



Drainage Letter

for:

RCH VALLEY

875 Valley Street,
Colorado Springs, Colorado

Prepared for:

HHI Corporation
875 Valley Street
Colorado Springs, CO 80915
Phone (323) 926-0054

Prepared by:

HCF Engineering
8184 South Highland Drive,
Suite C-7, Sandy Utah, 84093
Phone (385) 707-3140

Dated:

July 19th, 2024



CERTIFICATION STATEMENTS

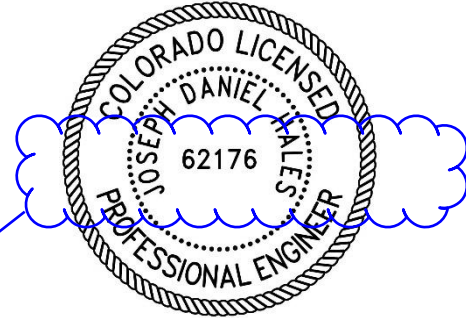
The attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the established criteria established by the city/county for drainage reports and said report is in conformity with the 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.

[Handwritten signature]

Daniel Hales
Registered Professional Engineer
State of Colorado No. 62176

7/19/24

Date



Please sign across seal with date

Developer's Statement:

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

HHI Corporation

Business Name

By: _____

Title: _____

Address: 875 Valley Street
Colorado Springs, CO 80915

please update County block and statement

EL PASO COUNTY ONLY:

Filed in accordance with Section 51.1 of the El Paso Land Development Code as amended.

City Engineer

Date

Conditions:

El Paso County:

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

County Engineer / ECM Administrator

Date

Conditions:

I. GENERAL LOCATION AND DRAINAGE DESIGN DESCRIPTION

A. Purpose

The purpose of this letter is to convey the drainage plan for the property site in accordance with the Drainage Criteria Manual County of El Paso, Colorado section 4.5.

B. Property Description

The proposed project site is located in Section 7, Township 14 South, Range 65 West of the 6th Principal Meridian, County of El Paso, State of Colorado. This site was previously named Lot 2, Kay Tee Subdivision Filing No. 2A. The site can be further described as being bounded by Valley Street to the west and neighboring commercial business on all other sides. The site has been developed with a two-story building that occupies the center of the property and is surrounded by an asphalt parking lot.

C. Existing Drainage Characteristics

The 2.3-acre site currently routes all water by curb and gutter directly to Valley Street and on to the south with no onsite water containment. The total area contains an estimated 0.7 acres of impervious area and 1.7 acres of natural area. Water flows from the east side of the property with an initial steep grade that quickly flattens and continues to drain to the southwest corner of the property.

natural landscape
pervious receiving areas
but not detention ponds

D. Proposed Drainage Characteristics

The proposed site will maintain the same general use as the existing site. Additional parking lot area will be added to the site and raise the impervious area from 0.7 acres to 1 acre. The drainage plan for this site will be significantly improved by adding three drainage basins for onsite water containment and the appropriate water routing for the new parking lot areas.

A 100-YR and 5-YR drainage analysis was done using the rational method. The analysis included differentiating C values associated with the different land types present on the site. The analysis appropriately sizes the three drainage basins. See Appendix A for the proposed drainage plan and Appendix B for the rational method calculations.

runoff

II. CONCLUSIONS

The proposed drainage plan for the site has no negative drainage effects within the property or the surrounding area. The methodologies and drainage criteria used in the overall drainage design meet the current City DCM requirements.

adjacent or
downstream
properties

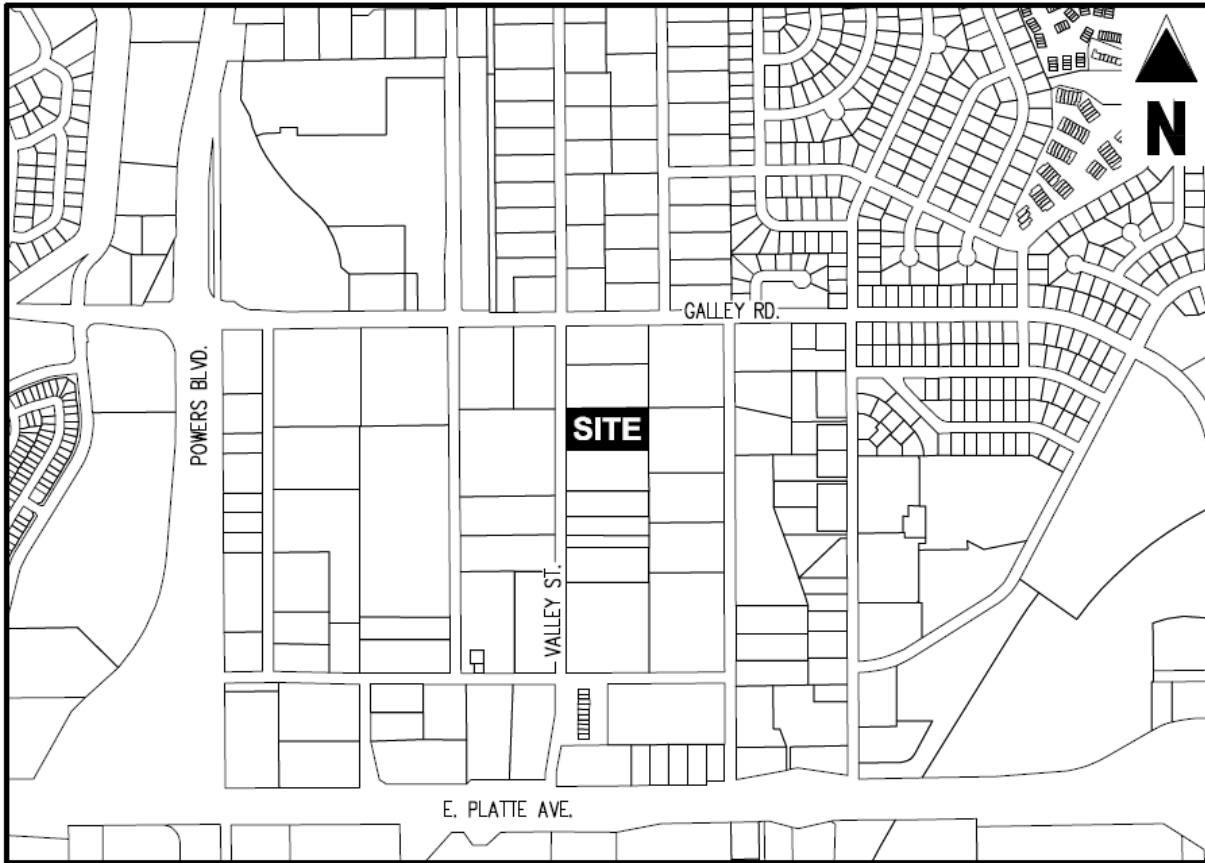
Please see drainage map
Please explain if new private storm drain lines are being routed from the building and into the street inlet.

FIGURES

- 1) VICINITY MAP FIGURE**
- 2) PROPOSED DRAINAGE PLAN**

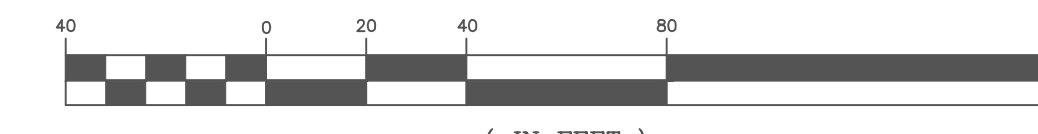
VICINITY MAP

1" = 1000'



LOT 2
KAY TEE SUBDIVISION NO. 2B
OWNER: BURLEY LLC.

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

SANITARY MH
RIM: 6245.76
N INV (12" PVC): 6232.75
S INV (12" PVC): 6232.72

INLET W/ MH
RIM: 6244.45
E INV (36" RCP): 6238.39
NW INV (36" RCP): 6238.30

INLET W/ MH
RIM: 6244.47
E INV (36" RCP): 6238.82
W INV (36" RCP): 6238.67

A work in the right permit will be required for connecting into the street inlet

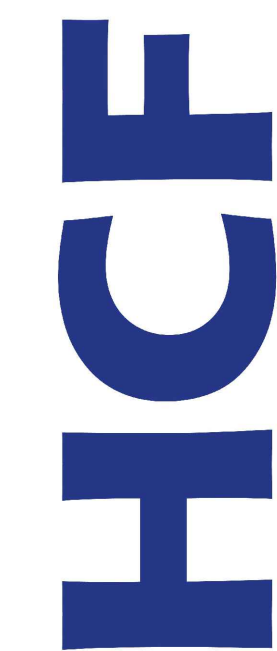
Please remove these 3 "retention pond" labels and call receiving pervious area only. These wont be retention or detention pond per stds

label as existing or proposed

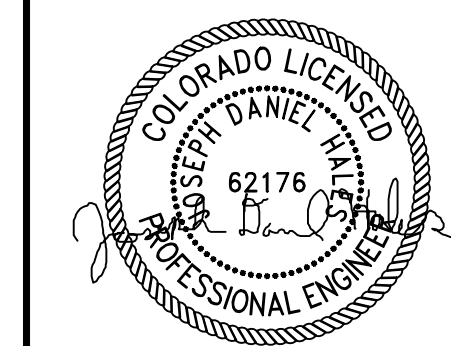
SANITARY MH
RIM: 6240.21
N INV (12" PVC): 6229.13
S INV (12" PVC): 6229.07

SIDE DATA:
2 ACCESSIBLE STALLS
32 PUBLIC STALL (INCLUDES ACCESSIBLE STALLS)
12 PRIVATE STALLS

8160 SOUTH HIGHLAND DRIVE
SUITE 106, SANDY UTAH 84093
385-557-1500



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PROJECT NAME:
RCH VALLEY
875 VALLEY STREET

CLIENT NAME:
HHI CORPORATION

DRAWING TITLE:
DRAINAGE PLAN

PLOT DATE:
10-20-2023

DRAWN BY / REVIEWED BY:
RJW/JDH

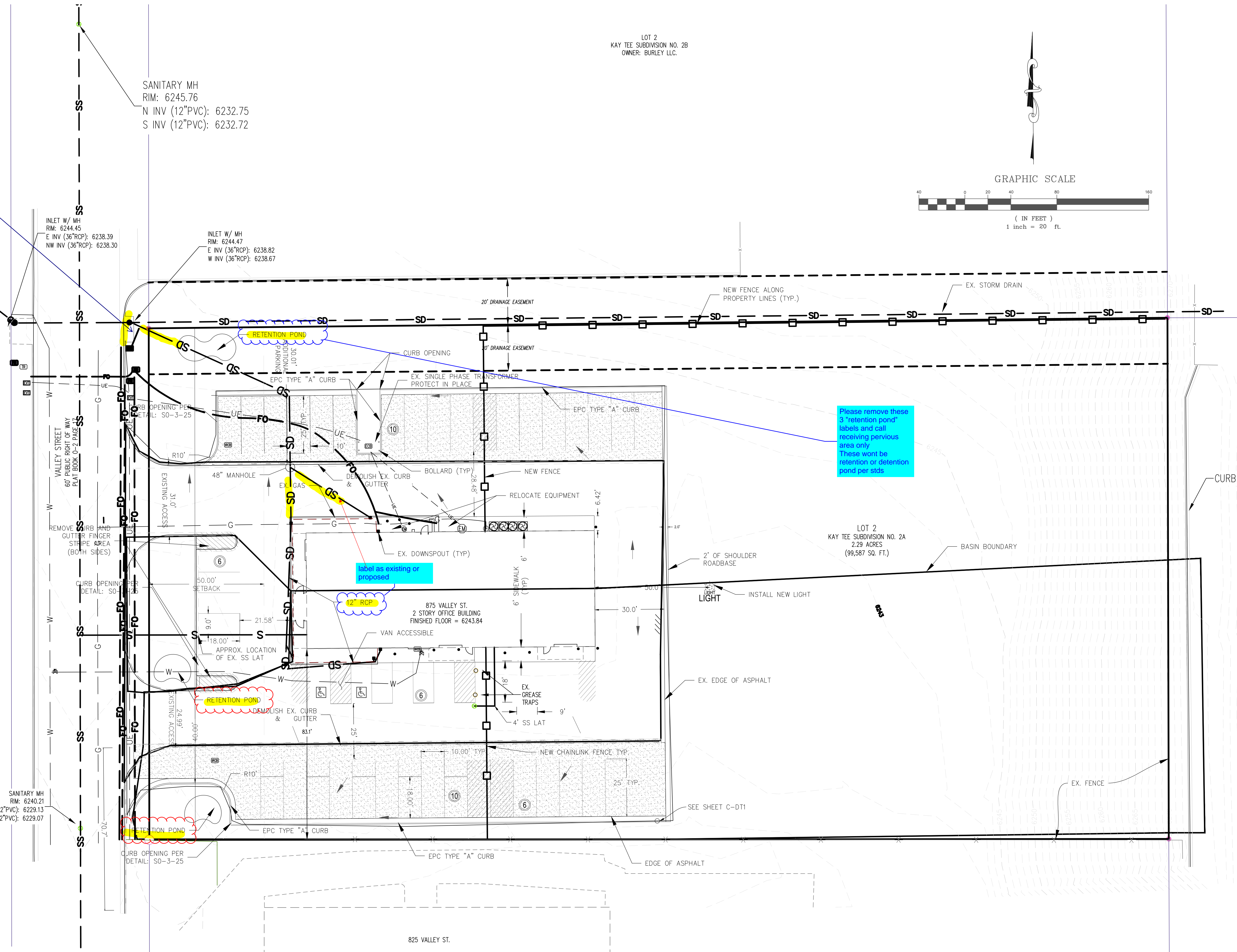
REVISIONS:

PRINTED FOR:
FOR USE

SHEET:
C1

LOT 2
KAY TEE SUBDIVISION NO. 2
OWNER: ARKANSAS BANDAG CORP.

LOT 2
KAY TEE SUBDIVISION NO. 2A
2.29 ACRES
(99,587 SQ. FT.)



APPENDIX B

HYDRAULIC CALCULATIONS:

1) RATIONAL CALCULATIONS – PROPOSED CONDITIONS

Project: RCH Valley (875 Valley Street)
 Calculated By: Sierra Stewart Hanson
 Checked By: Daniel Hales
 Date: 7/19/2024
 Revision: 0

100-Year Rational Drainage Analysis (Q = CIA)

Existing Conditions		
<u>Site Data</u>		
Total Area	2.3 acres	
Impervious Area	0.7 acres	
Natural Area	1.6 acres	
Intensity	1.7 in/hr	
Interval	2 hr	
Return Period	100 year	
C Impervious	0.95	29%
C Natural	0.55	71%
C Composite	0.7	
<u>Calculated Values</u>		
Q Composite	2.6 cfs	
Total Volume	18,721 ft ³	

Proposed Conditions		
<u>Site Data</u>		
Total Area	2.3 acres	
Impervious Area	1.0 acres	
Natural Area	1.3 acres	
Intensity	1.7 in/hr	
Interval	2 hr	
Return Period	100 year	
C Impervious	0.95	43%
C Natural	0.55	57%
C Composite	0.7	
<u>Calculated Values</u>		
Q Composite	2.8 cfs	
Total Volume	20,307 ft ³	

Existing to Proposed Comparison	
ΔQ	0.2 cfs
ΔVolume	1,585 ft ³

Required Retention	
North	745 ft ³
Middle	95 ft ³
South	745 ft ³

47%
6%
47%

5-Year Rational Drainage Analysis (Q = CIA)

Existing Conditions		
<u>Site Data</u>		
Total Area	2.3 acres	
Impervious Area	0.7 acres	
Natural Area	1.6 acres	
Intensity	0.79 in/hr	
Interval	2 hr	
Return Period	5 years	
C Impervious	0.9	
C Natural	0.3	
C Composite	0.5	
<u>Calculated Values</u>		
Q Composite	0.9 cfs	
Total Volume	6,182 ft ³	

Proposed Conditions		
<u>Site Data</u>		
Total Area	2.3 acres	
Impervious Area	1.0 acres	
Natural Area	1.3 acres	
Intensity	0.79 in/hr	
Interval	2 hr	
Return Period	5 years	
C Impervious	0.9	
C Natural	0.3	
C Composite	0.6	
<u>Calculated Values</u>		
Q Composite	1.0 cfs	
Total Volume	7,287 ft ³	

Existing to Proposed Comparison	
ΔQ	0.2 cfs
ΔVolume	1,105 ft ³

Required Retention	
North	718 ft ³
Middle	55 ft ³
South	332 ft ³

65%
5%
30%

Intensity is based on NOAA Atlas 14
 C values taken from:
 - DRAINAGE CRITERIA MANUAL VOLUME 1 OF EL PASO COUNTY
 SECTION II HYDROLOGY
 Table 5-1 Parks and Cemeteries (natural), Paved areas (Impervious) HSG A/B Soil