



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

A deviation from the standards of or in Section **ECM 4.3.6.3** of the Engineering Criteria Manual (ECM) is requested.

Identify the specific ECM standard which a deviation is requested:

Minimum cover for prefabricated box culvert shall be 2 feet (2') as measured perpendicularly to the finished road surface.

State the reason for the requested deviation:

Topographical Constraints were imposed on the original planned EDB by Public roadway improvements along Marksheffel Rd performed independently and without notice to the client or engineering team for Filing 11. This was done after preliminary grading approval, and the installation of a Temporary Sediment Control Basin which was provided as an interim facility. The adjacent public corridor was lifted several feet, including the side ditches which were the original discharge location for EDB 'D' of the approved Preliminary Grading & Erosion Control Agreement. At Poa Annua the side ditches are not very deep, and have slopes of less than 0.5%. So, We elected to use a shallow cover condition with box culvert to achieve optimal stormwater conveyance.

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

Proposing A Full-depth (6") Concrete Apron/Driving Surface atop a Box Culvert at planned Poa Annua intersection.

There will be no soil cover (0'-0") at this location. 2' of cover is required by criteria. The box culvert lid will be designed to specification AASHTO HL-93 at the time of construction/installation by a structural engineer.

A certification letter from the structural engineer will be provided to El Paso County prior to construction of the box culvert.

**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:

Depth Adjustments Due to Public Improvement Project  
 US 24 Link Road Project impacted the subdivision's original outfall location such that several feet of outfall depth were no longer available for the site to use as a discharge point. At the time of the approved preliminary phase, the left and right side ditches were installed by others. Minimal slopes of less than 0.5% were used at these ditches. The existing ditch slope is 0.44% within the ditch section as it passes Poa Annua Street.

See Attached Exhibit 'C' for Plan and Profile of Box Culvert and for the limits of the planned concrete apron.

**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.

The box culvert top section will be designed to HL-93 Specification which exceeds HS-20 loading levels.  
 A certification letter from the structural engineer will be provided to El Paso County prior to construction of the box culvert.

The deviation will not adversely affect safety or operations.

There are no safety or operational impacts related to this alternate paving section as the installation is below ground. All Horizontal and Vertical surface transitions, material transitions, grade breaks, headwalls, and stabilization methods are in conformance with current El Paso County criteria to the best of our knowledge. This culvert is planned to provide adequate safety for new turning movements at Poa Annua Street by allowing all of the Minor Storm Event to pass underneath the intersection without overtopping. In the Major Storm Event controlled overtopping is anticipated and the installation provides sufficient armoring and stabilization to accommodate emergency overtopping up to and including The Major Storm Event (100-year storm).

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

There is no anticipated additional maintenance related to this pavement section. Operationally, the box culvert is easily cleared and maintained. It does not protrude or present an obstructing surface during mowing or snow plowing.

The deviation will not adversely affect aesthetic appearance.

The use of reinforced concrete improves the durability and appearance of the road entrance.

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

The design intent is preserved for the Marksheffel Rd Imps Project and allows for a shallower paving section where achieving two feet of cover is not possible to attain.

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.

Parts I.E.3 and I.E.4 of the MS4 Permit  
The MS4 Permit Parts I.E.3 and I.E.4 are concerned with installation, erosion control, and ongoing maintenance of the subject improvements. We do not anticipate any additional measures beyond those planned within the current Erosion and Sedimentation Control Permitting and any updates made to the permit.

A Permanent Water Quality Facility is associated with this development. This facility is an Extended Detention Basin (EDB), and is designated as Detention Basin 'D' for this development.

**REVIEW AND RECOMMENDATION:**

**Approved by the ECM Administrator**

This request has been determined to have met the criteria for approval. A deviation from Section 4.3.6.3 of the ECM is hereby granted based on the justification provided.

┌ **APPROVED** ─┐  
└ Engineering Department ─┘  
01/19/2022 10:33:40 AM  
dsdnijkamp  
EPC Planning & Community  
Development Department

**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.

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**ECM ADMINISTRATOR COMMENTS/CONDITIONS:**

A certification letter from a licensed engineer shall be provided to El Paso County for review confirming that the proposed box culvert complies with the criteria indicated in ECM 2.6.9.J prior to the installation of the proposed box culvert. The box culvert shall not be installed until a specific notice to proceed has been provided by El Paso County.

## **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.

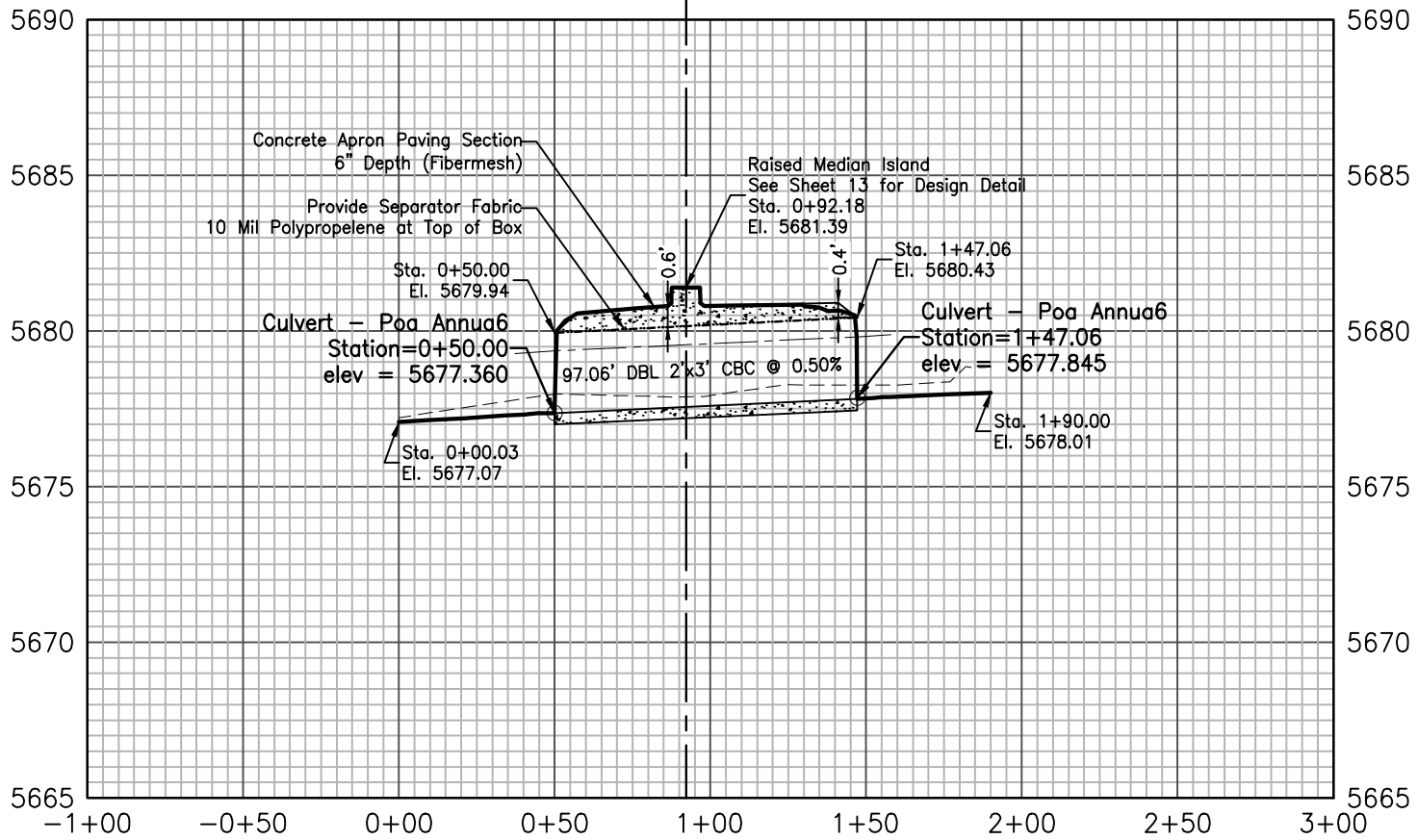
## **1.6. LIMITS OF APPROVAL**

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.

# Culvert - Poa Annuua



DEVELOPER:



PREPARED BY:



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Colorado Springs, Colorado 80904  
(719) 630-7342

THE GLEN AT WIDEFIELD FILING NO 11  
Shallow Cover Storm Sewer (at Box Culvert)

Kiowa Project No. 19016  
October 5, 2021

Exhibit 'D'

