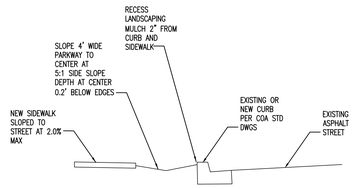
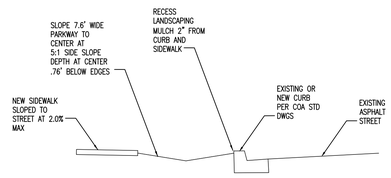


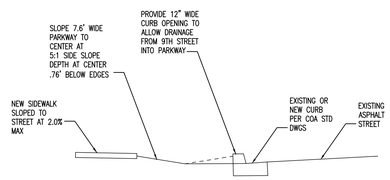
TYP. SECTION THROUGH SILVER PARKWAY

NOT TO SCALE



TYP. SECTION THROUGH 9TH STREET PARKWAY

NOT TO SCALE



TYP. SECTION THROUGH 9TH STREET PARKWAY

NOT TO SCALE

Drainage Summary

Project: Sterling Downtown
Project Number: 2516
Date: 11/11/16
By: Dave A.

Site Location

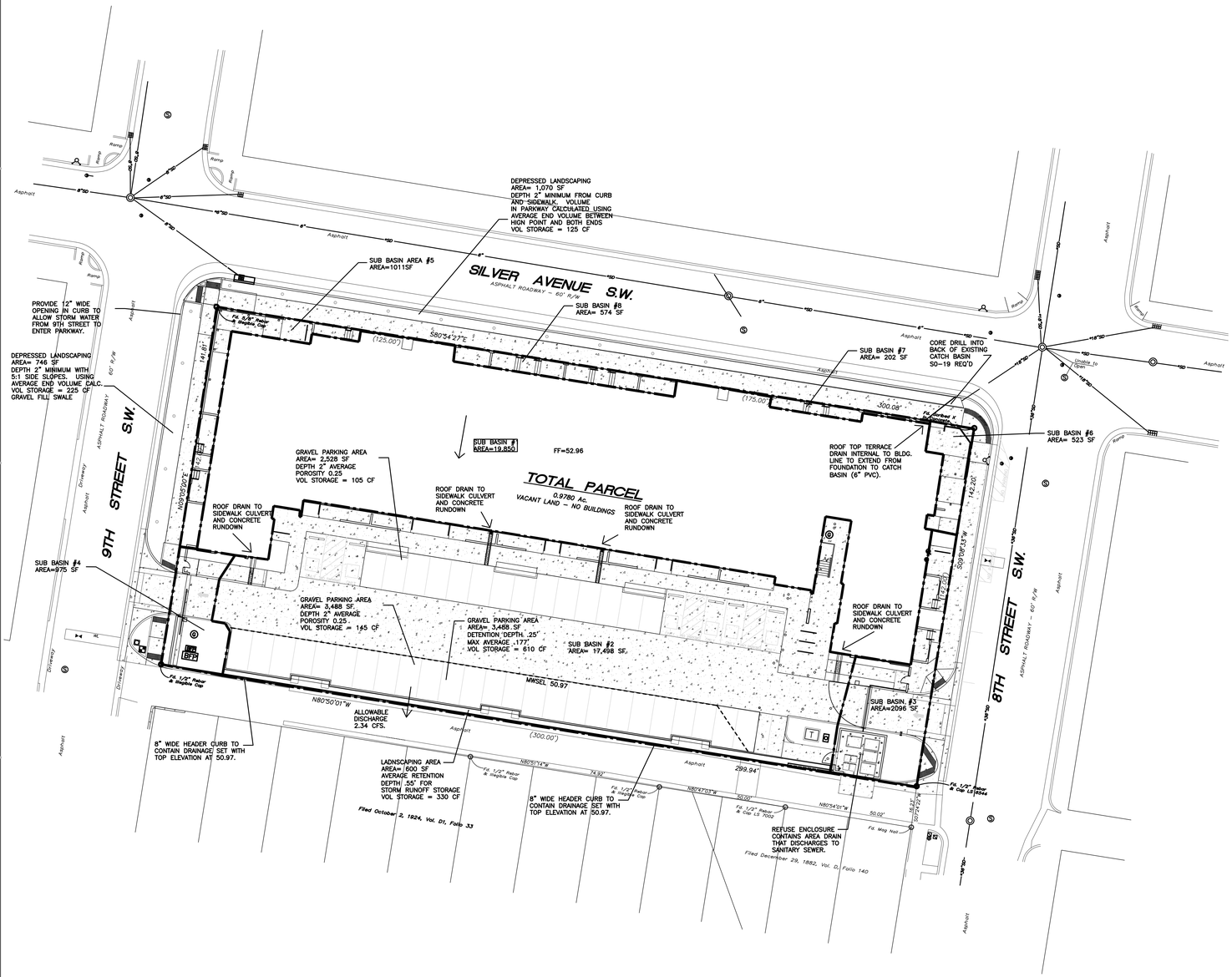
Precipitation Zone 2 Per Table A-1 COA DPM Section 22.2

Existing summary

Basin Name	Ex 1
Area (sf)	41953
Area (acres)	0.96
%A Land treatment	0
%B Land treatment	15
%C Land treatment	0
%D Land treatment	85
Soil Treatment (acres)	
Area "A"	0.00
Area "B"	0.15
Area "C"	0.00
Area "D"	0.83
Excess Runoff (acre-feet)	
100yr 6hr	0.1562 acre-ft.
10yr 6hr	0.0961 acre-ft.
2yr 6hr	0.0549 acre-ft.
100yr 24hr	0.1839 acre-ft.
Peak Discharge (cfs)	
100 yr	4.24 cfs
10yr	2.75 cfs
2yr	1.56 cfs

Proposed summary

Basin Name	Pro 1	Pro 2	Pro 3	Pro 4	Pro 5	Pro 6	Pro 7	Pro 8	
Area (sf)	19850	17,498	2096	975	1011	523	202	574	
Area (acres)	0.456	0.402	0.048	0.022	0.023	0.012	0.005	0.013	
%A Land treatment	0			0					
%B Land treatment	0	10	20	45	15	0	0	0	
%C Land treatment	0	45							
%D Land treatment	100	45	80	55	85	100	100	100	
Soil Treatment (acres)									
Area "A"	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Area "B"	0.00	0.04	0.01	0.01	0.00	0.00	0.00	0.00	
Area "C"	0.00	0.18	0.04	0.00	0.00	0.00	0.00	0.00	
Area "D"	0.46	0.18	0.04	0.01	0.02	0.01	0.00	0.01	
Excess Runoff (acre-feet)									
100yr 6hr	0.0805	0.0516	0.0074	0.0028	0.0037	0.0021	0.0008	0.0023	acre-ft.
10yr 6hr	0.0506	0.0290	0.0045	0.0016	0.0023	0.0013	0.0005	0.0015	acre-ft.
2yr 6hr	0.0300	0.0142	0.0026	0.0008	0.0013	0.0008	0.0003	0.0009	acre-ft.
100yr 24hr	0.0987	0.0576	0.0067	0.0032	0.0044	0.0025	0.0010	0.0026	acre-ft.
Peak Discharge (cfs)									
100 yr	2.14	1.51	0.20	0.08	0.10	0.06	0.02	0.06	cfs
10yr	1.43	0.91	0.13	0.05	0.07	0.04	0.01	0.04	cfs
2yr	0.85	0.45	0.07	0.02	0.04	0.02	0.01	0.02	cfs
First Flush Ponding Voulme (cf)	560.4	223.1	47.5	15.2	24.3	14.8	7.4	21.0	
First Flush Acre Feet	0.0129	0.0051	0.0011	0.0003	0.0006	0.0003	0.0002	0.0005	
Total First Flush Required	915.8 cf								



NORTH

A4 DRAINAGE PLAN

1" = 20'-0"

0 10' 20' 40'

NORTH

SITE INFORMATION

LEGAL DESCRIPTION
060N M T ADD LOTS 1 AND 2,18NMT3 X 4 BLK 60 FRACTIONAL OF LOT 3 X 4 BLK 18 RAYNOLDS ADDITION, LOTS 5 & 6 BLK 60 NEW MEXICO TOWN CO ORIGINAL TOWNSITE & LOTS 5 & 6 BLK 18, 018 RAYNOLDS LTS 7XBXPORT L77 BLK 60 NMT ADDITION, 009 018 RAYNOLDS X LOT 10, 011 018 RAYNOLDS N PORT L11 L12, 018 RAYNOLDS ADDITION SO PORT OF LOTS 11X12

GROSS BUILDING AREA (GBA):
BUILDING (GROUND FLOOR) = 20,413 SF
TOTAL (ALL FLOORS)= 80,435 SF

TOTAL SITE AREA: 42,613 SF = .98 AC

DRAINAGE MANAGEMENT

The project site is located just west of downtown Albuquerque between 8th and 9th Streets SW and between Silver Avenue SW and the alley tot eh south. The site is currently utilized as a parking lot. A small portion of the site (approx 15%) is exposed soil with the remainder being asphalt pavement.

The site is approximately 0.98 acres and generally drains from north east to the south west. Currently no formal storm management facilities exist on the site. The excess runoff flows directly out into the surrounding streets and alley to the south.

This area has a restricted runoff rate to reduce drainage problems in the surround neighborhood. The allowable runoff is 2.75 cfs/acre. The 0.98 acre site is allowed a peak runoff rate of 2.70 cfs.

The sub-basins for defining runoff rates have been established similar to the previously approved Conceptual Drainage Plans prepared in 2013. The building and a majority of the parking lot will drain toward the southern property line along the public alley. These two basins generate a peak runoff of 3.65 cfs. Runoff from the building will be directed toward two gravel surfaced parking areas. The parking area closest to the building will have a storage volume of 105 cubic feet of water within the gravel surface. This was computed bases on the area of the parking lot, average depth of water that will be contained by the concrete driveway up the center and a porosity of 0.25. The second gravel parking area is located south of the center driveway and has a capacity of 145 cubic feet of water without any water above the gravel surface itself. Once the gravel parking surface material is filled, the water will back up within the parking areas approximately 2 additional inches during the 100 year storm event. This will provide 583 cubic feet of water storage above the parking lot surface.

Sub-basins 3 through 8 will generate a combined peak runoff rate of 0.52 cfs. Basins 3, 4, 6 and 7 will flow directly into the public street and create 0.36 cfs. The remaining basins 5, and 8 (0.16 cfs) will flow into a depressed landscaping area between the sidewalk and curb. These depressed areas have a available volume of 337 cubic feet and would fully contain any runoff from these basins into the public street. This volume will be used in conjunction with the First Flush volumes.

The allowable discharge for the site is limited to 2.70 cfs total. After removing the 0.36 cfs identified above, the allowable discharge from the pond is 2.70 - 0.36 = 2.34 cfs. This discharge rate will be controlled by a restrictor plate at a small concrete wall (tall header curb) along the north edge of the alley.

There is a narrow landscaping strip between the back of curb and the alley. This landscaping strip will be surrounded by a header curb to harvest the first flush water when available from storm events. The area of this landscaping strip is 600 sf and will hold an average of 0.52" of water from the surrounding alley and parking. This will provide 300 cubic feet of retention and will reduce excess runoff.

The total peak runoff for this site is 4.17 cfs and generates a excess runoff volume of 5755 cubic feet 0.1321 ac-ft. Once the 0.36 that drains directly into the street is removed the peak runoff entering the gravel parking areas and eventually the landscaping strip is 3.65 cfs. Once the runoff is routed through the parking area and allowed to be released at 2.34 cfs, a detention volume of 1540 cubic feet. First we need to remove the First Flush Volume of 930 cubic feet throughout the site. This leaves 610 cf of additional runoff that needs to be detained In the parking lot area. With a surface area of 218'x16' the ponding water would be an average of 2" deep (max depth 3"). Part of this water would be contained within the gravel section as described above, but surface ponding would be required during the 100 year 6 hour storm event,.

The MWSEL will be 50.94 (FL at curb is 50.69 plus 2" of average depth (centroid of triangular cross section is ⅓ from long side, therefore 1" down from top water surface) for ponding water in parking area) and will provide the required 1540 cubic feet total (930 First Flush retention and 610 cubic feet detention in parking area) of storm water management volume available on site.

The header curb between the landscaping and alley will be used was the final pond edge. With the water held in first Flush ponds and the water held in the parking/landsscaping strip the final discharge into the alley was computed to be 1.90 cfs. Water will overtop the header curb into the alley over the full length of the curb. The alley is fully paved and will then drain toward 8th or 9th Streets.

In summary, the first flush and landscaping strip along the southern property line will provide the required storage to reduce the peak runoff rate to below the 2.75 cfs per acre.

VICINITY MAP

ARCHITECTURE / DESIGN / INSPIRATION

DEKKER PERICH SABATINI

7601 JEFFERSON NE, SUITE 100
ALBUQUERQUE, NM 87109

505.761.9700 / DPSDESIGN.ORG

ARCHITECT

ENGINEER

DAVID A. AUBE
NEW MEXICO
14221
REGISTERED PROFESSIONAL ENGINEER
2-21-17

PROJECT

STERLING | DOWNTOWN

800 SILVER AVENUE SW
ALBUQUERQUE, NM

100% CONSTRUCTION DOCUMENTS

REVISIONS

3	Addendum #3 2-20-17

DRAWN BY	DAA
REVIEWED BY	DAA
DATE	November 18, 2016
PROJECT NO.	16-0078

DRAWING NAME

DRAINAGE PLAN

SHEET NO.

CD1

OF