



1800 38th St. • Boulder, CO 80301 • 303.442.4338 • 303.442.4373 fax
3 South 7th St. • Colorado Springs, CO 80905 • 719-260-0887 • 719-260-8352 fax
6513 W. 4th Street • Greeley, CO 80634 • 970-351-0645

May 6, 2019

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 your comments dated February 14, 2019

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

Engineering Division

Final Plat / Letter of Intent

1. See Letter of Intent and Final Plat redlines. Additional comments may result from revisions to the engineering documents on the next submittal. ***Acknowledged.***
2. Provide additional public improvements easements where sidewalks/pedestrian ramps and crossings are outside of the right-of-way and PI easements currently shown. ***PI easements updated to reflect revised pedestrian ramp layout.***
3. Provide additional drainage easements if applicable based on Final Drainage Report comments. ***Additional drainage easements added to lots 3, 4, 5 & 6.***
4. Verify any sight distance easements that may be needed and show on the plat. ***Updated as shown.***
5. Note: closure sheets will be reviewed with next submittal. ***Acknowledged.***

Transportation / Traffic Impact Study (TIS)

1. See separate roundabout design comments. ***Revisions to horizontal geometry at roundabouts have already been made and reviewed with staff.***
2. Provide a memorandum (referencing the Preliminary Plan TIS), to go along with the development agreement, stating the anticipated overall site ADT that will warrant each offsite improvement. Include the improvements proposed for immediate construction as "Phase 1". ***Memo to follow.***
3. ****(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. Acknowledged.***
4. ****(9) Regarding Figure 26, one Right Lane Must Turn Right sign should be sufficient and suggest retaining only the upstream sign with the 500-ft plaque and adding two***

R3-5 signs adjacent to the arrow pavement markings. Suggest adding a Circular Intersection warning sign in place of the Yield Ahead sign. **Verify on signing and striping plan. Signage and striping plan updated as requested.**

5. *(12) Construction or "fair share" escrow contribution, if applicable, will need to be determined and approved by the County Engineer with the final plat or each Site Development Plan. **Development Agreement revisions will be provided when available. Acknowledged.**
6. *(13) Regarding the traffic signal at Meridian and Eastonville, coordination with EPC DPW will be provided at the final plat/construction stages. **Comments will be provided when available. Acknowledged.**
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. Please confirm that this is required.**

* Preliminary Drainage Report (PDR) / Drainage Plans

1. *(1) Regarding checklist item #30, alignment, material and structure type, the roundabout designs will require additional details at the final design stage to ensure that drainage facilities do not conflict with the required roundabout attributes (grading, sight distance control, etc.). **Please discuss south roundabout's southeast entrance with Jeff Rice. Roundabout revisions have been discussed with staff and plans updated for this submittal.**
6. *(6) Address how the proposed design accommodates the existing petroleum pipeline and other utilities along the south and east property lines. Provide documentation that the easement holders have no objections to the proposed drainage design. **Provide completed documents when available. Nustar encroachment agreement included as part of this submittal.**
11. *(11) Geotechnical issues (also see Geotech. study comments below)
 - 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. **Acknowledged, clay testing results to be provided by contractor once a suitable supply is acquired.**
 - 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. Monitoring plan locations to be added to the survey control plan, upon review with PSI.**
 - c. Consider replacing the proposed area drain and pipe at the northwest corner with a swale along the north property line to the proposed rundown. Maintenance access appears likely to be difficult as proposed and the geotech. study recommends "properly designed drainage swale" at the tops of excavation slopes.

- Partially resolved; stabilization of and maintenance access to the 3:1 (and steeper?) excavated slope along the north side of Pond SR4 will need to be further addressed with the final pond design. (If the extent of overlot grading includes the slopes, this needs to be addressed with overlot grading.) Comment remains; access road design, offsite grading (requiring easements) sheet flow locations and rundowns and the concrete rundown need additional detail to ensure adequate access and functioning. Unresolved. Partially resolved; see remaining redlines. Partially resolved; see updated redlines. Additional details regarding the pond inflow area, including offsite easements, are required. Provide options analysis regarding geocells and articulated mats when available. Partially resolved; additional details and easements need to be resolved prior to construction. Provide when available; include options analysis in the FDR. Cost analysis to follow.*
- d. *Discuss the required geotechnical and dam analyses appropriate for detention pond SR4. See DCM Sections 6.6, 11.3.3, and Attachment A (Chapter 11). Partially resolved; provide additional study and construction requirements when available. Partially resolved with PSI memo; provide copies of State Engineer correspondence and additional geotechnical requirements (if applicable) when available. See redlines regarding details and material at downstream edge of spillway. Unresolved. Unresolved. Partially resolved; additional details may be necessary prior to construction. Monitoring plan to follow.*
13. * (13) *Drainage Plan: Note: The determination of crown location and inlet or sheet flow for the additional paving on Meridian Road (and at other offsite locations if required due to approval of the Woodmen Road right-in) will need to be determined with the Final Drainage Report and offsite CDs. Analysis of drainage for offsite improvements included in FDR.*
17. * (17) *All runoff from Falcon Market Place (road) needs to be treated for WQCV or a deviation approved for areas that are not treated (southwest area?). See redlines regarding Pond #3. Comment remains (the drainage plan shows some inlets draining directly to the channel area). If a deviation is needed it can be provided with the FDR. Acknowledged. One small portion at the SW roundabout is not able to be treated by the onsite water quality facilities. A deviation request for this area has been included in the LOI.*
18. * (18) *Adequate separation of the inlet and outlet for Pond #2 needs to be provided. Reference UDFCD USDCM Volume 3 EDB Design Procedure and Criteria, page EDB-3. Consider shifting the inlet to the west and/or the outlet to the east. Another option would be to construct a wall directing flows toward the end of the pond before reaching the outlet. Comment remains for both Pond #2 and Pond #3. Note that the location of Pond #3 in existing County right-of-way is not able to be approved until resolution of the overall road design issues. These details can be worked out with the FDR. Pont #2 inlet/outlet redesigned to maximize distance between.*
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. No updates to the CLOMR.*
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. Outlet grate velocity calcs included in FDR.*
23. * (23) *Note: Details on upstream diversions done with the Bent Grass project will need to be addressed with the Falcon Marketplace FDR. Provide general discussion and analysis. Please discuss with Jeff Rice prior to resubmittal. A note has been added to the FDR.*

Final Drainage Report

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

1. See FDR redlines.
2. It appears that significant additional site grading (above the early grading contours) will be required in order to drain sub-basins A4 and B4 to the north. Provide ultimate proposed grading. ***Drainage basins have been revised, see plan and report.***
3. Address the increased flows from proposed pavement on Meridian Road, the east roadside ditch and capacity of the downstream conveyance. Provide sub-basins and discussion. ***FDR updated as requested.***
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. ***Deviation request forms included in this submittal.***
5. Provide all required EDB features. Any deviations need to be requested and fully justified. ***EDB plans updated.***
6. Drainage Plans:
 - a. The grading slopes and details cannot be scaled from a printed plan sheet. Since additional details are necessary for Eastonville Road, please move the details on sheet D1 to a separate sheet and expand the scale on D1 to enlarge the site, or split the site up onto additional sheets.
 - b. Provide flow arrows and slope labels. ***Plan sheets updated as requested.***
7. Note: PDB/BMP Agreements will be reviewed with the next submittal. (CAO may provide separate comments.) ***Acknowledged.***

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. ***Plans updated as requested.***
2. Replace the owner's signature block with this statement:
I, the owner/developer have read and will comply with the requirements of the grading and erosion control plan and all of the requirements specified in these detailed plans and specifications. ***Updated as requested.***
3. Provide a survey control plan, including basis of bearings with monumentation, tying control points and coordinates with all proposed road and storm drain alignments. Include the Pond SR4 monitoring information with locations and vertical control points. ***Survey control plan included with this submittal. Pond SR4 monitoring info to follow.***
4. Provide complete plans and details for Eastonville Road east of Meridian, the connection to Woodmen Frontage Road and the Woodmen Road deceleration lane into the roundabout. ***Plans updated as requested.***
5. Provide spot elevations at all crossspan flowlines and pedestrian ramp corners. ***Plans updated as requested.***

6. **(16) Reference ~~attached~~ UDFCD outlet structure design details. Specific items that need to be incorporated into the project's outlet structure designs include the orifice plate design and notes, water quality plate details (type and thickness), stainless steel well screen (page OS-9) and neoprene gasket. See redline regarding specific calculations for trash rack (now sheet C7.5). Partially resolved; see updated redlines. **Verify details and calculations.** **FDR updated as requested.***
7. Provide underdrain plans. **A specific underdrain plan is not included with this set, but a note has been added to the drainage report that all future lot developers will be required to install underdrain, and that all storm inlets are appropriate connection points for any proposed underdrain.**
8. Have the MVEA power lines been relocated or do they need to be? Address on the plans. **MVEA power lines are proposed to be relocated as part of the early grading.**
9. Note: additional comments on signal plans will be provided when available.
10. **(3b) Ground Engineering Geotechnical Report dated October 18, 2016: There is only one boring in the SR4 pond area, which indicates very shallow groundwater. Recommendations on how to keep the groundwater from infiltrating the pond (which is to be excavated approximately 10 feet deeper than the groundwater level) need to be provided. If a separate geotech. study will be provided for pond construction, let us know. Comment remains; provide additional study when available. (3d)* Note: Final geotechnical study and review of construction plans by the geotechnical P.E. will be required at the Final Plat stage. **Include recommendations for the permanent site BMPs (EDBs).** **PSI Memo to follow.***
11. Provide an updated SWMP when available.
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. **Offsite easements shown on GEC plan and also easement exhibits submitted for review.**
 - b. (2.) The clay liner proposed for Pond SR4 construction is not approved at this time. Provide rationale that other impermeable lining methods are not practicable, including rubber lining. Placement of any liner requires separate written approval after PCD staff receipt of this additional information as well as project-specific liner specifications, signed and stamped by a Colorado PE. **PSI/contractor memo to follow.**
 - c. (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.** **Updated spillway plans to follow.**
 - d. (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.
 - e. (5.) Additional information is required on how groundwater will be handled during pond construction. Provide additional geotechnical study/potholing information on groundwater levels and the geotechnical engineer's concurrence with these CDs when available. **PSI memo to follow.**
 - f. (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. **Verification to follow.**

Forms / SIA / Financial Assurance Estimate Form / Other

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

1. Note: FAE minimum costs may be revised in the near future requiring update of this FAE. FAE quantities and costs will be reviewed in detail with the next submittal.
2. Note the draft O&M Manual for Pond SR4 will be provided by Staff when available.
3. * Provide PDB/BMP agreement exhibits A and B when available. If an access easement other than the to-be platted pond tracts/easements is desired, an Exhibit "C" can be provided. **Provide when available.**
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) Acknowledged, a license agreement is proposed for the private landscaping in the ROW.**
5. Provide all items required by the Engineering Final Submittal Checklist (attached), when available.

We trust you find our responses to the 2nd 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.



Tim D. McConnell, P.E.