DRAINAGE REPORT

for

DESERT RIDGE TRAILS EAST

Bernalillo County Portion
(Additional Material)

Prepared by

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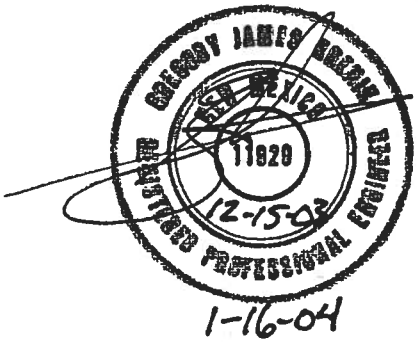
December 2003



1-16-04

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PROJECT DESERT RIDGE TRAILS EAST
SUBJECT DRAINAGE CALCS
BY GJK DATE 12-12-03
CHECKED _____ DATE _____
SHEET 1 OF ____

THIS REPORT WILL BREAKDOWN THE COUNTY PORTION OF DESERT RIDGE TRAILS EAST.

THE AREA IS DIVIDED INTO SIX (6) DRAINAGE BASINS

BASIN	AREA (AC)	AREA OF LOTS (AC)
H	1.9744	1.6185
G	2.5623	1.7803
F	2.3023	1.7803
E	2.7723	1.7803
D	5.8782	1.7803
C1	3.3720	1.7803

THESE BASINS DRAIN TO FLORENCE AVE BY SIDEYARD SWALES ON EACH LOT AND WILL ENTER FLORENCE AT THE DRIVEWAY, THEN INTO INLETS AND A NEW STORMDRAIN SYSTEM.

BASIN H

TOTAL AREA = 1.9744 AC
PAD + DRIVE AREA = 2 x (10,000 + 1,300) = 0.5188 AC TYPE "D" 26.28%
0.3891 AC TYPE "C" 19.71%
0.3892 AC TYPE "B" 19.71%
UNDISTURBED AREA OF LOTS = 0.3214 AC TYPE "A" 16.28%
OFFSITE PART OF BASIN 0.3560 AC TYPE "A" 18.03%

SINCE THE NEW STORMDRAIN IS DESIGNED TO CARRY 100% OF THE DEVELOPED RUNOFF THE LAND TREATMENTS DO NOT HAVE TO ABIDE BY THE COUNTY'S 43,20,20,17 BREAKDOWN.

FROM AHYMO OUTPUT SHEETS 5-7

Q = 6.13 CFS

WE WILL ASSUME THIS FLOW IS SPLIT BETWEEN THE TWO LOTS IN THE BASIN

BASIN G

TOTAL AREA = 2.5623 AC
PAD + DRIVE AREA = 0.5188 AC TYPE "D" 20.25%
0.5205 AC TYPE "C" 20.31%
0.5206 AC TYPE "B" 20.32%
UNDISTURBED AREA OF LOTS = 0.2204 AC TYPE "A"
OFFSITE PART OF BASIN = 0.7820 AC TYPE "A" > 39.12%

FROM AHYMO OUTPUT SHEETS 8-10

Q = 7.48 CFS

ASSUME FLOW IS SPLIT BETWEEN THE TWO LOTS

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CHECKED ____ DATE ____
SHEET 2 OF ____

BASIN F

TOTAL AREA = 2.3023 AC
PAD + DRIVE AREA = 0.5188 AC TYPE "D" 22.53%
= 0.5016 AC TYPE "C" 21.79%
= 0.5016 AC TYPE "B" 21.79%
UNDISTURBED AREA OF LOTS = 0.2583 AC TYPE "A" > 33.89%
OFFSITE PART OF BASIN = 0.5220 AC TYPE "A"

FROM AHYMO OUTPUT SHEETS 11-13

Q = 6.98 CFS

ASSUME FLOW IS SPLIT BETWEEN THE TWO LOTS

BASIN E

TOTAL AREA = 2.7723 AC
PAD + DRIVE AREA = 0.5188 AC TYPE "D" 18.72%
= 0.4758 AC TYPE "C" 17.16%
= 0.4758 AC TYPE "B" 17.16%
UNDISTURBED AREA OF LOTS = 0.3099 AC TYPE "A" > 46.96%
OFFSITE PART OF BASIN = 0.9920 AC TYPE "A"

FROM AHYMO OUTPUT SHEETS 14-16

Q = 7.75 CFS

ASSUME FLOW IS SPLIT BETWEEN THE TWO LOTS

BASIN D

TOTAL AREA = 5.8782 AC
PAD + DRIVE AREA = 0.5188 AC TYPE "D" 8.83%
= 0.5974 AC TYPE "C" 10.16%
= 0.5975 AC TYPE "B" 10.16%
UNDISTURBED AREA OF LOTS = 0.0666 AC TYPE "A" > 70.85%
OFFSITE PART OF BASIN = 4.0979 AC TYPE "A"

FROM AHYMO OUTPUT SHEETS 17-19

Q = 13.59 CFS

ALL OFFSITE FLOW GOES THROUGH LOT 24

- RECALC FOR JUST LOT 24

TOTAL AREA = 4.9880 AC
PAD + DRIVE = 0.2594 AC "D" 5.20%
= 0.2866 AC "C" 5.75%
= 0.2867 AC "B" 5.75%
UNDISTURBED = 0.0574 AC "A" > 83.30
OFFSITE = 4.0979 AC "A"

FROM AHYMO OUTPUT SHEETS 20-22
Q = 10.53 CFS

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SUBJECT Drainage Calcs
BY GJK DATE 12-12-03
CHECKED ____ DATE ____
SHEET 3 OF ____

• FIND Q FOR LOT 23

13.59 − 10.53 = 3.06 CFS

BASIN C1

TOTAL AREA = 3.3720 AC

PAD & DRIVE	= 0.5188 AC	TYPE "D"	15.39 %
	= 0.6307 AC	TYPE "C"	18.70 %
	= 0.6308 AC	TYPE "B"	18.70 %
UNDISTURBED	= 0.0 AC	TYPE "A"	> 47.21 %
OFFSITE	= 1.5917 AC	TYPE "A"	

FROM AHYMO OUTPUT SHEETS 23-25
Q = 9.17 CFS

ALL OFFSITE FLOW GOES THROUGH LOT 21

• RECALC FOR JUST LOT 21

TOTAL AREA = 2.4818 AC

PAD + DRIVE	= 0.2594 AC	TYPE "D"	10.45 %
	= 0.3153 AC	TYPE "C"	12.70 %
	= 0.3154 AC	TYPE "B"	12.71 %
OFFSITE	= 1.5917 AC	TYPE "A"	64.14

FROM AHYMO OUTPUT SHEETS 26-28
Q = 6.02 CFS

• FIND Q FOR LOT 22

9.17 − 6.02 = 3.15 CFS

— THE FLORENCE ROW IS BASIN C2

AREA = 3.5605 AC

80% "D"
20% "B"

FROM AHYMO OUTPUT SHEETS 29-31
Q = 16.19 CFS

— FIND FLOWS FROM SOUTHSIDE OF FLORENCE AVE.

THERE ARE SEVEN (7) UNIT OF FOUR LOTS AND ONE OF FIVE THAT DRAIN TO FLORENCE THROUGH PRIVATE DRIVES.

(4 LOT UNIT) LOTS : (80 x 82 x 2) + (95 x 82 x 2) = 28,700 SF
DRIVES : 4 x 20 x 20 = 1,600 SF
ROAD : 120 x 24 = 2,880 SF
33,180 SF = 0.7617 AC TYPE "D"

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SHEET 4 OF ____

TOTAL AREA = 1.1301 AC
TYPE "D" = 0.7617 AC 67.40 %
TYPE "B" = 0.3684 AC 32.60 %

FROM AHYMO OUTPUT SHEETS 32-34
Q = 4.80 CFS

(5 LOT UNIT) LOTS: (2 x 107 x 72) + (2 x 10,500) + 9800 = 46,208 SF
DRIVES: 5 x 400 = 2,000 SF
ROAD: 118 x 24 = 2,832 SF
51,040 SF = 1.1717 AC TYPE "D"

TOTAL AREA = 1.6902 AC
TYPE "D" = 1.1717 AC 69.32 %
TYPE "B" = 0.5185 AC 30.68 %

FROM AHYMO OUTPUT SHEETS 35-37
Q = 7.25 CFS

- AN AREA OF 3.2611 AC SOUTH OF FLORENCE AVE WILL ENTER FLORENCE AT THE EAST END OF THE 5 LOT UNIT. THIS AREA IS BASIN C3.

AREA = 3.2611 AC TYPE "A" 100%

FROM AHYMO OUTPUT SHEETS 38-40
Q = 6.02 CFS

** FIND TOTAL Q AT WYOMING ON FLORENCE

Q = 6.13 + 7.48 + 6.98 + 7.75 + 13.59 + 9.17 + 16.19 + 6(4.8) + 7.25 + 6.02
= 109.36 CFS

STORMDRAIN IS REQUIRED — SEE DESERT RIDGE TRAILS EAST REPORT FOR STORMDRAIN DESIGN.

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PROJECT DESERT RIDGE TWILS EAST
SUBJECT DRAINAGE CALCS
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SHEET 4A OF ____

SIZE STORM DRAIN IN FLORENCE (FULL SECTION, 1% CROWN)

• FIND Q JUST EAST OF DRIVE AT LOT 12

Q= 8.24 + 6.02 + 6.02 + 7.25 + 3.15 + 3.06 + 4.80 + 10.53 = 49.57 CFS

FIND d S = 2.06% n = 0.017 40' F-F

d = 0.45
WP = 40.90
A = 10.01
V = 4.91 F/S
Q = 49.14 CFS
$d+V^2/2g$ = 0.82 < 0.87 OK

NOTE: FLORENCE ROW FLOWS AT 0.006263 CFS/FT

FROM NOMO SHEET

DBL "A" INLET TAKES 8.0 CFS
USE 2 INLETS

Q PAST INLETS = 33.57 CFS

• FIND Q JUST WEST OF LOT LINE OF LOTS 28+29

Q = 33.57 + 4.80 + 3.88 + 3.87 + 4.80 + 3.49 + 2.44 = 56.85 CFS

FIND d S = 1.33% n = 0.017 40' F-F

d = 0.51
WP = 41.02
A = 12.41
V = 4.54 F/S
Q = 56.38 CFS
$d+V^2/2g$ = 0.83 < 0.87 OK

FROM NOMO SHEET
DBL "A" INLET TAKES 7.8 CFS
USE 2 INLETS

Q PAST INLETS = 41.25 CFS

• FIND Q JUST WEST OF DRIVE AT LOT 7

Q = 41.25 + 4.80 + 0.53 = 46.58 CFS

FIND d S = 3.62% n = 0.017 40' F-F

d = 0.405
WP = 40.81
A = 8.21
V = 5.71 F/S
Q = 46.88 CFS
$d+V^2/2g$ = 0.91 > 0.87 OK

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CHECKED _____ DATE _____
SHEET 4B OF _____

FROM NOMO SHEET
TYPE "B" INLET TAKES 10.25 CFS
USE 2 INLETS

Q PAST INLETS = 26.08 CFS

- FIND Q JUST EAST OF DRIVE OF LOT 4

$Q = 26.08 + 3.49 + 4.80 + 3.74 + 2.29 = 40.40$ CFS

AND d: S = 3.15% n = 0.017 40' F-F

d = 0.40
WP = 40.80
A = 8.01
V = 5.24 F/S
Q = 41.97 CFS
$d + V^2/2g = 0.83 < 0.87$ OK

FROM NOMO SHEET
DBL "A" INLET TAKES 7.6 CFS
USE 2 INLETS

Q PAST INLETS = 25.20 CFS

- FIND Q JUST EAST OF DRIVE TO LOT 31

$Q = 25.20 + 4.80 + 3.74 + 1.00 = 34.74$ CFS

FIND d S = 1.0% n = 0.017 40' F-F

d = 0.45
WP = 40.90
A = 10.01
V = 3.42 F/S
Q = 34.24 CFS
$d + V^2/2g = 0.63 < 0.87$ OK

FROM NOMO SHEET
TYPE "B" INLET TAKES 6.8 CFS
USE 2 INLETS
Q PAST INLETS = 21.14 CFS

- FIND Q JUST EAST OF RETURNS AT WYOMING

$Q = 21.14 + 3.07 + 4.80 + 1.16 + 3.06 = 33.23$ CFS

FIND d S = 1.0% n = 0.017 40' F-F

d = 0.45 V = 3.42 F/S
WP = 40.90 Q = 34.24 CFS
A = 10.01 $d + V^2/2g = 0.63$ OK

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PROJECT DESERT RIDGE TRAILS
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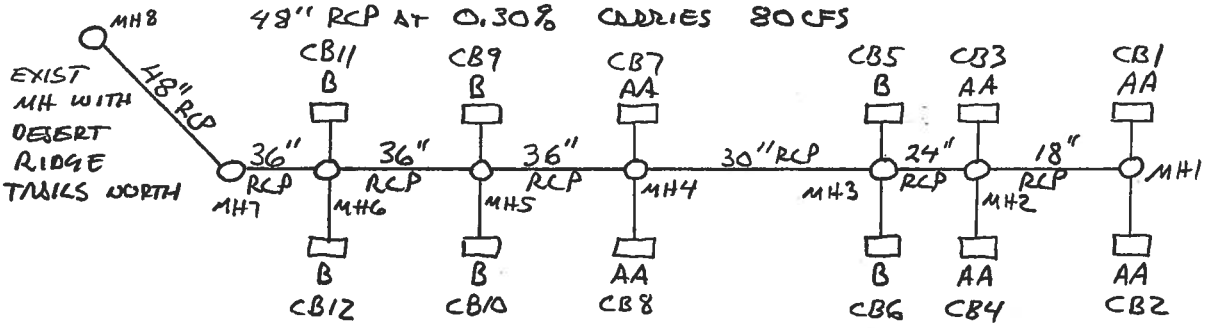
BY GJK DATE 12-26-03
CHECKED _____ DATE _____
SHEET 4C OF ____

FROM NOMO SHEET

TYPE "B" INLET TAKES 6.8 CFS
USE TWO INLETS
Q PAST INLETS AND INTO WYOMING = 19.63 CFS

FROM NOMO SHEET 4D

18" RCP AT 2.7% CARRIES 17 CFS
24" RCP AT 2.7% CARRIES 37 CFS
30" RCP AT 2.7% CARRIES 65 CFS
36" RCP AT 2.44% CARRIES 100 CFS
48" RCP AT 0.30% CARRIES 80 CFS



STRUCTURE	RIM/GRATE	INV	FLOW LEAVING	PIPE LEAVING
CB1			8.0	18"
CB2			8.0	18"
CB3			7.8	18"
CB4			7.8	18"
CB5			10.25	18"
CB6			10.25	18"
CB7			7.6	18"
CB8			7.6	18"
CB9			6.8	18"
CB10			6.8	18"
CB11			6.8	18"
CB12			6.8	18"
MH1	07.63	98.07	16.0	18"
MH2	99.27	87.40	31.6	24"
MH3	96.42	85.10	52.10	30"
MH4	83.34	75.38	67.30	36"
MH5	80.86	71.48	80.90	36"
MH6	79.46	68.06	94.50	36"
MH7	78.45	67.00	94.50	48"
MH8	76.61	66.48	113.57	42" SEE DESERT RIDGE TRAILS NORTH

SEE STORMDRAIN DESIGN SHEETS 41 - 49

DRAINAGE REPORT

for

DESERT RIDGE TRAILS EAST

Prepared For

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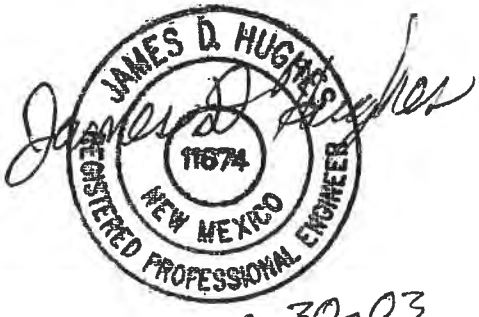
October 30, 2003



10-30-03

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Report

Calculations and Data

PURPOSE

The primary purpose of this report is to demonstrate the adequacy of the proposed drainage to allow this 11.0 acre site to be subdivided into 33 single-family, detached, residential lots, and so associated public drainage infrastructure can be constructed and turned over to the City of Albuquerque for maintenance.

EXISTING CONDITIONS

This 11 acre site slopes from east to west at 3.0%. It has an off-site undeveloped 25 ac drainage area that currently flows through the site diagonally form southeast to northwest, but the near-future development of the property south of this site is expected to divert that off-site drainage to a storm sewer in Glendale Avenue in accordance with the previously approved North Albuquerque Acres Master Drainage Plan. Florence Avenue is a right-of-way on paper only. It does not have a graded road on it. Desert Ridge Trails and Desert Ridge Trails North have constructed or are in the process of constructing subdivisions west of this property, and have extended streets, water, SAS, and storm sewer to the west edge of this project.

DRAINAGE MANAGEMENT PLAN

This subdivision will free-discharge to the downstream storm sewer constructed with Desert Ridge Trails North. Most of the upstream off-site watershed (25 ac) will be diverted to Glendale Avene in accordance with the North Albuquerque Acres Master Drainage Plan, where a future storm sewer will be constructed by a separate project. This project will construct 24' FF pavement and storm sewer in Florence Avenue. Ten inlets will be located on the south side of the street such that surface drainage will remain below the top of curb but the energy grade line will require a variance (see Inlet Calculation Table 2). This report demonstrates that the downstream storm sewer, pond and streets as currently under construction by Desert Ridge Trails North has capacity for the developed flow from this project. The east half of Wyoming Blvd will not be paved by either project, but all off-site drainage east of Wyoming will be collected by inlets constructed with these two projects except for basin 310.0A which will be diverted north of Wyoming with future construction by others.

HYDROLOGY ANALYSIS

Hydrology for the past project watershed was calculated by AHYMO, assuming fully developed conditioning for Desert Ridge Trails North and Desert Ridge Trails East, and for the adjacent streets. The off-site peak flow for the undeveloped conditions in basins 204.4 A through I is less than developed flows from just 204.4 C through I, mainly due to the large reduction in time of peak for developed conditions. So developed flow were used for Hydraulic Design. A composite impervious value was conservatively estimated for basins 204.4 C through I and it was modeled as a single basin then the flows were pro-rated for the street and inlet capacity calculations in Table 2. Both 10-year and 100-year flows were calculated by AHYMO. The 10-year

flows were used for a starting watersurface elevation in the pond for the HGL calculations, and to check inlet spacing in Wyoming Blvd per arterial street standards. The 100-year, 10-day volumes were calculated by spreadsheet in Table 1. Peak flows below Desert Ridge Trails North were reduced from about 202 cfs to 112 cfs so there is no significant adverse impact to downstream properties. Pond volume calculations are based on the conic method. The pond is sized to hold the 100-year, 10-day storm from Desert Ridge Trails North. The pond is assumed to be empty at the beginning of the 24-hour storm because of exceptionally high infiltration rates of the subsurface soil. Infiltration was not accounted for during the AHYMO routing. Sediment transport volumes were calculated by AHYMO and the temporary sediment pond was sized for 2 times the total 100-year sediment load.

HYDRAULIC ANALYSIS

Street flow depths and velocities were estimated using Plates 22.3 D-1 through D-4, and are summarized on Tables 2 and 3. The amount of flow intercepted at each inlet was estimated using Plates 22.3 D-5 and D-6. The capacity of the temporary 42" projecting culvert at Wyoming Blvd was determined using inlet control Chart 1. Hydraulic grade line calculations for peak 100-year flow were performed by WSPG software that uses the DPM equations. The 10-year pond elevation was used to start HGL calculation. The pond emergency overflow spillway is designated to discharge the peak 100-year inflow using the broad crested weir elevation. Street flow depths for the irregular street section in Beverly Hills Avenue west of the pond were determined by single section normal depth calculations performed by HEC-2. (See Plan and Profile Sheets 11R, 12R, 24R and 25R, from Desert Ridge Trails North, and Sheets 3, 4 and 5 from Desert Ridge Trails East for street grades and summary of hydraulic grade line calculations.)

TABLE 1 - SUMMARY OF HYDROLOGY

Basin ID	Area Sq. Mi.	Land Treatment				Hr. Tp	100-YR Peak Flow			
		A	B	C	D		Inc. (cfs)	Cumm (cfs)	V_{100} 24-Hr (Ac-ft)	V_{100} 10-day (Ac-ft)
204.4A	0.02813	40	20	20	20	0.17	44.48	44.48	1.815	2.287
204.4B	0.01172	40	20	20	20	0.14	20.89	20.89	0.756	0.953
204.4C-I	0.05678	25	25	25	25	0.13	114.92	114.92	4.118	5.308
204.1B	0.01274	40	20	20	20	0.13	23.56	134.12	0.822	1.036
204.1A	0.01691	40	20	20	20	0.14	28.96	162.70	1.091	1.375
204.1E	0.00414	0	5	10	85	0.13	12.41	176.00	0.547	0.842
204.1F	0.00100	0	5	10	85	0.13				0.071
310.0A	0.00762	40	20	20	20	0.13	14.08	188.97	0.492	0.620
204.1C	0.04426	0	27.5	27.5	45	0.13	109.26	286.43	4.279	5.949
204.1D	0.00312	0	10	10	80	0.13	9.11	294.43	0.397	0.606
310.0B	0.00818	40	20	20	20	0.13	15.11	312.32	0.528	0.665
POND Sub-Total	0.19460								12.274	16.472
204.3	0.01810	0	20	60	20	0.13	41.1		1.43	1.734

100 YEAR PRECIPITATION *(From Figures D, E and F, and Eq. 28 of DPM 22.2)*
P_{60} = 2.15", P_{360} = 2.55", P_{1440} = 2.95", P_{10} days = 10.0-[24.9/(2.95")$^{1.4}$] = 4.52"

*Assume that the peak occurs on the tenth day of the storm and that all of the runoff from the other 9 days (3.983 ac*ft) stays in the pond and does not evaporate due to high humidity. The depth of water in the pond would be 13 feet (ie pond elev=5315.0) and if it infiltrated in that same 9 days the permeability would have to be 0.72 in/hr or greater. These soils are an 'Embudo-Tijeras Complex' with permeability that ranges between 2 and 20 in/hr for Embudo and over 20 in/hr for Tijeras according to the Bernalillo County soils survey. The minimum rate is 4 ft/day and is likely to be 40 ft/day or higher. If fine silt accumulates in the bottom of the pond it should be removed at the first sign of standing water.*

TABLE 2 — STREET AND INLET CAPACITIES 100-YR

Basin No.	Area Ac.	% of Total	SUB-BASIN FLOW (cfs)	Total Flow Approaching inlet (cfs)	Curb Type/Slope	Flow Depth ft[1]	V fps	Energy Depth ft[2]	Inlet # and Type	FLOW INTO INLET	FLOW PAST INLET
204.4C	10.00	26.82%	30.83	31.62	std 3.91%	0.51'	6.5	1.17	#1 Type 'A'	9.7	21.92
				21.92	std 3.91%	0.46	5.6	0.95	#2 Type 'C'	8.4	13.52
204.4D	7.05	18.91%	21.73	35.25	std 3.40%	0.54'	6.5	1.20	#3 Type 'A'	10.0	25.25
				25.25	std 2.90%	0.51	5.6	1.00	#4 Type 'C'	9.0	16.25
204.4E	5.69	15.26%	17.54	33.79	std 1.33%	0.64'	5.0	1.03	#5 Type 'A'	9.4	24.39
				24.39	std 1.33%	0.57	4.2	0.84	#6 Type 'C'	7.8	16.59
204.4F	3.86	10.35%	11.90	28.49	std 4.02%	0.51'	6.5	1.17	#7 Type 'A'	9.8	18.69
				18.69	std 4.02%	0.45'	5.8	0.97	#8 Type 'C'	7.9	10.79
204.4G	5.28	14.16%	16.28	27.07	std 1.00%	0.61'	4.0	0.86	#9 Type 'A'	8.2	18.87
				18.87	std 1.00%	0.56'	3.7	0.77	#10 Type 'C'	7.0	11.87
204.4H	4.46	11.96%	13.75	24.54	std 1.00%	0.59'	3.9	0.83			
204.4I	0.94	2.52%	2.90	27.44	std 1.15%	0.60'	4.2	0.87			
TOTAL 204C-H	37.28	100%	114.92								
204.1F	0.64	100%	3.01	30.45	std 1.15%	0.61	4.3	0.90	#11 Type 'A'	8.2	22.25
				22.25	std 1.15%	0.57	4.0	0.82	#12 Type 'C'	7.5	14.75
				14.75	std 1.15%	0.50	3.3	0.67	#13 Type 'C'	6.0	8.75
					INTERIM SUMP				#13 Type 'Double 'D'	30.5 [1]	0.00

[1] Inlets #11, 12 and 13 are future and will take most of the flow out of the street so as to not overwhelm the downstream system. The interim inlet #13 will be built with Desert Ridge Trails East and will intercept all flow to it, and the downstream pipes are designed for this worst case flow.

Basin No.	Area Ac.	% of Total	SUB-BASIN FLOW (cfs)	Total Flow Approaching inlet (cfs)	Curb Type/Slope	Flow Depth ft[1]	V fps	Energy Depth ft[2]	Inlet # and Type	FLOW INTO INLET	FLOW PAST INLET
204.1E	2.65	100%	12.41	21.16	std 1.15%	0.56	3.9	0.80			
204.1B	8.15	100%	23.56	44.72	std 0.62%	0.78	3.3	0.95	#9A Type 'Double A'	13.0	31.72 [2]
					INTERIM SUMP				#9A Type 'Double 'B'	23.6 [2]	0.00 [2]
HALF OF 204.1E			6.20	6.20	std 0.62%	0.42	2.1	0.49	#7A Type 'A'	3.2	3.00
204.1A	10.82	100%	23.56	26.56	std 0.62%	0.67	3.0	0.81	#6C Type 'Double C'	10.0	16.56
				16.56	std 0.62%	0.58	2.7	0.69	#6B Type 'Double C'	7.8	8.76
				8.76	std 0.62%	0.47	2.3	0.55	#6A Type 'C'	4.1	4.66 [3]
310.0A	4.88	100%	14.08	18.74	std 3.05%	0.46	5.0	0.85			
204.1D	2.00	100%	9.11	27.85	std 3.50%	0.50	6.0	1.06	#8 Type 'A'	9.1	18.75 [4]

[2]*Inlet 9A will not be adequate to intercept all of the flow by itself in the future when the east half of Wyoming is constructed. It is assumed that future construction of the east half of Wyoming Blvd will add additional inlets upstream in San Diego Avenue to intercept these flows before they get to Wyoming Blvd. The interim sump inlet #9A will intercept all of the flow to it from basin 204.1B, and the downstream pipes are designed to handle this worst case flow where all upstream drainage is in the pipe with none left over as surface flow.*

[3]*Interim conditions allow basin 204.1A to cross Wyoming Blvd to the west side of the road where most of the flow is intercepted by inlets 6A, 6B & 6C. It is assumed that all of this flow will be intercepted at this same location in the future when the east half of Wyoming Blvd si constructed so the downstream pipes are designed for all drainage reaching this pointe with no left over surface flow.*

[4]*Basin 310.0A will be diverted north in the east half of Wyoming Blvd with the future construction. Basin 310.0A will flow west in Beverly Hills Blvd on the surface in the interim. The interim flow from basin 310.0A combined with the interim bypass flow described in footnote #3 causes the capacity of Beverly Hills and its inlet to be exceeded, but the bypass flow does not add directly to the peak discharge from the pond due to different timing. It is assumed conservatively that the entire hydrograph from basin 310.0A goes into the pond discharge and downstream surface flows. Future conditions will significantly reduce surface flows in Beverly Hills Blvd.*

TABLE 3 — STREET AND INLET CAPACITIES 10-YR

Basin No.	Area Ac.	% of Total	SUB-BASIN FLOW (cfs)	Total Flow Approaching inlet (cfs)	Curb Type/Slope	Flow Depth ft[1]	V fps	Energy Depth ft[2]	Inlet # and Type	FLOW INTO INLET	FLOW PAST INLET
204.4C	10.00	27.52%	16.56	16.56	std 3.91%	0.42'	5.4	0.87	#1 Type 'A'	7.5	9.06
				9.06	std 3.91%	0.36'	4.7	0.70	#2 Type 'C'	5.6	3.46
204.4D	7.05	19.40%	11.68	15.14	std 3.40%	0.42'	5.0	0.81	#3 Type 'A'	7.0	8.14
				8.14	std 2.90%	0.36	4.0	0.61	#4 Type 'C'	5.2	2.94
204.4E	5.69	15.66%	9.42	12.36	std 1.33%	0.46'	3.3	0.63	#5 Type 'A'	5.4	6.96
				6.96	std 1.33%	0.39	2.9	0.52	#6 Type 'C'	4.2	2.76
204.4F	3.86	10.62%	6.39	9.16	std 4.02%	0.36'	4.8	0.72	#7 Type 'A'	5.6	3.56
				3.56	std 4.02%	0.27'	3.8	0.49	#8 Type 'C'	3.5	0.06
204.4G	5.28	14.53%	8.75	8.80	std 1.00%	0.44'	2.8	0.56	#9 Type 'A'	4.3	4.50
				4.50	std 1.00%	0.36'	2.4	0.45	#10 Type 'C'	2.7	1.80
204.4H	3.52	9.69%	5.83	10.33	std 1.00%	0.61'	4.0	0.86			
204.4I	0.94	2.59%	1.56	11.89	std 1.00%	0.61'	4.0	0.86			
TOTAL 204C-H	36.34	100%	60.19								
204.1F	0.64	100%	1.95	13.84	std 1.15%	0.49	3.3	0.66			
204.1E	2.65	100%	8.02	21.86	std 1.15%	0.56	3.9	0.80			
204.1B	8.15	100%	11.55	33.41	std 0.62%	0.75	3.7	0.96	#9A Type 'Double A'	4.3	29.11
204.1A	10.82	100%	14.72	48.13	std 0.62%	0..28	2.0	0.06	#1 Type 'A'	4.3	43.83

Wyoming Blvd. Is 38' F-F each way (3-11' lanes & a 5' bike lane). The 10-YR allowable spread of water is 27' leaving one 11' lane open. With a normal crown the allowable flow depth is 0.62'. The capacity is 23 cfs in each half of the road where the slope is 0.62%.