

DS #: 4527

APN: 139-34-211-001

PROJECT: SYMPHONY PARK AT UNION PARK, PARCEL M-3

SUBMITTAL: 4TH

SCANNED BY/DATE: _____

CHECKED BY/DATE: _____



CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		October 19, 2011
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:	
	Symphony Park at Union Park, Parcel M-3 - Update	
Cross Streets:	Symphony Park Ave. & Promenade Place	
File Number:	F:\Depot\DSMemos\DS4527D.doc	
Parcel Number:	139-34-211-001; 139-33-511-009 & -010	
Zoning Action:	SDR-41033	
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES	NO X
COPIES TO:		
		Martin & Martin Civil Engineers
		City Parkway V Inc.
		Bart Anderson, P.E., DevCo

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Transaction #
1 st Submittal	4/13/2011	4/27/2011	Not Approved	\$400.00	166609: \$400
2 nd Submittal	5/5/2011	5/9/2011	Not Approved	\$400.00	168203: \$400
3 rd Submittal & Supplement	6/30/2011 & 7/15/2011	7/7/2011 & 7/18/2011	Approved	\$400.00	171951: \$400
4 th Submittal	10/13/2011	10/19/2011	See Comments Below	\$100.00	263686: \$100
			TOTAL FEES (LDDRS):	\$1,300.00	----

REMARKS:

4th Submittal: Update to Re-Route an onsite storm drain and the pertinent alignment of the public drainage easement (privately maintained)

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.
	is conditionally approved subject to Clark County Public Works Department concurrence.

1. **Sheet C4.02:** A proposed 20'-wide public drainage easement (privately maintained) centered to a proposed onsite storm drain system must be granted and recorded by separate document prior to the final acceptance of improvement plans.

In an effort to increase administrative efficiency, the City of Las Vegas Public Works Department requires all soils 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 Robert Welch in the Flood Section at (702) 229-2177 or Rick Schroder in Traffic Engineering at (702) 229-6327.

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

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T/R/S: T20S/R61E/34

AREA M-34

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*              TRANSACTION REPORT                                *
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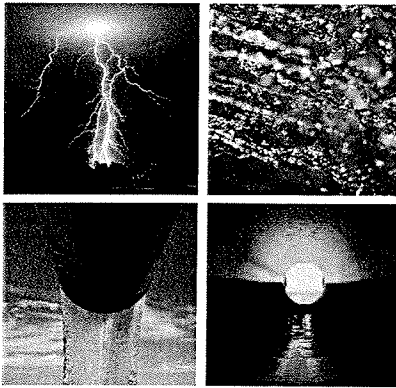
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END OF REMARKS
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T/R/S: T20S/R61E/34
AREA M-34



TECHNICAL DRAINAGE STUDY

Update #3 for Symphony Park

(at Union Park, Parcel M-3)
Las Vegas, NV

Rec'd: 10/13/11

DS 4527-1

M-34

October 2011

MARTIN & MARTIN PROJECT NO. 4021

\$100.

Prepared for:

LIFESCAPES INTERNATIONAL INC
4930 Campus Drive
Newport Beach, CA 89146
(949) 476-8888



Civil Engineers
2355 Red Rock Street, Suite 103
Las Vegas, Nevada 89146
Phone (702) 248-8000
Fax (702) 248-8070
www.mmcivil.com

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- Storm Drain Capacity Calculations

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- Grading Plans
- Storm Drain Plans

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: **Symphony Park (at Union Park, Parcel M-3)** Date: **10/12/2011**

Location of Development: a) Descriptive (Cross Streets) **Northeast of Bonneville Ave. and Grand Central Pkwy.**

b) Section **34** Township **20 South** Range **61 East**
 Name of Owner: **City Parkway V INC.,** Assessors Parcel Number: **139-34-211-001**

Telephone Number: **(949)-476-8888**

Address: **4930 Campus Drive**
Newport Beach, CA 92660

Contact Person Name: **Thomas D. Miller, PE**

Telephone Number: **(702) 248-8000**

Firm: **Martin & Martin Civil Engineers**

Fax Number: **(702) 248-8070**

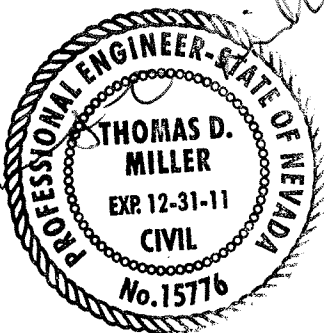
Address: **2355 Red Rock Street Suite 103**
Las Vegas, NV 89146

Email: **tmiller@mmcivil.com**

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	☒	Building Permit	☐	

- Total Owned Land Area: At Site: **± 1.6 Ac** Being Developed: **± 1.6 Ac**
- Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? YES NO
- Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? YES NO
- Proposed type of development (Residential, Commercial, Etc.)? **Park**
- Approximate upstream land area which drains to the subject site? **N/A**
- Has the site drainage been evaluated in the past? YES NO
 If yes, please identify documentation:
Technical Drainage Study for Union Park by Kimley -Horn
- If known, please briefly identify the proposed discharge point(s) of runoff from the site:
All flow is discharged to the adjacent storm drain as required
- 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.

Local Entity File No. _____

Revision	Date

REFERENCE: M&M Project No. 4021

STANDARD FORM 1

October 12, 2011



Albert Sung
City of Las Vegas Flood Control
731 South Fourth Street
Las Vegas, Nevada 89101

**RE: Technical Drainage Study Update #3 for Symphony Park (at Union Park, Parcel M-3)
(APN 139-34-211-001)
Martin & Martin Project No. 4021**

Mr. Sung,

Lifescapes International, Inc. has retained Martin & Martin Civil Engineers to provide a Technical Drainage Study Update for the proposed Symphony Park (at Union Park, Parcel M-3). The project site is within APN 139-34-211-001 and located in the City of Las Vegas, Nevada between currently planned Symphony Park Ave one way streets, west of City Parkway. This letter, Standard Form 1, the current proposed Grading Plan & Drainage Basin Map and drainage calculations are to serve as an update to the approved Technical Drainage Study update #2 for Symphony Park (at Union Park, Parcel M-3) prepared by Martin & Martin, the Technical Drainage Study prepared by Kimley Horn and Associates (KHA) and the reviewed Technical Drainage Study Update for Symphony Park (at Union Park, Parcel M-3, M-2, M-1) prepared by Martin & Martin which analyzed the completely developed or "ultimate" condition of the proposed overall Union Park Development.

The purpose of this study is to show that the changes to the storm drain system alignment from a delta revision does not have any significant impacts. The previously approved Technical Drainage Study update #2 for Symphony Park (at Union Park, Parcel M-3) prepared by Martin & Martin established all peak flow rates entering the storm drain system and is not changed by the delta from the approved study. Pipe slopes have been revised and are in compliance with the requirements set forth in the Clark County Regional Flood Control District Hydrologic and Drainage Design Manual. Please see revised storm drain capacity calculations in Appendix A.

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,

Thomas D. Miller, P.E.
Principal
Martin & Martin Civil Engineers

Richard Robinson, E.I.
Sr. Hydrologist
Martin & Martin Civil Engineers

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APPENDIX A (FIGURES)

- Drop Inlet Calculations
- Storm Drain Capacity Calculations

APPENDIX B (IMPROVEMENT PLANS)

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APPENDIX A

(HYDRAULICS)

- Storm Drain Capacity Calculations

Project: Symphony Park
 Job Number: 4021
 Calculated By: RRR
 Checked By: TDM
 Date: October 2011

Storm Drain Capacity Calculations

Upstream Structure	Pipe Length ft	Pipe Slope %	Pipe Diameter in	A	P	R	Manning's N	Calculated Capacity cfs	Velocity fps	Proposed Q ₁₀₀ in Pipe cfs	Capacity Check	Velocity Check
SDDI#2	20	0.50%	18	1.77	4.71	0.375	0.013	7.45	4.2	3.0	OK	OK
SDMH#7	31	0.50%	18	1.77	4.71	0.375	0.013	7.45	4.2	3.0	OK	OK
SDMH#6	100	0.50%	18	1.77	4.71	0.375	0.013	7.45	4.2	3.0	OK	OK
SDMH#5	32	0.50%	18	1.77	4.71	0.375	0.013	7.45	4.2	3.0	OK	OK
SDMH#4	9	0.50%	18	1.77	4.71	0.375	0.013	7.45	4.2	3.0	OK	OK
SDDI#1	8	2.00%	18	1.77	4.71	0.375	0.013	14.90	8.4	3.0	OK	OK
SDMH#3	25	0.50%	18	1.77	4.71	0.375	0.013	7.45	4.2	6.0	OK	OK
SDMH#2	32	0.50%	18	1.77	4.71	0.375	0.013	7.45	4.2	6.0	OK	OK
AD#1	4	3.00%	8	0.35	2.09	0.167	0.013	2.10	6.0	2.0	OK	OK
AD#6	5	13.00%	8	0.35	2.09	0.167	0.013	4.37	12.5	2.0	OK	OK

Determine Storm Drain Capacity:

Use Manning's Formula with pipe flowing full.

$$Q_{\text{capacity}} = (1.49/n)AR^{2/3}S^{1/2}$$

A = Cross-Sectional Area (ft²)

n = Manning's Roughness

R = Hydraulic Radius = A/P (ft)

P = Wetted Perimeter (ft)

Qc = Inlet capacity utilizing reduction factor

S = Pipe Slope (%)

APPENDIX B

(IMPROVEMENT PLANS)

- Grading Plans
- Storm Drain Plans

LETTER OF TRANSMITTAL

DATE: 10/12/11
TO: Albert Sung
FIRM: City of Las Vegas Flood Control
ADDRESS: 333 N Rancho Dr
Las Vegas, NV 89107

PROJECT NAME: Symphony Park
PROJECT #: 4021
REGARDING: Update to Technical Drainage Study



Civil Engineers
2355 Red Rock Street, Suite 103
Las Vegas, Nevada 89146
Phone (702) 248-8000
Fax (702) 248-8070
www.mmcivil.com

TRANSMITTED:	☐ Prints/Mylars/Vellums	☐ Proposal	☒ Studies	☐ CD's/Disks	☐ Other
VIA:	☒ Hand Delivery	☐ Pickup	☐ Air/ Overnight	☐ U.S. Mail	☐ E-Mail

COPIES	NUMBER OF SHEETS	DESCRIPTION (SHEET NAMES)	DATE
1	-	Update to Technical Drainage Study	10/12/11
1	4	Grading Plans	10/12/11
1	-	Electronic copy on CD	10/12/11

☐ For Your Use	☒ Review	☐ Per Your Request	☐ Signature	☐ Approval	☐ For Your Records
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THANK YOU,

FROM: TOM MILLER, P.E.
PRINCIPAL

CC: