



FLOOD ZONE INFORMATION

THE SITE IS LOCATED WITHIN FEMA FLOODZONE
SHADED X AS SHOWN ON THE FEMA FLOOD
INSURANCE RATE MAPS #04013C2260L &
#04013C2280L DATED OCTOBER 16, 2013.

100 YR RUNOFF & RETENTION CALCULATIONS

VOLUME REQUIRED:
 $V_{REQ} = C * A * P / 12$

WHERE: V_{REQ} = RUNOFF VOLUME (CFT)
 C = COMPOSITE RUNOFF COEFFICIENT (0.80-0.85)
 P = 100-YR, 2-HR RAINFALL DEPTH (IN) = 2.16-IN
 A = AREA (AC)

Preliminary Retention Calculations				
Project:	Pioneer Crossing - BB Living			
Storm Event:	100-yr 2-hr			
Prepared by:	Caitlin Steele			
				Date: 4/13/2022
V = C * A * P / 12				
Where:				
V = Runoff Volume				
C = Runoff Coefficient				
A = Drainage Area				
P = 2.03 in				
Surface Retention Basin Volume Calculations				
Basin ID	Location	Area (ft ²)	Accumulated Volume (ft ³)	Relative Proportion (V _i / V _T)
B1	1	1,085	0.823	
	2	1,070	0.810	
	3	1,070	0.810	20.227
B2	1	1,070	0.810	
	2	1,070	0.810	
	3	1,070	0.810	16.658
B3	1	1,070	0.810	
	2	1,070	0.810	
	3	1,070	0.810	4.018
B4	1	1,070	0.810	
	2	1,070	0.810	
	3	1,070	0.810	3.659
B5	1	1,070	0.810	
	2	1,070	0.810	
	3	1,070	0.810	28.411
B6	1	1,070	0.810	
	2	1,070	0.810	
	3	1,070	0.810	10.327
B7A	1	1,070	0.810	
	2	1,070	0.810	
	3	1,070	0.810	1.423
B7B	1	1,070	0.810	
	2	1,070	0.810	
	3	1,070	0.810	2.824
B8	1	1,070	0.810	
	2	1,070	0.810	
	3	1,070	0.810	9.432

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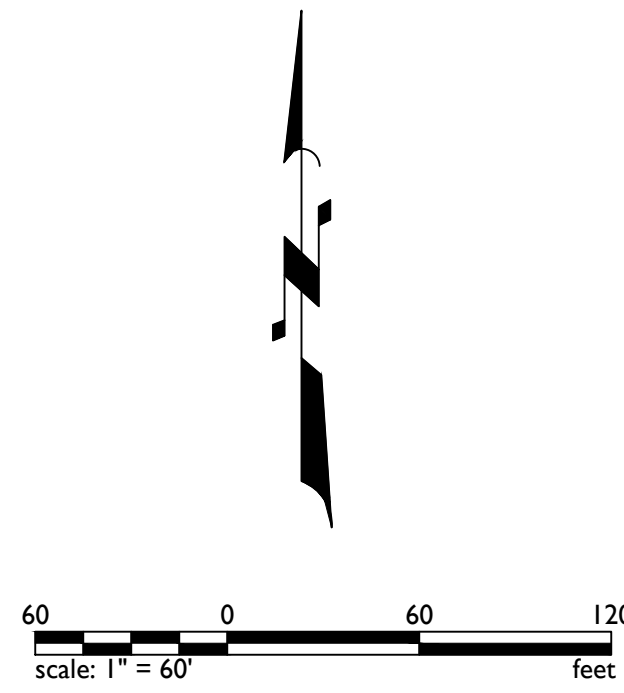
Preliminary Retention Calculations									
Project:		Pioneer Crossing - BB Living							
Storm Event:		100-yr 2-hr							
Prepared by:		Caitlin Steele							
Date:		4/13/2022							
Underground Retention Volume Calculations									
Basin ID	Retention at Pipe ID	Length of Pipe (ft)	Volume (ft ³)	Volume Percent (ft ³)	Volume Percent (ft ³)	Volume Percent (ft ³)	Retention Basin Depth (ft)	Retention Basin Area (ft ²)	
UG1	10	100	25.131	0.81					
UG2	10	100	25.131	0.81					
Volume Required and Summary									
Basin ID	Sub-Basin ID	Sub-Basin Area (ft ²)	Contributing Area (ft ²)	C	Volume (ft ³)	Volume Percent (ft ³)	Retention Basin Depth (ft)	Retention Basin Area (ft ²)	
B1	A2	Parking lot, Basin and Landscape, Buildings	91,882	0.80	13,491				
		Overlapped from B1							
		Total	91,882	0.80	13,491	20.227	0.80	9,758	
B2	A1	Parking lot, Basin and Landscape, Buildings	117,877	0.80	17,209				
		Overlapped from B1							
		Total	117,877	0.80	17,209	16.665	0.80	1,378	
B3	A3	Parking lot, Basin and Landscape, Buildings	49,254	0.80	7,077				
		Overlapped from B1							
		Total	49,254	0.80	7,077	4.018	0.80	0	
B4	A4	Parking lot, Basin and Landscape, Buildings	17,799	0.80	2,611				
		Overlapped from B1							
		Total	17,799	0.80	2,611	1.433	0.80	0	
B5	A5	Parking lot, Basin and Landscape, Buildings	146,273	0.80	21,403				
		UG1							
		Total	146,273	0.80	21,403	20.227	0.80	0	
B6	A6	Parking lot, Basin and Landscape, Buildings	61,885	0.80	9,047				
		UG1							
		Total	61,885	0.80	9,047	10.327	0.80	0	
B7	A7	Parking lot, Basin and Landscape, Buildings	28,855	0.80	4,253				
		UG1							
		Total	28,855	0.80	4,253	4.029	0.80	0	

Preliminary Retention Calculations									
Project:		Pioneer Crossing - BB Living							
Storm Event:		100-yr 2-hr							
Prepared by:		Caitlin Steele						Date: 4/13/2022	
BB	A0	Parking lot, Basin and Landscape, Buildings	10,800	0.80	3.186				
		Overlapped from B1			3.186	0.400	0.00	0.15	
		Total	10,800	0.80	3.186				
UG1	A10	Parking lot, Basin and Landscape, Buildings	133,746	0.80	19.616				
		Overlapped from B1			12,394				
		Total	133,746	0.80	25,010	18.133	0.00	129	
UG2	A11	Parking lot, Basin and Landscape, Buildings	167,113	0.80	24.510				
		Overlapped from B1			3,063				
		Overlapped from B4			777				
			Overlapped from B5		2,144				
			Overlapped from B6		1,206				
			Total	167,113	0.80	31,693	15.343	0.00	1,370

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LEGEND

- A#** DRAINAGE AREA IDENTIFICATION
- B#** BASIN IDENTIFICATION
- DRAINAGE AREA BOUNDARY
- DRAINAGE FLOW
- PROPOSED STORM DRAIN
- MAG-534 SINGLE CATCH BASIN

[illegible]