



Planning and Community
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DEVIATION REQUEST AND DECISION FORM

Updated: 6/26/2019

PROJECT INFORMATION

Project Name : Grandwood Ranch
Schedule No.(s) : 6119000003
Legal Description : S2N2, EX PT TO HIGBY RD CONV BY REC# 205092691 W/MR SEC 19-11-66

APPLICANT INFORMATION

Company : Grandwood Enterprises
Name : Bill Herebic
 Owner Consultant Contractor
Mailing Address : 270 Lodgepole Way, Monument, CO 80132

Phone Number : 719-651-9152
FAX Number :
Email Address : Herebic5@msn.com

ENGINEER INFORMATION

Company : Matrix Design Group
Name : Corey Petersen Colorado P.E. Number : 56571
Mailing Address : 2435 Research Pkwy, Suite 300, Colorado Springs, CO 80920

Phone Number : 719.575.0100
FAX Number :
Email Address : Corey.Petersen@Matrixdesigngroup.com

OWNER, APPLICANT, AND ENGINEER DECLARATION

To the best of my knowledge, the information on this application and all additional or supplemental documentation is true, factual and complete. I am fully aware that any misrepresentation of any information on this application may be grounds for denial. I have familiarized myself with the rules, regulations and procedures with respect to preparing and filing this application. I also understand that an incorrect submittal will be cause to have the project removed from the agenda of the Planning Commission, Board of County Commissioners and/or Board of Adjustment or delay review until corrections are made, and that any approval of this application is based on the representations made in the application and may be revoked on any breach of representation or condition(s) of approval.

Signature of owner (or authorized representative)

12-18-2020

Date

Engineer's Seal, Signature
And Date of Signature



DEVIATION REQUEST (Attach diagrams, figures, and other documentation to clarify request)

A deviation from the standards of or in Section **2.5.8** of the Engineering Criteria Manual (ECM) is requested.

Identify the specific ECM standard which a deviation is requested:

Section 2.5.8.C Design Standards for Roadside Ditches specifying 'Type C Grate Inlets are not permitted in roadside ditch applications'.

State the reason for the requested deviation:

Per El Paso County Criteria for rural development, roadway sections have been designed with a roadside ditch. An area inlet at the bottom of the roadside ditch is required in order to properly drain and convey stormwater to designated detention/water quality facilities.

Explain the proposed alternative and compare to the ECM standards (May provide applicable regional or national standards used as basis):

The Colorado Department of Transportation (CDOT) provides many structures and details for development. The commonly used CDOT Type C Inlet has been proposed with this development in order to properly drain and convey stormwater with the roadside ditch. The ECM states that Type C inlets are not permitted and does not provide an alternative to the Type C inlet in order to convey stormwater from roadside ditches. The inlet will be located on the backside of the swale and the center of the inlet will be offset from the flowline of the swale. In addition, a roadside object marker (OM2-1V) will be installed near the inlet for additional safety and ease of maintenance.

LIMITS OF CONSIDERATION

(At least one of the conditions listed below must be met for this deviation request to be considered.)

- The ECM standard is inapplicable to the particular situation.
- Topography, right-of-way, or other geographical conditions or impediments impose an undue hardship and an equivalent alternative that can accomplish the same design objective is available and does not compromise public safety or accessibility.
- A change to a standard is required to address a specific design or construction problem, and if not modified, the standard will impose an undue hardship on the applicant with little or no material benefit to the public.

Provide justification:

Roadside ditches are required to convey stormwater through a rural development and an area drain is required to drain the low-points within the roadside swale. The CDOT Type C Inlet is a common area drain inlet used throughout the state with exceeding capacities for this development. The ECM does not provide an alternative to drain and convey stormwater from roadside ditches.

CRITERIA FOR APPROVAL

Per ECM section 5.8.7 the request for a deviation may be considered if the request is **not based exclusively on financial considerations**. The deviation must not be detrimental to public safety or surrounding property. The applicant must include supporting information demonstrating compliance with **all of the following criteria**:

The deviation will achieve the intended result with a comparable or superior design and quality of improvement.

CDOT structures and details have been proven sufficient over many years of development as proper infrastructure. The Type C Inlet exceeds capacity requirements for roadside ditches within the development. Inlet calculations have been provided within the submitted Final Drainage Report showing superior functionality of the Type C Inlet for this development and achieves the intended result of stormwater infrastructure.

The deviation will not adversely affect safety or operations.

The CDOT Type C Inlet will not adversely affect safety or operations including drive path, snow plow path, etc. The inlet is proposed outside of the roadway, within the bottom of the roadside ditch (located 10-feet from the edge of the roadway shoulder). In addition, a roadside object marker (OM2-1V) will be installed near the inlet for additional safety and ease of maintenance.

The deviation will not adversely affect maintenance and its associated cost.

The requested deviation will have no adverse affects on maintenance and its associated costs. Roadside object markers will be installed for ease of locating. The inlet will be located on the back side of the swale and not centered in the flowline of the swale. Stormwater collection will not be affected and will function was intended and designed.

The deviation will not adversely affect aesthetic appearance.

The requested deviation will have no adverse affects on aesthetic appearance. All Type C Inlets are installed flush with the ground below the roadway and within the roadside ditch. Inlet locations will be outside of view for typical residential traffic.

The deviation meets the design intent and purpose of the ECM standards.

The requested deviation meets the design intent and purpose listed within the ECM standards. The proposed alternative section provides adequate drainage infrastructure system for the proposed development. With low impervious development on 2.5 acre lots and existing ground containing a high infiltration rate, the overall stormwater system will exceed requirements and intent of the ECM standards.

The deviation meets the control measure requirements of Part I.E.3 and Part I.E.4 of the County's MS4 permit, as applicable.

The requested deviation meets control measure requirements of the MS4 Permit. Grading and Erosion Control Plans and SWMP Report will provide protection of existing conditions and erosion control measures per standards.

REVIEW AND RECOMMENDATION:

Approved by the ECM Administrator

This request has been determined to have met the criteria for approval. A deviation from Section _____ of the ECM is hereby granted based on the justification provided.

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⌋

Denied by the ECM Administrator

This request has been determined not to have met criteria for approval. A deviation from Section _____ of the ECM is hereby denied.

Γ

⌋

L

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ECM ADMINISTRATOR COMMENTS/CONDITIONS:

1.1. PURPOSE

The purpose of this resource is to provide a form for documenting the findings and decision by the ECM Administrator concerning a deviation request. The form is used to document the review and decision concerning a requested deviation. The request and decision concerning each deviation from a specific section of the ECM shall be recorded on a separate form.

1.2. BACKGROUND

A deviation is a critical aspect of the review process and needs to be documented to ensure that the deviations granted are applied to a specific development application in conformance with the criteria for approval and that the action is documented as such requests can point to potential needed revisions to the ECM.

1.3. APPLICABLE STATUTES AND REGULATIONS

Section 5.8 of the ECM establishes a mechanism whereby an engineering design standard can be modified when if strictly adhered to, would cause unnecessary hardship or unsafe design because of topographical or other conditions particular to the site, and that a departure may be made without destroying the intent of such provision.

1.4. APPLICABILITY

All provisions of the ECM are subject to deviation by the ECM Administrator provided that one of the following conditions is met:

- The ECM standard is inapplicable to a particular situation.
- Topography, right-of-way, or other geographical conditions or impediments impose an undue hardship on the applicant, and an equivalent alternative that can accomplish the same design objective is available and does not compromise public safety or accessibility.
- A change to a standard is required to address a specific design or construction problem, and if not modified, the standard will impose an undue hardship on the applicant with little or no material benefit to the public.

1.5. TECHNICAL GUIDANCE

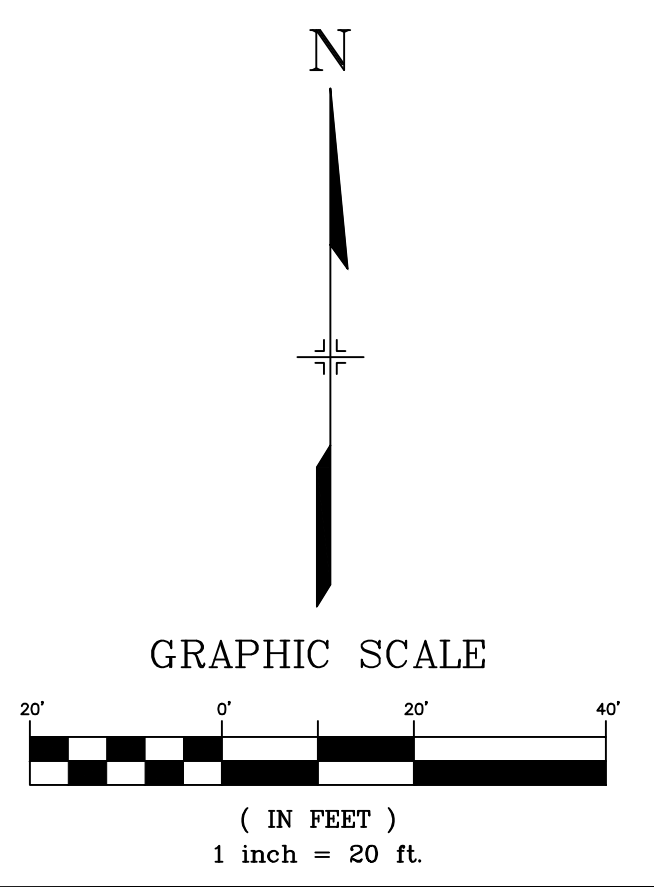
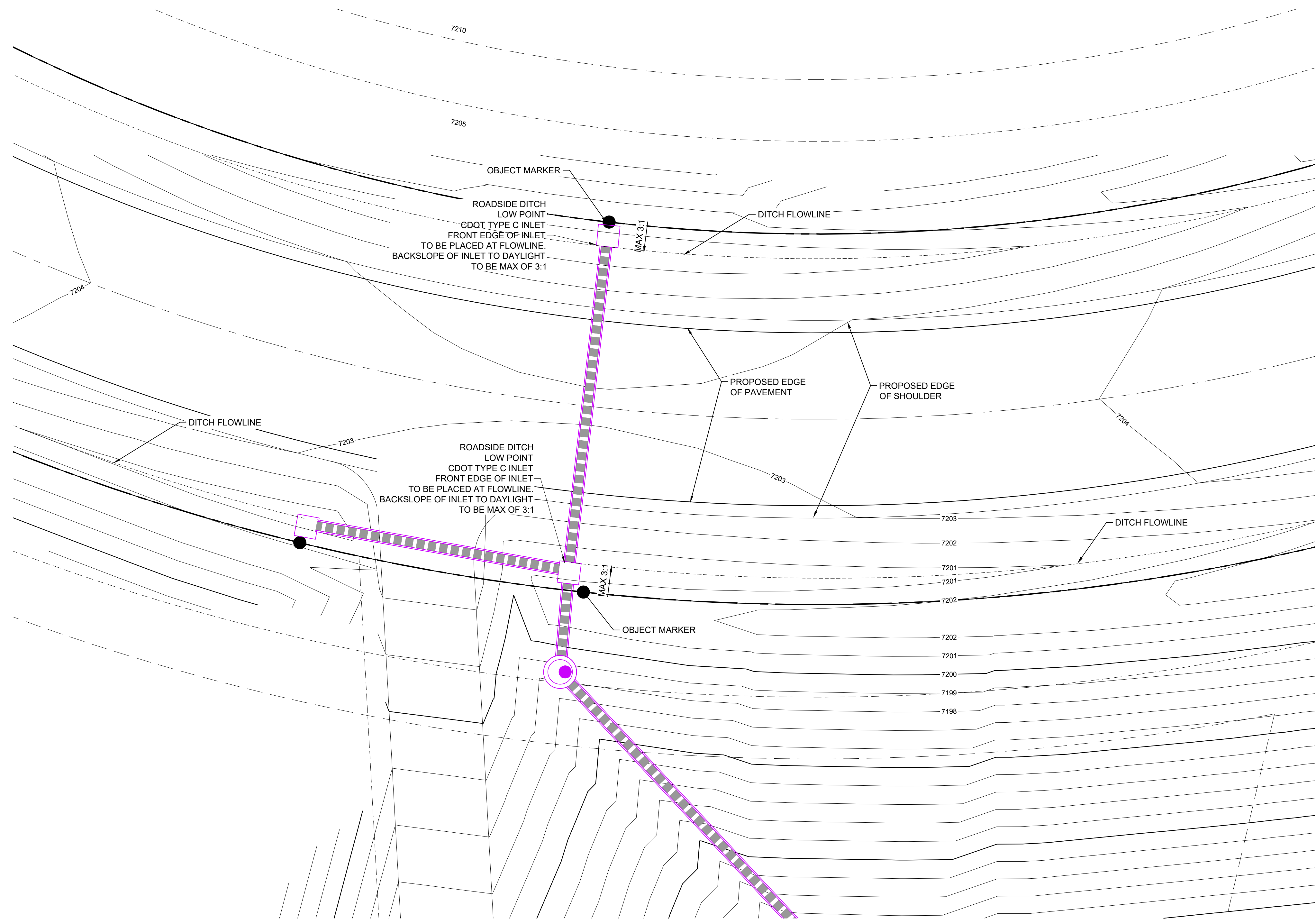
The review shall ensure all criteria for approval are adequately considered and that justification for the deviation is properly documented.

1.6. LIMITS OF APPROVAL

Whether a request for deviation is approved as proposed or with conditions, the approval is for project-specific use and shall not constitute a precedent or general deviation from these Standards.

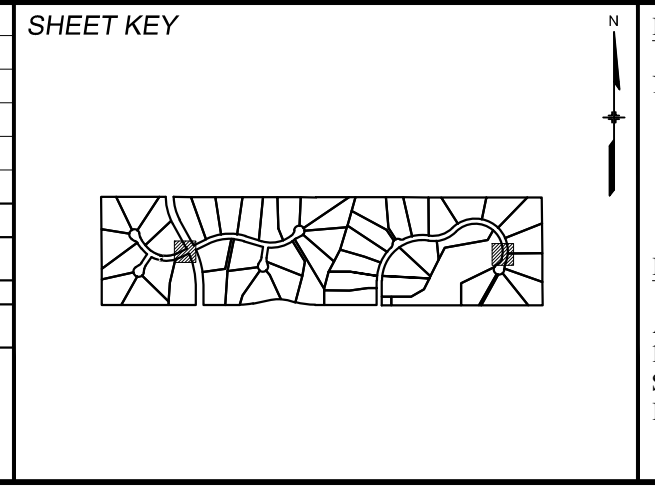
1.7. REVIEW FEES

A Deviation Review Fee shall be paid in full at the time of submission of a request for deviation. The fee for Deviation Review shall be as determined by resolution of the BoCC.



No.	DATE	DESCRIPTION	BY

COMPUTER FILE MANAGEMENT
S:\20.1105.004 Grandwood Ranch\100 Dwg\105 Exhibits\Type C Deviation.dwg
December 18, 2020 8:31:00 AM
THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.



BENCHMARK
NGS T 294 ELEVATION - 7247.10' NAVD 88

BASIS OF BEARING:
A LINE THAT IS 20' NORTH OF AND PARALLEL WITH THE EAST-WEST CENTER LINE OF SECTION 19, T11S, R66W, N89°56'32"W - 5135.84'. THE DIRECTION IS A GRID BEARING OF THE COLORADO STATION PLANE COORDINATE SYSTEM, CENTRAL ZONE, N.A.D. 1983. THE LINE IS MONUMENTED BY 5/8" DIAMETER REBAR, 18" IN LENGTH WITH 1-1/2" ALUMINUM CAPS "LWA PLS 28658"

OWNER:
SYLVAN VISTA, INC.
WILLIAM F. HEREBIC II, MANAGER
14160 GLENEAGLE DRIVE
COLORADO SPRINGS, CO 80921

PREPARED BY:

SEAL

20.1105.004

GRANDWOOD RANCH			
EL PASO COUNTY			
TYPE C INLET EXHIBIT			
DESIGNED BY: CAP	CAP	SCALE HORIZ 1"=100' VERT N/A	DATE ISSUED: SEPTEMBER 2020 SHEET 1 OF 1
DRAWN BY: JA	JA		DRAWING No. EX1

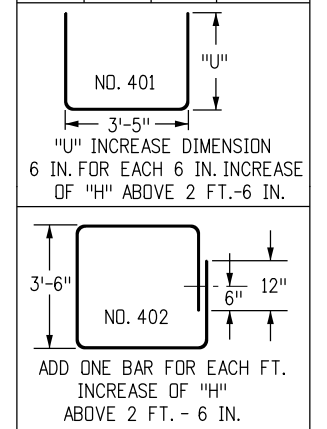
QUANTITIES FOR ONE INLET

H	CONCRETE (CU. YDS.)	STEEL (LBS.)	NO. STEPS REQ'D.
2'-6"	0.9	75	0
3'-0"	1.0	80	0
3'-6"	1.2	96	0
4'-0"	1.3	101	1
4'-6"	1.4	116	2
5'-0"	1.5	122	2
5'-6"	1.7	137	2
6'-0"	1.8	142	3
6'-6"	1.9	158	3
7'-0"	2.0	163	3
7'-6"	2.2	179	4
8'-0"	2.3	184	4
8'-6"	2.4	199	4
9'-0"	2.5	205	5
9'-6"	2.7	220	5
10'-0"	3.0	235	6
11'-6"	3.4	251	6

▼ PIPE INSIDE DIAMETER SHALL BE 30 IN. OR LESS. CONCRETE AND STEEL QUANTITIES ARE FOR ONE ENTIRE INLET BEFORE DEDUCTION FOR VOLUME OCCUPIED BY PIPE. WEIGHT OF STEEL INCLUDES A RING FOR THE MAXIMUM PIPE DIAMETER.

BAR LIST FOR H = 2 FT.-6 IN. AND BENDING DIAGRAM

MARK	NO. REQ'D.	HEIGHT	LENGTH
401	2	2'-3"	7'-11"
401	6	2'-7"	8'-7"
402	3	"U"	15'-0"

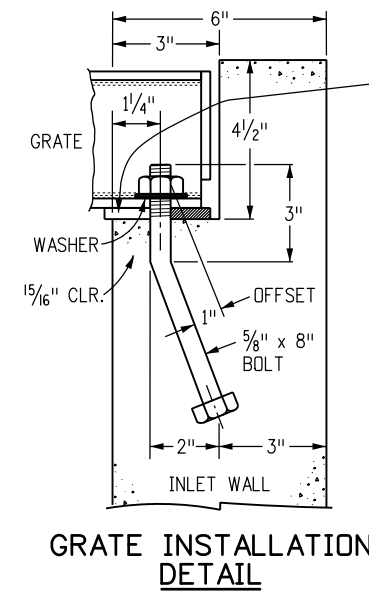
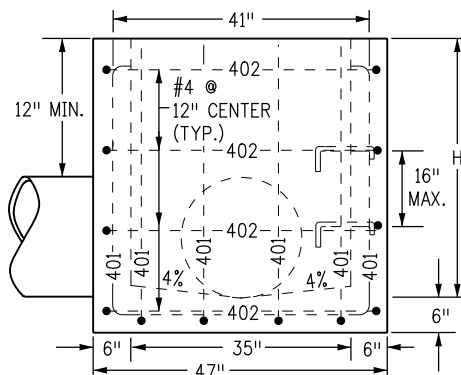
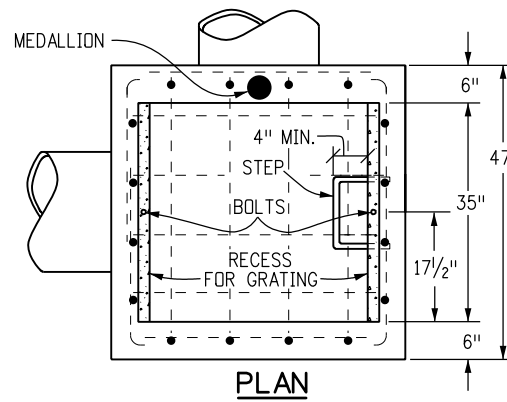
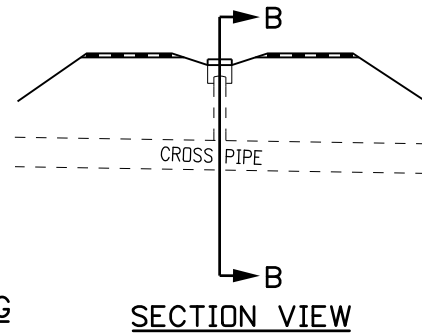
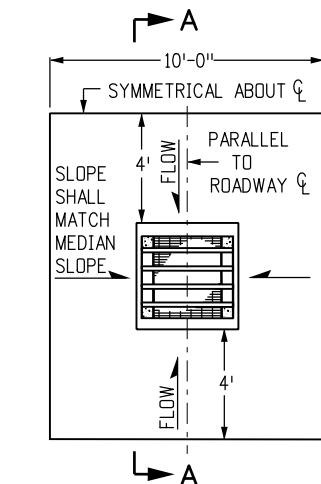


402 BARS SHALL BE EQUALLY SPACED FROM EACH OTHER.

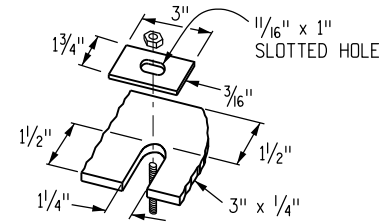
STEEL GRATE QUANTITIES

NO. PIECES	DESCRIPTION	LENGTH	LBS PER FT.	WEIGHT (LBS.)
4	S4 x 7.7 BEAM	40"	7.70	103
2	3 1/2" x 1/4" FLAT	26 5/8"	2.98	13
2	3" x 1/4" FLAT	26 5/8"	2.55	12

TOTAL LBS. - 128

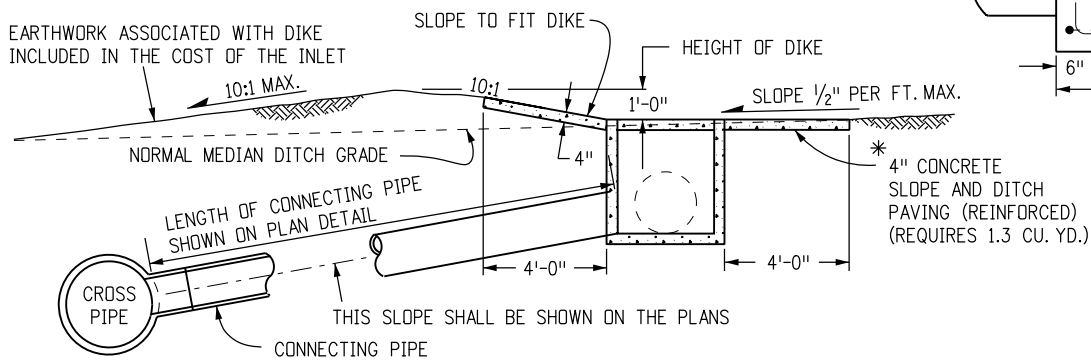


SLOT DETAIL

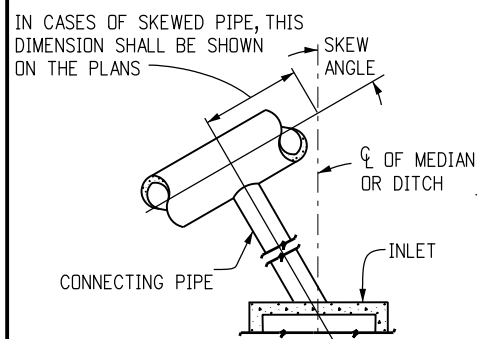


GENERAL NOTES

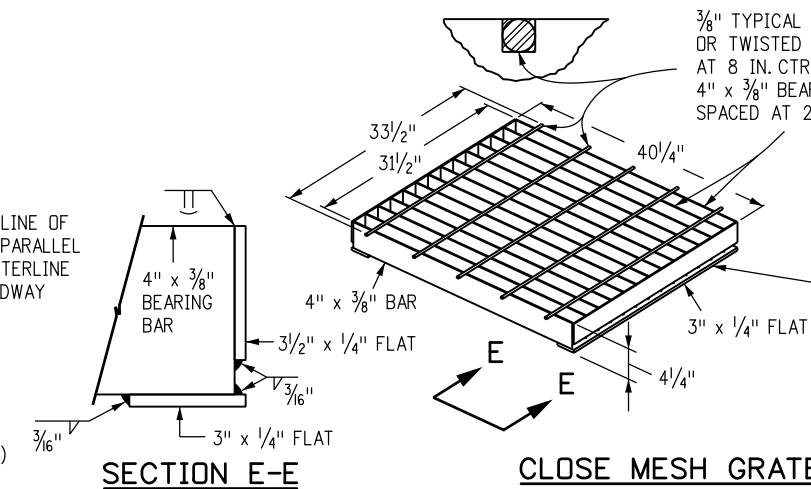
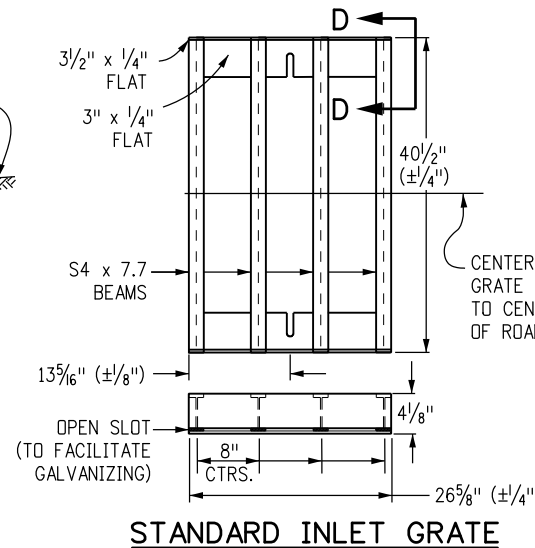
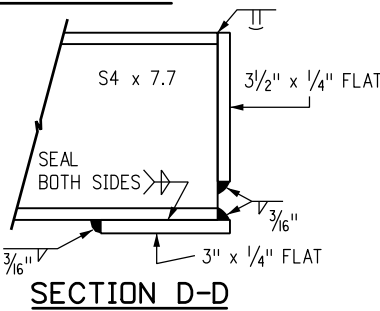
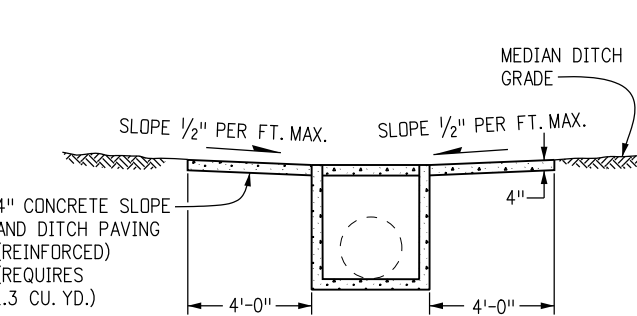
- INLET TYPE C IS NOT HS-20 RATED AND SHALL NOT BE PLACED IN PAVED ROADWAYS. THIS INLET SHALL BE USED ONLY OUTSIDE PAVED ROADWAYS.
- CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
- REINFORCING BARS SHALL BE EPOXY COATED AND DEFORMED #4, AND SHALL HAVE A MINIMUM 2 IN. CLEARANCE. CUT OR BEND AROUND PIPES AS REQUIRED.
- CONCRETE SLOPE AND DITCH PAVING SHALL BE IN ACCORDANCE WITH SECTION 507. REINFORCEMENT FOR CONCRETE SLOPE PAVING SHALL BE 6 X 6 - W1.4 X W1.4 OR 6 X 6 - W2.1 X W2.1.
- STRUCTURAL STEEL FOR GRATES AND GRATE INSTALLATION HARDWARE SHALL BE GALVANIZED, AND SHALL BE IN ACCORDANCE WITH SUBSECTION 712.06.
- THE STANDARD INLET GRATES SHALL BE USED ON ALL TYPE C INLETS UNLESS CLOSE MESH GRATES ARE SPECIFIED ON THE PLANS.
- CLOSE MESH GRATES ARE RECOMMENDED WHERE FOOT TRAFFIC OR BICYCLE ROUTES ARE IN CLOSE PROXIMITY TO GRATE. THIS GRATE IS NOT ADA COMPLIANT OR BICYCLE FRIENDLY AND SHALL NOT BE PLACED DIRECTLY IN SIDEWALKS, CROSSWALKS OR BIKE PATHS.
- STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" IS EQUAL TO OR GREATER THAN 3 FT. - 6 IN., AND SHALL CONFORM TO AASHTO M 199.
- SEE STANDARD PLAN M-604-11, FOR REINFORCEMENT AROUND THE PIPE OPENING.
- ALL INLETS SHALL HAVE A 4 IN. DIA. METAL MEDALLION WITH A "NO DUMPING DRAINS TO STREAM" MESSAGE ON IT. THE MEDALLION SHALL HAVE A FISH SYMBOL WITH A BLUE BACKGROUND. IT SHALL BE FIRMLY ATTACHED TO THE TOP OF THE INLET WITH A PERMANENT FASTENER.



SECTION B-B INLET CONNECTED TO A CROSS PIPE



SECTION A-A INLET AT BOTTOM OF VERTICAL CURVE (FLOW FROM TWO DIRECTIONS)



Computer File Information

Creation Date: 07/04/12	Initials: DD
Last Modification Date: 07/04/12	Initials: LTA
Full Path: www.coloradodot.info/business/designsupport	
Drawing File Name: 6040100101.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions

Date:	Comments

Colorado Department of Transportation
 4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9083
 Fax: (303) 757-9820

Project Development Branch DD/LTA

INLET, TYPE C

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.

M-604-10

Sheet No. 1 of 1