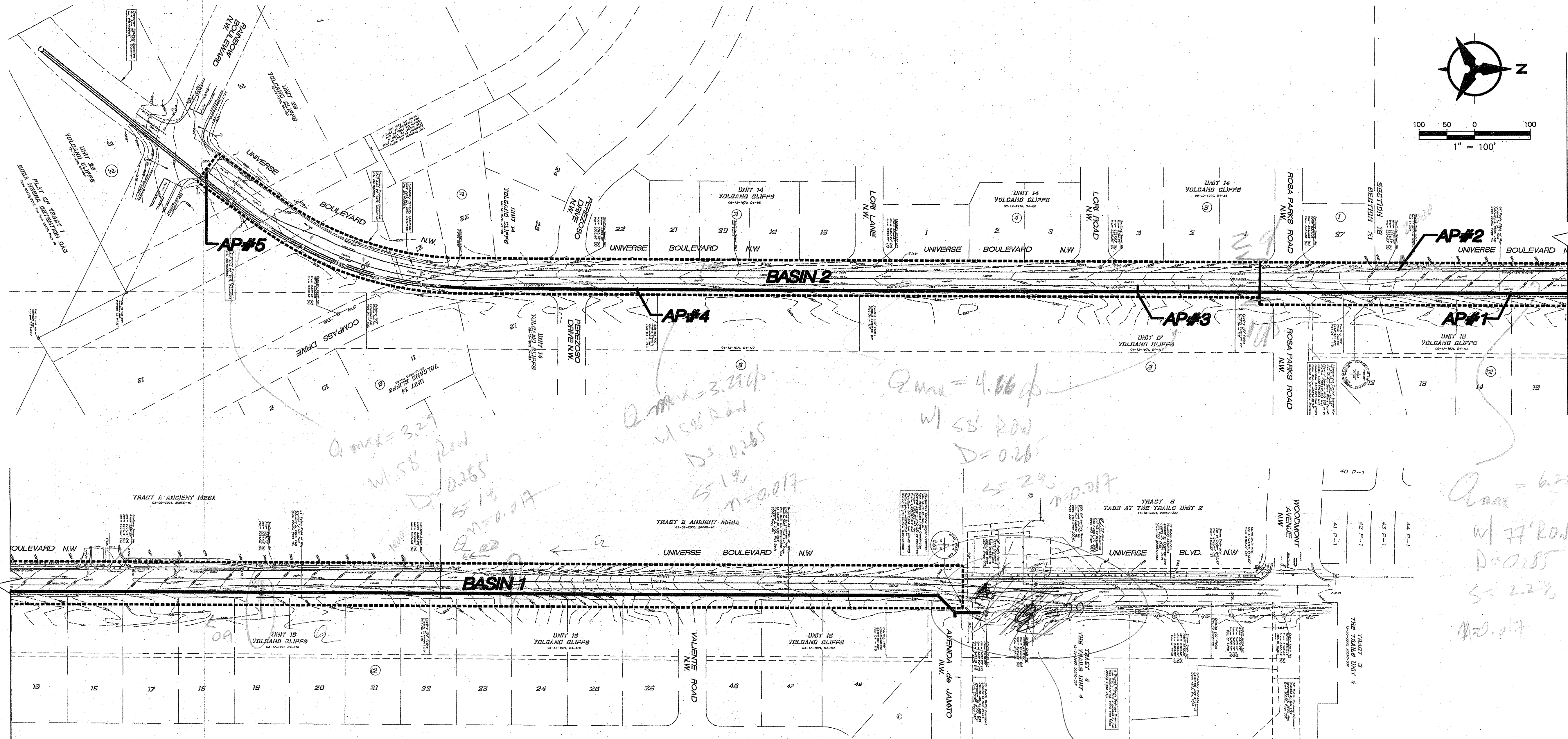


SEE THIS SHEET FOR CONTINUATION



SEE THIS SHEET FOR CONTINUATION

Universe Boulevard									
Proposed Conditions Basin Data Table (10-year)									
This table is based on the DPM Section 22.2, Zone: 1									
Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(10) (cfs/ac.)	Q(10) (CFS)	V(10) (inches)
			A	B	C	D			
PROPOSED									
1	167000	3.83	0.0%	10.0%	0.0%	90.0%	2.68	10.3	1.14
2	124500	2.86	0.0%	10.0%	0.0%	90.0%	2.68	7.7	1.14
TOTAL	291500	6.69	-	-	-	-	-	17.9	-

Universe Boulevard									
Proposed Conditions Basin Data Table (100-year)									
This table is based on the DPM Section 22.2, Zone: 1									
Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100) (cfs/ac.)	Q(100) (CFS)	V(100) (inches)
			A	B	C	D			
PROPOSED									
1	167000	3.83	0.0%	10.0%	0.0%	90.0%	4.14	15.9	1.84
2	124500	2.86	0.0%	10.0%	0.0%	90.0%	4.14	11.8	1.84
TOTAL	291500	6.69	-	-	-	-	-	27.7	-

FUTURE STREET CAPACITY ANALYSIS

I. INTRODUCTION

The purpose of this analysis is to evaluate the street capacity of the future Universe Boulevard roadway to determined stub out locations for future storm drain inlets along the Trails Universe storm drain project. The roadway sections for Universe Boulevard are taken from the Trails Cliffs Sector Development Plan.

II. OFFSITE DRAINAGE

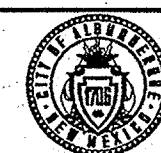
For the purposes of this analysis it is assumed that there are no off-site flows entering the Universe Boulevard right-of-way. Universe Boulevard is higher than the land to the east of the right-of-way. It is assumed that the future SAD 229 storm drain on the west side of the Universe Boulevard right-of-way will extend west of the right-of-way and intercept flows before they enter the right-of-way.

III. STREET CAPACITY ANALYSIS

Universe Boulevard is broken into two drainage basins based on the street sections in the Sector Development Plan. The street capacity analysis looks at both the 10-year and 100-year storms. The analysis of the 10-year storm is to ensure that a portion of the driving lane in each direction is clear of water. The analysis of the 100-year storm is to determine the amount of flow that bypasses the proposed SAD 228 storm inlets on Universe Boulevard north of Rainbow Boulevard. Future and existing storm drain inlets on the west side of Universe Boulevard will need to connect to the SAD 229 storm drain as they will likely have conflicts with the SAD 229 storm drain to be able to connect to the Trails Universe storm drain.

The street and inlet capacity analyses for each of the 5 Analysis Points shown is attached to this submittal. Analysis Point #1 is for a single storm drain inlet on the east side of Universe Boulevard. Analysis Point #2 is for an existing storm drain inlet on the west side of Universe Boulevard. Analysis Points #3 & 4 assume future inlets on both sides of the road. Analysis Point #5 corresponds with proposed inlets to be constructed with SAD 228. The 10-year storm analysis shows that at each of the Analysis Points maintains a minimum clear drive lane from the future median curb or centerline stripe of 8.25 feet. The by-pass flow into the Rainbow/Universe intersection for the 10-year and 100-year storms is 1.9 cfs and 4.3 cfs, respectively.

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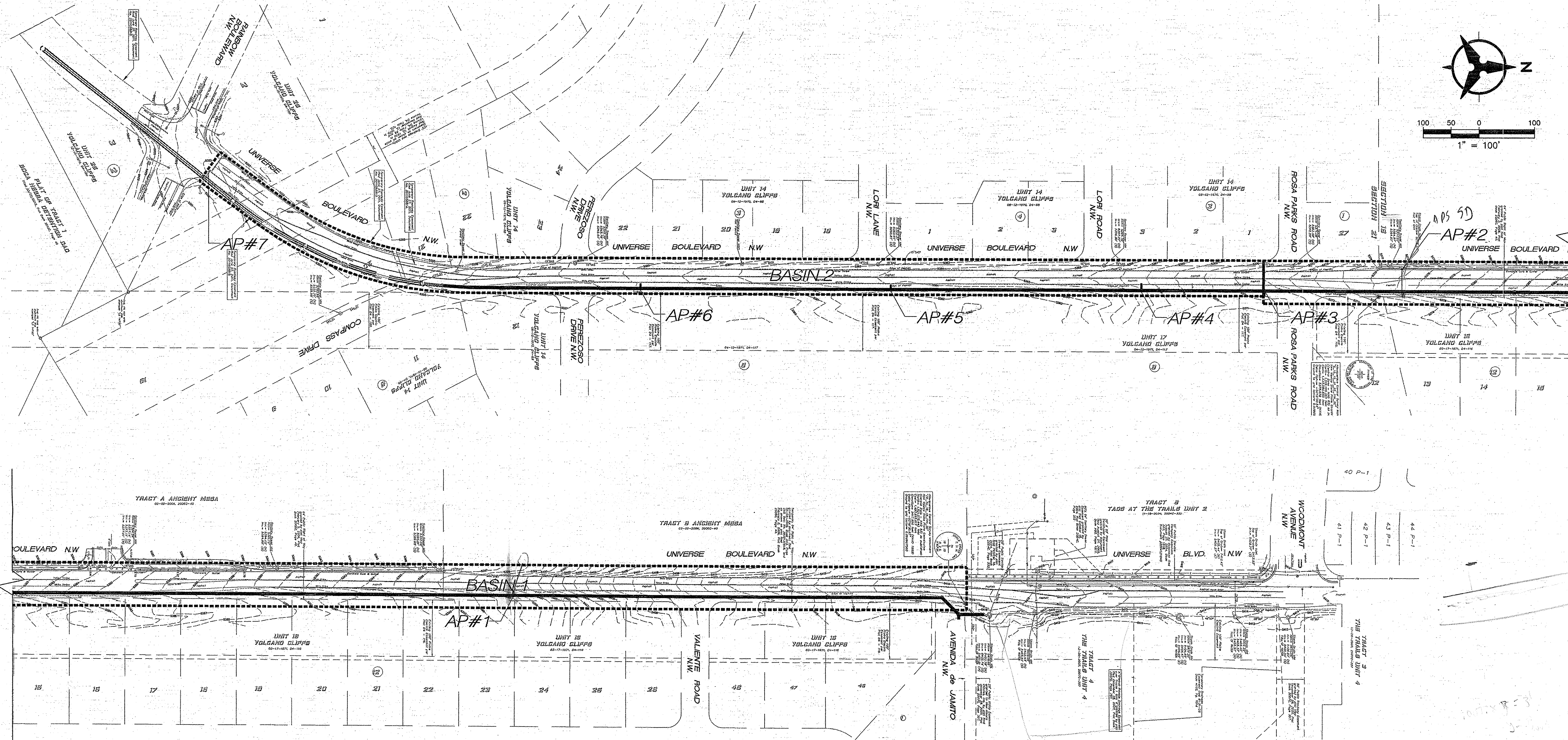


CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

THE TRAILS UNIVERSE STORM DRAIN
FUTURE DRAINAGE PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.
City Project No.	Zone Map No.	Sheet	Of	
XXXXXX	C-09/D-09	3	8	

SEE THIS SHEET FOR CONTINUATION



SEE THIS SHEET FOR CONTINUATION

Universe Boulevard									
Proposed Conditions Basin Data Table (10-year)									
This table is based on the DPM Section 22.2, Zone: 1									
Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(10) (cfs/ac.)	Q(10) (CFS)	V(10) (inches)
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PROPOSED									
1	167000	3.83	0.0%	10.0%	0.0%	90.0%	2.68	10.3	1.14
2	124500	2.86	0.0%	10.0%	0.0%	90.0%	2.68	7.7	1.14
TOTAL	291500	6.69	-	-	-	-	-	17.9	-

Universe Boulevard									
Proposed Conditions Basin Data Table (100-year)									
This table is based on the DPM Section 22.2, Zone: 1									
Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100) (cfs/ac.)	Q(100) (CFS)	V(100) (inches)
			A	B	C	D			
PROPOSED									
1	167000	3.83	0.0%	10.0%	0.0%	90.0%	4.14	15.9	1.84
2	124500	2.86	0.0%	10.0%	0.0%	90.0%	4.14	11.8	1.84
TOTAL	291500	6.69	-	-	-	-	-	27.7	-

FUTURE STREET CAPACITY ANALYSIS

I. INTRODUCTION

The purpose of this analysis is to evaluate the street capacity of the future Universe Boulevard roadway to determined stub out locations for future storm drain inlets along the Trails Universe storm drain project. The roadway sections for Universe Boulevard are taken from the Trails Cliffs Sector Development Plan.

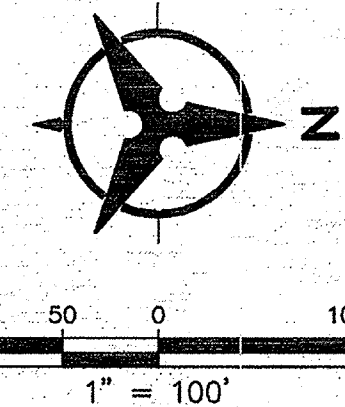
II. OFFSITE DRAINAGE

For the purposes of this analysis it is assumed that there are no off-site flows entering the Universe Boulevard right-of-way. Universe Boulevard is higher than the land to the east of the right-of-way. It is assumed that the future SAD 229 storm drain on the west side of the Universe Boulevard right-of-way will extend west of the right-of-way and intercept flows before they enter the right-of-way.

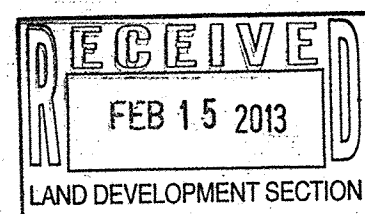
III. STREET CAPACITY ANALYSIS

Universe Boulevard is broken into two drainage basins based on the street sections in the Sector Development Plan. The street capacity analysis looks at both the 10-year and 100-year storms. The analysis of the 10-year storm is to ensure that a portion of the driving lane in each direction is clear of water. The analysis of the 100-year storm is to determine the amount of flow that bypasses the proposed SAD 228 storm inlets on Universe Boulevard north of Rainbow Boulevard. Future and existing storm drain inlets on the west side of Universe Boulevard will need to connect to the SAD 229 storm drain as they will likely have conflicts with the SAD 229 storm drain to be able to connect to the Trails Universe storm drain.

The street and inlet capacity analyses for each of the 7 Analysis Points shown is attached to this submittal. Analysis Point #3 is for a single storm drain inlet on the east side of Universe Boulevard. Analysis Point #2 is for an existing storm drain inlet on the west side of Universe Boulevard. Analysis Points #3 through 6 assume future inlets on both sides of the road. Analysis Point #7 corresponds with proposed inlets to be constructed with SAD 228. The 10-year storm analysis shows that at each of the Analysis Points maintains a minimum clear drive lane from the future median curb or centerline stripe of 7.75 feet. The by-pass flow into the Rainbow/Universe intersection for the 10-year and 100-year storms is 0.3 cfs and 1.1 cfs, respectively.



BENCH MARKS		AS-BUILT INFORMATION	
CONTRACTOR	DATE	CONTRACTOR	DATE
INSPECTOR	DATE	INSPECTOR	DATE
ACCEPTANCE BY	DATE	ACCEPTANCE BY	DATE
VERIFICATION BY	DATE	VERIFICATION BY	DATE
NO.	DATE	NO.	DATE
FIELD NOTES		MICROFILM INFORMATION	
NO.	DATE	NO.	DATE
ENGINEER'S SEAL		REVISIONS	
		No.	Date
		By	Date
REMARKS		DESIGNED BY: SUS	DATE: 10/10/2012
REVISIONS		DRAWN BY: DTH	DATE: 10/10/2012
DESIGN		CHECKED BY: SUS	DATE: 10/10/2012



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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

THE TRAILS UNIVERSE STORM DRAIN
FUTURE DRAINAGE PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.
City Project No.	Zone Map No.	Sheet	Of	
761283	C-09/D-09	3	8	