

IN THE SUPREME COURT OF THE STATE OF NEVADA

CITY OF LAS VEGAS, A POLITICAL
SUBDIVISION OF THE STATE OF
NEVADA,

Appellant,

vs.

180 LAND CO., LLC, A NEVADA LIMITED-
LIABILITY COMPANY; AND FORE STARS,
LTD., A NEVADA LIMITED-LIABILITY
COMPANY,

Respondents.

180 LAND CO., LLC, A NEVADA LIMITED-
LIABILITY COMPANY; AND FORE STARS,
LTD., A NEVADA LIMITED-LIABILITY
COMPANY,

Appellants/Cross-Respondents,

vs.

CITY OF LAS VEGAS, A POLITICAL
SUBDIVISION OF THE STATE OF
NEVADA,

Respondent/Cross-Appellant.

No. 84345

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**JOINT APPENDIX,
VOLUME NO. 77**

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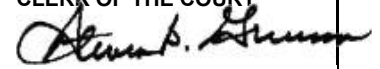
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15 **DISTRICT COURT**

16 **CLARK COUNTY, NEVADA**

17 180 LAND CO LLC, a Nevada limited liability
18 company, FORE STARS, LTD., a Nevada
19 limited liability company and SEVENTY
20 ACRES, LLC, a Nevada limited liability
21 company, DOE INDIVIDUALS I-X, DOE
22 CORPORATIONS I-X, and DOE LIMITED
23 LIABILITY COMPANIES I-X,

24 Plaintiffs,

25 v.

26 CITY OF LAS VEGAS, a political subdivision of
27 the State of Nevada; ROE GOVERNMENT
28 ENTITIES I-X; ROE CORPORATIONS I-X;
29 ROE INDIVIDUALS I-X; ROE LIMITED-
30 LIABILITY COMPANIES I-X; ROE QUASI-
31 GOVERNMENTAL ENTITIES I-X,

32 Defendants.

CASE NO.: A-17-758528-J

DEPT. NO.: XVI

**APPENDIX OF EXHIBITS IN
SUPPORT OF CITY'S OPPOSITION
TO PLAINTIFF'S MOTION TO
DETERMINE TAKE AND FOR
SUMMARY JUDGMENT ON THE
FIRST, THIRD, AND FOURTH
CLAIMS FOR RELIEF AND
COUNTERMOTION FOR SUMMARY
JUDGMENT**

VOLUME 16

33 The City of Las Vegas ("City") submits this Appendix of Exhibits in Support of the City's
34 Opposition to Plaintiff's Motion to Determine Take and For Summary Judgment on the First, Third,
35 and Fourth Claims for Relief and its Countermotion for Summary Judgment.

Exhibit	Exhibit Description	Vol.	Bates No.
A	City records regarding Ordinance No. 2136 (Annexing 2,246 acres to the City of Las Vegas)	1	0001-0011
B	City records regarding Peccole Land Use Plan and Z-34-81 rezoning application	1	0012-0030

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Exhibit	Exhibit Description	Vol.	Bates No.
C	City records regarding Venetian Foothills Master Plan and Z-30-86 rezoning application	1	0031-0050
D	Excerpts of the 1985 City of Las Vegas General Plan	1	0051-0061
E	City records regarding Peccole Ranch Master Plan and Z-139-88 phase I rezoning application	1	0062-0106
F	City records regarding Z-40-89 rezoning application	1	0107-0113
G	Ordinance No. 3472 and related records	1	0114-0137
H	City records regarding Amendment to Peccole Ranch Master Plan and Z-17-90 phase II rezoning application	1	0138-0194
I	Excerpts of 1992 City of Las Vegas General Plan	2	0195-0248
J	City records related to Badlands Golf Course expansion	2	0249-0254
K	Excerpt of land use case files for GPA-24-98 and GPA-6199	2	0255-0257
L	Ordinance No. 5250 and Excerpts of Las Vegas 2020 Master Plan	2	0258-0273
M	Miscellaneous Southwest Sector Land Use Maps from 2002-2005	2	0274-0277
N	Ordinance No. 5787 and Excerpts of 2005 Land Use Element	2	0278-0291
O	Ordinance No. 6056 and Excerpts of 2009 Land Use & Rural Neighborhoods Preservation Element	2	0292-0301
P	Ordinance No. 6152 and Excerpts of 2012 Land Use & Rural Neighborhoods Preservation Element	2	0302-0317
Q	Ordinance No. 6622 and Excerpts of 2018 Land Use & Rural Neighborhoods Preservation Element	2	0318-0332
R	Ordinance No. 1582	2	0333-0339
S	Ordinance No. 4073 and Excerpt of the 1997 City of Las Vegas Zoning Code	2	0340-0341
T	Ordinance No. 5353	2	0342-0361
U	Ordinance No. 6135 and Excerpts of City of Las Vegas Unified Development Code adopted March 16, 2011	2	0362-0364
V	Deeds transferring ownership of the Badlands Golf Course	2	0365-0377
W	Third Revised Justification Letter regarding the Major Modification to the 1990 Conceptual Peccole Ranch Master Plan	2	0378-0381
X	Parcel maps recorded by the Developer subdividing the Badlands Golf Course	3	0382-0410
Y	EHB Companies promotional materials	3	0411-0445
Z	General Plan Amendment (GPA-62387), Rezoning (ZON-62392) and Site Development Plan Review (SDR-62393) applications	3	0446-0466
AA	Staff Report regarding 17-Acre Applications	3	0467-0482

Exhibit	Exhibit Description	Vol.	Bates No.
BB	Major Modification (MOD-63600), Rezoning (ZON-63601), General Plan Amendment (GPA-63599), and Development Agreement (DIR-63602) applications	3	0483-0582
CC	Letter requesting withdrawal of MOD-63600, GPA-63599, ZON-63601, DIR-63602 applications	4	0583
DD	Transcript of February 15, 2017 City Council meeting	4	0584-0597
EE	Judge Crockett's March 5, 2018 order granting Queensridge homeowners' petition for judicial review, Case No. A-17-752344-J	4	0598-0611
FF	Docket for NSC Case No. 75481	4	0612-0623
GG	Complaint filed by Fore Stars Ltd. and Seventy Acres LLC, Case No. A-18-773268-C	4	0624-0643
HH	General Plan Amendment (GPA-68385), Site Development Plan Review (SDR-68481), Tentative Map (TMP-68482), and Waiver (68480) applications	4	0644-0671
II	June 21, 2017 City Council meeting minutes and transcript excerpt regarding GPA-68385, SDR-68481, TMP-68482, and 68480.	4	0672-0679
JJ	Docket for Case No. A-17-758528-J	4	0680-0768
KK	Judge Williams' Findings of Fact and Conclusions of Law, Case No. A-17-758528-J	5	0769-0793
LL	Development Agreement (DIR-70539) application	5	0794-0879
MM	August 2, 2017 City Council minutes regarding DIR-70539	5	0880-0882
NN	Judge Sturman's February 15, 2019 minute order granting City's motion to dismiss, Case No. A-18-775804-J	5	0883
OO	Excerpts of August 2, 2017 City Council meeting transcript	5	0884-0932
PP	Final maps for Amended Peccole West and Peccole West Lot 10	5	0933-0941
QQ	Excerpt of the 1983 Edition of the Las Vegas Municipal Code	5	0942-0951
RR	Ordinance No. 2185	5	0952-0956
SS	1990 aerial photograph identifying Phase I and Phase II boundaries, produced by the City's Planning & Development Department, Office of Geographic Information Systems (GIS)	5	0957
TT	1996 aerial photograph identifying Phase I and Phase II boundaries, produced by the City's Planning & Development Department, Office of Geographic Information Systems (GIS)	5	0958
UU	1998 aerial photograph identifying Phase I and Phase II boundaries, produced by the City's Planning & Development Department, Office of Geographic Information Systems (GIS)	5	0959

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Exhibit	Exhibit Description	Vol.	Bates No.
VV	2015 aerial photograph identifying Phase I and Phase II boundaries, retail development, hotel/casino, and Developer projects, produced by the City's Planning & Development Department, Office of Geographic Information Systems (GIS)	5	0960
WW	2015 aerial photograph identifying Phase I and Phase II boundaries, produced by the City's Planning & Development Department, Office of Geographic Information Systems (GIS)	5	0961
XX	2019 aerial photograph identifying Phase I and Phase II boundaries, and current assessor parcel numbers for the Badlands property, produced by the City's Planning & Development Department, Office of Geographic Information Systems (GIS)	5	0962
YY	2019 aerial photograph identifying Phase I and Phase II boundaries, and areas subject to inverse condemnation litigation, produced by the City's Planning & Development Department, Office of Geographic Information Systems (GIS)	5	0963
ZZ	2019 aerial photograph identifying areas subject to proposed development agreement (DIR-70539), produced by the City's Planning & Development Department, Office of Geographic Information Systems (GIS)	5	0964
AAA	Membership Interest Purchase and Sale Agreement	6	0965-0981
BBB	Transcript of May 16, 2018 City Council meeting	6	0982-0998
CCC	City of Las Vegas' Amicus Curiae Brief, <i>Seventy Acres, LLC v. Binion</i> , Nevada Supreme Court Case No. 75481	6	0999-1009
DDD	Nevada Supreme Court March 5, 2020 Order of Reversal, <i>Seventy Acres, LLC v. Binion</i> , Nevada Supreme Court Case No. 75481	6	1010-1016
EEE	Nevada Supreme Court August 24, 2020 Remittitur, <i>Seventy Acres, LLC v. Binion</i> , Nevada Supreme Court Case No. 75481	6	1017-1018
FFF	March 26, 2020 Letter from City of Las Vegas Office of the City Attorney to Counsel for the Developer Re: Entitlements on 17 Acres	6	1019-1020
GGG	September 1, 2020 Letter from City of Las Vegas Office of the City Attorney to Counsel for the Developer Re: Final Entitlements for 435-Unit Housing Development Project in Badlands	6	1021-1026
HHH	Complaint Pursuant to 42 U.S.C. § 1983, <i>180 Land Co. LLC et al. v. City of Las Vegas, et al.</i> , 18-cv-00547 (2018)	6	1027-1122
III	9th Circuit Order in <i>180 Land Co. LLC; et al v. City of Las Vegas, et al.</i> , 18-cv-0547 (Oct. 19, 2020)	6	1123-1127
JJJ	Plaintiff Landowners' Second Supplement to Initial Disclosures Pursuant to NRCP 16.1 in 65-Acre case	6	1128-1137
LLL	Bill No. 2019-48: Ordinance No. 6720	7	1138-1142

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Exhibit	Exhibit Description	Vol.	Bates No.
MMM	Bill No. 2019-51: Ordinance No. 6722	7	1143-1150
NNN	March 26, 2020 Letter from City of Las Vegas Office of the City Attorney to Counsel for the Developer Re: Entitlement Requests for 65 Acres	7	1151-1152
OOO	March 26, 2020 Letter from City of Las Vegas Office of the City Attorney to Counsel for the Developer Re: Entitlement Requests for 133 Acres	7	1153-1155
PPP	April 15, 2020 Letter from City of Las Vegas Office of the City Attorney to Counsel for the Developer Re: Entitlement Requests for 35 Acres	7	1156-1157
QQQ	Valbridge Property Advisors, Lubawy & Associates Inc., Appraisal Report (Aug. 26, 2015)	7	1158-1247
RRR	Notice of Entry of Order Adopting the Order of the Nevada Supreme Court and Denying Petition for Judicial Review	7	1248-1281
SSS	Letters from City of Las Vegas Approval Letters for 17-Acre Property (Feb. 16, 2017)	8	1282-1287
TTT	Reply Brief of Appellants 180 Land Co. LLC, Fore Stars, LTD, Seventy Acres LLC, and Yohan Lowie in <i>180 Land Co LLC et al v. City of Las Vegas</i> , Court of Appeals for the Ninth Circuit Case No. 19-16114 (June 23, 2020)	8	1288-1294
UUU	Excerpt of Reporter's Transcript of Hearing on City of Las Vegas' Motion to Compel Discovery Responses, Documents and Damages Calculation and Related Documents on Order Shortening Time in <i>180 Land Co. LLC v. City of Las Vegas</i> , Eighth Judicial District Court Case No. A-17-758528-J (Nov. 17, 2020)	8	1295-1306
VVV	Plaintiff Landowners' Sixteenth Supplement to Initial Disclosures in <i>180 Land Co., LLC v. City of Las Vegas</i> , Eighth Judicial District Court Case No. A-17-758528-J (Nov. 10, 2020)	8	1307-1321
WWW	Excerpt of Transcript of Las Vegas City Council Meeting (Aug. 2, 2017)	8	1322-1371
XXX	Notice of Entry of Findings of Facts and Conclusions of Law on Petition for Judicial Review in <i>180 Land Co. LLC v. City of Las Vegas</i> , Eighth Judicial District Court Case No. A-17-758528-J (Nov. 26, 2018)	8	1372-1399
YYY	Notice of Entry of Order <i>Nunc Pro Tunc</i> Regarding Findings of Fact and Conclusion of Law Entered November 21, 2019 in <i>180 Land Co. LLC v. City of Las Vegas</i> , Eighth Judicial District Court Case No. A-17-758528 (Feb. 6, 2019)	8	1400-1405
ZZZ	City of Las Vegas Agenda Memo – Planning, for City Council Meeting June 21, 2017, Re: GPA-68385, WVR-68480, SDR-68481, and TMP-68482 [PRJ-67184]	8	1406-1432

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Exhibit	Exhibit Description	Vol.	Bates No.
AAAA	Excerpts from the Land Use and Rural Neighborhoods Preservation Element of the City's 2020 Master Plan adopted by the City Council of the City on September 2, 2009	8	1433-1439
BBBB	Summons and Complaint for Declaratory Relief and Injunctive Relief, and Verified Claims in Inverse Condemnation in <i>180 Land Co. LLC v. City of Las Vegas</i> , Eighth Judicial District Court Case No.A-18-780184-C	8	1440-1477
CCCC	Notice of Entry of Findings of Fact and Conclusions of Law Granting City of Las Vegas' Motion for Summary Judgment in <i>180 Land Co. LLC v. City of Las Vegas</i> , Eighth Judicial District Court Case No.A-18-780184-C (Dec. 30, 2020)	8	1478-1515
DDDD	Peter Lowenstein Declaration	9	1516-1522
DDDD-1	Exhibit 1 to Peter Lowenstein Declaration: Diagram of Existing Access Points	9	1523-1526
DDDD-2	Exhibit 2 to Peter Lowenstein Declaration: July 5, 2017 Email from Mark Colloton	9	1527-1531
DDDD-3	Exhibit 3 to Peter Lowenstein Declaration: June 28, 2017 Permit application	9	1532-1533
DDDD-4	Exhibit 4 to Peter Lowenstein Declaration: June 29, 2017 Email from Mark Colloton re Rampart and Hualapai	9	1534-1536
DDDD-5	Exhibit 5 to Peter Lowenstein Declaration: August 24, 2017 Letter from City Department of Planning	9	1537
DDDD-6	Exhibit 6 to Peter Lowenstein Declaration: July 26, 2017 Email from Peter Lowenstein re Wall Fence	9	1538
DDDD-7	Exhibit 7 to Peter Lowenstein Declaration: August 10, 2017 Application for Walls, Fences, or Retaining Walls; related materials	9	1539-1546
DDDD-8	Exhibit 8 to Peter Lowenstein Declaration: August 24, 2017 Email from Steve Gebeke	9	1547-1553
DDDD-9	Exhibit 9 to Peter Lowenstein Declaration: Bill No. 2018-24	9	1554-1569
DDDD-10	Exhibit 10 to Peter Lowenstein Declaration: Las Vegas City Council Ordinance No. 6056 and excerpts from Land Use & Rural Neighborhoods Preservation Element	9	1570-1577
DDDD-11	Exhibit 11 to Peter Lowenstein Declaration: documents submitted to Las Vegas Planning Commission by Jim Jimmerson at February 14, 2017 Planning Commission meeting	9	1578-1587
EEEE	GPA-72220 application form	9	1588-1590
FFFF	Chris Molina Declaration	9	1591-1605
FFFF-1	Fully Executed Copy of Membership Interest Purchase and Sale Agreement for Fore Stars Ltd.	9	1606-1622

Exhibit	Exhibit Description	Vol.	Bates No.
FFFF-2	Summary of Communications between Developer and Peccole family regarding acquisition of Badlands Property	9	1623-1629
FFFF-3	Reference map of properties involved in transactions between Developer and Peccole family	9	1630
FFFF-4	Excerpt of appraisal for One Queensridge place dated October 13, 2005	9	1631-1632
FFFF-5	Site Plan Approval for One Queensridge Place (SDR-4206)	9	1633-1636
FFFF-6	Securities Redemption Agreement dated September 14, 2005	9	1637-1654
FFFF-7	Securities Purchase Agreement dated September 14, 2005	9	1655-1692
FFFF-8	Badlands Golf Course Clubhouse Improvement Agreement dated September 6, 2005	9	1693-1730
FFFF-9	Settlement Agreement and Mutual Release dated June 28, 2013	10	1731-1782
FFFF-10	June 12, 2014 emails and Letter of Intent regarding the Badlands Golf Course	10	1783-1786
FFFF-11	July 25, 2014 email and initial draft of Golf Course Purchase Agreement	10	1787-1813
FFFF-12	August 26, 2014 email from Todd Davis and revised purchase agreement	10	1814-1843
FFFF-13	August 27, 2014 email from Billy Bayne regarding purchase agreement	10	1844-1846
FFFF-14	September 15, 2014 email and draft letter to BGC Holdings LLC regarding right of first refusal	10	1847-1848
FFFF-15	November 3, 2014 email regarding BGC Holdings LLC	10	1849-1851
FFFF-16	November 26, 2014 email and initial draft of stock purchase and sale agreement	10	1852-1870
FFFF-17	December 1, 2015 emails regarding stock purchase agreement	10	1871-1872
FFFF-18	December 1, 2015 email and fully executed signature page for stock purchase agreement	10	1873-1874
FFFF-19	December 23, 2014 emails regarding separation of Fore Stars Ltd. and WRL LLC acquisitions into separate agreements	10	1875-1876
FFFF-20	February 19, 2015 emails regarding notes and clarifications to purchase agreement	10	1877-1879
FFFF-21	February 26, 2015 email regarding revised purchase agreements for Fore Stars Ltd. and WRL LLC	10	1880
FFFF-22	February 27, 2015 emails regarding revised purchase agreements for Fore Stars Ltd. and WRL LLC	10	1881-1882
FFFF-23	Fully executed Membership Interest Purchase Agreement for WRL LLC	10	1883-1890

Exhibit	Exhibit Description	Vol.	Bates No.
FFFF-24	June 12, 2015 email regarding clubhouse parcel and recorded parcel map	10	1891-1895
FFFF-25	Quitclaim deed for Clubhouse Parcel from Queensridge Towers LLC to Fore Stars Ltd.	10	1896-1900
FFFF-26	Record of Survey for Hualapai Commons Ltd.	10	1901
FFFF-27	Deed from Hualapai Commons Ltd. to EHC Hualapai LLC	10	1902-1914
FFFF-28	Purchase Agreement between Hualapai Commons Ltd. and EHC Hualapai LLC	10	1915-1931
FFFF-29	City of Las Vegas' First Set of Interrogatories to Plaintiff	10	1932-1945
FFFF-30	Plaintiff 180 Land Company LLC's Responses to City of Las Vegas' First Set of Interrogatories to Plaintiff, 3 rd Supplement	10	1946-1973
FFFF-31	City of Las Vegas' Second Set of Requests for Production of Documents to Plaintiff	11	1974-1981
FFFF-32	Plaintiff 180 Land Company LLC's Response to Defendant City of Las Vegas' Second Set of Requests for Production of Documents to Plaintiff	11	1982-1989
FFFF-33	September 14, 2020 Letter to Plaintiff regarding Response to Second Set of Requests for Production of Documents	11	1990-1994
FFFF-34	First Supplement to Plaintiff Landowners Response to Defendant City of Las Vegas' Second Set of Requests for Production of Documents to Plaintiff	11	1995-2002
FFFF-35	Motion to Compel Discovery Responses, Documents and Damages Calculation, and Related Documents on Order Shortening Time	11	2003-2032
FFFF-36	Transcript of November 17, 2020 hearing regarding City's Motion to Compel Discovery Responses, Documents and Damages Calculation, and Related Documents on Order Shortening Time	11	2033-2109
FFFF-37	February 24, 2021 Order Granting in Part and denying in part City's Motion to Compel Discovery Responses, Documents and Damages Calculation, and Related Documents on Order Shortening Time	11	2110-2118
FFFF-38	April 1, 2021 Letter to Plaintiff regarding February 24, 2021 Order	11	2119-2120
FFFF-39	April 6, 2021 email from Elizabeth Ghanem Ham regarding letter dated April 1, 2021	11	2121-2123
FFFF-40	Hydrologic Criteria and Drainage Design Manual, Section 200	11	2124-2142
FFFF-41	Hydrologic Criteria and Drainage Design Manual, Standard Form 1	11	2143
FFFF-42	Hydrologic Criteria and Drainage Design Manual, Standard Form 2	11	2144-2148
FFFF-43	Email correspondence regarding minutes of August 13, 2018 meeting with GCW regarding Technical Drainage Study	11	2149-2152

Exhibit	Exhibit Description	Vol.	Bates No.
FFFF-44	Excerpts from Peccole Ranch Master Plan Phase II regarding drainage and open space	11	2153-2159
FFFF-45	Aerial photos and demonstrative aids showing Badlands open space and drainage system	11	2160-2163
FFFF-46	August 16, 2016 letter from City Streets & Sanitation Manager regarding Badlands Golf Course Drainage Maintenance	11	2164-2166
FFFF-47	Excerpt from EHB Companies promotional materials regarding security concerns and drainage culverts	11	2167
GGGG	Landowners' Reply in Support of Countermotion for Judicial Determination of Liability on the Landowners' Inverse Condemnation Claims Etc. in <i>180 Land Co., LLC v. City of Las Vegas</i> , Eighth Judicial District Court Case No. A-17-758528-J (March 21, 2019)	11	2168-2178
HHHH	State of Nevada State Board of Equalization Notice of Decision, <i>In the Matter of Fore Star Ltd., et al.</i> (Nov. 30, 2017)	11	2179-2183
IIII	Clark County Real Property Tax Values	11	2184-2199
JJJJ	Clark County Tax Assessor's Property Account Inquiry - Summary Screen	11	2200-2201
KKKK	February 22, 2017 Clark County Assessor Letter to 180 Land Co. LLC, re Assessor's Golf Course Assessment	11	2202
LLLL	Petitioner's Opening Brief, <i>In the matter of 180 Land Co. LLC</i> (Aug. 29, 2017), State Board of Equalization	12	2203-2240
MMMM	September 21, 2017 Clark County Assessor Stipulation for the State Board of Equalization	12	2241
NNNN	Excerpt of Reporter's Transcript of Hearing in <i>180 Land Co. v. City of Las Vegas</i> , Eighth Judicial District Court Case No. A-17-758528-J (Feb. 16, 2021)	12	2242-2293
OOOO	June 28, 2016 Letter from Mark Colloton re: Reasons for Access Points Off Hualapai Way and Rampart Blvd.	12	2294-2299
PPPP	Transcript of City Council Meeting (May 16, 2018)	12	2300-2375
QQQQ	Supplemental Declaration of Seth T. Floyd	13	2376-2379
QQQQ-1	1981 Peccole Property Land Use Plan	13	2380
QQQQ-2	1985 Las Vegas General Plan	13	2381-2462
QQQQ-3	1975 General Plan	13	2463-2558
QQQQ-4	Planning Commission meeting records regarding 1985 General Plan	14	2559-2786
QQQQ-5	1986 Venetian Foothills Master Plan	14	2787
QQQQ-6	1989 Peccole Ranch Master Plan	14	2788
QQQQ-7	1990 Master Development Plan Amendment	14	2789
QQQQ-8	Citizen's Advisory Committee records regarding 1992 General Plan	14	2790-2807

Exhibit	Exhibit Description	Vol.	Bates No.
QQQQ-9	1992 Las Vegas General Plan	15-16	2808-3257
QQQQ-10	1992 Southwest Sector Map	17	3258
QQQQ-11	Ordinance No. 5250 (Adopting 2020 Master Plan)	17	3259-3266
QQQQ-12	Las Vegas 2020 Master Plan	17	3267-3349
QQQQ-13	Ordinance No. 5787 (Adopting 2005 Land Use Element)	17	3350-3416
QQQQ-14	2005 Land Use Element	17	3417-3474
QQQQ-15	Ordinance No. 6056 (Adopting 2009 Land Use and Rural Neighborhoods Preservation Element)	17	3475-3479
QQQQ-16	2009 Land Use and Rural Neighborhoods Preservation Element	18	3480-3579
QQQQ-17	Ordinance No. 6152 (Adopting revisions to 2009 Land Use and Rural Neighborhoods Preservation Element)	18	3580-3589
QQQQ-18	Ordinance No. 6622 (Adopting 2018 Land Use and Rural Neighborhoods Preservation Element)	18	3590-3600
QQQQ-19	2018 Land Use & Rural Neighborhoods Preservation Element	18	3601-3700

DATED this 25th day of August 2021.

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that I am an employee of McDonald Carano LLP, and that on the 25th day of August, 2020, I caused a true and correct copy of the foregoing **APPENDIX OF EXHIBITS IN SUPPORT OF CITY’S OPPOSITION TO PLAINTIFF’S MOTION TO DETERMINE TAKE AND FOR SUMMARY JUDGMENT ON THE FIRST, THIRD, AND FOURTH CLAIMS FOR RELIEF AND COUNTERMOTION FOR SUMMARY JUDGMENT – VOLUME 16** to be electronically served with the Clerk of the Court via the Clark County District Court Electronic Filing Program which will provide copies to all counsel of record registered to receive such electronic notification.

/s/ Jelena Jovanovic

An employee of McDonald Carano LLP


Table 7c

 2000 Population Profile					
AGE	%	POP.	SEX	%	POP.
0-5	10%	37,050	Male	48%	187,200
6-11	8%	31,200	Female	52%	202,800
12-17	7%	27,300			
18-24	7%	27,300			
25-34	21%	81,900			
35-44	15%	58,500			
45-54	11%	42,900			
55-64	11%	40,950			
64+	11%	42,900			
Total Population		390,000			
Median Age		35			
RACE					
			White	66%	257,400
			Black	15%	56,550
			Hispanic	13%	48,750
			Asian	6%	21,450
			Am. Indian	1%	3,900
			Other	1%	1,950
			Total	100%	390,000
ANNUAL HOUSEHOLD INCOME					
Income Group					
From\$	To\$	% HH			
0	9,999	4%			
10,000	19,999	10%			
20,000	24,999	11%			
25,000	34,999	24%			
35,000	49,999	26%			
50,000	+	25%			
Total Households		162,500			
Median HH Income		56,022			
OVERALL EDUCATION LEVEL					
			College Degree	29%	85,391
			Some College	37%	108,947
			High School	29%	85,391
			Some High School	5%	14,723
			Adults over 18	100%	294,450

Source: US Census 1980 + 1990, Projectors

GP.ED Table 7c Population2000.DL.pmv9-9-91

Table 7d

 Population by Sector				
POPULATION	1980	1990	1995	2000
SE Area	118,319	151,884	153,373	160,359
SW Area	30,970	88,829	151,938	209,550
NW Area	15,386	17,582	18,837	20,091
City Totals	164,674	258,295	324,148	390,000
1980-2000	INCREASE		% CHANGE	
SE	42,041		35%	
SW	178,580		576%	
NW	4,705		30%	
City Total	225,326		136%	

Source: US Census 1980 + 1990, Projectors

GP.ED Table 7d Population sec:DL.pmv9-18-91

7.1.8 Las Vegas in Comparison to Other Regional Cities

The following tables display four major employment sectors of the City of Las Vegas and four competing regional cities. This data are for one period in time. The four sectors are: Manufacturing, Trade, Service and Other.

Figure 15 displays the manufacturing sector. At 3%, Las Vegas is below the regional average of 14.2%. Clearly, this is one of the areas that should be studied further. Los Angeles employs over 20% in this sector, and if Las Vegas competes in that market, great opportunities could exist.

Figure 16 displays the trade sector. Again, Las Vegas is below the regional average of 26.2%. Further study of Phoenix might provide insights for pursuing trade sector employment.

Figure 17 displays the service sector. Las Vegas's specialization is obvious, nearly 45% of the workforce is employed in the service sector. The regional average is 30.2%.

Figure 18 displays the other sector, this includes the mining, construction, transportation and public utilities, fire, and government. Las Vegas ap-

Table 8

Clark County Employment			
Year	Employ.	Increase	%
1970	111,000	n/a	n/a
1975	143,400	32,400	22.59%
1980	220,600	77,200	35.00%
1985	250,700	30,100	12.01%
1990	340,400	89,700	26.35%

Source: Nevada Employment Security Dept.

GP.ED Table 8 County employ;DL;pm/8-21-91

proaches the average of 29.4%, for the regional comparison. Opportunities in this area for expansion will require careful research. This sector has increased as a percentage of workforce in the county over the last decade.

From the comparison of Las Vegas to the other regional cities several things are noticed. First, Las Vegas lags behind the region in manufacturing, but leads it in service employment. The other two categories are relatively even, although there may be some possible potential in the trade sector.

7.1.9 Livability

Las Vegas is well known for moderate weather. The high desert's warm, dry climate and clean atmosphere offer a wholesome healthful environment. The overall mean temperature is 66 degrees.

Las Vegas hosts exciting international talents, promising community performers, and world-renowned speakers. UNLV features an art gallery, 2 theaters, a music auditorium, and an 18,000 seat sports center. The community has a symphony orchestra, dance theater, ballet, and various theater groups.

There are a variety of recreational opportunities also. There are over 120 parks, with a variety of activities, including: tennis, swimming, golf courses and ball fields, along with the playground equipment and picnic areas. Las Vegas is one of the finest areas in the nation in which to live.

Figure 19 displays the composite Cost of Living index for Las Vegas and competing regional cities. Las Vegas has the second highest composite index, skewed by the housing component. This housing issue is expanded later in element VIII (Housing).

Table 9

Average Household Income		
		% Increase
1980	17,468	
1985	24,274	38.9
1990	32,862	35.4
1995	43,288	31.7
2000	56,022	29.4

Source: NV Statistical Abstracts & Projectors

GP.ED Table 9 Avg. household;DL;pm/9-9-91

Table 10

Las Vegas Valley Wage Structure			
Occupation	Hourly Median Wage	Occupation	Hourly Median Wage
Accountant	\$13.91	Packer/Shipper	\$ 8.00
Assembler, Electronics	9.00	Sales	10.00
Assembler, Production	7.00	Secretary	4.50
Computer Operator	8.05	Shipping/Receiving Clerk	8.85
Drafter/Detailer	14.00	Truck Driver	7.00
Machine Operator	7.50	Word Processing Operator	6.50
Manager Production	14.38		

Source: Perspective 1990

GP.ED Table 10 Wages;DL;pmvB-14-91

7.1.10 Conclusion

Economic opportunities exist for the City of Las Vegas. Manufacturing, especially from the Los Angeles area, appears attractive. Commercial and office demands are high, but mainly for suburban space. The Minami Site and Union Pacific site provide great opportunity for the downtown to attract that market. Retail is also expanding rapidly, but again, in the suburban areas.

Gaming has also declined in the downtown. However, Main Street Station may be a sign of recovery for this gaming industry in this area.

Revitalization is the key to helping the rapidly deteriorating image of the "Downtown". The "Strip" has become the most frequently visited area at the expense of the City of Las Vegas and its downtown casinos/hotels.

The trends, when considered along with the current economic indicators, indicate that Las Vegas needs to diversify its economy to maintain its standard of living. The Comparative Share Analysis provides the guidance for diversified growth.

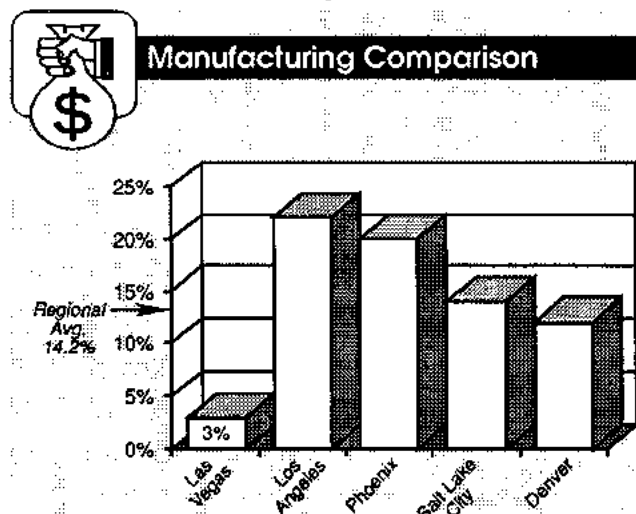
Las Vegas is ideally located near the

largest market in the nation. Low utilities costs, advantageous labor costs, no state income or business tax and a high quality of life make Las Vegas an ideal place to live and work.

This General Plan update springs from several requirements. Among them

are the requirement for timely data, the requirement to keep up with changing issues and their focus and the requirement to develop strategic planning for resources. The last requirement was addressed in the 1990 "Las Vegas 2000 and Beyond" strategic plan which is described in the Introduction Section

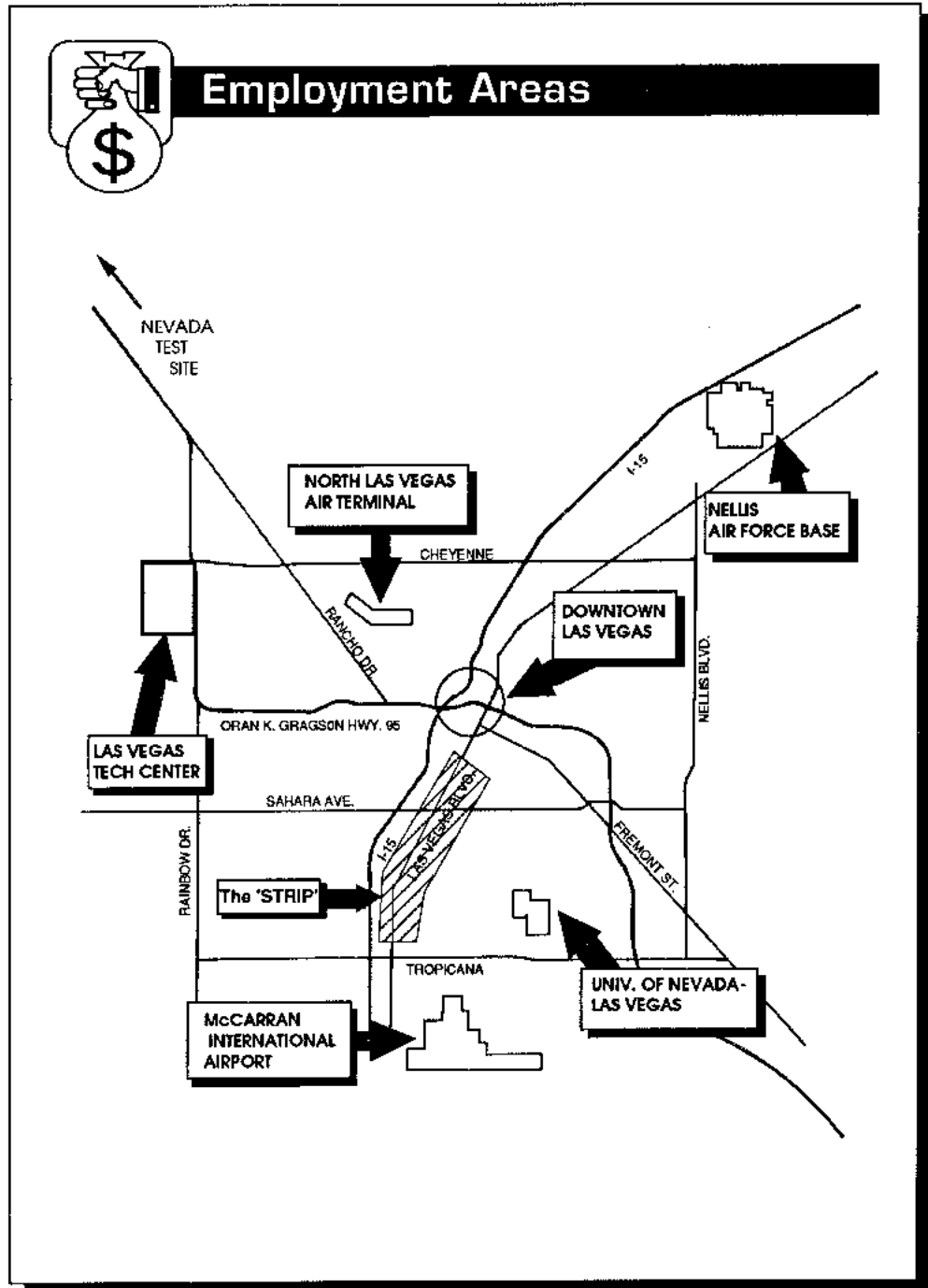
Figure 15



Source: 1990 LV Perspective

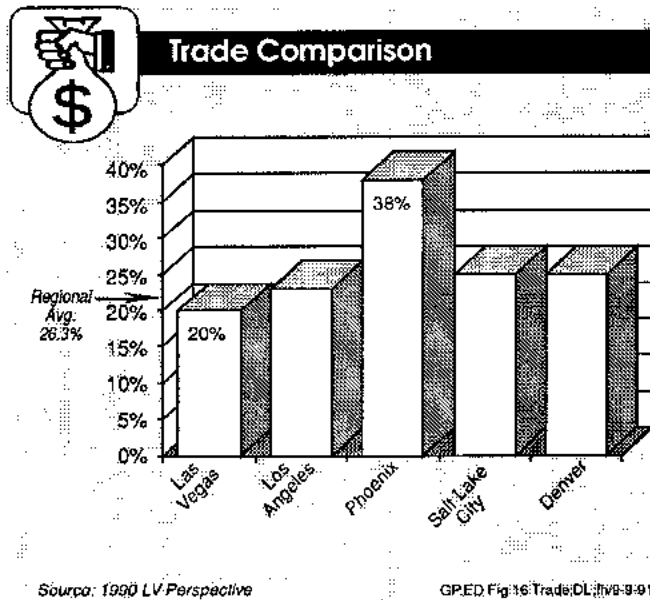
GP.ED Fig 15.Mfg;DL;FV9-9-91

Map 1



GP.ED Map 1 Employ area;DL;pm/9-17-91

Figure 16



of this Plan. The "2000 and Beyond" document contained "Actions" specified to be accomplished.

The Actions relating to economic development are:

- Bring upscale retail and family entertainment to downtown through financial assistance and property acquisition
- Take an active role in the planning and development process of the Union Pacific Property by implementing a City policy to discourage piecemeal development
- Attract financial institutions, insurance companies, and residential real estate development to the downtown area
- Build and maintain adequate parking facilities downtown
- Maintain strong redevelopment laws
- Meet with casino and business owners and developers to determine their projected needs for natural resources
- Support the Convention Authority and offer assistance on every level
- Review the Convention Authority's 10-year plan on a regular basis
- Create a panel of casino and government people to make Las Vegas a stronger, more diverse gaming center
- Add theme parks and family type entertainment resorts
- Develop and implement a comprehensive marketing plan
- Address the needs companies doing business or relocating to Las Vegas

Figure 17

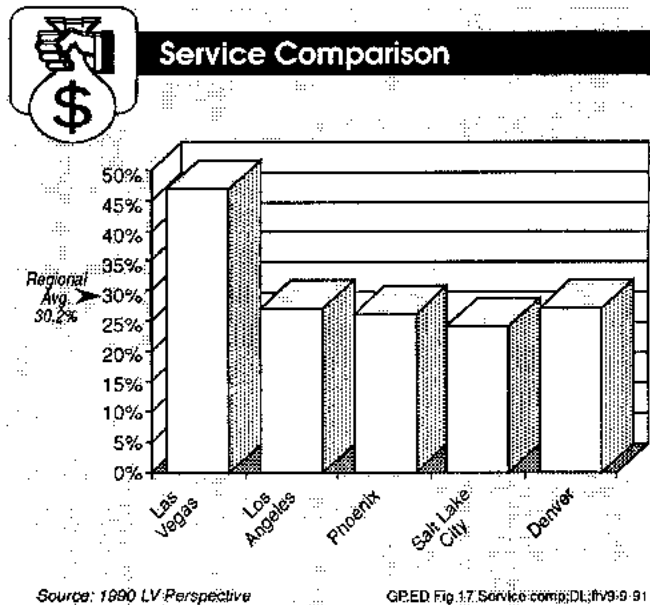
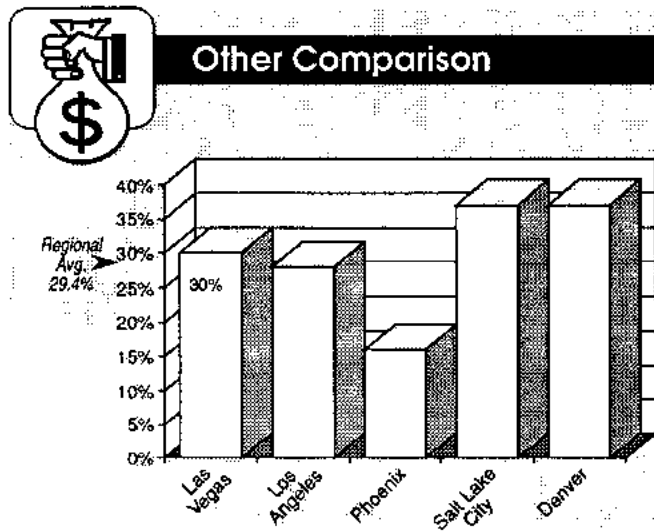


Figure 18



Source: 1990 LV Perspective

GPED Figure 18 Other comparison DL, fig 8-91

- Influence tax structure changes to be consistent with the competitive advantages
- Retain advantageous labor costs

7.2 Issues

The issues section addresses the major concerns developed throughout this element. Three major issues are developed here. They include diversification efforts, downtown revitalization and job opportunity. In the next section these issues will be addressed with specific programs.

Issue 1: Diversification efforts

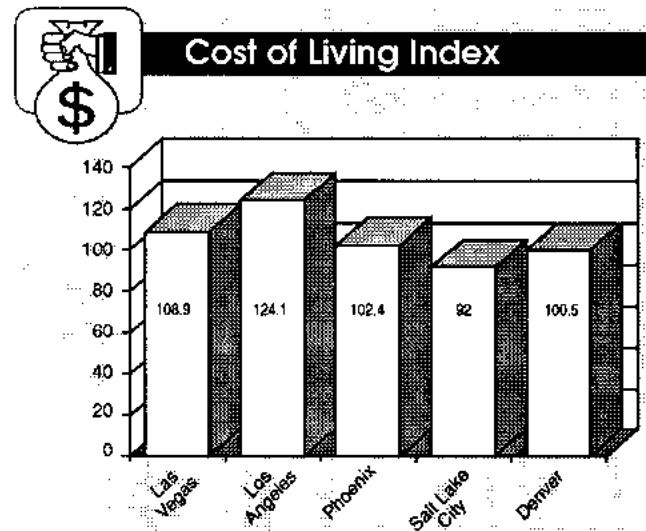
Las Vegas has become too dependent on one industry. The City has already experienced gaming losses in the downtown, and to counter these declining trends in the gaming industry, the city needs to pursue other types of business. Diversification will help lessen the effect of any long-term decline in the gaming industry.

As the City's population increases, there is a concern that the tax base will not grow at the same pace as the demand for services. Warning signals are already visible, such as the recent hiring freeze in the city.

Diversifying jobs means tax growth. Fortunately, sales tax redistribution is partly based on population. Las Vegas received about \$98,000,000 in Fiscal year 89-90, or about \$390 per person. However, an increasing population places a great strain on operations, so alternative means for tax base expansion must be utilized. Those alternatives include: retention and expansion of existing firms, creation of new firms, and attraction of new employers.

As shown earlier, Las Vegas lags in the

Figure 19



Source: 1990 LV Perspective

GPED Fig 19 Cost liv DL, fig 9-91

economic sectors of manufacturing and trade. These economic sectors need further examination to determine the applicability to Las Vegas. In addition, a complete economic sector analysis must be completed to fully understand the area economy.

Issue 2: Downtown Development efforts

Cities directly reflect their downtowns. Most major cities have vibrant diverse downtowns that are the focal point of activity. The sign of redevelopment is the amount of investment, activity and civic pride placed in the downtown. Traditionally, a downtown is the center of the financial, cultural, legal and government functions. Symbolically, the downtown must regain its vibrancy. Increased residential, commercial and office development, as well as gaming uses need to be encouraged to reestablish the downtown as the focal point of the area.

Downtown Las Vegas has continued to lose gaming dominance to the "Strip" area, which is located in Clark County. The legal and governmental functions are emerging as major employers in the downtown district (or area). A Downtown Development Plan, prepared by Laventhol & Horwath, has been approved. From that will come strategies to rejuvenate the downtown and surrounding areas. For example, Clark County recently agreed to keep its governmental offices downtown by accepting a 38 acre parcel of land from the City, located on the downtown Union Pacific Railroad site.

residents. It is more beneficial for employees to be selected from the city than from outside the city.

As the city continues to grow, jobs are needed for its residents, especially those that are unemployed or underemployed. Residents with jobs, earning good wages, contribute to the community and spur additional economic growth. Job training programs can help provide people with the necessary skills to obtain employment. These programs also benefit firms since they provide a trained labor force.

Issue 3: Job Opportunity

Diversification and expansion of the tax base are needed to increase jobs. However, it must be understood that local job creation should be for current

7.3 Goal, Objectives, Policies, and Programs

Goal: Develop a growing, healthy and diverse city economy.

Objective A: Increase economic development and the diversification of the City's economic base.

Policy A1: Continue and expand local and regional economic development through diversification efforts.

Program A1.1: Encourage new economic activity through the preparation of a functional master plan for economic development, to: (a) Establish a Retention and Expansion Program (b) Establish a Creation Program (c) Continue Attraction efforts.

Program A1.2: Develop and maintain database of critical financial and marketing information.

Program A1.3: Coordinate economic development activities with local business leaders to secure industries which are compatible with community needs.

Program A1.4: Conduct a target study to determine what type of manufacturing firms to attract.

Program A1.5: Encourage economic development revenue bond financing for businesses which qualify under established city policies and criteria.

Program A1.6: Study and report on the need to establish local improvement districts or other special districts, which will improve the geographic area and enhance opportunities for continued economic growth and development.

Program A1.7: Cooperate with the private sector in the development, upgrading, and/or redevelopment of properties which will contribute substantially to the local economy, through marketing, financing, and real estate mechanisms.

Program A1.8: Support modification of state laws which may limit sound, stable economic growth and diversity.

Program A1.9: Support tax structure changes to be consistent with competitive advantages in other jurisdictions.

Program A1.10: Explore how the City's low bonded indebtedness may be used to provide needed capital improvements to achieve desired economic growth.

Policy A.2: Support development of non-polluting, high value added industries, light manufacturing, warehousing/ transportation and related activities at appropriate locations in the City, based on guidelines in the Land Use Element of the General Plan.

Policy A.3: Encourage employment uses in sufficient locations so that residence to work trip distances are reduced and fit into community design patterns.

Program A3.1: By 1993, designate appropriate areas of the City for business park development. Such designations shall be in conformance with the adopted General Land Use Plan and Map.

Program A3.2: Continue to encourage the development of existing regional business centers for corporate headquarters and research and development operations.

Policy A4: Coordinate with other local, regional, state, and federally efforts to diversify the economy of southern Nevada.

Program A4.1: Support the efforts of the State of Nevada Commission on Economic Development to encourage economic development and diversification and establish mechanisms for regular information exchanges.

Program A4.2: Continue working with state and local development entities to enhance the ability of the Las Vegas area to attract new jobs and increase capital investment.

Program A4.3: Support improvements to the University of Nevada at Las Vegas which will enhance the attractiveness of southern Nevada for new non-polluting industry.

Program A4.4: Maintain city rapport with the federal defense establishment and monitor federal programs in southern Nevada which can be beneficial to local economic activity.

Policy A5: Support programs which provide employment opportunities and help improve labor skills.

Program A5.1: Support public and private sector efforts to provide job development and skill training programs through the University of Nevada, Clark County Community College, the Clark County School District, federal funded programs and private organizations.

Policy A6: Encourage economic development within areas which will benefit from economic revitalization.

Program A6.1: Secure federal aid programs to help business development and expansion.

Program A6.2: Develop and implement the use of Federal Enterprise Zones.

Policy A7: Assist the Department of Energy and Clark County in the development of the Nuclear Waste Repository Program.

Program A7.1: Continue participation on the Nuclear Waste Repository Steering Committee.

Program A7.2: Continue cooperative socio-economic data collection with the various consultants for the "Base Case" Analysis.

Objective B: Expand gaming and tourism development in the downtown.

Policy B1: Accommodate expanded tourist/gaming and support facilities in the general downtown area and other appropriate locations.

Program B1.1: Adopt the "Downtown" Redevelopment Plan.

Program B1.2: By 1993, update the economic analysis study of the downtown.

Program B1.3: Use the Redevelopment Agency to return industries to the redevelopment area.

Program B1.4: Locate development strategically so that it will generate new investment in the "Downtown", effectively leverage public dollars and expand the area affected by the City's redevelopment efforts.

Program B1.5: The Redevelopment Agency will provide direct financial and other assistance as necessary to selected projects within the "Redevelopment Area".

Program B1.6: Provide sufficient land area to accommodate gaming and tourist facilities expansion and development including possible mixed zoning districts.

Program B1.7: Provide appropriate assistance through the Redevelopment Agency, in locating and/or expanding gaming in the "Downtown" casino core.

Program B1.8: Coordinate the development of the Union Pacific Railroad property to ensure that gaming establishments sited in this area are compatible with those in the casino core.

Program B1.9: Use appropriate financial assistance and property acquisition to locate and expand new redevelopment activities in the downtown area including high density residential development and or upscale retail, theme attractions and family type entertainment.

Policy B2: Provide mechanisms for public sector support of efforts which strengthen tourism in the City.

Program B2.1: Continue to maintain government sector communication and accessibility to the business community and its organizations.

Program B2.2: Participate in and support the Las Vegas Convention and Visitors Authority through city representation on the Board of Directors and by reviewing the Authority's 10-year Plan on a regular basis.

Program B2.3: Include public improvements within the City's capital improvement program which will enhance and facilitate tourism development.

Program B2.4: In concert with major employers, build and maintain adequate on site and offsite parking facilities downtown.

Program B2.5: Encourage public-private sector partnerships to increase the benefit of using public resources such as providing needed site improvements and infrastructure and/or transportation facilities within the City and its downtown area.

Policy B3: Strengthen the continuing development of "Downtown" Las Vegas as the Southern Nevada regional center for finance, business, governmental services, entertainment and recreation, while retaining the gaming and tourism vital to economic prosperity.

Program B3.1: Create a multi-purpose, 24-hour self-sustaining marketplace environment sufficient to attract residents, workers and visitors to the "Downtown" and increase the duration and economic impact of a visit to the area.

Program B3.2: Improve the "Downtown's" functional and physical linkage to the "Strip" including enhancing its physical built environment and overall aesthetic ambiance.

Program B3.3: Ensure that adequate infrastructure is provided to serve new and existing "Downtown" development and that transportation/circulation is improved, particularly access from the west and the south.

Program B3.4: Discourage piecemeal development of Union Pacific property by actively participating in the planning and development process.

Program B3.5: Attract financial institutions, insurance and residential real estate development to the downtown area.

Program B3.6: Initiate a clean-up/beautification program for the downtown.

Program B3.7: Make use of State and local laws and programs such as the Community Redevelopment Law, tax increment financing and zoning laws to implement the downtown development plan.

Program B3.8: Initiate changes in enforcement of applicable laws (i.e. redevelopment, economic development, zoning, etc.) to ensure that strong laws are maintained.

Program B3.9: Provide direct Redevelopment Agency participation in specific projects which will return jobs and business activity to the "Downtown" area to achieve downtown redevelopment.

Objective C: Assist local business leaders and organizations, and the real estate and development industries in efforts to improve economic opportunities for residents in low and moderate income or economically distressed areas.

Policy C1: Encourage commercial and industrial development and public improvements in economically distressed areas which will provide employment and economic vitality and create an environment where people of varying social, economic, and ethnic backgrounds can work and live.

Program C1.1: Assist in the development or redevelopment of property which could retain jobs and maintain the economic vitality of the immediate area.

Program C1.2: Assist, through the Redevelopment Agency, economic development in the expanded "West Las Vegas" portion of the "Downtown" Las Vegas Redevelopment Plan Area.

Program C1.3: Create a town center on Owens Boulevard between "H" and "J" streets and incorporate it with the Las Vegas Business Center into the Owens Neighborhood Corridor Plan.

Policy C2: Provide areas and access for regional-serving support businesses along both sides of Martin L. King Boulevard.

Program C2.1: Request selected areas of the City be federally designated Enterprise Zones by the Department of Housing and Urban Development.

6.4.1 Evaluation and Implementation Matrix

The following Economic Development Evaluation and Implementation Matrix (EIM - see next page) was prepared as a measurable summary of the above Economic Development Policies and Program. The EIM is to be used:

- as a method of measuring the implementation progress of the General Plan
- as a budgeting document for specific Economic Development programs
- as a tool for further developing work programs

The following abbreviations apply to the Evaluation and Implementation Matrix

City Departments

CA City Attorney
CM City Manager
CP Community Planning
ED Economic & Urban Development
FN Finance
PW Public Works

Other Agencies/Jurisdictions

CC Clark County
NDA Nevada Development Authority
UPP Union Pacific Property

Definitions

Absorption Rates: The rate at which vacant space is filled.

Commercial Uses: Refers to office space.

Comparison Share Analysis: A technique to compare economies. The economy is broken into sectors and then compared to others.

Consumer durables: Goods that last more than one year.

Consumer non-durables: Goods that last less than one year.

Consumer Prices: An aggregate of consumer goods. Used in a year to year comparison.

Disposable Income: Net income after essential living expenses are subtracted.

Economic Growth: Continued expansion of a nation's output of goods and services.

Establishment Base Employment: A fixed location that employs a workforce.

Gaming: Refers to the gaming industry of casinos.

Gross National Product: Total value of all goods and services produced by the national economy in one year.

Hi-Tech firms: Modern, non-polluting firms. Usually associated with the electronics or computers.

Industrial/Manufacturing Uses: Refers to the traditional industrial uses.

Real GNP: The GNP expressed in constant dollars with an adjustment for inflation.

Retail Uses: Refers to the space used for providing shopping.

Tourism: An industry devoted to the well being and entertainment of visitors.

Visitor Volume: The number of non-residents that visit an area.

7.4 EVALUATION AND IMPLEMENTATION MATRIX: ECONOMIC DEVELOPMENT

Policy Program	Summary	Responsible Departments	Date	Action Product	Remarks
	ECONOMIC DIVERSIFICATION				
A1.1	Preparation of an overall plan for economic development	ED	1993	Develop a plan that will focus current and future efforts into a comprehensive program for economic development.	A stated strategy is critical for development
a.	Establish a Retention and Expansion program for the City	ED	1993	A policy assisting local firms growth which will providing more jobs and increased tax revenues	Established policies are needed
b.	Establish a Business Creation program	ED	1993	Assist new firms which are in their developmental stage. Study and implement an incubator program.	Established policies are needed
c.	Continue Attraction efforts	ED	1993	Continue to pursue firms in locating in the City	Established policies are needed
A1.2	Develop an economic/financial database that is periodically updated. (GIS a tool for use)	ED CP	1993	Develop and maintain a database of critical information that a prospective firm would need information about.	Track key information * Select data * Time frame
A1.3	Develop regular on-going communication with the business sector	ED Businesses	Ongoing	Regularly attend and participate in communication with business	
A1.4	Conduct a target study to focus the City's development efforts.	ED CP	1993	Study local economy to determine the best business opportunities for the City to attract.	
A1.5	Use the bonding power of the City to aid business. (IRB)	ED	Ongoing	Develop criteria for using the revenue bond tool to make development possible.	IRB Program
A1.6	Cooperate on combined public/private redevelopment	ED	Ongoing	Create special districts in the effort to redevelop area jointly	Leverage public money
A1.7	Cooperate with the private sector to promote redevelopment	ED	Ongoing	Continued public and private work	

7.4 EVALUATION AND IMPLEMENTATION MATRIX: ECONOMIC DEVELOPMENT

A1.8	Support modification of laws at State and local levels to aid in the development process	ED CA	Ongoing	Review legislation and City Council resolutions to legislative committee	
A1.9	Support tax changes	ED	Ongoing	Review City Council resolution to appropriate taxing authority	
A1.10	Use the City's low debt level to build needed infrastructure	ED FN	Ongoing	Develop strategy and suggested areas for use of bonds to promote development	City below debt level requirement (GOs)
A3.1	Establish areas in the City that are available for various business	CP ED	1993	Select, analyze, and map areas that are compatible for business park development	Zone accordingly
A3.2	Encourage corporate and research centers to locate in the City	ED	Ongoing	Promote the City as a place to locate headquarters and research facilities	
A4.1	Continue support of area economic development organizations	ED NDA	Ongoing	Maintain the marketing of the Southern Nevada area	Still must compete individually for jobs
A4.2	Maintain close contact with UNLV to develop research capability	ED	Ongoing	Close contact to emphasize the expansion of the Engineering school.	
A4.3	Monitor the defense industry to locate contracts for the area economy	ED	Ongoing	Locate contract for area businesses	
A5.1	Support the efforts to provide job training throughout the area	ED NV Labor	Ongoing	Job training programs need to be pursued to educate the workforce	Use federal, state and local programs
A6.1	Secure federal aid to promote economic development	ED	Ongoing	Pursue federal funding for various programs	
A6.2	Designate some areas of the City to be federal enterprise zones	ED	Ongoing	Zone areas under this federal designation	
A7.1	Participate in the Nuclear Repository Project currently underway	CP, CC DOE	Ongoing	Attend Steering Committee meetings	
A7.2	Support data collection efforts for DOE	DOE	Ongoing	Help coordinate the collection of socio-economic data	

7.4 EVALUATION AND IMPLEMENTATION MATRIX: ECONOMIC DEVELOPMENT

A7.1	Participate in the Nuclear Repository Project being conducted	CC DOE	Ongoing	Attend Steering Committee meetings	
A7.2	Support data collection efforts for DOE	DOE	Ongoing	Help coordinate the collection of socio-economic data	
	DOWNTOWN REDEVELOPMENT				
B1.1	Adopt the Downtown Redevelopment Plan to revitalize downtown	ED	1993	Accomplish the process of adopting Lavenethol & Horwath Study	
B1.2	Complete an update of the Downtown Plan	ED CP	1993	Update analysis with new numbers, since study is over 5 years old.	A selected update of certain sections
B1.3	Attract industry to the redevelopment area	ED	Ongoing	A program to assist in the location of businesses in the downtown	
B1.4	Cooperate with the private sector to promote redevelopment	ED	Ongoing	Create special districts in the effort to redevelop an area jointly	Leverage public monies
B1.5	Provide land area to accommodate the development of gaming uses	ED	1993	Designate areas through zoning to be developed as gaming areas	
B1.6	Provide assistance through the Redevelopment agency	ED	Ongoing	Various incentives for the revitalization of the area	
B1.7	Coordinate with Union Pacific to see that new casino development is compatible with downtown	ED UPP	Ongoing	Close contact with the Union Pacific property to develop compatible uses	
B1.8	Locate and expand development in the downtown, including housing, retail and theme attractions	ED	Ongoing	Attract to the downtown a variety of uses	A traditional downtown
B2.1	Maintain close contact with the area business community	ED Business	Ongoing	Carry on discussions on a regular basis to obtain information	

7.4 EVALUATION AND IMPLEMENTATION MATRIX: ECONOMIC DEVELOPMENT

B2.5	Encourage public-private sector partnerships to enhance the benefit of public resources	ED Private	Ongoing	Provide needed site improvements and infrastructure and transportation	
B3.1	Develop the downtown into an area that attracts visitors and residents	ED	Ongoing	A revitalization of the basic functions and a increase in attractions	
B3.2	Improve the physical link between the downtown and the "Strip"	ED DD	Ongoing	Design emphasizing connectivity between the two areas	Visual link between both
B3.3	Develop adequate infrastructure for development in the area	ED PW	Ongoing	The construction and upgrade of facilities in the downtown	Need infrastructure to promote development
B3.4	Discourage piecemeal development of the Union Pacific property	ED UPP	Ongoing	Encourage planning of the site rather than many small developments	Compatible land use, integrated transportation
B3.5	Attract financial, real estate and insurance firms to the downtown	ED	Ongoing	Attract a specific type of business to the area	
B3.6	Continue a downtown beautification program to clean-up the area	ED Other	Ongoing	Select areas and implement a program for beautifying the downtown area	
B3.7	Use the State and local laws for the development of the area	ED CA	Ongoing	Use such laws as the Community Redevelopment Law	
B3.8	Initiate changes to existing laws	ED CA	Ongoing	Review and send resolutions to change statutes	
B3.9	Participation in projects to return jobs and business to the downtown	ED	Ongoing	Redevelopment action to aid in projects to increase jobs and business	

7.4 EVALUATION AND IMPLEMENTATION MATRIX: ECONOMIC DEVELOPMENT

	EMPLOYMENT OPPORTUNITY				
C1.1	Aid in the redevelopment of property to retain jobs and economic vitality	ED	Ongoing	Assist revitalization in specific areas	
C1.2	Assist development efforts in the newly added "West Las Vegas" area	ED	Ongoing	Promote development in the area	
C1.3	Create a town center in the Owens and "H" and "J" areas	ED	Ongoing	Develop a plan for this center of activity	
1.3	Provide areas for regional businesses along Martin L. King Boulevard	CP ED	Ongoing	Designate areas for regional business	
C2.1	Select areas of the City to be designated as Enterprise Zones	ED	Ongoing	Determine areas for the Zones	

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VIII. HOUSING

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8.1 Background

8.1.1 Purpose of the Housing Element

Growth in the City of Las Vegas has been phenomenal over the last decade. In 1980, approximately 67,100 dwelling units housed 164,700 people and by 1990 109,400 dwelling units housed 258,300 people (a 63 percent increase in dwelling units and a 57 percent increase in population). The large number of new housing units constructed are in a variety of types and price ranges; however, what the market has not been able to do is provide lower cost housing for the approximately 45,000 households at or below the Clark County median income range. In 1989 only about 10 percent of the residential resale market was for homes costing \$60,000 and below; nearly 80 percent of the rental households could afford a monthly rental of \$450 or lower, but only 43 percent of the available apartments had rents in this range. Thus it appears that a large segment of the Valley households are not being adequately served in price ranges they can afford.

The purpose of the Housing Element is to examine the existing housing situation. Due to the high mobility of area citizens, the entire Las Vegas Valley must be considered in this evaluation, as data permit. Household numbers, based on population projections, were estimated for 1995 and 2000. Current housing needs were projected into the future and comparisons were made to determine affordable housing needs. These needs are expressed as housing objectives, policies and programs.

8.1.2 Housing Availability

An important consideration in a housing study is availability, especially as to type and tenancy; these factors play an important part in how much money a household must provide for shelter. The City of Las Vegas provides a variety of housing opportunities to its residents. Generally older city housing stock is located east of Decatur Boulevard, while newer housing stock is found to the west where the majority of new growth has occurred.

Total existing dwelling units can be divided into five major types:

- Single-family
- Plexes (two to four separate dwelling units within a single structure)
- Mobile homes
- Apartments
- Townhomes/condominiums (units are privately owned - townhomes include ownership of land on which the dwelling is located; condominiums consist of the ownership of unit airspace).

Table 1 compares the number of existing units in the City to other jurisdictions in the Valley to determine the specialization and deviation from Valley-wide averages of housing types in the various governmental jurisdictions. Based on the percentages of the Valley totals for each type, the City appears to provide an average number of plexes and apartments, while it provides more single family homes and is lacking in townhomes/condominiums and mobile homes.

Availability of Housing Accessible to Transit

The Las Vegas Valley is heavily dependent on the individual automobile for home to work trips, with an average trip of less than 20 minutes in most parts of the Valley. If a household does not own a vehicle there is great dependence on transit to provide transporta-

Table 1

Existing Las Vegas Valley Housing by Type 1990						
	Single Family	Plexes	Mobile Homes	Apart- ments	TH/ Condos	Totals
City of Las Vegas	58,310 51.47%	7,987 7.30%	3,319 3.03%	34,536 31.57%	7,242 6.62%	100,394 100%
Henderson	17,368 62.17%	533 1.89%	1,523 5.38%	8,543 23.30%	2,050 7.25%	28,257 100%
North Las Vegas	n/a	n/a	n/a	n/a	n/a	n/a
East Las Vegas	1,897 66.81%	47 1.31%	465 12.95%	762 21.22%	320 8.91%	3,581 100%
Enterprise	4,119 76.25%	15 0.28%	309 5.72%	12 0.22%	947 17.53%	5,402 100%
Lone Mountain	1,432 90.88%	0 0.00%	184 9.14%	0 0.00%	0 0.00%	1,576 100%
Paradise/Winnchester	36,428 25.88%	3,271 4.15%	4,273 5.41%	36,871 46.72%	14,078 17.83%	78,011 100%
Spring Valley	10,033 57.24%	464 2.43%	1,230 6.44%	2,580 13.40%	3,012 20.48%	19,059 100%
Sunrise Manor	14,981 42.61%	3,015 8.57%	11,267 22.04%	3,546 10.08%	2,353 6.69%	35,162 100%
Valley Totals*	127,772	15,332	22,530	84,871	30,895	281,400
% of Valley Totals	45.41%	5.45%	8.01%	30.16%	10.98%	100%

* Rounding errors exist

Source: City of Las Vegas, Dept. of Community Planning & Development; Clark County, Dept. of Comprehensive Planning; Henderson Planning Dept.; North Las Vegas no data available
GP-145 Table 1 Existing Housing (4/1/90) 25-31

tion to work. Figure 1 identifies the major employment centers and the areas containing the households least likely to own vehicle transportation. Currently, with the exception of the area north of Cheyenne Ave., households have, at worst, access within a one-half mile to mass transit routes which serve or will serve all of these major employment centers.

Vacant Residential Land

In addition to evaluating existing Valley-wide housing data by type and jurisdiction, an analysis of vacant land throughout the Valley planned for single family (0-6 dwelling units per acre), and multi-family (more than 6 dwelling units per acre) use is important. Table 2 indicates that there are over 81,500 vacant acres planned for single family development in the Las Vegas Valley and over 5,000 acres

planned for multi-family development, excluding Henderson and North Las Vegas. Refer to Appendix Volume for a more detailed discussion of Valley-wide vacant land available for single family and multi-family use.

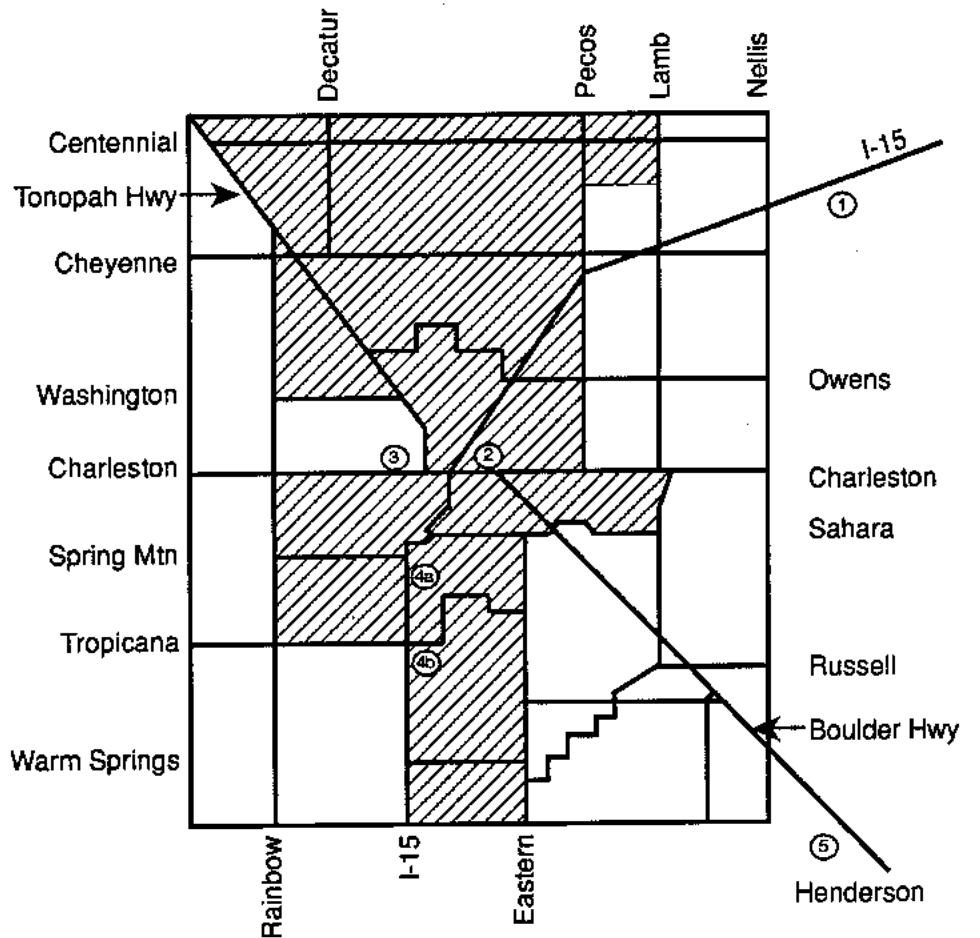
Residential Product Mix


This section is intended to provide a brief description of the residential land use densities found in the three sectors comprising the City of Las Vegas (refer to fold out Land Use Sector maps). The residential densities, which can be generally equated with dwelling unit types, are:

- R (Rural Density Residential): 0-3 dwelling units per acre (includes single family units)
- L (Low Density Residential): 3-6 dwelling units per acre (includes

Figure 1

Car Ownership and Major Employment Centers



 Area containing households least likely to own vehicle transportation (15 plus percent of valley households with less than \$10,000 annual income and/or with 30 plus percent of households owning zero or one car.)

- 1 Nellis AFB
- 2 Downtown Las Vegas
- 3 W. Charleston Medical Center
- 4 a Las Vegas "Strip"
- b McCarran Airport
- 5 Basic Industries

Source: SR Associate-Interim Report on Transit Technical Study 3.91

GPHS Fig 1 Employment Centers; 1/18/81

Housing

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Table 2

Vacant Las Vegas Valley Residential Land

by Acreage and Potential Dwelling Units

	SINGLE FAMILY				MULTI-FAMILY			
	Acres	%	Units	%	Acres	%	Units	%
City of Las Vegas*	29,066	28	133,240	63	1,600	31	20,160	42
City of Henderson*								
City of North Las Vegas*								
East Las Vegas	26	>1	52	>1	176	3	2,312	3
Enterprise	35,374	43	41,138	19	148	3	2,560	4
Lone Mountain*	9,266	11	9,266	4	-	-	-	-
Paradise/Winnchester	2,132	3	2,584	1	948	19	9,876	15
Spring Valley	9,220	11	22,496	11	1,868	21	10,844	16
Surprise Manor	2,485	3	3,828	2	1,142	23	19,088	20
Valley Totals	81,549	100**	212,404	100**	5,100	100	88,843	100

* No Data

* Includes County Islands

** Area west of Hualapai Way

** Rounding errors exist

* No Data

* Includes County Islands

* Area west of Hualapai Way

** Rounding errors exist

Source: City of Las Vegas Community Profiles and Clark County Town Plans.

OP 146 Table 2 VACANT valley 1996 rev 14-92

single family units and mobile homes on their own lots)

- ***ML (Medium Low Density Residential):** 6-12 dwelling units per acre (includes single family units, two-unit plexes, lower density townhouses/condominiums, and mobile home parks.)
- **M (Medium Density Residential):** 12-20 dwelling units per acre (includes apartments, 3 and 4 unit plexes, and higher density townhouses/condominiums.)
- **H (High Density Residential):** 20+ dwelling units per acre (includes high density apartments)

The NW Sector contains the most "R" density and the least "L", "ML" and "M" densities. The SW Sector contains some "R", a considerable amount of "L" and "M", the most "ML" and some "H". The SE Sector is comparable to the SW Sector but has less "ML" and more "H" residential density.

Refer to the Appendix Volume for a more detailed description of residential land use densities in the three city sectors.

8.1.3 Housing Affordability

Household Income Distribution

To estimate a range of households having incomes at or below 50 percent of median household incomes, the University of Nevada at Las Vegas, Center for Business and Economic Research (CBER) used two sources of median household incomes. The first, developed by Department of Housing and Urban Development (HUD), excludes single-person households and those of unrelated persons which tends to overestimate an area's median household income. Typically, households with household income levels at or below 50 percent of HUD's area median household income qualify for housing

assistance. The second source of median household income is based on data by CBER and is lower than the HUD median income. Table 3 shows the number of households in Clark Co. which are at 50% or below the area median income for all households, renter households and elderly households.

Table 4 shows the distribution of households in Clark County, by size and household income, while Tables 5 and 6 show the distribution of households by tenure and household income for all households and elderly households.¹ Some important points to note from these tables are:

- Approximately 33 percent of the households in Clark County have a level of income less than \$25,000. (Table 4)
- Large households with low household incomes are particularly vulnerable to being excluded from the private open housing market. Approximately 4,174 (1.5%) households in Clark County have five or more members and household incomes less than \$25,000. (Table 4)
- In Clark County the portion of renter households with income less than \$25,000 is significantly greater than the portion of owner households below \$25,000. (Table 5)
- Approximately 33 percent of elderly renter households (age 62 or older) in Clark County have incomes of less than \$15,000. (Table 6)

Used Housing Supply for Sale

The supply of used residential housing units for sale in Clark County, based on price range, is shown in Table 7. Important points to note from this data are:

* Generally, single family compact lots are the predominant use in the "ML" land use density with some two-unit plexes in the Southeast Sector of the City.

Table 3

Households at or below 50% of Area Median Income		
Clark County, 1990		
	CBER	HUD
All Households	42,103	45,052
% of Total	15.18%	16.56%
50% of Median	\$16,100	\$16,586
Renter Households	26,126	29,004
% of Total	24.30%	26.97%
50% of Median	\$16,100	\$16,586
Elderly Households	11,891	14,564
% of Total	32.79%	37.09%
50% of Median	\$16,100	\$16,586

Source: Center for Business and Economic Research, University of Nevada, Las Vegas
GP.HS Table 3 House-med income.HN:pm/9-26-91

Table 4

Distribution of Households									
By Size and Household Income (Clark County 1989)									
Income	1 person	2	3	4	5	6	7+	Total	Cumulative Total
<\$10,000	8,777	6,775	2,311	610	364	177	84	19,097	19,097
\$10,000 - 14,999	6,403	5,874	1,675	686	921	426	0	15,985	35,082
\$15,000 - 19,999	10,894	12,822	4,173	2,777	904	283	75	31,907	66,989
\$20,000 - 24,999	7,236	10,311	4,087	2,145	525	166	269	24,739	91,728
\$25,000 - 34,999	13,366	24,058	10,139	7,057	2,559	798	626	58,620	150,348
\$35,000 - 49,999	8,367	25,980	11,277	8,764	4,138	1,045	835	60,407	210,755
\$50,000 - 74,999	3,794	17,464	8,852	8,810	3,592	961	614	44,087	254,842
\$75,000 +	1,672	8,960	5,039	4,316	1,680	516	335	22,516	277,358
Total	60,509	112,243	47,554	35,182	14,683	4,351	2,837	277,359	1,116,521
Percent By Size:									
<\$10,000	14.51	6.04	4.86	1.73	2.48	4.06	2.96	6.89	6.89
\$10,000 - 14,999	10.58	5.23	3.52	1.95	6.27	9.79	0.00	5.76	12.65
\$15,000 - 19,999	18.00	11.42	8.78	7.89	6.15	6.04	2.65	11.50	24.15
\$20,000 - 24,999	11.96	9.19	8.59	6.10	3.58	3.81	9.49	8.92	33.07
\$25,000 - 34,999	22.09	21.43	21.32	20.11	17.43	18.34	22.05	21.13	54.21
\$35,000 - 49,999	13.83	23.15	23.71	24.91	28.18	24.02	29.43	21.78	75.99
\$50,000 - 74,999	6.27	15.56	18.62	25.04	24.47	22.09	21.63	15.90	91.88
\$75,000 +	2.76	7.98	10.60	12.27	11.44	11.85	11.79	8.12	100.00
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: Center for Business and Economic Research, University of Nevada, Las Vegas

GP.HS Table 4 House-sizeHN:pm/9-26-91

- Approximately 17.8 percent of re-sale residential units in Clark County sold for more than \$150,000.
- Approximately 10.6 percent of re-sale residential units in Clark County sold for \$60,000 or less.

Rental Rates

Rental rates by size of unit and price range are provided in Table 8. Note that the sample of apartment complexes used as the basis for this table does not include rental information for individually owned and managed rental units such as condominiums, plexes, single family homes, etc.² Table 8 provides the following important points regarding rental rates:

- Rental rates in Clark County generally range in price from \$250 to \$800 a month.
- In Clark County starting monthly rental rates for apartments generally increase \$50 for each additional bedroom.
- Approximately 43 percent of rental units in Clark County rent for \$450 a month or less.
- The majority of two and three bedroom rental units in Clark County rent for \$400 a month or higher.

Affordability Index

This study uses a ratio of 30 percent mortgage/rental cost to total income as the point above which a family would have a financial burden or an affordability problem. By using FHA qualifying criteria, household incomes can be matched with the residential housing unit sales prices and rental housing unit rental rates available in the 1989 housing market.

In upper income households the housing expense-to-income ratio can often exceed the 30 percent and not create a financial burden for the household. For instance, consider that a household earning \$15,000 annually and spending 30 percent of monthly income on hous-

Table 5

Distribution of Households							
By Tenure and Household Income (Clark County 1989)							
Income	Owner Households	% of Owner	Renter Households	% of Renter	Total	Percent of Total	Cumulative Percent
<\$10,000	5,364	3.17	13,713	12.76	19,097	6.89	6.89
\$10,000 - 14,999	7,656	4.51	8,328	7.75	15,985	5.78	12.65
\$15,000 - 19,999	13,390	7.88	18,528	17.24	31,907	11.50	24.15
\$20,000 - 24,999	11,954	7.04	12,785	11.89	24,739	8.82	33.07
\$25,000 - 34,999	33,263	19.59	25,337	23.57	58,600	21.13	54.20
\$35,000 - 49,999	40,838	24.10	19,469	18.11	60,407	21.76	75.96
\$50,000 - 74,999	36,904	21.72	7,184	6.68	44,087	15.90	91.88
\$75,000 +	20,337	11.97	2,183	2.03	22,520	8.12	100.00
Total	169,837	100.00	107,526	100.00	277,359	100.00	

Source: Center for Business and Economic Research University of Nevada, Las Vegas

CP-15 Table 6 House Tenure/HHI, p.10-26-91

Table 6

Distribution of Elderly* Households							
By Tenure and Household Income (Clark County 1990)							
Income	Owner Households	% of Owner	Renter Households	% of Renter	Total	Percent of Total	Cumulative Percent
<\$10,000	2,448	9.80	3,348	20.45	5,796	14.78	14.78
\$10,000 - 14,999	3,480	13.93	1,362	9.54	4,842	12.33	27.09
\$15,000 - 19,999	4,032	16.14	1,719	12.04	5,751	14.65	41.74
\$20,000 - 24,999	3,443	13.78	761	5.33	4,204	10.71	52.44
\$25,000 - 34,999	4,907	18.64	5,302	37.13	10,209	26.00	78.45
\$35,000 - 49,999	2,986	11.95	1,432	10.03	4,418	11.25	89.70
\$50,000 - 74,999	2,926	11.73	236	2.07	3,222	8.21	97.90
\$75,000 +	780	3.04	129	0.90	888	2.26	100.00
Total	24,884	100.00	14,279	100.00	39,263	100.00	

Source: Center for Business and Economic Research University of Nevada, Las Vegas


CP-16 Table 9 Elderly House/HHI, p.10-26-91

ing would have a maximum monthly payment of \$375 and \$875 remaining to pay for food, clothing, living expenses, etc. A household earning \$50,000 annually would have a maximum monthly payment of \$1,250 and have \$2,900 remaining to pay for food, clothing, living expenses, etc.

The availability of affordable residential housing units in Clark County

is extremely limited. Figure 2 indicates that over 75 percent of all households in the County could afford a \$60,000 house but sales in this price range or lower amounted to slightly more than 10 percent of total residential sales. A further consideration are renter households who could become first time home buyers. Figure 3 indicates over 62 percent of renters could afford a \$60,000 house but again

Table 7

 Residential Resales by Type of Unit and Price Clark County 1989					
Price Range	Single Family	Condominium/Townhouse	Mobile Homes	Total Residential	Cumulative % Residential
<\$10,000	0.00	0.00	0.00	0.00	0.00
\$10,000 - 20,000	0.00	0.00	11.53	0.64	0.64
\$20,000 - 30,000	0.00	0.00	17.35	0.68	1.32
\$30,000 - 40,000	0.00	0.38	21.16	1.26	2.58
\$40,000 - 50,000	1.33	3.04	18.28	2.58	5.74
\$50,000 - 60,000	4.58	3.80	13.44	4.86	10.63
\$60,000 - 70,000	4.58	10.85	11.83	6.44	17.07
\$70,000 - 80,000	9.49	10.27	3.81	9.36	26.43
\$80,000 - 90,000	10.70	19.31	0.00	10.74	37.17
\$90,000 - 100,000	14.68	14.45	1.91	13.92	51.09
\$100,000 - 110,000	11.93	10.65	0.00	10.98	62.05
\$110,000 - 120,000	6.12	7.22	0.00	6.06	68.10
\$120,000 - 150,000	18.82	12.55	0.00	14.85	82.95
\$150,000 +	19.51	13.84	0.00	17.80	100.75
Total	100%	100%	100%	100%	0


Source: Center for Business and Economic Research University of Nevada, Las Vegas

GP-145 Table 7 Res Resale type 1989 p.25.51

just over 10 percent of residential sales have been in this price range or lower.

Nearly 80 percent of the rental households in Clark County could afford a rental rate of \$450 or lower (Figure 4). In the apartment complex surveys conducted in the County only 43 percent of the apartment rentals were \$450 or lower. Although the overall supply of rental units appears to be adequate, in the majority of two and three bedroom units surveyed the starting rental rate is \$400 or greater a month (Table 8). At this rental rate, rental households at or below 50 percent of the County medium income (\$402/mo.) cannot afford the price of a two or three bedroom unit. As a result low income families often need to pay more than 30 percent of their income for rental housing.

Table 8

 Rental Rates by Size of Unit and Price Range Clark County 1989							
Rental	Studio	One Bdr.	Two Bdr.	Three Bdr.	Four Bdr.	Total	Cumulative %
<\$100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
\$100 - 150	0.80	0.00	0.00	0.00	0.00	0.80	0.80
\$150 - 200	0.80	1.30	0.00	0.00	0.00	0.50	1.30
\$200 - 250	8.40	4.90	0.80	0.00	0.00	2.60	3.90
\$250 - 300	17.60	7.70	1.70	1.40	0.00	5.50	9.40
\$300 - 350	20.20	12.30	5.60	1.40	0.00	8.60	18.00
\$350 - 400	18.50	17.90	8.10	4.10	0.00	11.40	29.40
\$400 - 450	17.60	15.30	14.50	6.10	0.00	13.60	43.00
\$450 - 500	6.70	12.80	19.20	11.60	0.00	13.20	56.20
\$500 - 550	3.40	11.50	16.20	9.50	0.00	12.00	68.20
\$550 - 600	4.20	8.80	10.90	8.20	0.00	8.40	76.60
\$600 - 650	0.80	4.70	10.80	9.50	0.00	7.40	84.00
\$650 - 700	0.00	0.90	4.70	14.30	0.00	4.50	88.50
\$700 - 750	0.80	0.90	2.80	12.20	0.00	3.50	92.00
\$750 - 800	0.00	0.40	1.10	8.20	0.00	2.00	94.00
\$800 +	0.00	3.40	6.70	13.60	0.00	6.00	100.00
Total	100%	100%	100%	100%	0.00%	100%	

Source: Center for Business and Economic Research University of Nevada, Las Vegas

GP-145 Table 8 Res Resale -1989 p.25.51

Table 9 indicates maximum affordable rental rates and home prices for households with an income level at 50 percent of the County's medium household income. In 1989 the maximum affordable rental rate was \$402 and the maximum house price a household at 50 percent of the median area income could afford in Clark County was \$40,500. As indicated in Figure 2 only about three percent of the residential sales in 1989 were at this amount or less. Thus, the limited availability of affordable housing units on the market indicates that home ownership is not a reasonable option for most low income households.⁹

City Codes and Ordinances

Housing, building and related codes are designed to provide minimum building standards that will produce a safe and habitable structure and do not contribute to excessive housing costs. During a recessionary period in the early 1980's the subdivision code was amended to reduce the cost of off-site construction by permitting roll curbs, smaller sidewalk width, sidewalk reduced to one side of local streets, and a narrower street width. The City's Zoning Ordinance was also amended to

provide a R-CL (Residential) single-family Compact Lot District wherein a portion of the lots on each block could be reduced to as low as 3,000 square feet with 30 foot frontages.⁴ (Refer to the Appendix Volume for fees exacted by the City which add to housing costs.)

Land Values

A general statement can be made that raw land costs have risen in the Las Vegas Valley. How much and whether this increase is consistent throughout the Valley cannot be readily ascertained and should be the subject of a separate study. However, since land costs contribute anywhere from 16 to 22 percent of the selling price of a house, it is important that increased emphasis be placed on effectively reducing the costs of raw land and off site improvements such as streets, sidewalks and utilities.⁵

Energy Features

Current energy conservation features and code requirements are not adding significantly to the cost of a new home. Home buyers are demanding many conservation items; in many respects they have become marketing features. Some features offered are R-11, R-19 and R-30 insulation, high energy efficiency ratings on heating and cooling units, dual pane windows, weatherstripping and water efficient plumbing fixtures. Many builders are also supplying gas appliances with pilotless ignitions. Today, the variable cost associated with energy efficiency is a result of the appliance models being purchased.⁶

Manufactured Housing

Manufactured or modular housing consists of factory built homes which are moved as components and assembled at the site. These mobile homes or modular units are inspected and code approved at the factory.

Considering that Las Vegas has few new site built homes for under \$70,000,

Figure 2

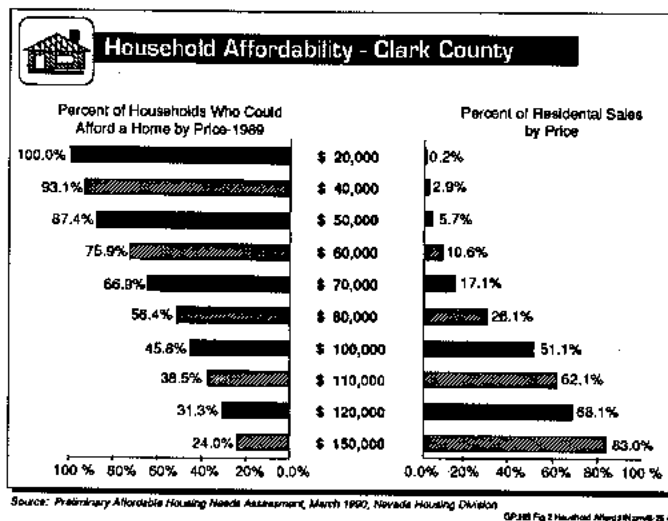


Figure 3

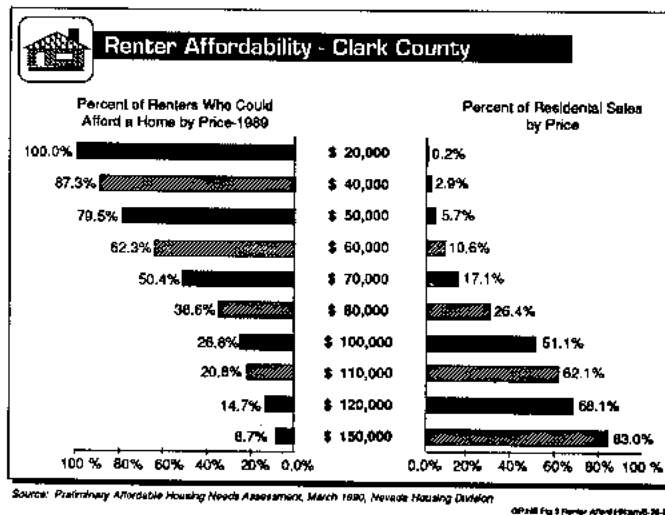
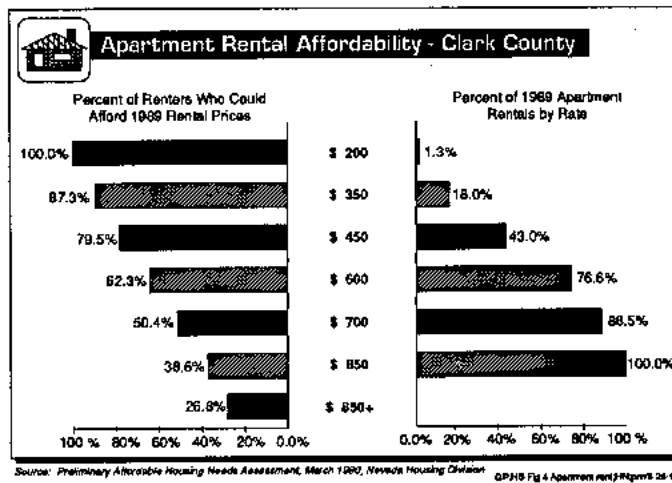


Figure 4



Pecos Road. There is only one mobile home development west of Decatur Boulevard; Jade Park is the only mobile home estate development in the City with homeowner owned lots. It appears the most vexing problem is the uncertainty over rent increases for lots in mobile home parks, which creates friction between tenant associations and the park owners; many tenants are senior citizens on fixed incomes.

If the problem of housing affordability is going to be addressed by the City, potential developers should be made aware that mobile home estates development will be encouraged to locate throughout the City.

8.1.4 Housing/Neighborhood Conditions

1990 Housing Quality

It is important that housing should not only be available for all family income levels, but that this housing be structurally sound. The Central Action Office was created within the Department of Building and Safety and given the responsibility of enforcing Las Vegas city ordinances involving structures and the environment. As such, it enforces the City Housing Code and handled about 450 complaints of code violations in 1989. The office is responsible for the securing of dangerous buildings and administering complaints about dangerous and illegal structures and signs. The Central Action Office has undertaken a rigorous "Dangerous Structures Abatement Program," in which dilapidated buildings, and those which have become havens for crime and gang activity, are being restored to usefulness or demolished, thus contributing to neighborhood redevelopment. These problems are found in all four wards of the City, but tend to be concentrated in older subdivisions approved before 1965 (Map 2).⁶

Table 9

Maximum Affordable Rental Rates and Housing Prices
For Household Incomes at 50% of Median Area Income - Clark County 1989

*Median Household Income	50% of Median Income	Maximum Rental Rate	Maximum House Price
\$32,200	\$16,100	\$402	\$40,500

*U.S. Department of Housing and Urban Development

Source: U.S. Department of Housing and Urban Development, and Bureau of Business and Economic Research, University of Nevada, Reno. QPHS Table 9 Max afford/HN/pmv/26-91

manufactured homes may be one important answer to providing affordable homes. A 1,500 square foot model using the same materials as on site housing, with three bedrooms, two bathrooms, central heat and air conditioning, and set up would cost about \$40,000. If placed on an improved lot with a pad, the total cost would be approximately \$60,000. Without some

of the amenities these homes can cost much less.⁷

Another type of portable housing is mobile homes. One consideration in selecting mobile home living is where to locate the unit. There are 24 existing mobile home parks within the City of Las Vegas (Map 1). Twelve parks are located in the four square miles east of

Neighborhood Environment

Providing affordable and adequate housing is important, but to maintain housing value neighborhoods must be stabilized and maintained as well. Thus, the City's Central Action Office must not only oversee housing code enforcement, but must be instrumental in promoting attractive neighborhoods. As such, it administers many environmental complaints such as street pot holes, water running in streets, illegal outside storage, junk and abandoned vehicles, illegal vehicle repair, and trash and debris.⁹

8.1.5 Housing Programs

To be eligible for subsidized housing an individual or family must qualify as a "family" and the annual income for the family may not exceed the federally determined income limit for the

number of family members in the household. An individual qualifies as a "family" if 62 years of age or older, or if disabled or handicapped regardless of age. Total family income cannot exceed the maximum gross income limits for specific programs (Table 10).¹⁰ Refer to the Appendix Volume for a list of specific housing programs.

Previous sections dealing with the existing housing situation in the Valley have discussed distribution of housing, its affordability, and its conditions. This section will explain briefly what programs the City, the State of Nevada and the federal government have in place, or in process, to address existing problems of affordability.

City Housing Programs

The Residential Rehabilitation Assistance Program is administered by the Urban Development Division of the

Department of Economic and Urban Development. The purpose of the program is to improve (revitalize) housing by assisting owners in correcting housing code violations within the city limits of Las Vegas with special emphasis placed on targeted low income census tracts (Map 3). There are two basic programs available for owner-occupied residential dwellings. (Refer to the Appendix Volume for a statement of project eligibility.)

- **Residential Rehabilitation Program** - The purpose of this program is to assist low to moderate income property owners by offering rehabilitation loans. All applicants must be owner occupants of the property and have an annual family income not to exceed the approved lower income limits shown in Table 10.


City Council may waive the 80% limitation on the estimated cost of the "after rehab" appraised value, on a case by case basis, where it is necessary to achieve the objective of rehabilitating the structure. The loan shall not exceed ten years and will bear a 3% interest rate. Loan payments are returned to the Residential Rehabilitation Assistance Revolving Loan Account.

- **Deferred Loans** - These are interest free loans which do not need to be repaid unless the owner ceases to reside in the house or transfers title to the property. The owner must meet the very low income limits shown in Table 10. The total indebtedness against the property cannot exceed 80% of the "after rehab" value of the property. However, City Council may increase the 80% limitation on a case by case basis.

There is also one program for rental dwellings.

- **HUD Deferred Loans** - The City of Las Vegas will provide 25 per-

Table 10

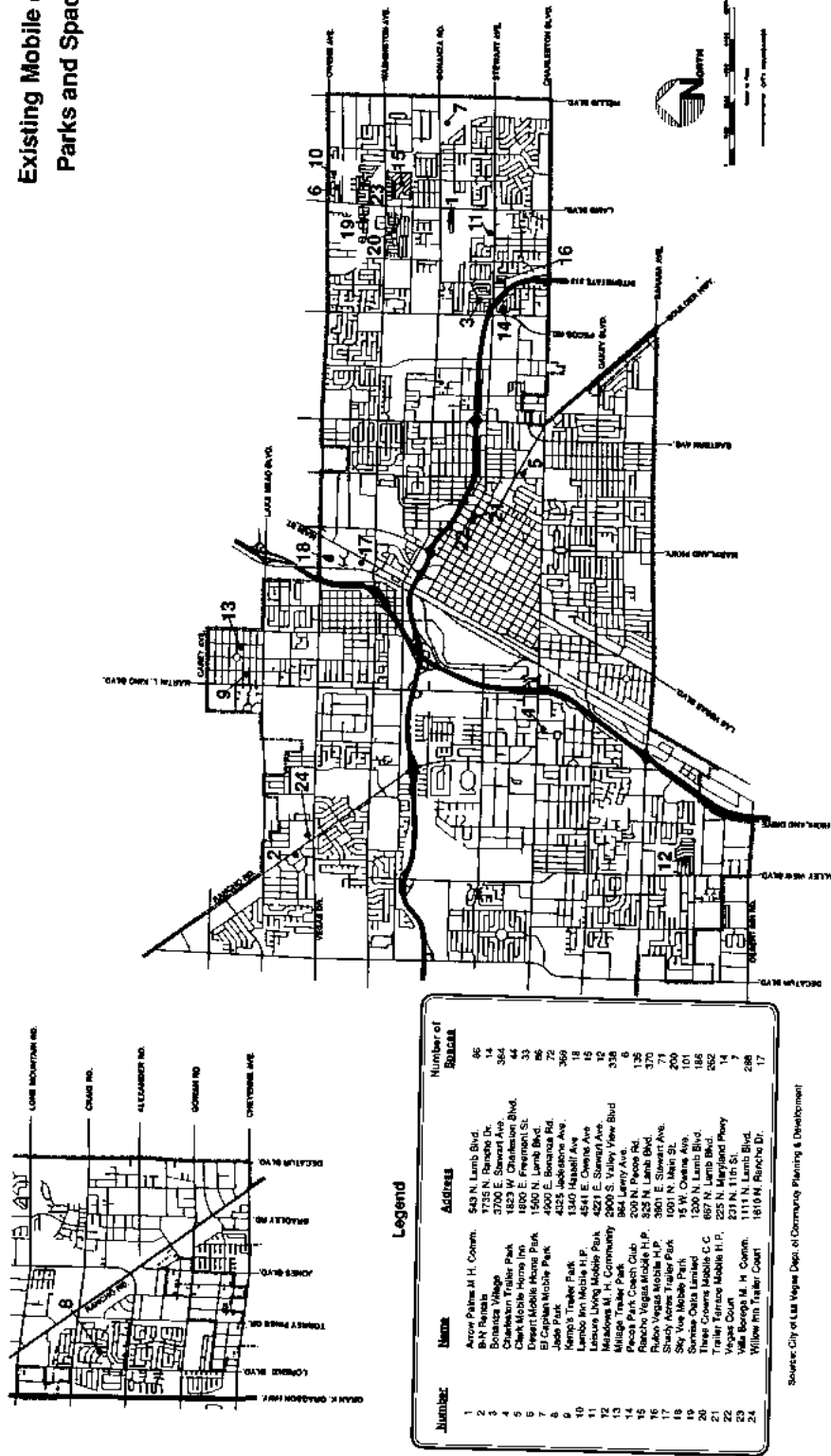
 Income Limits	
Lower Income Limits	
*1 Per	\$20,800
*2 Per	\$23,750
*3 Per	\$26,700
*4 Per	\$29,700
*5 Per	\$32,050
*6 Per	\$34,450
*7 Per	\$36,800
*8 Per	\$39,200
* Total Family Members	
Very Low Income Limits	
*1 Per	\$13,000
*2 Per	\$14,850
*3 Per	\$16,700
*4 Per	\$18,550
*5 Per	\$20,050
*6 Per	\$21,500
*7 Per	\$23,000
*8 Per	\$24,500

Source: State of Nevada 2-1-91

GP.HS Table 10 Income Limits;HN;pm/9-26-91

Map 1

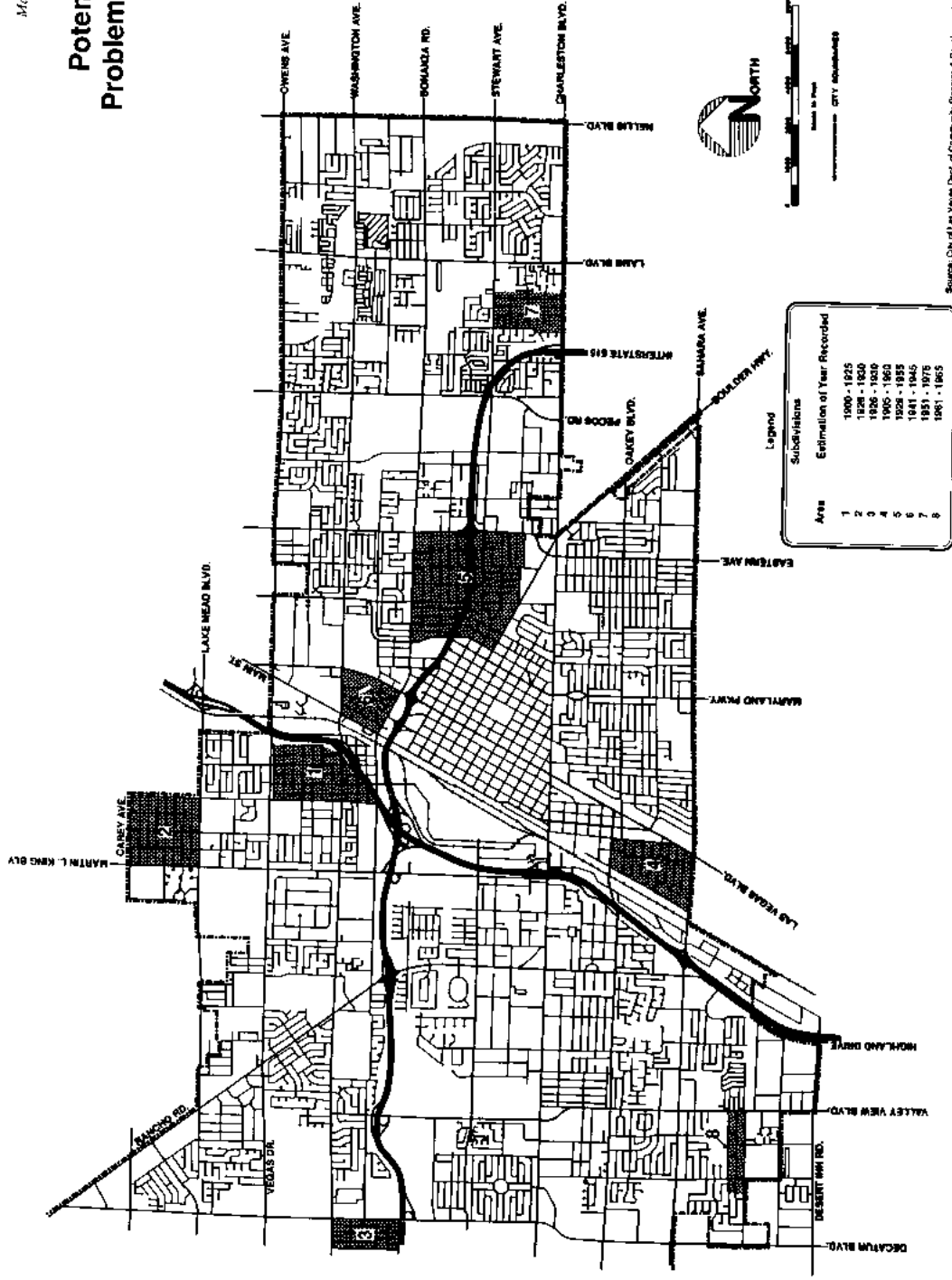
Existing Mobile Home Parks and Spaces



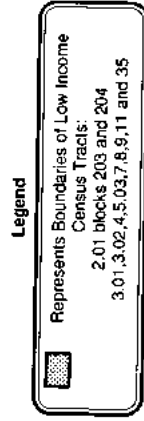
VEH-204

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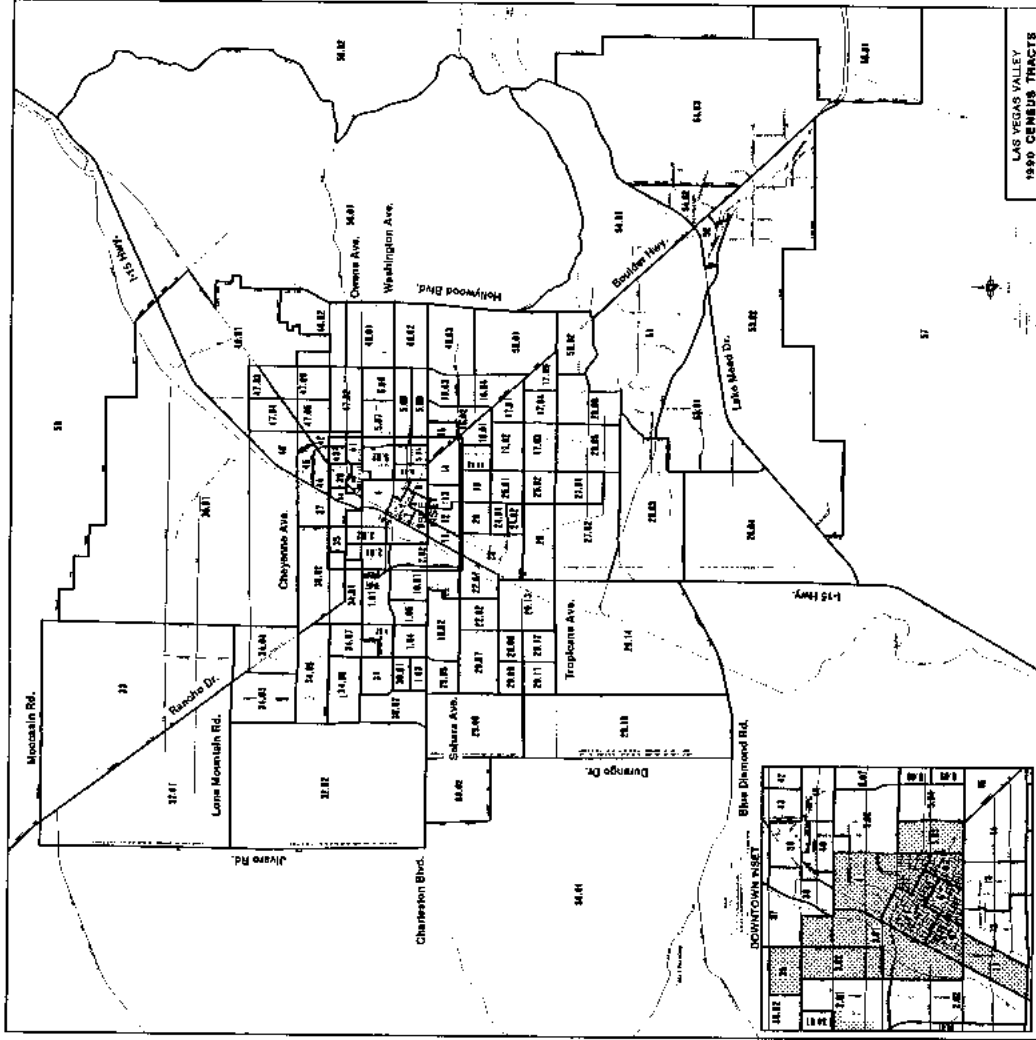
Potential Problem Areas



Low Income Census Tracts



Source: City of Las Vegas Dept. of Community Planning & Development



012-106

CLV053269
3087

cent of the rehabilitation cost of a rental rehab project using HUD Rental Rehab funds. The owner must execute a ten year Regulatory Agreement; each year on the loan anniversary if the owner is in compliance with the Agreement, City Council will reduce the loan balance by ten percent. The owner is required to provide 75% matching funds for the project. This money must come from the owner's cash or from a lending institution. The City is working on an agreement with a group of four local lending institutions to provide the 75% matching funds which are to be loaned at 10% interest for a maximum of ten years.

The City formerly provided 25% of the rehabilitation cost of a rental rehabilitation project, in the form of a ten year deferred Loan, from Community Development Block Grant funds. The City's Deferred Loan portion was forgiven at the rate of 10% per year if the owner was in compliance with the rental Rehab Regulatory Agreement. The remaining funds were provided by the property owner.

The City has also sponsored and administered direct loans under the HUD 312 program to promote rehabilitation of single family dwellings in target areas. Loans were made available at an interest rate of three percent and priority given to low and moderate income residents.

As a result of these programs, a total of 725 dwelling units have been rehabilitated (brought up to code), for the period June 1, 1977 to February 4, 1991, at a total cost of \$4,946,725 (Table 11).¹¹

State Housing Programs

The Nevada Housing Division of the State of Nevada administers three housing programs in the Las Vegas Valley; the Nevada Single Family Housing Bond Program, the Multi-


unit Rental Housing Finance Program, and the Low Income Housing Tax Credit Program. Refer to the Appendix Volume for a discussion of these State administered programs.¹²

Federal Housing Programs

- **Section 8 Certificate/Voucher Program** - The last federally owned housing was built in Las Vegas in 1984 and since then the Las Vegas Housing Authority has been participating in this program. Under this program the applicant, who is issued a certificate/voucher, looks for rental housing in the open market. The unit the applicant finds must pass HUD inspection to de-

termine that the unit is safe and sanitary. The amount of the certificate/voucher is based on a housing survey conducted every ten years with an annual inflation factor built in. In addition, the Housing Authority can ask for an increase in the fair market rent of up to 20 percent in unusual market situations. A certificate must be used within the jurisdiction of the issuing housing authority or in a contiguous housing authority area. The Section 8 Certificate Voucher Program has maximum rent ceilings by bedroom size which are referred to as Fair Market Rents. The certificate holder must find a unit within the Fair Market

Table 11

 Housing Assistance Programs 6/1/77 - 2/4/91 City of Las Vegas	
OWNER OCCUPIED PROGRAM (101 UNITS REHABED)	
Direct Loans (Re-Payable @ 3% Interest 10 Year Term)	\$400,484.63
Deferred Loans	\$337,245.68
Grants (Not active)	\$21,379.90
TOTAL	\$759,110.21
MULTI-FAMILY RENTAL PROGRAM (516 UNITS REHABED)	
CDBG Direct (Re-Payable @ 5% Interest 10 Year Term) (Discontinued)	\$1,595,775.13
HUD Rental Deferred (10% Per Year written off in compliance with Regulatory Agreement)	\$1,056,890.00
TOTAL	\$2,652,665.13
HUD SECTION 312 PROGRAM (108 UNITS REHABED)	
Multi-Family (Tenant Occupied)	\$655,150.00
TOTAL	\$655,150.00
TOTAL UNITS REHABED	725
TOTAL GOVERNMENT FUNDS	\$4,066,925.34
TOTAL PRIVATE FUNDS	\$879,800.00
	\$4,946,725.34

Source: City of Las Vegas Dept. of Economic and Urban Development


GP.HS Table 11 House select:pm/6-26-91

Rent limit of the bedroom size for which he/she is eligible. The family must contribute 30% of monthly adjusted family income towards the rent. The Certificate voucher program does not have unit rent or family rent contribution ceilings. There is a limitation, however, on the subsidy contribution towards rent. The subsidy contribution limit is referred to as the Payment Standard. The Certificate voucher program permits the family to determine the level of his/her rent contribution, which will vary dependent on the rent of the unit selected. As of January 1991, the Housing Authority had issued a total of 667 certificates and vouchers (Table 12). Refer to Map 4 for location of specific projects and to the Appendix Volume for a list of other programs administered by the Las Vegas Housing Authority.

There is a large unmet demand beyond the 4,425 units administered by the Authority. For January 1991 there were a total of 3,724 active applications on file with 517 applications received (Table 13). Actually the demand is probably much greater since the waiting list may be frozen when applications for certificates/vouchers cannot be processed within one year from being received. The Authority estimates that the total demand is probably twice the applications received.

- **Community Development Block Grants** - This is a HUD program intended to promote sound community development which is directed toward neighborhood revitalization, economic development and improved community services. All CDBG activities must benefit low and moderate income persons or aid in the prevention of neighborhood blight. Funds are allocated to metropolitan cities and urban counties by statutory formulas.¹³


Table 12

 Housing Unit Inventory (January 1991)	
Units	
Low Rent Public Housing	2613
Section 8 Substantial Rehabilitation (Madison Terrace)	100
Section 8 New Construction (Rayson Manor)	57
Section 8 Moderate Rehabilitation (Baltimore Gardens, Cleveland Gardens, Granada Apartments)	217
Section 8 Existing Vouchers and Certificates	667
Non-Federally Aided Program (Authority Owned)	461
Section 8-202 (Privately Owned/Authority Managed)	310
Total	4425
Units Under Construction	
Low Rent Public Housing	0
Section 8 Substantial Rehabilitation	0
Section 8 New Construction	0
Section 8 Moderate Rehabilitation	0
Non-Federally Aided Program (Authority Owned)	0
Section 8-202 (Privately Owned/Authority Managed)	0
Total	0

Source: Housing Authority of City of Las Vegas

GP.HS Table 12 House Inventory;HN.prv/6-25-91

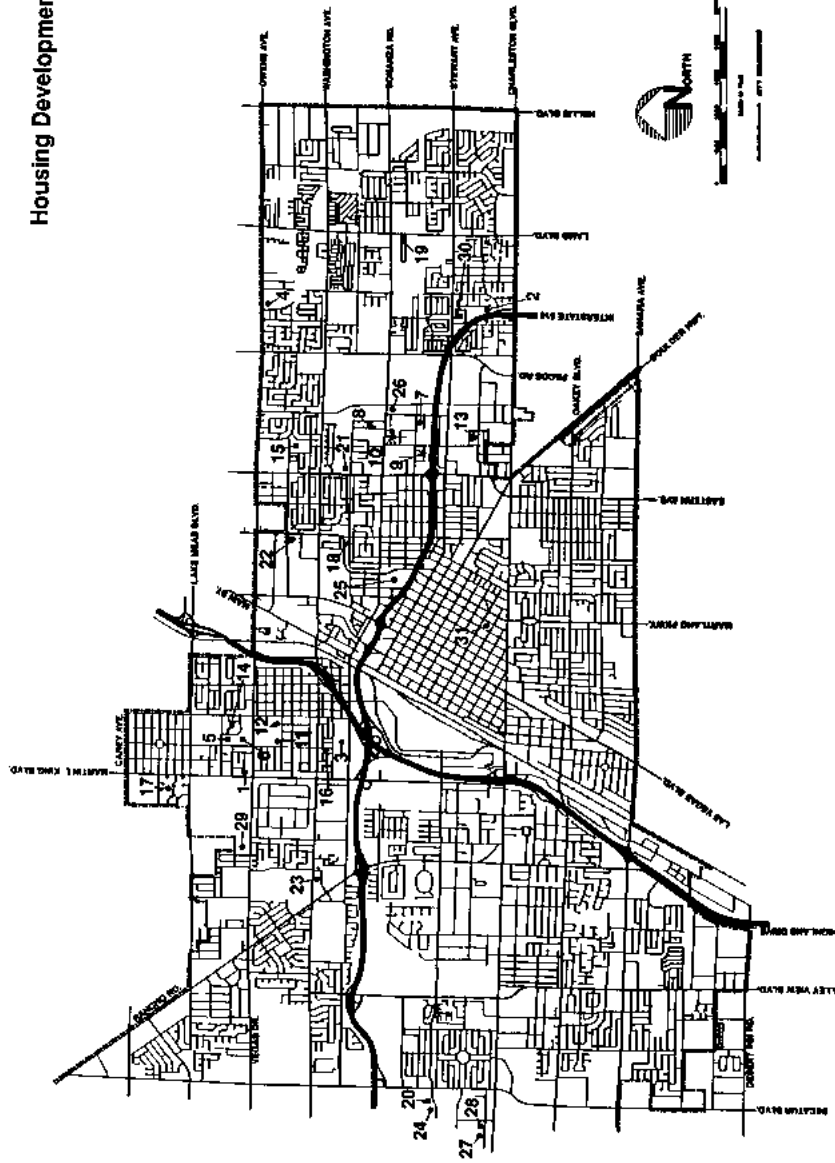
Table 13

 Housing Authority of the City of Las Vegas Application Department Status Report- January 1991		
	Applications Received	Active Applications on file
Public Housing Family	155	769
Public Housing Senior	5	205
Non-Aided Family (8 Houses)	41	134
Non-Aided Housing Senior	76	308
Non-Aided Housing (Rayson Manor Annex)	2	23
Section 8 Existing Cert/Voucher Senior	0	214
Section 8 Existing Cert/Voucher Family	0	652
Section 8 Moderate Rehabilitation	128	482
Section 8 New Const. (Rayson Manor)	0	238
Section 8 Subst. Rehab. (Madison Terr.)	110	522
Section 8-202	0	177
Totals	517	3724
Summary of Case Activity		
Completed cases returned, loss of preference	11	
Withdrawn by Applications Department	15	
Completed, submitted to Managers	80	
Verifications in progress	85	
Completed verifications	46	

Source: Housing Authority of City of Las Vegas

GP.HS Table 13 Housing authority;HN.prv/6-25-91

Housing Developments



Legend

Number	Name and Address	Units
1	Marble Manor Annex	23
2	Marble Manor Annex	54
3	Ernie Oregon Annex 22	56
4	1001 W. McWilliams	57
5	Ernie Oregon Annex	60
6	1418 C. Lane	60
7	1701 N. J. St.	80
8	1701 N. J. St.	80
9	Ernie Oregon Annex 24	81
10	Ernie Oregon Annex 22	84
11	Ernie Oregon Annex 22	86
12	Ernie Oregon Annex 22	86
13	Ernie Oregon Annex 22	86
14	Ernie Oregon Annex 22	86
15	Ernie Oregon Annex 22	86
16	Ernie Oregon Annex 22	86
17	Ernie Oregon Annex 22	86
18	Ernie Oregon Annex 22	86
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24	Ernie Oregon Annex 22	86
25	Ernie Oregon Annex 22	86
26	Ernie Oregon Annex 22	86
27	Ernie Oregon Annex 22	86
28	Ernie Oregon Annex 22	86
29	Ernie Oregon Annex 22	86
30	Ernie Oregon Annex 22	86
31	Ernie Oregon Annex 22	86

* Represents Senior Citizens Units

Source: Housing Authority of the City of Las Vegas, Nevada

Refer to the Appendix Volume for a list of federally administered programs.

- **Cranston-Gonzalez National Affordable Housing Act** - The purpose of the Act is:
 - to assist families to become first-time homebuyers
 - to retain affordable housing units developed with federal assistance
 - to produce and operate affordable housing for low-income and moderate income families through public-private partnerships,
 - to expand and improve federal rent assistance for very low income families, and
 - to increase the supply of supportive housing for persons with special needs.

The Act continues authorization for Community Development Block Grants and Housing programs while authorizing several new programs to assist states and local governments to achieve these objectives. The new HOME Investment Partnership and HOPE programs are currently being developed. However, in order to continue receiving federal funding the state and local governments must develop Comprehensive Housing Affordability Strategies (CHAS). It is expected that CHAS will incorporate and then supersede elements of the current Housing Assistance Plan and the Comprehensive Homeless Assistance Plan. Further, the CHAS must be approved by HUD and is required to be submitted by October 31, 1991.¹⁴

Housing Assistance Consultation

Poor People Pulling Together (PPPT) is the approved HUD Counseling Agency for the State and is the only non-profit organization in the city which provides housing consultations. This organiza-

tion, located at 1801 N. 'J' Street, assists households who want to purchase or who already own their own homes and it represents actual and potential homeowners at assignment hearings for FHA insured loans. This organization also advises new persons and households in the area or persons needing immediate housing information where they can apply for subsidized housing and the basic information they will need to provide when they fill out applications. It acts as an informal mediator in disputes between renters and housing owners or managers.¹⁵

8.1.6 Analysis of Future Housing Needs

Housing Demographics

Population in the Las Vegas Valley is expected to increase from 751,931 in 1990 to over 947,400 persons in the year 2000. As shown in Table 14, there will be an estimated need for 350,717 dwelling units in 1995 and 394,757 units by the year 2000 based on projected populations.

Table 14

Las Vegas Valley Dwelling Units			
Unit Needs	1990	1995	2000
Population	751,931	859,256	947,416
P.P.H.H.	2.55	2.45	2.40
Estimated DU Needs			
Total ¹	294,875	350,717	394,757
Single Family	133,873	159,226	179,220
Multi-Family	161,002	191,491	215,537
Existing DU's			
Total	281,400	281,400	281,400
Single Family	127,756	127,756	127,756
Multi-Family	153,644	153,644	153,644
Unmet Unit Needs			
Total	13,475	69,317	113,357
Single Family	6,118	31,470	51,464
Multi-Family	7,357	37,847	61,893
Unit Potential			
Potential DU's Based on			
Vacant Residential Acreage			
Total	278,378	278,378	278,378
Single Family	207,628	207,628	207,628
Multi-Family	70,750	70,750	70,750
Potential Excess (Needed) DU's			
Total	264,903	208,061	165,021
Single Family	201,510	176,159	156,164
Multi-Family	63,393	32,903	8,857

¹ Single family dwellings estimated to be 45.4% of total Valley units

Source: U.S. Census, CLV Dept. of C.P.&D. & Clark Co. Dept. of C.P. Projections
Clark Co. Town Plans, CLV Community Profiles GP.HS Table 5a LVV Dwelling:HNpm4-14-92

Anticipated Housing Needs

As of 1990 there were an estimated 281,400 existing dwelling units in the Valley, breaking down into 127,758 single family and 153,644 multi-family units. Table 14 indicates that in 1995, the combined figures for total existing and potential DU's subtracted from total estimated DU needs will produce a potential excess of 209,061 DU's; in 2000 excess single family units will be reduced to 156,164 and the multi-family units to 8,857. There is a projected City dwelling unit need of 136,344 in 1995 and 180,416 units projected in the year 2000. Existing and potential City dwelling units total 270,794 units. Thus, in 1995, Las Vegas can provide its share of total valley housing in both single family and multi-family units. By 2000 the City will still meet its single family needs but will be deficient in multi-family by over 6,300 units.

It is important to not only know total City housing needs but to determine the allocation of housing by type throughout the City. Table 15 estimates the total number of units needed by type in 1995 and 2000 based on their percentage of total housing existing in 1990. Subtracting the existing dwelling unit types from the projected dwelling unit types for 1995 and 2000 provides the number of needed units by type. It should be noted that single family is as its name implies, the remaining types are all considered multi-family. The next consideration is to distribute these needed housing units in each of the three city planning sectors based on the potential dwelling units per net acre of vacant land and its designated land use category (Table 16). Land use categories "R", "L" and "ML" generally permit single family units whereas "M" and "H" permit multi-family units. Thus, comparing Tables 15 and 16, the Southeast Sector could provide for about 59 percent of the single family needs by 1995. The Southwest Sector can meet single family needs in 1995 but not by the year

2000, while the Northwest Sector can absorb all single family housing needs thru the year 2000. Multi-family needs cannot be handled alone by any individual sector in 1995, and by the year 2000 the three sectors together will not have sufficient vacant land to provide for multi-family housing needs; there will be a need for over 6,300 additional units to provide for all the multi-family dwellings proposed for the year 2000.


Anticipated Housing Affordability

Subsequent to a determination of future housing needs by type and location, additional analysis is needed to find out if household income will be

sufficient to purchase future housing. Table 17 indicates that there is expected to be a drop of 11 percent in the number of households with income of less than \$20,000, and a rise of 9 percent for households with incomes between \$25,000 to \$50,000. Over time this change should produce a larger number of qualifying households if inflation is held constant.

It is assumed a household can afford to buy a home with a 20 percent down payment and that an appropriate amount of income will be used to cover the debt service, property taxes, and insurance on the home. As a general rule household income spent on housing can range


Table 15

 Potential Housing Needs by Unit Type City of Las Vegas					
DWELLING UNITS PROJECTED BY TYPE -					
		%	1990	1995	2000
Total		100%		136,344*	180,416*
Single Family	S.F.	51%		70,176	92,860
Plexes	M.F.	7%		9,451	12,510
Mobile Homes	"	3%		4,049	5,362
Apartments	"	32%		43,217	57,174
Townhouse/Condos	"	7%		9,451	12,510
DWELLING UNITS EXISTING BY TYPE -					
Total		100%	109,394		
Single Family		51%	56,310		
Plexes		7%	7,987		
Mobile Homes		3%	3,319		
Apartments		32%	34,536		
Townhouse/Condos		7%	7,242		
DWELLING UNITS NEEDED BY TYPE -					
Total		100%		26,950	71,022
Single Family	S.F.	51%		13,866	36,550
Plexes	M.F.	7%		1,464	4,523
Mobile Homes	"	3%		730	2,043
Apartments	"	32%		8,681	22,638
Townhouse/Condos	"	7%		2,209	5,268

* Rounding errors exist

Source: City of Las Vegas, Dept. of Community Planning and Development - Population & Dwelling Unit Estimates & Projections
GP,HS Table 15 Potential needs;HN,proj-26-91

Table 16

 Potential DU's/Net Acre of Vacant Land by Sector and Land Use Category City of Las Vegas				
Sector	Land Use Category	Dwelling Units		%
SE		Total	18,222	100
	R, L, ML	Single Family	8,181	45
	M, H	Multi-Family	10,041	55
SW		Total	42,837	100
	R, L, ML	Single Family	31,927	74
	M, H	Multi-Family	11,010	26
NW		Total	100,249	100
	DR, R, L, ML	Single Family	93,140	93
	M, H	Multi-Family	7,109	7
		City Total	161,409	100
		Single Family	133,249	83
		Multi-Family	28,160	17

Source: City of Las Vegas Dept. of C.P.&D., Community Profile Maps 1990-91
 GP.HS Table 16 Potential DU's/Net Acre of Vacant Land

from 25 to 35 percent. Table 18 indicates, within these ranges, the purchase price of housing at various income levels and interest rates with a 25-year fixed rate mortgage. For example, assuming 30 percent of income is spent by a household with an income level of \$20,000 and at an interest rate of 10 percent, that household could afford to purchase a \$60,000 home.


In 1989, Center for Business and Economic Research, UNLV, indicated that the median sales value of a single family home was \$96,128 or a 44 percent increase in value from the median value of a home in Clark County (\$66,800) as reported in the 1980 Census. If housing value increases another 44 percent from now to the year 2000, the median house value will be \$138,424. If housing value does increase by this percentage and assuming 30 percent of household income is spent for housing, then in the year 2000 only about 34 percent of the total households could afford a median priced house.

Figure 5 indicates the percentages of households which can afford various priced homes in the years 1995 and 2000. Comparing household affordability in 1989 (Figure 2) with Figure 5 indicates a 19 percent increase between 1989 and 1995 in the households which could afford a \$60,000 home. There is a 25 percent increase in the households which could afford a \$100,000 home. However, these percentage increases are nearly unchanged between 1995 and the year 2000.

Anticipated subsidized housing


In 1991 there were 4,425 subsidized housing units. These units represent about 4 percent of the City of Las Vegas households. If this percentage is applied to households (dwelling units) expected in 1995 and 2000 we can expect to provide 5,454 and 7,217 subsidized units, respectively.

Table 17

 Annual Household Income				
		1990	1995	2000
Income From \$	Group To \$	Percent	Percent	Percent
0	9,999	7%	5%	4%
10,000	19,999	18%	13%	10%
20,000	24,999	9%	11%	11%
25,000	34,999	21%	23%	24%
35,000	49,999	21%	24%	26%
50,000	+	24%	24%	25%
Total # of Households		269,300	350,717	394,757
Median HH Income		\$32,862	\$43,288	\$56,022

Source: Las Vegas Perspective 1990 & CLV Dept. of C.P. & D. projections
 GP.HS Table 17 Annual Income:HH.ppt/2-25-91

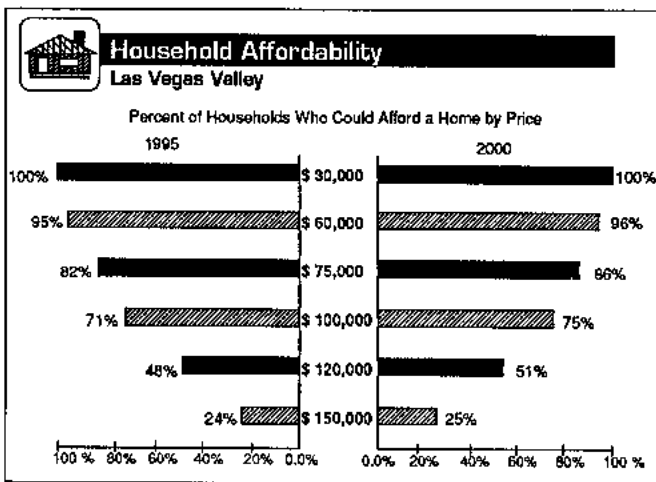
Table 18

 Affordability Incomes Compared to Purchase Price			
35% OF INCOME	INCOME LEVEL	PURCHASE PRICE AT	
		10%	12%
	10,000	34,600	30,742
	20,000	69,233	61,484
	25,000	86,542	76,854
	35,000	121,159	107,596
	40,000	138,467	122,967
	50,000	173,084	153,709
30% OF INCOME			
	10,000	29,663	26,350
	20,000	59,343	52,701
	25,000	74,179	65,875
	35,000	103,850	92,225
	40,000	118,686	105,400
	50,000	148,358	131,751
25% OF INCOME			
	10,000	24,726	21,958
	20,000	49,452	43,917
	25,000	61,815	54,896
	35,000	86,541	76,854
	40,000	98,905	87,833
	50,000	123,631	109,792

Source: Downs, Anthony Housing Affordability

GP HS Table 18 Affordability: HH pm% 26-91

Figure 5



Source: Preliminary Affordable Housing Needs Assessment, March 1990, Nevada Housing Division

8.2 Issues

Issue 1: The City's proportionate share of housing types in respect to the Valley-wide need

Population in the Las Vegas Valley is projected to reach 947,400 persons by the year 2000. This growth will equate to a need for 350,700 total dwellings in 1995 and 394,750 units in the year 2000. Based on land planned for residential development, there will still be room for an additional 156,164 single family units and 8,857 multi-family units above the 394,750 units projected for the Valley by the year 2000. It is expected that the City of Las Vegas will need 180,400 units in the year 2000. Vacant land in the City's planning area proposed for residential use will provide 133,240 single family units and 28,160 multi-family units; thus by the year 2000 the City will fall short of its housing unit needs by over 6300 multi-family units. Thus, the City should determine if it is desirable to accept an increasing portion of the Valley's housing especially since it is currently meeting the overall Valley percentage of apartment units but is providing a higher percentage of single family dwellings.

Issue 2: A City plan for sufficient land at the proper densities to meet future housing needs

A major consideration is the distribution of needed housing units in each of the City's three planning sectors based on the potential number of units per net acre of planned vacant land. The Southeast Sector, which is largely developed, can only accommodate about 22 percent of the single family and less than one-third of the multi-

family development proposed for the year 2000. Much of the multi-family demand would need to be placed as infill development. The Southwest Sector is characterized as developing with much of the area in planned communities with approved land use plans. This sector cannot absorb the single family housing needs in the year 2000, and can provide for only slightly over one-third of the multi-family demand. A consideration in this sector is whether to permit higher density land use inside and/or outside of planned communities. The Northwest Sector, which is presently rural in character, contains the largest vacant area suitable for single family development. It could contain about two and one half times the year 2000 single family needs, but only about one fifth of the multi-family dwellings. The concern in this sector is how to increase the amount of multi-family units without compromising the rural quality of life.

Issue 3: The City's ability to plan for a suitable range of housing types and prices is affected by the existing lack of an effective mass transit system in the Valley

In May 1990 SR Associates submitted to the Regional Transportation Commission of Clark County an interim report that dealt with transit considerations in the Valley. This report made the observation that the greatest concentration of transit (bus) riders was from households with low (less than \$10,000) and medium (\$10,000 to \$35,000) incomes, with elderly (persons 65+ years), and having zero or one vehicle. Low income households (15 percent and higher) are concentrated in an area generally bounded by Centennial Parkway on the north; Tonopah Highway and I-15 to the west; Tropicana Avenue on the south; and Pecos and Eastern on the east. The

greatest concentrations of elderly (300 households and higher per square mile) are located in the City's "Downtown" and "Westside" areas and in an area between Charleston and Tropicana, east of Rainbow Boulevard and generally west of Pecos Road and Eastern Avenue. Households with zero car ownership (6 percent or more) are again concentrated in the City's "Downtown" and "Westside" areas and in a corridor along the "Strip" extending from Sahara Avenue south to Warm Springs and southward, between I-15 and Eastern Avenue. Fortunately, these areas are where the existing bus routes are located, and most of these households are within a one half mile walking distance. However, if the transit rider doesn't work on the "Strip" or "Downtown," traveling to the transportation center before a transfer can be made is difficult and very time consuming.

There will be little opportunity to expand homeownership for low and moderate income families unless housing costs can be reduced. While there are no overall available figures on land costs "Downtown" and along the "Strip" one can safely assume that they would be very high because of the concentration of high value commercial property. In fact, the residential area south of the Central Business District has been converting to offices thereby removing this area for affordable housing. Unless the existing transportation system can be extended, areas where land costs will permit affordable housing will be extremely limited.

Issue 4: The construction of sufficient housing to meet the market demands of middle to low income households

The Las Vegas Valley appears to have few problems in providing housing for the 45 percent of its households which

can afford a \$100,000 or higher cost house. This area, because of its temperate climate and relatively low taxes, is attracting affluent retirees, among others, predominately from the west coast. Although this portion of the housing market is being accommodated something must be done to build affordable housing for the approximately 45,000 households at or below the County's median income range. Further, the residential resale market is almost entirely confined to housing sales above \$60,000. In 1989 only about 10 percent of the residential resale market was for homes costing \$60,000 and below. It appears that the limited amount of housing in this cost range is not being resold due to the difficulty of acquiring these homes. The same problem of affordability also occurs in the apartment rental market. Nearly 80 percent of the rental households in Clark County could afford a rental of \$450 or lower. In 1989, however, only 43 percent of the available apartments had rents in this range. Current market conditions do not appear sufficient to encourage the development of housing affordable to lower and middle income families. The City needs to take the opportunity to encourage lower land costs, more efficient construction techniques and more compact development design to lower housing costs.

Issue 5: The provision of sufficient subsidized housing to meet the demands of low income households

Household income is one measure used to determine if a family qualifies for subsidized housing, family size is another. The Las Vegas Housing Authority indicates that a very low income household would range from one person with an income of \$13,000 to eight or more persons with a total income of \$24,500. The lower income range starts at a maximum of \$20,800

for one person to a maximum of \$39,200 for a household of eight or more persons. The Department of Housing and Urban Development indicated the median household income for Clark County in 1989 was \$32,200, which equates to 42,103 Clark County households having income at or below this figure. The Las Vegas Housing Authority (LVHA) currently administers 4,425 units which is about 11 percent of this total. The LVHA currently participates in the Section 8 Certificate/Voucher Programs. The amount of the certificate/voucher is based on a housing survey conducted each ten years with an annual inflation factor built in. However, considering the rapid rise in housing prices and that only about 43 percent of apartment rentals are \$450 or less in price, it would appear that a much larger allocation of federal funds will be needed to meet demand. In addition, increased funding is needed for the City administered Residential Rehabilitation Assistance Programs which are used to provide rental units for the Certificate/Voucher program.

Issue 6: Maintaining the integrity of residential neighborhoods during a program of in-fill development

Neighborhood in-fill or rehabilitation programs must be carefully considered in terms of planning and design coordination, regulatory control, and land use transitions. This is particularly important when a variety of housing types, including higher density uses, are proposed in order to maintain or improve the quality and integrity of existing neighborhoods.

Issue 7: Maintaining the housing quality and livability of residential neighborhoods

Las Vegas is a relatively young city and as such most of the existing housing has not aged into disrepair. Some older neighborhoods, however, are showing signs of housing disrepair and deteriorating environmental conditions and need to be brought up to code. The Central Action Office has been created to enforce the housing code and correct environmental complaints. Community Development Block Grant funds are used to administer the Residential Rehabilitation Assistance Programs in designated target areas to repair existing homes. The City needs to continue to participate and increase these programs to promote maintenance of homes whose owners cannot afford these repairs. The City must continue to use land use regulations and to introduce planning at the neighborhood level in order to promote good design and maintain property values. It is also suggested that neighborhood councils be created to serve as monitoring bodies calling problems to the City's attention. It is suggested that resident pride is the most effective antidote to neighborhood deterioration.

The update to the City of Las Vegas General Plan began in January 1989 when the Mayor, the City Council and the County Commission Chairman brought together a citizen committee of over 300 Las Vegas Valley residents to prepare the Las Vegas 2000 and Beyond Strategic Planning Program. The 2000 and Beyond Program produced action statements in eight selected areas of study. These actions, along with initial revisions to the 1985 General Plan Policy Document made by City department directors were then incorporated into a draft update of the 1985 policy document. The Actions relating to Housing which were incorporated are:

- Provide affordable housing and medical services for seniors.
- Investigate creative new neighborhood - scale planning and development approaches, including but not limited to, the Traditional Neighborhood Development (TND) and Neighborhood Pocket concepts.

In July 1990 City Council appointed a Citizens General Plan Advisory Committee to work with City staff on the General Plan update. At this time a General Plan Technical Advisory Committee composed of City department heads and other key City representatives was also formed. By January 1991 the General Plan Advisory Committee had produced a final draft of the Goals, Objectives, Policies and Programs.

8.3 Goal, Objectives, Policies and Programs

The following hierarchy of the overall Goal, and supporting Objectives, Policies and Programs, reflect applicable "actions" of the "Las Vegas 2000 and Beyond" citizen's strategic planning program, and subsequent review by the General Plan Citizens Advisory Committee of the 1985 General Plan Goals, Objectives, Policies and Programs, revised to address current conditions and issues.

Goal: Provide diverse housing types and costs located within a variety of living environments.

Objective A: Provide an adequate housing supply to serve existing and future populations of the City which will include Valley-wide housing considerations.

Policy A1: Encourage new housing development and ensure timely and equitable provision of public facilities and services to accommodate this development.

Program A1.1: Increase housing stock by 1994 in qualified city census tracts by building housing developments on large vacant lots and selected in-fill housing on smaller lots.

Program A1.2: Encourage estate homes and other quality development throughout the City with emphasis in the northwest and southwest sectors of the City.

Policy A2: Cooperate and coordinate with other Valley entities regarding availability of vacant land for a variety of housing types and price ranges.

Program A2.1 Cooperate in initiating and maintaining a Valley-wide data base on existing and potential housing by number of units and price ranges.

Program A2.2 Coordinate with other Valley jurisdictions to allocate housing needs for Valley-wide consumption.

Program A2.3 Cooperate in initiating and conducting a study of major employment locations in regard to the availability of vacant land for a variety of housing types and prices.

Program A2.4 Cooperate by 1994 in initiating and conducting a study pertaining to the interrelationships and effects of land costs on the availability of housing.

Objective B: Develop diverse, high quality housing stock with price ranges affordable to all income levels.

Policy B1: Utilize and involve the Nevada Community Reinvestment Corporation in considering housing market conditions, income and employment levels, housing prices, and other quantity measures to ensure an adequate supply of housing for all income levels.

Program B1.1: Continue to encourage residential development that provides affordable housing.

Sub-Program 1: Designate compatible land use categories on the Proposed Future Land Use sector maps which foster affordable housing.

Sub-Program 2: Incorporate innovative techniques in the zoning and subdivision regulations which will stabilize or reduce housing costs.

Program B1.2: Establish a mechanism to increase approved manufactured (modular) home developments in the Valley by 1993.

Program B1.3: By 1993, conduct a study to determine appropriate locations for affordable housing including appropriate Bureau of Land Management land which can be served by an efficient and effective transit system.

Program B1.4: Work with the State's Congressional Delegation for its support of special legislation to provide Bureau of Land Management land grants or low cost land for locating entry level and affordable housing.

Policy B2: Augment efforts to increase the availability of affordable home financing and low cost housing assistance.

Program B2.1: By 1993 provide assistance to projects which conserve or expand low income housing stock through the Federal Community Development Block Grant Program, the federally funded HOME program and the Nevada Housing Bond Program.

Sub-Program 1: Ensure maximum efficiency and effectiveness of federal housing programs by lobbying for an enlargement of the local HUD office.

Program B2.2: Continue to support local efforts of the Las Vegas Housing Authority and/or public non-profit housing organizations to provide below market housing to lower income groups or special needs groups.

Program B2.3: Utilize the Community Reinvestment Act to leverage private sector participation in funding low-moderate income housing.

Objective C: Encourage development of a variety of housing types, for both rental and ownership, which contribute to overall quality of life and economic vitality of the City.

Policy C1: Guide community growth and development in a manner which will encourage good neighborhood and community design.

Program C1.1: Encourage residential development in appropriate locations convenient to employment centers.

Policy C2: Evaluate individual development or redevelopment proposals in terms of design which adequately accommodates the needs of prospective residents.

Program C2.1: By 1993 develop stability, improvement (revitalization) and redevelopment programs for existing residential and commercial neighborhoods.

Policy C3: Establish and subsequently re-examine Proposed Future Land Use Sector maps which delineate residential product mix opportunity areas within existing and future neighborhoods.

Policy C4: Evaluate development and redevelopment proposals and require adequate design features to mitigate potential conflicts with residential areas.

Program C4.1 Provide by 1994 appropriate design guidelines to achieve compatible transitions around residential areas.

Program C4.2 By 1994 provide land use design plans to preserve existing residential neighborhoods abutting developing or redeveloping business areas.

Sub-program 1: By 1993 implement the Owens Neighborhood Corridor Plan as part of the West Las Vegas Development Program.

Policy C5: Provide for housing development which contributes to overall community quality, creates jobs and generates additional revenues, in addition to providing an environment whereby a socially balanced community can live and work.

Program C5.1: Revise the zoning ordinance by 1993 to expand density bonus approaches to residential development in affordable ranges as well as to reward quality design.

Sub-program 1: Designate substantial single family, small lot development opportunities on Proposed Future Land Use Sector maps.

Sub-Program 2: By 1994 evaluate Neotraditional planning including the Pedestrian Pocket and Traditional Neighborhood design concepts for appropriate areas throughout the City.

Objective D: Provide a well preserved and habitable stock of housing.

Policy D1: Incorporate approved design and safety features in new housing, and maintain existing housing in a safe and healthful condition in stabilized neighborhoods.

Program D1.1: Continue to update building and related codes to accommodate new construction techniques and to provide adequate enforcement of these codes.

Program D1.2: Continue enforcement of existing zoning, health, safety and nuisance laws in accordance with City Code.

Program D1.3: By 1993 redefine and encourage increased city-wide participation in the City Housing Loan Program.

Program D1.4: By 1993 expand the repair of substandard housing thru the Residential Assistance Loan Program to remove blight in city neighborhoods.

Program D1.5: Enforce existing city codes thru the Central Action Office in order to demolish or rehabilitate substandard housing and promote the enhancement of neighborhood environments.

Program D1.6: Undertake planning at the neighborhood level by 1993.

Policy D2: Encourage private property maintenance.

Program D2.1: Continue Community Development Block Grant assistance and initiate HOME programs by 1993 to enhance neighborhood improvement efforts.

Program D2.2: Explore by 1993, opportunities to expand neighborhood improvement advisory services to provide technical and administrative resources to those who wish to initiate neighborhood improvement efforts.

8.4 Evaluation and Implementation Matrix

The following Housing Evaluation and Implementation Matrix (EIM - see next page) was prepared as a measurable summary of the above Policies and Programs. The EIM is to be used:

- as a method of measuring the implementation progress of the General Plan
- as a budgeting document for specific Land Use programs
- as a tool for further developing work programs

The following abbreviations apply to the Evaluation and Implementation Matrix

City

BS - Building and Safety

CM - City Manager

CP - Community Planning and Development

DD - Design & Development

ED - Economic Development

8.4 Housing: Evaluation and Implementation Matrix

Policy (Program)	Program Summary	Responsible Departments	FY of Implementation	Specific Action/Product	Remarks
A1.1	Increase housing stock in qualified City census tracts.	ED	1994	Research and prepare a list of City census tracts where 51% of the households are of low and moderate income and land is available for new housing.	Housing to be built by the private sector and public non-profit housing organizations.
A1.2	Plan for large lot development in the Northwest and Southwest Sectors of the City	CP	November '91	Incorporation of Northwest Interim Plan into General Plan. Retain "R" Rural Land Use whenever feasible	Most of this R-E zoned land in the Southwest Sector is located in CP-7, Sec. 2.3 & 4.
A2.1	Help to initiate and maintain a Valley-wide housing data base	CP	1993	Annual publication of a Valley-wide housing data base	See A2.2, A2.3 & A2.4.
A2.2	Coordinate with Clark County, North Las Vegas and Henderson to allocate housing needs	CP	1994	Housing plan to allocate housing, based if possible, on lot size	City would initiate study. See A2.1, A2.3 & A2.4.
A2.3	Conduct a study to see if vacant residential land around major employment centers will provide for single and multi-family units in a variety of price ranges	CP	1993	Valley-wide study relating vacant land and housing needs to employment centers	See A2.2
A2.4	A study needs to be conducted on how land costs relate to housing affordability	CP ED	1994	Valleywide study on how land costs affect housing affordability	This study will need to be conducted by the private sector. See A2.2.
B1.1(1)	Designate land use categories on the Proposed Future Land Use Plan maps which permit affordable housing	CP ED	1993	Provide lot sizes sufficient to permit affordable housing	Zoning reclassifications will need to follow land use designations
B1.1(2)	Stabilize and/or reduce housing costs thru new zoning and subdivision regulations	CP	1993	Reduce housing costs thru innovative land development	See C5.1(2)
B1.2	Find out how to increase manufactured home subdivisions in the Valley	CP ED	1993	Report detailing what is keeping mobile home estates out of the Valley	
B1.3	Determine which areas of the valley suitable for affordable housing can be served by bus routes	CP ED	1993	Map of potential affordable housing areas which are or can be served by mass transit	This study should tie into A2.2

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Policy (Program)	Program Summary	Responsible Departments	FY of Implementation	Specific Action/Product	Remarks
B1.4	Have Congress enact special legislation so that Valley entities can receive BLM land either as a grant or at low cost for affordable housing developments	ED CP	1994	Petition/resolution to the Congressional Delegation regarding BLM legislation	See A2.4
B2.1	Increase the amount of rehabilitated housing by expanding number of direct and deferred loans	ED	1993	Participation in the federally funded HOME program.	Current funding for existing housing programs not available after September 30, 1991.
B2.1(1)	Lobby for enlargement of the Las Vegas HUD field office	ED CM	Flexible	Resolution requesting increase in HUD office size	Provide opportunity for special HUD studies and demonstration projects.
B2.2	Increase housing stock of Las Vegas Housing Authority and public non-profit housing organizations	ED	1993	Program to support efforts of Las Vegas Housing Authority and public non-profit housing organizations to obtain funds under HOPE 1-2-3	Additional funds dependent on federal allocations See B2.1.
B2.3	Utilize consortium of local lending institutions which will provide owners portion of loan for rental rehabilitation and new construction projects	ED	1992	Institute and expand agreement with local lending institutions	See B2.1
C1.1	Indicate appropriate residential land use in conjunction with employment centers	CP ED	1993	Provide adequate number of residential land use categories in conjunction with employment centers on the Proposed Future Land Use Sector maps	Employment centers outside the City sector maps will need to be studied as part of a Valley-wide program See A2.3.
C2.1	Determine the proper program to improve residential and commercial neighborhoods	CP ED	1993	Select neighborhood, study land use, and apply appropriate program	This study will tie into neighborhood program.
C3.	Study Land Use Sector maps to determine residential availability needs in existing and future neighborhoods	CP	1993	Study will provide areas for specific neighborhood housing needs	The study will tie into neighborhood program.
C4.1	Provide design guidelines to achieve compatible separations between both residential and other uses	CP DD	1994	Set of design guidelines developed by an appropriate task force.	This study will tie into neighborhood program
C4.2	Provide appropriate transitions between existing residential neighborhoods and abutting business areas	CP ED	1994	Land Use and design plans to protect designated neighborhoods	This program will tie into neighborhood program
C4.2(1)	Implement the Owens Neighborhood Corridor Plan	ED	1993	Implementation of the Owens Neighborhood Corridor Plan	Boundaries of the "West Las Vegas" Neighborhood need to be defined

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Policy (Program)	Program Summary	Responsible Departments	FY of Implementation	Specific Action/Product	Remarks
C5.1	Revise zoning ordinance to permit density bonuses in zoning classifications permitting affordable housing	CP ED	1993	Revised zoning ordinance with a section on density bonuses	
C5.1(1)	Review Future Land Use Sector, maps to determine availability of small sized lots conducive to affordable housing	CP	1993	Provide properly sized lots thru zoning regulations to permit affordable housing	See A2.2 B1.1(1)
C5.1(2)	Determine possibility of using Pedestrian Pocket and Traditional Neighborhood Design concepts in future neighborhoods	CP	1994	Pilot neighborhood design incorporating use of Pedestrian Pocket and/or Traditional Neighborhood concepts	See B1.1(2)
D1.1	Update and enforce building and related codes	BS	Flexible	Code revisions to incorporate new construction and conservation techniques	
D1.2	Continue to enforce zoning, health, safety and environmental codes	BS	Flexible	Provide neighborhood stabilization and improvement	
D1.3	Redefine the City's Housing Loan programs	ED	1993	Produce neighborhood stabilization	See B2.1
D1.4	Expand the repair of substandard housing thru the Residential Assistance Loan Program	ED	1993	Produce neighborhood revitalization through efforts of the City and public non-profit housing organizations	See C2.1
D1.5	Demolish or rehabilitate substandard housing to enhance neighborhood environment	BS ED	Flexible	Promote neighborhood environment thru redevelopment	See C2.1
D1.6	Provide planning at the neighborhood level	CP ED	1993	Produce neighborhood plans	See C4.2
D2.1	Encourage maintenance of private property by continuing Community Development Block Grant and HOME assistance	ED	1993	Produce neighborhood stabilization and improvement through efforts of the City and public non-profit housing organizations.	See C2.1
D2.2	Provide technical and administrative resources to expand neighborhood improvement advisory sources, where needed.	ED CP	1993	Program that increases use of advisory services to foster maintenance of and new construction on private property	This is a requirement of the HOME program

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Endnotes

1. Center for Business and Economic Research; University of Nevada, Las Vegas, "Preliminary Housing Needs Assessment, State of Nevada," March 1990.
2. Ibid.
3. Ibid.
4. Memorandums and telephone interviews with, City of Las Vegas, Department of Building and Safety and the Traffic Engineering Division, April 1991.
5. Letter from Terry Murphy, Development Specialist, Southern Nevada Home Builders Association, 10 April 1991.
6. Ibid.
7. Michael Dunn, "They Aren't Trailers Anymore," *Plant City Tribune*, Plant City, Florida.
8. Memorandum from the City of Las Vegas Central Action Office, April 1991.
9. Ibid.
10. Interview with Thomas Gholson, Deputy Executive Director, Housing Authority of the City of Las Vegas, April 1991.
11. Interview with Gene Amberg, Supervisor, Developmental Programs Section, Department of Economic and Urban Development, City of Las Vegas, April 1991.
12. Letter from Mamie Chinn, Deputy Administrator, Nevada Department of Commerce, April 1991.
13. U. S. Department of Housing and Urban Development, *HUD information Bulletin*, March 1, 1991.
14. Amberg, op.cit.
15. Telephone interview with Mary Gunn, Housing Specialist for Poor People Pulling Together, April 1991.

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IX. URBAN DESIGN

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9.1 Background

9.1.1 Urban Design Definition and Purpose

Urban Design refers broadly to the design of cities. It is involved with the physical and environmental quality of cities. Urban design is concerned primarily with the visual and other sensory relationships between people and their environment, both the built and the natural environment, and offers a discipline for analyzing and solving problems of the environment.

Urban design is a discipline which blends the skills of, primarily, comprehensive urban planning, architecture, landscape architecture and civil engineering. However, urban design is directly affected by the social, economic, ecological, political, legal and aesthetic forces that are influential in shaping the urban environment.

The purpose of urban design is to improve the quality of the physical environment by:

- understanding the interactions of the above disciplines and forces, and
- applying this knowledge to the urban planning process by setting guidelines and standards through which :
 - existing development is maintained and/or altered, and
 - future development is guided, to achieve an aesthetically pleasing and functionally successful environment.

Urban design is both
(1) process and
(2) product oriented.

The urban design process involves design coordination at scales greater

than that of individual buildings. It embodies design coordination at the project scale, neighborhood scale, city-wide scale or metropolitan/regional area scale. Design at this scale is often complex and difficult because the client is multiple, the program is indeterminate, control is only partial, and there is no certain date of completion. The urban design process is influenced and determined by: public attitudes toward design; legislative mandates (guidelines and regulations) on design; and incentives and financial devices for achieving improved design.

Urban design products include:

- urban design guidelines and regulations, including elements of the zoning ordinance and subdivision regulations;
- specific urban design plans for, or urban design elements of:
 - area plans (such as the Downtown Las Vegas Development Plan)
 - neighborhood plans
 - historic and/or environmental preservation plans
 - corridor plans
 - parks plans
- urban design details, including:
 - building relationships and massing
 - transitional buffers
 - streetscape concepts involving landscaping, signage systems, and coordinated benches, planters, kiosks and newspaper racks

The quality of the entire urban fabric of Las Vegas is related in a large measure to its urban design policies and requirements, and urban quality is closely linked to the success of its economic development programs. Better urban design can be achieved by a better understanding and partnership between private investment and

government, and between the design profession and the decision-makers.

9.1.2 Quantifying Urban Design: The Visual Image of Las Vegas

The Overall Visual Image of Las Vegas

An important first step in the urban design process for Las Vegas is to identify the existing physical environment of the City, both positive and negative elements. A very effective process to depict the form of any city, as perceived by its residents and visitors, is one developed by urban designer and educator Kevin Lynch¹ which has been applied in urban design studies and plans for many cities. Lynch's approach depicts the form, or visual image, of a city by using five basic elements which comprise the structure of the city: paths, edges, districts, nodes and landmarks. Figure 1, *The Image of Las Vegas*, applies these elements to the City of Las Vegas and adjacent jurisdictions in the Las Vegas Valley. It gives an overall, generalized picture or image of the structure of the metropolitan area, and helps put in focus the following elements and subsequent urban design issues.

- **Paths** are routes along which the observer moves and observes the city. Examples are streets, roads, walkways, railroads or rivers. For many people, paths are the predominant element in a city's structure. The Oran K. Gragson and I-15 Freeways form major paths in Las Vegas, as will be the proposed Outer Beltway system when constructed. Many arterial roads in the Valley are minor paths.
- **Edges** are linear boundaries. They may be barriers which obstruct movement between two areas or districts, or they may be seams along which two areas are joined. Examples are walls, shore lines, river-

beds and edges of specific development types. Freeways, which are major paths, may also form major edges or barriers. Segments of Las Vegas freeways form major edges between adjoining land use districts. There is a distinctive edge at the periphery of existing Downtown development and the adjacent vacant Union Pacific yards. On the metropolitan scale, the eastern and western mountain ranges are formidable edges which define the Las Vegas Valley.

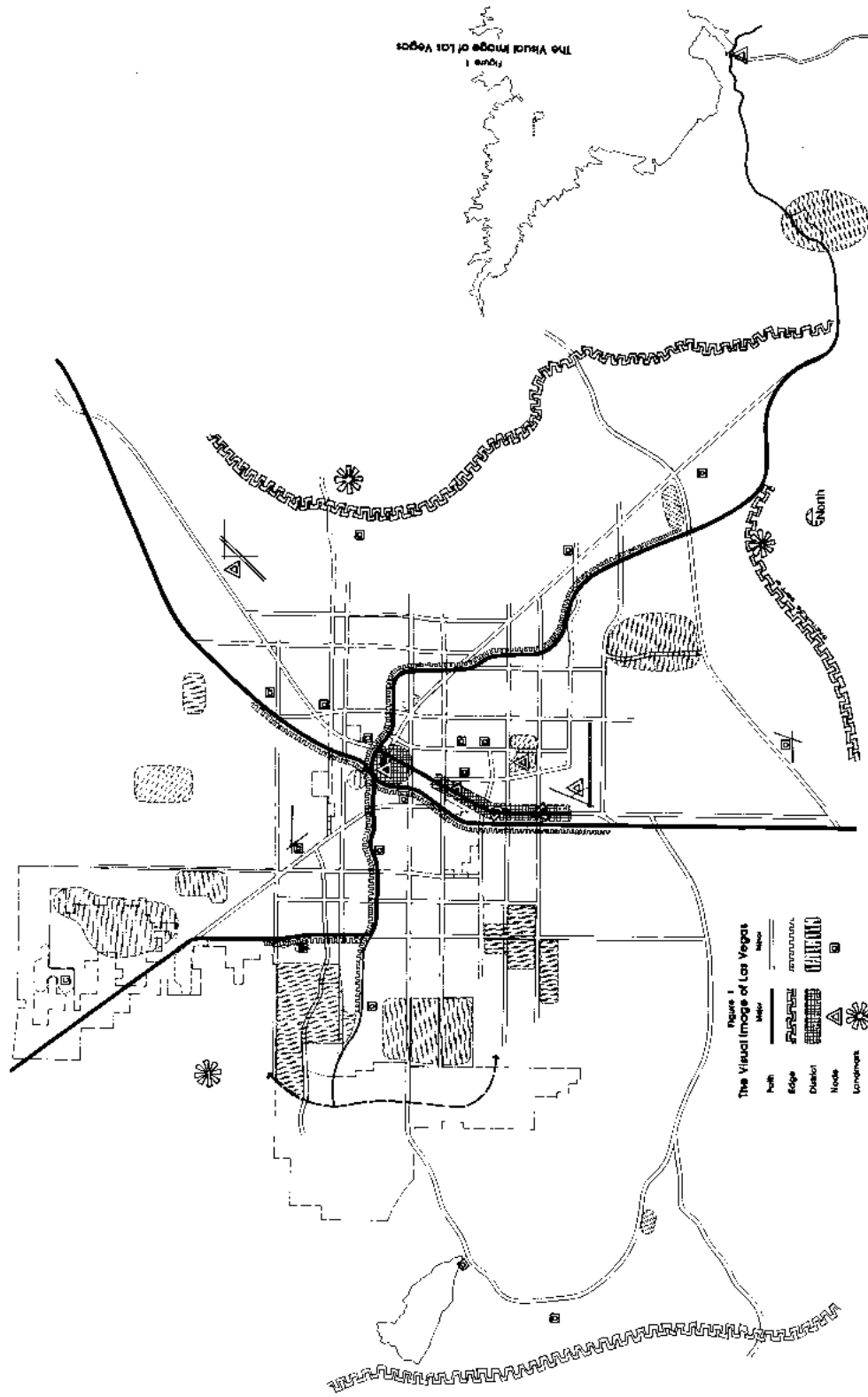
- **Districts** are distinctive areas of the city having some common identifying character such as architectural style, activity or use, condition of maintenance, inhabitants and/or topography. Districts may include downtown areas, neighborhood areas, and other distinctive residential, commercial, office or industrial areas. Well known Las Vegas districts include Downtown Las Vegas, the Las Vegas Strip, Green Valley, Spring Valley, the West Side, and a number of new planned residential communities in the west and southwest area. Downtown Las Vegas and the Las Vegas Strip are unique, as they are not only world renowned districts, but are major paths, traversed by thousands daily, and they contain a series of major activity nodes, as described below.
- **Nodes** are areas of concentrated activity to and from which people travel. Often they are located at the intersections of major paths, or where there is a break in transportation systems. Examples include airports, railroad stations, universities, regional shopping centers and major parks. In Las Vegas, McCarran International Airport, UNLV, Nellis Air Force Base, the three enclosed malls, and some concentrations of hotel/casinos function as major nodes.
- **Landmarks** are prominent and dis-

tinct reference points used for identification and, importantly, for orientation. They may be natural or man-made, and range from local to regional in scale. Examples include towers, tall buildings and mountains. Major landmarks in Las Vegas which form a Valley-wide point of reference include Lone Mountain in the northwest and Frenchmans' Mountain in the east. Tall buildings which stand alone, not lost in a group, form local landmarks. Such local landmarks include the First Interstate tower in the southeast and the Valley Bank tower in the northwest. Landmarks change with new development: a former major landmark along the Strip in earlier years, the Sands Hotel, is now dwarfed by the adjacent new Mirage Tower.

Elements Which Form the Existing Visual Image of Las Vegas

Las Vegas has an attractive natural setting formed by the surrounding mountains and foothills. These provide a pleasant distant vista and background, as well as landmarks for orientation, from all parts of the Valley. At this broad scale the visual image of Las Vegas is very positive. At a closer scale, however, the quality of the visual image varies throughout the City and Valley. Many older neighborhoods, as well as newer planned residential communities and commercial developments, exhibit an excellent quality of planning and urban design, while other areas and neighborhoods present a less positive image and are in need of improvement.

Las Vegas retains its reputation and image as the entertainment and gaming capital of the world. The urban design of Downtown Las Vegas and the Las Vegas Strip are important elements of that image. Fremont Street Downtown presents an exciting and well designed entertainment and gaming environment of signage - neon and supergraphics - and pleasant streetscape amenities.



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Away from Fremont Street and the Downtown core the image of some areas diminishes to one of lackluster shops and visual clutter. However, new Downtown development and redevelopment exhibits excellent examples of urban design, such as the City's Downtown Transportation Center, and new streetscape amenities for many hotel/casinos including the Fremont, the Golden Nugget, and the new Main Street Station festival marketplace, with superb streetscape amenities which connect it to the Downtown core.

The Downtown Development Plan² places strong emphasis on urban design which will apply to an expanded function of Downtown beyond that of the entertainment and gaming core, to include a regional commercial and office center with high density residential development, an expanded civic core, a family-oriented vacation destination, and cultural/park and leisure facilities. A draft set of Downtown Design Standards and a draft Las Vegas Boulevard Urban Design Plan were developed by the Downtown Design Program Committee comprised of members of several City departments. With the adoption of the Downtown Development Plan, these documents need to be reviewed, refined and updated, and adopted as implementation tools for the Plan.

Emphasis on urban design is also evident in the many new planned residential communities throughout the City, (and Valley), which include The Lakes at West Sahara, Peccole Ranch, Canyon Gate Country Club, Desert Shores, South Shores, Painted Desert, Los Prados and Sun City Summerlin, the first phase development of an ultimate 23,180 acre planned satellite new town, Summerlin. Summerlin is a unique and important prototype for the urban design process in the Valley as it was developed under a new Planned Community (PC) District of the City's

Zoning Ordinance which requires the preparation of a Master Concept Plan³ and sophisticated Development Standards with strong urban design requirements prior to approval of the PC zoning district designation.

There is a need to improve some negative examples of urban design and planning in other parts of the City. This includes some older commercial areas which are lacking in amenities including landscaping, and which have parking directly adjacent to sidewalks, inadequate building setbacks, and a variety of uncoordinated signs and other visual clutter. Older storm drainage systems are often weed-lined, open concrete ditches behind unmaintained chain-link fences, or are unfenced, debris filled open channels. The streetscapes of many major and secondary thoroughfares present a cluttered visual image of: excessive and uncoordinated signage; a disarray of poles, wires, banners; curb cuts for an excessive number of driveways in commercial segments; and a general lack of landscaping. The views from some segments of freeways present a negative vista and impression (sometimes the first impression of visitors arriving from McCarran International Airport) of cluttered back and side yards of commercial and industrial facilities.

9.2 Issues

Urban design is a factor, both City-wide and Valley-wide, which importantly affects all facets of urban growth and development. It is a major component which relates to both the quality of life for its residents and the success of its business community, including its continuing role as a center of entertainment and gaming, and its growing role as a retirement community and a family-oriented vacation destination. Urban design issues have

a close relationship with, and affect on, all elements of the General Plan, but most importantly with the following: Land Use, Community Facilities, Infrastructure, Circulation, Housing, and Historic Preservation.

Issue 1: Urban Design Considerations in Land Use and Community Facilities

It is important that an overall urban design concept be developed for the City, in coordination with Land Use and Community Facilities Plans, to assist in improving the visual image and efficiency of the City, including pleasant and functional physical transitions between land uses of differing types and intensities, and in the design and site planning of all public and quasi-public buildings and facilities, and park, recreation and open space facilities.

New programs for creative planned development concepts and mixed use development concepts are dependent upon effective urban design for their success. The Development Intensity Level (DIL) land use classification process (see Land Use Element, Section 2.1.5) which is being implemented by the City requires strong urban design regulations and design review procedures to ensure the compatibility and physical quality of all future land development.

Issue 2: Urban Design Considerations in Infrastructure and Circulation Systems

Urban design considerations are important in both the broad locational decisions and detailed design elements of Valley-wide infrastructure and circulation systems including: utility

distribution systems and facilities; flood control detention basins and connecting channels; sewage treatment and solid waste collection facilities; and street and highway systems, mass transit facilities and systems, and pedestrian/equestrian/bike trail systems. The visual image of the "streetscape" and "roadscape" environments is perhaps the most important single factor in the perception of the quality of life for both the resident and the visitor to Las Vegas.

Issue 3: Urban Design Considerations in Housing

Urban design considerations are important in the development of attractive and efficient housing, ranging from individual housing developments to entire residential neighborhoods. This applies to the full spectrum of housing, from large lot, low density rural housing, to affordable housing development, to high density and/or mixed use urban development, to provide site development which is energy and water efficient, cost effective and visually attractive.

Issue 4: Urban Design Considerations in Historic and Environmental Preservation

Urban design considerations are basic to the successful preservation of historical and cultural buildings, structures, sites and districts, including site planning to successfully integrate new development with existing historic facilities. Similarly, urban design considerations are vital to the protection and preservation of natural environmental resources, including coordination with new development proposals.

9.3 Goal, Objectives, Policies and Programs

Goal: Provide a visually attractive, functionally successful and environmentally sensitive community for residents, while maintaining the original and distinctive visitor environment.

Objective A: Include urban design considerations in Land Use and Community Facilities planning.

Policy A1: Provide urban design guidelines, regulations, plans and incentives to assist in developing attractive and efficient residential neighborhoods, commercial, office and/or light/research industrial districts, and community facilities, including public safety facilities and park, leisure and cultural facilities

Program A1.1: Review, and amend as appropriate, the City's Zoning Ordinance, Subdivision Regulations, and other applicable ordinances and regulations, to ensure they provide appropriate urban design considerations, including attractive and effective physical buffers and transitions between differing land use districts and pleasant streetscape environments along City streets and highways.

Program A1.2: Review and expand the City's adopted Landscape and Wall Buffer System Guidelines to incorporate broader aspects of urban design.

Program A1.3: Establish developer incentives for providing community amenities in connection with proposed development projects. These may include bonus incentives such as increased density, floor area ratios and/or site coverage in return for provision of streetscape amenities, centralized open space, art/sculpture in public places, public art galleries or museums, and other amenities for public use and benefit.

Program A1.4: Develop urban design guidelines, regulations and design review procedures to implement the City's Development Intensity Level (DIL) land use classification system.

Program A1.5: In the implementation of the City's Downtown Development Plan, incorporate:

- an overall urban design concept to include entertainment/gaming, high density residential, general and service commercial and office land uses, as well as a civic/cultural/recreational/leisure core;
- a program to refine and adopt the draft Downtown Design Standards developed by the Downtown Design Program Committee;
- a program to refine and adopt the Las Vegas Boulevard Urban Design Plan developed by the Downtown Design Program Committee; and
- a program to establish a Downtown Design Review Committee.

Program A1.6: In the preparation of future neighborhood scale land use plans, corridor plans and community facilities plans include an urban design element and plan, to be prepared with the input of appointed area residents to identify local issues and concerns.

Objective B: Include urban design considerations in Infrastructure and Circulation planning.

Policy B1: Provide urban design mechanisms and techniques for the planning and implementation of all City infrastructure systems.

Program B1.1: Develop urban design guidelines, regulations and plans to assist in developing attractive and efficient utility distribution systems, flood control channels and detention basins, and solid waste collection sites. This will include a study to investigate the feasibility, including funding, of retrofitting existing above-ground electric and telephone distribution systems to underground systems.

Policy B2: Provide urban design mechanisms and techniques for the planning and implementation of all City circulation systems.

Program B2.1: Develop urban design guidelines, regulations and/or plans to assist in developing attractive and efficient City street and highway systems, pedestrian/equestrian/bicycle trail systems, and transit and parking facilities. This will include development of a streetscape/roadscape plan to:

- identify key arterials along tourist oriented routes, for improvement of the visual image, including signage, poles and other visual clutter (see Program A1.4 [Las Vegas Boulevard] above).
- Identify key entry points or "gateways" into the City along tourist oriented routes for improving the City identity and image.

Objective C: Include urban design considerations in Housing planning.

Policy C1: Provide urban design mechanisms and techniques for the planning and implementation of the City's housing programs.

Program C1.1: Develop urban design elements with resident input for all City housing programs.

Objective D: Include urban design considerations in Historic and Environmental Preservation planning.

Policy D1: Provide urban design mechanisms and techniques for the planning and implementation of the City's Historic Preservation Plans.

Program D1.1: Develop urban design guidelines, regulations and/or plans for specific districts or sites, as specified by the Historic Preservation Commission.

Policy D2: Encourage urban design which is sensitive to, and appropriate for, the desert environment.

Program D2.1: Develop landscape programs which provide attractive plant materials which are also desert tolerant and low water users.

9.4 Evaluation and Implementation Matrix

The following Urban Design Evaluation and Implementation Matrix (EIM - see next page), was prepared as a measurable summary of the above Urban Design Policies and Programs. The EIM is to be used:

- as a method of measuring the implementation progress of the General Plan
- as a budgeting document for specific Urban Design Programs
- as a tool for further developing work programs

The following abbreviations apply to the Urban Design Evaluation and Implementation Matrix:

City	
BS	Building & Safety
CM	City Manager
CP	Community Planning and Development Department
DD	Design and Development Department
ED	Economic and Urban Development
FN	Finance Department
PL	Parks and Leisure Department
PW	Public Works Department

Other Agencies/Jurisdictions

HPC Historic Preservation Commission

9.4 URBAN DESIGN ELEMENT: EVALUATION AND IMPLEMENTATION MATRIX				
POLICY (PROGRAM)	PROGRAM SUMMARY	RESPONSIBLE DEPARTMENT*	DATE OF IMPLEMENTATION	SPECIFIC ACTION/PRODUCT
A1 (A1.1)	Review the City's Zoning, Subdivision and other applicable regulations for urban design considerations	CP, PW	1991/92	Report
A1 (A1.2)	Review and expand adopted Landscape and Wall Buffer System Guidelines to incorporate broader urban design considerations	CP	1991	Revised document
A1 (A1.3)	Establish developer incentives for providing community amenities in proposed development projects	CP, DD, ED, PL, PW	1991/Ongoing	Report, guidelines, and revisions to applicable regulations (Zoning Ord., Subdiv. Regs, RFP's etc.)
A1 (A1.4)	Develop urban design guidelines, regulations and review procedures to implement the Development Intensity Level (DIL) system	CP, BS, PW	1991/Ongoing	Guidelines, regulations and procedures
A1 (A1.5)	Include in Downtown Dev. Plan implementation: • overall urban design concept • refinements to Downtown Design Standards • refinements to L.V. Blvd Urban Design Plan • Downtown Design Review Committee	CM**, BS, CP, DD, ED, PL, PW	1991/92/93	Concept plan, revised plans and regulations, design review board
A1 (A1.6)	Include urban design element with resident input in neighborhood plans, corridor plans and community facility plans	CP, BS, DD, PL, PW	1991/Ongoing	Urban design element with resident input
B1 (B1.1)	Develop urban design guidelines, regulations and plans for utility distribution and food control systems and solid waste collection sites	CP, BS, DD, PW, Pwr., Centel, LVFOC	1991/ongoing	Urban design guidelines, regulations and plans, including initial study of retrofitting utility distribution lines underground
B2 (B2.1)	Develop urban design guidelines, regulations and plans for street, highway and trail systems, and transit and parking facilities	CP, BS, DD, PW	1991/ongoing	Urban design guidelines, regulations and plans, including streetscape/roadscape and gateway plans
C1 (C1.1)	Develop urban design elements for all City housing programs	CP, BS, ED	1991/ongoing	Urban design element with resident input
D1 (D1.1)	Develop urban design guidelines, regulations and plans for historic districts and sites specified by the Historic Preservation Commission	CP, HPC	1991/ongoing	Urban design guidelines, regulations and plans
D2 (D2.1)	Develop landscape programs which provide attractive but low water usage plant material	CP, DD, PL	1991/ongoing	Revised landscape guidelines and regulations

* First entry denotes lead department

** Reestablish Downtown Design Review Committee under Assistant City Manager

Endnotes

¹ Lynch, Kevin. The Image of the City. Cambridge: The MIT Press, 1985.

² See Land Use Element, Section 2.5.1

³ Ibid

X. Environmental Quality

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X. Environmental Quality & Natural Resource Conservation

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Introduction

Nevada Revised Statutes 278.150, 3, requires that any jurisdiction with a population of 100,000 or greater, which adopts only a portion of a master plan shall include in that portion a conservation plan. The conservation plan herein is titled the "Environmental and Natural Resource Conservation Element".

According to NRS 278.160 1.(b), the subject matter of this element shall consist of a plan for "...the conservation, development and utilization of natural resources,... the reclamation of land and waters, flood control... regulation of the use of land in stream channels... prevention and correction of erosion..." The plan must also indicate the maximum tolerable air pollution level.

Characteristics of the Las Vegas Valley Natural Environment

The Las Vegas Valley environment has been developed rapidly since the 1985 General Plan was adopted by the City Council. Since that time, development has consumed land and water, created more air pollution and generated funding and construction challenges for flood control. The environment of the valley has been altered by development. This portion of the General Plan Update will inventory the changes and issues associated with growth. The result of this analysis will be the recommended direction for the City to take in order to manage its scarce natural resources.

The Las Vegas Valley has an arid climate characterized by little precipitation, low humidity, abundant sunshine, and wide extremes in daily temperatures. The following is a summary of local climatic conditions provided to

the Soil Conservation Service by the National Climatic Center, Asheville, North Carolina:

In winter, the average temperature in Las Vegas is 47 degrees Fahrenheit (F) and the average daily minimum temperature is 35 degrees F.

Of the total annual precipitation falling on the Las Vegas Valley, 2 inches, or 50 percent, usually falls in April through September. In two years out of ten, the rainfall in April through September is less than 7 inches.

Snowfall is rare. In seventy five percent of the winters, there is no measurable snowfall. In fifteen percent, the snowfall, usually of short duration, is more than two inches.

The average relative humidity in mid-afternoon is about twenty percent. Humidity is higher at night and the average at dawn is about forty percent. The prevailing wind is from the southwest, averaging eleven miles per hour in the spring.

10A. Water Quality

10A.1 Background

10A.1.1 Groundwater Supply

The Las Vegas Valley lies within the Colorado River Basin hydrographic region. Within this region there are several significant watersheds, one of which is the Las Vegas Valley watershed that encompasses all of the Las Vegas Valley urbanized area, the cities of Las Vegas, North Las Vegas, Henderson, and portions of unincorporated Clark County. Within this watershed, the ground water basin is generally defined by the topography of the valley (Map 1).

Water entering the groundwater basin comes primarily from precipitation

falling on the Spring Mountains on the west and the Sheep Range on the northeast of the Las Vegas Valley. Precipitation in excess of 25 inches per year falls in these mountain areas resulting in as much as 25,000-35,000 acre-feet per year of recharge to the groundwater aquifers of the Valley basin.¹ An acre-foot covers one acre of ground one foot deep, equaling 325,851 gallons.

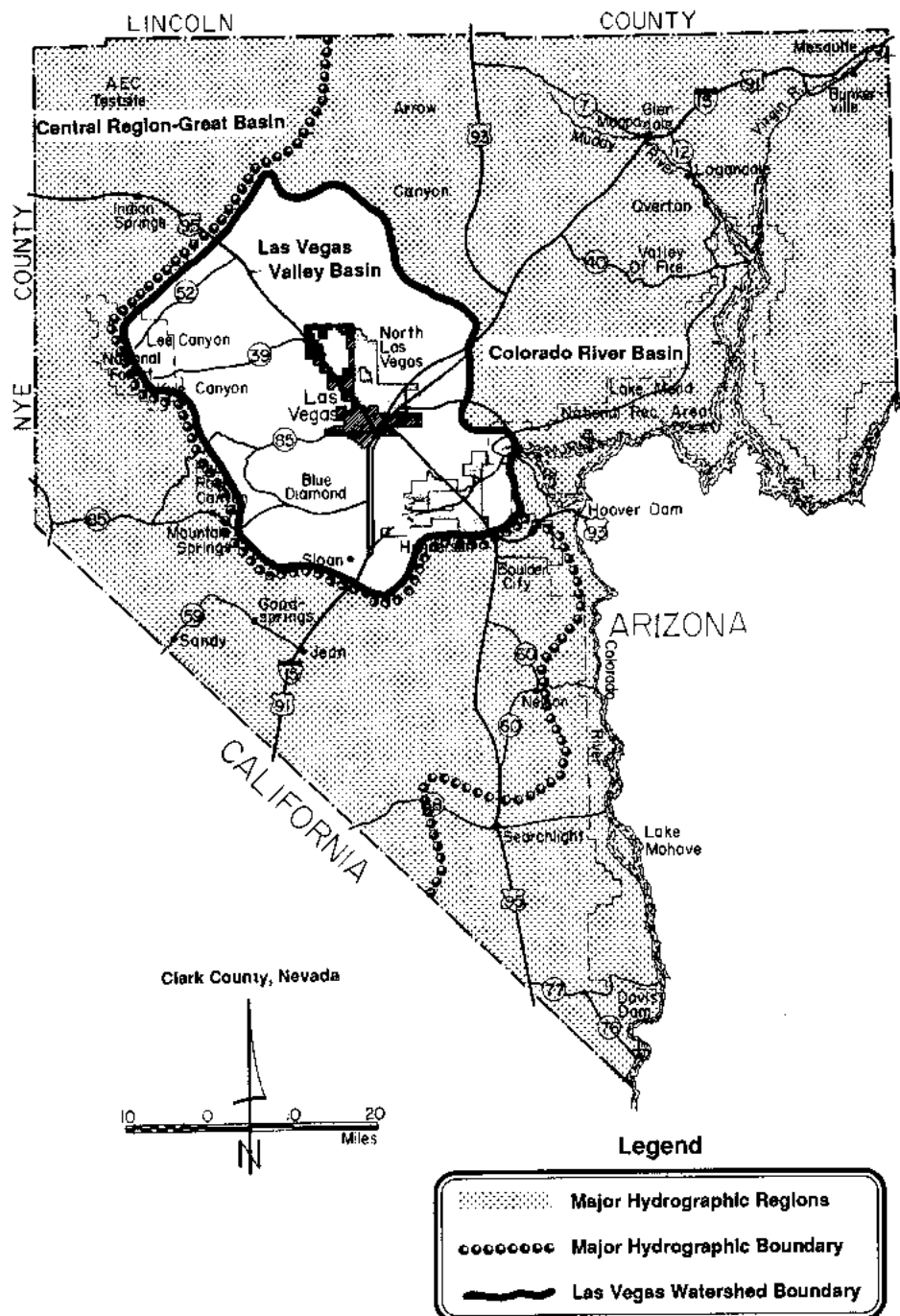
The aquifer system consists of two major subdivisions: the "Near-surface Reservoir" and the "Principal Aquifers".² The Near-surface Reservoir (generally 50-100 ft. depth, but sometimes is also found to depths of 300 ft.) is the first water encountered upon drilling. Under natural conditions, the water in this reservoir occurs primarily from upward leakage from lower aquifers. This situation has changed due to urbanization and heavy pumping of the Shallow and Middle Zones of the Principal Aquifers (see description below). Infiltration of stormwater run-off, industrial effluents, and urban irrigation waters have now become the main source of its recharge. This reversal of historic aquifer recharge characteristics presents a potential problem to groundwater quality of the Near-surface Reservoir.

In some areas the depth of the Near-surface Reservoir has increased due to pumping from the Principal Aquifer resulting in the lowering of the water table to such a degree that spring flow has ceased and some shallow wells (principally domestic) have failed to yield water. In other areas the water table has risen due to increased infiltration of "used" water³ resulting in such problems as infiltration of sewer lines and increased cost of construction due to the raised water table.⁴ (Map 2)

The Principal Aquifers underlie the Near-surface Reservoir. In the central part of the Valley, the Principal Aquifers can be subdivided into three zones: the Shallow Zone, the Middle Zone

Map 1

Las Vegas Valley Watershed Boundary



Source: Maxey and Jameson, 1948 and the Comprehensive Plan of Clark County, Nevada: November, 1982

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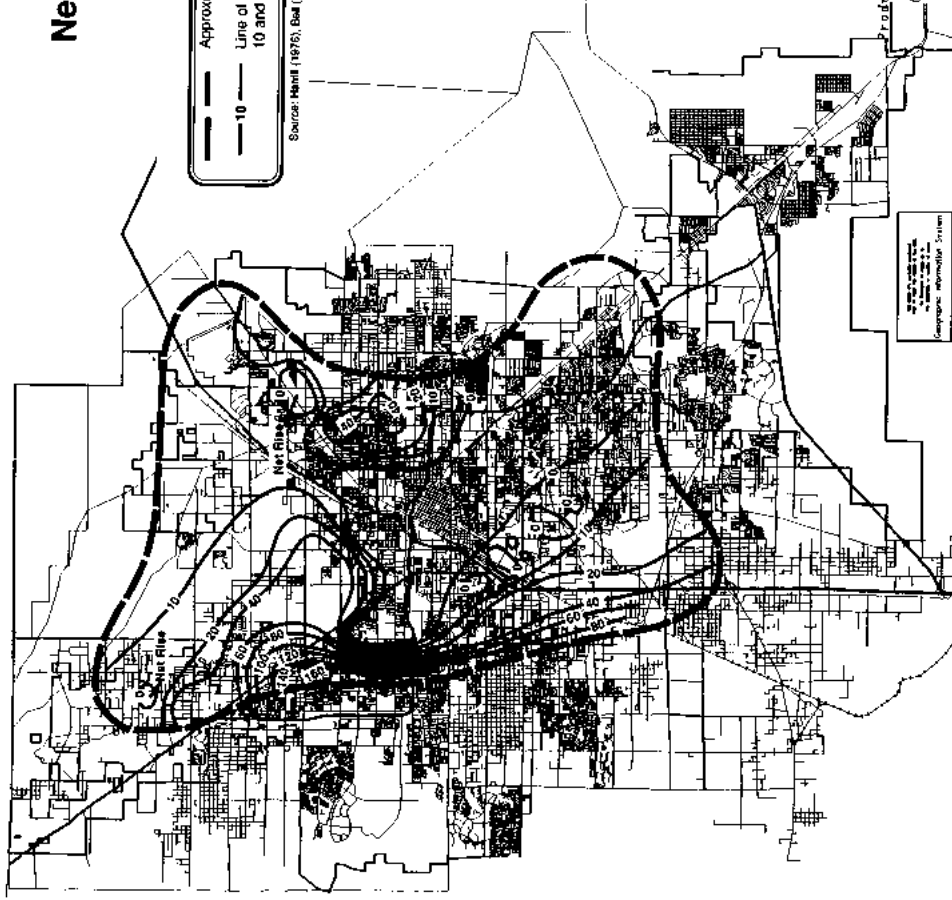
Map 2

Changes in Near Surface Reservoir Water Levels

Legend

- Approximate boundary near-surface reservoir
- 10— Line of equal net water level decline. Interval 10 and 20 feet.

Source: Hunt (1976), Bell (1981), Nevada Bureau of Mines and Geology



Scale: 1" = 10521'

June 17, 1991



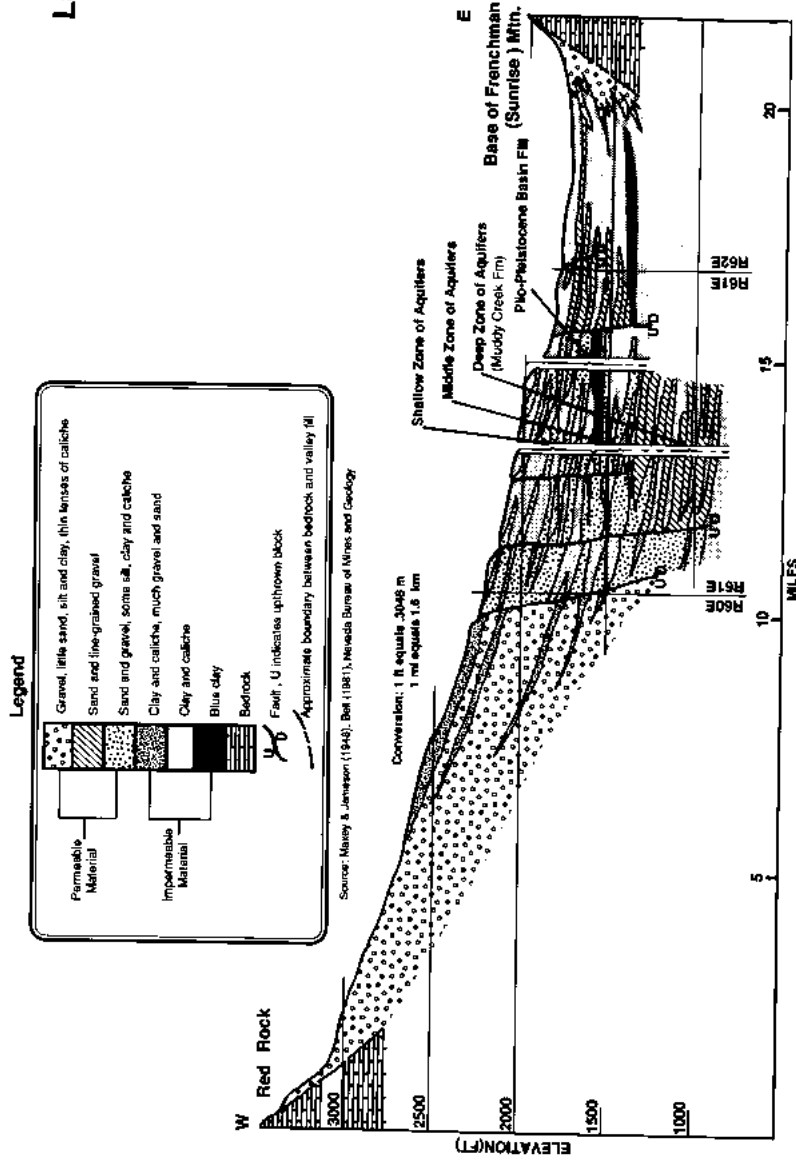
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Generalized Geologic Cross-Section of the Las Vegas Valley



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and the Deep Zone (Map 3). The Shallow Zone, generally 200-450 ft., is composed of permeable sand and gravel layers. Prior to 1940 this zone was the principal groundwater source. The Middle Zone, 450-700 ft., contains numerous, random, permeable sand and gravel layers. This zone coupled with the Shallow Zone are presently the main source of pumped water. Below 700 ft. the sediments do not readily yield water, however, a few wells have tapped gravelly areas containing water. This zone is referred to as the Deep Zone.

Since major pumping activities began in the valley, the annual discharge from the Principal Aquifers has consistently exceeded annual recharge (Table 1).

When groundwater discharge exceeds recharge, there is a loss in the volume of stored water in the aquifer; that is, a certain volume of water is removed from the aquifer that is not replaced.⁵ This can result in the compaction of sediments and land subsidence.


10A.1.2 Surface Water Supply

In 1942 a pipeline was constructed from Lake Mead to serve the Basic Management, Inc. (BMI) complex in Henderson. In 1955, the Las Vegas Valley Water District (LVVWD) began using some of the BMI water and continued to do so until 1971, when the Southern Nevada Water Project brought Lake Mead water directly to

the main part of the valley.⁶ The LVVWD supplies water to unincorporated urban areas of Clark County, the City of Las Vegas, and the unincorporated areas of Jean, Searchlight, and Mt. Charleston. The cities of North Las Vegas, Henderson, and Boulder City, as well as Nellis Air Force Base, all maintain their own separate water distribution systems. Currently, 80% of the water used annually in Southern Nevada comes from the Colorado River (Lake Mead) with the remaining 20% coming from groundwater supply.⁷

Colorado River water is shared between the seven basin states; California, Arizona, Nevada, Utah, New Mexico, Colorado and Wyoming. Drought

Table 1

 Las Vegas Valley Groundwater Pumpage			
Year	Pumpage Acre Ft./Year	Year	Pumpage Acre Ft./Year
1955	40,000	1969	87,000
1956	43,000	1970	86,000
1957	44,000	1971	85,000
1958	43,000	1972	70,000
1959	46,000	1973	70,000
1960	48,000	1974	78,000
1961	52,000	1975	73,000
1962	54,000	1976	70,000
1963	59,000	1977	69,000
1964	69,000	1978	69,000
1965	73,000	1979	72,000
1966	78,000	1980	70,000
1967	81,000	1989	67,000
1968	88,000	1990	60,000

Source: Katzer, 1977: State Engineer's Records

GP.EQ Table 1 LVV Grndwater;JS;pm/7-24-91

conditions in California coupled with population growth and corresponding increased demand for water in numerous Southwestern cities has put a strain on water resources including Colorado River water. Many urban areas are looking for ways to mitigate water shortages. The Las Vegas Valley has not experienced a water shortage as yet, but in anticipation of limited water resources in the future, local water purveyors are pursuing methods to avoid a water shortage.

As a possible method to avoid water shortage in the Las Vegas Valley, the LVVWD and other Southern Nevada water purveyors have applied to the federal government for the remaining allocation of river water to the State of Nevada. The State is currently appropriated 210,000 acre-feet annually, from a total federal allocation of 300,000 acre-feet. In October, 1989, LVVWD filed applications for unappropriated ground and surface water estimated to be less than 300,000 acre-feet annually from Clark, Lincoln, Nye, and White Pine Counties. If the applications are approved by the State Engineer, experts estimate that it will take up to thirty years to complete a delivery system for the importation of water at a potential cost of approximately two billion dollars. Controversy surrounds the importation solution. Representatives of the National Park and Wildlife Service claim that fragile wildlife and plant species in the national parks are likely to suffer, among these are the Moapa dace and the Death Valley National Monument's pupfish. Residents of the northern counties fear that the project will threaten agriculture and limit the growth and expansion capabilities of the Northern Counties in the future. To allay these fears, local water purveyors point out that Nevada has strong groundwater laws to prevent damages to wildlife and existing water users and that the rural counties may benefit by sharing the developed groundwater.

10A.1.3 Alternative Water Supplies

The Water District is in the process of artificially recharging the water table by injecting treated Colorado River water into the groundwater system during times of low demand. The water is then pumped out during peak times to meet high demands or it is left in the ground for future use. In 1989, the amount of water injected was 3,676 acre-feet. The goal is to inject up to 40,000 acre-feet annually.⁸


Another source of water is wastewater effluent. Wastewater effluent is important for return flow credits to the Colorado River (Lake Mead). Diversion of Colorado River water can exceed the current allocation as long as the diversion minus the return flow does not exceed 300,000 acre feet per year. However, the amended Clark County 208 Water Management Plan recommended the increased reuse of treated wastewater effluent. It also recommended the construction of satellite wastewater treatment plants to provide water reuse opportunities in urban areas, such as the northern and western portions of the valley. The 208 Plan points out that even though effluent reuse would result in a reduc-

tion of total return flow credit, it would not decrease the Las Vegas Valley's total available water supply because the reuse water would be used in place of potable water supplies. However, the plan is careful to point out that if a new significant non-replacement reuse demand were created in the Las Vegas Valley and the reuse water was totally consumed, the Las Vegas Valley's total available water supply would decrease by more than the amount of the reuse water provided.⁹

10A.1.4 Conservation

Reduction of consumptive use through conservation seems to be the most viable immediate solution. The Water District has initiated a public awareness program to educate the general public, businesses, and municipal governments on ways to reduce water usage. The goal of the program is to reduce consumptive water use 20-25% by 1994. Per capita usage in the Las Vegas Valley is currently higher than most western cities (Table 2). Conservation measures, coupled with effective water management, could allow the present water supply to last until about the year 2006.¹⁰

Table 2

 Water Use Calculation					
Area	AR*	PC*	Area	RAIN*	TOUR**
LAS VEGAS	199	370	LAS VEGAS	4	24.8
TUSCON	150	190	TUSCON	11	2.8
PHOENIX	180	208	PHOENIX	7	4.3
LOS ANGELES	110	181	LOS ANGELES	12	N/A
SANTA BARBARA	105	180	SANTA BARBARA	12	N/A
RENO	193	300	RENO	8	28.9

*AR Average residential use in gallons per day
 **PC Per capita use of all water divided by all people, including tourists
 * Annual Rainfall
 **Ratio of annual tourist volume to permanent population

Source: Las Vegas Sun 12/90, Noel C. Larson/Staff

GP.EQ Table 2/3 Water use;162pm7-24-91

Methods of conserving water vary from region to region. Coastal areas in California that have been subject to severe drought in the last five years have adopted very stringent regulations and heavy fines, as in the case of fugitive (runoff) water. In addition, rate structuring is such that over a certain usage the rate is much higher for residential and commercial users. Recently, a number of California counties enacted mandatory rationing. For example, in Marin County, 50 gallons per person per day is the limit for residential use. Presently, the residential use of water in the Las Vegas area averages 199 gallons per person per day. The North Marin Water District enacted an incentive program of lower hook-up fees for voluntary turf use limits. The incentives have resulted in a 40% reduction of turf area normally seen in new construction. Many entities have amended ordinances and building codes to require water conserving fixtures in new construction. In areas experiencing severe water resource constraints, law makers are considering regulations that would require new developments to create their own water supply (referred to as "offsets"). This would be accomplished by retrofitting older construction with water saving fixtures or landscaping in an amount that saves as much water as

the new construction would use.

The LVVWD's public awareness program has disseminated information to the general public on ways to conserve water. These include retrofitting high water using fixtures in the home and business. The LVVWD suggests retrofitting with low-flow shower heads, low flush toilets, flow restrictors, or cutoff valves (allows user to shut off water at shower head for "ship board" showers). These methods can cut water use by as much as 4.5 gallons per minute. In addition, the Water District suggests the use of water efficient landscaping. As much as 64% of the water provided by the water district goes to residential water users (Table 3). Of this amount, 40 to 60% is used on landscaping outside the home. The Desert Demonstration Gardens was created by the Water District to demonstrate the use of water-efficient landscaping.

The LVVWD has restructured rates to encourage water conservation. Large individual water users, such as golf courses and hotels constituting approximately 15% of the water provided by the District, are subject to a higher rate. However, residential use, at 64% of the water provided, is not significantly affected by the rate change un-

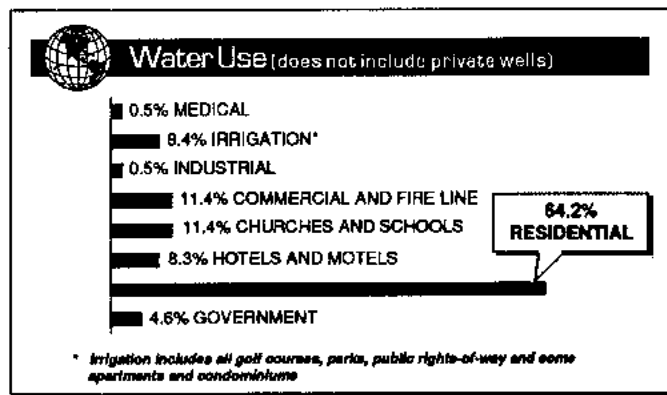
less the customer's use is in excess of the average for their service size. In some cases, individual residential bills have decreased because monthly service charges were reduced as a part of the rate restructuring. This action has been criticized by some because of the high percentage of water provided to residential use. Critics state that there is little pricing incentive to conserve unless you exceed the ample allotment for your service size.

In addition to the public awareness program, a cooperative water conservation action plan was put forth by the LVVWD, Clark County, the Clark County Sanitation District, and the cities of Las Vegas, North Las Vegas, Henderson, and Boulder City in an effort to encourage conservation practices. The *Clark County Water Resource Strategy Conservation Action Plan* makes a number of recommendations, such as requirements for water saving devices in new residential construction, replacement of fixtures in existing residences for private use, and in commercial and industrial facilities for public use. The plan recommends that all jurisdictions in the Valley adopt guidelines containing specific recommendations for water efficient landscape designs. There are several other recommendations including the restriction of artificial lakes and the suggestion that regulations pertaining to fugitive run-off be enacted and enforced.

As a result of the *Clark County Water Resource Strategy Conservation Action Plan*, Clark County and the City of Las Vegas have implemented the following ordinance actions:

1. Prohibition of man-made lakes.
2. Wastewater reduction.
3. Limitation on man made water features.
4. Building water conservation measures.
5. Lawn watering hours.

Table 3



Source: Las Vegas Sun 12/90, Neal C. Leamon/Staff

GP.EQ Table 2/3 Water use 2/5 pm/7-24-91

In addition, the County has adopted turf limitations. The County has also amended its 208 Water Quality Management Plan. The amendment calls for the reuse of reclaimed wastewater and construction of satellite wastewater treatment plants to provide water reuse in outlying urban areas.

The City has adopted Landscape and Buffer Guidelines which include water conservation measures based on xeriscape principles. Such principles include soil type, lot slope, limited turf areas, drought-tolerant plants and soil management measures to improve its capacity to retain water. The guidelines also stress water conservation techniques at three levels: Planning and design, construction and installation and operation and maintenance.

The State of Nevada passed Assembly Bill 360, which goes into effect on October 1, 1991. It requires water suppliers to adopt conservation plans, including low flow shower heads and toilets with a restricted flow. The water suppliers, which include public and private utilities, local governments and water districts, must have their plans approved by July 1, 1992.

10A.1.5 Water Quality

Las Vegas water exceeds national drinking water standards for total dissolved solids. This condition is generally not harmful to humans. In the case of "hardness", a term used to describe calcium, magnesium, iron, and manganese in the water, there may be some inconveniences to household plumbing and irrigation systems, a bathtub ring, or soap without suds. One of the more important issues where salt concentration is concerned is the fact that by treaty with Mexico, the United States is obligated to deliver 1.5 million acre feet of water suitable for irrigation down the Colorado River.¹¹ High salt concentration is not desirable in irrigation water and would have to be removed

before use.

Stormwater run-off and wastewater effluent enters Lake Mead from the Las Vegas Valley via the Las Vegas Wash. This water enters Lake Mead with high salt concentrations partly due to highly saline Near-surface Reservoir groundwater emerging into the wash and from water flow percolating through adjacent salty soils. Under the Federal Clean Water Act, the Clark County Commission was designated the 208 planning agency responsible for coordination of water quality management strategies in the Las Vegas Valley. At the time the 208 *Water Quality Management Plan* was adopted and subsequently revised in December of 1979, it was estimated that the Las Vegas Wash was adding approximately 150,000 tons of dissolved solids to the Colorado system annually. The Bureau of Reclamation had developed plans for the construction of desalinization facilities to reduce the discharge of saline waters to the Las Vegas Wash. Termed the "Las Vegas Wash Salinity Control Project", it was originally proposed that facilities be constructed to collect water flows in the wash and transport them to evaporative ponds. The second stage of the project called for construction of a reverse osmosis desalinization plant.¹²

The Bureau's project was never implemented. However, the Bureau did construct dikes in the Las Vegas Wash in an attempt to impede salt transport into Lake Mead. The project was declared a failure and abandoned in 1988. Presently the salinity of the Wash is being reinvestigated as a part of the *Clark County Las Vegas Wash Integrated and Comprehensive Management Program*.¹³ The primary goal of this program is to control ongoing erosion of the Wash caused by the interactive influences of flooding, wastewater discharges, stream bed channelization, soil instability, and the resulting loss of wetlands.

The Environmental Protection Agency (EPA) is pressuring local governments to protect their wetland areas. In 1988, EPA proposed regulations that required cities with populations of 100,000 or more to apply for National Pollution Discharge Elimination System (NPDES) permits for controlling stormwater discharges to water ways, such as; rivers, streams, lakes, etc. An EPA study indicated that 38 states reported urban runoff as a major cause of water quality impairment in the United States. Stormwater runoff can pick up such contaminants as pesticides and fertilizers from lawns; oil, grease, and fuel from gas stations; and other contaminants from construction sites, restaurants, dry cleaners, lumberyards, landfills, junk yards, and industrial sites.¹⁴ These contaminants find their way directly into bodies of water without going through sanitary treatment first (Refer to page 13 for additional information on stormwater management as well as objectives, policies, and programs addressing this issue). Chemical contamination is one of the major causes of wetland loss and degradation in the United States. Protection and restoration of the Las Vegas Wash wetland area will in part depend on the success of regional stormwater management and discharge regulation. The City has received its NPDES permit and is implementing its measures through the Flood Control Division of the Public Works Department.

This General Plan springs from several requirements. Among them are the requirement for timely data, to keep up with changing issues and their focus and to develop strategic planning for resources. This last requirement was addressed in the 1990 "Las Vegas 2000 and Beyond Strategic Plan", which is described in the Plan Introduction section. The "2000" document contained "Actions" specified to be accomplished ("the process is not over... We must put these plans into action"). The actions supported by this portion of the element are:

- Increase the use of homeowner, business and golf course water management.
- Develop public information and incentive programs to encourage conservation through xeriscape and funding mechanism for water conservation programs.
- Review engineering codes to reduce runoff from yard irrigation.
- Develop program for artificial recharge for unused surface water allocation.
- Develop a long range water plan and a comprehensive water management program for Southern Nevada.
- Explore opportunities for gray water projects.

10A.2 Issue

The City of Las Vegas sits in a very large desert. Water is its most precious resource. In the past, water in the valley has been used largely without regard for a possible water shortage. Due to the rapid population growth in this region, it is necessary to efficiently use and conserve water and its quality.

10A.3 Goal, Objectives, Policies, and Programs

The following hierarchy of the overall Goal, and supporting Objectives, Policies and Programs, reflect applicable "actions" of the "Las Vegas 2000 and Beyond" citizen's strategic planning program, and subsequent review by the General Plan Citizens Advisory Committee of the 1985 General Plan Goals, Objectives, Policies and Programs, revised to address current conditions and issues.

Goal: To participate in the protection of the environmental quality of the Las Vegas valley and to promote the conservation of our natural resources.

Objective A: Provide acceptable water quality and the conservation of water as a limited resource.

Policy A.1: Improve and expand the City's wastewater treatment capability while maintaining water quality standards.

Policy A.2: Continue City coordination and cooperation with the Las Vegas Valley Water District with the benefits and savings of water conservation.

Program 1: Encourage the Water District to adopt incentive programs such as lower hook-up fee charges to new development for voluntary turf use limits and incorporation of water efficient landscape design.

Policy A.3: Participate in water conservation efforts by initiating or intensifying city administrative programs that demonstrate this commitment.

Program 1: Retrofit, as practical, using self-closing faucets and low water use plumbing in City Hall, fire stations, and park and recreation facility buildings.

Program 2: Incorporate water reduction concerns in the Department of Fire Services hydrant testing schedule.

Program 3: Have city garage and fire station personnel be cognizant of water reduction in their vehicle cleaning schedules.

Program 4: Have the Department of Parks and Leisure Activities incorporate, when practical, water reduction measures in their swimming pool facilities, which include, but are not limited to: Retrofitting, automatic shutoff and pool covers.

Program 5: Have landscape designs for city facilities incorporate water efficient plant materials and drip irrigation systems for all plants; turf areas are to be designed to retain water.

Program 6: Provide an on-call irrigation maintenance person to shut down systems when lines break, automatic systems malfunction or when it rains.

Program 7: Establish irrigation schedules that are cognizant of daily and yearly temperatures and other weather conditions.

Policy A.4: Amend or establish sections in city codes and ordinances to require the use of water conservation measures.

Program 1: Amend the City's Zoning Ordinance to include requirements for the use of water efficient plants, efficient irrigation systems, turf reduction and other xeriscape concepts in landscaping of new development and modification to existing development.

Program 2: Amend grading plan requirements to provide for water detention-retention in landscaped areas.

Program 3: Continue to enforce the code provision that makes it a civil infraction to allow the escape of water from any private property onto public property.

Program 4: Require multi-family and commercial uses to have a separate water meter for outside irrigation.

Program 5: Explore possible opportunities for effluent reuse projects.

Program 6: Amend the City's Uniform Plumbing code to be consistent with Nevada Revised Statutes.

Program 7: Establish regulations that would require developers to create their own water supply (referred to as "offsets") by installing water saving fixtures in existing construction equal to the amount proposed to be developed. Policy exceptions may be made in order to achieve an agreed upon public purpose.

Policy A.5: Support and/or initiate revisions to state statutes to require coordination of water conservation measures.

Program 1: Support state legislation to have all retention basins equipped so as to facilitate storm water induction into the uppermost groundwater aquifer.

Program 2: Support state legislation requiring a higher rate structure for excessive water use by residential, commercial, industrial and governmental consumers. Set standard water use figures consistent with those established in other southwestern coastal and inland cities presently enacting water conservation programs.

Program 3: Encourage programs to protect the Principal Aquifers of the Las Vegas Valley from net loss through programs such as artificial recharge

Program 4: Develop policies for adoption by appropriate regional agencies which encourage reuse of treated effluent and provide incentives for reuse by the private sector.

Program 5: Encourage the construction of satellite wastewater treatment plants in outlying urbanizing areas in accordance with the Southern Nevada Water Authority Agreement.

Policy A.6: Cooperate with federal, state and other local governmental agencies in mutual efforts to improve and maintain water quality in Southern Nevada.

Program 1: Coordinate water quality activities with Clark County and in conformity with the latest Clark County 208 Water Quality Management Plan Amendment.

10A.4 Evaluation and Implementation Matrix

The following Water Quality Evaluation and Implementation Matrix (EIM-see next page) was prepared as a measurable summary of the above Policies and Programs. The EIM is to be used:

- as a method of measuring the implementation progress of the General Plan
- as a budgeting document for specific Environmental Quality and Natural Resources programs of the General Plan
- as a tool for further developing work programs

The following abbreviations apply to each Evaluation and Implementation Matrix

City

BS	Building and Safety
CM	City Manager
CP	Community Planning & Development
DD	Design and Development
FS	Fire Services
GS	General Services
PL	Parks and Leisure
PW	Public Works

Other Agencies/Jurisdictions

CC	Clark County
ENGR	State Engineer
LVMPD	Las Vegas Metropolitan Police Department
RFC	Clark County Regional Flood Control District
WRMI	Water Resource Management, Inc.

10A. Evaluation and Implementation Matrix: Water

Policy Program	Summary	Department	Implementation	Action/Product (Related Program)	Remarks
1.1	Improve and expand the City's wastewater treatment capability while maintaining water quality standards.	PW	On-going; relative to growth.	Continue to meet E.P.A. standards for water quality.	Funding Should be earmarked due to EPA regulations getting stiffer with little federal assistance.
1.2	Continue City coordination and cooperation with the Las Vegas Valley Water District (LVWD) efforts to initiate and conduct a public information and education program to acquaint citizens with the benefits and savings of water conservation.	CP, PW, CM	Ongoing	Net consumptive use water savings.	May require interlocal agreement.
1.2(1)	Encourage the Water District to adopt incentive programs such as lower hook-up fee charges to new development for voluntary turf use limits and incorporation of water efficient land design.	CP, CM	1993	Revise city landscape guidelines to include turf limitations and water efficient design concepts, i.e., xeriscape.	
1.3	Participate in water conservation efforts by initiating or intensifying city administrative programs that demonstrate this commitment.	CP, PW, FS, PL, CM, GS	1993	See Programs 1-7, publish results in annual report.	Encourage private industry and residential development to conserve by setting an example.
1.3(1)	Retrofit, as practical, using self-closing faucets and low water use plumbing in City Hall, fire stations, and park and recreation facility buildings.	PW	1993	Annual report on progress and savings.	This will implement newly adopted State Legislation.
1.3(2)	Incorporate water reduction concerns in the Department of Fire Services hydrant testing schedule	FS	1993	Annual report on progress and savings.	
1.3(3)	Have city garage and fire station personnel be cognizant of water reduction in their vehicle cleaning schedules	FS	1993	Annual report on progress and savings.	
1.3(4)	Have the Department of Parks and Leisure Activities incorporate, when practical, water reduction measures in their swimming pool facilities.	PL	1993	Annual report on progress and savings.	
1.3(5)	Have landscape designs for city facilities incorporate water efficient plant materials and drip irrigation systems for all plants; turf areas are to be designed to retain water.	PL, DD	1993	Annual report on progress and savings.	Designs could demonstrate xeriscape concept as presented in Desert Demonstration Gardens.

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Policy Program	Summary	Department	Implementation	Action/Product (Related Program)	Remarks
1.3(6)	Provide an on-call irrigation maintenance person to shut down systems when lines break, automatic systems malfunction, or when it rains.	PL	1993	Abate excessive runoff in the case of equipment failure.	
1.3(7)	Establish irrigation schedules that are cognizant of daily and yearly temperatures and other weather conditions.	PL	1992	Annual report on progress and savings.	
1.4	Amend or establish sections in city codes and ordinances to require the use of water conservation measures.	CP, PW, CM	1992	Adoption of amended ordinance code to require water conservation measures.	As new development occurs, less water waste will result to offset additional demand.
1.4(1)	Amend the City's Zoning Ordinance to include requirements for the use of water efficient plants, efficient irrigation systems and other xeriscape concepts in landscaping of new development and modification to existing development.	CP	1992	Amend Code.	
1.4(2)	Amend grading plan requirements to provide for water detention-retention in landscaped areas.	PW	1993	Amend Code	Use water for on-site landscaping that would otherwise run off.
1.4(3)	Continue to enforce the code provision that makes it a civil infraction to allow the escape of water from any private property onto public property.	BS (Central Action Office) LVMPD	Ongoing	Continued Enforcement	
1.4(4)	Require multi-family and commercial uses to have a separate water meter for outside irrigation.	BS	1993	Amend Code	
1.4(5)	Explore possible opportunities for effluent reuse projects.	PW, CP	Ongoing	Select sites, fund, monitor	County 208 Water Quality Amendment, June 1990 recommends effluent reuse.
1.4(6)	Amend the City's Uniform Plumbing code supplement that requires the use of water saving fixtures in new construction and in the replacement or repair of existing construction. Reduce shower heads to a maximum of 2.5 gallons per minute; toilets a maximum of 1.6 gallons per flush consistent with newly adopted State of Nevada standards.	BS	1992	Amend Uniform Plumbing Code	This action will implement newly adopted State legislation.

Policy Program	Summary	Department	Implementation	Action/Product (Related Program)	Remarks
1.4(7)	Consider regulations that would require developers to create their own water supply (referred to as "offsets") by installing water saving fixtures in existing construction that does not already have it. In an amount that saves as much water as their new buildings will use (Exceptions should be made to assure that development intended to provide affordable housing or other low and moderate income needs, not be subject to this regulation.)	BS, CP	1993	Joint review and report on feasibility and savings of retrofit trade offs.	This program may seem extreme at this time, however.
1.5	Have the City support and/or initiate revisions to state statutes to require coordination of water conservation measures.	CM, CP	1993 (next Legislative Session)	Resolution to Legislature outlining and supporting changes to statutes	Promotes Enabling Legislation that would encourage comprehensive management.
1.5(1)	Support state legislation to have all retention basins equipped so as to facilitate storm water induction into the uppermost groundwater aquifer.	CM, CP, PW, RFC	1993 (next Legislative Session)	Investigate and report on potential for groundwater recharge	Important that point-source stormwater quality management be implemented concurrent with this program.
1.5(2)	Support state legislation requiring a higher rate structure for excessive water use by residential, commercial, industrial and governmental consumers. Set standard water use figures consistent with those established in other southwestern coastal and inland cities presently enacting water conservation programs.	CM, CP	1993 (next legislative session)	Analyze average usage amount by service size in other Southwest cities with water conservation programs to assure that our averages are not excessive and that our rate structure is adequate.	Standard waste usage in Las Vegas is higher than other Southwest urban areas. We need a rate structure that discourages excessive water use, especially in residential development.
1.5(3)	Encourage programs to protect the Principal Aquifers of the Las Vegas Valley, i.e., artificial recharge efforts to the aquifer that are more in balance with current pumpage from the aquifer or natural conditions such as winter vs. summer and drought. In addition, encourage the use of District water, where available, rather than individual well use so that groundwater withdrawal may be monitored.	CM, CP, ENGR	1993 (next legislative session)		See sub-element 4.0: Geologic Hazards; Policy 1.5.
1.5(4)	Develop policies for adoption by appropriate regional agencies which encourage reuse of treated effluent and provide incentives for reuse by the private sector.	WRM, CP	1993	Policy document to be presented to City Council and County Commission for adoption and implementation.	Clark County 208 Water Quality Management Plan (Amended June 1990) recommends increased reuse of treated waste water effluent.

Policy Program	Summary	Department	Implementation	Action/Product (Related Program)	Remarks
1.5(5)	Encourage the construction of satellite wastewater treatment facilities in outlying urbanizing areas, i.e., Summerlin and the Northwest Sector to facilitate wastewater effluent reuse opportunities.	PW, CP	1993	Develop policy regarding future sewage treatment expansion specifically encouraging satellite treatment facilities.	
1.6	Cooperate with federal, state and other local governmental agencies in mutual efforts to improve and maintain water quality in Southern Nevada	CC, CP, PW	1992	Include in annual report on water conservation efforts; see Water Policy 1.3, Programs 1-7.	Issues concerning water supply and water quality are regional in nature, not jurisdictional. All of the governmental agencies in Southern Nevada need to coordinate mutual effort.
1.6(1)	Coordinate water quality activities with Clark County and in conformity with the Clark County 208 Water Quality Management Plan Amendment, June, 1990.	CP, PW, CC	1992	Include in annual report on water conservation efforts; see Water Policy 1.3, Programs 1-7.	

10B Drainage and Flood Control

10B.1.1 Flood Hazards and Planning

Flooding is one of the most severe environmental hazards affecting the Las Vegas Valley area, despite an annual precipitation of only four inches. Winter storms cover a large area and historically have not produced major flooding. The summer high-intensity thunderstorms produce most of the flooding in the area. Washes fill quickly and overflow onto the surrounding area.

Natural and man-made factors contribute to flooding. The natural factor is the presence of predominantly shallow soils overlaying hardpan, a hardened or cemented soil horizon, that inhibits the infiltration of rainfall into the underlying soils. Also, there is a lack of natural ground cover; shrubs, trees, grasses, that would slow this runoff. The resulting water builds in velocity and quantity as it flows down the washes creating the danger of downstream flooding. The man-made factor is contributed through paved roads, roofs, parking lots, etc. These provide hard surfaces that prohibit the percolation of water into the area where it falls and collects. The collection and concentration of runoff caused by urbanization can result in an increase in downstream flooding. Development in flood plains without adequate flood control facilities has also resulted in flood damage.

The Clark County Regional Flood Control District (CCRFCDD) was created in 1985, in an effort to enhance regional flood control planning in Clark County. By December, 1986, the CCRFCDD published the Clark County Flood Control Master Plan. Clark County and each of the incorporated cities within the County adopted the

Master Plan. NRS Chapter 543 also requires that all the local governments in the CCRFCDD adopt drainage regulations. The regulations restrict new development in areas known to flood, require drainage studies on proposed new developments to address localized flooding, and require CCRFCDD review of all new developments in areas of regional flood control significance.

10B.1.2 Stormwater Management

In 1988, EPA proposed regulations that required cities with populations of 100,000 or more to apply for National Pollution Discharge Elimination System (NPDES) permits for controlling stormwater discharges to water ways, such as; rivers, streams, lakes, etc. An EPA study indicated that 38 states reported urban run-off as a major cause of water quality impairment in the United States. Stormwater runoff can pick up such contaminants as pesticides and fertilizers from lawns; oil, grease, and fuel from gas stations; and other contaminants from construction sites, restaurants, dry cleaners, lumberyards, landfills, junk yards, and industrial sites.¹⁵ These contaminants find their way directly into bodies of water without going through sanitary treatment first.

Rather than requiring additional treatment plants or expansions to existing plants in order to accommodate end-of-pipe treatment of stormwater, EPA appears to be favoring non-structural best management practices (BMPs) and stormwater management plans to control pollutants at their source.¹⁶ BMPs include the following:

- finding and removing illicit connections to storm sewers instead of sanitary sewers
- developing and implementing local ordinances to reduce pollutants from construction sites, new development sites, and new industrial sites,

- public education on the use of chemical fertilizers and pesticides,
- encouraging proper disposal and the recycling of used oil and hazardous wastes from households,
- improving operation and maintenance practices of commercial enterprises.

The City of Las Vegas has a current NPDES permit. Maintenance and implementation of this permit will require a comprehensive Stormwater Quality Plan. Within this plan, an inventory of existing stormwater facilities will be completed and encoded with land use information on the City of Las Vegas Geographic Information System (GIS). Locating industrial nonpoint sources by Standard Industrial Codes should also be completed.

This General Plan Update springs from several requirements. Among them are the requirement for timely data, the requirement to keep up with changing issues and their focus and the requirement to develop strategic planning for resources. This last requirement was addressed in the 1990 "Las Vegas 2000 and Beyond" strategic plan which is described in the Plan introduction section. The "2000" document contained "Actions" specified to be accomplished ("the process is not over... We must put these plans into action")

Develop City flood control...facilities in conjunction with optimal regional systems.

10 B.2 Issue

The Las Vegas Valley is susceptible to flash floods affecting the safety and quality of life of the Valley residents. Flooding occurs due to heavy localized rainfall combined with the natural topography and soil conditions found in the valley. However, the adverse effects of flooding to Valley residents is due partly to poor planning in the

past and to the lack of flood control facilities preceding urbanization. The resulting stormwater runoff picks up contaminants such as pesticides and fertilizers from lawns, trash and debris, oil, grease and gasoline, etc. These contaminants discharge to the Las Vegas Wash and Lake Mead without sanitary treatment. Appropriate stormwater management and discharge regulation will be necessary to abate polluted runoff.

10 B.3: Goal, Objectives, Policies and Programs

Goal: To participate in the protection of the environmental quality of the Las Vegas valley and to promote the conservation of our natural resources.

Objective A: Provide a diversified, efficient flood control system to protect life and property from severe flood damage at a reasonable cost.

Policy A.1: Develop a two-tiered flood control system which will include an appropriate mix of large regional and smaller city neighborhood flood control facilities.

Program 1: Provide stormwater channel and drain improvements in accordance with the adopted stormwater management program for the City.

Policy A.2: Continue to have the City cooperate in the implementation of the adopted Master Plan of the Clark County Regional Flood Control District. This Plan provides for construction and maintenance of the large regional component of the City's flood control system, including detention basins, drainage channels and storm drains.

Policy A.3: Develop neighborhood master plans consisting of relatively small city drains and other flood control facilities to safely convey flood and nuisance flows to the larger regional facilities. These plans shall be prioritized as part of the capital facilities programming process.

Policy A.4: Review plans for new development of property under zoning and subdivision regulations to ensure property drainage in accordance with City Uniform Regulations for the Control of Drainage and the Clark County Regional Flood Control District's Hydrologic Criteria and Drainage Design Manual.

Program 1: Review development plans to incorporate, where required, the neighborhood storm drain system plans for the City and the master plan for Clark County Regional Flood Control District.

Policy A.5: Investigate and, where necessary, implement funding mechanisms for city neighborhood stormwater capital programs. Funding sources may include, but not be limited to, special improvement districts or stormwater utility fees.

Policy A.6: Inspect and maintain existing stormwater facilities to provide for the safe and efficient passage of flood water.

Policy A.7: Maintain a broadly based Flood Hazard Reduction Program which meets the requirements of the National Flood Insurance Program (NFIP). The City shall also participate in the federal Community Rating System, thus assuring the availability of flood insurance to city residents and businesses at the least possible cost.

Policy A.8: Continue to update Flood Insurance Maps for existing city areas and to create new maps for developing areas, subject to FEMA review.

Policy A.9: Investigate land development grading requirements to determine if nuisance flows and first storm runoff should be retained on site.

Objective B: The City shall continue to participate in a multi-jurisdictional effort to develop, implement and monitor water quality standards for stormwater discharge.

Policy B.1: Develop a comprehensive Stormwater Quality Management Plan in accordance with our NPDES stormwater quality permit.

Program 1: Meet first year requirements of the permit.

Program 2: By 1992, detail implementation program for Stormwater Quality Management Plan.

Program 3: By 1993, inventory existing stormwater facilities and locate industrial nonpoint sources by Standard Industrial Code; encode with land use information on City Geographic Information System (GIS) in coordination with Clark County GIS.

Program 4: By 1994, establish a monitoring program to evaluate Stormwater Quality Management Plan effectiveness.

Policy B.2: Modify City regulations as needed in order to implement stormwater quality discharge standards as they are developed by the State and the U.S. Environmental Protection Agency.

Program 1: Have the City arrange and hold a meeting by the end of fiscal year 1991-92 with all appropriate entities and agencies in the Valley. The outcome of the meeting will be to establish individual stormwater quality responsibilities and to prepare a funding strategy.

10B.4 Evaluation and Implementation Matrix

The following Drainage and Flood Control Hazards Evaluation and Implementation Matrix (EIM-see next page) was prepared as a measurable summary of the above Policies and Programs. The EIM is to be used:

- as a method of measuring the implementation progress of the General Plan
- as a budgeting document for specific Environmental Quality and Natural Resources programs of the General Plan
- as a tool for further developing work programs

The following abbreviations apply to each Evaluation and Implementation Matrix

City

CA City Attorney
CM City Manager
FN Finance
PW Public Works

Other Agencies/Jurisdictions

CC Clark County
HEND City of Henderson
LVVWD Las Vegas Valley Water District
NLV City of North Las Vegas
RFC Clark County Regional Flood Control District

10B. Evaluation and Implementation Matrix: Drainage and Flood Control

Policy Program	Summary	Department	Implementation	Action/Product (Related Program)	Remarks
2.1	Develop a two-tiered flood control system which will include an appropriate mix to large regional and smaller city neighborhood flood control facilities.	PW, CM, RFC	1992	Coordinate funding via CLV, CIP, RFC an CIP.	Subject to annual review.
2.1(1)	Provide stormwater channel and drain improvements in accordance with the adopted stormwater management program for the City.				
2.2	Continue to have the City cooperate in the implementation of the adopted Master Plan of the Clark County Regional Flood Control District. This Plan provides for construction and maintenance of the large regional component of the City's flood control system, including detention basins, drainage channels and storm drains.				
2.3	Develop neighborhood master plans consisting of relatively small city drains and other flood control facilities to safely convey flood nuisance flows to the larger regional facilities. These plans shall be prioritized as part of the capital facilities programming process.	PW, FN, RFC	1992	City CIP based on CCRFCD plans and neighborhood needs	
2.4	Have the City review plans for new development of property under zoning and subdivision regulations to ensure property drainage in accordance with City Uniform Regulations for the Control of Drainage and the Clark County Regional Flood Control District's Hydrologic Criteria and Drainage Design Manual.	PW, RFC	Ongoing	Continue to require developer to incorporate neighborhood drainage improvements into development plans.	
2.4(1)	Review development plans to incorporate, where required, the neighborhood storm drain system plans for the City and the master plan for Clark County Regional Flood Control District.				
2.5	Investigate and, where necessary, implement funding mechanisms for city neighborhood stormwater capital programs. Funding sources may include, but not be limited to, special improvement districts or stormwater utility fees.	PW, CP, CA	1992	Inventory of funding sources, strategy for use of known sources.	

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Policy Program	Summary	Department	Implementation	Action/Product (Related Program)	Remarks
2.6	Inspect and maintain existing stormwater facilities to provide for the safe and efficient passage of flood water.	PW	Ongoing	Facilities maintenance.	
2.7	Maintain a broadly based Flood Hazard Reduction Program which meets the requirements of the National Flood Insurance Program (NFIP). The City shall also participate in the federal Community Rating System, this assuring the availability of flood insurance to city residents and businesses at the least possible cost.	PW	Ongoing	Program participation and documented actions to reduce insurance costs to citizens.	
2.8	Continue to update Flood Insurance Maps for existing city areas and to create new maps for developing areas, subject to FEMA review.	PW	Ongoing	Best available maps.	
2.9	Investigate land development grading requirements to determine if nuisance flows and first storm runoff should be retained on site.	PW	1992	Amend Code to require on-site retention facilities.	
3.1	Develop a comprehensive Stormwater Quality Management Plan in accordance with our NPDES stormwater quality permit.	PW, CC	1991	Management Plan.	
3.1(1)	Meet first year requirements of the permit.	PW, CC	1991	EPA Approval	
3.1(2)	By 1992, detail implementation program for Stormwater quality Management Plan	PW, CC	1992	Development of Implementation Plan.	
3.1(3)	By 1993, inventory existing stormwater facilities and locate industrial non-point sources by Standard Industrial Code; encode with land use information on city Geographic Information System (GIS) in coordination with Clark County GIS.	PW, CC, CP	1993	Inventory of Stormwater facilities and non-point sources.	
3.1(4)	By 1994, establish a monitoring program to evaluate Stormwater Quality Management Plan effectiveness.	PW, CC	1994	Report on plan effectiveness, present to City Council.	
3.2	Modify City regulations as needed in order to implement stormwater quality discharge standards as they are developed by the State and the U. S. Environmental Protection Agency.	PW	Ongoing	EPA Approval	

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Policy Program	Summary	Department	Implementation	Action/Product (Related Program)	Remarks
3.2(1)	Have the City arrange and hold a meeting by the end of fiscal year 1991-92 with all appropriate entities and agencies in the Valley. The outcome of the meeting will be to establish individual stormwater quality responsibilities and to prepare a funding strategy.				

Policy Program	Summary	Department	Implementation	Action/Product (Related Program)	Remarks
4.2(1.2)	Because of the perpetuation of subsidence problems brought on by excessive groundwater withdrawal in the Las Vegas Valley, encourage State legislation that will require local monitoring of groundwater withdrawal with the requirement that within five years local water purveyors will be prohibited from removing an amount greater than the natural recharge plus artificial recharge in any given year.	CM, CP, WHM, State Engineer's Office	1993	Resolution by City Council to Legislature	See Water Policy 1.5, Program 3.

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10C Geologic Hazards

10C.1.1 Seismicity/Earthquake Hazards

Seismic activity in the Las Vegas Valley is related to man-made and natural causes. Man-made seismic activity results from underground nuclear testing. It is generally of short duration with the only effect being minor inconvenience to those that experience the tremor. There is no evidence that any structural damage to local buildings has resulted from nuclear testing. Between the years 1974 and 1976, there were claims that a number of wells in the Northwest part of the valley were damaged by nuclear testing and the resulting subsidence. The U.S. Department of Energy established a monitoring program in 1976 which included a number of technical surveys such as; level line, tiltmeter, hydrograph and seismic station surveys. The results of these surveys led to the conclusion that land subsidence was occurring continually with no direct correlation to nuclear events.¹⁷

Natural causes of seismic activity are due to shifts in the earth's crust. The movement of one piece of earth's crust in relation to another results in faulting. Tectonic faulting is found in the Las Vegas Valley and the surrounding mountains. Tectonic faults resulted from earth movement which occurred in the middle to late Pleistocene time. These faults traverse the Las Vegas Valley floor in a north-south trending series (Map 4). A famous example of a major active tectonic fault is the San Andreas Fault running up the coast of California from San Diego to San Francisco. Movement along this fault has resulted in numerous costly earthquakes.

Major earthquake activity in Nevada is concentrated along a series of faults

extending in a northerly direction from the Owen's Valley in California to Winnemucca, with the greatest activity in the Reno-Winnemucca-Tonopah triangle, nearly two-hundred miles northwest of the Las Vegas Valley.¹⁸ In Clark County there have been no major earthquakes. However, tremors of intensities ranging between VI and VII on the Modified Mercalli Scale have been felt in the Clark County area as a result of strong earthquakes in west-central Nevada and Southern California. There is also potential danger due to "liquefaction" which is a term used to describe an earthquake hazard where the support capabilities of the ground give way during intense shaking. Because of these occurrences, the Las Vegas area is classified in Seismic Zone 2 of the Uniform Building Code (UBC) so that construction will remain sound in response to Modified Mercalli Scale intensities of VII. The Nevada Bureau of Mines and Geology (NBMG) is presently half way through a study for the Nevada Department of Transportation (NDOT) that will update the seismic hazard data base for the Las Vegas area. This study was designed to reassess all sources of seismic hazard throughout the State of Nevada urban centers. Preliminary information available to date on the Las Vegas area suggests that the UBC seismic code be upgraded to Seismic Zone 3.

10C.1.2 Topography and Soil Types

The Las Vegas Valley area lies in the southwestern part of the Great Basin, within the Basin and Range physiographic province. The Valley is bound on the west by the Spring Mountains, the highest range in Clark County. This range contains Charleston Peak which is the third highest peak in Nevada at 11,918 feet. To the north the valley is bounded by the Desert, Sheep, and Las Vegas Ranges; on the east it is

bounded by Frenchman and Sunrise Mountains; and on the south by the River Mountains and the McCullough Range.¹⁹ Major drainage in the Las Vegas Valley flows through Las Vegas Wash to Lake Mead. The floor of this basin ranges from 1,800 to 2,500 feet in elevation. The basin floor is bounded on all sides by alluvial fan or aprons with slopes of 50 to 150 feet per mile and pediment surfaces (collectively called piedmont surfaces). Many of these piedmont surfaces are old and occur only as remnants, the most prominent being Whitney and Paradise Mesas in the Southern part of the valley.²⁰

The sedimentary formations in the Mountain Ranges consist mainly of limestone and mixtures of sandstone, shale, dolomite, gypsum, and in some places, interbedded quartzite. The alluvial fan piedmont is composed of many coalescing fans dissected by numerous drainage channels. The upper portion of the fan piedmont, about 4,500 feet above sea level, is made up of poorly sorted gravelly, cobbly, and stony sand deposits that grade to finer textured material near the valley floor. The basin floors are depositional areas of lake-laid silt and clay and younger alluvial deposits.²¹

Soil formation and deposit characteristics are an important consideration in land use planning and land development decisions. Location of soil types can be used to identify the potentials and limitations of an area for specific land uses and to help prevent construction failures caused by particular soil properties, i.e., slope, depth, drainage, and physical characteristics. For example, impervious soil horizons are an important factor in desert flooding. Construction costs for building roads and preparing building sites are higher in shallow soils overlying hardpan due to the need for heavy equipment such as backhoes, rippers, or trenching machines in order to penetrate the hardpan. Occasionally,

blasting is necessary. Soils that are moderately to strongly alkaline can cause corrosive chemical reactions to uncoated steel and concrete. The shrink/swell potential of soils is a factor in soil movement that could damage foundations (see also discussion on subsidence, specifically "collapsible soils"). Map 5, Soils Map, represents generalized soil units found in the Las Vegas area. A map unit represents an area dominated by one or more major kinds of soil as classified by the United States Department of Agriculture, Soil Conservation Service.

Table 4, Soil Impacts, summarizes individual soil unit suitability for a variety of purposes. The information presented in this table, as well as that in Map 5, is intended as a general representation and not for the purpose of determining hazards to construction. For example, use of this information does not substitute the need for site specific soils analysis. The following terms and characteristic ratings are used in the table.

Flooding: The temporary inundation of an area by overflowing streams or runoff from adjacent slopes. Water standing for short duration following rainfall is not considered flooding for the purposes of this analysis, nor is water in swamps or marshes. Frequency and probable dates of occurrence are estimated. Frequency is expressed as none, rare, common, occasional, and frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions; *common* that it is likely under normal conditions; *occasional* that it occurs, on average, no more than once in two years; and *frequent* that it occurs, on average, more than once in two years. Probable dates are expressed in months; November-May, for example, means that flooding can occur during the period November through May.

Shallow Excavations: Rated by the

ease of digging, filling, and compacting soils for trenches or holes dug to a maximum depth of 5 to 6 feet. The ease of digging, etc., is affected by depth to bedrock, a cemented pan, or a very firm dense layer; stone content; soil texture; and slope. The limitations are *slight* if soil properties and site features are generally favorable for excavation; *moderate* if soil properties and site features are not favorable and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where soil limitations are severe.

Risk of Corrosion: Pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. For concrete, the risk of corrosion is also expressed as *low*, *moderate*, or *high*. It is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors creates a severe corrosion environment.

Shrink-Swell Potential: The potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed. Shrink-swell potential classes

are based on the change in length of an unconfined clod (of soil) as moisture content is increased from air-dry to field capacity. The change is based on the soil fraction less than 2 milliliters in diameter. The classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; and *high*, more than 6 percent. *Very high*, greater than 9 percent, is sometimes used.

10C.1.3 Subsidence




Land subsidence, or the lowering of the earth's surface, can be due to natural causes or man-made processes. These causes are grouped into two categories: endogenic and exogenic subsidence.²² The endogenic subsidence occurs within the earth, such as tectonism, volcanism, and continental drift. Exogenic subsidence occurs mainly at the earth's surface and can result from natural causes as well as man induced. Exogenic subsidence is basically the result of a loss of support. There are several processes that result in a loss of support. Fluid extraction is one process as in the case of groundwater withdrawal. Secondly, sometimes regional in scale, an increase of loading from the weight of a body of water such as a lake. Thirdly, adding water to, or saturating, a collapsible soil that has a loose grain structure. According to Don Helm, Research Hydrogeologist, NBMG, "In a desert environment, some soils have never been completely saturated before and the grains touch each other in a loose and sometimes flimsy interconnected structure. Water essentially lubricates them and they collapse possibly under their own weight and almost certainly if in addition they have been supporting a house or some other structure." This last process is referred to as "hydrocompaction".

Regional subsidence in the Las Vegas Valley was due to the creation of Lake Mead. The weight of the lake and its

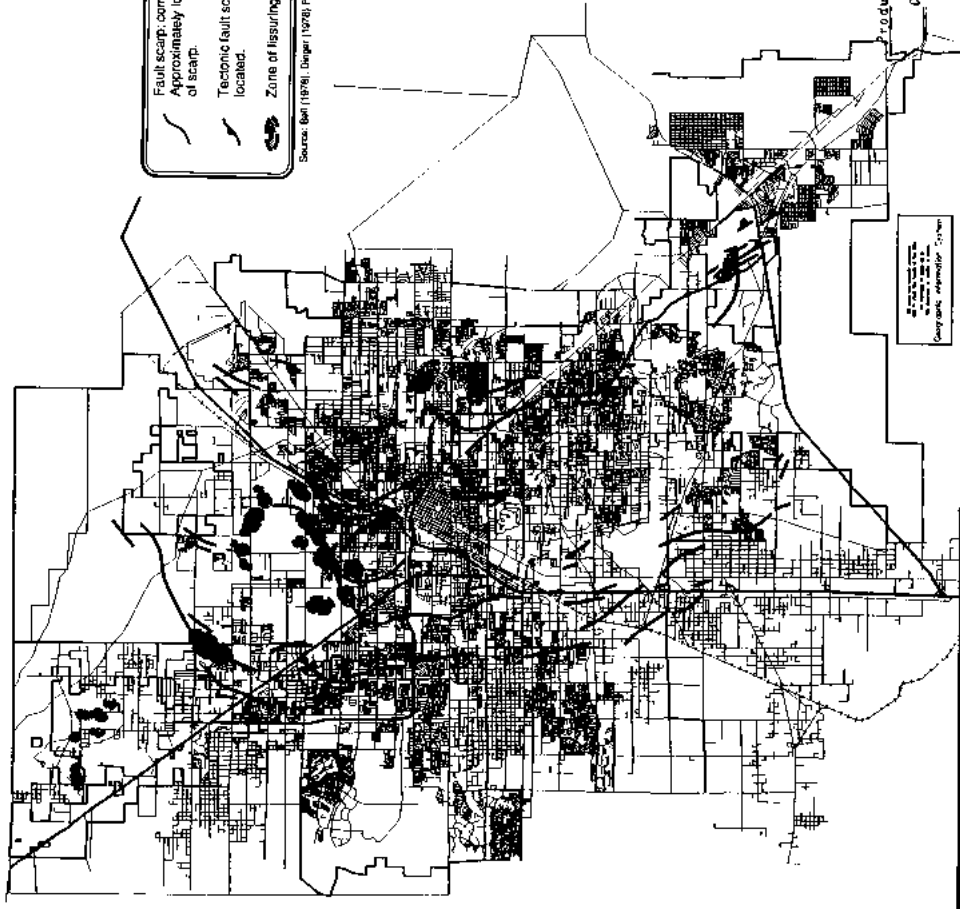
Map 4

Fault Scarps and Fissures

Legend

-  Fault scarp: compaction and/or tectonic, downthrown to east. Approximately located; may not mark fault trace due to erosion of scarp.
-  Tectonic fault scarp: ball on downthrown side. Approximately located.
-  Zone of fissuring; boundary approximate.

Source: Bell (1978), Dwyer (1978), Peck & Neasey (1978), and Nevada Bureau of Mines and Geology



Scale: 1" = 10521'
June 17, 1991



Produced by: City of Las Vegas, Nevada
Geographic Information System

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Environmental Quality X-206

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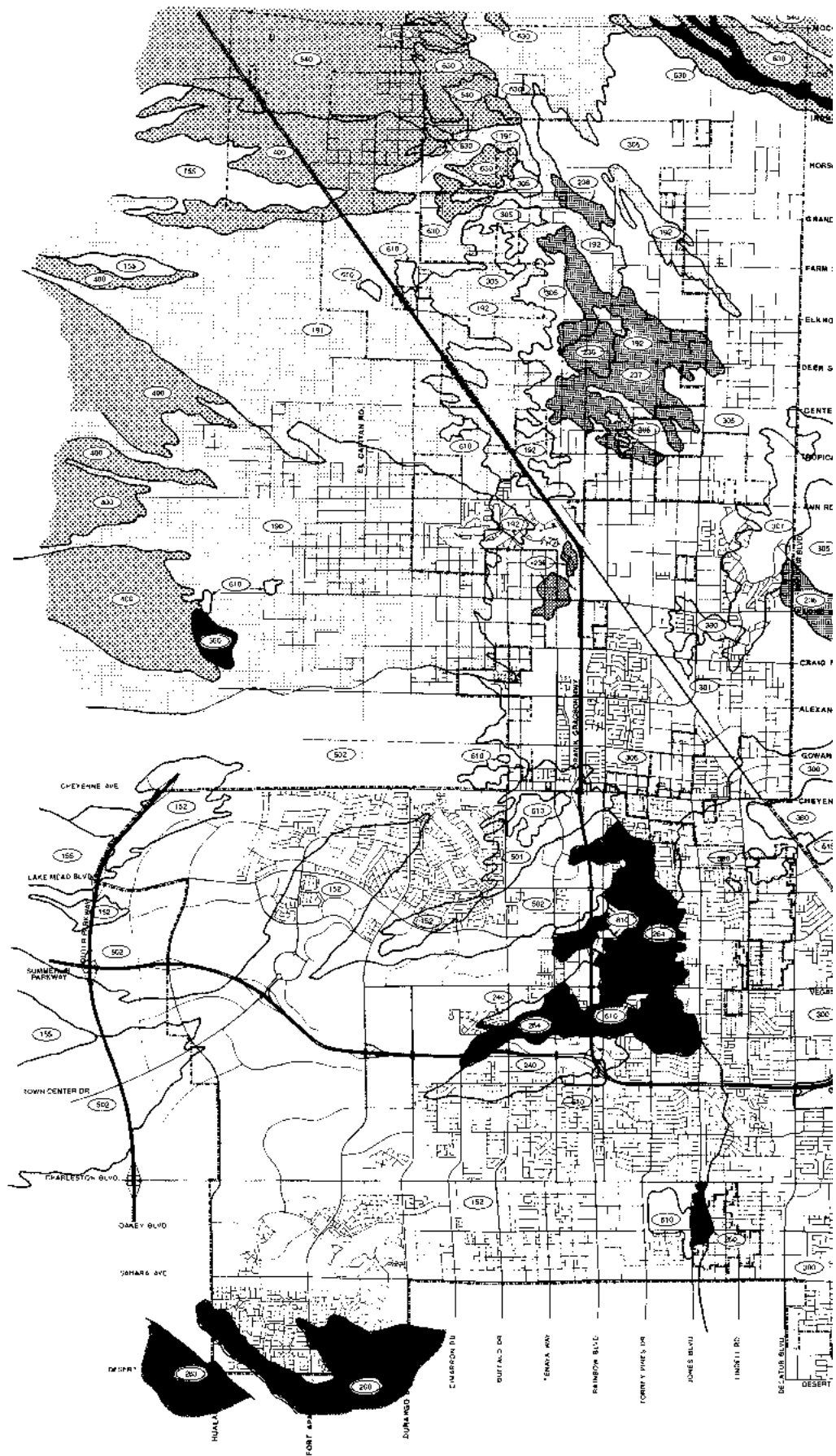
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Map 5

Generalized Soils

LEGEND





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Table 4

SOIL IMPACTS						
Soil Name & Map Symbol	Flooding		Shallow Excavations	Risk of Corrosion		Shrink-Swell Potential
	Frequency	Months		Uncoated Steel	Concrete	
112 Arizo	Occasional	Mar-Sep	Severe: Cutbanks Cave	High	Low	Low
152 Cave	None	----	Severe: Cemented Pan, Cutbanks Cave	High	Low	Low
155 Cave	None	----	Severe: Cemented Pan, Cutbanks Cave	High	Low	Low
190 Dalian	None	----	Slight	High	Low	Low
191 Dalian	Rare	----	Slight	High	Low	Low
192 Dalian-McCullough	Rare	----	Slight	High	Low	Low
200 Glencarb	Rare	----	Slight	High	Moderate	Low-Moderate
236 Glencarb	Rare	----	Slight	High	High	Low-Moderate
237 Glencarb	Rare	----	Moderate: Cemented Pan	High	Low	Low-Moderate
240 Goodsprings	None	----	Severe: Cemented Pan, Cutbanks Cave	High	Low	Low
260 Jean	Rare	----	Severe: Cutbanks Cave	High	Low	Low
263 Jean	Rare	----	Severe: Cutbanks Cave	High	Low	Low
264 Jean	Rare	----	Severe: Cutbanks Cave	High	Low	Low
270 Land	Rare	----	Moderate: Too Clayey, Wetness	High	High	Moderate
282 Land	Rare	----	Moderate: Too Clayey, Wetness	High	High	Moderate
300 Las Vegas	Rare	----	Severe: Cemented Pan	High	High	Low
301 Las Vegas	Rare	----	Severe: Cemented Pan	High	High	Low-Moderate
305 Las Vegas Destazo	Rare	----	Severe: Cemented Pan	High	High	Low-Moderate
325 McCarran	Rare	----	Slight	High	High	Low

GP EO Table4 Soil Impact;JS:pm7-24-01

Table 4

SOIL IMPACTS <i>CONTINUED</i>						
Soil Name & Map Symbol	Flooding		Shallow Excavations	Risk of Corrosion		Shrink-Swell Potential
	Frequency	Months		Uncoated Steel	Concrete	
341 Paradise	Rare	---	Moderate: Wetness	---	---	Low
360 St. Thomas	None	---	Severe: Depth to Rock, Large Stones, Slope	High	Low	Low
380 Skyhaven	Rare	---	Severe: Cemented Pan	High	High	Low-Moderate
390 Spring	Rare	---	Slight	High	High	Moderate
400 Tencee	None	---	Severe: Cemented Pan	High	Low	Low
501 Canutio	None	---	Moderate: Large Stones	High	Low	Low
502 Canutio-Cave	None	---	Moderate: Large Stones	High	Low	Low
540 Weiser	None	---	Slight	High	Low	Low
610* Pits, Gravel	N/A	N/A	N/A	N/A	N/A	N/A
615* Urban Land	N/A	N/A	N/A	N/A	N/A	N/A
630* Badland	N/A	N/A	N/A	N/A	N/A	N/A
<p>* Pits, Gravel: Consists of open excavations from which soil material and gravel have been removed, exposing rock, a hard pan, or other material.</p> <p>* Urban Land: Consists of areas covered by asphalt, concrete, and buildings or other urban structures.</p> <p>* Badlands: Badland is moderately steep to very steep barren land dissected by many intermittent drainage channels that have cut into soft geologic material. The areas ordinarily are not stony. Local relief generally ranges from 25 to 100 feet. Potential runoff is very high, and erosion is active. Some small included areas of identifiable soils support vegetation.</p>						

GP, EQ Table4 Soil Impact;JS;pm/7-24-91

sediment load is over forty million tons. This weight along with tectonic activity already having occurred in the area is thought to have tilted the Las Vegas Valley four to five inches. However, this regional subsidence is thought to have had little effect on subsidence related problems in the Las Vegas Valley. These tend to be localized. Groundwater withdrawal is thought to be the most common reason for localized ground subsidence as found in the San Joaquin Valley, California; Central Arizona; Denver, Colorado; London, England and Osaka, Japan. Groundwater withdrawal is also the primary factor in localized subsidence in the Las Vegas Valley.

Land subsidence in the Las Vegas Valley has been studied for more than fifty years. In 1978, a panel of U. S. Geological Society (USGS) scientists investigated the potential hazard posed by the subsidence problem concluding that a potential hazard for fissuring and surface faulting existed due to groundwater withdrawal in the valley. The USGS released a Notice of Potential Hazard in accordance with the Disaster Relief Act of 1974. As a supplement to the USGS Notice of Potential Hazard, NBMG prepared a comprehensive overview and analysis of subsidence in the Las Vegas Valley. The report was completed in 1981. Presently, this report is being updated by several research groups with NBMG serving as the lead agency. Completion is expected in Fall of 1991.

Parallel to this update, the NBMG is spearheading an integrated modelling research project within the University System, known as *Subsidence Modelling and Prediction*. *Emphasis is on the poorly understood phenomenon of horizontal movement and related fissuring. Participants in the study intend to establish a reliable method of predicting fissure initiation and propagation.*

It is important to understand the distinction between "fault movement"

and "fissure movement". Fault movement is associated with the release of natural forces, while fissure movement is associated with hydraulically driven forces associated with groundwater withdrawal. Fissures tend to occur near faults for very good reasons, but what causes fissure movement is very different from what causes fault movement. Thus, one can understand why exploring the causes of groundwater withdrawal related fissures and possibly discovering a method of making accurate predictions about when and where they will occur is very important in the Las Vegas Valley. The results of the study will provide a significant management tool for government agencies, public utilities and private industry in order to avoid or mitigate the potential hazards of subsidence.

According to ongoing analysis, subsidence is continuing at a rate similar to that found during the 1950s and 1960s when pumpage of groundwater was at its peak. However, the magnitude and location of the subsidence effects vary according to the hydraulic connection between geologic strata underlying areas of groundwater withdrawal. Coarse grain deposits (sand and gravel) are less susceptible to vertical compaction and recover well when recharged. In contrast, fine-grain deposits (sils and clays) are highly compressible and are not as likely to recover from groundwater withdrawal when recharge begins. Soil samples taken from basin-fill sediments show that the most compressible deposits are located in the center of the basin near Las Vegas (Map 6). The Subsidence Modelling and Prediction research plan mentioned above will help address this problem and provide the capability to quantify how ground movements at depth, such as soil compaction, are caused and eventually migrate to the surface.

Map 6 also shows areas of the Las Vegas Valley that have experienced

land subsidence due to the effects of groundwater withdrawal. Consequences of the valley floor sinking include evidence of new fissuring and possible spreading of existing faults and fissures. In most cases, these were originally caused by a combination of tectonic activity and the natural dewatering and subsequent compaction of basin-fill sediments during the warm, dry Pleistocene interglacial period. Appendix 1 lists specific cases of subsidence-induced structural damage in the Las Vegas area.

Not all damage of this nature is caused by groundwater withdrawal, however. According to geologists and building officials there are localized problems associated with different types of soils and sometimes poor construction techniques. The update of the 1981 subsidence report will contain a more thorough analysis of these differences. In the meantime, some governmental entities have initiated policy that discourages the building of structures on land already documented as a subsidence area. For example, the Clark County School District currently rejects new school site locations if they are located in areas where subsidence damage has occurred in the past. Sites located on or near fissures caused by groundwater withdrawal would be expensive to build on and maintenance costs could be higher over time due to the resulting structural changes in the building. The Las Vegas office of the Department of Housing and Urban Development issued new guidelines requiring anyone building within 500 feet of a mapped fissure or fault to perform a geotechnical study as a condition for receiving federal assistance. The City of Las Vegas Department of Public Works presently requires a soils investigation on any new construction and depending on the outcome of that report construction recommendations will be stipulated.

In summary, the subsidence problem will continue to occur as long as

groundwater withdrawal exceeds annual recharge, natural or injected. The most damaging result will be the spreading of existing fissures and the likely formation of new ones. This phenomena will make such things as the enforcement of adequate construction regulations necessary. It will also require consideration of land use density restrictions on susceptible geographic areas. The NBMG study referenced above should be used by the City of Las Vegas to map high hazard areas. This can be done on a current land use parcel map. Then, policy can be made regarding the safe use of the land.

Seismic activity in the Las Vegas Valley has had significance in a geologic sense and in geologic time. Current building practices have been adequate to withstand seismic activity both man-induced through nuclear testing and natural from earthquakes. Research intending to update local seismic information may result in more stringent building standards. The pivotal issue in the valley is dealing with certain geologic deposits that are susceptible to horizontal movement and fissuring that may cause structural damage to buildings. Efforts to stabilize groundwater withdrawal practices should be prioritized locally and through State level legislation. In the meantime, two things should occur. One, continue research in this area, and provide funding to develop a new predictive capability. Two, use this information and method to determine which development opportunities and constraints exist in the Las Vegas Valley.

10 C.2 Issue

Existing in the Las Vegas Valley are soil and geologic conditions that are susceptible to subsidence problems. Continued withdrawal of groundwater in excess of annual recharge contributes substantially to the subsidence problem. In order to mitigate this phenomenon, efforts to stabilize groundwater withdrawal practices should have higher priority locally and through State level legislation. In the meantime, research should be funded that will develop prediction methods (especially of fissuring events) and continue to update data that can be used to determine development opportunities and constraints due to geologic hazards such as seismic hazards, collapsible soils, subsidence and related groundwater management practices in the Las Vegas Valley.

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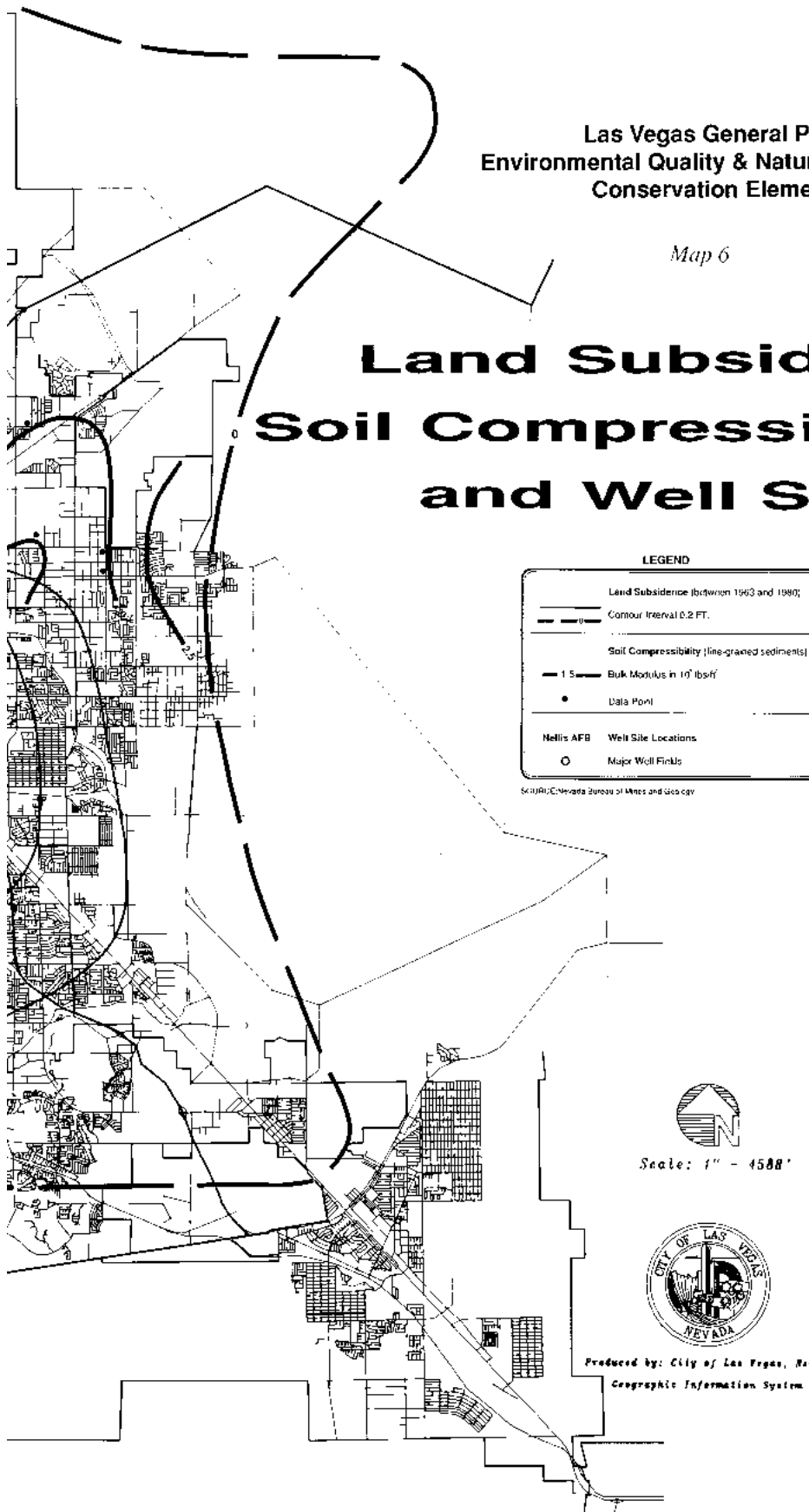
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Las Vegas General Plan
Environmental Quality & Natural Resource
Conservation Element

Map 6

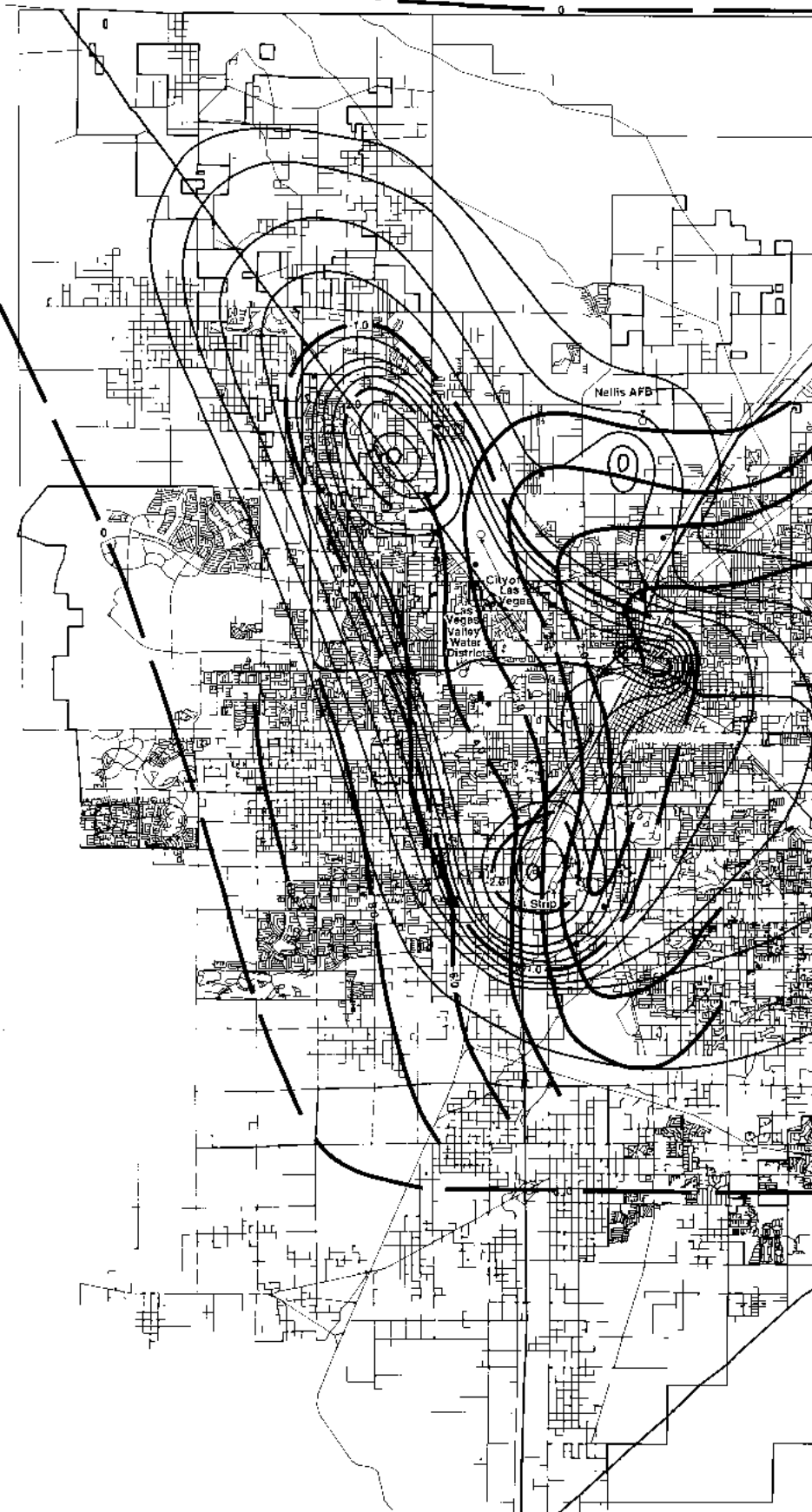
Land Subsidence, Soil Compressibility and Well Sites



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10C.3: Goal, Objectives, Policies and Programs

Goal: To participate in the protection of the environmental quality of the Las Vegas valley and to promote the conservation of our natural resources.

Objective A: Preserve life and property from geologic hazards such as seismic hazards, subsidence and related groundwater management practices, and poor soil conditions such as collapsible soils.

Policy A.1: Review building plans for geologic hazards, i.e., collapsible soils, faults and fissuring, and subsidence.

Program 1: Pending updated analysis to be provided by the Nevada Bureau of Mines and Geology (NBMG) to Nevada Department of Transportation (NDOT) approximately Summer, 1992, consider upgrading Uniform Building Code (UBC) Seismic Zone from Zone 2 to Zone 3 in Las Vegas.

Program 2: Maintain and periodically update maps of documented areas of collapsible soils, subsidence, faulting and fissuring with latest data available from research.

Program 3: Require a geotechnical investigation report on any housing development within 500 feet of a documented fault or fissure. The report should follow current HUD guidelines for report content. (See Appendix 2; HUD Guidelines for Housing Developments Subject to Potential Effects of Ground Subsidence.)

Program 4: Require soils engineering report on non-residential development plans in order to document subsidence activity or other adverse condition and enforce appropriate mitigation.

Policy A.2: Support Nevada Bureau of Mines and Geology (NBMG) continuing research on collapsible soils, subsidence and fissuring occurrence and prediction in the Las Vegas Valley.

Program 1: Use these data to develop policy which shall include, but not be limited to, discouraging development where seismic problems cannot be mitigated, land use amendments to properly reclassify areas.

Program 2: Investigate the establishment of a subsidence district.

Policy A.3: Make available to the public information concerning documented areas of seismic hazard, subsidence, and poor soil conditions.

Policy A.4: Support State legislation that will require local monitoring of groundwater withdrawal with the requirement that within five years local water purveyors will be prohibited from removing an amount greater than the natural recharge plus artificial recharge in any given year.

10C.4 Evaluation and Implementation Matrix

The following Geologic Hazards Evaluation and Implementation Matrix (EIM-see next page) was prepared as a measurable summary of the above Policies and Programs. The EIM is to be used:

- as a method of measuring the implementation progress of the General Plan
- as a budgeting document for specific Environmental Quality and Natural Resources programs of the General Plan
- as a tool for further developing work programs

The following abbreviations apply to each Evaluation and Implementation Matrix

City
BS Building and Safety
CM City Manager
CP Community Planning & Development
PW Public Works

Other Agencies/Jurisdictions
ENGR State Engineer
WRMI Water Resource Management, Inc.

10C. Evaluation and Implementation Matrix: Geologic Hazards

Policy Program	Summary	Department	Implementation	Action/Product (Related Program)	Remarks
4.1	Review building plans for geologic hazards, i.e., collapsible soils, faults and fissuring, an subsidence.	BS	Ongoing		i.e., post tension slabs in developments located in hazard areas.
4.1(1)	Pending updated analysis to be provided by the Nevada Bureau of Mines and Geology (NBMG) to Nevada Department of Transportation (NDOT) approximately Summer 1992, consider upgrading Uniform Building Code (UBC) Seismic Zone from Zone 2 to Zone 3 in Las Vegas.	BS, CP	1992	Amend Code	More restrictive regulations.
4.1(2)	Maintain and periodically update maps of documented areas of collapsible soils, subsidence, faulting, an fissuring with latest data available from research.	CP, PW, BS	Ongoing	GIS Map	Use GIS Map to determine areas subject to HUD guidelines, program 3.
4.1(3)	Require a geotechnical investigation report on any housing development within 500 feet of a documented fault or fissure. The report should follow current HUD guidelines for reporting content (See Appendix 2)	CP, BS	Ongoing	Use report to determine necessary mitigation.	
4.1(4)	Require soils engineering report on non-residential development plans in order to document subsidence activity or other adverse condition and enforce appropriate mitigation measures.	CPD, BS	Ongoing	Use report to update subsidence occurrence data and determine mitigation measure.	
4.2	Support Nevada Bureau of Mines and Geology (NBMG) continuing research on collapsible soils, subsidence and fissuring occurrence and prediction in the Las Vegas Valley.	CM, CP, PW, BS	Ongoing	Pursue continued funding of research.	
4.2(1)	Use these data to determine development policy and construction standards in problem areas of the City and areas of potential annexation.	CP, PW, BS	Ongoing	Amend codes as needed.	
4.2(1.1)	Make available to the public information concerning documented areas of seismic hazard, subsidence, and poor soil conditions	CP, BS	Ongoing	Maps brochures	

10D Air Quality

Air quality is determined primarily by the type and amount of contaminants emitted into the atmosphere, the size and the topography of the air basin and the meteorological conditions. In Clark County, particularly during the winter months, stable atmospheric conditions, low mixing heights and light winds, common during nighttime and morning hours, provide opportunities for contaminants to accumulate as emissions. Atmospheric dispersion of pollutants generally improves by mid-afternoon.

Ambient air is the air that surrounds you. The effect of ambient air on people depends mainly on location, type, amount, and durations of their exposure. Air quality standards specify the point at which greater concentration may cause adverse health effects. National primary ambient air quality standards define levels of air quality, with an adequate margin of safety, to protect the public health. National secondary ambient air quality standards define levels of air quality, with an adequate margin of safety, to protect the public welfare from nuisance associated with pollutants.

Establishing ambient air quality standards in Clark County is the responsibility of the United States Environmental Protection Agency, the State of Nevada, and the Clark County Health District. Air quality is generally considered acceptable if pollutant levels are less than or equal to established standards on a continuous basis. Where differences in local and national standards exist, the more stringent standards apply. The Clark County Ambient Air Quality standards are shown in Table 5. National Ambient Air Quality Standard are shown in Table 6.


The Clark County Health District maintains a regional emissions inven-

tory by source category (Map 7). These include combustion of fuels and specific major sources of pollutants such as power plants within Clark County. The pollutants monitored by Clark County Health District include: Carbon monoxide (CO), ozone, and fine particulates (PM₁₀). Pollutant source emissions are regulated by the Clark County Health District Air Pollution Control Division, which is the regulatory arm for air quality in Clark County as mandated by the Clark County

Commission.²⁵


This section of the General Plan gives an overview of air quality planning efforts from 1978 to the present; it also identifies the major sources of pollutants and outlines policies and programs to improve the overall air quality of the Las Vegas Valley.

Table 5

 Ambient Air Quality Standards Clark County District Board of Health		
<i>The following concentrations of air contaminants shall not be exceeded at any single point in the ambient air:</i>		
Annual arithmetic mean	60 µg/M ³	(0.02 ppm)
Maximum 24 hour concentration	260 µg/M ³	(0.1 ppm)
Maximum 3 hour concentration	1300 µg/M ³	(0.5 ppm)
Total Suspended Particulate		
Annual geometric mean	75 µg/M ³	
Maximum 24 hour concentration for Las Vegas Valley	260 µg/M ³	
Maximum 24 hour concentration elsewhere in Clark County	150 µg/M ³	
PM-10		
Annual arithmetic mean	50 µg/M ³	
Maximum 24 hour concentration	150 µg/M ³	
Carbon Monoxide		
Maximum 8 hour concentration	10 mg/M ³	(9.0 ppm)
Maximum 1 hour concentration	40 mg/M ³	(35.0 ppm)
Ozone		
Maximum 1 hour concentration	235 µg/M ³	(0.12 ppm)
Nitrogen Dioxide		
Annual arithmetic mean	100 µg/M ³	(0.05 ppm)
Lead		
Arithmetic mean per calendar quarter	1.5 µg/M ³	

Source: District Board of Health of Clark County GP.EQ Table 5 Clark Co Air/JS/pw/7-31-91

Table 6

 National Ambient Air Quality Standards			
Pollutant	Averaging Time	Primary Standard Levels/micrograms (µg) or milligrams (mg) per cubic meter (m³) and parts per million (ppm)	Secondary Standard Levels/micrograms (µg) or milligrams (mg) per cubic meter (m³) and parts per million (ppm)
Particulate Matter	Annual (geometric mean)	50 µg/m³	50 µg/m³
	24 hours*	150 µg/m³	150 µg/m³
Sulfur Dioxide	Annual (arithmetic mean)	80 µg/m³ (0.03 ppm)	-
	24 hours*	365 µg/m³ (0.14 ppm)	-
Carbon Monoxide	8 hours*	10,000 µg/m³ (9ppm)	10,000 µg/m³ (9ppm)
	1 hour	40 mg/m³ (35ppm)	40 mg/m³ (35ppm)
Nitrogen Dioxide	Annual (arithmetic mean)	100 µg/m³ (0.05 ppm)	100 µg/m³ (0.05 ppm)
Ozone	1 hour	240 µg/m³ (0.12 ppm)	240 µg/m³ (0.12 ppm)
Lead	3 months	1.5 µg/m³	1.5 µg/m³

* Not to be exceeded more than once a year

Source: Environmental Protection Agency

GP, EQ Table 6 Nat'l Air, JS, pm7-31-91

10D.1 Background

The Las Vegas urban area sits in a bowl surrounded by mountains which capture and hold air pollution. The issue is further complicated by our desert environment which naturally creates background dust on windy days. We cannot avoid air pollution, but the goal of maintaining acceptable levels of air pollution is shared by all Clark County residents.

Air pollution is a seasonal occurrence. Unhealthy days of invisible carbon monoxide(CO) air pollution occur on calm winter days when warm air is trapped under layers of colder air. Conversely, photochemical ozone is created during summer months on calm sunny days. Oxides of nitrogen, hydrocarbons and volatile organic compounds react with sunlight to form ozone. Unfortunately, visible haze occurs both in winter and summer and is caused by diesel and gasoline powered motor vehicles, fireplaces and in-

dustrial pollution. On windy days, dust from natural sources and human activities may cause the valley to exceed national particulate matter(PM10) health standards. The Las Vegas Valley achieved attainment with the national ozone health standard in 1984 and has since maintained compliance. However, summer ozone levels are slowly increasing annually and are nearing the maximum acceptable limit for public health.

In March of 1978, the Governor of Nevada designated the Clark County Board of Commissioners as the Air Quality Planning Organization for Clark County. The Governor also designated the Las Vegas Valley Air Quality Non-Attainment Area (see map 8) to conform to the requirement of the Clean Air Act Amendments passed by Congress in 1977. The Clean Air Act provided an institutional framework for areas with unhealthy air pollution levels to meet prescribed air quality standards. The Clark County Commission, as the designated local air

quality planning organization, is responsible for adopting Air Quality Implementation Plans (AQIP). Public participation and coordination among local entities is emphasized in the development of the AQIP. The Clark County Health District's Air Pollution Control Division administers the County's Air Pollution Control regulations and programs.

Effective air pollution control programs must include transportation planning within the air quality planning process. Federal law requires transportation planning to be consistent with air quality planning.

The following terms are useful in understanding the issue of measuring and managing air quality.

- **Carbon Monoxide(CO)**
Carbon monoxide from automobile exhaust is the primary pollutant in the Las Vegas area (Map 9). Although the motor vehicle Inspection and Maintenance program

Map 7

APCD Gaseous/ Air Monitoring Sites

Legend

- Air Monitoring Sites
 - Permanent ■
 - Temporary ▲
- Gaseous Monitoring Sites ●

Source: Clark County Health District

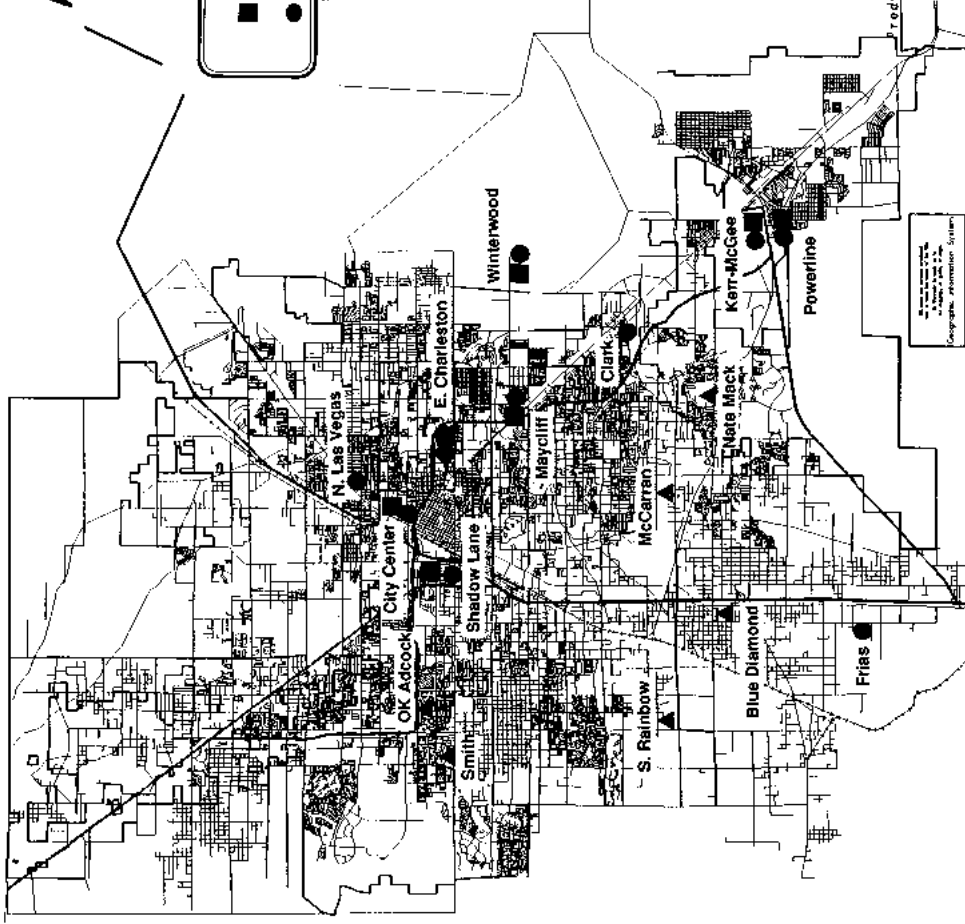


Scale: 1" = 10521'
June 17, 1991



Produced by: City of Las Vegas, Nevada
Geographic Information System

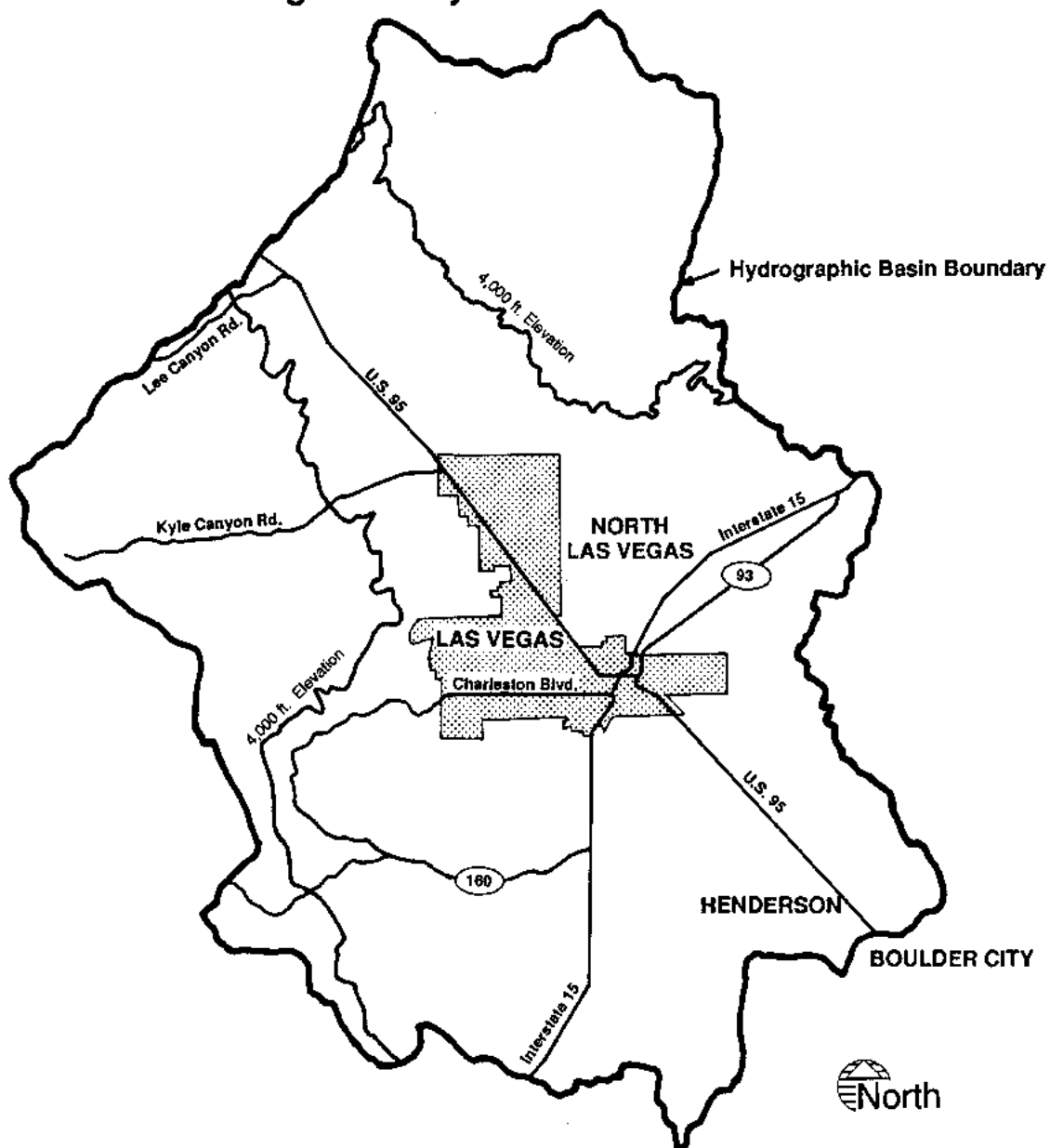
1-28a



CLV063334
3152

13407

Las Vegas Valley Non-Attainment Area



Source: Clark County Health District, Air Pollution Control Division

X-28b

CLV053335
3153

13408

Map 9

Air Quality Constraints

Legend

21

1990-1991 Winter Season

Estimated Unhealthful Days for Carbon Monoxide

Represents Monitoring Zone

SOURCE: Clark County Health District



Scale: 1" = 10521'

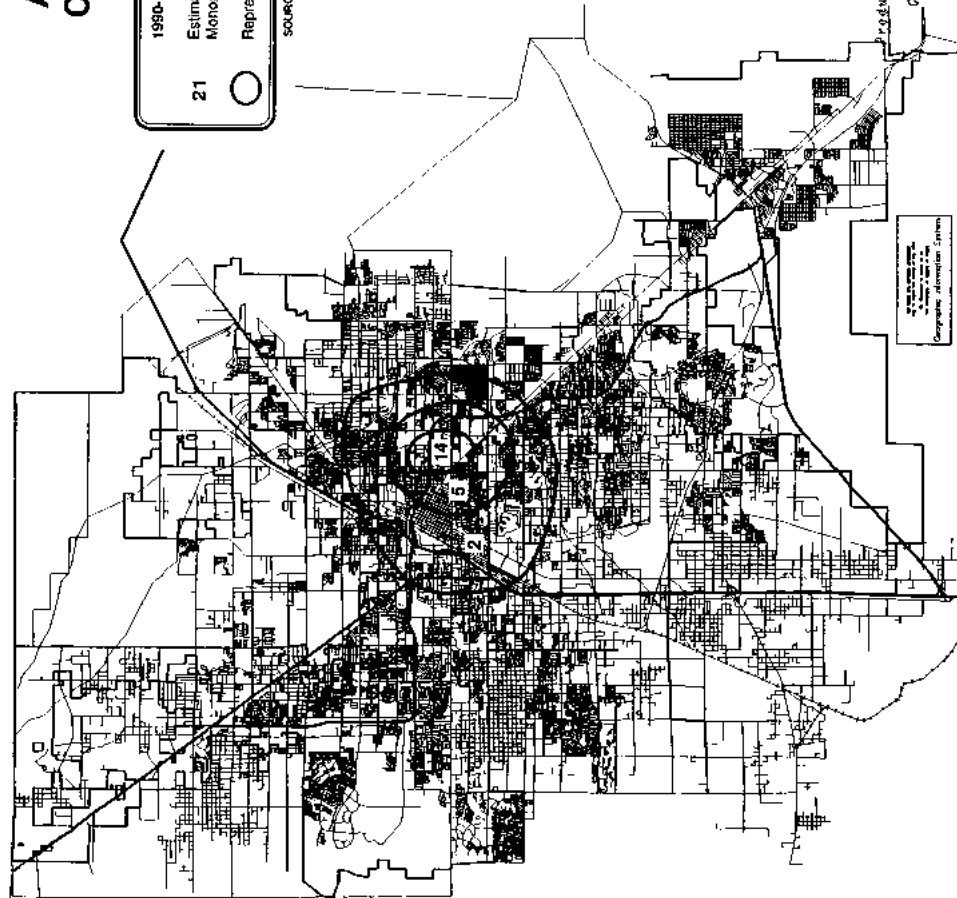
June 17, 1991



Prepared by: City of Las Vegas, Nevada

Geographic Information System

K-28



CLV053336
3154

13409

and oxygenated fuels presently in effect have succeeded in reducing CO levels, the valley is still in nonattainment. The county however has introduced an oxygenated gasoline program in the winter months to decrease the amount of carbon monoxide produced by automobiles. There is also discussion taking place to determine whether the oxygenated gasoline program should be extended to a year-round program for the non-attainment area.

- **Ozone**

The Las Vegas Valley is presently in attainment for ozone. Ozone is considered a summertime pollutant and is primarily a byproduct of internal combustion engine emissions, however, there are many stationary sources such as electric power generating plants. Ozone is created when precursor (i.e., oxides of nitrogen, volatile organic compounds and hydrocarbons) react photochemically to form the ozone molecule. Although levels within the Valley have been increasing annually and may exceed national standards in the near future, Clark County and Las Vegas Valley entities are taking steps to mitigate this increase. The County's "Clean Air Action Plan" has suggested several programs that would greatly reduce the amount of pollutants in the valley (see GOPP section).

- **PM10**

PM10 (fine particulates) emissions are from a variety of sources including construction sites, entrained road dust, disturbed vacant land, and combustion particles. Portions of the Las Vegas Valley exceed the air quality standard of 150 micrograms per cubic meter (24 hour) during some dust storms and sometimes in areas with substantial subdivision construction. The County along with the City of Las Vegas has tried to reduce the amount of dust particles around construction

sites, by using water. However with the current water shortage problem in the valley, water will not be as available as in the past for dust control. Therefore, the City of Las Vegas is looking into new alternatives for dust control with products such as Road Oyl, an environmentally safe dust suppressant.

- **Visible Air Quality**

Visual haze for the most part is composed of soot particles emitted by leaded-gasoline vehicles, diesel engines and wood burned in fireplaces. Diesel vehicles account for less than 6% of all vehicular traffic, health officials estimate they cause 29% of the urban haze and this proportion will continue to grow until diesel engines are equipped with pollution control devices. People who used leaded gasoline in cars designed for unleaded gasoline account for 10% of all urban haze. The brown haze that covers the city is the result of these pollutants being trapped in the atmosphere especially during the winter months because the prevailing winds that blow in the summer are not as active in the winter. Currently, there are no health risk-related national air quality standards for urban haze. However, the perception of poor air quality often is based on visibility. (Figure 11)

- **EQPRB/Air Quality Planning Committee**

The Environmental Quality Policy Review Board (EQPRB) was established in 1978, to review and make recommendations to the Board of County Commissioners on matters of policy relating to issues of environmental concern. The Board is composed of one representative from the State Environmental Commission and one elected representative from Clark County, Las Vegas, North Las Vegas, Henderson, and Boulder City. The EQPRB created the Air Quality

Planning Committee (AQPC) to assist the Clark County Department of Comprehensive Planning in the preparation of the AQIP's and to help identify planning issues and appropriate measures to control air pollution across political boundaries. The AQPC consists of technical staff from Boulder City, Henderson, City of Las Vegas, City of North Las Vegas, Clark County, Clark County Health District, Clark County Regional Transportation Commission, and Nevada Department of Transportation.

- **Air Quality Implementation Plan - 1978**

The AQIP, as originally submitted, identified a set of control measures necessary for the attainment and maintenance of air quality health standards for carbon monoxide (CO), ozone and total suspended particulates (TSP). However, the plan did not adequately address motor vehicle emission controls for carbon monoxide and ozone.

- **Air Quality Implementation Plan - 1980**

The 1978 AQIP was updated in 1980 by strengthening motor vehicle emission control programs to specifically address attainment of the CO and ozone health standards. Although concentrating upon the transportation control elements such as improved public transit, the 1980 AQIP outlined programs for controlling stationary source emissions such as industrial plant as well as those control strategies such as the installation of a flaring unit or afterburner in the exhaust gas stack at industrial plants would help meet the national ambient air quality standards for lead and total suspended particulates.

• **Air Quality Implementation Plan Update - 1982**

The 1982 revisions to the AQIP were formulated to further clarify the CO and ozone control strategies presented in the 1980 AQIP. The 1982 AQIP recommended control measures for CO, ozone and targets mobile sources such as the automobile for those pollutants. Based on an evaluation of these control strategies, the 1982 AQIP projected that the Las Vegas Valley would reach attainment of the national standard for CO by December 31, 1987. The 1982 AQIP was overly optimistic with respect to CO. The Valley remains in nonattainment of the CO national standard.

This list of terms and events illustrates the process used to describe and manage air pollution in the Las Vegas Valley. Based on these, citizens, agencies, and officials can establish effective programs to develop and maintain good air quality.

The Clark County Board of County Commissioners determined that previous violations of the ozone standard in the Southeast portion of the Las Vegas Valley reflected an abnormal situation created by the chlorine and other pollutants being released by companies in the Henderson Industrial Complex. Further, the Board determined that stationary control measures such as upgrading of technology were already in place for resolution of that problem. The 1982 revised AQIP formally requested that the EPA place the Las Vegas Valley in attainment status for ozone.

In 1986, as a result of the 1982 revised AQIP and subsequent air quality monitoring, the Environmental Protection Agency (EPA) classified the Valley in attainment for ozone. However due to the high level of growth within the Valley in recent years, ambient levels of ozone have been increasing annually.

The concern and research regarding the health effects of inhalable particulates caused the EPA to establish new regulations and national health standards for particulate matter (PM10) which replaced those that had been previously established for TSP. As a part of this effort, the EPA identified the Las Vegas Valley as an area in nonattainment of the PM10 national standard. The Valley is presently considered moderate in terms of EPA severity category designations.³¹

This General Plan springs from several requirements. Among them are the requirement for timely data, to keep up with changing issues and their focus and to develop strategic planning for resources. This last requirement was addressed in the 1990 "Las Vegas 2000 and Beyond Strategic Plan", which is described in the Plan Introduction section. The '2000' document contained "Actions" specified to be accomplished ("the process is not over... We must put these plans into action") The actions supported by this portion of the element are:

- Expand inspection programs to reduce carbon monoxide levels by including heavy trucks and older vehicles
- Expand tampering checks to include 1975-1980 vehicles
- Regulate diesel fuel quality and inspect diesel trucks
- Require stricter regulations on fireplaces in new developments
- Expand air quality surveillance and enforcement of industrial/commercial facilities

10D.2 Issue: The Clean Air Act

The Clean Air Act (CAA) Amendments of 1990 were signed into law by President Bush on November 15, 1990. These Amendments direct the United States Environmental Protection Agency (EPA) to implement strong environmental policies and regulations to ensure cleaner air in those areas experiencing air quality problems. With respect to National Ambient Air Quality Standards (NAAQS), the Las Vegas Valley is currently in nonattainment for CO and PM10. Under the new Amendments, the following reports are required to be submitted to the EPA by the dates indicated by Clark County with assistance from all the jurisdictions in the non-attainment area:

March 15, 1991

Submit a Clark County non-attainment area boundaries for both carbon monoxide (CO) and fine particulates (PM10).

November 15, 1991

Submit a State Implementation Plan (SIP) for fine particulates including demonstration of attainment by December 31, 1994, and provisions to insure reasonable available control measures (RACM) are implemented by December 10, 1993.

November 15, 1992

Submit an enhanced Inspection/Maintenance program for gasoline powered vehicles.

November 15, 1992

Submit a report demonstrating attainment of the national ambient air quality standard for carbon monoxide by December 31, 1995. Include vehicle miles traveled (VMT) forecasts and contingency measures to be implemented if VMT forecasts are exceeded.

The SIP will be evaluated by the Environmental Protection Agency. The SIP must eliminate or reduce the severity and number of violations of the NAAQS and achieve attainment of

these standards. The control strategies (RACM) should not cause:

1. or contribute to any new violation of any standard in any area
2. or increase the frequency or severity of any existing violation of any standard in any area
3. or delay timely attainment of any standard or any related interim emission reductions or other milestones in any area.

As already discussed, the Las Vegas Valley air quality does not meet Federal requirements of CO. The single major contributing source of carbon monoxide for the Valley is gasoline powered motor vehicles. These account for approximately 96% of all CO generated. With automobiles being the largest producer of CO in the Valley it is important to understand the critical need for coordination of air quality planning and transportation planning.

The Clean Air Act stipulates that all transportation plans and programs must be reviewed for conformity with the SIP. The State Implementation Plan should also include all estimates of emissions of motor vehicles for all transportation plans and programs and outline how these programs will meet necessary emissions reductions. No Federal agency may approve, accept or fund any transportation plan, program or project unless the plan program or project has been found to be in conformity with the SIP. Transportation Improvement Plans (TIP) must provide for timely implementation of transportation control measures consistent with schedules included in SIP. Transportation projects must meet the following requirements:

1. project must come from a conforming plan and program
2. the design concept and scope of the project cannot be significantly changed
3. the design and scope of the project at the time of approval was adequate to determine emissions.

10D.3 Goal, Objectives, Policies, and Programs

GOAL: To participate in the protection of the environmental quality of the Las Vegas Valley and to promote the conservation of our natural resources.

Objective A: Reduce the total amount of air pollutants emitted by industrial sources.

Policy A1: Participate with local governments in promoting the relocation of existing polluting industries.

Program A1.1: Develop a long range plan and identify incentives and funding sources for relocation of existing polluting industries to sites outside of the Las Vegas Valley and prioritize available funding for Apex Industrial Park infrastructure.

Program A1.2: Require consideration of environmental issues in industrial development bonds within the Las Vegas Valley.

Program A1.3: Evaluate heavy industrial land use zones and rezone to encourage non-polluting industries to locate within the Las Vegas area.

Program A1.4: Amend use permit ordinances to allow elected officials to either approve or deny use permit applications based on independent environmental and safety assessments.

Objective B: Implement a centralized diesel emissions inspection/maintenance program for the Las Vegas area and to promote other alternatives to diesel fuel vehicles to help reduce visible emissions from diesel engines.

Policy B1: Participate with local governments to promote alternatives to diesel fuel vehicles and to encourage adoption of diesel emission standards.

Program B1.1: Adopt resolutions requesting the State to require annual emissions testing for all diesel vehicles.

Program B1.2: Encourage local public and private diesel fleet operators to develop a schedule to convert diesels to cleaner fuels within ten years.

Program B1.3: Develop incentives to convert private and public vehicle fleets to use cleaner fuels, through fleet conversion contract standards requiring use of alternative fuels, tax incentives and legislative initiatives.

Program B1.4: The Board of Health should limit the non-emergency use of stand by diesel powered generators.

Policy B2: Assist in obtaining State funding to train and certify peace officers in smoke opacity identification and provide additional enforcement. NHP officers should also issue citations for such violations.

Policy B3: Assist in developing an incentive/certificate program for voluntary compliance with diesel emission standards.

Objective C: Implement an enhanced inspection/maintenance program utilizing centralized inspection station.

Policy C1: Promote the development of a State operated vehicle inspection program.

Programs C1.1: Encourage the State to consider the phased vehicle exhaust emission standards of California to reduce hydrocarbons by 75% and nitric oxides by 50% beyond emission standards set by the new Federal Clean Air Act. Regulations should require extended pollution control equipment warranties and require that new vehicles are equipped with devices to alert drivers that pollution control systems are not functioning properly.

Program C1.2: Lobby the State legislators to revise regulations to allow for transition into a centralized system of inspection stations.

Program C1.3: Revise air pollution and land use regulations in order that gasoline vehicle emissions from new developments may be identified and control measures adopted. All new large businesses should be required, as a condition of any use permit, to pay for pollution reduction measures to "offset" the number of single-occupant trips generated by the business. Existing large businesses should be required to do so over time.

Program C1.4: Initiate numerous transportation improvement projects that will increase capacity and reduce travel delay. Construct urban arterials, beltways, and other facilities in accordance with the neighborhood and regional needs.

Objective D: To reduce the source of pollutant from gasoline stations which contribute heavily to ozone levels in the Las Vegas area.

Policy D1: Promote the use of new technology to reduce the amount of vapor being released into the atmosphere.

Program D1.1: Adopt resolutions supporting improved vapor recovery systems for all gasoline stations.

Objective E: To improve engine efficiency

Policy E1: Promote expanded retail gasoline monitoring program in Clark County

Program E1.1: Obtain State funding to hire additional staff to sample and monitor gasoline quality in Clark County.

Objective F: To encourage mixed use development and the use of transportation demand management measures to reduce the single occupant vehicle and encourage the use of bicycles.

Policy F1: Promote reduction of traffic demand on area road network.

Programs F1.1: Promote and institute flex-time work scheduling for

the Las Vegas area's employers.

Program F1.2: Promote carpool, van pool and ride-sharing programs for public and private sector employers.

Program F1.3: Develop incentives and adopt ordinances which promote infill development to create additional opportunities for mass transit and ride-sharing programs.

Program F1.4: Allow mixed-use developments and allow residential and employment land uses to be developed in close proximity to each other.

Program F1.5: Amend zoning codes to require developers to provide bicycle parking facilities, bike paths and bike lanes adjacent to and through their sites.

Program F1.6: Adopt design standards conducive to promoting pedestrian use such as shading, improved lighting, seating, and pocket parks.

Objective G: To encourage dust emissions reductions and increase infill.

Policy G1: Promote dust reduction through PM10 (fine particulates) control measures.

Programs G1.1: Adopt control measures recommended in the PM10 State Implementation Plan for the Las Vegas Valley nonattainment area.

Program G1.2: Review existing goals, policies, and guidelines relating to infill development and identify deficiencies. Adopt land use master plans and ordinances which require infill developments where infrastructure is available and deny leapfrog developments.

Program G1.3: Develop technical and policy-level coordination among political jurisdictions to develop incentives for infill development.

Program G1.4: Develop incentive program to reduce emissions from existing woodburning fireplaces(4).

Objective H: To meet National Air Quality Standards in the future

Policy H1: Promote Air Quality planning for future growth and development

Program H1.1: Prepare Air Quality Implementation Plans to demonstrate Las Vegas area compliance with carbon monoxide and fine particulate matter air quality standards.

Objective I: To reduce the odor from the wastewater facility

Policy I1: Promote the use of new technology in wastewater treatment

Programs I1.1: Incorporate new technology in wastewater treatment construction projects which will decrease sewerage odor.³²

10D.4 Evaluation and Implementation Matrix

The following Air Quality Evaluation and Implementation Matrix (EIM) was prepared as a measurable summary of the above Air Quality Policies and Programs. The EIM is to be used:

- as a method of measuring the implementation progress of the General Plan
- as a budgeting document for specific Environmental Quality and Natural Resources programs of the General Plan
- as a tool for further developing work programs

The following abbreviations apply to each Evaluation and Implementation Matrix

City

CA	City Attorney
CM	City Manager
CP	Community Planning & Development
ED	Economic & Urban Development
PW	Public Works

Other Agencies/Jurisdictions

CCHD	Clark County Health District
EQPRB	Environmental Quality Policy Review Board

10D.4 EVALUATION AND IMPLEMENTATION MATRIX : AIR QUALITY

POLICY (PROG)	SUMMARY	RESPONSIBLE DEPARTMENTS	DATE OF IMPL.	ACTION/PRODUCT (RELATED PROGRAM)	REMARKS
A1(1)	Relocation of existing polluting industries and support the development of Apex Industrial Park as the relocation site	ED, CP, CM, EQPRB	1992	The creation of a environmentally safe industrial park	
A1(2)	Require environmental assessment before industrial development bonds are issued	ED, PW, CA, CM, EQPRB	1993	Insures environmental concern are addressed	
A1(3)	Evaluate industrial land use needs for the city and encourage the development of clean industry	CP, CM	1992	Prevents unwanted industrial development	
A1(4)	Use permits may be approved or denied based on environmental and safety concerns	CP, CM, EQPRB	1993	Assures environmental concerns are being addressed	
B1(1)	Lobby the State to require annual emissions testing for all diesel vehicles	CM, CA, EQPRB, CCHD	1993	To monitor pollution levels	
B1(2)	Encourage public and private diesel fleet operators to convert to cleaner fuels within the next decade	CM, EQPRB	1993	City evaluate and report on purchasing alternative fuels to reduce pollutants	
B1(3)	Encourage the use of cleaner alternate fuels for both diesel and gasoline powered fleet vehicles through the use of legislative incentives	CM, EQPRB, CCHD	1993	City evaluate and report on purchasing alternative fuels to reduce pollutants	
B1(4)	Limit non-emergency use of stand-by diesel-powered generators	CM, CA, EQPRB	1993	To help reduce the amount of pollutants produced by fossil fuel	
C1(1)	City to lobby state legislature to require reduction in amount of allowable emission and require that new vehicles be equipped with warning device to alert drivers that pollution control system is not functioning	CM, CA, EQPRB	1993	To help reduce the amount of pollutants produced by fossil fuel	

C1(2)	City to lobby state legislature to allow for a centralized system of inspection station	CM, CA, EQPRB, CCHD	1993	To eliminate fraud	
C1(3)	Require new large business to pay for pollution reduction measures as a condition for a use permit	CM, CP, CA, EQPRB	1992	To offset financial burden of maintaining good air quality	
C1(4)	The City in conjunction with RTC continue to identify and build arterials, beltways and other transportation improvement as needed	CM, CP	1992	To help reduce travel time	
D1(1)	Support vapor recovery systems for all gasoline stations by resolution	CM, CA, EQPRB	1992	To help reduce pollutant from being released into the atmosphere	
E1(1)	Seek State funding to hire additional staff to monitor gasoline quality	CM, EQPRB, CCHD	1993	To help reduce the amount of pollutants produced by fossil fuel	
F1(1)	Promote flex-time work scheduling and institute it with City's employee	CM	1992	To reduce pollution levels	
F1(2)	Promote car pool, van pool and ride sharing programs for public and private sector	CM	1992	To reduce pollution levels	
F1(3)	Promote infill development with incentives	CM, CP, EQPRB, CCHD	1992	To reduce PM10 levels	
F1(4)	Promote mixed-use developments that would allow residential and employment land uses together	CM, CP	1992	To reduce dependency on the automobile for transportation	
F1(5)	Ordinance that would require developers to provide bike paths, bike lanes etc. through their development	CM, CA, CP	1992	To encourage alternative forms of transportation	
F1(6)	Ordinance that would require developers to provide offsite amenities that would promote pedestrian use	CM, CA, CP	1992	To encourage alternative forms of transportation	
G1(1)	Adopt Clark County PM10 strategy	CM, CA	1991	To reduce PM10 levels	
G1(2)	Ordinance that would promote infill development where infrastructure was available	CM, CA, CP	1992	To reduce PM10 levels and reduce travel time	
G1(3)	Develop intergovernmental coordination for a valley wide in-fill policy	CM, CP	1992	To develop a uniform policy that would help to reduce PM10 levels and travel time	

G1(4)	Develop incentives to reduce use of woodburning fireplaces	CM, CA	1991	To reduce visual haze and pollution levels	
H1(1)	Assist Clark County in the preparation of the SIP	CM, CP, CA	1991	To develop a comprehensive plan for good air quality	
I1(1)	Decrease sewage odor by incorporating new technology in wastewater treatment	PW	1992	To eliminate foul odor originating from the wastewater treatment facility	

10E Energy Conservation and Management

10E.1 Introduction

Approximately 35% of the energy consumed in the United States heats and cools buildings. That figure could be reduced by as much as 30% using readily available technology. The Nevada Power Company, Southwest Gas Corporation, and the Las Vegas Valley Water District have shown a commitment to energy conservation by advocating conservation and offering information to the public at no cost. Nevada Power, which supplies electricity to the area, offers free home "energy audits" to residential users giving advice on how to retrofit homes to make them more energy efficient.

New construction is regulated by code to be energy efficient according to National Standards provided by the U.S. Department of Energy (DOE). Tougher codes and enforcement have resulted in marked improvement in energy efficiency in buildings in many American cities. In addition, some cities offer incentives to build energy-efficient structures. The Massachusetts Legislature is considering revenue-neutral "free-bates" for commercial buildings of 50,000 square feet or larger. Buildings that use more electricity per square foot than average would be assessed a higher hook-up fee, while those that use less would get rebates. The fees collected from inefficient buildings would go towards the rebates to the energy-efficient buildings.

Many cities have also adopted energy codes for existing structures. San Francisco, for example, now has commercial and residential conservation ordinances that require energy-saving upgrades before title transfers. Nebraska recently instituted the "Dollar

and Energy Saving Loan Program" that will make \$31.3 million available for low-interest energy conservation loan programs for energy improvements in existing construction.

10E.1.2 Energy Efficiency and Management

Energy efficiency is rapidly becoming a leading public policy issue of the 1990's. Many regions of the country, including the Northeast and the Northwest, and states like California, face electricity shortages or are headed in that direction. As utilities meet the additional demand, they are searching for sources that are relatively low-cost and politically acceptable. Building new power plants, the traditional response, is low on the list of options because of environmental concerns about nuclear power, coal-fired electric generating plants, and other energy sources. Increasing energy efficiency, on the other hand, is a non-polluting and relatively low-cost solution.

Large-scale energy efficiency, also called demand-side management (DSM), essentially creates new capacity by reducing the need for electricity. For example, the Sacramento Municipal Utility District (SMUD) began a DSM program this year for residential, commercial, and industrial customers. SMUD will audit buildings and offer suggestions and low-interest financing for high-efficiency lights, motors, and appliances. DSM also includes a variety of conservation measures, from energy-efficient new residential and commercial construction to more modest steps such as hot-water heater blankets. SMUD predicts that DSM could reduce demand by about 700 megawatts per year; the equivalent of a medium sized generating plant. Nevada Power currently offers a rebate program to encourage energy-efficient lighting and high-efficiency electric motor installations.

10E.1.3 Energy Alternatives

New growth and development bring opportunities to incorporate innovative and energy-efficient techniques into construction design and building siting. The City zoning ordinance regulates building setbacks and lot size and dimensions which in turn limits the potential for passive solar design in the construction of buildings. "Passive" solar design refers to the orientation of a structure to take advantage of the position of the sun in the summer and the winter. This is as opposed to "active" solar devices, such as photovoltaic cells which convert sunlight into electricity and black tubing that heats water. Both methods of using solar energy are considered "renewable energy sources" in contrast to non-renewable such as oil and other fossil fuels. Developing flexible design guidelines with provisions for solar access protection could act to encourage energy-efficient site design of new construction.

Other energy alternatives include the use of wind power, biomass and geothermal generation. California is currently spending \$24 million per year to help develop these alternative fuels as well as solar. Alternative energy such as solar and wind power account for 9% of the total electrical generating capacity of the state of California. A few other states have adopted energy policies that stress some alternative energy source development. Iowa's energy policy calls on utilities to spend a minimum of 2% of their budgets on energy efficiency, conservation, and alternative source development. The state also gives tax credits to firms that have taken on solar projects.

Transportation alternatives such as better mass-transit opportunities and para-transit use by employment centers could help reduce gasoline consumption by single-occupant vehicles. The City has initiated a "ride-share" program to encourage people to carpool to

work. Also, the City Bicycle Program encourages the provision of bike lanes to enable bicyclists safe routes to work and recreation rather than using their vehicles.

The revised national energy policy cites renewable energy sources, such as thermal, solar and wind, but offers no new funding initiatives to state and local governments for the development of these sources. The national strategy also omits recycling-related programs and does not take a clear stand on conservation programs. Instead, national energy policy proposes more aggressive development of domestic oil resources.

This General Plan Update springs from several requirements. Among them are the requirement for timely data, the requirement to keep up with changing issues and their focus and the requirement to develop strategic planning for resources. This last requirement was addressed in the 1990 "Las Vegas 2000 and Beyond" "strategic plan" which is described in the Plan introduction section. The "2000" document contained "Actions" specified to be accomplished ("the process is not over... We must put these plans into action") The action supported by this portion of the element is:

- Develop City...energy supply and delivery...in conjunction with optimal regional systems.

10 E.2 Issue

Energy production is of national concern. As experienced in recent confrontations in the middle east, domestic dependence on foreign oil is not desirable. National policy advocates greater production of domestic oil resources. State and local governments advocate energy-efficiency and conservation.²³

10E.3 Goal, Objectives, Policies and Programs

Goal: To participate in the protection of the environmental quality of the Las Vegas valley and to promote the conservation of our natural resources.

Objective A: Encourage energy conservation and the use of energy-efficient technology.

Policy A.1: It is the policy of the City of Las Vegas to encourage urban design and development which conserve energy.

Program 1: Enforce regulations requiring conformance with energy conservation standards for buildings.

Policy A.2: Promote transportation improvements which contribute to energy conservation.

Program 1: Use transportation system management techniques which improve roadway traffic efficiency, particularly on major routes during peak hours.

Policy A.3: It is the policy of the City of Las Vegas to conserve energy in city administration.

Program 1: Develop an energy audit of all City buildings.

Program 2: Implement the recommendations of the audit as they are feasible and practical.

Program 3: Explore opportunities to use excess methane gas produced as a by-product of the anaerobic digestion process used at the wastewater treatment plant.

Policy A.4: It is the policy of the City of Las Vegas to cooperate with electrical and gas utilities and any secondary users of energy (water districts, sanitation districts, school districts, etc.) in efforts to reduce energy consumption.

10E.4 Evaluation and Implementation Matrix

The following Energy and Conservation Management Evaluation and Implementation Matrix (EIM-see next page) was prepared as a measurable summary of the above Policies and Programs. The EIM is to be used:

- as a method of measuring the implementation progress of the General Plan
- as a budgeting document for specific Environmental Quality and Natural Resources programs of the General Plan
- as a tool for further developing work programs.

The following abbreviations apply to each Evaluation and Implementation Matrix

<i>City</i>		<i>Other Agencies/Jurisdictions</i>
BS	Building and Safety	NDOT Nevada Department of Transportation
CM	City Manager	RTC Clark County Regional Transportation Commission
CP	Community Planning & Development	
PW	Public Works	

10E. Evaluation and Implementation Matrix: Energy Conservation and Management

Policy Program	Summary	Department	Implementation	Action/Product (Related Program)	Remarks
14.1	Encourage urban design and development which conserve energy.	CP	1993	Develop guidelines for urban design techniques that conserve energy.	
14.1(1)	Enforce regulations requiring conformance with energy conservation standards for buildings.	CP, BS	Ongoing	Form group to periodically review regulations for update that considers new technology.	
14.2	Promote transportation improvements which contribute to energy conservation.	CP, NDOT, RTC	1993	Report on effective transportation programs that result in energy savings.	
14.2(1)	Use transportation system management techniques which improve roadway traffic efficiency, particularly on major routes during peak hours.	CP, PW	1993	Development of implementation program; include funding estimates and schedule in City CIP.	
14.3	Conserve energy in city administration.	CM, PW			
14.3(1)	Continue city efforts to reduce energy use by city facilities and operations.	CM, PW	Ongoing	Biennial progress report should be included in General Plan Implementation Biennial Report.	
14.3(2)	Explore opportunities to use excess methane gas produced as a by-product of the anaerobic digestion process used at the wastewater treatment plant.	PW	1993	Report to City Council outlining opportunities and implementation program.	
14.4	Cooperate with electrical and gas utilities and any secondary users of energy (water districts, sanitation districts, school districts, etc.) in efforts to reduce energy consumption.	CM, CP, PW	Ongoing	Biennial progress report should be included in General Plan Implementation Biennial Report.	

10F Noise

10F.1.2 Noise Mitigation Methods

10F.1. Introduction

The Las Vegas metropolitan area's rapid growth and its concomitant increase in roadway and air traffic have resulted in urban noise levels that could threaten the community's health, welfare, and quality of life. In addition, land use which places noise producing activities adjacent to residential or other noise sensitive uses increase the number of noise conflicts in the region.

Guidelines developed by several federal agencies including the Federal Highway Administration, the Federal Aviation Administration, the Environmental Protection Agency and the Department of Housing and Urban Development stipulate residential land use sound levels not exceed 45-55 decibels (Ldn, Leq). Schools, hospitals, lodging, and certain recreational facilities are also noise sensitive uses which should be protected from a variety of environmental and public problems.

The decibel is a unit for measuring the volume of a sound. A rating scale, dB(A), was devised to measure sound relative to the sensitivity of the human ear. The dB(A) scale is logarithmic so an increase of ten decibels is a tenfold increase in sound energy. However, measuring sound does not necessarily determine what actually constitutes noise on a community level. The Ldn scale is a sound measurement technology that was developed to measure cumulative noise exposure in the community over the twenty-four hour day (Leq). The Environmental Protection Agency recommends outdoor Ldn noise levels of 55 dB or lower and indoor levels of 45 dB or lower in residential areas with outdoor space, rural areas, and hospitals.

The major sources of noise in the City of Las Vegas are from roadways, aircraft, and the railroad. Several methods can be employed to protect the public from these noises and their effects. Guiding the location of noisy activities can be accomplished through the zoning process. Other noise problems can be ameliorated by construction and design measures. Open space buffers, berm and barrier construction, placement of non-sensitive uses to buffer sensitive uses, and proper building orientation, lay out and construction are a few methods that can be used to minimize noise effects. Furthermore, evaluation of potential noise conflicts in new or expanded transportation facilities, such as airports and roadways, can incorporate noise mitigation measures in the design. Prohibiting nuisance noise as found in Chapter 9.16 in the City Code is effective and could be more effective with maximum decibel levels mandated and consistent enforcement.

10F Issue

Noise is a problem with many direct and indirect effects on the quality of life of residents. Noise above recommended levels can increase general morbidity and either induce or aggravate a gamut of health disorders such as hypertension, cardiac disease, digestive disorders and general neuropsychological disturbances. Excessive noise levels can contribute to learning disabilities in school age children. Therefore, it is an issue of great importance to the safety and well being of the community.

10F.3 Goal, Objectives, Policies and Programs

Goal: To participate in the protection of the environmental quality of the Las Vegas valley and to promote the conservation of our natural resources.

Objective A. Prohibit unacceptable community noise levels.

Policy A.1: Mandate that exterior noise levels of 55 Ldn and interior noise levels of 45 Ldn as the noise limits for residential, public and quasi-public uses in the City of Las Vegas.

Program 1: Map noise contours throughout the City using the National Cooperative Highway Research Program (NCHRP) model, particularly the areas adjacent to freeway routes, expressways, rail lines, and the North Las Vegas Airport.

Program 2: Review City Code pertaining to Noise and assess effectiveness of enforcement and abatement. Recommend revision where necessary.

Program 3: Require that development plans document noise conditions on the site and describe how excessive noise will be handled where noise sensitive uses are planned within 300 feet of a freeway, expressway, or rail line; within the approach or departure pattern for the North Las Vegas Airport; or adjacent to major thoroughfares.

Program 4: Encourage non-noise sensitive uses to locate near noise generators in the General Plan land use designations and through subsequent zoning.

Program 5: Include in the City Code provisions for noise attenuation in building design and construction.

Policy A.2: Cooperate with federal, state and local regulatory agencies in efforts to minimize noise impacts from all modes of transportation.

10F.4 Evaluation and Implementation Matrix

The following Noise Evaluation and Implementation Matrix (EIM-see next page) was prepared as a measurable summary of the above Policies and Programs. The EIM is to be used:

- as a method of measuring the implementation progress of the General Plan
- as a budgeting document for specific Environmental Quality and Natural Resources programs of the General Plan
- as a tool for further developing work programs.

The following abbreviations apply to each Evaluation and Implementation Matrix

City

BS Building and Safety
CM City Manager
CP Community Planning & Development

Other Agencies/Jurisdictions

LVMPD Las Vegas Metropolitan Police Department

10F. Evaluation and Implementation Matrix: Noise

Policy Program	Summary	Department	Implementation	Action/Product (Related Program)	Remarks
15.1	Consider exterior noise levels of 55 Ldn and interior noise levels of 45 Ldn as the noise limits for residential, public and quasi-public uses in the City of Las Vegas.	CM, CP	1992	Amend City Code	
15.1(1)	Map noise contours throughout the City using the National Cooperative Highway Research Program (NCHRP) model, particularly the areas adjacent to freeway routes, expressways, rail lines and the North Las Vegas Airport.	CP	1993	Noise Contour Map on GIS	
15.1(2)	Require that development plans document noise conditions on the site and describe how excessive noise will be handled where noise sensitive uses are planned within 300 feet of a freeway, expressway or rail line, within the approach or departure pattern for the North Las Vegas Airport, or adjacent to major thoroughfares.	CP	1993	Develop guidelines for urban design techniques that abate noise.	
15.1(3)	Encourage non-noise sensitive uses to locate near noise generators in the General Plan Land Use designations subsequent zoning	CP	1992	Zone Map Amendments as deemed appropriate.	
15.1(4)	Include in the City Code provisions for noise attenuation in building design and construction	CP, BS	1992	Amend Code	
15.1(5)	Review City Code pertaining to noise and access reflectiveness of enforcement and abatement. Recommend revision where necessary.	CP, LVMPD, CM	1992	Report to City Council; Amend Code.	
15.2	Cooperate with federal, state and local regulatory agencies in efforts to minimize noise impacts from all modes of transportation.	CM, CP	Ongoing	Report progress in General Plan Biennial Report.	

Environmental Quality

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10G Natural Features

10G.1.1 Land Resources

The City of Las Vegas is largely an urban environment. Large tracts of undeveloped land are predominantly part of master planned developments with some exceptions found in the Northwest Sector where individual parcels may be found in single ownership. The master planned developments incorporate topography into the project design. Often, fairways of golf courses follow the natural drainage induced terrain. Many planned developments are incorporating water efficient landscaping into project landscape design.

10G.1.2 Biological Environment

Natural vegetation found in the valley is common to that found in other areas of the southwestern United States. Generally, the vegetation consists of sparse growths of desert shrubs and grasses. Animal species are often restricted to the habitats as defined by the vegetation in an area. A wide variety of reptiles may be found in the desert shrub community. The gila monster and the desert tortoise are protected desert species. The gila monster prefers a habitat of rocky or sandy washes. The desert tortoise, an endangered species, depends on annual plants that germinate in winter and grow in spring. Both animals can be found in undeveloped areas of the Las Vegas Valley, with the highest densities in the western half.

This General Plan Update springs from several requirements. Among them are the requirement for timely data, the requirement to keep up with changing issues and their focus and the requirement to develop strategic planning for resources. This last requirement was addressed in the 1990 "Las Vegas 2000

and Beyond "strategic plan" which is described in the Plan introduction section. The '2000' document contained "Actions" specified to be accomplished ("the process is not over... We must put these plans into action") The action supported by this portion of the element is:

- Improve valley-wide coordination of zoning, building and code enforcement regulation and processing utility placement standards.
- Investigate and encourage urban form alternatives to suburban sprawl, including nodal development concepts such as urban villages and activity/service centers.

10 G.2 Issue

Urbanization in the Las Vegas Valley has resulted in the reduction of habitat area for rare and endangered animal species. Future development should be sensitive to the natural environment.

10 G.3: Goal, Objectives, Policies and Programs

Goal: To participate in the protection of the environmental quality of the Las Vegas valley and to promote the conservation of our natural resources.

Objective A: Continue the conservation of natural resources.

Policy A.1: Conserve the City's land resources.

Program 1: Require development plans to preserve unique land features, such as knolls, bluffs and out-croppings.

Program 2: Continue to require extraction rehabilitation plans, which guarantee restoration to an acceptable post-extraction condition and use.

Policy A.2: Encourage preservation of areas of environmental significance.

10G.4 Evaluation and Implementation Matrix

The following Natural Features Evaluation and Implementation Matrix (EIM-see next page) was prepared as a measurable summary of the above Policies and Programs. The EIM is to be used:

- as a method of measuring the implementation progress of the General Plan
- as a budgeting document for specific Environmental Quality and Natural Resources programs of the General Plan
- as a tool for further developing work programs.

The following abbreviations apply to each Evaluation and Implementation Matrix

City
CP Community Planning &
Development

10G. Evaluation and Implementation Matrix: Natural Features

Policy Program	Summary	Department	Implementation	Action/Product (Related Program)	Remarks
16.1	Conserve the City's land resources.				
16.1(1)	Require development plans to preserve unique land features, such as knolls, bluffs and out-croppings.	CP	1992	Develop guidelines for urban design techniques that encourage preservation of natural features.	
16.1(2)	Continue to require rehabilitation plans, guaranteeing restoration to an acceptable post-extraction conditions and use, for any extraction activity authorized in the City.	CP	Ongoing	Biennial Progress Report.	
16.2	Encourage preservation of areas of environmental significance.	CP	Ongoing	Biennial Progress Report.	

Definitions

Acre-foot: The amount of water required to cover one acre of ground one foot deep, equaling 325,851 gallons.

Air Pollution: The presence in the outdoor atmosphere of one or more air contaminants or any combination thereof in such quantity and duration as may tend to:

- Injure human health or welfare, animal or plant life, or property;
- Limit visibility or interfere with scenic, aesthetic and historic values of the State;
- Interfere with the enjoyment of life or property.

Ambient Air: With respect to a Stationary Source, that portion of the atmosphere, external to buildings, to which the general public has access. Land owned or controlled by the stationary source and to which public access is precluded by a fence or other physical barriers is exempted from the ambient air.

Compaction Faults: Shifts in the ground surface due to natural prehistoric dewatering and differential consolidation of sediments.

Diesel Fuel: A low viscosity oil normally used in compression ignition engines.

Drought-tolerant: Species of plants that are able to survive prolonged dry weather. Drought-tolerant plants are not necessarily 'low-water' using plants, especially when immature.

Emission or Emit: The release or the passing into the atmosphere of a Regulated Air Contaminant.

Emission Unit: Any part of a Stationary Source or Gasoline Station which Emits any Regulated Air Contaminant through a stack, vent, machine, process equipment, or mining area.

Endogenic Subsidence: Subsidence due to changes occurring within the earth, such as natural movement of the Earth's tectonic plates, volcano activity, and continental drift.

Exogenic Subsidence: Subsidence occurring mainly at the earth's surface due to loss of support, as in the case of fluid extraction, or an increase of loading from the weight of a body of water, such as Lake Mead, or heavy irrigation.

Fuel: Any form of combustible matter (solid, liquid vapor, or gas), excluding combustible refuse.

Fuel Oil: A liquid or liquefiable petroleum product normally produced, manufactured, used, or sold for the purpose of creating useful heat.

Gas: Matter which has neither independent shape nor volume and tends to expand indefinite

Gasoline: Any petroleum distillate having a Reid vapor pressure of 4 pounds per square inch or greater.

Gasoline Station: A place capable of receiving, storing, and dispensing one or more grades of gasoline for use in motor vehicles.

Hardpan: A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Health District: The Clark County Health District.

Hydrographic Region: Natural water basin area consisting of one or more significant watersheds. The Las Vegas Valley lies within the Colorado River Basin hydrographic region.

Motor Vehicles: Every device in, upon or by which any person or property is, or may be transported or drawn upon a highway, except devices moved by human power or used exclusively upon stationary rails.

Oxygenated Gasoline: Gasoline blended with a component or components containing Oxygen, generally an alcohol or an ether.

Percolation: The passage of liquid, such as rain water, through porous substances, such as sand or silt.

PM-10: An inhalable Particulate Matter with an aerodynamic diameter less than 10 micrometers.

Particulate Matter: Any material except uncombined water, that exists in a finely divided form as a liquid or solid at referenced conditions of (25 C) and 760 mm mercury.

Stage II: Gasoline vapor recovery during motor vehicle re-fueling operations from stationary tanks.

Stationary Source: Any building, structure, facility, or installation which Emits or may Emit any Regulated Air Contaminants. A Stationary Source is composed of one or more Emission Units, is located on one or more contiguous or adjacent properties, and is under control of the same person (or persons under common control).

Tectonic Faults: Cracks in the earth, resulting from changes in the structure of the earth's crust.

Topography: Natural surface features of an area which may include mountains, valleys, rivers, hills.

Vapor: The gaseous phases of a substance which at normal temperature and pressures is a liquid or solid.

Vapor Control System: A device or combination of devices into which vapors are passed before being vented into the atmosphere.

Watershed: A ridge or stretch of land dividing the areas drained by different rivers or river systems.

Water Efficient: In context of landscaping; plant materials that do not require large amounts of water to mature or to be maintained over time.

Xeriscape: From the Greek word 'xeros', meaning 'dry.' Applied to landscaping to describe a means of conserving water through the use of plants that are characterized by, relating to, or requiring only a small amount of moisture.

Endnotes

- ¹ "Subsidence in Las Vegas, Pahrump, and Indian Springs Valley, Clark and Nye Counties, Nevada", Nevada Department of Conservation and Natural Resources, Water Resources Bulletin 5, p. 128.
- ² Ibid. p. 23. Original reference: "Pumping and Groundwater Storage Depletion in Las Vegas Valley, Nevada, 1955-74, Nevada Department of Conservation and Natural Resources, Water Resources Bulletin, p. 44, 70.
- ³ Ibid. p. 32.
- ⁴ Clark County Comprehensive Plan, Clark County, Nevada, 1982, p. 55.
- ⁵ "Subsidence in Las Vegas Valley", John W. Bell, Nevada Bureau of Mines and Geology, Bulletin 95, 1981, p. 25.
- ⁶ Ibid. p. 30.
- ⁷ Ibid. p. 32.
- ⁸ Ibid. p. 27.
- ⁹ "Cooperative Water Project-Water for Nevada's Future: Fact Sheet", Las Vegas Valley Water District, 1990, p. 4.
- ¹⁰ Ibid. p. 2.
- ¹¹ Clark County 208 Water Quality Management Plan Amendment, Clark County, Nevada, June, 1990, p. 4-71.
- ¹² Las Vegas Valley Water District lecture to American Planning Association, Southern Nevada Chapter, April, 25, 1991, Bob Sullivan, Speaker.
- ¹³ Clark County Comprehensive Plan, Clark County, Nevada, 1982, p. 64.
- ¹⁴ Clark County 208 Water Quality Management Plan Amendment, Clark County, Nevada, June, 1990, p. 6-4.
- ¹⁵ Ibid. p. 6-5.
- ¹⁶ Ibid. p. 5-13.
- ¹⁷ Ibid.
- ¹⁸ Ibid. p. 5-16.
- ¹⁹ Clark County Comprehensive Plan, Clark County, Nevada, 1982, p. 17.
- ²⁰ "Subsidence in Las Vegas Valley", John W. Bell, Nevada Bureau of Mines and Geology, Bulletin 95, 1981, p. 36.
- ²¹ Clark County Comprehensive Plan, Clark County, Nevada, 1982, p. 17.
- ²² "Subsidence in Las Vegas Valley", John W. Bell, Nevada Bureau of Mines and Geology, Bulletin 95, 1981, p. 10.
- ²³ Ibid.

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- 24 "Soil Survey of Las Vegas Valley Area, Nevada: Part of Clark County", Robert L. Speck and Thomas R. McKay, United States Department of Agriculture, Soil Conservation Service, July, 1985, p. 3.
- 25 "Subsidence in Las Vegas Valley", John W. Bell, Nevada Bureau of Mines and Geology, Bulletin 95, 1981, p. 32.
- 26 Ibid.
- 27 Dusty Dickens, Clark County School District, quoted in Las Vegas Review Journal article, Sunday, July 1, 1990, entitled; "Valley Slowly Sinking".
- 28 "City and State", March 25- April 7, 1991, p. 11.
- 29 "Final Environmental Impact Statement" Flood Control Master Plan
Clark County Regional Flood Control District April 1991
- 30 "Air Quality Implementation Plan" Las Vegas Valley Clark County,
Nevada update June 1982
- 31 "Final Environmental Impact Statement" Flood Control Master Plan
Clark County Regional Flood Control District April 1991
- 32 "Clark County Clean Air Action Plan" Clark County, Nevada January 1991

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1. Clark County Regional Flood Control District. **Final Impact Statement**, Clark County, 1991
2. Clark County Comprehensive Planning. **Air Quality Implementation Plan**, Clark County, 1982
3. Clark County Regional Flood Control District. **Final Impact Statement**, Clark County, 1991
4. Clark County Comprehensive Planning. **Clark County Clean Air Action Plan**, 1991

XI. Historic Preservation

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XI. HISTORIC PRESERVATION

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11.1 Background

11.1.1 Purpose of the Historic Preservation Element

The City of Las Vegas has buildings, sites and districts which have historic, archaeological, cultural and/or architectural significance. It is important for these resources to be preserved as a "living" part of the community, not just in text and photographs. The early character of Las Vegas is represented by a wide range of buildings and sites that should be preserved in order to appreciate the subsequent development of the City. These include not only buildings with a high cultural status (i.e., the courthouse, city hall, and prestigious homes), but also more common and functional buildings such as railroad cottages and commercial and industrial buildings. Las Vegas is now a world-class city with a unique character. Cities, however, tend over time to become less distinguishable from one another; distinctive historical buildings and sites, therefore, are a positive element of urban form. They perpetuate the character and ambience for both residents and visitors thus promoting and maintaining our economy.

An additional economic rationale for historic preservation includes the benefits of rehabilitating and reusing older buildings, since the existing investment in the structure and servicing of a building reduces material and labor costs; special tax incentives may also be available. Preservation not only has intrinsic value but can also stabilize and improve the value of adjacent buildings and promote neighborhood enhancement.

The purpose of this element is to provide a brief history of Las Vegas, including historic and cultural resources and to describe the historic preservation process. Issues will be developed from this background information leading to formulation of a goal, objectives, policies and programs to preserve the historic and cultural resources of the Las Vegas area.

11.1.2 A Brief History of Las Vegas

Prehistoric Las Vegas

People probably reached the Las Vegas Valley from 8,000 to 11,000 years ago, judging from discoveries made in the vicinity of Tule Springs. This was the last part of the Pleistocene Age, and Ice Age fauna, including Columbia mammoth, Pleistocene horse and Pleistocene camel, were present in the valley, along with many small mammals. With the closing of the Pleistocene Age, such large game vanished from the valley. The course of cultural change through thousands of years was marked by styles of weapons (dart points), and developments in the technology of harvesting and processing seeds, one part of a broad-spectrum subsistence that sustained the native inhabitants. Pine nuts, harvested in the mountains, agave, and mesquite beans were other important parts of a diet that also included meat from lizards, desert tortoises, birds, mountain sheep and deer. Anasazi populations resided in the Moapa Valley from about A.D. 1 to A.D. 1150, living a more sedentary life, raising crops and making pottery. They established short-lived settlements in the Las Vegas Valley in places like Big Springs and Corn Creek, and maintained relationships with their more mobile hunter-gatherer neighbors, who may have included the ancestral Paiute. Pottery produced by

Mojave people of the Lower Colorado is also found in the Las Vegas Valley. However, it is not known whether they resided here or came to trade. When explorers reached the area, it was inhabited by Paiute people who raised some of their food in gardens and made a distinctive brown pottery. The Paiute played important roles at the early ranches of the area, and today maintain a base in the City, the Las Vegas Paiute Colony, on land provided to them by Helen Stewart.¹

Historic Las Vegas

The first successful crossing of the Southern Nevada desert was done by American fur trapper Jedediah Smith in 1826. Smith's trek along the Virgin and Colorado rivers linked the earlier Spanish explorers routes, and helped to open up trade between New Mexico and California. The Las Vegas Valley became a stopover or resting place along the Old Spanish Trail/Mormon Road in the 1830's. Travel through the Valley continued along the Mormon Road using Big Springs (Las Vegas Springs) as a watering and camping site along the route between Salt Lake City and southern California. Today, portions of the Old Spanish Trail/Mormon Road have been recorded as being significant archaeological sites in the Las Vegas Valley.

On June 14, 1855, a group of Mormon missionaries arrived in Big Springs to establish a settlement. They constructed an adobe brick fort which was never completed because the mission was terminated in 1857. Silver was discovered in southwest Las Vegas Valley in 1861 which led to the opening of many other mines in the area. During this same period, ranching and farming became popular in the Big Springs area. Ranching operations in what was to become Las Vegas continued until 1902, when the 1,800 acre Stewart ranch was sold to the San Pedro, Los Angeles and Salt Lake City Railroad Company.

A subsidiary of the Railroad Company known as the Las Vegas Land and Water Company held a public auction on May 15, 1905 offering undeveloped lots for sale. These lots consisted of land between Stewart, Garces, Main, and Fifth streets, and were known as *Clark's Las Vegas Townsite*. The 1,200 buyers literally occupied the townsite overnight. Subsequently, the railroad company began building permanent structures which included Hanson Hall (storehouse), the Company Agent's House (later the yardmaster's building), and the power house (later the diesel shop). In addition, the Ice Plant was completed in 1907 by the Las Vegas Ice Manufacturing Company. Between 1909 and 1913, the railroad company constructed 64 cottages as "workmen's housing". Hence, the "Railroad Company Town" was born.

Early Las Vegas grew in a similar manner to other American cities of the same period. Fremont Street became the "Main Street" or the Central Business District and was considered to be the center of town with its commercial facades and uniquely styled buildings. An example of this type of building is the Victory Hotel (formerly the Lincoln Hotel) constructed in 1910. This central part of town became the focus of community life with shopping, businesses and entertainment. The work district was located mostly along the railroad tracks while the rest of the City consisted of quiet residential streets.

In the 1920's, the railroad shops were closed and the local economy suffered, but the physical form of the City stayed virtually unchanged until the late 1930's, when the Boulder Dam construction began. This brought about a boom in development that occurred to the east of the original townsite. In 1931, gambling was legalized, and resorts and hotels began to open up on Fremont Street. At this time the "Company Town" was evolving into a sprawling city with the opening of Basic

Magnesium Incorporated in the Basic Townsite (Henderson) and the simultaneous opening of the Las Vegas Army Gunnery School, (Nellis Air Force Base) approximately a decade later. This widespread growth brought about new development on a north-south grid pattern, which was at an oblique angle to the original townsite.

The 1930's was a particularly fertile period in Las Vegas architecture. Spanish and Mission Revival, then popular styles in the West and Southwest, were represented in Las Vegas in the late 1920's and 1930's by such relatively large scale buildings as the El Portal Theater (1928), the Las Vegas Hospital (1931), and the Fifth Street School Complex (1936) [now the Clark County Courthouse Annex], as well as by numerous residences, including the Whitehead, Henderson, and Smith homes.

Another style, Tudor Revival, also became very significant in the 1930's. Anchored by the LDS Church at Ninth and Clark, the area surrounding the Las Vegas High School contains most of Las Vegas' excellent examples from the period when this architectural style was at its peak. The Las Vegas High School is extremely important as a beautiful example of Art Deco architecture and Las Vegas' only large scale building of this kind.

Other exceptional buildings constructed during this period consist of the Westside School (1922) and the Federal Building/Post Office (1933).

In the 1940's and 1950's the Central Business District area (Downtown) was no longer considered to be the sole focus of community life. Residents became more dependent upon the automobile and commercially oriented land uses, such as the Clark Inn Motel (ca. 1940) on East Fremont Street, began to spring up along major thoroughfares. At this same time, large colorful "super graphic" signage began

to show up in the downtown area as advertisements, completely covering the existing buildings. This era is considered to be the highlight of Las Vegas' architecture, with the Horseshoe hotel/casino being one of the survivors. The El Cortez Hotel (1941) is the last of the early "big" hotels to survive in nearly intact condition. In the late 1940's "The Strip" began to develop, mainly because at that time it was the main highway to Los Angeles and the road between the airport and downtown. The popularity of gaming, the dependency upon the automobile, and the limited Downtown space for parking resulted in casinos locating along "The Strip".

The 1960's and 1970's brought more residential development throughout the City. A leapfrog pattern of development left large areas of vacant land. This was a result of the improved network of roads and has led to the diffusion of housing, employment and services. Present day Downtown Las Vegas has a different appearance than 40 years ago. The function of the downtown area (Fremont Street) has shifted from commercial uses to tourism. Residential areas were eliminated in order to meet the parking demands for the ever present automobile. Rising property values, changing zoning regulations, and the Downtown area's effort to compete with the growth of the City has led to the demise of many original historic structures along with the overall character of the area, however, a few buildings and sites of historic significance still remain Downtown.

The previous brief narrative of Las Vegas history mentions many buildings and sites that were and continue to be an important part of the City's historic fabric. These historic resources are now described in more detail and are shown on Map 1 entitled "Historic Buildings, Sites and Districts".²

11.1.3 Significant Buildings, Sites and Districts

Buildings and Sites

Federal Building/Post Office
[Map Item 1]]
301 East Stewart Avenue
1933

This is an exceptional example of Classical Revival architecture that was built during the Hoover administration as a work project. This building was listed in the NRHP on February 20, 1983. The exterior of the building is in excellent condition; park space around the building has been converted to parking.

Fifth Street School (Clark County Courthouse Annex)
[Map Item 2]]
400 South Fourth Street
1936

In 1963, this exceptional example of Mission Revival architecture was converted from a school complex into the Clark County Courthouse Annex. This building was listed in the NRHP on May 20, 1988. No original interior spaces appear to remain after remodeling.

Jay Dayton Smith House
[Map Item 3]]
624 South Sixth Street
ca. 1932

This Mission Revival residence was built as a showplace by Dr. J.D. Smith, a civic leader and dentist. This building was listed in the NRHP on February 20, 1987. The home has been restored by the Smith family and is used as professional offices.

Las Vegas High School
[Map Item 4]]
315 South Seventh Street
1930

This building is an exceptional example of Pueblo Modern architecture. This building was listed in the NRHP on September 24, 1986.

Las Vegas Mormon Fort
[Map Item 5]]
Las Vegas Boulevard North
1855

This adobe building is a small remnant of the original fort complex contained in a 150 foot square stockade. This site is indicative of the pre-railroad period of Las Vegas history. This building was listed in the NRHP on February 1, 1972. The original building walls have been restored.

Westside School
[Map Item 6]]
300 West Washington Avenue.
1922

This Mission Revival style building was the first school to be erected in the Old Town, the original townsite on the west side of the railroad tracks. This building was listed in the NRHP on April 2, 1979. This building has been restored with federal funds and now serves as a community center.

Big Springs Site
[Map Item 7]]
South of Oran K. Gragson Highway,
North of Alta, East of Valley View

The four spring mounds have influenced human occupation in the Las Vegas Valley for 6,000 years. In 1905, the Las Vegas Land and Water Company developed the water system which supplied the City of Las Vegas until the 1950's when water was made available from Lake Mead.

This site was listed in the National Register of Historic Places (NRHP) on December 14, 1978 as an archaeological site. The site and structures are in poor condition.

Kiel (Kyle) Ranch Site

[Map Item 8]]

Carey Avenue and Losee Road (North Las Vegas)
ca 1882

After 1882, this ranch was operated independently when it was split off from the Stewart holdings. A small adobe outbuilding dates from this early ranching period. In 1905, John S. Park purchased the property and constructed the main building known as the "White House". The area then became a guest ranch whose facilities dot the property. This site was listed in the NRHP on October 6, 1975. All buildings, except the "White House" are in poor condition.

San Pedro, Los Angeles, and Salt Lake Railroad (Union Pacific) Site [Map Item 9]]

East of Interstate 15, West of Main, North of Charleston Boulevard

The railyard was established in 1905. The listed buildings were constructed as indicated and reflect the City's early railroad period.

Ice Plant	1907
Hanson Hall	1910
Yardmaster's Building/	1911
Company Agent's House	
Diesel Shop/	1915
Power House	

Hanson Hall and the Ice Plant have been declared eligible for the NRHP. All structures listed have been demolished.

Tule Springs [Map Item 10]]

9200 Tule Springs Road
Prehistoric

This site has supplied evidence of the earliest occupation of the Las Vegas Valley. The site was listed in the NRHP as an archaeological site on April 20, 1979.

Districts

Las Vegas High School

[Map Item 11]]

(Generally bounded by Clark, Tenth, Gass and Las Vegas)

This 1930 district, in addition to the Las Vegas High School building, contains excellent examples of residences having Period Revival architecture. The largest portion of this area was listed in the NRHP as a historic district January 30, 1991.

Railroad Employee Cottages

[Map Item 12]]

500 - 600 Block of South Third Street, South Fourth Street, South Casino Center Boulevard.

ca 1910 - 1912

The railroad built 64 bungalow-style cottages to house its workers in what could be considered an early housing project. They were constructed in three different styles of concrete block with hipped roofs which were innovative for this area and reflect the early railroad period. This area and associated property was listed in the NRHP as a historic district on December 22, 1987.

Tule Springs Ranch (Area of Floyd Lamb State Park)

[Map Item 13]]

9200 Tule Springs Road

It is suggested that this area entered the NRHP on September 23, 1981 in order to protect existing and possible future prehistoric finds at Tule Springs.

11.1.4 The Historic Preservation Process

Las Vegas is growing; new buildings seem to rise out of the desert overnight. Buildings, young by historical standards, are torn down to make room for this new growth. Las Vegas is maturing and it needs to look backward and

retain significant views of its youthful heritage. These views can be obtained by recognizing buildings, sites and districts that are significant to the City's history and culture, and by initiating the preservation process. This process can be considered in three parts: education, effectuation, and preservation.

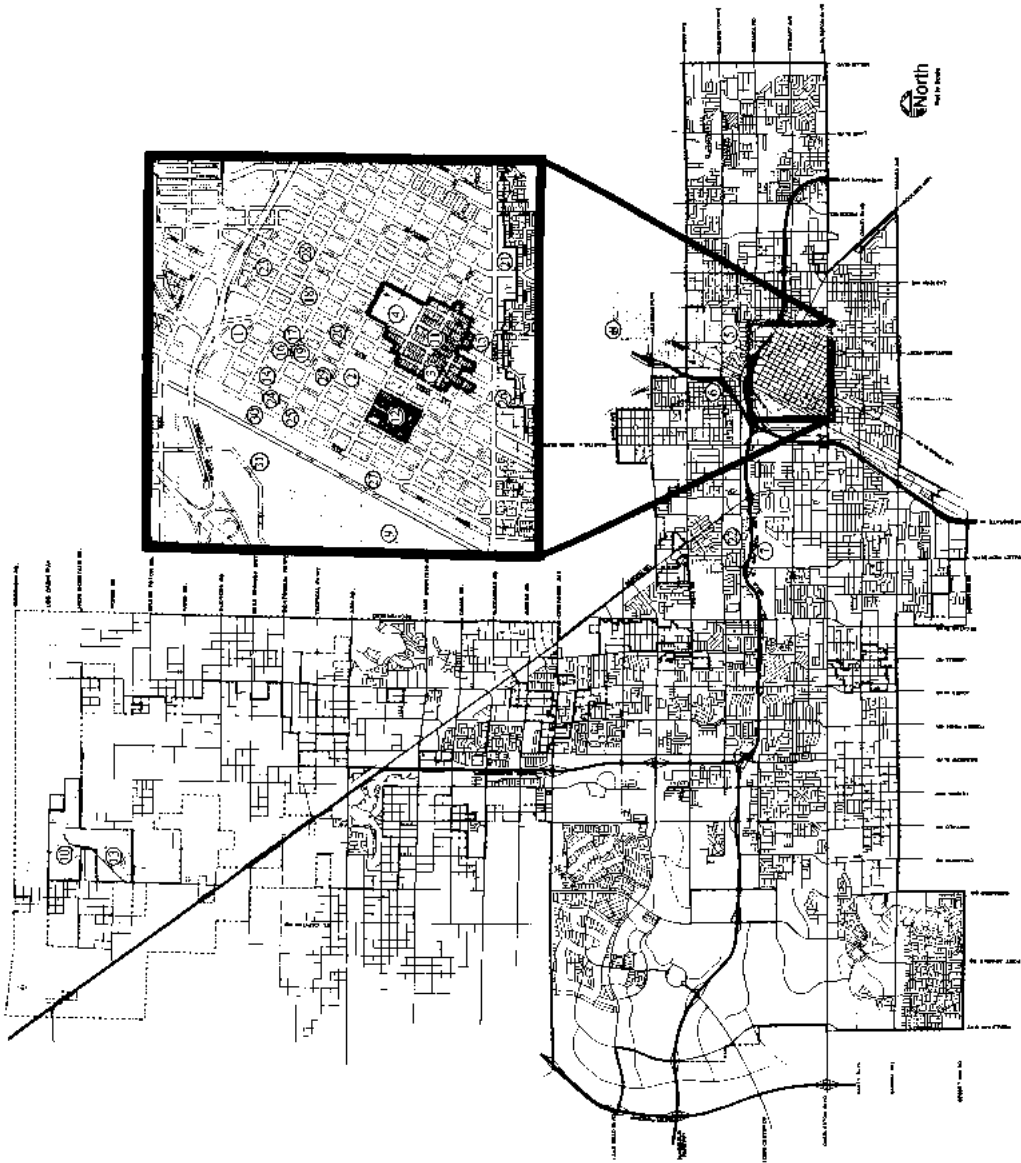
- Education, as the name implies, instills recognition of the elements in the historical heritage and the desire to participate in their preservation.
- Effectuation, adoption and implementation of governmental statutes and ordinances which permit and encourage the retention of historic resources.
- Preservation, actions taken by the public and private sectors to encourage the maintenance and reuse of these historic resources.

Recognizing Significant Historic Resources

The National Register of Historic Places under the U.S. Department of the Interior, is the nation's official list of cultural resources worthy of preservation. The standard of significance can be judged on the basis of the National Register criteria as follows:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association, and:

- a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- b) that are associated with the lives of persons significant in our past; or



Map 1

Historic Buildings, Sites and Districts

Legend

- I Buildings, Sites and Districts in the National Register of Historic Places**
- 1) Pahrump Valley (1975)
 - 2) Pahrump Valley (1975)
 - 3) Pahrump Valley (1975)
 - 4) Pahrump Valley (1975)
 - 5) Pahrump Valley (1975)
 - 6) Pahrump Valley (1975)
 - 7) Pahrump Valley (1975)
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 - 20) Pahrump Valley (1975)
 - 21) Pahrump Valley (1975)
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c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d) that have yielded, or may be likely to yield, information important in prehistory or history.

Assessing whether individual resources meet these criteria generally requires detailed field investigations and analytic procedures. Prior to such investigations, all resources must be considered potentially significant, unless there is evidence that meeting at least one of the criteria is unlikely. The National Register criteria established under the National Historic Preservation Act of 1966, as amended, provides a threshold of significance. Beyond this threshold, it is usually possible from existing data to assess the general level of resource sensitivity. Sensitivity takes into account resource quantity, resource quality, and the susceptibility of the resource to adverse impacts.

Education

In tandem with determining significant historic resources is making the public aware of their importance. Several sources are available for educating the public as to Las Vegas' historic heritage.

Historic Awareness Programs

The public is being made aware of cultural/historic resources in the Las Vegas area through lectures, film and dance programs, and by tours and workshops conducted by local museums and associations concerned with historic preservation. An example is the popular fund-raiser "An Old Fashion Christmas", proceeds from which benefit the historic P.J. Goumond

House at the Clark County Heritage Museum. The public can also participate in historic preservation awareness by joining groups such as the Volunteer and Docent Council and the Museum Guild which are connected with local museums.³

Museums

There are several museums in the Las Vegas area that have exhibits on history, prehistory, Natural History (animals), and anthropology (development and culture of man).

The Barrick Museum of Natural History (4505 South Maryland Parkway) is on the University of Nevada, Las Vegas campus. It specializes in the archaeology (study of artifacts of ancient man) and anthropology of the prehistoric and historic southwest, in addition to featuring live desert life forms. Professional staff consists of a director and three curators with the museum being funded by the State of Nevada through the UNLV budget. It is estimated that as many as 50,000 visitors see the museum each year. There are currently 15,000 square feet of exhibit space with an additional 40,000 square feet to be added in late 1991 consisting of offices and meeting rooms, laboratory space, and a 160 person auditorium.⁴

The Clark County Heritage Museum (1830 S. Boulder Highway), located on a 25-acre site, specializes in local and area history with exhibits depicting human habitations. Exhibits consist of historic structures, railroad rolling stock, a ghost town of the 1880's, and other memorabilia. The Museum is operated by a director and staff employed by the Cultural Division of the Clark County Department of Parks and Recreation; operating costs are funded by the Clark County General Fund. In 1990, there were 41,000 visitors which included private schools and Greyline Tours. In February 1990, the Museum opened its new 8,000

square foot exhibit center financed by private funds and a bond issue. In addition to the center, there are also about 20,000 square feet of exhibit space in the historic structures.⁵

The Las Vegas Natural History museum (900 Las Vegas Boulevard, North) is the largest natural history museum in Nevada. Its exhibits consist of prehistoric and historic animals, including a taxidermy collection of over 2,000 birds, fish, and mammals. An art gallery specializes in wood-carvings and wildlife paintings. This is a private non-profit museum with funding consisting of private donations and gate admissions. A proposed future addition to the museum is to consist of a pavilion with animated full sized dinosaurs.⁶

A Neon Sign Museum, sponsored by the Allied Arts Council, is anticipated to be located on City land near the Mormon Fort. The museum will display functioning historic neon signs generally related to the casino history in the Las Vegas area. At this time, 25 signs have been acquired and are undergoing renovation. Funds for this effort have been received as private donations and as a grant from the Nevada 125th Anniversary Commission. When sign renovation is completed, the Arts Council will consider fund-raising for a museum structure.⁷

The Nevada State Museum and Historical Society (700 Twin Lakes Drive [Lorenzi Park]) displays and interprets the history, anthropology, and Natural History of the State of Nevada and the "Southwest", with emphasis on Southern Nevada. As an agency of the State of Nevada, the professional staff, consisting of a director, two curators, and a director of exhibits, have their salaries paid by the State; however, private funding from donations and membership fees is used to provide for exhibits and programs. Visitations average about 60,000 persons a year, including public school tours. The

museum contains 35,000 square feet with three permanent and three temporary galleries plus an auditorium and a research library. Exhibits include the history of ranching and mining, industry and the railroad as well as gaming. Natural History contains examples of birds, mammals, insects, minerals, and Native American artifacts.⁸

Historical Collections

Although they are not utilized as frequently by the public as museums, historical collections contain much of the background and research data necessary to bring life to historical exhibits.

The James Dickinson Library (UNLV) Special Collections receives financial support from the State of Nevada for its continued development of special collections as well as receiving private donations. Special Collections currently contains over 18,000 books and 2,400 linear feet of manuscripts in a temperature and humidity controlled environment. These separate collections consist of Southern Nevada History (Beckley - Nevada), Gaming Resources, maps (over 1,000 items), menus from the Bohn-Bettoni Collection, and archives and manuscripts which reflect the history of the University.⁹

The Cahlan Library (Nevada State Museum - Las Vegas) contains a historical collection of books, maps, manuscripts, newspaper indexes, and photographs relating to Nevada and Las Vegas. The Natural History Collection contains examples of Nevada birds, mammals, and insects, including a fine collection of butterflies.¹⁰

Historic Preservation Organizations

The Nevada State Museum and Historical Society (Southern Nevada) was founded in 1982 to help promote State Museum activities consisting of education and historic interpretations. Membership is currently 400 persons

and is open to the public. The Society conducts surveys documenting the present condition of historic buildings and prepares documentation for applications for nomination to the National Register of Historic Places. The Society also raises money for historical programs and exhibits.¹¹

The Preservation Association of Clark County (PACC) was incorporated in 1974 as a non-profit organization with the purpose of preserving the Las Vegas Mormon Fort and opening it to the public. In 1978, PACC broadened its scope to preserve other historic resources in Clark County and now works to educate the public on the importance of preserving historic resources. PACC publishes a newsletter five times a year as well as a brochure entitled, *A Guide to Historic Las Vegas*. Additionally, PACC sponsors programs and tours, provides speakers, and works to preserve endangered historic resources. PACC is an all volunteer group, using dues, donations and grants to pay for its educational programs.¹²

Clark County School District Programs

The Clark County School District does not have any specific courses dealing with the history of Las Vegas. However, visits to local museums are encouraged, particularly at the fourth grade level.¹³

Effectuation

A major step in the historic preservation process is the encouragement offered to the public by federal, state, and local governments to undertake the protection and conservation of our nation's historic resources. To this end, each level of government has initiated, through statutes and ordinances, certain incentives which are designed to further promote the public's participation in the preservation process.

On the Federal level, several laws have been enacted since 1906 which address the preservation of our cultural resources. Foremost among these laws is the *National Historic Preservation Act of 1966, as amended*.

The National Historic Preservation Act of 1966, as amended.

This Act provides for the expansion of the National Register of Historic Places to include districts, sites, buildings, structures, and objects significant in American history, architecture, archeology and culture. It establishes the administrative and legal context for the local historic preservation commission to participate in the national historic preservation program. The Act is designed to encourage the preservation and the wise use of our cultural resources.

The Act includes the creation of: *National Policy*, which establishes the policy of the United States Government regarding historic preservation to promote conditions in which historic properties can be preserved; the *National Register* which gives power to the Department of Interior to establish, maintain and expand the National Register of Historic Places; *State Historic Preservation Offices and State Historic Preservation Officers (SHPO)* which establish the administration of the national historic preservation program at the state level and designate the responsibility of developing a statewide plan for preservation, surveying, and nominating properties to the National Register, providing technical support to federal, state and, local agencies and the public, review of federal undertakings that affect historic properties, and helping local governments become certified to participate in the program; *Grants-in-aid* programs which are matching grants-in-aid administered by the SHPO and the National Park Service; the *Certified Local Governments* program which allow for the certification of local gov-

emments whose historic preservation programs meet specific standards further allowing the local government access to special grants-in-aid and technical assistance from the SHPO to assist with preservation activities; and the *Advisory Council on Historic Preservation* which creates an independent federal agency responsible for advising the President and Congress on Historic Preservation matters.

On the State level, the Nevada Revised Statutes (NRS) include a section pertaining to Historic Districts. In addition, the State Historic Preservation Office, through federal and state legislation, is empowered to initiate certain historic preservation efforts.

NRS 384.005

The General Provisions of NRS 384.005 (Establishment of historic districts by a city or a county) include the following:

1. Any county or city may establish a historic district for the purpose of promoting the educational, cultural, economic and general welfare of the public through the preservation, maintenance and protection of structures, sites and areas of historic interest and scenic beauty.
2. If the historic district is established, the board or governing body may adopt any ordinances it determines are in the best interest of the historic district in accordance with the criteria delineated above. An ordinance establishing a historic district must: (a) Contain criteria which substantially achieve the preservation and rehabilitation of buildings of historic significance to the district; and (b) Provide for a designated review board with the power to review proposed alterations to structures within the district.

The State Historic Preservation Office

The State Historic Preservation Office (SHPO) can provide many important services to local governments and historic preservation commissions. These include but are not limited to: conducting comprehensive statewide historic preservation planning; conducting a statewide survey to identify historic properties; nominating properties to the National Register of Historic Places; administering the federal historic preservation grants-in-aid programs within the state, assisting local governments in developing historic preservation programs; advising and assisting in federal, state and local historic preservation projects; participating in the review of federal, state and local undertakings that may affect historic properties; and, providing public information, education, training, and technical assistance in historic preservation.

The SHPO is also responsible for carrying out certain duties under state law to advance the interests of Historic Preservation which include: conducting preservation conferences and workshops; distributing state grants and loans for preservation; maintaining and interpreting state owned historic properties; conducting programs to acquire and administer historic preservation easements; administering state legislation to protect historic properties from non-federal construction and land use projects; administering state legislation relating to archaeological resources, shipwrecks and other special kinds of historic properties; publish newsletters, scholarly publications, and popular books and brochures; administer state history museums and conservation laboratories; develop and support state and local preservation statutes; assist state and local education authorities to use preservation in primary and secondary curricula; and, to provide technical assistance to owners of historic properties.

On the Local level, the Las Vegas City Council adopted an ordinance on February 20, 1991 which established the City of Las Vegas Historic Preservation Commission. The purpose of the Historic Preservation Commission includes, but is not limited to: Safeguarding and preserving the historical heritage of Las Vegas; fostering civic beauty; stabilizing and improving neighborhoods; and strengthening the local economy by promoting tourist interest in historic properties.

The duties of the Historic Preservation Commission include: recommending sites, buildings and districts for historic preservation designation; promoting and supporting nominations to the National Register of Historic Places, the National Historic Landmarks Program, and other federal, state or local programs; reviewing demolition permits within a designated historic district; reviewing construction or reconstruction permits within a designated historic district; preparing a detailed survey of all sites of historic or archaeological significance; recommending changes to the Zoning Ordinance and building codes to enhance the historic preservation process; establishing public information and education programs on historic preservation; recommending the purchase of essential improvements where private preservation is not feasible; working with local preservation groups to locate historic markers and plaques; advising and assisting other agencies, institutions, public interest and private groups regarding historic preservation; and advising on the adoption of design guidelines for improvements to structures located within designated historic districts.

Preservation

In a city as unique and young as Las Vegas, the idea of historic preservation is sometimes not given much credence. As such, it is oftentimes incumbent upon government to take an active role

in ensuring that all of our historic and cultural resources are not lost.

City of Las Vegas Historic Preservation Commission

The City of Las Vegas Historic Preservation Commission (HPC) is currently in the process of recommending to the City Council the establishment of Las Vegas' first historic districts. Once approved by the City Council, historic structures in these districts will be protected from demolition for a period of sixty days. It is anticipated that if the need for such a delay in demolition should ever occur, the HPC will have an opportunity to work with the affected property owners to develop equitable alternatives to demolishing the historic property. Such alternatives may include the utilization of some of the federal tax incentives that exist. Additionally, since several members of the HPC are affiliated with other local non-profit preservation organizations, private participation in the process is inherent in the HPC's efforts.

Tax Reform Act of 1986 - Tax Incentives for Historic Preservation.

Local governments can enhance and protect their historic environment with use of Tax Incentives for the preservation and rehabilitation of historic properties. Federal tax incentives for preservation activities include the Historic Rehabilitation Credit program and the Charitable Contribution Deduction program.

The *Historic Rehabilitation Credit* program was a product of the Tax Reform Act of 1986. This program allows owners and some lessees of historic buildings to take a 20% income tax credit on the cost of rehabilitating building for industrial, commercial, or rental residential purposes. The rehabilitated building must be a certified historic structure that is subject to depreciation, and the rehabilitation project must meet the standards established by

the National Park Service. (A certified historic structure is any structure listed on the National Register of Historic Places or a structure certified by the National Park Service included within a registered historic district).

The *Charitable Contribution Deduction* program allows the taxpayer to deduct from his federal income tax the value of historically important properties that are donated to governments and other appropriate recipients for historical preservation purposes. The historical properties included are: archaeological sites, rural historic districts and other land areas on or eligible for the National Register. The historic property does not have to be depreciable in order for the charitable contribution to be used.

11.2 Issues

Issue 1: Informing and involving the public in historic preservation.

Las Vegas does have a significant history. Important strides have already been made in the process of collecting prehistoric artifacts and historical data and memorabilia which now reside in four local museums (a Neon Sign Museum is anticipated). There are two historical collections; and, two historical associations have been formed which are actively trying to protect and preserve the heritage of the area.

Las Vegas is a young city by historical standards and is growing rapidly. These factors are making the preservation of historic structures difficult. A large portion of our recent citizens have no knowledge of our past history and do not relate to the preservation of "old" buildings that stand in the way of progress. Growth also demands immediate action with little time to reflect on the importance of retaining

historic buildings and sites; therefore, the preservation of the City's history, outside of museums, is a race against time. There must be sufficient recognition on the part of the members of the general population that there is a heritage to preserve, that they are part of it, and that they understand the importance of making monetary contributions to its preservation. The process of making our past as interesting as the present must start with education. When the citizens of Las Vegas recognize the importance of their past they can be motivated to preserve it.

Issue 2: Preservation and protection of historic structures and sites.

With the recent creation of the City of Las Vegas Historic Preservation Commission and the subsequent appointment of Commission members, the City of Las Vegas has taken a proactive role in the preservation of our City's historic and cultural resources. Given the relative youth of Las Vegas as a city, the fact that the Historic Preservation Commission (HPC) is now in place will facilitate the planning efforts required to promote the conservation of structures and sites which have and will have historic significance in the near future. One of the primary responsibilities of the HPC is the development, coordination, and implementation of programs for the preservation of buildings, structures, places, sites and districts of historic and archaeological significance. As such, the HPC has the wherewithal to recommend to the City Council certain improvements and sites in the City for designation as landmarks or historic sites as well as recommend certain areas in the City for designation as historic districts. This is demonstrated by the anticipated recommendation to the Las Vegas City Council of the establishment of the first two of several local historic districts.

Issue 3: Rehabilitation and reuse of historic resources.

The establishment of the City of Las Vegas Historic Preservation Commission (HPC) will facilitate the promotion and support of nominations of improvements and sites eligible for listing on the National Register of Historic Places, the National Historic Landmark's Programs, the Historic American Buildings Survey, the Statewide Comprehensive Survey and Inventory and other federal, state or local programs for the identification of historic resources. Once properties are listed on the aforementioned, they become eligible for federal as well as state rehabilitation and preservation funds. Additionally, private non-profit preservation organizations consistently take a strong interest in the preservation of historic resources and oftentimes work with property owners to enlighten the public as to the existence of such historic resources.

The '2000' document contained "Actions" specified to be accomplished ("...the process is not over. We must put these plans into action.") These actions are incorporated into the Plan update so that the process of citizen involvement and institutional response will continue.

The Action relating to Historic Preservation is:

Adopt a Historic Preservation ordinance.

11.3 Goal, Objectives, Policies and Programs

The following hierarchy of the overall Goal, and supporting Objectives, Policies and Programs, reflects applicable "actions" of the "Las Vegas 2000 and Beyond" citizen's strategic planning program, and subsequent review by the General Plan Citizens Advisory Committee of the 1985 General Plan Goals, Objectives, Policies and Programs, revised to address current conditions and issues.

Goal: Promote the educational, cultural, economic, and general welfare of the public through the preservation, maintenance and protection of structures, sites and districts of significant historic, architectural, and archaeological interest within Las Vegas.

Objective A: Promote the preservation and maintenance of structures, sites and districts of historic interest within Las Vegas.

Policy A1: Develop and maintain an inventory of historic properties.

Program A1.1: Develop guidelines and criteria, in conjunction with the City of Las Vegas Historic Preservation Commission, to identify historic districts or sites.

Program A1.2: Develop a program for the nomination of eligible historic resources to the National Register of Historic Places.

Program A1.3: Develop and monitor a listing of significant cultural resources which illustrate the historic role and contributing character of population identities within the community.

Program A1.4: By 1992, identify and maintain an inventory of structures, sites and districts that are listed on or are potentially eligible for the National Register of Historic Places.

Program A1.5: Recommend to the City Council areas that should become historic districts or sites.

Policy A2: Develop a program to become a Certified Local Government.

Program A2.1: By 1993, update the existing City of Las Vegas Historic Preservation Ordinance that will meet the requirements to become a Certified Local Government.

Objective B: Encourage community participation in the preservation planning process to achieve public understanding and support of preservation concepts and the value of cultural resources to the community.

Policy B1: Develop public awareness programs to promote public interest.

Program B1.1: Establish school programs, the publication of historical findings, and walking tours to interpret the cultural history of Las Vegas and to promote the public interest in the cultural environment.

Program B1.2: Identify and make available to the public the primary documents and collections which record and illustrate the history and development of Las Vegas.

Program B1.3: Encourage the collection, conservation and interpretation of regional history, culture, archaeology, architecture and art through museums, libraries and other publicly accessible institutions.

Objective C: Promote and encourage the use of incentives for the purpose of rehabilitation and reuse of historic resources.

Policy C1: Investigate the use of federal and state incentives pertaining to Historic Preservation.

Program C1.1: By 1993, identify, develop and distribute information dealing with State Historic Preservation Incentives.

Program C1.2: Develop a program for the implementation of Federal Incentives such as the Historic Rehabilitation Credit program and the Charitable Contribution Deduction program.

Policy C2: Investigate and develop local alternative incentive programs for the express purpose of Historic Preservation.

Program C2.1: Coordinate the development of City guidelines which would encourage the adaptive reuse of vacant and/or abandoned buildings that may have historic significance in Las Vegas.

Program C2.2: Develop amendments to the City's Zoning Ordinance which would facilitate the adaptive reuse of historic buildings.

Objective D: Promote and encourage the stability of designated historic neighborhoods, sites and landmarks by preserving their historical and architectural integrity.

Policy D1: Identify and investigate successful design guidelines for historic preservation as developed by federal agencies such as the National Park Service and by other state and local agencies.

Program D1.1: Develop a comprehensive set of design guidelines for the construction of new buildings and improvements to already existing structures.

11.4 Evaluation and Implementation Matrix

The following Historic Preservation Evaluation and Implementation Matrix (EIM - see next page) was prepared as a measurable summary of the above Historic Preservation Policies and Programs. The EIM is to be used:

- as a method of measuring the implementation progress of the General Plan.
- as a budgeting document for specific Historic Preservation programs.
- as a tool for further developing work programs.

The following abbreviations apply to Evaluation and Implementation Matrix

City	
BS	Business Activities
CA	City Attorney
CM	City Manager
CP	Community Planning & Development
DD	Design and Development
ED	Economic & Urban Development
PL	Parks and Leisure Activities
UD	Urban Development

11.4 HISTORIC PRESERVATION: EVALUATION AND IMPLEMENTATION MATRIX

POLICY (PROGRAM)	SUMMARY	RESPONSIBLE DEPARTMENTS	FY OF IMPLEMENTATION	SPECIFIC ACTION/PRODUCT	REMARKS
A1.1	Develop guidelines and criteria to identify historic sites and districts.	CP ED	1992	Guidelines and criteria for identifying historic sites and districts.	Guidelines and criteria to be developed in conjunction with the City of Las Vegas Historic Preservation Commission.
A1.2	Develop a program to nominate historic resources to the National Register of Historic Places.	CP ED	1993	A program to nominate eligible historic resources to the National Register of Historic Places.	
A1.3	Develop and maintain a list of ethnic groups and their historic role in forming the community character.	CP	1993	A list of ethnic groups and their contribution to community character.	
A1.4	Identify and maintain an inventory of historic properties.	CP	1992	An inventory of structures sites and districts listed on or eligible for the National Register of Historic Places.	
A1.5	Recommend to City Council historic districts and sites.	CP ED	1993	A recommended list of historic districts and sites.	
A2.1	Update the Historic Preservation Chapter of the Las Vegas Municipal Code to provide for the City becoming a Certified Local Government.	CP CA CM	1994	Become a Certified Local Government.	

POLICY (PROGRAM)	SUMMARY	RESPONSIBLE DEPARTMENTS	FY OF IMPLEMENTATION	SPECIFIC ACTION/PRODUCT	REMARKS
B1.1	Establish programs to interpret Las Vegas cultural history and promote public interest and support.	CP	1993	Establish school programs on local history; publish historical information; create walking tours of historic districts.	Investigate developing a Las Vegas history course at the high school level.
B1.2	Promote the contents and locations of historical collections in Las Vegas and southern Nevada.	CP	1993	Publish information on collections of Las Vegas and southern Nevada history.	Some information exists as pamphlets, and fact sheets.
B1.3	Promote the culture of Las Vegas and southern Nevada through museums and libraries.	CP PL	1992	Provide for wide distribution of information on historical museums in the Las Vegas area.	
C1.1	Identify, develop and distribute information about State of Nevada Historic Preservation Incentives.	CP	1993	Distribute information about State Historic Preservation Incentives.	
C1.2	Develop a program to implement federal incentives pertaining to historic preservation.	CP ED	1992	A program to implement federal incentives including the Historic Rehabilitation Credit and the Charitable Contribution Deduction programs.	
C2.1	Provide City strategy for the adaptive reuse of historic vacant and/or abandoned buildings.	CP BS ED DD UD CM	1992	Report outlining strategy for the adaptive reuse of vacant and/or abandoned buildings that have historic significance.	Report may address relocation, rehabilitation costs, design criteria, and community use guidelines.

POLICY (PROGRAM)	SUMMARY	RESPONSIBLE DEPARTMENTS	FY OF IMPLEMENTATION	SPECIFIC ACTION/PRODUCT	REMARKS
C2.2	Develop City Zoning Ordinance amendments to facilitate adaptive reuse of historic buildings.	CP CA	1994	An amended City Zoning Ordinance which facilitates adaptive reuse of historic buildings as well as a Historic Building Code.	
D1.1	Develop comprehensive design guidelines for new construction or existing building improvements that will preserve the historical and architectural quality of designated neighborhoods, districts, sites and landmarks.	CP DD	1994	Guidelines for construction of new buildings or building improvements in designated preservation neighborhoods, districts, sites and landmarks.	

Endnotes

1. Dames and Moore, Section 12 Cultural Resources, Draft EIS, Flood Control Master Plan, Clark County Regional Flood Control District, Vol. 1, October, 1991.
2. Charles Hall Page and Associates, Inc., Historic Preservation Inventory and Planning Guidelines, City of Las Vegas, May 31, 1978.
3. Pat Marchese, Clark County Department of Parks and Recreation, telephone interview, September 6, 1991.
4. Dr. Donald Baepfer, Museum Administrator, University of Nevada, telephone interview, September 6, 1991.
5. Mark Ryzdyski, Museum Director, Clark County Heritage Museum, telephone interview and Fax of museum brochure, September 9, 1991.
6. Marian Orr, Curator, Las Vegas Natural History Museum, telephone interview and Fax of museum brochure, September 6, 1991.
7. Tom J. Schoelman, AIA, telephone interview, September 7, 1991.
8. Frank Wright, Curator of Education and Public Information, Nevada State Museum and Historical Society, telephone interview and Fax of museum fact sheet, September 9, 1991.
9. David Robrock, Librarian of Special Collections, James R. Dickenson Library, University of Las Vegas, Nevada, telephone interview and Fax of library brochure, September 10, 1991.
10. Frank Wright, Curator of Education and Public Information, Nevada State Museum and Historical Society, telephone interview and Fax of museum fact sheet, September 9, 1991.
11. Ibid.
12. Dorothy Wright, Cultural Advisor, Clark County Department of Parks and Recreation, telephone interview and Fax of Preservation Association fact sheet and newsletter, September 11, 1991.
13. Phyllis Darling, Curriculum and Instruction Officer, Clark County School District, telephone interview, September 11, 1991.

Las Vegas General Plan Land Use Element

Map 6

Southwest Sector

Proposed Future Land Use



Desert Rural Residential (< 2.18 SFUE/net ac.)

Rural Residential (< 3.96 SFUE/net ac.)

Low Density Residential (< 6.70 SFUE/net ac.)

Medium-Low Density Residential (< 9.0 SFUE/net ac.)

Medium Density Residential (< 13.27 SFUE/net ac.)

High Density Residential (< 16.58 SFUE/net ac.)

Service Commercial

General Commercial

Tourist Commercial

Parks/Schools/Recreation/Open Space

Public Facilities

* Gaming Facilities (See Map 11. Gaming Enterprise District)

* Single Family Unit Equivalent: See Land Use Element 2.1.5 and Table 3

Source: City of Las Vegas, Dept. of Community Planning & Development

RESIDENTIAL LAND USE CLASSIFICATION SCHEDULE

DWELLING TYPE	DR	R	L	ML	M	H
SFUE*	2.18	3.96	6.70	9.00	13.27	16.58

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ALTA DR.



RESIDENTIAL LAND USE CLASSIFICATION SCHEDULE

DWELLING TYPE	DR	R	L	ML	M	H
SFUE*	2.18	3.96	6.70	9.00	13.27	16.58
Single-Family Detached	2.18	3.96	6.70	9.00	13.27	16.58
Low Rise Apartment				13.57	20.00	25.00
Single Family Attached			12.09	16.23	23.53	29.91
High Rise Apartment					37.23	46.52
Mobile Home					7.14	7.14
Hotel per Room					20.67	25.77
Motel per Room					29.78	37.22
Congregate Care/Bed				43.08	43.08	43.08
*Single Family Unit Equivalent						



DURANGO DR.

FORT APACHE RD.

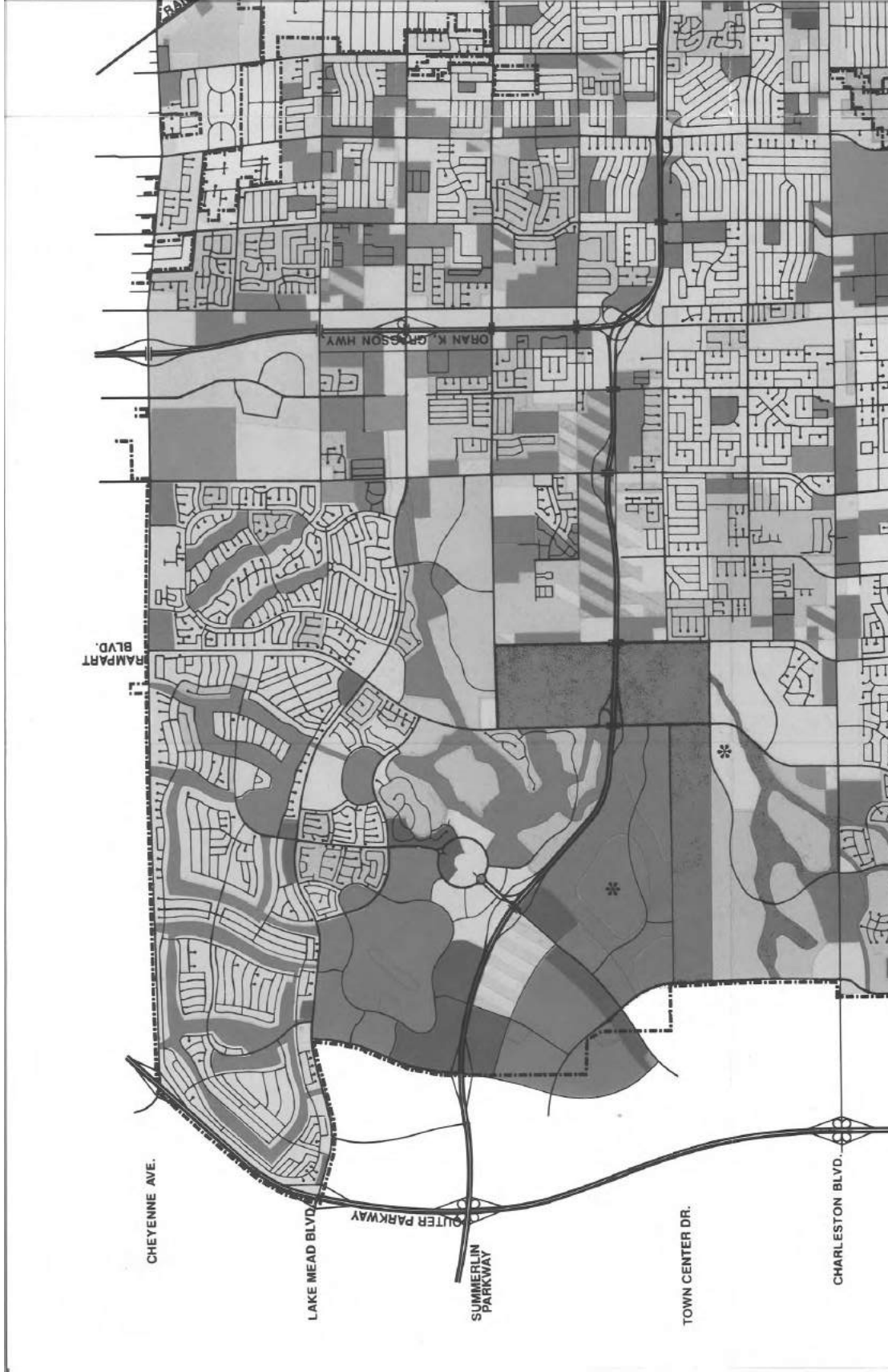
Adopted by the Planning Commission,
March 12, 1992

Sandra Hudgens
Chairman
Sandra Hudgens

Norman R. Standerfer
Secretary
Norman R. Standerfer,
Director, Dept. of Community Planning &
Development

CITY BOUNDARIES

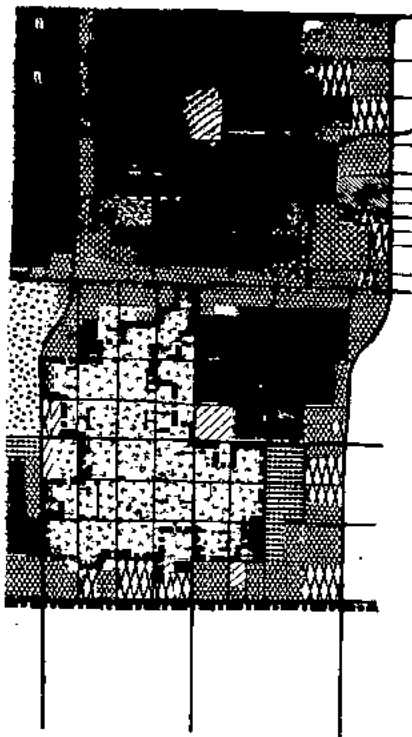
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3193



CLV053376
3194



CLV053377
3195



JONES BLVD.

LINDELL RD.

DECATUR BLVD.



300 3200 4800 6400 8000

Scale in Feet

CITY BOUNDARIES

ALTA DR.

Map 6

Southwest Sector

City of Las Vegas

Proposed Future Land Use Legend

LAND USE CATEGORIES			
General Plan to Zoning Districts Conversion Guide			
This table indicates General Plan Land Use Categories and their permitted Zoning District classifications.			
CODE	General Plan Land Use Categories	Zoning Districts*	Density: per acre**
DR (Desert Rural Density Residential)		R-A (Ranch Acres)	1
		RAU (Non-Urban)	2
		R-E (Residence Estates)	2
R (Rural Density Residential)		R-U (Single-Family Restricted)	3.5
		R-PD (Residential Planned Development maximum of 2" units per gross acre)	3.49
L (Low Density Residential)		R-1 (Single-Family Residence)	4.5
		R-MH (Mobile Home Residence)	4.5
		R-PD (Residential Planned Development maximum of 4" units per gross acre)	4.49
ML (Medium-Low Density Residential)		R-MHP (Residential-Mobile Home Park)	7
		R-CL (Single-Family Compact-Lot)	7.9
		R-2 (Two-Family Residence)	11
		R-PD (Residential Planned Development maximum of 11" units per gross acre)	11.49
M (Medium Density Residential)		R-3 (Limited Multiple Residence)	20
		R-PD (Residential Planned Development maximum of 20" units per gross acre)	20.49
H (High Density Residential)		R-4 (Apartment Residence)	40
		R-5 (Downtown Apartment)	83
		R-6 (High-Rise Apartment)	Flexible
		R-PD (Residential Planned Development)	Flexible
O (Office)		P-R (Professional Offices)	
SC (Service Commercial)		C-D (Designated Commercial)	
CC (General Commercial)		C-1 (Limited Commercial)	
		C-2 (General Commercial)	
TC (Tourist Commercial)		T-C (Tourist Commercial)	
LI/R (Light Industry/Research)		C-M (Commercial/Industrial)	
		G-PB (Planned Business Park)	
		I (Industrial)	
P (Public / Recreation)		C-V (Civic)	
S (School)		C-V (Civic)	
PF (Public Facilities)		C-V (Civic)	

RESIDENTIAL

COMMERCIAL

* Lower density residential zoning districts are permitted in higher density residential land use categories; less intense commercial classifications are permitted in more intense commercial districts.

** All R-PD density numerals are rounded to the nearest whole number. For instance a density ranging from 4.50 to 5.49 units per gross acre is rounded to 5, thus allowing an R-PD5 to be developed up to 5.49 units per gross acre.

*** The number identified in this category represents the estimated maximum number of dwelling units which could be developed on a parcel of land one gross acre in size, based upon the standards of the applicable zoning districts. This number varies slightly depending on the configuration of the parcel, the design of the subdivision or project, the topography, the required right-of-way dedications and other design factors.

★ Gaming Facility (See Map 11: Gaming Enterprise District)

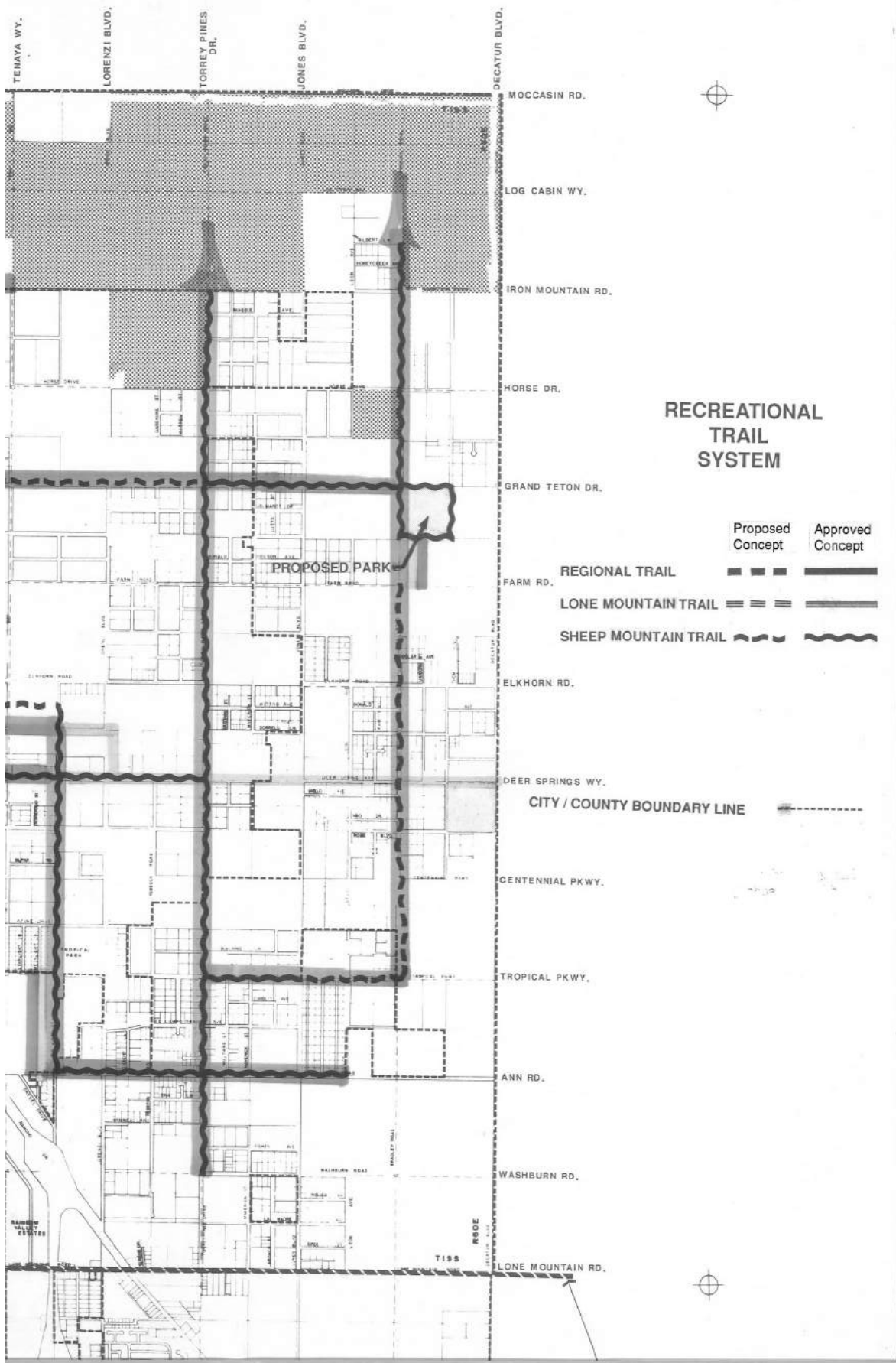
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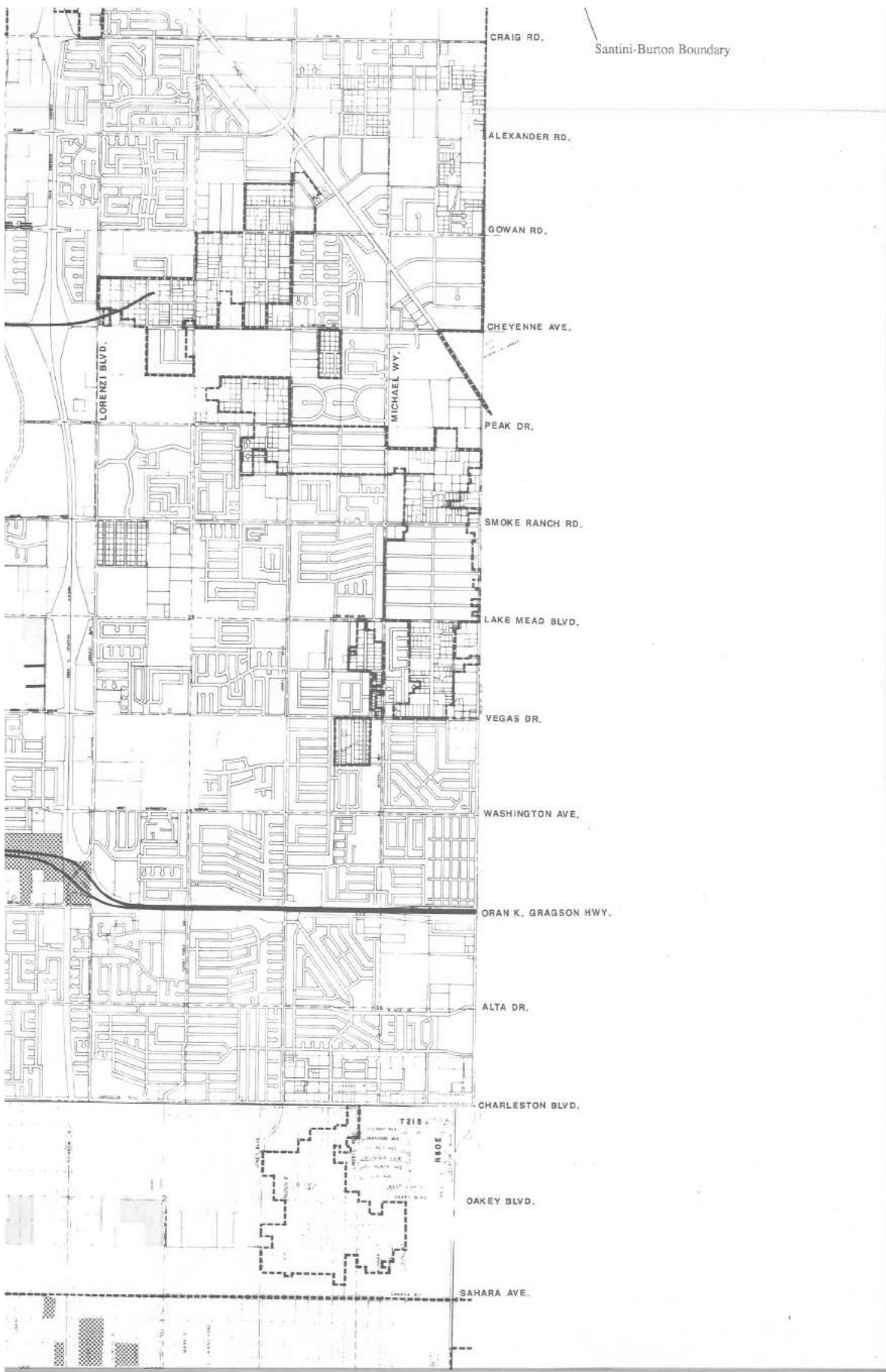
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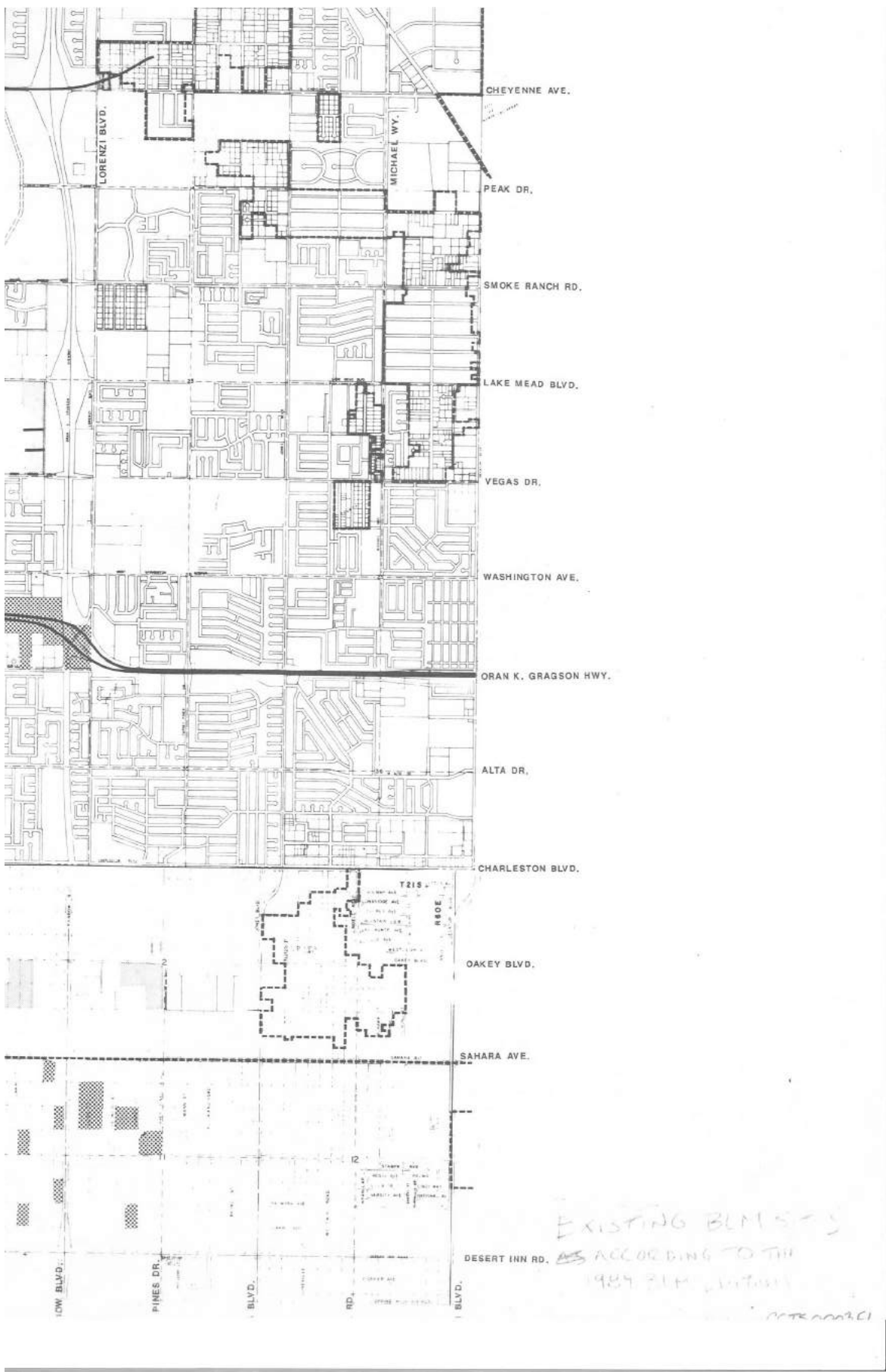
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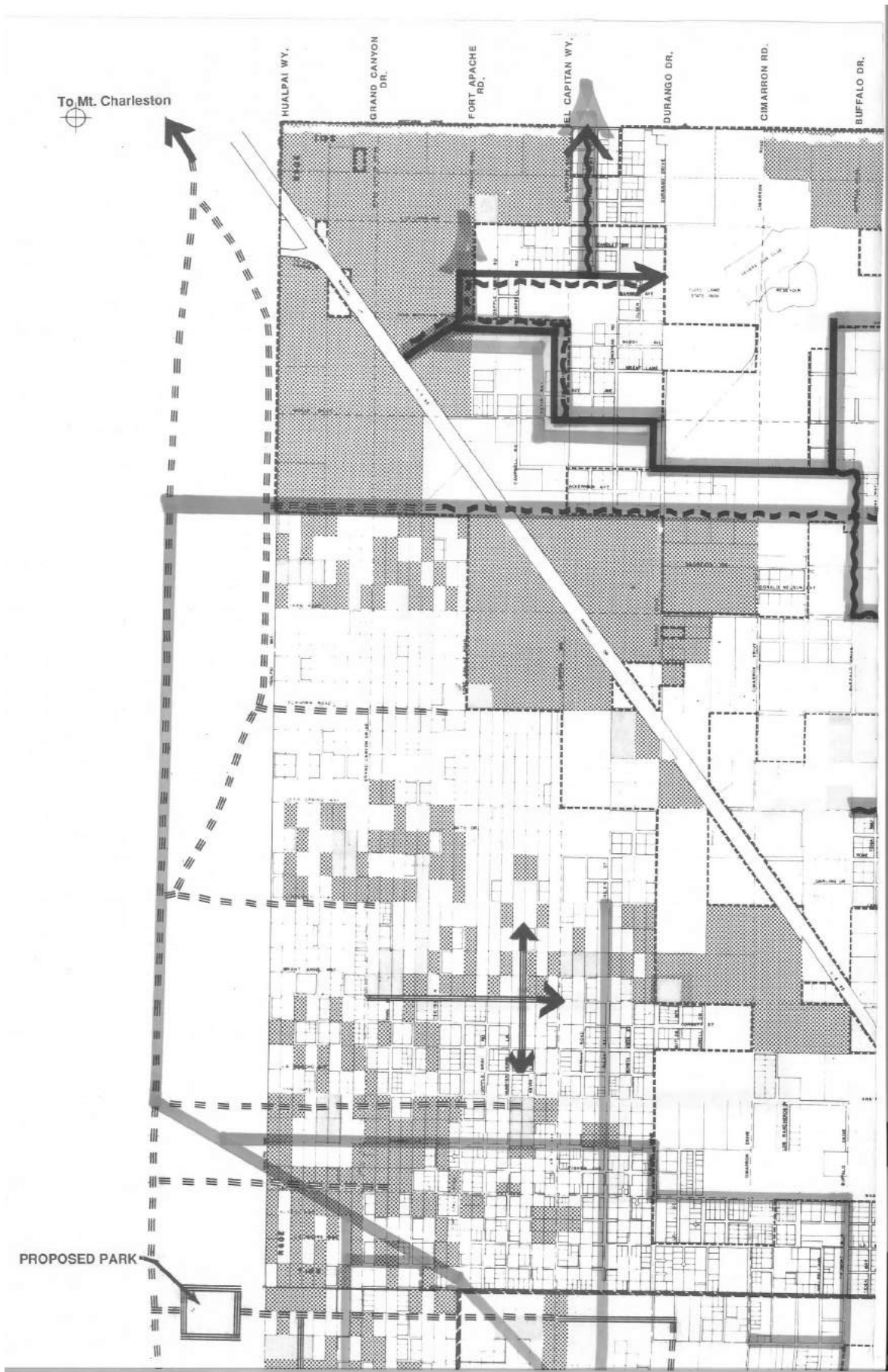
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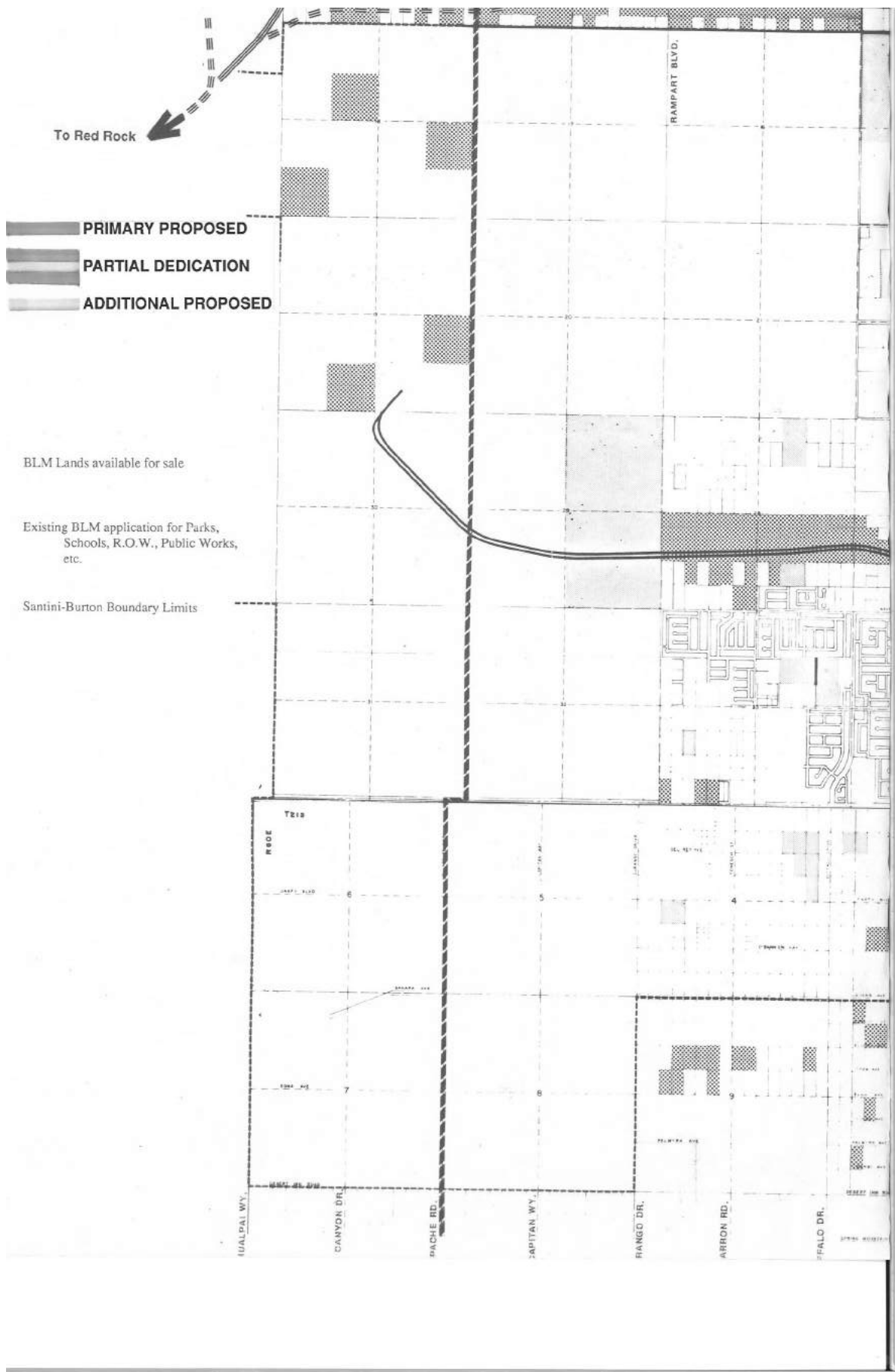
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FIRST AMENDMENT

BILL NO. 96-109

ORDINANCE NO. _____

AN ORDINANCE TO AMEND THE GENERAL PLAN OF THE CITY OF LAS VEGAS, NEVADA, AS ADOPTED BY ORDINANCE NO. 3636, TO ADOPT AS A PART THEREOF THAT CERTAIN DOCUMENT ENTITLED THE "NORTHWEST AREA GENERAL PLAN AMENDMENT TO THE CITY OF LAS VEGAS GENERAL PLAN"; PROVIDING THAT THE PROVISIONS OF SAID AMENDMENT REPLACE AND SUPERSEDE ANY AND ALL PROVISIONS OF THE GENERAL PLAN THAT ARE INCONSISTENT THEREWITH; PROVIDING FOR OTHER MATTERS PROPERLY RELATING THERETO; AND REPEALING ALL ORDINANCES AND PARTS OF ORDINANCES IN CONFLICT HEREWITH.

Sponsored by:
Councilman Matthew Callister

Summary: Adopts the Northwest Area General Plan Amendment as a part of the City's General Plan.

THE CITY COUNCIL OF THE CITY OF LAS VEGAS DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1: The General Plan of the City of Las Vegas, Nevada, as adopted by Ordinance No. 3636 and referred to in Section 19.02.020 of the Municipal Code of the City of Las Vegas, Nevada, 1983 Edition, is hereby amended by adopting as a part thereof that certain document entitled the "Northwest Area General Plan Amendment to the City of Las Vegas General Plan," which was approved by the Planning Commission on the ____ day of _____, 199__, and copies of which shall be on file in the office of the City Clerk and in the Planning and Development Department.

SECTION 2: The provisions of the Northwest Area General Plan Amendment to the City of Las Vegas General Plan shall replace and supersede any provisions of the General Plan which are inconsistent therewith.

SECTION 3: If any section, subsection, subdivision, paragraph, sentence, clause or phrase in this ordinance or any part thereof is for any reason held to be unconstitutional or invalid or ineffective by any court of competent jurisdiction, such decision shall not affect the validity or effectiveness of the remaining portions of this ordinance or any part thereof. The City Council of the City of Las Vegas, Nevada, hereby declares that it would have passed each section, subsection,

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1 subdivision, paragraph, sentence, clause or phrase thereof irrespective of the fact that any one or more
2 sections, subsections, subdivisions, paragraphs, sentences, clauses, or phrases be declared
3 unconstitutional, invalid or ineffective.

4 SECTION 4: All ordinances or parts of ordinances, sections, subsections, phrases,
5 sentences, clauses or paragraphs contained in the Municipal Code of the City of Las Vegas, Nevada,
6 1983 Edition, in conflict herewith are hereby repealed.

7 PASSED, ADOPTED and APPROVED this ____ day of _____, 1996.

8 APPROVED:

9

10 _____
11 JAN LAVERTY JONES, Mayor

12

13 ATTEST:

APPROVED AS TO FORM:

14

15 _____
16 BARBARA JO RONEMUS, City Clerk Date

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1 The above and foregoing ordinance was first proposed and read by title to the City
2 Council on the ____ day of _____, 1996, and referred to the following committee composed
3 of _____ and _____
4 for recommendation; thereafter the said committee reported favorably on said ordinance on the ____
5 day of _____, 1996, which was a _____ meeting of said Council; that at said
6 _____ meeting, the proposed ordinance was read by title to the City Council as amended and
7 adopted by the following vote:

8 VOTING "AYE": _____

9 VOTING "NAY": _____

10 ABSENT: _____

11 || APPROVED:

12

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14

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16

17 BARBARA JO RONEMUS, City Clerk

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eral Plan Elements):

1. Completion of the "Las Vegas 2000 and Beyond" strategic planning program, with the assistance of over 300 Las Vegas Valley citizens.

2. Preparation of initial draft revisions to the 1985 General Plan* by staff of the Department of Community Planning and Development, with input from the following departments: Building and Safety, Design and Development, Detention and Enforcement, Economic and Urban Development, Fire Services, Parks and Leisure, and Public Works.

3. Appointment by City Council of an 18 member Northwest Citizens Advisory Committee to work with staff to develop an Interim Northwest Area General Plan to deal with the immediate growth concerns of this rapidly developing rural area. The Interim Plan was completed and adopted by City Council on February 20, 1991.

4. Appointment by City Council of a 35 member General Plan Citizens Advisory Committee (CAC), and formation of a General Plan Technical Advisory Committee (TAC) comprised of City department heads.

5. Review, analysis and update of the 1985 General Plan by the CAC and TAC, with support and assistance by Planning staff and staff of all related City departments and regional agencies, to include:

- background data, research and analysis, and identification of issues;
- update of the Policy Document (City-wide Goals, Objectives, Policies and Programs); and
- update of the Community Profile Document (future land use designations), including review of all City land parcels.

6. Preparation by Planning staff, and review and recommendation by CAC

and TAC, of an expanded format General Plan to include specific new Elements pertaining to:

- Land Use
- Economic Development
- Circulation
- Housing
- Community Facilities
- Urban Design
- Infrastructure
- Environmental Quality and Natural Resource Conservation
- Public Finance
- Historic Preservation

7. Preparation of an Evaluation and Implementation Matrix (EIM) for each of the above Elements to provide:

- a method of measuring the implementation progress of the General Plan;
- a budgeting document for the programs of each Element; and
- a tool for further developing work programs.

8. Aggregation of the 16 individual Community Profile Area maps into three "sector" scale proposed future land use maps (Northwest, Southwest and Southeast; see Section 2.5 in the following Land Use Section) to provide a broader scope of reference for land use relationships than was possible with the smaller land areas covered by the Community Profile maps.

9. Preparation, with input of Planning staffs of Henderson, North Las Vegas and Clark County, of a generalized Valley-wide scale Future Land Use Plan Map.

10. Concurrent review and adoption of the Downtown/West Las Vegas Development Plan in conjunction with the Department of Economic and Urban Development.

11. Introduction of a new approach to the categorization of proposed future land uses by identifying Development Intensity Levels (D.I.L.) by traffic

generation, rather than by the typical land use designations, for all land parcels. A pilot study is underway in the Southwest Sector to demonstrate the application of this process, which will be applied to residential land parcels, non-residential parcels and a combination of both.

1.4 Population Growth and the Need for Growth Management

The Las Vegas Valley is one of the fastest growing areas in the country. Since adoption of the previous General Plan in 1985, extensive growth has occurred, and continues, in both the City and throughout the Valley. Existing development extends beyond the projected northwest growth boundary lines shown on the 1985 General Plan for the year 2000. The population of the City of Las Vegas increased by 57% from 1980 (164,674) to 1990 (258,295). Overall Clark County had a similar rate of growth (60%), with an increase in population from 463,087 in 1980 to 741,459 in 1990. The increases in specific sectors of the City are noted in the following table:

CLV Population Changes:		
1980-1990		
Sector	Increase	% Change
SE	33,566	28
SW	57,859	186
NW	2,196	14
City-wide	93,621	57

1.5 Growth Management

Growth Management is a conscious government program intended to in-

* See Appendix Volume, Chapter I, for overview of key elements of 1985 General Plan



II. LAND USE

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2.1 Background

Land Use is the central element of the General Plan. The Land Use Plan is an expression of the City's goals for what its future pattern of development should be. It identifies the areas that are to be devoted to various land use types, including residential, commercial, industrial and various public land uses. The Land Use Plan also identifies the residential land use densities and their permitted zoning district classifications which indicate lot frontages and areas (for residential land uses) and intensities (for commercial and industrial land uses) which are desired, and the principles and standards which should be applied in implementation of land use decisions.

2.1.1 Relationship to Other Elements

In addition to being an important individual component, the Land Use Element is the keystone that ties together the following elements of the General Plan, as briefly described below:

Community Facilities Element

Land use impact considerations are essential to decisions for the location and physical needs of the following community facilities:

- Parks, Recreation and Cultural Facilities
- Police, Courts and Detention Facilities
- Fire Protection Facilities
- Education Facilities
- Library Facilities

The types of community facilities required vary with the types of land uses in various locations throughout the City. For example in the rural/agricultural Northwest area, the primary interest in parks, recreation and cultural facilities is equestrian trails. These

trails will allow permanent access to the large public land (BLM and Floyd Lamb State Park) areas, in lieu of the altogether too common practice of the past of gradual urbanization surrounding equestrian developments and cutting off such access. A series of parks can be developed as nodes along these trails. In contrast, more urban type park facilities are desired in higher density areas of the City.

Circulation Element

Land use considerations are related directly to the circulation systems (street, road and highway systems; rail systems; and pedestrian/bike/equestrian trail systems) which serve and link the various land parcels of the City. Land use forecasting (planning the distribution of residential and employment areas and activity centers) and travel demand forecasting (forecasting trip generation and distribution, and modal split) are closely inter-related and interdependent, as illustrated below in Figure 1, Relationship of Land Use Planning and Circulation Planning.

Infrastructure Element

The City's infrastructure system needs are directly related to the land uses which they serve. Principal among these are:

- the sanitary sewer system (sewage treatment and distribution)
- the water supply system (from the Colorado River and groundwater sources)
- the flood control system (detention basins and connecting channels and controls)
- solid waste disposal facilities (land fill and collection/distribution sites)

Other infrastructure elements include public utilities (natural gas and electric systems). A balance must be maintained between infrastructure programming and land use to ensure the adequacy of facilities and service for all segments of the population, and to achieve a more energy-efficient and environmentally acceptable pattern of development.

Public Finance Element

A major share of public funds is expended for infrastructure projects to support land uses. These projects range

from acquisition of rights-of-way and construction for roads and highways, wastewater treatment facilities, and acquisition of land and construction for public buildings, facilities, parks and open space.

Economic Development Element

The use and re-use of land is a critical factor in the development and redevelopment of a growing and vigorous economy. A stable and diversified economy requires commercial and industrial employment sites which are accessible to the worker, energy-efficient in location, environmentally suitable for development, cost-effective to serve with infrastructure, and compatible with surrounding areas and neighborhoods.

Housing Element

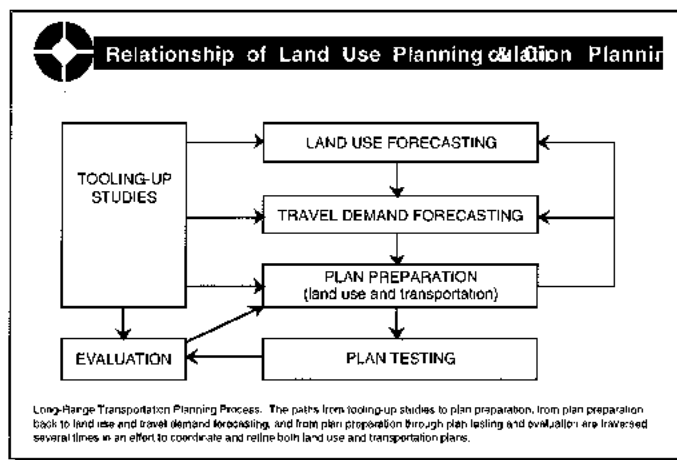
Residential land use is a major issue in the General Plan. It includes anticipation of the amount and location of a variety of housing types which provide: a choice of housing for households of diverse economic background, accessibility to employment centers and recreation areas, and site development and densities that are energy and water-efficient, cost-effective, and visually attractive; and have a compatible spatial relationship.

Urban Design Element

Urban design provides physical transitions between land uses of differing types and intensities. This is accomplished by urban design through the use of: building forms and massing, including height and setback requirements; landscape buffering, including plant materials and massing, and land forms (berms); hardscape details, including paving, walls and planters; circulation systems, including vehicular and pedestrian/bike/equestrian systems; and infrastructure systems, including drainage corridors as part of an open space system.

Environmental Quality and Natural Resource Conservation Element

Figure 1



GP...U Figure 1 Relation Par:Figure 12 91

The major environmental planning activities (air quality planning and management, solid-waste management and open-space planning to list the most obvious) consider land use as part of the problem, and land use planning and management as part of the solution. Land use decisions on the location and size of automobile-dependent facilities are critical in maintaining acceptable ambient air quality standards. The density and intensity of land use in close proximity to critical natural resources and endangered species is a significant planning issue.

Historic Preservation Element

Historic preservation is now an important part of urban land use planning. More than being just a museum for historic architecture, historic preservation includes the adaptive reuse and rehabilitation of buildings, and the revitalization and redevelopment of older areas.

2.1.2 Existing Land Use Conditions

Accurate assessment of existing land use is an essential step in developing the recommended future land use patterns in a General Plan. A major task accomplished in the General Plan update was documentation of existing land use conditions throughout the City. This included the preparation of Existing Land Use Maps, by sector, as noted on the following maps for the Northwest, Southwest and Southeast sectors of the City. The process involved measuring the number of acres of each (generalized) land use category, including vacant land, as noted on Table 1 on the following page.

Northwest Sector Generalized Existing Land Use (Map 1). This sector has an established rural/agricultural life-

style in the area north of Cheyenne Avenue and west of Decatur Boulevard. It is concurrently experiencing active and continuing development pressure, including non-residential uses along the commercially zoned US-95 corridor. This sector has several large planned residential communities, Painted Desert, Los Prados, and Rancho Alta Mira which are shown on Map 4, Planned Communities.

Southwest Sector Generalized Existing Land Use (Map 2). This sector is the area west of Decatur Boulevard and south of Cheyenne Avenue. This sector contains many excellent examples of planned communities, including: The Lakes at West Sahara, Peccole Ranch, Canyon Gate Country Club, Desert Shores, South Shores, and the 23,180 acre (5,267 acres presently annexed) Summerlin satellite new town, with its first residential "village", Sun City Summerlin. These planned communities are also shown on Map 4.

Southeast Sector Generalized Existing Land Use (Map 3). This sector encompasses the more mature area of the City, east of Decatur Boulevard. As it is more fully built out, future growth in this area will include more extensive "infill" development. This sector includes the Downtown Las Vegas area, the world renowned entertainment and gaming center, which also functions as a regional commercial and office activity center, for which a comprehensive Downtown Development Plan has been completed, as discussed in Section 2.5.1.

2.1.3 Relationship of Zoning to Land Use Planning


Zoning is the major implementation tool of the General Plan. It is the

process whereby a specific Zoning District classification is assigned to a land parcel by the City Council, following recommendation by the Planning Commission. Zoning is based on the "police powers" of the community: health, safety and welfare, and in more recent years, the aesthetic* impact of the land use. The use of land as well as the density, intensity, height, bulk, setback and associated parking needs of buildings are regulated by the Zoning District requirements. The relationship of the Zoning District classifications to the General Plan Future Land Use classification categories is shown in the following Table 2. This Table correlates the General Plan Land Use Categories with appropriate zoning district classifications. As such, each Land Use Category permits only specific zoning districts. This provides a basis for determining consistency of prospective land use development proposals as to dwelling unit density and non-residential intensity with the adopted Land Use Sector maps. Compatibility with existing uses, infrastructure capacity, urban design requirements, traffic circulation and other design factors are also considered in determining appropriateness of zoning and land use development requests. The intent is to preserve neighborhood characteristics and progressively offer a wider selection of housing types as the Land Use Categories successively become less restrictive and more intense. Based upon Nevada Case Law (Nova Horizon, Inc., v. The City of Reno) the courts have held that the Master Plan is "a standard that commands deference and a presumption of applicability." The Nevada Supreme Court has held that Master Plans in Nevada must be accorded "substantial compliance," while Nevada statutes require that the zoning authority must adopt zoning regulations that are in

* *Berman vs. Parker*, 348 US 26, 75 Supreme Court 98, Ed. 27 (1954): "The concept of the public welfare is broad and inclusive. The values it represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, and well-balanced as well as carefully patrolled."

Table 1

Table 2

 Land Use Categories Zoning District to General Plan Conversion	
<p>The following table converts the Zoning District Classifications of the City of Las Vegas Zoning Ordinance into the comparable Land Use Designations of the General Plan.</p>	
ZONING DISTRICT CLASSIFICATION	COMPARABLE GENERAL PLAN LAND-USE DESIGNATION
R-A (1 Du/Acre) (Ranch Acres) R-E (2 Du/Acre) (Residential Estates)	D-R (Desert Rural) ≤ 2.18 SFUE*/net Acre
R-E (2 Du/Acre) (Residential Estates) R-D (3 Du/Acre max.) (Single Family District) R-PD (3.96 Du/Acre) (Res. Planned Development)	R (Rural Density Residential) $\leq 0.3.96$ SFUE*/net Acre
R-1 (4-5 Du/Acre) (Single Family) R-D (4 Du/Acre max.) (Single Family District) R-PD (3-6.7 Du/Acre) (Res. Planned Development) R-MH (4-5 Du/Acre) (Mobile Home Residential) R-CL (3-6.7 Du/Acre)	L (Low Density Residential) ≤ 6.70 SFUE*/net Acre
R-CL (Single Family Compact Lot Residential) R-2 (Two Family Residential) R-PD (9 SFUE) (Res. Planned Development) R-MHP (Residential Mobile Home Park)	ML (Medium-Low Density Residential) ≤ 9 SFUE/Gross Acre
R-3 (Limited Multiple Residence) R-PD (13.27 SFUE) (Residential Planned Dev.)	M (Medium Density Residential) ≤ 13.27 SFUE/Gross Acre
R-4 (Apartment Residence) R-5 (Downtown Apartment) R-6 (High-rise Apartment) R-PD (16.58 SFUE) (Res. Planned Development)	H (High Density Residential) ≤ 16.58 SFUE/Gross Acre
P-R (Professional Offices & Parking) G-D (Designed Commercial) C-1 (Limited Commercial)	SG (Service Commercial/Office)
G-2 (General Commercial)	GC (General Commercial)
C-2 (General Commercial)	TC (Tourist Commercial)
G-M (Commercial/Industrial) C-PB (Planned Business Park) M (Industrial)	LIR (Light Industry/Research)
G-V (Civic)	P (Parks/Recreation) S (School) PF (Public Facility)

Single Family Unit Equivalent

GP LU Table 2 ns¹ Conversion; NS/pm/42-30-94

substantial agreement with the Master Plan.

2.1.4 Development Intensity Level Land Use Classification

As outlined in Element I, Introduction, a new approach to the categorization of land uses is being implemented which uses Development Intensity Levels (DIL) by traffic generation and impact, rather than the traditional land use designations for all land parcels.

Variations of intensity systems have been successfully applied in other metropolitan areas. They involve analysis of existing city development patterns in terms of density (dwelling units per acre) for residential parcels, and in terms of intensity of floor area ratios or the maximum floor area of building permitted on a lot (FAR/1000 square feet of building) for all non-residential land uses.

The Residential Land Use Classification Schedules set forth in Table 3 provide the methodology for interpreting and determining the consistency of prospective development proposals to the adopted Land Use Maps with respect to the appropriateness of uses, the range of allowable dwelling unit densities or non-residential intensities. Any proposed use of land which conforms to the following schedules of Single Family Use Equivalents (SFUE)* for dwelling densities or Standard Floor Area Ratios for non-residential uses shall be deemed to be consistent with this Plan as indicated:

- A) **BOLD TYPE** - indicates maximum permitted density or intensity of primary land use.
- B) **Regular Type** - indicates range of secondary permitted land uses and equivalent maximum density or intensity of land uses

which are consistent without a formal Plan amendment.

- C) **Blank** - indicates the use is not permitted in the Land Use Classification category. A formal Land Use Plan amendment is required prior to rezoning.

The DIL process is an innovative and flexible concept for the planning of long term future land use impacts. The development of traffic-related land use equivalent relationships for purposes of portraying future land use legends on Plan maps provides for a better growth management tool to coordinate land use planning with transportation and infrastructure planning and implementation.

The land use classification system used in this element has been designed to address initial recommendations for transition to a completed Development Intensity Level (DIL) system. This initial land use classification system introduces the concept of residential housing type traffic impact equivalents. These residential equivalents are referred to as "single family unit equivalents" or "SFUE's."

Future non-residential land use traffic impact equivalent classifications will be developed and recommended for incorporation into this section, based on study and analysis now underway. These non-residential equivalents are referred to as "standard floor area ratio equivalents" or "SFARE's."

2.1.54 General Plan Land Use Classification System

The three broad land use types, residential, commercial and industrial, are

further subdivided into more specific categories, based on densities (residential) and intensities (commercial and industrial). These categories, together with various community facilities such as parks/recreation/open space, schools and other public facilities (which are institutional types of land uses), which are used on the recommended Future Land Use Plan maps, are set forth below:

Desert Rural Density Residential (DR) (≤ 2.18 SFUE/net ac) (2 du/gross acre). The Desert Rural Density residential category allows a maximum of two dwelling units per net gross acre. The predominant residential life-style is single family homes on large lots, many including equestrian facilities. This is a generally rural environment that permits greater privacy and some non-commercial raising of domestic animals. It is expected that in the Desert Rural Density Residential category there generally would be no need for common facilities such as recreation, with the exception of maintaining an existing water system. Lot sizes range from 20,000 to 40,000 square feet and greater. (The primary application of this category is in the Northwest Sector).

Rural Density Residential (R) (≤ 3.96 SFUE/net ac) (3.5 du/gross acre). The Rural Density Residential category allows a maximum of three plus 3.5 dwelling units per net gross acre. This is a rural or semi-rural environment with a life-style much like that of the Desert Rural, but with a smaller allowable lot size, ranging from 11,000 to 40,000 square feet and greater. (The primary application of this category is in portions of the Northwest Sector, and in the northeast and southeast portions of the Southwest Sector.) For a more detailed explanation of uses allowed in the Rural Density Residential (R) category and in the following Low Density Residential (L.)

* For previous designation of residential land use categories see Appendix Volume, Chapter II.

category, as well as for a comparison of the City of Las Vegas vs. Clark County Zoning Regulation procedures for the DR and R categories, see the Land Use Section of the Appendix Volume of the General Plan)

Low Density Residential (L)

(< 6.70 SFUE/net-ac)(4.5 du/gross acre). The Low Density Residential category allows up to 6.7 a maximum of 4.5 dwelling units per net gross acre. This category permits single family detached homes, mobile homes on individual lots, gardening, home occupations, and family child care facilities. Lot sizes range from 6,500 to 11,000 square feet and greater. Local supporting uses such as parks, other recreation facilities, schools and churches are allowed in this category. (The primary application of this category is in the Southwest and Southeast sectors.)

Medium Low Density Residential (ML)

(< 9.0 SFUE/gross-ac)(11 du/gross acre). The Medium Low Density Residential category permits up to 9 SFUE a maximum of 11 du per gross acre. This density range permits a mixture of housing types: single family detached, including compact lots and zero lot lines; mobile home parks and two-family dwellings. Local supporting uses such as parks, other recreation facilities, schools and churches are allowed in this category. Lot sizes range from 3,200 to about 6,500 square feet and greater. (The Medium Low Density category is found in all sectors, but predominates in the Southwest Sector, and in the Southeast Sector as in-fill.)

Medium Density Residential (M)

(< 13.27 SFUE/gross-ac)(20 du/gross acre). The Medium Density Residential category permits up to 13.27 SFUE a maximum of 20 dwelling units per gross acre. This category includes a variety of multi-family units such as plexes, townhouses, and low density apartments. (The Medium Density category is found in all sectors, but predominates in the Southwest and

Southeast sectors, situated along Primary and Secondary streets, with a large concentration along the "west leg" of the Oran K. Gragson Highway.)

High Density Residential (H)

(< 16.58 SFUE/gross-ac)(83 du/gross acre). The High Density Residential category permits up to 16.58 SFUE a maximum of 83 dwelling units per gross acre with the exception of high rise apartments which has no specific limit. (This category is generally found as low rise apartments in the "Downtown Area" and other areas of relatively intensive urban development in the Southeast Sector.) This category also permits traffic equivalent non-residential land use to occur.

Office (O): Proposed New Category)

Office uses are now included in the Service and General Commercial categories. However it is important to plan for suitable Office uses in the General Plan as a transitional buffer between residential and commercial areas. The Office category provides for small lot office conversions as a transition, along Primary and Secondary streets, from residential to commercial uses, and for large planned office areas. Permitted office uses include business, professional and financial offices as well as offices for individuals, civic, social, fraternal and other non-profit organizations.

Service Commercial (SC)

The Service Commercial category allows low to medium intensity retail, office or other commercial uses that serve primarily local area patrons, and that do not include more intense general commercial characteristics. Examples include neighborhood shopping centers and areas, theaters, bowling alleys and other places of public assembly and public and semi-public uses. This category also includes offices either singly or grouped as office centers with professional and business services.

General Commercial (GC)

General commercial allows retail, service, wholesale, office and other general business uses of a more intense commercial character. These uses commonly include outdoor storage or display of products or parts, noise, lighting or other characteristics not generally considered compatible with adjoining residential areas without significant transition. Examples include new and used car sales, recreational vehicles and boat sales, car body and engine repair shops, mortuaries, and other highway uses such as hotels, motels, apartment hotels and similar uses. General Commercial uses allow Service Commercial uses.

Tourist Commercial (TC)

Tourist Commercial allows entertainment and visitor-oriented uses such as hotel, motel and casinos in addition to offices, light commercial resort complexes, recreation facilities, restaurants and recreational vehicle parks.

Light Industry/Research (L I/R)

This Light Industry/Research category allows areas appropriate for clean, low-intensity (non-polluting and non-nuisance) industrial uses, including light manufacturing, assembling and processing, warehousing and distribution, and research, development and testing laboratories. Typical supporting and ancillary general uses are also allowed.

Parks/Recreation/Open Spaces (P)

This category allows large public parks and recreation areas such as public and private golf courses, trails and easements, drainage ways and detention basins, and any other large areas of permanent open land.

Schools (S)

This category allows public and private elementary, junior and senior high schools, but not commercial or business schools.

Public Facilities (PF)

This category allows large governmental building sites and complexes, police and fire facilities, non-commercial hospitals and rehabilitation sites, sewage treatment and storm water control facilities, and other uses considered public or semi-public such as libraries and public utility facilities.

2.2 Issues

Issue 1: Legal Significance of General (Master) Plans

The Nevada Supreme Court has held that there must be "substantial compliance" between the General (Master) Plan of a community and subsequent zoning approvals. The City of Las Vegas Ordinance 3455 implements this finding by requiring that any zoning application which proposes a use or density which deviates from the General Plan must include documentation of circumstances which the applicant believes warrants such deviation. With the adoption of this Plan, all future deviation requests shall be supported by a formal request to amend the Land Use Map, Classification Schedule or text, as the case may require.

Issue 2: Future Availability of Water

The unprecedented, and continuing, rapid rate of growth in the City and throughout the Valley, has raised concerns for future growth and land use patterns related to the future availability of water and the resulting impact on the future population that is sustainable. This water supply issue needs to be addressed in the land use plans of the City, and of all Las Vegas Valley jurisdictions.

The Land Use Element of the General Plan guides the provision of services,

such as water. It is important to properly allocate a scarce resource such as water so as to accommodate expected population growth. This may be done either through extension of water lines to vacant, developable areas, or by allowing infill development, taking advantage of land already served by water lines. Chapter 167, NRS, which established the Las Vegas Valley Water district, clearly requires that "the District shall comply with planning and zoning ordinances".

The Existing Land Use Maps (1, 2 and 3) and Table 1 of Section 2.1.2 depict the amount and location of vacant land in the City of Las Vegas. The following Table 4 indicates the calculations of potential buildout capacity (population) on the residential portions of this vacant land, based on the proposed future residential land use categories depicted on the Future Land Use Maps in Section 2.5.1. This vacant residential land could potentially sustain a total of 411,592 additional residents, which, combined with the existing 1990 Census population of 258,295 results in a total potential population capacity of 669,887 for the City.

Approximately 32,000 additional acre feet of water per year will be available to the Las Vegas Valley Water District for the foreseeable future (this is prior to savings from conservation, which take some time to effectively implement). The Las Vegas Valley Water District estimates that a typical single family residence for a family of four consumes 0.87 acre feet per year. Therefore, for the City's share (est. at 7,500 ac. ft.), it is estimated that there is only enough additional water for approximately 8,600 additional dwelling units, which, at an average household size of 2.55, equates to 22,000 additional residents, if no other uses were permitted.

Adding a population potential of

165,000 to 178,000* for future Summerlin annexations, results in a total population potential far in excess of that which the present water supply can sustain, given its need for other uses. Improved conservation measures, in addition to other potential sources of water, will alleviate the problem somewhat, but a serious water issue remains to be addressed.

Issue 3: Proper Balance of Land Uses

Review of existing land use conditions reveals a need to provide a proper balance of land uses throughout the City, including:

A. Residential Land Use:

1. Provide a full range of housing types and prices in all sectors of the City.
2. Provide affordable housing in all sectors of the City.
3. Provide protection for the existing nucleus of large lot, equestrian and agriculturally oriented, development in the northwest area, and the preservation of this life-style to preclude urbanization from isolating equestrian districts from areas of public open space.

B. Commercial Land Use: Provide the amount and location of commercial land use required to serve the projected population. Expanding the commercial center concept of the 1985 General Plan will place emphasis on planned centers with designated service areas, rather than on continuing strip commercial development along major thoroughfares.

C. Light Industrial/Research Land Use: Diversify the economy by attracting new high-tech, nonpolluting, light industrial and research

* Summerlin Planning Report, July 15, 1991

Table 3

industries.

D. Office Land Use: Provide a specific new office land use category, for both the General Plan and the Zoning Ordinance, to replace the present process of providing office land use as an allowable land use in the broader commercial land use category. Two types of office land uses are needed:

1. A low intensity category to provide a buffer and transition between low density, single family detached residential uses and other more intense land uses, such as retail commercial, which typically have late night operations and trash storage and pick-up areas in the rear yards;
2. A high intensity planned office category, as opposed to commercial categories which allow office uses as a permitted use. However, mixed land uses can be accommodated with proper urban design guidelines and controls.

E. Activity/Employment/Service Centers: Develop centers throughout the City, with concentrations of land uses to include commercial, light industrial/research, office, recreational, entertainment and/or public facilities.

Issue 4: Neighborhood Scale Planning

An important process for implementing the General Plan is the concept of Neighborhood Planning, as outlined in the Las Vegas 2000 and Beyond strategic planning program. Neighborhood planning needs to be addressed at three different levels throughout the City: stabilization, to prevent deterioration of newer neighborhoods; improvement (revitalization), for older neighborhoods; and redevelopment.

The Neighborhood Planning Program would identify and prioritize potential neighborhoods and neighborhood groups throughout the City for follow-on neighborhood scale planning. It would also identify and prioritize potential "corridor" study areas throughout the City. This could include protection of the functionality of the roadway corridors by determining development standards. An example of the need for such corridor studies is the US 95 corridor in the Northwest Sector, to develop a more efficient and environmentally satisfactory alternative to the existing commercially zoned (1,320 foot wide) corridor by planning "nodes" of commercial/mixed use development, the spacing of which would be dependent upon the size of the commercial "service" areas.

The Neighborhood Planning Program can assist the Department of Economic and Urban Development in implementing the Downtown Development Plan. It can also analyze the effect of the planned expansion of the North Las Vegas Air Terminal on adjacent areas in the Northwest and Southwest sectors.

Issue 5: Alternatives to Urban Sprawl

As addressed in the "Las Vegas 2000 and Beyond" strategic planning program, there is a need to investigate new alternatives and approaches to urban sprawl and its effect on both land use and transportation. These alternatives can include:

- A. Developing new options to allow, and encourage, creative mixed land use developments (residential and nonresidential) which would bridge existing regulatory gaps: the existing Residential Planned Development (R-PD) zoning district is applied primarily to the planning of single family residential subdivisions; the Planned Community (PC)

zoning district is applicable only to large (3,000 acres under one ownership) mixed use developments.

- B. Investigation and encouragement of urban form alternatives to suburban sprawl such as urban villages, activity/service centers, and the pedestrian oriented "neo-traditional" planning concept which utilizes grid street systems. The latter concept has received national attention in recent months, and its application to the dynamically growing Las Vegas Valley needs to be addressed. This will include evaluation of the transportation impacts of the traffic engineering principles applied to this pedestrian oriented concept (grid street system, narrower streets, on-street parking and smaller corner radii), which are substantially different from the principles applied in conventional suburban development.

Several options now under staff and consultant review, which would supersede the existing process of requiring specific rezoning approvals for each separate land use category of a planned development. The first is a Mixed Use Overlay District concept and/or Planned Development District concept; the second is a proposed new approach to the categorization of proposed future land uses by identifying allowable Development Intensity Levels (D.I.L.) by traffic generation, rather than by the typical land use parcel designations. A pilot study is underway in the Southwest Sector, based on the use of Floor Area Ratio (FAR) standards, to demonstrate the application of this process. Additional recommendations regarding these techniques will be developed following the General Plan adoption.

Issue 6: Valley-wide Coordination of Land Use Planning

The unprecedented growth in the City of Las Vegas, and throughout the Las Vegas Valley, requires closer coordination of land use planning, and re-

lated circulation/transportation planning among all Las Vegas Valley jurisdictions. The future land use plans of all adjacent Las Vegas Valley jurisdictions needs to be coordinated to ensure compatibility along boundaries and to ensure equitable and efficient provision of services.

As stated in the Las Vegas 2000 and Beyond "actions" this coordination can include:

- A. Updating the City's General Plan in coordination with the General/Master Plans of adjoining jurisdictions, and with regional transportation planning; and
- B. Developing methods of increased jurisdictional cooperation such as formation of a Las Vegas Valley Council of Governments, consolidation and/or a Valley-wide planning authority.

2.3 Goal, Objectives, Policies and Programs

GOAL: Develop and adopt a future land use plan which:

- is maintained as the principle policy document of the City for guiding future land use decisions;
- provides an efficient, orderly and compatible mix of spatially related land uses;
- is coordinated with the circulation systems which serve the land uses;
- promotes the provision of orderly development with adequate community facilities and services;
- promotes water conservation; and
- is coordinated with the land use and circulation plans of all adjoining jurisdictions

Objective A: Develop and maintain the City of Las Vegas General Plan as the principal policy document of the City for establishing future land uses in conjunction with community facilities, infrastructure systems, circulation systems, and resource conservation.

Policy A1: Evaluate all City actions and programs in terms of implementation of the goals and objectives set forth in the General Plan.

Program A1.1: In the annual review of the City's Capital Improvement Plan, consider the applicable General Plan Policies and Programs.

Program A1.2: Prepare a biennial review of the General Plan, with the Citizens General Plan Advisory Committee (CAC) and the Technical Advisory Committee (TAC), for Planning Commission review and recommendation and City Council approval.

Objective B: In developing the Future Land Use Plan, consider the potential future population which can be sustained by the existing water supply, while maintaining or improving the existing quality of life.

Policy B1: Balance "infill" development areas with development on the periphery of the City to ensure efficient utilization and distribution of the available water supply.

Program B1.1: Prepare Existing Land Use Maps which identify vacant land parcels within the City and calculate the acreage and potential buildout capacity (population) on all vacant infill land parcels.

Program B1.2: Determine boundaries for "infill" lines, considering Water District pressure zones.

Program B1.3: Continue to monitor the water issue to remain aware of and encourage implementation of new conservation methods and techniques, and potential new sources of water supply.

Policy B2: Encourage infill development to make use of existing utilities, facilities and services.

Program B2.1: Establish and implement guidelines for infill development, with consideration for adjacent properties.

Program B2.2: Consider providing an incentive program for infill development

Objective C: Achieve a compatible balance of land uses throughout the City by providing appropriate and compatible locations for all land use categories.

Policy C1: Provide for a variety of residential environments in the General Plan having urban, suburban and rural character.

Program C1.1: Define and designate urban, suburban and rural residential land use areas: by specifying land use categories which contain permitted, compatible zoning districts which specify minimum lot frontages and

areas.

Program C1.2: Designate specific low density, equestrian oriented, residential land use districts to protect and enhance the existing rural development and established life-style. Recognizing that significant portions of the study area are of unincorporated County jurisdiction and that the possibility of annexation exists, designation of low-density land use districts should also be recommended for what is presently in adjacent County areas.

Program C1.3: Plan for the appropriate location of multiple family residential uses throughout the City.

Program C1.4: Require multiple family developments to be compatible with adjoining single family uses through site planning and building design, setback and height requirements, landscape buffers and other buffers to adjoining uses.

Program C1.5: Develop standards for mobile home developments which require designs compatible with adjoining residential uses.

Policy C2: Provide for a balance in the amount and location of commercial land use to serve the projected "buildout" population.

Program C2.1: Plan commercial land uses in locations to provide essential goods and services throughout the City, with emphasis on planned commercial centers in lieu of "strip commercial" development.

Program C2.2: Develop and incorporate commercial "service area" standards.

Program C2.3: Develop a low intensity Office land use category as a land use buffer between low density detached residential uses and more intense land uses.

Program C2.4: Develop a high intensity planned Office land use category.

Policy C3: Encourage the development of suburban Activity/Employment/Service Centers, with concentrations of land uses to include commercial, light industrial, research, office, recreational, entertainment and/or public facilities to enhance the economic, social and physical development and vitality of the City and diversify the economic base, while reducing travel time and dependency on the automobile.

Program C3.1: Designate locations for specific Activity, Employment, Service Centers coordinated with transportation, infrastructure and public facilities plans.

Program C3.2: Provide incentives for Activity, Employment, Service Center development.

Program C3.3: Implement the Downtown Development Plan as the primary Activity Center of the City including hotel, casino, entertainment uses; administrative headquarters; general, professional and public offices; commercial uses; and high density residential uses.

Objective D: Develop a Creative, City-wide, Neighborhood Planning and Development Program.

Policy D1: Implement a Neighborhood Planning and Development Program for each of the Council Wards.

Program D1.1: Identify, and prioritize, neighborhoods and neighborhood organizations within each Council Ward for neighborhood scale planning.

Program D1.2: Identify, and prioritize, locations for major corridor studies and plans.

Objective E: Investigate new alternatives to urban sprawl which encourage creative land use planning and urban design.

Policy E1: Encourage and develop options, guidelines and incentives for the use of innovative master development plans.

Program E1.1: Investigate options for creative mixed use planned developments (residential and non-residential), to bridge the regulatory gap between existing options, which provide a compatible mix of residential densities and supporting commercial uses through innovative site planning.

Program E1.2: Investigate application of the pedestrian oriented "neo-traditional" planning and design concepts, to include evaluation of the applicability and suitability of the traffic engineering principles applied in this concept of development.

~~**Policy E2:** Support implementation of a flexible categorization of future land uses through identification of Development Intensity Levels related to traffic generation and impact, to replace current use plan designations.~~

~~**Program E2.1:** Prepare a Development Intensity Level (D.I.L.) pilot study in a rapidly developing area of the City.~~

~~**Program E2.2:** Apply the Development Intensity Level (D.I.L.) process to a City-wide program and map.~~

Objective F: Update the City of Las Vegas General Plan in coordination with the land use and circulation plans of all adjoining jurisdictions.

Policy F1: Cooperate with other jurisdictions to define planning and service areas.

Program F1.1: Develop a Valley-wide, generalized, Future Land Use Map by aggregating the General/Master plans of all Las Vegas Valley jurisdictions.

Program F1.2: Identify and resolve any conflicts along jurisdictional boundaries.

Policy F2: Investigate methods of increased jurisdictional cooperation such as formation of a Las Vegas Valley Council of Governments, consolidation and/or a Valley-wide planning authority.

Program F2.1: Investigate the potential for formation of a Valley-wide planning authority, or Council of Governments.

Program F2.2: Develop methods of increased coordination of zoning, building and code enforcement regulations and processing.

Policy F3: Establish a growth pattern which will result in a more efficient and equitable provision of infrastructure, public facilities and services.

Program F3.1: Encourage the elimination of irregular City boundaries and County "islands" which result in overlapping and inefficient service areas.

Program F3.2: Seek state legislation to simplify and expedite the annexation process.

Program F3.3: Prepare Capital Improvement Plans and schedules for public facilities and services in conformance with the adopted General Plan future land use plans.

Program F3.4: Implement a growth management program which integrates land development approval decisions and General Plan adherence and consistency requirements with adequate public facilities and service standards.

2.4 Evaluation and Implementation Process

2.4.1 Land Use Plan Consistency and Development Review Policies

It is the Intent of the City Council that implementation of the adopted General Plan become a coordinated activity among elected officials, boards and commissions and City staff. The Land Use Plan shall be implemented by the adoption and enforcement of appropriate local regulations pertaining to the development of land and structures within the City of Las Vegas. It is the intent of the City Council that no development permit, subdivision of land or application for zoning change may be recommended, authorized, approved or issued by any administrative official, board or commission or by the City Council unless such development activity is determined to be in compliance and consistent with the adopted Future Land Use Plan (Section 2.5), Land Use Classification System (Section 2.1.3) and Development Review Policies set forth in this section as they may be amended from time to time. The Department of Community Planning and Development, in conjunction with other City departments, shall, on all zoning and subdivision applications, prepare a staff report to the Planning Commission and City Council which ~~would~~ takes into account the following:

A. Plan Consistency Policies

It is the intent of the City Council that:

1. All parcels of land within the City of Las Vegas which are designated in a residential land use category in the Land Use Plan shall be appropriately zoned for a density of dwelling units density and a lot area and frontage which is are compatible with surrounding residential uses and which does not exceed the maximum density set forth in the Land Use Classification System, except in the case of large scale planned development projects, where certain parcels may exceed maximum Land Use Plan densities on a net acre basis, provided the total gross project density per acre does not exceed that provided under the Land Use Plan.
2. No application for a subdivision of land or a change in zoning district classification which would have the effect of permitting the use of land or structures in a manner inconsistent with the Land Use Plan and/or the Land Use Classification System may be approved without filing a simultaneous request to the City Council to consider a formal Plan amendment. In order for such zoning change to be approved, the City Council must hold a public hearing, consider Planning Commission recommendations, and formally amend the Land Use Plan map and/or Land Use Classification.
3. No land use variance which would have the effect of permitting the use, density or intensity of land or structures in a manner inconsistent with the Land Use Plan and/or Land Use Classification System shall be approved. Setback, height, parking and similar bulk requirements may be approved in accordance with findings for hardship and other related factual issues.
4. Building permits shall comply with all requirements and conditions of prior development approval before issuance of certificates of occupancy. No building permit shall be issued for any structure not possessing a valid water commitment or "will serve" letter issued by the Las Vegas Valley Water District prior to February 15, 1991, or a valid Water Allocation Locational Commitment letter issued by the City of Las Vegas after such date.
5. Applicants seeking a change in zoning shall submit for City review a formal Traffic Impact Analysis report prepared by a licensed engineer demonstrating the individual and cumulative impacts of proposed land uses on the local and regional transportation network. Such report and review shall identify the nature and quantity of traffic movement and circulation, average daily traffic (ADT) and peak hour traffic (PHT) volumes and mitigation requirements necessary to assure the maintenance of acceptable levels of service. Such Traffic Impact Analysis reports must adhere to the standards and methodologies promulgated by the City's Traffic Engineering Division and adopted by the City Council. Requests to extend zoning resolutions of intent (ROI) and Tentative Map approvals will subject the application to evaluation and adherence to development review requirements, adequate facilities and services reviews, and consistency requirements of this section.
6. Applicants seeking to subdivide land in the City of Las Vegas after adoption of the General Plan may submit for a tentative map or parcel map approval only when:
 - a. The proposed division of land is consistent with the adopted Land Use Plan as to density or intensity of proposed uses; and
 - b. The proposed lot sizes areas and lot frontages are consistent

tent with existing zoning or a proposed zoning district which would be consistent with the adopted Land Use Plan without necessity for an amendment public hearing.

7. In considering the consistency of proposed development permits, zoning changes and subdivisions of land, the Planning Commission, the Board of Zoning Adjustment or the City Council as the case may be, shall ensure that each such approved development meets or exceeds the minimum levels of adequacy for facilities and services set forth in the General Plan.

B. Development Review Policies

It is the intent of the City Council that no City Official, Board or Commission or the City Council shall recommend, approve, authorize or grant any project or development permit which is not consistent with the following Development Review Policies. It is the intent of the City Council that authorized City Officials, Boards and Commissions and the City Council of the City of Las Vegas, as the case may be, shall make findings that any recommended project approval and all applications for development permits are consistent with the provisions of this section and shall approve such project or development permit only when the following requirements are met, provided however that a project or development approval may be granted on the condition that the developer agrees in writing that no certificate of occupancy will be issued until the following conditions are met:

1. The network of regional and local streets and highways will have the capacity to serve the proposed development at an acceptable Level of Service. For purposes of this section, an acceptable level of service shall be determined by the City Council

and may vary by type of street or location. Unless otherwise adopted by the City Council, no level of service shall be established on a designated street or highway which results in a peak hour travel capacity below Level of Service D.

2. Wastewater treatment and disposal facilities will be made available prior to occupancy in sufficient capacity to serve the needs of the proposed development.
3. Fire services will be adequate to protect people and property in the proposed development with adequate equipment and acceptable response times. For purposes of this section, the City Council may vary standards for adequacy and acceptable response times based upon the nature, location, character, density and intensity of existing and proposed development.
4. Potable water facilities and service allocations will be available prior to occupancy to provide for the needs of the proposed development. For purposes of this section, the evidence of a valid commitment to water service provided by the Las Vegas Valley Water District prior to adoption of this Plan shall constitute compliance. After the effective date of this General Plan, the City Council shall establish a review process, incorporating an appropriate water allocation methodology, for the determination of adequacy of water facilities and services necessary to support a proposed development.

2.4.2 Evaluation and Implementation Matrix

The following Land Use Evaluation and Implementation Matrix (EIM - see next page) was prepared as a measurable summary of the above Land Use Policies and Programs. The EIM is to be used:

- as a method of measuring the implementation progress of the General Plan
- as a budgeting document for specific Land Use programs
- as a tool for further developing work programs

The following abbreviations apply to the Evaluation and Implementation Matrix

City Departments

BS Building and Safety
CA City Attorney
CM City Manager
CP Community Planning and Development
ED Economic and Urban Development
FN Finance
PW Public Works

Other Agencies/Jurisdictions

CC Clark County
Hend City of Henderson
LVVWD Las Vegas Valley Water District
NLV North Las Vegas
RTC Regional Transportation Commission

BILL NO. 92-2

ORDINANCE No. 3636

AN ORDINANCE TO ADOPT A NEW GENERAL PLAN FOR THE CITY OF LAS VEGAS, NEVADA, INCLUDING MANDATORY AND OPTIONAL ELEMENTS THEREOF AS REQUIRED BY CHAPTER 278 OF NEVADA REVISED STATUTES; AMENDING TITLE 19, CHAPTER 2, SECTION 20, OF THE MUNICIPAL CODE OF THE CITY OF LAS VEGAS, NEVADA, 1983 EDITION, TO REFLECT THE ADOPTION OF SAID PLAN; PROVIDING FOR OTHER MATTERS PROPERLY RELATING THERETO AND REPEALING ALL ORDINANCES AND PARTS OF ORDINANCES IN CONFLICT HEREWITH.

Sponsored By: Councilman Scott Higginson Summary: Adopts a new General Plan for the City of Las Vegas, Nevada.

THE CITY COUNCIL OF THE CITY OF LAS VEGAS DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1: The General Plan of the City of Las Vegas, Nevada, adopted by the Planning Commission on December 12, 1991, and approved for adoption by the City Council on the 1st day of April, 1992, is hereby adopted as the master plan for the City as required by Chapter 278 of Nevada Revised Statutes (NRS). The General Plan includes mandatory and optional elements described in NRS Chapter 278 and includes text, future land use maps, the Downtown Development Plan, and the Master Plan of Streets and Highways. The General Plan shall be on file in the office of the Department of Community Planning and Development.

SECTION 2: Title 19, Chapter 2, Section 20, of the Municipal Code of the City of Las Vegas, Nevada, 1983 Edition, is hereby amended to read as follows:

19.02.020: (A) This Title is adopted in order to conserve and promote the public health, safety, morals and general welfare of the City and the present and future inhabitants of the City.

(B) This Title is adopted in conformity with and in consonance with the Comprehensive General Master [Plans] Plan of the City of Las Vegas [as adopted by the City Council on March 2, 1960, and February 5, 1975.], the initial version of which was

1 adopted in 1960 and the most recent version of which was adopted
2 on April 1 , 1992. In this regard this Title is
3 designed to improve the safety and convenience and lessen
4 congestion in the public streets, to provide adequate protection
5 against fire, panic and other dangers, to provide adequate light
6 and air, to prevent the overcrowding of land, to avoid undue con-
7 centration of population, to facilitate the adequate provision of
8 transportation, water, sanitary sewerage, storm drainage,
9 schools, parks, recreation and other public conveniences and
10 necessities, to maintain the character of land uses in the
11 various property districts, to conserve the value of land and
12 buildings and protect investment in same, and to encourage the
13 [utmost property] most desirable uses of the land.

14 (C) This Title is adopted to protect the character,
15 social advantages and economic stability of the residential, com-
16 mercial, industrial and other areas within the City and to assure
17 the orderly, efficient and beneficial development of such areas.

18 SECTION 3: The adoption of the General Plan referred
19 to in this Ordinance shall not be deemed to modify or invalidate
20 any proceeding, zoning designation, or development approval that
21 occurred before the adoption of the Plan nor shall it be deemed
22 to affect the Zoning Map adopted by and referred to in LVMC
23 19.02.040.

24 SECTION 4: The General Plan adopted by this Ordi-
25 nance and any of its constituent elements may be amended by reso-
26 lution of the City Council, subject to applicable procedures and
27 requirements set forth in Nevada Revised Statutes; provided,
28 however, that any repealer, replacement, or comprehensive amend-
29 ment of or to the General Plan shall be by means of ordinance.

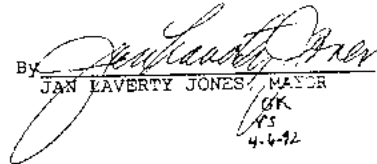
30 SECTION 5: If any section, subsection, subdivision,
31 paragraph, sentence, clause or phrase in this ordinance or any
32 part thereof, is for any reason held to be unconstitutional or

1 invalid or ineffective by any court of competent jurisdiction,
2 such decision shall not affect the validity or effectiveness of
3 the remaining portions of this ordinance or any part thereof.
4 The City Council of the City of Las Vegas, Nevada, hereby
5 declares that it would have passed each section, subsection, sub-
6 division, paragraph, sentence, clause or phrase thereof irrespec-
7 tive of the fact that any one or more sections, subsections, sub-
8 divisions, paragraphs, sentences, clauses or phrases be declared
9 unconstitutional, invalid or ineffective.

10 SECTION 6: All ordinances or parts of ordinances,
11 sections, subsections, phrases, sentences, clauses or paragraphs
12 contained in the Municipal Code of the City of Las Vegas, Nevada,
13 1983 Edition, in conflict herewith are hereby repealed.

14 PASSED, ADOPTED AND APPROVED this 1st day of April
15 1992.

16 APPROVED:

17
18 BY 
19 JAN LAVERTY JONES, MAYOR
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ATTEST:

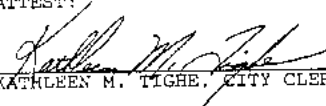

KATHLEEN M. TIGHE, CITY CLERK

1 The above and foregoing ordinance was first proposed and
2 read by title to the City Council on the 5th day of February,
3 1992, and referred to the following committee composed of
4 Full Council and _____
5 for recommendation; thereafter the said committee reported
6 favorably on said ordinance on the 1st day of April, 1992,
7 which was a regular meeting of said Council; that at said
8 regular meeting, the proposed ordinance was read by
9 title to the City Council as first introduced and adopted by the
10 following vote:
11 VOTING "AYE": Councilmen Nolen, Adamsen, Higginson and Hawkins Jr.
12 VOTING "NAY": NONE
13 ABSENT: Mayor Jones

14 APPROVED:

15
16 BY 
17 JAN LAVERTY JONES, MAYOR

18 ATTEST:

19 
20 KATHLEEN M. TIGHE, CITY CLERK

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EX-15
4-6-92

RESOLUTION

1
2 A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LAS VEGAS, NEVADA TO AMEND
3 THE GENERAL PLAN, PURSUANT TO ORDINANCE NO. 3636.

4 WHEREAS, the City Council of the City of Las Vegas adopted the General
5 Plan of the City of Las Vegas by Ordinance No. 3636, effective April 5,
6 1992; and

7 WHEREAS, this Plan was adopted to protect the character, social
8 advantages and economic stability of the residential, commercial, industrial
9 and other areas within the City and to assure the orderly, efficient and
10 beneficial development of such resources; and

11 WHEREAS, the General Plan adopted by Ordinance may generally be
12 amended by resolution of the Planning Commission and the City Council; and

13 WHEREAS, the General Plan contains language within the Land Use
14 Element which is contradictory in its application among specified land use
15 designations, and which may cause confusion in the review and implementation
16 of the Plan through the zoning process; and

17 WHEREAS, staff of the Department of Community Planning and Development
18 recommends that the General Plan be amended as set forth in this Resolution
19 to resolve any inconsistency and avoid confusion; and

20 WHEREAS, the Planning Commission, at its meeting of July 9, 1992 did
21 approve the staff recommendation to modify the language as specified below.

22 NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Las
23 Vegas, Nevada, that:

24 1. The term "net", whenever used in the maps and text identified in
25 Paragraphs (a) and (b), is deleted and replaced by the term "gross"

26 a. The adopted Map 5, Northwest Sector, "Proposed Future Land
27 Use" Legend; Map 6, Southwest Sector, "Proposed Future Land Use" Legend; and
28 Map 7, Southeast Sector, "Proposed Future Land Use" Legend; and

29 b. The text of the General Plan Land Use Element, Section II,
30 page II-5, Table 2, references on the 'D-R', 'R', 'L' categories; pages II -
31 6, 7, Section 2.1.5 "General Plan Land Use Classification System" for the
32 following classifications "Desert Residential Rural", "Rural Density

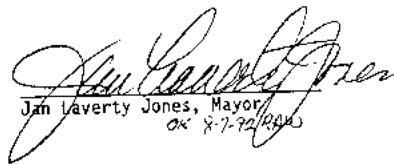
1 Residential" and "Low Density Residential".

2 2. Page 11 - 15, Section 2.4.1.A. "Plan Consistency Policies",
3 Subsection 1 is amended to read as follows:
4

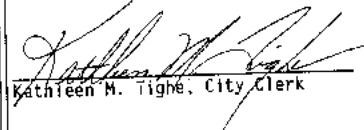
5 "1. All parcels of land within the City of Las Vegas which are designated
6 in a residential land use category in the Land Use Plan shall be
7 appropriately zoned for a density of dwelling units which is compatible with
8 surrounding residential uses and which does not exceed the maximum gross
9 density set forth in the Land Use Classification System; except in the case
10 of large scale planned development projects, where certain parcels may
11 exceed maximum Land Use Plan densities on a [net] gross acre basis, provide
12 the total gross project density per acre does not exceed that provided under
13 the Land Use Plan."

14 (NOTE: Bracketed text to be deleted; underlined text is to be added)

15 PASSED, APPROVED AND ADOPTED this 5th day of August, 1992.

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18 
Jan Laverty Jones, Mayor
OK 8-7-92/RJM

19 ATTEST:

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21 
22 Kathleen M. Tighe, City Clerk
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Stephen George

From: Val Steed
Sent: Thursday, October 03, 1996 7:45 AM
To: Stephen George
Subject: This Morning's Meeting

I will not be attending this morning's meeting. My wife is having her wisdom teeth removed and it turns out they won't let her drive herself home afterwards, so I get to be the chauffeur. If I remember right, the meeting is about what vehicle is used to amend the General Plan.

A comprehensive amendment must be done by ordinance. Any other may be done by resolution. Our practice has been to do site-specific GPA's without a written resolution (i.e., the vote for approval consists of the "resolution").

There is obviously not any magical formula to any of this. One could do all amendments by ordinance. One could do all minor amendments by written resolution. One could use great imagination in deciding when an amendment is comprehensive and when not, for purposes of the ordinance requirement. My advice has always been: if your amendment is controversial from a policy point of view or if you would really hate to lose your amendment in court, you err on the side of formality. Therefore, if you amend the Plan to do the whole Northwest area, you definitely do a written resolution, and you even consider doing an ordinance. If you down-plan somebody's property, you probably do a written resolution (at least). However, if you do a site-specific GPA that is not controversial or that you really don't care if it's invalidated (probably the case with most of them), you kind of figure "why go the trouble of doing a written resolution"? I hope some of this will help.

INTER-OFFICE MEMORANDUM

September 6, 1996

TO:

Steve George

FROM:

Donna H. Kristaponis

SUBJECT:

Meeting Summary

COPIES TO:

Brad Jerbic
Larry Barton
Lynn Macy
Robert Baggs

Thank you for meeting with me at a moment's notice yesterday. When I learned that both the UMC and the West Las Vegas Plans were adopted by resolution instead of by ordinance, I was concerned both generally and specifically since an application in the UNC area has just been submitted. The application is consistent with the General Plan and inconsistent with the UMC Plan. Staff was feeling not just a little frustrated in determining how to handle the application. My feeling is that unless these subsequent area plans are adopted by ordinance and officially replace the appropriate sections of the General Plan, we're going to continue to have these inconsistencies and potential legal entanglements. As it is, I think the Planning Commission will be upset when they find out that the "old" General Plan, still in effect for the area, controls the land use and regulation for the area. Staff did explain the waiver process to the applicant, and we'll all hope the Commission and Council support the waiver. Thanks for agreeing to work with me to fix the problem.

Another issue this application raises is the continuing need for a "planned" district or "special" district to implement the UMC Plan, and any others, into the City Code. No base zoning district in the current code can be utilized: the plan contains development restrictions which are inconsistent with the base districts. Hence, we really need to get the new enabling legislation on line. I know it got mixed up with the discussions on the Union Pacific property; but, again we need to get moving.

This issue of adopting plans by ordinance rather than by resolution will come up again with the Council's consideration of the Northwest Land Use Plan. I've asked staff, specifically Robert Baggs, to insure that everything that needs to be done to amend the General Plan is done. I see no reason to ask Council to act on a plan twice; do you?

RESOLUTION

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF LAS VEGAS, NEVADA TO AMEND THE GENERAL PLAN, PURSUANT TO ORDINANCE NO. 3636.

WHEREAS, the City Council of the City of Las Vegas adopted the General Plan of the City of Las Vegas by Ordinance No. 3636, effective April 5, 1992; and

WHEREAS, this Plan was adopted to protect the character, social advantages and economic stability of the residential, commercial, industrial and other areas within the City and to assure the orderly, efficient and beneficial development of such resources; and

WHEREAS, the General Plan adopted by Ordinance may generally be amended by resolution of the Planning Commission and the City Council; and

WHEREAS, the General Plan contains language within the Land Use Element which is contradictory in its application among specified land use designations, and which may cause confusion in the review and implementation of the Plan through the zoning process; and

WHEREAS, staff of the Department of Community Planning and Development recommends that the General Plan be amended as set forth in this Resolution to resolve and inconsistency and avoid confusion.

NOW, THEREFORE, BE IT RESOLVED by the Planning Commission of the City of Las Vegas, Nevada, that:

1. The term "net", whenever used in the maps and text identified in Paragraphs (a) and (b), is deleted and replaced by the term "gross"

- a. The adopted Map 5, Northwest Sector, "Proposed Future Land Use" Legend; Map 6, Southwest Sector, "Proposed Future Land Use" Legend; and Map 7, Southeast Sector, "Proposed Future Land Use" Legend; and

b. The text of the General Plan Land Use Element, Section II, page II-5, Table 2, references on the 'D-R', 'R', 'L' categories; pages II -6, 7, Section 2.1.5 "General Plan Land Use Classification System" for the following classifications "Desert Residential Rural", "Rural Density Residential" and "Low Density Residential".

2. Page II - 15, Section 2.4.1.A. "Plan Consistency Policies", Subsection 1 is amended to read as follows:

"1. All parcels of land within the City of Las Vegas which are designated in a residential land use category in the Land Use Plan shall be appropriately zoned for a density of dwelling units which is compatible with surrounding residential uses and which does not exceed the maximum gross density set forth in the Land Use Classification System_[]; except in the case of large scale planned development projects, where certain parcels may exceed maximum Land Use Plan densities on a net acre basis, provide the total gross project density per acre does not exceed that provided under the Land Use Plan."]

(NOTE: Bracketed text to be deleted; underlined text is to be added)

3. This amendment shall become effective upon approval by the City Council of a resolution to the same effect.

PASSED, APPROVED AND ADOPTED this _____ day of July, 1992

Sandra Hudgens, Chairman

ATTEST:

Norman R. Standerfer, Secretary

CITY OF LAS VEGAS

Date


INTER-OFFICE MEMORANDUM

July 2, 1992

TO:

JOHN SCHLEGEL

FROM:

 FRANK REYNOLDS

SUBJECT:

LAND USE AMENDMENTS/ZONING REQUESTS
IN THE DOWNTOWN DEVELOPMENT PLAN
AREA (Z-50-92)

COPIES TO:

ROBERT GENZER
RON HANSEN

The requested rezoning (Z-50-92) from R-4, Apartment Residence District, to R-5, Downtown Apartment District, is in conformance with the Downtown Development Plan.

The site of this rezoning on Eleventh Street, south of Bridger Avenue, has the Downtown Development Plan district designation of Medium to High Density Residential Rehab. (21A). Proposed future land uses for this plan area consist of M - Medium Density Residential, H - High Density Residential and SC - Service Commercial. Appropriate corresponding zonings consist of R - 3, 4, 5, & 6 as well as P-R and C-D.

The table, "Downtown Development Plan - Comparisons of District Designations, Land Use and Zoning" has been attached for your preliminary reference. This table is correct except for the Town Center and Neighborhood Corridor District designations which maybe revised. The Department of Economic and Urban Development has also asked for a legal opinion as to whether they can selectively list the corresponding zoning districts represented by the SC - Service Commercial land use category.

FR:jg
Attachment

Downtown Development Plan

Comparisons of District Designations, Land-Use and Zoning

Re-Develop. Plan Map Section	District Designation	Map #	Proposed Future Land Use	Appropriate Corresponding Zoning
510.1	Low Density Residential (3-6 DU's/Ac.)	1	L, SC, PF	R-1, C-D, C-V
510.2	Medium Low Density Residential (6-12 DU's/Ac.)	-	ML, PF, SC	R-CL, R-2, C-V, C-D
510.3	Medium Density Residential (12-20 DU's/Ac.)	2	M, PF, SC	R-3, C-V, P-R, C-D
-	Commercial and Medium Residential	3	SC, M, PF	P-R, C-D, C-1, R-3, C-V
510.4	High Density Residential (20+ DU's/Ac.)	-	H, PF, SC	R-4, R-5, R-6, C-V, C-D
510.5	General Commercial	-	GC, LI/R	C-2, C-M, M
510.6	Service Commercial	4	SC	C-1
-	Residential Servicing Service Commercial	5A 5B 5C 5D	SC, PF SC, PF SC, H SC	C-1, P-R, C-V C-1, P-R, C-V C-1, P-R, R-4 C-1, P-R
510.7	Tourist Commercial	6	TC, SC	TC (C-2), C-D
-	Las Vegas Blvd. Tourist Commercial	7	TC, SC	TC (C-2), C-D
510.8	Employment/Industrial	8A 8B	LI/R, GC LI/R, GC	C-M, M, C-2 C-M, M, C-2
510.9	Civic	9A 9B	PF PF	C-V C-V
510.10	Neighborhood Infill	10	M, H, SC, (GC), TC, PF	R-3-6, C-D, TC, (C-2) C-V
510.11	Residential Infill	11A 11B 11C	ML, L, SC ML, L, SC L	R-2, R-CL, R-1, C-D R-2, R-CL, R-1, C-D R-1
510.12	Region Serving Support Business	12A 12B	SC, H SC	C-1, R-4 C-1
510.13	Region Serving Support Center	13	SC	C-1
510.14	Town Center	14	SC, PF	C-1, C-V
510.15	Neighborhood Corridor	15	SC, PF	C-1, P-R, C-V

Rev 7-2-92/DowntownDev/gm:apl:h

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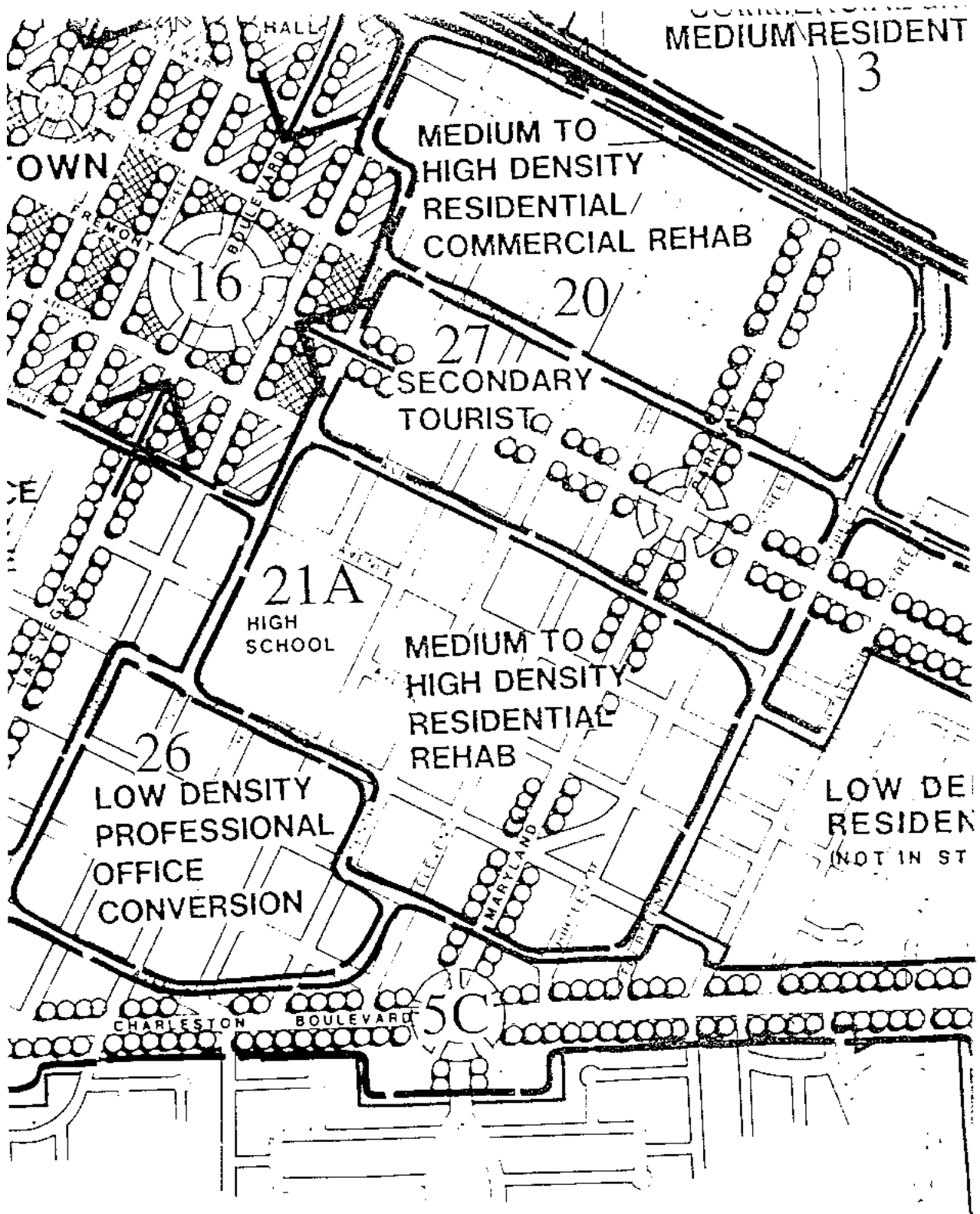
Downtown Development Plan (Continued)

Re-Develop. Plan Map Section	District Designation	Map #	Proposed Future Land Use	Appropriate Corresponding Zoning
510.16	Downtown Core	16	SC, GC, TC, PF	C-1, C-2, TC, C-V
510.17	Office/Civic Core	17	GC, SC, PF, (O)	C-2, C-1, C-V
510.18	Mixed Use	18A	GC, TC, SC, M, H, (O)	C-2, TC, C-1, P-R R-3, 4, 5& 6,
		18B	GC, SC, M, H	C-2, C-1, P-R, R-3, 4, 5&6
		18C	GC, TC, SC, M, H, PF	C-2, TC, C-1, P-R, R-3, 4, 5& 6, C-V
-	Mixed Use (Gaming Enterprise Zone)	19	GC, TC, SC, M, H	C-2, TC, C-1, P-R, R-3, 4, 5& 6
510.19	Medium to High Density Residential/Commercial Rehab. (12 to 20+ DU's/Ac.)	20	M, H, SC, GC	R-3, 4, 5& 6, C-1, C-2
-	Medium to High Density Residential Rehab.	21A	M, H, SC	R-3, R-4, 5 & 6, P-R, C-D
		21B	M, H, SC	R-3, 4, 5 & 6, C-D
510.20	Office/Residential Mixed Use (20+ DU's/Ac.)	22	SC, GC, H, (O)	C-1, C-2, R-4, 5& 6
510.21	High Density Residential Rehab.	-	H, SC	R-4, 5 & 6, C-D
-	High Density Residential/Commercial Rehab.	23	H, SC, GC	R-4, 5 & 6 C-1, C-D, P-R, C-2
510.22	Industrial Rehab.	24	LI/R	M, C-M
-	Service Commercial/Industrial Rehab.	25	SC, GC, LI/R	P-R, C-1, C-2, C-M, M
510.23	Low Density Professional Office Conversion	26	SC	P-R, C-1
510.24	Secondary Tourist	27	SC, GC, TC	P-R, C-1, C-2, TC
510.25	Light Industry	28	LI/R, GC	M, C-M, C-2

Rev 7-2-92/DowntownDev.pgm,apl:hs

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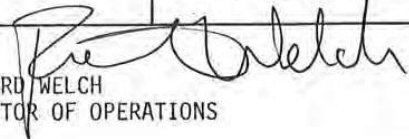
13491

CITY OF LAS VEGAS

INTER-OFFICE MEMORANDUM

Date

June 25, 1992

TO: FRANK REYNOLDS, DEPUTY DIRECTOR COMMUNITY PLANNING	FROM:  RICHARD WELCH DIRECTOR OF OPERATIONS
SUBJECT: LAND USE AND ZONING DESIGNATIONS FOR THE DOWNTOWN DEVELOPMENT PLAN	COPIES TO: LARRY BENDER IRENE CLARK ROBERT BAGGS HOWARD NULL

My staff has reviewed the Downtown Development Plan District Table prepared by your staff.

A memo was sent to the attorney's office (attached). Contingent on the legal opinion rendered by the attorney's office on your concern about the appearance of inconsistent application of zoning districts, the Table, with the indicated changes, is acceptable.

RW:IC:ch
Attachment

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Downtown Development Plan

Comparisons of District Designations, Land-Use and Zoning

Develop. an Map lection	District Designation	Map #	Proposed Future Land Use	Appropriate Corresponding Zoning
.1	Low Density Residential (3-6 DU's/Ac.)	1	L, SC, PF	R-1, C-D, C-V
.2	Medium Low Density Residential (6-12 DU's/Ac.)	-	ML, PF, SC	R-CL, R-2, C-V, C-D, C-V
.3	Medium Density Residential (12-20 DU's/Ac.)	2	M, PF, SC	R-3, C-V, P-R, C-D, C-V
	Commercial and Medium Residential	3	SC, M, PF	P-R, C-D, C-1, R-3, C-V
.4	High Density Residential (20+ DU's/Ac.)	-	H, PF, SC	R-4, R-5, R-6, C-V, C-D, C-V
.5	General Commercial	-	GC, LI/R	C-2, C-M, M
.6	Service Commercial	4	SC	C-1
	Residential Servicing Service Commercial	5A	SC, PF	C-1, P-R, C-V
		5B	SC, PF	C-1, P-R, C-V
		5C	SC, H	C-1, P-R, R-4
		5D	SC	C-1, P-R
.7	Tourist Commercial	6	TC, SC	T-C (C-2), C-D
	Las Vegas Blvd. Tourist Commercial	7	TC, SC	T-C (C-2), C-D
.8	Employment/Industrial	8A	LI/R, GC	C-M, M, C-2
		8B	LI/R, GC	C-M, M, C-2
.9	Civic	9A	PF	C-V
		9B	PF	C-V
.10	Neighborhood Infill	10	M, H, SC, (GC), TC, PF	R-3-6, C-D, T-C, (C-2), C-V
.11	Residential Infill	11A	ML, L, SC	R-2, R-CL, R-1, C-D, C-V
		11B	ML, L, SC	R-2, R-CL, R-1, C-D, C-V
		11C	L	R-1
.12	Region Serving Support Business	12A	SC, H	C-1, R-4
		12B	SC	C-1
.13	Region Serving Support Center	13	SC	C-1

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Comparisons of District Designations, Land-Use & Zoning

(Continued)

Develop. an Map Section	District Designation	Map #	Proposed Future Land Use	Appropriate Corresponding Zoning
.16	Downtown Core	16	SC, GC, TC, PF	C-1, C-2, T-C, C-V
.17	Office/Civic Core	17	GC, SC, PF, (O)	C-2, C-1, C-V
.18	Mixed Use	18A	GC, TC, SC, M, H, (O)	C-2, TC, C-1, P-R, R-3, 4, 5&6
		18B	GC, SC, M, H	C-2, C-1, P-R, R-3, 4, 5&6
		18C	GC, TC, SC, M, H, PF	C-2, TC, C-1, P-R, R-3, 4, 5&6, C-V
	Mixed Use (Gaming Enterprise Zone)	19	GC TC , SC, M, H	C-2 TC , C-1, P-R, R-3, 4, 5&6
.19	Medium to High Density Residential/Commercial Rehab. (12 to 20+ DU's/Ac.)	20	M, H, SC, GC	R-3, 4, 5&6, C-1, C-2
	Medium to High Density Residential Rehab.	21A	M, H, SC	R-3, 4, 5&6, P-R, C-D, LI
		21B	M, H, SC	R-3, 4, 5&6, C-D, LI
.20	Office/Residential Mixed Use (20+ DU's/Ac.)	22	SC, GC, H, (O)	C-1, C-2, R-4, 5&6
.21	High Density Residential Rehab.	-	H, SC	R-4, 5 & 6, C-D
	High Density Residential/Commercial Rehab.	23	H, SC, GC	R-4, 5 & 6, C-1, C-D, P-R, C-2
.22	Industrial Rehab.	24	LI/R	M, C-M
	Service Commercial/Industrial Rehab.	25	SC, GC, LI/R	P-R, C-1, C-2, C-M, M
.23	Low Density Professional Office Conversion	26	SC	P-R, C-1,
.24	Secondary Tourist	27	SC, GC, TC	P-R, C-1, C-2, T-C.
.25	Light Industry	28	LI/R, GC	M, C-M, C-2

CLV053422

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CITY OF LAS VEGAS

INTER-OFFICE MEMORANDUM

Date

June 11, 1992

TO:

VAL STEED
BOB SYLVAIN

FROM:


LARRY BENDER, CHIEF
DOWNTOWN REDEVELOPMENT AGENCY

SUBJECT:

DOWNTOWN DEVELOPMENT PLAN
LAND USE DESIGNATIONS

COPIES TO:

RICHARD WELCH
FRANK REYNOLDS
IRENE CLARK

On May 11, 1992, the Advanced Planning Division of the Community Planning and Development (CPD) Department approached the Redevelopment Agency staff about the recently amended Downtown Development Plan map.

As presented to Agency staff, it was necessary for CPD staff to translate Redevelopment land use designations, as defined in the Redevelopment Plan, into CPD land uses and appropriate corresponding zoning. In addition, CPD staff made suggestions to change some Redevelopment land use designations.

Agency staff made no changes to the Redevelopment land use designations. That action would require initiating the public notification process as set forth in the Nevada Revised Statutes. Staff did proceed with the request to translate Redevelopment land uses. In doing so, Agency staff applied the Service Commercial (SC) designation to several areas. The SC land use designation refers to several zoning classifications: P-R Professional Offices and Parking, C-C Neighborhood Commercial Center District, C-D Designated Commercial District, C-1 Limited Commercial District. However, when the SC designation was applied, every corresponding zoning classification was not.

Agency staff evaluated each district and determined that some zoning classifications allowable under SC were inappropriate for a particular district and accordingly were not included. CPD staff is concerned that this action may create the appearance of inconsistent application of zoning districts within the Redevelopment Area.

Please render a legal opinion on this matter.

Attached are the proposed land use designations and corresponding zoning as prepared by Agency staff.

For additional information, please contact Irene Clark at ext. 6100.

LB:ch:cp
IC:DWNDVPLN.MEM

CLV053423

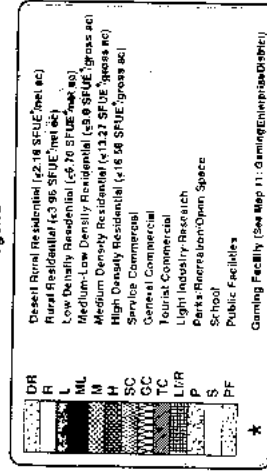
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Map 5

Northwest Sector City of Las Vegas Proposed Future Land Use

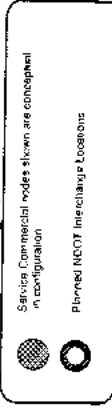
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Gaming Facility (See Map 11: Gaming Enterprise District)

Single Family Unit Equivalent: See Land Use element 2.1.5 and Table 3

Legend



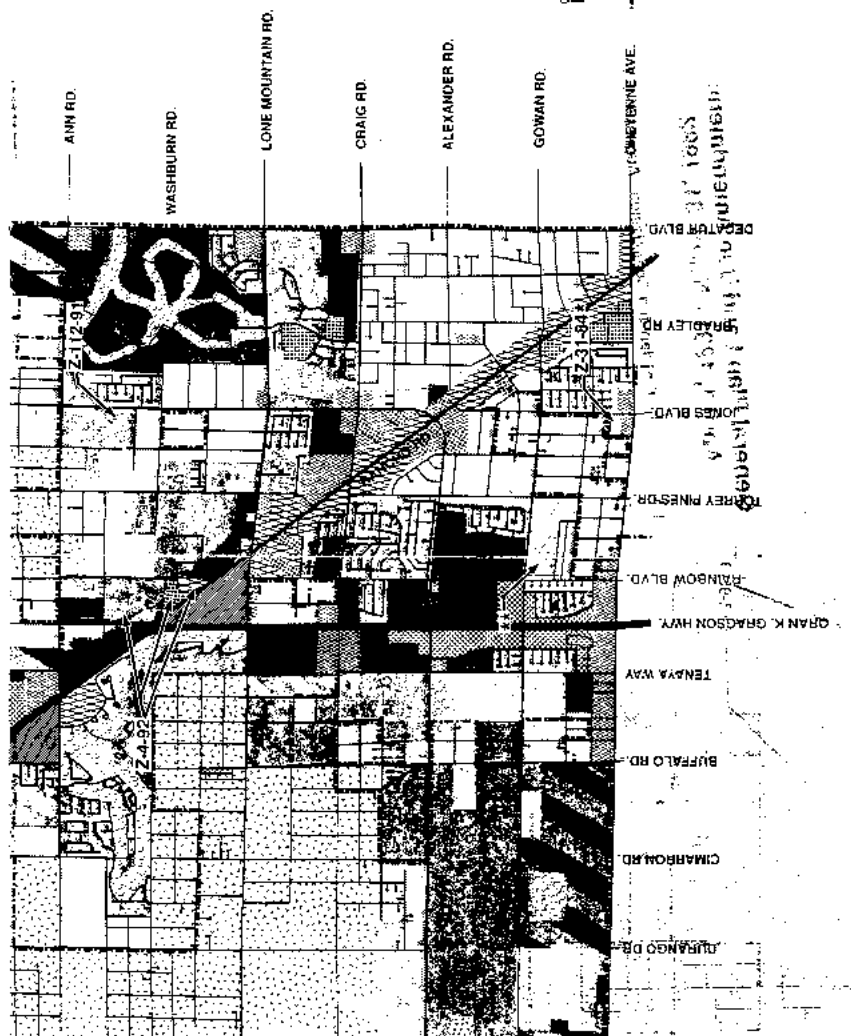
Source: City of Las Vegas, Division of Community Planning & Development

RESIDENTIAL LAND USE CLASSIFICATION SCHEDULE

DWELLING TYPE	DA	R	L	ML	N	H
SFUE	2.18	3.96	6.70	9.00	13.27	16.50
Single Family Detached	2.10	3.96	6.70	9.00	13.27	16.50
Low Rise Apartment						
Single Family Attached						
High Rise Apartment						
Mobile Home						
Hotel per Room						
Motel per Room						

CLV053424

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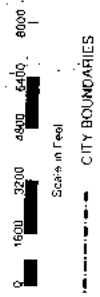


Single Family Detached	2.15	3.96	6.70	9.00	9.00	9.00
Low Rise Apartments				10.00	20.00	25.00
Single Family Attached		11.29	18.23	23.93	29.91	
High Rise Apartment				37.23	48.52	
Mobile Home				7.14	7.14	
Hotel per Room				20.87	25.77	
Motel per Room				11.11	14.44	32.27
Congregate Care Bed			42.08	42.08	42.08	42.08

* Single Family Unit Permitted

* R.O.I. EXPIRED
 ** STAFF RECOMMENDED LAND USE AMENDMENT

Adopted by the Planning Commission, March 12, 1992

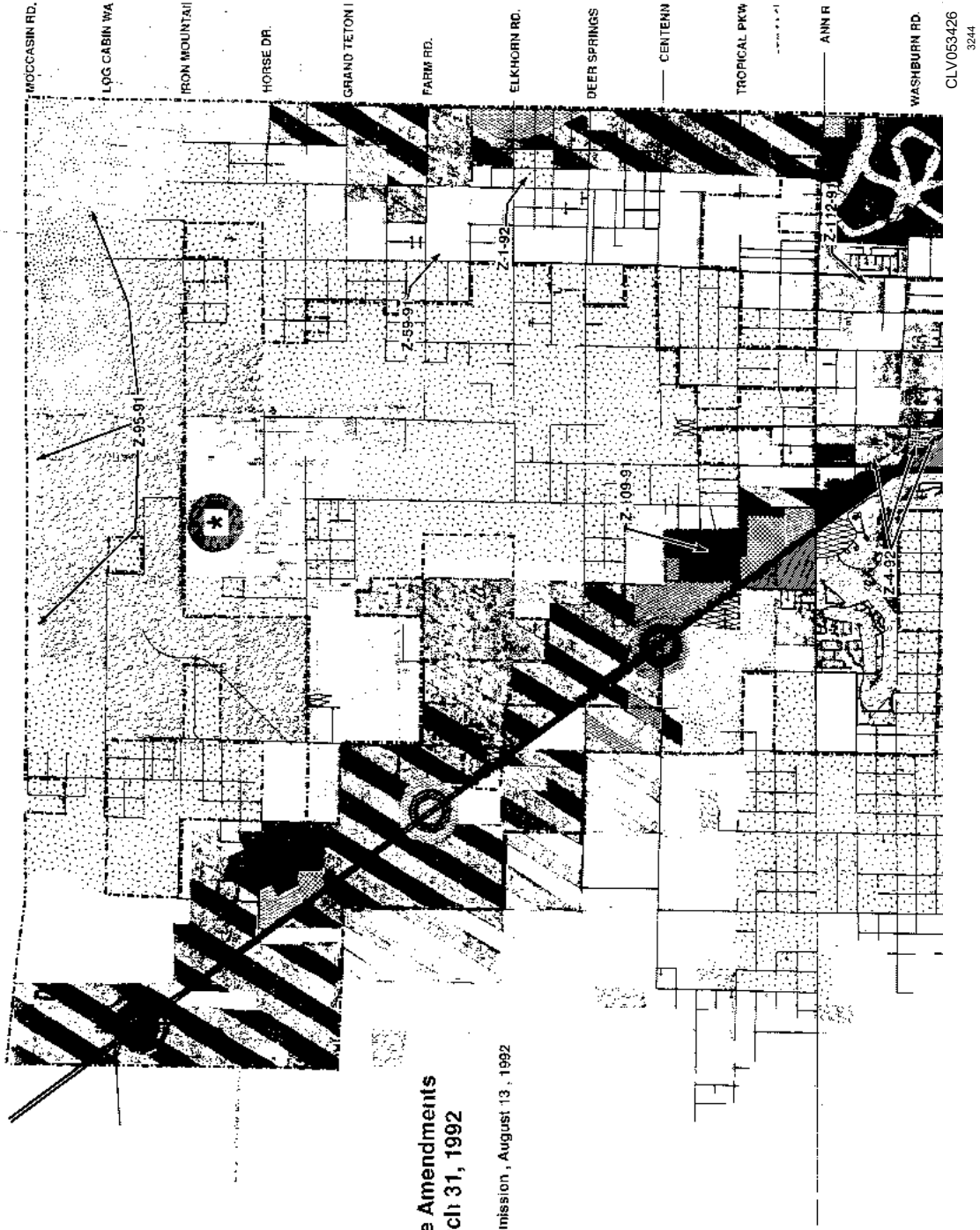


CITY BOUNDARIES

Revised February 24, 1992

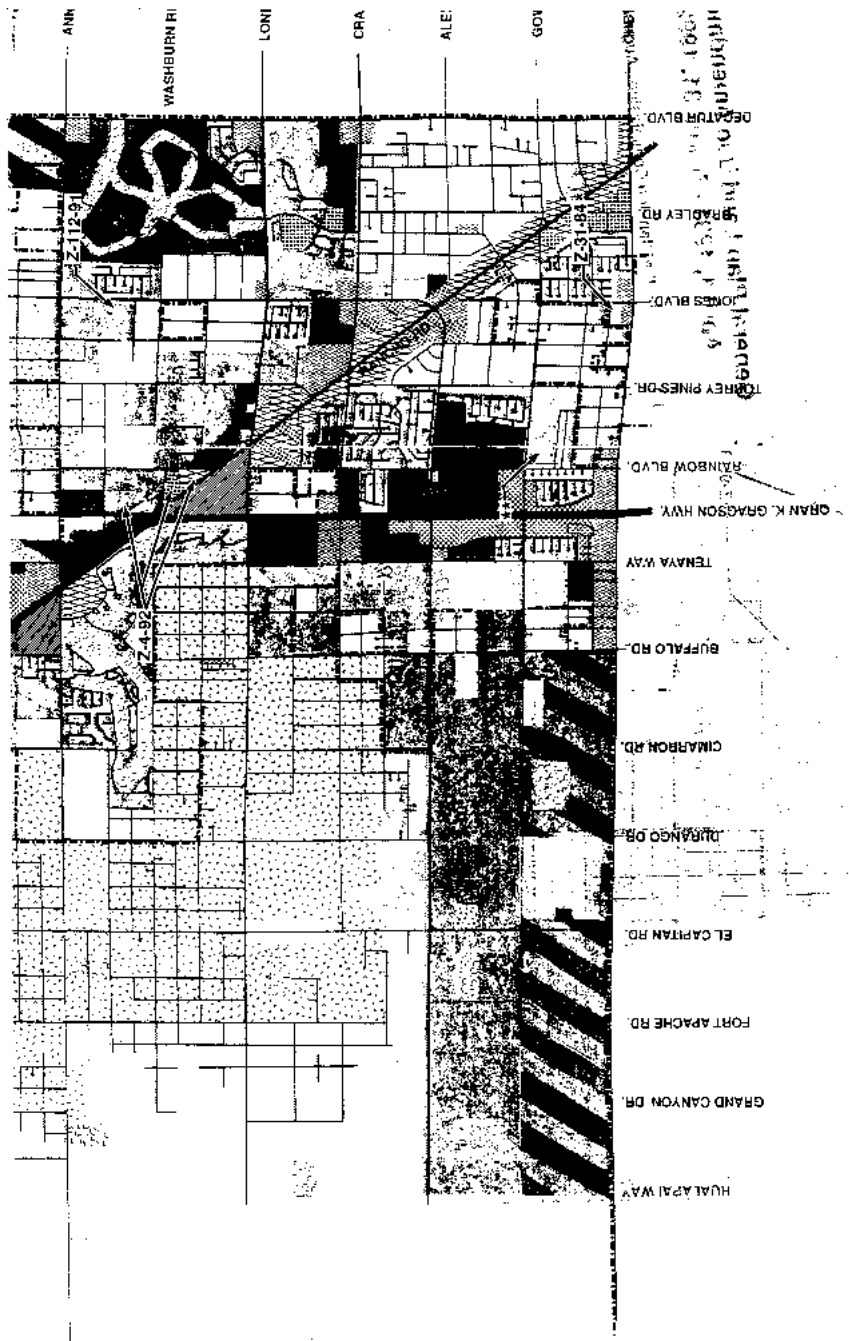
Chairman
 Sandra Hudgens

Services
 Norman R. Shuckler, Jr.
 Executive Director
 Planning Department



General Plan Land Use Amendments
April 1, 1991 - March 31, 1992

For Review by the Planning Commission, August 13, 1992



CLV053427
3245

MARTIN L. KING BLVD.

General Plan Land Use Amendments
April 1, 1991 - March 31, 1992
For Review by the Planning Commission - August 13, 1992

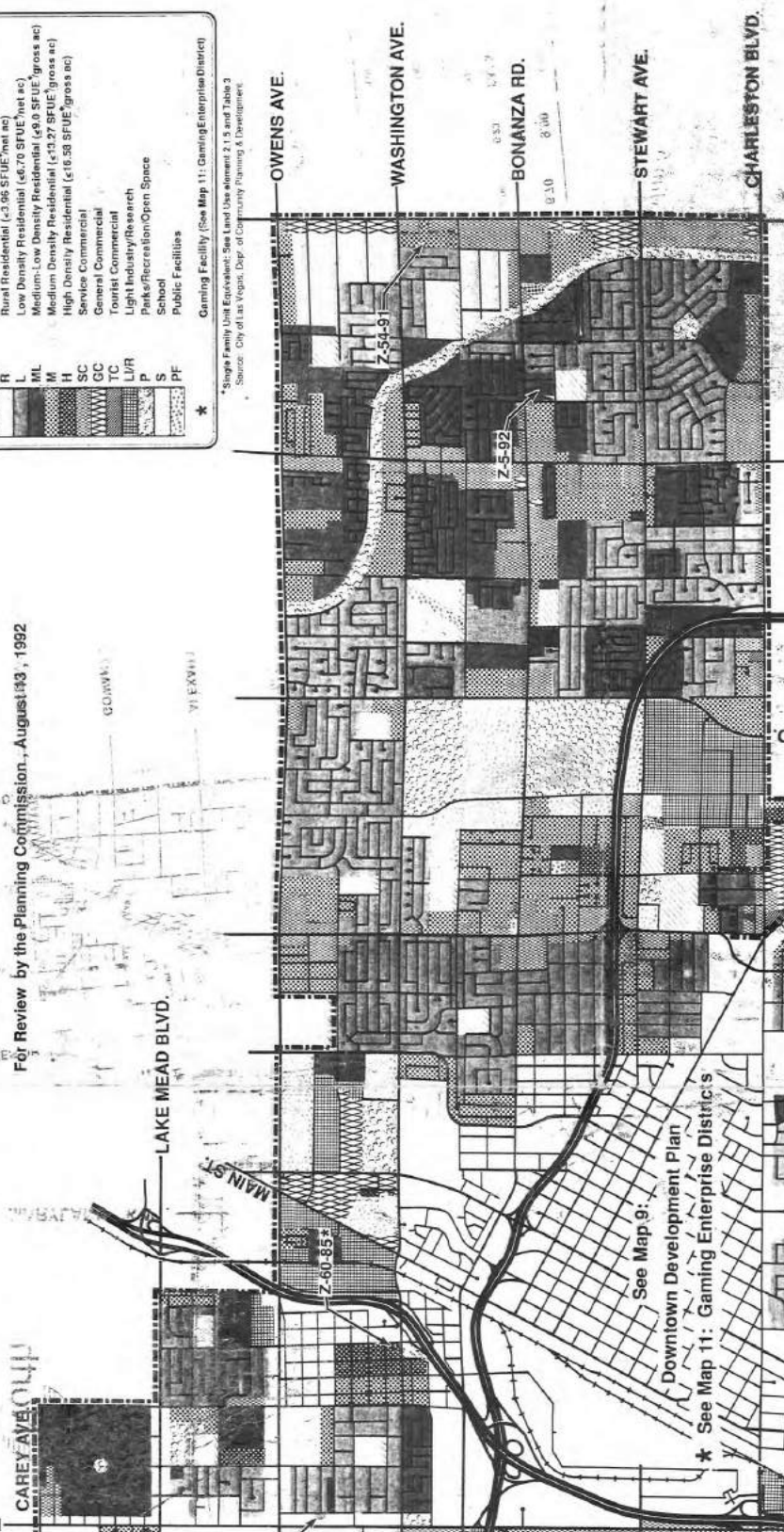
Southeast Sector
City of Las Vegas
Proposed Future Land Use

Map 7

Legend

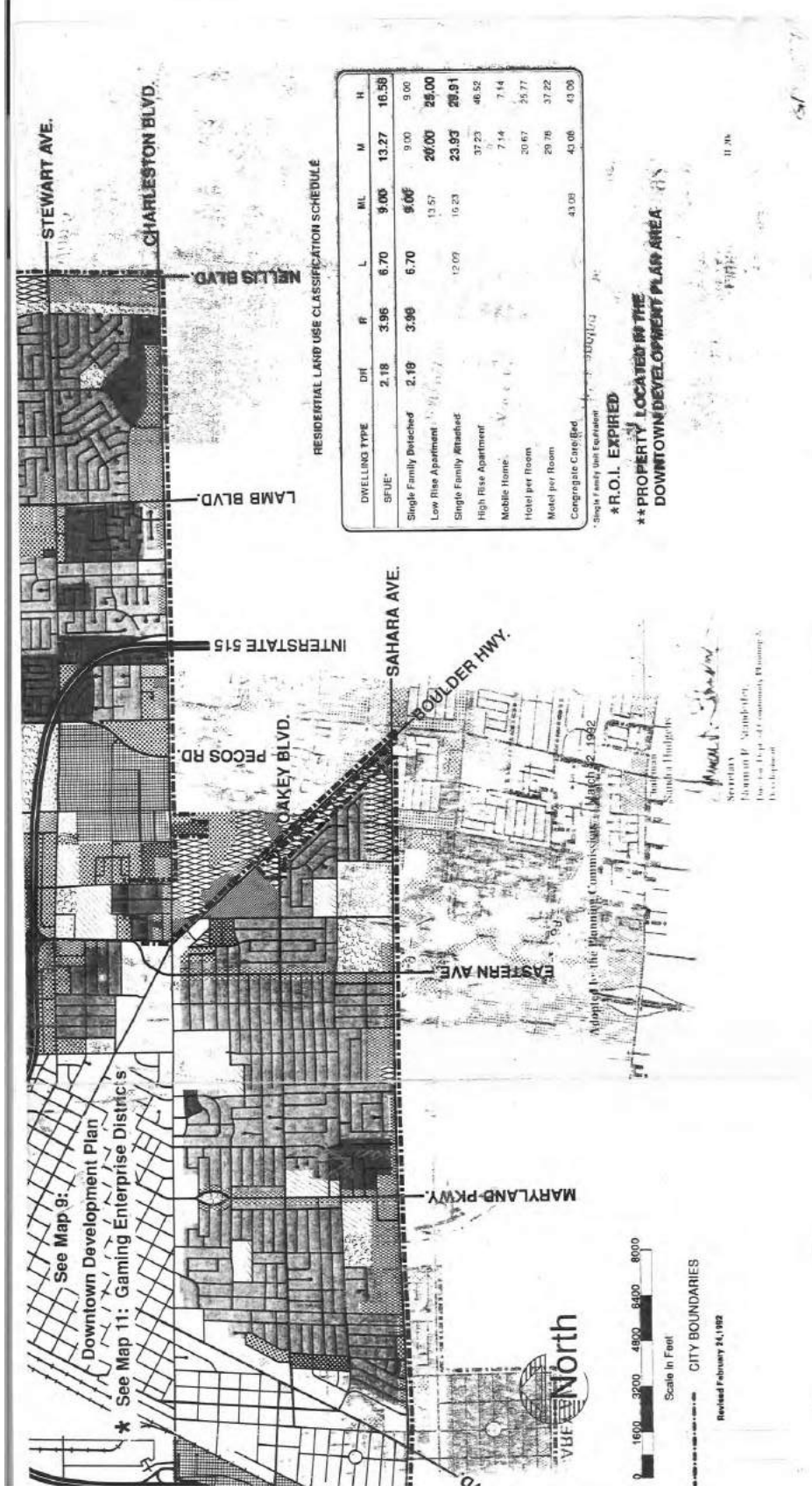
DR	Desert Rural Residential (≤2.18 SFUE/net ac)
R	Rural Residential (≤3.95 SFUE/net ac)
L	Low Density Residential (≤6.70 SFUE/net ac)
ML	Medium-Low Density Residential (≤8.0 SFUE/gross ac)
M	Medium Density Residential (≤13.27 SFUE/gross ac)
H	High Density Residential (≤16.58 SFUE/gross ac)
SC	Service Commercial
GC	General Commercial
TC	Tourist Commercial
LVR	Light Industry/Research
P	Parks/Recreation/Open Space
S	School
PF	Public Facilities
*	Gaming Facility (See Map 11: Gaming Enterprise District)

*Single Family Unit Equivalent: See Land Use Element 2.1.8 and Table 3
Source: City of Las Vegas, Dept. of Community Planning & Development

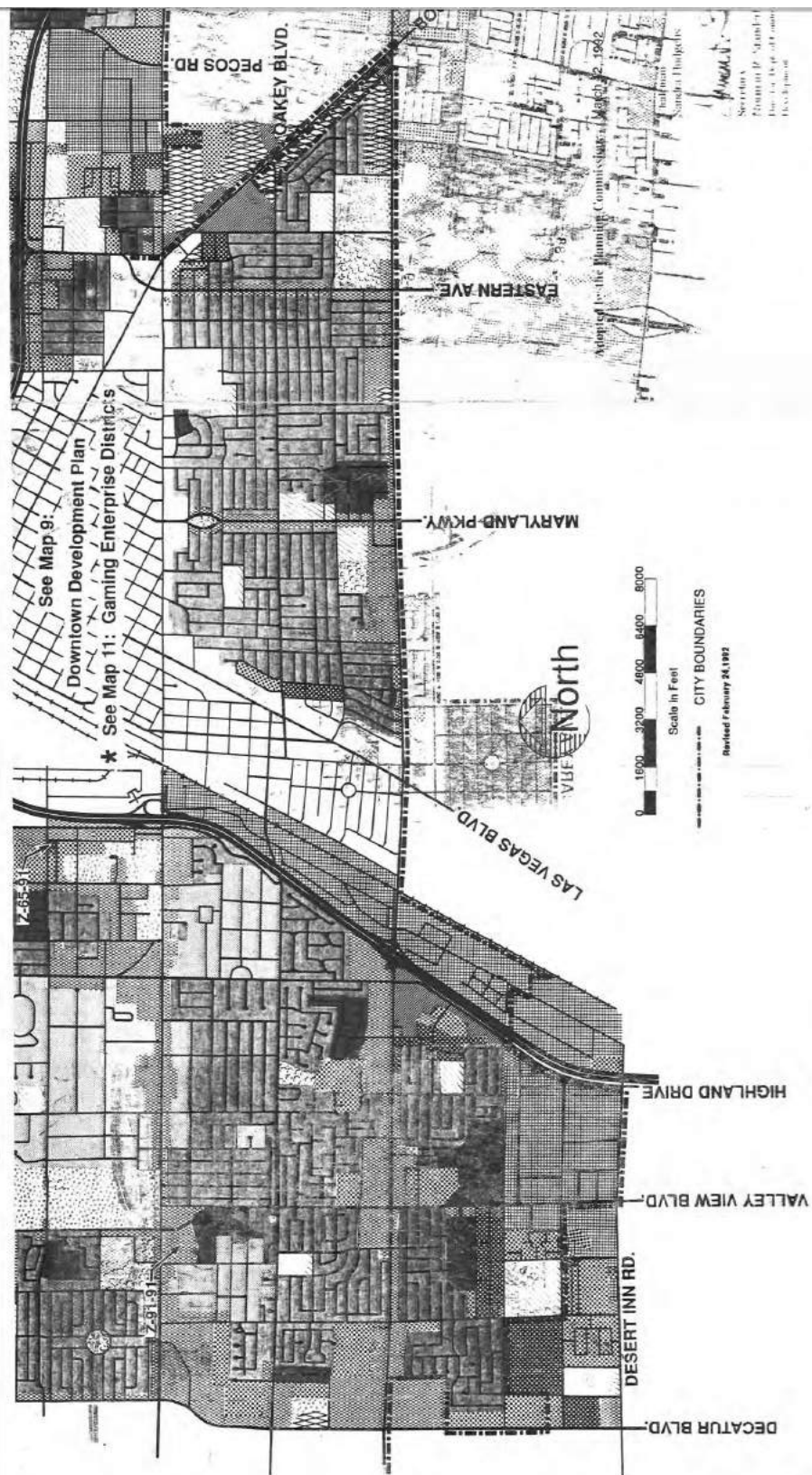


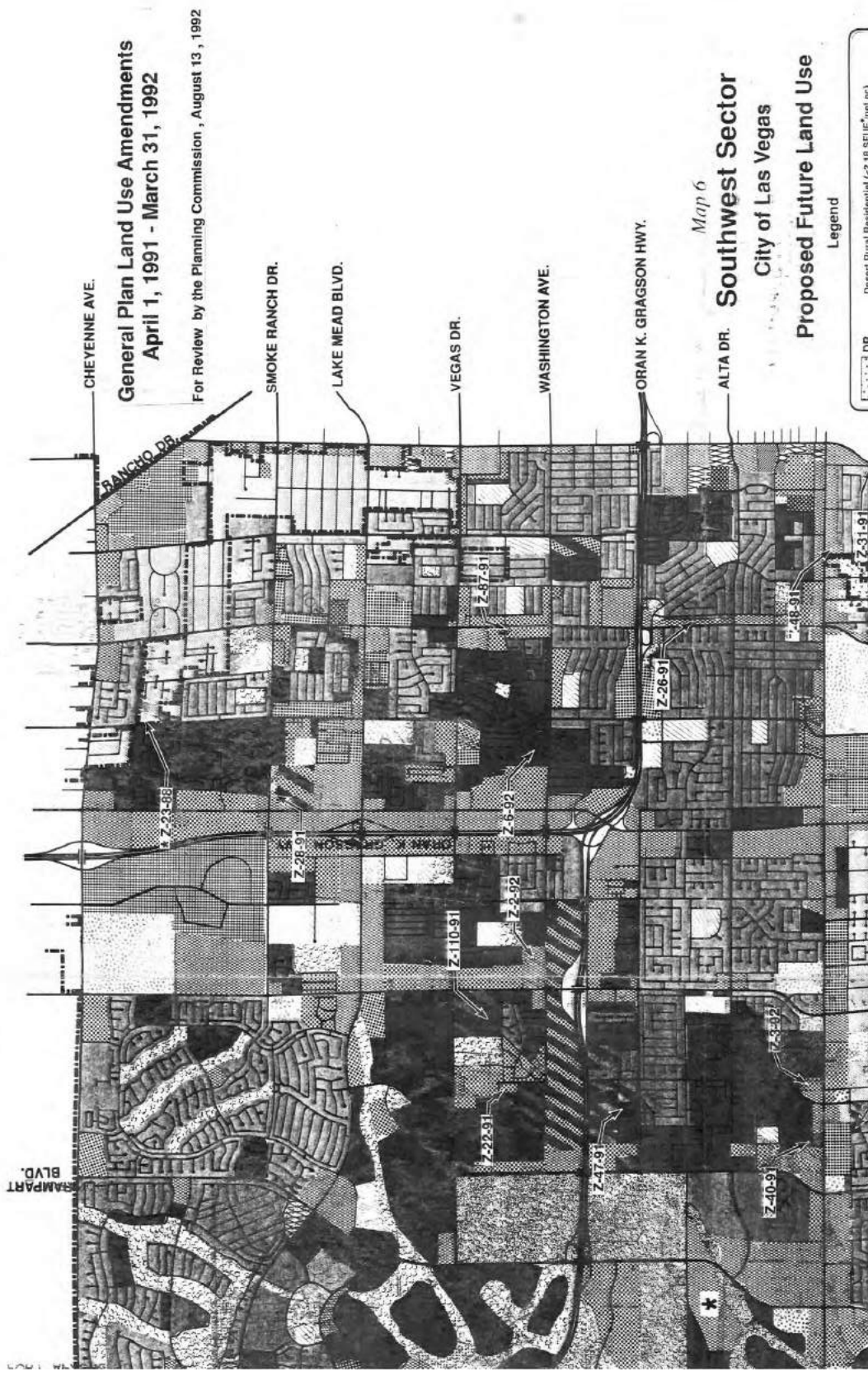
See Map 9:
Downtown Development Plan
See Map 11: Gaming Enterprise District's

CLV053428
3246



CLV053429
3247

CLV053431
3249



Southwest Sector

City of Las Vegas

Proposed Future Land Use

Legend

DR	Desert Rural Residential (≥2.18 SFUE/acre)
R	Rural Residential (≥3.96 SFUE/acre)
L	Low Density Residential (≥6.70 SFUE/acre)
ML	Medium Density Residential (≥9.0 SFUE/acre)
M	Medium Density Residential (≥10.27 SFUE/acre)
H	High Density Residential (≥15.58 SFUE/acre)
SC	Service Commercial
GC	General Commercial
TC	Town Center
LIR	Light Industrial/Research
P	Park/Recreation/Open Space
S	School
PF	Public Facilities
*	Gaming Facility (See Map 11, Gaming)
	Enterprise (limited)

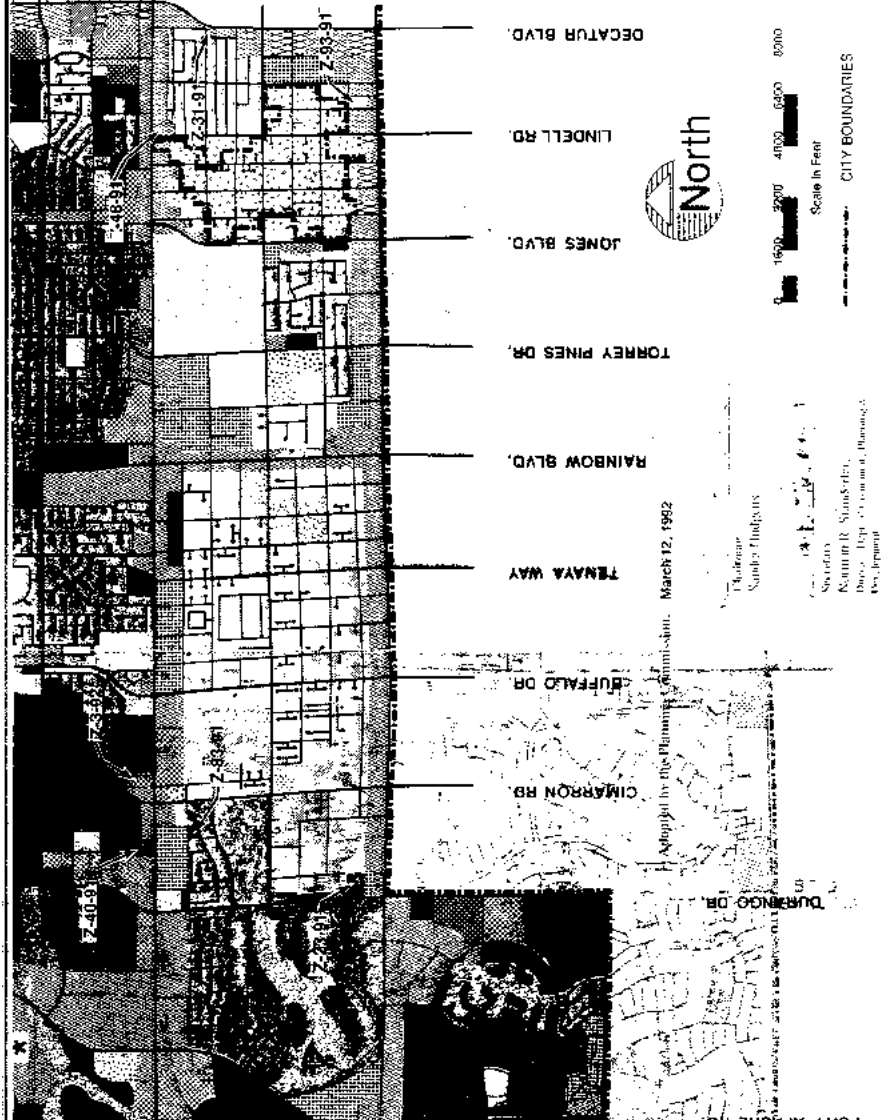
* Single Family Use Excluded From Local Use District 2, 3, 4 and Table 3
 * Single Family Use Excluded From Local Use District 2, 3, 4 and Table 3
 * Single Family Use Excluded From Local Use District 2, 3, 4 and Table 3

* R.O.I. EXPIRED

RESIDENTIAL LAND USE CLASSIFICATION SCHEDULE

CONFLUENCE TYPE	DR	R	L	ML	M	H
SPUE*	2.18	3.96	6.70	9.00	10.27	15.58
Single Family Detached	2.18	3.96	6.70	9.00	10.27	15.58
Low Rise Apartment						
Single Family Attached						
High Rise Apartment						
Mobile Home						
Hotel per Room						
Motor per Room						
Compass per Acre Used						

* SFUE = Single Family Use Excluded



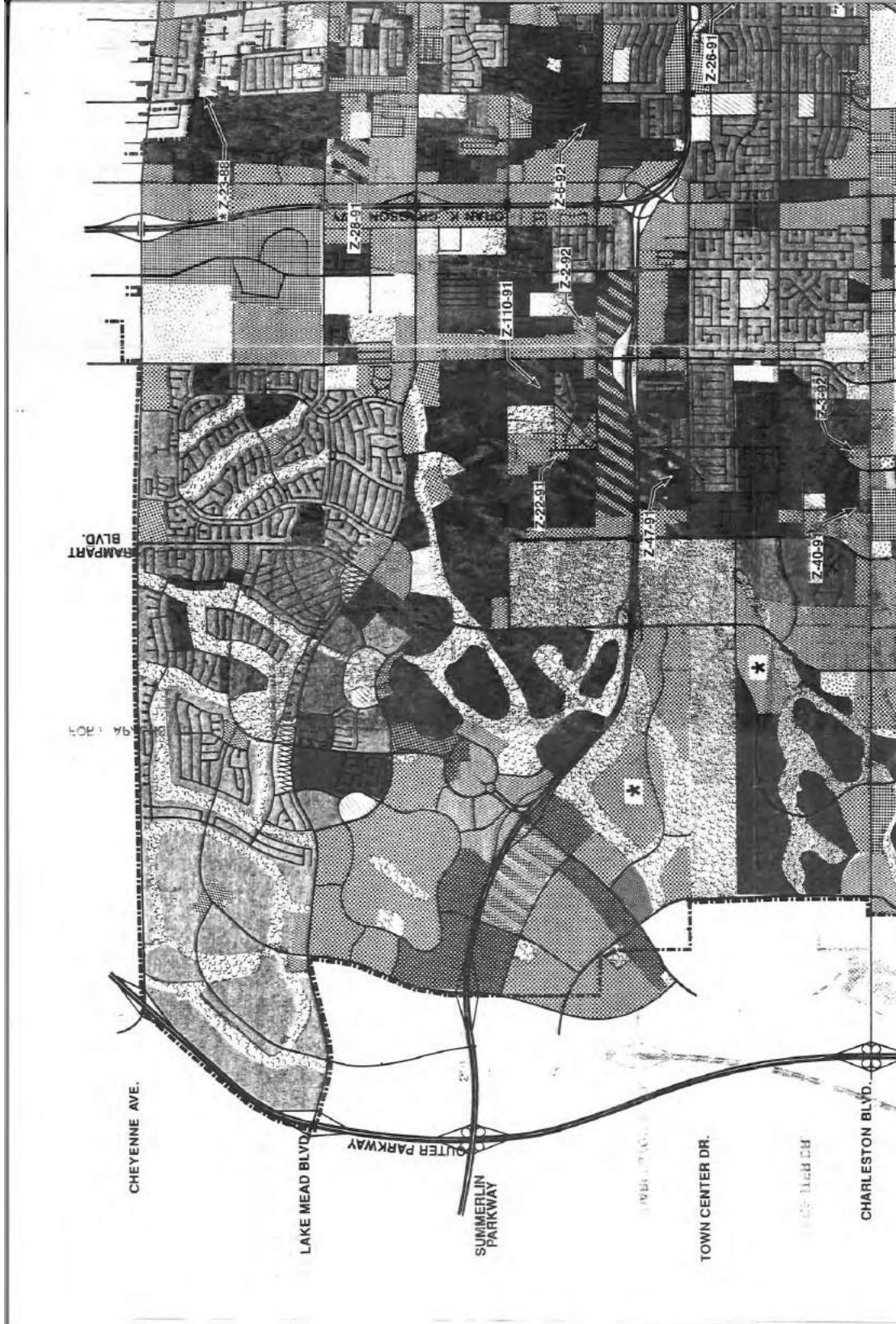
CITY BOUNDARIES

Secretary
 Nathan R. Shanker
 Director, Department of Planning
 City of Las Vegas

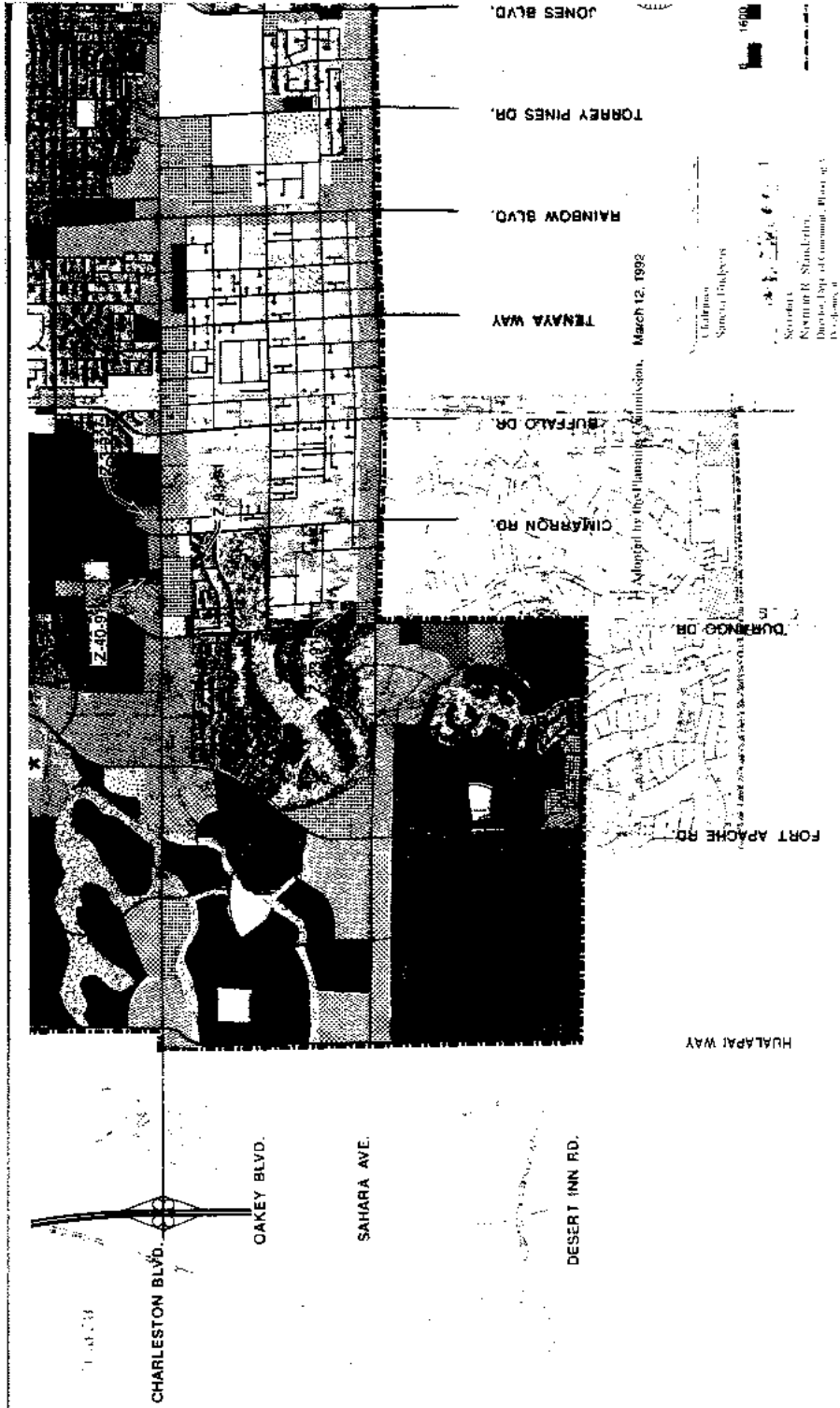
Adopted by the Planning Commission, March 12, 1992

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Generalized Valley-Wide Future Land Use Plan *Map 10* (not an adopted plan)

Note: This generalized Valley-wide Future Land Use Plan was developed from the General/Master Plans of the Cities of Las Vegas, Henderson and North Las Vegas, and the Land Use and Development Plans of the Unincorporated Towns and Areas of Clark County. Its purpose is to help identify the land use, community facilities, circulation and infrastructure elements which need to be coordinated on a metropolitan (Valley-wide) scale.

This Plan was developed from a matrix of the "lowest common denominator" land use categories of each jurisdiction. It is therefore not an actual depiction of their individual General/Master Plans, nor is it intended to represent zoning classifications. For more information on the Plans of individual jurisdictions, including dates of adoption and revisions, please contact their respective Planning Departments.

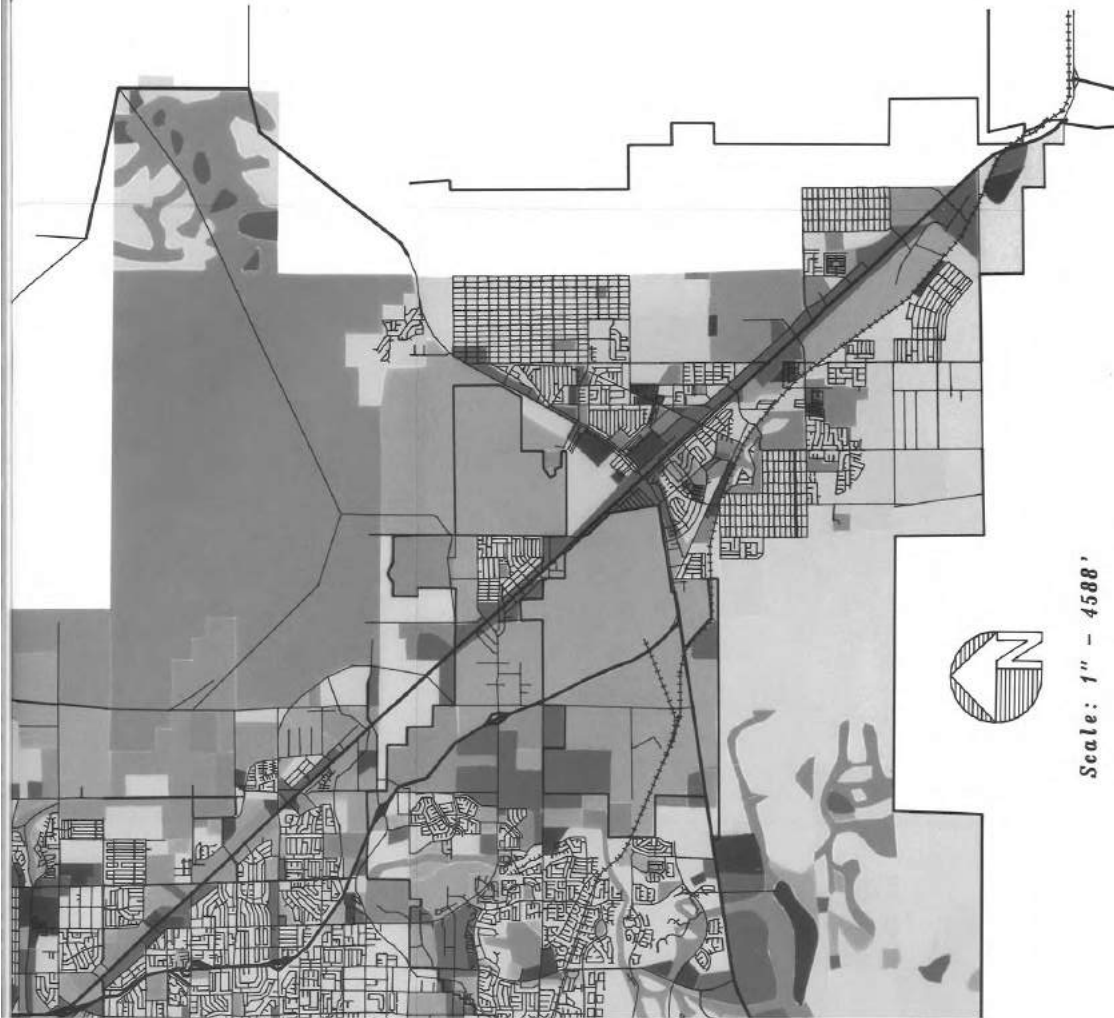
* See Land Use Element, Tables 5a and 5b.

Source: The Planning Departments of Las Vegas, North Las Vegas, Henderson and Clark County

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Legend

- R Residential Rural (0-2 du/ac)
- RL Residential Low (3-6 du/ac)
- M Residential Medium (7-18 du/ac)
- H Residential High (19+ du/ac)
- POC Planned Office/Commercial
- GC General Commercial
- TC Tourist Commercial
- L/B Light Industry/Business
- I Industry
- OS Parks/Schools/Open Spaces
- PF Public Facilities

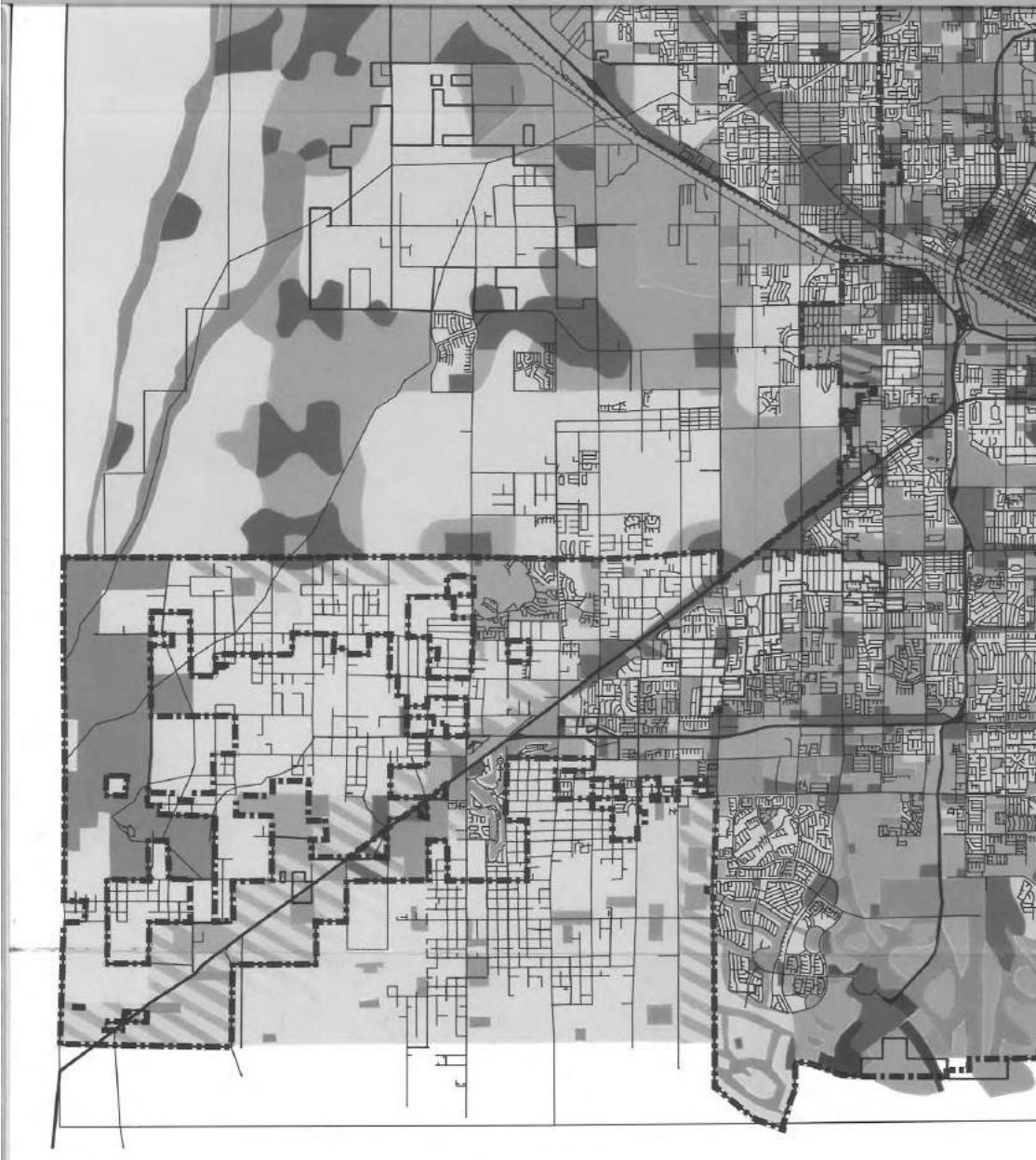


Scale: 1" = 4588'

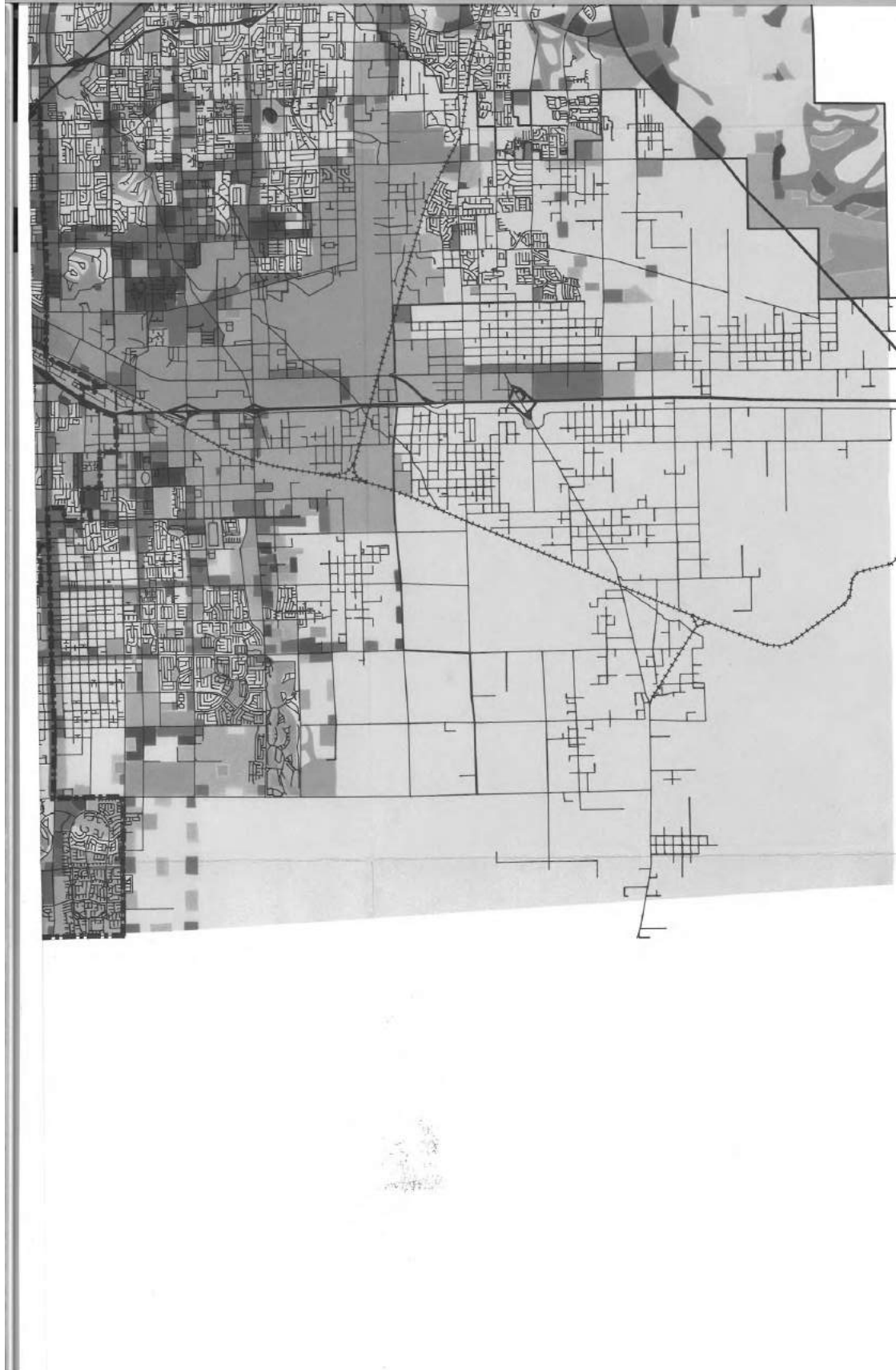


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