

July 28, 2020

El Paso County Planning and Community Development

Attn: Kari Parsons, Project Manager/Planner II
2880 International Circle
Colorado Springs, CO 80910

Re: Falcon Marketplace Final Plat (SF-19-001 CDR-16-007)

Ms. Parsons,

Please accept this response letter to comments received April 21, 2020

Responses to comments are in ***Bold Italics*** and follow each review comment.

* Preliminary Drainage Report (PDR) / Drainage Plans

11. *(11) *Geotechnical issues (also see Geotech. study comments below).* **Unresolved (response is that this will follow).**
 - a. *Page 31 of the geotech. study states that "In no case should water be allowed to pond near or adjacent to foundation elements, hardscaping, utility trench alignments, etc."* Discuss how the proposed drainage design accomplishes this. *Partially resolved; final liner details need to be provided with FDR or in this report prior to pond construction. Comment remains. Partially resolved see redlines regarding liner details. Requirements for quality control, testing and final certifications for the pond liner will need to be discussed and agreed to prior to construction. The thickness of topsoil mixture above the liner (liner depth) needs to be discussed and verified. Comment remains; provide specifications when available. Partially resolved; additional details will be required during construction. **Further details are being coordinated with County inspections.***
 - b. *Address anticipated pond SR4 embankment settlement. Provide additional study and construction requirements when available. Resolved; tracking of settlement will be addressed at construction stage. Provide monitoring plan details. **Partially resolved; provide complete details when available. Unresolved. Monitoring monuments shown on sheet C1.16. Monitoring schedule and procedure being finalized and will be coordinated with Jeff Rice.***
21. *(21) *Note: If any of the CLOMR excerpts have been revised with the design (i.e. StormCAD), provide revised versions in the report calculations.*
22. *(22) *Verify outlet grate velocity of Pond SR4. Address compliance with UDFCD safety criteria (see redlines). Unresolved. This can be addressed/verified prior to outlet construction. Unresolved. Unresolved. To be provided. **Resolved – handrail provided on plans (additional handrail may be required along the sides of the outlet structure – verify with Inspections). Handrail along outlet structure being coordinated with inspections.***

Final Drainage Report

(**cursory comments; address the PDR comments above in the FDR as well)

4. Address the need for a deviation for developed areas (including Meridian Road) not treated by WQCV facilities. If a deviation is required, provide the deviation request form. Partially resolved; the areas of offsite improvements appear to require WQCV as well, based on the County's updated MS4 permit. It seems that most, if not all, of the runoff flows to Pond MN southeast of Meridian Road, so there is justification in allowing that pond to treat the flows. Please discuss with Staff. The deviation requests can be combined if all flows get to Pond MN. *Partially resolved; see redline. Resolved.* The outlet orifice plate on Pond MN will need to be repaired, whether by the Falcon Highlands Metro District or by the Falcon Marketplace developer at the time of road construction. **Provide documentation when available. (Response is "The agreement is in process and will be provided to the County when complete.")** *Agreement is still in process. Email correspondence to be forwarded to Jeff Rice.*

Construction Plans / Grading and Erosion Control Plan / SWMP / Geotechnical Issues

(**cursory comments)

1. Ensure that all items on the GEC and CD checklists (attached) are provided or addressed. (Checklists will be verified on the next review.) *As noted at the beginning of these comments, updated checklists are required to be provided by the design engineer. Provide with the next submittal. Instructions are provided below the list of attachments. Checklists can be found at:*
https://planningdevelopment.elpasoco.com/wp-content/uploads/Engineering/EngineeringDocuments/Copy-of-GEC-SWMP_Checklists.xlsx. Provide the completed GEC checklist. Checklists will be verified with the next review. An updated ESQCP form is also required as part of ECM updates; provide with the next submittal. The form can be found at <https://planningdevelopment.elpasoco.com/wp-content/uploads/Engineering/EngineeringDocuments/Erosion-and-Stormwater-Quality-Control-Permitrev.2019.docx> *Partially resolved; see redlines.* Partially resolved; see SWMP checklist redlines. Provide GEC checklist. **Partially resolved; GEC Plan / checklist:**
 - a. **Items 1i and 1t: Add notes to the GEC plan regarding these items.**
 - b. **Items 1h, 1m, and 1o: Verify offsite construction limits to the north (see redline)**
 - c. **Item 1y: If dewatering is anticipated in detention basin or outfall area add notes that these locations may need to be dewatered.**
 - d. **Sheets 2.2, 2.3 from EGP, any additional temporary BMP details, and a notes sheet with the notes below are required.**
 - e. **See redlines.**
*GESC plan and checklist revised per notes and redlines. Details and notes sheets included with GESC submittal.***SWMP checklist:**
 - a. **Items 17a and 17c: (see 1b above).**

- b. Please use the full-size (8-1/2" x11") standard temporary BMP detail sheets in the SWMP on future submittals. Ensure that all proposed BMP sheets are provided.**
SWMP checklist revised per notes and redlines.

12. The following conditions of approval remain on the Early Grading Plans:

- a. (1.) Documentation of all easements necessary for offsite construction shall be provided prior to issuance of a construction permit. Provide updated GEC plan sheets showing the easements when available. Unresolved; draft easements for all applicable offsite construction areas will need approval by the County Attorney if the grantee is the County, and need to be signed prior to construction. *Resolved; verify County Attorney approvals.*
- b. Resolved.
(3.) The riprap spillways proposed for Pond SR4 construction are not approved at this time. Provide an analysis for the use of riprap, geocellular products and articulated concrete block products. Written notification from PCD staff is required prior to installation of the spillway protection. Provide complete details on how the concrete curb/gutter ties into the riprap rundown on the north side of the pond. *Address details of the grout wall, including materials and reinforcement bars/mesh/fibers.* Unresolved (response is that this will follow). **Partially resolved; address grout wall reinforcement. Grout shall contain 1-1/2 lbs of fibermesh per cy of grout, per UDFCD specifications. Note shown on C7.4 to reference these specs.**
(4.) Outlet structure construction requires separate written notification from PCD staff. Additional information regarding outlet grate/trash rack design is required for verification of velocities. Unresolved. *(safety railings to be provided?)* **Partially resolved; see CD comments. Safety railings added to drawings, and are currently being coordinated in the field with the County Inspector.**
- c. **Resolved.**
(6.) Additional requirements for the inflow pipe from the northwest (class of pipe, anchoring/support, and watertight joints) may apply. Construction of this pipe and appurtenant items shall not begin without written County approval. Unresolved (response is that this will follow). **Partially resolved; see CD redline regarding pipe ties. Plans revised and installation to be coordinated onsite with County Inspector.**

d.

13. Resolved.

14. **Resolved.**

15. *Revise the cross-section on Meridian Road at Station 2+00 as appropriate. Verify the proposed adjacent grade slope at Sta. 15+00 (is ECB needed?). Provide cross-sections or extend the ones provided across Meridian through the proposed raised median and turn lanes on Meridian Road approaching Eastonville Road and on Eastonville east of Meridian Road.* Unresolved. **Unresolved.**

16. Provide documentation of agreement with the property owner to the north that work on their driveway is agreeable and a new driveway permit will be obtained. Unresolved. **Unresolved (response is that the agreement is in process). Agreement obtained from property owner to the north. Email correspondence to be forwarded to Jeff Rice. Driveway permit application in process.**

Forms / SIA / Financial Assurance Estimate Form / Other

(Not reviewed in detail at this time pending resolution of comments on other documents.)

1. *Resolved.*
2. Note the draft O&M Manual for Pond SR4 will be provided by Staff when available. **(TBD)**
3. *Resolved.*
4. * *The landscape plan included with this submittal shows trees in existing and proposed ROW in several areas including along Meridian Road. Some of these trees need to be moved depending on final site design and construction plans. A license agreement will be required at the final plat stage for private landscaping remaining in the ROW, including the proposed roundabouts. (see redlines). Unresolved; see Planning comments; verify that landscaping in the roundabouts meets sight distance control requirements. See updated Planning comments.*
 - a. *Some trees are shown within the sight distance triangles now shown on the plat. Depending on the crown/canopy width and height as the tree grows, trimming may be required. Reference ECM Section 2.3.6.G.2.*
 - b. **Resolved.**
5. Provide all items required by the Engineering Final Submittal Checklist (attached), when available.
6. The lighting plan needs to address pedestrian lighting at the roundabouts consistent with Roundabout Design comment #3 above. *Unresolved. **Unresolved (response is that the lighting plan is under revision).** Lighting plan revisions under way by Galloway as part of the King Soopers submittal.*
7. Verify that MS-4 and SDI forms have been updated for all three ponds as applicable (to be verified with next review). *Unresolved. **Resolved.***

Transportation / Traffic Impact Study (TIS)

1. *(5) *When Woodmen Road is expanded to 6 lanes, the location and function of this access point will potentially exacerbate conflicts due to anticipated higher traffic speeds on Woodmen Road. Staff recommends that escrow be required in the amount necessary to remove the right-in and roundabout in the future. Potential removal of the right-in due to safety issues and/or widening of Woodmen Road will be addressed in an access permit as noted on SP-17-001 conditions of approval. A draft access permit will be provided when available. **(TBD)***
6. **(See comments below)**
7. *(14) *Reduction of the speed limit on Meridian Road between Woodmen Road and a location near Owl Lane (verify MUTCD requirement) is being considered by the County Engineer if this development proceeds. Provide signage as appropriate on the plans. Unresolved; this signage can be confirmed with the County Engineer; address on the plans. Partially resolved; see redlines (sheet C5.16). Note: per MUTCD standards, "Speed zones (other than statutory speed limits) shall only be established on the basis of an engineering study that has been performed in accordance with traffic engineering practices. The engineering study shall include an analysis of the current speed distribution of free-flowing vehicles." The timing of installation for this signage will be addressed in conditions of approval.*
8. Resolved.

Note: These are additional comments regarding intersection improvements.

Transportation / Traffic Impact Study (TIS) – Intersection Improvements

6. *(13) Regarding the traffic signal at Meridian and Eastonville, coordination with EPC DPW will be provided at the final plat/construction stages.
 - a. Please find below a standard signal equipment specification list for use in equipment callouts. The fire preemption #12 (opticom system) is not needed (not used in the County). We do not use preemption for emergence vehicles. **Unresolved – delete Opticom. Notes updated.**
 - b. Sheet C5.15 (Meridian Road Striping Plan):
 - i. Resolved.
 - ii. **Resolved.**
 - iii. Provide white channelizing and cross-hatching pavement marking for the northbound left turn lane being consistent with the left turn lane pavement markings for eastbound Woodmen Road at Golden Sage Drive where crossing-hatching lines are spaced at 50-foot intervals and there is a more gradual gore point at the beginning of the turn lane that includes bay entering taper channelization and a longer channelizing line adjacent to the through movement. Also, please add left turn lane arrows, per the MUTCD narrow elongated turn lane arrow design and CDOT S-627-1 Pavement Markings, Sheet 5 mentioned previously. *Partially resolved; verify taper ratio. **Partially resolved; see redlines and correct the taper ratio.** Plans revised per redlines.*
 - c. Sheet C5.16 (Meridian Rd & Eastonville Rd Striping Plan):
 - i. Is the proposed W13-1 (45 mph) advisory speed plaque sign installation for southbound Meridian Road accurate and has this signing been adequately justified by the Engineer of Record in the TIS? **Unresolved (see TIS comment #7). (Response is that this is still under review)**
 - ii. Resolved.
 - iii. Address the turn lane criteria noted in ECM Figure 2-27, Required Storage Lengths for Signal-Controlled Intersections, for the southbound right turn lane. The proposed 253-foot length seems considerably shorter than recommended. Has a deviation been approved at this location? **Unresolved. (Response is that this is still under review)** Turn lane length revised per current 55 mph speed limit.
 - iv. Resolved.
 - v. **Resolved.**
 - vi. Resolved.
 - vii. Modify the crosswalk pavement marking layouts to be consistent with the latest revised CDOT S-627-1 Pavement Markings, Sheet 3 crosswalk line detail of 8 foot (minimum) long and 12 inches wide with placement per the crosswalk notes and corresponding detail. **Unresolved. Unresolved. Striping for Meridian/Eastonville intersection also shown on C4.15 with notes to ref. CDOT striping details. These notes have been added to C5.16 as well.**

- viii. *Resolved.*
- ix. *Resolved.*
- x. **through xiii – Resolved.**
- xiv. Provide Keep Right signing on Meridian Road with placement and panel face orientation consistent with MUTCD Figure 2B-17. ONE WAY Signing for Divided Highways with Median Widths Narrower Than 30 Feet and Separated Left-Turn Lanes. *Unresolved. **Unresolved (not found).** One-way signage shown on sheet C5.15. Keep right signage on Meridian islands shown on sheet C5.16*
- xv. Provide MUTCD Advance Street Name Signs (D3-2) on Meridian Road, consistent with other Meridian Road signalized intersections. Provide advance street name sign panel design and layout details in the project plan sheets for sign fabrication, consistent with MUTCD standard panel sizing and FHWA Standard Highway Signs, 2012 Supplement sign design information. Reference the appropriate CDOT Standard Plan detail sheets for sign support information. **Unresolved. (Response is that this is still under review)** Advance street name signage added to sheet C5.15 and C5.16.

d. Sheet C6.10 (Traffic Signal Plan):

- i. **through iii – Resolved.**
 - *Regarding the previous protected and permissive mode left turn signal head displays comment, the professional engineering consultant that prepared the plans needs to document that the available sight distance for the opposing Meridian Road northbound and southbound left turn movements is sufficient for permissive phasing as the plans show the opposing left lane geometry as being negatively offset, which will adversely affect the available sight distance for viewing opposing through movements. Should the sight distance be documented as being limited, protected-only left turn phasing with left turn only signal head operation would need to be considered, but the preferred option would be to improve the left turn lane geometry to include positive offsets (which is feasible with the median), thereby allowing the proposed, and much more efficient, protected and permissive mode left turn operation. This similar situation exists for eastbound and westbound Eastonville Road, but the opposing outside left turn lanes are even more negatively offset due to the double lefts. As a result, more significant geometric modifications would be necessary to achieve sufficient opposing left turn sight distance, but given the opposing double left turn movements and the minor road approach designation, the professional engineering consultant that prepared the plans needs to document whether or not protected-only left turn phasing with left turn only signal head operation should be the preferred option. **Address all necessary revisions in the TIS***

modeling. Unresolved. LSC Response: *The analysis has been rerun with protected-only phasing. The results and the applicable TIS updates have been compiled in the “TIS Addendum Memo” dated July 22, 2020. The construction plans, signing/stripping plans, and signal design plans have been modified to conform to the original TIS report showing a single westbound left turn lane (and dual eastbound left turn lanes). The phasing remains protected-permissive for the eastbound and westbound left turn movements as the plans show the single westbound left shifted south to achieve neutral offset for sight distance. Additional queuing analysis details have been included in the “TIS Addendum Memo” (dated July 22, 2020) to match the design plans for Eastonville east of Meridian Road.*

- iv.
- v. **through vii – Resolved.**

e. Sheet C6.11 (Traffic Signal Plan):

- i. **Resolved.**
- ii. **Resolved.**
- iii. Provide overhead street name sign design and layout sign panel details in the project plan sheets for sign fabrication, per MUTCD standard overhead panel size and FHWA Standard Highway Signs, 2012 Supplement sign design information. The presently shown sign panel design information is incomplete and not consistent with the MUTCD and SHS. **Partially resolved; see redlines.**
- iv. **Resolved.**
- v. Per MUTCD Section 2B.19 Intersection Lane Control Signs (R3-5 through R3-8), the proposed overhead Mandatory Movement Lane Control (R3-5) signing shown for the northbound and southbound Meridian Road single left turn lanes should be **omitted. Unresolved (still shown).**
- vi. Designated marked pedestrian crossing locations, pedestrian phasing, heads, pushbuttons, and pedestrian infrastructure (i.e., pedestrian curb ramps, landing areas, partial sidewalk) for all pedestrian crossing locations should be provided, even if pedestrian infrastructure beyond the intersection may not presently exist, **unless an operational / safety need has documented certain pedestrian crossings as being undesirable and therefore needing to be prohibited and signed as such.** Provide a documentable reason for prohibiting specific crossings or provide complete pedestrian crossings for all four crossing locations. Ensure that the proposed phasing diagram sequence shows pedestrian phasing for the applicable pedestrian crossing locations. **Partially resolved (specific response to bold text above still needed in file and signage needed).** *Signal Plan accommodates pedestrian indications/push buttons for only striped crosswalks as shown on plan. The TIS Addendum by LSC discusses the need for protected/permissive phasing for the heavy*

eastbound left turn movement. A north leg crosswalk would be in conflict with this movement and is not proposed. Also, there are no pedestrian facilities in the northeast corner of the intersection.

- vii. Resolved.
- viii. Resolved.

We trust you find our responses to the 7th review of the Falcon Marketplace Final Plat acceptable. We look forward to working with the County in processing the submittal. Please call if you have any questions or require any additional information.

Respectfully,

Drexel, Barrell & Co.

A handwritten signature in black ink, appearing to read "Tim D. McConnell". The signature is fluid and cursive, with a large initial "T" and "M".

Tim D. McConnell, P.E.