TOWN OF CASTLE ROCK COLORADO

TECHNICAL MEMORANDUM

To: Mark Marlowe, P.E., Utilities Director

Thru: Tim Friday, P.E., Assistant Utilities Director, TFF (initial)

Jeanne Stevens, P.E., Engineering Manager, (initial)

J. David Van Dellen, P.E., Stormwater Manager DVD (initial)

From: Kevin Elliott, P.E., Plan Review Supervisor

Date: August 4, 2016

Title: Technical Criteria Variance Application

Name: Hillside at Castle Rock

Number: TCV16-0048

Legal Description: Southwest 1/4 of Section 3 and the Southeast 1/4 of Section 4, T8S, R67W, of the 6th P.M., Town of Castle Rock, County of Douglas, State of Colorado

Summary:

Section 14.1 of the TOCR Storm Drainage Design and Technical Criteria Manual implies that 100% of the site runoff shall be routed through a water quality feature before exiting the site.

Recommendation: ____X_____ **Approve** _____ **Deny**

Discussion:

A variance is requested to allow a maximum of 10% of the site runoff not be required to be routed through a water quality feature. Due to the configuration and grading of the site, there is an area at the southeast corner of the site where it is not feasible to route runoff to the onsite water quality facility or through grass lined swales.

The volume of runoff not receiving water quality treatment is minimal.

Cc: Engineering Office Assistant (once finalized)

TOWN OF CASTLE ROCK COLORADO

Development Services
100 N. Wilcox Street
Castle Rock, CO 80104
720-733-2200 FAX 720-733-2231

No. TCV 16-0048

DATE 7/25/16

TECHNICAL CRITERIA VARIANCE APPLICATION

DEVELOPMENT

Hillside at Castle Rock

LEGAL DESCRIPTION OF SUBJECT PROPERTY

Southwest 1/4 of Section 3 and the Southeast 1/4 of Section 4, Township 8 South, Range 67 West of the 6th P.M., Town of Castle Rock, Douglas County, Colorado

VARIANCE REQUESTED:

Code Section(s)\ Town of Castle Rock Storm Drainage Design and Technical Criteria Manual, Chapter 14, Section 14.1; Stormwater Quality Design Process.

Describe the Variance Requested
A variance is requested from the implied requirement that 100% of the developed site area be routed through a water quality facility before exiting the site for Basin C4.

1. Describe the exceptional situation or condition that exists
Basin C4 is located at the SE edge of the site and is located downstream of the onsite detention/water quality facilities and is the lowest area of the site, therefore, it is not possible to route the runoff from Basin C4 through the onsite water quality ponds. See attached exhibit.

2. Describe the difficulty or hardship that would be created by a strict enforcement of the code
Since Basin C4 is: downstream of the onsite water quality facility; the lowest point on the site; runoff flows directly off the property into an existing roadside ditch.

3. Describe why there would not be any adverse impact on public health, safety and welfare
Basin C4 is 0.45 acres and the total developed acreage is 32.15. Basin C4 represents 1.4% of the total developed acreage.

Additional Information:

1. *Attach an improvement survey.*
2. *Attach a drawing showing the intended uses.*
3. *Provide any other information helpful to discussion.*

PROPERTY OWNER

Name: Wolfensberger Property Group, LLC.

Address: 9116 W. Bowles Ave., Unit 15
Littleton, CO 80123

Phone #: (303) 979-9858

Fax #:

Signature of Applicant

APPLICANT'S REPRESENTATIVE (If applicable)

Name: Troy W. Denning P.E.

Address: 7852 S. Elati St. Suite 106
Littleton, CO 80134

Phone: (303) 794-8604

Fax: (303) 795-3072

For Staff Use Only

Staff Recommendation: Approved ☑ Yes ☐ No

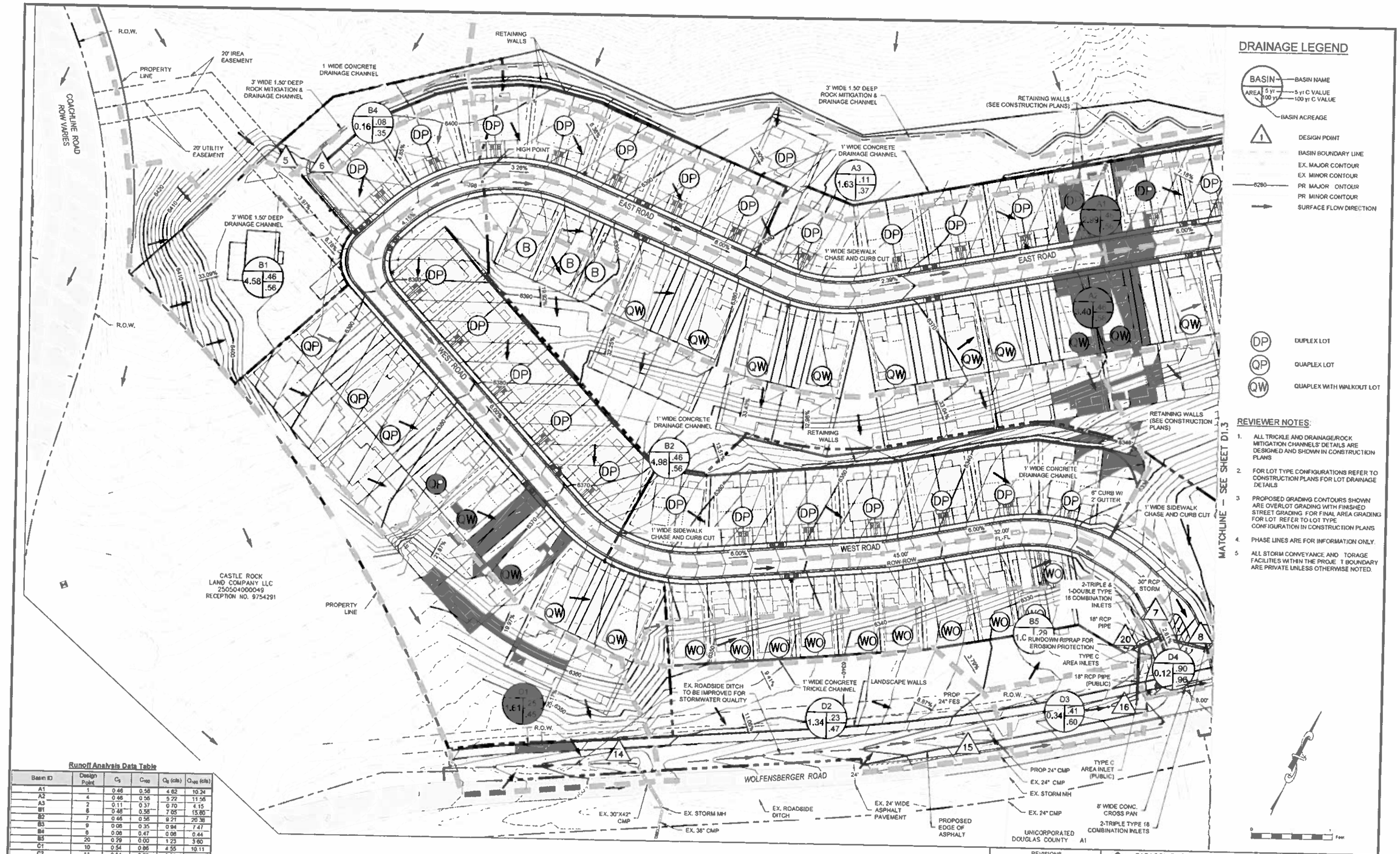
Signature

- ☐ Public Works Director
- ☑ Utilities Director
- ☐ Parks & Recreation Director
- ☐ Development Services Director

8/10/16
Date

Comments

Conditions of Acceptance



Runoff Analysis Data Table

Basin ID	Design Point	C_5	C_{100}	Q_5 (cfs)	Q_{100} (cfs)
A1	1	0.46	0.56	4.62	10.24
A2	4	0.46	0.56	5.22	11.56
A3	2	0.11	0.37	0.70	4.15
B1	6	0.46	0.56	7.65	15.85
B2	7	0.46	0.56	9.21	20.38
B3	9	0.08	0.35	0.94	7.47
B4	8	0.08	0.47	0.08	0.44
B5	20	0.29	0.00	1.23	3.60
C1	10	0.54	0.86	4.55	10.11
C2	11	0.54	0.86	2.20	4.89
C3	12	0.08	0.35	0.58	4.62
C4	13	0.36	0.56	0.26	0.73
D1	14	0.25	0.45	1.69	5.65
D2	15	0.23	0.47	1.21	4.36
D3	16	0.41	0.60	0.65	1.71
D4	17	0.90	0.52	0.52	1.02
D5	18	0.31	0.50	3.18	5.78
OS-1	5	0.15	0.50	3.69	22.35
OS-2	3	0.15	0.50	5.11	30.98
OS-3	19	0.15	0.50	2.47	14.99

Water Quality Detention Pond Table

	Detention Pond A (West Pond)	Detention Pond B (East Pond)
EURV	1.1 ac ft	0.23 ac-ft
100-yr + WQCV	2.52 ac-ft	0.43 ac-ft
100-yr Flows Contribute to Ponds	84.6 cfs	27.9 cfs
Release Rate, 5-yr	72 hrs	72 hrs
Release Rate, 100-yr	39.35 cfs	8.8 cfs

Know what's below. Call before you dig. 811

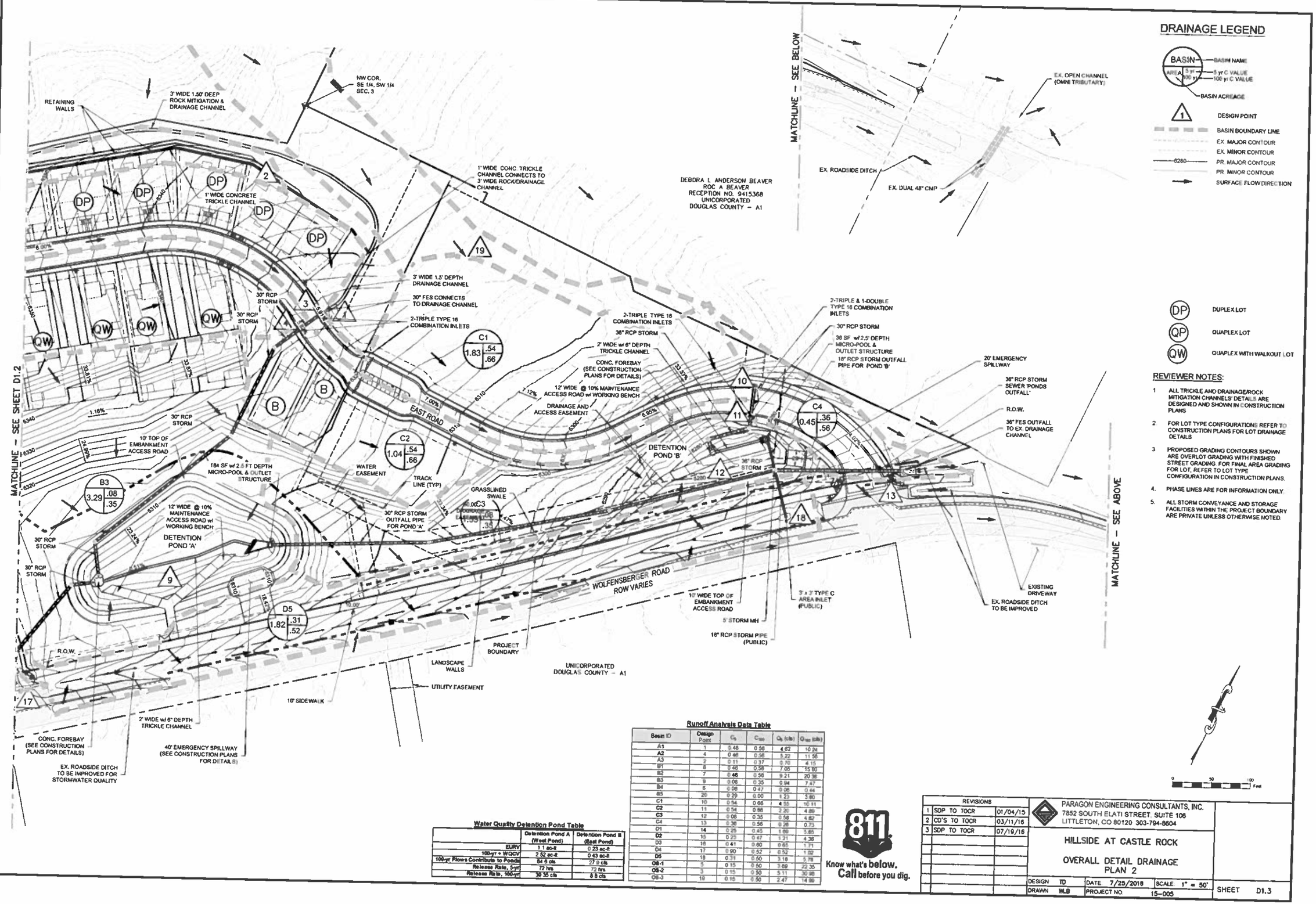
REVISIONS		
1	SDP TO TOCR	01/04/15
2	CD'S TO TOCR	03/11/16
3	SDP TO TOCR	07/19/16

PARAGON ENGINEERING CONSULTANTS, INC.
7852 SOUTH ELATI STREET, SUITE 106
LITTLETON, CO 80120 303-794-8604

HILLSIDE AT CASTLE ROCK

OVERALL DETAIL DRAINAGE PLAN 1

DESIGN: TD	DATE: 7/25/2016	SCALE: 1" = 50'	SHEET D1.2
DRAWN: WLB	PROJECT NO: 15-005		



Runoff Analysis Data Table

Basin ID	Design Point	C_5	C_{100}	Q_5 (cfs)	Q_{100} (cfs)
A1	1	0.48	0.58	4.62	10.24
A2	4	0.46	0.56	5.22	11.56
A3	2	0.11	0.37	0.70	4.15
B1	8	0.48	0.58	7.05	15.80
B2	7	0.46	0.56	9.21	20.36
B3	9	0.08	0.35	0.94	7.47
B4	6	0.09	0.47	0.08	0.44
B5	20	0.29	0.00	1.23	3.80
C1	10	0.54	0.66	4.55	10.11
C2	11	0.54	0.66	2.20	4.89
C3	12	0.08	0.35	0.58	4.62
C4	13	0.36	0.56	0.26	0.73
D1	14	0.25	0.45	1.89	5.85
D2	15	0.23	0.47	1.21	4.36
D3	16	0.41	0.60	0.65	1.71
D4	17	0.90	0.52	0.52	1.02
D5	18	0.31	0.50	3.16	5.78
OS-1	5	0.15	0.50	3.69	22.35
OS-2	3	0.15	0.50	5.11	30.95
OS-3	19	0.15	0.50	2.47	14.99

Water Quality Detention Pond Table

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100-yr Flows Contribute to Ponds	84.6 cfs	27.0 cfs
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LITTLETON, CO 80120 303-794-8604

HILLSIDE AT CASTLE ROCK

OVERALL DETAIL DRAINAGE PLAN 2

DESIGN TD | DATE 7/25/2016 | SCALE 1" = 50'
DRAWN WLB | PROJECT NO. 15-005

SHEET D1.3