HUNTER
ENGINEERING

CIVIL AND SURVEY

Preliminary Drainage Report
For
Paseo De Las Flores
7300 Via Paseo Del Sur
Scottsdale, Arizona

EXPIRES: 9/30/18

Plan # _____

Case # 2-PP-2016

Q-S # _____

☑ Accepted

☐ Corrections

N. Baronas 2-29-16

Reviewed By Date

January 2016

Prepared by:
Hunter Engineering, P.C.
10450 North 74th Street, #200
Scottsdale, AZ 85258

PRELIMINARY DRAINAGE REPORT
FOR

PASEO DE LAS FLORES
7300 VIA PASEO DEL SUR
SCOTTSDALE, ARIZONA

PREPARED FOR

LGE CORPORATION
740 NORTH 52ND STREET, SUITE 200
PHOENIX, AZ 85018

PREPARED BY

JOE BURKE
HUNTER ENGINEERING, P.C.
10450 NORTH 74TH STREET, #200
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(480) 991-3985

January 2016
H.E. PROJECT NO.: LGEC202

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EXPIRES: 9/30/18

1.0 INTRODUCTION

This drainage report has been prepared under a contract from LGE Corporation developer of the Paseo De Las Flores project. The purpose of this report is to provide a sewer analysis, as required by the City of Scottsdale, to support this development. This report has been prepared according to the procedures detailed in Chapter 4 of the City of Scottsdale's Design Standards & Policies Manual dated January 2010.

The project is located at 7300 Via Paseo Del Sur south of the intersection of McCormick Pkwy and Hayden, within the City of Scottsdale, Maricopa County, Arizona. The parcel is bound by developed roads to the northwest and the west. Also there is a parcel to the northeast and the south. The site is specifically located within the northwest quarter of the southwest quarter of the northwest quarter of the southwest quarter of Section 1, Township 2 North, Range 4 East, of the Gila and Salt River Base and Meridian. Figure 1, in Appendix A, illustrates the location of the project site in relation to the City of Scottsdale street system.

The development is for restaurants, offices, and retail shops on approximately 2.65-acres of land. Improvements to be made on-site include two proposed buildings, at grade parking, detention basins, landscaping and utilities. Figure 2, in Appendix A, illustrates the site plan for the development.

2.0 EXISTING DRAINAGE CONDITIONS

The site is currently developed with an existing single-story stucco building that was used for church facilities with parking. The site is bordered by park area to the north, Paseo Del Sur roadway to the east, an apartment development to the south and Hayden Road to the west. It appears that no offsite drainage flow enters this site.

This site has been previously developed and currently occupies and existing church facility building with parking, pavement, curbing, sidewalks and landscaping. Exhibit A included in the back pocket of this report identifies the impervious area as hardscape (HA) and the pervious area as landscaping (LA). Calculations are provided on the exhibit with runoff coefficients for each type of area and ratio calculations.

The current FEMA Flood Insurance Rate Map (FIRM) for this area, map number 04013C1770 L (Revision date October 16, 2013) shows the entire project site is in a flood hazard Zone X. Zone X is defined on this map as, "*Areas determined to be outside the 0.2% annual chance floodplain.*"

3.0 PROPOSED DRAINAGE CONCEPT

The proposed drainage concept is presented in three parts: on-site drainage conveyance, off-site drainage conveyance, and storm water retention. These three sections make up sections 3.1, 3.2, and 3.3 respectively.

Exhibit A, located in the back pocket, provides a graphical illustration of the proposed drainage concept.

3.1 On-site Drainage Conveyance

The onsite improvements for the new development will be graded such to direct the runoff from the building roof, parking, sidewalks and landscape area south via sheet flow and curb flow to proposed 1-ft deep retention basin that will be located adjacent to Hayden Road and located in small areas on the south side of the site. A proposed swale to be located adjacent to the south site boundary between the proposed parking and existing screen wall will collect drainage from the site and carry it west to the proposed retention basin. Other site areas will drain to the retention basin via sheet and curb flow to curb openings. No catch basins, storm drain piping or underground retention are proposed for this site.

3.2 Off-site Drainage Conveyance

There appears to be no offsite drainage which enters this site. The proposed site development will not change drainage patterns to allow for offsite flows to enter the site.

3.3 Storm Water Retention

The City of Scottsdale requires Pre versus Post development runoff for the 100-year, 2-hour or the first flush (0.5-inches) generated from the project site be retained, whichever is greater.

To calculate Pre versus Post required retention, a weighted C-value was calculated for existing and proposed conditions. A weighted drainage area was determined and volume required for the 100-year, 2-hour storm was calculated. See below.

Total site area = 114,432 SF
C = Runoff Coefficient
C = 0.95 Hardscape area (pavement, building, sidewalk)
C = 0.45 Landscape area
P = precipitation depth (inches) 2.19 (100-yr, 2-hour storm)
HA = hardscape are (pavement, building, sidewalk)
LA = landscape area
VR = Required retention volume (CF) = C*P/12*A

Pre-Development
HA = 69,217 SF, LA = 45,215 SF
VR = (0.95)*(69,217 SF) + (0.45)*(45,215 SF) * 2.19/12 = 15,714 CF

Post-Development
HA = (0.95)*(89,142 SF) + (0.45)*(25,290 SF) * 2.19/12 = 17,532 CF

Required Retention Volume = 17,532 CF – 15,714 CF = 1,818 CF

The volume requirement of 1,818 cubic-feet will be satisfied by two on-site retention basin. The ponding depth for the 100-year, 2-hour storm event in the retention basin will not exceed 1.0 ft. Therefore, drywells will not be required. Storm water in the retention facilities will percolate into the ground via natural percolation and drywells within the retention basins and a swale located along the south property line within the required 36 hours.

The 100-yr high water surface elevation for the retention basins shall be 1288.00, which is more than 14" lower than the lowest finished floor elevation of 1292.00.

The existing extreme storm outfall for this site is 1288.22 on the existing sidewalk in Hayden Road near the southwest corner of the site. This elevation is currently greater than 14" below the lowest finished floor elevation of 1292.00.

4.0 CONCLUSIONS

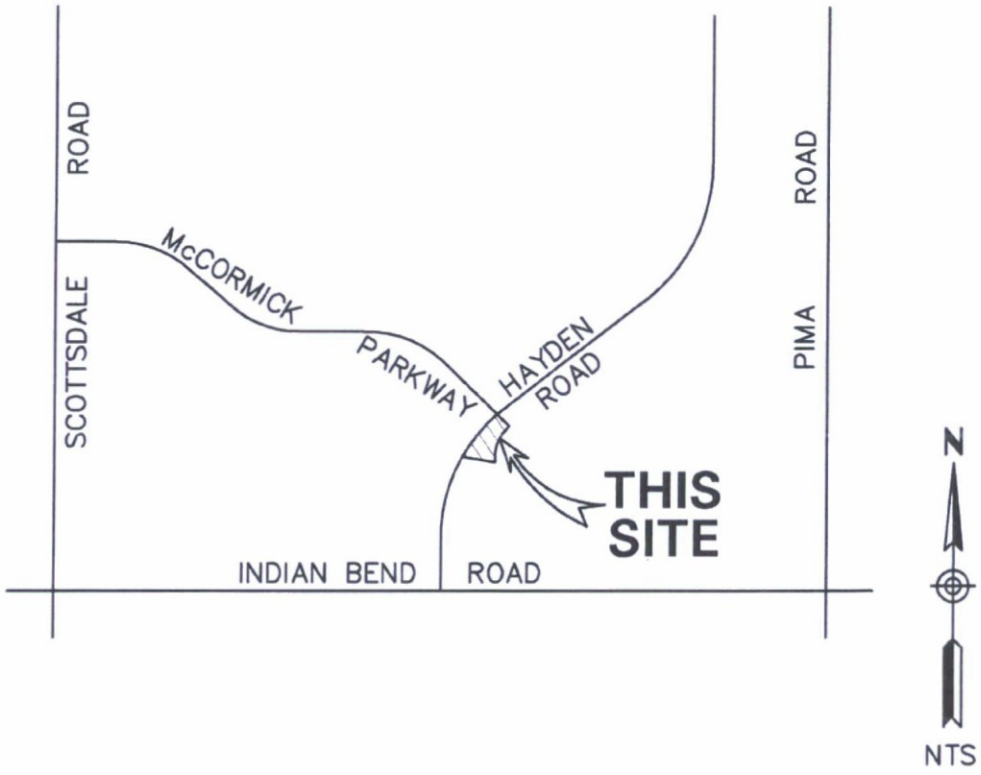
Based on the results of this study, it can be concluded that:

- The site will retain the development retention requirements for the 100-year, 2-hour storm event for the difference between pre-development and post-development conditions.
- The proposed finished floor elevation is a minimum pf 14-inches above the 100-year water surface elevation in the proposed retention basin and the extreme storm outfall.

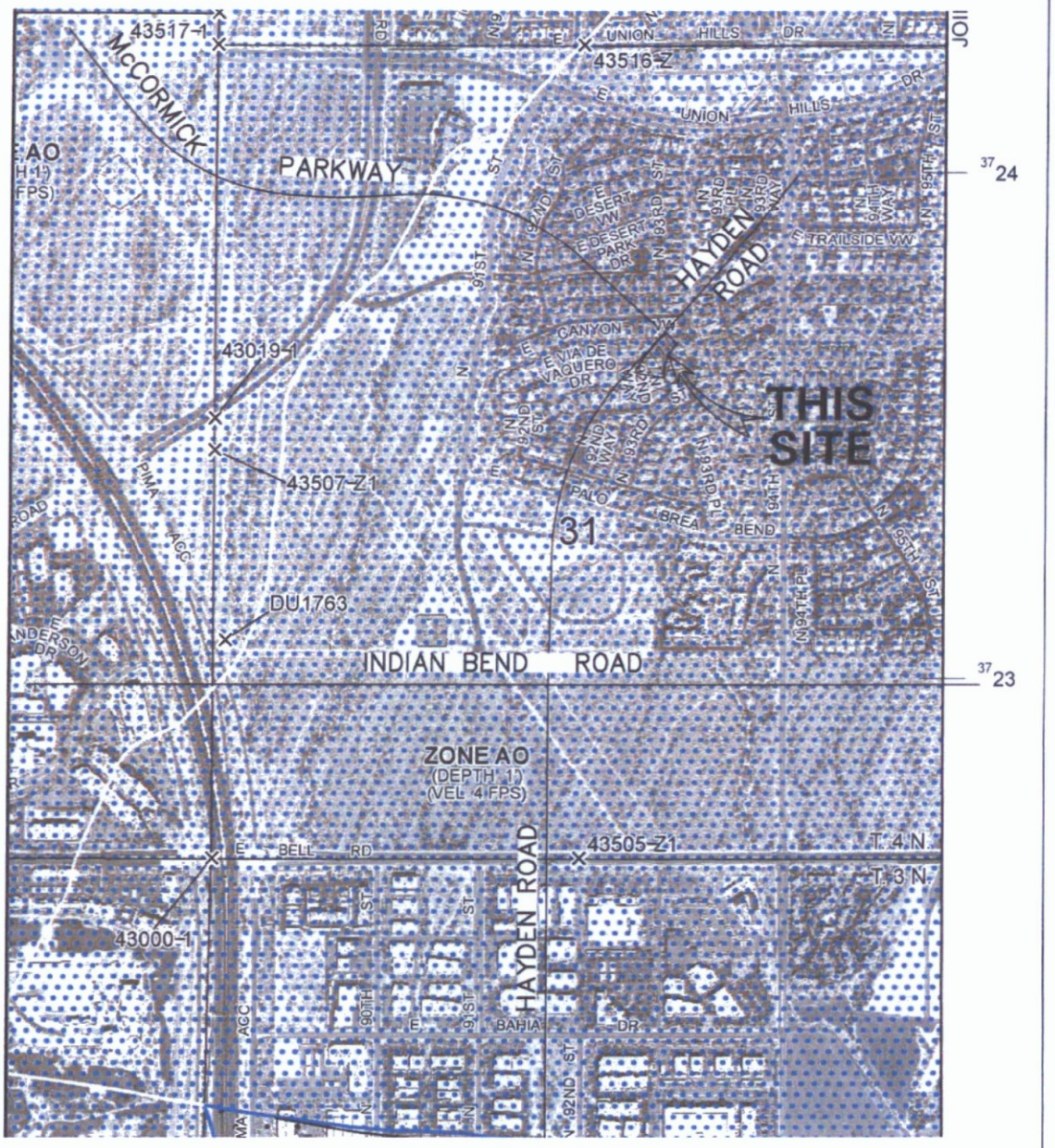
5.0 REFERENCES

1) City of Scottsdale Design Standards and Policies manual, February 7, 2010.
2) Drainage Design Manual for Maricopa County, Arizona, Hydrology, February 2011.
3) Drainage Design Manual for Maricopa County, Arizona, Hydraulics, June 2010.

APPENDIX A
FIGURES



VICINITY MAP
FIGURE 1



PORTION OF PANEL SHOWING SITE
FIGURE 2

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

———	1% annual chance floodplain boundary
———	0.2% annual chance floodplain boundary
—— — ——	Floodway boundary
—— ——	Zone D boundary
●●●●●●●●●●	CBRS and OPA boundary

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA

AND INCORPORATED AREAS

PANEL 1320 OF 4425

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1320	L
PHOENIX, CITY OF	040051	1320	L
SCOTTSDALE, CITY OF	045012	1320	L

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
04013C1320L

MAP REVISED
OCTOBER 16, 2013

Federal Emergency Management Agency

MAP LEGEND **FIRM PANEL**

APPENDIX B
DRAINAGE CALCULATIONS

Provided Retention Basin Calculations

BASIN 1

Elevation	Area (ft^2)	Avg. Area (ft^2)	Depth (ft)	Volume (ft^3)	Σ Volume
1288.00	3,097				
		2,467	1.00	2,467	2,467
1287.00	1,837				

BASIN 2

Elevation	Area (ft^2)	Avg. Area (ft^2)	Depth (ft)	Volume (ft^3)	Σ Volume
1288.00	1,538				
		1,142	1.00	1,142	1,142
1287.00	745				

3,609	**ft^3**	**TOTAL PROVIDED**
1,818	**ft^3**	**TOTAL REQUIRED**
1,791	**ft^3**	**EXCESS**

NOAA Atlas 14, Volume 1, Version 5
Location name: Scottsdale, Arizona, US*
Latitude: 33.5395°, Longitude: -111.9072°
Elevation: 1291 ft*
* source: Google Maps

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.186 (0.155-0.228)	0.243 (0.203-0.297)	0.329 (0.273-0.402)	0.395 (0.326-0.481)	0.485 (0.394-0.588)	0.554 (0.444-0.667)	0.625 (0.492-0.751)	0.697 (0.539-0.836)	0.793 (0.598-0.953)	0.867 (0.641-1.04)
10-min	0.283 (0.235-0.347)	0.369 (0.309-0.453)	0.500 (0.415-0.611)	0.601 (0.496-0.732)	0.738 (0.599-0.894)	0.843 (0.676-1.02)	0.951 (0.749-1.14)	1.06 (0.821-1.27)	1.21 (0.910-1.45)	1.32 (0.975-1.59)
15-min	0.350 (0.292-0.430)	0.458 (0.383-0.561)	0.620 (0.515-0.758)	0.745 (0.615-0.907)	0.914 (0.743-1.11)	1.04 (0.838-1.26)	1.18 (0.928-1.42)	1.31 (1.02-1.58)	1.50 (1.13-1.80)	1.64 (1.21-1.97)
30-min	0.472 (0.393-0.579)	0.617 (0.516-0.755)	0.835 (0.693-1.02)	1.00 (0.829-1.22)	1.23 (1.00-1.49)	1.41 (1.13-1.70)	1.59 (1.25-1.91)	1.77 (1.37-2.12)	2.02 (1.52-2.42)	2.20 (1.63-2.65)
60-min	0.584 (0.486-0.716)	0.763 (0.638-0.935)	1.03 (0.858-1.26)	1.24 (1.03-1.51)	1.52 (1.24-1.85)	1.74 (1.40-2.10)	1.96 (1.55-2.36)	2.19 (1.70-2.63)	2.49 (1.88-3.00)	2.73 (2.02-3.28)
2-hr	0.680 (0.574-0.813)	0.879 (0.745-1.05)	1.17 (0.989-1.40)	1.40 (1.17-1.67)	1.71 (1.41-2.02)	1.94 (1.58-2.30)	2.19 (1.75-2.58)	2.43 (1.91-2.87)	2.76 (2.12-3.26)	3.02 (2.27-3.58)
3-hr	0.749 (0.632-0.910)	0.960 (0.813-1.17)	1.26 (1.06-1.53)	1.50 (1.25-1.80)	1.82 (1.50-2.19)	2.09 (1.69-2.49)	2.37 (1.88-2.82)	2.65 (2.08-3.16)	3.05 (2.31-3.63)	3.37 (2.49-4.02)
6-hr	0.900 (0.777-1.07)	1.14 (0.984-1.35)	1.46 (1.25-1.72)	1.71 (1.46-2.01)	2.06 (1.73-2.40)	2.33 (1.93-2.71)	2.61 (2.13-3.04)	2.90 (2.32-3.38)	3.30 (2.57-3.84)	3.61 (2.75-4.21)
12-hr	0.999 (0.869-1.17)	1.26 (1.09-1.47)	1.59 (1.38-1.85)	1.86 (1.60-2.15)	2.21 (1.88-2.56)	2.48 (2.09-2.87)	2.76 (2.29-3.19)	3.04 (2.49-3.52)	3.42 (2.73-3.98)	3.72 (2.91-4.35)
24-hr	1.18 (1.04-1.35)	1.49 (1.32-1.72)	1.93 (1.70-2.22)	2.28 (2.00-2.62)	2.76 (2.40-3.16)	3.14 (2.72-3.59)	3.54 (3.04-4.05)	3.95 (3.36-4.52)	4.51 (3.80-5.16)	4.96 (4.13-5.70)
2-day	1.27 (1.12-1.45)	1.62 (1.43-1.86)	2.13 (1.87-2.43)	2.53 (2.21-2.89)	3.09 (2.69-3.53)	3.54 (3.05-4.03)	4.01 (3.44-4.58)	4.50 (3.83-5.14)	5.18 (4.36-5.93)	5.72 (4.76-6.58)
3-day	1.35 (1.19-1.54)	1.72 (1.52-1.97)	2.27 (1.99-2.59)	2.70 (2.37-3.08)	3.31 (2.89-3.78)	3.81 (3.29-4.33)	4.33 (3.72-4.93)	4.88 (4.16-5.56)	5.65 (4.76-6.44)	6.27 (5.23-7.17)
4-day	1.43 (1.26-1.63)	1.82 (1.61-2.08)	2.40 (2.12-2.74)	2.87 (2.52-3.27)	3.54 (3.09-4.03)	4.08 (3.54-4.63)	4.65 (4.01-5.28)	5.26 (4.49-5.99)	6.12 (5.16-6.96)	6.82 (5.69-7.77)
7-day	1.60 (1.40-1.83)	2.04 (1.79-2.34)	2.70 (2.36-3.08)	3.22 (2.81-3.68)	3.97 (3.45-4.53)	4.58 (3.95-5.21)	5.21 (4.47-5.94)	5.90 (5.01-6.73)	6.86 (5.75-7.83)	7.63 (6.34-8.73)
10-day	1.73 (1.52-1.97)	2.21 (1.95-2.52)	2.92 (2.56-3.32)	3.48 (3.05-3.96)	4.28 (3.73-4.85)	4.92 (4.26-5.57)	5.59 (4.81-6.34)	6.30 (5.38-7.15)	7.30 (6.16-8.28)	8.10 (6.76-9.20)
20-day	2.13 (1.88-2.42)	2.74 (2.42-3.10)	3.61 (3.19-4.09)	4.28 (3.76-4.84)	5.17 (4.53-5.84)	5.86 (5.10-6.61)	6.55 (5.69-7.41)	7.26 (6.27-8.22)	8.21 (7.03-9.32)	8.95 (7.60-10.2)
30-day	2.49 (2.19-2.82)	3.20 (2.83-3.63)	4.22 (3.71-4.77)	4.99 (4.38-5.63)	6.02 (5.27-6.80)	6.82 (5.94-7.69)	7.63 (6.62-8.60)	8.46 (7.30-9.53)	9.57 (8.20-10.8)	10.4 (8.87-11.8)
45-day	2.87 (2.55-3.25)	3.70 (3.28-4.18)	4.87 (4.31-5.50)	5.74 (5.07-6.47)	6.88 (6.05-7.76)	7.74 (6.78-8.72)	8.61 (7.50-9.70)	9.47 (8.22-10.7)	10.6 (9.14-12.0)	11.5 (9.82-13.0)
60-day	3.17 (2.82-3.56)	4.09 (3.64-4.60)	5.37 (4.77-6.04)	6.31 (5.59-7.09)	7.52 (6.65-8.45)	8.42 (7.41-9.46)	9.32 (8.17-10.5)	10.2 (8.91-11.5)	11.3 (9.85-12.8)	12.2 (10.5-13.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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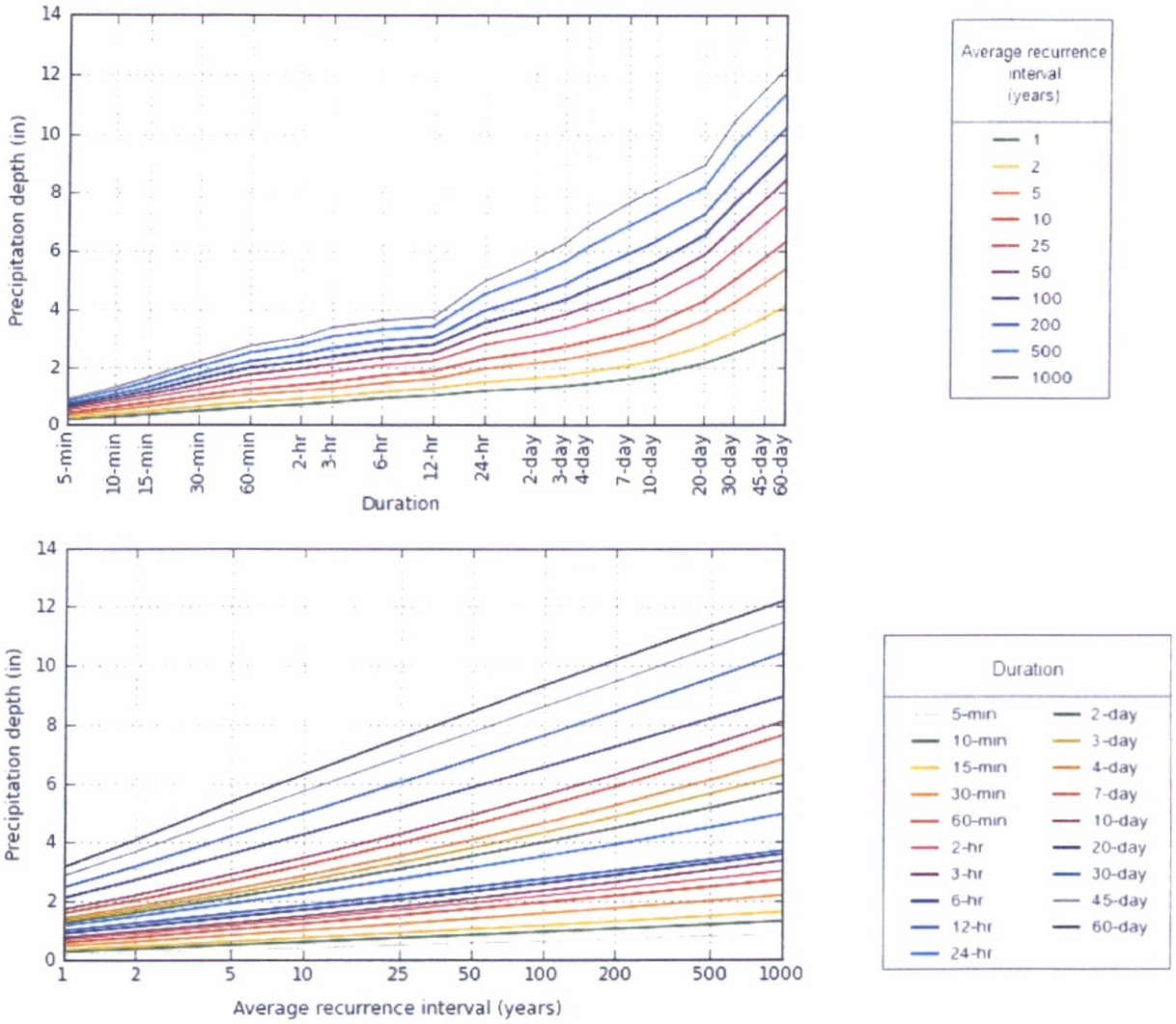
PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 33.5395°, Longitude: -111.9072°



NOAA Atlas 14, Volume 1, Version 5

Created (GMT): Sat Jan 30 19:11:52 2016

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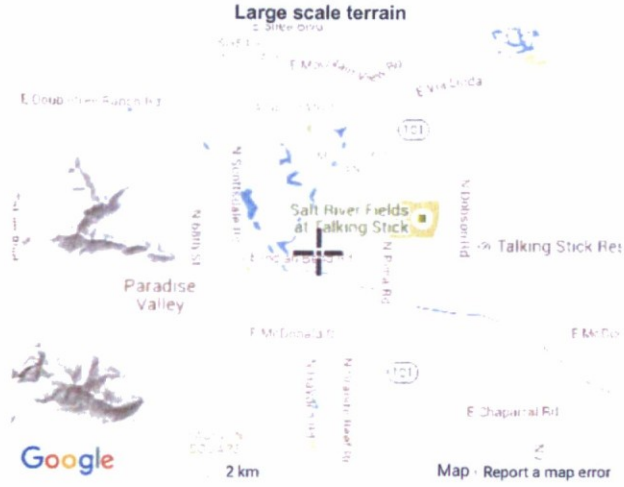
Maps & aerials

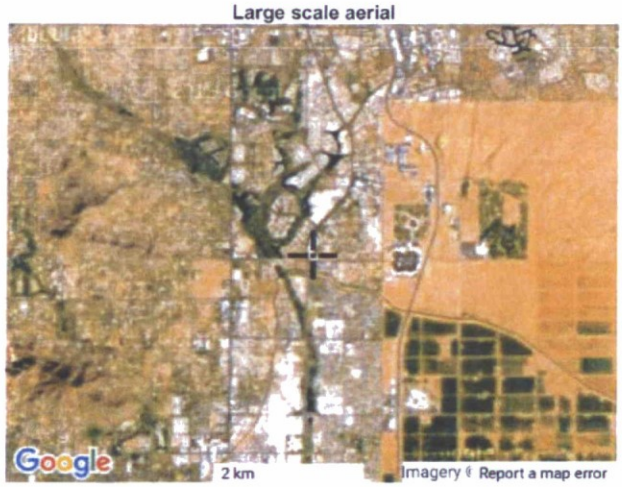
Small scale terrain

Large scale terrain



Large scale map

Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

2. Time of Concentration

Time of concentration "**Tc**" is the total time of travel from the most hydraulically remote part of the watershed to the concentration point of interest. The calculation of "Tc" must follow FCDMC Hydrology Manual procedures.

***Note:** **Do not add a standard set amount of time to the estimated "Tc" for lot runoff delay (such as 5 or 10 minutes).** Natural land slopes are too variable in Scottsdale to add a set amount of time for lot runoff.

3. Runoff Coefficients

Use Figure 4.1-4 or equivalent to obtain the runoff coefficients or "**C**" values. Composite "**C**" values for the appropriate zoning category or weighted average values calculated for the specific site are both acceptable approaches.

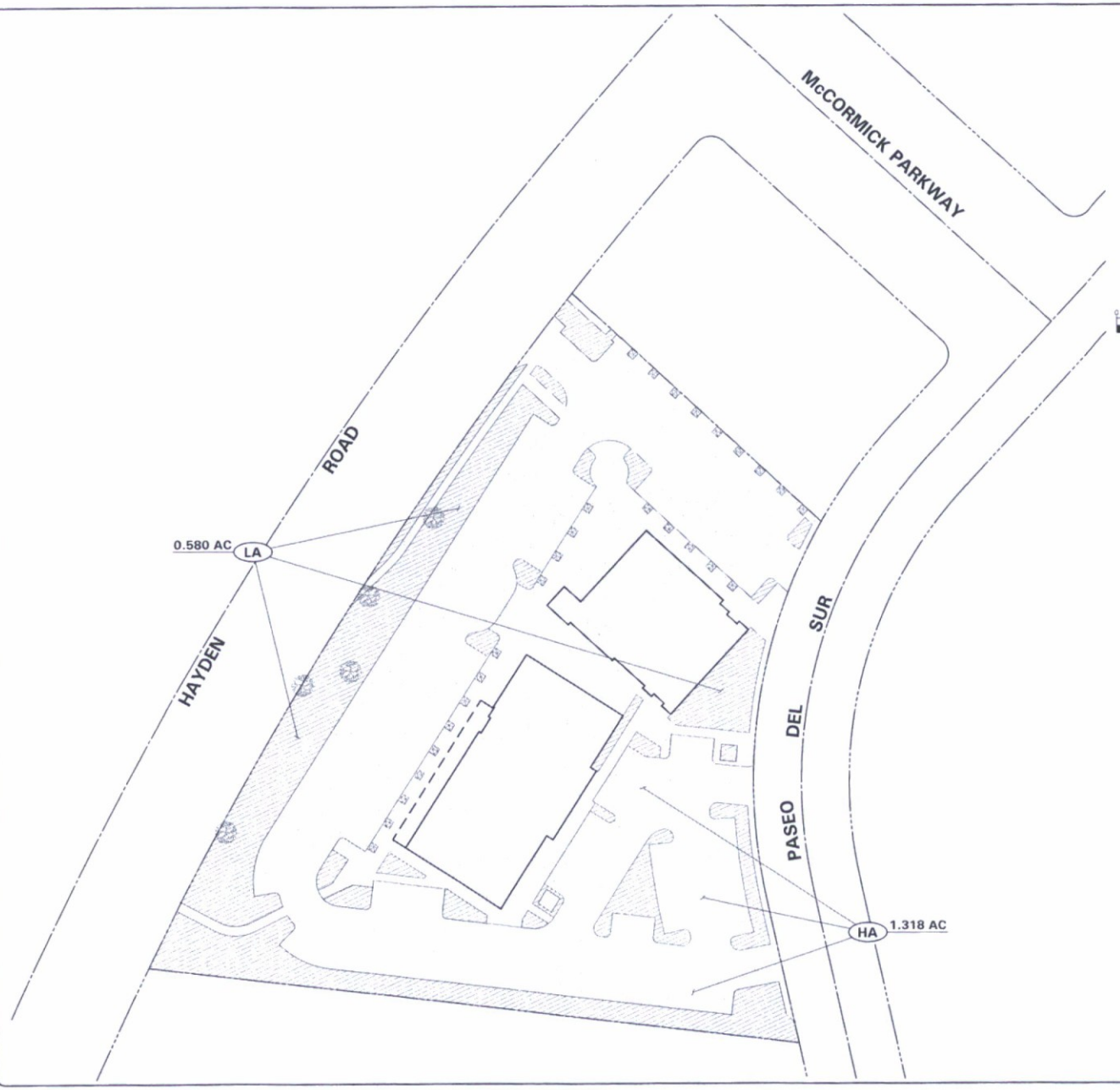
RUNOFF COEFFICIENTS - "C" VALUE

Land Use	Storm Frequency		
Composite Area-wide Values	2-25 Year	50 Year	100 Year
Commercial & Industrial Areas	0.80	0.83	0.86
Residential Areas-Single Family (average lot size)			
R1-1-1901	0.33	0.50	0.53
R1-130	0.35	0.51	0.59
R1-70	0.37	0.52	0.60
R1-43	0.38	0.55	0.61
R1-35 (35,000 square feet/lot)	0.40	0.56	0.62
R1-18 (18,000 square feet/lot)	0.43	0.58	0.64
R1-10 (10,000 square feet/lot)	0.47	0.62	0.67
R1-7 (7,000 square feet/lot)	0.51	0.64	0.94
Townhouses (R-2, R-4)	0.63	0.74	0.94
Apartments & Condominiums (R-3, R-5)	0.76	0.83	0.94
Specific Surface Type Values			
Paved streets, parking lots (concrete or asphalt), roofs, drive-ways, etc.	0.90	0.93	0.95
Lawns, golf courses, & parks (grassed areas)	0.20	0.25	0.30
Undisturbed natural desert or desert landscaping (no impervious weed barrier)	0.37	0.42	045
Desert landscaping (with impervious weed barrier)	0.63	0.73	0.83
Mountain terrain – slopes greater than 10%	0.60	0.70	0.80
Agricultural areas (flood-irrigated fields)	0.16	0.18	0.20

FIGURE 4.1-4 RUNOFF COEFFICIENTS FOR USE WITH RATIONAL METHOD

PROPOSED CONDITIONS EXHIBIT
FOR
PASEO DE LAS FLORES
7300 VIA PASEO DEL SUR
SCOTTSDALE, ARIZONA

A PORTION OF SOUTHWEST QUARTER OF SECTION 1, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



VICINITY MAP

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FAX: (480) 991-3986
CONTACT: LARRY TALBOTT, P.E.

WEIGHTED DRAINAGE AREA CALCULATIONS

TOTAL SITE AREA = 114,432 SF

C(HA)=0.95, C(LA)=0.45, HA = HARDSCAPE AREA (PVMT, BUILDING, ETC.) LA = LANDSCAPE AREA

TOTAL HA = 89,142 SF
89,142 X 0.95 = 84,685 SF

TOTAL LA = 25,290 SF
25,290 X 0.45 = 11,380 SF

WEIGHTED DRAINAGE AREA = 84,685 SF + 11,380 SF = 96,065 SF

VR = 96,065 SF X 2.19/12 = 17,532 CF

LEGEND

DRAINAGE AREA BOUNDARY

FLOW ARROW

HARDSCAPE AREA PAVEMENT/BUILDING — HA 2.004 AC

LANDSCAPE AREA — LA 0.616 AC

PLANTER BOXES — LA 0.016 AC

NO.	DATE	REVISION	BY

PURPOSE: CONCEPT REVIEW

DESIGN BY: LMT
DRAWN BY: MMK
CHECKED BY: LMT

HUNTER ENGINEERING
CIVIL AND SURVEY
10450 NORTH 74TH STREET, SUITE 200
SCOTTSDALE, AZ 85258
T 480 991 3985
F 480 991 3986

PRELIMINARY PLANS – NOT FOR CONSTRUCTION

PROPOSED CONDITIONS DRAINAGE EXHIBIT FOR PASEO DE LAS FLORES 7300 VIA PASEO DEL SUR SCOTTSDALE, AZ

CALL TWO WORKING DAYS BEFORE YOU DIG (602)263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

THESE PLANS ARE NOT APPROVED FOR CONSTRUCTION WITHOUT AN APPROVED SIGNATURE FROM THE GOVERNING MUNICIPALITY.

HE JOB NO.: LGEC202

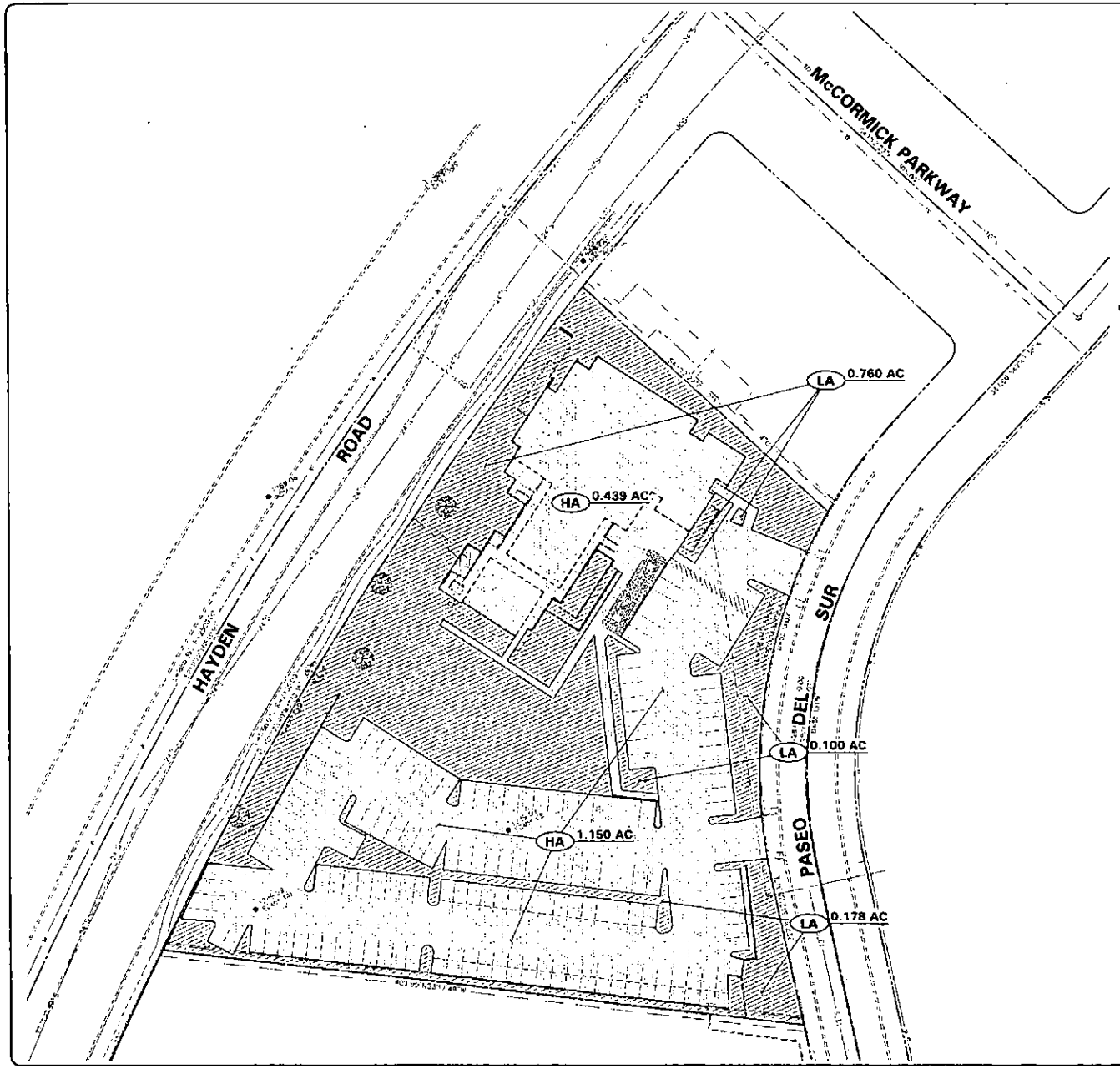
SCALE 1" = 30'

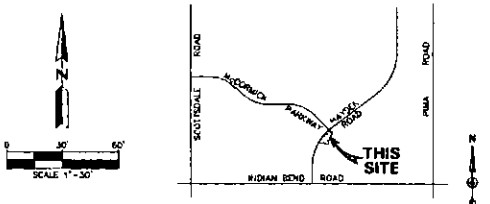
SHEET EXB1

OF 2

EXISTING CONDITIONS EXHIBIT
FOR
PASEO DE LAS FLORES
7300 VIA PASEO DEL SUR
SCOTTSDALE, ARIZONA

A PORTION OF SOUTHWEST QUARTER OF SECTION 1, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.





VICINITY MAP

DEVELOPER
LGE CORPORATION
740 N. 52ND STREET, SUITE 200
PHOENIX, ARIZONA 85018
PHOEN:(480) 966-4001
FAX:(480) 966-9001
CONTACT: FRANK PETTIT

ARCHITECT
LGE CORPORATION
740 N. 52ND STREET, SUITE 200
PHOENIX, ARIZONA 85018
PHOEN:(480) 966-4001
FAX:(480) 966-9001
CONTACT: VINCE DALPE

CIVIL ENGINEER
HUNTER ENGINEERING, INC.
10450 N. 74TH STREET, SUITE #200
SCOTTSDALE, ARIZONA 85258
PHONE: (480) 991-3985
FAX: (480) 991-3986
CONTACT: LARRY TALBOTT, P.E.

WEIGHTED DRAINAGE AREA CALCULATIONS

TOTAL SITE AREA = 114,432 SF

C(HA)=0.95, C(LA)=0.45 — HA = HARDSCAPE AREA (PVMT, BUILDING, ETC.) LA = LANDSCAPE AREA

TOTAL HA = 69,217 SF
69,217 x 0.95 = 65,756 SF

TOTAL LA = 45,215 SF
45,215 x 0.45 = 20,347 SF

WEIGHTED DRAINAGE AREA = 65,756 SF + 20,347 SF = 86,103 SF

VR = 86,103 SF x 2.19/12 = 15,714 CF

LEGEND

DRAINAGE AREA BOUNDARY

FLOW ARROW

HARDSCAPE AREA PAVEMENT/BUILDING — HA 0.000 AC

LANDSCAPE AREA — LA 0.000 AC

NO.	DATE	REVISION	BY

PURPOSE: CONCEPT REVIEW

DESIGN BY: LMT
DRAWN BY: MJR
CHECKED BY: LMT

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CIVIL AND SURVEY
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SUITE 200
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PRELIMINARY PLANS
-
NOT FOR CONSTRUCTION

EXISTING CONDITIONS DRAINAGE EXHIBIT
FOR
PASEO DE LAS FLORES
7300 VIA PASEO DEL SUR
SCOTTSDALE, AZ

CALL THE BLUE STAKE, INC. BEFORE YOU DIG (602) 263-1100 OR 1-800-STAKE-IT (NOT IN MARICOPA COUNTY)

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HE JOB NO.
LGEC202

SCALE
1" = 30'

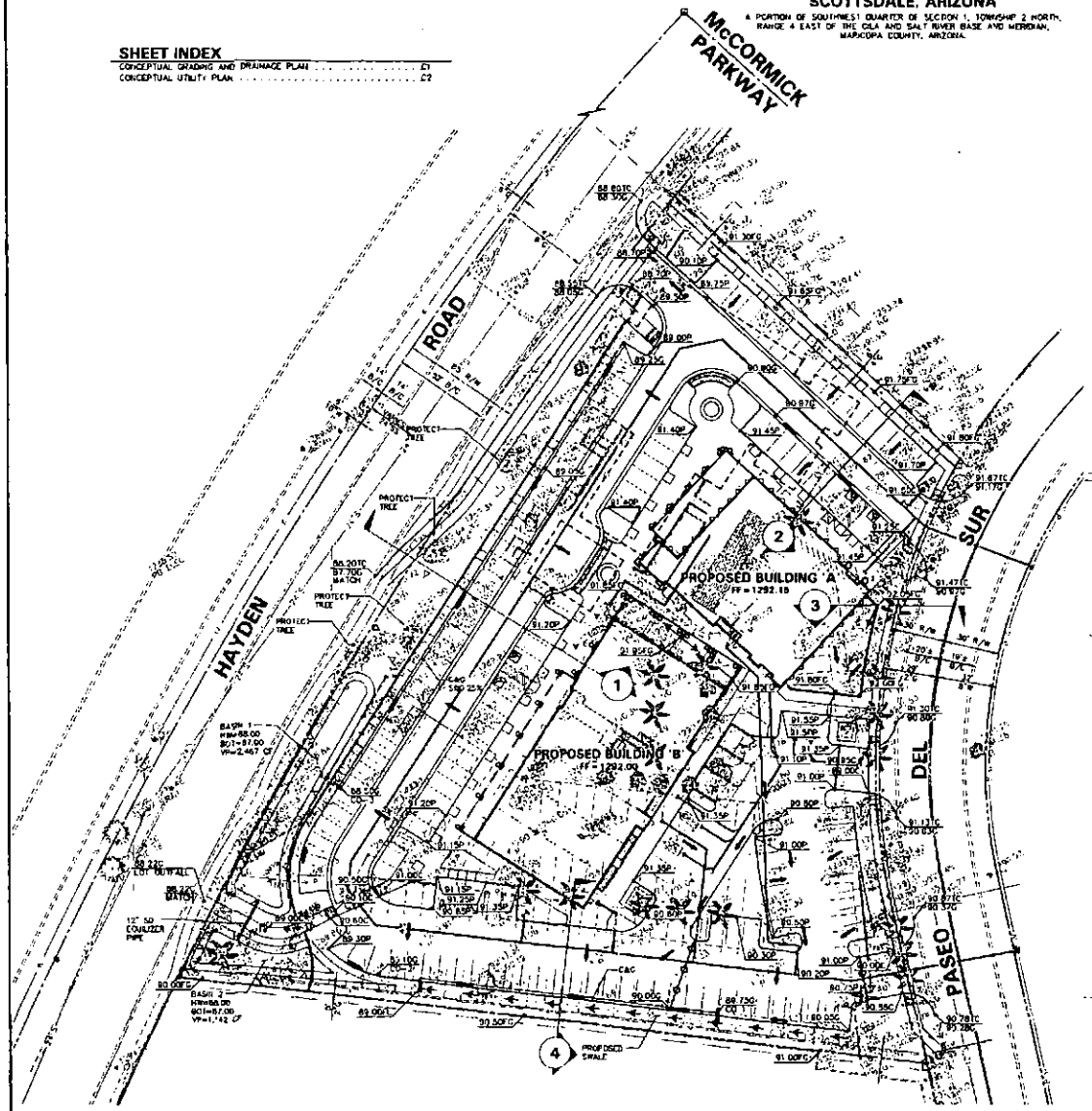
SHEET
EXB1

of 2

CONCEPTUAL GRADING & DRAINAGE PLAN
FOR
PASEO DE LAS FLORES
7300 VIA PASEO DEL SUR
SCOTTSDALE, ARIZONA

A PORTION OF SOUTHWEST QUARTER OF SECTION 1, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.

SHEET INDEX



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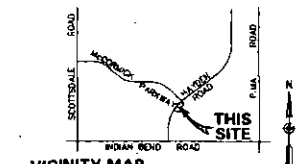
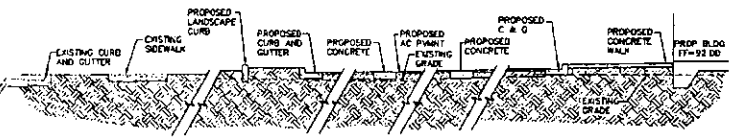


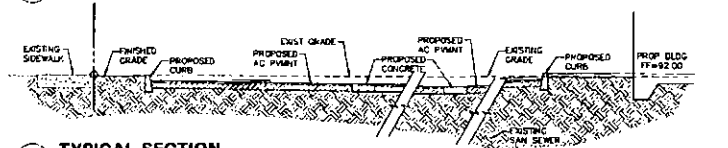
VICINITY MAP

BENCHMARK
A CITY OF SCOTTSDALE BRASS CAP IN HAND HOLE FOUND AT THE INTERSECTION OF HAYDEN ROAD AND INDIAN BEND ROAD.
ELEVATION = 1284.55 (NAVD '88 DATUM)

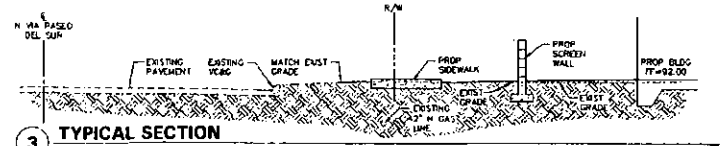
BASIS OF BEARING
THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 1, TOWNSHIP 2 NORTH, RANGE 4 EAST, AS RECORDED IN THE FINAL PLAT OF "AMENDED PASEO VILLAGE", BOOK 134, PAGE 13, MARICOPA COUNTY RECORDERS, HAVING A BEARING OF N 88°28'59" W



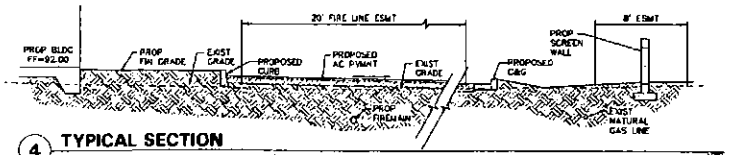
1 **TYPICAL SECTION** NTS



2 **TYPICAL SECTION** NTS



3 **TYPICAL SECTION** NTS



4 **TYPICAL SECTION** NTS

NO	DATE	REVISION	BY

PROJECT: CONCEPT REVIEW

DESIGN BY: LMT
DRAWN BY: MAK
CHECKED BY: LMT

HUNTER ENGINEERING
CIVIL AND SURVEY
10450 NORTH 74TH STREET, SUITE 150
SCOTTSDALE, ARIZONA 85258
T (480) 991-3985
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PRELIMINARY PLANS - NOT FOR CONSTRUCTION

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1 OF 2