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DEVIATION REQUEST AND DECISION FORM

Updated: 6/26/2019

PROJECT INFORMATION

Project Name : Flying Horse North Filing No. 3
Schedule No.(s) :
Legal Description :

APPLICANT INFORMATION

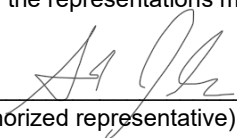
Company : Flying Horse North, LLC
Name : Adam Doyle
<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Consultant <input type="checkbox"/> Contractor
Mailing Address : 2138 Flying Horse Club Dr. Colorado Springs CO, 80921
Phone Number : 719-785-3317
FAX Number :
Email Address : adoyle@classichomes.com

ENGINEER INFORMATION

Company : Entech Engineering Inc.	Colorado P.E. Number : 52381
Name : Joseph C Goode III	
Mailing Address : 505 Elkton Dr Colorado Springs, CO 80907	
Phone Number : 719-531-5599	
FAX Number :	
Email Address : jcg@entechengineers.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.

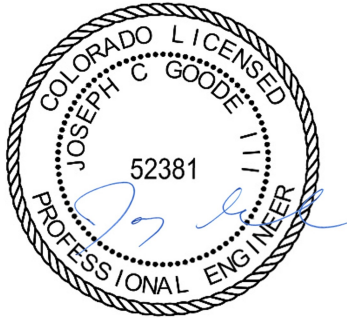


Signature of owner (or authorized representative)

11-13-2024

Date

Engineer's Seal, Signature
And Date of Signature



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

A deviation in accordance with the Paving Season 2024 – UPDATED is requested.

Identify the specific ECM standard which a deviation is requested:

A deviation in ECM D.4.1.F is requested to use a composite section of asphalt and cement treated subgrade (CTS) as opposed to a composite section of asphalt over aggregate base course.

Additional County requirements as presented in the "Use of CTS for Paving Season 2024 – UPDATED" Memorandum are addressed in this deviation request.

The development filing is Flying Horse North Filing No. 3. Roadways included are Allen Ranch Road, Quartz Creek Drive, and Bourbon Court.

State the reason for the requested deviation:

The reason for the requested deviation is because the County has requested that appropriate controls be in place for construction of CTS, included as part of those controls is the deviation request.

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

The proposed alternative includes the use of cement treated subgrade (CTS) as a base layer for the hot mix asphalt pavement section. ECM layer coefficients presented in Table D-3 (CTS strength coefficient = 0.11) was used for design of the pavement section. The overall structural number for the proposed section of 3.5 inches HMA over 8 inches CTS is 2.42 which exceeds the required structural number of 2.32 for the Urban Local section of Allen Ranch Road. The overall structural number for the proposed section of 3.0 inches of HMA over 8 inches CTS is 2.20 which exceeds the required structural number of 1.60 for the Rural Local sections of Allen Ranch Road, Quartz Creek Drive, and Bourbon Court.

The Use of CTS for Paving Season 2024 – Updated Document requirements:

1. Microfracturing will be completed using the Standard Method as defined by Section 305 – Chemically Treated Subgrade
 - a. Microfracturing will be performed with the same (or equivalent tonnage) steel drum vibratory roller used for compaction of the CTS.
 - b. A minimum of 12-ton roller will be used.
 - c. Three full passes with the roller operating at maximum amplitude and traveling at 2- 3 mph shall be applied. If the treated material breaks up excessively at the surface, the vibration amplitude shall be decreased or eliminated.
 - d. Test report or letter stating the micro-fracturing was done per the above specifications.
2. Engineering and materials testing will be completed by Entech Engineering.
3. Laboratory tests will be provided to the County as the project progresses.
4. Full time QC testing will be completed by contractors throughout CTS construction, QA testing will be completed by Entech Engineering on a full time basis during CTS construction, and the developer project manager will be onsite for the duration of CTS construction.
5. All field testing documents will be provided to appropriate County personnel.
6. CTS best practices will be followed as presented in the CTS Best Practices/Industry Response dated May 16, 2024.
7. CTS strengths will be tested to determine field strengths prior to paving.
8. Deviation request included herein.

An exhibit displaying the areas to include CTS is attached with this deviation request.

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:

As described above, the composite section of 3.5 inches HMA over 8.0 inches CTS and 3.0 inches HMA over 8.0 inches CTS, for the urban local and rural local roadways, respectively, provides adequate structural sections with no compromise to public safety or accessibility. ECM layer coefficients presented in Table D-3 (CTS strength coefficient = 0.11) was used for design of the pavement section. The design structural number for the urban local and rural local roadways of 2.42 and 2.20 exceeds the required structural number of 2.32 and 1.60, respectively.

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.

As described above the structural number for the proposed section will be higher than the ECM minimum.

Further, as presented in the *Evaluation of Selected Pavement Specifications and Responses to Questions Relevant to Design and Construction of Cement-Treated Soil and Aggregate Layers in El Paso County, Colorado* report from Spencer Gutherie and Robert Stevens, "The data collected in the first phase of this project did not indicate statistically significant differences between pavements comprising CTS and pavements comprising UTBC with respect to either distress or structural capacity."

The deviation will not adversely affect safety or operations.

The proposed change will not affect or change safety or operations as the asphalt roadway will meet the criteria for public roadways.

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

Once the roadway is a part of the county maintenance program there will be no additional maintenance and maintenance costs as the expected design life of the asphalt pavement section is equivalent to an asphalt and aggregate base course section.

The deviation will not adversely affect aesthetic appearance.

The proposed change is underlying the asphalt layer so will have no visible aesthetic affect. The roadway will look the same as any new asphalt roadway in El Paso County.

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

The ECM design intent and purpose is to provide "basic criteria, design procedures... for roadway pavements". These criteria and procedures in the ECM are followed to provide a composite pavement section structural number greater than the required structural number for the roadway. The pavement design thickness is calculated as presented in ECM Section D.4.1.D, which describes selecting the thickness and strength coefficients of additional pavement component sections using strength coefficients in Table D-3. The layer coefficient for Cement Stabilized Subgrade presented in Table D-3 were used for design. The structural number of the asphalt/CTS section exceeds the structural number required for the site conditions.

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.

Because the deviation request includes cement treated subgrade which is in the roadway subgrade, it will have no effect on the MS4 permit already in place for the project. The Part I.E.3 and Part I.E.4 of the MS4 permit are being met for the overall subdivision 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 ECM D.4.1.F of the ECM is hereby granted based on the justification provided.

Γ Γ

L J

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 Γ

L J

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

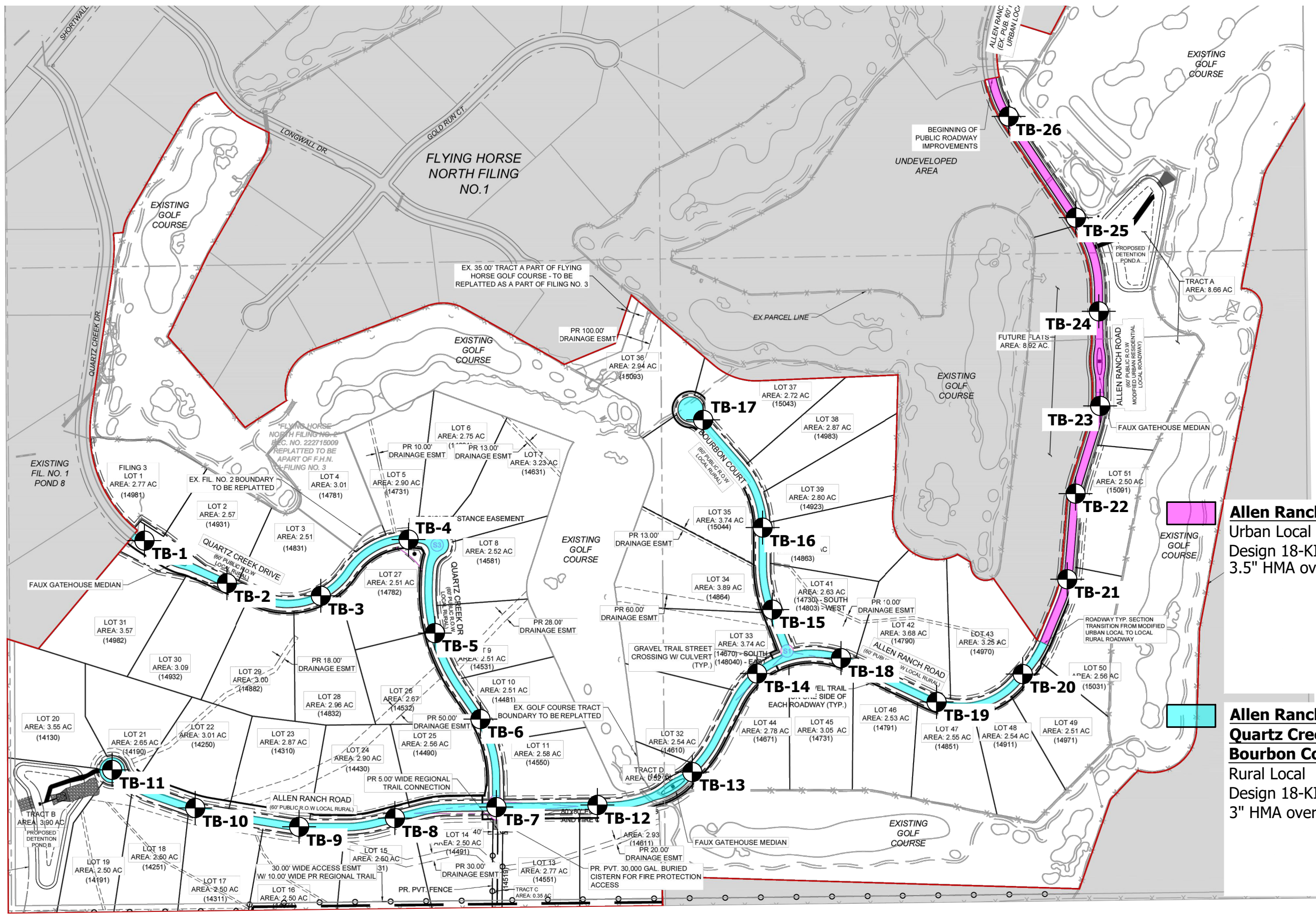
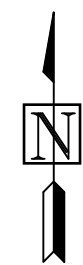
The review shall ensure all criteria for approval are adequately considered and that justification for the deviation is properly documented.

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.



Allen Ranch Road
 Urban Local
 Design 18-KIP ESAL=292,000
 3.5" HMA over 8" CTS

**Allen Ranch Road,
 Quartz Creek Drive,
 Bourbon Court**
 Rural Local
 Design 18-KIP ESAL= 36,500
 3" HMA over 4" CTS

 **TB- APPROXIMATE TEST BORING LOCATION AND NUMBER**



CTS MAP
 FLYING HORSE NORTH, FILING NO. 3
 FLYING HORSE NORTH, LLC

JOB NO.
 231192
FIG. 2