



Vista del Norte Park
Proposed Conditions Basin Data Table
This table is based on the DPM Section 22.2, Zone: 2

Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100yr) (cfs/ac.)	Q(100yr) (CFS)	V(100yr) (inches)	V _(100yr-6hr) (CF)	V _(100yr-24hr) (CF)
			A	B	C	D					
CURRENT ONSITE BASINS											
B1	597173	13.71	0.0%	85.0%	10.0%	5.0%	2.49	34.09	0.88	43892	44888
B2	167283	3.84	0.0%	85.0%	10.0%	5.0%	2.49	9.55	0.88	12295	12574
B3	97360	2.24	0.0%	10.0%	20.0%	70.0%	4.15	9.27	1.79	14507	16778
B4	51970	1.19	0.0%	10.0%	20.0%	70.0%	4.15	4.95	1.79	7744	8956
B5	7258	0.17	0.0%	0.0%	10.0%	90.0%	4.54	0.76	2.02	1222	1440
TOTAL	921044	21.14	-	-	-	-	-	58.62	-	79660	84636

STORM DRAIN PIPE TABLE					
PIPE #	INLET/SD/BASIN	Size in.	Slope	Capacity* cfs	ACTUAL FLOW cfs
SD1	IN1	18	1.00%	10.50	9.55
SD2	IN2, SD1	24	1.16%	24.37	23.76
SD3	IN3	24	1.00%	22.62	19.92
SD4	IN4, SD2, SD3	36	1.00%	66.70	58.62
Capacity Based on Manning's Eq w/ N=0.013					

INLET TABLE					
Inlet #	Inlet Type	Basin	Actual Flow	Avail Head ft	Capacity** CFS
IN1	1-DBL COA TYPE D*	B2	9.55	0.55	14.92
IN2	1-DBL COA TYPE D*	B3, B4	14.21	0.70	21.42
IN3	1-DBL COA TYPE D*	B1	19.92	1.40	44.42
IN4	GRATED MANHOLE COVER**	B1, B5	14.93	1.40	22.40
* - CAPACITY BASED ON WEIR AND ORIFICE EQUATIONS					
** - CAPACITY BASED ON SINGLE TYPE D INLET					

NORTH PROPERTY LINE DIVERSION SWALE											
MANNING'S N = 0.029						SLOPE = 0.80%					
POINT	DIST	ELEV		POINT	DIST	ELEV					
1	0.0	59.3		4	9.5	57.3					
2	2.0	59.2		5	14.6	58.5					
3	6.5	57.3		6	16.6	58.6					
WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)				
57.30	0.05	0.16	0.09	3.34	0.60	3.32	0.06				
57.35	0.10	0.33	0.31	3.67	0.92	3.64	0.11				
57.40	0.15	0.52	0.61	4.01	1.18	3.96	0.17				
57.45	0.20	0.73	1.01	4.34	1.39	4.27	0.23				
57.50	0.25	0.95	1.50	4.68	1.58	4.59	0.29				
57.55	0.30	1.19	2.08	5.01	1.75	4.91	0.35				
57.60	0.35	1.44	2.75	5.35	1.91	5.23	0.41				
57.65	0.40	1.71	3.52	5.68	2.06	5.55	0.47				
57.70	0.45	2.00	4.38	6.02	2.20	5.87	0.52				
57.75	0.50	2.30	5.34	6.35	2.35	6.19	0.58				
57.80	0.55	2.61	6.40	6.69	2.43	6.51	0.64				
57.85	0.60	2.95	7.57	7.02	2.57	6.82	0.70				
57.90	0.65	3.30	8.85	7.36	2.68	7.14	0.76				
57.95	0.70	3.66	10.23	7.69	2.79	7.46	0.82				
58.00	0.75	4.04	11.73	8.03	2.90	7.78	0.88				
58.05	0.80	4.44	13.34	8.36	3.00	8.10	0.94				
58.10	0.85	4.85	15.07	8.70	3.11	8.42	1.00				
58.15	0.90	5.28	16.92	9.03	3.20	8.74	1.06				
58.20	0.95	5.73	18.90	9.37	3.30	9.06	1.12				
58.25	1.00	6.19	21.00	9.71	3.39	9.37	1.18				
58.30	1.05	6.66	23.24	10.04	3.49	9.69	1.24				
58.35	1.10	7.16	25.60	10.38	3.58	10.01	1.30				
58.40	1.15	7.66	28.11	10.71	3.67	10.33	1.36				
58.45	1.20	8.19	30.75	11.05	3.75	10.65	1.42				
58.50	1.25	8.73	33.22	11.54	3.81	11.13	1.48				
58.55	1.30	9.31	34.79	12.66	3.73	12.24	1.52				

DRAINAGE MANAGEMENT PLAN

I. INTRODUCTION

The purpose of this submittal is to present a grading and drainage plan for the proposed Vista del Norte park. The site is bounded along the north by the Rancho Mirage Condominiums, Vista del Norte Drive to the west, Osuna Road to the south, and commercial land to the east. In total, the site encompasses a total of over 21 acres. The project will consist of a large turf field, a playground area, parking lots, and landscaped area. With this submittal we are seeking Grading Permit & Paving Permit approval.

II. EXISTING HYDROLOGIC CONDITIONS

The site is currently undeveloped with native vegetation cover. Currently the site drainage sheet flows to the north/northwest at an average slope of 1.2%. It then discharges into an existing swale before outfalling into an existing 36" ported riser inlet and existing storm drain system.

III. PROPOSED HYDROLOGIC CONDITIONS

The site has been divided into 5 drainage basins. The overall drainage plan is to convey site drainage via surface flow to the existing Vista del Norte storm drain system. The discharge from the site will total 59.4 cfs (Proposed Conditions Basin Data Table, this sheet). The Drainage Master Plan for the community, "Drainage Master Plan for Vista del Norte Subdivision," stamp date 03/19/1998 (D16\0002), dictates that this site, Tract M, will ultimately discharge to the South Detention Pond. An existing 42" RCP storm pipe was installed north of the tract with city project 5970.81. A 24" storm stub out to tract was included in the project and was designed to accept 99 cfs from this tract, in the developed condition. With the development of the Rancho Mirage Condos and city project 6920.81, the 24" storm pipe was replaced with a 36" stub out and portions of the condominiums site were designed to discharge into the existing 42" RCP pipe. The amount of discharge into the storm system from the condo site is 17.55 cfs as dictated in the "Drainage Report of Rancho Mirage Condominiums," stamp date 07/17/2002 (E16/D22). Removing the 17.55 cfs from the allowable 99 cfs; 81.45 cfs remains as allowable discharge from the proposed park site. Free discharge into the existing system is anticipated because the proposed park discharge is reduced from the master planned discharge, which was based on a commercial development land treatments (90% 'D' & 10% 'B').

We have also evaluated the existing ported riser inlet capacity and determined that additional inlet(s) will be required to convey the proposed flow rate (See "Inlet Table," this sheet). Also, a swale is proposed along the north edge of the property will be sized to convey the discharge from Basin 1 (35.22 cfs).

The park will be constructed in two phases, as defined by the shown phase boundary. The first phase will include the parking along the west, two of the five recreation fields, and a portion of the north property line swale. Phase two will include the remaining parking, access from Osuna Road, the remaining grass fields, the remainder of the swale, and the east slope construction.

A drainage diversion berm will be constructed with phase one to mitigate the flow from the eastern portion of the site and divert the discharge north to the proposed swale. This berm will mitigate the discharge and sediment from the undeveloped portion of the site from entering the grass fields of the developed area in phase one.

IV. FLOODPLAIN:

In accordance with FEMA Community Map Panel #35001C0138H, the site is not within the floodplain.

IV. CONCLUSION

The 100yr-24hr peak discharge from the site will be routed through a storm drain system to the existing Vista del Norte storm drain system, ultimately outfalling to the Vista del Norte Southern detention pond. These flows were computed in accordance with section 22.2 of the COA Development Process Manual (DPM). This drainage management plan provides for an approach which will safely manage flow from a 100yr-24hr storm event and meets city requirements. With this submittal we are seeking Grading Permit & Paving Permit approval.

WESTERN PROPERTY LINE WATER QUALITY SWALE

MANNING'S N = 0.029						SLOPE = 1.20%					
POINT	DIST	ELEV		POINT	DIST	ELEV					
1	0.0	67.0		3	15.0	66.4					
2	9.0	66.4		4	24.0	67.0					
WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)				
66.42	0.05	0.33	0.24	7.35	0.72	7.34	0.06				
66.47	0.10	0.73	0.80	8.69	1.09	8.69	0.12				
66.52	0.15	1.20	1.66	10.04	1.38	10.03	0.18				
66.57	0.20	1.74	2.82	11.39	1.62	11.37	0.24				
66.62	0.25	2.34	4.30	12.74	1.84	12.72	0.30				
66.67	0.30	3.01	6.11	14.08	2.03	14.08	0.36				
66.72	0.35	3.75	8.28	15.43	2.21	15.40	0.43				
66.77	0.40	4.55	10.83	16.78	2.38	16.75	0.49				
66.82	0.45	5.42	13.79	18.12	2.54	18.09	0.55				
66.87	0.50	6.36	17.14	19.47	2.69	19.43	0.61				
66.92	0.55	7.36	20.93	20.82	2.84	20.78	0.68				
66.97	0.60	8.44	25.18	22.16	2.98	22.12	0.74				
67.02	0.65	9.58	29.90	23.51	3.12	23.46	0.80				

LEGEND

PROPERTY LINE

EXISTING INDEX CONTOUR

EXISTING INTERMEDIATE CONTOUR

PROPOSED INDEX CONTOUR

PROPOSED INTERMEDIATE CONTOUR

PROPOSED RETAINING WALL

PROPOSED STORM DRAIN LINE

PROPOSED STORM DRAIN INLETS

DIRECTION OF FLOW

DRAINAGE BASIN BOUNDARY

BASIN 1

BASIN ID

AS BUILT INFORMATION

CONTRACTOR

WORKED BY

INSPECTOR'S

DATE

ACCEPTANCE BY

DATE

VERIFICATION BY

DATE

DESIGNED BY

DATE

RECORDED BY

DATE

NO.

SURVEY INFORMATION

FIELD NOTES

NO.

BY

DATE

ENGINEERS SEAL

BRYAN H. WARREN

NEW MEXICO

2001

2/16/15

PROFESSIONAL ENGINEER

REVISIONS

BY

DATE

DESIGNED BY

DATE

DRAWN BY

DATE

CHECKED BY

DATE

TITLE:

VISTA DEL NORTE PARK

DRAINAGE MANAGEMENT PLAN

Design Review Committee

City Engineer Approval

Last Design Update

Mo. / Day / Yr.

Mo. / Day / Yr.

City Project No.

Zone Map No.

Sheet

DMP-001

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CITY OF ALBUQUERQUE

PARKS AND RECREATION DEPARTMENT

STRATEGIC PLANNING AND DESIGN DIVISION

FINAL FOR CONSTRUCTION

VISTA DEL NORTE PARK

PHASE 1

PROJECT #

DECEMBER 2013

RECORD DRAWINGS