EPC STORMWATER REVIEW COMMENTS IN ORANGE BOXES WITH BLACK TEXT

This will be a final drainage report

PRELIMINARY DRAINAGE REPORT
for
LDS CHURCH – PARKING ADDITION

950 Hwy 150
Monument, Colorado

May 2024

PCD File No.:PPR24xx

PPR2419

Prepared for:

LDS Church – Real Estate Division
50 E North Temple #509-8866
Salt Lake City, UT 84150
Contact: Scott Hollister

Prepared by:

Drexel, Barrell & Co.
101 S. Sahwatch St. #100
Colorado Springs, CO 80903
Contact: Tim McConnell, P.E.
(719) 260-0887

21841-00CSCV

TABLE OF CONTENTS

APPENDICES

PRELIMINARY DRAINAGE REPORT

for

LDS CHURCH – PARKING ADDITION

Monument, Colorado

1.0 CERTIFICATION STATEMENTS

Stamps and signatures required

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 El Paso 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 omission on my part in preparing this report.

Tim D. McConnell, P.E. Date
Colorado P.E. License No. 33797
For and on Behalf of Drexel, Barrell & Co.

DEVELOPER'S STATEMENT

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

Business Name: LDS Church – Real Estate Division

By:

Scott Hollister Date

Title:

Address: 50 E. North Temple #509-8866
Salt Lake City, UT 84150

EL PASO COUNTY

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

For the County Engineer Date
CONDITIONS

Please update to County Engineer Joshua Palmer

2.0 PURPOSE

This report is prepared by Drexel, Barrel & Co in support of the LDS Church – Parking Addition project. The purpose of this report is to identify onsite and offsite drainage patterns, storm sewer, inlet locations, and areas tributary to the site, and to safely route developed storm water runoff to adequate outfall facilities.

3.0 GENERAL SITE DESCRIPTION

Location

The LDS Church – Parking Addition project is located in Monument, El Paso County, Colorado, within the SW 1/4 of the NW 1/4 of Section 13, Township 11 S, Range 67 W of the 6th P.M. The site is bounded on the west by the existing LDS church site, to the north and east by undeveloped land owned by El Paso County and to the south by Hwy 105.

Site Conditions

The site is approximately 1 acre in size and is currently undeveloped and is covered with native grass and vegetation. The site generally slopes from east to west. It is proposed to be developed as an additional parking lot for the LDS church to the west of this project site.

But the site is less than 1 acre of disturbance per the GEC Plan. Clarify the area.

Soils

According to the Soil Survey of El Paso County Area, Colorado, prepared by the U.S. Department of Agriculture Soil Conservation Service, the site is partially underlain by the Alamosa loam (Soil No. 1), and by the Tomah-Crowfoot loamy sands (Soil No. 92). The soils are type 'D' and type 'B' hydrologic soil groups, respectively. See appendix for map.

Climate

This area of El Paso County can be described as the foothills, with total precipitation amounts typical of a semi-arid region. Winters are generally cold and dry, and summers relatively warm and dry. Precipitation ranges from 12 to 14 inches per year, with the majority of this moisture occurring in the spring and summer in the form of rainfall. Thunderstorms are common during the summer months.

Floodplain Statement

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels 08041C0276G, 08041C0278G and 08041C0279G (December 7, 2018) no portion of the site lies within any flood zones.

4.0 DRAINAGE CRITERIA

The drainage analysis has been prepared in accordance with the current El Paso County Drainage Criteria Manual. Calculations were performed to determine runoff quantities during the 5 year and 100 year frequency storms for historic and developed conditions using the Rational Method as required for basins containing less than 100 acres.

5.0 EXISTING CONDITION

The existing site is undeveloped and covered with native vegetation that consists mostly of grasses as well as some shrubs. The site generally follows a 1-42% grade from east to west. The flows that leave the site to the north and are carried to the Dirty Woman Creek. The flows that leave the site to the south are carried to Hwy 105 where they then continue to the west.

The Rational Method was used to determine runoff quantities for the 5- and 100-year storm events. See below for a summary runoff table. See Appendix for Historic Condition Drainage Map.

Rational Method Runoff Summary

BASIN	DP	AREA (AC)	% IMPERV	Q5 (cfs)	Q100 (cfs)
A	1	0.62	0%	0.6	3.4
B	2	0.52	4%	0.2	1.2

Please detail the routing and final outfall

6.0 DEVELOPED CONDITION

State which basins drain to the inlet.

The proposed site consists of an asphalt parking lot with 2 access points off of the existing parking lot. Flows from the parking lot are captured by a proposed sump 5' Type R inlet in the southwest corner of the parking lot, where they are then carried to the at-grade 5' Type R inlet along Hwy 105. The portion of the site north of the proposed parking lot remains mostly undisturbed and will continue to flow north to Dirty Woman Creek.

The Rational Method was used to determine runoff quantities for the 5- and 100-year storm recurrence intervals. UD-Inlet and HydraFlow were also used to identify storm system sizing (see appendix for calculations), and below for a summary runoff table.

Explain final outfall and if the outfall pond etc has capacity and if functioning properly.

Disturbed area does not determine detention. Increased flows from historic drive requirement. Please correct

Rational Method Runoff Summary

BASIN	DP	AREA (AC)	% IMPERV	Q5 (cfs)	Q100 (cfs)
A	1	0.52	85%	2.1	3.9
B	2	0.17	0%	0.1	0.5
C	3	0.45	0%	0.3	1.7

state this specific area above.

7.0 PROPOSED DETENTION/WATER QUALITY FACILITIES

The total disturbed area of the site is 0.58 acres, therefore no detention facility is required.

8.0 FOUR-STEP PROCESS

please correct and update section

This project conforms to the El Step Process. The process for this site focuses on reducing runoff volumes, treating the water quality capture volume (WQCV), stabilizing drainage ways, and implementing long-term source controls.

1. ***Employ Runoff Reduction Practices*:** Proposed impervious areas on this site (roofs, asphalt/sidewalk) will sheet flow across landscaped area, gravel and natural grasses in an effort to slow runoff and increase time of concentration prior to entering Dirty Woman Creek. This will minimize directly connected impervious areas within the project site.

2. ***Implement BMP's that provide a Water Quality Capture Volume with slow release*:** Runoff from this project will be treated through capture and slow release of the WQCV in the proposed water quality pond designed per current City of Colorado Springs/El Paso County drainage criteria. Per Resolution No. 16-426, all lots within Claremont Business Park require a permanent water quality pond.

3. ***Stabilize Drainage Ways*:** Dirty Woman Creek will not require any stabilization to occur due to the runoff from this site. The area of the project site that was previously running into the creek in the existing condition, but are now proposed to be developed are being captured in the proposed storm system and connecting to the storm system in Hwy 105 and carried west. The proposed flows into Dirty Woman Creek are now less than in the existing condition. The creek is in acceptable condition and is able to convey the flows without impact to downstream facilities.

4. ***Implement Site Specific and Other Source Control BMP's*:** Standard commercial source control will be utilized in order to minimize potential pollutants entering the creek. Example source control measures consist of: indoor storage of chemicals; and trash receptacles in common areas.

Note: the project site is less than 1 acre so WQ treatment is not required.

Please update. Incorrect information and location.

The Hwy 105 pond was not sized to treat the expanded/increased impervious area associated with these improvements. It needs to be demonstrated that the proposed improvements are not increasing the flows to this storm drain system as well as the creek.

9.0 DRAINAGE/BRIDGE FEES

The project lies within the Dirty Woman Drainage Basin, and has been previously platted, therefore no drainage and bridge fees are due.

10.0 CONCLUSIONS

The LDS Church – Parking Addition project has been designed in accordance with El Paso County criteria. The flows leaving this site to the north and into Dirty Woman Creek decrease by 0.3 cfs in the 5-yr storm event and by 1.7 cfs in the 100-yr storm event. The flows leaving the site to the south towards Hwy 105 increase by 2.0 cfs in the 5-yr storm event and by 1.0 cfs in the 100-yr storm event. This development will not negatively impact the downstream facilities.

It needs to be demonstrated that the Hwy 105 storm drain system and pond can accept this increase.

How is this less then the 5yr? Please explain the total increase flow from the site overall.

11.0 REFERENCES

The sources of information used in the development of thi

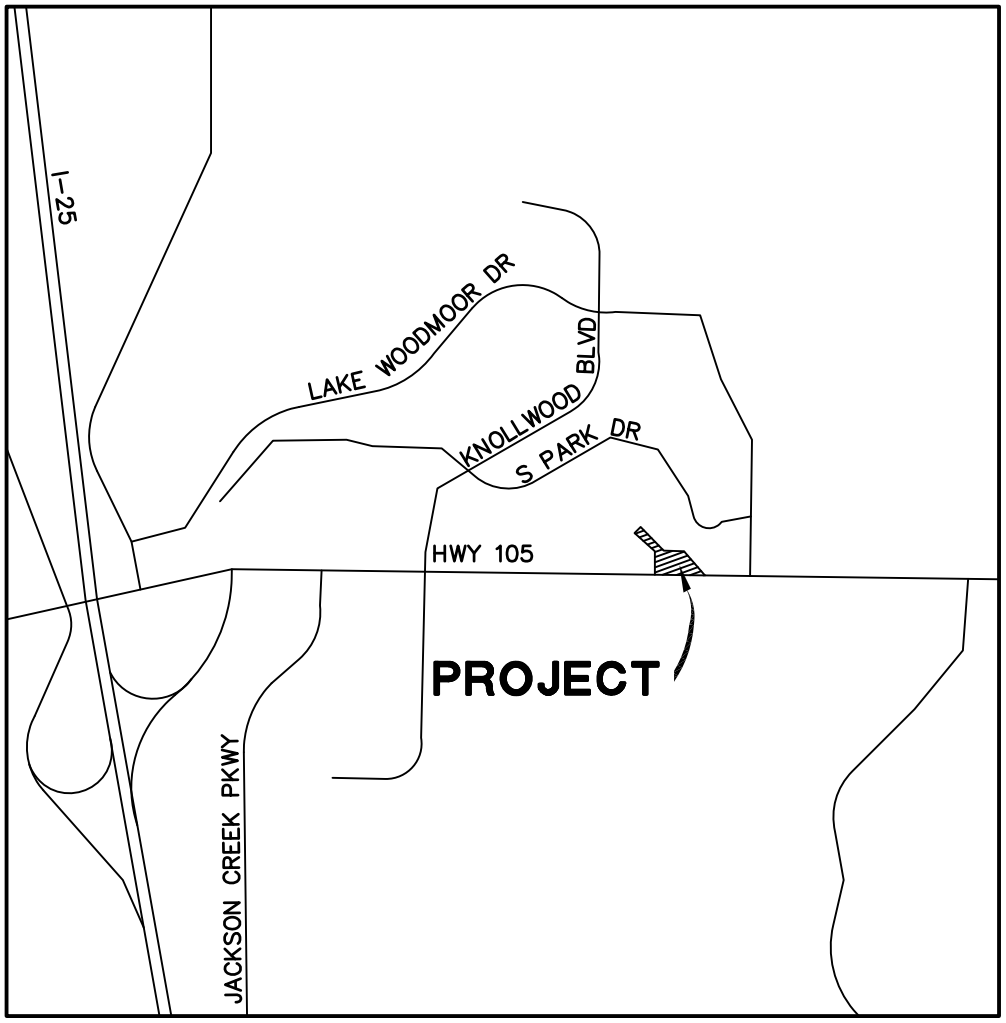
1. El Paso County Drainage Criteria Manual, October 2018.
2. Urban Storm Drainage Criteria Manuals, Urban Drainage and Flood Control D June 2001, Revised April 2008.
3. Natural Resources Conservation Service (NRCS) Web Soil Survey
4. Federal Emergency Management Agency, Flood Insurance Rate Map, El County, Colorado and Unincorporated Areas, Map Number 8041CO575F, Eff Date March 17, 1997.
5. Final Drainage Report Highway 105 Project A, by HDR, April 7, 2023

Flows from the site do exceed historic Discuss capablity of the downstream that will receive increased flow and show how its is adequate.

Add EPC Engineering Criteria Manual (ECM)

provide ENGR estimate cost of drainage infrastructure to be installed and explain what work the developer is doing

Discussion of maintenance access and aspects of the design. Explain who will own maintain the 18in pipe from the new parking lot into the ROW.



Vicinity Map
Not to scale

MONUMENT LDS CHURCH
VICINITY MAP

Drexel, Barrell & Co.
Engineers • Surveyors

DATE: 5-9-2024
JOB NO: 20841-00CSCV
DWG. NO. VMAP
SHEET 1 OF 1

Map Scale: 1:1,070 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 21, Aug 24, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 9, 2021—Jun 12, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Alamosa loam, 1 to 3 percent slopes	D	1.1	73.3%
92	Tomah-Crowfoot loamy sands, 3 to 8 percent slopes	B	0.4	26.7%
Totals for Area of Interest			**1.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

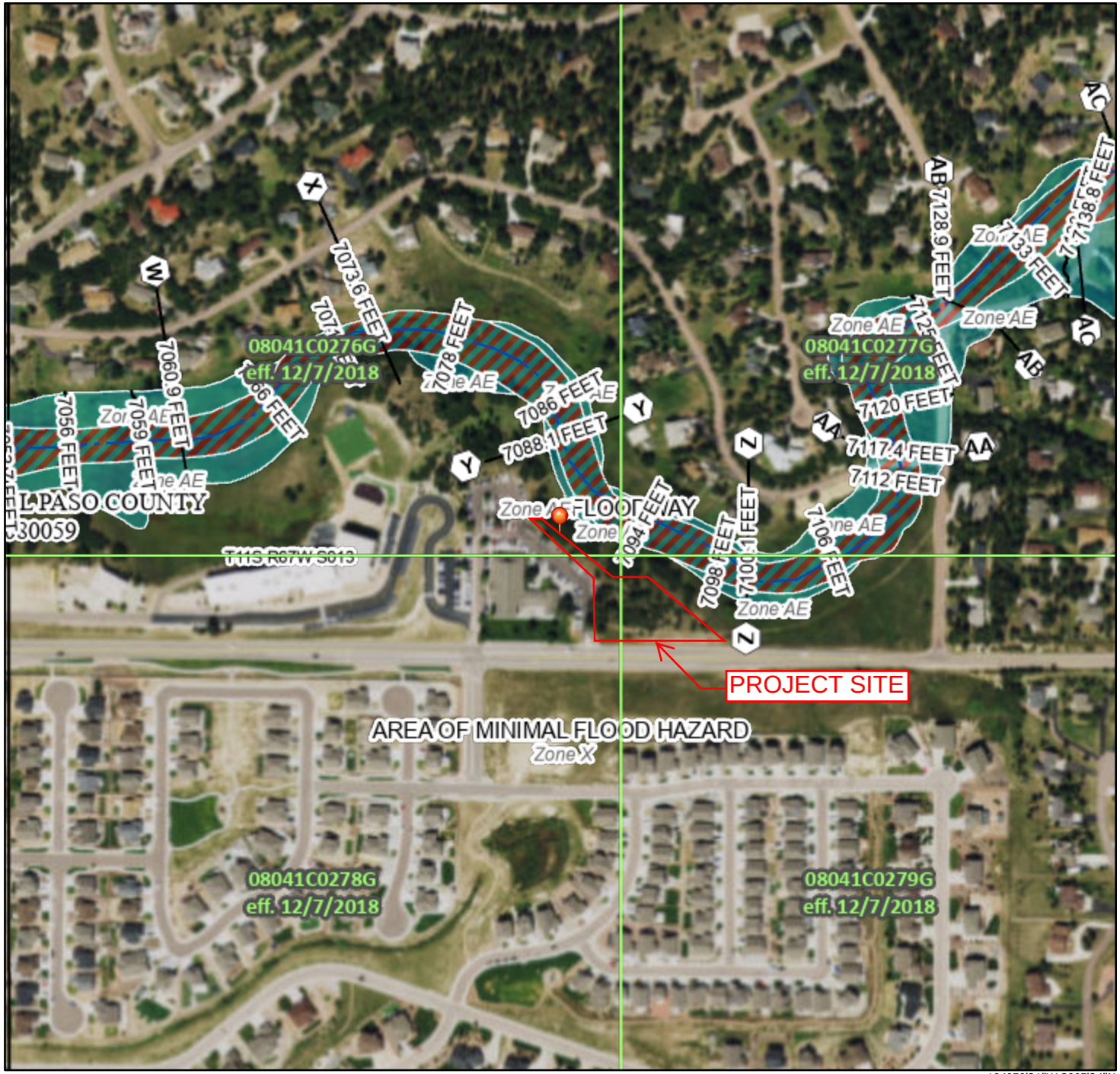
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

National Flood Hazard Layer FIRMette

FEMA

104°50'58"W 39°5'52"N



104°50'21"W 39°5'24"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/18/2024 at 1:06 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

PROJECT INFORMATION

PROJECT:	LDS parking lot
PROJECT NO:	21841-00
DESIGN BY:	SBN
REV. BY:	TDM
AGENCY:	El Paso County
REPORT TYPE:	Final
DATE:	5/9/2024
Soil Type: B & D	

Drexel, Barrell & Co.

	C5* (Type B)	C5* (Type D)	C100* (Type B)	C100* (Type D)	% IMPERV
Pasture/Meadow	0.08	0.15	0.35	0.50	0
Asphalt/Sidewalk	0.90	0.90	0.96	0.96	100

*C-Values and Basin Imperviousness based on Table 6-6, City of Colorado Springs "Drainage Criteria Manual"

EXISTING

SUB-BASIN	SURFACE DESIGNATION	AREA	COMPOSITE RUNOFF COEFFICIENTS				% IMPERV
		ACRE	C5 (Type B)	C5 (Type D)	C100* (Type B)	C100* (Type D)	
A	Pasture/Meadow	0.00	0.08		0.35		0
	Pasture/Meadow	0.62		0.15		0.50	0
	Asphalt/Sidewalk	0.00	0.90		0.96		100
	Asphalt/Sidewalk	0.00		0.90		0.96	100
	WEIGHTED AVERAGE			0.15		0.50	0%
TOTAL A		0.62					
B	Pasture/Meadow	0.28	0.08		0.35		0
	Pasture/Meadow	0.22		0.15		0.50	0
	Asphalt/Sidewalk	0.02	0.90		0.96		100
	Asphalt/Sidewalk	0.00		0.90		0.96	100
	WEIGHTED AVERAGE			0.11		0.40	4%
TOTAL B		0.52					
TOTAL SITE		**1.14**		**0.13**		**0.45**	**1.8%**

PROJECT INFORMATION

PROJECT: LDS parking lot
PROJECT NO: 21841-00
DESIGN BY: SBN
REV. BY: TDM
AGENCY: El Paso County
REPORT TYPE: Final
DATE: 5/9/2024

RATIONAL METHOD CALCULATIONS FOR STORM WATER RUNOFF

EXISTING TIME OF CONCENTRATION STANDARD FORM SF-2

SUB-BASIN DATA					INITIAL/OVERLAND TIME (t_i)				TRAVEL TIME (t_t)					TIME OF CONC. t_c		FINAL t_c
BASIN	DESIGN PT:	C_5	C_{100}	AREA	LENGTH	HT	SLOPE	t_i	LENGTH	HT	SLOPE	VEL.	t_t	COMP.	MINIMUM	
				Ac	Ft	FT	%	Min	Ft	FT	%	FPS	Min	t_c	t_c	**Min**
A	1	0.15	0.50	0.62	145	13	9.0	10.3						10.3	5	**10.3**
B	2	0.11	0.40	0.52	155	6	3.9	14.7						14.7	5	**14.7**

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Drexel, Barrell & Co.

RATIONAL METHOD CALCULATIONS FOR STORM WATER RUNOFF

EXISTING **RUNOFF** **5 YR STORM** **P1=** **1.50**

			DIRECT RUNOFF				
BASIN (S)	**DESIGN POINT**	**AREA (AC)**	**RUNOFF COEFF**	**t_c (MIN)**	**C * A**	**I (IN/HR)**	**Q (CFS)**
A	1	0.62	0.15	10.3	0.09	4.09	**0.6**
B	2	0.52	0.11	14.7	0.06	3.55	**0.2**

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AGENCY:	El Paso County
REPORT TYPE:	Final
DATE:	5/9/2024

Drexel, Barrell & Co.

RATIONAL METHOD CALCULATIONS FOR STORM WATER RUNOFF

EXISTING **RUNOFF** **100 YR STORM** **P1=** **2.52**

			DIRECT RUNOFF				
BASIN (S)	**DESIGN POINT**	**AREA (AC)**	**RUNOFF COEFF**	**t_c (MIN)**	**C * A**	**I (IN/HR)**	**Q (CFS)**
A	1	0.62	0.50	10.3	0.31	6.86	**3.4**
B	2	0.52	0.40	14.7	0.21	5.96	**1.2**

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REPORT TYPE:	Final
DATE:	5/9/2024
Soil Type: B & D	

Drexel, Barrell & Co.

	C5* (Type B)	C5* (Type D)	C100* (Type B)	C100* (Type D)	% IMPERV
Pasture/Meadow	0.08	0.15	0.35	0.50	0
Asphalt/Sidewalk	0.90	0.90	0.96	0.96	100

*C-Values and Basin Imperviousness based on Table 6-6, City of Colorado Springs "Drainage Criteria Manual"

PROPOSED

SUB-BASIN	SURFACE DESIGNATION	AREA	COMPOSITE RUNOFF COEFFICIENTS				% IMPERV
		ACRE	C5 (Type B)	C5 (Type D)	C100* (Type B)	C100* (Type D)	
A	Pasture/Meadow	0.06	0.08		0.35		0
	Pasture/Meadow	0.02		0.15		0.50	0
	Asphalt/Sidewalk	0.14	0.90		0.96		100
	Asphalt/Sidewalk	0.30		0.90		0.96	100
	WEIGHTED AVERAGE			0.78		0.87	85%
TOTAL A		0.52					
B	Pasture/Meadow	0.09	0.08		0.35		0
	Pasture/Meadow	0.08		0.15		0.50	0
	Asphalt/Sidewalk	0.00	0.90		0.96		100
	Asphalt/Sidewalk	0.00		0.90		0.96	100
	WEIGHTED AVERAGE			0.11		0.42	0%
TOTAL B		0.17					
C	Pasture/Meadow	0.01	0.08		0.35		0
	Pasture/Meadow	0.44		0.15		0.50	0
	Asphalt/Sidewalk	0.00	0.90		0.96		100
	Asphalt/Sidewalk	0.00		0.90		0.96	100
	WEIGHTED AVERAGE			0.15		0.50	0%
TOTAL C		0.45					
TOTAL		**1.14**		**0.43**		**0.66**	**38.6%**

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RATIONAL METHOD CALCULATIONS FOR STORM WATER RUNOFF

PROPOSED TIME OF CONCENTRATION STANDARD FORM SF-2

SUB-BASIN DATA					INITIAL/OVERLAND TIME (t_i)				TRAVEL TIME (t_t)					PIPE TRAVEL TIME (t_p)				TIME OF CONC. t_c		FINAL t_c
BASIN	DESIGN PT:	C_5	C_{100}	AREA	LENGTH	HT	SLOPE	t_i	LENGTH	HT	SLOPE	VEL.	t_t	LENGTH	SLOPE	VEL.	t_t	COMP.	MINIMUM	
				Ac	Ft	FT	%	Min	Ft	FT	%	FPS	Min	Ft	%	FPS	Min	t_c	t_c	**Min**
A	1	0.78	0.87	0.52	100	3	3.0	4.2	175	5	2.9	10.0	0.3					4.5	5	**5.0**
B	2	0.11	0.42	0.17	40	1	2.5	8.6										8.6	5	**8.6**
C	3	0.15	0.50	0.45	85	8	9.4	7.8										7.8	5	**7.8**

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Drexel, Barrell & Co.

RATIONAL METHOD CALCULATIONS FOR STORM WATER RUNOFF

PROPOSED **RUNOFF** **5 YR STORM** **P1=** **1.50**

BASIN (S)	DESIGN POINT	AREA (AC)	DIRECT RUNOFF RUNOFF COEFF	t_c (MIN)	C * A	I (IN/HR)	Q (CFS)
A	1	0.52	0.78	5.0	0.40	5.17	**2.1**
B	2	0.17	0.11	8.6	0.02	4.36	**0.1**
C	3	0.45	0.15	7.8	0.07	4.51	**0.3**

And storm drain calculation demonstrating the connection will work and not negatively impact the HGL of the rest of the system.

Provide inlet calculation for inlet at DP1 collection point of parking low SW corner

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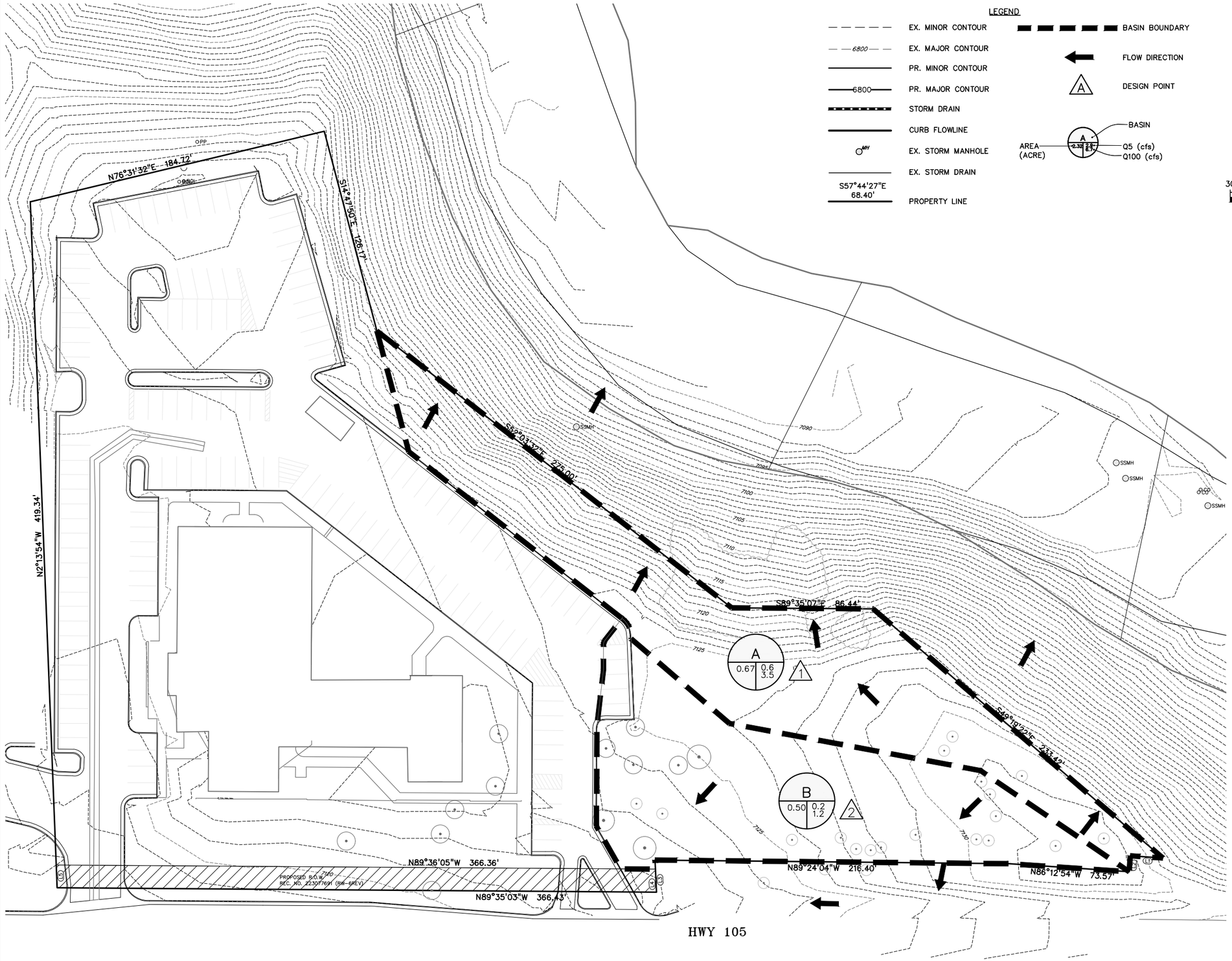
RATIONAL METHOD CALCULATIONS FOR STORM WATER RUNOFF

PROPOSED **RUNOFF** **100 YR STORM** **P1=** **2.52**

			DIRECT RUNOFF					PIPE SIZING		
BASIN (S)	**DESIGN POINT**	**AREA (AC)**	**RUNOFF COEFF**	**t_c (MIN)**	**C * A**	**I (IN/HR)**	**Q (CFS)**	**n**	**Slope (ft/ft)**	**Calculated Pipe Dia (in)**
A	1	0.52	0.87	5.0	0.45	8.68	**3.9**	0.013		
B	2	0.17	0.42	8.6	0.07	7.31	**0.5**			
C	3	0.45	0.50	7.8	0.22	7.57	**1.7**			



BASIN	DP	AREA (AC)	% IMPERV	Q5 (cfs)	Q100 (cfs)
A	1	0.62	0%	0.6	3.4
B	2	0.52	4%	0.2	1.2

811 Know what's **below.** **Call** before you dig.
CALL 3–BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

PREPARED BY:
DREXEL, BARRELL & CO.
Engineers • Surveyors
101 SAHWATCH ST, #100
COLORADO SPGS, COLORADO 80903
CONTACT: TIM D. McCONNELL, P.E.
(719)260-0887
COLORADO SPRINGS • LAFAYETTE

CLIENT:

LDS CHURCH–REAL ESTATE DIVISION

50 E NORTH TEMPLE
#509–8866
SALT LAKE CITY, UT 84150

DRAINAGE PLANS FOR:
LDS CHURCH PARKING ADDITION
MONUMENT, COLORADO

ISSUE	DATE
INITIAL ISSUE	1–11–2024

DESIGNED BY:	SBN
DRAWN BY:	SBN
CHECKED BY:	TDM
FILE NAME:	21841–00 EXDR

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.

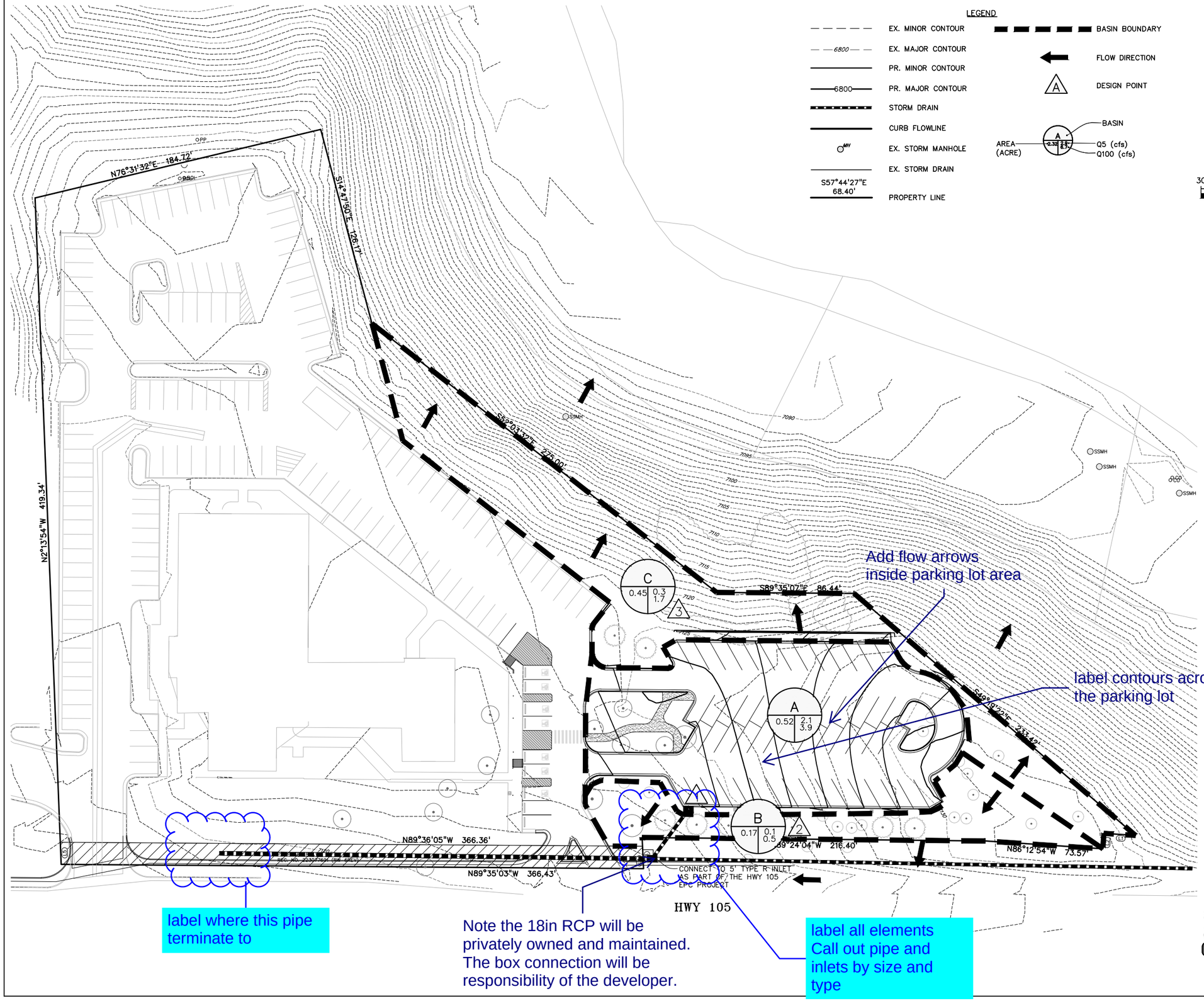
DRAWING SCALE:
HORIZONTAL: 1"=30'
VERTICAL: N/A

EXISTING CONDITIONS DRAINAGE MAP

PROJECT NO. 21841–00CSCV

DRAWING NO.

EX



BASIN	DP	AREA (AC)	% IMPERV	Q5 (cfs)	Q100 (cfs)
A	1	0.52	85%	2.1	3.9
B	2	0.17	0%	0.1	0.5
C	3	0.45	0%	0.3	1.7

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

CALL 3–BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

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DESIGNED BY:	SBN
DRAWN BY:	SBN
CHECKED BY:	TDM
FILE NAME:	21841–00 PRDR

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.

DRAWING SCALE:
HORIZONTAL: 1"=30'
VERTICAL: N/A

PROPOSED CONDITIONS DRAINAGE MAP

PROJECT NO. 21841–00CSCV

DRAWING NO.

PR

SHEET: 2 OF 2