

August 31, 2018

Gilbert LaForce
Planning and Community Development
El Paso County
2880 International Circle, Suite 110
Colorado Springs, CO 80910

revise to match lot and subdivision names on the associated plat. (Lot 1 and Lot 2 of Claremont Ranch Filing 9C)

Re: Subdivision Drainage Letter for Lot 2A and Lot 2B, Block 1 – Claremont Ranch West Filing No. 9C

Dear Mr. LaForce,

revise "...2015 (PCD File No. SF1511)."

This subdivision drainage letter has been prepared for Lot 2A and Lot 2B of Claremont Ranch West Filing No. 9C, a replat of Claremont Ranch Filing No. 9B, located in Section 4, Township 14 South, Range 65 West of the 6th Principal Meridian, County of El Paso, State of Colorado. The purpose of this letter is to show that with the subdivision of Lot 2 (1.596 acres) to Lot 2A (0.776 acres) and Lot 2B (0.820 acres), the drainage still conforms to the current City of Colorado Springs *Drainage Criteria Manual Volume 2* and the *Final Drainage Report for SEC of Marksheffel Rd. & Constitution Ave.* prepared by Galloway & Company, Inc. dated September 14, 2015. A composite runoff coefficient calculation was performed for the subject site and these calculations are attached herein.

revise "...Starbucks (PCD File No. PPR1753)..."

A drainage compliance letter was prepared and approved for the development of Starbucks within the southern portion of Lot 2 prior to the Filing No. 9C replat. This drainage compliance letter included anticipated flow from the northern portion of Lot 2 (Lot 2A of Filing No. 9C) that is consistent with the *Final Drainage Report*

Lot 2A and Lot 2B are located in Basin D-2 of the *Final Drainage Report*. Runoff from this area was designed to be captured by a future storm sewer system which is to connect to the existing storm system which outfalls to the existing southwest pond as identified in the *Final Drainage Report*. The existing 5- and 100-year runoff coefficients for the combined basins based on the *Final Drainage Report* are 0.81 and 0.88, respectively.

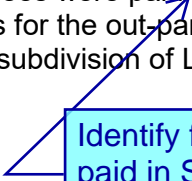
Revise to identify the specific type of facility. ie. EDB. and it's location (Lot 1 of Claremont Ranch Filing No. 9).

The proposed grading for the Starbucks development site is consistent with the grading and drainage pattern proposed in the *Final Drainage Report*. The development of Lot 2A will be required to prepare a separate drainage letter which demonstrates compliance with both the *Final Drainage Report* as well as the Drainage Compliance Letter that was prepared for Lot 2 of Claremont Ranch Filing No. 9B with the Starbucks development.

The drainage plan for Lot 2 of Claremont Ranch Filing No. 9B consists of six drainage basins (totaling 36,877 SF). The combined runoff coefficient for basins D-2A, D-2B, D-2C, D-2D, OS-1, OS-2A, OS-3 is estimated to be 0.70 and 0.80 in the 5- and 100- year

storms, respectively. Runoff from basins D-2A, D-2B, D-2C, D-2D will be collected into a new catch basin and curb inlet on-site which will connect to the existing storm sewer system and be routed to the southwest pond. Runoff from basins OS-1 and OS-3 will continue to be collected into existing curb inlets which will outfall directly into the southwest pond. Runoff from basin OS-2A will continue to outfall to Marksheffel Rd which per the MDDP was designed to accommodate undeveloped flows from the site. These runoff coefficients are below the planned values and thus the runoff will be less than originally planned. The overall imperviousness of the site after final stabilization has been calculated to be 78%. These findings indicate that subdivision of Lot 2 will have no negative impacts on the existing drainage infrastructure.

The Drainage and Bridge fees were paid with the overall development based off of assumed impervious acres for the out-parcels. Because there is no increase of impervious acres with the subdivision of Lot 2, no additional fee will be required.



Identify fees were
paid in Sand Creek
drainage basin.

Include a vicinity map, existing and proposed
drainage map.

Design Engineer's Statement:

The attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the criteria established by the County for drainage reports and said report is in conformity with the applicable master plan of the drainage basin. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this report.

Jennifer Romano, PE
Licensed Professional Engineer
State of Colorado No. 44401



Date

Developer's Statement:

I, the developer have read and will comply with all of the requirements specified in this drainage report and plan.

Zach Lauterbach, Sr. Development Manager
Evergreen Development
2390 East Camelback Road, Suite 410
Phoenix, AZ 85016

Date

EL PASO COUNTY:

Filed in accordance with the requirements of the Drainage Criteria Manual, Volumes 1 & 2, El Paso County Engineering Criteria Manual and Land Development Code as amended.

Jennifer Irvine, P.E.
County Engineer/ECM Administrator

Date

PROJECT: Lot 2, Claremont Ranch Filing No. 9B
LOCATION: Marksheffel Rd. and Constitution Ave
 Colorado Springs, El Paso County

Project No.: EDI0040
Date: January 24, 2018
Engineer: Jenny Romano

*PERCENT IMPERVIOUS VALUES	
LANDSCAPE	0
PAVING	100
ROOFING	90
COMMERCIAL	95

* RUNOFF COEFFICIENTS USED				
	<u>2-Year</u>	<u>5-Year</u>	<u>10-year</u>	<u>100-Year</u>
LANDSCAPE	0.02	0.08	0.15	0.35
PAVING	0.89	0.90	0.92	0.96
ROOFING	0.71	0.73	0.75	0.81
COMMERCIAL	0.79	0.81	0.83	0.88

* Table 6-6 in CO Springs, Drainage Criteria
 Manual Revised May 2014

Composite Runoff Coefficients and Percent Imperviousness for Developed Drainage Basins

BASIN DESIG.	OVERALL AREA (sf)	LANDSCAPE AREA (sf)	PAVED AREA (sf)	ROOF AREA (sf)	COMMERCIAL AREA (sf)	2-YEAR COEFF.	5-YEAR COEFF.	10-YEAR COEFF.	100-YEAR COEFF.	PERCENT IMPERVIOUS
D-2A	19,537	0	0	0	19,537	0.79	0.81	0.83	0.88	95%
D-2B	13,785	1,372	12,413	0	0	0.80	0.82	0.84	0.90	90%
D-2C	2,303	0	0	2,303	0	0.71	0.73	0.75	0.81	90%
D-2D	8,949	2,242	6,707	0	0	0.67	0.69	0.73	0.81	75%
D-3	19,164	5,033	14,131	0	0	0.66	0.68	0.72	0.80	74%
TOTAL D	63,738	8,647	33,251	2,303	19,537					85%
OS-1	696	377	319	0	0	0.42	0.46	0.50	0.63	46%
OS-2A	9,820	6,687	3,133	0	0	0.30	0.34	0.40	0.54	32%
OS-3	1,324	792	532	0	0	0.37	0.41	0.46	0.60	40%
TOTAL OS	11,840	7,856	3,984	0	0					34%
TOTAL LOT 2B	75,578	16,503	37,235	2,303	19,537					77%

PROJECT: Lot 2, Claremont Ranch Filing No. 9B
LOCATION: Marksheffel Rd. and Constitution Ave

Project No.: EDI0040
Date: January 24, 2018
Engineer: Jenny Romano

5-YR RUNOFF COMPUTATIONS (RATIONAL METHOD)

BASIN INFORMATION				DIRECT RUNOFF				TOTAL RUNOFF				REMARKS
DESIGN PT.	BASIN	AREA (acres)	RUNOFF COEFF.	Tc (min)	C x A (acres)	I (in/hr)	Q (cfs)	Tc (min)	$\Sigma C \times A$ (acres)	I (in/hr)	Q (cfs)	
1	D-2A	0.45	0.81	5.00	0.36	5.17	1.88					Basins D-2B, D-2C
2	D-2B	0.32	0.82	5.00	0.26	5.17	1.34					
3	D-2C	0.05	0.73	5.00	0.04	5.17	0.20	5.00	0.30	5.17	1.54	
4	D-2D	0.21	0.69	5.00	0.14	5.17	0.74					
Total D-2 Basins								5.00	0.80	5.17	4.15	Basins D-2A, D-2B, D-2C, D-2D
5	OS-1	0.02	0.46	5.00	0.01	5.17	0.04					All D-2 Basins and OS Basins
6	OS-2A	0.23	0.34	9.49	0.08	4.21	0.32					
7	OS-3	0.03	0.41	5.00	0.01	5.17	0.06					
14	D-3	0.44	0.68	5.00	0.30	5.17	1.56					
Total Lot 2B								9.49	0.90	4.21	3.79	

Use minimum Time of Concentration = 5 minutes
 Use composite coefficients

Ration Method: Q = CIA

PROJECT: Lot 2, Claremont Ranch Filing No. 9B
LOCATION: Marksheffel Rd. and Constitution Ave

Project No.: EDI0040
Date: January 24, 2018
Engineer: Jenny Romano

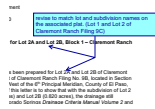
100-YR RUNOFF COMPUTATIONS (RATIONAL METHOD)

BASIN INFORMATION				DIRECT RUNOFF				TOTAL RUNOFF				REMARKS
DESIGN PT.	BASIN	AREA (acres)	RUNOFF COEFF.	Tc (min)	C x A (acres)	I (in/hr)	Q (cfs)	Tc (min)	$\sum C \times A$ (acres)	I (in/hr)	Q (cfs)	
1	D-2A	0.45	0.88	5.00	0.39	8.68	3.43					Basins D-2B, D-2C
2	D-2B	0.32	0.90	5.00	0.28	8.68	2.47					
3	D-2C	0.05	0.81	5.00	0.04	8.68	0.37	5.00	0.33	8.68	2.84	
4	D-2D	0.21	0.81	5.00	0.17	8.68	1.44					
Total D-2 Basins								5.00	0.89	8.68	7.71	Basins D-2A, D-2B, D-2C, D-2D
5	OS-1	0.02	0.63	5.00	0.01	8.68	0.09					All D-2 Basins and OS Basins
6	OS-2A	0.23	0.54	9.49	0.12	7.06	0.87					
7	OS-3	0.03	0.60	5.00	0.02	8.68	0.16					
14	D-3	0.44	0.80	5.00	0.35	8.68	3.05					
Total Lot 2B								9.49	1.04	7.06	7.34	

Use minimum Time of Concentration = 5 minutes
Use composite coefficients

Markup Summary

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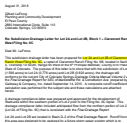
revise to match lot and subdivision names on the associated plat. (Lot 1 and Lot 2 of Claremont Ranch Filing 9C)

Galloway



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Lot 2A and Lot 2B, Block 1 – Claremont Ranch West Filing No. 9C



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Lot 2A and Lot 2B of Claremont Ranch West Filing No. 9C

to Lot 2A (0.7

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Lot 2A

drainage c
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Lot 2A

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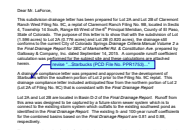
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Lot 2B

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(Lot 2A of Filing No. 9C
Lot 2A and Lot 2B are I
this area was designed
connect to the existing
identified in the Final D
for the combined basin

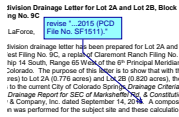
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Lot 2A and Lot 2B



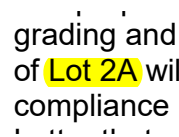
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revise "...Starbucks (PCD File No. PPR1753)..."



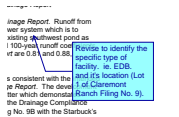
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revise "...2015 (PCD File No. SF1511)."



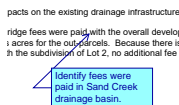
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Lot 2A



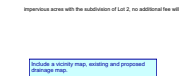
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Revise to identify the specific type of facility. ie. EDB.
and it's location (Lot 1 of Claremont Ranch Filing No. 9).



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Identify fees were paid in Sand Creek drainage basin.



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Include a vicinity map, existing and proposed drainage map.