DS #: 4549-1

APN: 138-29-401-011

PROJECT: Summerlin Resort Hotel & Casino - Update

SUBMITTAL: 2nd

SCANNED BY/DATE:

CHECKED BY/DATE:

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM				DATE: July 9, 2012
TO: **Land Development Services** Department of Public Works				FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for: **Summerlin Resort Hotel & Casino – Update** **East Parking Garage Onsite Improvements**			**COPIES TO:** Martin & Martin Civil Engineers
Cross Streets:	SWC of Summerlin Parkway & Rampart Blvd			Hotspur Resorts Nevada LTD
File Number:	F:\Depot\DSMemos\DS4549B.doc			Bart Anderson, P.E., DevCo
Parcel Number:	138-29-401-011			CCRFCD
Zoning Action:	SUP-44163; CRG-45182			
FEMA Flood Zone	YES	NO	X	
Proposed Storm Drain	YES	NO	X	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1st Submittal	2/7/2012	2/14/2012	Approved	$400.00	273803: $400
2nd Submittal	6/26/2012	7/9/2012	See Comments Below	$100.00	287664: $100
			TOTAL FEES (LDDRS):	**$400.00**	----

REMARKS:

2nd Submittal: Update #1 to relocate two onsite storm drain inlets and add driveway entrances

The Drainage Study for the subject project has been reviewed and:

X	is approved subject to conformance to all City standards and the following conditions:
	must be resubmitted or supplemented including the following:
	is conditionally approved subject to Clark County Regional Flood Control District concurrence.

NOTE: Any future changes to the proposed design (or design assumptions) as outlined in the approved drainage study and attached preliminary grading plan which affect drainage must be addressed in a Drainage Study Amendment and accepted by the *City of Las Vegas Flood Control Section.* Additionally, conditional acceptance of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, the *City of Las Vegas* reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the *Nevada Division of Environmental Protection* a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained on site; for inclusion in the Stormwater General Permit No. NVR100000. A phased construction unit in a contiguous subdivision is considered under construction until all stripped or disturbed surface areas have been covered by paving, building construction or planting. For more information, including forms and applications see http://ndep.nv.gov/bwpc/storm01.htm or call (775) 687-9429.

END OF REMARKS

ays

T/R/S: T20S/R60E/29
AREA L-29

****
*** FAX TX REPORT ***
****

TRANSMISSION OK

JOB NO.	4393
DESTINATION ADDRESS	2488070
PSWD/SUBADDRESS	
DESTINATION ID	
ST. TIME	07/09 13:31
USAGE T	00'32
PGS.	1
RESULT	OK

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM			**DATE:** July 9, 2012
TO: Land Development Services, Department of Public Works			**FROM:** Albert Sung, P.E., Flood Control Project Engineer, Department of Public Works
SUBJECT:	Drainage Study for: **Summerlin Resort Hotel & Casino – Update, East Parking Garage Onsite Improvements**		**COPIES TO:** Martin & Martin Civil Engineers
Cross Streets:	SWC of Summerlin Parkway & Rampart Blvd		Hotspur Resorts Nevada LTD
File Number:	F:\Depot\DSMemos\DS4549B.doc		Bart Anderson, P.E., DevCo
Parcel Number:	138-29-401-011		CCRFCD
Zoning Action:	SUP-44163; CRG-45182		
FEMA Flood Zone	YES	NO X	
Proposed Storm Drain	YES	NO X	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
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NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to

May 10, 2012

Mr. Thad Alston
Hotspur Resorts Nevada, Limited
100 Park Royal South, Suite #300|
West Vancouver, British Columbia V7T 1A2

Re: CRG-45182- CITY REFERRAL GROUP

Dear Mr. Alston:

Your request for a request for a Minor Amendment of a previously approved Special Use Permit (U-0054-96) FOR A 29,550 SQUARE FOOT EXPANSION, NEW PARKING GARAGE AND OTHER SITE IMPROVEMENTS OF AN EXISTING CASINO AND HOTEL on 49.74 acres at 221 North Rampart Boulevard (APNs 138-29-401-011, 012, 013), P-C (Planned Community) Zone, Ward 2 (Beers), was considered by the City Referral Group on May 9, 2012.

The City Referral Group ***APPROVED*** your request subject to the following:

Department of Planning

1. Conformance to the Conditions of Approval for Rezoning (Z-0044-87) and Special Use Permit and Summerlin Site Development Plan Review (U-0054-96) shall be required, except as amended herein.

2. Conformance to the requirements and conditions of the Summerlin Non-Residential Design Review Committee (SNRDRC) contained within a letter dated 04/03/12.

3. All development shall be in conformance with the site plan, landscape plan, and building elevations, date stamped 04/19/12, except as amended herein.

4. Any changes based upon right-of-way, traffic or drainage studies or street improvements required by the city or public utilities shall not reduce the widths of perimeter landscape buffers, height of walls or quantities of plant materials from that on submitted landscape plans date stamped 04/19/12. Any changes based upon subsequently submitted studies must be accommodated elsewhere on the site.

CITY OF LAS VEGAS
DEPARTMENT OF PLANNING
DEVELOPMENT SERVICES CENTER
333 NORTH RANCHO DRIVE
3RD FLOOR
LAS VEGAS, NEVADA 89106

VOICE 702.229.6301
FAX 702.474.0352
TTY 702.386.9108
www.lasvegasnevada.gov

5. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Summerlin Development Standards, Title 19 and all codes as required by the Building and Safety Department.

6. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.

7. A technical landscape plan, signed and sealed by a Registered Architect, Landscape Architect, Residential Designer or Civil Engineer, must be submitted prior to or at the same time application is made for a building permit. A permanent underground sprinkler system is required, and shall be permanently maintained in a satisfactory manner; the landscape plan shall include irrigation specifications. Installed landscaping shall not impede visibility of any traffic control device.

8. All City Code requirements and design standards of all City Departments must be satisfied, except as modified herein.

Public Works

9. No structures, nor trees or vegetation taller than three feet, shall be allowed within the public sewer easements as shown on Parcel Map Page 115, Book 34 and on document #20081008:00895.

10. All landscaping and private improvements installed with this project shall be situated and maintained so as to not create sight visibility obstructions for vehicular traffic at all development access drives and abutting street intersections.

11. Meet with the Fire Protection Engineering Section of the Department of Fire Services to discuss fire requirements for the use of this site.

12. A Traffic Impact Analysis must be submitted to and approved by the Department of Public Works prior to the issuance of any building or grading permits, or the submittal of any construction drawings. Comply with the recommendations of the approved Traffic Impact Analysis prior to occupancy of the site. The Traffic Impact Analysis shall also include a section addressing Standard Drawings #234.1 #234.2 and #234.3 to determine additional right-of-way requirements for

bus turnouts adjacent to this site, if any; dedicate all areas recommended by the approved Traffic Impact Analysis. All additional rights-of-way required by Standard Drawing #201.1 for exclusive right turn lanes and dual left turn lanes shall be dedicated prior to or concurrent with the commencement of on-site development activities unless specifically noted as not required in the approved Traffic Impact Analysis. If additional rights-of-way are not required and Traffic Control devices are or may be proposed at this site outside of the public right-of-way, all necessary easements for the location and/or access of such devices shall be granted prior to the issuance of permits for this site. Phased compliance will be allowed if recommended by the approved Traffic Impact Analysis. No recommendation of the approved Traffic Impact Analysis, nor compliance therewith, shall be deemed to modify or eliminate any condition of approval imposed by the Planning Commission or the City Council on the development of this site.

13. Site development to comply with all applicable Summerlin Development and Improvement Standards.

This action by the City Referral Group on May 10, 2012 is final unless a written appeal is filed with the Director of the Department of Planning within ten (10) days of the date of the City Referral Group's decision.

Sincerely,

Yorgo Kagafas

Yorgo Kagafas, AICP
Senior Planner
Department of Planning
Case Planning Division

YK:clb

cc: Mr. Greg Borgel
Moreno & Associates
300 South Fourth Street, Suite #1500
Las Vegas, Nevada 89101

TECHNICAL DRAINAGE STUDY

Update for Summerlin Resort Hotel and Casino

East Parking Garage
Onsite Improvements

June 2012

MARTIN & MARTIN PROJECT NO. 4034

Prepared for:

Hotspur Resorts Nevada LTD.
221 N Rampart Blvd.
Las Vegas, NV 89144
(604) 925-2700

MARTIN & MARTIN
Civil Engineers
2355 Red Rock Street, Suite103
Las Vegas, Nevada 89146
Phone (702) 248-8000
Fax (702) 248-8070
www.mmcivil.com

TABLE OF CONTENTS

MARTIN & MARTIN
Civil Engineers
A Subsidiary of Civil Squared Engineering, LLC

June 25, 2012

Albert Sung
City of Las Vegas Flood Control
333 N Rancho Drive
Las Vegas, Nevada 89106

RE: Technical Drainage Study Update for Summerlin Resort Hotel and Casino – East Parking Garage Onsite Improvements
(APN 139-29-401-011)
Martin & Martin Project No. 4034

Mr. Sung,

Hotspur Resorts Nevada, LTD. has retained Martin & Martin Civil Engineers to provide a Technical Drainage Study Update for Summerlin Resort Hotel and Casino East Parking Garage Onsite Improvements. The project site is within APN 139-29-401-011 and located in the City of Las Vegas, Nevada on the southwest corner of Summerlin Parkway and Rampart Boulevard. This letter, Standard Form 1, the current proposed Grading Plan and drainage calculations are to serve as an update to the approved Technical Drainage Study for Summerlin Resort Hotel and Casino prepared by Martin & Martin (DS2080), which analyzed the developed or "ultimate" condition of the Summerlin Resort Hotel and Casino.

The traffic flow patterns to the east parking garage are being modified and additional entrances to the eastern parking lots are being added along the main access drive. The traffic flow pattern modifications to the east garage require the relocation of 2 drop inlets. The drop inlets have been moved north approximately 70-feet. The relocated drop inlets are the same type and size as the original inlets. A new manhole has also been added to accommodate the relocated drop inlets. There appears to be no drainage related issues with the new entrances to the eastern parking lot.

The previously approved Technical Drainage Study for Summerlin Resort Hotel and Casino prepared by Martin & Martin (DS# 2080) established all peak flow rates entering the storm drain system and has not changed from the approved study. The previously approved basin map from DS# 2080 (Developed Onsite Drainage Basin Map – Figure 1) has been provided with the basins that contribute to the storm drain system highlighted in red, see appendix B. The changes to the site occur in basins PARK 3 and HOTEL 7.

The drop inlet relocation was evaluated using WSPG. Calculations are located in appendix A of this report. The flow rates have been referenced from the StormCAD calculations completed in Summerlin Resort Hotel and Casino (DS2080). The downstream HGL has also been referenced from this study. Reference material can be found in Appendix B. The WSPG analysis indicates the storm drain relocation will meet CCRFCD and CLV criteria. The 100-year HGL is a minimum of 1-foot below the finished grade.

The results of this study indicate that if construction is in accordance with the recommendations of this study, the proposed improvements will not significantly impact surrounding or downstream properties.

We hope all your concerns have been addressed. If you have any comments or questions, please feel free to contact us at any time.

Sincerely,

James A. Yancey, P.E.
Project Manager
Martin & Martin Civil Engineers

Rob Hansen, P.E.
Civil Engineer
Martin & Martin Civil Engineers

H:\Cad\Land\4034\Admin\Drainage\Update - East Garage Improvements\4034 Project UP Letter.doc

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: **Update to Summerlin Hotel & Casino - East Parking Garage Onsite Improvements** Date: **6/25/2012**

Location of Development: a) Descriptive (Cross Streets) **Northwest corner of Rampart Blvd & Canyon Run**

b) Section **29** Township **20 South** Range **60 East**

Name of Owner: **Hotspur Resorts Nevada LTD** Assessors Parcel Number: **138-29-401-011**

Telephone Number: **(604) 925-2700**

Address: **221 N Rampart Blvd**
Las Vegas, NV 89144

Contact Person Name: **Kenneth J. Welden, P.E.** Telephone Number: **(702) 248-8000**

Firm: **Martin & Martin Civil Engineers** Fax Number: **(702) 248-8070**

Address: **2355 Red Rock Street, Suite 103** Email: **kwelden@mmcivil.com**
Las Vegas, NV 89146

Type of Land Development/Land Disturbance Process:

	Rezoning		Subdivision Map		Clearing and Grading Only
	Parcel Map		Planned Unit Development		Other (Please specify below)
	Large Parcel Map	X	Building Permit		

1. Total Owned Land Area: At Site: **± 39.99 Ac** Being Developed: **± 1.60 Ac**
2. Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? YES* **NO**
3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? **YES*** NO
4. Proposed type of development (Residential, Commercial, Etc.)? **Commercial**
5. Approximate upstream land area which drains to the subject site? **N/A**
6. Has the site drainage been evaluated in the past? **YES** NO
   If yes, please identify documentation:
   Technical Drainage Study DS# 2080, 3914, 4283, 4549
7. If known, please briefly identify the proposed discharge point(s) of runoff from the site:
8. Briefly describe your proposed schedule for the subject project: **ASAP**

Engineer's Seal

Submit this form as part of the required drainage study to the local entity which has jurisdiction over the subject property. This form may provide sufficient information to serve as the Conceptual Drainage Study.

* Review and concurrence of the Clark County Regional Flood Control District is Required.

Revision	Date

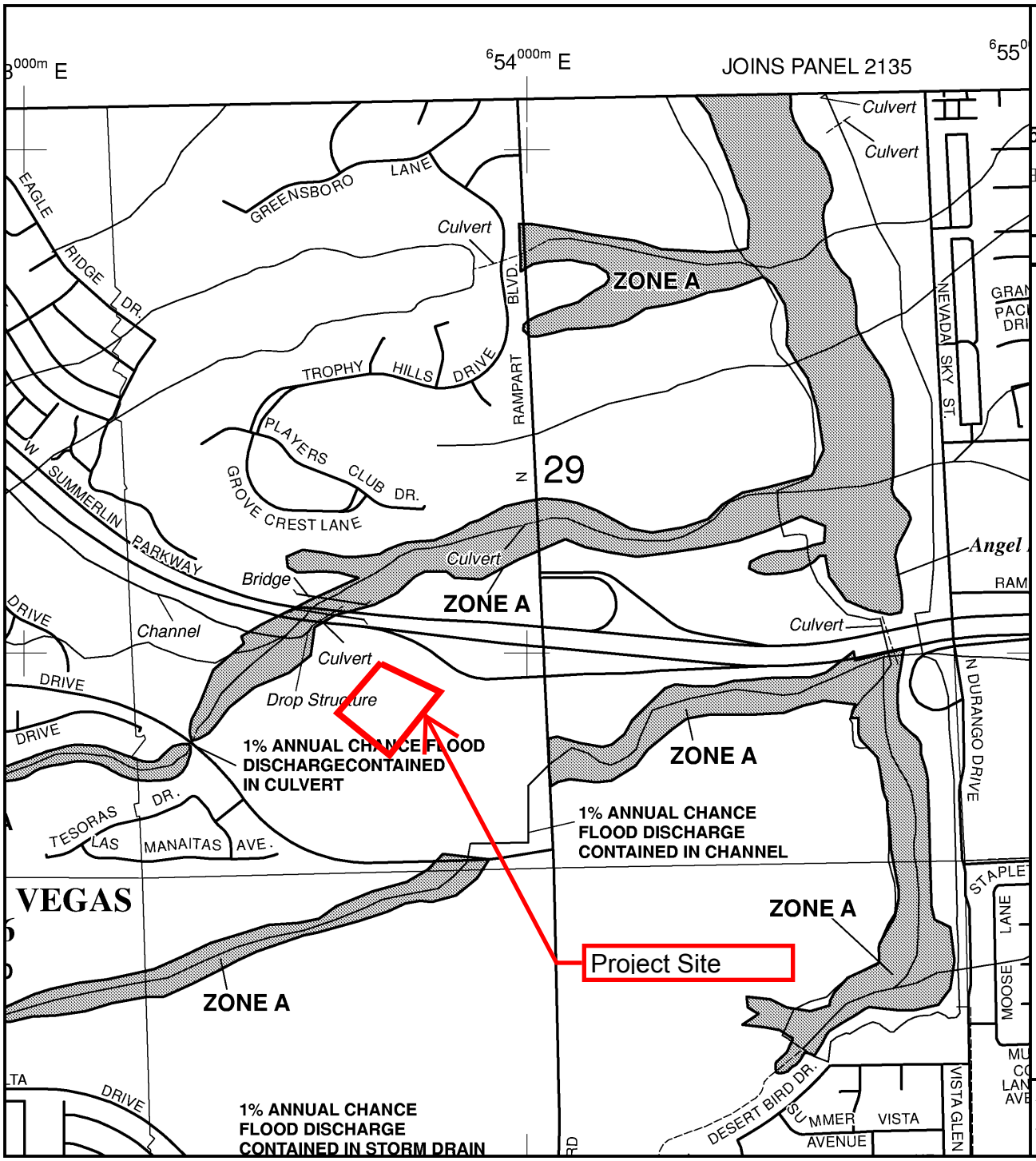
Local Entity File No.

REFERENCE: M&M Project No. 4034 **STANDARD FORM 1**

TABLE OF APPENDICES

APPENDIX A
(MAPS AND HYDRAULICS)

- FIRM Map
- CCRFCD 2008 MPU Fig F-25
- WSPG Storm Drain Calculations



MAP SCALE 1" = 1000'

500 0 1000 2000 FEET METE

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2145F

FIRM

FLOOD INSURANCE RATE MAP

CLARK COUNTY, NEVADA

AND INCORPORATED AREAS

PANEL 2145 OF 4090

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

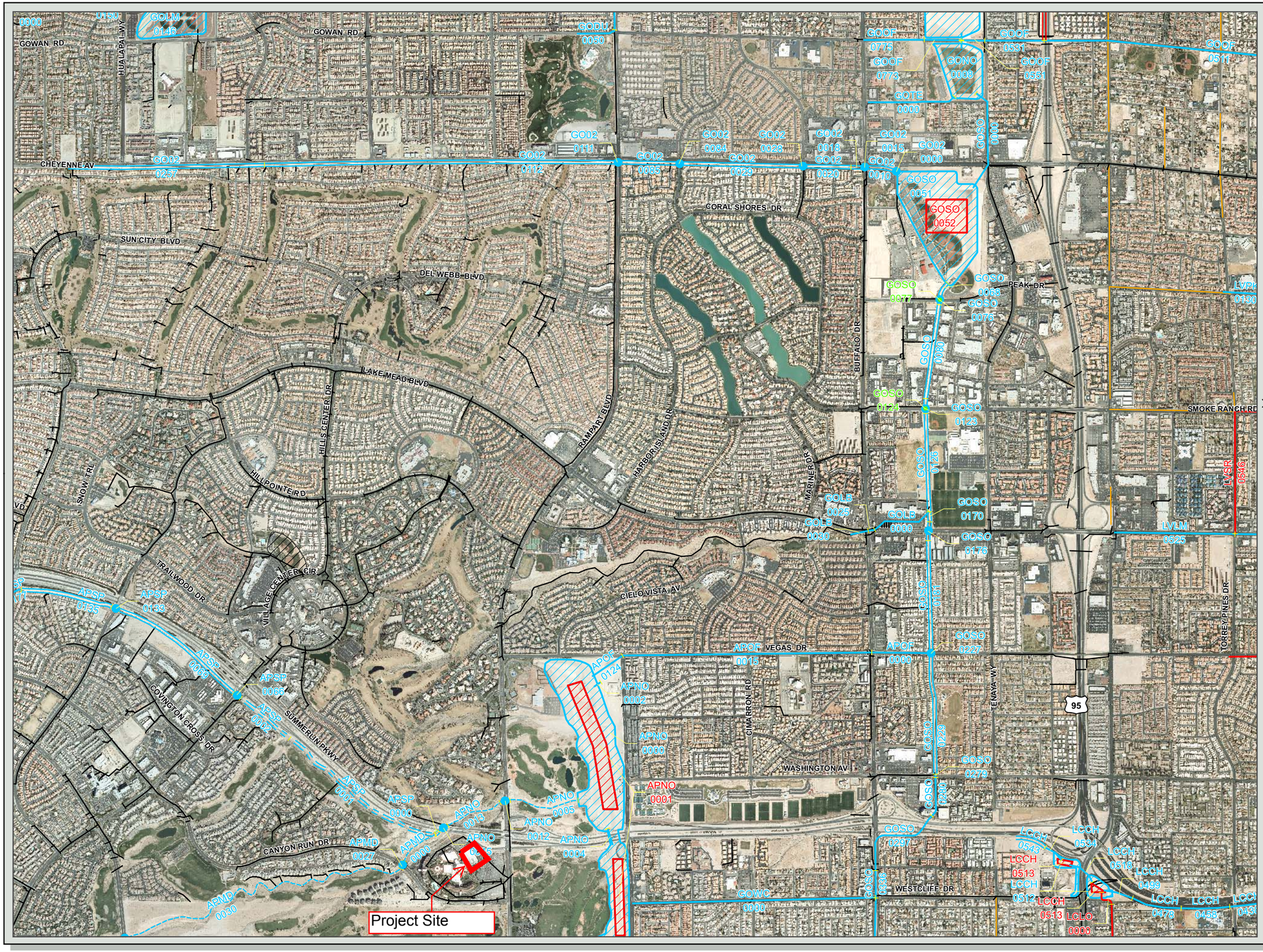
COMMUNITY	NUMBER	PANEL	SUFFIX
CLARK COUNTY	320003	2145	F
LAS VEGAS, CITY OF	325276	2145	F

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

MAP NUMBER 32003C2145F

MAP REVISED NOVEMBER 16, 2011

Federal Emergency Management Agency



REGIONAL FLOOD CONTROL DISTRICT

2008
LAS VEGAS VALLEY
FLOOD CONTROL
MASTER PLAN UPDATE

FIGURE F-25
FLOOD CONTROL FACILITIES

LEGEND

- Ultimate Development Boundary
- Existing Facilities
- Category A Proposed Facilities
- Category B Proposed Facilities
- Local Existing Facilities
- Local Proposed Facilities
- Detention Basin
- Culvert or Bridge Crossing
- Stormdrain
- Lined Channel
- Unlined Channel
- Levee/Dike
- Natural Wash/Floodway
- ID-Mile Separator

Remove & Replace/Parallel Facilities

Category A	Category B
Channel	Channel
Stormdrain	Stormdrain
Crossing	Crossing

N

0 500 1,000 2,000 3,000
Feet

Scale: 1 inch = 2,000 feet

Refer to Figure G-2 for Aerial Source(s)

US95 I-15 I-215

	1	2	3			
4	5	6				
	7	8	9	10		
11	12	13	14	15	16	17
	18	19	20	21	22	23
	24	25	26	27	28	
	29	30	31	32	33	34
	35	36	37	38	39	40
	41	42	43	44	45	46
	47	48	49	50	51	52
	53	54	55	56		
	57	58	59			

PBS&J PB

```
                                                    4034
T1 SUMMERLIN RESORT - EAST PARKING GARAGE ONSITE IMPROVMENTS                    0
T2 JOB # 4034
T3 WSPG FOR RELOCATED DROP INLETS NEAR EAST GARAGE
SO       .000  77.400  1                              79.410
R      19.500  78.400  1      .013                                  .000    .000 0
R      19.550  78.600  1      .013                                  .000  57.000 1
R      82.300  85.500  1      .013                                  .000    .000 0
JX     82.350  85.700  1  1   .013   10.400            86.700         90.0       60.000
R     100.500  87.500  1      .013                                  .000    .000 0
SH    100.500  87.500  1                              88.500
CD   1  4   1    .000   1.500     .000  .000  .000   .00

Q             4.900   .0
```

1 DOWNSTREAM

	STATION	INVERT	DEPTH	Q	AREA	FORCE	DNORM	DCRIT	SLOPE	SFRICT
ELEMENT NO = 1 1	.000	77.400	.770	15.300	.913	8.259	.000	1.412	.00000	.000000
ELEMENT NO = 2 2	19.500	78.400	.725	15.300	.846	8.853	.875	1.412	.05128	.095329
ELEMENT NO = 2 2	8.175	77.819	.752	15.300	.887	8.478	.875	1.412	.05128	.083924
ELEMENT NO = 2 2	.000	77.400	.770	15.300	.913	8.259	.875	1.412	.05128	.077709
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ELEMENT NO = 3 2	19.500	78.400	.725	15.300	.846	8.853	.274	1.412	4.00000	.095329
ELEMENT NO = 4 2	82.300	85.500	1.412	15.300	1.725	5.385	.696	1.412	.10996	.018336
ELEMENT NO = 4 2	81.987	85.466	1.317	15.300	1.644	5.433	.696	1.412	.10996	.019140
ELEMENT NO = 4 2	81.296	85.390	1.245	15.300	1.567	5.533	.696	1.412	.10996	.020765
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ELEMENT NO = 4 2	75.628	84.766	1.031	15.300	1.295	6.200	.696	1.412	.10996	.031738
ELEMENT NO = 4 2	73.350	84.516	.988	15.300	1.235	6.420	.696	1.412	.10996	.035663
ELEMENT NO = 4 2	70.598	84.213	.948	15.300	1.178	6.659	.696	1.412	.10996	.040171
ELEMENT NO = 4 2	67.259	83.846	.911	15.300	1.123	6.917	.696	1.412	.10996	.045327
ELEMENT NO = 4 2	63.161	83.395	.875	15.300	1.071	7.195	.696	1.412	.10996	.051227
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ELEMENT NO = 4 2	19.550	78.600	.736	15.300	.863	8.691	.696	1.412	.10996	.090289
ELEMENT NO = 5 3	82.350	85.700	.448	4.900	.443	1.764	.000	.851	4.00031	.057705
ELEMENT NO = 6 2	100.500	87.500	.851	4.900	1.035	1.099	.390	.851	.09917	.005739
ELEMENT NO = 6 2	100.472	87.497	.818	4.900	.985	1.102	.390	.851	.09917	.006525
ELEMENT NO = 6 2	100.387	87.489	.787	4.900	.939	1.109	.390	.851	.09917	.007398
ELEMENT NO = 6 2	100.244	87.475	.758	4.900	.896	1.121	.390	.851	.09917	.008395
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ELEMENT NO = 6 2	93.749	86.831	.528	4.900	.556	1.463	.390	.851	.09917	.030709
ELEMENT NO = 6 2	92.204	86.677	.510	4.900	.530	1.518	.390	.851	.09917	.035041
ELEMENT NO = 6 2	90.337	86.492	.493	4.900	.506	1.578	.390	.851	.09917	.039990
ELEMENT NO = 6 2	88.047	86.265	.476	4.900	.482	1.642	.390	.851	.09917	.045652
ELEMENT NO = 6 2	85.176	85.980	.460	4.900	.460	1.710	.390	.851	.09917	.052135
ELEMENT NO = 6 2	82.350	85.700	.448	4.900	.443	1.764	.390	.851	.09917	.057705
ELEMENT NO = 7 6	100.500	87.500	.851	4.900	1.035	1.099	.000	.851	.00000	.000000

1 UPSTREAM

	STATION	INVERT	DEPTH	Q	AREA	FORCE	DNORM	DCRIT	SLOPE	SFRICT

NO COMPUTATION FOR ELEMENT NUMBER 1

NO COMPUTATION FOR ELEMENT NUMBER 2

NO COMPUTATION FOR ELEMENT NUMBER 3

NO COMPUTATION FOR ELEMENT NUMBER 4

ELEMENT NO =	5 3	82.300	85.500	1.412	15.300	1.725	5.385	.000	1.412	4.00031	.018336
ELEMENT NO =	5 3	82.350	85.700	3.384	4.900	1.767	5.077	.000	.851	4.00031	.002176
ELEMENT NO =	6 2	82.350	85.700	3.384	4.900	1.767	5.077	.390	.851	.09917	.002176
ELEMENT NO =	6 2	100.500	87.500	1.624	4.900	1.767	1.966	.390	.851	.09917	.002176
ELEMENT NO =	7 6	100.500	87.500	1.624	4.900	1.767	1.966	.000	.851	.00000	.000000

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
.000	77.400	.770	78.170	15.30	16.75	4.36	82.53	.00	1.41	1.50	1.500	.000	.00	1 .0
8.175	.0513					.0808	.66	.77	3.78	.87	.013	.00	.00	PIPE
8.175	77.819	.752	78.572	15.30	17.24	4.62	83.19	.00	1.41	1.50	1.500	.000	.00	1 .0
11.325	.0513					.0896	1.02	.75	3.95	.87	.013	.00	.00	PIPE
19.500	78.400	.725	79.125	15.30	18.09	5.08	84.20	.00	1.41	1.50	1.500	.000	.00	1 .0
.050	4.0000					.0928	.00	.72	4.24	.27	.013	.00	.00	PIPE
19.550	78.600	.736	79.336	15.30	17.72	4.88	84.21	.00	1.41	1.50	1.500	.000	.00	1 .0
10.117	.1100					.0874	.88	.74	4.12	.70	.013	.00	.00	PIPE
29.667	79.713	.751	80.463	15.30	17.29	4.64	85.11	.00	1.41	1.50	1.500	.000	.00	1 .0
12.920	.1100					.0795	1.03	.75	3.97	.70	.013	.00	.00	PIPE
42.587	81.133	.780	81.913	15.30	16.49	4.22	86.13	.00	1.41	1.50	1.500	.000	.00	1 .0
8.866	.1100					.0701	.62	.78	3.69	.70	.013	.00	.00	PIPE
51.453	82.108	.810	82.918	15.30	15.72	3.84	86.76	.00	1.41	1.50	1.500	.000	.00	1 .0
6.585	.1100					.0618	.41	.81	3.43	.70	.013	.00	.00	PIPE
58.037	82.832	.842	83.674	15.30	14.99	3.49	87.16	.00	1.41	1.49	1.500	.000	.00	1 .0
5.124	.1100					.0546	.28	.84	3.19	.70	.013	.00	.00	PIPE
63.161	83.395	.875	84.271	15.30	14.29	3.17	87.44	.00	1.41	1.48	1.500	.000	.00	1 .0
4.098	.1100					.0483	.20	.88	2.96	.70	.013	.00	.00	PIPE

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
67.259	83.846	.911	84.757	15.30	13.63	2.88	87.64	.00	1.41	1.47	1.500	.000	.00	1 .0
3.339	.1100					.0427	.14	.91	2.74	.70	.013	.00	.00	PIPE
70.598	84.213	.948	85.162	15.30	12.99	2.62	87.78	.00	1.41	1.45	1.500	.000	.00	1 .0
2.752	.1100					.0379	.10	.95	2.54	.70	.013	.00	.00	PIPE
73.350	84.516	.988	85.504	15.30	12.39	2.38	87.89	.00	1.41	1.42	1.500	.000	.00	1 .0
2.278	.1100					.0337	.08	.99	2.34	.70	.013	.00	.00	PIPE
75.628	84.766	1.031	85.798	15.30	11.81	2.17	87.96	.00	1.41	1.39	1.500	.000	.00	1 .0
1.887	.1100					.0300	.06	1.03	2.16	.70	.013	.00	.00	PIPE
77.515	84.974	1.077	86.051	15.30	11.26	1.97	88.02	.00	1.41	1.35	1.500	.000	.00	1 .0
1.551	.1100					.0269	.04	1.08	1.98	.70	.013	.00	.00	PIPE
79.066	85.144	1.128	86.272	15.30	10.74	1.79	88.06	.00	1.41	1.30	1.500	.000	.00	1 .0
1.254	.1100					.0241	.03	1.13	1.80	.70	.013	.00	.00	PIPE
80.320	85.282	1.183	86.465	15.30	10.24	1.63	88.09	.00	1.41	1.23	1.500	.000	.00	1 .0
.976	.1100					.0218	.02	1.18	1.63	.70	.013	.00	.00	PIPE
81.296	85.390	1.245	86.634	15.30	9.76	1.48	88.11	.00	1.41	1.13	1.500	.000	.00	1 .0
.691	.1100					.0200	.01	1.24	1.46	.70	.013	.00	.00	PIPE
81.987	85.466	1.317	86.782	15.30	9.31	1.34	88.13	.00	1.41	.98	1.500	.000	.00	1 .0
.313	.1100					.0187	.01	1.32	1.27	.70	.013	.00	.00	PIPE

WATER SURFACE PROFILE LISTING Date: 6-25-2012 Time: 7:46: 6
UMMERLIN RESORT - EAST PARKING GARAGE ONSITE IMPROVMENTS
JOB # 4034
WSPG FOR RELOCATED DROP INLETS NEAR EAST GARAGE

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
82.300	85.500	1.412	86.912	15.30	8.87	1.22	88.13	1.50	1.41	.71	1.500	.000	.00	1 .0

```
                                                                4034
JUNCT STR  4.0003                                          .0103      .00    1.50    1.00            .013       .00   .00  PIPE
    |        |        |        |        |        |        |      |      |      |      |      |      |      |      |      |
   82.350   85.700   3.384   89.084     4.90    2.77     .12   89.20     .00     .85     .00    1.500     .000   .00   1   .0
      -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-      |-
   18.150   .0992                                          .0022      .04    3.38     .00     .39     .013       .00   .00  PIPE
    |        |        |        |        |        |        |      |      |      |      |      |      |      |      |      |
  100.500   87.500   1.624   89.124     4.90    2.77     .12   89.24     .00     .85     .00    1.500     .000   .00   1   .0
      -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-      |-
```

UMMERLIN RESORT - EAST PARKING GARAGE ONSITE IMPROVMENTS

JOB # 4034

WSPG FOR RELOCATED DROP INLETS NEAR EAST GARAGE

```
  .00    .I     W    CH                              E                                                    .    R
 2.05    .                                                                                                .
 4.10    .                                                                                                .
 6.15    .                                                                                                .
 8.20    .   I     W     CH                              E                                                .    R
10.26    .                                                                                                .
12.31    .                                                                                                .
14.36    .                                                                                                .
16.41    .                                                                                                .
18.46    .                                                                                                .
20.51    .        I     W     CH                              E                                          .    R
22.56    .          I     W     H                               E                                        .    R
24.61    .                                                                                                .
```

```
26.66    .                                                                .
28.71    .                                                                .
30.77    .                  I     W     CH                        E       .    R
32.82    .                                                                .
34.87    .                                                                .
36.92    .                                                                .
38.97    .                                                                .
41.02    .                                                                .
43.07    .                        I      W    CH                    E     .    R
45.12    .                                                                .
47.17    .                                                                .
49.22    .                                                                .
51.28    .                                                                .
53.33    .                             I      W    CH                E     .    R
55.38    .                                                                .
57.43    .                                                                .
59.48    .                                   I      W    CH            E   .    R
61.53    .                                                                .
63.58    .                                       I       W   CH          E .    R
65.63    .                                                                .
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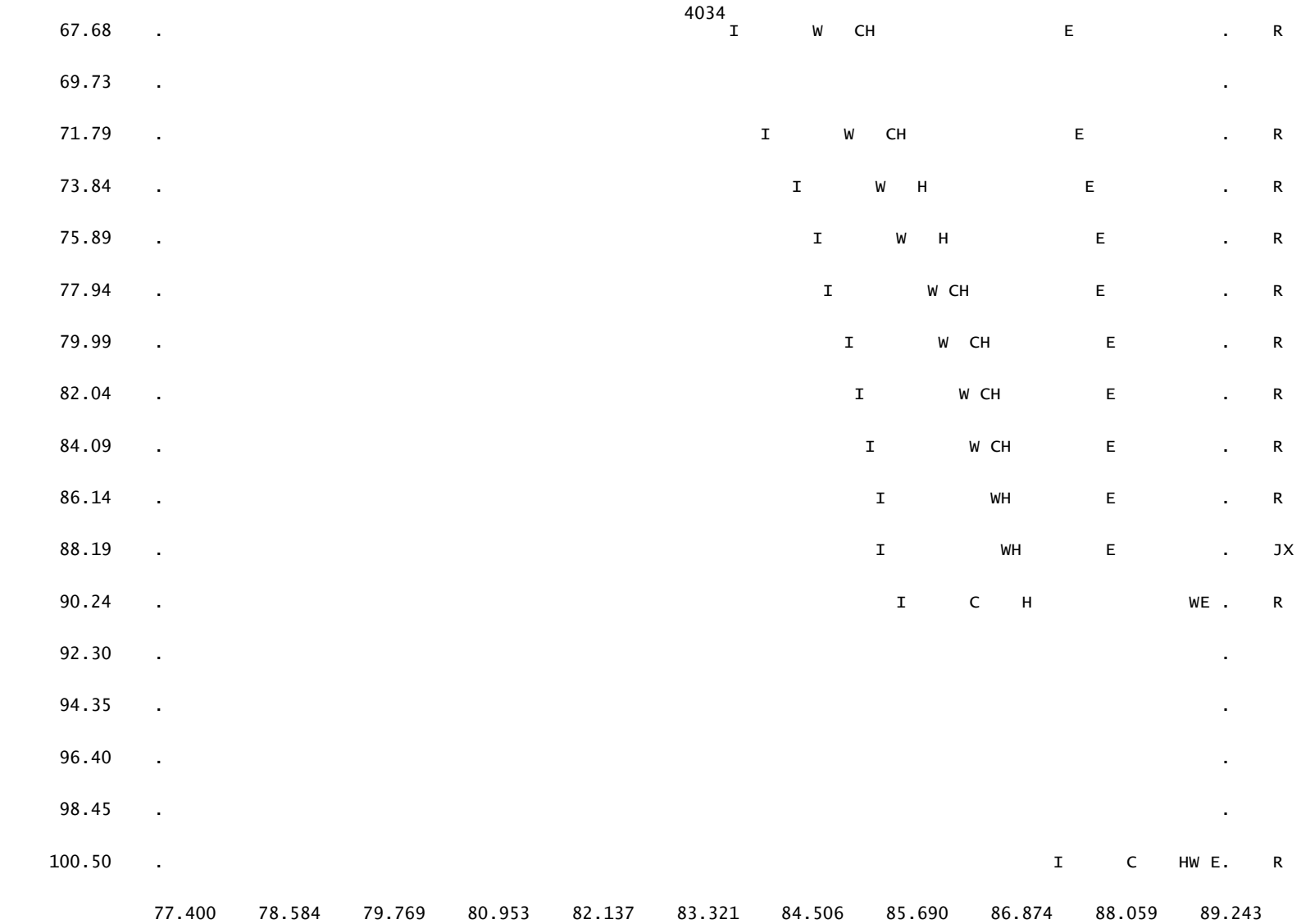


N O T E S
1. GLOSSARY
   I = INVERT ELEVATION
   C = CRITICAL DEPTH
   W = WATER SURFACE ELEVATION

S = SUPER-ELEVATION
H = HEIGHT OF CHANNEL
E = ENERGY GRADE LINE
X = CURVES CROSSING OVER
B = BRIDGE ENTRANCE OR EXIT
Y = WALL ENTRANCE OR EXIT

2. STATIONS FOR POINTS AT A JUMP MAY NOT BE PLOTTED EXACTLY

APPENDIX B
(REFERENCE MATERIAL)

- DS# 2080 Approval Letter
- DS# 2080 HEC-1
- DS# 2080 StormCAD
- DS# 2080 Developed Onsite Drainage Basin Map – Fig 1
- 107-V2830 Improvement Plans
- DS# 4559 Approval Letter (most recent drainage update)

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM	DATE: April 21, 1998
Land Development Services Department of Public Works	FROM: Dennis W. Stransky, P.E. Flood Control Project Manager Department of Public Works
SUBJECT: Drainage Study for: "Summerlin Resort Hotel and Casino" FILE NO. \\khan\flood\Depot\DSMEMOS\DS2080G.ZNA.doc	COPIES TO: Martin & Martin, Inc. Seven Circle Resorts Cheri Edleman, P.E. DEVCO CCRFCD

FEMA Flood Zone	YES	X	No
Proposed Storm Drain	YES	X	No

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES
1st Submittal	06/24/97	07/02/97	Not Accepted	$250.00
2nd Submittal	07/21/97	07/31/97	Accepted	$250.00
CCRFCD	08/22/97	08/25/97	Accepted	$00.00
3rd Submittal	11/26/97	12/2/97	Not Accepted	$100.00
4th Submittal	2/12/98	2/25/98	Accepted	$100.00
5th Submittal	04/15/98	04/21/98	See Comments Below	$100.00
			TOTAL FEES:	**$800.00**

REMARKS:

The Drainage Study for the subject project has been reviewed and:

X	is acceptable in concept subject to conformance to all CLV standards.
	must be resubmitted or supplemented including the following:
	must have Clark County Regional Flood Control District concurrence

NOTE: Any future changes to the proposed design (or design assumptions) as outlined in the approved drainage study and attached preliminary grading plan which affect drainage must be addressed in a Drainage Study Amendment and accepted by the City of Las Vegas Flood Control Section. Additionally, conditional acceptance of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, the City of Las Vegas reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction.

PLANS SENT TO LAND DEVELOPMENT yes (initial)

END OF REMARKS

dws

T/R/S: 20S/60E/29

AREA L-29

PLAN SENT TO LAND DEVELOPMENT yes **(initial)**

```
*****************************************
*                                       *
*  FLOOD HYDROGRAPH PACKAGE  (HEC-1)    *
*          SEPTEMBER 1990               *
*           VERSION 4.0                 *
*                                       *
*  RUN DATE  02/03/1998  TIME  17:05:33 *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

   1          ID        MARTIN & MARTIN, INC.
   2          ID        SUMMERLIN RESORT HOTEL & CASINO
   3          ID        LAS VEGAS, NEVADA
   4          ID
   5          ID        INPUT FILE :     SUMMRLN5.DAT
   6          ID        OUTPUT FILE:     SUMMRLN5.OUT
   7          ID
   8          ID        ************************************************************
   9          ID        *       DRAINAGE BASINS AREA = 48.5 ACRES                  *
  10          ID        *       DEPTH-DURATION-FREQUENCY VALUE = 3.0 IN            *
  11          ID        *       DEPTH-AREA REDUCTION VALUE = 1.00                  *
  12          ID        *       STORM DISTRIBUTION #3                              *
  13          ID        *       ABSTRACTION METHOD: SCS CN                         *
  14          ID        *       HYDROLOGIC METHOD: SCS UH                          *
  15          ID        *       RATIO 1 = 10-YEAR EVENT                            *
  16          ID        *       RATIO 2 = 100-YEAR EVENT                           *
  17          ID        *       DATE:  02/03/98                                    *
  18          ID        *       DEVELOPED CONDITION - ONSITE                       *
  19          ID        ************************************************************
  20          ID
  21          ID
              *DIAGRAM
  22          ID
  23          IT       5                    300
  24          IO       5       0
  25          IN       5
  26          JR     PREC   0.557    1.00
              *
              *
              *   DEVELOPED ONSITE BASIN LAND1
              *   AREA = 0.0017 SQ. MILES
              *   SCS   CN = 86, TLAG = 0.121
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  149     KK      C3
  150     KM   COMBINE FLOW IN ROADWAY
  151     HC       2
          *

  152     KK      D3
  153     KM   DIVERT FLOW INTERCEPTED BY DROP INLETS
  154     DT    DIV3
  155     DI       0      23
  156     DQ       0    10.2
          *
          *  DEVELOPED ONSITE BASIN PARK3
          *  AREA = .0055 SQ. MILES
          *  SCS CN = 97, TLAG = 0.078

  157     KK   PARK3
  158     BA   .0055
  159     LS       0      97
  160     UD   0.078
          *

  161     KK      D4
  162     KM   DIVERT FLOW INTERCEPTED BY TYPE B D.I.
  163     DT    DIV4
  164     DI       0       7      13
  165     DQ       0       7    10.4
          *

  166     KK      C4
  167     KM   COMBINE FLOW IN ROADWAY
  168     HC       2
          *

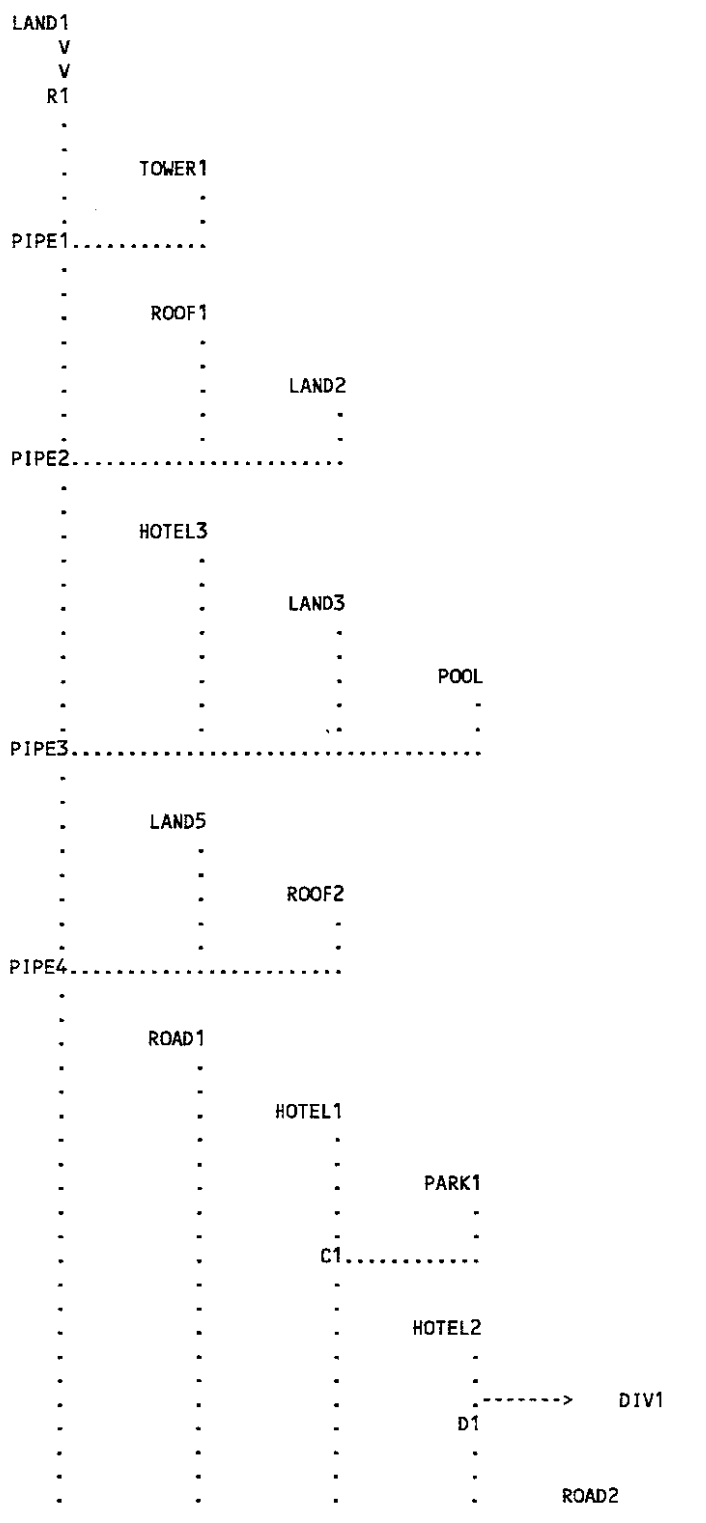
  169     KK      D5
  170     KM   DIVERT FLOW INTERCEPTED BY DROP INLETS
  171     DT    DIV5
  172     DI       0      15
  173     DQ       0      11
          *
          *  DEVELOPED ONSITE BASIN HOTEL7
          *  AREA = 0.002 SQ. MILES
          *  SCS CN = 94, TLAG = 0.059

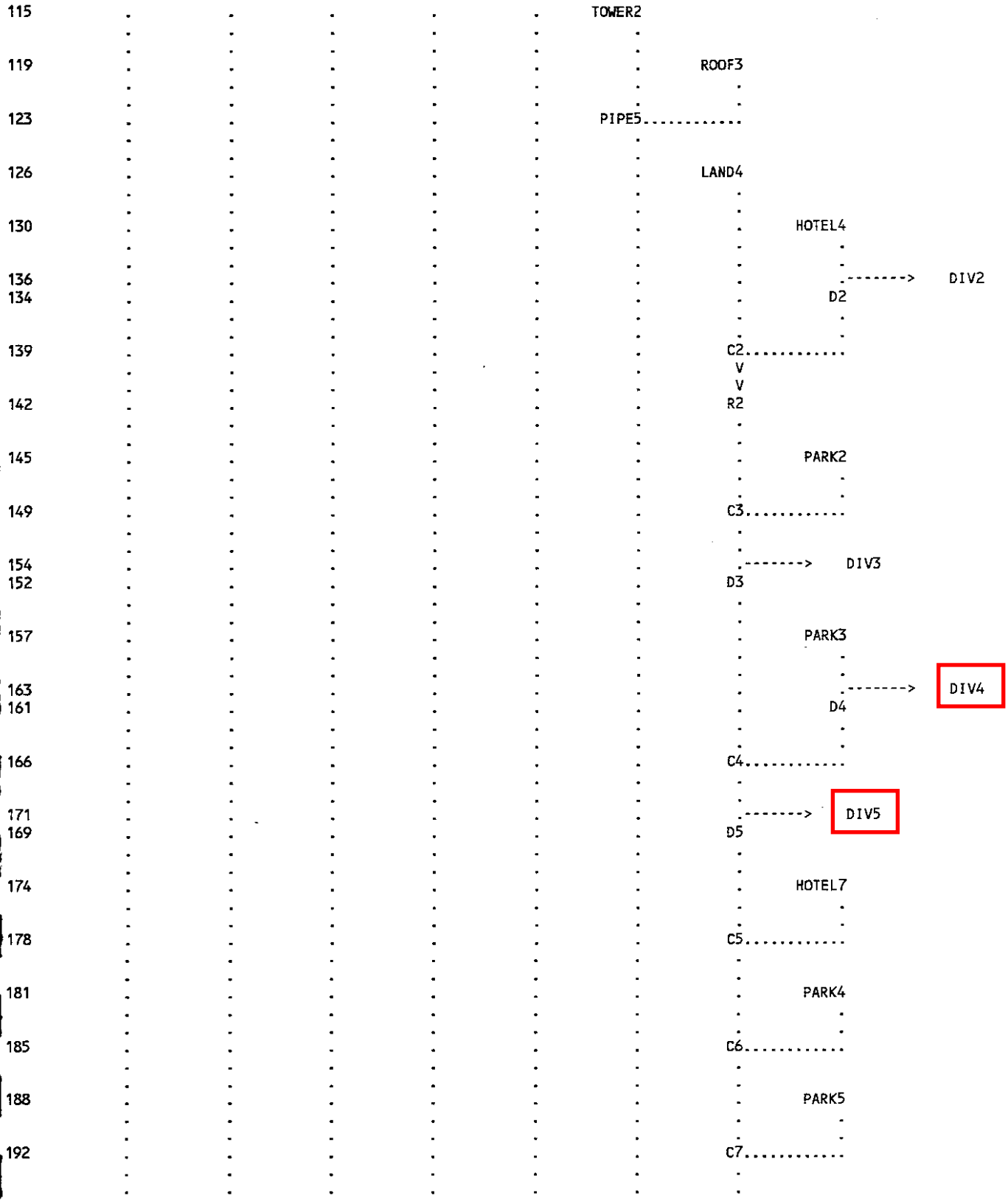
  174     KK  HOTEL7
  175     BA   0.002
  176     LS       0      94
  177     UD   0.059
          *
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE NO.

(V) ROUTING (.) CONNECTOR (---->) DIVERSION OR PUMP FLOW (<----) RETURN OF DIVERTED OR PUMPED FLOW




115
TOWER2
119
ROOF3
123
PIPE5
126
LAND4
130
HOTEL4
136
134
D2
DIV2
139
C2
142
R2
145
PARK2
149
C3
154
152
D3
DIV3
157
PARK3
163
161
D4
DIV4
166
C4
171
169
D5
DIV5
174
HOTEL7
178
C5
181
PARK4
185
C6
188
PARK5
192
C7

195 . . . . . HOTEL5
. . . . . .
. . . . . .
199 . . . . . HOTEL6

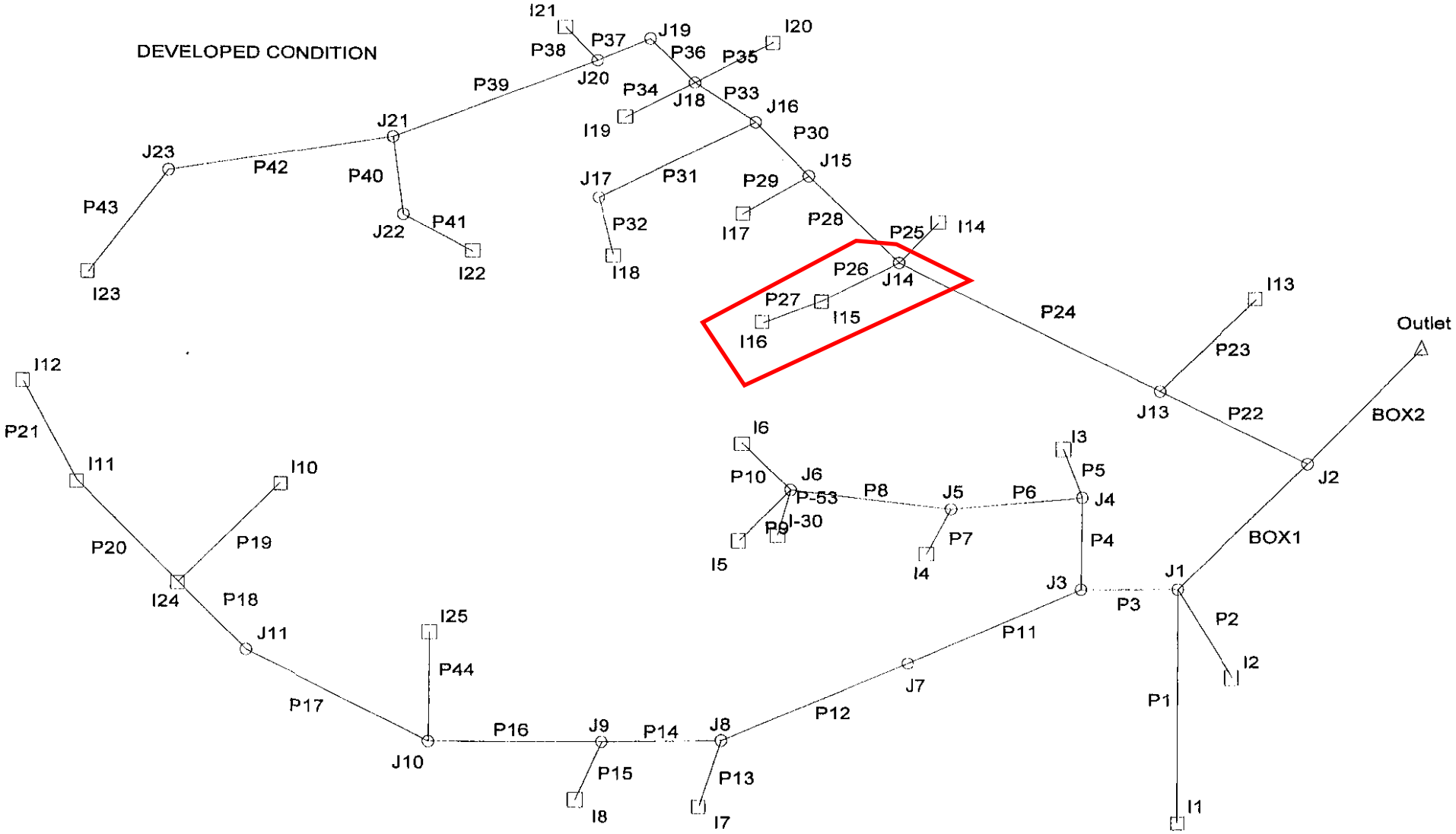
***) RUNOFF ALSO COMPUTED AT THIS LOCATION

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .56	RATIO 2 1.00
HYDROGRAPH AT	LAND1	.00	1	FLOW	1.	2.
				TIME	3.58	3.58
ROUTED TO	R1	.00	1	FLOW	1.	2.
				TIME	3.58	3.58
HYDROGRAPH AT	TOWER1	.00	1	FLOW	1.	3.
				TIME	3.50	3.50
2 COMBINED AT	PIPE1	.00	1	FLOW	2.	5.
				TIME	3.50	3.50
HYDROGRAPH AT	ROOF1	.00	1	FLOW	1.	1.
				TIME	3.50	3.50
HYDROGRAPH AT	LAND2	.00	1	FLOW	1.	2.
				TIME	3.50	3.50
3 COMBINED AT	PIPE2	.00	1	FLOW	4.	8.
				TIME	3.50	3.50
HYDROGRAPH AT	HOTEL3	.01	1	FLOW	8.	16.
				TIME	3.50	3.50
HYDROGRAPH AT	LAND3	.00	.1	FLOW	1.	1.
				TIME	3.50	3.50
HYDROGRAPH AT	POOL	.00	1	FLOW	3.	7.
				TIME	3.50	3.50
4 COMBINED AT	PIPE3	.02	1	FLOW	15.	32.
				TIME	3.50	3.50
HYDROGRAPH AT	LAND5	.00	1	FLOW	3.	7.
				TIME	3.50	3.50
HYDROGRAPH AT	ROOF2	.00	1	FLOW	3.	5.
				TIME	3.50	3.50
5 COMBINED AT	PIPE4	.02	1	FLOW	21.	44.
				TIME	3.50	3.50
HYDROGRAPH AT	ROAD1	.00	1	FLOW	0.	1.

				TIME	3.50	3.50
HYDROGRAPH AT						
+	HOTEL1	.00	1	FLOW	2.	3.
				TIME	3.50	3.50
HYDROGRAPH AT						
+	PARK1	.01	1	FLOW	8.	15.
				TIME	3.50	3.50
2 COMBINED AT						
+	C1	.01	1	FLOW	10.	18.
				TIME	3.50	3.50
YDROGRAPH AT						
+	HOTEL2	.01	1	FLOW	3.	8.
				TIME	3.50	3.50
IVERSION TO						
	DIV1	.01	1	FLOW	3.	8.
				TIME	3.50	3.50
YDROGRAPH AT						
	D1	.01	1	FLOW	0.	0.
				TIME	.08	.08
YDROGRAPH AT						
	ROAD2	.00	1	FLOW	3.	6.
				TIME	3.50	3.50
HYDROGRAPH AT						
	TOWER2	.00	1	FLOW	1.	2.
				TIME	3.50	3.50
HYDROGRAPH AT						
	ROOF3	.00	1	FLOW	1.	1.
				TIME	3.50	3.50
2 COMBINED AT						
+	PIPE5	.00	1	FLOW	2.	4.
				TIME	3.50	3.50
HYDROGRAPH AT						
+	LAND4	.00	1	FLOW	2.	5.
				TIME	3.58	3.58
YDROGRAPH AT						
+	HOTEL4	.01	1	FLOW	4.	9.
				TIME	3.50	3.50
IVERSION TO						
+	DIV2	.01	1	FLOW	1.	3.
				TIME	3.50	3.50
YDROGRAPH AT						
	D2	.01	1	FLOW	3.	6.
				TIME	3.50	3.50
2 COMBINED AT						
	C2	.01	1	FLOW	5.	11.
				TIME	3.58	3.58
OUTED TO						
	R2	.01	1	FLOW	5.	10.
				TIME	3.58	3.58
HYDROGRAPH AT						
	PARK2	.01	1	FLOW	7.	14.
				TIME	3.50	3.50

2 COMBINED AT	C3	.01	1	FLOW	11.	23.
				TIME	3.50	3.50
VERSION TO	DIV3	.01	1	FLOW	5.	10.
				TIME	3.50	3.50
DROGRAPH AT	D3	.01	1	FLOW	6.	13.
				TIME	3.50	3.50
HYDROGRAPH AT	PARK3	.01	1	FLOW	7.	13.
				TIME	3.50	3.50
DIVERSION TO	DIV4	.01	1	FLOW	7.	10.
				TIME	3.50	3.50
HYDROGRAPH AT	D4	.01	1	FLOW	0.	2.
				TIME	.08	3.50
2 COMBINED AT	C4	.02	1	FLOW	6.	15.
				TIME	3.50	3.50
VERSION TO	DIV5	.02	1	FLOW	4.	11.
				TIME	3.50	3.50
DROGRAPH AT	D5	.02	1	FLOW	2.	4.
				TIME	3.50	3.50
DROGRAPH AT	HOTEL7	.00	1	FLOW	2.	5.
				TIME	3.50	3.50
COMBINED AT	C5	.02	1	FLOW	4.	9.
				TIME	3.50	3.50
DROGRAPH AT	PARK4	.00	1	FLOW	4.	8.
				TIME	3.50	3.50
2 COMBINED AT	C6	.03	1	FLOW	8.	16.
				TIME	3.50	3.50
HYDROGRAPH AT	PARK5	.01	1	FLOW	11.	20.
				TIME	3.50	3.50
2 COMBINED AT	C7	.03	1	FLOW	19.	36.
				TIME	3.50	3.50
HYDROGRAPH AT	HOTEL5	.00	1	FLOW	4.	8.
				TIME	3.50	3.50
DROGRAPH AT	HOTEL6	.00	1	FLOW	4.	8.
				TIME	3.50	3.50


DEVELOPED CONDITION
I21
P37
J19
I20
P38
P36
P35
J20
P39
P34
J18
P33
J16
J21
I19
P30
J23
P42
P40
J17
P31
P29
J15
P43
J22
P41
I17
P28
P25
I14
I23
I22
P32
I18
P26
J14
P27
I15
I16
P24
I13
P23
Outlet
I12
P21
J13
P22
BOX2
I6
I3
P10
J6
P5
J2
I11
I10
P-53
P8
J5
P6
J4
P9
I-30
P7
P4
BOX1
P20
P19
I5
I4
J3
J1
I24
P18
P3
P2
I25
J11
P11
I2
P44
J7
P17
P12
P1
P16
J9
P14
J8
J10
P15
P13
I8
I7
I1

Combined Pipe/Node Report

Pipe	Upstream Node	Downstream Node	Length (ft)	Capacity (cfs)	Discharge (cfs)	Constructed Slope (ft/ft)	Average Velocity (ft/s)	Section Size	Section Shape	Roughness	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Upstream Ground Elevation (ft)	Downstream Ground Elevation (ft)	Upstream HGL (ft)	Downstream HGL (ft)
P38	I21	J20	13.00	5.04	1.00	0.020000	1.27	12 inch	Circular	0.013	2,690.82	2,690.56	2,699.72	2,700.00	2,693.70	2,693.69
P43	I23	J23	200.00	14.85	7.00	0.020000	5.44	18 inch	Circular	0.013	2,711.36	2,707.36	2,725.00	2,719.00	2,712.38	2,708.38
P42	J23	J21	305.00	14.85	7.00	0.020000	4.70	18 inch	Circular	0.013	2,707.36	2,701.26	2,719.00	2,710.61	2,708.38	2,704.91
P41	I22	J22	100.00	10.50	8.00	0.010000	4.53	18 inch	Circular	0.013	2,705.21	2,704.21	2,710.50	2,713.00	2,706.71	2,706.13
P40	J22	J21	210.00	12.02	8.00	0.013095	4.53	18 inch	Circular	0.013	2,704.01	2,701.26	2,713.00	2,710.61	2,706.13	2,704.91
P39	J21	J20	550.00	14.65	15.00	0.019455	8.49	18 inch	Circular	0.013	2,701.06	2,690.36	2,710.61	2,700.00	2,704.91	2,693.69
P37	J20	J19	20.00	14.85	16.00	0.020000	9.05	18 inch	Circular	0.013	2,690.06	2,689.66	2,700.00	2,699.97	2,693.69	2,693.23
P36	J19	J18	105.00	14.85	16.00	0.020000	9.05	18 inch	Circular	0.013	2,689.46	2,687.36	2,699.97	2,699.00	2,693.23	2,690.79
P34	I19	J18	25.00	23.49	1.60	0.050000	0.91	18 inch	Circular	0.013	2,688.61	2,687.36	2,698.81	2,699.00	2,690.80	2,690.79
P35	I20	J18	10.00	23.49	7.60	0.050000	4.30	18 inch	Circular	0.013	2,687.86	2,687.36	2,698.81	2,699.00	2,690.84	2,690.79
P33	J18	J16	95.00	31.99	25.20	0.020000	8.02	24 inch	Circular	0.013	2,687.36	2,685.46	2,699.00	2,698.05	2,690.79	2,689.61
P32	I18	J17	210.00	7.21	8.00	0.004714	4.53	18 inch	Circular	0.013	2,690.00	2,689.01	2,693.50	2,699.20	2,692.77	2,691.56
P31	J17	J16	335.00	10.50	8.00	0.010000	4.53	18 inch	Circular	0.013	2,688.81	2,685.46	2,699.20	2,698.05	2,691.56	2,689.61
P30	J16	J15	35.00	31.53	33.20	0.019429	10.57	24 inch	Circular	0.013	2,685.26	2,684.58	2,698.05	2,697.50	2,689.61	2,688.86
P29	I17	J15	22.00	7.89	1.00	0.049091	1.27	12 inch	Circular	0.013	2,686.66	2,685.58	2,697.50	2,697.50	2,688.88	2,688.86
P28	J15	J14	400.00	29.54	34.20	0.017050	10.97	24 inch	Circular	0.013	2,684.58	2,677.76	2,697.50	2,689.28	2,688.86	2,679.67
P27	I16	I15	18.00	23.49	10.40	0.050000	6.34	18 inch	Circular	0.013	2,679.41	2,678.51	2,693.34	2,689.16	2,680.65	2,679.92
P26	I15	J14	25.00	50.58	15.30	0.050000	5.67	24 inch	Circular	0.013	2,678.51	2,677.26	2,689.16	2,689.28	2,679.92	2,679.41
P25	I14	J14	10.00	23.49	4.90	0.050000	2.77	18 inch	Circular	0.013	2,677.76	2,677.26	2,689.05	2,689.28	2,679.43	2,679.41
P24	J14	J13	543.00	58.00	54.40	0.020000	12.40	30 inch	Circular	0.013	2,677.06	2,666.20	2,689.28	2,677.68	2,679.41	2,668.12
P23	I13	J13	210.00	41.01	37.60	0.010000	9.06	30 inch	Circular	0.013	2,668.30	2,666.20	2,672.59	2,677.68	2,670.37	2,668.08
P22	J13	J2	160.00	126.96	92.00	0.007813	7.32	48 inch	Circular	0.013	2,661.00	2,659.75	2,677.68	2,672.00	2,665.29	2,664.64
P-53	I-30	J6	70.00	5.04	1.00	0.020000	2.42	12 inch	Circular	0.013	2,688.70	2,687.30	2,696.43	2,696.36	2,689.12	2,688.02
P9	I5	J6	60.00	24.07	1.30	0.052500	2.34	18 inch	Circular	0.013	2,690.45	2,687.30	2,697.83	2,696.36	2,690.88	2,688.02
P10	I6	J6	45.00	23.49	1.30	0.050000	2.34	18 inch	Circular	0.013	2,689.55	2,687.30	2,696.83	2,696.36	2,689.98	2,688.02
P8	J6	J5	250.00	23.49	3.60	0.050000	3.66	18 inch	Circular	0.013	2,687.10	2,674.60	2,696.36	2,686.00	2,687.82	2,675.55
P7	I4	J5	50.00	23.49	2.40	0.050000	2.90	18 inch	Circular	0.013	2,677.10	2,674.60	2,686.66	2,686.00	2,677.69	2,675.55
P6	J5	J4	150.00	23.49	6.00	0.050000	8.11	18 inch	Circular	0.013	2,674.60	2,667.10	2,686.00	2,678.74	2,675.55	2,667.62
P5	I3	J4	63.00	23.49	2.40	0.050000	2.93	18 inch	Circular	0.013	2,670.25	2,667.10	2,678.26	2,678.74	2,670.84	2,668.02
P4	J4	J3	48.00	22.74	8.40	0.046875	5.34	18 inch	Circular	0.013	2,666.90	2,664.65	2,678.74	2,681.36	2,668.02	2,667.61
P44	I25	J10	140.00	31.99	5.00	0.020000	2.59	24 inch	Circular	0.013	2,703.05	2,700.25	2,711.00	2,710.84	2,703.96	2,704.04
P21	I12	I11	125.00	10.50	1.00	0.010000	1.79	18 inch	Circular	0.013	2,713.60	2,712.35	2,721.50	2,724.09	2,713.97	2,713.53
P20	I11	I24	300.00	10.50	2.00	0.010000	1.15	18 inch	Circular	0.013	2,712.15	2,709.15	2,724.09	2,717.10	2,713.53	2,713.43
P19	I10	I24	250.00	22.62	17.00	0.010000	5.41	24 inch	Circular	0.013	2,711.65	2,709.15	2,714.90	2,717.10	2,714.84	2,713.43
P18	I24	J11	150.00	22.62	31.00	0.010000	9.87	24 inch	Circular	0.013	2,708.95	2,707.45	2,717.10	2,715.05	2,713.43	2,710.61
P17	J11	J10	350.00	31.99	31.00	0.020000	9.87	24 inch	Circular	0.013	2,707.25	2,700.25	2,715.05	2,710.84	2,710.61	2,704.04
P16	J10	J9	250.00	39.18	36.00	0.030000	11.46	24 inch	Circular	0.013	2,700.05	2,692.55	2,710.84	2,706.00	2,704.04	2,697.70
P15	I8	J9	22.00	14.85	7.00	0.020000	3.96	18 inch	Circular	0.013	2,692.99	2,692.55	2,706.47	2,706.00	2,697.80	2,697.70

LEGEND

BASIN AREA — FLOW PATTERN

DRAINAGE BASIN BOUNDARY

C1 — CONCENTRATION POINT

17cfs/65cfs — 10 YEAR FLOW/100 YEAR FLOW

N

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft

SUMMERLIN PARKWAY EASTBOUND

FLOOD ZONE A

SUMMERLIN PKWY. EASTBOUND OFF RAMP

PARK 2 4.44 AC. — 8 CFS/15 CFS — 2 CFS/25 CFS

HOTEL 4 2.07 AC. — 4 CFS/9 CFS — 2 CFS/5 CFS

LAND 4 2.48 AC.

TOWER 2 0.56 AC. — 1 CFS/4 CFS

HOTEL 5 1.81 AC. — 3 CFS/6 CFS

HOTEL 6 2.92 AC. — 4 CFS/8 CFS

PARK 3 3.51 AC. — 7 CFS/13 CFS — 3 CFS/5 CFS — 4 CFS/8 CFS

ROOF 3 0.35 AC. — 1 CFS

ROOF 1 0.35 AC. — 1 CFS

LAND 3 0.57 AC.

HOTEL 3 2.14 AC. — 8 CFS/16 CFS

HOTEL 7 1.3 AC. — 3 CFS/5 CFS

PARK 4 2.24 AC.

PARK 5 5.52 AC. — 11 CFS/20 CFS — 19 CFS/36 CFS

RAMPART BLVD.

DRIVEWAY 3

LAND 1 0.95 AC. — 1 CFS/2 CFS — 1 CFS/4 CFS

LAND 2 0.61 AC. — 1 CFS/1 CFS

TOWER 1 0.65 AC.

POOL 2.52 AC. — 6 CFS/7 CFS

HOTEL 2 3.28 AC. — 3 CFS/6 CFS

ROAD 2 1.39 AC. — 3 CFS/6 CFS

DRIVEWAY 2

ROOF 2 1.30 AC. — 3 CFS/5 CFS

LAND 5 2.18 AC. — 3 CFS/7 CFS

HOTEL 1 0.80 AC. — 1 CFS/1 CFS

ROAD 1 0.54 AC.

PARK 1 4.43 AC. — 8 CFS/15 CFS — 10 CFS/18 CFS

FLOOD ZONE A

CANYON RUN DRIVE — CANYON RUN

DRIVEWAY 1

MARTIN & MARTIN
CIVIL ENGINEERS
1909 SOUTH JONES BLVD.
SUITE B
LAS VEGAS, NEVADA 89102
PHONE (702) 248-8000

DEVELOPED ONSITE
DRAINAGE BASIN MAP

SUMMERLIN RESORT

HOTEL & CASINO

name

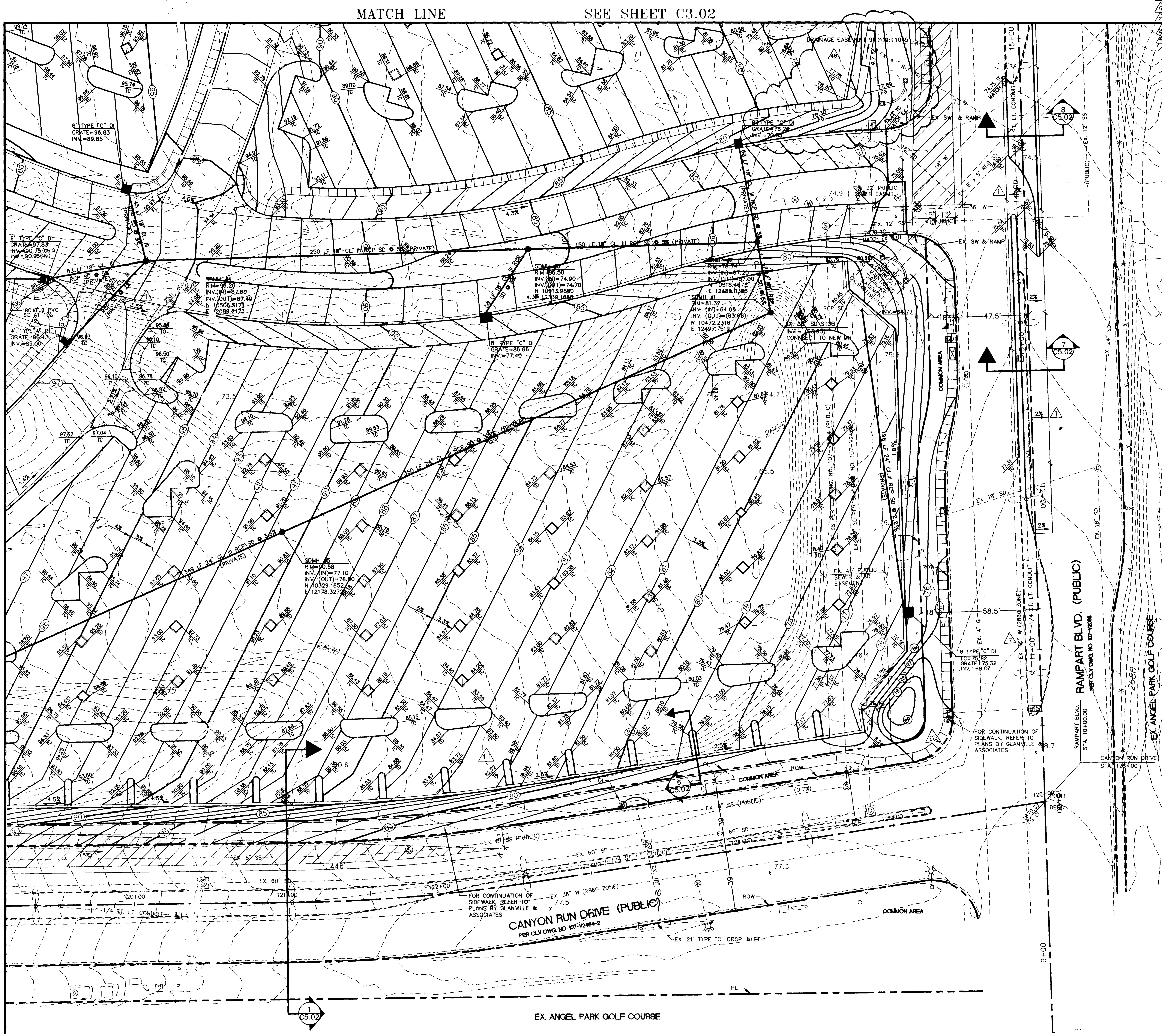
date

date 10-15-97
job number 1570.01.02
design by D. SWALLOW
drawn by V. WINFORD
checked by D. MALPASS, P.E.

sheet number

FIGURE 1

FILE: H:\C4D\1570\DRAIN3



REVISIONS

- 12 — 2-26-98 ADDED BASEMENT WALL DRAINAGE SYSTEM N/AB
- 17 — 4-16-98 REVISED D.I. N/A BB
- 22 — 5-21-98 SNRDRC COMMENTS N/A BB
- 29 — 6-25-98 SIDEWALK ADDITION N/A BB
- 48 — 2-11-99 SIDEWALK REVISION N/A BB

N

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

DAVID H. MALPASS CIVIL — REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA — No 7945
2-12-98

BASIS OF BEARING

NORTH 01°53'54" WEST, BEING THE CENTERLINE OF RAMPART BLVD. AS PER A MAP IN FILE 82, PAGE 64, OF PARCEL MAPS, CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

5-27-99

BENCHMARK

OLVOO 30SEE6, BEING A RIVET AND PLATE, NEVADA POWER VAULT #UU-795, 9201, SUMMERLIN PARKWAY.

ELEV: 828.1527 METERS NAVD88 (2717.03 FEET)

NOTE:

FOR DETAILS OF THE LANDSCAPE AREAS, SEE THE LANDSCAPE ARCHITECT PLANS.

I CERTIFY THAT THIS GRADING PLAN CONFORMS TO THE APPROVED DRAINAGE STUDY ON RECORD WITH THE CITY OF LAS VEGAS.

DAVID H. MALPASS, P.E. NO. 7945 — DATE 2-12-98

NOTE:

THE PUBLIC SIDEWALK ALONG CANYON RUN DRIVE WILL BE CONSTRUCTED BY THE HOWARD HUGHES CORPORATION. THE RESORT AT SUMMERLIN CONTRACTOR WILL ROUGH GRADE PER PLAN ONLY, BETWEEN EXISTING BACK OF CURB AND BACK OF SIDEWALK.

NOTE:
REFER TO HORIZONTAL CONTROL PLANS FOR CONSTRUCTION NOTES.

LEGEND

EXISTING / PROPOSED	
RIGHT-OF-WAY	SCREEN / RETAINING WALL
CENTERLINE	CHAIN LINK FENCE
WATER LINE	TRASH ENCLOSURE
SANITARY SEWER LINE	GRADE BREAK
GAS LINE	WIRE FENCE
STORM DRAIN	FF=0.00 FINISH FLOOR
POWER LINE / POWER POLE	(0.00) C.O. INV. / 0.00 C.O. INV. CLEANOUT INVERT ELEVATION
TELEPHONE LINE	(0.00) / 0.00 FLOW LINE
FIRE HYDRANT	1863.99 (0.00) F.G. / 0.00 F.G. FINISH GRADE
WATER VALVE	(0.00) B.S.W. / 0.00 B.S.W. BACK OF SIDEWALK
METERS / PULL BOXES	(0.00) T.C. / 0.00 T.C. TOP OF CURB
REDUCER	(0.00) T.O.W. / 0.00 T.O.W. TOP OF WALL
MANHOLE	A.C. PAVING
CLEANOUT	TYPE "L" CURB & GUTTER
CONTOUR	TYPE "A" CURB
SAWCUT LINE	CONCRETE
STREET LIGHTS: 100 W H.P.S.	RIP RAP
150 W H.P.S.	WS = WATER SURFACE
200 W H.P.S.	SIGHT DISTANCE EASEMENT. NO OBSTRUCTION OVER 30" ABOVE TOP OF CURB ALLOWED IN THE SHADED AREA
250 W H.P.S.	

AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call before you Dig— 1-800-227-2600
UNDERGROUND SERVICE ALERT (U.S.A.)

AVOID OVERHEAD POWER LINE CONTACT
Call before you OVERHEAD 1-702-593-6111
NEVADA POWER ENVIRONMENT AND SAFETY SERVICES DEPARTMENT

MARTIN & MARTIN ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. IF A CONFLICT EXISTS BETWEEN WHAT IS SHOWN ON THESE DRAWINGS AND WHAT EXISTS IN THE FIELD, THE CONTRACTOR IS TO NOTIFY THE ARCHITECT OR ENGINEER IMMEDIATELY.

PAUL STEELMAN LTD
ARCHITECTURE PLANNING
3330 W. DESERT INN RD. LAS VEGAS, NEVADA 89102
PHONE 702-873-0221 FAX 702-367-3565

MARTIN & MARTIN
CIVIL ENGINEERS
1909 SOUTH JONES BLVD.
SUITE B
LAS VEGAS, NEVADA 89102
PHONE (702) 248-8000

THE RESORT AT SUMMERLIN
HOTEL, CASINO & ENTERTAINMENT COMPLEX
LAS VEGAS, NEVADA

DATE: 2-11-98
SCALE: 1"=30'
JOB NO.: 1570
REVISION: ADDED CROSS SLOPE INFORMATION
BULLETIN #8 (SEE NARRATIVE) 2-11-98

SHEET TITLE AND LOCATION
GRADING PLAN

SHEET NUMBER
C3.01
SHEET 12 OF 32

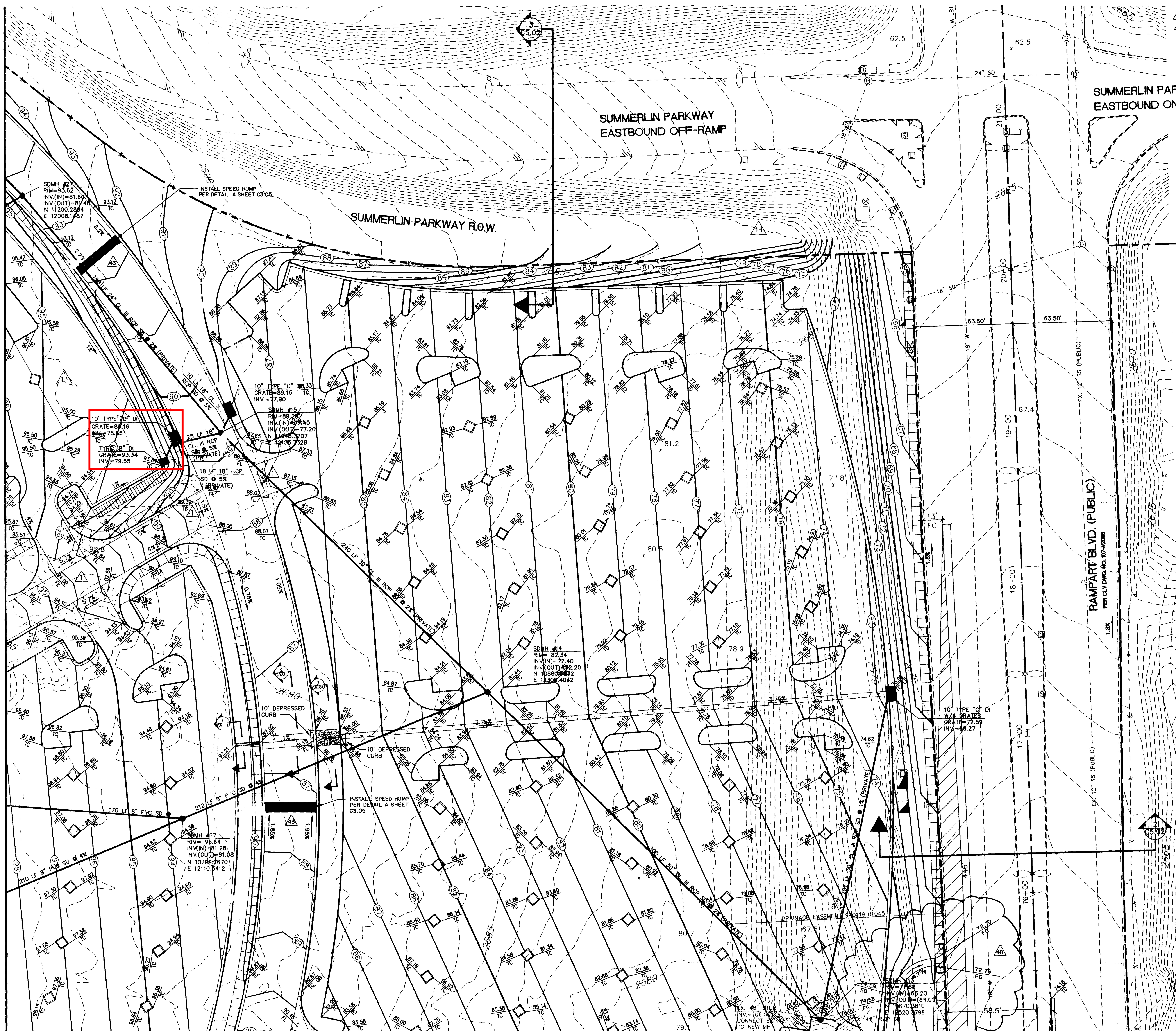
REVISION
ISSUED FOR CONTRACT
BULLETIN #8

107-V2830

H:\CAD\1570\site1 Wed Feb 11 15:36:59 1998

\D\1570\site1 2-11-98 3:01:45 pm EST

16263



REVISIONS
43 12-11-98 ADD SPEED HUMP
48 2-11-98 SIDEWALK REVISION

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

BASIS OF BEARING

NORTH 01°53'54" WEST, BEING THE CENTERLINE OF RAMPART BLVD. AS PER A MAP IN FILE 82, PAGE 64 OF PARCEL MAPS, CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

BENCHMARK

OLV00 30SEE6, BEING A RIVET AND PLATE, NEVADA POWER VAULT #UU-795, 9201, SUMMERLIN PARKWAY.

ELEV: 828.1527 METERS NAVD88 (2717.03 FEET)

NOTE:

FOR DETAILS OF THE LANDSCAPE AREAS, SEE THE LANDSCAPE ARCHITECT PLANS.

I CERTIFY THAT THIS GRADING PLAN CONFORMS TO THE APPROVED DRAINAGE STUDY ON RECORD WITH THE CITY OF LAS VEGAS.

DAVID H. MALPASS, P.E. NO. 7945 — 2-12-98 — DATE

NOTE:
REFER TO HORIZONTAL CONTROL PLANS FOR CONSTRUCTION NOTES.

LEGEND

EXISTING / PROPOSED:
- RIGHT-OF-WAY
- CENTERLINE
- WATER LINE
- SANITARY SEWER LINE
- GAS LINE
- STORM DRAIN
- POWER LINE / POWER POLE
- TELEPHONE LINE
- FIRE HYDRANT
- WATER VALVE
- METERS / PULL BOXES
- REDUCER
- MANHOLE
- CLEANOUT
- CONTOUR

STREET LIGHTS
- 100 W H.P.S.
- 150 W H.P.S.
- 200 W H.P.S.
- 250 W H.P.S.

EXISTING / PROPOSED:
- SCREEN / RETAINING WALL
- CHAIN LINK FENCE
- TRASH ENCLOSURE
- GRADE BREAK
- WIRE FENCE
- FF=0.00 FINISH FLOOR
- (0.00) C.O. INV. / 0.00 C.O. INV. CLEANOUT INVERT ELEVATION
- (0.00) / 0.00 FLOW LINE
- 1863.99 OR (0.00) F.G. / 0.00 F.G. FINISH GRADE
- (0.00) B.S.W. / 0.00 B.S.W. BACK OF SIDEWALK
- (0.00) / 0.00 T.C. TOP OF CURB
- (0.00) T.O.W. / 0.00 T.O.W. TOP OF WALL
- A.C. PAVING
- TYPE "L" CURB & GUTTER
- TYPE "A" CURB
- CONCRETE
- RIP RAP

WS = WATER SURFACE

AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.	AVOID OVERHEAD POWER LINE CONTACT
Call before you Dig- 1-800-227-2600 UNDERGROUND SERVICE ALERT (U.S.A.)	Call before you OVERHEAD 1-702-593-6111 NEVADA POWER ENVIRONMENT AND SAFETY SERVICES DEPARTMENT

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THE RESORT AT SUMMERLIN
HOTEL, CASINO & ENTERTAINMENT COMPLEX
LAS VEGAS, NEVADA

DATE: 2-11-98
SCALE: 1"=30'
JOB NO: 1570
REVISION: 48 ADDED CROSS SLOPE INFORMATION
48 BULLETIN #8 (SEE NARRATIVE) 2-11-98

SHEET TITLE AND LOCATION
GRADING PLAN

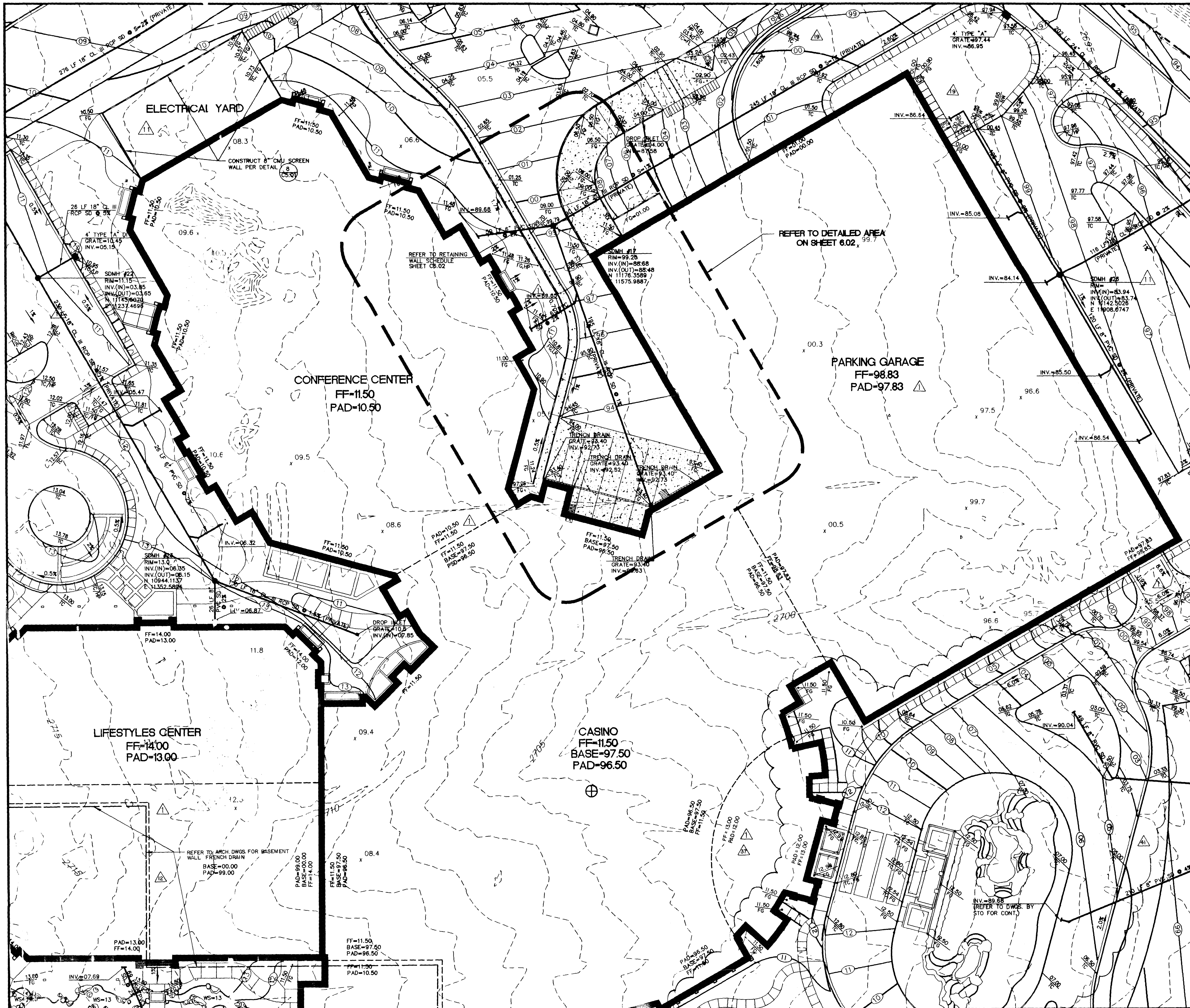
SHEET NUMBER
C3.02
SHEET 13 OF 32
REVISION
ISSUED FOR CONTRACT
BULLETIN #8

107-V2830

H:\CAD\1570\site1 Wed Feb 11 15:53:51 1998
0\1570\site1 2-11-98 3:01:45 pm EST
16264

MATCH LINE SEE SHEET C3.05

SEE SHEET C3.07 MATCH LINE



MATCH LINE SEE SHEET C3.03

SEE SHEET C3.02 MATCH LINE

REVISIONS

- 12 2-26-98 ADDED BASEMENT WALL DRAINAGE SYSTEM. NA
- 19 5-1-98 SIDEWALK REVISION PER CLV. NA
- 37 8-12-98 GRADE REVISIONS NA
- 41 10-16-98 REVISE GRADING NA

N

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

DAVID H. MALPASS CIVIL No. 7945 REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA

2-12-98

5-27-99

BASIS OF BEARING

NORTH 01°53'54" WEST, BEING THE CENTERLINE OF RAMPART BLVD. AS PER A MAP IN FILE 82, PAGE 64, OF PARCEL MAPS, CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

BENCHMARK

OLVOO 30SEE6, BEING A RIVET AND PLATE, NEVADA POWER VAULT #UU-795, 9201, SUMMERLIN PARKWAY.

ELEV: 828.1527 METERS NAVD88 (2717.03 FEET)

NOTE:

FOR DETAILS OF THE LANDSCAPE AREAS, SEE THE LANDSCAPE ARCHITECT PLANS.

I CERTIFY THAT THIS GRADING PLAN CONFORMS TO THE APPROVED DRAINAGE STUDY ON RECORD WITH THE CITY OF LAS VEGAS.

2-12-98

DAVID H. MALPASS, P.E. NO. 7945 DATE

NOTE:
REFER TO HORIZONTAL CONTROL PLANS FOR CONSTRUCTION NOTES.

LEGEND

EXISTING	PROPOSED	
		RIGHT-OF-WAY
		CENTERLINE
—W—	—W—	WATER LINE
—S—	—S—	SANITARY SEWER LINE
—G—	—G—	GAS LINE
—SD—	—SD—	STORM DRAIN
—E—	—E—	POWER LINE / POWER POLE
—T—	—T—	TELEPHONE LINE
		FIRE HYDRANT
		WATER VALVE
		METERS / PULL BOXES
		REDUCER
		MANHOLE
		CLEANOUT
—00—	—00—	CONTOUR

STREET LIGHTS

- 100 W H.P.S.
- 150 W H.P.S.
- 200 W H.P.S.
- 250 W H.P.S.

EXISTING	PROPOSED	
		SCREEN / RETAINING WALL
		CHAIN LINK FENCE
		TRASH ENCLOSURE
		GRADE BREAK
		WIRE FENCE
	FF=0.00	FINISH FLOOR
(0.00) C.O. INV.	0.00 C.O. INV.	CLEANOUT INVERT ELEV.
(0.00)	0.00	FLOW LINE
1863.99 OR (0.00) F.G.	0.00 F.G.	FINISH GRADE
(0.00) B.S.W.	0.00 B.S.W.	BACK OF SIDEWALK
(0.00) T.C.	0.00 T.C.	TOP OF CURB
(0.00) T.O.W.	0.00 T.O.W.	TOP OF WALL
		A.C. PAVING
		TYPE "L" CURB & GUTTER
		TYPE "A" CURB
		CONCRETE
		RIP RAP

WS = WATER SURFACE

AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.	AVOID OVERHEAD POWER LINE CONTACT
Call before you Dig– 1-800-227-2600 UNDERGROUND SERVICE ALERT (U.S.A.)	Call before you OVERHEAD 1-702-593-6111 NEVADA POWER ENVIRONMENT AND SAFETY SERVICES DEPARTMENT

MARTIN & MARTIN ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. IF A CONFLICT EXISTS BETWEEN WHAT IS SHOWN ON THESE DRAWINGS AND WHAT EXISTS IN THE FIELD, THE CONTRACTOR ...

PS

PAUL STEELMAN LTD
ARCHITECTURE PLANNING
3330 W. DESERT INN RD. LAS VEGAS, NEVADA 89102
PHONE 702-873-0221 FAX 702-367-3565

MARTIN & MARTIN

MARTIN & MARTIN
CIVIL ENGINEERS
1909 SOUTH JONES BLVD.
SUITE B
LAS VEGAS, NEVADA 89102
PHONE (702) 248-8000

THE RESORT AT SUMMERLIN
HOTEL, CASINO & ENTERTAINMENT COMPLEX
LAS VEGAS, NEVADA

DATE: 2-11-98
SCALE: 1"=30'
JOB NO.: 1570
REVISION: 1 RELOCATED RETAINING WALL ADDED BASEMENT LOCATION & F.F. REVISED LOADING DOCK AREA
8 BULLETIN #8 (SEE NARRATIVE) 2-11-98

SHEET TITLE AND LOCATION
GRADING PLAN

SHEET NUMBER
C3.04
SHEET 15 OF 32
REVISION
ISSUED FOR ...

suitel 2-11-98 7:47:59 am EST

107-V2830

16266

4034

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM				DATE: February 14, 2012
TO: Land Development Services Department of Public Works				FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for: Summerlin Resort Hotel & Casino – Garage Expansion			COPIES TO: Martin & Martin Civil Engineers
Cross Streets:	SWC of Summerlin Parkway & Rampart Blvd			Hotspur Resorts Nevada LTD
File Number:	F:\Depot\DSMemos\DS4549A.doc			Bart Anderson, P.E., DevCo
Parcel Number:	138-29-401-011			CCRFCD
Zoning Action:	SUP-44163; CRG-xxxxx & SDR-xxxxx			
FEMA Flood Zone	YES	NO	X	
Proposed Storm Drain	YES	NO	X	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1st Submittal	2/7/2012	2/14/2012	See Comments Below	$400.00	273803: $400
			TOTAL FEES (LDDRS):	$400.00	----

REMARKS:

The Drainage Study for the subject project has been reviewed and:

	is approved subject to conformance to all City standards and the following conditions:
	must be resubmitted or supplemented including the following:
X	is conditionally approved subject to Clark County Regional Flood Control District concurrence.

1. Provide a copy of the zoning/planning conditions associated with this site improvement (SUP-44163; CRG-xxxxx & SDR-xxxxx) with the next submittal to verify compliance with conditions. *Flood Control* will not issue conditional approval of the drainage study without the associated zoning/planning conditions (issued by the *City Council*). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and resubmitted.

2. The site is adjacent to or crosses an existing or proposed *Clark County Regional Flood Control District* (CCRFCD) master planned facility. Therefore, CCRFCD concurrence is required prior to final approval of the drainage study.

3. Provide a note stated as follows on all grading plans: "ALL ONSITE STORM DRAINS AND THE ASSOCIATED FACILITIES ARE PRIVATELY OWNED AND TO BE PRIVATELY MAINTAINED".

In an effort to increase administrative efficiency, the City of Las Vegas Public Works Department requires all soil reports, drainage studies and traffic impact analysis submittals to be accompanied by an electronic copy of the submittal. Electronic documents must be submitted with one original hard copy of the study. Electronic documents should be on a universal computer-readable digital output replicating your submittal to be used for archival or display purposes. This may be more than one file if necessary. An Indexed Portable Document Format (PDF) or Print Ready CAD file formats with a minimum of 300dpi are the desired formats, but provided it is a high quality digitized replication of the submittal, other formats may be acceptable. If figures are in color, they must be scanned in color and saved as a separate file. The new submittal requirement is effective on **July 1, 2011**. If there are any questions regarding these new requirements, please contact Albert Sung in the Flood Section at (702) 229-2001 or Rick Schroder in Traffic Engineering at (702) 229-6327.

NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the *Nevada Division of Environmental Protection* a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained on site; for inclusion in the Stormwater General Permit No. NVR100000. A phased construction unit in a contiguous subdivision is considered under construction until all stripped or disturbed surface areas have been covered by paving, building construction or planting. For more information, including forms and applications see http://ndep.nv.gov/bwpc/storm01.htm or call (775) 687-9429.

END OF REMARKS
ays

T/R/S: T20S/R60E/29
AREA L-29

REGIONAL FLOOD CONTROL DISTRICT

February 23, 2012

Mr. Oh Sang Kwon, P.E.
City of Las Vegas
333 North Rancho Drive
Las Vegas, NV 89106

DISTRICT CONCURRENCE: **UPDATE TO SUMMERLIN HOTEL & CASINO-GARAGE EXPANSION (DS #4549A) (RFCD No. 12-8048)**

Dear Mr. Kwon:

Clark County Regional Flood Control District (District) reviewed Technical Drainage Study dated February 6, 2012 for above-mentioned project as submitted by MARTIN & MARTIN CIVIL ENGINEERS. In addition, District is in receipt of the Conditional Letter of Acceptance from City of Las Vegas dated February 14, 2012.

District concurs with acceptance of this Technical Drainage Study by City of Las Vegas.

District's review of this project was limited to issues of Regional Flood Control Significance as defined in *Uniform Regulations for the Control of Drainage.*

Please be aware that as additional information becomes available and/or restudies of Flood Insurance Studies are performed, information submitted by MARTIN & MARTIN CIVIL ENGINEERS may be superseded. Compliance with regulatory elements and design standards specified in *Uniform Regulations for the Control of Drainage* does not imply a guarantee that properties will be free from flooding or flood damage. The District, its officials, or employees assume no liability for information, data, or conclusions presented by consulting engineers. We, therefore, make no warranties, either expressed or implied, in conducting this review.

GALE WM. FRASER, II, P.E.
General Manager/Chief Engineer

BY:

Abigail Mayrena, P.E., CFM
Senior Engineer

Andrew R. Trelease, P.E., CFM
Principal Civil Engineer

AM:ART:sa

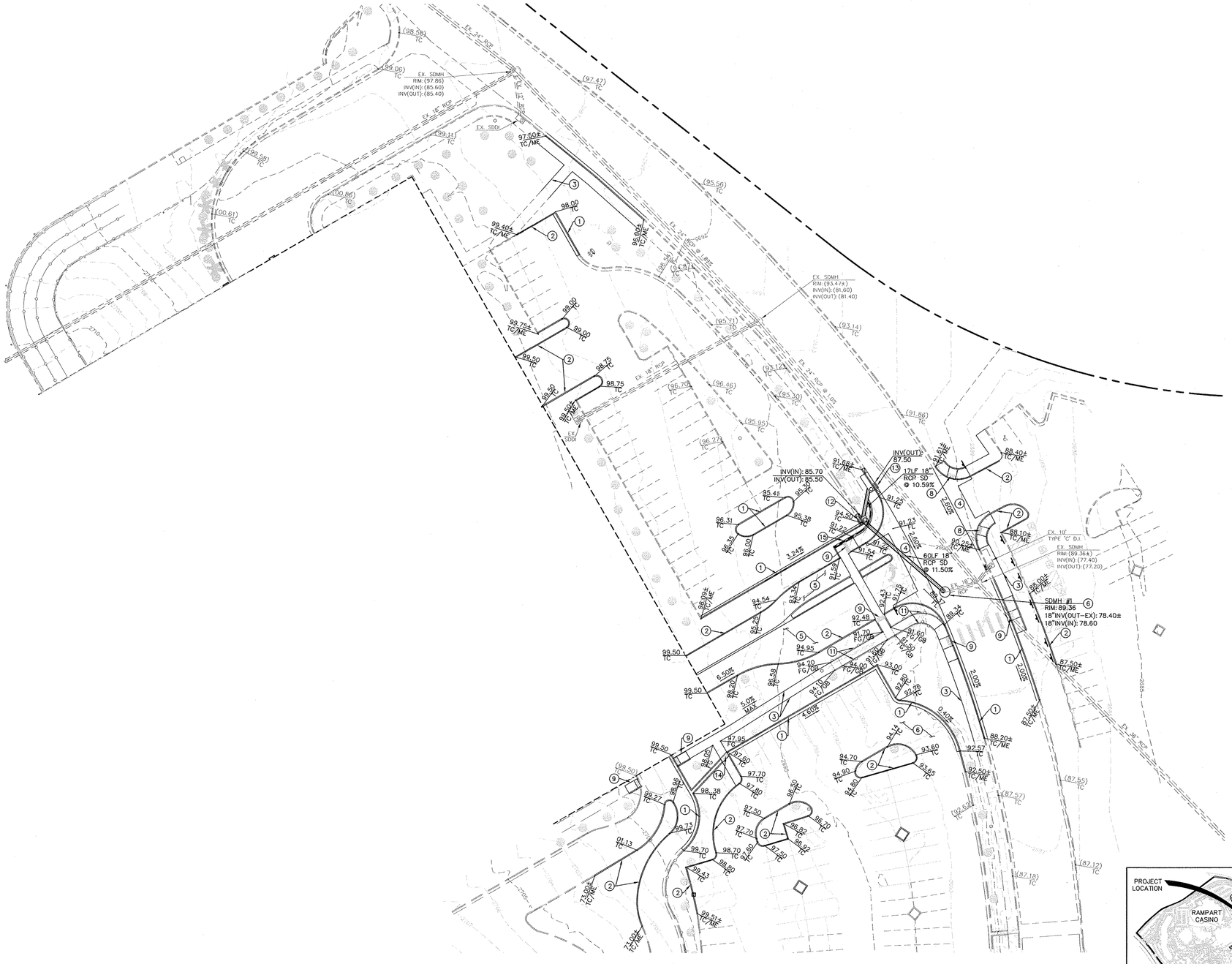
c: Kenneth J. Welden, P.E., Martin & Martin Civil Engineers

P:\Letters and Memos\Local Drainage\Land Development & Drainage\2012\L-12-8048.doc

600 S. Grand Central Parkway, Suite 300 • Las Vegas, Nevada 89106-4511
(702) 685-0000 • FAX: (702) 685-0001
Website: *http://www.regionalflood.org*

APPENDIX C
(IMPROVEMENT PLANS)

- Grading Plans



KEY MAP
NTS

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 INCH = 30 FT

BASIS OF BEARING

NORTH 01°53'54" WEST, BEING EAST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 29, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA AS SHOWN IN FILE 115 OF PARCEL MAPS, PAGE 34 IN THE OFFICE OF THE CLARK COUNTY, NEVADA RECORDER.

BENCHMARK

CITY OF LAS VEGAS VERTICAL CONTROL
BENCHMARK No. 1LV0029SWW6

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ALL GRADING WORK SHALL BE IN STRICT ACCORDANCE WITH THE SOILS REPORT FOR THE SITE ENTITLED "GEOTECHNICAL EVALUATION RAMPART CASINO PARKING GARAGE AND BUILDING ADDITION"

PROJECT NO.: 4122XD009, DATED MARCH 2, 2012
PREPARED BY:
WESTERN TECHNOLOGIES INC
6633 WEST POST ROAD
LAS VEGAS, NV 89118
PHONE NO. (702) 798-8050

ALL WORK SHALL BE PERFORMED UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL SOILS ENGINEER.

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE WITH CITY OF LAS VEGAS FOR THIS PROJECT.

JAMES A. YANCEY, P.E. #016109 DATE

GENERAL NOTE:
IT IS THE CONTRACTORS RESPONSIBILITY TO FILE A NOTICE OF INTENT/REQUEST TO BE INCLUDED IN THE STORM WATER GENERAL PERMIT, AND SUBMIT THE ASSOCIATED STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AS REQUIRED BY FEDERAL LAW, AND MONITORED BY THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION.

NOTE TO CONTRACTOR:
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FLOOD ZONE NOTE:
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CALL BEFORE YOU DO UNDERGROUND WORK
CALL 1-702-432-5300

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
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EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED	
(0.00%)	0.00%	SLOPE			POWER LINE/POLE			FIRE HYDRANT			PL-RIGHT-OF-WAY			AC PAVEMENT			SIGN W/POLE
(0.00) XXX	0.00 XXX	GRADING/ ELEVATION TAG			TELEPHONE LINE			FIRE DEPARTMENT CONNECTION			PL-ADJACENT			6" TYPE "A" CURB			CHAIN LINK FENCE
	Ⓢ	STORM MANHOLE			METER/PULL BOX			WATER VALVE			CENTERLINE			24" TYPE "L" CURB & GUTTER			WIRE FENCE
		DRAIN INLET			UTILITY POLE			REDUCER			EASEMENT LINE			30" ROLL CURB			HANDRAIL
		CONTOUR			STREET LIGHT			SEWER MANHOLE			FLOW LINE					FF=(0.00)	FF=0.00 FINISH FLOOR
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								GAS VALVE			GAS LINE						SAWCUT LINE
											STORM DRAIN						
											SANITARY SEWER LINE						

H#

NO.	DESCRIPTION OF REVISIONS	DATE	INITIALS

PROFESSIONAL ENGINEER – STATE OF NEVADA
JAMES A. YANCEY
EXP. 06-30-12
CIVIL
NO. 016109
06/15/12

DATE	06/20/12
JOB NUMBER	4034
DESIGN BY	R. GOEBEL
DRAWN BY	R. GOEBEL
CHECKED BY	K. WELDEN, P.E.

RAMPART CASINO
EAST PARKING GARAGE ONSITE IMPROVEMENTS
APN: 138-29-401-011

GRADING PLAN

MARTIN & MARTIN
CIVIL ENGINEERS
2355 RED ROCK STREET, #103
LAS VEGAS, NV 89146
PHONE (702) 248-8000
FAX (702) 248-8070

SHEET NUMBER
C4.01
SHEET 6 OF 8

DWG #

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 INCH = 30 FT

BASIS OF BEARING

NORTH 01°53'54" WEST, BEING EAST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 29, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA AS SHOWN IN FILE 115 OF PARCEL MAPS, PAGE 34 IN THE OFFICE OF THE CLARK COUNTY, NEVADA RECORDER.

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BENCHMARK No. 1LV0029SWW6

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PROFESSIONAL ENGINEER STATE OF NEVADA
JAMES A. YANCEY
EXP. 06-30-13
CIVIL
NO. 01609
6/25/12

DATE	06/20/12
JOB NUMBER	4034
DESIGN BY	R. GOEBEL
DRAWN BY	R. GOEBEL
CHECKED BY	K. WELDEN, P.E.

RAMPART CASINO
EAST PARKING GARAGE ONSITE IMPROVEMENTS
APN: 138-29-401-011

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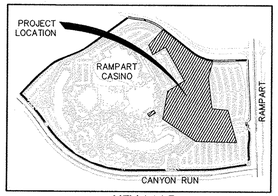

KEY MAP
NTS

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(D)	(D)	STORM MANHOLE			METER/PULL BOX			WATER VALVE			CENTERLINE			24" TYPE "L" CURB & GUTTER
		DRAIN INLET			UTILITY POLE			REDUCER			EASEMENT LINE			30" ROLL CURB
-00-	-000-	CONTOUR			STREET LIGHT			SEWER MANHOLE			FLOW LINE			CONCRETE
		SCREEN/ RETAINING WALL			AREA LIGHT			CLEANOUT			WATER LINE			
								GAS VALVE			GAS LINE			
											SANITARY SEWER LINE			

EXISTING	PROPOSED	
		SIGN W/POLE
		CHAIN LINK FENCE
		WIRE FENCE
		HANDRAIL
FF=(0.00)	FF=0.00	FINISH FLOOR

MISCELLANEOUS

EXISTING	PROPOSED	
		SAWCUT LINE

H#

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PHONE (702) 248-8000
FAX (702) 248-8070

SHEET NUMBER
C4.02
SHEET 7 OF 8

DWG #

GRAPHIC SCALE

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(IN FEET)
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JAMES A. YANCEY
EXP. 06-30-13
CIVIL
NO. 01609
6/25/12

DATE	06/20/12
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RAMPART CASINO
EAST PARKING GARAGE ONSITE IMPROVEMENTS
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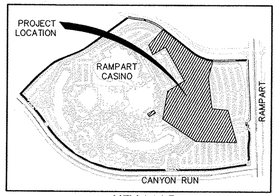


KEY MAP
NTS

ALL GRADING WORK SHALL BE IN STRICT ACCORDANCE WITH THE SOILS REPORT FOR THE SITE ENTITLED "GEOTECHNICAL EVALUATION RAMPART CASINO PARKING GARAGE AND BUILDING ADDITION"

PROJECT NO.: 4122XD009, DATED MARCH 2, 2012
PREPARED BY:
WESTERN TECHNOLOGIES INC
6633 WEST POST ROAD
LAS VEGAS, NV 89118
PHONE NO. (702) 798-8050

ALL WORK SHALL BE PERFORMED UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL SOILS ENGINEER.

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE WITH CITY OF LAS VEGAS FOR THIS PROJECT.

JAMES A. YANCEY, P.E. #01609 DATE

NOT FOR CONSTRUCTION - FOR BIDDING ONLY

AVOID HITTING UNDERGROUND TRAFFIC SIGNAL AND STREET LIGHT SYSTEMS. IT'S COSTLY.
CALL BEFORE YOU DO UNDERGROUND WORK
CALL 1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD WORK
CALL 1-702-227-2929

AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
CALL 811
OR
1-800-227-2600

MARTIN & MARTIN ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. IF A CONFLICT EXISTS BETWEEN WHAT IS SHOWN ON THESE DRAWINGS AND WHAT EXISTS IN THE FIELD, THE CONTRACTOR IS TO NOTIFY THE ARCHITECT OR ENGINEER IMMEDIATELY.

LEGEND

EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED	
(0.00%)	0.00%	SLOPE			POWER LINE/POLE			FIRE HYDRANT			PL-RIGHT-OF-WAY			AC PAVEMENT
(0.00) XXX	0.00 XXX	GRADING/ ELEVATION TAG			TELEPHONE LINE			FIRE DEPARTMENT CONNECTION			PL-ADJACENT			6" TYPE "A" CURB
(D)	(D)	STORM MANHOLE			METER/PULL BOX			WATER VALVE			CENTERLINE			24" TYPE "L" CURB & GUTTER
		DRAIN INLET			UTILITY POLE			REDUCER			EASEMENT LINE			30" ROLL CURB
-00-	-000-	CONTOUR			STREET LIGHT			SEWER MANHOLE			FLOW LINE			CONCRETE
		SCREEN/ RETAINING WALL			AREA LIGHT			CLEANOUT			WATER LINE			
								GAS VALVE			GAS LINE			
											SANITARY SEWER LINE			

EXISTING	PROPOSED	
		SIGN W/POLE
		CHAIN LINK FENCE
		WIRE FENCE
		HANDRAIL
FF=(0.00)	FF=0.00	FINISH FLOOR

MISCELLANEOUS

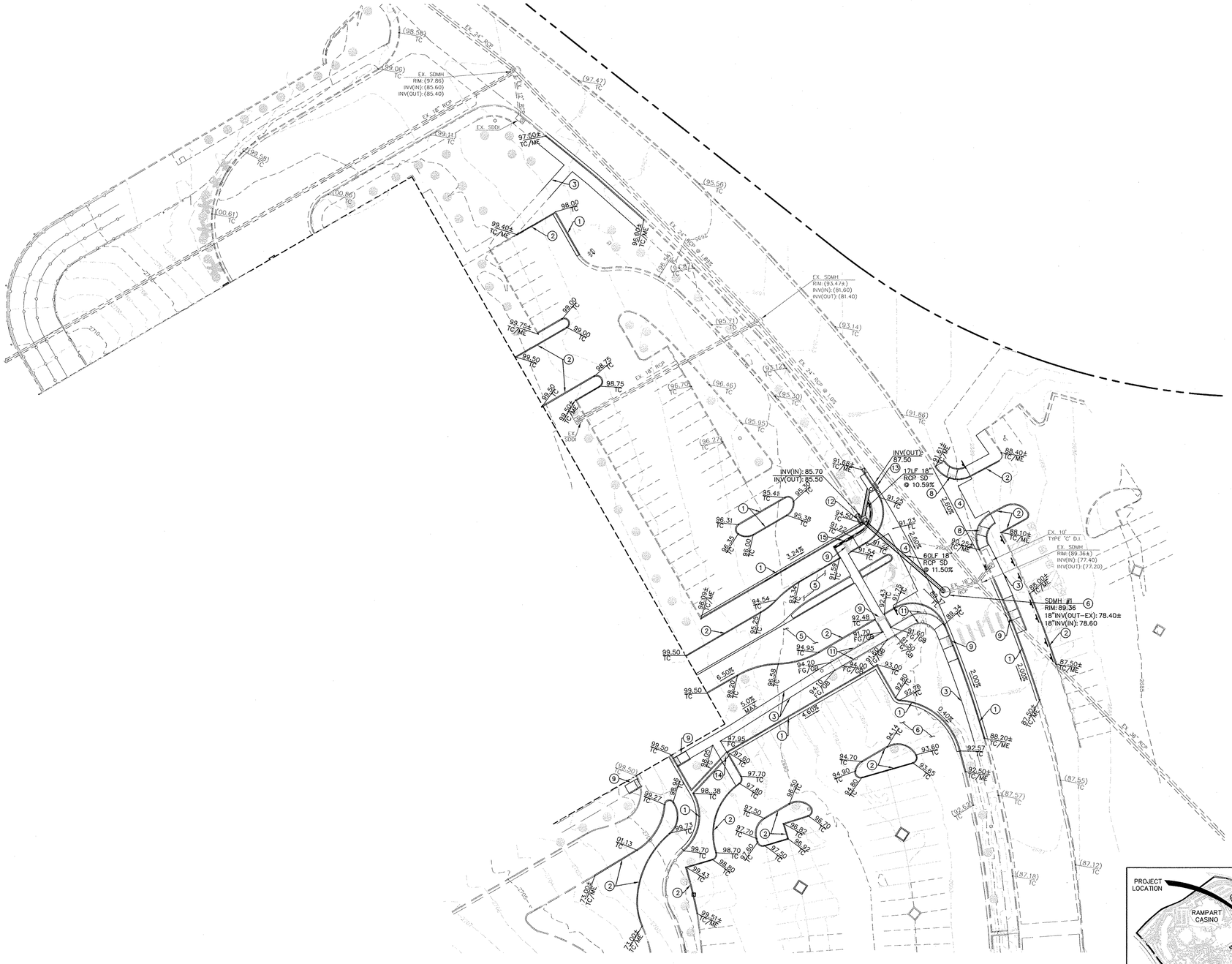
EXISTING	PROPOSED	
		SAWCUT LINE

H#

MARTIN & MARTIN
CIVIL ENGINEERS
2355 RED ROCK STREET, #103
LAS VEGAS, NV 89146
PHONE (702) 248-8000
FAX (702) 248-8070

SHEET NUMBER
C4.02
SHEET 7 OF 8

DWG #



KEY MAP
NTS

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 INCH = 30 FT

BASIS OF BEARING

NORTH 01°53'54" WEST, BEING EAST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 29, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA AS SHOWN IN FILE 115 OF PARCEL MAPS, PAGE 34 IN THE OFFICE OF THE CLARK COUNTY, NEVADA RECORDER.

BENCHMARK

CITY OF LAS VEGAS VERTICAL CONTROL
BENCHMARK No. 1LV0029SWW6

A RIVET AND PLATE IN TOP OF CURB ON THE NORTH SIDE OF CANYON RUN 1/2 MILE WEST OF RAMPART BLVD. AT WASH WEST OF REGENT LAS VEGAS.

ELEVATION = 830.05849 METERS
2723.28 US SURVEY FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

CONSTRUCTION NOTES

NO.	ITEM USDCCA – UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA
1	CONSTRUCT 'L' TYPE CURB AND GUTTER PER USDCCA NO. 216.
2	CONSTRUCT 'A' TYPE CURB PER DETAIL 'D' SHEET C8.01.
3	CONSTRUCT SIDEWALK PER CCAUSD NO. 234.
4	CONSTRUCT 8' CROSS GUTTER PER USDCCA NO. 228.
5	CONSTRUCT 3" MIN. AC OVER 4" TYPE II AB.
6	INSTALL 48" TYPE I MANHOLE PER USDCCA NO. 403.
7	CONCRETE SIDEWALK. SEE LANDSCAPE PLANS FOR COLOR/FINISH.
8	CONSTRUCT ADA RAMP PER USDCCA NO. 235, CASE 1.
9	CONSTRUCT MODIFIED ADA RAMP PER USDCCA NO. 235, CASE 2 AS SHOWN.
10	SAWCUT AND REMOVE EX. AC PAVEMENT/CURB/SIDEWALK/VALLEY GUTTER.
11	INSTALL ADA APPROVED HAND RAIL. SEE ARCHITECT PLAN, SHEET L3.01B, FOR DETAILS.
12	INSTALL TYPE 'B' D.I. PER CCAUSD DWG. NO. 412.
13	INSTALL 10' TYPE 'C' D.I. PER CCAUSD DWG. NO. 413.
14	INSTALL 18" SIDEWALK DRAIN PER USDCCA NO. 236.
15	INSTALL KEYSTONE RETAINING WALL PER LANDSCAPE PLANS.

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JAMES A. YANCEY, P.E. #016109 DATE

GENERAL NOTE:
IT IS THE CONTRACTORS RESPONSIBILITY TO FILE A NOTICE OF INTENT/REQUEST TO BE INCLUDED IN THE STORM WATER GENERAL PERMIT, AND SUBMIT THE ASSOCIATED STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AS REQUIRED BY FEDERAL LAW, AND MONITORED BY THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION.

NOTE TO CONTRACTOR:
CONTRACTOR SHALL PROVIDE EROSION CONTROL IN ALL LANDSCAPE AREAS WHERE ROOF DRAINS DISCHARGE TO GRADE UNLESS OTHERWISE NOTED HEREON.

FLOOD ZONE NOTE:
THE PROJECT SITE LIES WITHIN ZONE X AS PER FEMA FIRM PANEL 32003C2145E DATED SEPTEMBER 27, 2002. REVISED TO REFLECT LOMR DATED NOVEMBER 16, 2011.

STORM DRAIN NOTE:
ALL ONSITE STORM DRAINS AND THE ASSOCIATED FACILITIES ARE PRIVATELY OWNED AND TO BE PRIVATELY MAINTAINED.

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								GAS VALVE			GAS LINE						SAWCUT LINE
											STORM DRAIN						
											SANITARY SEWER LINE						

H#

NO.	DESCRIPTION OF REVISIONS	DATE	INITIALS

PROFESSIONAL ENGINEER – STATE OF NEVADA
JAMES A. YANCEY
EXP. 06-30-12
CIVIL
NO. 016109
06/15/12

DATE	06/20/12
JOB NUMBER	4034
DESIGN BY	R. GOEBEL
DRAWN BY	R. GOEBEL
CHECKED BY	K. WELDEN, P.E.

RAMPART CASINO
EAST PARKING GARAGE ONSITE IMPROVEMENTS
APN: 138-29-401-011

GRADING PLAN

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