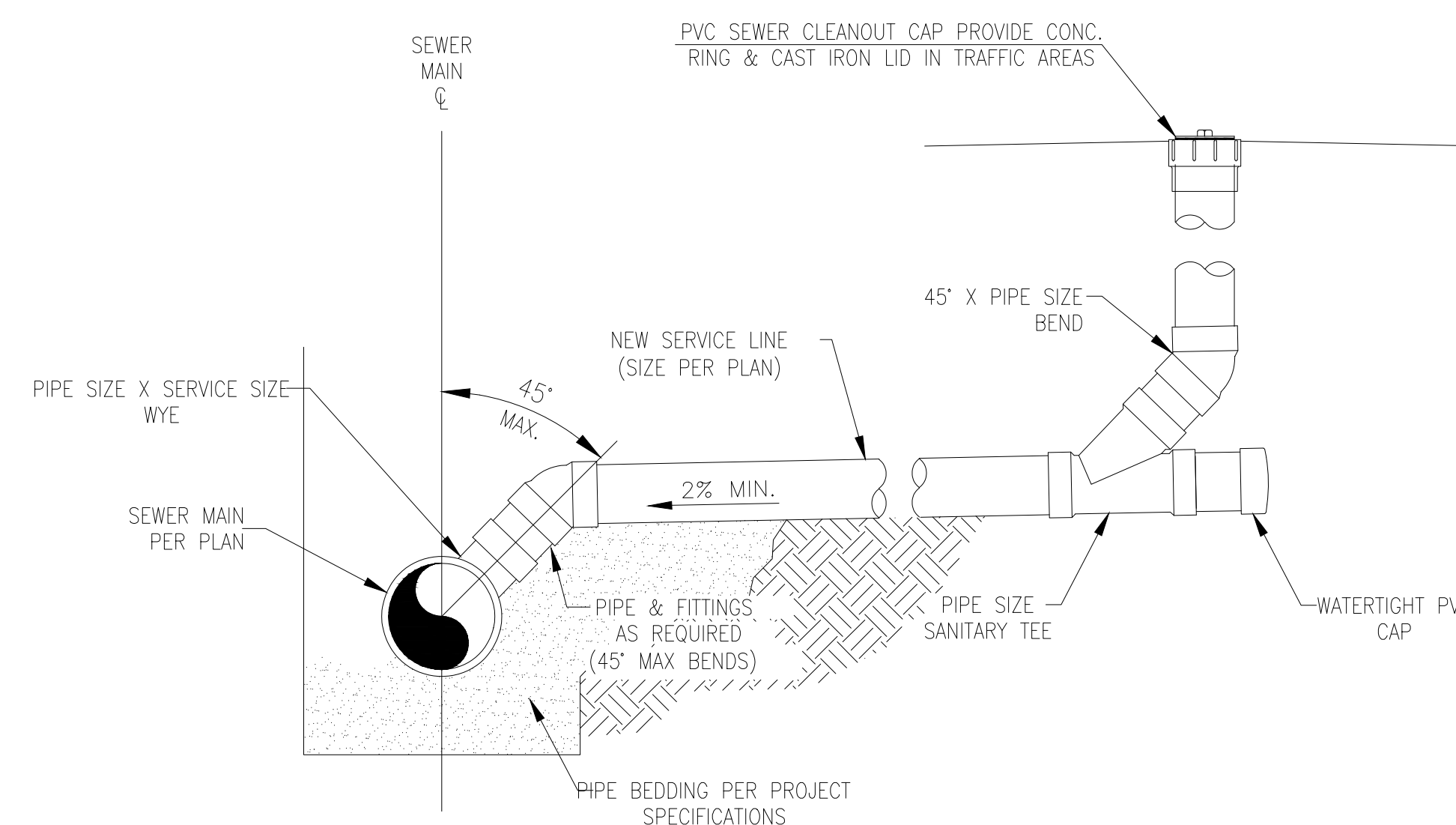
1. CONCRETE FOR ENCASEMENT SHALL MEET CDOT CLASS B SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT THE CITY OF SALIDA PUBLIC WORKS DEPARTMENT FOR INSPECTION PRIOR TO POURING CONCRETE AND/OR BACKFILLING.

S CONCRETE SEWER ENCASEMENT
2 DETAIL



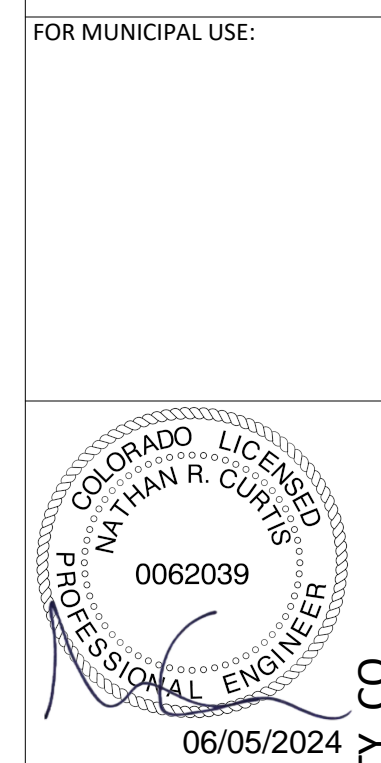
TRENCH SECTION NOTES

1. ASPHALT AND ALLEY PATCHING SHALL COMPLY WITH THE APPROPRIATE CITY OF SALIDA PATCHING STANDARDS.
2. NEW ASPHALT OR ASPHALT OVERLAYS SHALL COMPLY WITH THE PROJECT SPECIFIC STANDARDS PROVIDED IN THE STREET AND/OR ASPHALT PATCHING NOTES.
3. PIPE BEDDING SHALL MEET CRUSHED DRAIN ROCK CITY OF SALIDA STANDARDS FOR CONSTRUCTION SECTION 2060.
4. STRUCTURAL FILL SHALL MEET CDOT CLASS 1 AGGREGATE BASE SPECIFICATIONS.
5. FILL AND BEDDING MATERIAL TO BE PLACED IN 8-INCH MAXIMUM LIFTS (COMPACTED DEPTH) TO THE FOLLOWING MINIMUM PERCENTAGES UNLESS NOTED OTHERWISE:
 - A. STREETS, PARKING LOTS & ALLEYS: 95% MODIFIED PROCTOR (ASTM D1557)
 - B. UTILITY EASEMENTS OUTSIDE THE STREET SECTION: 90% MODIFIED PROCTOR (ASTM 1557).
 - C. UNDEVELOPED LAND: 80% MODIFIED PROCTOR (ASTM 1557).
6. THIS DETAIL IS FOR "DRY" TRENCH CONDITIONS, "WET TRENCH CONDITIONS CONTRACTOR SHALL PROVIDE A MINIMUM 4" OF 1.5 INCH MINUS WASHED ROCK UNDER PIPE BEDDING MATERIAL WRAPPED WITH FILTER FABRIC (MIRIFI 140N OR APPROVED EQUAL).
7. EXCAVATED MATERIAL CONTAINING RUBBISH, FROZEN MATERIAL, ORGANIC DEBRIS, ASPHALT, CONCRETE OR OTHER DELETERIOUS MATERIALS NOT SUITABLE FOR STRUCTURAL FILL SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF MATERIAL IN A FASHION THAT COMPLIES WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. THE OWNER MAY REQUIRE DOCUMENTATION OF PROPER DISPOSAL AS A CONDITION OF FINAL PAYMENT.
8. SEE WATER AND/OR SEWER GENERAL NOTES FOR PIPE SPECIFICATIONS.



S SEWER SERVICE TAP
3 DETAIL

W TRENCH CROSS-SECTION
4 DETAIL



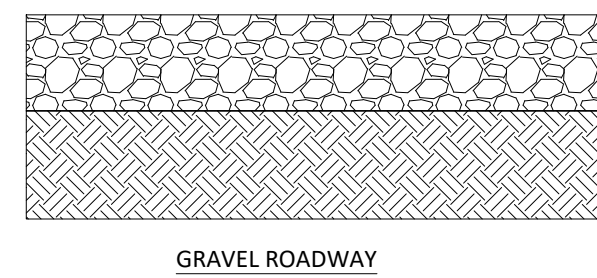
SHAKEN ROOST SUBDIVISION

NORTH 1/2 OF BLOCK 17, ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA, CHAFFEE COUNTY, CO

FOR JURISDICTIONAL REVIEW
NOT FOR CONSTRUCTION

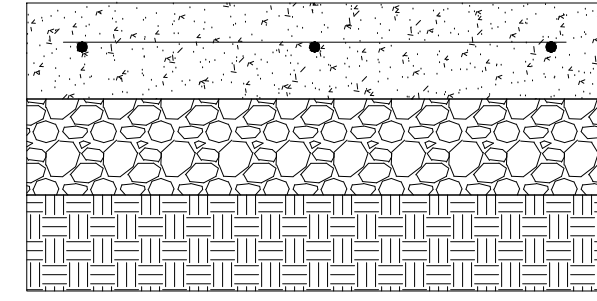
ISSUED DATES
V1.0-06/05/2024 PERMIT SET
....
....
....
....
PROJECT ENG: NRC
QA/QC: PMS
DRAWN BY: MPH
PRJ # 23.152
DATE: 11/28/2023

C8.1 / 16
DETAILS



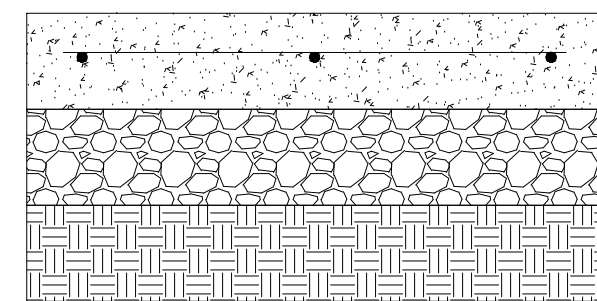
DEPTH AS NOTED
A
B
C

- A. 6" CLASS 6 ABC COMPACTED TO 95% MODIFIED PROCTOR W/MAG CHLORIDE TREATMENT
- B. LEGEO BX-2525 GEOGRID OR EQUIVALENT
- C. SUBGRADE MOISTURE TREATED TO WITHIN -1% TO +3% OPTIMUM MOISTURE CONTENT AND COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DRY DENSITY OR GREATER



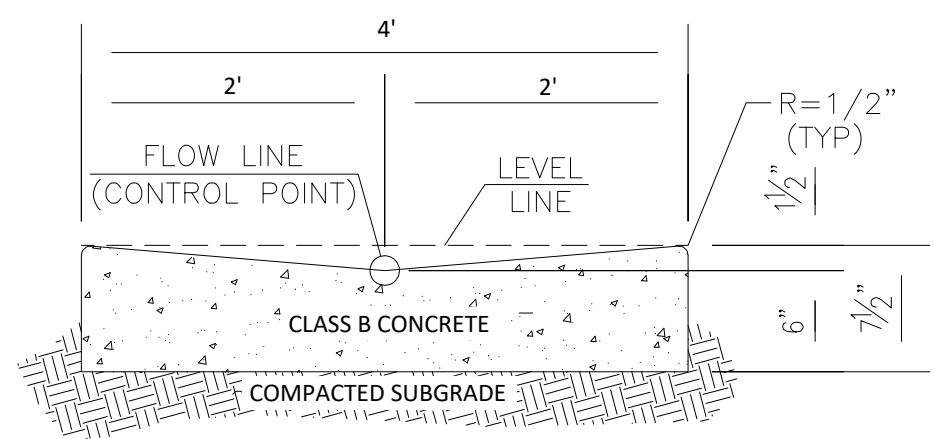
DEPTH AS NOTED
A
B
C

- A. 4" PORTLAND CEMENT PAVEMENT, 4000 PSI W/ #3 DEFORMED REBAR @24" O.C.E.W.
- B. 4" AGGREGATE BASE MATERIAL
- C. COMPACT SUBGRADE TO 95% MODIFIED PROCTOR



DEPTH AS NOTED
A
B
C

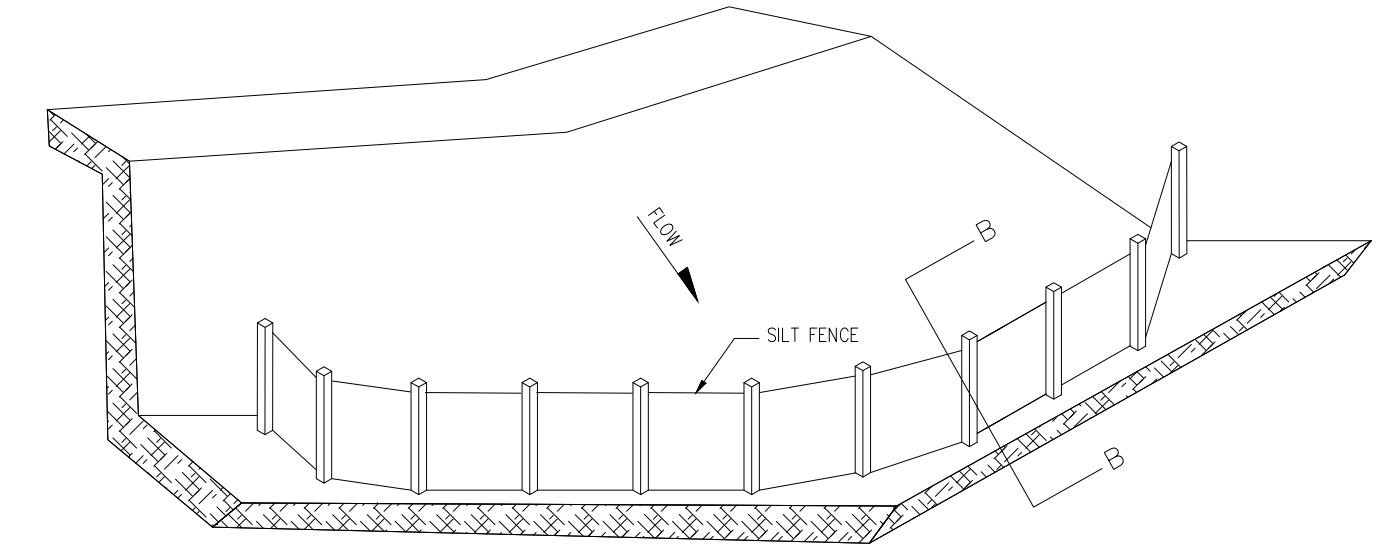
- A. 6" PORTLAND CEMENT PAVEMENT, 4000 PSI W/ #3 DEFORMED REBAR @24" O.C.E.W.
- B. 6" AGGREGATE BASE MATERIAL
- C. COMPACT SUBGRADE TO 95% MODIFIED PROCTOR



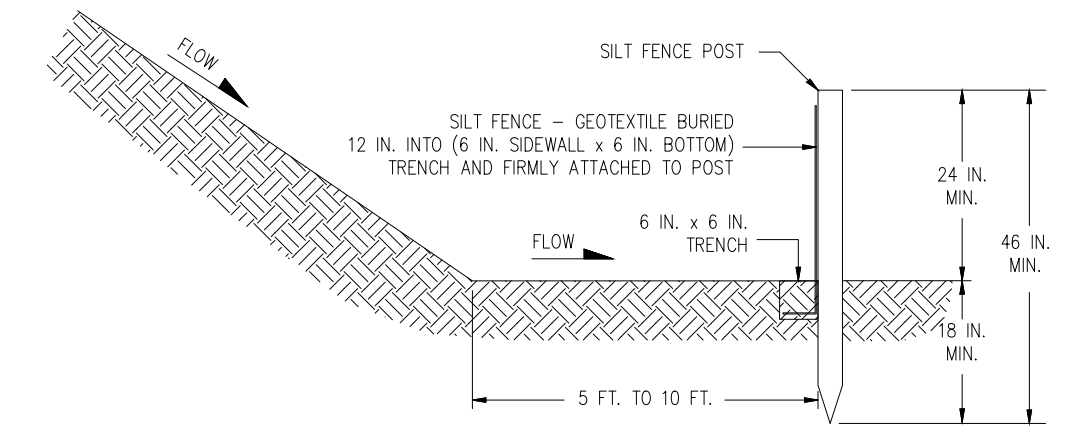
ST 4-FT PAN
DETAIL

NOTES

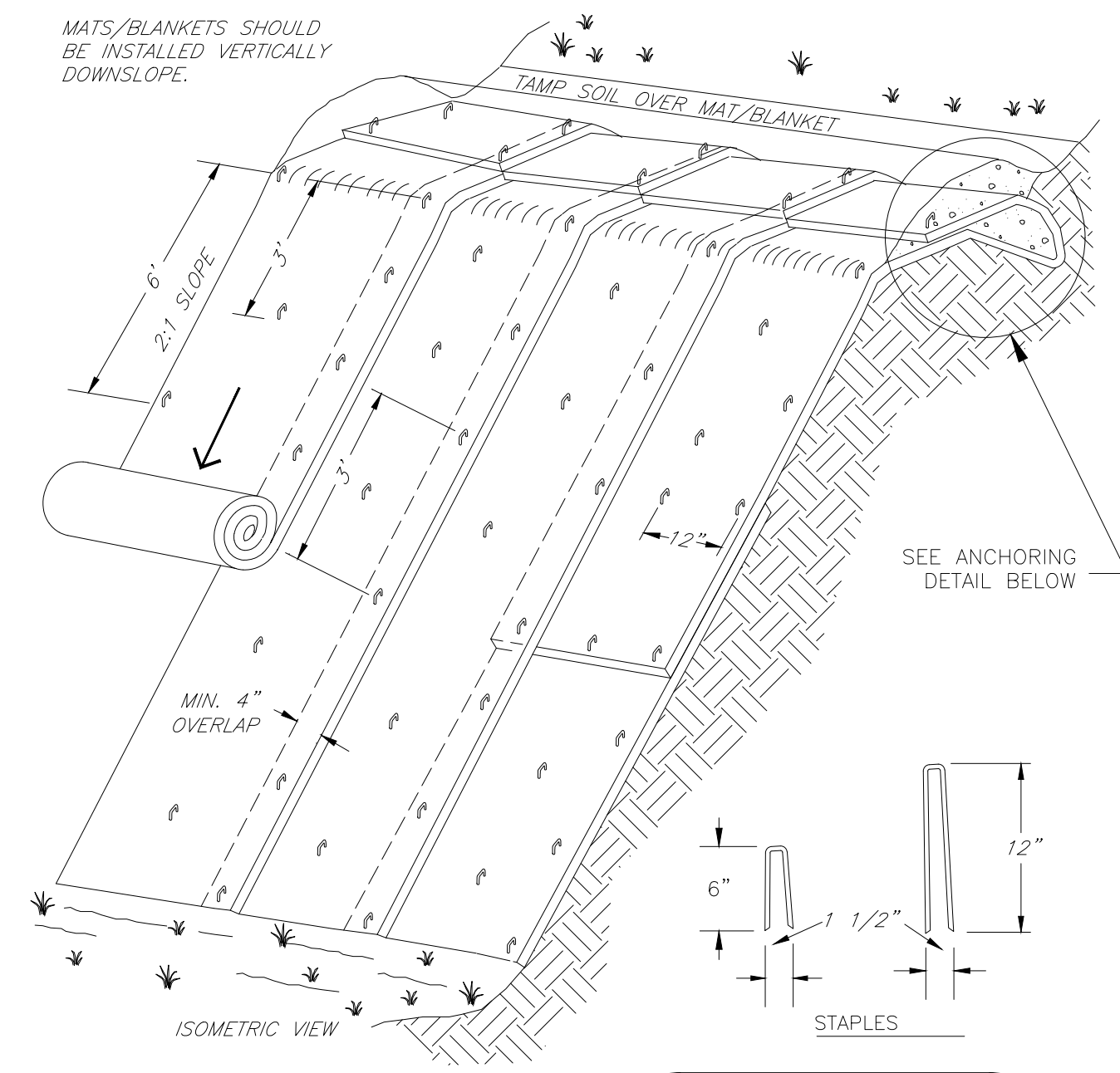
1. SILT FENCE SHALL HAVE A MAXIMUM DRAINAGE AREA OF ONE-QUARTER ACRE PER 100 FEET OF SILT FENCE LENGTH; MAXIMUM SLOPE LENGTH BEHIND BARRIER IS 100 FEET.
2. SILT FENCE USED AT TOE OF SLOPE SHALL BE PLACED 5 TO 10 FEET BEYOND TOE OF SLOPE TO PROVIDE STORAGE CAPACITY.
3. SILT FENCE SHALL BE PLACED PARALLEL TO THE CONTOUR WITH ENDS FLARED UP SLOPE.
4. THE MAXIMUM LENGTH OF EROSION LOSS OR SILT FENCES WITHOUT A FLARED END TURNING UPSLOPE IS 150 FEET.



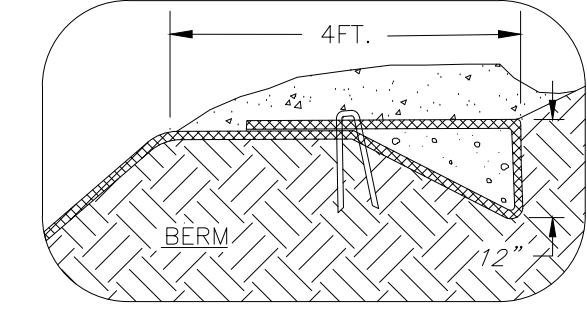
ISOMETRIC VIEW



SILT FENCE DETAIL
NOT TO SCALE

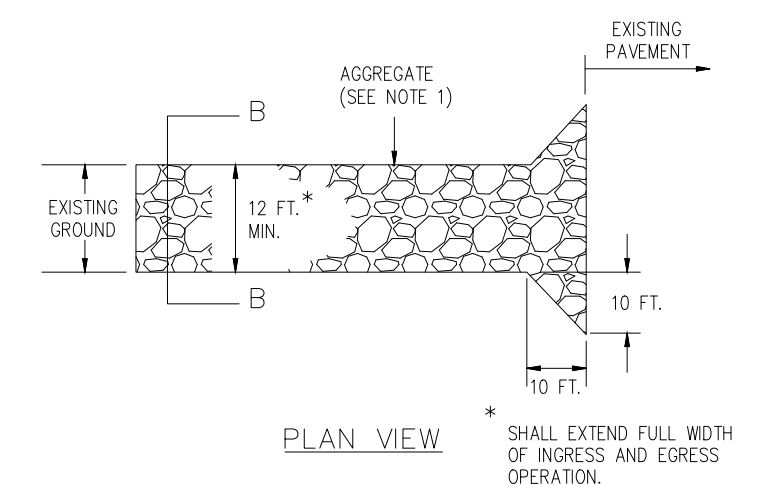


TYPICAL SLOPE
SOIL STABILIZATION



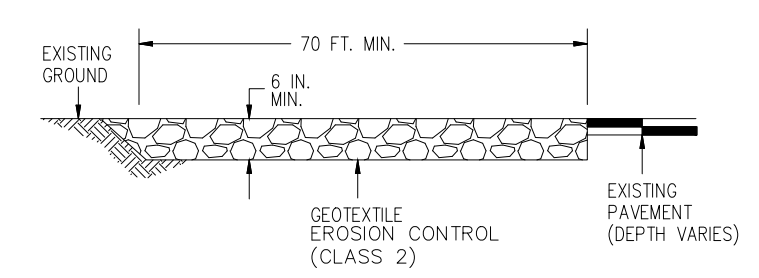
ANCHORING DETAIL

EROSION CONTROL BLANKET DETAIL
NOT TO SCALE

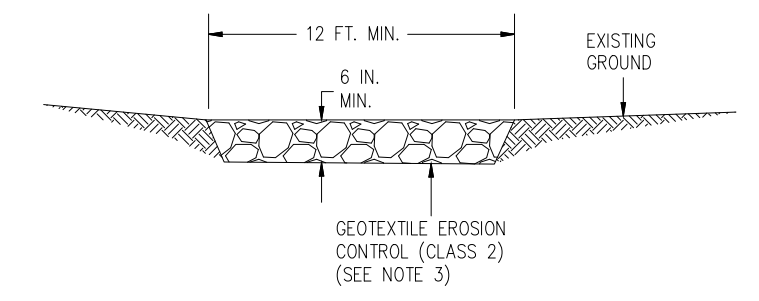


PLAN VIEW

* SHALL EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION.



ELEVATION SECTION



SECTION B-B

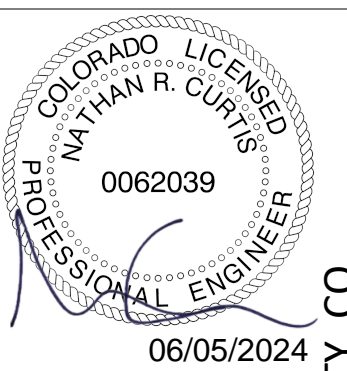
NOTES

1. AGGREGATE SHALL CONFORM TO CDOT SUBSECTION 208.02 (I).
2. THE CONTRACTOR SHALL PROTECT CURB AND GUTTER THAT CROSSES THE ENTRANCE FROM DAMAGE, WHILE NOT BLOCKING FLOW OF WATER THRU STRUCTURE. PROTECTION OF THE CURB AND GUTTER SHALL BE INCLUDED IN THE COST OF WORK AND NOT PAID FOR SEPARATELY.
3. GEOTEXTILE SHALL CONFORM TO SUBSECTION 712.08.
4. ALL MATERIALS AND LABOR TO COMPLETE THE VEHICLE TRACKING PAD SHALL BE INCLUDED IN THE COST OF WORK AND NOT PAID FOR SEPARATELY.
5. THE PAY ITEM NUMBER FOR VEHICLE TRACKING PAD (EACH) IS 208-00070.

VEHICLE TRACKING PAD DETAIL
NOT TO SCALE



FOR MUNICIPAL USE:



SHAKEN ROOST SUBDIVISION

NORTH 1/2 OF BLOCK 17, ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA, CHAFFEE COUNTY, CO

FOR JURISDICTIONAL REVIEW
NOT FOR CONSTRUCTION

ISSUED DATES
V1.0-06/05/2024 PERMIT SET

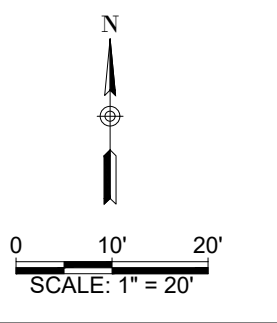
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QA/QC: PMS
DRAWN BY: MPH
PRI # 23.152
DATE: 11/28/2023

C8.2 /16
DETAILS

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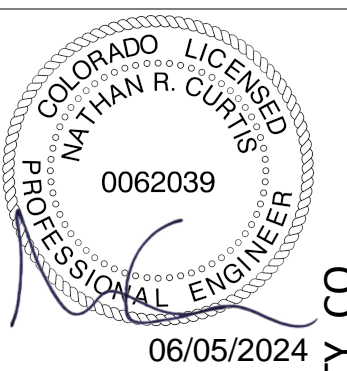
Appendix I: Erosion, Sediment Control, Stabilization, and Revegetation

- LEGEND:
- — — — — PROPERTY BOUNDARY
 - - - - - PROP SILT FENCE
 - - - - - EX TELEPHONE
 - - - - - EX GAS LINE
 - - - - - EX ELECTRIC
 - - - - - EX WATER LINE
 - - - - - EX SANSWR
 - - - - - PROPERTY BOUNDARY
 - [Pattern] EX CONCRETE
 - [Pattern] GRAVEL



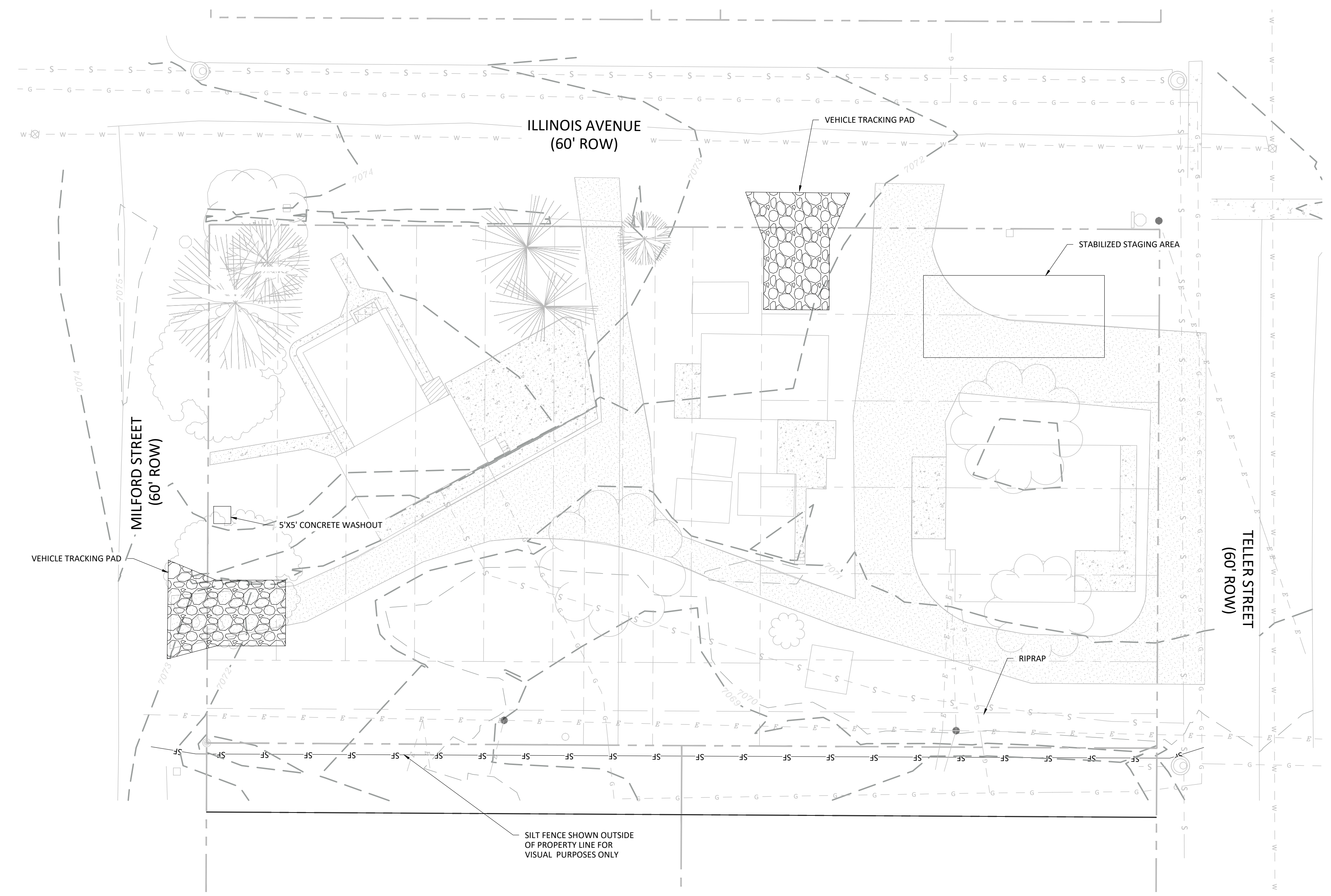
3 ROCKS
ENGINEERING
& SURVEYING
430 Main Street
Canon City, CO 81212
719-490-5333
www.3rocksenr.com

FOR MUNICIPAL USE:



NORTH 1/2 OF BLOCK 17, ROBERT'S THIRD ADDITION TO THE CITY OF SALIDA, CHAFFEE COUNTY, CO

SHAKEN ROOST SUBDIVISION



FOR JURISDICTIONAL REVIEW
NOT FOR CONSTRUCTION

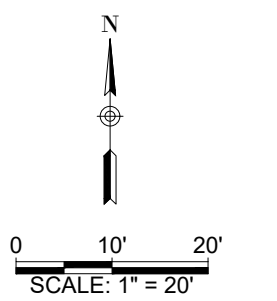
ISSUED DATES
V1.0-06/05/2024 PERMIT SET

PROJECT ENG: NRC
QA/QC: PMS
DRAWN BY: MPH
PRI # 23.152
DATE: 11/28/2023

C4.0 /16
SWMP PLAN PHASE I

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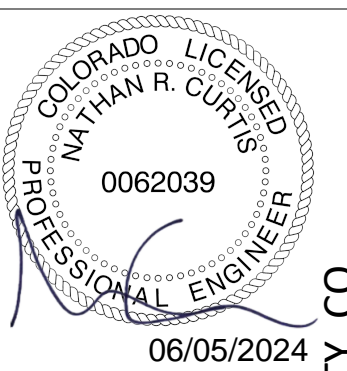
- LEGEND:
- PROPERTY BOUNDARY
 - - - EX MAJOR CONTOURS
 - - - EX MINOR CONTOURS
 - PROP MAJOR CONTOURS
 - PROP MINOR CONTOURS
 - SF- SF- PROP SILT FENCE
 - ▨ PROP ROCK SOCKS
 - ▨ CONCRETE
 - ▨ GRAVEL
 - ▨ EROSION CONTROL BLANKET



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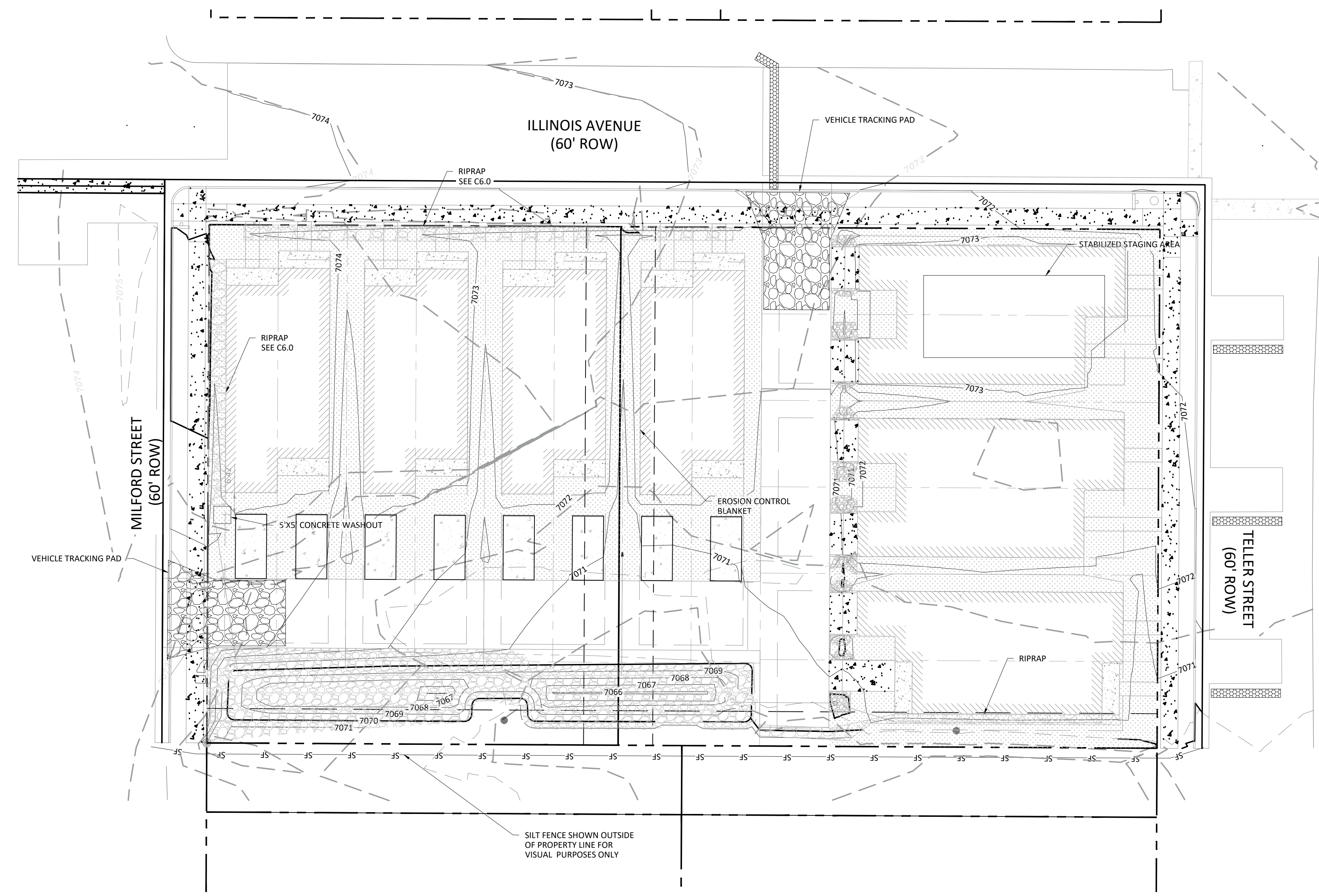
430 Main Street
Cahon City, CO 81212
719-430-5333
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FOR MUNICIPAL USE:



SHAKEN ROOST SUBDIVISION

NORTH 1/2 OF BLOCK 17, ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA, CHAFFEE COUNTY, CO



FOR JURISDICTIONAL REVIEW
NOT FOR CONSTRUCTION

ISSUED DATES
V1.0-06/05/2024 PERMIT SET

PROJECT ENG: NRC
QA/QC: PMS
DRAWN BY: MPH
PRI # 23.152
DATE: 11/28/2023

C4.1 /16
SWMP PLAN PHASE II

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Appendix J: Drainage Report

Drainage Report

FOR

Shaken Roost Subdivision

North ½ of Block 17,
Roberd's Third Addition to the City of Salida,
Chaffee County, Colorado

Nathan Curtis, PE
Civil Engineer



430 Main St,
Cañon City, CO 81212
719.430.5333

www.3rockengineering.com

Contents

Certification Page.....3

Introduction.....4

Existing Site Description.....4

Property Description.....4

Pre-Development Drainage Patterns and Facilities.....4

Post-Development Drainage Patterns and Facilities.....4

Drainage Design Criteria.....5

Hydraulic Criteria Discussion/ Stormwater Conveyance Design.....5

Stream, Wetland and Waterbody impacts.....6

Easement Requirements6

Maintenance Requirements.....7

Summary and Conclusions.....7

Appendices

- Appendix A: Drainage Exhibit
- Appendix B: Catchment Area
- Appendix C: Web Soil Survey
- Appendix D: NOAA Atlas 14 Rainfall Data
- Appendix E: Runoff Coefficient Calculations
- Appendix F: Rainfall Intensity Calculations
- Appendix G: Water Quality Capture Volume
- Appendix H: Infiltration Calculations
- Appendix I: WQCV Drain Time Calculations
- Appendix J: FEMA FIRMette
- Appendix K: Email Correspondence

Certification Page

I hereby certify that this Drainage Report and Drainage Plan for Shaken Roost Subdivision was prepared by me, or under my direct supervision, in accordance with sound engineering practice and all applicable state, federal and local regulations, including the provisions of the City of Salida Design and Construction Standards.

Seal:  06/06/2024
Registered Professional Engineer: Nathan Curtis, PE
State of Colorado No: 0062039

Introduction

3 Rocks Engineering and Surveying (3RES) has been hired to prepare a stormwater drainage report for the Shaken Roost Subdivision located at 77 Illinois Ave Salida, CO 81201. The Shaken Roost Subdivision will be henceforth referred to as “The Property”. The Property is to be subdivided and improved upon with the addition of 7 duplexes. The Property is situated in a FEMA designated area of unshaded minimal flood hazard (Zone X) as shown in Appendix L of this report. This report discusses the proposed improvements to The Property, the impact the improvements have on stormwater drainage, and a drainage design adhering to the standards set forth by the City of Salida.

Existing Site Description

The impervious surfaces of the existing condition of The Property comprise of 3 buildings, 4 sheds, and concrete areas totaling to 8,264-sqft. According to the Mile High Flood District (MHFD), the structures, concrete, and asphalt on the property are all classified as 100% impervious, and thus prohibit stormwater runoff from readily infiltrating into the soil.

In contrast to these developed areas, the remainder of The Property is dedicated to open vegetated spaces and existing gravel driveways. The United States Geological Survey (USGS) Web Soil Survey results show that the property consists solely of Hydrologic Soil Group (HSG) A, as seen in Appendix D of this report. Soil Group A is described by the USGS as having a high infiltration rate (low runoff potential) when thoroughly wet.

Property Description

The property spans approximately 1.07-acres and is identified by the parcel number #R380705417043 on the Chaffee County GIS website. The Property is situated within District 07 (the associated tax district). A brief tax description of The Property is as follows: N1/2 OF BLOCK 17 ROBERDS THIRD ADD SALIDA.

Pre-Development Drainage Patterns and Facilities

For the historic drainage analysis, The Property was delineated into one catchment area. Catchment area H, (H, for Historic) is 0.95-acres. The historic catchment area was delineated using a combination of topographic information provided by Henderson Land Surveying CO., Inc. received on 11/16/2023 and 2020 1-m LiDAR data collected from the United States Geological Survey (USGS). The property generally slopes at 1-3% downhill to the Southeast. Historically, rainfall within the catchment area either naturally infiltrates or exits The Property as surface runoff to the Southeast. Historic impervious percentage is considered to be 2% by the MHFD as seen in Appendix E of this report. No current stormwater facilities exist on The Property.

Post-Development Drainage Patterns and Facilities

For the proposed drainage analysis, The Property was delineated into two catchment areas. Catchment area P, (P, for Proposed) is 0.88-acre. This catchment area analyzes the runoff that flows to the stormwater facilities. Catchment area BP, (BP, for Bypass) is 0.07-acre. This catchment area analyzes the runoff that bypasses the stormwater facilities and flows off site. The proposed development generally slopes at 1-3% downhill to the south. Proposed impervious surfaces consist of seven duplexes,

as well as concrete, gravel, and asphalt areas used for pedestrian and vehicular access. The total impervious area within the proposed catchment area P is approximately 20,359-sqft. This impervious area increases the stormwater runoff generated on The Property.

To capture and infiltrate the stormwater runoff generated within catchment area P, a 4,016-cuft infiltration basin I is to be added to the south of the property as shown in Appendix A. The infiltration basin, labeled as P-IB (IB, for infiltration basin) in Appendix A, will have 2:1 facility side slopes and a minimum 0.5-ft of freeboard. The infiltration basin has been designed to capture and infiltrate stormwater runoff for the 10-year and 100-year design storm frequencies and 60-min storm duration. To prevent erosion within the infiltration basin, riprap of a minimum D50 of 6-in will be added to the inner slopes of the basin. Safety fencing is to be installed on the outer edges of the basin and 4:1 slopes are to be provided on the east and west ends of the basin to allow for the improved safety of the subdivision residents. Routing and drain time calculations for P1-IB can be found in Appendices H and I respectively within this report.

Drainage Design Criteria

The City of Salida Design Criteria for Water, Sewer, Stormwater and Streets is the pertinent regulation for this development. As stated by the criteria, “Detention shall be provided for all projects that increase the runoff coefficient.” Also, “Detention facilities shall be designed in accordance to MHFD USDCM Volume 2. Utilize current rainfall rates provided by NOAA Atlas 14 Point Precipitation Frequency Estimates. Detention facilities shall be designed to reduce peak developed runoff rates to or below pre-development (i.e. naturally historic) release rates. Over-detention is to be provided to account for undetained site releases. Facility side slopes are not to exceed 4:1 slopes; and necessary walls are to be constructed to provide aesthetic improvement to the site.” MHFD also requires that for any stormwater detention or infiltration facility in Colorado, “It continuously releases or infiltrates at least 97% of all of the runoff from a rainfall event that is less than or equal to a 5-year storm within 72 hours after the end of the event” and “It continuously releases or infiltrates as quickly as practicable, but in all cases releases or infiltrates at least 99% of the runoff within 120 hours after the end of events greater than a 5-year storm.”

This drainage design and report meets all requirements set forth by the City and the MHFD except for the 4:1 facility side slope regulation. A variance from this regulation was discussed with public works. Public works indicated they would approve a variance from the code if a fence was added and if areas were provided with steps or 4:1 side slopes to allow easy access to and from the detention basin. Written documentation of said variance is provided in Appendix K.

Hydraulic Criteria Discussion/Stormwater Conveyance Design

The rational method was used to estimate peak flows and total volumes of stormwater runoff for the 10-year and 100-year, 60-minute duration storm events that affect the historic and proposed conditions of The Property. The runoff coefficient (C) was calculated using equations based on impervious percentage, NRCS soil group, and storm return period as provided in Table 6-4 of the MHFD USDCM Volume 2. Rainfall intensity values (I) utilized precipitation frequency estimates provided by the City of Salida Design Criteria Table 1 and were calculated using Figure 1 and Equation 1. Detailed calculations for C and I can be seen in Appendices E and F of this report respectively. A summary of the rational method calculations can be seen below:

Catchment Area:	H	P	BP
C5	0.01	0.39	0.07
C10	0.01	0.40	0.08
C100	0.13	0.53	0.22
I10 (in/hr)	1.03	1.03	1.03
I100 (in/hr)	1.89	1.89	1.89
A (ac)	0.95	0.88	0.07
Q10 (cfs)	0.01	0.36	0.01
Q100 (cfs)	0.23	0.87	0.03

Table 1 – Rational Method Summary

The Water Quality Capture Volume (WQCV) was calculated using the MHFD USDCM Volume 2 Equation 3-1 and 3-2. A coefficient of 0.8 for α was selected from Table 3-2 for the design of an infiltration basin. As recommended by the City of Salida Design Criteria, a rainfall depth of 0.4-in was used for determining WQCV. The WQCV of stormwater runoff generated within catchment area P was calculated to be 548-cuft.

The WQCV drain time for the infiltration basins was designed to adhere to MHFD regulation. MHFD recommends a minimum drain time of 12 hours for an infiltration BMP (stormwater control measure). An infiltration rate was established using on site percolation tests conducted by Mountain Engineering and Testing, Inc. The rate calculated by Mountain Engineering & Testing Inc. is 1.67 in/hr was used in detailed infiltration calculations. P-IB will drain the WQCV in 38.2 hours. Detailed WQCV drain time calculations can be found in Appendix I of this report.

Infiltration routing and design was accomplished through use of the modified rational method. The infiltration basin was sized to drain within the maximum allowable times regulated by the MHFD. Detailed routing calculations can be seen in Appendix H of this report.

Stream, Wetland and Waterbody Impacts

No streams, wetlands, and/or waterbodies will be impacted by this design.

Easement Requirements

The City of Salida Design Criteria in Section 8.10-A requires that, “All stormwater detention facilities shall contain a drainage easement which extends to a public access easement or right-of-way that is a minimum 10-foot wide for maintenance and inspection purposes.” P-IB is located at the South side of the property. The infiltration basin may be accessed by a gravel alley that enters The Property from the west and runs along the edge of the infiltration basin. Additionally, Section 16-8-60.c.1 of the City of Salida Land Use Code states, “Detention and water quality facilities located within subdivisions shall be located within an outlot, designated tract, or within the common elements of a condominium plat with a public drainage easement.” The stormwater infiltration facility is located within a separate outlot that conforms to the aforementioned regulation.

Maintenance Requirements

To properly maintain the infiltration basin, the facility should be routinely checked for trash and debris. This will help to maintain aesthetic appeal and infiltration capabilities. To prevent a decrease in storage capacity and ensure effective treatment of stormwater runoff, any noticeable sediment accumulation within the bottom of the infiltration basin(s), should be removed. The City of Salida Design Criteria in Section 8.10-A states, "The property owner shall be responsible for maintaining detention facilities." A maintenance agreement will be generated between the owners of the properties within the subdivision to ensure a channel for maintenance of the stormwater basin.

Summary and Conclusions

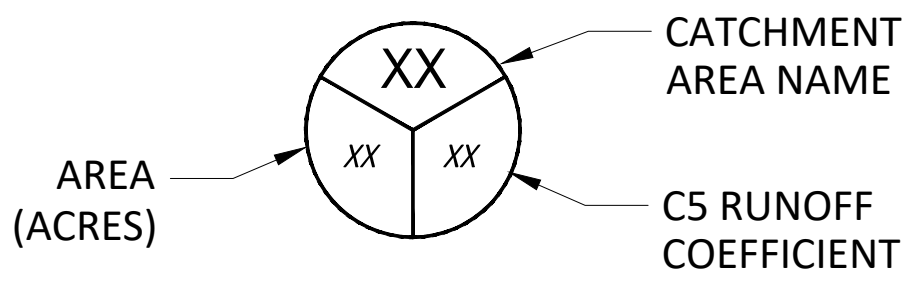
The proposed infiltration basin will effectively capture and infiltrate the majority of the stormwater runoff for 10-year and 100-year, 60-minute storm events and ensure that peak runoff rates are maintained to that of historic levels. The stormwater infiltration basin has been designed to meet the City and State standards. A summary of the combined post development peak flows for the 10-year and 100-year, 60-minute storm events can be seen below:

	10-Yr	100-Yr
P (cfs)	0.01	0.03
H (cfs)	0.01	0.23

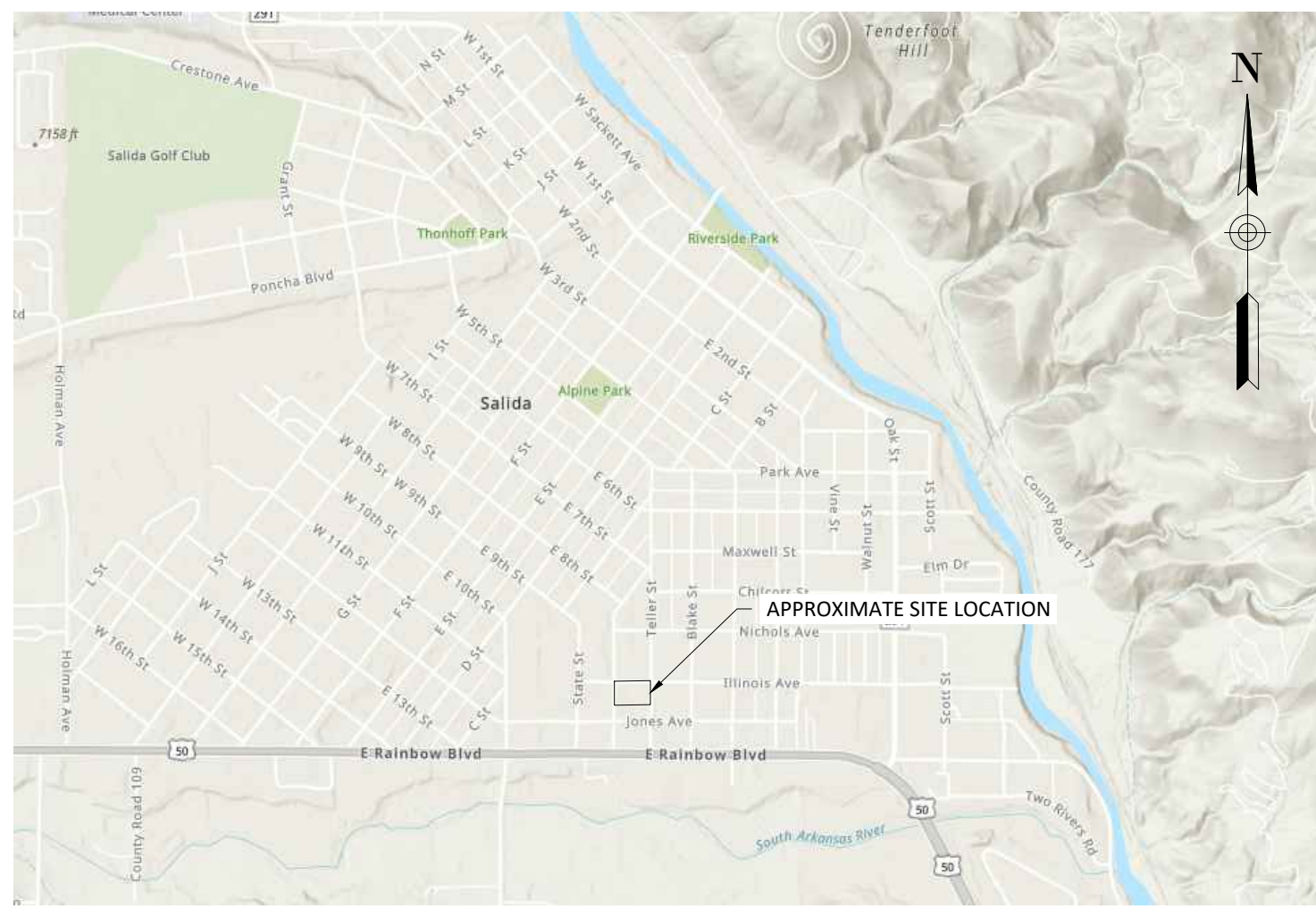
Table-2 Combined Post Development Peak Flows

Appendix A: Drainage Exhibit

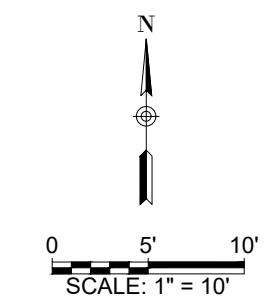
- DELINEATION BOUNDARY
- PROPERTY BOUNDARY
- OVERLAND FLOW
- CHANNELIZED FLOW



EXISTING TOPOGRAPHY BASED ON SURVEY RECEIVED BY HENDERSON LAND SURVEYING CO ON 11/16/2023



VICINITY MAP (NOT TO SCALE)



3 ROCKS
ENGINEERING & SURVEYING
430 Main Street
Cañon City, CO 81212
719.430.5333
www.3rocksengineering.com

FOR MUNICIPAL USE:



ILLINOIS AVE



MILFORD ST

TELLER ST

H
0.95 0.01

EX TELEPHONE POLE

EX TELEPHONE POLE

SHAKEN ROOST SUBDIVISION

ISSUED DATES
06/04/2024
PROJECT ENG: NC
QA/QC: IM
DRAWN BY: IM
PRI # 23.152
DATE: 06/04/2024

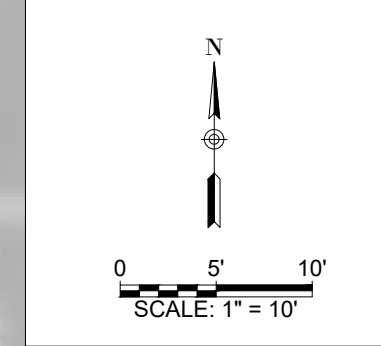
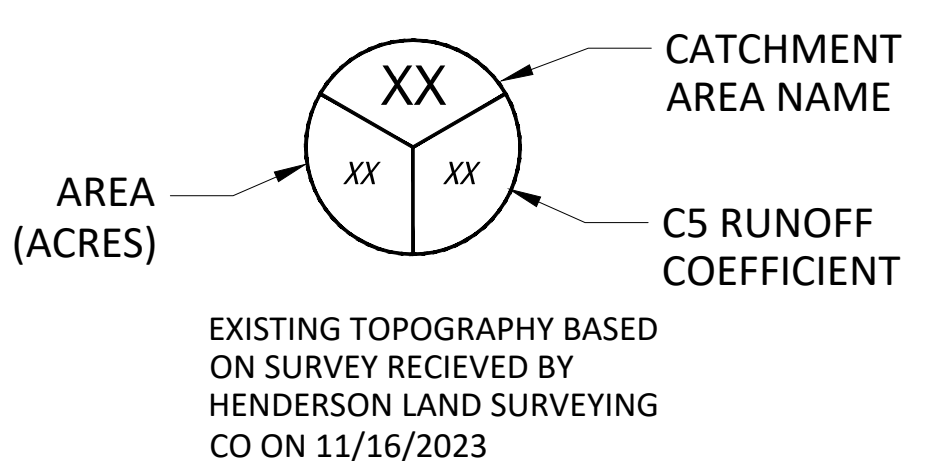
C1/2

HISTORIC DRAINAGE

NORTH 1/2 OF BLOCK 17, ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA, CHAFFEE COUNTY, COLORADO

P:\2023\3.152-shakenroostsubd\1-dwg\civilshakerroost-cr.dwg 6/5/2024 10:16:04 AM IAN WALTON

- DELINEATION BOUNDARY
- PROPERTY BOUNDARY
- PROPOSED OVERLAND FLOW
- PROPOSED CHANNELIZED FLOW
- PROPOSED STORM PIPE
- ASPHALT AREA (100% IMPERVIOUS)
- PROPOSED STRUCTURE AREA (100% IMPERVIOUS)
- CONCRETE AREA (100% IMPERVIOUS)
- GRAVEL AREA (40% IMPERVIOUS)



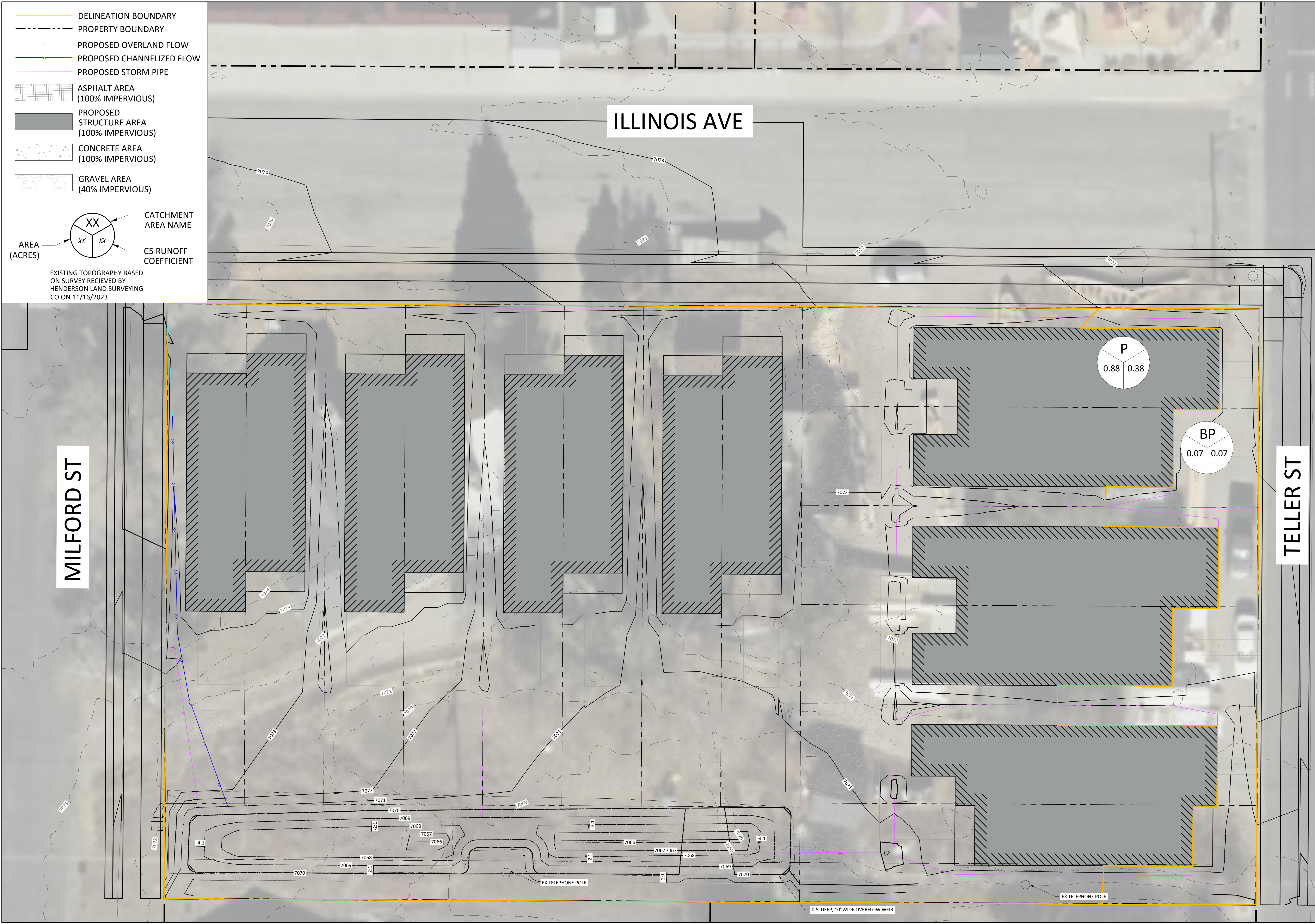
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MILFORD ST

TELLER ST



SHAKEN ROOST SUBDIVISION

ISSUED DATES

06/04/2024

PROJECT ENG: NC
QA/QC: IM
DRAWN BY: IM
PRJ # 23.152
DATE: 06/04/2024

C2 /2
PROPOSED DRAINAGE

NORTH 1/2 OF BLOCK 17, ROBERD'S THIRD ADDITION TO THE CITY OF SALIDA, CHAFFEE COUNTY, COLORADO

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Appendix B: Catchment Area



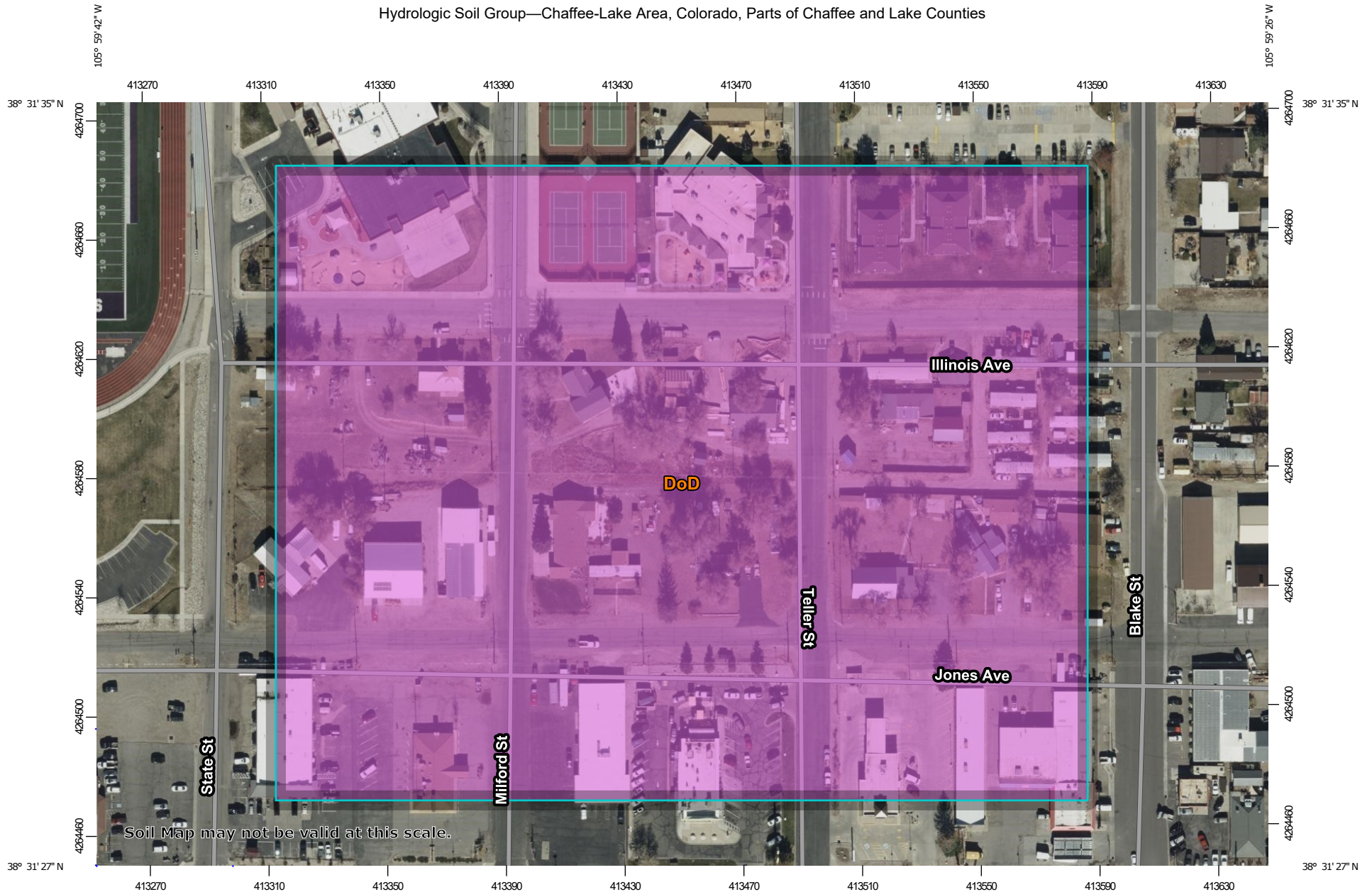
Area

Name	H	P	BP
Area (ac)	0.95	0.88	0.07
Area (sf)	41299	38126	3174

Appendix C: Web Soil Survey

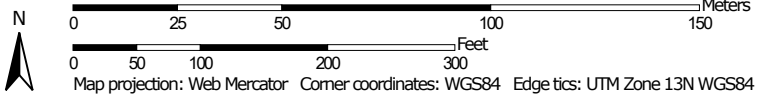


Hydrologic Soil Group—Chaffee-Lake Area, Colorado, Parts of Chaffee and Lake Counties



Soil Map may not be valid at this scale.

Map Scale: 1:1,810 if printed on A landscape (11" x 8.5") sheet.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





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

Soil Rating Lines

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

Soil Rating Points



-  A
-  A/D
-  B
-  B/D

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


Water Features

 Streams and Canals

Transportation

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

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

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

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

Soil Survey Area: Chaffee-Lake Area, Colorado, Parts of Chaffee and Lake Counties
 Survey Area Data: Version 16, Aug 23, 2023

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

Date(s) aerial images were photographed: Oct 29, 2021—Oct 30, 2021

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
DoD	Dominson gravelly sandy loam, 1 to 9 percent slopes	A	14.5	100.0%
Totals for Area of Interest			14.5	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix D: NOAA Atlas 14 Rainfall Data



NOAA Atlas 14, Volume 8, Version 2 SALIDA
Station ID: 05-7370



Location name: Salida, Colorado, USA*
Latitude: 38.5328°, Longitude: -106.0158°
Elevation:
Elevation (station metadata): 7160 ft**
* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aeriels](#)

PF tabular

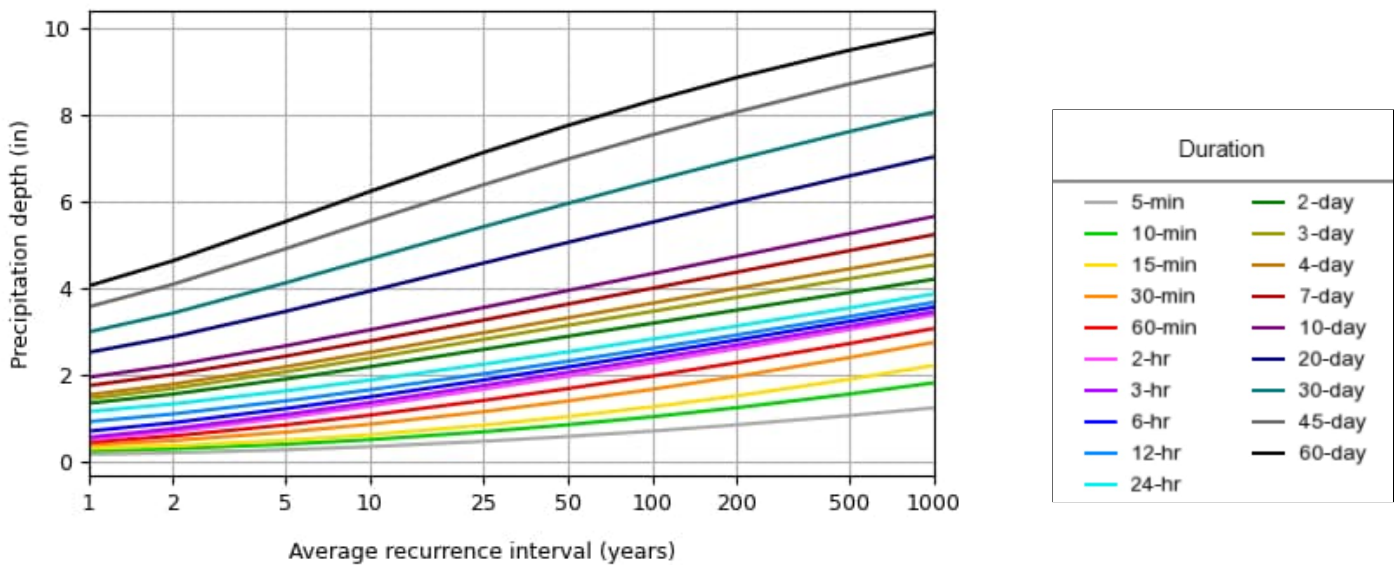
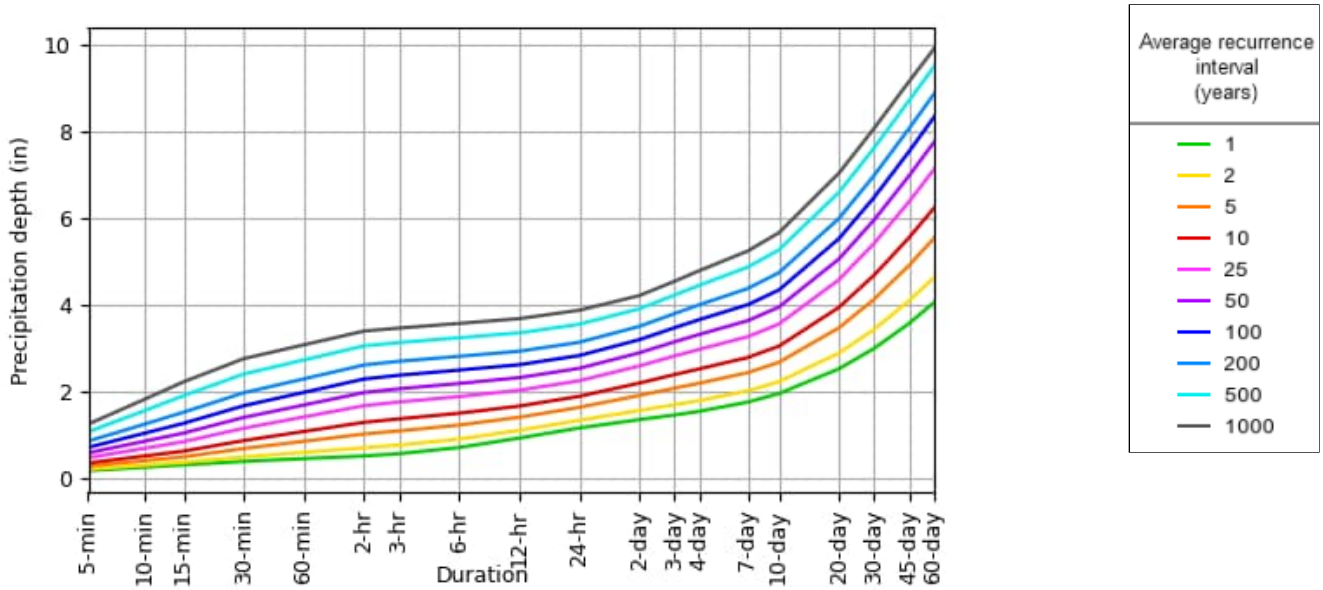
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.172 (0.135-0.224)	0.206 (0.161-0.268)	0.276 (0.216-0.361)	0.349 (0.271-0.459)	0.472 (0.364-0.673)	0.583 (0.435-0.836)	0.710 (0.509-1.04)	0.854 (0.585-1.29)	1.07 (0.701-1.66)	1.25 (0.789-1.93)
10-min	0.252 (0.198-0.328)	0.301 (0.236-0.392)	0.404 (0.316-0.528)	0.512 (0.397-0.671)	0.691 (0.533-0.986)	0.854 (0.636-1.22)	1.04 (0.745-1.53)	1.25 (0.857-1.89)	1.56 (1.03-2.42)	1.83 (1.16-2.83)
15-min	0.308 (0.242-0.400)	0.368 (0.288-0.478)	0.493 (0.385-0.644)	0.624 (0.485-0.819)	0.842 (0.650-1.20)	1.04 (0.776-1.49)	1.27 (0.909-1.86)	1.52 (1.04-2.30)	1.91 (1.25-2.96)	2.23 (1.41-3.45)
30-min	0.387 (0.304-0.503)	0.490 (0.384-0.638)	0.683 (0.534-0.892)	0.867 (0.673-1.14)	1.15 (0.880-1.62)	1.40 (1.04-1.99)	1.67 (1.19-2.44)	1.97 (1.35-2.96)	2.41 (1.58-3.71)	2.76 (1.75-4.28)
60-min	0.450 (0.353-0.585)	0.596 (0.467-0.776)	0.851 (0.665-1.11)	1.08 (0.837-1.42)	1.41 (1.07-1.96)	1.69 (1.24-2.37)	1.98 (1.40-2.86)	2.29 (1.56-3.41)	2.73 (1.78-4.19)	3.08 (1.95-4.78)
2-hr	0.512 (0.407-0.657)	0.702 (0.557-0.901)	1.02 (0.806-1.31)	1.29 (1.01-1.67)	1.67 (1.27-2.26)	1.98 (1.46-2.72)	2.29 (1.64-3.24)	2.61 (1.79-3.81)	3.06 (2.01-4.59)	3.40 (2.18-5.19)
3-hr	0.564 (0.452-0.718)	0.762 (0.610-0.970)	1.09 (0.870-1.39)	1.37 (1.08-1.76)	1.76 (1.34-2.36)	2.06 (1.54-2.81)	2.38 (1.71-3.32)	2.70 (1.86-3.89)	3.13 (2.08-4.66)	3.47 (2.24-5.24)
6-hr	0.707 (0.574-0.887)	0.902 (0.731-1.13)	1.23 (0.990-1.54)	1.50 (1.20-1.90)	1.88 (1.46-2.48)	2.19 (1.65-2.93)	2.50 (1.82-3.44)	2.81 (1.97-3.99)	3.24 (2.18-4.75)	3.57 (2.34-5.32)
12-hr	0.925 (0.760-1.14)	1.10 (0.907-1.37)	1.41 (1.15-1.75)	1.66 (1.35-2.08)	2.03 (1.60-2.64)	2.32 (1.78-3.06)	2.62 (1.94-3.55)	2.93 (2.08-4.10)	3.36 (2.28-4.84)	3.68 (2.44-5.40)
24-hr	1.16 (0.966-1.41)	1.34 (1.11-1.63)	1.64 (1.36-2.00)	1.89 (1.56-2.32)	2.25 (1.80-2.87)	2.54 (1.97-3.29)	2.83 (2.12-3.78)	3.14 (2.25-4.31)	3.56 (2.45-5.04)	3.88 (2.60-5.59)
2-day	1.35 (1.14-1.62)	1.56 (1.32-1.88)	1.91 (1.61-2.30)	2.20 (1.84-2.66)	2.59 (2.09-3.24)	2.90 (2.28-3.68)	3.20 (2.43-4.18)	3.51 (2.55-4.72)	3.91 (2.73-5.43)	4.22 (2.87-5.97)
3-day	1.46 (1.24-1.74)	1.70 (1.44-2.02)	2.08 (1.76-2.48)	2.39 (2.02-2.87)	2.82 (2.29-3.50)	3.15 (2.50-3.96)	3.47 (2.66-4.49)	3.80 (2.78-5.07)	4.23 (2.97-5.81)	4.55 (3.11-6.38)
4-day	1.54 (1.32-1.83)	1.79 (1.53-2.12)	2.19 (1.87-2.61)	2.52 (2.14-3.01)	2.98 (2.43-3.66)	3.32 (2.65-4.15)	3.66 (2.82-4.71)	4.01 (2.95-5.30)	4.46 (3.15-6.08)	4.79 (3.30-6.67)
7-day	1.76 (1.52-2.06)	2.02 (1.74-2.36)	2.44 (2.10-2.86)	2.79 (2.39-3.29)	3.27 (2.70-3.98)	3.64 (2.93-4.50)	4.01 (3.12-5.09)	4.38 (3.26-5.73)	4.88 (3.49-6.57)	5.25 (3.65-7.20)
10-day	1.95 (1.70-2.26)	2.23 (1.94-2.59)	2.68 (2.32-3.12)	3.05 (2.63-3.56)	3.56 (2.96-4.29)	3.95 (3.21-4.84)	4.35 (3.40-5.47)	4.74 (3.56-6.15)	5.27 (3.79-7.04)	5.67 (3.97-7.71)
20-day	2.53 (2.23-2.88)	2.89 (2.55-3.30)	3.47 (3.06-3.98)	3.95 (3.45-4.54)	4.58 (3.86-5.42)	5.06 (4.17-6.09)	5.53 (4.39-6.83)	6.00 (4.56-7.62)	6.60 (4.81-8.64)	7.05 (5.01-9.41)
30-day	3.00 (2.67-3.39)	3.44 (3.06-3.89)	4.13 (3.67-4.69)	4.69 (4.14-5.35)	5.42 (4.60-6.34)	5.96 (4.94-7.09)	6.49 (5.18-7.91)	6.99 (5.35-8.77)	7.63 (5.60-9.86)	8.08 (5.79-10.7)
45-day	3.58 (3.22-4.01)	4.10 (3.68-4.60)	4.92 (4.40-5.53)	5.56 (4.95-6.28)	6.39 (5.45-7.38)	6.99 (5.83-8.21)	7.55 (6.08-9.10)	8.08 (6.22-10.0)	8.73 (6.45-11.1)	9.17 (6.62-12.0)
60-day	4.06 (3.67-4.52)	4.64 (4.20-5.18)	5.55 (5.00-6.20)	6.25 (5.59-7.01)	7.14 (6.12-8.17)	7.77 (6.51-9.04)	8.34 (6.75-9.96)	8.88 (6.87-10.9)	9.51 (7.06-12.0)	9.92 (7.21-12.9)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

PF graphical

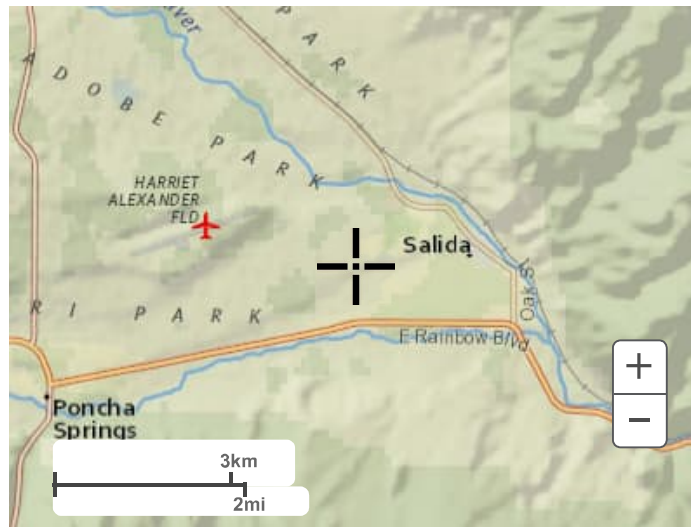
PDS-based depth-duration-frequency (DDF) curves Latitude: 38.5328°, Longitude: -106.0158°



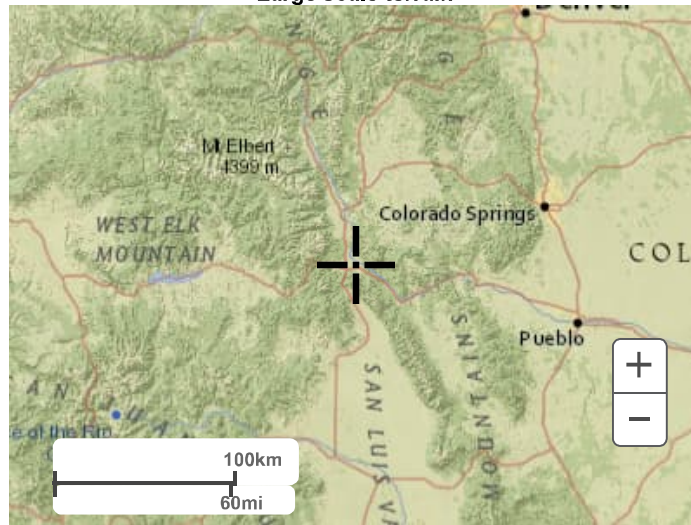
[Back to Top](#)

Maps & aerials

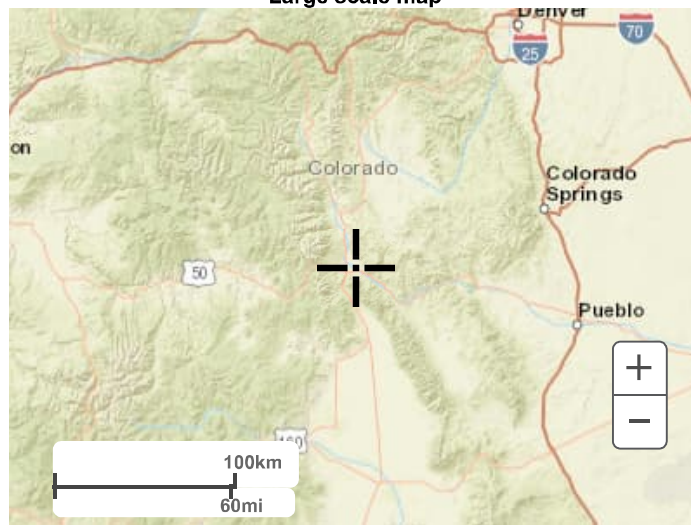
Small scale terrain



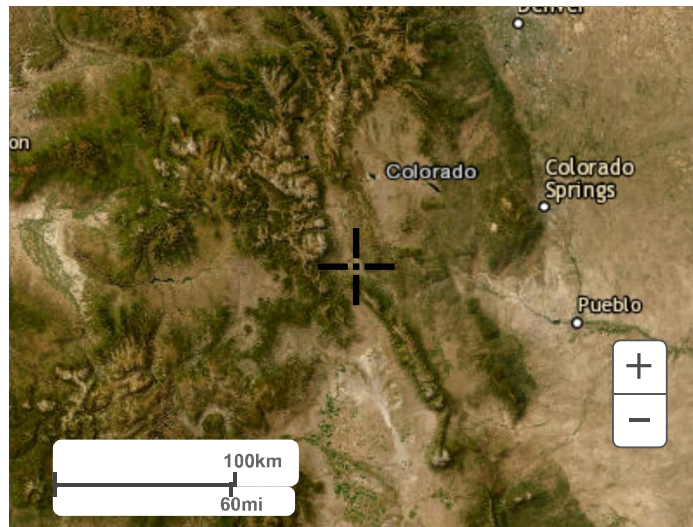
Large scale terrain



Large scale map



Large scale aerial



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Appendix E: Runoff Coefficient Calculations



Runoff Coefficient

HSG A			
Subbasin Name:	H	P	BP
HSG Area (sf)	41,299	38,126	3,174
100% Imp A (sf)	0	17,923	438
Gravel (40% Imp) A (sf)**	0	6088.76	0
Cumulative % Imp	2.0%	53.4%	13.8%
C2	0.01	0.37	0.06
C5	0.01	0.39	0.07
C10	0.01	0.40	0.08
C100	0.13	0.53	0.22
Cumulative			
Subbasin Name:	H	P	BP
Basin Area (sf)	41,299	38,126	3,174
HSG A % Area	100%	100%	100%
HSG B % Area	0%	0%	0%
HSG C/D % Area	0%	0%	0%
Cumulative % Imp	2.0%	53.4%	13.8%
C2	0.01	0.37	0.06
C5	0.01	0.39	0.07
C10	0.01	0.40	0.08
C100	0.13	0.53	0.22

*2% impervious used for historic conditions per MHFD (Previously UDFCD) USDCM Volume 1 Table 6-3

**Gravel (packed) is considered 40% impervious per table 6-3 of UDFCD USDCM Vol. 1

Table 6-4. Runoff coefficient equations based on NRCS soil group and storm return period

NRCS Soil Group	Storm Return Period						
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	500-Year
A	$C_A = 0.84i^{1.302}$	$C_A = 0.86i^{1.276}$	$C_A = 0.87i^{1.232}$	$C_A = 0.88i^{1.124}$	$C_A = 0.85i+0.025$	$C_A = 0.78i+0.110$	$C_A = 0.65i+0.254$
B	$C_B = 0.84i^{1.169}$	$C_B = 0.86i^{1.088}$	$C_B = 0.81i+0.057$	$C_B = 0.63i+0.249$	$C_B = 0.56i+0.328$	$C_B = 0.47i+0.426$	$C_B = 0.37i+0.536$
C/D	$C_{C/D} = 0.83i^{1.122}$	$C_{C/D} = 0.82i+0.035$	$C_{C/D} = 0.74i+0.132$	$C_{C/D} = 0.56i+0.319$	$C_{C/D} = 0.49i+0.393$	$C_{C/D} = 0.41i+0.484$	$C_{C/D} = 0.32i+0.588$

Table 6-3. Recommended percentage imperviousness values

Land Use or Surface Characteristics	Percentage Imperviousness (%)
Business:	
Downtown Areas	95
Suburban Areas	75
Residential lots (lot area only):	
Single-family	
2.5 acres or larger	12
0.75 – 2.5 acres	20
0.25 – 0.75 acres	30
0.25 acres or less	45
Apartments	75
Industrial:	
Light areas	80
Heavy areas	90
Parks, cemeteries	10
Playgrounds	25
Schools	55
Railroad yard areas	50
Undeveloped Areas:	
Historic flow analysis	2
Greenbelts, agricultural	2
Off-site flow analysis (when land use not defined)	45
Streets:	
Paved	100
Gravel (packed)	40
Drive and walks	90
Roofs	90
Lawns, sandy soil	2
Lawns, clayey soil	2

Appendix F: Rainfall Intensity Calculations



Intensity			
	Average Recurrence Interval (years)		
	2	10	100
P1 (in)	0.596	1.08	1.98

Design Storm (T_d) = 1 hr

	H	P	BP
Lo1 (ft)*	103	28	38
So1 (ft/ft)	0.03	0.04	0.03
C5	0.01	0.39	0.07
To1 (min)	13.39	4.48	8.34
To (min)	13.39	4.48	8.34
Lf1 (ft)*	88	101	0
Sf1 (ft/ft)	0.03	0.04	0.00
K	7	20	20
Tf1 (min)	1.14	0.42	0.00
i (sf/sf)	0.02	0.53	0.14
Tr (min)	26.87	17.64	NA
Tc (min)	14.53	5.00	8.34
I2 (in/hr)	0.57	0.57	0.57
I10 (in/hr)	1.03	1.03	1.03
I100 (in/hr)	1.89	1.89	1.89

USDCMV V1 Pg6-5

*The max Lo is 300' for developed and 500' for rural.

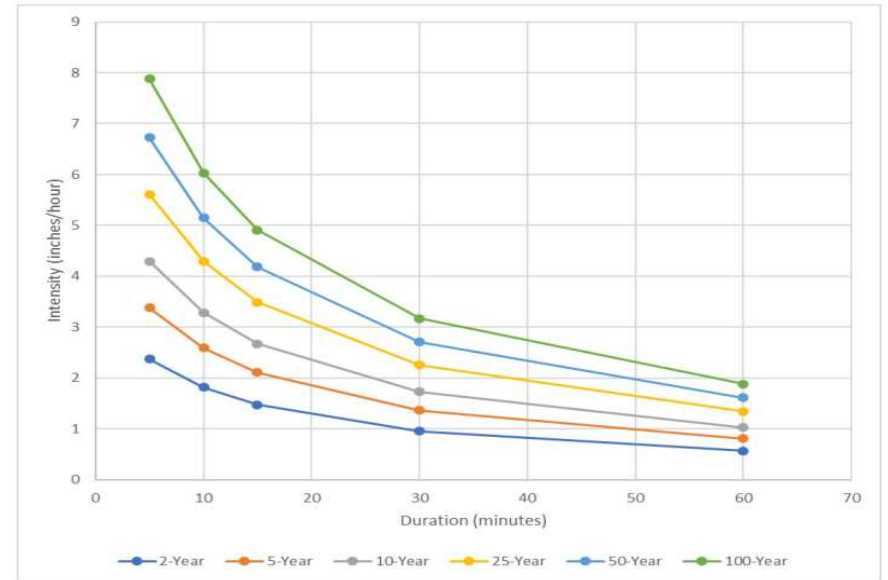
City of Salida - Design Criteria - Equation 1

$$I = \frac{49 * P_1}{(10 + T_d)^{0.927}}$$

City of Salida - Design Criteria - Table 1

	5-min	10-min	15-min	30-min	60-min	2-hr	6-hr	24-hr
2-Year	2.47	1.81	1.47	0.980	0.596	0.351	0.150	0.056
5-Year	3.31	2.42	1.97	1.37	0.851	0.510	0.205	0.068
10-Year	4.19	3.07	2.50	1.73	1.08	0.645	0.250	0.079
25-Year	5.66	4.15	3.37	2.30	1.41	0.835	0.313	0.094
50-Year	7.00	5.12	4.16	2.80	1.69	0.990	0.365	0.106
100-Year	8.52	6.24	5.08	3.34	1.98	1.15	0.417	0.118

City of Salida - Design Criteria - Figure 1



Appendix G: Water Quality Capture Volume



Water Quality Capture Volume

P	
Drainage Area (sqft)	38126
Impervious Area (sqft)	20359
% Impervious	53.4%
Coefficient, α	0.8
WQCV (watershed-inches)	0.17
Volume (acre-ft)	0.01
Volume (cuft)	548

$$WQCV = a(0.91I^3 - 1.19I^2 + 0.78I)$$

Equation 3-1

Table 3-2. Drain Time Coefficients for WQCV Calculations

Drain Time (hours)	Coefficient, a
12 hours (filtration BMPs and retention ponds)	0.8
24 hours (constructed wetland ponds)	0.9
40 hours (extended detention)	1.0
No attenuation (e.g., grass buffer or swale)	1.0

$$V = \frac{WQCV}{12} A$$

Equation 3-2

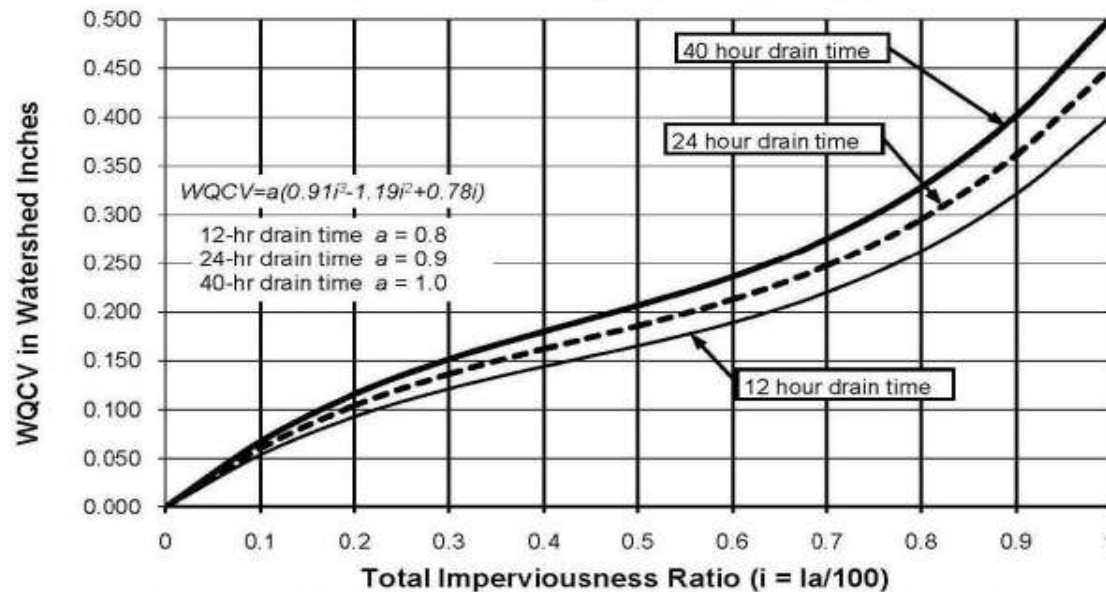


Figure 3-1. Water Quality Capture Volume (WQCV) Based on BMP Drain Time

Appendix H: Infiltration Calculations



P-IB Infiltration Basin

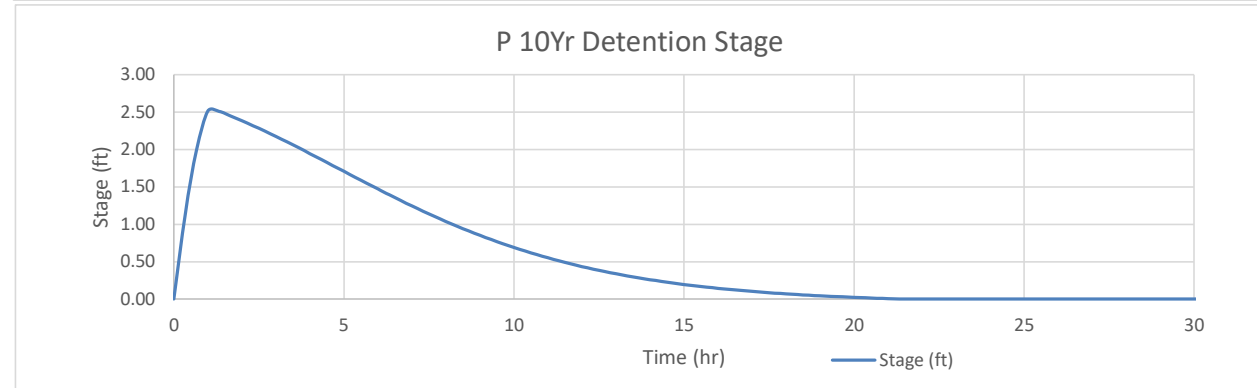
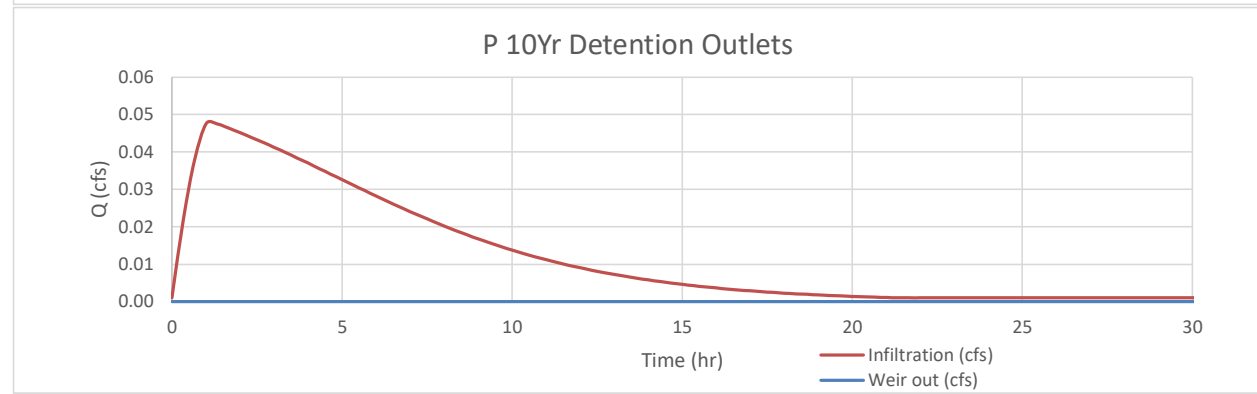
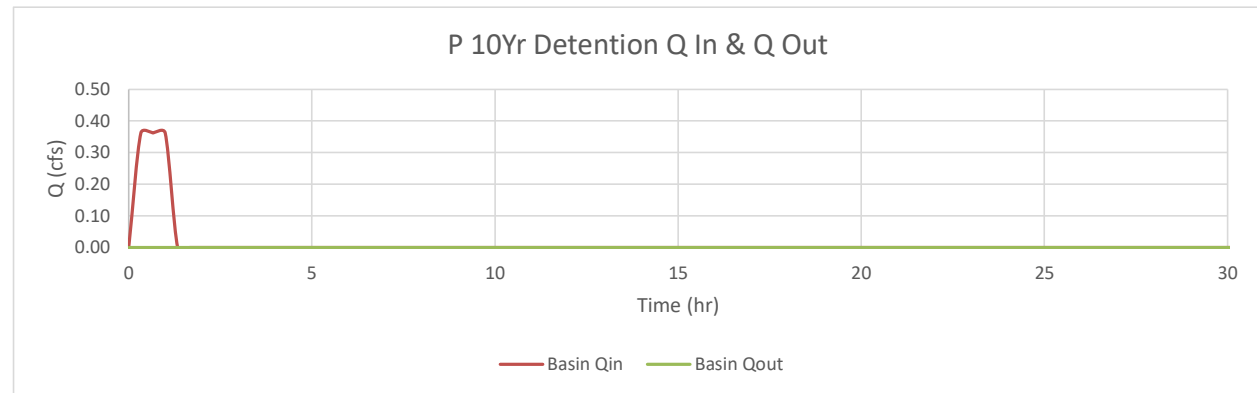
Elev (ft)	Stage (ft)	A (sf)	V (cf)
7,066.00	0	26	0
7,070.00	4.00	1943	4016

Storm Duration (min)	60
----------------------	----

Infiltration:

Soil Type:	Initial (in/hr)
A	1.67

Weir:	b (ft)	h (ft)	Q (cfs) @ full	Stage (ft)
	10.0	0.5	10.40	3.50



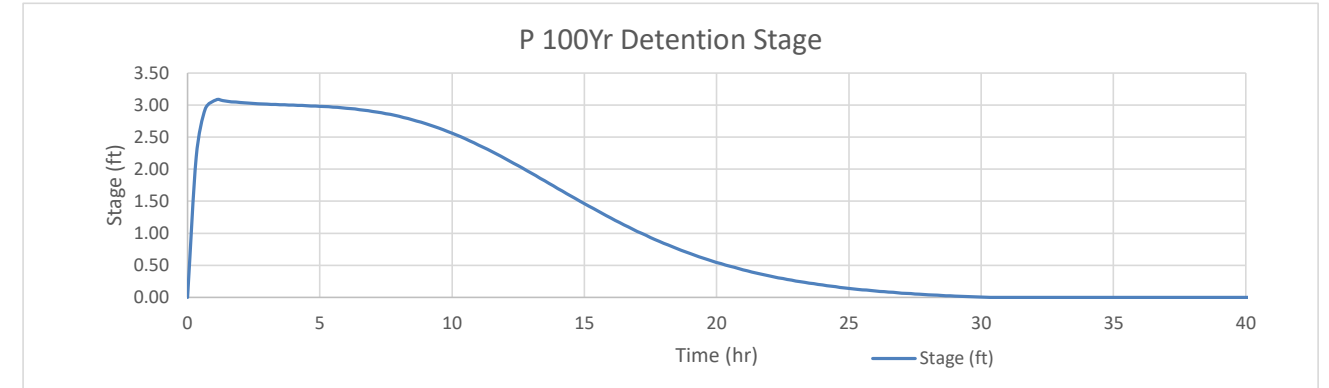
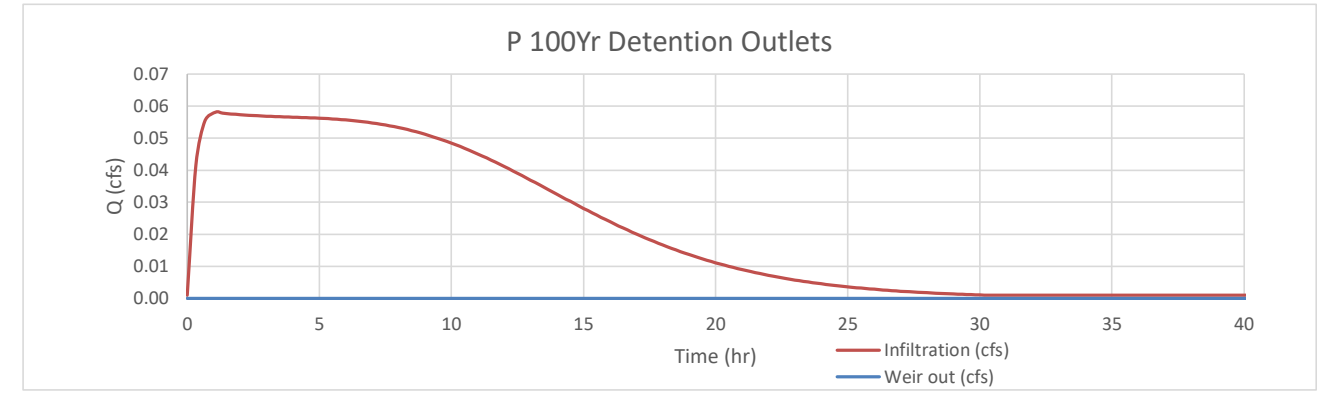
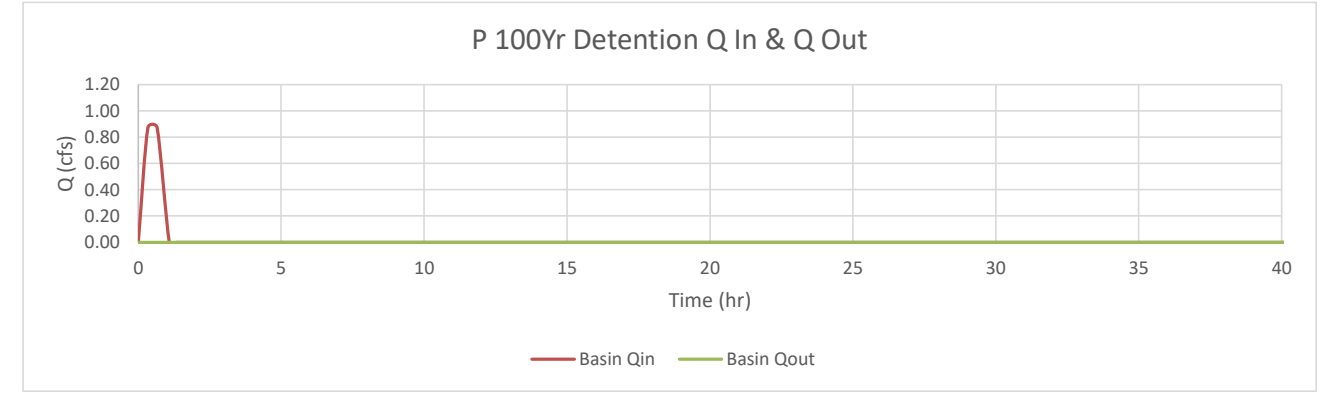
Summary:

	10-Yr	100-Yr
P1 Out (cfs)	0.00	0.00
H1 (cfs)	0.01	0.23
stage (ft)	2.55	3.08

99% 100-yr Storm Drained Within 120hrs?	YES
97% 5-yr Storm Drained Within 72-hrs?	YES

Combined

	10-Yr	100-Yr
P (cfs)	0.01	0.03
H (cfs)	0.01	0.23



10 yr Infiltration							
Time (min)	V (cf)	Stage (ft)	Basin Qin	Weir out (cfs)	Infiltration (cfs)	Pipe Qout	Basin Qout
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column72
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	367.77	1.14	0.36	0.00	0.02	0.00	0.00
40	766.12	1.99	0.36	0.00	0.04	0.00	0.00
60	1149.34	2.51	0.36	0.00	0.05	0.00	0.00
80	1146.17	2.51	0.00	0.00	0.05	0.00	0.00
100	1089.84	2.45	0.00	0.00	0.05	0.00	0.00
120	1034.90	2.38	0.00	0.00	0.05	0.00	0.00
140	981.42	2.32	0.00	0.00	0.04	0.00	0.00
160	929.47	2.25	0.00	0.00	0.04	0.00	0.00
180	879.11	2.17	0.00	0.00	0.04	0.00	0.00
200	830.38	2.10	0.00	0.00	0.04	0.00	0.00
220	783.35	2.02	0.00	0.00	0.04	0.00	0.00
240	738.03	1.94	0.00	0.00	0.04	0.00	0.00
260	694.45	1.87	0.00	0.00	0.04	0.00	0.00
280	652.64	1.79	0.00	0.00	0.03	0.00	0.00
300	612.60	1.71	0.00	0.00	0.03	0.00	0.00
320	574.32	1.63	0.00	0.00	0.03	0.00	0.00
340	537.81	1.55	0.00	0.00	0.03	0.00	0.00
360	503.04	1.47	0.00	0.00	0.03	0.00	0.00
380	469.99	1.39	0.00	0.00	0.03	0.00	0.00
400	438.63	1.32	0.00	0.00	0.03	0.00	0.00
420	408.92	1.24	0.00	0.00	0.02	0.00	0.00
440	380.82	1.17	0.00	0.00	0.02	0.00	0.00
460	354.29	1.10	0.00	0.00	0.02	0.00	0.00
480	329.27	1.04	0.00	0.00	0.02	0.00	0.00
500	305.72	0.97	0.00	0.00	0.02	0.00	0.00
520	283.57	0.91	0.00	0.00	0.02	0.00	0.00
540	262.76	0.85	0.00	0.00	0.02	0.00	0.00
560	243.25	0.79	0.00	0.00	0.02	0.00	0.00
580	224.97	0.74	0.00	0.00	0.01	0.00	0.00
600	207.86	0.69	0.00	0.00	0.01	0.00	0.00
620	191.87	0.64	0.00	0.00	0.01	0.00	0.00
640	176.93	0.59	0.00	0.00	0.01	0.00	0.00
660	162.99	0.55	0.00	0.00	0.01	0.00	0.00
680	149.99	0.51	0.00	0.00	0.01	0.00	0.00
700	137.88	0.47	0.00	0.00	0.01	0.00	0.00
720	126.61	0.43	0.00	0.00	0.01	0.00	0.00
740	116.12	0.40	0.00	0.00	0.01	0.00	0.00
760	106.38	0.37	0.00	0.00	0.01	0.00	0.00
780	97.32	0.34	0.00	0.00	0.01	0.00	0.00
800	88.91	0.31	0.00	0.00	0.01	0.00	0.00
820	81.10	0.28	0.00	0.00	0.01	0.00	0.00
840	73.86	0.26	0.00	0.00	0.01	0.00	0.00
860	67.15	0.24	0.00	0.00	0.01	0.00	0.00
880	60.93	0.21	0.00	0.00	0.00	0.00	0.00
900	55.17	0.19	0.00	0.00	0.00	0.00	0.00
920	49.83	0.18	0.00	0.00	0.00	0.00	0.00
940	44.89	0.16	0.00	0.00	0.00	0.00	0.00
960	40.32	0.14	0.00	0.00	0.00	0.00	0.00
980	36.09	0.13	0.00	0.00	0.00	0.00	0.00

100 yr Infiltration							
Time (min)	V (cf)	Stage (ft)	Basin Qin	Weir out (cfs)	Infiltration (cfs)	Pipe Qout	Basin Qout
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	889.17	2.19	0.87	0.00	0.04	0.00	0.00
40	1874.11	2.93	0.87	0.00	0.06	0.00	0.00
65	2964.74	3.08	0.00	0.00	0.06	0.00	0.00
80	2912.57	3.07	0.00	0.00	0.06	0.00	0.00
100	2843.34	3.05	0.00	0.00	0.06	0.00	0.00
120	2774.43	3.04	0.00	0.00	0.06	0.00	0.00
140	2705.76	3.03	0.00	0.00	0.06	0.00	0.00
160	2637.30	3.02	0.00	0.00	0.06	0.00	0.00
180	2569.01	3.01	0.00	0.00	0.06	0.00	0.00
200	2500.86	3.01	0.00	0.00	0.06	0.00	0.00
220	2432.84	3.00	0.00	0.00	0.06	0.00	0.00
240	2364.93	3.00	0.00	0.00	0.06	0.00	0.00
260	2297.13	2.99	0.00	0.00	0.06	0.00	0.00
280	2229.45	2.99	0.00	0.00	0.06	0.00	0.00
300	2161.91	2.98	0.00	0.00	0.06	0.00	0.00
320	2094.53	2.97	0.00	0.00	0.06	0.00	0.00
340	2027.35	2.96	0.00	0.00	0.06	0.00	0.00
360	1960.39	2.95	0.00	0.00	0.06	0.00	0.00
380	1893.72	2.94	0.00	0.00	0.06	0.00	0.00
400	1827.38	2.92	0.00	0.00	0.06	0.00	0.00
420	1761.44	2.90	0.00	0.00	0.05	0.00	0.00
440	1695.97	2.88	0.00	0.00	0.05	0.00	0.00
460	1631.04	2.85	0.00	0.00	0.05	0.00	0.00
480	1566.74	2.82	0.00	0.00	0.05	0.00	0.00
500	1503.13	2.79	0.00	0.00	0.05	0.00	0.00
520	1440.32	2.75	0.00	0.00	0.05	0.00	0.00
540	1378.38	2.71	0.00	0.00	0.05	0.00	0.00
560	1317.41	2.66	0.00	0.00	0.05	0.00	0.00
580	1257.50	2.61	0.00	0.00	0.05	0.00	0.00
600	1198.74	2.56	0.00	0.00	0.05	0.00	0.00
620	1141.22	2.50	0.00	0.00	0.05	0.00	0.00
640	1085.00	2.44	0.00	0.00	0.05	0.00	0.00
660	1030.19	2.38	0.00	0.00	0.05	0.00	0.00
680	976.84	2.31	0.00	0.00	0.04	0.00	0.00
700	925.02	2.24	0.00	0.00	0.04	0.00	0.00
720	874.80	2.17	0.00	0.00	0.04	0.00	0.00
740	826.22	2.09	0.00	0.00	0.04	0.00	0.00
760	779.33	2.02	0.00	0.00	0.04	0.00	0.00
780	734.16	1.94	0.00	0.00	0.04	0.00	0.00
800	690.74	1.86	0.00	0.00	0.04	0.00	0.00
820	649.08	1.78	0.00	0.00	0.03	0.00	0.00
840	609.20	1.70	0.00	0.00	0.03	0.00	0.00
860	571.08	1.62	0.00	0.00	0.03	0.00	0.00
880	534.71	1.54	0.00	0.00	0.03	0.00	0.00
900	500.10	1.46	0.00	0.00	0.03	0.00	0.00
920	467.19	1.39	0.00	0.00	0.03	0.00	0.00
940	435.98	1.31	0.00	0.00	0.03	0.00	0.00
960	406.41	1.24	0.00	0.00	0.02	0.00	0.00
980	378.45	1.17	0.00	0.00	0.02	0.00	0.00

Appendix I: WQCV Drain Time Calculations



P-IB WQCV DRAIN TIME

Infiltration:
 Soil Type: A Initial (in/hr) 1.67

Equation: $Time = \frac{dStor}{Qave}$

- Where:
 Time = incremental drawdown time from Stage n to Stage n-1
 dStor = change in storage from Stage n to Stage n-1
 Qave = average outflow from Stage n to Stage n-1

Drain Time (hr):	38.2
------------------	------

Extended Calculation:						
Time (min)	Stage (ft)	Storage (cuft)	Area (sqft)	Infiltration rate (in/hr)	Discharge (cfs)	
0	0.55	548.37	287.76	1.67	0.01	
25	0.53	533.07	254.45	1.67	0.01	
75	0.50	504.28	240.71	1.67	0.01	
100	0.49	490.48	234.12	1.67	0.01	
125	0.48	477.05	227.72	1.67	0.01	
150	0.46	463.99	221.48	1.67	0.01	
175	0.45	451.29	215.42	1.67	0.01	
200	0.44	438.94	209.52	1.67	0.01	
225	0.43	426.92	203.79	1.67	0.01	
250	0.41	415.23	198.21	1.67	0.01	
275	0.40	403.87	192.78	1.67	0.01	
300	0.39	392.81	187.50	1.67	0.01	
325	0.38	382.06	182.37	1.67	0.01	
350	0.37	371.60	177.38	1.67	0.01	
375	0.36	361.43	172.52	1.67	0.01	
400	0.35	351.53	167.80	1.67	0.01	
425	0.34	341.91	163.21	1.67	0.01	
450	0.33	332.55	158.74	1.67	0.01	
475	0.32	323.45	154.39	1.67	0.01	
500	0.31	314.59	150.17	1.67	0.01	
525	0.30	305.98	146.06	1.67	0.01	
550	0.30	297.61	142.06	1.67	0.01	
575	0.29	289.46	138.17	1.67	0.01	
600	0.28	281.54	134.39	1.67	0.01	
625	0.27	273.83	130.71	1.67	0.01	
650	0.27	266.33	127.13	1.67	0.00	
675	0.26	259.04	123.65	1.67	0.00	
700	0.25	251.95	120.27	1.67	0.00	
725	0.24	245.05	116.97	1.67	0.00	
750	0.24	238.35	113.77	1.67	0.00	
775	0.23	231.82	110.66	1.67	0.00	
800	0.22	225.48	107.63	1.67	0.00	
825	0.22	219.30	104.68	1.67	0.00	
850	0.21	213.30	101.82	1.67	0.00	
875	0.21	207.46	99.03	1.67	0.00	
900	0.20	201.78	96.32	1.67	0.00	
925	0.20	196.26	93.68	1.67	0.00	
950	0.19	190.89	91.12	1.67	0.00	
975	0.18	185.66	88.62	1.67	0.00	
1000	0.18	180.58	86.20	1.67	0.00	
1025	0.17	175.63	83.84	1.67	0.00	
1050	0.17	170.83	81.54	1.67	0.00	
1075	0.17	166.15	79.31	1.67	0.00	
1100	0.16	161.60	77.14	1.67	0.00	
1125	0.16	157.18	75.03	1.67	0.00	
1150	0.15	152.88	72.97	1.67	0.00	
1175	0.15	148.69	70.98	1.67	0.00	
1200	0.14	144.62	69.03	1.67	0.00	
1225	0.14	140.66	67.14	1.67	0.00	
1250	0.14	136.81	65.31	1.67	0.00	

1275	0.13	133.07	63.52	1.67	0.00
1300	0.13	129.42	61.78	1.67	0.00
1325	0.13	125.88	60.09	1.67	0.00
1350	0.12	122.43	58.44	1.67	0.00
1355	0.12	121.76	58.12	1.67	0.00
1360	0.12	121.08	57.80	1.67	0.00
1365	0.12	120.41	57.48	1.67	0.00
1370	0.12	119.75	57.16	1.67	0.00
1375	0.12	119.08	56.84	1.67	0.00
1380	0.12	118.42	56.53	1.67	0.00
1385	0.12	117.77	56.22	1.67	0.00
1390	0.12	117.12	55.90	1.67	0.00
1395	0.12	116.47	55.59	1.67	0.00
1400	0.12	115.82	55.29	1.67	0.00
1405	0.11	115.18	54.98	1.67	0.00
1410	0.11	114.54	54.68	1.67	0.00
1415	0.11	113.91	54.37	1.67	0.00
1420	0.11	113.28	54.07	1.67	0.00
1425	0.11	112.65	53.77	1.67	0.00
1430	0.11	112.03	53.48	1.67	0.00
1435	0.11	111.41	53.18	1.67	0.00
1440	0.11	110.79	52.89	1.67	0.00
1445	0.11	110.18	52.59	1.67	0.00
1450	0.11	109.57	52.30	1.67	0.00
1455	0.11	108.96	52.01	1.67	0.00
1460	0.11	108.36	51.72	1.67	0.00
1465	0.11	107.76	51.44	1.67	0.00
1470	0.11	107.16	51.15	1.67	0.00
1475	0.11	106.57	50.87	1.67	0.00
1480	0.11	105.98	50.59	1.67	0.00
1485	0.10	105.39	50.31	1.67	0.00
1490	0.10	104.81	50.03	1.67	0.00
1495	0.10	104.23	49.75	1.67	0.00
1500	0.10	103.65	49.48	1.67	0.00
1505	0.10	103.08	49.20	1.67	0.00
1510	0.10	102.51	48.93	1.67	0.00
1515	0.10	101.94	48.66	1.67	0.00
1520	0.10	101.38	48.39	1.67	0.00
1525	0.10	100.81	48.12	1.67	0.00
1530	0.10	100.26	47.86	1.67	0.00
1535	0.10	99.70	47.59	1.67	0.00
1540	0.10	99.15	47.33	1.67	0.00
1545	0.10	98.60	47.07	1.67	0.00
1550	0.10	98.06	46.81	1.67	0.00
1555	0.10	97.51	46.55	1.67	0.00
1560	0.10	96.97	46.29	1.67	0.00
1565	0.10	96.44	46.03	1.67	0.00
1570	0.10	95.90	45.78	1.67	0.00
1575	0.09	95.37	45.52	1.67	0.00
1580	0.09	94.84	45.27	1.67	0.00
1585	0.09	94.32	45.02	1.67	0.00
1590	0.09	93.80	44.77	1.67	0.00
1595	0.09	93.28	44.52	1.67	0.00
1600	0.09	92.76	44.28	1.67	0.00
1605	0.09	92.25	44.03	1.67	0.00
1610	0.09	91.74	43.79	1.67	0.00
1615	0.09	91.23	43.55	1.67	0.00
1620	0.09	90.72	43.31	1.67	0.00
1625	0.09	90.22	43.07	1.67	0.00
1630	0.09	89.72	42.83	1.67	0.00
1635	0.09	89.22	42.59	1.67	0.00
1640	0.09	88.73	42.35	1.67	0.00
1645	0.09	88.24	42.12	1.67	0.00
1650	0.09	87.75	41.89	1.67	0.00
1655	0.09	87.27	41.66	1.67	0.00
1660	0.09	86.78	41.42	1.67	0.00

1665	0.09	86.30	41.20	1.67	0.00
1670	0.09	85.82	40.97	1.67	0.00
1675	0.09	85.35	40.74	1.67	0.00
1680	0.08	84.88	40.52	1.67	0.00
1685	0.08	84.41	40.29	1.67	0.00
1690	0.08	83.94	40.07	1.67	0.00
1695	0.08	83.47	39.85	1.67	0.00
1700	0.08	83.01	39.63	1.67	0.00
1705	0.08	82.55	39.41	1.67	0.00
1710	0.08	82.10	39.19	1.67	0.00
1715	0.08	81.64	38.97	1.67	0.00
1720	0.08	81.19	38.76	1.67	0.00
1725	0.08	80.74	38.54	1.67	0.00
1730	0.08	80.29	38.33	1.67	0.00
1735	0.08	79.85	38.12	1.67	0.00
1740	0.08	79.41	37.90	1.67	0.00
1745	0.08	78.97	37.69	1.67	0.00
1750	0.08	78.53	37.49	1.67	0.00
1755	0.08	78.10	37.28	1.67	0.00
1760	0.08	77.66	37.07	1.67	0.00
1765	0.08	77.23	36.87	1.67	0.00
1770	0.08	76.81	36.66	1.67	0.00
1775	0.08	76.38	36.46	1.67	0.00
1780	0.08	75.96	36.26	1.67	0.00
1785	0.08	75.54	36.06	1.67	0.00
1790	0.07	75.12	35.86	1.67	0.00
1795	0.07	74.70	35.66	1.67	0.00
1800	0.07	74.29	35.46	1.67	0.00
1805	0.07	73.88	35.27	1.67	0.00
1810	0.07	73.47	35.07	1.67	0.00
1815	0.07	73.06	34.88	1.67	0.00
1820	0.07	72.66	34.68	1.67	0.00
1825	0.07	72.26	34.49	1.67	0.00
1830	0.07	71.86	34.30	1.67	0.00
1835	0.07	71.46	34.11	1.67	0.00
1840	0.07	71.06	33.92	1.67	0.00
1845	0.07	70.67	33.73	1.67	0.00
1850	0.07	70.28	33.55	1.67	0.00
1855	0.07	69.89	33.36	1.67	0.00
1860	0.07	69.50	33.18	1.67	0.00
1865	0.07	69.12	32.99	1.67	0.00
1870	0.07	68.73	32.81	1.67	0.00
1875	0.07	68.35	32.63	1.67	0.00
1880	0.07	67.98	32.45	1.67	0.00
1885	0.07	67.60	32.27	1.67	0.00
1890	0.07	67.23	32.09	1.67	0.00
1895	0.07	66.85	31.91	1.67	0.00
1900	0.07	66.48	31.73	1.67	0.00
1905	0.07	66.11	31.56	1.67	0.00
1910	0.07	65.75	31.38	1.67	0.00
1915	0.07	65.38	31.21	1.67	0.00
1920	0.06	65.02	31.04	1.67	0.00
1925	0.06	64.66	30.87	1.67	0.00
1930	0.06	64.30	30.70	1.67	0.00
1935	0.06	63.95	30.53	1.67	0.00
1940	0.06	63.59	30.36	1.67	0.00
1945	0.06	63.24	30.19	1.67	0.00
1950	0.06	62.89	30.02	1.67	0.00
1955	0.06	62.54	29.86	1.67	0.00
1960	0.06	62.20	29.69	1.67	0.00
1965	0.06	61.85	29.53	1.67	0.00
1970	0.06	61.51	29.36	1.67	0.00
1975	0.06	61.17	29.20	1.67	0.00
1980	0.06	60.83	29.04	1.67	0.00
1985	0.06	60.50	28.88	1.67	0.00
1990	0.06	60.16	28.72	1.67	0.00

1995	0.06	59.83	28.56	1.67	0.00
2000	0.06	59.50	28.40	1.67	0.00
2005	0.06	59.17	28.24	1.67	0.00
2010	0.06	58.84	28.09	1.67	0.00
2015	0.06	58.51	27.93	1.67	0.00
2020	0.06	58.19	27.78	1.67	0.00
2025	0.06	57.87	27.62	1.67	0.00
2030	0.06	57.55	27.47	1.67	0.00
2035	0.06	57.23	27.32	1.67	0.00
2040	0.06	56.91	27.17	1.67	0.00
2045	0.06	56.60	27.02	1.67	0.00
2050	0.06	56.28	26.87	1.67	0.00
2055	0.06	55.97	26.72	1.67	0.00
2060	0.06	55.66	26.57	1.67	0.00
2065	0.06	55.35	26.42	1.67	0.00
2070	0.05	55.05	26.28	1.67	0.00
2075	0.05	54.74	26.13	1.67	0.00
2080	0.05	54.44	26.00	1.67	0.00
2085	0.05	54.14	26.00	1.67	0.00
2090	0.05	53.84	26.00	1.67	0.00
2095	0.05	53.54	26.00	1.67	0.00
2100	0.05	53.23	26.00	1.67	0.00
2105	0.05	52.93	26.00	1.67	0.00
2110	0.05	52.63	26.00	1.67	0.00
2115	0.05	52.33	26.00	1.67	0.00
2120	0.05	52.03	26.00	1.67	0.00
2125	0.05	51.73	26.00	1.67	0.00
2130	0.05	51.42	26.00	1.67	0.00
2135	0.05	51.12	26.00	1.67	0.00
2140	0.05	50.82	26.00	1.67	0.00
2145	0.05	50.52	26.00	1.67	0.00
2150	0.05	50.22	26.00	1.67	0.00
2155	0.05	49.92	26.00	1.67	0.00
2160	0.05	49.62	26.00	1.67	0.00
2165	0.05	49.31	26.00	1.67	0.00
2170	0.05	49.01	26.00	1.67	0.00
2175	0.05	48.71	26.00	1.67	0.00
2180	0.05	48.41	26.00	1.67	0.00
2185	0.05	48.11	26.00	1.67	0.00
2190	0.05	47.81	26.00	1.67	0.00
2195	0.05	47.50	26.00	1.67	0.00
2200	0.05	47.20	26.00	1.67	0.00
2205	0.05	46.90	26.00	1.67	0.00
2210	0.05	46.60	26.00	1.67	0.00
2215	0.05	46.30	26.00	1.67	0.00
2220	0.05	46.00	26.00	1.67	0.00
2225	0.05	45.70	26.00	1.67	0.00
2230	0.05	45.39	26.00	1.67	0.00
2235	0.04	45.09	26.00	1.67	0.00
2240	0.04	44.79	26.00	1.67	0.00
2245	0.04	44.49	26.00	1.67	0.00
2250	0.04	44.19	26.00	1.67	0.00
2255	0.04	43.89	26.00	1.67	0.00
2260	0.04	43.59	26.00	1.67	0.00
2265	0.04	43.28	26.00	1.67	0.00
2270	0.04	42.98	26.00	1.67	0.00
2275	0.04	42.68	26.00	1.67	0.00
2280	0.04	42.38	26.00	1.67	0.00
2285	0.04	42.08	26.00	1.67	0.00
2290	0.00	41.78	26.00	1.67	0.00

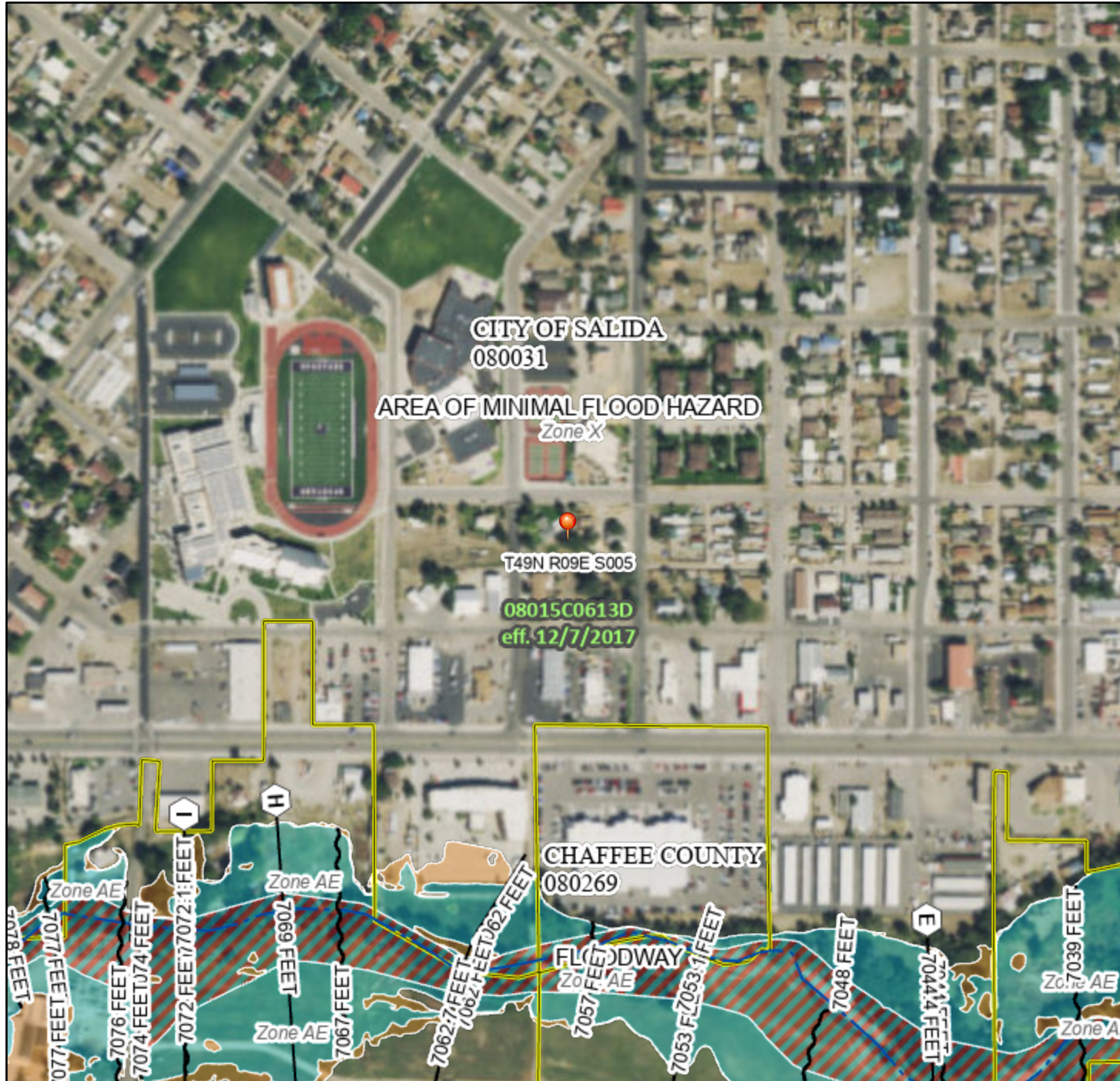
Appendix J: FEMA FIRMette



National Flood Hazard Layer FIRMMette



105°59'54"W 38°31'46"N



Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
MAP PANELS		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/27/2024 at 5:12 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

0 250 500 1,000 1,500 2,000 1:6,000

105°59'16"W 38°31'18"N

Basemap Imagery Source: USGS National Map 2023

Appendix K: Email Correspondence



Shaken Roost Meeting 04/25/2024 External Inbox**Pablo Bolaños**

to David, Gary, Nathan, me

Gentlemen,

Thanks again for taking the time to give us feedback on this project. Let me know if I understood the outcome correctly on the detention basin requirements for this property:

1. A 2:1 side slope on the detention basin will be granted as a variance from the required 4:1 to detain the required stormwater runoff volume.
2. A fence will be required around it, such as split rail or similar to prevent people and cars from going into it.
3. Right now as we have it shown, it is roughly 3' deep. My understanding is that steps will be required at an arbitrary location to allow people to exit out of the detention basin if they were to fall in it.
4. This detention basin will be in an outlet.

David, we'll chat more about the crossspan and the ADA ramps to make sure we are on the same page for those.

Thanks,

--

Pablo Bolaños Gamboa, EIT

Engineer II

430 Main St

Cañon City, CO 81212

o: 719.465.0518 m: 719.204.5081

3rocksengineering.com**David Lady**

to Pablo, Gary, Nathan, me

I'd like to see 4:1 on the ends and geotechnical reference that identifies that the soil is stable with the 2:1 and isn't going to stuff off.

David Lady
Director of Public Works
City of Salida

Appendix K: Water & Sanitary Documentation

FIXTURE COUNT

Project Address

Unit A

List all existing and proposed fixtures and multiply the total number of fixtures by the IPC Load Value. If a fixture is not listed, list the fixture under "Other". If gpm demand is known use IPC Table 103.3(3) to find IPC Load Value.

Fixture Type (Common Fixtures listed below)	Number of Fixtures		Total Number of Fixtures	IPC Load Value (60psi)		IPC Total Fixture Units (wsfu)
	Existing or Main House	Proposed or ADU		Total Hot and Cold		
Bathtub	Public	(+)=	X	4	=	
	Private	(2 +)=	X	1.4	=	2.8
Dishwasher		(1 +)=	X	1.4	=	1.4
Drinking Fountain		(+)=	X	0.25	=	
Kitchen Sink	Public - Hotel, Restaurant, etc	(+)=	X	4	=	
	Private	(1 +)=	X	1.4	=	1.4
Utility Sink		(+)=	X	1.4	=	
Bathroom Sink	Public	(+)=	X	2	=	
	Private	(5 +)=	X	0.7	=	3.5
Mop basin		(+)=	X	3	=	
Shower Head (Separate – no bathtub)	Public	(+)=	X	4	=	
	Private	(+)=	X	1.4	=	
Urinal	1" flush valve	(+)=	X	10	=	
	3/4" flush valve	(+)=	X	5	=	
	flush tank type	(+)=	X	3	=	
Washing Machine	8 lb. Private	(1 +)=	X	1.4	=	1.4
	8 lb. Public	(+)=	X	3	=	
	15 lb.	(+)=	X	4	=	
Toilet Flush Valve	Public	(+)=	X	10	=	
	Private	(+)=	X	6	=	
Toilet Tank Type	Public	(+)=	X	5	=	
	Private	(3 +)=	X	2.2	=	6.6
	Flushometer	(+)=	X	2	=	
Hose Bib/Wall Hydrant	1/2"	(+)=	X	5	=	
	3/4"	(+)=	X	10	=	
Other		(+)=	X	0	=	
Other		(+)=	X	0	=	
Note: All listed fixture values from IPC Table 103.3(2).			Total Combined Fixture Value (wsfu)			17.1
Irrigation (per 100 sq. ft): *Include all non-pervious area for calc.		1.5 gallons per minute/100 sq. ft. X _____ sq. ft.			_____gpm	
Commercial Only:						
Will Booster Pump(s) be used for the domestic system? Y ___ N ___						
If yes, please provide peak pumping system capacity (gpm) and information on any water fixtures that will bypass the booster pump(s).				Peak Capacity = _____gpm		
Any process water or special water use? (not included in above fixtures) - Commercial Only				Y ___ N ___		
If yes, type and peak gpm demand?				_____gpm		

Total gpm: _____

FIXTURE COUNT

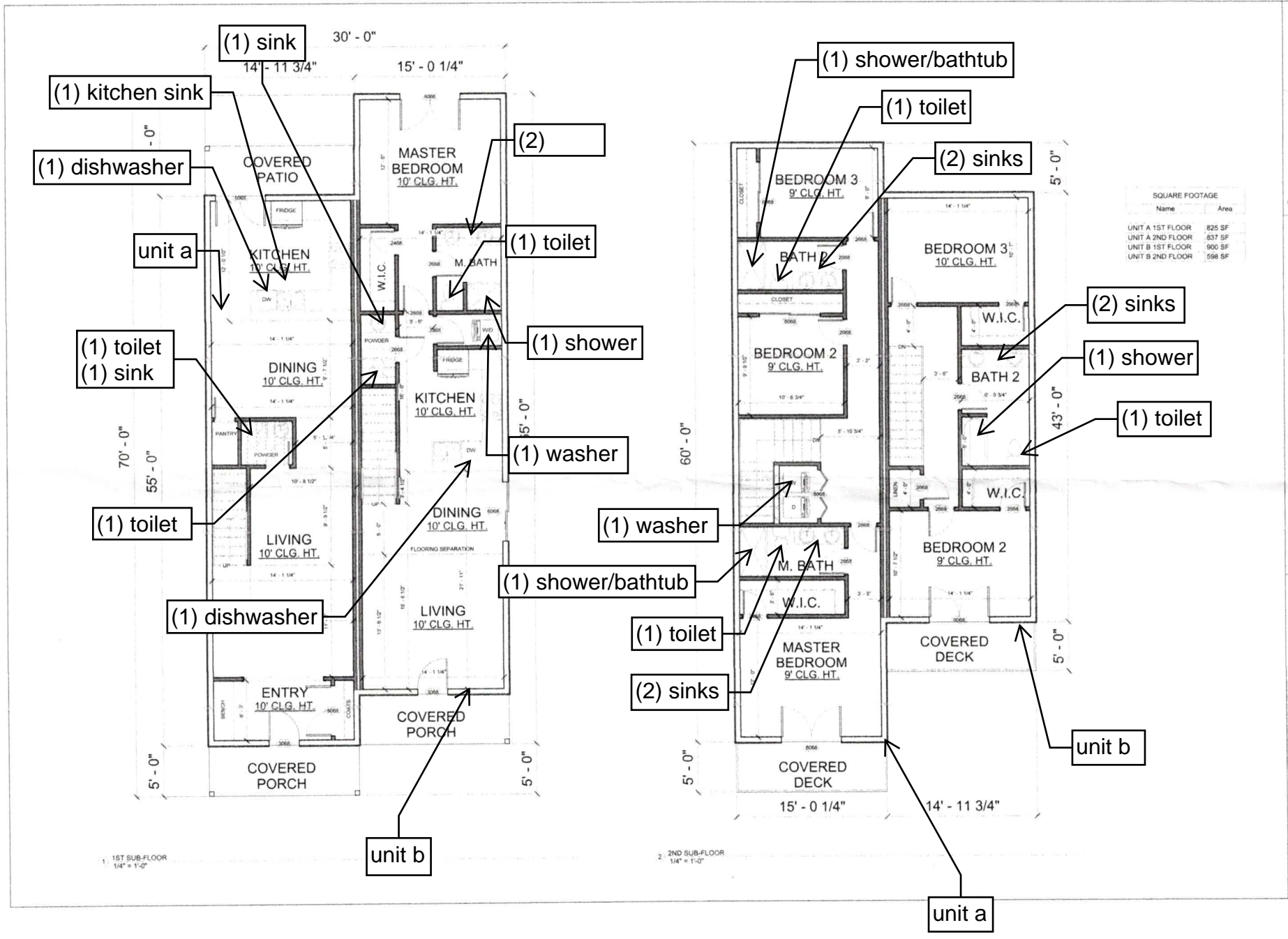
Project Address

Unit B

List all existing and proposed fixtures and multiply the total number of fixtures by the IPC Load Value. If a fixture is not listed, list the fixture under "Other". If gpm demand is known use IPC Table 103.3(3) to find IPC Load Value.

Fixture Type (Common Fixtures listed below)	Number of Fixtures		Total Number of Fixtures	IPC Load Value (60psi)	=	IPC Total Fixture Units (wsfu)
	Existing or Main House	Proposed or ADU				
Bathtub	Public	(+)=	X	4	=	
	Private	(2 +)=	X	1.4	=	2.8
Dishwasher		(1 +)=	X	1.4	=	1.4
Drinking Fountain		(+)=	X	0.25	=	
Kitchen Sink	Public - Hotel, Restaurant, etc	(+)=	X	4	=	
	Private	(1 +)=	X	1.4	=	1.4
Utility Sink		(+)=	X	1.4	=	
Bathroom Sink	Public	(+)=	X	2	=	
	Private	(5 +)=	X	0.7	=	3.5
Mop basin		(+)=	X	3	=	
Shower Head (Separate – no bathtub)	Public	(+)=	X	4	=	
	Private	(+)=	X	1.4	=	
Urinal	1" flush valve	(+)=	X	10	=	
	3/4" flush valve	(+)=	X	5	=	
	flush tank type	(+)=	X	3	=	
Washing Machine	8 lb. Private	(1 +)=	X	1.4	=	1.4
	8 lb. Public	(+)=	X	3	=	
	15 lb.	(+)=	X	4	=	
Toilet Flush Valve	Public	(+)=	X	10	=	
	Private	(+)=	X	6	=	
Toilet Tank Type	Public	(+)=	X	5	=	
	Private	(3 +)=	X	2.2	=	6.6
	Flushometer	(+)=	X	2	=	
Hose Bib/Wall Hydrant	1/2"	(+)=	X	5	=	
	3/4"	(+)=	X	10	=	
Other		(+)=	X	0	=	
Other		(+)=	X	0	=	
Note: All listed fixture values from IPC Table 103.3(2).			Total Combined Fixture Value (wsfu)			17.1
Irrigation (per 100 sq. ft): *Include all non-pervious area for calc.		1.5 gallons per minute/100 sq. ft. X _____ sq. ft.				_____gpm
Commercial Only:						
Will Booster Pump(s) be used for the domestic system? Y ___ N ___						
If yes, please provide peak pumping system capacity (gpm) and information on any water fixtures that will bypass the booster pump(s).				Peak Capacity = _____gpm		
Any process water or special water use? (not included in above fixtures) - Commercial Only				Y ___ N ___		
If yes, type and peak gpm demand?				_____gpm		

Total gpm: _____



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ILLINOIS PROJECT
ILLINOIS AVENUE
SALIDA, CO

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Revisions		
Number	Date	Designer

PRELIMINARY

JOB NO 2245
DATE 09/2023
DRAWN BY MC
SCALE 1/4" = 1'-0"
SHEET NUMBER
A1
FLOOR PLAN

Appendix L: Fire Service Plan

The City of Salida Fire Department will supply fire services for the proposed subdivision. The closest fire hydrants are located at the northwest corner of Illinois St and Teller St and the northwest corner of Illinois St. and Milford St.



Shaken Roost Subdivision: Approximate Fire Hydrant Locations



Note: Hydrant locations are not based on survey and shall be used for reference only.

Appendix M: Sewage Treatment Plan

The City of Salida Wastewater Treatment Plant will provide sewage treatment services for the proposed subdivision.

Appendix N: Preliminary Estimate of Cost

Shaken Roost Major Subdivision Public Improvements EOPC

Item	Quantity	Unit	Cost/Unit	Total
4" Concrete SW	104	SY	\$130.00	\$13,462
Concrete Curb Ramp	10	SY	\$252.00	\$2,567
Curb & Gutter	626	LF	\$20.00	\$12,520
Sawcut Asphalt	931	LF	\$9.14	\$8,509
Remove Asphalt Milling (2" Planing)	235	SY	\$12.50	\$2,941
2" Asphalt Overlay (HMA GR SX PG 64-22)	82	TON	\$110.00	\$8,974
2" Asphalt Patch	23	TON	\$200.00	\$4,565
Mobilization/Demob	1	EA		\$ 17,000.00

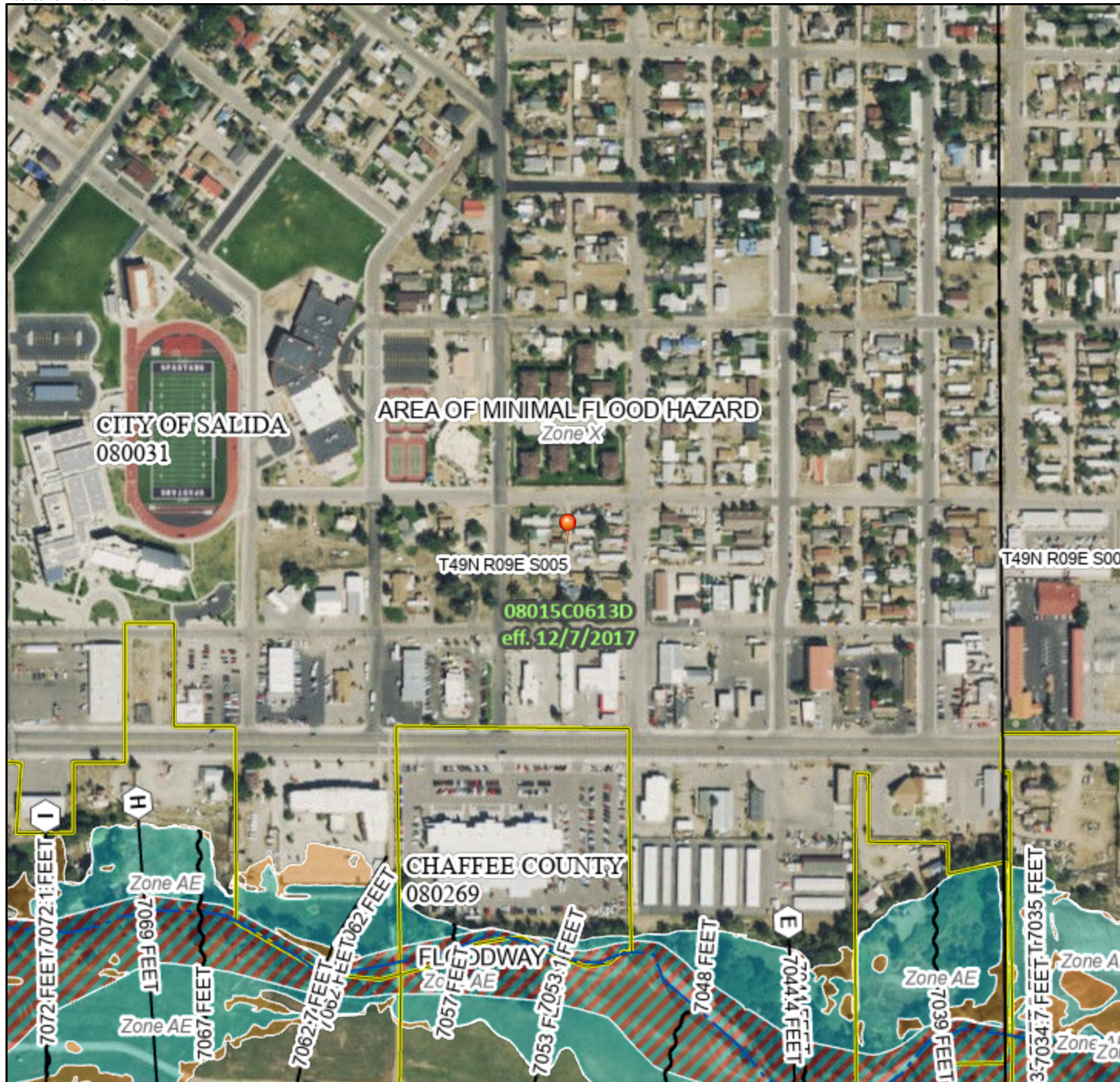
Total				\$70,539
Total w/ 20% Contingency				\$84,647

Appendix O: Floodplain/FIRMette

National Flood Hazard Layer FIRMette



105°59'49"W 38°31'46"N



Legend

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

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

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

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

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

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

MAP PANELS	Digital Data Available	No Digital Data Available	Unmapped

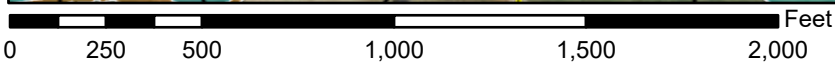


The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/10/2023 at 11:59 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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




Appendix P: Wetland Study



August 10, 2023

Wetlands

- | | | |
|--|---|--|
|  Estuarine and Marine Deepwater |  Freshwater Emergent Wetland |  Lake |
|  Estuarine and Marine Wetland |  Freshwater Forested/Shrub Wetland |  Other |
| |  Freshwater Pond |  Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Appendix Q: Landscape Plan

Minimum landscaping requirements will be met. See sheet C5.0 of the attached planset (Appendix B).

Sec. 16-8-90. - Landscaping standards.

The purpose of this Section is to provide standards for landscaping of all development within the City so as to maintain the character of residential neighborhoods, commercial centers and industrial areas. This is accomplished by requiring minimum planting, buffering and screening around and within residential and nonresidential development and their associated parking areas, and by requiring long-term maintenance of landscaped areas.

- (a) Applicability. The standards of this Section shall apply to all development within the City, except as follows:
 - (1) Central Business District (C-2). Development in the Central Business District (C-2) zone district shall be exempt from the landscaping standards of this Article if the primary structure on the lot has a zero-foot setback from the property line. If a property does not utilize the zero-foot setback allowance, the minimum landscape area shall be ten percent (10%) and shall be located in both the front and side yard, where applicable.
 - (2) Single-Family or Duplex Dwelling. The construction, reconstruction, modification, conversion, structural alteration, relocation or enlargement of a single-family or duplex dwelling shall only be required to meet the landscape standards of Table 16-F and provide the minimum number of trees as required in Table 16-K.
 - (3) Alteration or Repair. An alteration or repair which does not change the existing use of the property or does not expand the use of the property shall be exempt from the landscaping standards of this Article.
- (b) Landscape plan. A landscape plan shall be submitted for review as part of an application for any development within the City, except that development specifically exempted in Subsections 16-8-90(a)(1) —(3) above. The landscape plan shall contain the following materials:
 - (1) Drawing. A drawing identifying all existing deciduous trees and coniferous trees of four (4) inches in caliper or greater and illustrating the location, size and type of all proposed landscaping. The drawing shall identify all existing vegetation which is to be preserved and demonstrate how irrigation is to be provided. The drawing shall be to scale and shall contain a legend.
 - (2) Calculations. A written summary of all calculations used to determine the landscaping required for the site.
 - (3) Cost Estimate. An estimate of the cost of supplying and installing the materials depicted in the landscape plan.
 - (4) Erosion Control. A description of how erosion will be controlled on-site, during construction and following completion of development.
 - (5) Maintenance Program. A description of the proposed program to maintain the landscaping after it has been installed.
- (c) Landscaping standards applicable to all development:
 - (1) Plants Compatible With Local Conditions. All plants depicted on the landscape plan shall be of a variety which is compatible with local climate and the soils, drainage and water conditions of the site.
 - (2) Save Existing Vegetation. The landscape plan shall be designed to save all existing healthy trees and shrubs whenever possible. Existing trees and shrubs which are preserved shall count toward the landscaping standards of this Article.
 - (3) Living Cover. A minimum of sixty percent (60%) of the required landscape area shall be live ground cover. Expected mature shrub coverage will count towards this requirement; a tree's canopy shall not.
 - (4) Obstructions Prohibited.
 - (i) Fire hydrants and utilities. Landscaping shall be located so as not to obstruct fire hydrants or utility boxes and so it will not grow into any overhead utility lines.
 - (ii) Curb cuts and intersections. No plant material greater than two (2) feet in height shall be located within the *clear sight triangle* as defined by this Chapter, or so as to otherwise cause visibility obstructions or blind corners at intersections.
 - (5) Minimum Size. Trees and shrubs depicted on the landscape plan shall be of the following minimum size at the time of their planting:
 - (i) Deciduous trees. Deciduous trees shall be a minimum of one and one-half (1½) inches in caliper, measured six (6) inches above the ground.
 - (ii) Coniferous trees. Coniferous trees shall be a minimum of six (6) feet in height.
 - (iii) Shrubs. Shrubs shall be a minimum two-gallon container.
 - (6) Minimum Number. The following minimum number of trees shall be provided per required landscaped area in various zone districts:

EXPAND

Table 16-K	
Zone District	Number of Trees Per Required Landscape Area
Single-Family Residential (R-1)	1 per 800 s.f.
Medium Density Residential (R-2)	1 per 800 s.f.
High Density Residential (R-3)	1 per 800 s.f.
Manufactured Housing Residential (R-4)	1 per 800 s.f.
Residential Mixed Use (RMU)	1 per 500 s.f.
Commercial (C-1)	1 per 300 s.f.
Commercial (C-2)	1 per 600 s.f.
Industrial (I)	1 per 1,000 s.f.

- (7) Parking and Storage Prohibited. The required landscape area shall not be used for parking or open storage.
- (8) Trash Receptacles. Screening shall be provided for all trash receptacles of two (2) cubic yards in volume or greater, and shall consist of landscaping or a structural visual barrier, such as a fence, to block the view of the trash receptacle and to keep trash contained. One (1) side of the screening shall be designed for easy access for trash removal. Any landscaping so provided shall count toward the landscaping standards of this Article.
- (d) Landscaping Standards Applicable to Parking Areas.
 - (1) Buffer Strip. A landscaped buffer strip composed of trees, shrubs, berms, hedges and/or planters shall be provided between the parking area and any adjoining public street right-of-way. This strip shall be of sufficient width to contain plant materials and be credited toward the landscaping required for the zone district.
 - (2) Outdoor Sales Lots. Sales lots for mobile home, recreational vehicle, heavy equipment and automobiles shall be landscaped along all lot lines. This landscaping shall be credited toward the landscaping required for the zone district.
 - (3) Interior Landscaping. Any parking area containing more than thirty (30) parking spaces or four thousand five hundred (4,500) square feet of area shall provide six (6) plants, which may be trees or shrubs, for each fifteen (15) parking spaces. A minimum of one (1) of the six (6) plants shall be a tree, which shall be located around the perimeter of the lot and in landscaped islands within the lot. These planted areas shall count toward the minimum landscape area standard of the underlying zone district.
 - (i) Curbs for area definition. The landscaped islands shall have curbs which may be used to define parking lot entrances, the ends of parking aisles and the location and pattern of primary internal access ways or any combination thereof.
 - (ii) Dispersed. The landscaped islands shall be dispersed throughout the parking area and in the parking area in such a way as to provide visual relief, particularly of parking aisles, by using flowering ornamental plantings, and to provide physical relief by using seasonal shade trees.
 - (iii) Area. The area contained within the landscape islands shall be a minimum of seven (7) square feet for each required parking space.
- (e) Installation and maintenance requirements.
 - (1) Security. Prior to the issuance of a development permit, the Administrator may require the applicant to submit to the City a surety or cash bond, letter of credit or other collateral found to be suitable by the City Attorney to guarantee the installation of the required landscaping. The security shall be in an amount equal to one hundred twenty-five percent (125%) of the cost of supplying and installing the materials depicted in the approved landscape plan, based on estimates provided by the applicant and approved by the City.
 - (2) Certification and Release. Following installation of the required landscaping, the applicant shall certify that the landscaping has been installed in conformance with the approved plan. One hundred percent (100%) of the performance guarantee shall be released within seven (7) calendar days following receipt of the certification and inspection by the City. The remaining twenty-five percent (25%) of the performance guarantee shall be released after two (2) growing seasons after required landscaping is installed and successfully maintained.
 - (3) City Use of Security. In the event the landscaping is not installed, or is installed in a manner which does not conform with the approved plan, the City may draw upon the security to bring the landscaping into conformance with the approved plan or, if development was initiated but never carried through to completion, to return the site to its predevelopment condition.
 - (4) Required Time for Completion—Date of Occupancy. Landscaping required for all uses shall be installed within six (6) months of its initial date of occupancy, excluding the months of October through April.
 - (5) Irrigation for Live Cover. That portion of the landscaped area which is live cover shall be provided with an adequate means of irrigation for the type of plants installed.
 - (6) Maintenance. All vegetation shall be healthy at the time of its installation and shall remain alive, or shall be replaced.
 - (i) Landowner responsible. Maintenance of landscaped areas shall be the responsibility of the landowner.
 - (ii) Replacement. Landscaping which does not survive shall be replaced within three (3) months, or during the next planting season. The replacement vegetation shall be similar in size and type to the vegetation which did not survive, so the integrity of the approved landscape plan is preserved.