

Proposed Condition 10 Year Flow Summary

Section ID	Description	Slope (ft/ft)	MAX Q (CFS)	Depth (ft)	Velocity (fps)	DwV
CON-01	CONCRETE LINED DITCH SEGMENT-01	0.0545	16.18	0.36	8.33	3.0
CON-02	CONCRETE LINED DITCH SEGMENT-02	0.0146	16.10	0.95	3.33	3.0
C-1a	CULVERT (1a)	0.0089	16.46	1.48	4.19	6.3
C-1b	CULVERT (1b)	0.0090	16.59	1.18	5.26	6.2
D-1	DITCH (1)	0.0157	6.51	0.89	3.08	2.7
C-2	CULVERT (2)	0.0426	5.95	0.71	5.25	3.7
D-2	DITCH (2)	0.0157	8.30	1.03	3.2	3.3
C-E	CULVERT (EXISTING)	0.0141	7.72	0.94	4.58	4.3
D-3	DITCH (3)	0.0307	7.54	1.03	5.78	6.0
C-3	CULVERT (3)	0.0049	1.67	0.68	2.16	1.3

Proposed Condition 100 Year Flow Summary

Section ID	Description	Slope (ft/ft)	MAX Q (CFS)	Depth (ft)	Velocity (fps)	DwV
CON-01	CONCRETE LINED DITCH SEGMENT-01	0.0545	60.05	0.86	11.94	10.3
CON-02	CONCRETE LINED DITCH SEGMENT-02	0.0146	59.83	2.23	4.16	9.3
C-1a	CULVERT (1a)	0.0089	57.50	3.49	4.94	17.2
C-1b	CULVERT (1b)	0.0090	57.49	2.61	6.60	17.3
D-1	DITCH (1)	0.0157	13.54	1.32	3.31	4.4
C-2	CULVERT (2)	0.0426	12.77	1.10	6.25	6.9
D-2	DITCH (2)	0.0157	17.43	1.51	3.36	5.1
C-E	CULVERT (EXISTING)	0.0141	14.55	1.44	4.94	7.1
D-3	DITCH (3)	0.0307	38.06	1.27	5.78	7.1
C-3	CULVERT (3)	0.0049	6.20	1.34	3.71	5.0

DRAINAGE BASIN DATA

AREA I.D.	TRIBUTARY AREA (SQ. FT.)	TRIBUTARY AREA (ACRE)	PERVIOUS AREA (SQ. FT.) (NATIVE)	PERVIOUS AREA (SQ. FT.) (GRAVEL)	10-YR STORM PEAK RUNOFF (CFS/GPM)	10-YR STORM RUNOFF VOLUME (CU.FT./GAL.)	100-YR STORM PEAK RUNOFF (CFS/GPM)	100-YR STORM RUNOFF VOLUME (CU.FT./GAL.)
F-1	3,953,222	90.75	3,953,222	-	16,207,271	113,655/850,196	60,482,145	343,580/2,570,150
F-2	118,358	2.72	-	118,358	3,211,441	9,148/68,432	6,662,989	19,239/143,917
F-3	280,466	6.44	-	280,466	6,773,039	21,634/161,833	14,106,329	45,520/340,512
F-4	368,172	8.45	-	368,172	8,703,905	28,387/212,349	18,146,142	59,713/446,683

PROGRAM USED: AUTODESK STORM AND SANITARY ANALYSIS 2022

10-YR = 1.8 IN. (TABLE 505, HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL)
 100-YR = 2.56 IN. (TABLE 505, HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL)
 TIME OF CONCENTRATION t_c = VARIES, SEE HYDROGRAPH OUTPUTS
 STORM TYPE - II
 CN = 98 (IMPERVIOUS), 90 (GRAVEL), 77 (NATIVE GROUND)
 HYDROLOGIC SOIL TYPE - B

NOTES

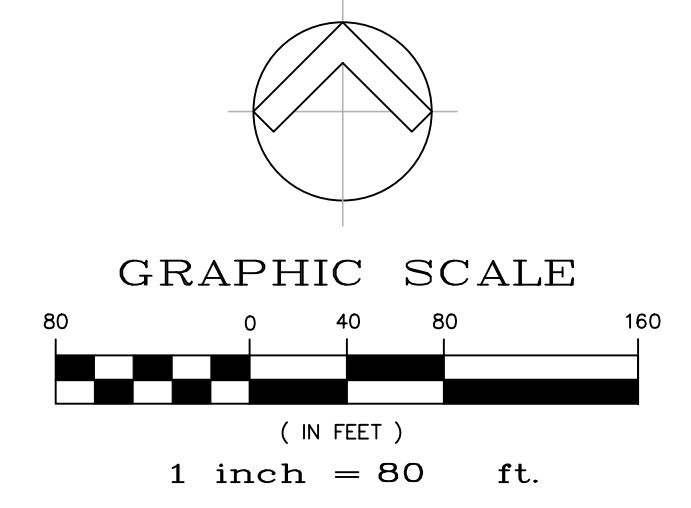
PROPOSED PROPERTY LINES SHOWN ARE BASED ON PRE-APPLICATION MEETING HELD WITH THE CITY, 102438-PRE, HELD 1/23/2024. REQUESTED DEDICATIONS ARE AS FOLLOWS:

- 60' FOR MOCCASIN ROAD ON NORTH FRONTAGE
- 40' FOR PULLI ROAD ON WEST FRONTAGE
- 30' FOR ROCKY ROAD ON SOUTH FRONTAGE
- 60' FOR SHAUMBER ROAD ON EAST FRONTAGE

ALL PROPOSED GRADING AND NEW STRUCTURES HAVE BEEN DESIGNED TO NOT ENCRoACH PAST THESE DEDICATION LINES.

LEGEND

- EXISTING DRAINAGE BASIN BOUNDARY
- PROPOSED DRAINAGE BASIN BOUNDARY
- EXISTING SECTION LINE
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- EXISTING FENCE LINE
- PROPOSED FENCE LINE
- PROPOSED WALL
- PROPOSED CULVERT WITH HEADWALL AND END SECTION (SIZE AS NOTED)
- PROPOSED CONCRETE LINED CHANNEL
- PROPOSED CONCRETE CURB AND GUTTER
- PROPOSED GUARD RAIL
- PROPOSED RIPRAP OUTFALL
- PROPOSED LIMITS OF SUBSTATION PAD EXPANSION
- 2991 - EXISTING 1' GROUND SURFACE CONTOUR
- 2995 - EXISTING 5' GROUND SURFACE CONTOUR
- 2991 - PROPOSED 1' GROUND SURFACE CONTOUR
- 2995 - PROPOSED 5' GROUND SURFACE CONTOUR
- FLOW ARROW
- CROSS SECTIONS



NORTHWEST SUBSTATION

PROPOSED ON-SITE DRAINAGE EXHIBIT

6226 WEST SHAMBER AVE.
 LAS VEGAS, NEVADA 89146

NVEnergy

DWG. NO. EXB 4
 PROJ. I.D. 0001001922

5/16/2024
 BS
 CHECKED
 APPD

ISSUED FOR: REVIEW BID CONSTRUCTION

SHT. NO. **EXB 4** OF **4**
 LAS VEGAS
 24-0046

Proj. ID

REVISIONS

BY DATE REV APPROVAL

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