MESA COUNTY

DESIGN STANDARDS - APPENDICES

Revised December 18th, 2023

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APPENDIX 1.1
MESA COUNTY DESIGN EXCEPTION REQUEST PROCESS

MESA COUNTY

Mesa County Public Works Design Exception Request Process

There may be certain circumstances where the Mesa County Design Standards (MCDS) or the Mesa County Standard Construction Specifications (MC Specs) do not adequately meet the public's needs. The public needs, as defined by these Standards, may conflict with constraints on the property or a new or innovative development proposal.

Design Exception Request Process:

Any exceptions to the MCDS or MC Specs should be clearly proposed as early as possible in the project development and review process and will be reviewed by the Design Exception Committee. Exceptions should be identified no later than Concept Plan submittal. Exceptions are project-specific unless presented to the Board and adopted as amendments to the MCDS or MC Specs.

The exception shall not be approved if the resulting design is deemed dangerous to the public or otherwise fails to meet the functionality of the road system and fundamental needs of the community as determined by the County. The burden shall be on the Applicant's Engineer (the Engineer of Record) to demonstrate the validity of the exception request. Fees per the current Mesa County Fee Schedule must be paid with submittal of the Design Exception request. The Applicant's Engineer of Record may request a design exception per the process outlined below.

Design Exception Memo:

The Applicant's Engineer shall write a memo with the following information:

a. Project Number and Project Name
b. Date
c. Location
d. Discuss the design problem, including location map, etc. and provide a narrative on the needs with appropriate supporting documentation
e. Discuss the alternatives considered with the impacts of each alternative and document the codes, manuals and other regulatory documents that the proposed solution does not comply with.
f. Discuss the proposed design with justification. Provide any documents that indicate a reduction in safety or functionality.

Design Exception Committee:

The memo should be written to the Design Exception Committee which shall consist of the following, or their authorized representative:

a. Mesa County Community Development Director
b. Mesa County Engineering Division Director
c. Mesa County Road & Bridge Department Road Supervisor
d. Mesa County Development Engineer
e. Mesa County Project Planner
f. Others as appropriate

Evaluating the Design Exception:

A meeting with the Exception Committee and Applicant's Engineer shall take place within three weeks of receipt of the memo. The Engineer may make a presentation to the Exception Committee and may be available for questions but shall not be present for the Committee discussion. A decision by the Committee may be made at the meeting unless additional information is needed. If

more information is needed, another meeting may need to be held with the presence of the Engineer at the Exception Committee's discretion. The Committee shall evaluate the request per the following criteria:

a. If granted, will the exception:
    i. Compromise safety?
    ii. Reduce or change vehicular or pedestrian circulation?
    iii. Result in a lower level of functionality?
    iv. Negatively impact site drainage?
    v. Cause increased maintenance for Mesa County?
    vi. Lead to other negative long-term impacts?
b. Is the exception a deviation from the adopted Mesa County Transportation Plans? If so, what impact will this have?
c. Have other alternatives been considered that would meet current standards?
d. Has the proposed design been used in other areas? Have examples, including data, been provided?
e. Will the exception require coordination with CDOT or any local municipalities?
f. Should the exception result in a revision of the Standards?
g. Other criteria, as identified by the Committee

The Decision of the Design Exception Committee:

After a decision is made, a response letter with signatures from the Development Engineer and other appropriate divisions shall be sent to the Applicant's Engineer. If the exception is denied, the design must meet current MCDS and MC Specs, or the decision may be appealed to the Public Works Director.

Appealing Mesa County Decisions:

A Formal Appeal Request Memo contains a statement of intent of the appeal and also includes the information required in the Design Exception Memo, listed above, along with supporting documentation.

To appeal the decision of the Design Exception Committee to the Public Works Director, the Applicant's Engineer must submit a Formal Appeal Request Memo within 15 calendar days of receipt of the Exception Committee's decision memo. The Public Works Director will determine if a meeting with the Applicant's Engineer is necessary.

If the exception is denied, the design must meet the current MCDS and MC Specs, or the decision may be appealed to the Board of County Commissioners (BoCC). To appeal to the BoCC, the Applicant's Engineer must submit a Formal Appeal Request Memo within 30 calendar days of receipt of the Public Works Director's decision memo. The appeal will then go to hearing before the BoCC.

APPENDIX 2.1
MESA COUNTY TRANSPORTATION IMPACT FEE RESOLUTION

MESA COUNTY

Mesa County

Transportation Impact Fee Resolution

Adopted June 7th, 2004
Resolution MCM 2004-107
Amended August 8, 2005
Resolution MCM-2004-107-1
Amended November 28, 2005
Resolution MCM-2004-107-2
Amended Impact Fee Schedule
January 1, 2007

RESOLUTION NO. MCM – 107-2

A RESOLUTION ADOPTING TRANSPORTATION IMPACT FEE REGULATIONS FOR NEW DEVELOPMENT AND FOR OTHER PURPOSES:

WHEREAS, Mesa County has the authority to assess transportation Impact Fees pursuant to Title 29, Article 20, Section 104.5 of the Colorado Revised Statutes; and

WHEREAS, the protection of the health, safety, and general welfare of the citizens of Mesa County require that the Major Road System be expanded and improved to meet the demands of new development; and

WHEREAS, an equitable transportation Impact Fee system enables Mesa County to impose a proportionate share of the costs of required improvements to the Major Road System on those developments that create the need; and

WHEREAS, Mesa County, in conjunction with the City of Grand Junction, the City of Fruita, and the Town of Palisade, conducted a Transportation Impact Fee Study known as the Transportation Impact Fee Study by Duncan Associates (the "Impact Fee Study"); and

WHEREAS, the Impact Fee Study sets forth reasonable methodologies and analyses for determining the impacts of various types of development on the Major Road System; and

WHEREAS, the transportation Impact Fee described in this ordinance is based on the Impact Fee Study, and does not exceed the capital costs required to serve the development that will pay the fees; and

WHEREAS Impact Fees are calculated using the same methodology throughout the Service Area, however, the types of improvements to the road system considered in the Impact Fee Study should provide a direct or indirect benefit to the development paying the fee, it is therefore appropriate to divide the Service Area into Benefit Districts for purposes of collecting and spending Impact Fees: and

WHEREAS, there is both a rational nexus and a rough proportionality between the development impacts created by each type of new development covered by this regulation and the transportation Impact Fee that such development will be required to pay; and

WHEREAS, this Resolution creates a system by which transportation Impact Fees paid by Impact-Generating Development will be used to expand the Major Road System, so that the development that pays each fee will receive a benefit within a reasonable period of time after the fee is paid.

NOW, THEREFORE, BE IT RESOLVED BY THE MESA COUNTY BOARD OF COUNTY COMMISSIONERS, STATE OF COLORADO:

Section 1: That Mesa County, Colorado hereby approves and adopts a policy for assessing and collecting **TRANSPORTATION IMPACT FEES** as follows:

A. Short Title and Applicability

1. This section is known and cited as Mesa County's "Transportation Impact Fee Regulation," and is referred to herein as "this Regulation."

2. The provisions of this Regulation shall apply to all of the unincorporated area of Mesa County.

B. Purpose

1. The purpose of this Regulation is to require that Impact-Generating Development bears a proportionate share of the cost of improvements to the Major Road System; to require that the proportionate share does not exceed the cost of providing roadways; and to require that funds collected from Impact-Generating Development are actually used to construct Major Road System improvements.

2. It is not the purpose of this Regulation to collect any money from any Impact-Generating Development in excess of the actual amount necessary to offset demands generated by that development for Major Road System improvements for which the fee was paid.

C. Findings

The Governing Body finds that:

1. The protection of the health, safety, and general welfare of the citizens of Mesa County require that the Major Road System be expanded and improved to meet the demands of new development.

2. An equitable Impact Fee system enables Mesa County to impose a proportionate share of the costs of required improvements to the Major Road System on those developments that create the need.

3. The Impact Fee Study sets forth reasonable methodologies and analyses for determining the impacts of various types of development on the Major Road System.

4. The Transportation Impact Fee described in this Regulation is based on the Impact Fee Study, and does not exceed the capital costs required to serve the development that will pay the fees.

5. The types of improvements to the Major Road System considered in the Impact Fee Study will benefit the Traffic Impact-Generating Development. For the purpose of ensuring fee payers receive sufficient benefit for fees paid, road Benefit Districts are established. The road Benefit Districts are shown in Exhibit 1, which is attached hereto and incorporated herein by reference.

6. The Impact Fees are calculated in the Impact Fee Study based on a level of service that is lower than the existing level of service for the Major Road System. The level of service is defined as the system-wide ratio of capacity to demand in the Major Road System, and the fees are based on a one-to-one ratio.

7. The Transportation Impact Fees, as adopted, do not include the entire costs to the Major Road System. The fees are being adopted at only 53 percent of the full cost calculated in the Impact Fee Study, without even including the cost of major structures.

8. There is both a rational nexus and a rough proportionality between the development impacts created by each type of new development covered by this Regulation and the transportation Impact Fee that such development will be required to pay.

9. This Regulation creates a system by which Impact Fees paid by Impact-Generating Development will be used to expand the Major Road System, so that the development that pays the fee will receive a corresponding benefit within a reasonable period of time after the fee is paid.

D. Time of Fee Obligation and Payment

1. On and after the effective date of this Regulation, no Site Plan shall be issued for any Impact-Generating Development until a Transportation Impact Fee has been assessed pursuant to the terms of this Regulation.

2. The fee shall be determined and assessed at the time a Site Plan or other Development Application is issued. The fee shall be paid prior to the commencement of development or the issuance of the building permit. The Applicant for the Site Plan or other development request shall be responsible for paying the fee.

E. Exemptions

1. The following shall be exempt from the terms of this Regulation. An exemption must be claimed at the time of application for a Site Plan:

    a. Alterations of an existing dwelling unit where no additional dwelling units are created.

    b. Replacement of a destroyed, partially-destroyed or moved residential building or structure with a new building or structure of the same use, and with the same number of dwelling units.

    c. Replacement of destroyed, partially-destroyed or moved nonresidential building or structure with a new building or structure of the same gross floor area and use.

    d. Any development for which a completed application for a Site Plan was submitted prior to January 1, 2005 provided construction begins prior to July 7, 2005. In such cases, the fees in effect prior to the adoption of this regulation shall apply. For purposes of this section, "Construction" means at a minimum, the laying of a foundation.

2. The Impact Fee Administrator shall determine the validity of any claim for exemption pursuant to the criteria set forth in this Regulation.

3. In order to promote the economic development of Mesa County or the public health, safety, and general welfare of its residents, the Governing Body may agree to pay some or

all of the Impact Fees imposed on a proposed development or redevelopment from other funds of Mesa County that are not restricted to other uses. Any such decision to pay Impact Fees on behalf of an Applicant shall be at the discretion of the Governing Body and shall be made pursuant to goals and objectives articulated by the Governing Body.

4. No waivers shall be granted for any required Impact Fees.

F. Fee Determination

1. Any person who applies for an Impact-Generating Development, except those exempted or preparing an independent fee calculation study, shall pay a Transportation Impact Fee in accordance with the following fee schedule prior to issuance of a building permit. If any credit is due pursuant to subsection J., the amount of such credit shall be deducted from the amount of the fee to be paid.

Transportation Impact Fee Schedule (January 1, 2010)

Land Use Type	ITE Code	Unit	Fee	Factor
Residential				
Single Family	210	Dwelling	$1,678	1.00
Multi-Family	220	Dwelling	$1,162	0.69
Mobile Home/RV Park	240	Pad	$ 844	0.50
Hotel/Motel	310/320	Room	$1,582	0.94
Retail/Commercial				
Shopping Center (0-99KSF)	820	1000 SF	$2,754	1.64
Shopping Center (100-249KSF)	820	1000 SF	$2,586	1.54
Shopping Center (250-499KSF)	820	1000 SF	$2,507	1.49
Shopping Center (500+KSF)	820	1000 SF	$2,315	1.38
Auto Sales/Service	841	1000 SF	$2,488	1.48
Bank	911	1000 SF	$4,182	2.49
Convenience Store w/Gas Sales	851	1000 SF	$6,011	3.58
Golf Course	430	Hole	$3,913	2.33
Health Club	493	1000 SF	$2,241	1.34
Movie Theater	443	1000 SF	$6,955	4.14
Restaurant, Sit Down	831	1000 SF	$3,383	2.02
Restaurant, Fast Food	834	1000 SF	$7,577	4.52
Office/Institutional				
Office, General (0-99KSF)	710	1000 SF	$2,065	1.23
Office, General >100KSF	710	1000 SF	$1,759	1.05
Office, Medical	720	1000 SF	$5,825	3.47
Hospital	610	1000 SF	$2,705	1.61
Nursing Home	620	1000 SF	$ 757	0.45
Church	560	1000 SF	$1,289	0.77
Day Care Center	565	1000 SF	$2,691	1.60
Elementary/Sec. School	520/522/530	1000 SF	$ 420	0.25
Industrial				
Industrial Park	130	1000 SF	$1,220	0.73
Warehouse	150	1000 SF	$ 870	0.52
Mini-Warehouse	151	1000 SF	$ 304	0.18

This base rate is subject to annual adjustment for inflation based on the Consumer Price Index for All Urban Consumers (CPI-U), Western Region, Size B/C, published monthly by the United States Department of Labor. This information can be found at the internet site: http://data.bls.gov/labjava/outside.jsp?survey=cu. When the internet window opens follow the selection menu.

1) Select an area -- *West - Size Class B/C* (Scroll to bottom of menu)	3) Select – *Not Seasonally Adjusted*
2) Select – *All Items*	4) Click on – *Get Data*

2. If the type of Impact-Generating Development for which a Site Plan or other Development Application is requested is not specified on the above schedule, the Impact Fee Administrator shall determine the fee on the basis of the fee applicable to the most nearly comparable type of land use on the fee schedule. The Impact Fee Administrator shall use the most current edition of the report titled *Trip Generation*, prepared by the Institute of Transportation Engineers (ITE), or articles or reports appearing in the ITE Journal, as a guide to select a comparable type of land use by trip generation rates.

3. In many instances, a particular structure may include auxiliary uses associated with the primary land use. For example, in addition to the actual production of goods, manufacturing facilities usually also have office, warehouse, research, and other associated functions. The Impact Fees generally are assessed based on the primary land use. If the Applicant can document that an auxiliary land use accounts for over 25% of the gross floor area of the structure, and that the auxiliary use is not assumed in the trip generation or other impact data for the primary use, then the Impact Fees may be assessed based on the individual square footage of the primary and auxiliary land use.

4. If the type of Impact-Generating Development for which a Site Plan or other Development Application is requested is for a change of land use type or for the expansion, redevelopment, or modification of an existing development, the fee shall be based on the net increase in the fee for the new land use type as compared to the previous land use type.

5. In the event that the proposed change of land use type, redevelopment, or modification results in a net decrease in the fee for the new use or development as compared to the previous use or development, there shall be no refund of Impact Fees previously paid.

6. For fees expressed per 1,000 square feet, the square footage shall be determined according to gross floor area, measured from the outside surface of exterior walls and excludes unfinished basements and enclosed parking areas. The fees shall be prorated and assessed based on actual floor area, not on the floor area rounded to the nearest 1,000 square feet.

G. Independent Fee Calculation

1. The Impact Fee may be computed by the use of an independent fee calculation study at the election of the Applicant, or upon the request of the Impact Fee Administrator, for any proposed Traffic Impact-Generating Development interpreted as not one of those types listed on the fee schedule or as one that is not comparable to any land use on the fee schedule, and for any proposed Traffic Impact-Generating Development for which the Impact Fee Administrator concludes the nature, timing or location of the proposed development makes it likely to generate impacts costing substantially more to mitigate than the amount of the fee that would be generated by the use of the fee schedule.

2. The preparation of the independent fee calculation study shall be the sole responsibility and cost of the party electing to utilize the study.

3. Any person who requests to perform an independent fee calculation study shall pay an application fee for administrative costs associated with the review and decision on such study.

4. The independent fee calculation study shall be based on the same formulas, level of service standards and unit costs for facilities used in the Impact Fee study, and shall document the methodologies and assumptions used.

5. The Impact Fee shall be calculated according to the following formula.

FEE = VMT x NET COST/VMT x RF

Where:

VMT	=	TRIPS x % NEW x LENGTH ÷ 2
TRIPS	=	Daily trip ends generated by the development during the work week
% NEW	=	Percent of trips that are primary, as opposed to passby or diverted-link trips
LENGTH	=	Average length of a trip on the Major Road System
÷ 2	=	Avoids double-counting trips for origin and destination
NET COST/VMT	=	COST/VMT - CREDIT/VMT
COST/VMT	=	COST/VMC x VMC/VMT
COST/VMC	=	Average cost to create a new VMC based on historical or planned projects ($306 excluding major structures)
VMC/VMT	=	The system-wide ratio of capacity to demand in the Major Road System (1.0 assumed)
CREDIT/VMT	=	Credit per VMT, based on revenues to be generated by new development ($82)
RF	=	Reduction factor adopted by policy at 52.6%

6. An independent fee calculation study submitted for the purpose of calculating a Transportation Impact Fee may be based on data, information or assumptions from independent sources, provided that:

   a. The independent source is an accepted standard source of transportation engineering or planning data; or

   b. The independent source is a local study on trip characteristics carried out by a qualified transportation planner or engineer pursuant to an accepted methodology of transportation planning or engineering that has been approved in advance by the Impact Fee Administrator.

H. Use of Fees

1. An Impact Fee fund that is distinct from the general fund of Mesa County is hereby created, and the Impact Fees received will be deposited in an interest-bearing account to be known as the Transportation Impact Fee account.

2. The Transportation Impact Fee account shall contain only those Transportation Impact Fees collected pursuant to this Regulation plus any interest which may accrue from time to time on such amounts.

3. Monies in the Impact Fee account shall be considered to be spent in the order collected, on a first-in/first-out basis within the Benefit District where the traffic generating development paying the fee is located, except that:

    a. Where a road on the Major Road System is used to define benefit boundaries, the road demarcating the boundary will be considered part of both Benefit Districts that it bounds, and Transportation Impact Fees from both Benefit Districts may be used to fund capital improvements for that road; or

    b. Transportation Impact Fee funds may be authorized by the Mesa County Board of County Commissioners to fund a road improvement on the Major Road System outside the Benefit District from which the fees are collected, if it is demonstrated by competent evidence that the fee payers from the Benefit District from which the fees come will receive sufficient benefit from the road capital improvement.

4. The monies in the Impact Fee account shall be used only for the following:

    a. To construct Major Road System improvements;

    b. To pay Debt Service, including principle and interest, on any portion of any general obligation bond or revenue bond issued after the effective date of this Regulation and used to finance Major Road System improvements. For the purposes of Debt Service, only 50% of the fees may be obligated;

    c. As described in subsection I., Refunds; or

    d. As described in subsection J., Credits.

5. The monies in each Impact Fee account shall not be used for the following:

    a. Rehabilitation, reconstruction, replacement or maintenance of existing roads, unless it is an integral part of an improvement that adds capacity to the Major Road System;

    b. Ongoing operational costs; or

    c. Debt Service for any past general obligation bond or revenue bond issued prior to the effective date of this Regulation, or any portion of any current or

future bond issued after the effective date of this Regulation and not used to finance Major Road System improvements.

6. Capital spending decisions shall be guided by the principles, among others, that Transportation Impact Fee funds shall be used to make capacity and safety improvements, but not used to upgrade existing deficiencies except incidentally in the course of making eligible improvements; Transportation Impact Fee fund expenditures which provide improvements which are near in time and/or distance to the development from which the funds are collected are preferred over expenditures for improvements which are more distant in time and/or distance.

I. Refunds

1. Any monies in the Transportation Impact Fee fund that have not been spent within seven years after the date on which such fee was paid shall be returned to the current property owners with interest earned since the date of payment.

   a. Notice of the right to a refund, including the amount of the refund and the procedure for applying for and receiving the refund, shall be sent or served in writing to the present owners of the property within 30 days of the date the refund becomes due. The sending by regular mail of the notices to all present owners of record shall be sufficient to satisfy the requirement of notice.

   b. The refund shall be made on a pro rata basis, if applicable, and shall be paid in full within 90 days of the date certain upon which the refund becomes due.

2. If an Applicant has paid an Impact Fee required by this Regulation and the building permit later expires without the possibility of further extension, and the development activity for which the Impact Fee was imposed did not occur and no impact has resulted, then the Applicant who paid such fee shall be entitled to a refund of the fee paid, without interest. In order to be eligible to receive such refund, the Applicant who paid such fee shall be required to submit an application for such refund within thirty 30 days after the expiration of the permit or extension for which the fee was paid.

3. At the time of payment of any Impact Fee under this Regulation, the Impact Fee Administrator shall provide the Applicant paying such fee with written notice of those circumstances under which refunds of such fees will be made. Failure to deliver such written notice shall not invalidate any collection of any Impact Fee under this Regulation.

J. Credits

1. General standards.

a. Any person initiating Traffic Impact -Generating Development may apply for credit against Transportation Impact fees otherwise due for payment under the provisions of this Regulation, for any contribution, payment, or construction for any Non-Development Related Capital Road Improvements on the Major Road System. If all conditions and requirements set forth in this Section are met, a credit will be issued.

b. Any person initiating Traffic Impact -Generating Development may apply for credit against Transportation Impact fees otherwise due, up to but not exceeding the full obligation for fees proposed for payment under the provisions of this Regulation, for any dedication of land accepted by Mesa County, which is not already decreed, declared, proclaimed or otherwise granted to Mesa County.

c. Credits may only be applied for on expenditures or dedications that have been made following the adoption of this Regulation.

d. Credits for contributions, payments, or construction for Non-Development Related Capital Road Improvements on the Major Road System are transferable within the same development or, within the same Benefit District, to another development owned by the owner originally receiving the credit.

Effective January 1, 2005, the holder of credits generated by a particular development may transfer such to persons or businesses with an ownership interest in individual lots within that development. These transferred credits may not be used against fees in any other development(s).

Any attempt, other than that set out in the paragraph above, to transfer credits to any person who is not an owner of a development to which the credits are attached will void the credits at the option of Mesa County. There shall be no transferable credits associated with any dedication of land set out in paragraph J.1.b. above.

Credits are not transferable for credit against any other fees required to be paid, including any required for other public facilities.

e. To be eligible for credits, any person initiating Traffic Impact -Generating Development must enter into an agreement with Mesa County prior to the issuance of a Development Application approval if they propose to or are required to construct roads or dedicate right-of-way for Non-Development Related Capital Road Improvements on the Major Road System.

f. Only a credit may be issued, in no case shall there be a refund of money.

g. Credit must be used within 36 months of the credit agreement

h. Examples of Non-Development Related Capitol Road Improvements on the Major Road System eligible for credit against Transportation Impact Fees include but are not limited to:

- ♦ Added traffic lanes on public streets or roads
- ♦ New traffic signals at existing intersections
- ♦ New auxiliary lanes that will serve existing or future public streets depicted on the Grand Valley Circulation Plan or Rural Circulation Plan
- ♦ Bridges, Pipes or other structures for crossing canals, streams or drainages that serve existing or future public streets depicted on the Grand Valley Circulation Plan or Rural Circulation Plan

Improvements eligible for Transportation Impact Fee credits include but are not limited to the examples cited.

To be eligible for Transportation Impact Fee credits, any of the above improvements must be constructed to the standards found in the *Mesa County Standard Specifications for Road and Bridge Construction* for the function classification of the particular street or road.

i. Examples of Development Related Improvements constructed <u>not</u> eligible for credit against Transportation Impact Fees:

- ♦ Installation of a traffic signal at a <u>new</u> intersection created by the construction of a private driveway or private street.
- ♦ New Auxiliary lanes serving a private driveway or street.
- ♦ Bridges, pipes or other structures necessary for crossing canals, streams or drainages that facilitate the construction of a private driveway or private street.
- ♦ Reasonable Road Improvements that are not constructed to Mesa County Standards and/or are not part of the Grand Valley Circulation Plan or Rural Circulation Plan and are intended solely for access to the particular development.

Improvements <u>not</u> eligible for Transportation Impact Fee credits include but are not limited to the examples cited.

j. All Non-Development Related Capitol Road Improvements are eligible for 100% credit against Transportation Impact Fees.

2. *Credit against fees.*

Credit will be in an amount equal to the value of the contribution or payment at the time it is made to Mesa County; the costs of the road construction at the time of its completion; or fair market value of the land dedicated for right-of-way at the time of dedication.

3. Procedure for credit review.

a. The determination of any credit will be undertaken upon the submission of an application for credit agreement, which must be submitted to the Impact Fee Administrator.

b. The application for a credit agreement must include the following information:

(1) If the proposed application involves a credit for any contribution or payment, the following documentation must be provided:

(a) A certified copy of the development approval in which the contribution was agreed;

(b) If payment has been made, proof of payment; or

(c) If payment has not been made, the proposed method of payment.

(2) If the proposed application for credit agreement involves construction:

(a) The proposed plan of the specific construction prepared and certified by a duly qualified and licensed Colorado engineer or contractor;

(b) The projected costs for the suggested improvement, which must be based on local information for similar improvements, along with the construction timetable for the completion thereof. The estimated cost must include the cost of construction or reconstruction, the cost of all labor and materials, the cost of all lands, property, rights, easements and franchises acquired, costs of plans and specifications, surveys of estimates of costs and of revenues, costs of professional services, and all other expenses necessary or incident to determining the feasibility or practicability of such construction or reconstruction.

(3) If the proposed application involves credit for the dedication of land, Mesa County will evaluate land value for purpose of right-of-way dedication. The right-of-way dedication value amount will be given to the Applicant. For purposes of the credit agreement, the Applicant must submit:

(a) A drawing and legal description of the land;

(b) If Applicant disagrees with the right-of-way dedication value amount, the Applicant must provide an appraisal for the fair market value of the land at the time of the dedication, prepared by a professional real estate appraiser who is a member of the Member Appraisal Institute (MAI) or who is a member of Senior Residential Appraisers (SRA).

c. Within ten days of receipt of the proposed application for credit agreement, the Impact Fee Administrator will determine if the application is complete. If it is

determined that the proposed agreement is not complete, the Impact Fee Administrator will send a written statement to the Applicant outlining the deficiencies. The Impact Fee Administrator will take no further action on the proposed application for credit agreement until all deficiencies have been corrected or otherwise settled.

d. Once the Impact Fee Administrator determines the proposed application for credit agreement is complete, it will be reviewed within 20 days. The application for credit agreement may be approved if it complies with the General Standards in subsection J.1. With respect to an application for right-of-way dedication credits, if the Impact Fee Administrator disagrees with the Applicant's appraisal, it may conduct a second appraisal. Any right-of-way dedication credit agreement shall take into consideration the appraisals conducted. If no agreement can be reached, the Impact Fee Administrator shall determine the amount of the right-of-way dedication credit.

e. If the application for credit agreement is approved by the Impact Fee Administrator, a credit agreement will be prepared and signed by the Applicant and the county. It will specifically outline the contribution, payment, construction or land dedication; the time by which it will be completed, dedicated or paid and any extensions thereof; and the dollar credit the Applicant will receive for the contribution, payment or construction. For the purposes of this paragraph, the Impact Fee Administrator is authorized to sign the credit agreement.

4. Appeal of credit decision.

If the Applicant for a credit agreement disagrees with the decision of the Impact Fee Administrator, the Applicant can appeal the decision to the BOCC by filing with the Impact Fee Administrator, within ten days of the date of the written decision, a written notice stating and specifying briefly the grounds of the appeal. The Impact Fee Administrator will schedule an appeal hearing before the BOCC within 30 days of the filing of the appeal. The BOCC will affirm or reverse the decision of the Impact Fee Administrator based on standards in subsection J.1. If the county commissioners reverse the decision, they will direct the Impact Fee Administrator to adjust the credit in accordance with their findings.

K. Reasonable Road Improvements:

1. The design and construction of Reasonable Road Improvements required to serve the development must be made. Examples of Reasonable Road Improvements include but are not limited to the following:

   a. Absent unique needs or characteristics of the development, Reasonable Road Improvements shall include construction of full asphalt radii consistent with the classification of the future street and necessary drainage improvements, in accordance with the County standard detail for each intersection with a perimeter street and/or improvements necessitated if the proposed development creates lots with direct access to the perimeter street(s) as determined by the Impact Fee Administrator. If a Traffic Study is required and improvements in addition to those set out above are required, the Reasonable Road Improvements shall conform to the Traffic Study.

b. Curb, gutter and sidewalk improvements shall be constructed as part of minimum access improvements when connecting directly to a street with like improvements.

c. Determination of Reasonable Road Improvements shall consider pedestrian connections, school bus stops and transit shall be incorporated into determining what improvements are required.

d. Drainage Structures including Bridges -- The development shall construct drainage structures and/or bridges associated with the connection of the development to the street system.

e. Traffic Studies -- Preparation of Traffic Studies shall be the responsibility of new development as currently defined by the Code.

f. Utilities -- The extension of utilities including water, sewer, storm water improvements, gas, electric, cable, and telephone, etc. will be the responsibility of new development.

2. In addition to the Transportation Impact Fee and Reasonable Road Improvements, the developer must fully construct (or if current needs do not require construction, then the developer must guarantee for future construction) all internal streets, roads, alleys, and future connections in accordance with the development's approved plan.

L. Miscellaneous Provisions:

1. The Impact Fee Administrator shall maintain accurate records of the Transportation Impact Fees paid, including the name of the person paying such fees, the project for which the fees were paid, the date of payment of each fee, the amounts received in payment for the fee, and any other matters that Mesa County deems appropriate or necessary to the accurate accounting of such fees. Records shall be available for review by the public during normal business hours and with reasonable advance notice.

2. Upon request by the Mesa County Board of County Commissioners, the Impact Fee Administrator shall present to the Mesa County Board of County Commissioners a proposed capital improvements program that shall assign monies from the Transportation Impact Fee fund to specific projects and related expenses for eligible improvements. The Impact Fee funds may be combined with other funds of the County for the purpose of completing specific projects. Any monies, including any accrued interest, not assigned to specific projects within such capital improvements program and not expended pursuant to subsection I., Refunds, or subsection J., Credits, shall be retained in the same Impact Fee fund until the next fiscal year.

3. If a transportation Impact Fee has been calculated and paid based on a mistake or misrepresentation, it shall be recalculated.

a. Any amounts overpaid by an Applicant shall be refunded by the Impact Fee Administrator to the Applicant within 30 days after the acceptance of the recalculated amount, with interest since the date of such overpayment.

b. Any amounts underpaid by the Applicant shall be paid to the Impact Fee Administrator within 30 days after the acceptance of the recalculated amount, with interest since the date of such underpayment.

c. In the case of an underpayment to the Impact Fee Administrator, Mesa County shall not issue any additional permits or approvals for the project for which the Impact Fee was previously underpaid until such underpayment is corrected, and if amounts owed to Mesa County are not paid within such 30 day period, Mesa County may also rescind any permits issued in reliance on the previous payment of such Impact Fee.

4. The Transportation Impact Fees and the administrative procedures established by this Regulation shall be reviewed annually.

5. Payment of a Transportation Impact Fee for Major Road System Improvements does not obligate Mesa County to construct any specific Major Road System Improvement.

6. Nothing in this Regulation shall prohibit Mesa County from contributing funds, materials or labor for additional improvements to the Major Road System when it is deemed in the public interest to do so.

M. Appeals

Any determination made by the Impact Fee Administrator charged with the administration of any part of this Regulation may be appealed to the Governing Body within 30 days from the date of the decision to be appealed.

N. Violation

Furnishing false information on any matter relating to the administration of this Regulation, including without limitation the furnishing of false information regarding the expected size, use, or impacts from a proposed development, shall be a violation of this Regulation and shall result in the process beginning over with the correct information. If the process has been completed when the violation has been discovered, the violation shall be pursued as set forth in the Mesa County Land Development Code.

O. Effective Date

The provisions of this Regulation shall take effect on January 1, 2005. or when the Mesa County Land Development Code has been modified pursuant to Section 3 below, whichever is later, and from that date, the provisions herein shall be controlling in the applicable area of the Mesa County.

P. Calculation of Time for the Purposes of This Resolution

In computing any period of time prescribed or allowed by this Regulation, the day of the act or event from which the designated period of time begins to run shall not be included. The last day of the period so computed shall be included, unless it is a Saturday, a Sunday, or a holiday, in which event the period runs until the end of the next day which is not a Saturday, a Sunday, or a holiday. When the period of time prescribed or allowed is five days or less, intermediate Saturdays, Sundays, and holidays shall be excluded in the computation. As used here, "holiday" means any holiday observed by the political subdivision of Mesa County.

Section 2: **Definitions.**

Certain words or phrases unique to this Regulation shall be construed as defined below, unless it is apparent from the context that they have a different meaning.

Applicant: For the purposes of this Regulation, the Applicant is an Applicant for a Site Plan or other Development Application for which an Impact Fee is due.

Benefit District: An area defined for purposes of collecting and spending transportation Impact Fees. A map of the Benefit Districts is attached hereto and made a part hereof as Exhibit 1.

Debt Service: Includes, principle, interest, and any fees associated with obtaining financing and servicing any debt.

Development: Means any activity which requires a Development Application.

Development Application: Means any application for any preliminary or final plat for rezoning, planned unit development, conditional or special use permit, subdivision, development or site plan.

Governing Body: The Governing Body for the purposes of this Resolution is the Mesa County Board of County Commissioners.

Impact Fee Administrator: Mesa County employee primarily responsible for administering the provisions of this Regulation, or his or her designee.

Impact Fee: The Transportation Impact Fee.

Impact Fee Study: The *Transportation Impact Fee Study* prepared for Mesa County by Duncan Associates in September 2002, or a subsequent similar report.

Major Road System: All state and federal highways, principal arterials such as 24 Road and Patterson Road, minor arterials, major collectors and minor collector roads within Mesa County as shown on the most current version of the Grand Valley Circulation Plan and Rural Road Classification maps in the Mesa County Road Access Policy.

Major Road System Improvements: Improvements that expand the capacity of the Major Road System, including but not limited to the construction of new roads, the widening of existing roads, intersection improvements, highway interchanges, and installation of traffic signals.

Non-Development Related Capital Road Improvements: Those Major Road System Improvements which are of benefit to the general public and not required as a Reasonable Road Improvement for the Development.

Service Area: Mesa County, Colorado.

Site Plan: Shall be as defined by the Mesa County Land Development Code.

Traffic Impact-Generating Development: Any land development designed or intended to permit a use of the land that will increase the number of Vehicle-Miles of Travel.

Vehicle-Miles of Capacity (VMC): The product of the maximum number of vehicles that can be accommodated on a roadway during a week day and the length of the roadway in miles.

Vehicle-Miles of Travel (VMT): The product of the number of vehicles traveling during a week day and the distance in miles that those vehicles travel."

Section 3: The staff of the Mesa County Planning and Development Department is directed to submit changes to the Mesa County Land Development Code in conformity with this Resolution.

Section 4: Section 7.5.3 of the Mesa County Land Development Code, which currently includes a requirement for the payment of fee in lieu of land dedications, provides for a $225.00 fee for residential development and a fee based upon square footage for commercial property. This fee includes $75.00 for roads. To the extent the fee is for roads, the fee is repealed. Therefore, Section 7.5.3 of the Mesa County Land Development Code shall be modified to remove a provision for a road fee. The remainder of the fee shall remain undisturbed. Such provision shall be revised in conformity with this Regulation.

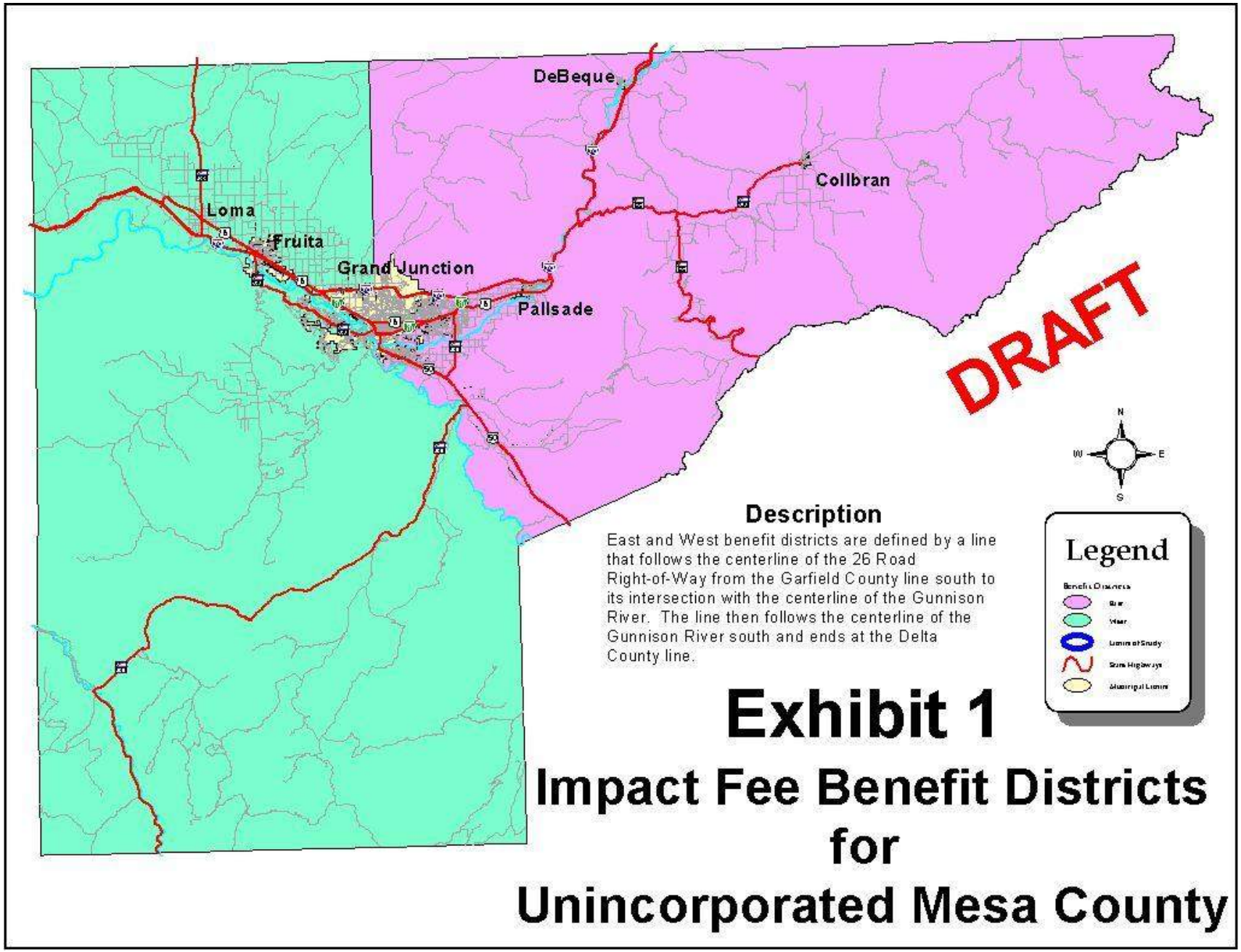
PASSED this ___ day of _____ 2004.

APPROVED:

_____
Doralyn B. Genova, Chair
Mesa County Board of County Commissioners

ATTEST:

_____
Janice Ward, Mesa County Clerk and Recorder


DeBeque
Collbran
Loma
Fruita
Grand Junction
Pallsade
DRAFT
N
W
E
S
Description
East and West benefit districts are defined by a line that follows the centerline of the 26 Road Right-of-Way from the Garfield County line south to its intersection with the centerline of the Gunnison River. The line then follows the centerline of the Gunnison River south and ends at the Delta County line.
Legend
Exhibit 1
Impact Fee Benefit Districts
for
Unincorporated Mesa County

APPENDIX 3.1
PRELIMINARY ACCESS LOCATION CHECKLIST

MESA COUNTY

MESA COUNTY

Preliminary Access Location (PAL) Application Checklist

- ☐ Online Application
- ☐ Can be prepared by applicant or representative
- ☐ Criteria applies for all qualifying projects per MCDS Chapter 3: Permits Section 3.02 and 3.03

Project Narrative Information

☐ Project size and location

☐ Background of Property
- Locations of existing access
- Project Schedule

☐ Type of development proposed
- What are you building?
- Who is going to use it and how often?
- What is the zoning of the property?
- Any new accesses proposed? How many?
- Any proposed changes to existing accesses?

Additional Information

Additional information as outlined on Traffic Assessment / Traffic Impact Study Checklists for more complex projects. The County will identify these items and notify the applicant.

☐ Traffic Analysis Conference Form (if anticipated)

☐ Traffic Assessment / Traffic Impact Study Requirements (if anticipated)

Attachments

☐ Photos
- Photos of the proposed access location
- Photos showing views of the public road in both directions from the proposed access point

☐ Aerial Map
- An aerial map of the property and the surrounding area showing the proposed access location(s)

☐ Access Plan - plan showing the existing public road and initial conceptual access proposal and includes:
- Number and location of proposed access points
- Existing or proposed easements that affect access
- Existing or proposed buildings
- Distance from proposed access to the limits of the subject property frontage
- Driveways and side roads within 1,000 feet of the property
- Distance from the proposed access to the nearest existing accesses on both sides of the Mesa County roadway

APPENDIX 4.1
BASE ASSUMPTIONS FORM FOR TA AND TIS

MESA COUNTY

Traffic Assessment / Traffic Impact Study
Base Assumptions Form

MESA COUNTY

Project Information		
Project Name		
Location		
Type of Land Use		
Size (number of units, SF)		
Anticipated Completion Date and Phasing		
TA/TIS Base Assumptions		
Study Area Boundaries	North:	South:
	East:	West:
Study Years		
Future Traffic Growth Rate		
Study Intersections	1. All Access Drives	2.
	3.	4.
	5.	6.
	7.	8.
Time Period For Study	AM ☐ PM ☐	Sat Noon ☐
Trip Generation Rates		
Trip Adjustment Factors	Pass by:	Captive Market:
Overall Trip Distribution	North: ☐ South ☐	East ☐ West ☐
Mode Split Assumptions		
Committed Roadway Improvements		
Other Traffic Studies		
Areas Requiring Special Study		

☐ Site Plan Sketch:

☐ Engineer of Record Statement of Qualifications:

DATE:

TRANSPORTATION ENGINEER:

APPENDIX 4.2
TRAFFIC ASSESSMENT CHECKLIST

MESA COUNTY

MESA COUNTY

Traffic Assessment (TA) Checklist

- ☐ PAL Online Application
- ☐ Base Assumptions Form
- ☐ Must be prepared by and signed/sealed by a Professional Engineer
- ☐ Criteria Applies for: DHV > 5

Report Information

1. Introduction

- ☐ Project size and location
- ☐ Background of Property
  - List Former Traffic Studies
  - Locations of existing access
- ☐ Objective of TIS
- ☐ Project Schedule
  - Estimated completion dates
- ☐ Type of development proposed
  - Density of Land Use
  - Zoning of Property and Adjacent Land Uses
  - Intensity of Use
  - Type and number of access proposed
  - Any proposed improvements to existing access

2. Description of Existing & Proposed Transportation System Conditions

- ☐ Functional Classification of intersecting / adjacent roads
- ☐ Posted speed limits
- ☐ Number of travel lanes
- ☐ Intersection Geometries and Traffic Controls
- ☐ Sight Distance
- ☐ Adjacent land use

- ☐ Transit routes
- ☐ Presence of on and off-street bicycle facilities / multimodal travel within 1/4 mile
- ☐ Proposed accommodations for multimodal travel
- ☐ Discussion of sidewalk types, pathways, and connections to local / perimeter destinations

- ☐ Evaluate existing roadway and intersection traffic volumes using existing County or State data as available:
  - Evaluation of Average Daily Trips (ADT)
  - Evaluation of Peak hour capacity (DHV)
  - Evaluation of Level of Service at existing study intersections

3. Traffic Growth Calculations

- ☐ 20-year background traffic growth calculation (source of existing data, growth rate, factors, etc.)

4. Traffic Operations Analysis, Capacity, and Level of Service

- ☐ Analyze capacity and operational characteristics using HCM procedures
- ☐ Peak hour capacity analysis and level of service determination for all adjacent roadways for each study year for the following scenarios:
  - Baseline traffic conditions for current Analysis year
  - Background traffic conditions (20-year projection) for future growth
  - Total traffic conditions (Background + Project) for future & project growth
- ☐ Level of Service Analysis for each study year and traffic scenario
- ☐ Turn Lane Warrant Analysis
- ☐ Pedestrian / Multimodal Movement Analysis

5. Project Traffic Assessment (Trip Generation, Trip Distribution, Trip Assignment, Transit/Mode Split)

- ☐ Trip Generation for development
  - Adjusted trip generation and trip reduction factors, if applicable
- ☐ Trip Distribution
  - Detailed statement of Directional Distribution Assumptions
  - Directional Distribution (Percentage) of site traffic to each road
- ☐ Trip Assignment
  - Assignment of Project traffic by movement
  - Project site traffic for build-out condition
- ☐ Transit/Mode Split Evaluation and Consideration

6. Conclusions & Recommendations

- ☐ A summary of recommendations and proposed mitigations including:
  - Proposed and Recommended Improvements
  - Level of Service Analysis at Critical Points
  - Assessment of Site Access
- ☐ Conclusions

Figures & Tables

- ☐ Site Map
  - Location within the site of each land use

- ☐ Access Plan - plan showing the existing public road and initial conceptual access proposal and includes:
  - Width and surface of the existing roadway
  - Width of dedicated right-of-way
  - Number and location of proposed access points
  - Existing or proposed easements that affect access
  - Existing or proposed buildings
  - Distance from proposed access to the limits of the subject property frontage
  - Driveways and side roads within 1,000 feet of the property
  - Distance from the proposed access to the nearest existing accesses on both sides of the Mesa County roadway.
  - Sight distance analysis with the graphic representation of sight triangles
  - If Mesa County has issued a Preliminary Access Location or Access Permit for any nearby properties, the location of proposed accesses shown must be considered in new applications, even if the nearby access has not yet been constructed
  - Any major topographical features on the property that may affect access location (e.g. major drainages, slopes, etc.)

- ☐ Traffic Volume Map
  - Diagram or table showing the most up-to-date Baseline, Background, and Total traffic volumes, both daily and design hour volumes at the access points

- ☐ Trip Generation & Trip Distribution
  - Table showing Land Use, ITE Code, Trip Generation time period and method, weekend and design hour rates, as applicable

- ☐ Figures and tables for peak hour capacity analysis and level of service determination for the following scenarios:
  - Baseline traffic conditions for current Analysis year
  - Background traffic conditions (20-year projection) for future growth
  - Total traffic conditions (Background + Project) for future + project growth

Calculations

- ☐ Capacity and Level of Service
  - Calculations for capacity and level of service

- ☐ HCM Worksheets
  - Worksheets and evaluation summaries from HCM

- ☐ Traffic Count Data
  - Existing traffic volume data

Criteria Requiring the Traffic Analysis to expand to a Traffic Impact Study:

Per MCDS Chapter 3, a Traffic Analysis requires further study if the following is identified:

- ☐ The project requires a Zoning Map Amendment (rezoning).
- ☐ The County determines the impact of the development may require the functional classification of the adjacent roads may need to be altered.
- ☐ The proposed traffic volume (DHV) at the access results in a net increase of 20% on the County Road from pre-development conditions.
- ☐ The County determines the impact of the development may require functional changes to intersection control.
- ☐ The results from the TA recommend further analysis.

APPENDIX 4.3
TRAFFIC IMPACT STUDY CHECKLIST

MESA COUNTY

Traffic Impact Study (TIS) Checklist

- ☐ PAL Online Application
- ☐ Base Assumptions Form
- ☐ Must be prepared by and signed/sealed by a Professional Engineer; The Engineer must provide a Statement of Qualifications
- ☐ Criteria Applies for: DHV > 100 or "qualifying event" Traffic Assessments

Report Information

1. Introduction

- ☐ Project size and location
- ☐ Background of Property
    - List Former Traffic Studies
    - Locations of existing access
- ☐ Scope of TIS including adjacent intersections, if necessary
- ☐ Objective of TIS
- ☐ Project Schedule
    - Proposed phasing plans and estimated completion dates
- ☐ Type of development proposed
    - Density of Land Use
    - Zoning of Property and Adjacent Land Uses
    - Intensity of Use
    - Type and number of access proposed

2. Description of Existing & Proposed Transportation System Conditions

- ☐ Functional Classification of intersecting / adjacent roads
- ☐ Description of existing roadway network
- ☐ Posted speed limits
- ☐ Number of travel lanes
- ☐ Intersection Geometries and Traffic Controls
- ☐ Sight Distance
- ☐ Traffic accident history
- ☐ Adjacent land use
- ☐ Other relevant characteristics

- ☐ Transit Routes
- ☐ Presence of on and off-street bicycle facilities / multimodal travel within 1/4 mile
- ☐ Proposed accommodations for multimodal travel
- ☐ Discussion of sidewalk types, pathways, and connections to local / perimeter destinations

- ☐ Provide current roadway and intersection traffic counts including:
    - Evaluation of Average Daily Trips (ADT)
    - Evaluation of Peak hour capacity (DHV)
    - Evaluation of Level of Service at existing study intersections

3. Traffic Growth Calculations

- ☐ 20-year background traffic growth calculation (source of existing data, growth rate, factors, etc.)

4. Traffic Operations Analysis, Capacity, and Level of Service

- ☐ Analyze capacity and operational characteristics using HCM procedures
- ☐ Peak hour capacity analysis and level of service determination for all adjacent roadways for each study year for the following scenarios:
    - Baseline traffic conditions for current Analysis year,
    - Background traffic conditions (20-year projection) for future growth,
    - Total traffic conditions (Background + Project) for future & project growth.
- ☐ Level of Service Analysis for each study year and traffic scenario

☐ Turn Lane Warrant Analysis
☐ Pedestrian / Multimodal Movement Analysis

☐ Evaluation of significant impacts at study intersections/corridors in study area
☐ Background traffic projections should include the following:
  - 20-year horizon Existing and Committed (funded) Capital Improvement Projects
  - 20-year horizon Existing and Permitted Land Development Projects
  - Description of adjacent and applicable planned transportation plans from municipal, County, CDOT, RTP, MPO/RTPO sources
  - Permitted development projects in the vicinity

5. Project Traffic Assessment (Trip Generation, Trip Distribution, Trip Assignment, Transit/Mode Split)

☐ Trip Generation for development phases
  - Adjusted trip generation and trip reduction factors, if applicable
☐ Trip Distribution
  - Detailed statement of Directional Distribution Assumptions
  - Directional Distribution (Percentage) of site traffic to each road
☐ Trip Assignment
  - Assignment of Project traffic by movement
  - Project site traffic for build-out condition and project phases
  - Trip Generation for project build-out conditions
☐ Transit/Mode Split Evaluation and Consideration

6. Access Plan and Design for Traffic Progression and Circulation

☐ Evaluation of Access Plan and Design for Traffic Progression and Circulation
  - Identify if any of the following improvements are needed:
    - Roadway widening?
    - Channelization?
    - Signalized intersections?

7. Conclusions & Recommendations

☐ A summary of recommendations and proposed mitigations including:
  - Proposed and Recommended Improvements
  - Level of Service Analysis at Critical Points
  - Assessment of Site Access
☐ Conclusions

Figures & Tables

☐ Site Map
  - Location within the site of each land use

☐ Access Plan - plan showing the existing public road and initial conceptual access proposal showing:
  - Width and surface of the existing roadway
  - Width of dedicated right-of-way
  - Number and location of proposed access points
  - Existing or proposed easements that affect access
  - Existing or proposed buildings
  - Distance from proposed access to the limits of the subject property frontage
  - Driveways and side roads within 1,000 feet of the property
  - Distance from the proposed access to the nearest existing accesses on both sides of the Mesa County roadway
  - Sight distance analysis with the graphic representation of sight triangles
  - If Mesa County has issued a Preliminary Access Location or Access Permit for any nearby properties, the location of proposed accesses shown must be considered in new applications, even if the nearby access has not yet been constructed

- Any major topographical features on the property that may affect access location (e.g. major drainages, slopes, etc.)

☐ Plan showing Proposed mitigation solutions

☐ Traffic Volume Map - showing Average daily traffic data from within the last year
- Traffic volume figure that shows the most up-to-date Baseline, Background, and Total traffic volumes, both daily and design hour, on the existing and proposed road system.

☐ Trip Generation & Trip Distribution
- Adjusted trip generation and trip reduction factors
- Figure showing percentage of site traffic on each road
- Figure showing project site traffic for build-out condition and project phases

☐ Figures and tables for peak hour capacity analysis and level of service determination for the following scenarios:
- Baseline traffic conditions for current Analysis year
- Background traffic conditions (20-year projection) for future growth
- Total traffic conditions (Background + Project) for future + project growth

Calculations

☐ Capacity and Level of Service
- Calculations for capacity and level of service

☐ HCM Worksheets
- Worksheets and evaluation summaries from HCM

☐ Traffic Count Data
- Existing traffic volume data

APPENDIX 6.1
MESA COUNTY FUNCTIONAL CLASSIFICATION MAP

MESA COUNTY

Mesa County
Functional Classification Map

Urban Development Boundary

Legend

Road Classifications

- National Highway System
- Arterial
- Minor Arterial
- Major Collector - Urban
- Minor Collector - Urban
- Rural Collector
- Rural Collector Future
- Urban Local
- Rural Local
- Rural Local Future
- Mesa County Boundary
- Incorporated Areas
- Urban Development Boundary

5 2.5 0 5 10 15 20 25 Miles

MESA COUNTY

Note: Map printed 12/14/2020 is provided for limited reference only. The current version of the Mesa County Functional Classification Map can be viewed at the following link:
https://mcgis.mesacounty.us/portal/apps/webappviewer/index.html?id=4d56557d494a4ddbadfc7df15db2093f

APPENDIX 6.2
MESA COUNTY STANDARD DETAILS

SHEETS	DETAILS
A00 - A13	ADA RAMP AND PARKING DETAILS
C00 - C10	CONCRETE DETAILS
F00 - F05	FIRE APPARATUS ACCESS DETAILS
R00 - R11	ROAD SECTION DETAILS
SD00 - SD14	STORM DRAIN DETAILS
U00 - U04	UTILITY EASEMENT DETAILS
M00 - M03	MISCELLANEOUS DETAILS
SM00 – SM02	SURVEY MONUMENT DETAILS

MESA COUNTY

REVISED: DEC 18TH, 2023

ADA RAMP AND PARKING DETAILS INDEX

GENERAL NOTES

1. THESE DETAILS DO NOT CONTAIN LAYOUTS WHICH ARE APPROPRIATE FOR ALL POSSIBLE SCENARIOS. MESA COUNTY USES CDOT STANDARD DRAWINGS M-608-1 CURB RAMPS FOR ADA DETAILS.

2. ALL PORTLAND CEMENT CONCRETE SHALL BE CDOT CLASS "B". ALL CONCRETE SHALL BE MIXED, PLACED, CURED AND TESTED IN ACCORDANCE WITH MESA COUNTY STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

3. ALL CONCRETE RAMPS, SIDEWALKS, CURBS, GUTTERS AND OTHER CONCRETE WORK SHALL BE UNDERLAID WITH 6" AGGREGATE BASE COURSE (CDOT CLASS 6, 3/4" AGGREGATE BASE COURSE) COMPACTED TO AT LEAST 95% OF AASHTO T-180 MAXIMUM DENSITY. SEE DETAILS FOR BASE THICKNESS. THE TOP 6 INCHES OF SUBGRADE UNDER ALL CONCRETE SHALL BE COMPACTED TO AT LEAST 95% OF AASHTO T-99 MAXIMUM DENSITY. ALL SATURATED OR UNSUITABLE SUBGRADE MATERIAL SHALL BE REMOVED AND REPLACED.

4. ANY EXISTING PAVEMENT NOT DESIGNATED FOR REMOVAL WHICH IS DAMAGED BY CONSTRUCTION SHALL BE REPLACED IN-KIND BY CONTRACTOR.

5. DRAWING INDICATES TYPICAL SECTION ONLY, CONDITIONS AND/OR OBSTRUCTIONS MAY NECESSITATE VARIATIONS OR REPOSITIONING. ALL LOCATIONS SHALL BE APPROVED ON AN INDIVIDUAL BASIS BY COUNTY ENGINEER OR THEIR REPRESENTATIVE.

6. IN ALL CASES, ACCESSIBLE RAMPS SHALL BE ALIGNED WITH STREET CROSSWALKS.

7. ALL ACCESSIBLE FACILITIES INCLUDING HANDICAP RAMPS, PARKING, AND TRAVERSABLE SURFACES SHALL COMPLY WITH THE MOST RECENT FEDERAL AND STATE GUIDELINES, INCLUDING AMERICANS WITH DISABILITIES ACT PROWAG.

8. REFER TO MESA COUNTY LAND DEVELOPMENT CODE PARKING REQUIREMENTS FOR MINIMUM NUMBER OF ACCESSIBLE PARKING SPACES.

9. RAMP OPENING WIDTH AT FLOWLINE GUTTER SHALL BE 4' UNLESS OTHERWISE SPECIFIED.

10. 4' WIDE LANDING SHALL BE INSTALLED BEHIND EACH CURB RAMP UNLESS OTHERWISE SPECIFIED OR APPROVED.

11. CONCRETE WITHIN CORNER RADIUS SHALL BE 6" THICK FROM CURB RETURN TO CURB RETURN INCLUDING THE FILLET, CURB, GUTTER, SIDEWALK, LANDING, AND RAMP.

STANDARD ACCESSIBLE PARKING STALL NOTES:

12. ACCESSIBLE PARKING SPACES SHALL BE DESIGNATED AS RESERVED FOR THE DISABLED BY A SIGN SHOWING THE SYMBOL OF ACCESSIBILITY (SEE MUTCO FIGURE 3B–19). SPACES COMPLYING WITH NOTE 13 SHALL HAVE AN ADDITIONAL SIGN "VAN ACCESSIBLE" MOUNTED BELOW THE SYMBOL OF ACCESSIBILITY. SUCH SIGNS SHALL BE MOUNTED SO THEY CANNOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.

13. ONE IN EVERY EIGHT ACCESSIBLE SPACES, BUT NOT LESS THAN ONE, SHALL BE SERVED BY AN ACCESS AISLE 96" WIDE AND SHALL BE DESIGNATED "VAN ACCESSIBLE" AS SPECIFIED BY NOTE 12.

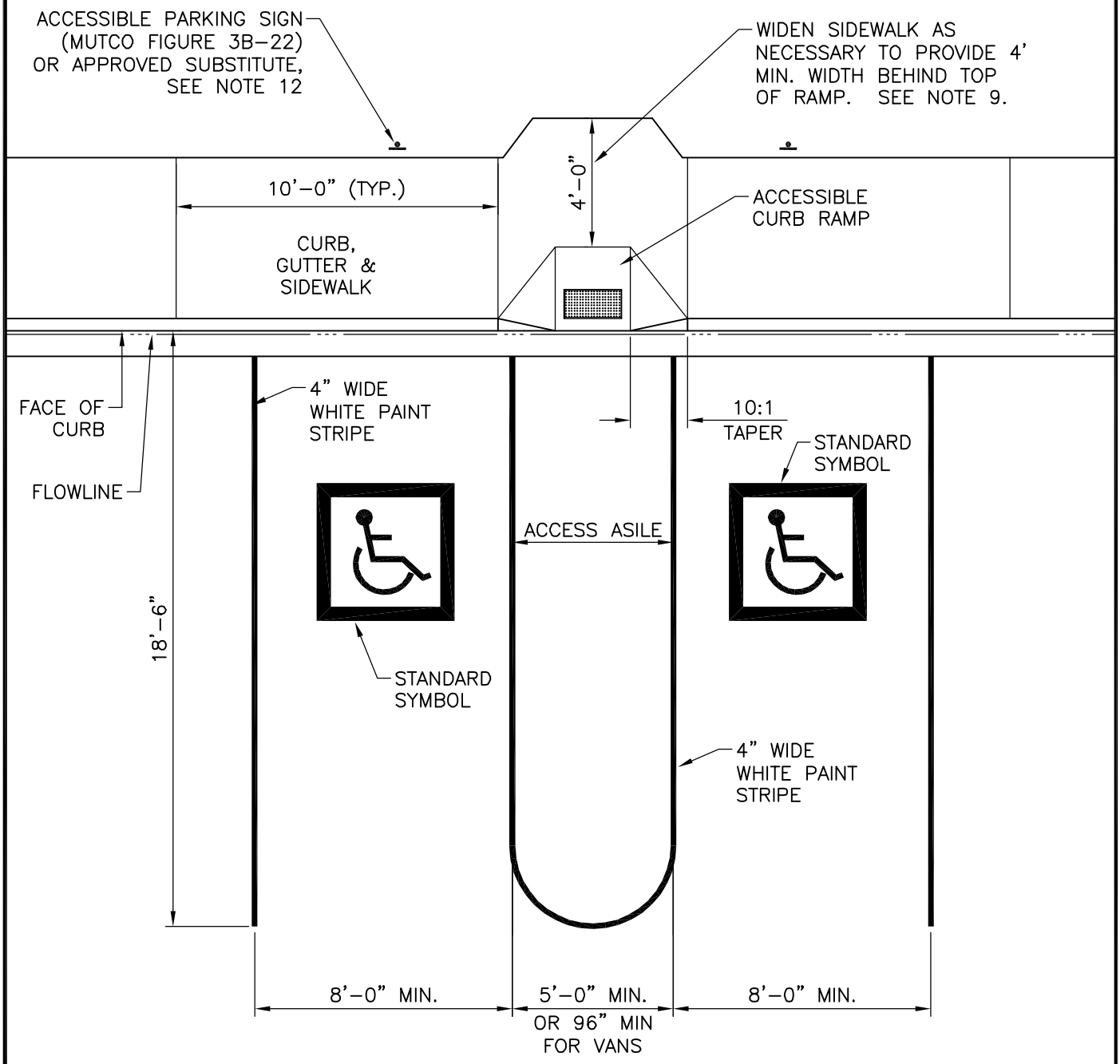
14. PARKING ACCESS AISLES SHALL BE PART OF AN ACCESS ROUTE TO THE BUILDING OR FACILITY ENTRANCE. TWO ACCESSIBLE PARKING SPACES MAY SHARE A COMMON ACCESS AISLE. PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 50:1 IN ALL DIRECTIONS.

15. ACCESSIBLE CURB RAMPS AT INTERSECTIONS SHALL BE ALIGNED WITH STREET CROSSWALKS.

16. THE MAXIMUM LONGITUDINAL SLOPE ALLOWED ON ANY CURB RAMP OR SIDEWALK SHALL BE 1"/FT. (8.33%). THE MAXIMUM CROSS SLOPE ALLOWED ON ANY WALKING ROUTE IS 50:1 (2%) (1/4"/FT.)

17. THE SURFACE OF ALL ACCESSIBLE RAMPS AND FLARED SIDES SHALL BE FINISHED WITH A COURSE BROOMED TEXTURE PERPENDICULAR TO THE SLOPE OF THE RAMP.

18. ALL HANDICAP RAMPS, PARKING STALLS AND LANDINGS, SHALL CONFORM TO THE UNIFORM FEDERAL ACCESSIBILITY STANDARDS (UFAS) LATEST EDITION.



STANDARD ACCESSIBLE PARKING STALL DETAIL

CONCRETE DETAILS INDEX

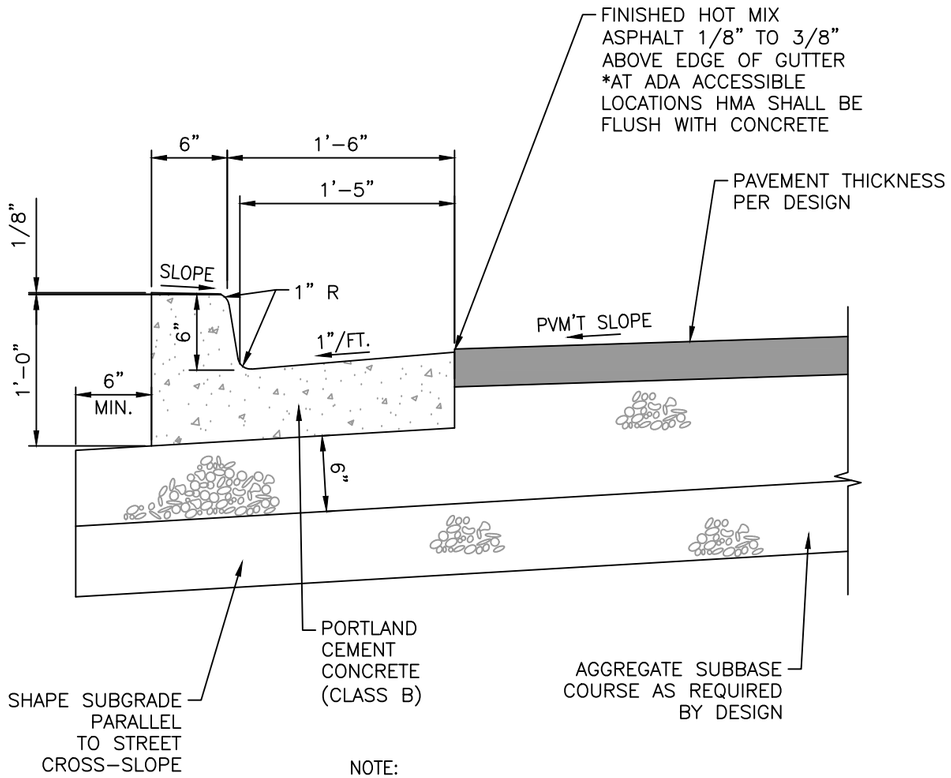
GENERAL NOTES

1. ALL PORTLAND CEMENT CONCRETE SHALL BE CDOT CLASS "B" U.N.O. ALL CONCRETE SHALL BE MIXED, PLACED, CURED AND TESTED IN ACCORDANCE WITH MESA COUNTY STANDARD CONSTRUCTION SPECIFICATIONS.

2. ALL CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS, DRAINAGE PANS AND OTHER CONCRETE WORK SHALL BE UNDERLAID WITH 6" OF CDOT CLASS 6 AGGREGATE BASE COURSE COMPACTED TO AT LEAST 95% OF AASHTO T-180 MAXIMUM DENSITY. SEE DETAILS FOR BASE THICKNESS. THE TOP 6 INCHES OF SUBGRADE UNDER ALL CONCRETE SHALL BE COMPACTED TO AT LEAST 95% OF AASHTO T-99 MAXIMUM DENSITY. ALL SATURATED OR UNSUITABLE SUBGRADE MATERIAL SHALL BE REMOVED AND REPLACED.

3. ALL EXISTING PAVEMENT NOT DESIGNATED FOR REMOVAL WHICH IS DAMAGED BY CONSTRUCTION SHALL BE REPLACED IN-KIND BY CONTRACTOR.

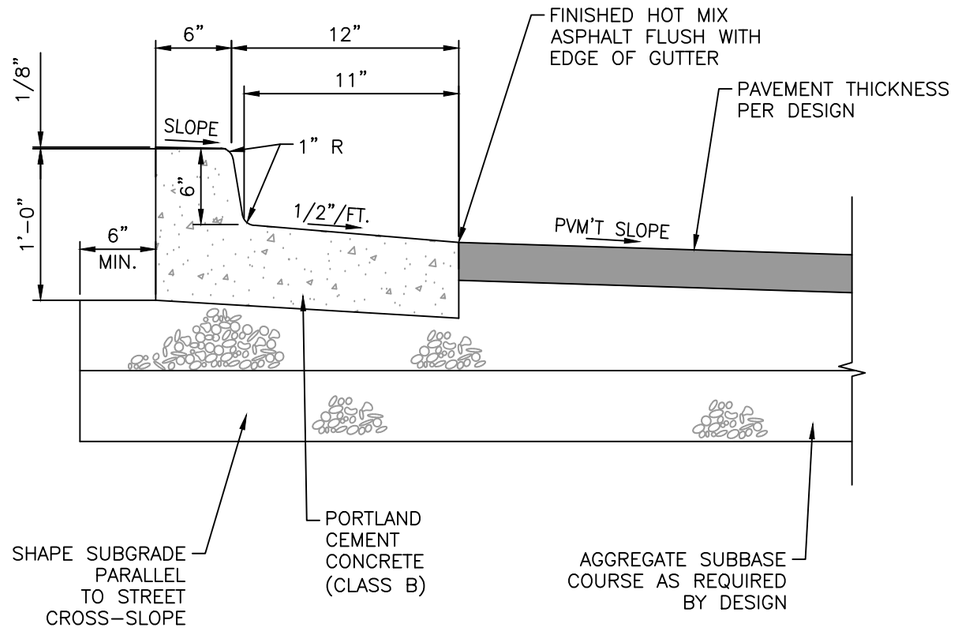
4. ALL DRIVEWAY CONCRETE (APRON AND SIDEWALK CROSSING) SHALL BE 6 INCHES THICK (MIN.) FOR RESIDENTIAL USES AND 8" THICK (MIN.) FOR ALL OTHER USES.



NOTE:

SEE PROJECT PLANS FOR PAVEMENT AND BASE COURSE TYPE AND THICKNESS.

CURB & GUTTER



NOTE:

SEE PROJECT PLANS FOR PAVEMENT AND BASE COURSE TYPE AND THICKNESS.

CURB WITH SPILL GUTTER

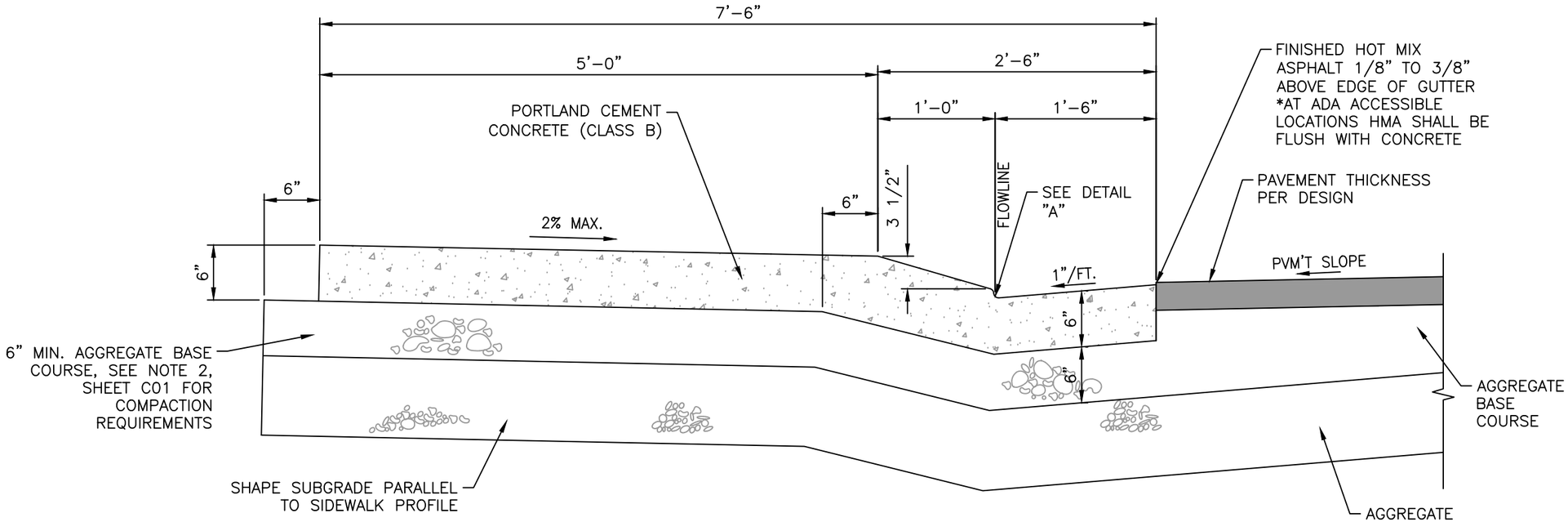
(FOR USE ON RAISED MEDIANS ONLY)

MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
970.244.1636 www.mesacounty.us
Prepared By: SGM

Concrete
Mesa County Standard Details

Revised: 12/23

Curb and Gutter

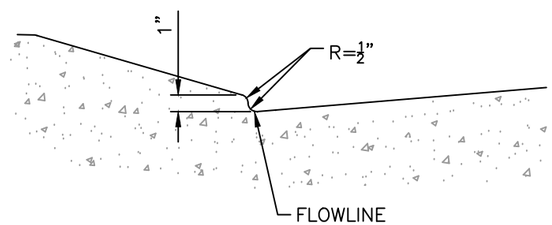


NOTE:

SEE PROJECT PLANS FOR PAVEMENT AND BASE COURSE TYPE AND THICKNESS.

DRIVE OVER CURB, GUTTER & SIDEWALK

(RESIDENTIAL STREETS ONLY)



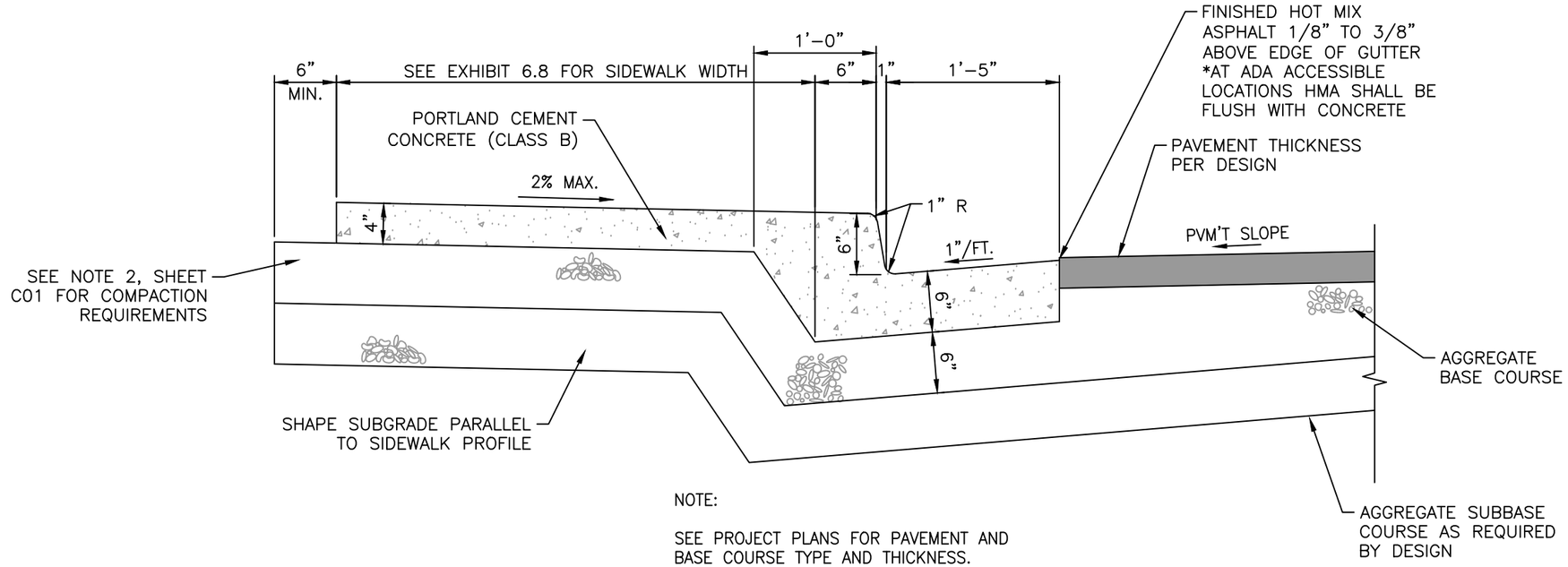
DETAIL "A"

MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
970.244.1636 www.mesacounty.us
Prepared By: SGM

Concrete
Mesa County Standard Details

Revised: 12/23

Drive-Over Curb Gutter and Sidewalk



NOTE:

SEE PROJECT PLANS FOR PAVEMENT AND BASE COURSE TYPE AND THICKNESS.

MONOLITHIC CURB, GUTTER & SIDEWALK

MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
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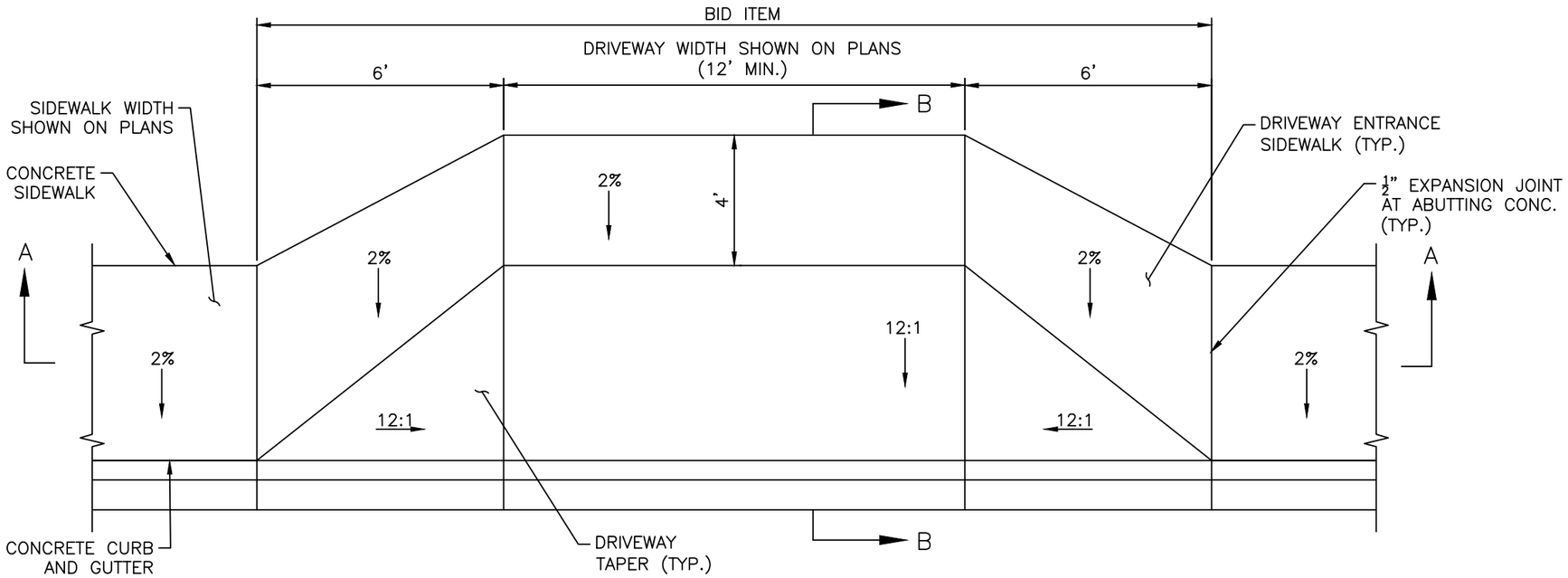
Prepared By: SGM

Concrete
Mesa County Standard Details

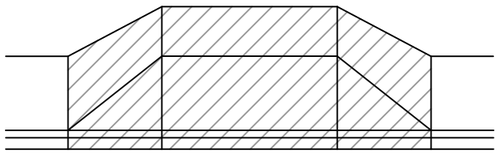
Revised: 12/23

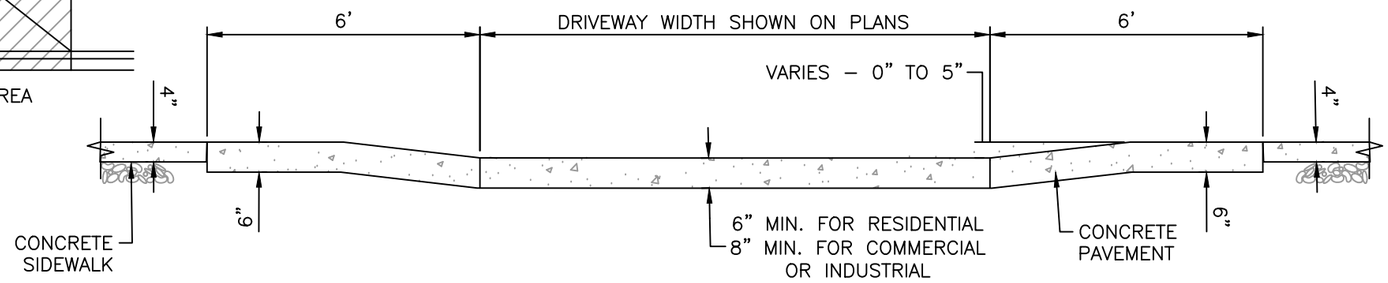
Monolithic Curb, Gutter & Sidewalk

Sht. C04
Of 10

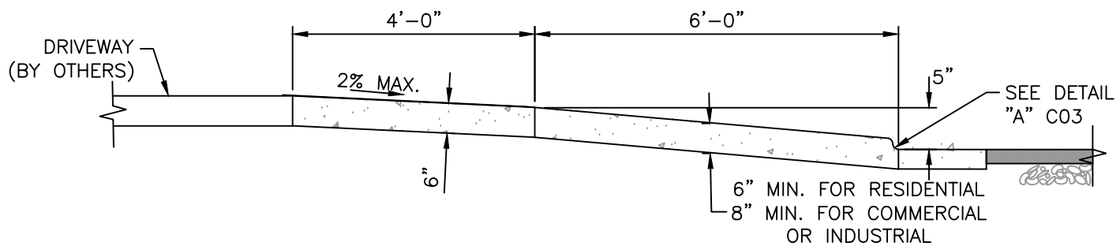


CONCRETE DRIVEWAY ENTRANCE TYPE 1





SECTION A–A



SECTION B–B

NOTES

1. DRAINAGE STRUCTURES, TRAFFIC SIGNAL EQUIPMENT, JUNCTION BOXES, AND OTHER OBSTRUCTIONS SHOULD NOT BE PLACED IN FRONT OF THE DRIVEWAY RAMP ACCESS AREAS.
2. FOR THE CURB AND GUTTER SHOWN, SEE PLANS FOR CURB TYPE.
3. RAMP SLOPES SHALL BE 12:1 OR FLATTER.
4. CONSTRUCTION OF THE CURB & GUTTER SHALL BE INCLUDED IN THE BID PRICE OF THE CONCRETE DRIVEWAY.

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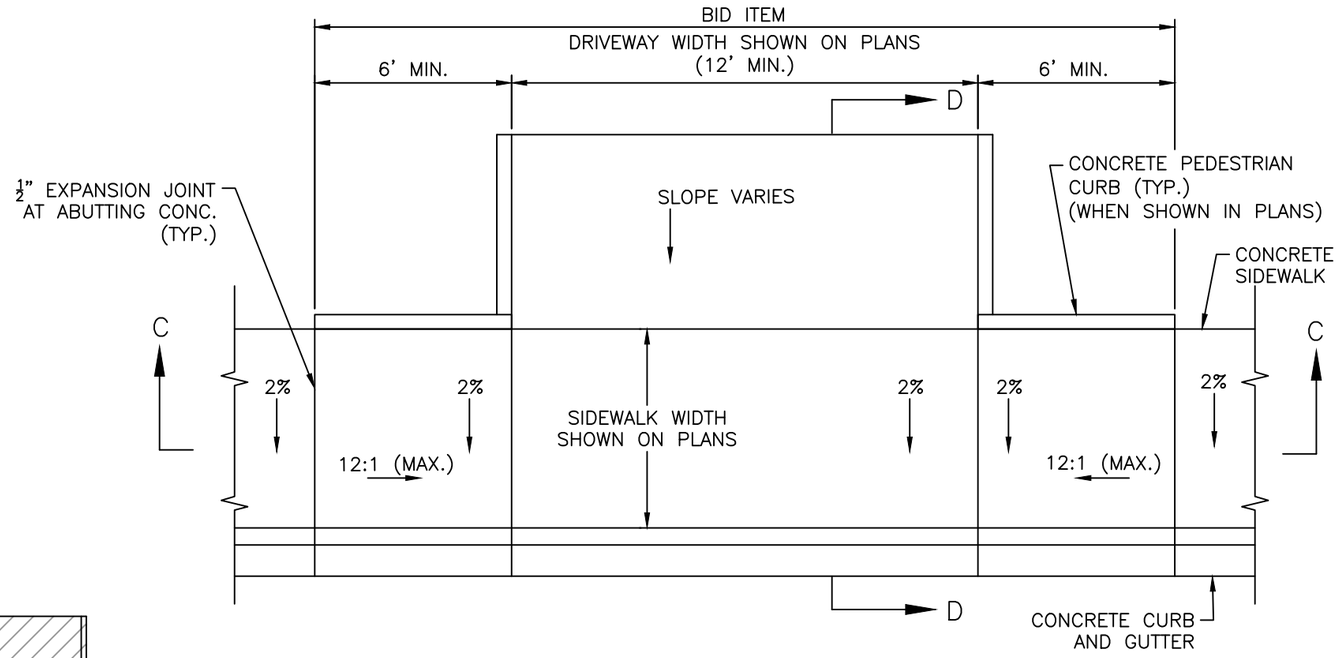
Prepared By: SGM

Concrete
Mesa County Standard Details

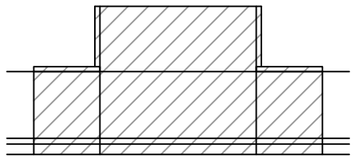
Revised: 12/23

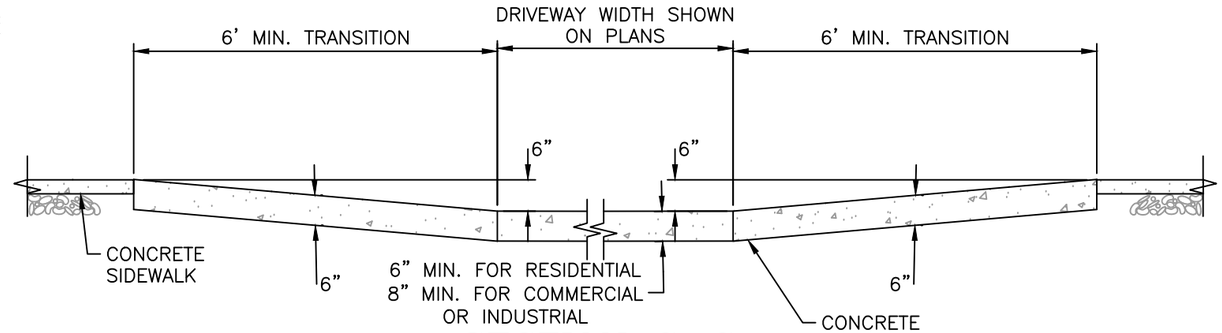
Concrete Driveway Entrance Type 1

Sht. C05
Of 10

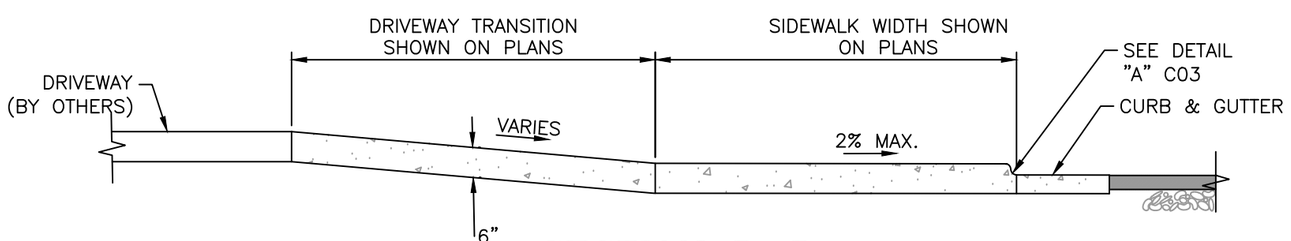


CONCRETE DRIVEWAY ENTRANCE TYPE 2





SECTION C—C



SECTION D—D

NOTES

1. DRAINAGE STRUCTURES, TRAFFIC SIGNAL EQUIPMENT, JUNCTION BOXES, AND OTHER OBSTRUCTIONS SHOULD NOT BE PLACED IN FRONT OF THE DRIVEWAY RAMP ACCESS AREAS.
2. FOR THE CURB AND GUTTER SHOWN, SEE PLANS FOR CURB TYPE.
3. RAMP SLOPES SHALL BE 12:1 OR FLATTER.
4. CONSTRUCTION OF THE CURB & GUTTER SHALL BE INCLUDED IN THE BID PRICE OF THE CONCRETE DRIVEWAY.

MESA COUNTY
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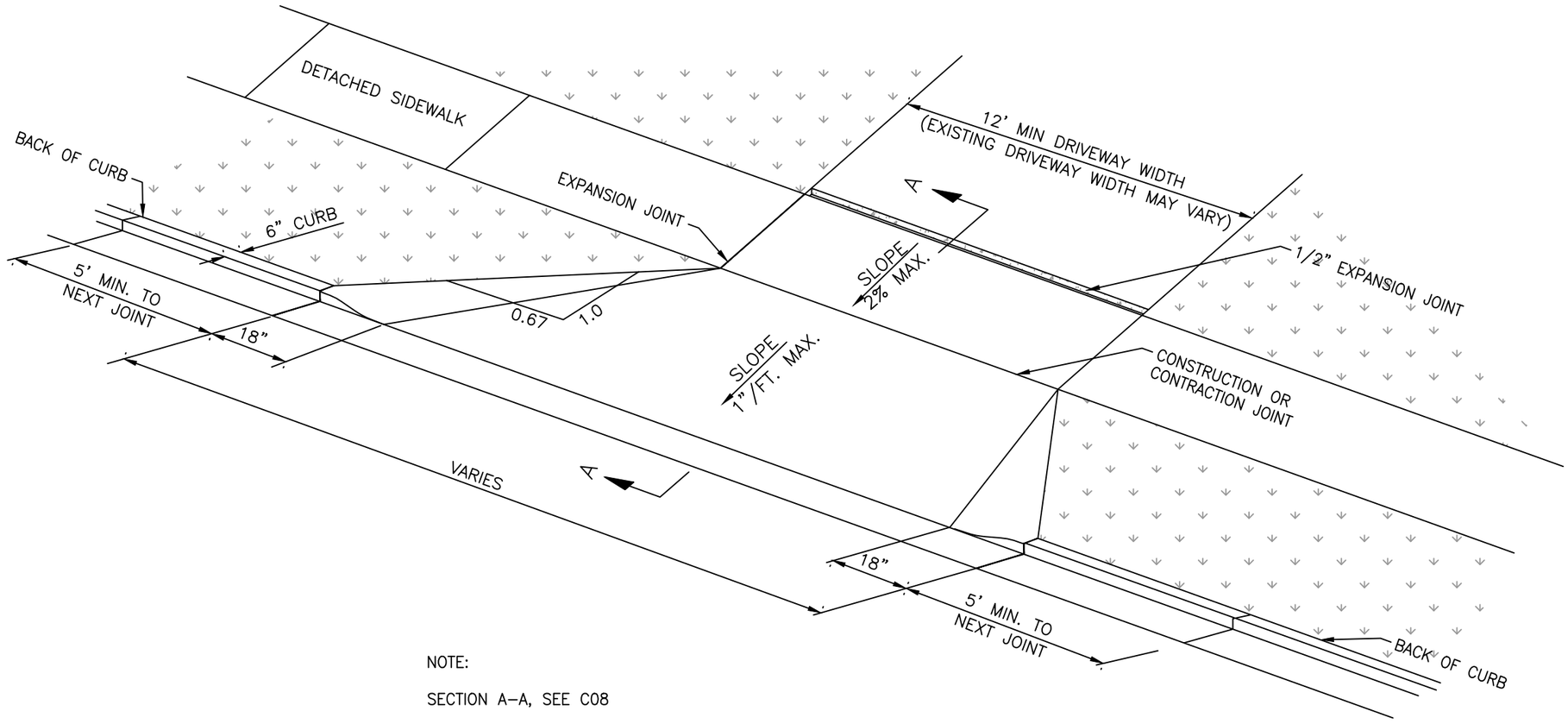
Concrete
Mesa County Standard Details

Revised: 12/23

Concrete Driveway Entrance Type 2



NOTE:

SECTION A–A, SEE C08

DRIVEWAY SECTION WITH DETACHED SIDEWALK

MESA COUNTY
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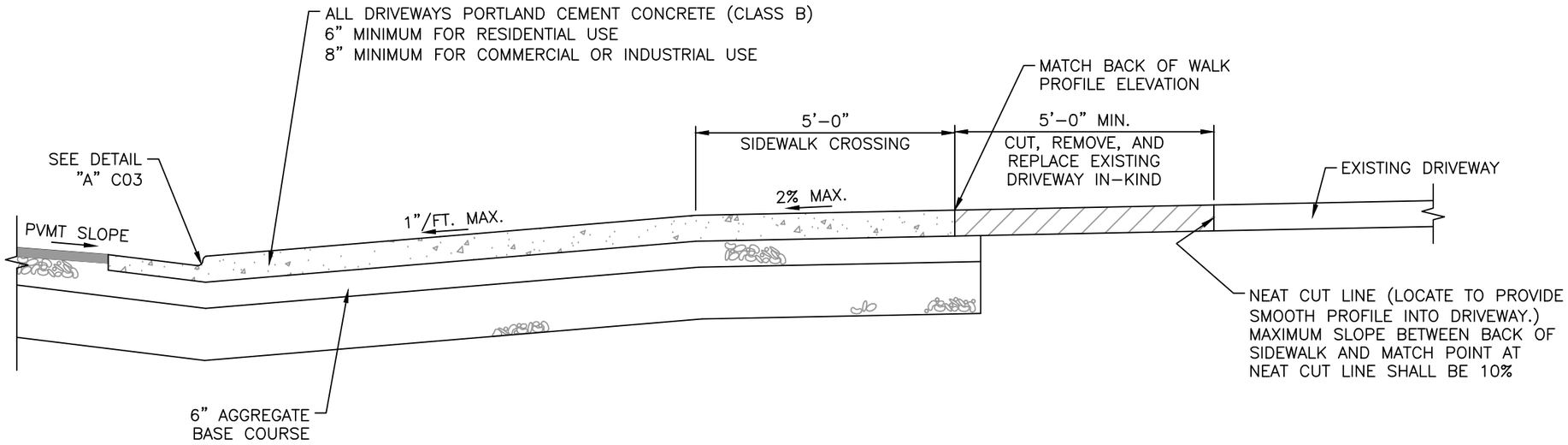
Mesa County Standard Details

Revised: 12/23

Driveway Section with Detached Sidewalk



NOTE:

SEE PROJECT PLANS FOR PAVEMENT AND
BASE COURSE TYPE AND THICKNESS.

NOTE: CONCRETE AND AGGREGATE THICKNESS
SHOWN ALSO APPLY TO MONOLITHIC C.G. & SW.

SECTION A-A

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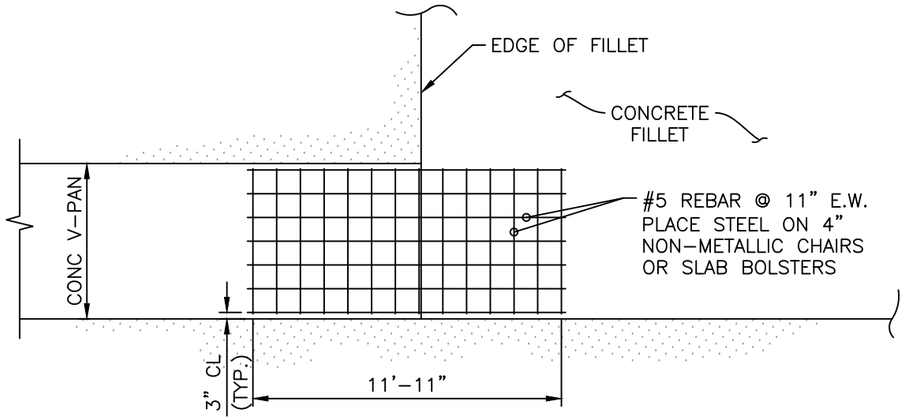
Mesa County Standard Details

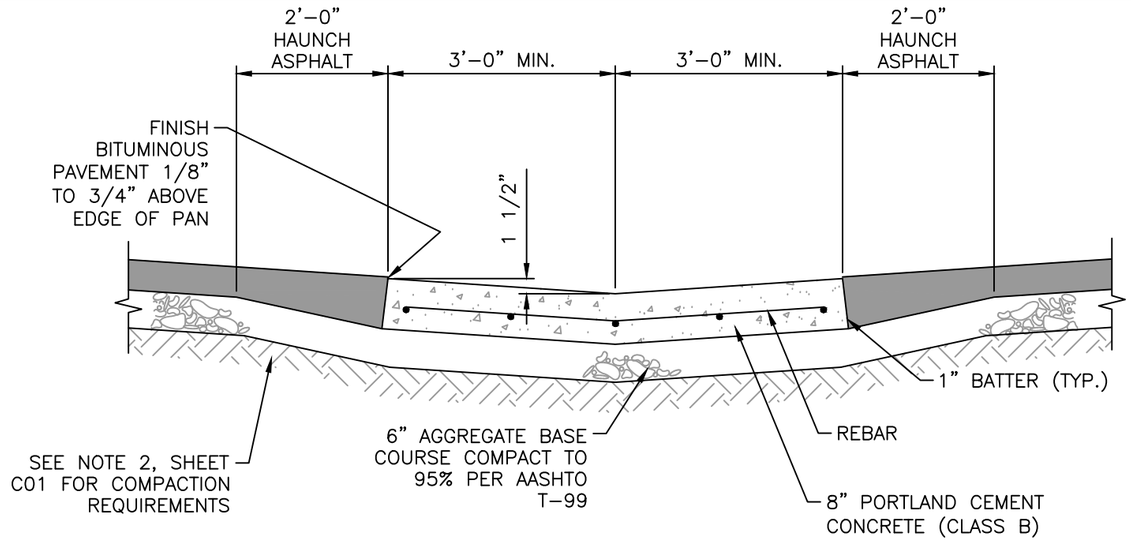
Revised: 12/23

Driveway With Detached Sidewalk
Section A-A

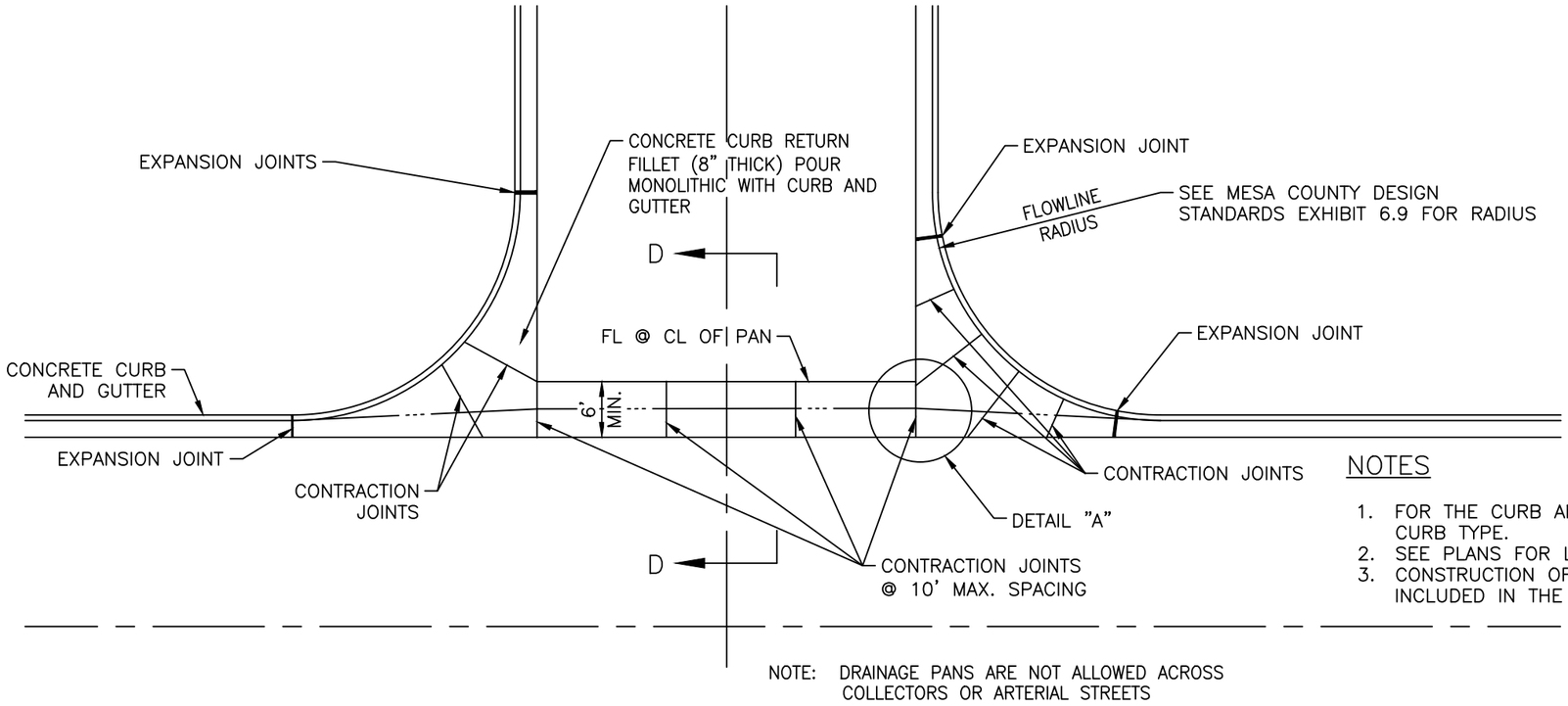
Sht. C08
Of 10



DETAIL "A"



SECTION D-D



NOTES

1. FOR THE CURB AND GUTTER SHOWN SEE PLANS FOR CURB TYPE.
2. SEE PLANS FOR LOCATION OF ADA RAMPS.
3. CONSTRUCTION OF THE CONCRETE CURB SHALL BE INCLUDED IN THE BID PRICE OF THE CONCRETE FILLET.

NOTE: DRAINAGE PANS ARE NOT ALLOWED ACROSS COLLECTORS OR ARTERIAL STREETS

STREET INTERSECTION AND DRAINAGE PAN DETAILS

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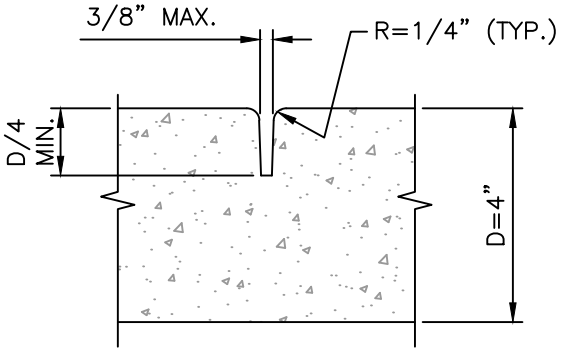
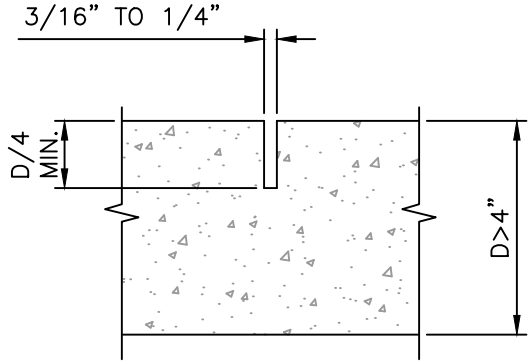
Mesa County Standard Details

Revised: 12/23

Concrete Fillet and Drainage Pan Details



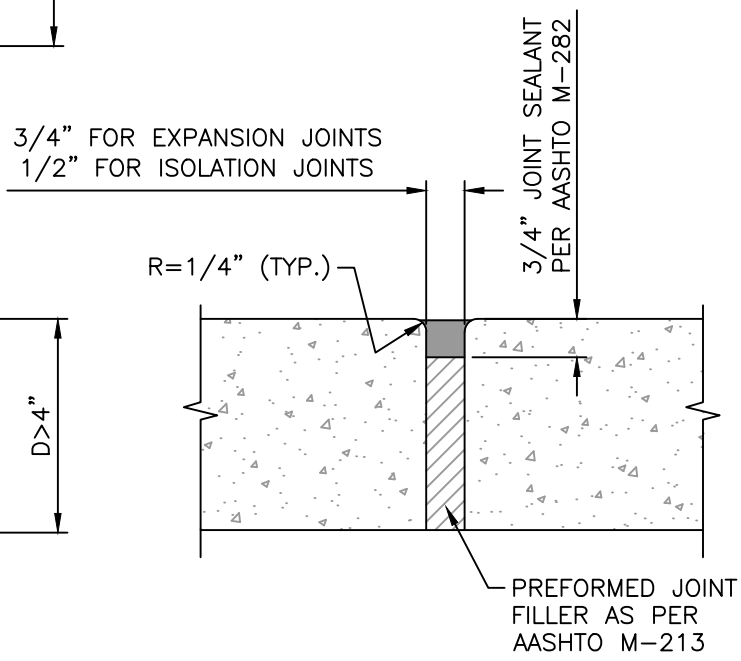
TOOLED JOINT



SAWED JOINT

CONTRACTION JOINT

10" SPACING, OR
1.5 x MAX. WIDTH

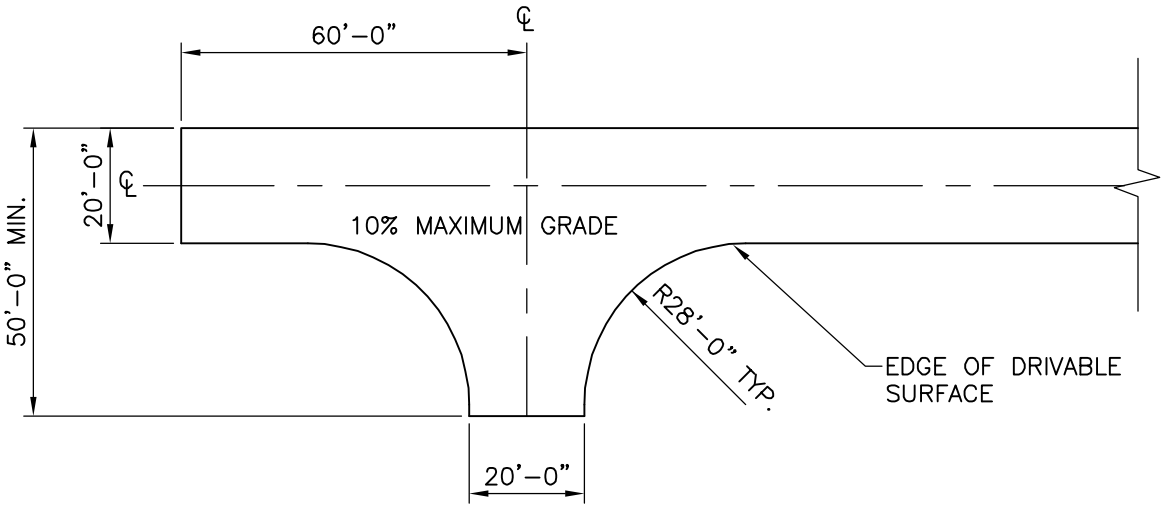


EXPANSION JOINT

500' MAXIMUM SPACING

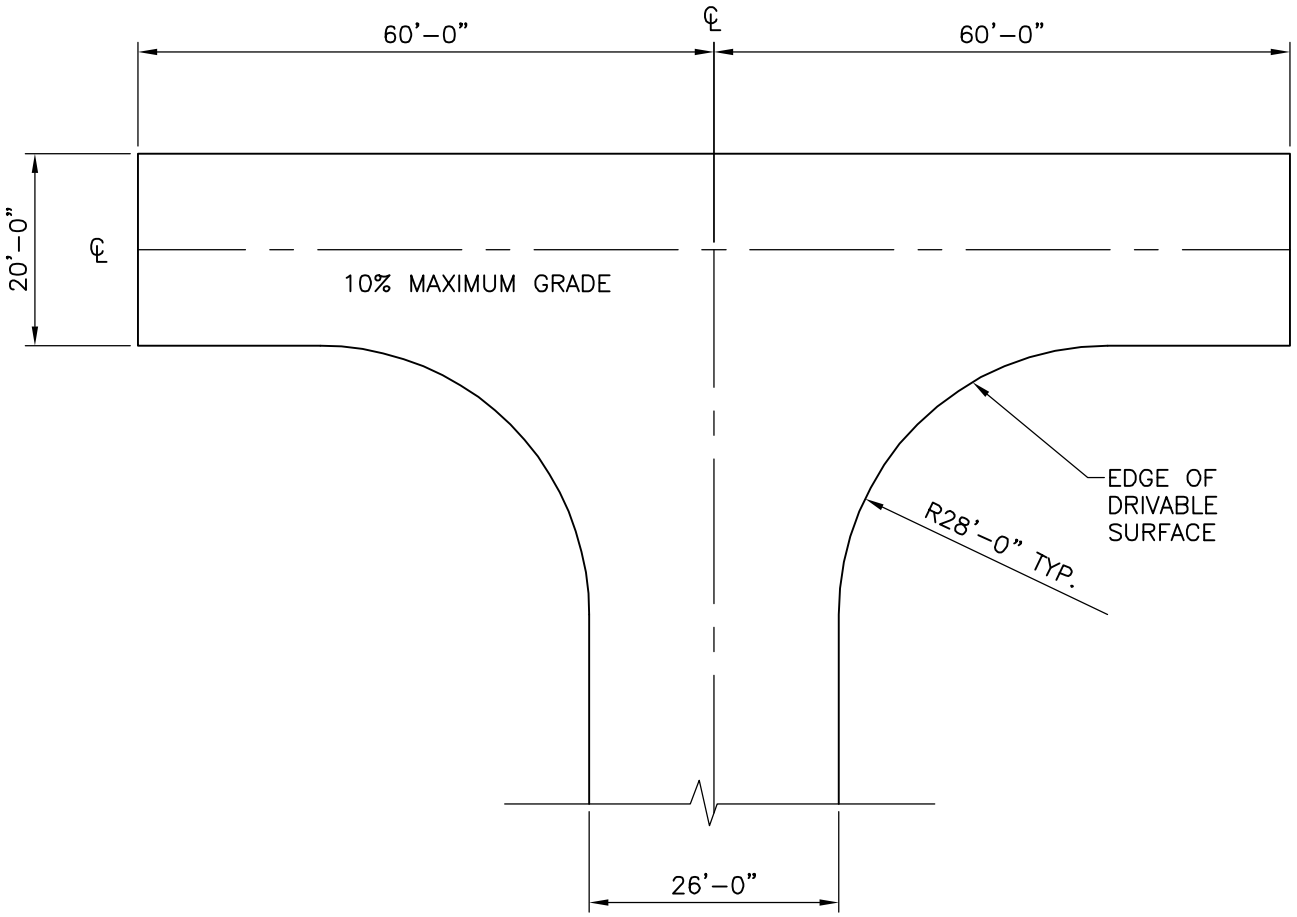
CONCRETE JOINT DETAILS

FIRE APPARATUS ACCESS DETAILS INDEX



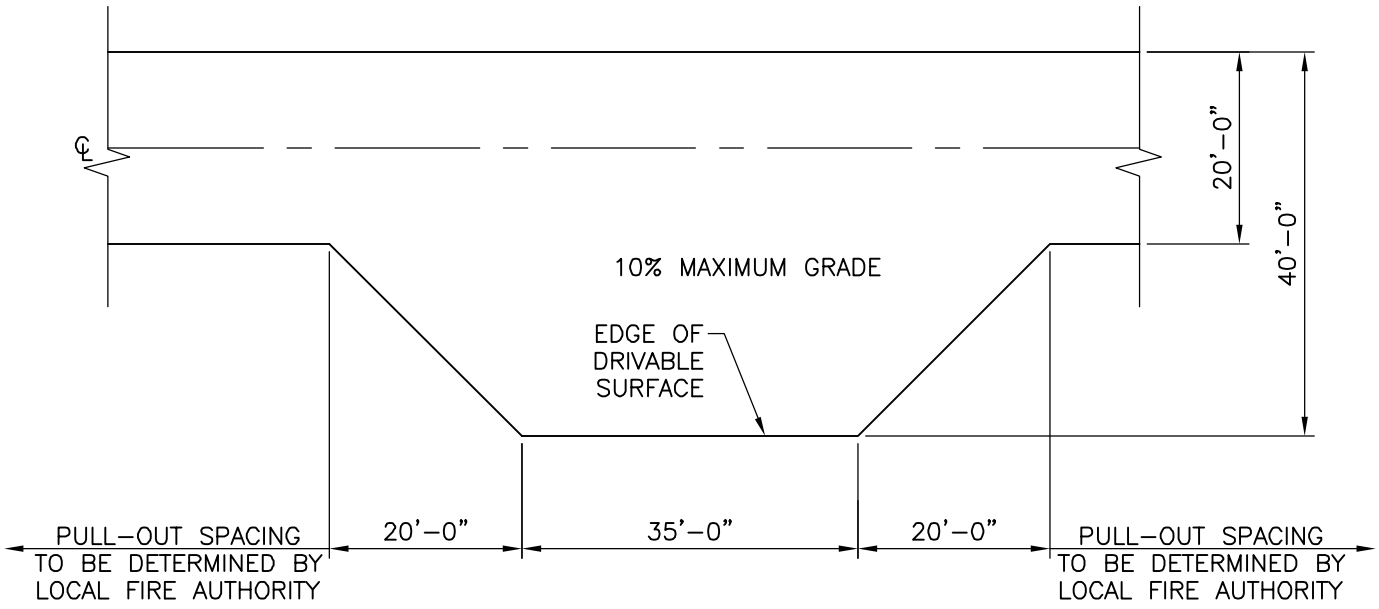
HAMMERHEAD TURN–AROUND (1)

(ALL DIMENSIONS ARE MINIMUMS, UNLESS OTHERWISE NOTED)



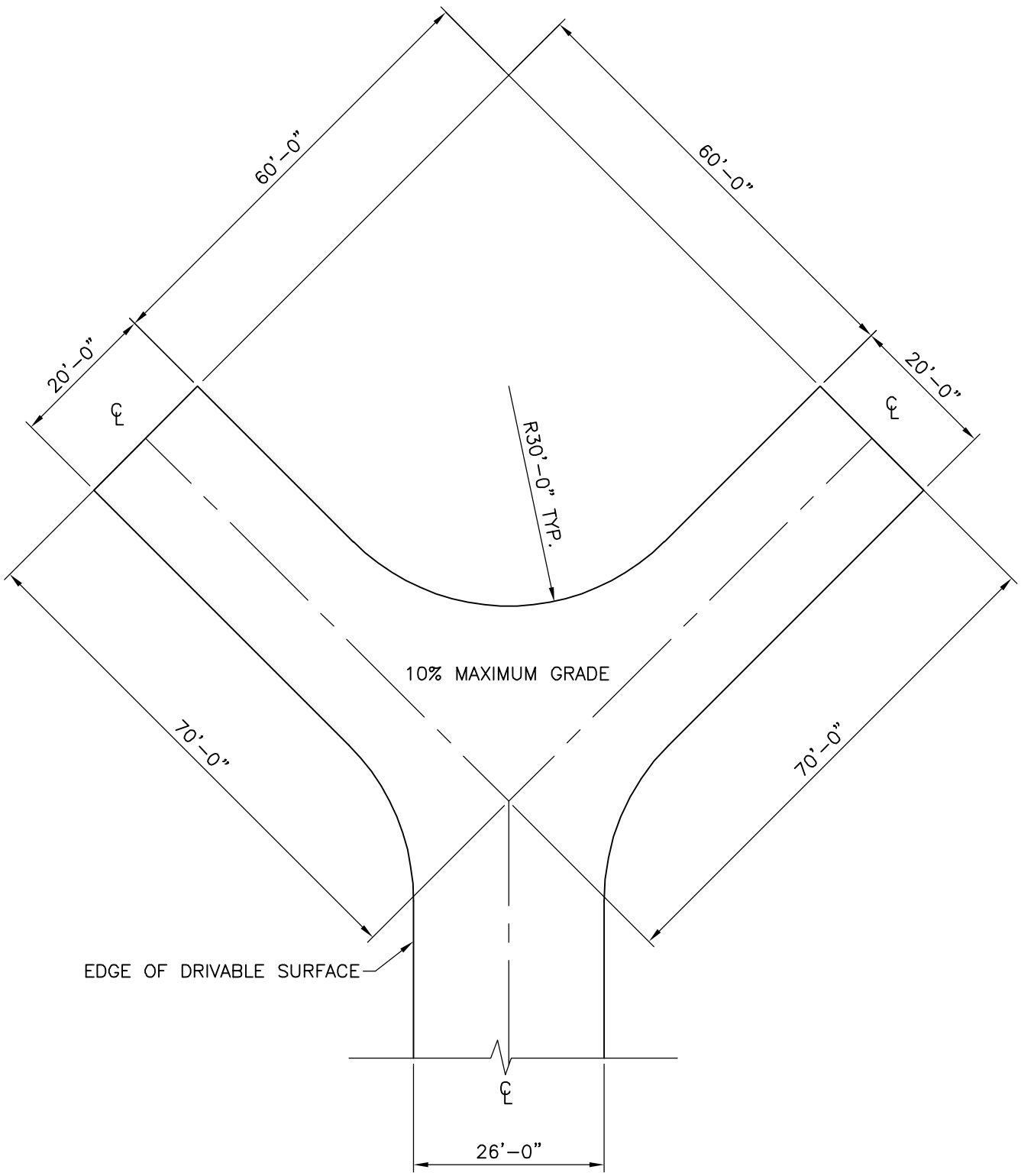
HAMMERHEAD TURN–AROUND (2)

(ALL DIMENSIONS ARE MINIMUMS, UNLESS OTHERWISE NOTED)



PULL–OUT

(ALL DIMENSIONS ARE MINIMUMS, UNLESS OTHERWISE NOTED)



60-FOOT "Y" TURN-AROUND

(ALL DIMENSIONS ARE MINIMUMS, UNLESS OTHERWISE NOTED)

MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
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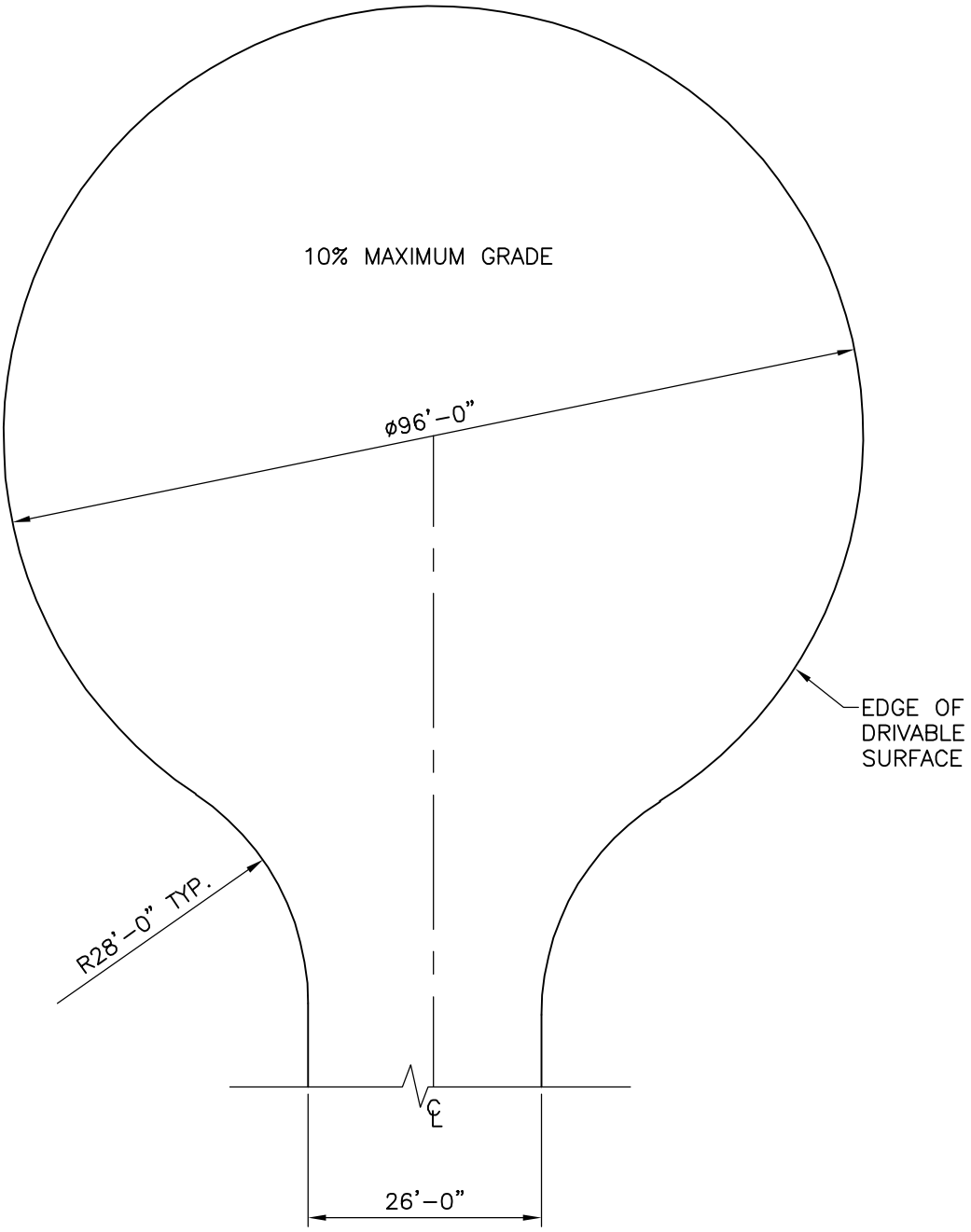
Fire Apparatus Access Mesa County Standard Details		60-Foot Y Turn-Around	Sht. F04 Of 5

Prepared By: SGM



CIRCLE TURN–AROUND

(ALL DIMENSIONS ARE MINIMUMS, UNLESS OTHERWISE NOTED)

ROADWAY SECTIONS INDEX

GENERAL ROADWAY NOTES:

1. ROADS DESIGNATED AS ARTERIALS ON MESA COUNTY'S FUNCTIONAL CLASSIFICATION MAP INCLUDE MAJOR AND MINOR ARTERIALS.

2. VERTICAL CURBS ARE REQUIRED ON ALL ARTERIAL AND COLLECTOR STREETS.

3. ALL ROADS SHALL BE SURFACED IN ACCORDANCE WITH THE MESA COUNTY DESIGN STANDARDS, CHAPTER 8: SURFACING STRUCTURAL REQUIREMENTS.

4. ADDITIONAL RIGHT-OF-WAY WIDTH WILL BE REQUIRED FOR CONSTRUCTION OF RIGHT TURN DECELERATION AT INTERSECTIONS OF ARTERIAL ROADS AND WHERE SPEED CHANGE LANES ARE REQUIRED. SEE MESA COUNTY DESIGN STANDARDS, CHAPTER 6: ROAD DESIGN STANDARDS.

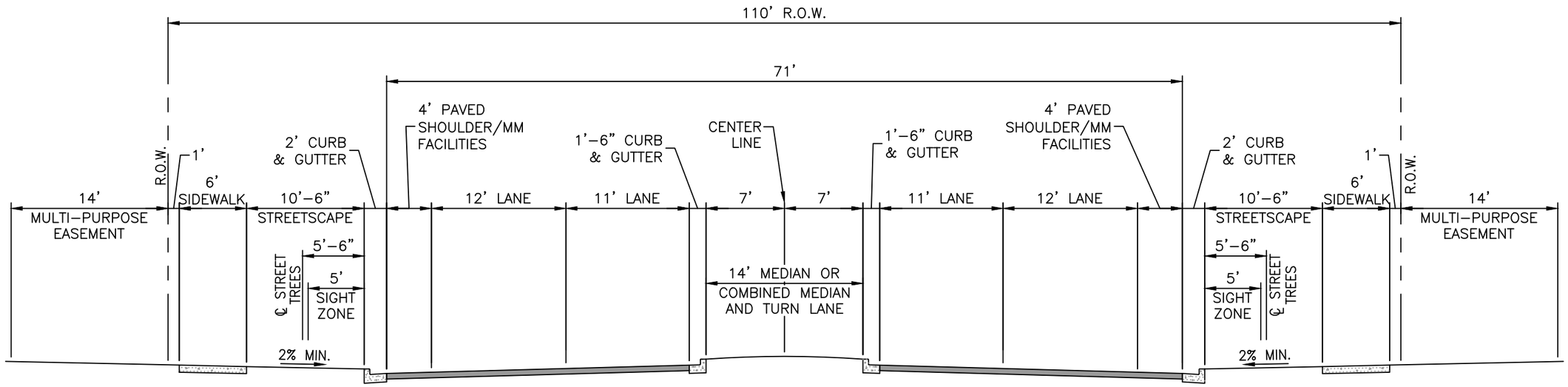
5. ALL DRIVE-OVER CURBS SHALL BE INSTALLED ONLY ON RESIDENTIAL STREETS WITH LESS THAN 1000 A.D.T.

6. DRIVEWAY CULVERTS ON RURAL ROADS SHALL BE INSTALLED AND MAINTAINED BY PROPERTY OWNERS.

7. FLOWLINE OF ROADSIDE DITCH TO BE BELOW SUBGRADE.

8. PROPOSED RIGHT-OF-WAY WIDTHS ARE MINIMUMS. INTERSECTIONS, CUT AND FILL AREAS, ETC. MAY REQUIRE ADDITIONAL RIGHT-OF-WAY.

9. SEE EXHIBIT U02 FOR DETAILS OF MULTI-PURPOSE EASEMENTS ADJACENT TO ROAD RIGHT-OF-WAY.



ARTERIAL

GREATER THAN 18,000 A.D.T.

NOTES:

1. ROADS DESIGNATED AS ARTERIALS ON MESA COUNTY'S FUNCTIONAL CLASSIFICATION MAP INCLUDE MAJOR AND MINOR ARTERIALS.
2. NO TREES, SHRUBS, SIGNS, STRUCTURES OR OTHER OBSTRUCTIONS OVER 30" IN HEIGHT (MEASURED AT THE NEAR EDGE OF ROADWAY) ALLOWED WITHIN SIGHT ZONE. (EXCEPTIONS: TRAFFIC CONTROL SIGNS AND TRAFFIC SIGNAL POLES).
3. ON-STREET PARKING IS NOT PERMITTED.

MESA COUNTY
200 S. Spruce Street
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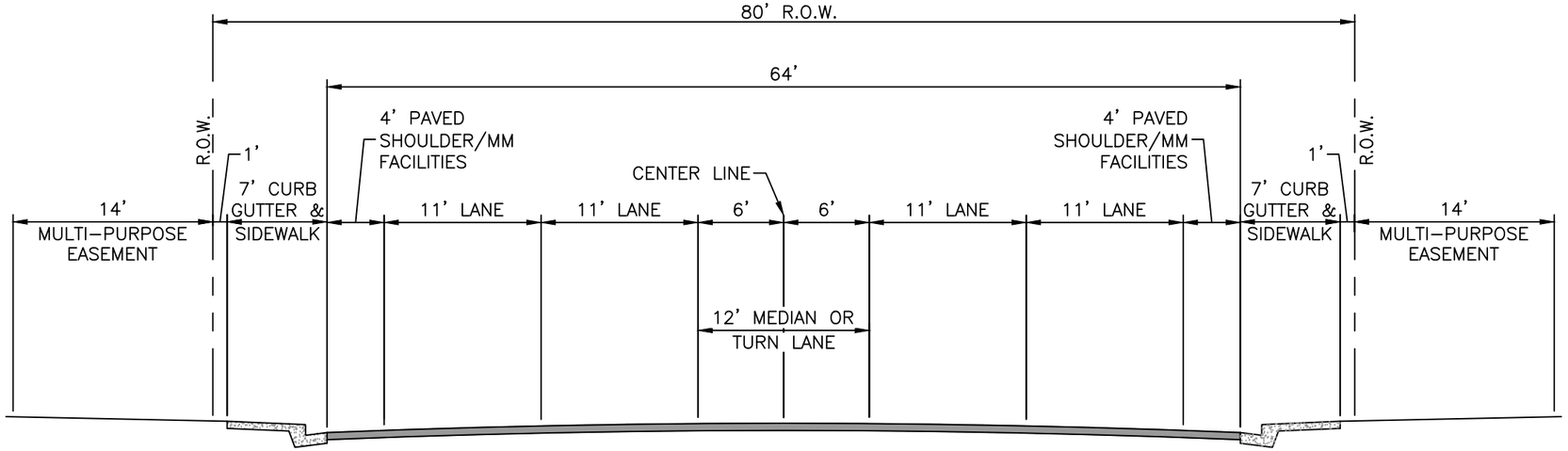
970.244.1636 www.mesacounty.us
Prepared By: SGM

Roadway
Mesa County Standard Details

Arterial

Sht. R02
Of 11



MINOR ARTERIAL
8,000 TO 18,000 A.D.T.

NOTES:

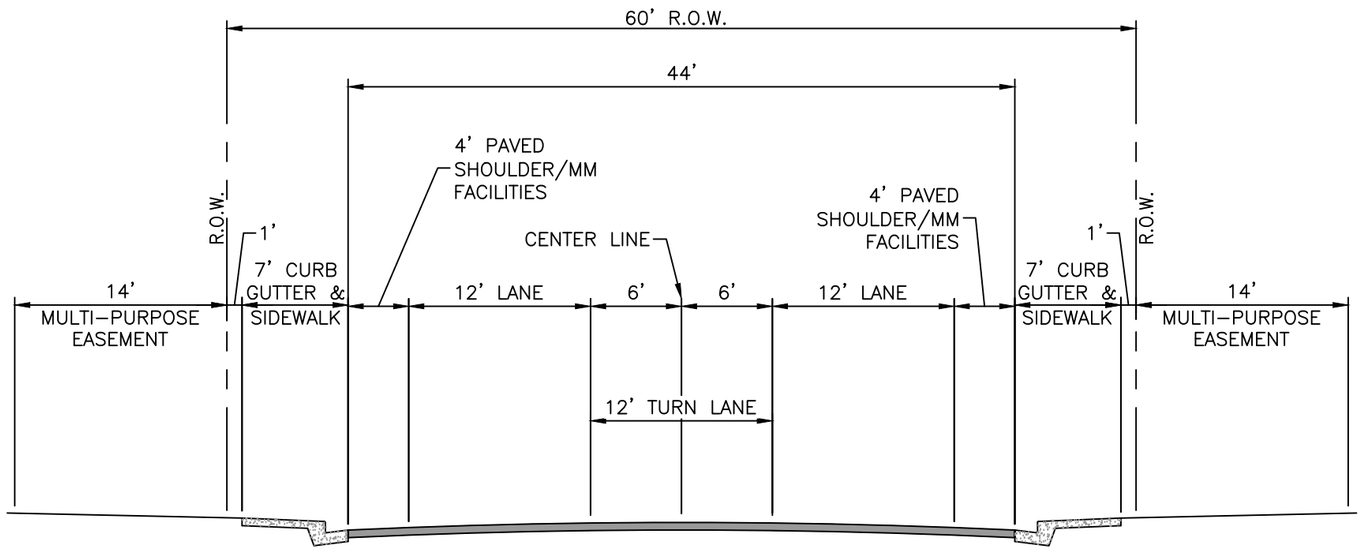
1. ROADS DESIGNATED AS ARTERIALS ON MESA COUNTY'S FUNCTIONAL CLASSIFICATION MAP INCLUDE MAJOR AND MINOR ARTERIALS.
2. ON-STREET PARKING IS NOT PERMITTED.

MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
970.244.1636 www.mesacounty.us
Prepared By: SGM

Roadway
Mesa County Standard Details

Minor Arterial

Sht. R03
Of 11



NOTE:

ON-STREET PARKING IS NOT PERMITTED.

MAJOR COLLECTOR URBAN

3,000 TO 8,000 A.D.T.

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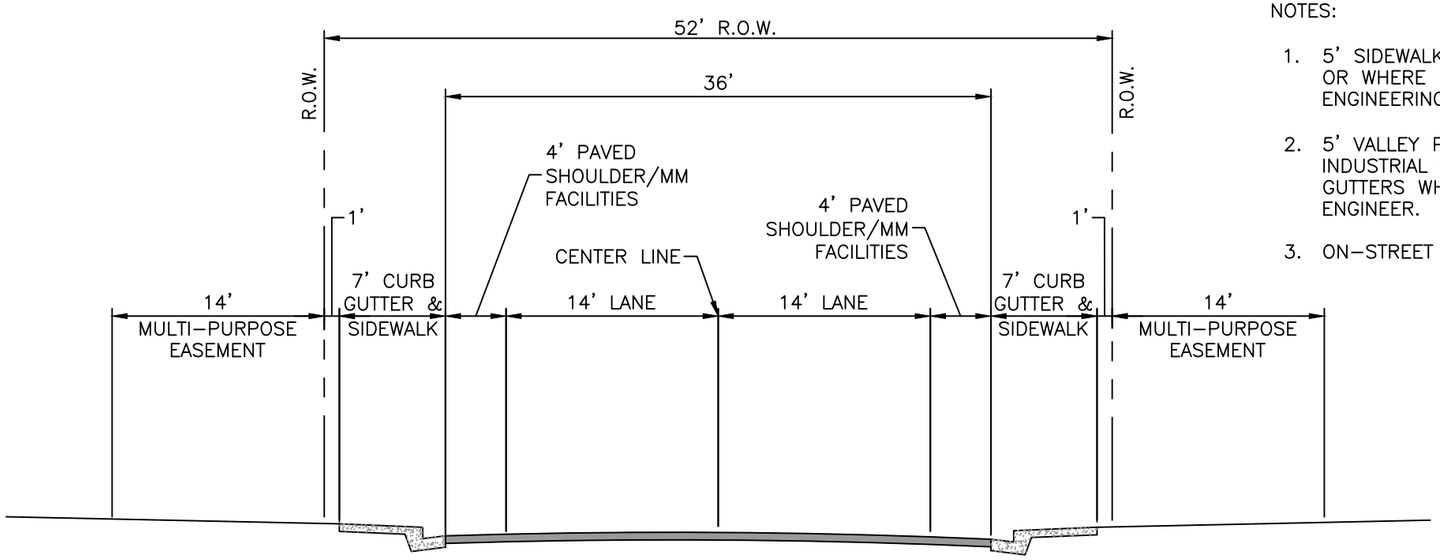
200 S. Spruce Street
Grand Junction, CO 81501
970.244.1636 www.mesacounty.us
Prepared By: SGM

Roadway
Mesa County Standard Details

Major Collector Urban

Sht. R04

Of 11



NOTES:

1. 5' SIDEWALK IS REQUIRED IN URBAN SETTINGS OR WHERE REQUIRED BY MESA COUNTY ENGINEERING.
2. 5' VALLEY PAN MAY BE INSTALLED ON INDUSTRIAL STREET IN LIEU OF CURBS AND GUTTERS WHERE APPROVED BY THE COUNTY ENGINEER.
3. ON-STREET PARKING IS NOT PERMITTED.

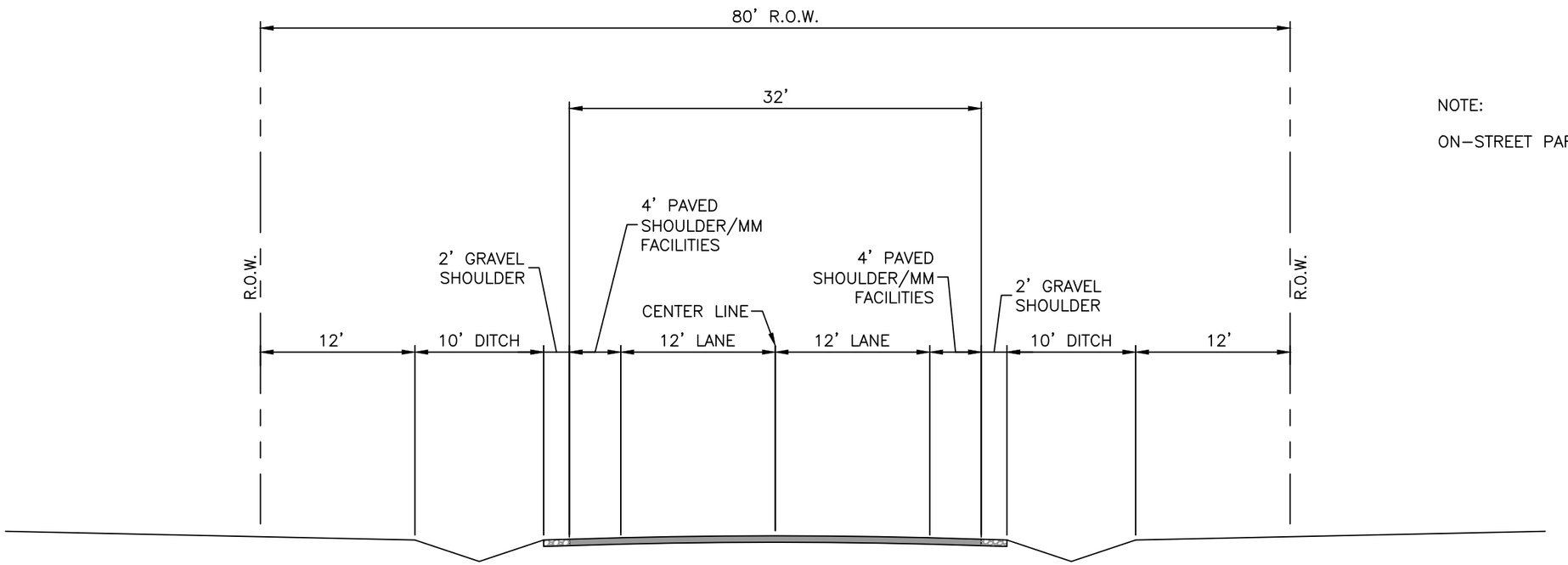
MINOR COLLECTOR INDUSTRIAL/COMMERCIAL

0 TO 3,000 A.D.T.

MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
970.244.1636 www.mesacounty.us
Prepared By: SGM

Roadway
Mesa County Standard Details

Minor Collector
Industrial/Commercial



NOTE:

ON–STREET PARKING IS NOT PERMITTED.

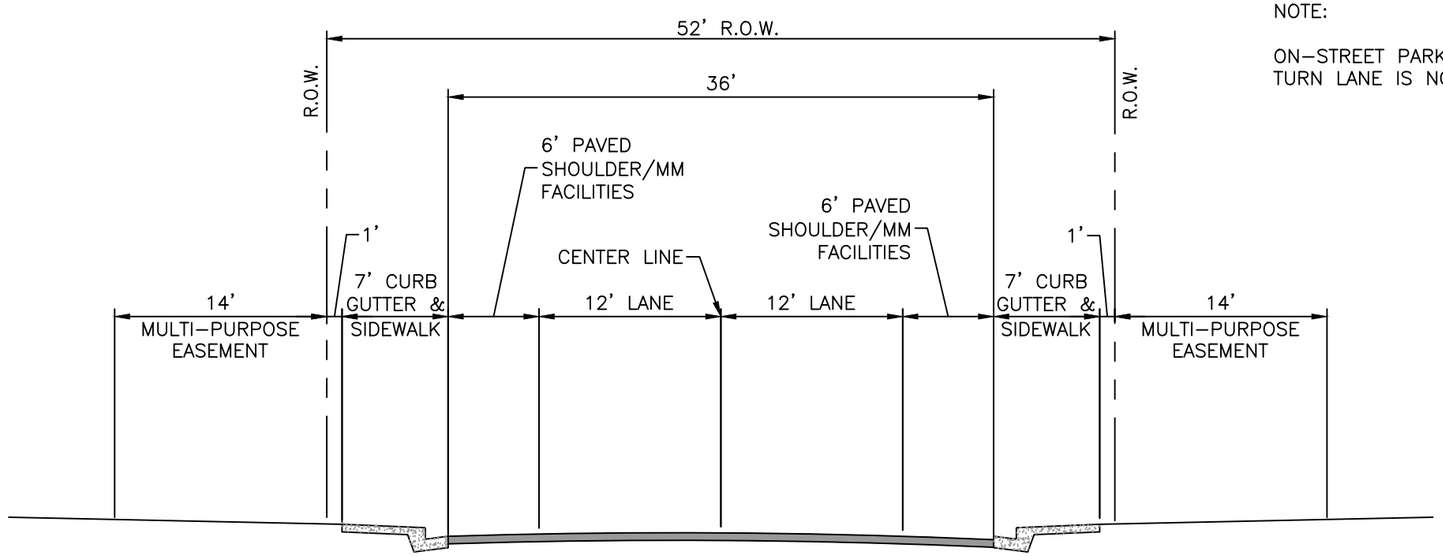
RURAL COLLECTOR

800 TO 8,000 A.D.T.

MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
970.244.1636 www.mesacounty.us
Prepared By: SGM

Roadway
Mesa County Standard Details

Rural Collector



NOTE:

ON-STREET PARKING IS PERMITTED WHERE A TURN LANE IS NOT REQUIRED.

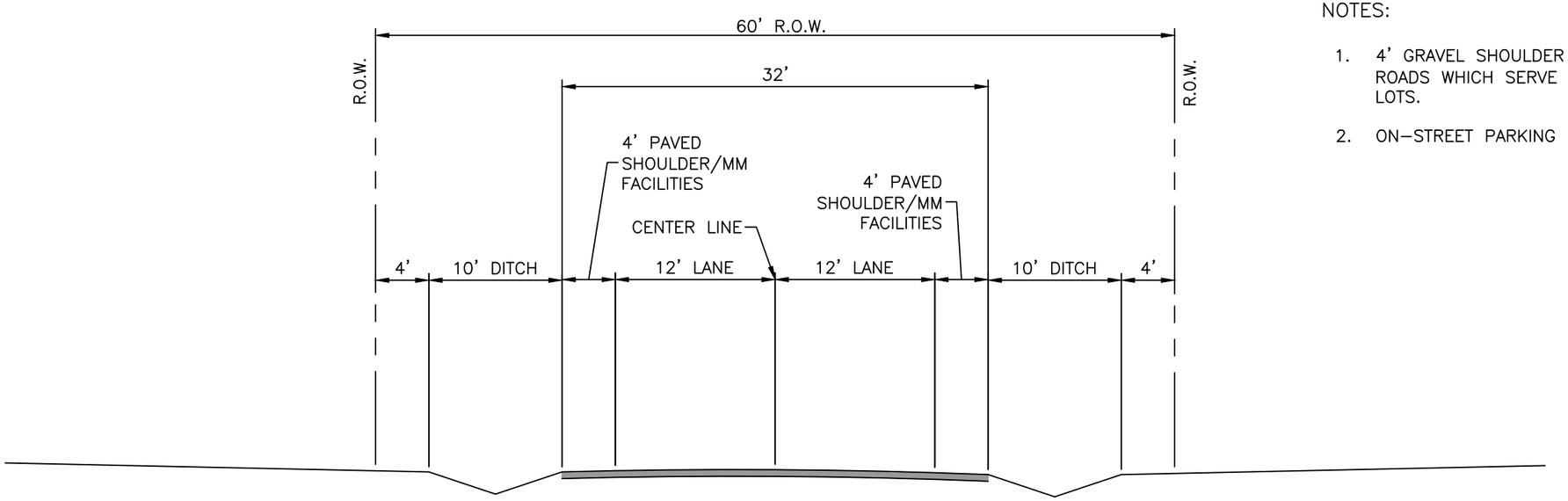
MINOR COLLECTOR URBAN

1,000 TO 3,000 A.D.T.

MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
970.244.1636 www.mesacounty.us
Prepared By: SGM

Roadway
Mesa County Standard Details

Minor Collector Urban



NOTES:

1. 4' GRAVEL SHOULDER PERMITTED ON NEW ROADS WHICH SERVE LESS THAT TEN (10) LOTS.
2. ON-STREET PARKING IS NOT PERMITTED.

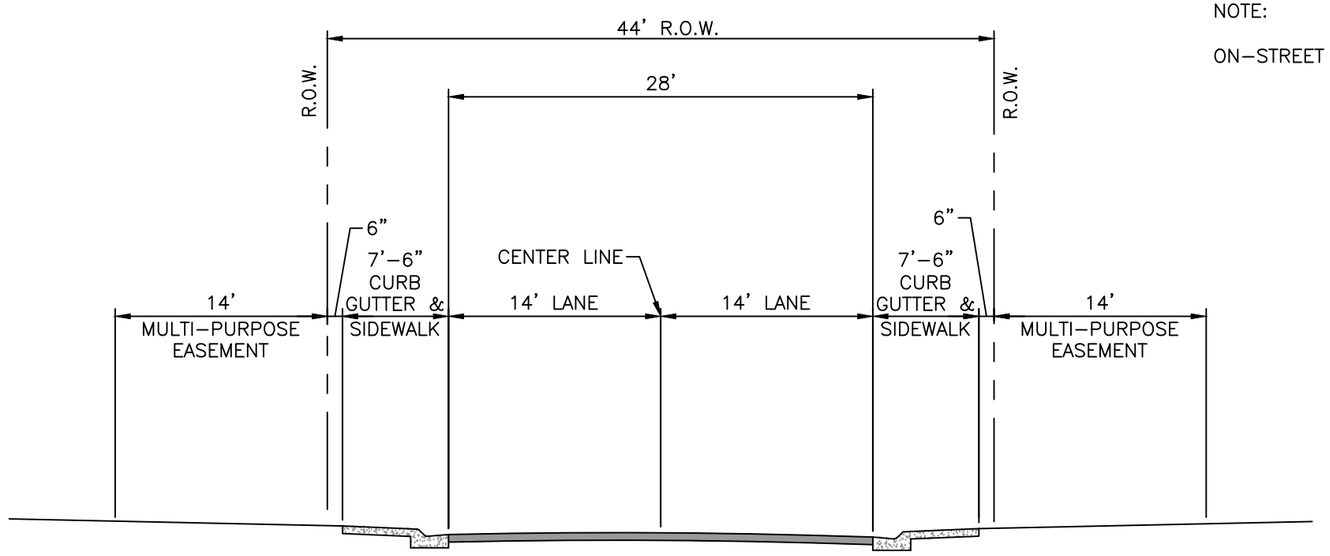
RURAL LOCAL
0 TO 800 A.D.T.

MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
970.244.1636 www.mesacounty.us
Prepared By: SGM

Roadway
Mesa County Standard Details

Rural Local

Sht. R08
Of 11



NOTE:

ON-STREET PARKING IS PERMITTED.

URBAN LOCAL

0 TO 1,000 A.D.T.

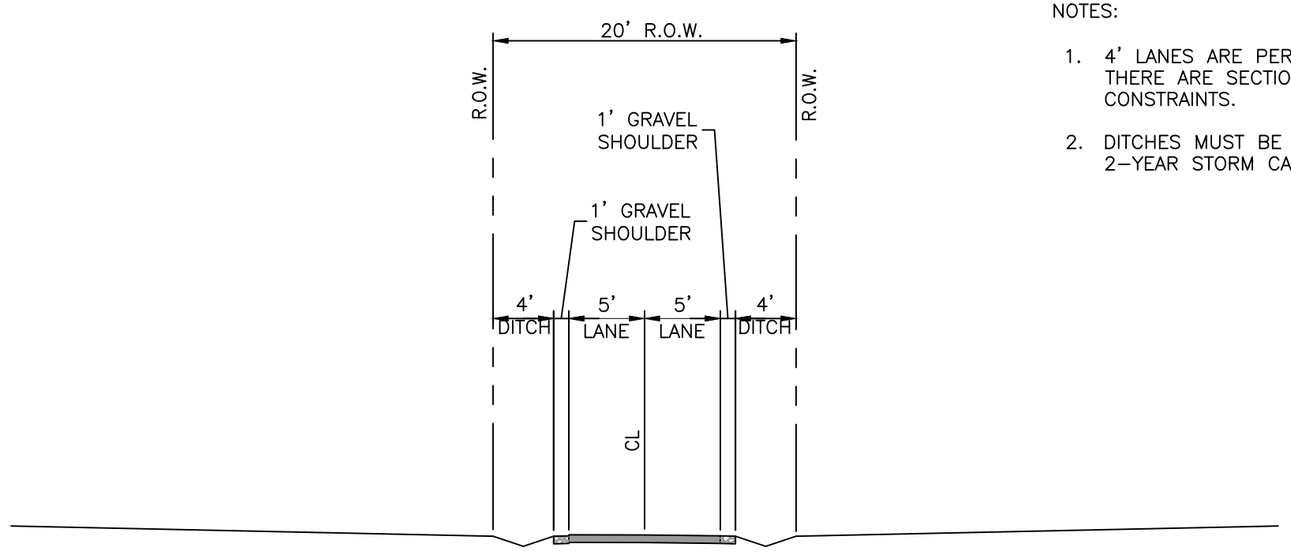
MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
970.244.1636 www.mesacounty.us
Prepared By: GSGM

Roadway
Mesa County Standard Details

Revised: 12/23

Urban Local

Sht. R09
Of 11



NOTES:

1. 4' LANES ARE PERMITTED IF THERE ARE SECTIONS WITH CONSTRAINTS.
2. DITCHES MUST BE SIZED FOR 2–YEAR STORM CAPACITY.

SHARED USE PATH OFF–STREET

MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
970.244.1636 www.mesacounty.us
Prepared By: SGM

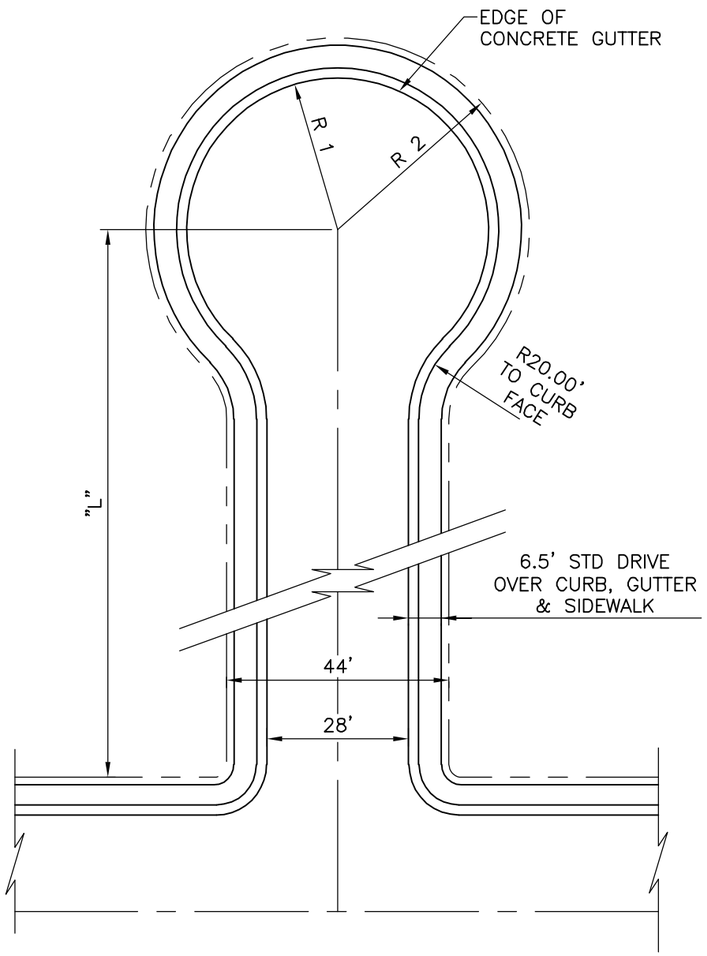
Roadway
Mesa County Standard Details

Shared Use Path Off-Street

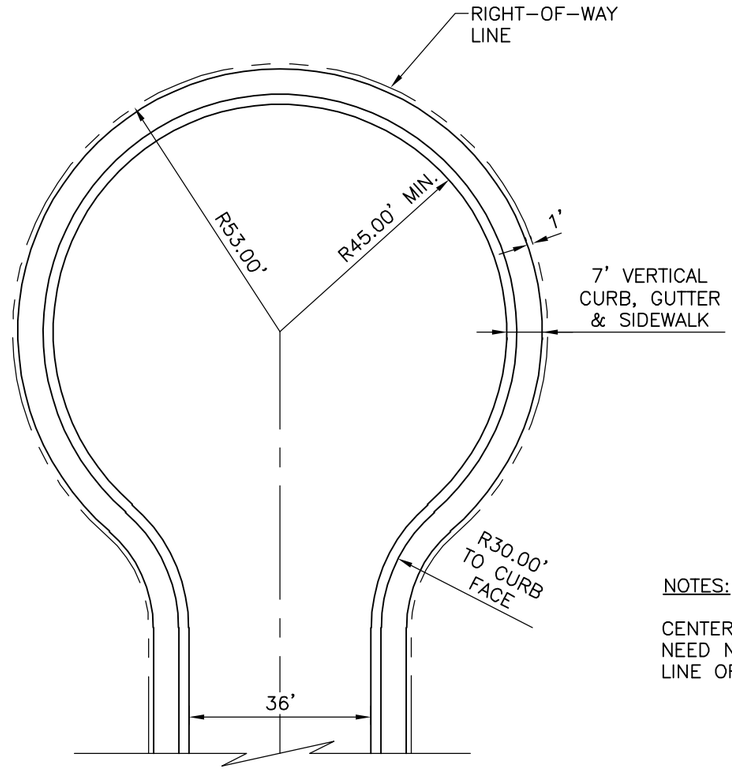
WHERE "L" IS GREATER THAN 150'
R 1 = 40'
R 2 = 48'

WHERE "L" IS 150' OR LESS
R 1 = 30'
R 2 = 38'

WHERE APPLIED TO FIRE APPARATUS TURN–AROUND DESIGN, R2 = 48'



CUL–DE–SAC TURN AROUND MINIMUM DIMENSIONS RESIDENTIAL COURT



CUL–DE–SAC TURN AROUND MINIMUM DIMENSIONS COMMERCIAL / INDUSTRIAL COURT

NOTES:

CENTER OF CUL–DE–SAC NEED NOT BE ON CENTER LINE OF STREET.

STORM DRAIN DETAILS INDEX

1. BACKFILL AROUND MANHOLES, INLET BOXES, AND OTHER STRUCTURES SHALL BE PLACED IN 8" LIFTS AND COMPACTED TO 95% AASHTO T-180.

2. ALL PORTLAND CEMENT CONCRETE SHALL BE COLORADO DEPARTMENT OF TRANSPORTATION CLASS "B". (SECTION 601.02).

3. ANY EXISTING PAVEMENT NOT DESIGNATED FOR REMOVAL WHICH IS DAMAGED BY CONSTRUCTION SHALL BE REPLACED IN-KIND BY CONTRACTOR.

4. ALL CONCRETE WORK WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED BY A LICENSED CITY CONTRACTOR.

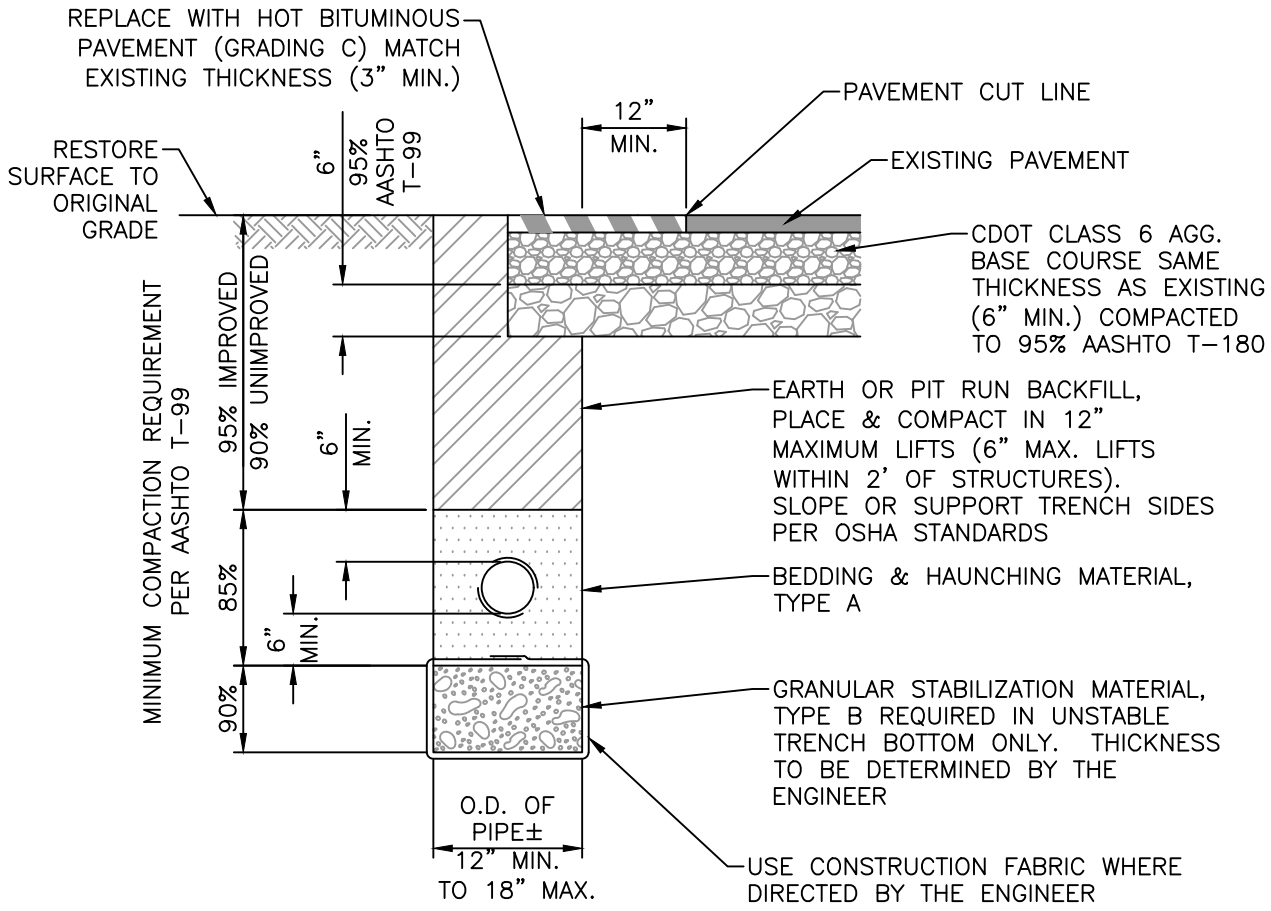
5. SEE APPROVED CONSTRUCTION DRAWINGS FOR ALL LOCATIONS, GRADES AND ELEVATIONS OF ALL DRAINAGE IMPROVEMENTS.

6. MANHOLE RING AND COVER AND INLET GRATE AND FRAME SHALL BE ADJUSTED TO FINISHED GRADE USING NON-SHRINK GROUT AND PRE-CAST CONCRETE GRADE RINGS OR WITH THE "WHIRLY GIG" METHOD. GROUT THICKNESS SHALL NOT EXCEED 2 INCHES. GROUT SHALL BE PLACED UNDER THE CAST IRON RING OR FRAME. NO GROUT SHALL BE PLACED BETWEEN THE CONCRETE GRADE RINGS. STEEL GRADE ADJUSTMENT RINGS MAY BE USED FOR ADJUSTMENT OF MANHOLE COVERS ONLY WHEN STREETS ARE OVERLAID.

7. SEE THE MESA COUNTY STORMWATER MANAGEMENT MANUAL FOR STORMWATER DESIGN CRITERIA.

8. ALL WORK SHALL BE IN ACCORDANCE WITH APPROVED PLANS, STANDARD STORM DRAIN DETAILS AND THE MESA COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION.

9. STORM DRAIN INLET BOXES MAY BE MADE FROM STACKABLE PRECAST BOX SECTIONS WITH TONGUE AND GROOVE JOINTS AND FLEXIBLE SEALANT BETWEEN SECTIONS. THE TOP SECTION OF THE INLET BOX SHALL HAVE A GROOVE-LESS FLAT SURFACE TO SUPPORT THE INLET FRAME AND GRATE.

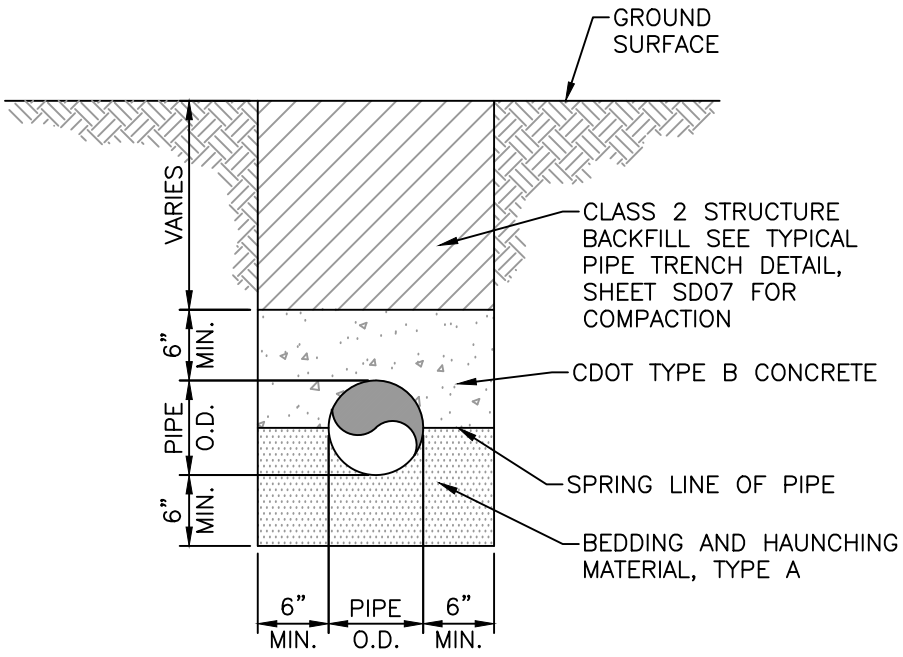


	MAXIMUM PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES		
SIEVE SIZE	PIPE BEDDING & HAUNCHING MATERIAL (TYPE A)	GRANULAR STABILIZATION MATERIAL (SCREENED OR CRUSHED ROCK TYPE B)	PIT RUN AGGREGATE (TO BE USED WHERE SPECIFIED OR DIRECTED BY THE ENGINEER
12 INCH	---	---	100
2 INCH	---	100	---
1 INCH	100	---	---
NO 4	20 MAX	15 MAX	20 MAX
NO 200	---	---	20 MAX

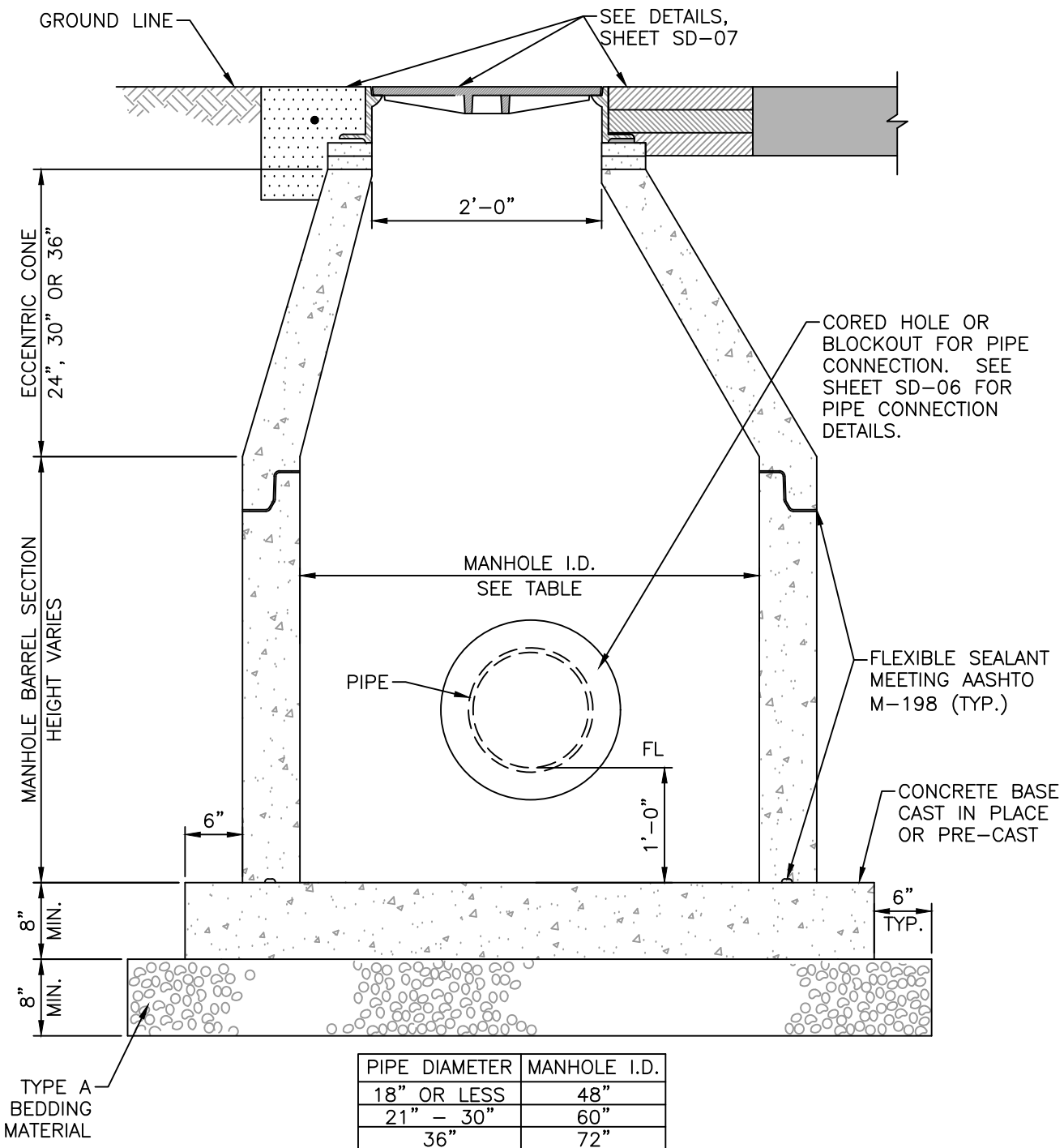
NOTES:

1. NATIVE MATERIAL MAY BE USED IN LIEU OF GRANULAR BEDDING & HAUNCHING MATERIAL IF APPROVED BY THE ENGINEER AND THE NATIVE MATERIAL IS IN COMPLIANCE WITH SIZE REQUIREMENTS FOR "TYPE A".
2. 24" COMPACTED BACKFILL REQUIRED OVER ALL PLASTIC PIPE PRIOR TO VEHICLE OR HEAVY EQUIPMENT LOADING.
3. PIT RUN AGGREGATE SHALL HAVE LL NOT GREATER THAN 35 AND PI LESS THAN 7.

TYPICAL TRENCH DETAIL



CONCRETE ENCASEMENT DETAIL

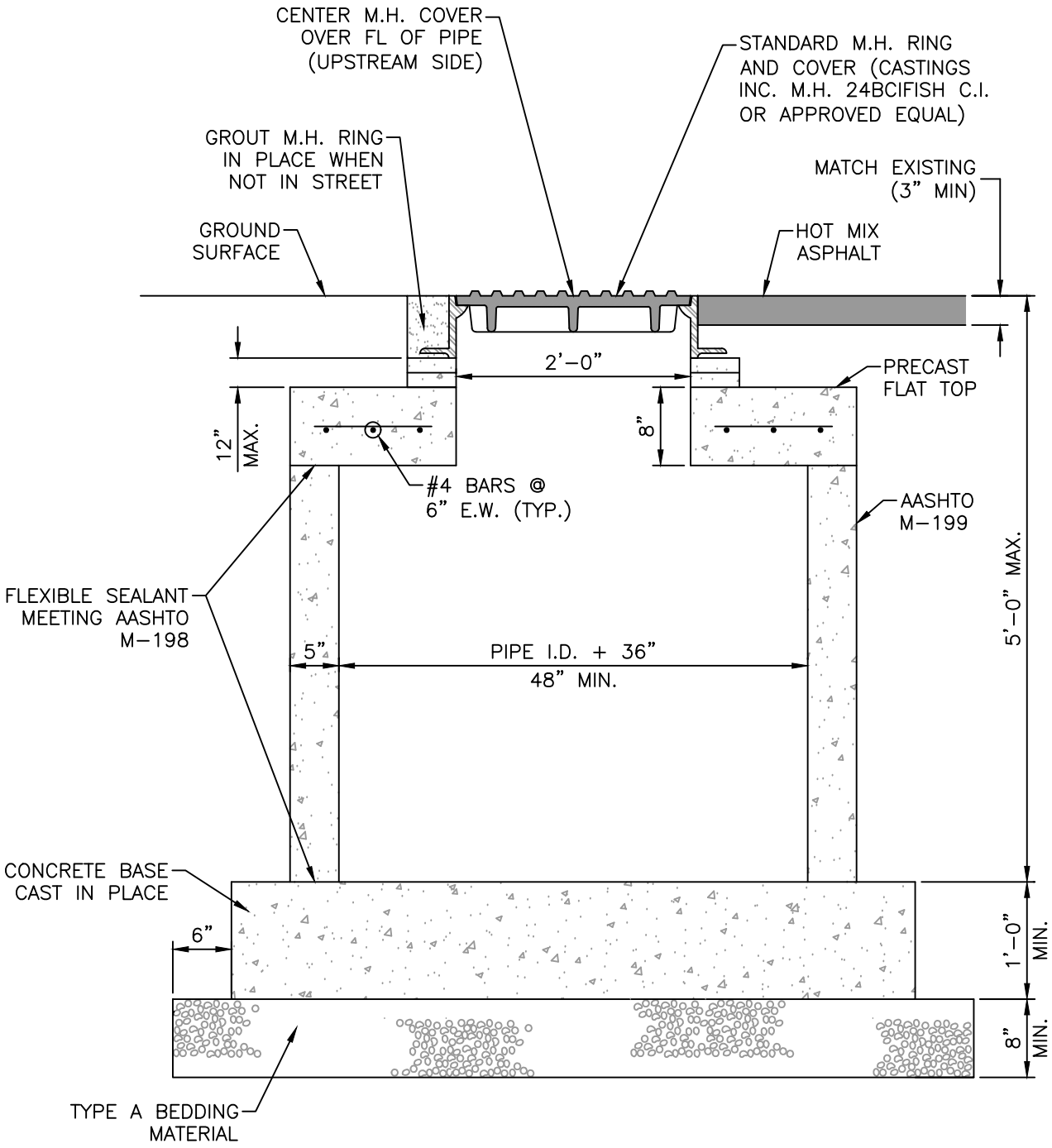


PIPE DIAMETER	MANHOLE I.D.
18" OR LESS	48"
21" – 30"	60"
36"	72"
42" – 48"	90"

NOTES:

1. ALL PRECAST MANHOLE SECTIONS SHALL CONFORM TO ASTM C-478 OR AASHTO M-199.
2. NO STEPS REQUIRED IN STORM SEWER MANHOLES.

STANDARD STORM DRAIN MANHOLE



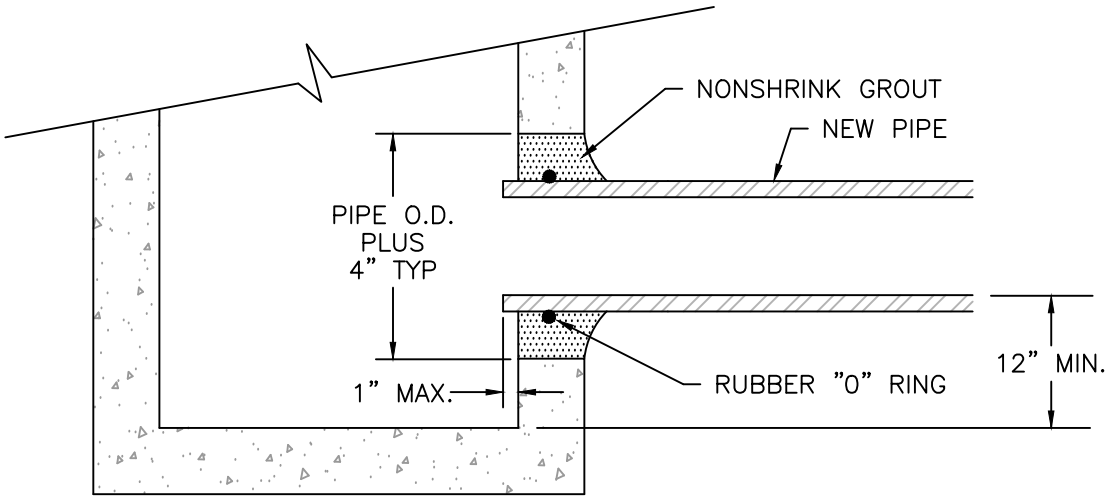
NOTE:

MANHOLE RISER SECTIONS, CONES, FLAT TOPS, AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE CONFORMING TO ASTM C-478 OR M-199

STANDARD SHALLOW MANHOLE

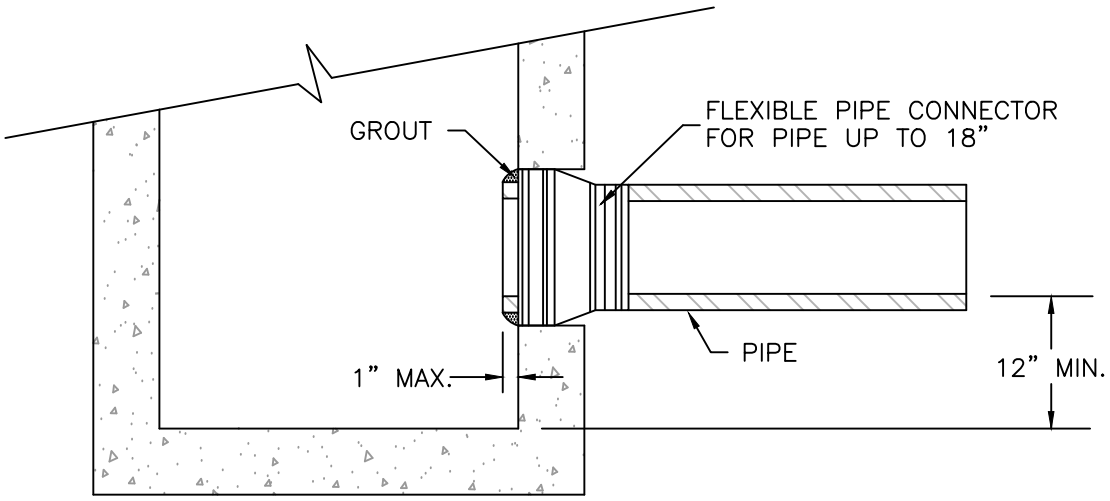
MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
970.244.1636 www.mesacounty.us
Prepared By: SGM

Storm Drain Mesa County Standard Details		Standard Shallow Manhole	Sht. SD-05 of 14

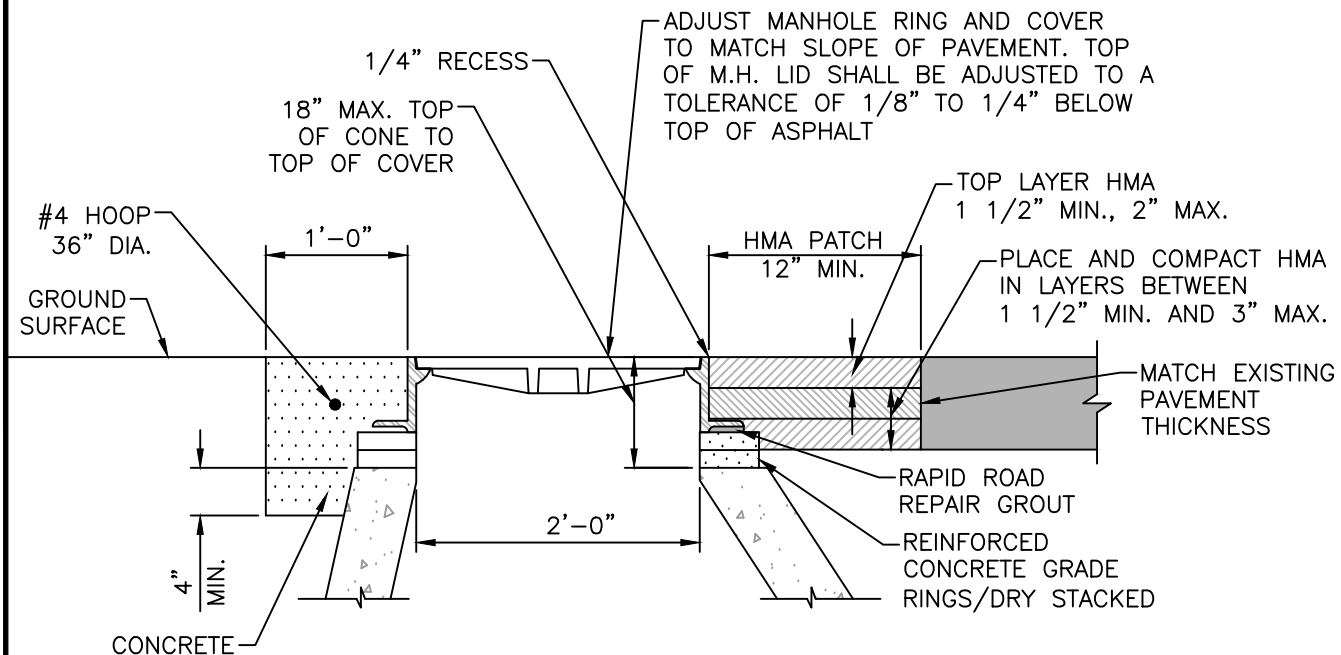


GROUTED PIPE CONNECTION
(FOR CONNECTIONS TO EXISTING STRUCTURES)

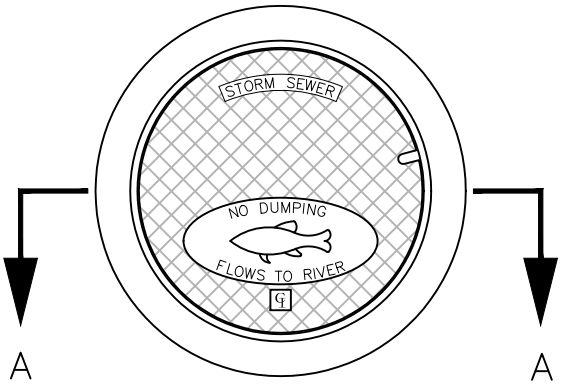
GROUT FOR PIPE CONNECTIONS SHALL BE ALL-CRETE (5 OR 20 MINUTE SET) MANUFACTURED BY FOSROC INC. OR AN APPROVED SUBSTITUTE.



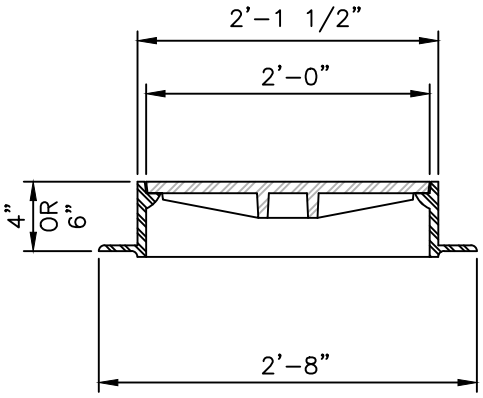
PVC PIPE CONNECTION



NOTE:
WHEN ADJUSTMENT HEIGHT IS 3 IN OR LESS, METAL ADJUSTMENT RINGS COMPATIBLE WITH THE EXISTING MANHOLE AND COVER MAY BE USED IF APPROVED BY THE ENGINEER.



STANDARD M.H. RING & COVER
(CASTINGS INC. 24-B-CI (FISH)



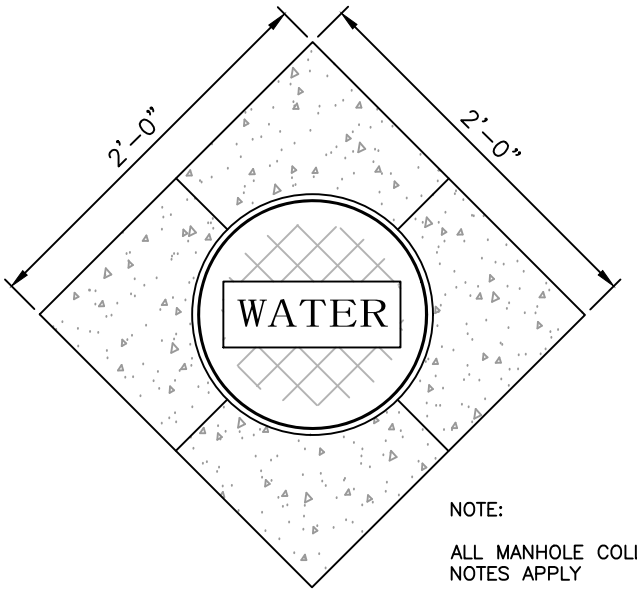
SECTION A-A

NOTE:

WHERE A GRATE TYPE COVER IS REQUIRED USE CASTINGS MH-24-GBP CI

STANDARD CAST IRON MANHOLE RING & COVER

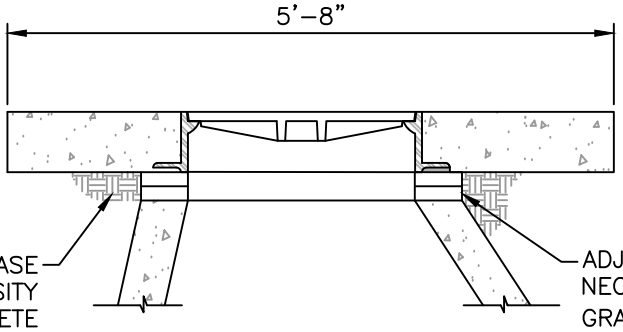
MESA COUNTY 200 S. Spruce Street Grand Junction, CO 81501 970.244.1636 www.mesacounty.us Prepared By: SGM	Storm Drain Mesa County Standard Details	Revised: 12/23	Standard Cast Iron Manhole Ring and Cover	Sht. SD-07 of 14



NOTE:

ALL MANHOLE COLLAR NOTES APPLY

WATER VALVE COLLAR DETAIL

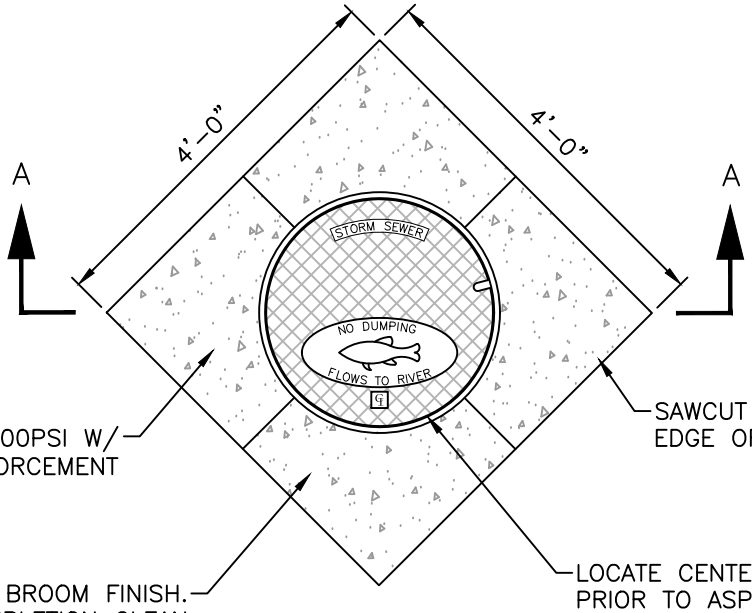


6" IF OUT OF TRAVELED WAY, 8' IF IN TRAFFIC LANE

RECOMPACTED BASE TO SPECIFIC DENSITY PRIOR TO CONCRETE PLACEMENT.

ADJUSTMENT RINGS – RAISE AS NECESSARY TO MEET FINISH GRADE OF $\frac{1}{4}$" BELOW CONCRETE. (MANHOLES & WATER VALVES)

SECTION A–A



CONCRETE TO BE 4000PSI W/ FIBER MESH REINFORCEMENT

SAWCUT TO OUTSIDE EDGE OF COLLAR

PROVIDE LIGHT BROOM FINISH. AT COMPLETION CLEAN STRUCTURE & STREET OF ALL EXCESS CONCRETE.

LOCATE CENTER OF STRUCTURE PRIOR TO ASPHALT PLACEMENT. ESTABLISH SUFFICIENT TIES TO RELOCATE CENTER AFTER PAVING

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Prepared By: SGM

Storm Drain
Mesa County Standard Details

Revised: 12/23

Concrete Collar Details

Sht. SD–08 of 14

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200 S. Spruce Street
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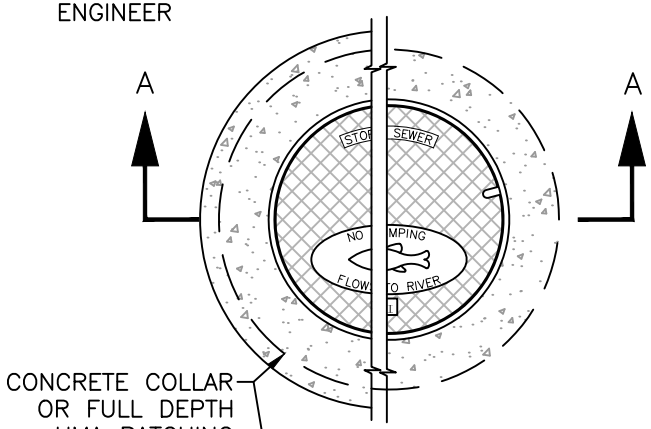
www.mesacounty.us
Prepared By: SGM

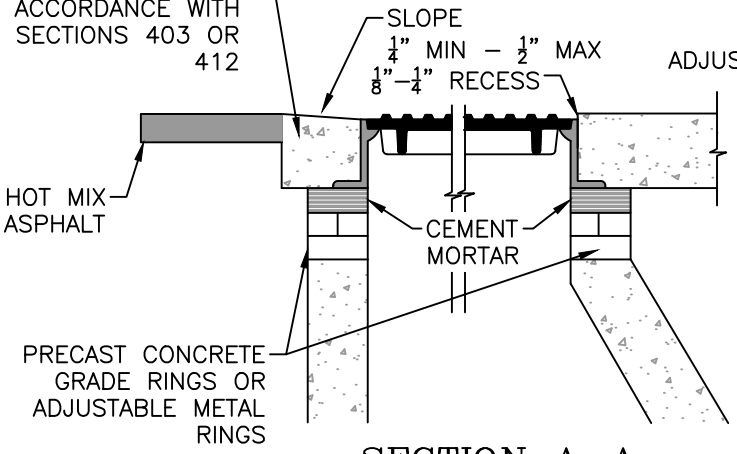
Storm Drain
Mesa County Standard Details

Revised: 12/23

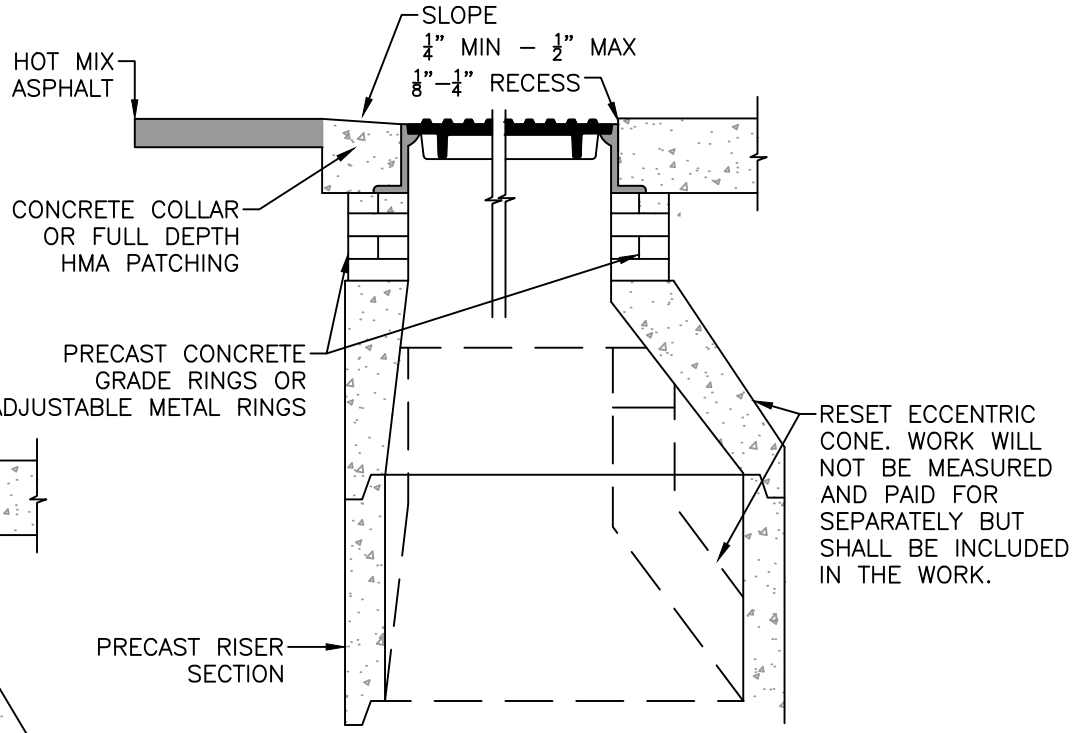
Adjust & Modify Manholes

WHEN ADJUSTMENT HEIGHT IS 3 IN OR LESS, METAL ADJUSTMENT RINGS COMPATIBLE WITH THE EXISTING MANHOLE RING AND COVER MAY BE USED IF APPROVED BY THE ENGINEER





SECTION A–A
ADJUST MANHOLE 20 IN. OR LESS



SECTION A–A
MODIFY MANHOLE GREATER THAN 20 IN.

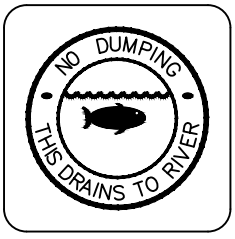
APPROVED STORM DRAIN INLETS

TYPE	GRATE AND FRAME DESIGNATION	CASTINGS GRATE TYPE	BOX DIM. INSIDE
SINGLE GRATE WITH CURB VERTICAL OPENING	CASTINGS IFG–3246–( ) C.I.	R,L,V,D	24 X 36"
DOUBLE GRATE WITH CURB OPENING	CASTINGS IFG–3246–( ) C.I. DOUBLE	R,L,V,D	24" X 73"
TRIPLE GRATE WITH CURB OPENING	CASTINGS IFG–3246–( ) C.I. TRIPLE	R,L,V,D	24" X 110"
C.D.O.T TYPE C AREA INLET	SEE STANDARD M–604–10		
INLET WITH DRIVE OVER CURB BOX	CASTINGS IFG–3246( ) DOC. I:	R,L,V,D	24 X 36"
STANDARD MANHOLE GRATE	CASTINGS MH–24BCFISH		
C.D.O.T. TYPE R	SEE STANDARD M–604–12		
C.D.O.T. TYPE 13	SEE STANDARD M–604–13		

SHOW GRATE TYPE WHERE INDICATED BY ( )

NOTE: USE TYPE R OR TYPE D GRATE WHERE INLET IS LOCATED IN SUMP CONDITION. USE TYPE V OR TYPE L GRATE WHERE GUTTER FLOW IS FROM ONE DIRECTION ONLY.

GRATES AND FRAMES FROM OTHER FOUNDARIES MAY BE USED WHEN APPROVED BY THE COUNTY ENGINEER.



PLACARD TO BE PLACED ON EACH STORM SEWER OPENING INSTALLED WITHIN THE SYSTEM SERVED BY MESA COUNTY

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Prepared By: SGM

Storm Drain
Mesa County Standard Details

Revised: 12/23

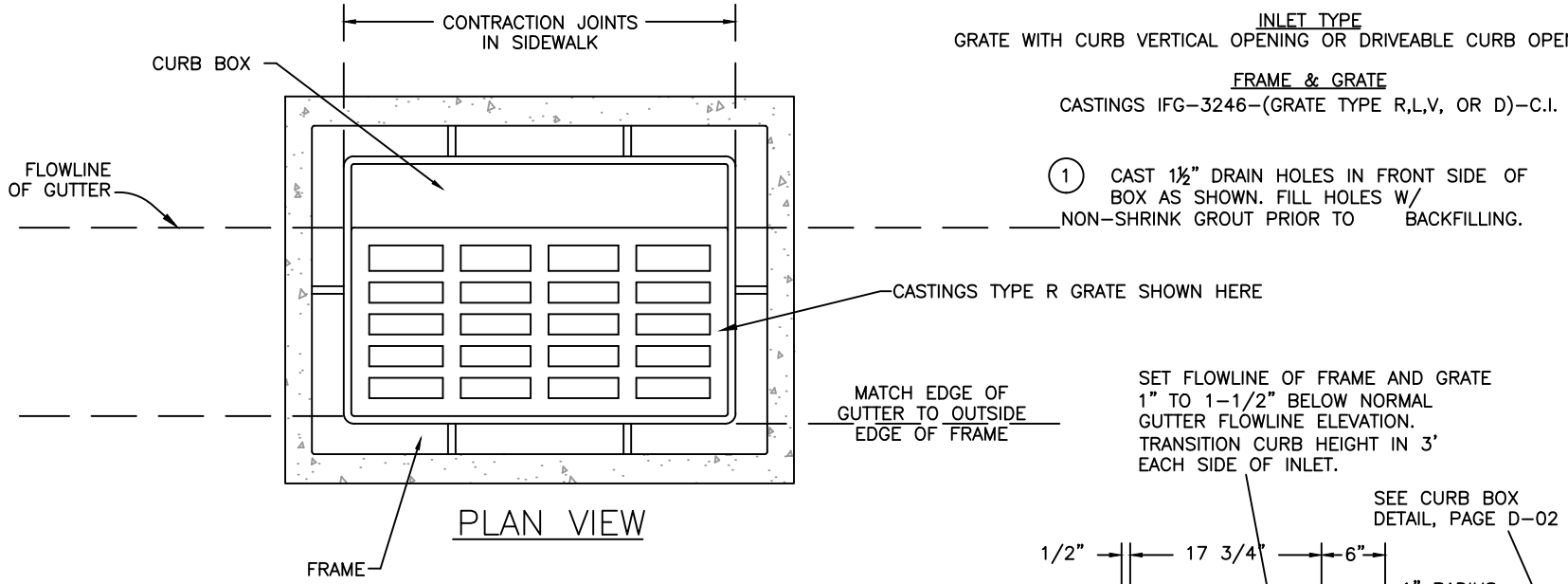
Storm Drain Inlet With Vertical Curb Opening

Sht. SD-11 of 14

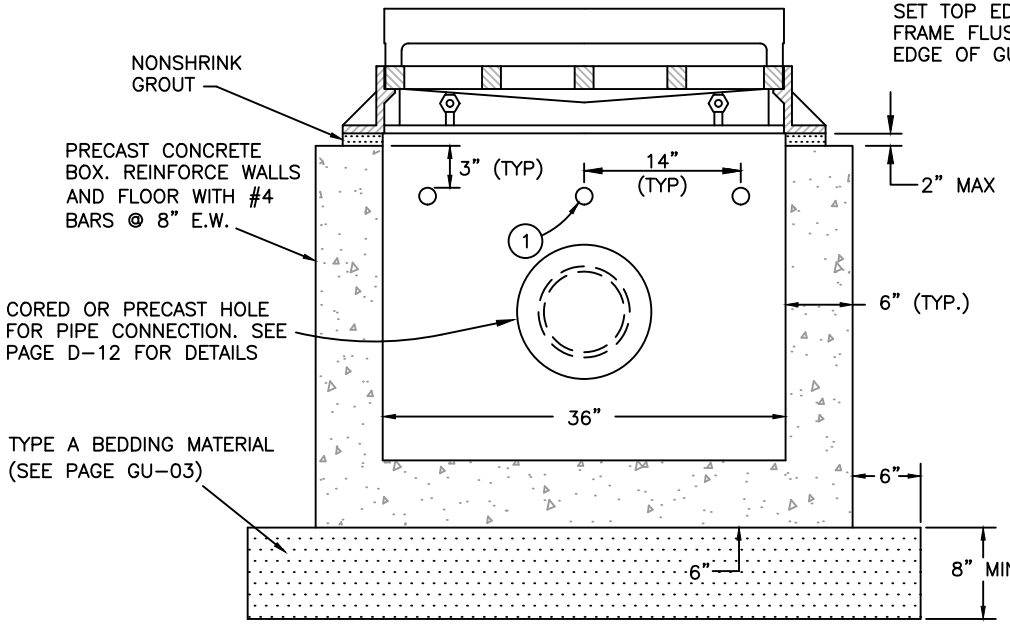
INLET TYPE
GRATE WITH CURB VERTICAL OPENING OR DRIVEABLE CURB OPENING

FRAME & GRATE
CASTINGS IFG-3246-(GRATE TYPE R,L,V, OR D)-C.I.

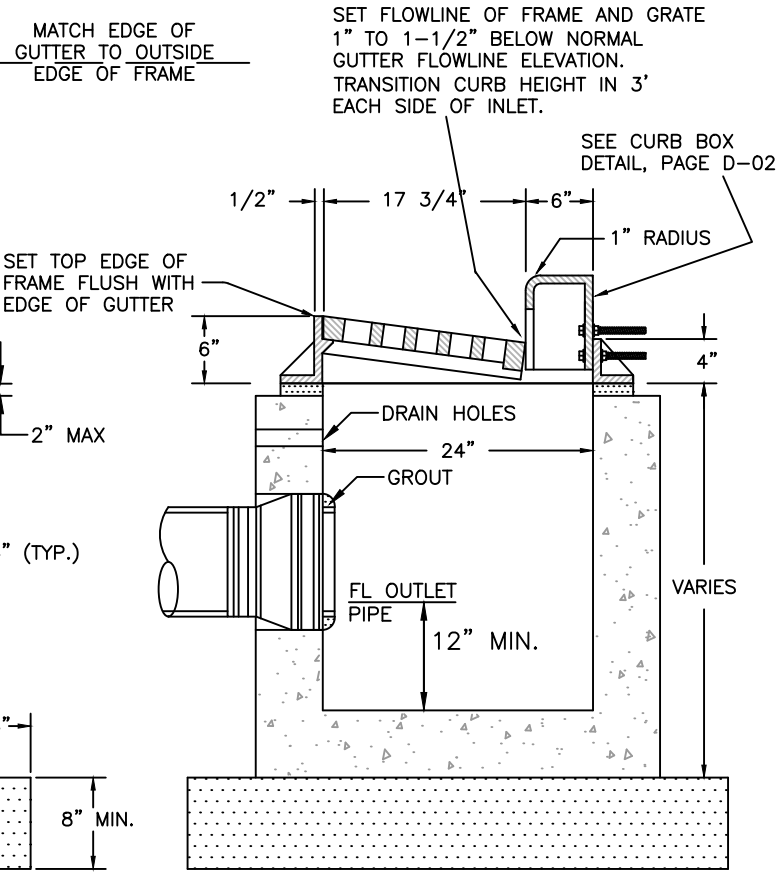
(1) CAST 1½" DRAIN HOLES IN FRONT SIDE OF BOX AS SHOWN. FILL HOLES W/ NON-SHRINK GROUT PRIOR TO BACKFILLING.



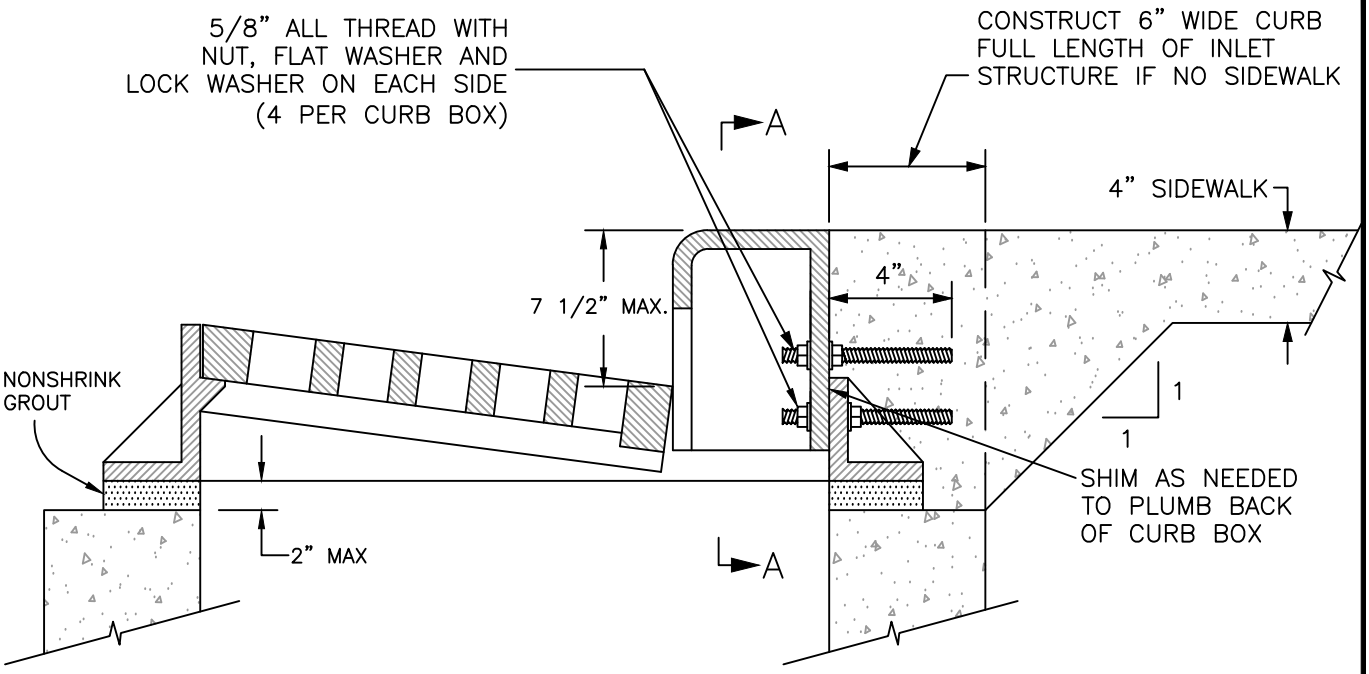
PLAN VIEW



FRONT VIEW

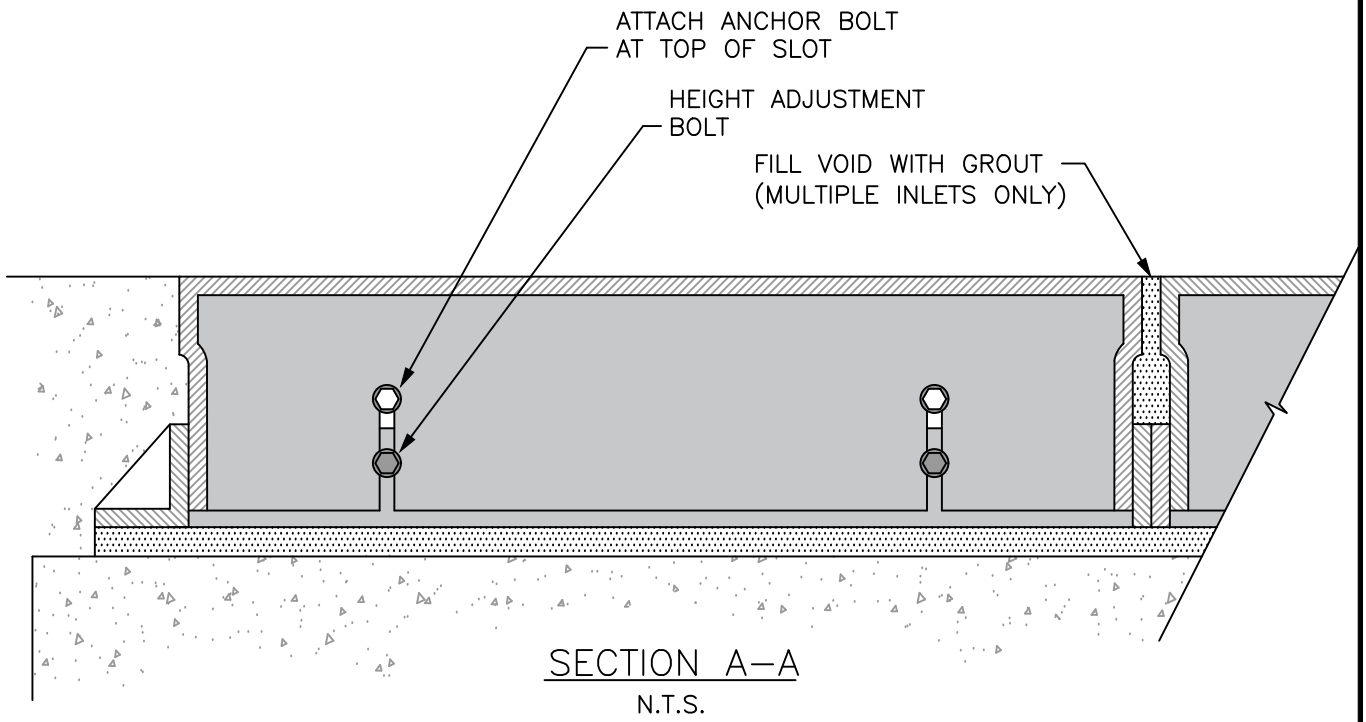


SIDE VIEW



SIDE VIEW

N.T.S.



SECTION A–A

N.T.S.

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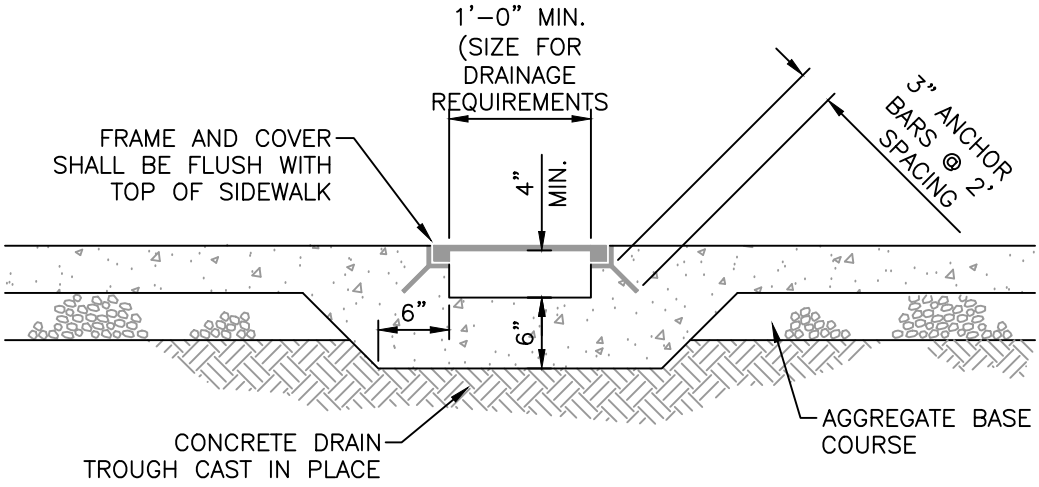
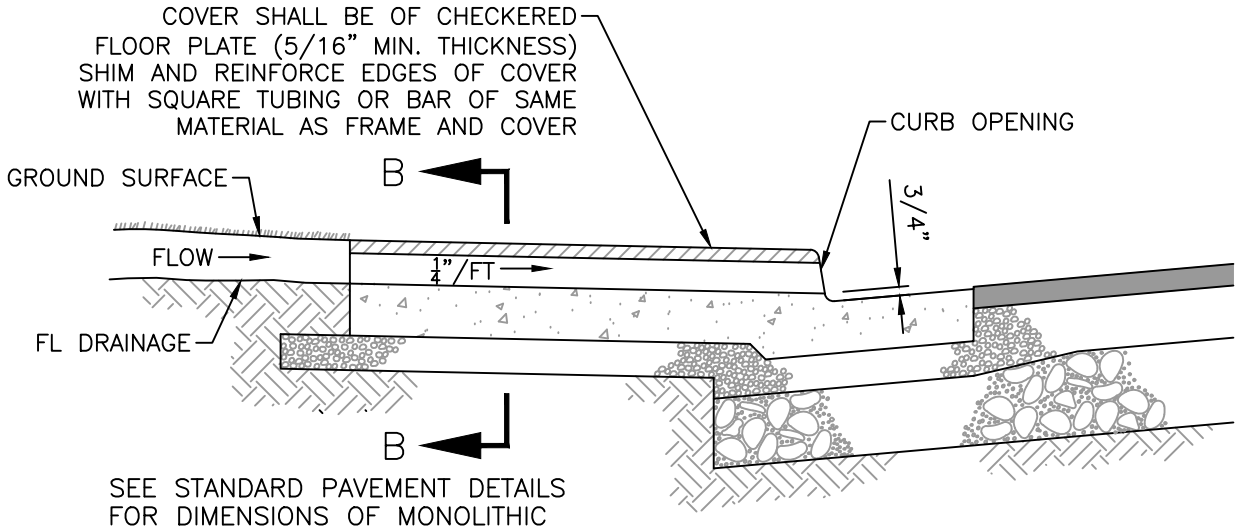
Storm Drain Mesa County Standard Details	Revised: 12/23	Inlet Curb Box Detail	Sht. SD–12 of 14



SECTION B–B

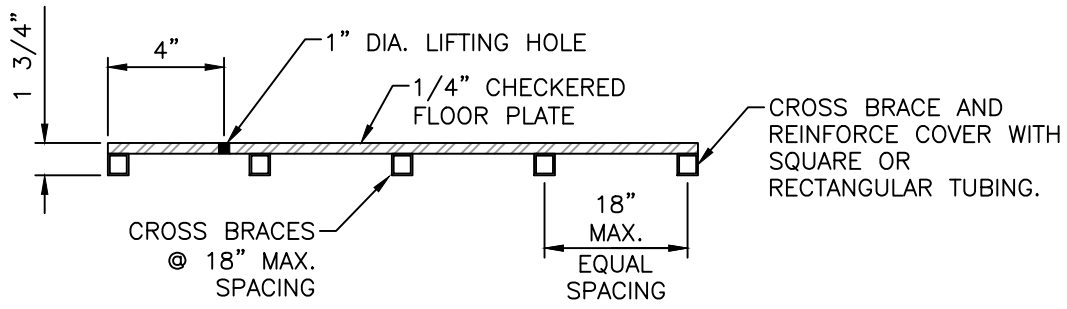
NOTE: 1. DIRECTION OF FLOW SHALL BE FROM PROPERTY TO STREET.
2. WHEN THE RUNOFF FLOW RATE EXCEEDS THE DRAIN TROUGH CAPACITY, OTHER APPROVED CONVEYANCE METHODS SHALL BE USED.



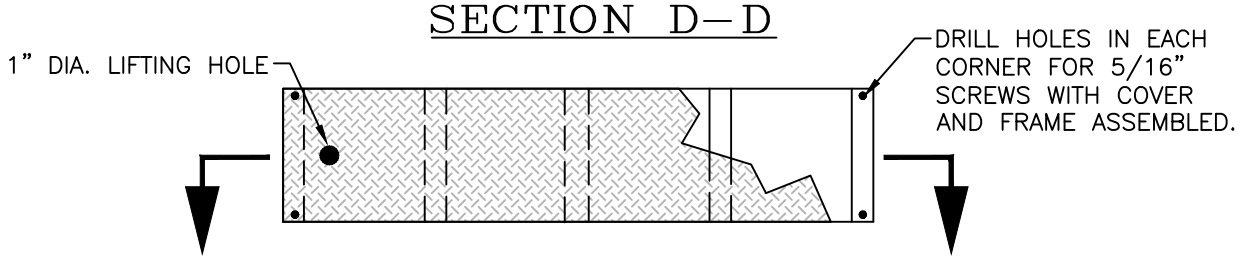
SEE STANDARD PAVEMENT DETAILS FOR DIMENSIONS OF MONOLITHIC CURB GUTTER AND SIDEWALK

NOTE: BOTH FRAME AND COVER SHALL BE FABRICATED OF STEEL
ALL STEEL SURFACES SHALL BE GALVANIZED PER AASHTO M–111

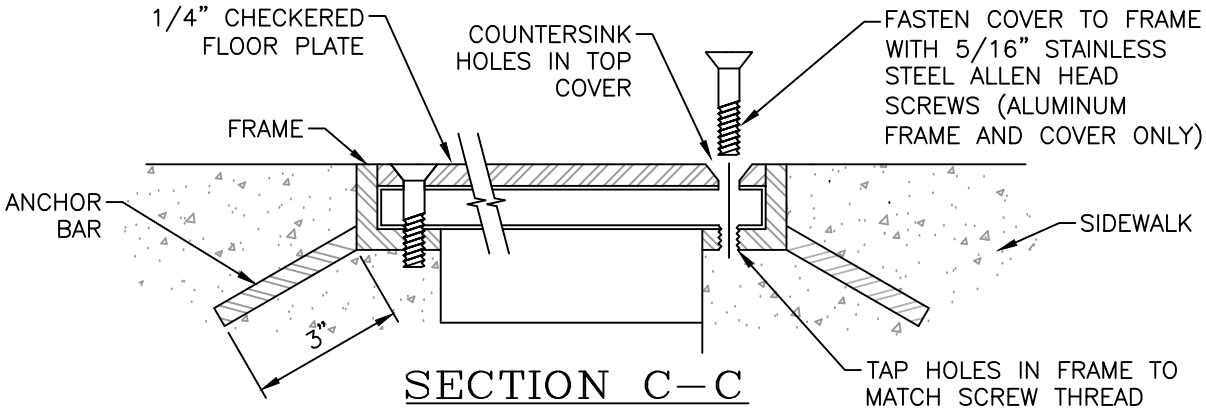
DRAIN TROUGH FOR SIDEWALK CROSSING



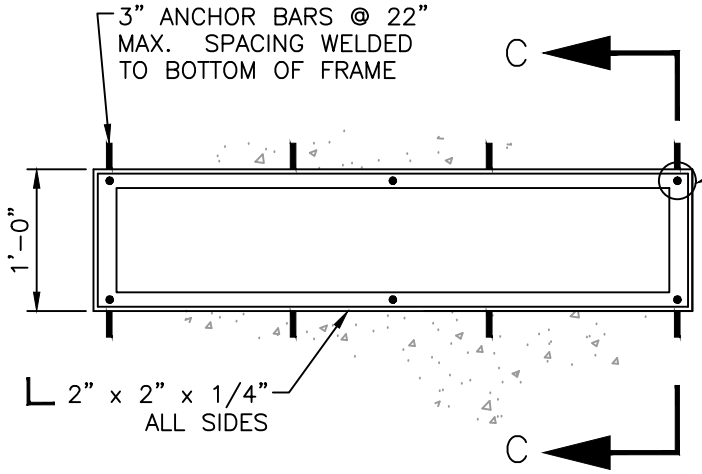
SECTION D–D



COVER PLAN VIEW



SECTION C–C



FRAME PLAN VIEW

NOTE:

FRAME, COVER, SHIMES AND CROSS BRACING SHALL BE FABRICATED OF SAME MATERIAL (STEEL OR ALUMINUM). STEEL COVERS SHALL BE GALVANIZED FOLLOWING FABRICATION. STEEL FRAMES SHALL BE GALVANIZED OR SHOP PRIMED AND PAINTED WITH ALUMINUM PAINT MEETING CDOT SPEC. 708.04

FRAME AND COVER FOR SIDEWALK DRAIN TROUGH

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Prepared By: SGM

Storm Drain Mesa County Standard Details		Frame and Cover for Sidewalk Drain Trough	Sht. SD–14 of 14

UTILITY EASEMENT DETAILS INDEX

UTILITY EASEMENT NOTES

1. A CONTINUOUS MULTI–PURPOSE EASEMENT SHALL BE PROVIDED ON BOTH SIDES OF ALL ROAD RIGHTS–OF–WAY. THIS EASEMENT SHALL BE RESERVED FOR PURPOSES INCLUDING, BUT NOT LIMITED TO INSTALLATION AND MAINTENANCE OF PUBLIC UTILITIES, TRAFFIC CONTROL SIGNS AND SIGNALS, STREETSCAPE, STREET TREES, AND SPRINKLING SYSTEMS, EARTH RETAINING STRUCTURES AND SURFACE SLOPING OR GRADING REQUIRED FOR STREET CONSTRUCTION.

2. UTILITY COMPANIES AND/OR MESA COUNTY SHALL NOT BE RESPONSIBLE FOR DAMAGE TO PLANTINGS, IRRIGATION SYSTEMS, FENCES OR OTHER APPURTENANCES LOCATED OR CONSTRUCTED WITHIN THE MULTI–PURPOSE EASEMENT WHEN SUCH DAMAGE RESULTS FROM THE INSTALLATION AND/OR REPAIR OF UTILITIES WITHIN SAID MULTI–PURPOSE EASEMENT.

3. IRRIGATION DISTRIBUTION LINES SHALL BE LOCATED IN A SEPARATE EASEMENT LOCATED ON THE HOUSE SIDE OF THE MULTI–PURPOSE EASEMENT, OR AT THE BACK LOT LINE.

4. PROPERTY OWNERS MAY LANDSCAPE THE FULL WIDTH OF THE MULTI–PURPOSE EASEMENTS. SPRINKLING SYSTEMS INSTALLED WITHIN MULTI–PURPOSE EASEMENTS SHALL NOT BE GREATER THAN 18" DEEP.

5. STREET TREES SHALL BE LOCATED 5' FROM THE BACK OF SIDEWALK AND NO LESS THAN 10' FROM ANY DRIVEWAY. NO TREES SHALL BE PLANTED WITHIN THE MULTI–PURPOSE EASEMENT WITHOUT APPROVAL OF THE SPECIES AND LOCATION BY MESA COUNTY.

6. REFER TO SECTION 4.7.5 OF THE LAND DEVELOPMENT CODE FOR SITE ZONE DETAILS.

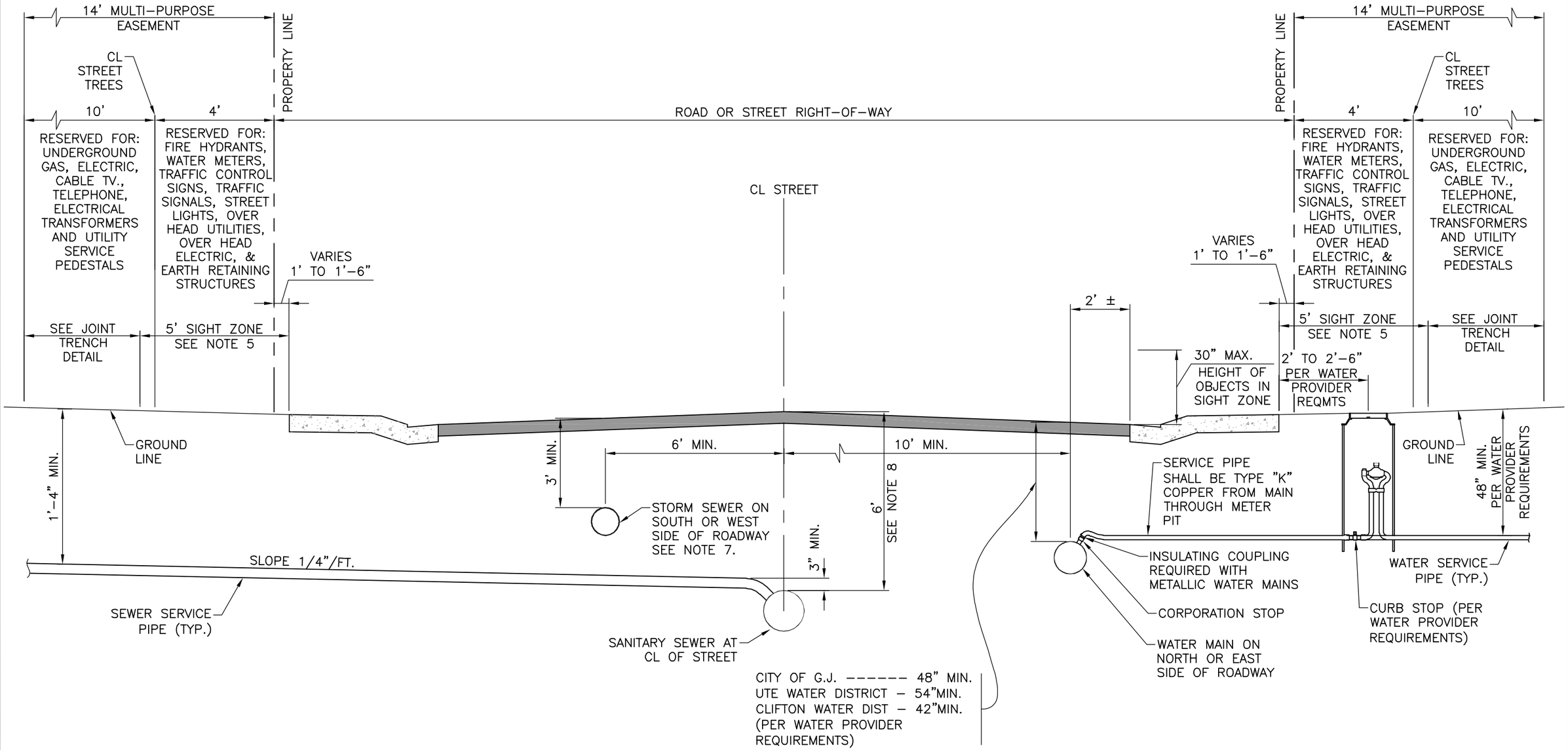
7. SANITARY SEWER MANHOLES SHALL BE LOCATED AT CENTER LINE OF STREET OR ROADWAY. KEEP MANHOLE LID OUT OF WHEEL PATH WHERE POSSIBLE.

8. STORM SEWER MANHOLES SHALL BE LOCATED AT THE CENTER LINE OF TRAFFIC LANE.

9. DUE TO DEPTHS OF EXISTING SEWER LINES, IT MAY NOT BE POSSIBLE TO EXTEND NEW SEWER MAINS AT THE MINIMUM DEPTHS SHOWN ON THE TYPICAL STREET SECTION. WHERE SANITARY SEWER MAIN AND SERVICE LINES ARE INSTALLED AT DEPTHS LESS THAN THE MINIMUM SHOWN, IT SHALL BE THE RESPONSIBLY OF THE DEVELOPER OR PROPERTY OWNER TO ADEQUATELY MARK THE LOCATION AND DEPTH OF THE SERVICE PIPE AND NOTIFY OTHER UTILITY COMPANIES OF THE SHALLOW SEWER SERVICES.

10. ALL FIRE HYDRANTS AND WATER METERS SHALL REMAIN UNOBSTRUCTED AND ACCESSIBLE AT ALL TIMES. NO FENCES, PLANTINGS, STRUCTURES OR OTHER OBSTACLE SHALL BE LOCATED WITHIN 3' OF ANY FIRE HYDRANT OR WATER METER. NO FENCES OR OTHER OBSTRUCTION SHALL BE LOCATED ON THE STREET SIDE OF ANY FIRE HYDRANT OR WATERMETER.

11. ALL BURIAL DEPTHS SHALL BE VERIFIED PER UTILITY PROVIDER REQUIREMENTS.



TYPICAL STREET SECTION

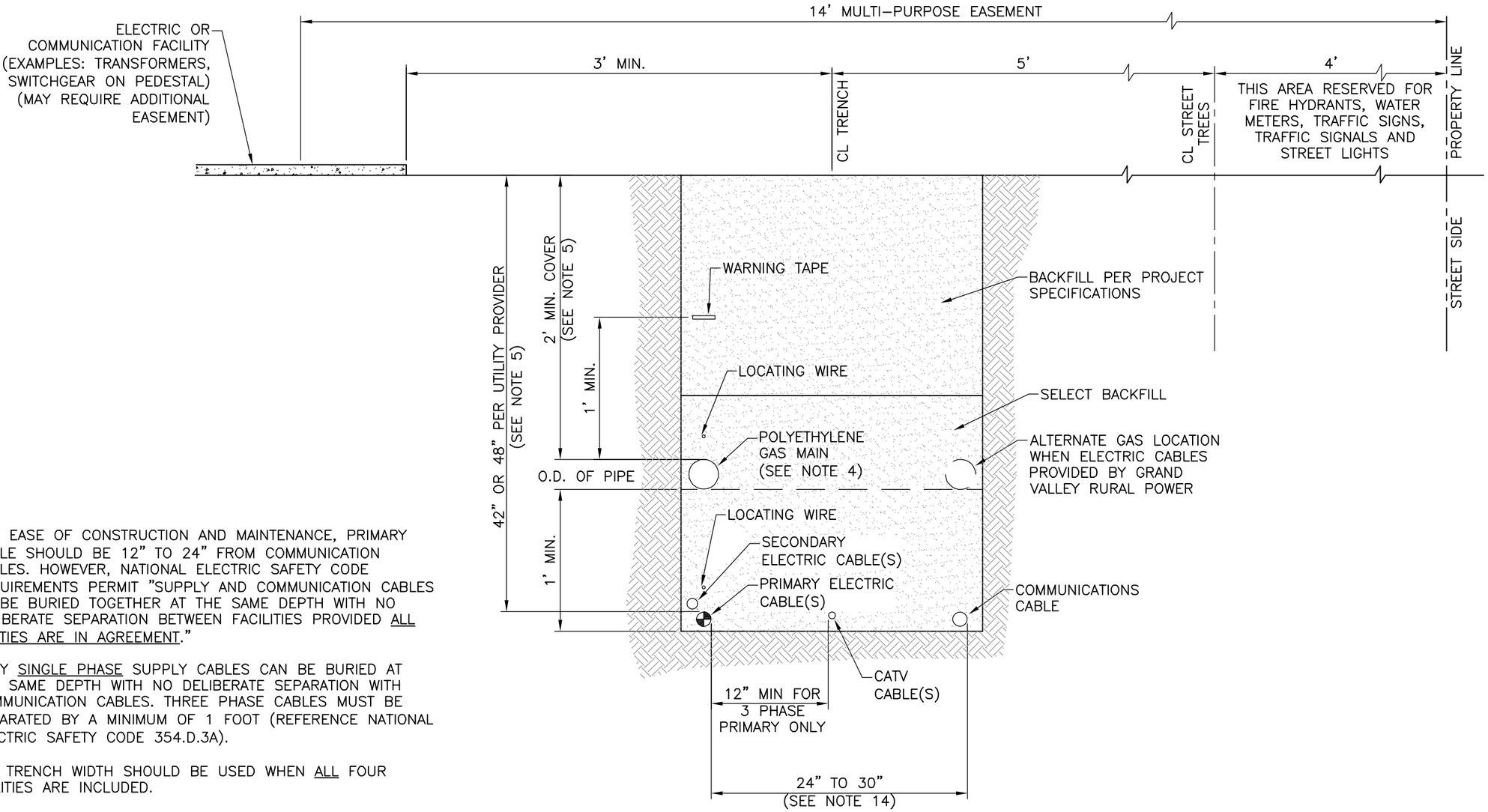
Prepared By:
SGM

MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
970.244.1636 www.mesacounty.us

Utility Easement
Standard Details

Utility Easement Section

Sht. U02
Of 4



JOINT TRENCH DETAIL

NOTES:

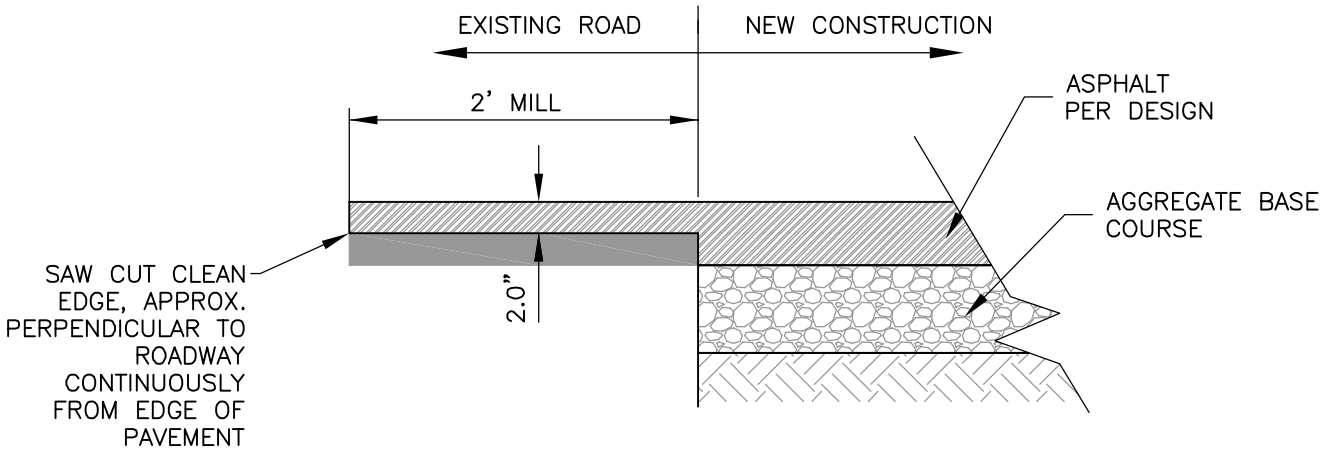
12. FOR EASE OF CONSTRUCTION AND MAINTENANCE, PRIMARY CABLE SHOULD BE 12" TO 24" FROM COMMUNICATION CABLES. HOWEVER, NATIONAL ELECTRIC SAFETY CODE REQUIREMENTS PERMIT "SUPPLY AND COMMUNICATION CABLES TO BE BURIED TOGETHER AT THE SAME DEPTH WITH NO DELIBERATE SEPARATION BETWEEN FACILITIES PROVIDED ALL PARTIES ARE IN AGREEMENT."

13. ONLY SINGLE PHASE SUPPLY CABLES CAN BE BURIED AT THE SAME DEPTH WITH NO DELIBERATE SEPARATION WITH COMMUNICATION CABLES. THREE PHASE CABLES MUST BE SEPARATED BY A MINIMUM OF 1 FOOT (REFERENCE NATIONAL ELECTRIC SAFETY CODE 354.D.3A).

14. 30" TRENCH WIDTH SHOULD BE USED WHEN ALL FOUR UTILITIES ARE INCLUDED.

15. STEEL GAS PIPE OR STEEL DUCT IS NOT ALLOWED FOR JOINT TRENCH CONSTRUCTION.

16. ALL BURIAL DEPTHS SHALL BE VERIFIED PER UTILITY PROVIDER REQUIREMENTS. ELECTRIC BURY DEPTHS VARY PER ELECTRIC PROVIDER. GRAND VALLEY RURAL POWER IS TYPICALLY 48" BURY AND XCEL IS TYPICALLY 42" BURY.

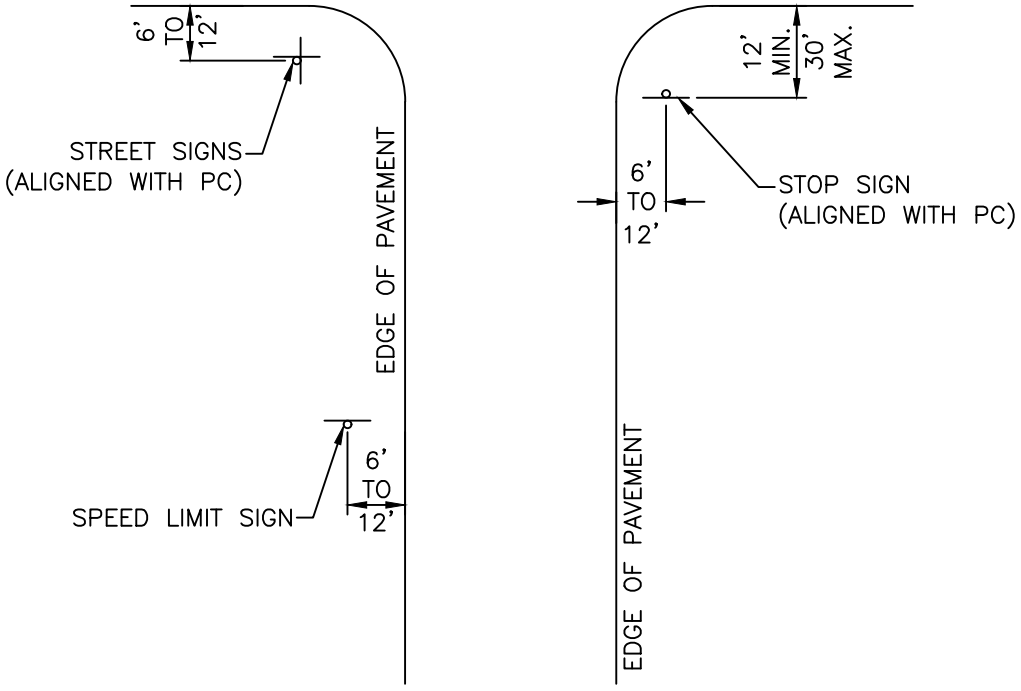


T–LOCK PAVEMENT JOINT

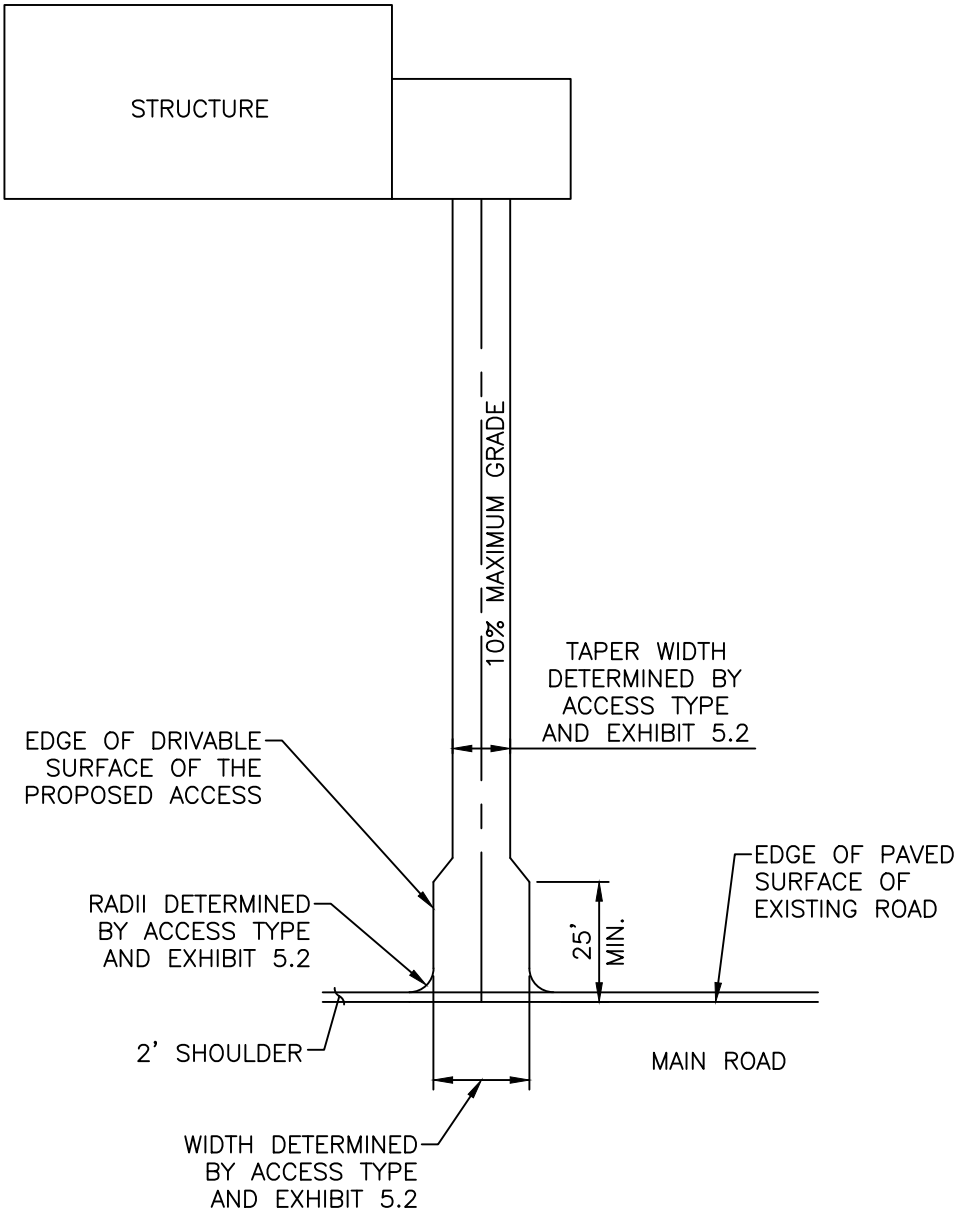
TO BE USED TO TRANSITION TO EX. PAVEMENT SURFACES

N.T.S.

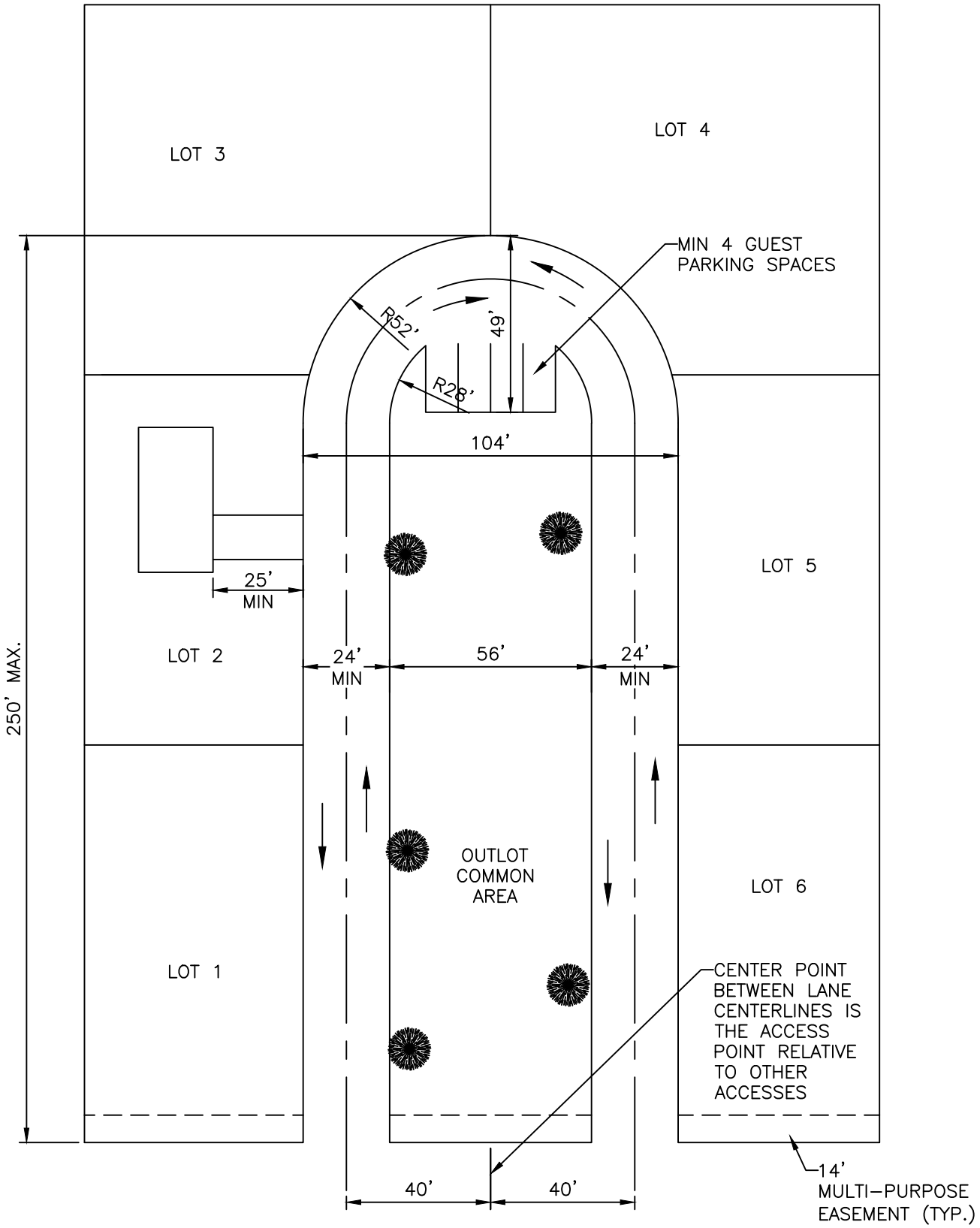
MISCELLANEOUS DETAILS INDEX



SIGN INSTALLATION LOCATION



ACCESSES TO COLLECTOR AND ARTERIAL ROADS



LOOP LANE

MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
970.244.1636 www.mesacounty.us
Prepared By: SGM

Miscellaneous Details
Standard Details

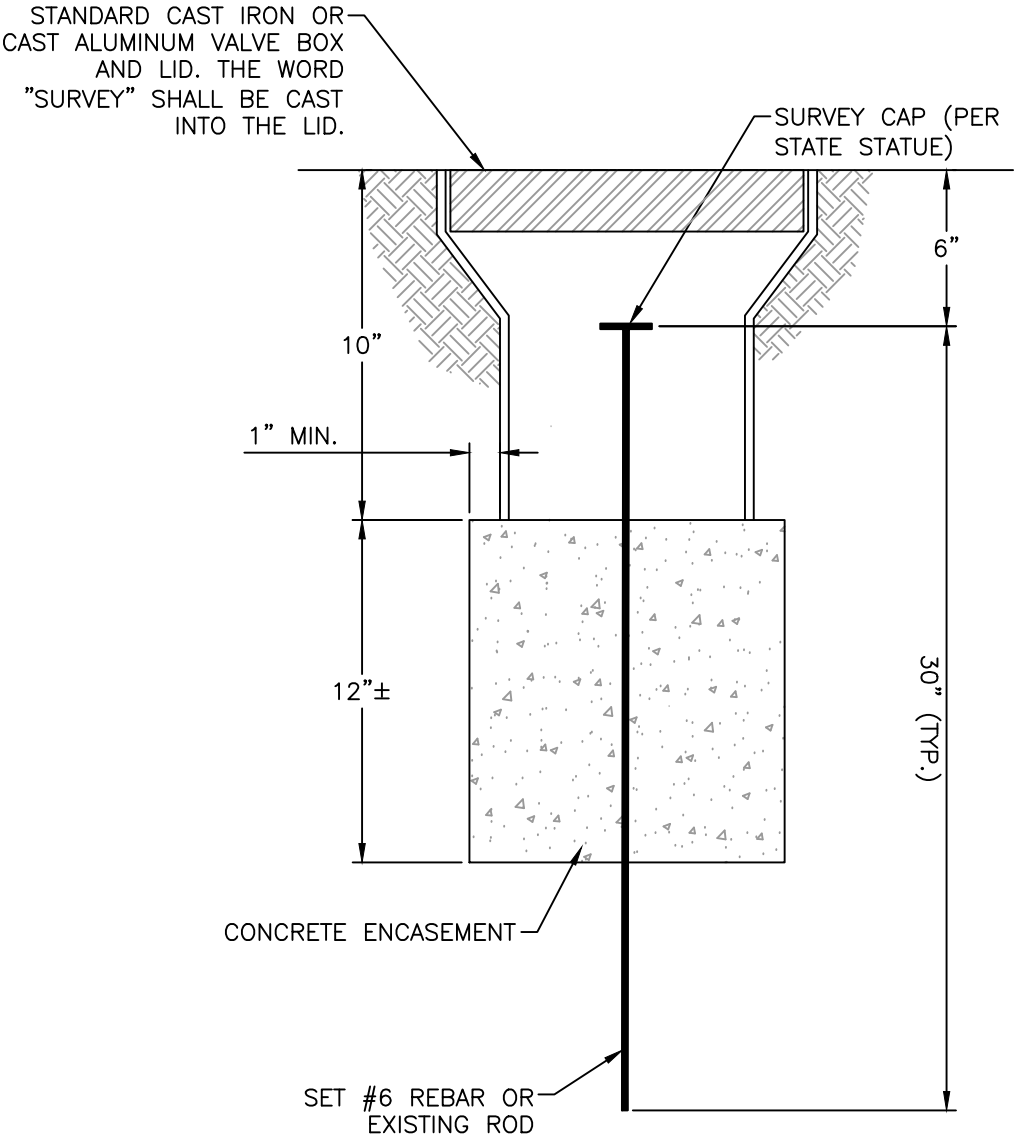
Loop Lane

SURVEY MONUMENT DETAILS INDEX

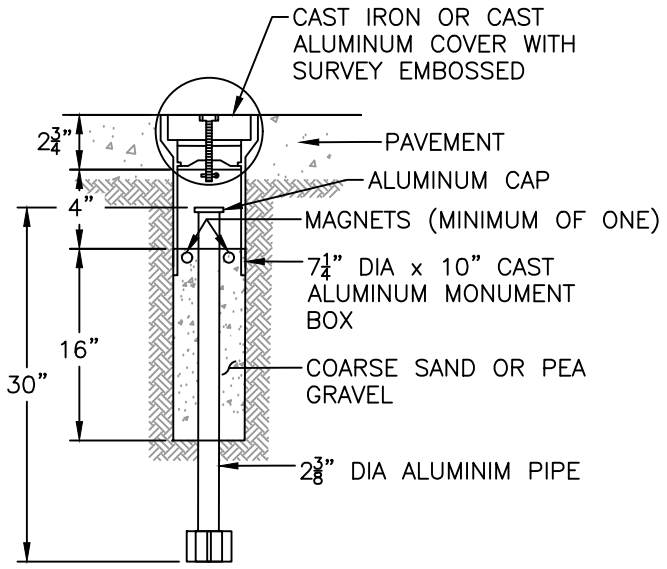
MESA COUNTY
200 S. Spruce Street
Grand Junction, CO 81501
970.244.1636 www.mesacounty.us

NOTE:

CAST IRON GRADE ADJUSTMENT RINGS ARE ALLOWED ONLY FOR PAVEMENT OVERLAYS.



SURVEY MONUMENT BOX DETAIL



TYPE 3A MONUMENT

ROADWAY INSTALLATION
INCLUDES MONUMENT BOX

NOTE:

A MOISTURE BARRIER OF CAULK, GROUT, OR EPOXY IS REQUIRED BETWEEN THE ALUMINUM MONUMENT BOX AND THE PAVEMENT

APPENDIX 8.1
GRAND VALLEY AIRSHED
RESOLUTION

MESA COUNTY

MESA COUNTY, COLORADO
RESOLUTION NO. MCM 97-203

A RESOLUTION OF THE COUNTY OF MESA CONCERNING THE REVISION TO THE MESA COUNTY STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

WHEREAS, Mesa County is authorized by state statute to plan, design, construct and administer road facilities by virtue of Section 43-2-201, 43-2-114, 30-28-11 and 30-28-133 of the Colorado Revised Statutes, as amended; and

WHEREAS, It is the intent of Mesa County to provide for a certain level of performance while protecting the public health, safety and welfare on public roads and highways; and

WHEREAS, The Board of County Commissioners approved C76-97 on September 16, 1997; and

WHEREAS, Mesa County has prepared the revision of Exhibit "I" to the March 28, 1995 edition of the "The Mesa County Standard Specifications for Road and Bridge Construction", for the purpose of requiring dust-free construction of all new roads withing the expanded Air Shed Boundary;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF THE COUNTY OF MESA, COLORADO:

The revision of Exhibit "I" to the March 28, 1995 edition of the "The Mesa County Standard Specifications for Road and Bridge Construction", hereunto attached, is adopted by the Board of County Commissioners of the County of Mesa, Colorado effective as of September 16, 1997.

DULY MOVED, SECONDED AND PASSED THIS 10th DAY OF November 1997,

by the Board of County Commissioners of Mesa County, Colorado.

BOARD OF COUNTY COMMISSIONERS, MESA COUNTY COLORADO

By: Doralyn B. Genova

Doralyn B. Genova, Chair
Board of Mesa County Commissioners

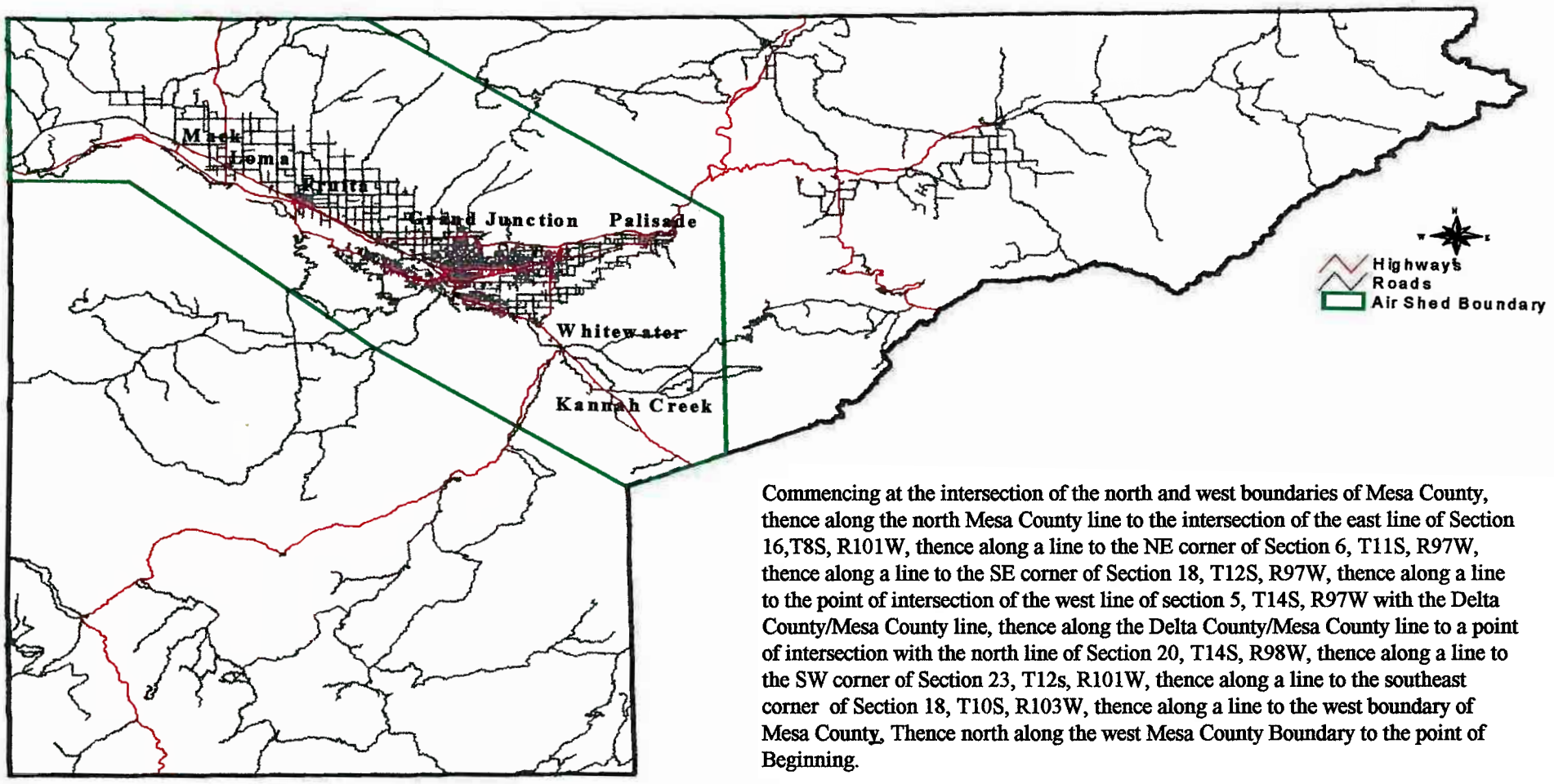
ATTEST:

Monika Todd

Monika Todd, Mesa County Clerk and Recorder

Exhibit "I"

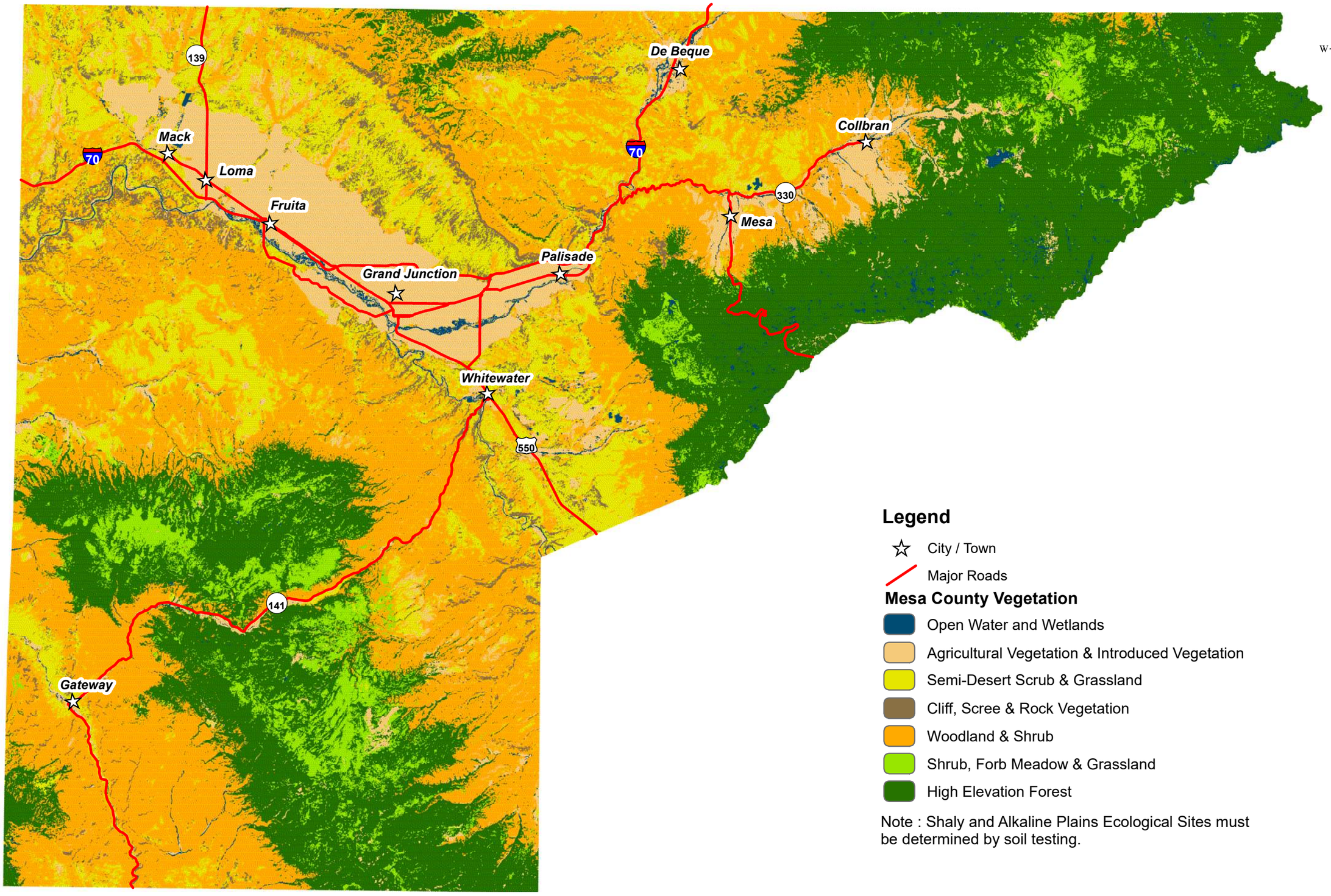
GRAND VALLEY AIR SHED



Commencing at the intersection of the north and west boundaries of Mesa County, thence along the north Mesa County line to the intersection of the east line of Section 16,T8S, R101W, thence along a line to the NE corner of Section 6, T11S, R97W, thence along a line to the SE corner of Section 18, T12S, R97W, thence along a line to the point of intersection of the west line of section 5, T14S, R97W with the Delta County/Mesa County line, thence along the Delta County/Mesa County line to a point of intersection with the north line of Section 20, T14S, R98W, thence along a line to the SW corner of Section 23, T12s, R101W, thence along a line to the southeast corner of Section 18, T10S, R103W, thence along a line to the west boundary of Mesa County, Thence north along the west Mesa County Boundary to the point of Beginning.

APPENDIX 13.1
MESA COUNTY REVEGETATION GUIDE

MESA COUNTY



Legend

- City / Town
- Major Roads

Mesa County Vegetation

- Open Water and Wetlands
- Agricultural Vegetation & Introduced Vegetation
- Semi-Desert Scrub & Grassland
- Cliff, Scree & Rock Vegetation
- Woodland & Shrub
- Shrub, Forb Meadow & Grassland
- High Elevation Forest

Note : Shaly and Alkaline Plains Ecological Sites must be determined by soil testing.

MESA COUNTY

Mesa County Revegetation Index Map - Appendix 13.1

Shaly and Alkaline Plains Ecologial Site

Soil surface textures	Saline soils have white salt crust on the soil surface, characterized by: EC > 4, Exchangeable Sodium Percentage (ESP) <15, and pH < 8.5
Vegetation Community	
Precipitation ranges	less than 10 inches per year
Acres to be seeded=	**1**
Broadcast Method=	**Drilled**
Irrigation?	**No**

Seed Recommendations:

Species	Variety	Notes	PLS Rates	Broadcast PLS Mult.	Irrigation PLS Mult.	PLS/Ac to use (100%)	% in mix	Rate (PLS lb/ac)	Acres to be seeded	Total PLS
Western wheatgrass	Arriba, Rodan, Rosana, Walsh	NCS	8.0	**1.0**	**1.0**	**8.0**	**40%**	3.2	1.0	3.2
Alkali sacaton	Salado	NWB	1.0	**1.0**	**1.0**	**1.0**	**30%**	0.3	1.0	0.3
Inland saltgrass		NWS	1.5	**1.0**	**1.0**	**1.5**	**10%**	0.2	1.0	0.2
Hybrid wheatgrass	Newhy	ICS	10.0	**1.0**	**1.0**	**10.0**	**10%**	1.0	1.0	1.0
Russian wildrye	Bozoisky-Select, Swift	ICB	5.0	**1.0**	**1.0**	**5.0**	**10%**	0.5	1.0	0.5
Totals						25.5	100%	5.2	1.0	5.2

Alternatives:			**PLS Rate Irr/Non. Irr**
Slender wheatgrass	Pryor, Revenue, San Luis	NCB	11.0/5.5
Tall wheatgrass	Alkar, Jose	ICB	17.0/11.0
Tall fescue	Alta, Fawn	ICB	8.0/4.0

Notes:

1. Use adapted improved varieties and cultivars in the following order of preference, when available:
   1. certified name varieties, 2. named varieties, 3. common seed
2. PLS = Pure Live Seed
3. Double the drilled seeding rate to obtain broadcast seeding rate.
4. For irrigated areas double the seeding rate.
5. For critical area seedings use the irrigated rate.
6. Alkali Sacaton grows up to 5' high and Hybrid Wheatgrass up to 4', their use should be reviewed on roadsides where sight distance is of concern

Legend: I = introduced; N = native; C = cool season; W = warm season;
B = bunchgrass; S = sodformer; F = forb; L = legume; Sh= shrub; V = vine

Resources: Plants for Saline to Sodic Soil Conditions, USDA-NRCS Plant Materials Tech Note No.9
https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/idpmstn9328.pdf

Agricultural Vegetation & Introduced Vegetation Mix

Soil surface textures: Clay, Silty Clay

Vegetation Community: These areas generally include lands developed for agricultural use including the Grand Valley, Plateau Valley, and DeBeque.

Precipitation ranges: less than 12 inches

Acres to be seeded= 1

Broadcast Method= Drilled

Irrigation? No

Seed Recommendations:

Species	Variety	Notes	PLS Rates	Broadcast PLS Mult.	Irrigation PLS Mult.	PLS/Ac to use (100%)	% in mix	Rate (PLS lb/ac)	Acres to be seeded	Total PLS
Western wheatgrass	Arriba, Rodan, Rosana, Walsh	NCS	8.0	**1.0**	**1.0**	**8.0**	**20%**	1.6	1.0	1.6
Intermediate wheatgrass	Rush, Oahe	ICS	10.0	**1.0**	**1.0**	**10.0**	**30%**	3.0	1.0	3.0
Smooth brome	Lincoln, Manchar	ICS	6.5	**1.0**	**1.0**	**6.5**	**30%**	2.0	1.0	2.0
Perennial Rye		ICB	4.0	**1.0**	**1.0**	**4.0**	**20%**	0.8	1.0	0.0
Totals						28.5	100%	7.4	1.0	6.6

Alternatives:

Crested wheatgrass	Nordan, Hycrest	ICB	6.0/3.0	
Tall wheatgrass	Alkar, Jose	ICB	17.0/11.0	
Tall fescue	Alta, Fawn	ICB	8.0/4.0	
Oats,winter wheat, rye	cereal or annual	Annual	10	Annual Rye can fill in while perennials establish

Notes:

1. Use adapted improved varieties and cultivars in the following order of preference, when available:
    1. certified name varieties, 2. named varieties, 3. common seed
2. PLS = Pure Live Seed
3. Double the drilled seeding rate to obtain broadcast seeding rate.
4. For irrigated areas double the seeding rate.
5. For critical area seedings use the irrigated rate.

Legend:

I = introduced; N = native; C = cool season; W = warm season;
B = bunchgrass; S = sodformer; F = forb; L = legume; Sh= shrub; V = vine

Resources:

https://cpw.state.co.us/Documents/CNAP/RevegetationGuide.pdf
https://plants.sc.egov.usda.gov/java/

Semi-Desert Scrub & Grassland Mix

Soil surface textures

Vegetation Community: These areas include low-elevation sagebrush and grasslands generally found below 6000 feet

Precipitation ranges: less than 12 inches

Acres to be seeded=	**1**
Broadcast Method=	**Drilled**
Irrigation?	**No**

Seed Recommendations:

Species	Variety	Notes	PLS Rates	Broadcast PLS Mult.	Irrigation PLS Mult.	PLS/Ac to use (100%)	% in mix	Rate (PLS lb/ac)	Acres to be seeded	Total PLS
Indian ricegrass		NCB	8.0	**1.0**	**1.0**	**8.0**	**30%**	2.4	1.0	2.4
thickspike wheatgrass		NCBS	3.5	**1.0**	**1.0**	**3.5**	**25%**	0.9	1.0	0.9
Slender wheatgrass		NCB	2.0	**1.0**	**1.0**	**2.0**	**20%**	0.4	1.0	0.4
Sandberg bluegrass		NCB	5.0	**1.0**	**1.0**	**5.0**	**10%**	0.5	1.0	0.5
James' galleta		NWS	3.5	**1.0**	**1.0**	**3.5**	**5%**	0.2	1.0	0.2
Mountian brome		NCB	4.5	**1.0**	**1.0**	**4.5**	**5%**	0.2	1.0	0.2
Western wheatgrass	Arriba	NCS	8.0	**1.0**	**1.0**	**8.0**	**5%**	0.4	1.0	0.4
Totals						34.5	100%	5.0	1.0	5.0

Alternatives:

Bluebunch wheatgrass		NCB	7.0 / 3.5	
Oats,winter wheat, rye	cereal or annual	Annual	10	Annual Rye can fill in while perennials establish

Notes:

1. Use adapted improved varieties and cultivars in the following order of preference, when available:
    1. certified name varieties, 2. named varieties, 3. common seed
2. PLS = Pure Live Seed
3. Double the drilled seeding rate to obtain broadcast seeding rate.
4. For irrigated areas double the seeding rate.
5. For critical area seedings use the irrigated rate.

Legend:

I = introduced; N = native; C = cool season; W = warm season;
B = bunchgrass; S = sodformer; F = forb; L = legume; Sh= shrub; V = vine

Resources:

https://cpw.state.co.us/Documents/CNAP/RevegetationGuide.pdf
https://plants.sc.egov.usda.gov/java/

Cliff, Scree & Rock Vegetation Mix

Soil surface textures

Vegetation Community: These areas include rocky outcroppings, scree slopes, and cliff areas encountered at elevations below 9000 feet.

Precipitation ranges: less than 12 inches

Acres to be seeded= 1

Broadcast Method= Drilled

Irrigation? No

Seed Recommendations:

Species	Variety	Notes	PLS Rates	Broadcast PLS Mult.	Irrigation PLS Mult.	PLS/Ac to use (100%)	% in mix	Rate (PLS lb/ac)	Acres to be seeded	Total PLS
Western wheatgrass	Arriba, Rodan, Rosana, Walsh	NCS	8.0	**1.0**	**1.0**	**16.0**	**20%**	3.2	1.0	3.2
Blue grama		NWB	1.5	**1.0**	**1.0**	**3.0**	**30%**	0.9	1.0	0.9
Sand dropseed		NWB	0.3	**1.0**	**1.0**	**1.0**	**10%**	0.1	1.0	0.1
Arizona Fescue		NCB	4.5	**1.0**	**1.0**	**9.0**	**20%**	1.8	1.0	1.8
Wild Ryegrass		NCB	5.0	**1.0**	**1.0**	**10.0**	**20%**	2.0	1.0	2.0
Totals						39.0	100%	8.0	1.0	8.0

Alternatives:

Notes:

1. Use adapted improved varieties and cultivars in the following order of preference, when available:
    1. certified name varieties, 2. named varieties, 3. common seed
2. PLS = Pure Live Seed
3. Double the drilled seeding rate to obtain broadcast seeding rate.
4. For irrigated areas double the seeding rate.
5. For critical area seedings use the irrigated rate.

Legend: I = introduced; N = native; C = cool season; W = warm season;
B = bunchgrass; S = sodformer; F = forb; L = legume; Sh= shrub; V = vine

Resources: https://cpw.state.co.us/Documents/CNAP/RevegetationGuide.pdf
https://plants.sc.egov.usda.gov/java/

Woodland & Shrubland Mix

Soil surface textures

Vegetation Community: These areas generally are found between elevations of 6000 and 9000 feet and native vegetation includes Gambel Oak and Pinyon-Juniper forest.

Precipitation ranges: less than 16 inches

Acres to be seeded= 1

Broadcast Method= Drilled

Irrigation? No

Seed Recommendations:

Species	Variety	Notes	PLS Rates	Broadcast PLS Mult.	Irrigation PLS Mult.	PLS/Ac to use (100%)	% in mix	Rate (PLS lb/ac)	Acres to be seeded	Total PLS
Indian ricegrass			8.0	**1.0**	**1.0**	**8.0**	**30%**	2.4	1.0	2.4
Alkali sacaton		NWB	3.5	**1.0**	**1.0**	**3.5**	**10%**	0.4	1.0	0.4
Sand dropseed			2.0	**1.0**	**1.0**	**2.0**	**10%**	0.2	1.0	0.2
Basin wildrye			5.0	**1.0**	**1.0**	**5.0**	**10%**	0.5	1.0	0.5
Blue grama		NWB	4.5	**1.0**	**1.0**	**4.5**	**15%**	0.7	1.0	0.7
Western wheatgrass	Arriba	NCS	8.0	**1.0**	**1.0**	**8.0**	**10%**	0.8	1.0	0.8
Mountian brome		NCB	4.5	**1.0**	**1.0**	**4.5**	**15%**	0.7	1.0	0.7
Totals						35.5	100%	5.6	1.0	5.6

Alternatives:

Notes:

1. Use adapted improved varieties and cultivars in the following order of preference, when available:
    1. certified name varieties, 2. named varieties, 3. common seed
2. PLS = Pure Live Seed
3. Double the drilled seeding rate to obtain broadcast seeding rate.
4. For irrigated areas double the seeding rate.
5. For critical area seedings use the irrigated rate.

Legend: I = introduced; N = native; C = cool season; W = warm season;
B = bunchgrass; S = sodformer; F = forb; L = legume; Sh= shrub; V = vine

Resources: https://cpw.state.co.us/Documents/CNAP/RevegetationGuide.pdf
https://plants.sc.egov.usda.gov/java/

Shrubland, Forb Meadow & Grassland Mix

Soil surface textures

Vegetation Community: These high elevation meadows are found above 7500/8000 feet on the Uncompahgre Plateau, Grand Mesa, and Battlements.

Precipitation ranges: less than 30 inches

Acres to be seeded= 1

Broadcast Method= Drilled

Irrigation? No

Seed Recommendations:

Species	Variety	Notes	PLS Rates	Broadcast PLS Mult.	Irrigation PLS Mult.	PLS/Ac to use (100%)	% in mix	Rate (PLS lb/ac)	Acres to be seeded	Total PLS
Western wheatgrass	Ariba or Barton	NCS	8.0	**1.0**	**1.0**	**8.0**	**20%**	1.6	1.0	1.6
Sideoats grama	Vaughn or Butte		4.5	**1.0**	**1.0**	**4.5**	**20%**	0.9	1.0	0.9
Blue grama	Hachita or Lovington	NWB	1.5	**1.0**	**1.0**	**1.5**	**25%**	0.4	1.0	0.4
Green Needlegrass	Lodorm		5.0	**1.0**	**1.0**	**5.0**	**15%**	0.8	1.0	0.8
Rocky Mtn. Fescue		N	5.0	**1.0**	**1.0**	**5.0**	**20%**	1.0	1.0	1.0
Totals						24.0	100%	4.6	1.0	4.6

Alternatives:

Forbs are recommended to be added to this mix.

Notes:

1. Use adapted improved varieties and cultivars in the following order of preference, when available:
    1. certified name varieties, 2. named varieties, 3. common seed
2. PLS = Pure Live Seed
3. Double the drilled seeding rate to obtain broadcast seeding rate.
4. For irrigated areas double the seeding rate.
5. For critical area seedings use the irrigated rate.

Legend:

I = introduced; N = native; C = cool season; W = warm season;
B = bunchgrass; S = sodformer; F = forb; L = legume; Sh= shrub; V = vine

Resources:

https://cpw.state.co.us/Documents/CNAP/RevegetationGuide.pdf
https://plants.sc.egov.usda.gov/java/

High Elevation Forest / Western North American Cool Temperate Forest

Soil surface textures

Vegetation Community: These montane areas generally include conifer and aspen forests above 7500/8000 feet

Precipitation ranges: less than 30 inches

Acres to be seeded= 1

Broadcast Method= Drilled

Irrigation? No

Seed Recommendations:

Species	Variety	Type	PLS Rates	Broadcast PLS Mult.	Irrigation PLS Mult.	PLS/Ac to use (100%)	% in mix	Rate (PLS lb/ac)	Acres to be seeded	Total PLS
Muttongrass		NB	1.0	**1.0**	**1.0**	**2.0**	**25%**	0.5	1.0	0.5
Slender Wheatgrass		NCB	5.5	**1.0**	**1.0**	**5.5**	**20%**	1.1	1.0	1.1
Mountain Brome		NCB	10.0	**1.0**	**1.0**	**10.0**	**20%**	2.0	1.0	2.0
Thurber's Fescue	Vaughn or Butte	NCB	2.5	**1.0**	**1.0**	**2.5**	**10%**	0.3	1.0	0.3
Western Wheatgrass	Arriba	NCS	8.0	**1.0**	**1.0**	**8.0**	**25%**	2.0	1.0	2.0
Totals						28.0	100%	5.9	1.0	5.9

Alternatives:

Wildrye NCB 20.0 / 10.0

Notes:

1. Use adapted improved varieties and cultivars in the following order of preference, when available:
   1. certified name varieties, 2. named varieties, 3. common seed
2. PLS = Pure Live Seed
3. Double the drilled seeding rate to obtain broadcast seeding rate.
4. For irrigated areas double the seeding rate.
5. For critical area seedings use the irrigated rate.

Legend:

I = introduced; N = native; C = cool season; W = warm season;
B = bunchgrass; S = sodformer; F = forb; L = legume; Sh= shrub; V = vine

Resources:

https://cpw.state.co.us/Documents/CNAP/RevegetationGuide.pdf
https://plants.sc.egov.usda.gov/java/