

DS #:

4977

APN:

125-31-401-004

PROJECT:

Infant-2-Lot Residential Subdivision

SUBMITTAL:

1st

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		April 24, 2018
TO: Land Development Services Department of Building & Safety		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	COPIES TO:	
Drainage Study for:	ACG Design	
Infante – 2-Lot Residential Subdivision (Project in Clark County for City of Las Vegas Concurrence)		
Cross Streets:	SWC of Jensen Street & La Madre Way	Angelo Infante
File Number:	F:\Depot\DSMemos\DS4977A.doc	Bart Anderson, P.E., DevCo
Parcel Number:	125-31-401-004	CCPW
Zoning Action:	N/A	
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES	NO X

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	4/10/2018	4/24/2018	See Comments Below	\$400.00	495063: \$400
			TOTAL FEES (LDDRS):	\$400.00	----

REMARKS:

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.

City of Las Vegas Flood Control staff has reviewed the Technical Drainage Study for the subject development "**Infante – 2-Lot Residential Subdivision**" within the jurisdiction of **Clark County**. **City of Las Vegas** concurs with the acceptance of the drainage study by the **Clark County Public Works Department**. The review of this project was limited to issues of flood control significance to the **City of Las Vegas**.

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.

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 Update 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.

END OF REMARKS

ays

T/R/S: T19S/R60E/31

AREA G-31

Albert Sung

From: Michael Cunningham
Sent: Wednesday, September 27, 2017 3:17 PM
To: Albert Sung
Subject: RE: Infante 3-Lot Residential

Hello Albert,

I just got off the phone with CC. They allow the asphalt curb when they don't have all the right of way they need for an overpave. In this case the right of way is out of their jurisdiction and owned by BLM. Based on this I think we are okay with the design. Let me know if you need anything else.

Thank you,

Mike C.

From: Albert Sung
Sent: Wednesday, September 27, 2017 2:40 PM
To: Michael Cunningham
Subject: Infante 3-Lot Residential

Michael,

Have you heard anything back from Cesar (did I spell wrong?) of CCPW yet? Thanks.

Albert Y. Sung

Project Engineer
Public Works Dept. / Flood Control
(702) 229-6541
333 N. Rancho Dr. 7th Floor
Las Vegas, NV 89106



lasvegasnevada.gov



Your opinion is important! Click [here](#) to take a short survey.

From: Michael Cunningham
Sent: Wednesday, September 27, 2017 12:10 PM
To: Rolando Karagdag <rkaragdag@LasVegasNevada.GOV>; Keith Letus <kletus@LasVegasNevada.GOV>; Albert Sung <YSung@LasVegasNevada.GOV>; Victor Bolanos <vbolanos@LasVegasNevada.GOV>; Raul Cruz-Santiago



Department of Public Works

500 S Grand Central Pky • Box 554000 • Las Vegas NV 89155-4000
(702) 455-6000 • Fax (702) 455-6040

Denis Cederburg, P.E., Director • E-Mail: dlc@ClarkCountyNV.gov

Drainage Study Approval Letter

Date: March 22, 2018
Firm: ACG Design
Engineer: Randolph A Skorpinski, P.E.
Address: 4310 Cameron St., Las Vegas, NV 89144
Phone: (702) 569-9157
Fax: n/a
E-mail: RSkorpinski@acg.design

Subject: Technical Drainage Study for Infante 2-Lot Residential MSM
17-600097
Location: SWC of West La Madre Way and North Jensen Street
APN: 125-31-401-004
Sec, Township, Range: S31, T19S, R60E
Flood Zone & Panel: Zone X, 1745E, Dated September 27, 2002
Application Number: PW18-11461UP

Submittals	Date Received	Date Returned	Reviewer	Miscellaneous
Update	02/26/2018	03/22/2018	PR	

Concurrence Required: (Must be obtained prior to permit issuance)		Reason Concurrence is Required
	Boulder City	Adjacent to or Impacts Jurisdiction
	City of Mesquite	Adjacent to or Impacts Jurisdiction
	City of Henderson	Adjacent to or Impacts Jurisdiction
X	City of Las Vegas	Adjacent to or Impacts Jurisdiction
	City of North Las Vegas	Adjacent to or Impacts Jurisdiction
	Nevada Department of Transportation	Adjacent to or Impacts NDOT Facility
	Union Pacific Rail Road	Adjacent to or Impacts a UPRR Facility
	US Army Corps of Engineers	Impacts a USACE Facility
	Clark County Regional Flood Control District	Regional Significance, Adjacent to or Impacts CCRFCD MPU Facility or in a SFHA

BOARD OF COUNTY COMMISSIONERS
STEVE SISOLAK, Chairman • CHRIS GIUNCHIGLIANI, Vice Chair
SUSAN BRAGER • LARRY BROWN • JAMES B. GIBSON • MARILYN KIRKPATRICK • LAWRENCE WEEKLY
YOLANDA T. KING, County Manager

The referenced **Technical Drainage Study Update** has been reviewed and is accepted as complying with minimum improvement standards. As set forth in the subject drainage study, the following measures will be taken to mitigate flood hazards.

This update is to reduce the number of lots in the subdivision from 3 to 2. The previously approved Technical Drainage Studies are: 16-43375 and 17-36053UP.

The site shall be graded with respect to drainage as shown on "**Infante - 2 Lot Residential MSM 17-600097**", grading plan sheets C-1, C-2, C-3, C-05, C7, and C-8, signed and sealed by Randolph A. Skorpinski, P.E., on February 16, 2018.

Check appropriate conditions

	Retaining/screen wall combination may be in excess of current Clark County Unified Development Code, Chapter 30.64.050.
	A FEMA Elevation Certificate, completed by a licensed surveyor, must be submitted to and approved by CCPW Development Review Plan Check prior to the issuance of Certificates of Occupancy for those structures.
X	Mylars of the grading plan must be submitted to the CCPW Development Review Plan Check for approval signatures prior to map recordation (residential) or permit issuance (commercial).
	An administrative variance to allow the finished floor elevation(s) to be set below the current Clark County criteria must be approved. The finished floor variance must be submitted to CCPW Development Review front counter after drainage study approval and prior to offsite final review.
X	The grading plan will be reviewed by the Building Office Operations Division to ensure compliance with the ADA access requirements. Revisions to the grading plan may be required if the site accessibility design does not comply with the requirements set forth in the Accessibility Chapter of the Clark County Building Code.
	The plans show work is proposed on another property. Notarized written permission must be obtained prior to plan approval. A grading permit must be obtained from Building Dept prior to grading.
X	Right-of-way dedication must be verified.
	Any previously approved drainage easements that are not being used must be vacated.
	<i>Per Regional Flood Control District policies and Procedures manual, Section VIII. D. 13. Uniform Regulations for the Control of Drainage</i> , the Engineer of Record shall provide As-Built plans or record drawings to the District after completion and final inspection of such privately installed flood control facilities that have regional flood control significance.
	Structural calculations are required. The structural calculations, plans, and details must be approved prior to "Offsite" submittal and prior to CCRFCD submittal, if applicable.
X	Plan revisions can be found on the red-lined plans and must be addressed.
X	Prepare drainage easement documents as shown on the grading plans.

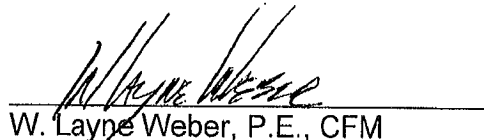
Additional Conditions:

1. There appears to be an MSM (17-600097) still pending for the parcel. While there do not appear to be any preliminary conditions that would alter the design, and zoning conditions issued that require changes to the grading plan may require an Update to this Technical Drainage Study.
2. Any improvements not depicted on the above mentioned grading plans may require an Update to this Technical Drainage Study.

The County's review is solely based on the information submitted by the Engineer of Record. The County's review is strictly limited to compliance with minimum County Codes and Standards. The Engineer of Record is responsible for researching and addressing situations that may require designs above and beyond the minimum codes for issues of public safety and impacts to upstream, downstream and adjacent properties. The County assumes no liability for information data, designs or conclusions of the Engineer of Record.



Patrick Robinson, P.E.
Senior Civil Engineer
Development Review
Patrick.Robinson@ClarkCountyNV.gov



W. Layne Weber, P.E., CFM
Principal Engineer
Development Review
wlweber@ClarkCountyNV.gov



CITY OF LAS VEGAS

MINIMUM DRAINAGE STUDY CRITERIA STANDARD FORM 2 CHECKLIST SUPPLEMENT

(Revised 5/18/11)

The following checklist is intended as a supplemental guide for the engineer preparing a Technical Drainage Study submittal to the City of Las Vegas. This supplement focuses on requirements specific to the City of Las Vegas. The requirements presented are in addition to the Clark County Regional Flood Control District (CCRFCD) Manual Standard Form 2. The listed items are the minimum information required prior to the City performing a review. The engineer will remain responsible to ensure the Technical Drainage Study is prepared within the guidelines as set forth in the CCRFCD Hydrologic Criteria and Drainage Design Manual (Design Manual).

An appointment must be made to preview this checklist in conjunction with CCRFCD Standard Form 2 prior to the City accepting a new drainage study for review. The engineer must contact the Flood Control Section at (702) 229-6541 to schedule a submittal appointment.

If items are not applicable for the subject site, provide N/A.

I. GENERAL REQUIREMENT		
Yes	No	
	N/A	A notarized letter from the adjacent property owner(s) allowing off-site grading. (A copy of the letter must be received prior to final acceptance of the drainage study.)
✓		Copies of all conditions of approval for development related to this property. (e.g. zoning, use permit, tentative map, etc.) Verify compliance with conditions.
✓		An electronic copy of the complete submittal is required to be submitted with one original hard copy of the study. Electronic documents should be on a universal computer-readable digital output device replicating your submittal. An Indexed Portable Document Format (PDF) or Print Ready CAD file formats with a minimum of 300dpi are the desired formats. If figures are in color, they must be scanned in color and saved as a separate file. <u>R.A.S.</u> by initial here, the engineer on record acknowledges that the electronic copy is an identical replicate of the original hard copy submitted to the City of Las Vegas.

II. GRADING PLAN INFORMATION		
Yes	No	
✓		(1) 24" X 36" copy of the Grading Plan, (including all Detail Sheets) sealed by the engineer.
✓		Proposed future and existing spot grades for top of curbs and street crowns at lot lines, grade breaks, and along curb returns on both sides of the street. Note: Proposed top of curb elevations must be provided for both sides of roadways even if only half street construction is required.
✓		Label existing topography at a minimum 5 foot elevation interval including adjacent developments, finished floor elevations of existing buildings and top of existing curbs extending 100 feet around the perimeter of the site. (*Measured from the centerline of the adjacent roadway.)

CITY OF LAS VEGAS MINIMUM DRAINAGE STUDY CRITERIA CHECKLIST

II. GRADING PLAN INFORMATION		
Yes	No	
	N/A	Proposed on-site and off-site storm drains and other flood control facilities with plan and profile sheets for public storm drains showing the class of pipe, (Class III, IV, V, etc.), design hydraulic grade line, (HGL) and 100 year storm flow. A public drainage easement must be provided over on-site storm drains conveying off-site flows. An overflow path must be provided over all storm drains.
✓		All existing and "to be constructed" walls with cross-sections showing wall type, (e.g. block wall, retaining wall, flood wall, etc.), with limits clearly defined, adjacent ground elevations. Wall heights must meet current ordinances and in no case exceed 14 feet above the adjacent property.
✓		Street slopes for both interior and perimeter streets. Note: The minimum slope for a roadway is 0.4 percent, a minimum 18-inch storm drain must be provided where minimum slopes cannot be met.
✓		Back of lot elevations and lot drainage pattern for all lots including common lots.
	N/A	Sites with a grade difference two feet above or below existing ground are required to have approval from City of Las Vegas Current Planning. Current Planning approval is required prior to final approval of the drainage study.
✓		On-site facilities must perpetuate flows through or around the site without significantly impacting adjacent property owners. (The project must pass flows through the site every 600 feet where the project is blocking flow paths.)
✓		This project uses a solid grouted stem wall (or approved alternate) at the back of sidewalk to provide erosion protection for landscaped areas where the depth of flow in the roadway exceeds the back of walk elevation. A corresponding cross-section detail is included.
	N/A	Commercial and Common Lot Landscape areas are not allowed to drain over the sidewalk. The grading plans show flow lines with grades and sidewalk under drains for all landscape areas draining to the public ROW.

III. Local Entity Criteria - City of Las Vegas – Manual Section 1600		
Yes	No	
	N/A	Concrete valley gutters are required in parking lots with slopes less than 1 percent. Slopes through cul-de-sac must be at a 1 percent minimum where flow is drained through the cul-de-sac.
✓		Ten-foot wide public drainage easements to be privately maintained are allowed for flow less than 20 cfs. The depth of flow entering the easement must be checked using the submerged weir calculation. <i>8-foot in Clark County</i>
✓		The limits of the flood zones and the base flood elevations (BFE) must be shown on all grading plans for all developments within a Special Flood Hazard Zone A, AO, AE, etc.
✓		Minimum finish floor elevation is 6 inches above highest adjacent top of curb. Finish floor calculations must include allowances for super elevations on curves and velocity head for tee intersections.
✓		Finished floor elevations for buildings adjacent to public drainage easements must be a minimum of 18 inches above the Q100 weir of submerged weir elevation, whichever is greater.

CITY OF LAS VEGAS MINIMUM DRAINAGE STUDY CRITERIA CHECKLIST

III. Local Entity Criteria - City of Las Vegas – Manual Section 1600		
Yes	No	
	N/A	Lots with "B and C Type Drainage" that drain from one lot to another through a drainage easement shall be required to install an underground nuisance drainage system or a 2-foot valley gutter. 16" x 24" minimum block wall openings are required for both options.
	N/A	Bubblers are required across 80 foot and greater ROW streets. When flows exceed 10 cfs, bubblers larger than 18 inches will be required up to a maximum of 36". Inlets must be sized to match the pipe size provided.

- Contact the Flood Control Section regarding the drainage study review fee. These fees are payable at the time of submittal.
- The Drainage Study must be conditionally approved prior to submitting improvement plans to the Civil and Planning Development of the Department of Building and Safety for review.

This document is intended as an **aid** in preparing Technical Drainage Studies for the City of Las Vegas. Each study submitted is reviewed for compliance with local and regional criteria. This form is not intended to be all-inclusive and does not limit the extent of the information, calculations or exhibits which may be necessary to properly evaluate the intended land use.

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: September 27, 2017
TO: Land Development Services Department of Building & Safety		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for:	
Infante – 3-Lot Residential Subdivision (Project in Clark County for City of Las Vegas Concurrence)		
Cross Streets:	SWC of Jensen Street & La Madre Way	
File Number:	F:\Depot\DSMemos\DS4915A.doc	
Parcel Number:	125-31-401-004	
Zoning Action:	N/A	
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES	NO X
COPIES TO:		ACG
		Angelo Infante
		Bart Anderson, P.E., DevCo
		CCPW

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	9/11/2017	9/26/2017	See Comments Below	\$400.00	489872: \$400
			TOTAL FEES (LDDRS):	\$400.00	----

REMARKS:

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:
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City of Las Vegas Flood Control staff has reviewed the Technical Drainage Study, including the pertinent Addendum #1, Supplements and Update for the subject development "**Infante – 3-Lot Residential Subdivision**" within the jurisdiction of **Clark County**. **City of Las Vegas** concurs with the acceptance of the drainage study by the **Clark County Public Works Department**. The review of this project was limited to issues of flood control significance to the **City of Las Vegas**.

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.

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END OF REMARKS

ays

T/R/S: T19S/R60E/31

AREA G-31

Mackaya Magdaleno

Subject: Infante DS CLV Concurrence Submittal- Albert Sung
Location: CLV- 7th Floor
Start: Tue 4/10/2018 4:00 PM
End: Tue 4/10/2018 5:00 PM
Recurrence: (none)
Meeting Status: Meeting organizer
Organizer: Mackaya Magdaleno
Required Attendees: Randy Skorpinski; Janelle Klein; Hailey Shinton

Fees for submittal are \$400.00.

ANGELO INFANTE-160163

NEED TO FILE CONCURRENCE WITH CLV

Fee check \$400.00

Drainage Study Submittals

- The city's Flood Control Section reviews and approves technical drainage studies addressing the existing, interim and future hydrological and hydraulic characteristics of developments within the city that are more than two acres and/or located within a FEMA designated Flood Zone.
- The city of Las Vegas Flood Control Section uses a checklist submittal process to screen drainage studies submitted for review. Minimum Drainage Study Checklist. This checklist supplements the CCRFCD Standard Form 2 and must be completed by the engineer and submitted with the technical drainage study.
- An electronic copy of the complete submittal is required to be submitted with one original hard copy of the study.
- The engineer preparing a drainage study must meet with the Flood Control Staff to preview the study prior to the city accepting it for review. Call 702-229-6541 to set up an appointment to submit a new drainage study. Refer to the Public Improvement Work fee schedule for any applicable fees. Once the study is accepted for review, the review time is two weeks or less depending on the current workload.
- All Drainage Studies must follow the Clark County Regional Flood Control District Hydrologic Criteria and Drainage Design Manual. Also available is the current Clark County Regional Flood Control District (CCRFCD) Master Plan Update. These documents are available from the CCRFCD, located at 600 S. Grand Central Pkwy Suite 300. They can be reached via phone at 702-685-0000 or visit their website at ccrfcd.org

Albert

702-229-2001

Whole package

All Addendums

separate
w/ C.D.'s
for each
addendum

No meeting required, just call ^{Engineer} Albert
to explain project the day it gets submitted

Appt ★

Albert Surg

Tuesday

4-10-18

@ 4pm

MOH
Hoot

Randy
Tandelle

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: September 27, 2017
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END OF REMARKS
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T/R/S: T19S/R60E/31
AREA G-31

**UPDATE TO THE
TECHNICAL DRAINAGE STUDY
FOR
INFANTE - 2 LOT RESIDENTIAL SUBDIVISION
MSM 17-600097**

**FORMERLY: INFANTE 3-LOT RESIDENTIAL (MSM 0056-17)
FORMERLY: INFANTE 4 LOT RESIDENTIAL SUBDIVISION (MSM 0041-16)**

**JOB NO. 160236
FEBRUARY 2018**

Prepared by:

ACG Design
4310 Cameron St, Suite 12-A
Las Vegas, NV 89103

Prepared for:

**Angelo Infante
328 Emerald Vista Way
Las Vegas, NV 89144
P: (702) 501-2518**

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Infante - 2 Lot RESIDENTIAL (MSM 17-600097) Date: Feb. 2018

Location of Development: a) Descriptive (Cross Streets) North/South: Jensen St

East/West: La Madre Way

b) Section: 31 Township: 19S Range: 60E

c) APN: 125-31-401-004

Name of Owner: Angelo Infante

Telephone No.: 702-501-2518 Fax No.: N/A E-Mail Address: aei58@cox.net

Address: 328 Emerald Vista Way Las Vegas, NV 89144

Contact Person-Name: Randolph Skorpinski Telephone No.: 702-569-9157

* E-Mail Address: RSkorpinski@acg.design Fax No.: _____

Firm: ACG Design

Address: 4310 Cameron St, Las Vegas NV 89103

Type of Land Development/Land Disturbance Process:

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

1. Total Owned Land Area: At Site: 2.06 Being Developed/Disturbed: 2.06

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.): Residential

5. Approximate upstream land area which drains to the subject site: 2 Acres

6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: _____

HTE 17-360534P HTE 16-43375

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Jensen St.

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.

*New Required Field

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

Local Entity File No.	Revision	Date

REFERENCE:

STANDARD FORM 1

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

Project Name: <u>Infante 2 Lot</u>	Map ID: <u>125-31-401-004</u>
Firm Name: <u>ACG Design</u>	Engineer: <u>Randolph Skorpinski</u>
Address: <u>4310 Cameron St, Suite 12-A</u>	
City: <u>Las Vegas</u>	State: <u>NV</u> Zip: <u>89103</u>
Phone Number: <u>702-569-9157</u>	Fax Number: <u>N/A</u>
Property Owner: <u>Angelo Infante</u>	
Address: <u>328 Emerald Vista Way</u>	
City: <u>Las Vegas</u>	State: <u>NV</u> Zip: <u>89144</u>
Reviewed By: _____	Date Received: _____ Date Accepted for Review: _____

The following checklist is intended as a guide for the engineer preparing a Technical Drainage Study to submit to the local entity and Clark County Regional Flood Control District (if necessary). The listed items are the minimum information required prior to the entity performing a review. The engineer will remain responsible to ensure the Technical Drainage Study is prepared within the guidelines as set forth in the Clark County Regional Flood Control District (CCRFCD) Hydrologic Criteria and Drainage Design Manual (MANUAL).

This document is intended as an aid in preparing Technical Drainage Studies. Each study submitted is reviewed for compliance with local and regional criteria. This form is not intended to be all inclusive and does not limit the extent of the information, calculations or exhibits which may be necessary to properly evaluate the intended land use.

If items are not applicable for the subject site, provide N/A.

I. GENERAL REQUIREMENT

- | Yes | No | |
|-------------------------------------|--|--|
| ☒ | ☐ | Design Manual Standard Form 1 with the engineer's seal and signature. |
| ☒ | ☐ | Design Manual Standard Form 4 . |
| ☒ | ☐ | 2 copies of the 24" x 36" Drainage Plan. |
| ☐ | ☒ <u>N/A</u> | A notarized letter from the adjacent property owner(s) allowing off-site grading or discharge. |

II. MAPS AND EXHIBITS

- | Yes | No | |
|-------------------------------------|--------------------------|---|
| ☒ | ☐ | A copy of a current Flood Insurance Rate Map (FIRM) with the site delineated. |
| ☒ | ☐ | A copy of the current CCRFCD Master Plan Update Figure, (F-x), for Flood Control Facilities and Environmental areas with the site delineated. |

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

II. MAPS AND EXHIBITS (Continued)

- | Yes | No | |
|-------------------------------------|--------------------------|--|
| ☒ | ☐ | Off-site drainage basin maps for existing, interim and future conditions showing the existing topography, basin boundaries, concentration points, and flows in cfs. |
| ☒ | ☐ | On-site drainage basin maps for existing and proposed conditions showing the existing topography, basin boundaries, concentration points, and on-site and off-site flows in cfs. |
| ☒ | ☐ | Vicinity Map with local and major cross streets identified and a north arrow. |

III. DRAINAGE PLAN

- | Yes | No | |
|-------------------------------------|--------------------------|---|
| ☒ | ☐ | Sheet size: 24" x 36" sealed by a registered engineer in the State of Nevada. |
| ☒ | ☐ | Minimum scale: 1" = 60'. |
| ☒ | ☐ | Project name. |
| ☒ | ☐ | Vicinity Map with local and major cross streets. |
| ☒ | ☐ | Revision box. |
| ☒ | ☐ | North arrow and bar scale. |
| ☒ | ☐ | Engineer's/consultant's address and phone number. |
| ☒ | ☐ | Elevation datum and benchmark. |
| ☒ | ☐ | Legend for symbols and abbreviations. |
| ☒ | ☐ | Cut/fill scarps, where applicable. |
| ☒ | ☐ | Street names, grades, widths. |
| ☒ | ☐ | Proposed future and existing spot grades for top of curbs and street crowns at lot lines, grade breaks, and along curb returns on both sides of the street. |
| ☒ | ☐ | Existing contours encompassing the site and 100 feet beyond with spot elevations for important locations, where appropriate. |
| ☒ | ☐ | Minimum finish floor elevations with top-of-curb elevations at upstream end of lot. |
| ☒ | ☐ | Proposed typical street sections. |

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

III. DRAINAGE PLAN (Continued)

Yes	No	
☒	☐	Streets with off-set crowns.
☒	☐	Proposed contours or spot elevations in sufficient detail to exhibit intended drainage patterns and slopes.
☒	☐	Property lines.
☒	☐	Right-of-way lines and widths, existing and proposed.
☒	☐	Existing improvements and their elevations.
☒	☐	Delineation of proposed on-site drainage basins indicating area and 10-year and 100-year storm peak flows at basin concentration points.
☒	☐	Concentration points and drainage flow direction with Q_{100} and V_{100} and D_{100} in streets.
☒	☐	Cumulative flows, velocity, and direction of flow at upstream and downstream ends of site for the 10-year and 100-year flows.
☒	☐	Location and cross-section of street capacity calculations.
☒	☐	Cross-sectional detail for channels, including cutoff wall locations.
☒	☐	Existing and proposed drainage facilities, appurtenances, and connections (i.e., sidewalk, ditches, swales, storm drain systems, unimproved and improved channels, and culverts, etc.) stating size, material, shape, and slope with plan and profile and HGL calculations.
☒	☐	Existing and proposed drainage easements and widths shown with sufficient detail. A cross sectional detail must be provided that shows appropriate lining and reinforcement.
☒	☐	Location and detail of existing, proposed, and future block wall openings. Minimum size is 16" x 48". Wrought iron gate is required for flows > 10 cfs.
☒	☐	Location and detail of flood walls illustrating depth of flow, proposed grouting height, etc.
☒	☐	Perimeter retaining wall locations. All existing and proposed walls (retaining screen and flood) must be shown with adjacent ground elevations. Flood walls with 8-inch concrete masonry unit.
☒	☐	Building and/or lot numbers.
☐	☒ N/A	Alignment of all existing, proposed, or future Regional Facilities adjacent to the site.
☒	☐	Limits of existing floodplain based on current FIRM or best available information; limits of proposed floodplains based on best available information.

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

III. DRAINAGE PLAN (Continued)

- | Yes | No | |
|-------------------------------------|--------------------------|---|
| ☒ | ☐ | <u>N/A</u> For areas in Zone A, AE, AH, and AO, base flood elevations (BFEs) must be shown for each lot; BFEs may be listed on each lot, or in a table. Finish floor elevations must be a minimum of 18 inches above BFE. |
| ☒ | ☐ | <u>N/A</u> Appropriately elevated "humps" 6 inches above the 100 year water surface elevation at site accesses where the intent is to protect the site from the Q_{100} flows. |
| ☒ | ☐ | Street slopes for perimeter and interior streets. The minimum slope is 0.4 percent. |
| ☒ | ☐ | <u>N/A</u> Location and detail of best management practice (BMP) for parking lots and low impact development (LID) (if required). |

IV. HYDROLOGIC ANALYSIS

- | Yes | No | |
|-------------------------------------|--------------------------|--|
| ☒ | ☐ | Appropriate soil information and Soils Map for existing and future conditions with subbasins and property delineated. |
| ☒ | ☐ | Input and output information for existing conditions from computer models (HEC-1 or TR-55). The flow routing diagram must be provided with HEC-1 models. |
| ☒ | ☐ | Input and output information for future conditions from computer models (HEC-1 or TR-55). The flow routing diagram must be provided with HEC-1 models. |
| ☒ | ☐ | Use of correct precipitation values in and around the McCarran Airport rainfall area. |
| ☒ | ☐ | A discussion in the text of the hydrologic analysis justifying subbasin boundaries and cutoffs, supporting assumptions, and calculations. |
| ☒ | ☐ | A summary table of stormwater flows showing basin area, Q_{10} and Q_{100} for both individual basins and combined basin flows, where applicable. |
| ☒ | ☐ | Copies of supporting technical information referenced from a previously approved study and a statement accepting these results. |
| ☒ | ☐ | On-site facilities must perpetuate flows through or around the site without significantly impacting adjacent property owners in accordance with current Nevada Drainage Law. |
| ☒ | ☐ | <u>N/A</u> Calculation for impervious area for parking lots and LIDs (if required). |

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

V. HYDRAULIC ANALYSIS

Yes	No	
☐	<u>N/A</u>	Flow split calculations and supporting documentation or reference for the method of flow split calculations used.
☒	☐	Normal depth street flow calculations and cross section diagrams for all interior and perimeter streets. Provide "d x v" products for the Q_{100} and Q_{10} flows representing the worst case for interior and all perimeter streets. $Q_{100} d \times v \leq 8$. $Q_{10} d \times v \leq 6$ and 12 foot dry lane for rights-of-way ≥ 80 feet. Calculations must be labeled by street name as indicated on the Grading Plan.
☒	☐	A summary table of interior and exterior street capacity calculations showing the street name, Q_{100} flow, slope, depth of flow, velocity and depth times velocity product and streets needing to meet 12 foot dry lane criteria.
☒	☐	Appropriate hydraulic calculations for block wall openings assuming a 50 percent vertical clogging factor. (Assume the lower half of the opening is plugged.)
☒	☐	Appropriate hydraulic calculations at drainage easement entrance and discharge locations to set finish floor elevations. Hydraulic calculations must include submerged weir, superelevation and tee intersection losses, where appropriate.
☒	☐	Provide necessary freeboard requirements to set the finished floor elevations of all proposed buildings, 2 x depth of flow or depth of flow plus 18 inches of freeboard, whichever is less. The minimum requirement is 6 inches above adjacent upstream top of curb. Buildings adjacent to drainage easements must always be provided with 18 inches of freeboard above the Q_{100} weir height or flow depth, whichever is greater.
☐	<u>N/A</u>	A complete water surface profile analysis (HEC-2, HEC-RAS, etc.) for channel flows and FEMA Zone A flood zones. • Field survey data. • Input and output information. • Plotted cross-sections based on survey with proper encroachments. • A map showing the location of the cross-sections. • Analysis of both sub and super-critical flow segments. • A summary table and a discussion of the results in the text of the report.
☐	<u>N/A</u>	Provide a 50 percent clogging factor in the capacity calculation for drop inlets.
☐	<u>N/A</u>	Hydraulic calculations for culverts and storm drains. D-Load calculations must be provided for storm drain pipes in public rights-of-way, including headwater pool inundation.
☐	<u>N/A</u>	The mitigation of nuisance water, both during construction and in the fully developed condition, must be addressed.
☐	<u>N/A</u>	Provide BMP type, size and supporting calculations for parking lots and LIDs (if required).

REFERENCE:

STANDARD FORM 2



ACG Design
4310 Cameron Street, Suite 12A
Las Vegas, NV 89103

February 15, 2018

Clark County
Department of Public Works
Layne Weber
500 S. Grand Central Parkway
Las Vegas, NV 89155-4000

Subject: Update to the Technical Drainage Study for Infante 2-Lot Residential (MSM 17-600097)
Formerly: Infante 3-Lot Residential (MSM-0056-17) HTE#17-36053UP
Formerly: Infante 4 Lot Residential Subdivision (MSM-0041-16) HTE#16-43375
Location: SWC of West La Madre Way and North Jensen Street

Dear Mr. Weber,

This letter is intended as an Update to the recently approved "Technical Drainage Study for Infante 3-Lot Residential Subdivision". The purpose of this update is to revise the lot layout from a three-lot subdivision to a two-lot subdivision based on minimum net square footage lot requirements per current Title 30.

There is no change to the existing conditions portion of the originally approved Technical Drainage Study. The proposed lot configuration updates both the interim and developed conditions. The depicted basins have not been revised, the discharge point for both lots will remain into Jensen Street.

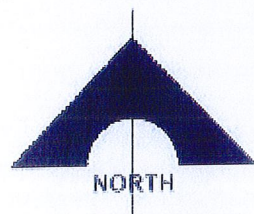
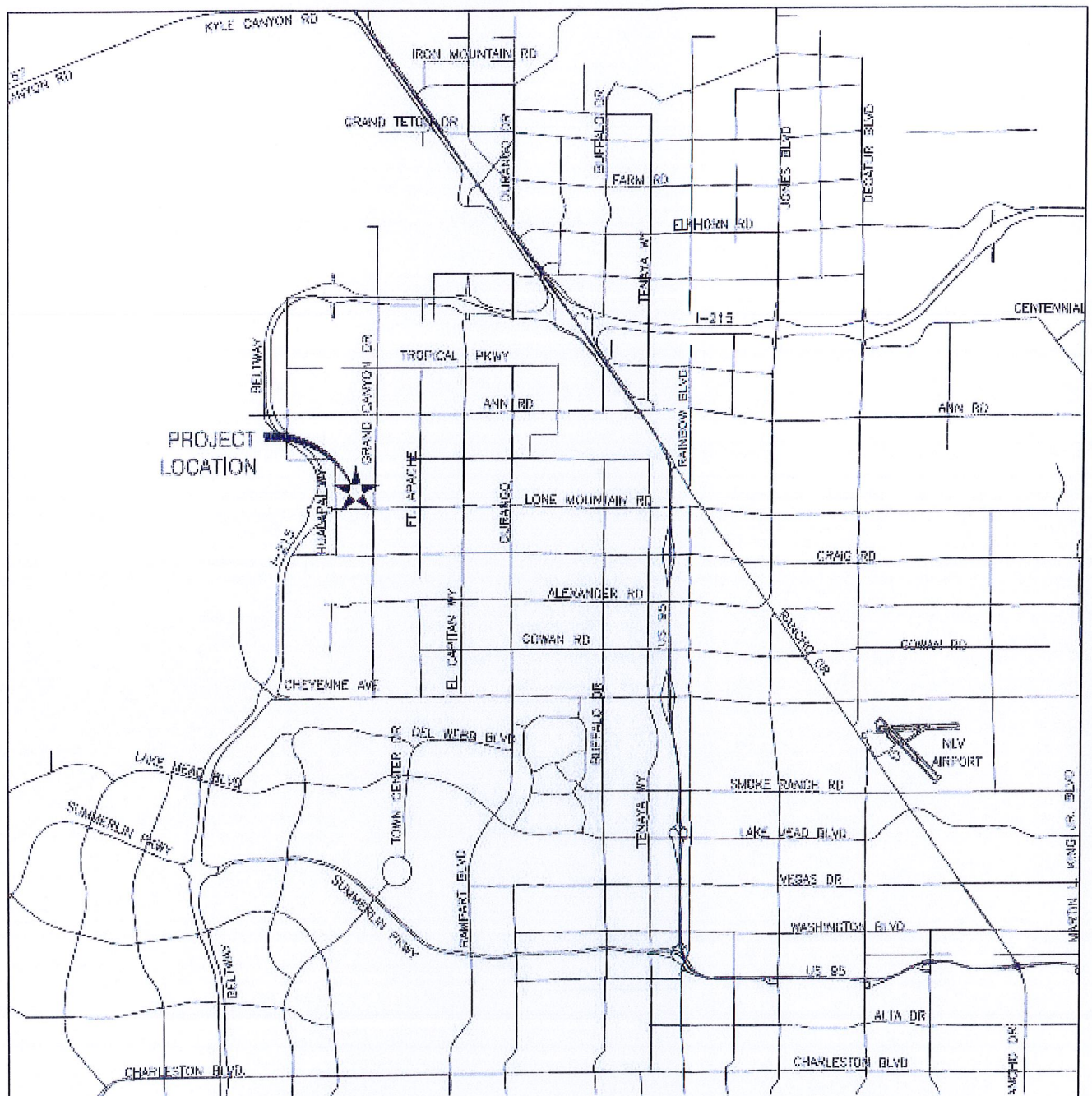
The Standard Form 4 for both conditions have been revised for the onsite basin per the new grading plans. Based on the revised hydrologic calculations for the onsite basin, the 10-year and 100-year flows remain the same at less than 1 cfs for all scenarios. Since the flows were not changed, the cross sections remained unchanged from the previously approved drainage study.

Revised drainage figures, hydraulic forms, HEC-1 calculations and grading plans and parcel map have been provided in the Appendix.

If you have any questions, please don't hesitate to contact me.

Sincerely,

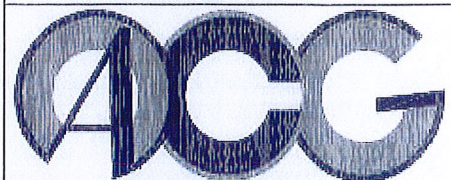
Randolph Skorpinski, P.E.
RSkorpinski@acg.design



NTS

INFANTE 2 LOTS

**FIGURE 1
VICINITY MAP**



ACG DESIGN
4310 CAMERON ST, STE 12-A
LAS VEGAS, NV 89103



National Flood Hazard Layer FIRMette

36°15'19.38"N



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus
DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

0 250 500 1,000 1,500 2,000 Feet 1:6,000

115°18'13.80"W

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)
Zone A, V, X39
- Regulatory Floodway
Zone AE, AO, AH, VE, AP

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile
Zone X
- Future Conditions 1% Annual Chance Flood Hazard
Zone X
- Area with Reduced Flood Risk due to Levee, See Notes.
Zone X
- Area with Flood Risk due to Levee
Zone O

OTHER AREAS

- Area of Minimal Flood Hazard
Zone X
- Effective LOMRS

GENERAL STRUCTURES

- Area of Undetermined Flood Hazard
Zone X
- Channel, Culvert, or Storm Sewer
Levee, Dike, or Floodwall

OTHER FEATURES

- Cross Sections with 1% Annual Chance
Water Surface Elevation
20.2
17.5
- Coastal Transsect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transsect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The base map shown complies with FEMA's base map accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/14/2018 at 11:42:32 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: base map imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

RUNOFF CURVE NUMBERS - RESIDENTIAL DISTRICTS

Average Lot Size or Usage ¹	Percent Impervious ²	Curve Number for Hydrologic Soil Groups			
		A	B	C	D
Apartments/Condos	72	81	88	91	93
Townhouses/6,000 sq ft lots or less ³	69	80	87	90	92
7,000 sq ft lots	63	76	84	89	91
8,000 sq ft lots	58	73	82	88	90
10,000 sq ft lots	38	61	75	83	87
14,000 sq ft lots	30	57	72	81	86
20,000 sq ft lots	25	54	70	80	85
40,000 sq ft lots	20	51	68	79	84
80,000 sq ft lots	12	46	65	77	82

1 Lot size should represent the size of the average lot and not the gross acreage divided by the number of lots.

2 Actual percent impervious value should be compared to selected land use type.

3 In cases where average residential lots are smaller than 6,000 sq ft, commercial/business/industrial land use should be used.

Revision	Date

REFERENCE:

TABLE 602A

INFANTEINTERIM.OUT

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 14FEB18 TIME 09:02:17
*
*****

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

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X X XXXXXX XXXX X
X X X X X XX
X X X X X
XXXXXX XXXX X XXXX X
X X X X X
X X X X X
X X XXXXXX XXXX XXX

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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
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 DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
 KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1

HEC-1 INPUT

PAGE 1

```

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

*DIAGRAM
1 ID *****
2 ID * .....
3 ID * : .....
4 ID * : INFANTE 2 LOTS (MSM 17-600097) : *
5 ID * : DRAINAGE STUDY UPDATE : *
6 ID * : INTERIM CONDITIONS : *
7 ID * : .....
8 ID * : RETURN PERIOD _ _ _ 100-YEAR & 10-YEAR : *
9 ID * : DISTRIBUTION _ _ _ 6-HOUR SDN3 : *
10 ID * : PROJECT NO _ _ _ 160236 : *
11 ID * : FILENAME _ _ _ INFANTEINTERIM.H1 : *
12 ID * : DATE MODELED _ _ _ 02/14/18 : *
13 ID * : MODELED BY _ _ _ JLK : *
14 ID * : .....
15 ID *****
16 ID
17 ID
18 IT 5 0 0 300
19 IO 5
20 IN 5 0 0
21 JR PREC .56 1
*

22 KK OFF1
23 KM SUBBASIN OFF1
24 KM AREA 2.25 AC
25 PB 3.10
26 PC .000 .020 .057 .070 .087 .108 .124 .130 .130 .130
27 PC .130 .130 .130 .133 .140 .142 .148 .158 .172 .181
28 PC .190 .197 .199 .200 .201 .204 .214 .229 .241 .249
29 PC .251 .256 .270 .278 .281 .283 .295 .322 .352 .409
30 PC .499 .590 .710 .744 .781 .812 .819 .835 .851 .856
31 PC .860 .868 .876 .888 .910 .926 .937 .950 .970 .976
32 PC .982 .985 .987 .989 .990 .993 .993 .994 .995 .998
33 PC .998 .999 1.00
34 BA .0035
35 LS 0 76.0

```

INFANTEINTERIM.OUT

36 UD .100
*
37 KK OFF3
38 KM SUBBASIN OFF3
39 KM AREA 0.21 AC
40 PB 3.10
41 BA .0003
42 LS 0 76.0
43 UD .101
*

HEC-1 INPUT

PAGE 2

1

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
44 KK ON1
45 KM SUBBASIN ON1
46 KM AREA 2.05 AC
47 PB 3.10
48 BA .0032
49 LS 0 51.0
50 UD .115
*
51 ZZ

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT
LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW
NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW
22 OFF1
.
.
37 OFF3
.
.
44 ON1
.

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

1 *****
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
* JUN 1998
* VERSION 4.1
*
* RUN DATE 14FEB18 TIME 09:02:17
*

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* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*

*
* :
* : INFANTE 2 LOTS (MSM-17-600097)
* : DRAINAGE STUDY UPDATE
* : INTERIM CONDITIONS
* :
* : RETURN PERIOD _ _ _ 100-YEAR & 10-YEAR
* : DISTRIBUTION _ _ _ 6-HOUR SDN3
* : PROJECT NO _ _ _ 160236
* : FILENAME _ _ _ INFANTEINTERIM.H1
* : DATE MODELED _ _ _ 02/14/18
* : MODELED BY _ _ _ JLK
* :

19 IO

OUTPUT CONTROL VARIABLES

IPRNT 5 PRINT CONTROL
IPLOT 0 PLOT CONTROL

QSCAL

0. HYDROGRAPH PLOT SCALE

IT

HYDROGRAPH TIME DATA

NMIN 5 MINUTES IN COMPUTATION INTERVAL
 IDATE 1 0 STARTING DATE
 ITIME 0000 STARTING TIME
 NQ 300 NUMBER OF HYDROGRAPH ORDINATES
 NDDATE 2 0 ENDING DATE
 NDTIME 0055 ENDING TIME
 ICENT 19 CENTURY MARK

COMPUTATION INTERVAL .08 HOURS

TOTAL TIME BASE 24.92 HOURS

ENGLISH UNITS

DRAINAGE AREA SQUARE MILES
 PRECIPITATION DEPTH INCHES
 LENGTH, ELEVATION FEET
 FLOW CUBIC FEET PER SECOND
 STORAGE VOLUME ACRE-Feet
 SURFACE AREA ACRES
 TEMPERATURE DEGREES FAHRENHEIT

JP

MULTI-PLAN OPTION

NPLAN 1 NUMBER OF PLANS

JR

MULTI-RATIO OPTION

RATIOS OF PRECIPITATION

.56 1.00

1

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

RATIOS APPLIED TO PRECIPITATION

OPERATION	STATION	AREA	PLAN		RATIO 1 .56	RATIO 2 1.00
HYDROGRAPH AT						
+	OFF1	.00	1	FLOW	1.	3.
				TIME	3.58	3.58
HYDROGRAPH AT						
+	OFF3	.00	1	FLOW	0.	0.
				TIME	3.58	3.58
HYDROGRAPH AT						
+	ON1	.00	1	FLOW	0.	0.
				TIME	.00	3.75

*** NORMAL END OF HEC-1 ***


```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
* JUN 1998
* VERSION 4.1
*
* RUN DATE 14FEB18 TIME 09:01:54
*
*****

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

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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 -AMSK- 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

HEC-1 INPUT

PAGE 1

1

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

*DIAGRAM
1 ID *****
2 ID * .....
3 ID * : .....
4 ID * : INFANTE 2 LOTS (MSM 17-600097) :
5 ID * : DRAINAGE STUDY :
6 ID * : DEVELOPED CONDITIONS :
7 ID * : .....
8 ID * : RETURN PERIOD_ _ _ 100-YEAR & 10-YEAR :
9 ID * : DISTRIBUTION_ _ _ 6-HOUR SDN3 :
10 ID * : PROJECT NO_ _ _ 160236 :
11 ID * : FILENAME_ _ _ INFANTEDEVELOPED.H1 :
12 ID * : DATE MODELED_ _ _ 02/14/18 :
13 ID * : MODELED BY_ _ _ JLK :
14 ID * : .....
15 ID *****
16 ID
17 ID
18 IT 5 0 0 300
19 IO 5
20 IN 5 0 0
21 JR PREC .56 1
*

22 KK OFF4
23 KM SUBBASIN OFF4
24 KM AREA 2.25 AC
25 PB 3.10
26 PC .000 .020 .057 .070 .087 .108 .124 .130 .130 .130
27 PC .130 .130 .130 .133 .140 .142 .148 .158 .172 .181
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31 PC .860 .868 .876 .888 .910 .926 .937 .950 .970 .976
32 PC .982 .985 .987 .989 .990 .993 .993 .994 .995 .998
33 PC .998 .999 1.00
34 BA .0035
35 LS 0 54.0

```

```

36      UD      .114
      *
37      KK      OFF5
38      KM      SUBBASIN OFF5
39      KM              AREA      0.21 AC
40      PB      3.10
41      BA      .0003
42      LS      0      98.0
43      UD      .050
      *

```

HEC-1 INPUT

PAGE 2

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

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44      KK      ON2
45      KM      SUBBASIN ON2
46      KM              AREA      2.05 AC
47      PB      3.10
48      BA      .0032
49      LS      0      51.0
50      UD      .115
      *
51      ZZ

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SCHEMATIC DIAGRAM OF STREAM NETWORK

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INPUT
LINE (V) ROUTING      (--->) DIVERSION OR PUMP FLOW

NO.  (.) CONNECTOR    (<---) RETURN OF DIVERTED OR PUMPED FLOW

22    OFF4
      .
      .
37    .      OFF5
      .
      .
44    .      .      ON2

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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*      JUN 1998
*      VERSION 4.1
*
* RUN DATE 14FEB18 TIME 09:01:54
*
*****

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```

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

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```

*****
* .....:
* :
* :      INFANTE 2 LOTS (MSM-17-600097)
* :      DRAINAGE STUDY
* :      DEVELOPED CONDITIONS
* :.....:
* :      RETURN PERIOD_ _ _100-YEAR & 10-YEAR
* :      DISTRIBUTION_ _ _ 6-HOUR SDN3
* :      PROJECT NO_ _ _ 160236
* :      FILENAME_ _ _ _ INFANTEDEVELOPED.H1
* :      DATE MODELED_ _ _ 02/14/18
* :      MODELED BY_ _ _ _ JLK
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19 IO      OUTPUT CONTROL VARIABLES
          IPRNT      5 PRINT CONTROL
          IPLOT      0 PLOT CONTROL

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QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA

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ITIME	0000	STARTING TIME
NQ	300	NUMBER OF HYDROGRAPH ORDINATES
NDDATE	2 0	ENDING DATE
NDTIME	0055	ENDING TIME
ICENT	19	CENTURY MARK

COMPUTATION INTERVAL .08 HOURS

TOTAL TIME BASE 24.92 HOURS

ENGLISH UNITS

DRAINAGE AREA	SQUARE MILES
PRECIPITATION DEPTH	INCHES
LENGTH, ELEVATION	FEET
FLOW	CUBIC FEET PER SECOND
STORAGE VOLUME	ACRE-FEET
SURFACE AREA	ACRES
TEMPERATURE	DEGREES FAHRENHEIT

JP MULTI-PLAN OPTION

NPLAN	1	NUMBER OF PLANS
-------	---	-----------------

JR MULTI-RATIO OPTION

RATIOS OF PRECIPITATION	
.56	1.00

1

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	RATIO 2
				.56	1.00
HYDROGRAPH AT					
+	OFF4	.00	1	FLOW	0.
				TIME	0.
					3.75
HYDROGRAPH AT					
+	OFF5	.00	1	FLOW	0.
				TIME	1.
					3.50
HYDROGRAPH AT					
+	ON2	.00	1	FLOW	0.
				TIME	0.
					3.75

*** NORMAL END OF HEC-1 ***

APPENDIX B



Department of Public Works

500 S Grand Central Pky • Box 554000 • Las Vegas NV 89155-4000
(702) 455-6000 • Fax (702) 455-6040

Denis Cederburg, P.E., Director • E-Mail: dlc@ClarkCountyNV.gov

Drainage Study Approval Letter

Date: August 21, 2017
Firm: ACG Design
Engineer: Randolph A Skorpinski, P.E.
Address: 7730 Mustang St., Las Vegas, NV 89131
Phone: (702) 278-2715
Fax: n/a
E-mail: RSkorpinski@acg.design

Subject: Technical Drainage Study for Infante- 3 Lot Residential
Location: SWC of West La Madre Way and North Jensen Street
APN: 125-31-401-004
Sec, Township, Range: S31, T19S, R60E
Flood Zone & Panel: Zone X, 1745E, Dated September 27, 2002
Application Number: 17-36053UP

Submittals	Date Received	Date Returned	Reviewer	Miscellaneous
Update	08/04/2017	08/21/2017	PR/SA	
Supplement	08/22/2017	08/22/2017	SA	Supplied missing reference information

Concurrence Required: (Must be obtained prior to permit issuance)		Reason Concurrence is Required
	Boulder City	Adjacent to or Impacts Jurisdiction
	City of Mesquite	Adjacent to or Impacts Jurisdiction
	City of Henderson	Adjacent to or Impacts Jurisdiction
X	City of Las Vegas	Adjacent to or Impacts Jurisdiction
	City of North Las Vegas	Adjacent to or Impacts Jurisdiction
	Nevada Department of Transportation	Adjacent to or Impacts NDOT Facility
	Union Pacific Rail Road	Adjacent to or Impacts a UPRR Facility
	US Army Corps of Engineers	Impacts a USACE Facility
	Clark County Regional Flood Control District	Regional Significance, Adjacent to or Impacts CCRFCD MPU Facility or in a SFHA

BOARD OF COUNTY COMMISSIONERS
STEVE SISOLAK, Chairman • CHRIS GIUNCHIGLIANI, Vice Chair
SUSAN BRAGER • LARRY BROWN • JAMES B. GIBSON • MARILYN KIRKPATRICK • LAWRENCE WEEKLY
YOLANDA T. KING, County Manager

The referenced **Technical Drainage Study Update** has been reviewed and is accepted as complying with minimum improvement standards. As set forth in the subject drainage study, the following measures will be taken to mitigate flood hazards.

This update changes the number of proposed lots from 4 to 3. The previously approved Technical Drainage Studies are: 16-43375.

The site shall be graded with respect to drainage as shown on "**Infante - 3 Lot Residential (MSM 0056-17)**", grading plan sheets C-1, C-2, C-3, C-5, C-7, and C-8, signed and sealed by Randolph A. Skorpinski, P.E., on August 4, 2017.

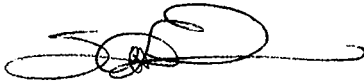
Check appropriate conditions

	Retaining/screen wall combination may be in excess of current Clark County Unified Development Code, Chapter 30.64.050.
	A FEMA Elevation Certificate, completed by a licensed surveyor, must be submitted to and approved by CCPW Development Review Plan Check prior to the issuance of Certificates of Occupancy for those structures.
X	Mylars of the grading plan must be submitted to the CCPW Development Review Plan Check for approval signatures prior to map recordation (residential) or permit issuance (commercial).
	An administrative variance to allow the finished floor elevation(s) to be set below the current Clark County criteria must be approved. The finished floor variance must be submitted to CCPW Development Review front counter after drainage study approval and prior to offsite final review.
X	The grading plan will be reviewed by the Building Office Operations Division to ensure compliance with the ADA access requirements. Revisions to the grading plan may be required if the site accessibility design does not comply with the requirements set forth in the Accessibility Chapter of the Clark County Building Code.
	The plans show work is proposed on another property. Notarized written permission must be obtained prior to plan approval. A grading permit must be obtained from Building Dept prior to grading.
X	Right-of-way dedication must be verified.
	Any previously approved drainage easements that are not being used must be vacated.
	Per <i>Regional Flood Control District policies and Procedures manual, Section VIII. D. 13. Uniform Regulations for the Control of Drainage</i> , the Engineer of Record shall provide As-Built plans or record drawings to the District after completion and final inspection of such privately installed flood control facilities that have regional flood control significance.
	Structural calculations are required. The structural calculations, plans, and details must be approved prior to "Offsite" submittal and prior to CCRFCD submittal, if applicable.
X	Plan revisions can be found on the red-lined plans and must be addressed.
X	Prepare drainage easement documents as shown on the grading plans.

Additional Conditions:

1. Any improvements not depicted on the above mentioned grading plans may require an Update to this Technical Drainage Study.

The County's review is solely based on the information submitted by the Engineer of Record. The County's review is strictly limited to compliance with minimum County Codes and Standards. The Engineer of Record is responsible for researching and addressing situations that may require designs above and beyond the minimum codes for issues of public safety and impacts to upstream, downstream and adjacent properties. The County assumes no liability for information data, designs or conclusions of the Engineer of Record.



Sam Andales, E.I.
Plan Checker
Development Review
saa@clarkcountynv.gov


FOR LAYNE WEBER

W. Layne Weber, P.E., CFM
Principal Engineer
Development Review
wlweber@ClarkCountyNV.gov

TIME OF CONCENTRATION
INFANTE 3 LOTS (MSM-0056-17)

INTERIM CONDITION

ACG Design
Project No: 160163

Date: 08/03/17 **Calculated by: RAS**
Date: 08/03/17 **Checked by: RAS**

SUB-BASIN DATA										INITIAL / OVERLAND TIME (Ti)				TRAVEL TIME (Tt)				Tc	Tc	Tag	REMARKS
DESIG:	DEV/JEX (D or E)	CN	K	AREA Ac	AREA M ²	INITIAL LENGTH Feet	SLOPE %	Ti Min	TRAVEL LENGTH Feet	SLOPE %	V1 VELOCITY FPS	V2 VELOCITY FPS	Tt Min	Min (13)	Min (14)	Tag=	RAINFALL Inches				
(1)			(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)								
OFF1	E	76.0	0.6132	2.25	0.0035	50	4.00	3.9	250	4.50	3.1	-	1.3	10.0	N/A	0.100	3.1				
OFF3	E	76.0	0.6132	0.21	0.0003	75	1.00	7.6	225	1.00	1.5	-	2.5	10.1	N/A	0.101	3.1				
ON1	D	54.0	0.3228	2.05	0.0032	150	1.00	17.1	120	4.3	4.2	-	0.5	17.6	11.5	0.115	3.1				
Tc = Ti + Tt Tag = 0.6 Tc Ti = 1.8 (1.1 - K) L ^{0.12} / S ^{0.13} K = 0.0132 (CN) - 0.39 Tc Check = L/180+10										Existing V1 = 14.8*(S/100) ^{0.12}				Developed V1 = 20.2*(S/100) ^{0.12}							
For the travel time (Ti) calculations, V1 applies to the first 500 feet of travel distance; V2 applies to the remaining travel distance.										Existing V2 = 29.4*(S/100) ^{0.12}				Developed V2 = 30.6*(S/100) ^{0.12}							
STANDARD FORM 4																					

InfanteInterim

```

1*****
*****
*           *           *           *
* FLOOD HYDROGRAPH PACKAGE (HEC-1) * U.S. ARMY CORPS OF ENGINEERS *
*   JUN 1998   *           * HYDROLOGIC ENGINEERING CENTER *
*   VERSION 4.1   *           * 609 SECOND STREET *
*           *           * DAVIS, CALIFORNIA 95616 *
* RUN DATE 03AUG17 TIME 16:13:11 *           * (916) 756-1104 *
*           *           *           *
*****
*****

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X X XXXXXXXX XXXXX X
X X X X X XX
X X X X X
XXXXXXXX XXXX X XXXXX X
X X X X X
X X X X X X
X X XXXXXXXX XXXXX XXX

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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

1 HEC-1 INPUT PAGE 1

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

*DIAGRAM

```

1 ID *****
2 ID * .....
3 ID * :
4 ID * : INFANTE 3 LOTS (MSM-0056-17)
5 ID * : DRAINAGE STUDY UPDATE
6 ID * : INTERIM CONDITIONS

```


InfanteInterim

7 ID * :
 8 ID * : RETURN PERIOD___100-YEAR & 10-YEAR
 9 ID * : DISTRIBUTION___6-HOUR SDN3
 10 ID * : PROJECT NO_____160163
 11 ID * : FILENAME_____INTERIM.H1
 12 ID * : DATE MODELED___08/03/17
 13 ID * : MODELED BY_____RAS
 14 ID * :
 15 ID * :
 16 ID * :
 17 ID *****
 18 ID
 19 ID
 20 ID
 21 IT 5 0 0 300
 22 IO 5
 23 IN 5 0 0
 24 JR PREC .56 1
 *

25 KK OFF1
 26 KM SUBBASIN OFF1
 27 KM AREA 2.25 AC
 28 PB 3.10
 29 PC .000 .020 .057 .070 .087 .108 .124 .130 .130 .130
 30 PC .130 .130 .130 .133 .140 .142 .148 .158 .172 .181
 31 PC .190 .197 .199 .200 .201 .204 .214 .229 .241 .249
 32 PC .251 .256 .270 .278 .281 .283 .295 .322 .352 .409
 33 PC .499 .590 .710 .744 .781 .812 .819 .835 .851 .856
 34 PC .860 .868 .876 .888 .910 .926 .937 .950 .970 .976
 35 PC .982 .985 .987 .989 .990 .993 .993 .994 .995 .998
 36 PC .998 .999 1.00
 37 BA .0035
 38 LS 0 76.0
 39 UD .100
 *

40 KK OFF3
 41 KM SUBBASIN OFF3
 42 KM AREA 0.21 AC
 43 PB 3.10
 44 BA .0003
 45 LS 0 76.0
 46 UD .101
 *

1

HEC-1 INPUT

PAGE 2

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

47 KK ON1

Page 2

InfanteInterim

48 KM SUBBASIN ON1
 49 KM AREA 2.05 AC
 50 PB 3.10
 51 BA .0032
 52 LS 0 54.0
 53 UD .115

*

54 ZZ

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT

LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW

NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW

25 OFF1

40 OFF3

47 ON1

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```

*           *           *           *
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *           * U.S. ARMY CORPS OF ENGINEERS *
*   JUN 1998   *           * HYDROLOGIC ENGINEERING CENTER *
*   VERSION 4.1 *           *   609 SECOND STREET   *
*           *           * DAVIS, CALIFORNIA 95616 *
* RUN DATE 03AUG17 TIME 16:13:11 *           * (916) 756-1104 *
*           *           *           *
  
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*

* :

* : INFANTE 3 LOTS (MSM-0056-17)

* : DRAINAGE STUDY UPDATE

* : INTERIM CONDITIONS

* :

* : RETURN PERIOD ___100-YEAR & 10-YEAR

* : DISTRIBUTION ___6-HOUR SDN3

* : PROJECT NO ___160163

* : FILENAME _____ INTERIM.H1

InfanteInterim

```
*:  DATE MODELED____08/03/17
*:  MODELED BY____RAS
*:  .....
*:
*:  .....
*****
```

22 IO OUTPUT CONTROL VARIABLES
 IPRNT 5 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA
 NMIN 5 MINUTES IN COMPUTATION INTERVAL
 IDATE 1 0 STARTING DATE
 ITIME 0000 STARTING TIME
 NQ 300 NUMBER OF HYDROGRAPH ORDINATES
 NDDATE 2 0 ENDING DATE
 NDTIME 0055 ENDING TIME
 ICENT 19 CENTURY MARK

COMPUTATION INTERVAL .08 HOURS
 TOTAL TIME BASE 24.92 HOURS

ENGLISH UNITS
 DRAINAGE AREA SQUARE MILES
 PRECIPITATION DEPTH INCHES
 LENGTH, ELEVATION FEET
 FLOW CUBIC FEET PER SECOND
 STORAGE VOLUME ACRE-FEET
 SURFACE AREA ACRES
 TEMPERATURE DEGREES FAHRENHEIT

JP MULTI-PLAN OPTION
 NPLAN 1 NUMBER OF PLANS

JR MULTI-RATIO OPTION
 RATIOS OF PRECIPITATION
 .56 1.00

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC
 COMPUTATIONS

FLOW IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
 TIME TO PEAK IN HOURS

RATIOS APPLIED TO PRECIPITATION

OPERATION	STATION	AREA	PLAN	InfanteInterim RATIO 1 RATIO 2
		.56	1.00	

HYDROGRAPHAT

+	OFF1	.00	1	FLOW	1.	3.
				TIME	3.58	3.58

HYDROGRAPHAT

+	OFF3	.00	1	FLOW	0.	0.
				TIME	3.58	3.58

HYDROGRAPHAT

+	ON1	.00	1	FLOW	0.	0.
				TIME	.00	3.75

*** NORMAL END OF HEC-1 ***

TIME OF CONCENTRATION
INFANTE 3 LOTS (MSM-0056-17)

DEVELOPED CONDITION

ACG Design
Project No: 160163

Date: 08/03/17 Calculated by: RAS
Date: 08/03/17 Checked by: RAS

[illegible]

InfanteDeveloped

```

1*****
*****
*           *           *           *
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *   * U.S. ARMY CORPS OF ENGINEERS *
*   JUN 1998   *           * HYDROLOGIC ENGINEERING CENTER *
*   VERSION 4.1   *           * 609 SECOND STREET *
*           *           * DAVIS, CALIFORNIA 95616 *
* RUN DATE 03AUG17 TIME 16:14:21 *   * (916) 756-1104 *
*           *           *           *
*****
*****

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X X XXXXXXXX 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 XXXXXXXX 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.

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DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

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

*DIAGRAM

```

1 ID *****
2 ID * .....
3 ID * :
4 ID * : INFANTE 3 LOTS (MSM-0056-17)
5 ID * : DRAINAGE STUDY
6 ID * : DEVELOPED CONDITIONS

```

InfanteDeveloped

```

7  ID *:.....
8  ID *:    RETURN PERIOD____100-YEAR & 10-YEAR
9  ID *:    DISTRIBUTION____6-HOUR SDN3
10 ID *:    PROJECT NO____160163
11 ID *:    FILENAME_____DEVELOPED.H1
12 ID *:    DATE MODELED____08/03/17
13 ID *:    MODELED BY_____RAS
14 ID *:.....
15 ID *:
16 ID *:.....
17 ID *****
18 ID
19 ID
20 ID
21 IT  5  0  0  300
22 IO  5
23 IN  5  0  0
24 JR PREC .56  1
  *
```

```

25 KK OFF4
26 KM SUBBASIN OFF4
27 KM  AREA 2.25 AC
28 PB 3.10
29 PC .000 .020 .057 .070 .087 .108 .124 .130 .130 .130
30 PC .130 .130 .130 .133 .140 .142 .148 .158 .172 .181
31 PC .190 .197 .199 .200 .201 .204 .214 .229 .241 .249
32 PC .251 .256 .270 .278 .281 .283 .295 .322 .352 .409
33 PC .499 .590 .710 .744 .781 .812 .819 .835 .851 .856
34 PC .860 .868 .876 .888 .910 .926 .937 .950 .970 .976
35 PC .982 .985 .987 .989 .990 .993 .993 .994 .995 .998
36 PC .998 .999 1.00
37 BA .0035
38 LS  0 54.0
39 UD .114
  *
```

```

40 KK OFF5
41 KM SUBBASIN OFF5
42 KM  AREA 0.21 AC
43 PB 3.10
44 BA .0003
45 LS  0 98.0
46 UD .050
  *
```

1 HEC-1 INPUT PAGE 2

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

47 KK ON2

InfanteDeveloped

48 KM SUBBASIN ON2
49 KM AREA 2.05 AC
50 PB 3.10
51 BA .0032
52 LS 0 54.0
53 UD .115

*

54 ZZ

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT

LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW

NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW

25 OFF4

40 . OFF5

47 . . ON2

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

1*****

* * * * *
* FLOOD HYDROGRAPH PACKAGE (HEC-1) * * U.S. ARMY CORPS OF ENGINEERS *
* JUN 1998 * * HYDROLOGIC ENGINEERING CENTER *
* VERSION 4.1 * * 609 SECOND STREET *
* * * DAVIS, CALIFORNIA 95616 *
* RUN DATE 03AUG17 TIME 16:14:21 * * (916) 756-1104 *
* * * * *

*

* :

* : INFANTE 3 LOTS (MSM-0056-17)

* : DRAINAGE STUDY

* : DEVELOPED CONDITIONS

*

* : RETURN PERIOD ___100-YEAR & 10-YEAR

* : DISTRIBUTION ___6-HOUR SDN3

* : PROJECT NO ___160163

* : FILENAME ___DEVELOPED.H1

InfanteDeveloped

```
*:  DATE MODELED____08/03/17
*:  MODELED BY____RAS
*:  .....
*:
*:
*:  .....
*****
```

22 IO OUTPUT CONTROL VARIABLES
IPRNT 5 PRINT CONTROL
IPLOT 0 PLOT CONTROL
QSCAL 0. HYDROGRAPH PLOT SCALE

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LENGTH, ELEVATION FEET
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RATIOS OF PRECIPITATION
.56 1.00

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COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

RATIOS APPLIED TO PRECIPITATION

OPERATION	STATION	AREA	PLAN	InfanteDeveloped	
				RATIO 1	RATIO 2
		.56	1.00		

HYDROGRAPH AT

+	OFF4	.00	1	FLOW	0.	0.
				TIME	.00	3.75

HYDROGRAPH AT

+	OFF5	.00	1	FLOW	0.	1.
				TIME	3.50	3.50

HYDROGRAPH AT

+	ON2	.00	1	FLOW	0.	0.
				TIME	.00	3.75

*** NORMAL END OF HEC-1 ***



Department of Public Works

500 S Grand Central Pky • Box 554000 • Las Vegas NV 89155-4000
(702) 455-6000 • Fax (702) 455-6040

Denis Cederburg, P.E., Director • E-Mail: dlc@ClarkCountyNV.gov

Drainage Study Approval Letter

Date: March 30, 2017
Firm: ACG Design
Engineer: Randolph A Skorpinski, P.E.
Address: 7730 Mustang St., Las Vegas, NV 89131
Phone: (702) 278-2715
Fax: n/a
E-mail: RSkorpinski@acg.design

Subject: Technical Drainage Study for Infante- 4 Lot
Location: SWC of West La Madre Way and North Jensen Street
APN: 125-31-401-004
Sec, Township, Range: S31, T19S, R60E
Flood Zone & Panel: Zone X, 1745E, Dated September 27, 2002
Application Number: 16-43375

Submittals	Date Received	Date Returned	Reviewer	Miscellaneous
Technical	09/23/2016	10/18/2016	PR	
Addendum #1	11/03/2016	11/23/2016	PR	
Addendum #2	12/05/2016	12/12/2016	PR	
Supplement	03/23/2017	03/30/2017	PR	Revised paving on La Madre per Offsite comments

Concurrence Required: (Must be obtained prior to permit issuance)		Reason Concurrence is Required
	Boulder City	Adjacent to or Impacts Jurisdiction
	City of Mesquite	Adjacent to or Impacts Jurisdiction
	City of Henderson	Adjacent to or Impacts Jurisdiction
X	City of Las Vegas	Adjacent to or Impacts Jurisdiction
	City of North Las Vegas	Adjacent to or Impacts Jurisdiction
	Nevada Department of Transportation	Adjacent to or Impacts NDOT Facility
	Union Pacific Rail Road	Adjacent to or Impacts a UPRR Facility
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BOARD OF COUNTY COMMISSIONERS
STEVE SISOLAK, Chairman • CHRIS GIUNCHIGLIANI, Vice Chair
SUSAN BRAGER • LARRY BROWN • MARILYN KIRKPATRICK • MARY BETH SCOW • LAWRENCE WEEKLY
YOLANDA T. KING, County Manager

The referenced **Technical Drainage Study** has been reviewed and is accepted as complying with minimum improvement standards. As set forth in the subject drainage study, the following measures will be taken to mitigate flood hazards.

The site shall be graded with respect to drainage as shown on "**Infante 4-lot Residential Subdivision, MSM 0041-16**", grading plan sheets C-1, C-2, C-3, C-5, C-7, C-8, and C-9, signed and sealed by Randolph A Skorpinski, P.E., on March 23, 2017.

This approval letter was revised on 03/30/2017 to incorporate street design revision required by Offsite review.

Check appropriate conditions

	Retaining/screen wall combination may be in excess of current Clark County Unified Development Code, Chapter 30.64.050.
	A FEMA Elevation Certificate, completed by a licensed surveyor, must be submitted to and approved by CCPW Development Review Plan Check prior to the issuance of Certificates of Occupancy for those structures.
X	Mylars of the grading plan must be submitted to the CCPW Development Review Plan Check for approval signatures prior to map recordation (residential) or permit issuance (commercial).
	An administrative variance to allow the finished floor elevation(s) to be set below the current Clark County criteria must be approved. The finished floor variance must be submitted to CCPW Development Review front counter after drainage study approval and prior to offsite final review.
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	The plans show work is proposed on another property. Notarized written permission must be obtained prior to plan approval. A grading permit must be obtained from Building Dept prior to grading.
X	Right-of-way dedication must be verified.
	Any previously approved drainage easements that are not being used must be vacated.
	Per <i>Regional Flood Control District policies and Procedures manual, Section VIII. D. 13. Uniform Regulations for the Control of Drainage</i> , the Engineer of Record shall provide As-Built plans or record drawings to the District after completion and final inspection of such privately installed flood control facilities that have regional flood control significance.
	Structural calculations are required. The structural calculations, plans, and details must be approved prior to "Offsite" submittal and prior to CCRFCD submittal, if applicable.
X	Plan revisions can be found on the red-lined plans and must be addressed.
X	Prepare drainage easement documents as shown on the grading plans.

Additional Conditions:

1. It is noted that under existing conditions, ponding occurs in some of the low spots along the east side of Jensen St. after flow crosses from the west. The engineer has provided suggested re-grading of flowline slopes to alleviate the ponding.
2. Any improvements not depicted on the above mentioned grading plans may require an Update to this Technical Drainage Study.

The County's review is solely based on the information submitted by the Engineer of Record. The County's review is strictly limited to compliance with minimum County Codes and Standards. The Engineer of Record is responsible for researching and addressing situations that may require designs above and beyond the minimum codes for issues of public safety and impacts to upstream, downstream and adjacent properties. The County assumes no liability for information data, designs or conclusions of the Engineer of Record.



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Principal Engineer
Development Review
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TIME OF CONCENTRATION																	
INFANTE 4 LOTS (MSM-0041-16)																	
EXISTING CONDITION																	
ACG Design Project No: 160163 Date: 10/31/16 Calculated by: RAS Date: 10/31/16 Checked by: RAS																	
SUB-BASIN DATA				INITIAL / OVERLAND TIME (T _i)				TRAVEL TIME (T _t)				T _c		T _{lag}		REMARKS	
DESIG:	DEV/EX (D or E)	CN	K	AREA Ac	AREA M ²	INITIAL LENGTH Feet	SLOPE %	T _i Min	TRAVEL LENGTH Feet	SLOPE %	V ₁ VELOCITY FPS	V ₂ VELOCITY FPS	T _t Min	T _c Min	T _c Check	T _{lag} Hours	RAINFALL Inches
(1)			(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(13)	(14)		
OFF1	E	76.0	0.6132	2.25	0.0035	50	4.00	3.9	250	4.50	3.1	-	1.3	10.0	N/A	0.100	3.1
OFF3	E	76.0	0.6132	0.21	0.0003	75	1.00	7.6	225	1.00	1.5	-	2.5	10.1	N/A	0.101	3.1
EX1	E	76.0	0.6132	2.05	0.0032	100	3.00	6.1	220	3.2	2.6	-	1.4	10.0	N/A	0.100	3.1
T_c = T_i + T_t T_{lag} = 0.6 T_c T_i = 1.8 (1.1 - K) L^{1/2} / S^{1/3} K = 0.0132 (CN) - 0.39 T_c Check = L/180+10 For the travel time (T_t) calculations, V₁ applies to the first 500 feet of travel distance; V₂ applies to the remaining travel distance. Existing V₁ = 14.8*(S/100)^{1/2} Developed V₁ = 20.2*(S/100)^{1/2} Existing V₂ = 29.4*(S/100)^{1/2} Developed V₂ = 30.6*(S/100)^{1/2}																	
STANDARD FORM 4																	

InfanteExisting

```

1*****
*****
*           *           *           *
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *           * U.S. ARMY CORPS OF ENGINEERS *
*   JUN 1998   *           * HYDROLOGIC ENGINEERING CENTER *
*   VERSION 4.1   *           * 609 SECOND STREET *
*           *           * DAVIS, CALIFORNIA 95616 *
* RUN DATE 02DEC16 TIME 06:58:41 *           * (916) 756-1104 *
*           *           *           *
*****
*****

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X X XXXXXXXX XXXXX X
X X X X X XX
X X X X X
XXXXXXXX XXXX X XXXXX X
X X X X X
X X X X X X
X X XXXXXXXX XXXXX XXX

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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

1 HEC-1 INPUT PAGE 1

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

*DIAGRAM

```

1 ID *****
2 ID * .....
3 ID *:
4 ID *: INFANTE 4 LOTS (MSM-0041-16)
5 ID *: DRAINAGE STUDY
6 ID *: EXISTING CONDITIONS

```


InfanteExisting

```

7  ID * : .....
8  ID * :   RETURN PERIOD___100-YEAR & 10-YEAR
9  ID * :   DISTRIBUTION___6-HOUR SDN3
10 ID * :   PROJECT NO_____160163
11 ID * :   FILENAME_____EXISTING.H1
12 ID * :   DATE MODELED___10/31/16
13 ID * :   MODELED BY_____RAS
14 ID * : .....
15 ID * :
16 ID * : .....
17 ID *****
18 ID
19 ID
20 ID
21 IT  5  0  0  300
22 IO  5
23 IN  5  0  0
24 JR PREC .56  1
  *
```

```

25 KK OFF1
26 KM SUBBASIN OFF1
27 KM   AREA  2.25 AC
28 PB  3.10
29 PC .000 .020 .057 .070 .087 .108 .124 .130 .130 .130
30 PC .130 .130 .130 .133 .140 .142 .148 .158 .172 .181
31 PC .190 .197 .199 .200 .201 .204 .214 .229 .241 .249
32 PC .251 .256 .270 .278 .281 .283 .295 .322 .352 .409
33 PC .499 .590 .710 .744 .781 .812 .819 .835 .851 .856
34 PC .860 .868 .876 .888 .910 .926 .937 .950 .970 .976
35 PC .982 .985 .987 .989 .990 .993 .993 .994 .995 .998
36 PC .998 .999 1.00
37 BA .0035
38 LS  0 76.0
39 UD .100
  *
```

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40 KK OFF3
41 KM SUBBASIN OFF3
42 KM   AREA  0.21 AC
43 PB  3.10
44 BA .0003
45 LS  0 76.0
46 UD .101
  *
```

1 HEC-1 INPUT PAGE 2

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

47 KK EX1

InfanteExisting

48 KM SUBBASIN EX1
49 KM AREA 2.05 AC
50 PB 3.10
51 BA .0032
52 LS 0 76.0
53 UD .100

*

54 ZZ

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT

LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW

NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW

25 OFF1

.

.

40 . OFF3

.

.

47 . EX1

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

1*****

* * * * *
* FLOOD HYDROGRAPH PACKAGE (HEC-1) * * U.S. ARMY CORPS OF ENGINEERS *
* JUN 1998 * * HYDROLOGIC ENGINEERING CENTER *
* VERSION 4.1 * * 609 SECOND STREET *
* * * DAVIS, CALIFORNIA 95616 *
* RUN DATE 02DEC16 TIME 06:58:41 * * (916) 756-1104 *
* * * *

*

* :

* : INFANTE 4 LOTS (MSM-0041-16)

* : DRAINAGE STUDY

* : EXISTING CONDITIONS

* :

* : RETURN PERIOD___100-YEAR & 10-YEAR

* : DISTRIBUTION___6-HOUR SDN3

* : PROJECT NO_____160163

* : FILENAME_____EXISTING.H1

InfanteExisting

```
*:  DATE MODELED____10/31/16
*:  MODELED BY____RAS
*:  .....
*:
*:  .....
*****
```

22 IO OUTPUT CONTROL VARIABLES
IPRNT 5 PRINT CONTROL
IPLOT 0 PLOT CONTROL
QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA
NMIN 5 MINUTES IN COMPUTATION INTERVAL
IDATE 1 0 STARTING DATE
ITIME 0000 STARTING TIME
NQ 300 NUMBER OF HYDROGRAPH ORDINATES
NDDATE 2 0 ENDING DATE
NDTIME 0055 ENDING TIME
ICENT 19 CENTURY MARK

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 24.92 HOURS

ENGLISH UNITS
DRAINAGE AREA SQUARE MILES
PRECIPITATION DEPTH INCHES
LENGTH, ELEVATION FEET
FLOW CUBIC FEET PER SECOND
STORAGE VOLUME ACRE-FEET
SURFACE AREA ACRES
TEMPERATURE DEGREES FAHRENHEIT

JP MULTI-PLAN OPTION
NPLAN 1 NUMBER OF PLANS

JR MULTI-RATIO OPTION
RATIOS OF PRECIPITATION
.56 1.00

1

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

RATIOS APPLIED TO PRECIPITATION

OPERATION	STATION	AREA	PLAN	InfanteExisting	
				RATIO 1	RATIO 2
		.56	1.00		

HYDROGRAPHAT

+	OFF1	.00	1	FLOW	1.	3.
				TIME	3.58	3.58

HYDROGRAPHAT

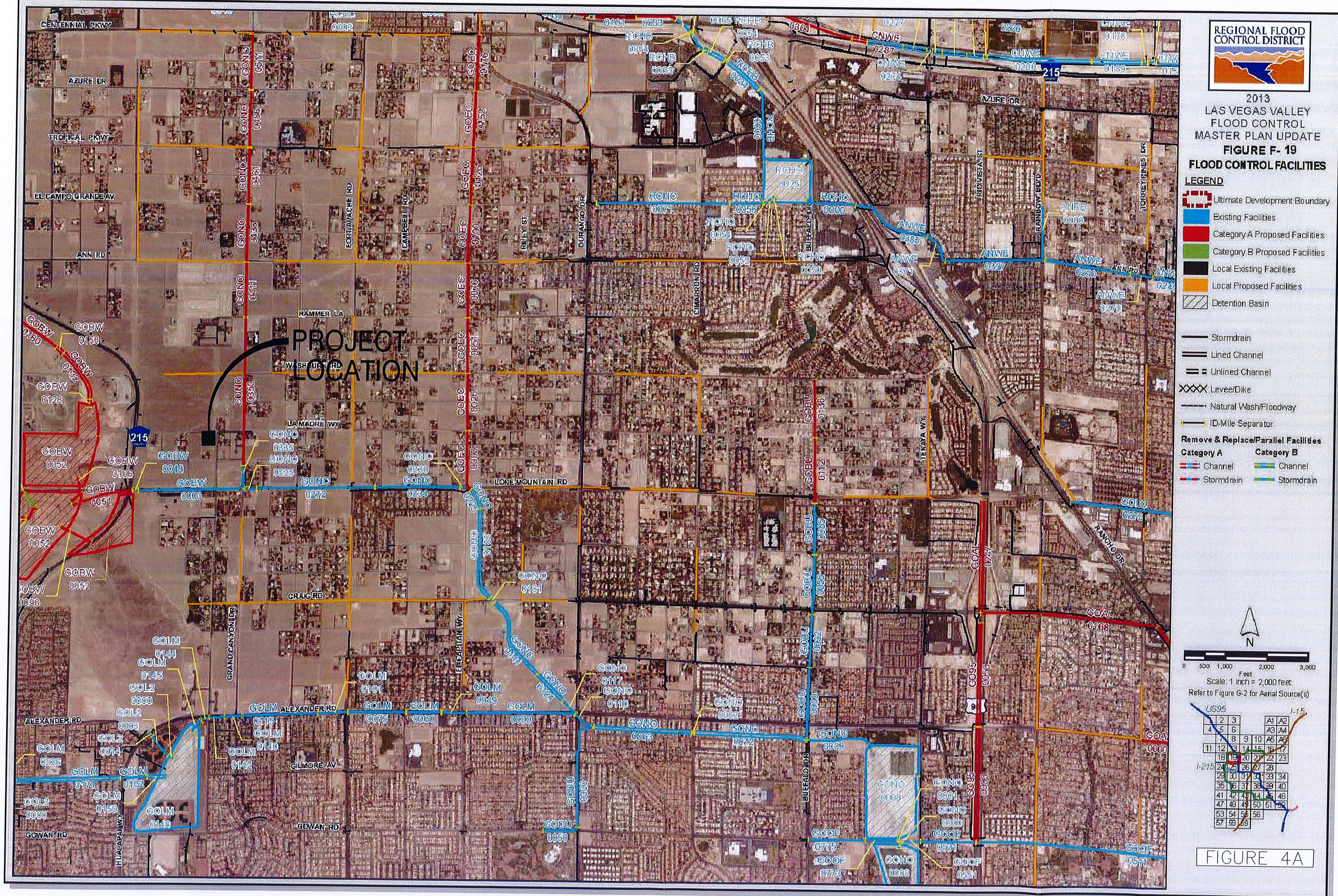
+	OFF3	.00	1	FLOW	0.	0.
				TIME	3.58	3.58

HYDROGRAPHAT

+	EX1	.00	1	FLOW	1.	3.
				TIME	3.58	3.58

*** NORMAL END OF HEC-1 ***

APPENDIX C



ID / River Mile	Status	Facility Description	Length (ft.)	Flow (cfs)	HEC-1 Node	HEC-1 Model	Tributary Area (sq.mi.)	Channel Slope (%)**
ANRB 0000	E	ANN ROAD CHANNEL WEST - RAINBOW	1320	721	CNNW2B5-C	WEST3	0.99	0.40
ANWE 0245	E	ANN ROAD CHANNEL WEST	1721	983	CNNW2D1-C	WEST3	6.84	0.80
0279	E	10' X 9' RCB	553	743	2CNNW2B5C	WEST3	6.37	0.80
0290	E	8' X 8' RCB	2050	743	2CNNW2B5C	WEST3	6.37	0.80
0327	E	6' X 6' RCB	2360	161	RCH0DB	WEST3	5.38	0.87
0371	E	6' X 6' RCB	760	161	RCH0DB	WEST3	5.38	0.34
0385	E	54" RCP	1950	161	RCH0DB	WEST3	5.38	1.17
CNWE 0150	E	CONE CHNL 40"W 9.5'D 0.1 SS	2279	4233	CNNW3B3-C	WEST3	5.64	0.42
0173	E	3'18" X 8' RCB @ Torrey Pines	200	4233	CNNW3B3-C	WEST3	5.64	0.42
0176	E	CONE CHNL 40"W 9'D 0.1 SS	150	4233	CNNW3B3-C	WEST3	5.64	0.41
0189	E	CONE CHNL 36"W 10'D 0.1 SS	1200	4067	CNNW2D4-C	WEST3	5.15	0.42
0200	E	CONE CHNL 36"W 9'D 0.1 SS	2470	4067	CNNW2D4-C	WEST3	5.15	1.00
0226	E	2'18" X 8.5' RCB @ Rio Vista	100	4067	CNNW2D4-C	WEST3	5.15	0.51
0241	E	CONE CHNL 36"W 9.5'D 0.1 SS	405	3951	CNNW2D3-C	WEST3	4.65	0.51
0251	E	CONE CHNL 36"W 9'D 0.1 SS	575	3951	CNNW2D3-C	WEST3	4.65	0.51
0271	E	CONE CHNL 32"W 10'D 0.1 SS	229	3951	CNNW2D3-C	WEST3	4.65	0.51
0274	E	32' X 10' RCB @ Tenaya	142	3951	CNNW2D3-C	WEST3	4.65	0.51
0277	E	CONE CHNL 32"W 9'D 0.1 SS	579	3951	CNNW2D3-C	WEST3	4.65	0.64
0287	E	CONE CHNL 13"W 10'D 2.1 SS	605	3593	CNNW2B2-C	WEST3	3.84	1.19
0301	P2	CONE CHNL 32"W 10'D 0.1 SS	235	3593	CNNW2B2-C	WEST3	3.84	1.19
0304	P2	32' X 10' RCB	3259	3593	CNNW2B2-C	WEST3	3.84	1.79
GO95 0000	PI	GOVAN OUTFALL - U.S. 95 CHANNEL	2640	289	GD17B9-C	ALLGOW3	0.36	0.30
0050	PI	CONE CHNL 12"W 4'D 2.1 SS	2450	289	GD17B9-C	ALLGOW3	0.36	0.30
GOA2 0000	PI	GOVAN OUTFALL - ALEXANDER BRANCH	2281	523	CPT41-C	ALLGOW3	0.61	0.90
GOAL 0111	PI	GOVAN OUTFALL - ALEXANDER ROAD FACILITIES	3000	880	CPT2B2	ALLGOW3	2.28	0.83
0168	PI	10' X 8' RCB	4200	880	CPT2B2	ALLGOW3	2.28	0.90
0247	PI	CONE CHNL 12"W 5.5'D 2.1 SS	2640	757	CGD20BMC	ALLGOW3	1.98	0.30
GOBU 0000	E	GOVAN NORTH - BUFFALO BRANCH	1705	961	CGD14CBC	ALLGOW3	2.53	0.20
0032	E	2'12" X 6' RCB	1248	850	CGD14AAC	ALLGOW3	2.30	0.25
0058	E	2'11" X 4' RCB	1398	745	CGD17AAC	ALLGOW3	1.90	0.25
0085	E	11' X 9' RCB	1266	614	CGD17ABC	ALLGOW3	1.52	0.25
0112	PI	8' X 6' RCB	1535	484	CGD20ABC	ALLGOW3	1.15	0.54
0136	PI	7' X 6' RCB	1400	344	CGD20AAC	ALLGOW3	0.76	0.36
GOBW 0000	E	GOVAN BELTWAY WEST	2527	116	LMBWDB	ALLGOW4	10.68	4.37
0048	E	48" RCP	131	116	LMBWDB	ALLGOW4	10.68	2.21
0051	PI	72" RCP Outlet	1508	116	LMBWDB	ALLGOW4	10.68	0.30
0052	PI	589 ac-ft Lone Mountain-Beltway Detention Basin	5140	CLMBW1	GW3SC	3.50		
0082	PI	51,400 cfs PMF Spillway	51400	CLMBW1	GW3SC	3.50		
0096	PI	8' X 8' RCB Connector Pipe Under Beltway	839	5140	CLMBW1	GW3SC	3.50	0.30
0097	PI	54" RCP	394	525	UVB1-2	ALLGOW3	0.34	8.09
0100	PI	Energy Dissipator	143	525	UVB1-2	ALLGOW3	0.34	50.00
0106	PI	8' X 8' RCB Connector Pipe Under Lone Mountain	697	5140	CLMBW1	GW3SC	3.50	0.30
0128	PI	CONE CHNL 20"W 10'D 0.1 SS	190	3429	CNFRBW1	ALLGOW3	6.06	25.00
0132	PI	CONE CHNL 14"W 10'D 0.1 SS	1286	2869	CHLBW1-C	GW3SC	1.84	5.00
0156	PI	CONE CHNL 16"W 10'D 0.1 SS	221	2869	CHLBW1-C	GW3SC	1.84	1.05
0160	PI	16' X 8' RCB	1230	2869	CHLBW1-C	GW3SC	1.84	1.05
GOBX 0000	PI	GOVAN BOX CANYON	794	753	LMBW1	ALLGOW3	0.48	9.45
GOBU 0000	E	GOVAN NORTH - DURANGO BRANCH	2629	1150	CLV14-C	ALLGOW3	1.40	0.91
0050	E	12' X 6' RCB	865	835	CLV20-C	ALLGOW3	0.97	1.50
GOEC 0000	PI	GOVAN NORTH - EL CAPITAN BRANCH	1445	1233	CLMFR-C	ALLGOW3	2.20	1.36
0026	PI	13' X 7' RCB	1320	1162	CWRJS-C	ALLGOW3	1.95	0.91
0051	PI	13' X 7' RCB	1320	1027	CHLFR-C	ALLGOW3	1.68	1.06
0076	PI	13' X 6' RCB	1320	894	CARFR-C	ALLGOW3	1.45	1.06
0100	PI	13' X 6' RCB	1320	745	CEAFR-C	ALLGOW3	1.21	0.76
0126	PI	13' X 7' RCB	1320	635	CTFRFR-C	ALLGOW3	0.96	0.38
0152	PI	7' X 6' RCB	1320	485	CARFP-C	ALLGOW3	0.70	0.77
0176	PI	73" RCP	1320	363	CGPFR-C	ALLGOW3	0.46	1.15
GOL2 0000	E	GOVAN LONE MOUNTAIN SYSTEM-BRANCH 2	150	461	CRBW	ALLGOW3	0.44	14.60
0003	E	66" RCP	607	461	CRBW	ALLGOW3	0.44	1.97
0014	E	84" RCP @ Alexander	125	461	CRBW	ALLGOW3	0.44	4.00
GOLM 0000	E	GOVAN LONE MOUNTAIN SYSTEM	2590	345	CLV15-C	ALLGOW4	11.88	1.80
0049	E	6' X 9' RCB	585	345	CLV15-C	ALLGOW4	11.88	1.87
0060	E	66" RCP	617	345	CLV15-C	ALLGOW4	11.88	2.40
0075	E	60" RCP	1385	345	CLV15-C	ALLGOW4	11.88	2.55
0101	E	54" RCP	701	190	LMTNB	ALLGOW4	11.52	1.74
0115	E	43" RCP	1799	190	LMTNB	ALLGOW4	11.52	3.08
0140	E	42" RCP	439	190	LMTNB	ALLGOW4	11.52	1.60
0142	E	43" RCP	348	190	LMTNB	ALLGOW4	11.52	2.14
0144	E	66" RCP	196	190	LMTNB	ALLGOW4	11.52	5.44
0145	E	66" RCP Outlet	378	190	LMTNB	ALLGOW4	11.52	0.90
0146	E	888 ac-ft Lone Mountain Detention Basin	7292	LMTNIN	GW3SC	6.13		
0147	E	35,000 cfs PMF Spillway	36000	LMTNIN	GW3SC	6.13		
0150	E	Drop Structure	481	6323	CGABW	GW3SC	5.12	
0162	E	29' X 8' RCB @ Huatapai	625	6323	CGABW	GW3SC	5.12	1.86
0174	E	CONE CHNL 28"W 8'D 0.1 SS	2715	6173	CCLMTS	GW3SC	4.92	3.20
GOLO 0275	E	GOVAN OUTFALL - LONE MTN. ROAD BRANCH	3000	590	CPT3AA2	ALLGOW3	1.16	0.77
GOOD 0000	E	GOVAN NORTH SYSTEM	184	558	GWNNDB	ALLGOW5	68.49	0.51
0001	E	8' X 8' RCB Outlet	156	558	GWNNDB	ALLGOW5	68.49	0.63
0006	E	30,780 cfs PMF Spillway	30780	GWNNDB	ALLGOW5	68.49		
0008	E	921 ac-ft Govan North Detention Basin	4937	CCLV43-C*	GW4SC	11.93		
0009	E	3'13" X 8' RCB	1662	4563	CLV43-C	GW4SC	11.24	0.62
0012	E	CONE CHNL 30"W 8' 9.5'D 0.1 SS	2665	4117	CCLV36-C	GW4SC	8.54	1.18
0082	E	Bridge 30"W 8.5'D @ Cimarron	80	3844	CCLV15-C	GW4SC	8.03	0.30
0083	E	CONE CHNL 30"W 8.5' 10'D 0.1 SS	2302	3844	CCLV15-C	GW4SC	8.03	1.00
0110	E	2'12" X 8' RCAC @ Alexander	547	3392	CORSFR-C*	GW3SC	6.10	1.00
0117	E	2'12" X 8' RCAP	424	3392	CORSFR-C*	GW3SC	6.10	1.10
0124	E	CONE CHNL 24"W 9'D 0.1 SS	887	3392	CORSFR-C*	GW3SC	6.10	1.36
0141	E	CONE CHNL 24"W 9' 10.5'D 0.1 SS	2064	3392	CORSFR-C	GW3SC	6.10	0.59
0181	E	Bridge 30"W 7'D @ Oraig	142	2846	CORSFR-C	GW3SC	5.20	0.65
0183	E	CONE CHNL 22"W 8' 10.6'D 0.1 SS	2193	2846	CORSFR-C	GW3SC	5.20	0.72
0225	E	CONE CHNL Width Varies Depth Varies 0.1 SS	508	2805	CCLMFR-C	GW3SC	4.54	1.05
0230	E	13' X 9' RCB	256	1486	COWRHW-C	GW3SC	2.34	2.78
0234	E	12' X 6' RCB	2010	1486	COWRHW-C	GW3SC	2.34	1.67
0272	E	15' X 6' RCB	2797	1486	COWRHW-C	GW3SC	2.34	3.15
0325	E	15' X 7' RCB	291	1486	COWRHW-C	GW3SC	2.34	1.79
0335	E	15' X 7' RCB	529	1486	COWRHW-C	ALLGOW3	2.34	1.79
0350	PI	13' X 9' RCB	3473	1486	COWRHW-C	ALLGOW3	2.34	0.88
0411	PI	13' X 9' RCB	1320	1404	CARHW-C	ALLGOW3	1.89	0.76
0436	PI	13' X 7' RCB	1320	1173	CEAHW-C	ALLGOW3	1.53	1.14
0461	PI	13' X 9' RCB	1320	959	CTRHWC	ALLGOW3	1.22	0.38
0486	PI	8' X 7' RCB	1320	747	CADHW-C	ALLGOW3	0.90	0.76
0511	PI	7' X 6' RCB	1320	546	COPHW-C	ALLGOW3	0.60	1.14
GOOF 0511	E	GOVAN OUTFALL FACILITIES	6390	699	CPT6B-C	GW3SC	1.08	0.50
0531	E	8' X 5' RCB	1300	598	GWNNDB	ALLGOW5	68.49	0.50
0551	E	72" RCP	524	598	GWNNDB	ALLGOW5	68.49	0.62
0773	E	60" RCP	803	286	LV30-C	ALLGOW3	0.42	1.40
0775	E	60" RCP	1300	286	LV30-C	ALLGOW3	0.42	1.00
RCHB 0000	E	RANCHO ROAD SYSTEM - BELTWAY	1700	2631	CNN1C-W	WEST3	4.68	0.63
0034	E	2'12" X 8.5' RCAP	1000	2631	CNN1C-W	WEST3	4.68	1.19
0053	E	CONE CHNL 21"W 8'D 0.1 SS	85	2304	CDW1C1	WEST3	4.31	1.40
0054	E	2'12" X 8' RCB @ South Ramp Connector	432	2304	CDW1C1	WEST3	4.31	1.51
0062	E	CONE CHNL 21"W 8'D 0.1 SS	130	2304	CDW1C1	WEST3	4.31	1.51
0065	E	Transition Structure	480	2304	CDW1C1	WEST3	4.31	0.30
0074	E	24' X 7' RCB	50	2226	CNNWBC-C	WEST3	4.17	0.30
0075	E	24' X 6' RCB	428	2226	CNNWBC-C	WEST3	4.17	2.81
0083	PI	20' X 6' RCB	950	2226	CNNWBC-C	WEST3	4.17	2.49
0101	PI	CONE CHNL 20"W 7'D 0.1 SS	980	2226	CNNWBC-C	WEST3	4.17	2.38
0120	E	20' X 6' RCB @ Grand Montecito	120	2226	CNNWBC-C	WEST3	4.17	1.00
0122	PI	CONE CHNL 16' 20"W 8'D 0.1 SS	350	2226	CNNWBC-C	WEST3	4.17	1.84
0130	PI	CONE CHNL 16' 8'D 0.1 SS	1012	2226	CNNWBC-C	WEST3	4.17	2.67
RCHO 0000	E	RANCHO ROAD SYSTEM	1183	161	RCH0DB	WEST3	5.38	0.74
0025	E	60" RCP with 36" Orifice Plate	3115	18000	RCHOIN	WEST3	5.38	
0027	E	321 ac-ft Rancho Road Detention Basin	18000	RCHOIN	WEST3	5.38		
0050	E	18,000 cfs PMF Spillway	65	402	CNN1A4-C	WEST3	0.51	
0052	E	Energy Dissipator	115	402	CNN1A4-C	WEST3	0.51	11.73
0054	E	CONE CHNL 10"W 10'D 0.1 SS	115	402	CNN1A4-C	WEST3	0.51	0.50
0056	E	10' X 5' RCB	835	402	CNN1A4-C	WEST3	0.51	0.47
0071	E	10' X 5' RCB	3126	402	CNN1A4-C	WEST3	0.51	1.80

* The HEC-1 node shown identifies the controlling concentration point for the associated facility and is located upstream of this facility due to decreasing peak flow with increasing tributary area caused by storm distribution transitions, depth area reduction factors, or attenuation of flow from routing.

** As-built or design slopes were used when available. All other slopes are based on existing topography. The user should verify the facility slope listed prior to performing any facility specific analysis.

* For parallel facilities, the existing facility flow equals its normal depth capacity, and the proposed parallel facility flow equals the remaining flow (i.e., HEC-1 Node flow = existing facility normal depth capacity + proposed parallel facility flow).



2013 LAS VEGAS VALLEY FLOOD CONTROL MASTER PLAN UPDATE

FACILITY INVENTORY FIGURE F - 19

LEGEND	ID (Facility Identifier)	ABB
	Parent Stream Name	0000
	Stream Name	
	River Mile	
	Distance Above Confluence with Parent Stream (Miles)	
	Miles in Hundredths	

Existing Facility	E
Proposed or Modified Facility	P
Contingency Level	
Category B	P0
Master Plan	P1
Preliminary Design	P2
Design	P3

Bottom Width	W
Depth	D
Side Slope, H:V	SS

Construction Features	
Cast in Place Concrete Pipe	CIPCP
Corrugated Metal Arch Pipe Culvert	CMAF
Corrugated Metal Pipe Culvert	CM

PARCEL MAP OF:

A PORTION OF THE NORTHEAST QUARTER (NE 1/4) OF THE NORTHWEST QUARTER (NW 1/4)
OF THE SOUTHEAST QUARTER (SE 1/4) OF THE SOUTHWEST QUARTER (SW 1/4)
OF SECTION 31, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M.
CLARK COUNTY, NEVADA.

APN 125-31-301-010
Lot 1 PM- 107-74

APN 125-31-301-006
OR 19971219:01467

APN 125-31-301-014
USA

RIGHT-OF-WAY DEDICATED
OR 19930804:00786

S 1/16 C-C
Found Brass Cap
PLS 7004

SW 1/16
Found Aluminum Cap
PLS 7309

Basis-of-Bearing
N88°37'34"E
321.78'

La Madre Way
321.79'

1287.15'

Found Aluminum Cap
PLS Unreadable

643.58'

RIGHT-OF-WAY DEDICATED
OR 19890324:01192

N88°37'34"E

276.42'

3' Streetlight and Traffic
control device easement
hereby granted to Clark County
to be publicly maintained

3' Government Patent
Easement Patent No. 27-71-0009
Doc. No. 053:041648
(To be Vacated)

35.00'

35' Permanent Easement
Doc. No. 930625:01066

33' Government Patent
Easement Patent No. 27-71-0009
Doc. No. 053:041648
(To be vacated)

Parcel 1
44,628 Sq.ft Gross

RIGHT-OF-WAY DEDICATED
OR 19890324:01192

RIGHT-OF-WAY DEDICATED
OR 2152:211773

APN 125-31-402-004
Lot 1 PM- 80-19

APN 125-31-401-007
USA

LEGEND

- SET 1/2" REBAR W/PLASTIC CAP PLS 15176
- SET 5/8" REBAR W/ALUM CAP PLS 15176,
- △ TYPE III MONUMENT
- FOUND AS SHOWN
- I LOT NUMBER
- APN ASSESSORS PARCEL NUMBER
- PARCEL BOUNDARY
- LOT LINES
- RIGHT-OF-WAY LINE
- ADJOINING PARCEL LINE
- SECTIONAL AND CENTER LINES
- PRIVATE STREET
- EASEMENT LINE
- FND FOUND
- MON MONUMENT
- ALUM ALUMINUM
- PM PARCEL MAP
- OR OFFICIAL RECORD
- SQ.FT. SQUARE FEET
- UE UTILITY EASEMENT
- SV RECORD OF SURVEY
- R/W RIGHT-OF-WAY
- RAD RADIAL BEARING LINE
- (A) 3' STREETLIGHT AND TRAFFIC CONTROL DEVICE
EASEMENT HERBY GRANTED TO CLARK COUNTY
TO BE PUBLICLY MAINTAINED

CURVE TABLE

No.	RADIUS	DELTA	LENGTH	TANGENT
C1	15.00'	91°25'26"	23.93'	15.38'

BASIS OF BEARING

N 88°37'34" E BEING THE NORTH LINE OF THE SOUTHEAST QUARTER (SE 1/4)
OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 31, TOWNSHIP 19 SOUTH,
RANGE 60 EAST, M.D.M. AS PER RECORD OF SURVEY FILE 115 PAGE 93, CLARK
COUNTY, NEVADA RECORDS.

APN 125-31-401-005
Lot 2 LD 17-89
OR 20070612:04254

8' Private Drainage
Easement created per this map
to be privately maintained

3' Government Patent
Easement Patent No. 27-71-0009
Doc. No. 053:041648
(To be Vacated)

Found Plastic Cap
PLS Unreadable

APN 125-31-402-007
Lot 4 PM- 80-19

APN 125-31-402-013
Lot 4 PM- 111-70

Conquistador Street



SCALE 1" = 30'

N00°06'37"E

672.26'

W 1/16
Found 2" Pipe
per SV 115-93

644.26'

N88°40'12"E

Verde Way

644.96'

N88°42'49"E

Lone Mountain Road

Found Aluminum Cap
PLS Unreadable

644.27'

1288.53'

Found Aluminum Cap
PLS Unreadable

S 1/4
Found Brass Cap
in a well, PLS 7004

644.95'

1289.91'

Grand Canyon Drive

N00°00'34"W

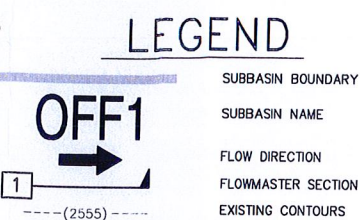
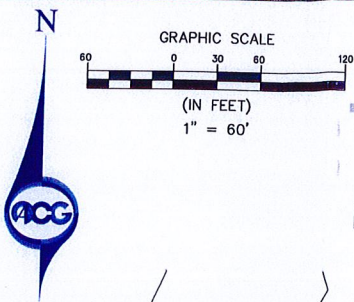
673.20'

673.21'

FLOW CHARACTERISTICS - EXISTING CONDITION (100 YEAR)					
SECTION NUMBER	SLOPE (%)	Q _{max} (cfs)	DEPTH (ft)	VELOCITY (ft/s)	D ² V
1B	4.89	24	0.26	5.59	1.45
2B	0.10	6	0.42	0.89	0.37

SUMMARY OF EXISTING CONDITIONS			
BASIN NAME	AREA (Ac)	Q _{in} (cfs)	Q _{out} (cfs)
EX1	2.05	1	3
OFF1	2.25	1	3
EOFF2*	14.50	7	24
OFF3	0.21	<1	<1

* REFERENCED FROM HYDROLOGY STUDY FOR
MOUNTAIN VISTA, SECTION 31, TOWNSHIP 19 SOUTH,
RANGE 60 EAST BY BAUGHMAN & TURNER
(HTE#05-10097)



REVISIONS		APPROVAL
REV.	DESCRIPTION	APPRD. BY DATE

INFANTE 4 LOTS
(MSM-0041-16)

EXISTING CONDITIONS

APN: 125-31-401-004
SW CORNER W LA MADRE WAY & N JENSEN ST.
LAS VEGAS, NEVADA 89149



ACG DESIGN
7730 MUSTANG STREET
LAS VEGAS, NEVADA 89131
OFFICE: 702.278.2715
WEBSITE: WWW.ACG.DESIGN

ENGINEER'S SEAL

DATE:	10/31/16
PROJ. NO:	160163
DRAWN BY:	RAS
CHECKED BY:	NJ
SCALE:	1" = 60'
JURISDICTION:	CLARK COUNTY

DRAWING NUMBER:

FIG 5

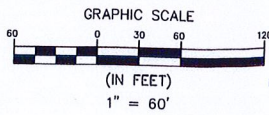
AGENCY NUMBER:

SUMMARY OF INTERIM CONDITIONS			
BASIN NAME	AREA (Ac)	Q _{in} (cfs)	Q _{out} (cfs)
ON1	2.05	<1	<1
OFF1	2.25	1	3
EOFF2*	14.50	7	24
OFF3	0.21	<1	<1

* REFERENCED FROM HYDROLOGY STUDY FOR
MOUNTAIN VISTA, SECTION 31, TOWNSHIP 19 SOUTH,
RANGE 60 EAST BY BAUGHMAN & TURNER
(HTE#05-10097)

FLOW CHARACTERISTICS - INTERIM CONDITION (10 YEAR)					
SECTION NUMBER	SLOPE (%)	Q _o (cfs)	DEPTH (ft)	VELOCITY (ft/s)	D*V
1A	4.89	7	0.47	6.21	2.92
3A	0.25	1	0.18	0.75	0.14

FLOW CHARACTERISTICS - INTERIM CONDITION (100 YEAR)					
SECTION NUMBER	SLOPE (%)	Q _{we} (cfs)	DEPTH (ft)	VELOCITY (ft/s)	D*V
1B	4.89	24	0.70	7.40	5.18
3B	0.25	3	0.28	0.99	0.28
4	1.00	3	0.40	2.90	1.16
5	4.00	3	0.39	4.91	1.91



LEGEND

- SUBBASIN BOUNDARY
SUBBASIN NAME
FLOW DIRECTION
FLOWMASTER SECTION
EXISTING CONTOURS

REVISIONS		APPROVAL
REV.	DESCRIPTION	APPRD. BY DATE

**INFANTE 3 LOT (MSM-0056-17)
FORMERLY: INFANTE 4 LOTS (MSM-0041-16)**

INTERIM CONDITIONS

APN: 125-31-401-004
W CORNER W LA MADRE WAY & N JENSEN ST.
LAS VEGAS, NEVADA 89149



ACG DESIGN
4310 CAMERON STREET, SUITE 12A
LAS VEGAS, NEVADA 89103
OFFICE: 702.278.2715
WEBSITE: WWW.ACG.DESIGN

ENGINEER'S SEAL

DATE:	08/03/17
PROJ. NO:	160236
DRAWN BY:	RAS
CHECKED BY:	NJ
SCALE:	1" = 60'
JURISDICTION:	CLARK COUNTY

DRAWING NUMBER

FIG 6

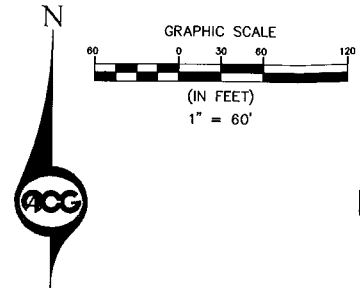
AGENCY NUMBER:

SUMMARY OF INTERIM CONDITIONS			
BASIN NAME	AREA (AC)	Q ₁₀ (CFS)	Q ₁₀₀ (CFS)
ON1	2.05	<1	<1
OFF1	2.25	1	3
EOFF2*	14.50	7	24
OFF3	0.21	<1	<1

* REFERENCED FROM HYDROLOGY STUDY FOR MOUNTAIN VISTA, SECTION 31, TOWNSHIP 19 SOUTH, RANGE 60 EAST BY BAUGHMAN & TURNER (HTE#05-10097)

FLOW CHARACTERISTICS - INTERIM CONDITION (10 YEAR)					
SECTION NUMBER	SLOPE (%)	Q ₁₀ (cfs)	DEPTH (ft)	VELOCITY (ft/s)	D*V
1A	4.89	7	0.47	6.21	2.92
3A	0.25	1	0.18	0.75	0.14

FLOW CHARACTERISTICS - INTERIM CONDITION (100 YEAR)					
SECTION NUMBER	SLOPE (%)	Q ₁₀₀ (cfs)	DEPTH (ft)	VELOCITY (ft/s)	D*V
1B	4.89	24	0.70	7.40	5.18
3B	0.25	3	0.28	0.99	0.28
4	1.00	3	0.40	2.90	1.16
5	4.00	3	0.39	4.91	1.91



LEGEND

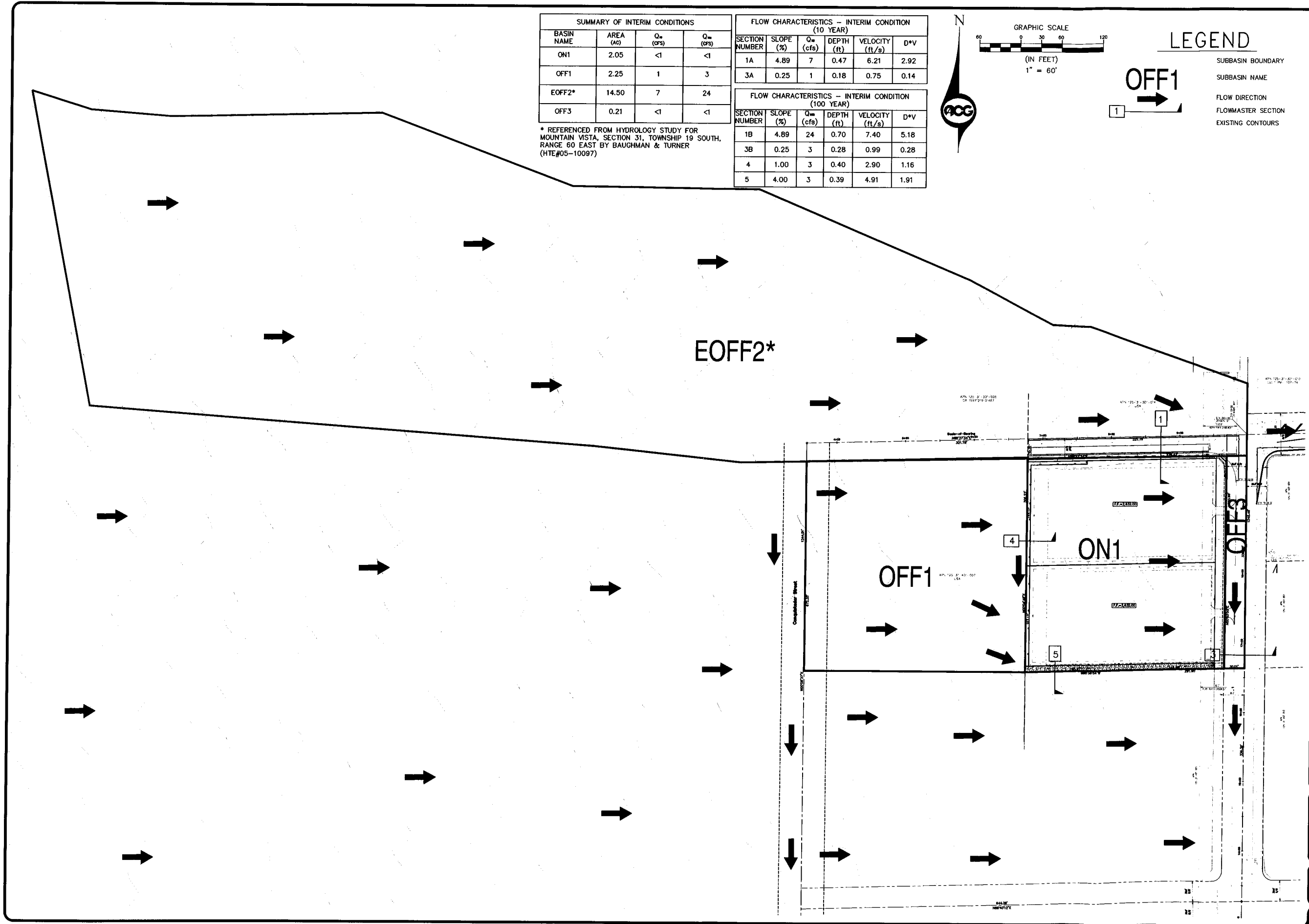
SUBBASIN BOUNDARY

SUBBASIN NAME

FLOW DIRECTION

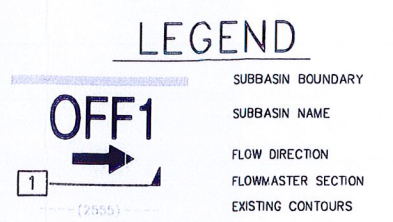
FLOWMASTER SECTION

EXISTING CONTOURS



APPROVAL	DATE	
	APPROVED BY	
REVISIONS	REV.	DESCRIPTION
INFANTE - 2 LOT RESIDENTIAL (MSM 17-600097) INTERIM CONDITIONS APN: 125-31-401-004 SW CORNER W. LA MADRE WAY & N. JENSEN ST. LAS VEGAS, NEVADA 89149		
 ACG DESIGN 4310 CAMERON ST., SUITE 2-A LAS VEGAS, NEVADA 89003 OFFICE 702.448.8737 WEBSITE: WWW.ACGDESIGN.COM		
DATE: 02/14/18 PROJ. NO: 160236 DRAWN BY: ARB CHECKED BY: RAS SCALE: AS NOTED JURISDICTION: CLARK COUNTY		
DRAWING NUMBER: FIG 6 SHEET - OF 8 AGENCY NUMBER: HTE # 16-57573		

FLOW CHARACTERISTICS – DEVELOPED CONDITION (100 YEAR)					
SECTION NUMBER	SLOPE (%)	Q _{ave} (cfs)	DEPTH (ft)	VELOCITY (ft/s)	D*V
6B	4.89	16	0.30	5.97	1.79
7	0.25	1	0.23	0.72	0.17



BASIN NAME	AREA (AC)	Q _{in} (CFS)	Q _{out} (CFS)
ON2	2.05	<1	<1
OFF4	2.25	<1	<1
DOFF2*	14.50	2	16
OFF5	0.21	<1	1

* REFERENCED FROM HYDROLOGY STUDY FOR
MOUNTAIN VISTA, SECTION 31, TOWNSHIP 19 SOUTH,
RANGE 60 EAST BY BAUGHMAN & TURNER
(HTE#05-10097)

REVISIONS		APPROVAL
REV.	DESCRIPTION	APPRD. BY DATE

INFANTE 3 LOT (MSM-0056-17)
FORMERLY: INFANTE 4 LOTS (MSM-0041-16)

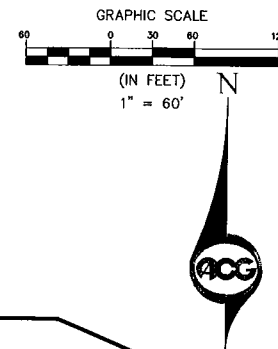
DEVELOPED CONDITIONS

APN: 125-31-401-004
SW CORNER W LA MADRE WAY & N JENSEN ST.
LAS VEGAS, NEVADA 89149

ACG
ACG DESIGN
4310 CAMERON STREET, SUITE 12A
LAS VEGAS, NEVADA 89103
OFFICE: 702.278.2715
WEBSITE: WWW.ACG.DESIGN

DATE:	08/03/17
PROJ. NO:	160236
DRAWN BY:	RAS
CHECKED BY:	NJ
SCALE:	1" = 60'
JURISDICTION:	CLARK COUNTY

DRAWING NUMBER:
FIG 7
SHEET - OF -
AGENCY NUMBER:



FLOW CHARACTERISTICS - DEVELOPED CONDITION (10 YEAR)					
SECTION NUMBER	SLOPE (%)	Q ₁₀ (cfs)	DEPTH (ft)	VELOCITY (ft/s)	D*V
6A	4.89	2	0.16	3.71	0.59

FLOW CHARACTERISTICS - DEVELOPED CONDITION (100 YEAR)					
SECTION NUMBER	SLOPE (%)	Q ₁₀₀ (cfs)	DEPTH (ft)	VELOCITY (ft/s)	D*V
6B	4.89	16	0.30	5.97	1.79
7	0.25	1	0.23	0.72	0.17

LEGEND

OFF1
1

SUBBASIN BOUNDARY
SUBBASIN NAME
FLOW DIRECTION
FLOWMASTER SECTION
EXISTING CONTOURS

SUMMARY OF DEVELOPED CONDITIONS			
BASIN NAME	AREA (AC)	Q ₁₀ (cfs)	Q ₁₀₀ (cfs)
ON2	2.05	<1	<1
OFF4	2.25	<1	<1
DOFF2*	14.50	2	16
OFF5	0.21	<1	1

* REFERENCED FROM HYDROLOGY STUDY FOR MOUNTAIN VISTA, SECTION 31, TOWNSHIP 19 SOUTH, RANGE 60 EAST BY BAUGHMAN & TURNER (HTE#05-10097)

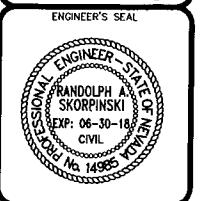
APPROVAL		REV.	DESCRIPTION	APPROV. BY	DATE
REVISIONS					

INFANTE - 2 LOT RESIDENTIAL (MSM 17-600097)

DEVELOPED CONDITIONS

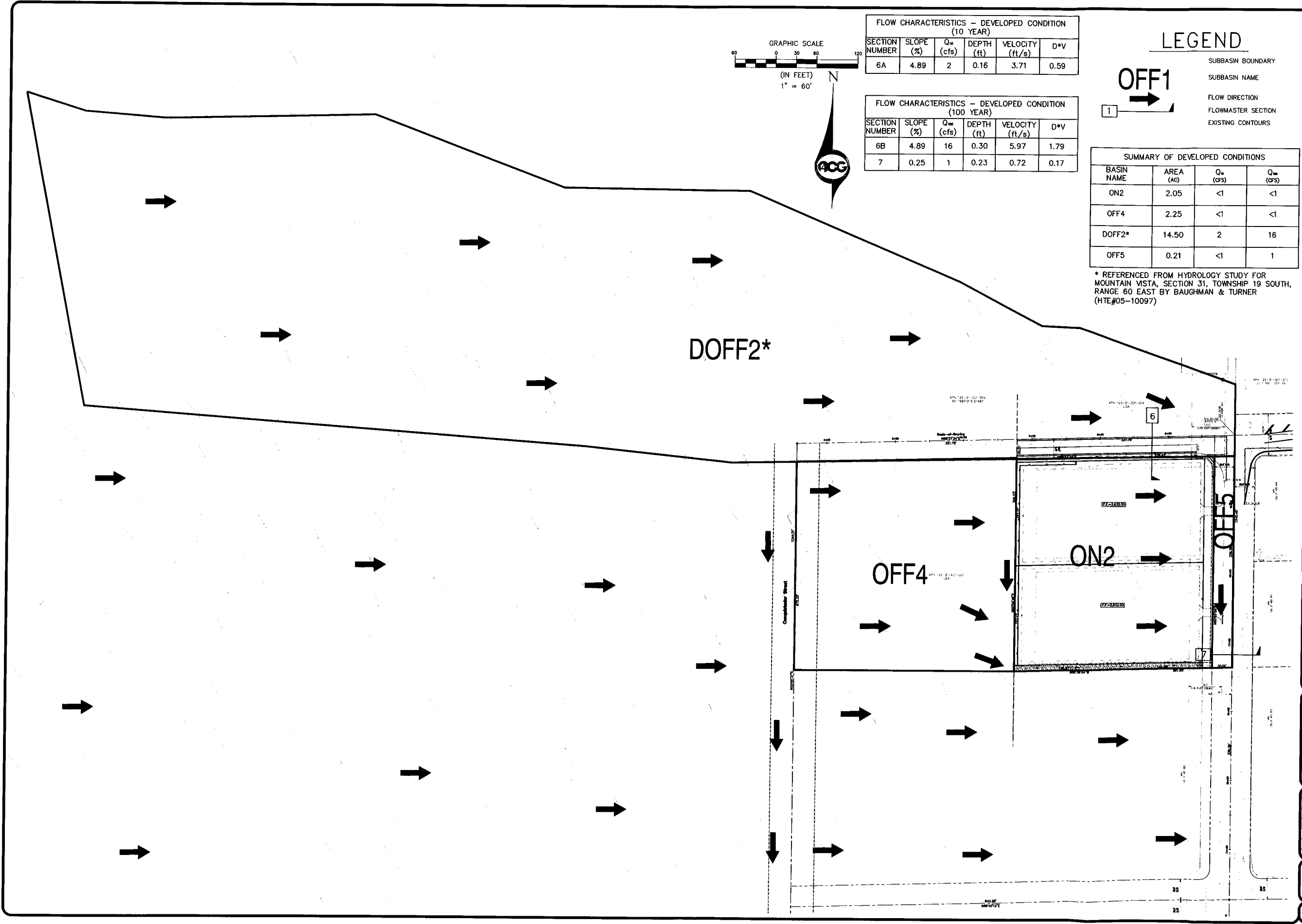
APN 125-31-401-004
SW CORNER W. LA MADRE WAY & N. JENSEN ST.
LAS VEGAS, NEVADA 89149

ACG
ACG DESIGN
4810 CAMERON ST., SUITE 12-A
LAS VEGAS, NEVADA 89103
OFFICE: 702.448.8737
WEBSITE: WWW.ACGDESIGN.COM



DATE:	02/14/18
PROJ. NO:	160236
DRAWN BY:	ARB
CHECKED BY:	RAS
SCALE:	AS NOTED
JURISDICTION:	CLARK COUNTY

DRAWING NUMBER:
FIG 7
SHEET - OF 8
AGENCY NUMBER:
HTE # 16-57573

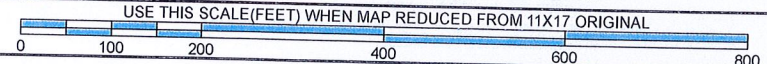


NOTES

This map is for assessment use only and does NOT represent a survey.

No liability is assumed for the accuracy of the data delineated herein. Information on roads and other non-assessed parcels may be obtained from the Road Document Listing in the Assessor's Office.

This map is compiled from official records, including surveys and deeds, but only contains the information required for assessment. See the recorded documents for more detailed legal information.



ASSESSOR'S PARCELS - CLARK CO., NV.
Michele W. Shafe - Assessor

- MAP LEGEND**
- PARCEL BOUNDARY
 - SUB BOUNDARY
 - PM/LD BOUNDARY
 - ROAD EASEMENT
 - MATCH / LEADER LINE
 - HISTORIC LOT LINE
 - HISTORIC SUB BOUNDARY
 - HISTORIC PM/LD BOUNDARY
 - SECTION LINE
 - CONDOMINIUM UNIT
 - AIR SPACE PCL
 - RIGHT OF WAY PCL
 - SUB-SURFACE PCL
 - 001 ROAD PARCEL NUMBER
 - 001 PARCEL NUMBER
 - 1.00 ACREAGE
 - 202 PARCEL SUB/SEQ NUMBER
 - PB 24-45 PLAT RECORDING NUMBER
 - 5 BLOCK NUMBER
 - 5 LOT NUMBER
 - GL5 GOV. LOT NUMBER

BOOK **T19S R60E**

SEC. **31**

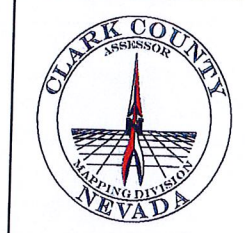
MAP **S 2 SW 4**

125-31-4

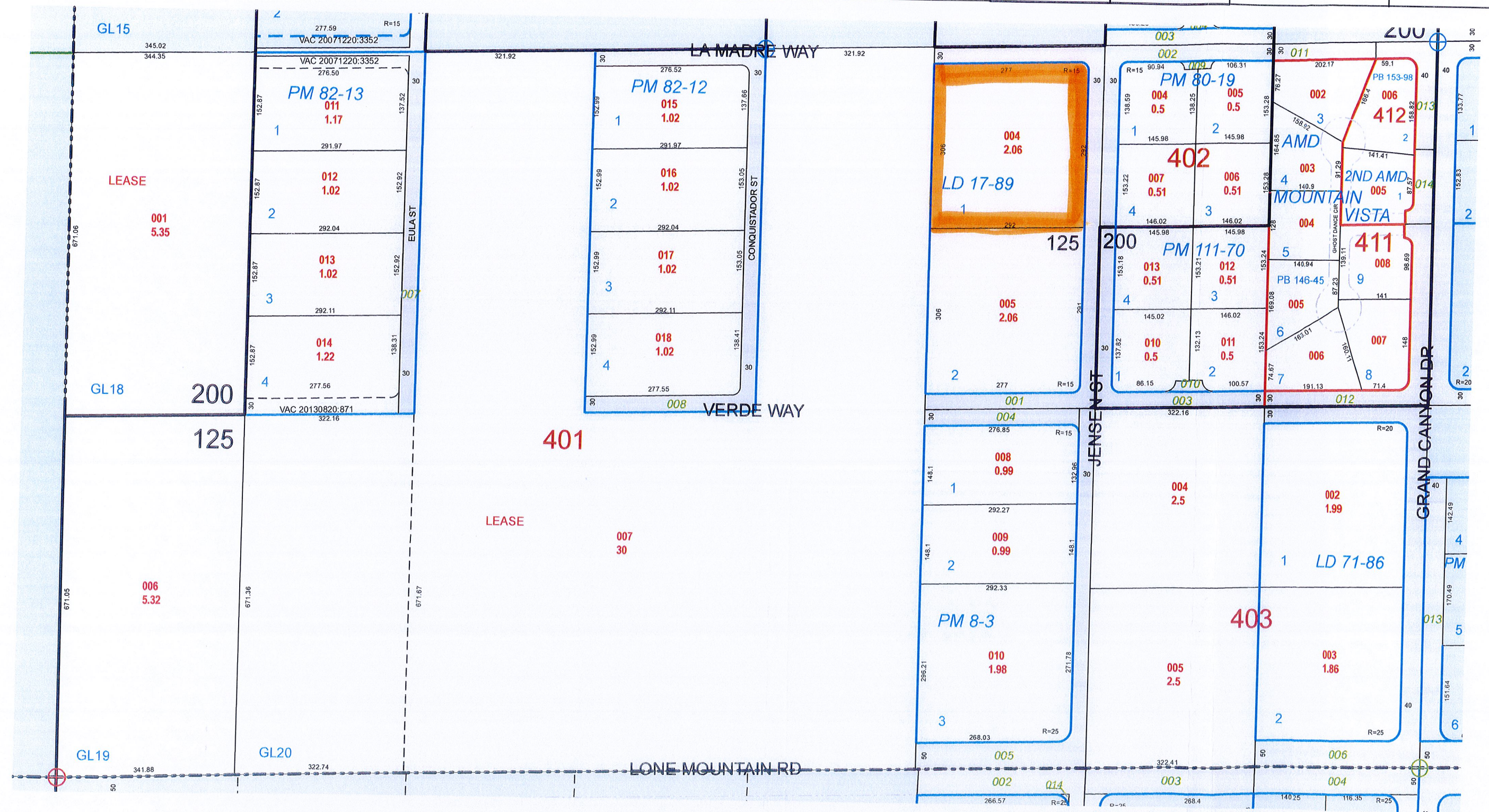
98 099	100 101
27 126	125 124
36 137	138 139
65 164	163 162

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

8	4	8	4
5	1	5	1
6	2	6	2
7	3	7	3
8	4	8	4
5	1	5	1



Scale: 1" = 200' Rev: 6/29/2017



TAX DIST 125,200

Z:\projects_current\Commercial Clients\Angelo Infante\Projects\160236-CL-COV-2.dwg, 2/15/2018 1:41:15 PM

INFANTE - 2 LOT RESIDENTIAL SUBDIVISION (MSM 17-600097)

IMPROVEMENT PLANS

(FORMERLY: INFANTE 3-LOT RESIDENTIAL SUBDIVISION)
(FORMERLY: INFANTE 4-LOT RESIDENTIAL SUBDIVISION)

SW CORNER LA MADRE WAY & JENSEN ST.
LAS VEGAS, NEVADA 89149
APN: 125 - 31- 401 - 004

ENGINEERING FIRM

ACG DESIGN
NATHAN JONES
4310 CAMERON ST. SUITE 12-A
LAS VEGAS, NV 89131
PHONE: (702) 278-2715

OWNER/DEVELOPER

ANGELO INFANTE
328 EMERALD VISTA WAY
LAS VEGAS, NEVADA 89144
PHONE: (702) 501-2518

CAUTION TO CONTRACTOR

THE CONTRACTOR SHALL BE RESPONSIBLE TO INVESTIGATE AND VERIFY THE ACTUAL LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND FACILITIES AT LEAST 48 HOURS IN ADVANCE OF THE PERFORMANCE OF ANY WORK.

NOTE

THESE PLANS SHALL NOT, IN PART OR IN WHOLE, BE USED FOR CONSTRUCTION UNTIL APPROVED AND SIGNED BY THE GOVERNING AGENCY.

ENGINEER TO BE NOTIFIED OF ANY DISCREPANCIES IMMEDIATELY.

ACG DESIGN ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS, SHOWN OR NOT SHOWN. THE UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM RECORD INFORMATION AND ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY THE LOCATIONS AND DEPTHS OF ALL RELEVANT UTILITIES PRIOR TO COMMENCING WITH CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY THE ENGINEER OF WORK, IN WRITING, OF ANY CONFLICTS OR DISCREPANCIES.

BENCHMARK

BM = BLV9031S4
ELEVATION = 2593.59'
790.528(M)
CITY OF LAS VEGAS RIVET AND ROUND PLATE IN CONCRETE PAD, NORTHEAST CORNER OF LONE MOUNTAIN ROAD AND GRAND CANYON DRIVE, 200' +/- NORTH OF LONE MOUNTAIN. NAVD 1988

BASIS OF BEARINGS

N 88°37'34" E BEING THE NORTH LINE OF THE SE 1/4 SW 1/4 SECTION 31, TOWNSHIP 19 SOUTH, RANGE 60 EAST M.D.M. AS PER RECORD OF SURVEY FILE 115 PAGE 93, CLARK COUNTY, NEVADA RECORDS.

LEGAL DESCRIPTION

THE NORTHEAST QUARTER (NE 1/4) OF THE NORTHWEST QUARTER (NW 1/4) OF THE SOUTHEAST QUARTER (SE 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 31, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M.

EXCEPTING THEREFROM THAT PORTION OF LAND CONVEYED TO THE COUNTY OF CLARK BY DEED RECORDED MARCH 24, 1989 IN BOOK 890324 AS INSTRUMENT NO. 1192, IN THE OFFICE OF THE COUNTY RECORDER, CLARK COUNTY, NEVADA.

SAID LAND IS FURTHER DESCRIBED AS LOT ONE (1) AS THE SAME IS SHOWN ON THAT CERTAIN CERTIFICATE OF LAND DIVISION RECORDED MARCH 24, 1989 IN BOOK 890324, DOCUMENT NO. 01191, OFFICIAL RECORDS, CLARK COUNTY, NEVADA.

THIS PARCEL CONTAINS 2.05 ACRES MORE OR LESS.

FLOOD ZONE INFORMATION

AS SHOWN BY FLOOD INSURANCE RATE MAP NO. 32003C1745E, DATED SEPTEMBER 27, 2002, LOCATED IN UNSHADED ZONE X, AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

SURVEY MONUMENTATION NOTE

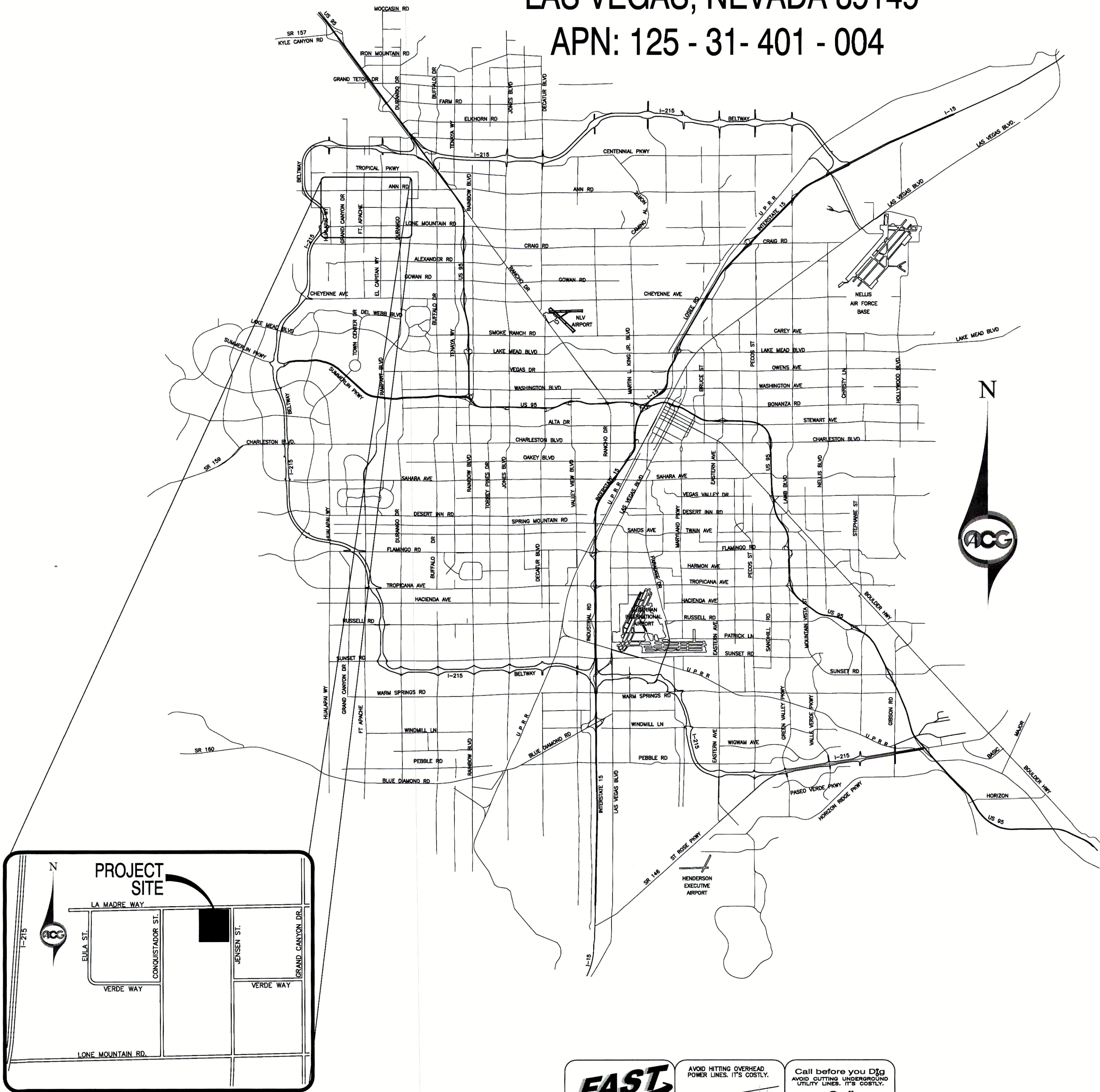
OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED OR OBSOURED DURING CONSTRUCTION.

GEOTECHNICAL REPORT

ALL GRADING AND EARTHWORK SHALL CONFORM TO THE GEOTECHNICAL REPORT:

TITLE:
GEOTECHNICAL EXPLORATION REPORT
INFANTE RESIDENTIAL DEVELOPMENT
SWC LA MADRE WAY AND JENSEN STREET
CLARK COUNTY, NEVADA

ENGINEER:
NOVA GEOTECHNICAL & INSPECTION SERVICES
DATE: NOVEMBER 22, 2016
REVISED: DECEMBER 29, 2016
PROJECT NO.: E-16-257



VICINITY MAP
NOT TO SCALE



NOTE: A PRE-DEVELOPMENT MEETING WITH THE DEPARTMENT OF PUBLIC WORKS DEVELOPMENT REVIEW DIVISION, OFF-SITE INSPECTOR IS REQUIRED. PLEASE CONTACT THE INSPECTOR AT (702) 455-4610.

SHEET INDEX

DRAWING NO.	DESCRIPTION
C-1	COVER SHEET
C-2	GENERAL NOTES
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APPROVALS

NV ENERGY ACKNOWLEDGES THAT WE HAVE RECEIVED YOUR PLANS AND WILL PROVIDE SERVICE TO ALL ELECTRICAL NEEDS ASSOCIATED WITH THIS PROJECT. NV ENERGY RESERVES THE RIGHT TO ADDRESS ANY EXISTING OR FUTURE CONFLICTS ONCE THE FINAL DESIGN IS COMPLETED. THE NEW SERVICE AND THE RESOLUTION OF ANY CONFLICTS WILL BE ACCOMPLISHED PURSUANT TO THE NEVADA PUBLIC UTILITY COMMISSION'S RULES AND REGULATIONS.

NEVADA POWER COMPANY, A NEVADA CORPORATION D.B.A. NV ENERGY

THE CENTRAL TELEPHONE COMPANY, D.B.A. CENTURYLINK APPROVAL DOES NOT ASSUME OR GUARANTEE LIABILITY FOR KNOWN OR UNKNOWN CONFLICTS WITH EXISTING OR PROPOSED IMPROVEMENTS. RESOLUTION OF ANY CONFLICT WILL BE ACCOMPLISHED PURSUANT TO LOCAL ORDINANCES, NEVADA REVISED STATUTES AND/OR PUBLIC UTILITY COMMISSION RULES AND REGULATIONS.

CENTRAL TELEPHONE COMPANY D.B.A. CENTURYLINK

COX COMMUNICATIONS LAS VEGAS, INC.

SOUTHWEST GAS CORPORATION

COUNTY OF CLARK FIRE DEPARTMENT APPROVED

BY

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. ADJUSTED FIRE FLOW 1,750 AT 20 P.S.I. RESIDUAL.

ENGINEER'S SEAL

I hereby certify that this plan, Specification, or report was prepared by me or under my direct supervision, and that I am a licensed professional engineer under the laws of the State of Nevada.

License # 14985

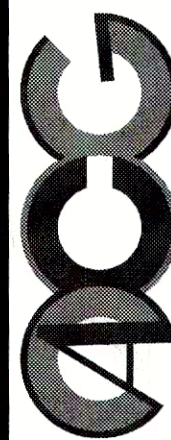
Date: APR 4 2018

APPROVAL	REVISIONS	DESCRIPTION	REV.	APPROVED BY	DATE

INFANTE - 2 LOT RESIDENTIAL
(MSM 17-600097)

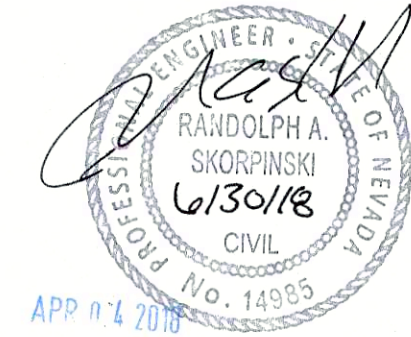
COVER SHEET

APN: 125-31-401-004
SW CORNER W. LA MADRE WAY & N. JENSEN ST.
LAS VEGAS, NEVADA 89149



ACG DESIGN
4310 CAMERON ST., SUITE 12-A
LAS VEGAS, NEVADA 89103
OFFICE: 702.448.8737
WEBSITE: WWW.ACGDESIGN.COM

ENGINEER'S SEAL



DATE:	02/14/18
PROJ. NO:	160236
DRAWN BY:	ARB
CHECKED BY:	RAS
SCALE:	NONE
JURISDICTION:	CLARK COUNTY

DRAWING NUMBER:

C-1

SHEET 1 OF 8

AGENCY NUMBER:
HTE # 16-57573

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NOTICE TO CONTRACTOR

- CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR SHALL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONALS HARMLESS FROM ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.
- CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- THE EXISTENCE AND APPROXIMATE LOCATION OF ANY UNDERGROUND FACILITIES SHOWN HEREON WERE OBTAINED FROM A SEARCH OF AVAILABLE RECORDS. THERE MAY, HOWEVER BE EXISTING UTILITIES NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT THE UTILITIES OR STRUCTURES SHOWN HEREON AND ANY OTHER NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
- 14 GAUGE SOLID COPPER WIRE FOR LINE LOCATION SHALL BE REQUIRED OVER ALL SERVICE LATERALS NOT INSTALLED PERPENDICULAR TO THE MAIN IN ACCORDANCE WITH UDACS PLATE No. 27.
- SEE PLAN AND PROFILE AND MASTER UTILITY SHEETS FOR COMPLETE WATER AND SEWER DESIGN.
- (CCASD NOS. REFER TO "UNIFORM DRAWINGS FOR PUBLIC WORKS" CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST EDITION, UNLESS OTHERWISE NOTED) (UDACS PLATE NOS. REFER TO "UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS, CLARK COUNTY, NEVADA", LATEST EDITION, UNLESS OTHERWISE NOTED) (DCWSC SD NOS. REFER TO "DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS, SOUTHERN NEVADA, LATEST EDITION, UNLESS OTHERWISE NOTED).
- CONTRACTOR SHALL BE RESPONSIBLE FOR DUST AND EROSION CONTROL DURING CONSTRUCTION.
- SEE LANDSCAPE PLANS FOR LANDSCAPING.

CLARK COUNTY DEPARTMENT OF PUBLIC WORKS
DEVELOPMENT REVIEW DIVISION
CONSTRUCTION NOTES

- INSPECTIONS ARE REQUIRED. CALL 24 HOURS IN ADVANCE TO SCHEDULE AT (702) 455-4610. PERMIT APPROVED PLANS, AND BARRICADE PLANS FOR THIS WORK MUST BE ON THE JOB SITE AT ALL TIMES.
- EXACT LOCATION OF ALL SAW-CUT LINES SHALL BE DETERMINED IN THE FIELD BY A CLARK COUNTY INSPECTOR.
- CURB AND CUTTER WITH A GRADE OF LESS THAN $\frac{1}{8}$ OF ONE PERCENT SHALL BE CONSTRUCTED BY FORMING. EACH JOINT SHALL BE CHECKED FOR GRADE PRIOR TO CONSTRUCTION AND WATER TESTED AS SOON AS POSSIBLE AFTER CONSTRUCTION.
- FINAL ASPHALTIC CONCRETE (AC) PAVEMENT SURFACES SHALL BE ONE-HALF ($\frac{1}{2}$ ") INCH ABOVE THE LIP OF THE GUTTER (INCLUDING OPEN GRADE).
- ALL OFF-SITE IMPROVEMENT CONSTRUCTION SHALL CONFORM TO THE "UNIFORM STANDARD SPECIFICATIONS AND STANDARD DRAWINGS CLARK COUNTY AREA NEVADA AND CLARK COUNTY SUPPLEMENT TO UNIFORM STANDARD DRAWINGS AND SPECIFICATIONS", LATEST REVISION EXCEPT FOR LUMINAIRES. REFER TO CLARK COUNTY PUBLIC WORKS QUALIFIED PRODUCTS LIST "QPL" FOR LED LUMINAIRES. QPL CAN BE FOUND ONLINE AT <http://www.clarkcountynv.gov/public-works/pages/default.apx>
- PRIVATE STREETS, CURB, CUTTER AND VALLEY GUTTERS REFLECTED ON THESE PLANS ARE TO BE INSPECTED BY A CLARK COUNTY INSPECTOR.
- WHEEL CHAIR RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERCEPTION PER STANDARD DRAWING 235. EXACT LOCATION OF RAMPS SHALL BE DETERMINED IN THE FIELD BY CLARK COUNTY PUBLIC WORKS INSPECTOR.
- PROPER SIGNS, BARRIERS, BARRICADES AND LIGHTS SHALL BE PLACED AND MAINTAINED IN ACCORDANCE WITH THE LATEST "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS". TRAFFIC, SCHOOL OR STREET SIGNS OF ANY KIND ARE NOT TO BE MOVED FOR ANY REASON WITHOUT FIRST COORDINATING WITH THE DEPARTMENT OF PUBLIC WORKS INSPECTIONS (702) 455-4610.
- THIS PLAN DOES NOT AUTHORIZE CLOSURE OF ANY ROAD OR STREET.
- NO OPEN TRENCH SHALL BE ALLOWED ACROSS ANY STREET OR WITHIN TEN (10) FEET OF ANY TRAVEL-WAY, EXCEPT WHEN WORK IS IN ACTUAL PROGRESS. AREAS COVERED BY ACCEPTABLE STEEL PLATE ARE NOT TO BE CONSTRUED AS A TRENCH. NO OPEN TRENCH IS PERMITTED IN EXCESS OF 500 FEET OR LENGTH NECESSARY TO ACCOMMODATE PIPE INSTALLATION IN A SINGLE DAY, WHICHEVER IS GREATER. ALL TRENCH CROSSINGS AND BACKFILL SHALL MEET THE STANDARD SPECIFICATION UNLESS OTHERWISE STATED.
- A TEMPORARY PATCH IS TO BE IN PLACE AT THE END OF EACH WORK DAY WHERE THE BACKFILL IN THE TRENCH HAS BEEN COMPLETED AND PRIOR TO OPENING THE WORK AREA BACK TO TRAFFIC AND IS TO BE MAINTAINED BY THE PERMITTEE. A PERMANENT PATCH IS TO BE IN PLACE WITHIN THIRTY (30) DAYS AFTER THE INSTALLATION OF THE TEMPORARY PATCH.
- COMPACTION TESTS ARE REQUIRED.

SOUTHERN NEVADA HEALTH DISTRICT NOTES

WATER NOTES:

ALL CONSTRUCTION AND MATERIAL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS" (UDACS) EXCEPT FOR PROJECTS SERVICED BY THE VIRGIN VALLEY WATER DISTRICT.
ALL WATER FACILITIES SHALL BE FILLED, DISINFECTED, PRESSURE TESTED, FLUSHED, FILLED, AND AN ACCEPTABLE WATER SAMPLE OBTAINED, PRIOR TO CONNECTION TO THE LVVWD DISTRIBUTION SYSTEM.

SEWER NOTES:

ALL CONSTRUCTION AND MATERIAL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "DESIGN AND CONSTRUCTION STANDARDS FOR WASTE COLLECTION SYSTEMS FOR SOUTHERN NEVADA".

LAS VEGAS VALLEY WATER DISTRICT (LVVWD) STANDARD

NOTES: LVVWD PROJECT # _____

- NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN APPROVED FOR CONSTRUCTION BY THE LVVWD. FOLLOWING WATER PLAN APPROVAL, NOTICE SHALL BE GIVEN TO THE LVVWD COMMUNICATION SUPPORT CENTER (258-7171) TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. FOR FUTURE INSPECTIONS, NOTICE MUST BE GIVEN BY 2:00 P.M. THE BUSINESS DAY PRIOR TO THE REQUESTED LVVWD INSPECTION. **WHEN REQUESTING INSPECTIONS, PLEASE REFER TO THE PROJECT # IDENTIFIED ABOVE.**
- ALL WORK SHALL CONFORM TO LVVWD STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS, AND TO THE 2010 EDITION OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS). **THE LATEST EDITION OF UDACS SHALL SUPERSEDE ANY CONFLICTS CONTAINED IN THE APPROVED DRAWINGS AND/OR SPECIFICATIONS.**
- ALL WORK, EXCEPT AS MODIFIED BY THESE PLANS OR BY NOTE 2 ABOVE, SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT DRAFT OR EDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENT, CLARK COUNTY AREA.
- A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE LVVWD.
- ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE TYPE K COPPER TUBING WITH LVVWD APPROVED SERVICE SADDLES.
- ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAY AREAS.
- ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS, VALLEY AND CURB GUTTERS.
- ALL WATER AND STORM DRAIN OR SANITARY SEWER CROSSINGS SHALL CONFORM TO SECTION 2.22 OF THE 2010 EDITION OF THE UDACS.
- ALL WATER FACILITIES SHALL BE FILLED, DISINFECTED, PRESSURE TESTED, FLUSHED, FILLED, AND AN ACCEPTABLE WATER SAMPLE OBTAINED, PRIOR TO CONNECTION TO THE LVVWD DISTRIBUTION SYSTEM.
- THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVWD CENTRAL STORES. TELEPHONE 258-3152 OR 258-3802, TWO (2) WORKING DAYS PRIOR TO METER PICKUP.
- ANY INTERRUPTION OF SERVICE MUST BE PERFORMED IN ACCORDANCE WITH UDACS SECTION 3.14.01, AND APPROVED BY THE LVVWD INSPECTION DIVISION PRIOR TO SHUTDOWN. PROPER WRITTEN NOTIFICATION MUST BE GIVEN TO ALL AFFECTED CUSTOMERS.
- ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVVWD PRE-APPROVED MATERIALS AND MANUFACTURER'S LISTING FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.
- TELEPHONE "CALL BEFORE YOU DIG" AT "811" OR 1-800-227-2600.
- THE INSTALLATION OF LAS VEGAS VALLEY WATER DISTRICT (LVVWD) MUNICIPAL FACILITIES WITHIN ALL STREETS IS ASSUMED TO BE IN COMPLIANCE WITH THE UNIFORM STANDARDS, INCLUDING THE PLACEMENT OF ASPHALT PAVING STREET SURFACES. ANY REPAIR WORK DONE BY THE LVVWD TO THE MUNICIPAL WATER FACILITIES WILL INCLUDE THE PLACEMENT OF AN APPROPRIATELY SIZED ASPHALT REPAIR PATCH ON THE STREET SURFACE.

ANY DECORATIVE PAVING SURFACE WITHIN THE STREET IS THE RESPONSIBILITY OF THE OWNER'S ASSOCIATION, OR THE INDIVIDUAL PROPERTY OWNERS IF NO OWNER'S ASSOCIATION IS IN EXISTENCE, OR THE AGENCY HAVING JURISDICTION. DECORATIVE SURFACE MATERIALS PLACED WITHIN THE TEN FOOT EASEMENT ABUTTING A PUBLIC OR PRIVATE STREET, IF DISTURBED BY THE LVVWD DURING THE REPAIR OR OPERATION OF ITS FACILITIES, WILL BE REPLACED BY LVVWD WITH AN APPROPRIATELY SIZED PLAIN FINISH CONCRETE PATCH. THE LVVWD WILL NOT RESTORE, AND WILL NOT BE RESPONSIBLE FOR THE RESTORATION OF ANY DECORATIVE PAVING SURFACE WITHIN THE STREET. THE LVVWD WILL NOT ATTEMPT TO MATCH COLOR OR FINISH OF ANY ADJACENT MATERIALS.
- NO LEAD COMPLIANCE NOTE:**
TO COMPLY WITH THE FEDERAL SAFE DRINKING WATER ACT, ALL WATER WORKS BRASS PRODUCTS PROPOSED TO BE RELOCATED, OR INSTALLED AS NEW MUST BE INSTALLED WITH THE LEAD FREE APPROVED PRODUCT. THE OLD LEADED PRODUCT MAY NOT BE REUSED.

STORMWATER MANAGEMENT NOTES:

- THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
- ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND THE LAS VEGAS CONSTRUCTION SITE BMP GUIDANCE MANUAL.
- TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
- AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
- ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

CLARK COUNTY TRAFFIC NOTES:

- ALL PERMANENT TRAFFIC CONTROL DEVICES CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HEREUNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.
- BEFORE ANY WORK IS STARTED IN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS FOR THE CONSTRUCTION ZONE. THE CONTRACTOR SHALL INSTALL TEMPORARY GROUND MOUNTED STOP SIGNS AT ALL NEW STREET ENCROACHMENTS INTO EXISTING COUNTY STREETS IMMEDIATELY AFTER FIRST GRADING WORK IS ACCOMPLISHED, AND SHALL MAINTAIN SAID SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.
- ALL CONSTRUCTION SIGNING, BARRICADING AND PAVEMENT MARKINGS SHALL CONFORM TO THE NEVADA WORK ZONE TRAFFIC CONTROL HANDBOOK - 1986 AND TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.
- IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL, OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF THE COUNTY TRAFFIC MANAGER.
- THE DEVELOPER SHALL BE RESPONSIBLE TO PROVIDE AND INSTALL ALL PERMANENT SIGNS SHOWN ON THE PLANS. STREET NAME SIGNS SHALL CONFORM IN THEIR ENTIRETY TO CLARK COUNTY AREA STANDARDS. ALL OTHER SIGNS SHALL BE STANDARD SIZE UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL SIGNPOSTS SHALL BE INSTALLED IN ACCORDANCE WITH CLARK COUNTY AREA STANDARDS. ALL SIGNS SHALL USE CLASS VI SHEETING.
- IF A PROPOSED STREET LIGHT STANDARD IS FIELD LOCATED TO WITHIN FIVE (5) FEET OF ANY SIGN SHOWN HEREON TO BE MOUNTED ON A SIGN POST, CHANGE SIGN MOUNTING TO ONE OF THE STREETLIGHT STANDARD.
- PRIOR TO CONSTRUCTION, THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE CURRENT PLANNING DIVISION OF THE DEPARTMENT OF COMPREHENSIVE PLANNING.
- ALL TRAFFIC SIGNAL POLE ASSEMBLIES, STEEL PEDESTAL FOR CABINETS AND STREET LIGHT POLES SHALL BE GALVANIZED PER ASTM A.123.
- ALL STREET LIGHTING INSTALLATIONS EXCEPT NOTED ON THE STREET LIGHTING PLANS SHALL CONFORM TO THE "UNIFORM STANDARD DRAWINGS" AND "THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST EDITION OF EACH.
- THE FOLLOWING CLARK COUNTY UNDERGROUND FACILITIES MAY BE LOCATED IN YOUR PROJECT AREA: STREET LIGHTING, TRAFFIC SIGNALS, AND "FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION" (F.A.S.T.) INTERCONNECT CABLE. YOU MUST CONTACT CLARK COUNTY TRAFFIC MANAGEMENT DIVISION, OPERATIONS UNIT AT 702-455-6000 FOR LOCATIONS AT LEAST 48 HOURS PRIOR TO WORKING IN THE AREA. CLARK COUNTY IS NOT A MEMBER OF "CALL BEFORE YOU DIG" (UNDERGROUND SERVICE ALERT), AND A CALL TO THAT ORGANIZATION DOES NOT RELIEVE YOU OF LIABILITY FOR CLARK COUNTY FACILITIES.
- F.A.S.T. INTERCONNECT CABLE POLICY IS IN EFFECT. INTERCONNECT CABLE MUST BE MAINTAINED AT ALL TIMES. DEVELOPER/CONTRACTOR SHALL PROVIDE TEMPORARY OVERHEAD INTERCONNECT CABLE WHILE PERMANENT CABLE IS BEING RELOCATED. TEMPORARY AERIAL INSTALLATION MUST BE ACCEPTABLE TO THE COUNTY TRAFFIC MANAGER AND TO F.A.S.T. ANY DAMAGE TO THIS CABLE IS DEEMED AN EMERGENCY BY F.A.S.T., CITY OF LAS VEGAS, CLARK COUNTY AND NDOT AND MUST BE REPAIRED IMMEDIATELY TO F.A.S.T. ACCEPTANCE. **\$2,500 PER DAY DAMAGES** MAY BE ASSESSED AFTER 24 HOURS HAS ELAPSED FROM TIME OF BREAK OR DAMAGE.
- ALL NEW OR REPLACEMENT TRAFFIC SIGNAL LOOPS SHALL BE INSTALLED USING CABLE-IN-DUCT WIRING, SHALL HAVE INDEPENDENT LEAD-IN WIRES FOR EACH LOOP FROM THE CONTROLLER TO THE PULL-BOX AND EACH LEAD-IN SHALL BE INDIVIDUALLY TAGGED.
- TRAFFIC SIGNAL PEDESTRIAN HEADS SHALL BE THE L.E.D. TYPE.
- ELECTRICAL POWER SERVICE POINT LOCATION(S) FOR STREET LIGHTING AND TRAFFIC SIGNALS MUST BE INDICATED ON THE PLANS. IF CONNECTING TO AN EXISTING CIRCUIT, INDICATE LOCATION OF EXISTING SERVICE POINT FOR EACH CIRCUIT.
- WHEN STREETLIGHTS ARE TO BE CONNECTED TO AN EXISTING CIRCUIT, THE ENGINEER MUST CERTIFY THAT THE EXISTING CIRCUIT IS CAPABLE OF HANDLING THE ADDITIONAL CIRCUIT LOAD.
- CLARK COUNTY RESERVES THE RIGHT TO REJECT STREET LIGHT AND TRAFFIC SIGNAL POLES AND ASSEMBLIES WHICH HAVE A "STRIPE" APPEARANCE.
- TWO WEEKS PRIOR TO BEGINNING OF CONSTRUCTION, MODIFICATION OR RELOCATION OF ANY TRAFFIC SIGNAL SYSTEM, WRITTEN NOTICE SHALL BE SUBMITTED TO THE CLARK COUNTY TRAFFIC MANAGEMENT DIVISION OF THE DATE THAT WORK WILL BEGIN.
- THREE (3) NORMAL WORKING DAYS PRIOR TO TURN-ON OR COMPLETION OF MODIFICATION(S) TO A TRAFFIC SIGNAL SYSTEM, WRITTEN NOTICE SHALL BE SUBMITTED TO THE CLARK COUNTY TRAFFIC MANAGEMENT DIVISION THAT WORK IS BEING COMPLETED AND THE PROPOSED DATE OF COMPLETION.

CLARK COUNTY FIRE DEPARTMENT GENERAL NOTES:

GENERAL:
A. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CLARK COUNTY FIRE CODE AS AMENDED, THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS (UDACS) AS ADOPTED BY CLARK COUNTY AND THE CURRENTLY ADOPTED EDITION OF NFPA 24. B. FIRE HYDRANTS AND WATER SUPPLIES FOR FIRE PROTECTION SHALL BE INSTALLED, INSPECTED BY FIRE PREVENTION AND IN SERVICE PRIOR TO AND DURING THE TIME OF CONSTRUCTION IN ACCORDANCE WITH SECTION 3312 OF THE IFC, AS AMENDED. C. IF DURING CONSTRUCTION IT BECOMES NECESSARY TO CLOSE ANY CONTROL VALVE OR PLACE A HYDRANT OUT OF SERVICE, APPROVAL SHALL BE OBTAINED FROM THE CCDFP PRIOR TO PLACING THE HYDRANT OUT OF SERVICE.
FIRE HYDRANTS:
A. FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MOST CURRENT EDITION OF UDACS AND THIS GUIDELINE. FIRE HYDRANTS SHALL BE MAINTAINED IN ACCORDANCE WITH NFPA 25 AND KEPT IN AN OPERATIVE CONDITION WITH THE REQUIRED WATER SUPPLY.
B. MANUFACTURER AND MODEL OF FIRE HYDRANTS SHALL CONFORM TO THE APPROVED MATERIALS LIST OF THE LAS VEGAS VALLEY WATER DISTRICT.
C. HYDRANTS SHALL BE INSTALLED WITH THEIR PUMPER OUTLET NOZZLE (STEAMER CONNECTION) FACING THE FIRE ACCESS ROAD. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF FIRE HYDRANTS. WHERE HYDRANTS ARE SUBJECT TO IMPACT BY MOTOR VEHICLES, GUARD POSTS (PIPE BOLLARDS) SHALL BE INSTALLED IN ACCORDANCE WITH IFC SECTION 312.
D. HYDRANTS SHALL BE PAINTED SAFETY YELLOW FOR PUBLIC AND SAFETY RED FOR PRIVATE.
E. FIRE HYDRANTS SHALL BE LOCATED 4' TO 7' FROM BACK OF CURB (C102.11).
F. PAINTING OF CURBS AND/OR ASPHALT AREAS ADJACENT TO HYDRANTS SHALL BE COMPLETED BY THE INSTALLER PRIOR TO BOND RELEASE INSPECTION. A COAT OF EXTERIOR INDUSTRIAL GRADE SAFETY RED ENAMEL SHALL BE APPLIED FOR A MINIMUM OF 30 FEET, 15 FEET ON EACH SIDE OF THE HYDRANT.
G. HYDRANT LOCATIONS SHALL BE MARKED BY MEANS OF A BLUE REFLECTIVE PAVEMENT MARKER INSTALLED IN THE CENTER OF THE FIRE ACCESS DRIVE LANE NEAREST TO THE HYDRANT.
FIRE DEPARTMENT CONNECTIONS:
A. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED WITHIN 100 FEET OF A FIRE HYDRANT AS MEASURED BY AN APPROVED UNOBSTRUCTED ROUTE.
B. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET SIDE OF BUILDINGS, FULLY VISIBLE AND RECOGNIZABLE FROM THE STREET OR NEAREST POINT OF FIRE DEPARTMENT VEHICLE ACCESS (FIRE LANE) OR AS OTHERWISE APPROVED BY THE FIRE CHIEF.
C. FIRE DEPARTMENT CONNECTIONS SHALL NOT BE CLOSER THAN 3 FEET TO ANY DOOR OR WINDOW OPENING AND SHALL NOT BE OBSTRUCTED BY TREES, SHRUBS, PARKING SPACES, ETC.
UNDERGROUND PIPING & VALVES:
A. UNDERGROUND PIPING SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI. UNDERGROUND PIPING CONNECTED TO A FIRE PUMP OR A FIRE DEPARTMENT CONNECTION (FDC) SHALL HAVE A MINIMUM WORKING PRESSURE OF 200 PSI (CLASS 200).
B. FOR PRIVATE FIRE SERVICE MAINS TWO SOURCES OF WATER SUPPLY ARE REQUIRED WHENEVER 4 OR MORE FIRE HYDRANTS AND/OR FIRE SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM. WATER SYSTEMS UNDER THE PURVIEW OF THE LAS VEGAS VALLEY WATER DISTRICT SHALL CONFORM TO THEIR RULES.
C. FOR PRIVATE FIRE SERVICE MAINS SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS AND/OR FIRE SPRINKLER LEAD-INS CAN BE OUT OF SERVICE DUE TO A BREAK IN A WATER MAIN. WATER SYSTEMS UNDER THE PURVIEW OF THE LAS VEGAS VALLEY WATER DISTRICT SHALL CONFORM TO THEIR RULES.
D. ALL PIPING AND VALVES SUPPLYING FIRE SPRINKLER SYSTEMS SHALL BE PROTECTED FROM FREEZING WHEN EXPOSED TO TEMPERATURES LESS THAN 40°F. FREEZE PROTECTION SHALL BE APPROVED, DURABLE AND PERMANENT.
E. ALL REQUIRED HYDROSTATIC TESTING AND FLUSHING OF THE PRIVATE FIRE SERVICE MAIN OR UNDERGROUND FIRE SPRINKLER/STANDPIPE WATER SUPPLY PIPING SHALL BE PERFORMED IN THE PRESENCE OF CLARK COUNTY FIRE PREVENTION STAFF. THE PIPING JOINTS SHALL BE UNCOVERED. THE INSTALLING CONTRACTOR SHALL FURNISH A "CONTRACTOR'S MATERIAL AND TESTING CERTIFICATE"(CM&T) COUNTERSIGNED BY THE PROPERTY OWNER OR REPRESENTATIVE. THE CM&T SHALL BE FILLED OUT COMPLETELY WITH THE INSPECTOR'S INITIALS, WITNESSING EACH TEST. A COPY OF THE UNDERGROUND FLUSH AND HYDROSTATIC TESTING DOCUMENTATION SHALL BE ON-SITE AND SIGNED PRIOR TO THE CONNECTION OF THE UNDERGROUND WATER SUPPLY TO THE FIRE SPRINKLER SYSTEM.
GATES:
A. SHOP DRAWINGS FOR ALL GATES AND MOTORIZED OPENERS OBSTRUCTING FIRE DEPARTMENT ACCESS ROADS SHALL BE SUBMITTED SEPARATELY FOR REVIEW AND RECEIVE APPROVAL PRIOR TO INSTALLATION. A SEPARATE PERMIT IS REQUIRED FOR EACH GATED ENTRANCE.
FIRE APPARATUS ACCESS ROADS:
A. SPEED BUMPS AND/OR SPEED HUMPS SHALL NOT BE PERMITTED WITHIN THE REQUIRED WIDTH OF FIRE APPARATUS ACCESS ROADS.
EXCEPTION: SPEED HUMPS ARE ALLOWED ON PRIVATE FIRE APPARATUS ACCESS ROADS SERVING COMMERCIAL AND INDUSTRIAL BUILDINGS WHEN APPROVED BY THE FIRE CODE OFFICIAL.
B. FOR GROUP R, DIVISION 3 STRUCTURES AND FOR STRUCTURES CONSTRUCTED IN ACCORDANCE WITH THE IRC, ROADS SERVING A MAXIMUM OF 6 RESIDENCES AND HAVING A MAXIMUM LENGTH OF 150 FEET, AS MEASURED FROM THE INTERSECTION TO THE BACK OF CURB AT THE END OF THE STUB STREET, MAY FRONT ONTO A STUB STREET WITH A MINIMUM WIDTH OF 25 FEET FROM BACK-OF-CURB TO BACK-OF-CURB, PROVIDED THAT ALL RESIDENCES FRONTING ON THE STUB STREET ARE PROVIDED WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM AND THAT ON-STREET PARKING ON THE STUB STREET IS PROHIBITED.
C. FIRE APPARATUS ACCESS ROADS SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS, WITH A MINIMUM VEHICLE LOAD OF 33,000 POUNDS PER AXLE, AND SHALL BE SURFACED AND PAVED SO AS TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES.
EXCEPTION: TEMPORARY ACCESS ROADS SERVING ONLY BUILDINGS UNDER CONSTRUCTION SHALL NOT BE REQUIRED TO BE PAVED.

APPROVED FOR CONSTRUCTION:

COUNTY OF CLARK FIRE DEPARTMENT APPROVED

BY: _____ DATE: _____

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS.
ADJUSTED FIRE FLOW 1,750 GPM AT 20 P.S.I. RESIDUAL.

APPROVAL								DATE

REVISIONS							DESCRIPTION

INFANTE - 2 LOT RESIDENTIAL (MSM 17-600097)

GENERAL NOTES SHEET

APN: 125-31-401-004

SW CORNER W. LA MADRE WAY & N. JENSEN ST.

LAS VEGAS, NEVADA 89149

ACG DESIGN
430 CAMERON ST., SUITE 12-A
LAS VEGAS, NEVADA 89103
OFFICE: 702-448-8737
WEBSITE: WWW.ACGDESIGN.COM

APR 14 2018

DATE:	02/14/18
PROJ. NO:	160236
DRAWN BY:	ARB
CHECKED BY:	RAS
SCALE:	NONE
JURISDICTION:	CLARK COUNTY

DRAWING NUMBER:

C-2

SHEET 2 OF 8

AGENCY NUMBER:

HTE # 16-57573

ABBREVIATIONS

ABAN	ABANDON	GB	GRADE BREAK
AB	AGGREGATE BASE	GM	GAS METER
ABS	ABSOLUTE	GPM	GALLONS PER MINUTE
AC	ASPHALTIC CONCRETE	GRD	GRADE
ACKV	AUTOMATIC CHECK VALVE	GRT	GRATE
ADA	AMERICAN DISABILITY ACT	GUT	GUTTER
ADDL	ADDITIONAL	GV	GATE VALVE
ADDM	ADDENDUM	HERCP	HORIZONTAL/ELLIPTICAL REINFORCED CONCRETE PIPE
ADJ	ADJUSTABLE	HP	HIGH POINT
AGG	AGGREGATE	IN	INCH
AL	ALUMINUM	INSTR	INSTRUMENT
AMT	AMOUNT	INT	INTERIOR
&	AND	INV	INVERT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	IRR	IRRIGATION
APN	ASSESSOR PARCEL NUMBER	LEN OR L	LENGTH OF CURVATURE
APPROX	APPROXIMATE	LF	LINEAR FOOT
APPVD	APPROVED	LT	LEFT/LIGHT
ASPH	ASPHALT	LVMDO	LAS VEGAS VALLEY WATER DISTRICT
ASSN	ASSOCIATION	M	METER
ASSY	ASSEMBLY	MAX	MAXIMUM
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	N	NORTH
AVE	AVENUE	NAP	NOT-A-PART
AWWA	AMERICAN WATER WORKS ASSOCIATION	NDOT	NEVADA DEPARTMENT OF TRANSPORTATION
BC	BOLT CIRCLE/BACK OF CURB	NE	NORTHEAST
BCR	BACK OF CURB RADIUS BEGINNING OF CURVE RETURN	NG	NATURAL GROUND
BDRY LINE	BOUNDARY LINE	NO, #	NUMBER
BETW, B/W	BETWEEN	NPC	NEVADA POWER COMPANY
BK	BOOK/BACK	NTS	NOT TO SCALE
BLDG	BUILDING	NW	NORTHWEST
BLK	BLOCK	MH	MANHOLE
BLM	BUREAU OF LAND MANAGEMENT	MIN	MINIMUM
BLVD	BOULEVARD	MSM	MINOR SUBDIVISION MAP
BM	BENCHMARK	OHP	OVER HEAD POWER
BO	BLOW OFF ASSEMBLY	OHTEL	OVER HEAD TELEPHONE
BC, BOC	BACK OF CURB	P	POLE/PRESSURE/PIPE/POWER
BOT	BOTTOM	P/L / R	PROPERTY LINE
BW, BOW	BACK OF WALK	PERP	PERPENDICULAR
BPV	BACK PRESSURE VALVE	PG	PRESSURE GAGE
BRG	BEARING	PKWY	PARKWAY
BS	BACK SIGHT	PRIV	PRIVATE
BVC	BEGINNING OF VERTICAL CURVE	PRV	PRESSURE REDUCING VALVE
BSW	BACK OF SIDEWALK	PSI	POUNDS PER SQUARE INCH
C	CONDUIT	PVC	POLYVINYL CHLORIDE PIPE
C&G	CURB & GUTTER	QTY	QUANTITY
CAP	CAPACITY	R	RADIUS
CATV	CABLE TELEVISION	(R)	RADIAL
CAV	COMBINATION AIR VALVE	R.D.O.	ROOF DRAIN OUTLET PIPE LOCATION
CC	CLARK COUNTY	RPDA	REDUCED PRESSURE DETECTOR ASSEMBLY
CCWRD	CLARK COUNTY WATER RECLAMATION DISTRICT	RPPA	REDUCED PRESSURE PRINCIPLE ASSEMBLY
CI	CAST IRON	RR	RAILROAD
CIP	CAST IRON PIPE/CAST IN PLACE	ROW	RIGHT OF WAY
CIR	CIRCLE	S/C	SAW CUT
CIRCUM	CIRCUMFERENCE	SCCP	STEEL CYLINDER CONCRETE PIPE
CL OR R	CENTERLINE	SD	STORM DRAIN
CO	COUNTY/COMPANY/CONTRACT	SDMH	STORM DRAIN MANHOLE
COL	COLUMN	SW, SDWK	SIDEWALK
CONC	CONCRETE	SE	SOUTHEAST
CONST	CONSTRUCTION	SEC	SECTION/SECOND(ARY)
COR	CORNER	SHT	SHEET
CONC	CONCRETE	SIG	SIGNAL
CONN	CONNECTION	SF, SQ FT	SQUARE FOOT (FEET)
CONT	CONTINUE OR CONTINUOUS	SY, SQ YD	SQUARE YARD
CTR	CENTER	SS	SANITARY SEWER
CU	CUBIC	ST	STREET
CY	CUBIC YARD	STA	STATION
D OR Δ	DELTA ANGLE	STD	STANDARD
D/W	DRIVEWAY	SL, STLT	STREET LIGHT
DBO	DESIGNED BY OTHERS	SUR	SURVEY
DCSWCS	DESIGN AND CONSTRUCTION STANDARDS FOR WASTE WATER COLLECTION SYSTEMS	SVZ	SITE VISIBILITY ZONE
DEMO	DEMOLITION	T	TELEPHONE/TANGENT
DEPT	DEPARTMENT	TAN	TANGENT
DET	DETAIL	TC	TOP OF CURB
DEV	DEVELOPMENT	TF	TOP OF FOOTING
DI	DROP INLET OR DUCTILE IRON	TFW	TOP OF FLOOD WALL
DIA OR Ø	DIAMETER	TMH	TOP OF MANHOLE
DIM	DIMENSION	TR.DR.	TRENCH DRAIN
DIP	DUCTILE IRON PIPE	TRW	TOP OF RETAINING WALL
DIR	DIRECTION	TOT	TOTAL
DIST	DISTANCE	TW	TOP OF WALL
DMH	DROP MANHOLE	TS	TRAFFIC SIGNAL
DOM	DOMESTIC	TRANS	TRANSITION/TRANSMISSION
DR	DRIVE	(TYP)	TYPICAL
DWG	DRAWING	UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS
DWY	DRIVEWAY	USD	UNIFORM STANDARD DRAWINGS
E	EAST	VC	VERTICAL CURVE
EC	EXISTING CONCRETE	VERT	VERTICAL
ECR	END OF CURVE RETURN	VO	VALLEY GUTTER
EG	EXISTING GROUND	W/	WITH
EOC	END OF CURVE	WM	WATER METER
EOP	EDGE OF PAVEMENT	W	WATER
EOS	EDGE OF SHOULDER	WV	WATER VALVE
ESMT	EASEMENT	YD	YARD
EVC	END OF VERTICAL CURVE		
EX	EXISTING		
FC	FACE OF CURB		
FF	FINISHED FLOOR		
FG	FINISHED GRADE		
FH	FIRE HYDRANT		
FL OR T	FLOW LINE		
FN	FENCE		
FW	FACE OF WALL		
FSTNR	FASTENER		
FT	FOOT OR FEET		
FUT	FUTURE		

NOTE:
THIS IS A STANDARD ABBREVIATION SHEET.
SOME ABBREVIATIONS MAY APPEAR ON THIS SHEET
BUT NOT USED IN THE PLANS. ALL ABBREVIATIONS
USED ON THE PLANS MUST APPEAR ON THIS SHEET.

UTILITY

WATER PIPELINE	W
BLOWOFF	
COMBINATION AIR VALVE	
REDUCER	
WATER VALVE	
FIRE HYDRANT ASSEMBLY	
WATER METER	WM
SANITARY SEWER MANHOLE	
STREET LIGHT (GENERIC SYMBOL NOT RELATED TO WATTAGE)	
ELECTRICAL BOX	ELEC
ELECTRICAL PANEL BOX	ELEC PANEL
CABLE TV	CTV
GAS LINE	G
SS	SS
UGP	UGP
UGTEL	UGTEL
VALVE (INITIALS INDICATE OWNERSHIP AND/ OR TYPE)	
UTILITY BOX (INITIALS INDICATE OWNER AND / OR TYPE)	
UTILITY STUB-OUT	
TRAFFIC CONTROL SIGN	
100 W LUMINAIRE	
150 W LUMINAIRE	
200 W LUMINAIRE	
250 W LUMINAIRE	
400 W LUMINAIRE	
750 W LUMINAIRE	
TRAFFIC SIGNAL POLE	
GATE VALVE	
DOUBLE CHECK DETECTOR ASSEMBLY (DCDA)	DCDA
REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA)	RPDA
ROOF DRAIN OUTLET PIPE LOCATION	

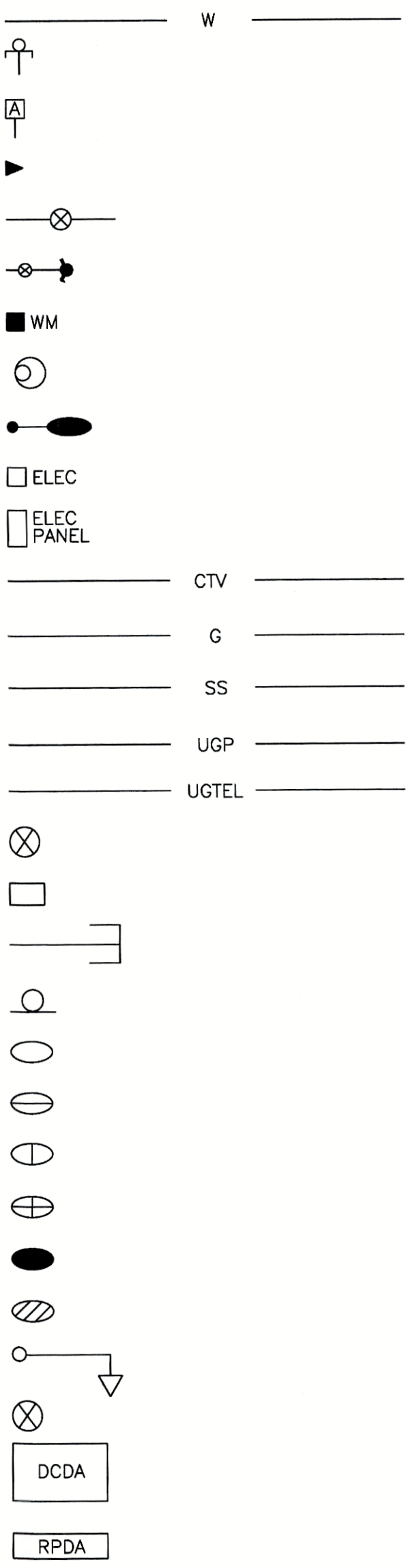
GEOMETRIC

EDGE OF PAVEMENT	
FENCE	
CURB, GUTTER AND SIDEWALK	
CENTER LINE	
BLOCK WALL/RETAINING WALL	
SCREEN WALL	
STREET NAME SIGN	
DRIVEWAY	
WHEELCHAIR RAMP	

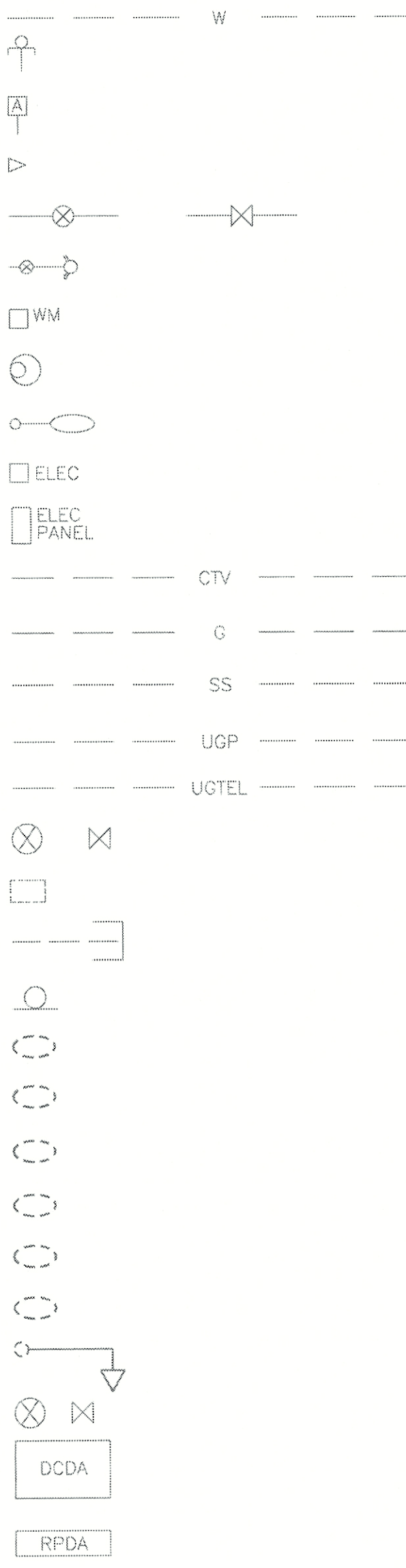
SURVEY

SURVEY MONUMENT	
PROPERTY LINE	
RIGHT-OF-WAY LINE	
PATENT RESERVATION OR EASEMENT LINE	
SECTION LINE	
CONCRETE MONUMENT	
CONCRETE MONUMENT SURVEY LINE	

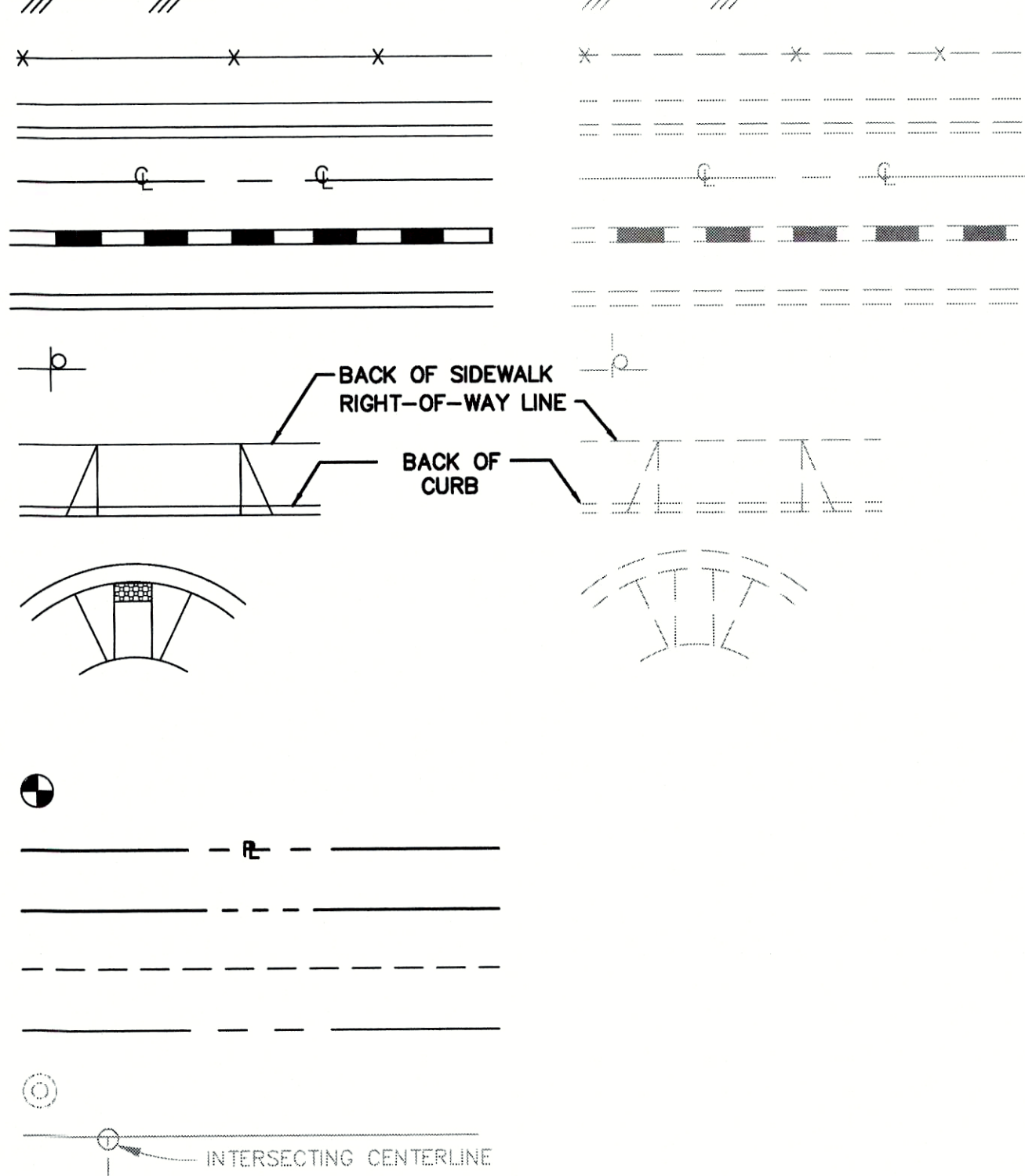
PROPOSED



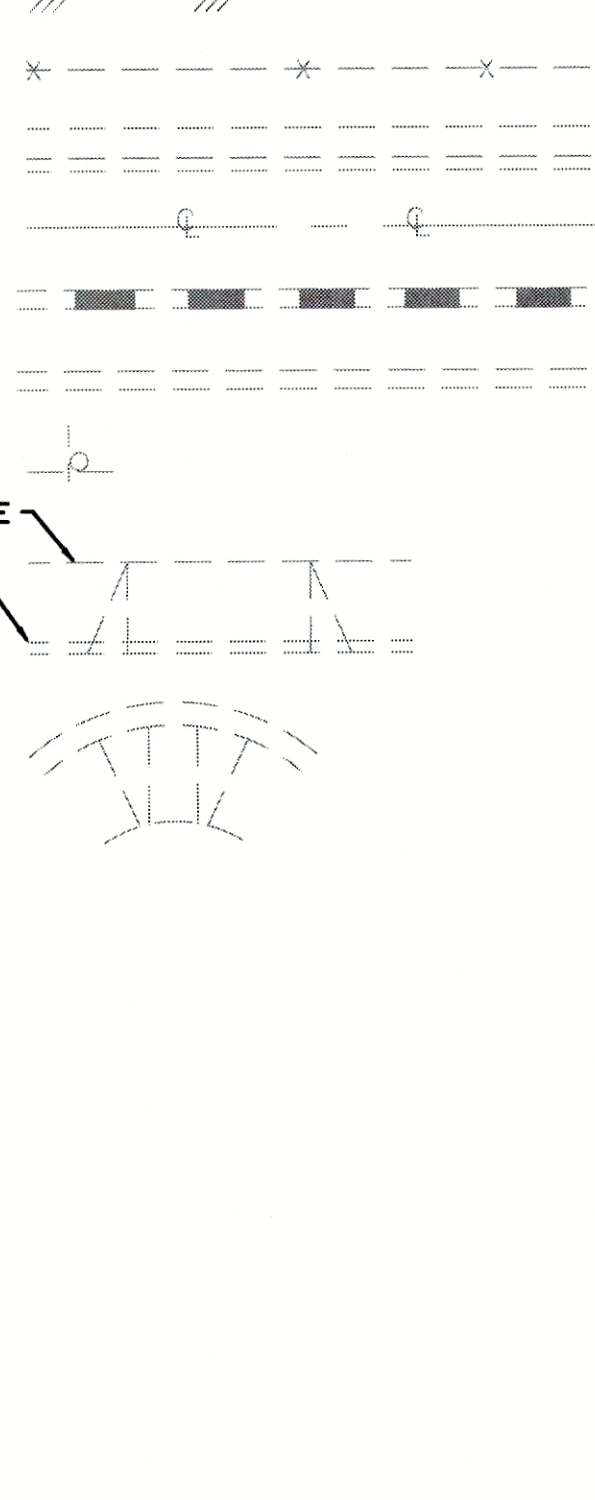
EXISTING



PROPOSED



EXISTING



SITE PLAN

STEPS (NOTE TYPE AND NO. OF RISERS)

EXISTING BUILDING & FOUNDATION

MISCELLANEOUS

REFERENCE BUBBLE

IDENTIFICATION HEXAGON

SAW CUT LINE-ASPHALT CONC. OR PCC CONC.

DRAINAGE / GRADING

STORM DRAIN MANHOLE (SIZE AS NOTED PER PLAN)

CONTOURS

STORM DRAIN (SIZE AS NOTED PER PLAN)

DIRECTION OF FLOW

FLOW LINE OF DITCH OR CHANNEL

DROP INLET

ELEVATIONS

CUT OR FILL SLOPES

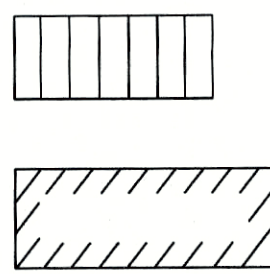
VALLEY GUTTER

SPECIAL SURVEY LEGEND & ABBREVIATIONS

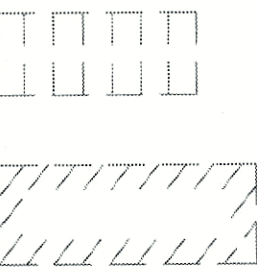
W	WATER PULLBOX/METER/SHUT OFF
E	ELECTRIC PULLBOX/METER/TRANSFORMER
T	TELEPHONE PULLBOX/HANDHOLE
FO	FIBER OPTIC PULLBOX/HANDHOLE
SL	STREETLIGHT PULLBOX/HANDHOLE
TS	TRAFFIC SIGNAL PULLBOX/HANDHOLE
ICV	IRRIGATION CONTROL VALVE
SS	SANITARY SEWER
CTV	CATV PULLBOX/HANDHOLE
AL	AREA LIGHT PULLBOX/HANDHOLE
RB	RED BOX DVD RENTAL KIOSK

	FIRE HYDRANT
	WATER VALVE
	GAS METER
	SEWER MANHOLE
	GAS VALVE
	SEWER CLEANOUT
	AREA LIGHT
	STREET LIGHT
	SIGN
	INTERCEPTOR MANHOLE
	TILE WALKWAY
	DESERT LANDSCAPE AREA
	8" CONCRETE BOLLARD
	TRAFFIC SIGNAL POLE
	AREA LIGHT
	STORM MANHOLE
	SHRUB
	FLOWERS/PLANT
	TREE
	PALM TREE
	BUILDING COLUMN
	TRASH CAN

PROPOSED



EXISTING

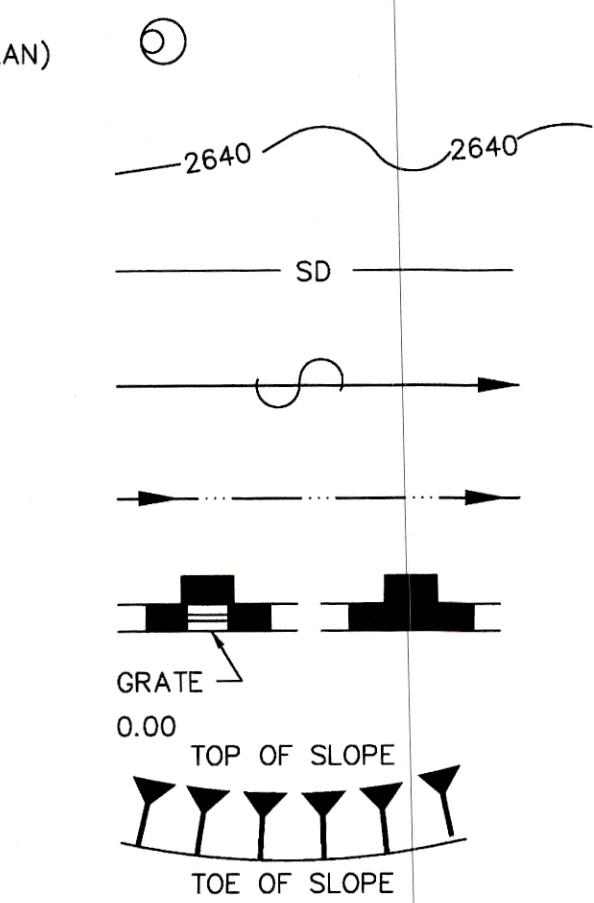


DETAIL OR SECTION REFERENCE NUMBER (DETAIL) OR LETTER (SECTION)
DRAWING NUMBER OF SHEET WHERE DETAIL OR SECTION RESIDES
ALL SHEETS THAT REFERENCE TO THE DETAIL OR SECTION

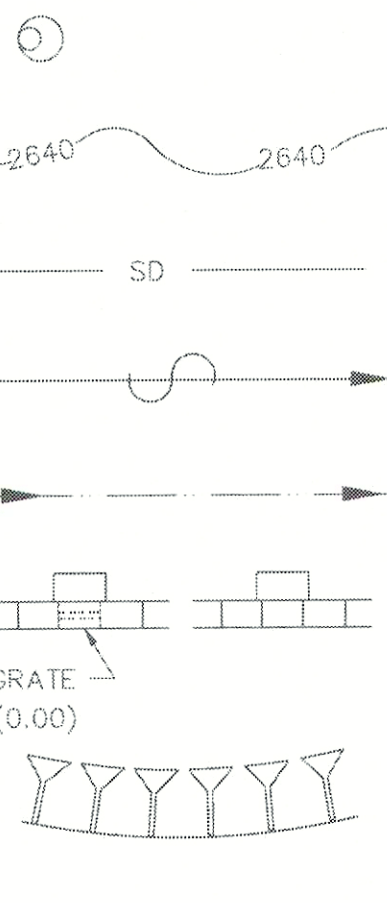


C XX-XX

PROPOSED



EXISTING



APPROVAL

REVISIONS

INFANTE - 2 LOT RESIDENTIAL (MSM 17-600097)

LEGEND AND ABBREVIATIONS

APN: 125-31-401-004
SW CORNER W. LA MADRE WAY & N. JENSEN ST.
LAS VEGAS, NEVADA 89149

ACG DESIGN
430 CAMERON ST., SUITE 12-A
LAS VEGAS, NEVADA 89103
OFFICE: 702.448.8737
WEBSITE: WWW.ACGDESIGN.COM

ENGINEER'S SEAL
PROFESSIONAL ENGINEER
RANDOLPH A. SKORPINSKI
EXP: 06-30-18
CIVIL
No. 14995 NVPE
APR 8 4 2018

DATE: 02/14/18
PROJ. NO: 160236
DRAWN BY: ARB
CHECKED BY: RAS
SCALE: NONE
JURISDICTION: CLARK COUNTY

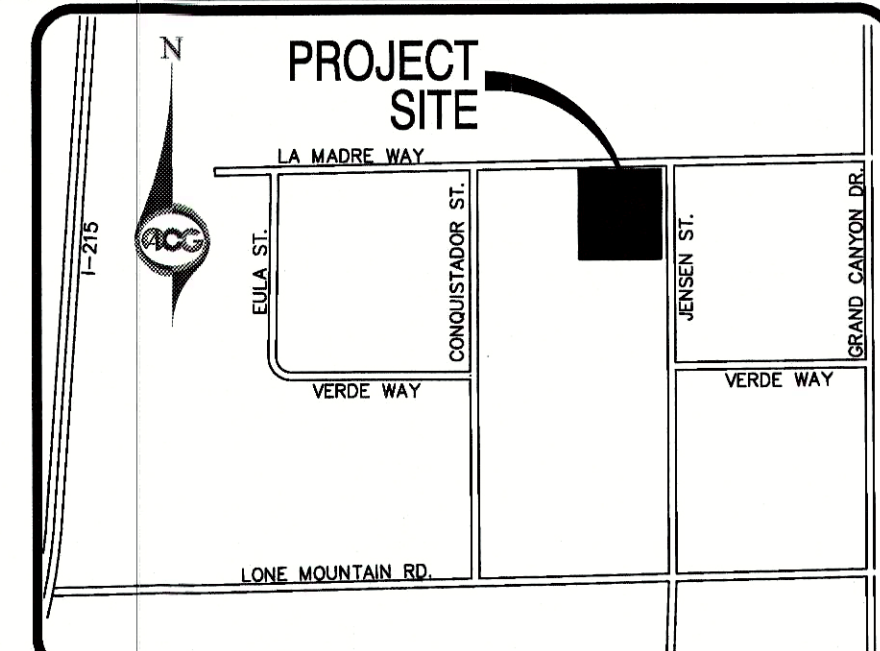
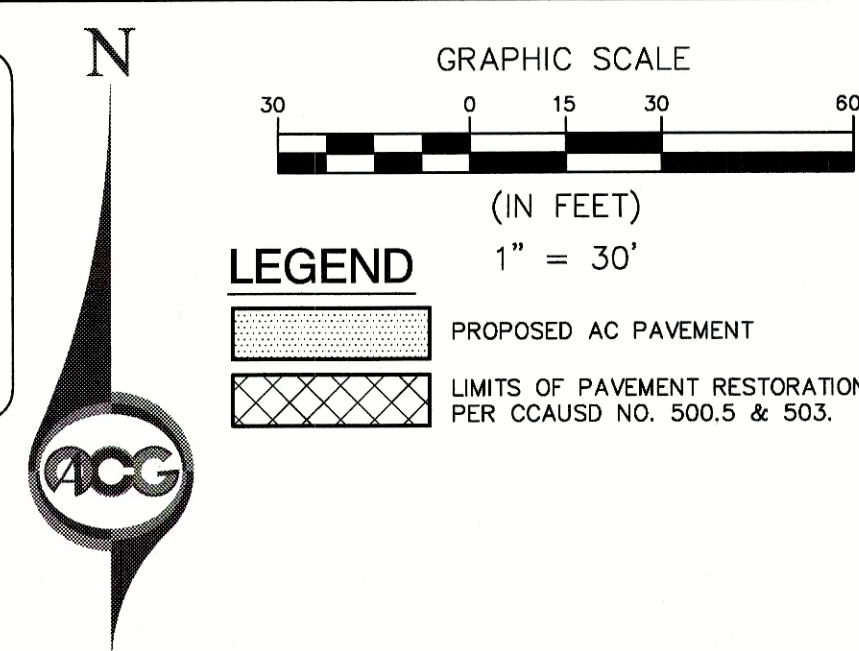
DRAWING NUMBER:
C-3
SHEET 3 OF 8
AGENCY NUMBER:
HTE # 16-57573

Call before you Dig
AVOID CUTTING UNDERGROUND
UTILITY LINES. IT'S COSTLY.

Call
811

OR

1-800-227-2600



- (1) SAWCUT 1' MINIMUM FOR CLEAN EDGE. MATCH EXISTING ASP. PAVEMENT.
- (2) NOT USED
- (3) CONSTRUCT 4' HIGH MAX. RETAINING WALL WITH 6" CMU SCREEN WALL ABOVE PER SOUTHERN NEVADA BUILDING OFFICIAL REGIONAL STANDARD DRAWING NO. B-100-2.
- (4) CONSTRUCT 6" CMU SCREEN WALL PER SOUTHERN NEVADA BUILDING OFFICIAL REGIONAL STANDARD DRAWING NO. B-100-1.
- (5) INSTALL RIPRAP LINED SWALE; $D_{50} = 7$ INCHES MIN., THICKNESS = 14 INCHES, 4:1 MAX. SIDE SLOPES, ENTIRE LENGTH OF CHANNEL. 6" SUB-BASE SCARIFIED AND COMPACTED TO 95% DENSITY.
- (6) CONSTRUCT WALL WITH JOINT FOR FUTURE WALL REMOVAL/SEPARATION AND RECONSTRUCTION LIMIT LOCATION.
- (7) INSTALL .84" WDE X 16" HIGH BLOCK WALL OPENING PER DETAIL 1, SHEET C7.
- (8) NOT USED
- (9) GRADE ASP PAVED ENTRANCE TO ENSURE POSITIVE FLOW ACROSS EX. PAVEMENT TO EAST SIDE OF STREET SWALE.
- (10) FLOWLINE OF SWALE FOR LOT DRAINAGE (1½ MIN. SLOPE).
- (11) FLOWLINE OF SWALE FOR ROADSIDE DRAINAGE. (ENSURE POSITIVE FLOW)
- (12) FLOWLINE OF DRAINAGE SWALE, 8' WIDE, 4:1 SIDE SLOPES. (8' WIDE PRIVATE DRAINAGE EASEMENT, PRIVATELY MAINTAINED).
- (13) CONSTRUCT CONCRETE CUTOFF WALL PER DETAIL 2, SHEET C7.
- (14) PROVIDE FLOOD PROOFING TO WALL (SOLID GROUT) MIN. 3 COURSES ABOVE FLOW LINE ELEVATION. (APPROX. 24" ABOVE SWALE FLOWLINE)
- (15) PROVIDE FLOOD/WATER PROOFING TO INSIDE OF EXISTING BLOCK WALL (DRAINAGE EASEMENT SIDE) TO 12" ABOVE EDGE OF SWALE. (APPROX. 24" ABOVE SWALE FLOWLINE)
- (16) NOT USED
- (17) FLOOD PROOF WALL BY SOLID GROUT FILL. FLOOD PROOF TO 1.5' ABOVE SWALE FLOWLINE, MIN. 3 COURSES).
- (18) NOT USED
- (19) CONSTRUCT PAVEMENT WITH FLOWLINE TO ENSURE RUNOFF IS CONVEYED EASTWARD DOWN LA MADRE WAY.
- (20) INSTALL 3' OFF-SITE ASP PAVEMENT OVER 4" TYPE II AGGREGATE BASE PER GEOTECHNICAL REPORT. SCARIFY AND RECOMPACT TOP 6" OF EXPOSED SOIL TO MIN. 95% DENSITY. VERIFY WITH THE FINAL PAVEMENT SECTION RECOMMENDATION TO REPAIR PRIOR TO CONSTRUCTION.
- (21) INSTALL 6" HIGH ASPHALT CURB ALONG PAVEMENT EDGE WITH 3' BREAKS EVERY 20'. REFER TO DETAIL 3, SHEET C7.
- (22) CONSTRUCT 4' HIGH MAX. RETAINING LANDSCAPE WALL PER SOUTHERN NEVADA BUILDING OFFICIAL REGIONAL STANDARD DRAWING NO. B-100-2 WITHOUT CMU SCREEN WALL.
- (23) PROVIDE FLOOD PROOFING TO WALL (SOLID GROUT) MIN. 3 COURSES ABOVE EXISTING GROUND. (APPROX. 24" ABOVE EXISTING GROUND AT WALL)
- (24) TRANSITION TOP-OF-FOOTING, TOP-OF-RETAINING, AND/OR TOP OF WALL IN EVEN COURSE INCREMENTS ALONG THE LENGTH INDICATED.
- (25) CONSTRUCT 3' CMU SCREEN WALL PER SOUTHERN NEVADA BUILDING OFFICIAL REGIONAL STANDARD DRAWING NO. B-100-1 WITH 3' WROUGHT IRON FENCE ABOVE.
- (26) CONSTRUCT 4' HIGH MAX. RETAINING WALL WITH 3' CMU SCREEN WALL PER SOUTHERN NEVADA BUILDING OFFICIAL REGIONAL STANDARD DRAWING NO. B-100-2 WITH 3' WROUGHT IRON FENCE ABOVE.

BM= 8LV9031S4
Elevation = 2593.59'// 790.528(m) City of Las Vegas Rivet and
Round plate in concrete pad, Northeast corner of Lone Mountain
Road and Grand Canyon Drive, 200'+/- North of Lone Mountain.
NAVD 1988

N 88°37'34" E BEING THE NORTH LINE OF THE SE 1/4 SW 1/4 SECTION 31, TOWNSHIP 19 SOUTH, RANGE 60 EAST M.D.M. AS PER RECORD OF SURVEY FILE 115 PAGE 93, CLARK COUNTY, NEVADA RECORDS.

AS SHOWN BY FLOOD INSURANCE RATE MAP NO. 32003C1745E, DATED
SEPTEMBER 27, 2002, LOCATED IN UNSHADED ZONE X, AREA
DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. CALL BEFORE YOU DIG. 1-800-227-2600.

 SIGHT VISIBILITY ZONE - SEE SHEETS C4 FOR SVZ INFORMATION

NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM THE TOP OF CURB, OR 24 INCHES IN HEIGHT, IF CURB DOES NOT EXIST, MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THIS RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.

CONTRACTOR IS RESPONSIBLE FOR PROPER CONSTRUCTION OF RETAINING AND BLOCK WALLS. ELEVATIONS PROVIDED ON PLAN REPRESENT MINIMUM REQUIREMENTS AT THAT LOCATION. IT IS THE CONTRACTORS RESPONSIBILITY TO PROPERLY SET ALL VERTICAL (COURSE) TRANSITION POINTS (I.E. TOP OF FOOTING, TOP OF RETAINING, AND TOP OF WALL) TO ACCOMMODATE THE DESIGN SHOWN ON THIS PLAN.

REMOVE ALL EXISTING LANDSCAPE FEATURES SUCH AS TREES, SHRUB GRASS, DECORATIVE ROCK, TREE WELLS, ETC IN CONFLICT WITH PROPOSED IMPROVEMENTS. REFER TO ARCHITECTURAL LANDSCAPE PLAN.

CONTRACTOR TO COMPLY WITH ALL ADA REQUIREMENTS. IF CONTRACTOR FINDS DISCREPANCIES WITH ANY INFORMATION INDICATED ON THESE PLANS, ACG DESIGN IS TO BE NOTIFIED BY CONTRACTOR IMMEDIATELY.

ACG DESIGN ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS, SHOWN OR NOT SHOWN. THE UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM RECORD INFORMATION AND ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY THE LOCATIONS AND DEPTHS OF ALL RELEVANT UTILITIES PRIOR TO COMMENCING WITH CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY THE ENGINEER OF WORK, IN WRITING, OF ANY CONFLICTS OR DISCREPANCIES.

NOTE: PROPOSED DRIVEWAY APPROACH IS A NON-STANDARD SECTION AND SHALL NOT BE MAINTAINED BY CCPW.

THE NORTHEAST QUARTER (NE 1/4) OF THE NORTHWEST QUARTER (NW 1/4) OF THE SOUTHEAST QUARTER (SE 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 31, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M.

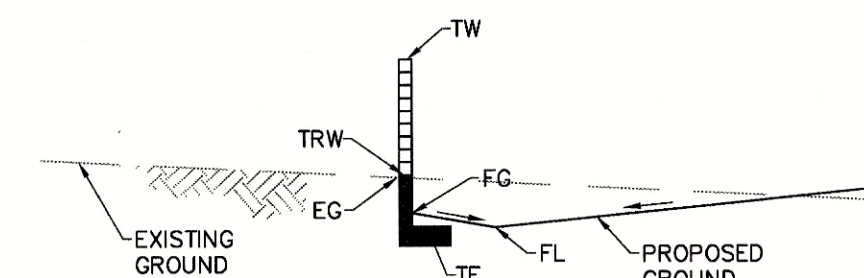
EXCEPTING THEREFROM THAT PORTION OF LAND CONVEYED TO THE COUNTY OF CLARK BY DEED RECORDED MARCH 24, 1989 IN BOOK 890324 AS INSTRUMENT NO. 1192, IN THE OFFICE OF THE COUNTY RECORDER, CLARK COUNTY, NEVADA.

SAID LAND IS FURTHER DESCRIBED AS LOT ONE (1) AS THE SAME IS SHOWN ON THAT CERTAIN CERTIFICATE OF LAND DIVISION RECORDED MARCH 24, 1989 IN BOOK 890324, DOCUMENT NO. 01191, OFFICE OF THE COUNTY RECORDER, CLARK COUNTY, NEVADA.

THIS PARCEL CONTAINS 2.05 ACRES MORE OR LESS.

ALL GRADING AND EARTHWORK SHALL CONFORM TO THE
GEOTECHNICAL REPORT:

TITLE:
GEOTECHNICAL EXPLORATION REPORT
INFANTE RESIDENTIAL DEVELOPMENT
SWC LA MADRE WAY AND JENSEN STREET
CLARK COUNTY, NEVADA



"SECTION II, OF THE CLARK COUNTY DEVELOPMENT SERVICES, DRAINAGE COMPLIANCE REPORT MUST BE COMPLETED BY THE ENGINEER AND SUBMITTED TO DEPARTMENT OF BUILDING & FIRE PREVENTION INSPECTION SCHEDULING, FOR SUMMERLIN SOUTH, PRIOR TO PAD GRADING INSPECTIONS (FOR THE SITE). (THIS BEGINS VERTICAL CONSTRUCTION OF THE STRUCTURES)".

REVISIONS		APPROVAL
REVISION	DESCRIPTION	APPROVED BY DATE

INFANTE - 2 LOT RESIDENTIAL
(MSM 17-600097)

GRADING PLAN SHEET

APN: 125-31-401-004

SW CORNER W. LA MADRE WAY & N. JENSEN ST.
LAS VEGAS, NEVADA 89149

ACG DESIGN
 4310 CAMERON ST., SUITE 12-A
 LAS VEGAS, NEVADA 89103
 OFFICE: 702.448.8737
 WEBSITE: WWW.ACGDESIGN.COM

ENGINEER'S SEAL

APR 11 2018

DATE:	02/14/18
PROJ. NO:	160236
DRAWN BY:	ARB
CHECKED BY:	RAS
SCALE:	1" = 30'
JURISDICTION:	CLARK COUNTY

DRAWING NUMBER:

C-05

SHEET 5 OF 8

AGENCY NUMBER:

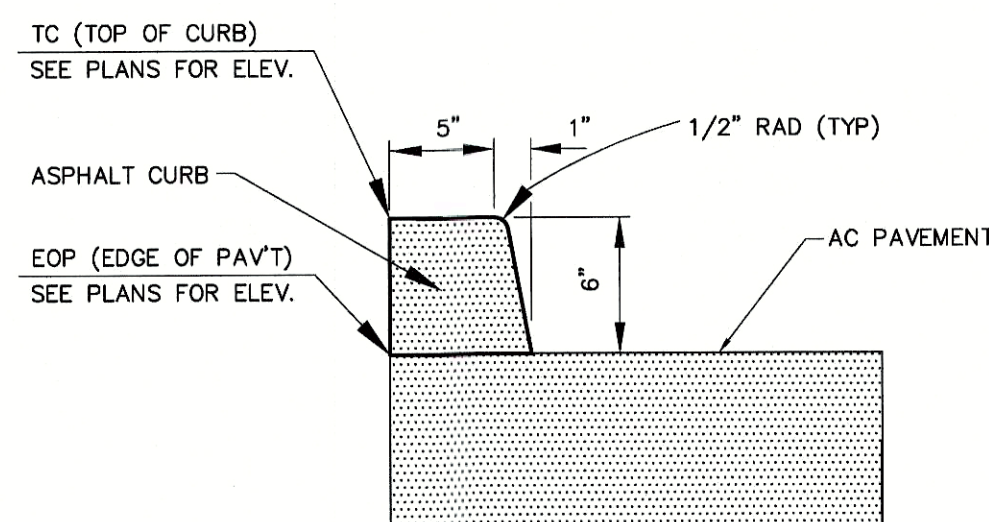
HTE # 16-57573

ALL GRADING AND EARTHWORK SHALL CONFORM TO THE
GEOTECHNICAL REPORT:

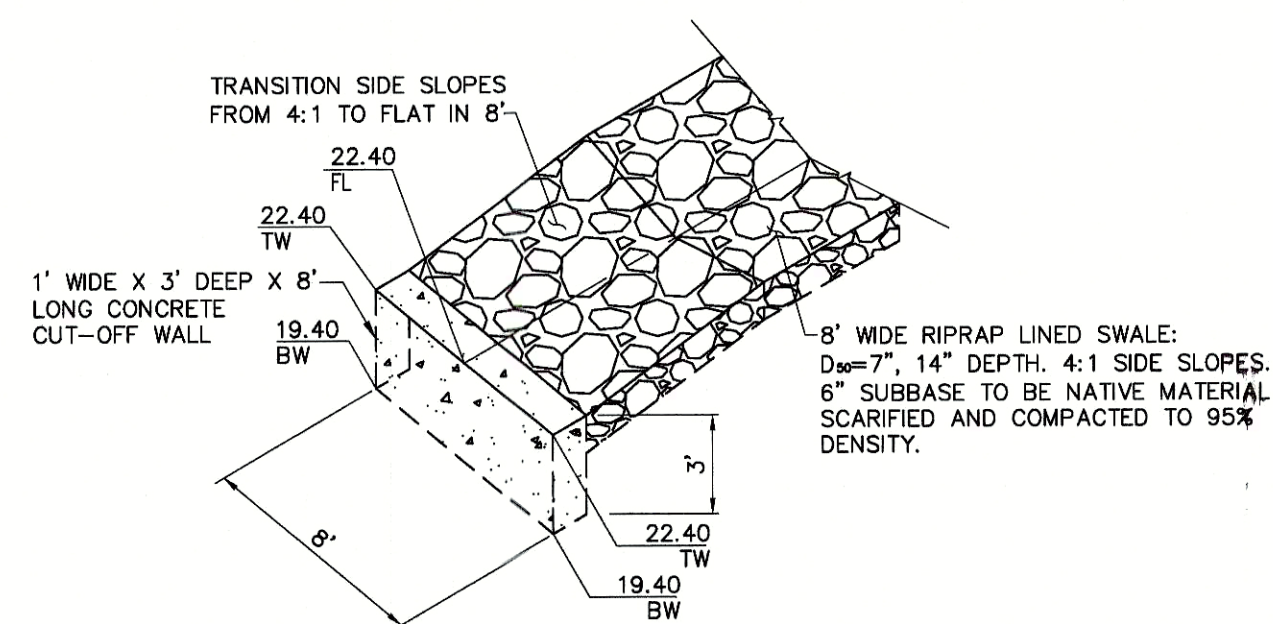
TITLE:
GEOTECHNICAL EXPLORATION REPORT
INFANTE RESIDENTIAL DEVELOPMENT
SWC LA MADRE WAY AND JENSEN STREET
CLARK COUNTY, NEVADA

ENGINEER:
NOVA GEOTECHNICAL & INSPECTION SERVICES
DATE: NOVEMBER 22, 2016
REVISED: DECEMBER 29, 2016
PROJECT NO.: E-16-257

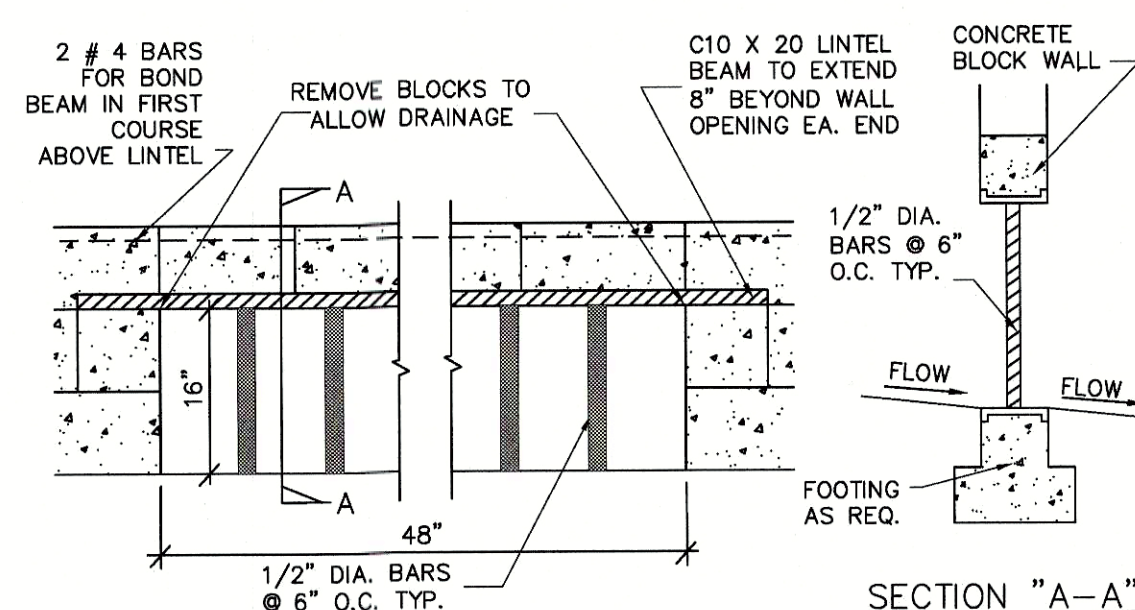
* NOTE: ALL AGGREGATE BASES SHALL BE COMPACTED PER GEOTECHNICAL REPORT HTE# 17-13747. PRELIMINARY PAVEMENT SECTIONS SHALL BE VERIFIED WITH THE FINAL PAVEMENT SECTION RECOMMENDATION REPORT PRIOR TO CONSTRUCTION. IF FINAL PAVEMENT SECTIONS ARE DIFFERENT, A REVISION TO THE IMPROVEMENT PLANS WILL BE REQUIRED.



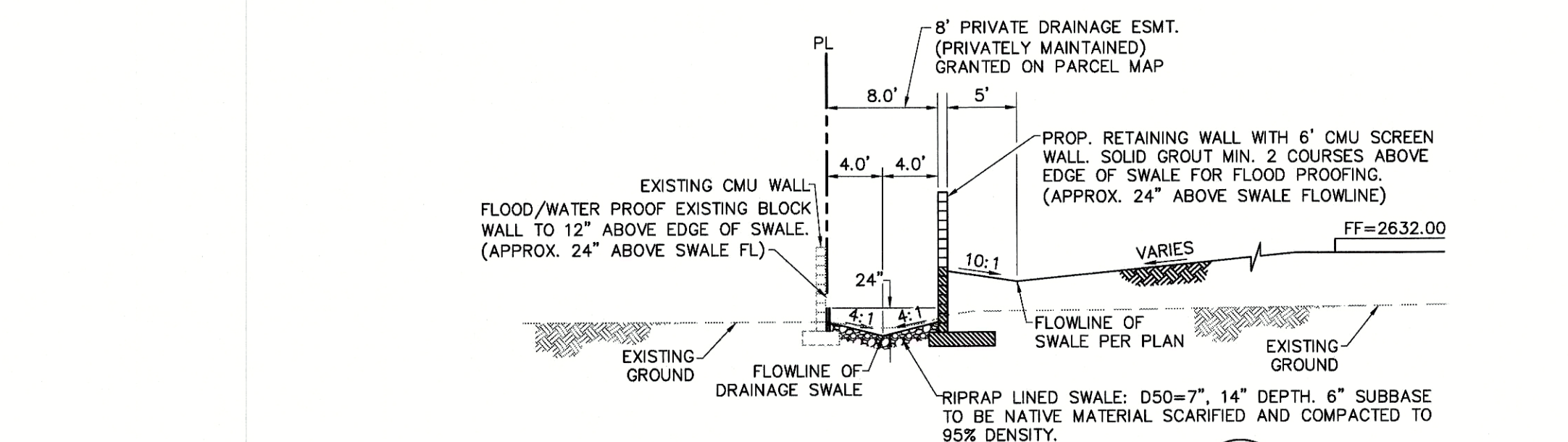
MODIFIED TYPE 'A' ASPHALT CURB
NTS



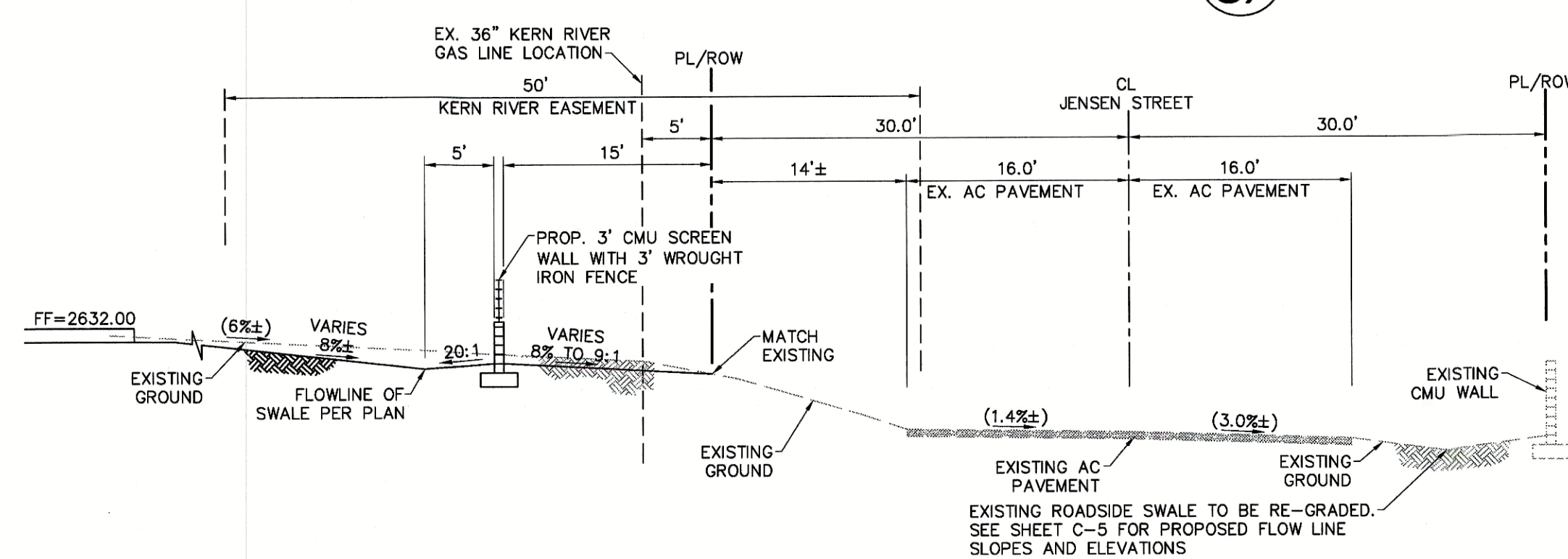
CUT-OFF WALL DETAIL



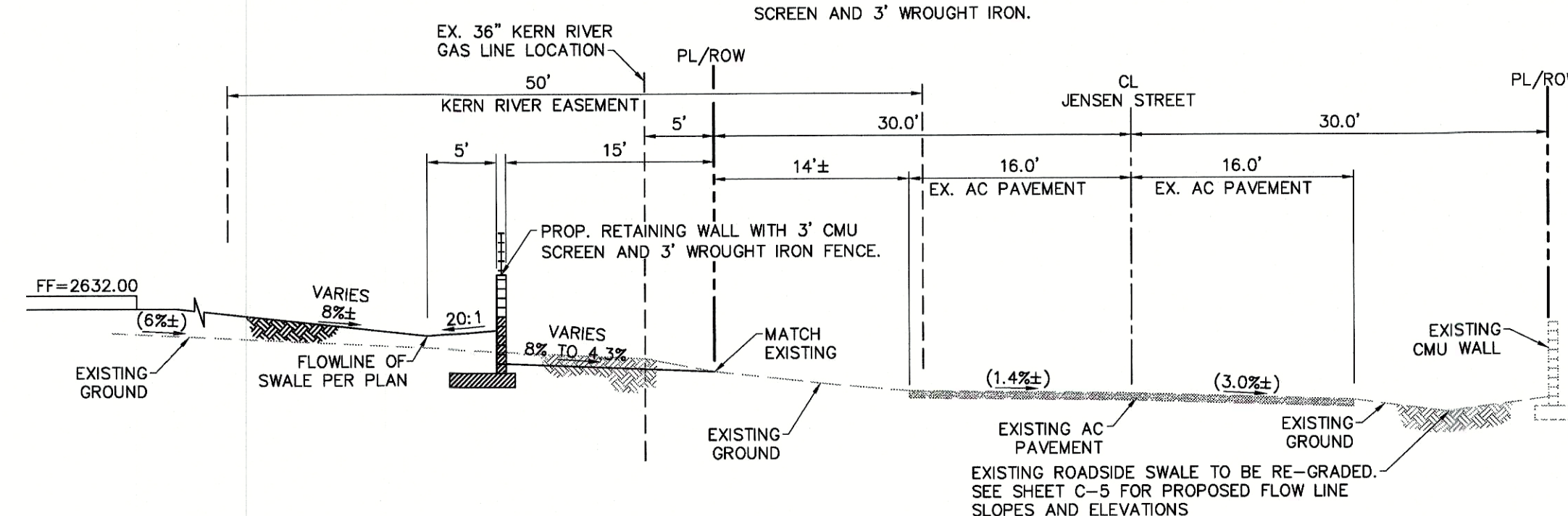
48" BLOCK WALL OPENING
NTS



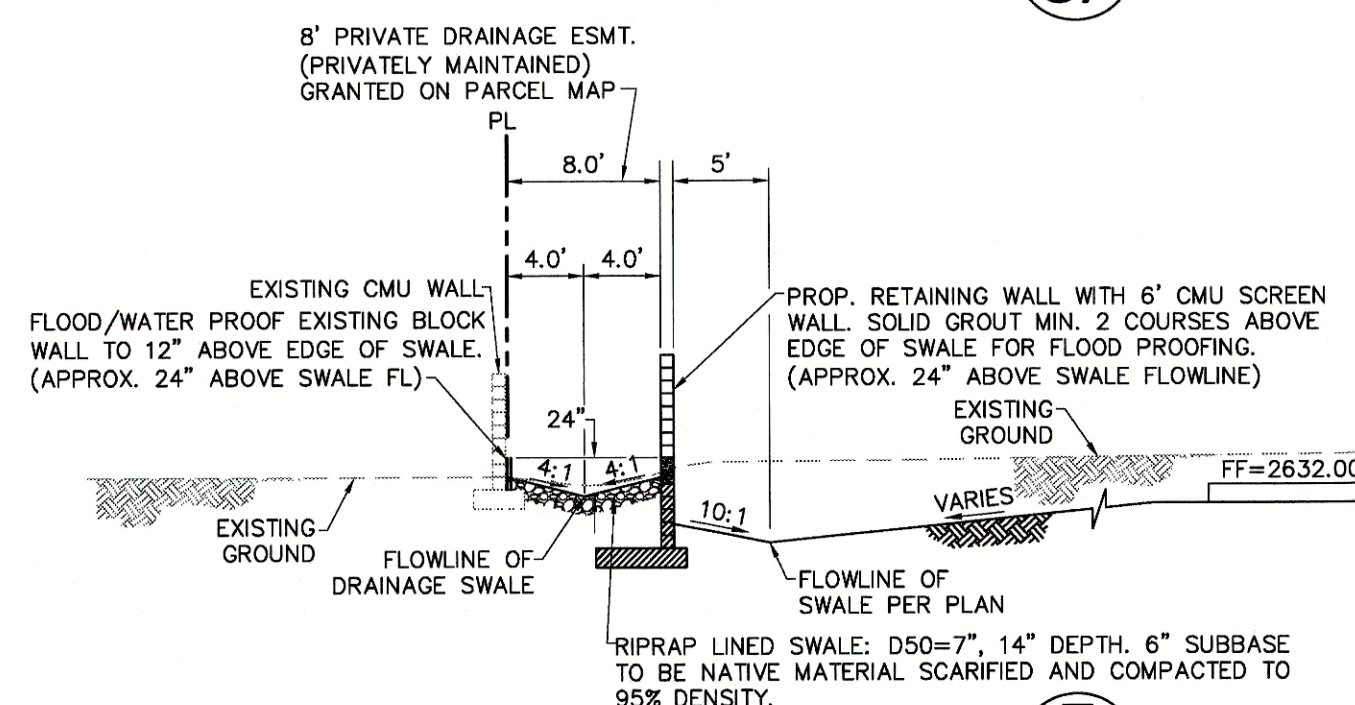
CROSS SECTION
NTS



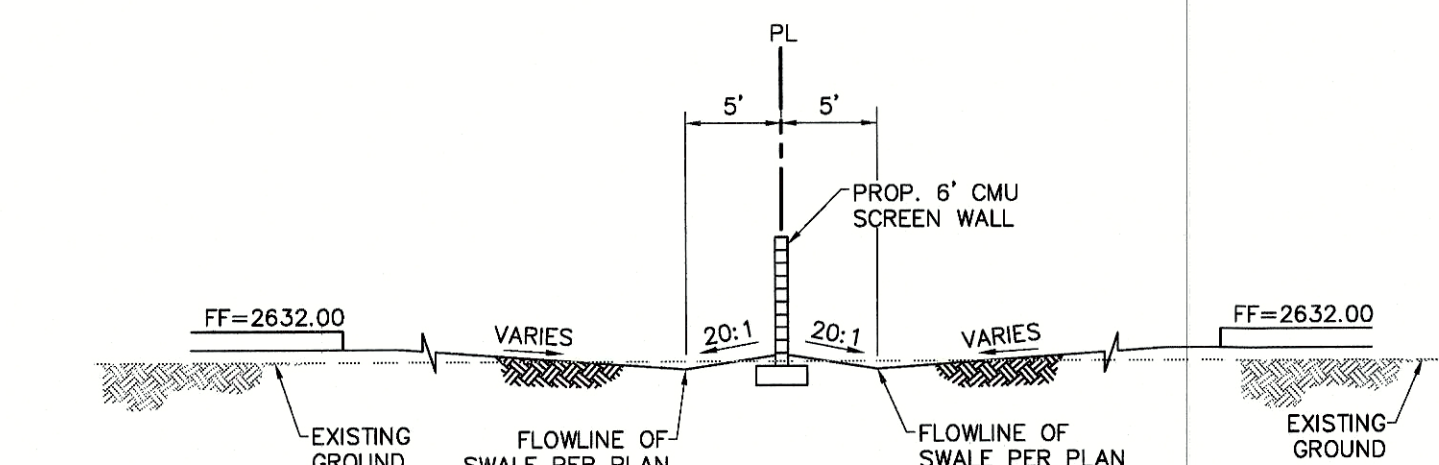
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NTS



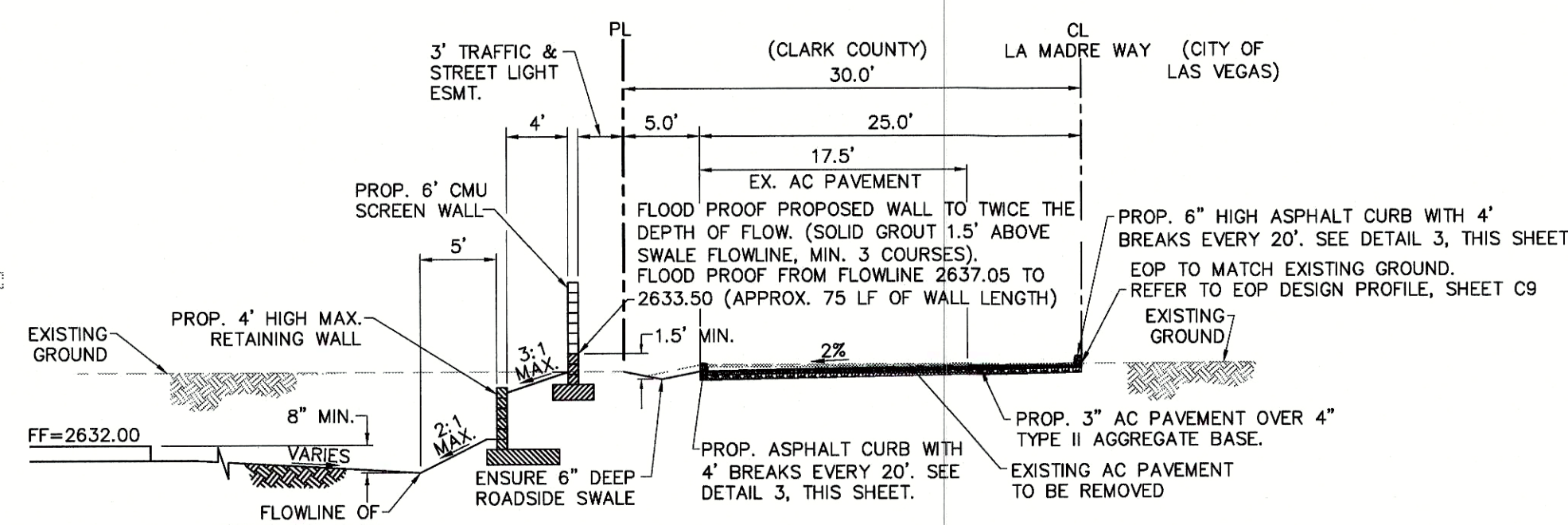
CROSS SECTION
NTS



CROSS SECTION
NTS

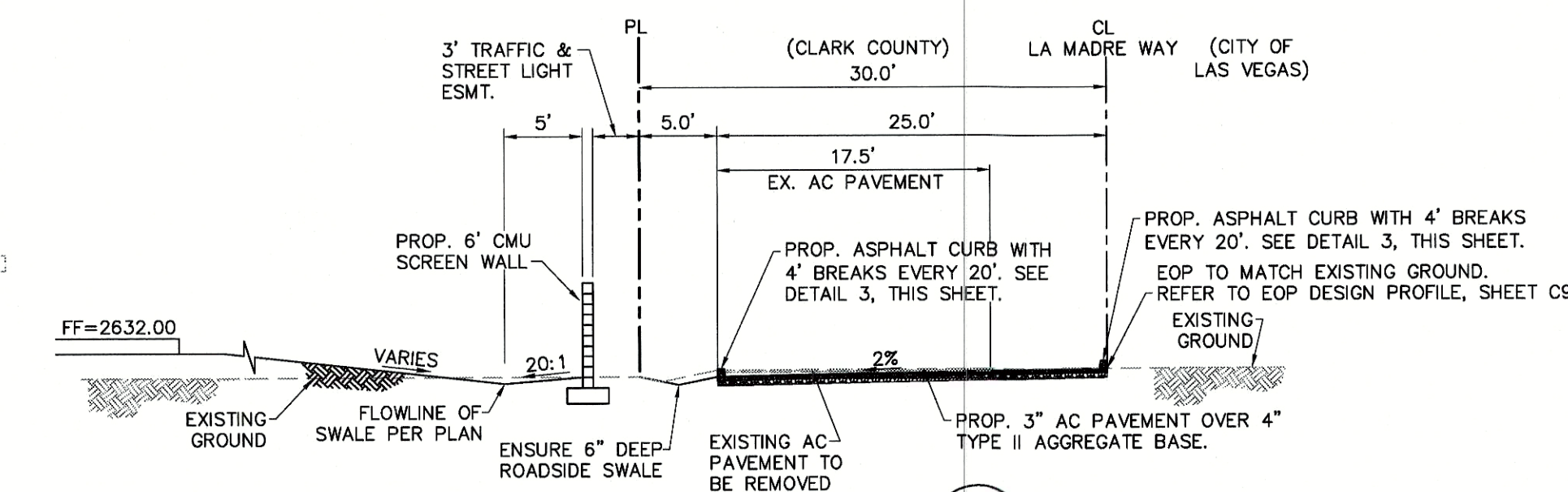


CROSS SECTION
NTS

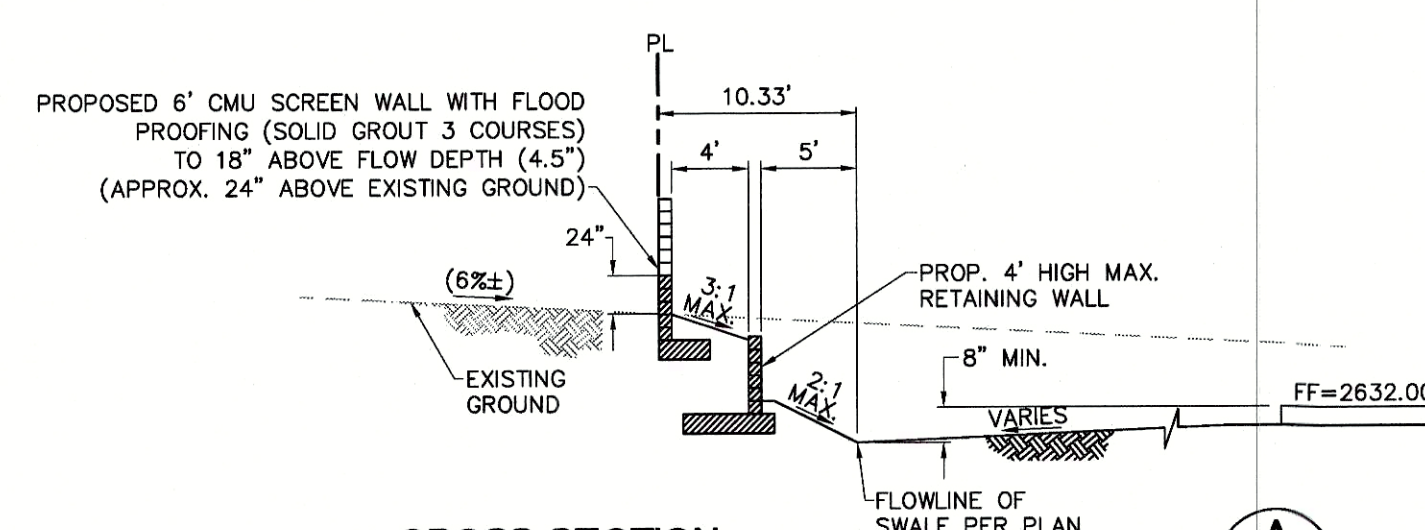


*** CROSS SECTION**

NTS



* CROSS SECTION



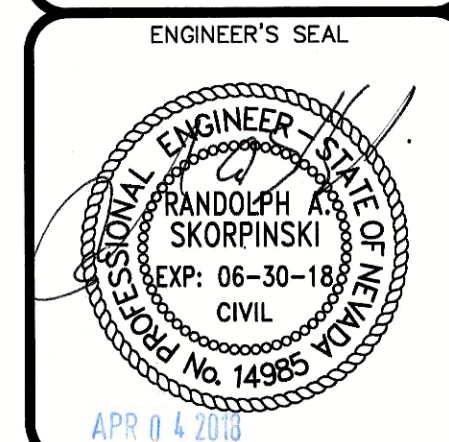
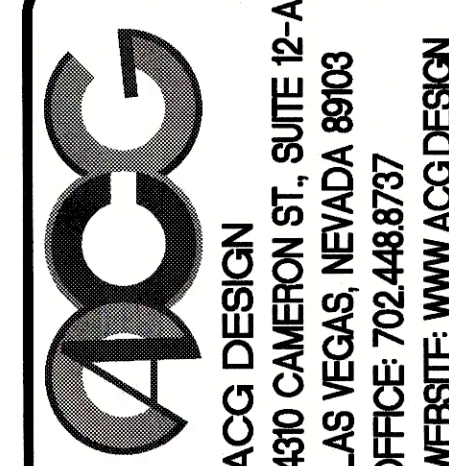
CROSS SECTION
NTS

REVISIONS		APPROVAL
REV.	DESCRIPTION	APPROV. BY DATE

**INFANTE - 2 LOT RESIDENTIAL
(MSM 17-600097)**

CROSS SECTIONS & DETAILS SHEET

APN: 125-31-401-004
SW CORNER W. LA MADRE WAY & N. JENSEN ST.
LAS VEGAS, NEVADA 89149



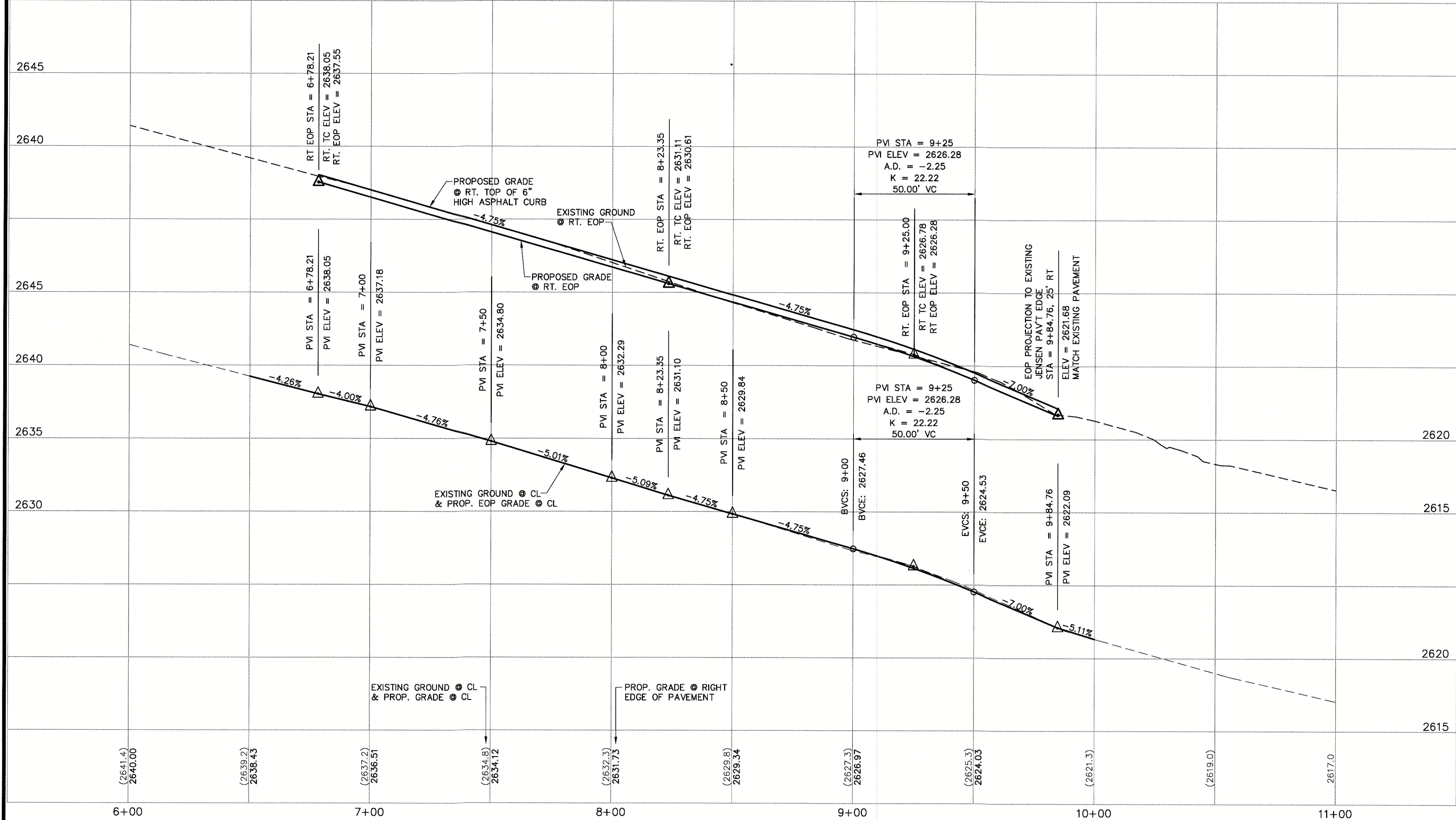
DATE:	02/14/18
PROJ. NO:	160236
DRAWN BY:	ARB
CHECKED BY:	RAS
SCALE:	NONE
JURISDICTION:	CLARK COUNT

DRAWING NUMBER

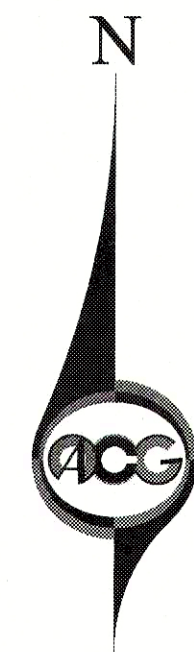
C-7

SHEET 7 OF

HTE # 16-575



SCALE: HORIZONTAL: 1" = 30'
VERTICAL: 1" = 5'



APN 125-31-301-010
Lot 1 PM- 107-74

CAUTION: HIGH PRESSURE GAS!!
CALL SOUTHWEST GAS AT 702-400-1789
FOR STANDBY WHEN EXCAVATING OVER
OR NEAR HIGH PRESSURE GAS LINES 48
HOURS PRIOR TO CONSTRUCTION.

CONSTRUCTION NOTES

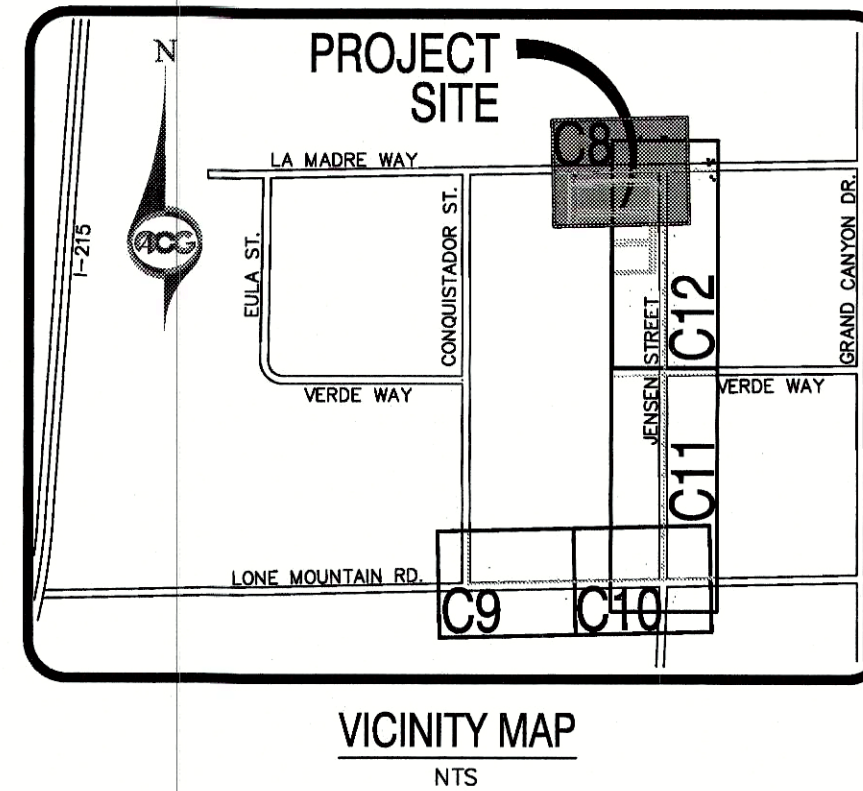
- 1 SAWCUT 1" MINIMUM FOR CLEAN EDGE. MATCH EXISTING AC PAVEMENT.
- 2 NOT USED
- 3 CONSTRUCT 4' HIGH MAX. RETAINING WALL WITH 6' CMU SCREEN WALL ABOVE PER SOUTHERN NEVADA BUILDING OFFICIALS REGIONAL STANDARD DRAWING NO. B-100-2.
- 4 CONSTRUCT 6' CMU SCREEN WALL PER SOUTHERN NEVADA BUILDING OFFICIALS REGIONAL STANDARD DRAWING NO. B-100-1.
- 5 INSTALL RIPRAP LINED SWALE; $D_{50} = 7$ INCHES MIN., THICKNESS = 14 INCHES, 4" MAX. SIDE SLOPES, ENTIRE LENGTH OF CHANNEL. 6" SUB-BASE SCARIFIED AND COMPACTED TO 95% DENSITY.
- 6 CONSTRUCT WALL WITH JOINT FOR FUTURE WALL REMOVAL/SEPARATION AND RECONSTRUCTION LIMIT LOCATION.
- 7 INSTALL 48" WIDE X 16" HIGH BLOCK WALL OPENING PER DETAIL 1, SHEET C7.
- 8 NOT USED
- 9 GRADE AC PAVED ENTRANCE TO ENSURE POSITIVE FLOW ACROSS EX. PAVEMENT TO EAST SIDE OF STREET SWALE.
- 10 FLOWLINE OF SWALE FOR LOT DRAINAGE (1% MIN. SLOPE).
- 11 FLOWLINE OF SWALE FOR ROADSIDE DRAINAGE. (ENSURE POSITIVE FLOW)
- 12 FLOWLINE OF DRAINAGE SWALE, 8' WIDE, 4:1 SIDE SLOPES. (8' WIDE PRIVATE DRAINAGE EASEMENT, PRIVATELY MAINTAINED.)
- 13 CONSTRUCT CONCRETE CUTOFF WALL PER DETAIL 2, SHEET C7.
- 14 PROVIDE FLOOD PROOFING TO WALL (SOLID GROUT) MIN. 3 COURSES ABOVE FLOW LINE ELEVATION. (APPROX. 24" ABOVE SWALE FLOWLINE)
- 15 PROVIDE FLOOD/WATER PROOFING TO INSIDE OF EXISTING BLOCK WALL (DRAINAGE EASEMENT SIDE) TO 12" ABOVE EDGE OF SWALE. (APPROX. 24" ABOVE SWALE FLOWLINE)
- 16 NOT USED
- 17 FLOOD PROOF WALL BY SOLID GROUT FILL. FLOOD PROOF TO 1.5' ABOVE SWALE FLOWLINE, MIN. 3 COURSES).
- 18 NOT USED
- 19 CONSTRUCT PAVEMENT WITH FLOWLINE TO ENSURE RUNOFF IS CONVEYED EASTWARD DOWN LA MADRE WAY.
- 20 INSTALL 3" OFF-SITE AC PAVEMENT OVER 4" TYPE II AGGREGATE BASE PER GEOTECHNICAL REPORT, SCARIFY AND RECOMPACT TOP 6" OF EXPOSED SOIL TO MIN. 95% DENSITY. VERIFY WITH THE FINAL PAVEMENT SECTION RECOMMENDATION REPORT PRIOR TO CONSTRUCTION.
- 21 INSTALL 6" HIGH ASPHALT CURB ABOVE PAVEMENT EDGE WITH 3' BRUAKS EVERY 20'. REFER TO DETAIL 5, SHEET C7.
- 22 CONSTRUCT 4' HIGH MAX. RETAINING LANDSCAPE WALL PER SOUTHERN NEVADA BUILDING OFFICIALS REGIONAL STANDARD DRAWING NO. B-100-2 WITHOUT CMU SCREEN WALL.
- 23 PROVIDE FLOOD PROOFING TO WALL (SOLID GROUT) MIN. 3 COURSES ABOVE EXISTING GROUND. (APPROX. 24" ABOVE EXISTING GROUND AT WALL)
- 24 TRANSITION TOP-OF-FOOTING, TOP-OF-RETAINING, AND/OR TOP OF WALL IN EVEN COURSE INCREMENTS ALONG THE LENGTH INDICATED.
- 25 CONSTRUCT 3' CMU SCREEN WALL PER SOUTHERN NEVADA BUILDING OFFICIALS REGIONAL STANDARD DRAWING NO. B-100-1 WITH 3' WROUGHT IRON FENCE ABOVE.
- 26 CONSTRUCT 4' HIGH MAX. RETAINING WALL WITH 3' CMU SCREEN WALL PER SOUTHERN NEVADA BUILDING OFFICIALS REGIONAL STANDARD DRAWING NO. B-100-2 WITH 3' WROUGHT IRON FENCE ABOVE.

GEOTECHNICAL REPORT

ALL GRADING AND EARTHWORK SHALL CONFORM TO THE
GEOTECHNICAL REPORT:

TITLE:
GEOTECHNICAL EXPLORATION REPORT
INFANTE RESIDENTIAL DEVELOPMENT
SWC LA MADRE WAY AND JENSEN STREET
CLARK COUNTY, NEVADA

ENGINEER:
NOVA GEOTECHNICAL & INSPECTION SERVICES
DATE: NOVEMBER 22, 2016
REVISED: DECEMBER 29, 2016
PROJECT NO.: E-16-257



BENCHMARK

BM= 8LV9031S4
Elevation = 2593.59'// 790.528(m) City of Las Vegas Rivet and
Round plate in concrete pad, Northeast corner of Lone Mountain
Road and Grand Canyon Drive, 200'+/- North of Lone Mountain.
NAVD 1988

BASIS OF BEARINGS

N 88°37'34" E BEING THE NORTH LINE OF THE SE 1/4 SW 1/4 SECTION 31, TOWNSHIP 19 SOUTH, RANGE 60 EAST M.D.M. AS PER RECORD OF SURVEY FILE 115 PAGE 93, CLARK COUNTY, NEVADA RECORDS.

FLOOD ZONE INFORMATION

AS SHOWN BY FLOOD INSURANCE RATE MAP NO. 32003C1745E, DATED
SEPTEMBER 27, 2002, LOCATED IN UNSHADED ZONE X, AREA
DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

UTILITY NOTE

EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. CALL BEFORE YOU DIG. 1-800-227-2600.

SITE VISIBILITY ZONE

 SIGHT VISIBILITY ZONE - SEE SHEETS C4 FOR SVZ INFORMATION

NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THIS RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.

WALL AND RETAINING RETAINING WALL NOTE

CONTRACTOR IS RESPONSIBLE FOR PROPER CONSTRUCTION OF RETAINING AND BLOCK WALLS. ELEVATIONS PROVIDED ON PLAN REPRESENT MINIMUM REQUIREMENTS AT THAT LOCATION. IT IS THE CONTRACTORS RESPONSIBILITY TO PROPERLY SET ALL VERTICAL (COURSE) TRANSITION POINTS (I.E. TOP OF FOOTING, TOP OF RETAINING, AND TOP OF WALL) TO ACCOMMODATE THE DESIGN SHOWN ON THIS PLAN.

LANDSCAPE NOTE:

REMOVE ALL EXISTING LANDSCAPE FEATURES SUCH AS TREES, SHRUBS, GRASS, DECORATIVE ROCK, TREE WELLS, ETC IN CONFLICT WITH PROPOSED IMPROVEMENTS. REFER TO ARCHITECTURAL LANDSCAPE PLAN.

HANDICAP ACCESSIBILITY NOTE:

CONTRACTOR TO COMPLY WITH ALL ADA REQUIREMENTS. IF CONTRACTOR FINDS DISCREPANCIES WITH ANY INFORMATION INDICATED ON THESE PLANS, ACG DESIGN IS TO BE NOTIFIED BY CONTRACTOR IMMEDIATELY.

NOTE

ACG DESIGN ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS, SHOWN OR NOT SHOWN. THE UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM RECORD DRAWINGS AND ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY THE LOCATIONS AND DEPTHS OF ALL RELEVANT UTILITIES PRIOR TO COMMENCING WITH CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY THE ENGINEER OF WORK, IN WRITING, OF ANY CONFLICTS OR DISCREPANCIES.

[illegible]



Department of Public Works

500 S Grand Central Pky • Box 554000 • Las Vegas NV 89155-4000
(702) 455-6000 • Fax (702) 455-6040

Denis Cederburg, P.E., Director • E-Mail: dlc@ClarkCountyNV.gov

Drainage Study Approval Letter

Date: March 22, 2018
Firm: ACG Design
Engineer: Randolph A Skorpinski, P.E.
Address: 4310 Cameron St., Las Vegas, NV 89144
Phone: (702) 569-9157
Fax: n/a
E-mail: RSkorpinski@acg.design

Subject: Technical Drainage Study for Infante 2-Lot Residential MSM
17-600097
Location: SWC of West La Madre Way and North Jensen Street
APN: 125-31-401-004
Sec, Township, Range: S31, T19S, R60E
Flood Zone & Panel: Zone X, 1745E, Dated September 27, 2002
Application Number: PW18-11461UP

Submittals	Date Received	Date Returned	Reviewer	Miscellaneous
Update	02/26/2018	03/22/2018	PR	

Concurrence Required: (Must be obtained prior to permit issuance)		Reason Concurrence is Required
	Boulder City	Adjacent to or Impacts Jurisdiction
	City of Mesquite	Adjacent to or Impacts Jurisdiction
	City of Henderson	Adjacent to or Impacts Jurisdiction
X	City of Las Vegas	Adjacent to or Impacts Jurisdiction
	City of North Las Vegas	Adjacent to or Impacts Jurisdiction
	Nevada Department of Transportation	Adjacent to or Impacts NDOT Facility
	Union Pacific Rail Road	Adjacent to or Impacts a UPRR Facility
	US Army Corps of Engineers	Impacts a USACE Facility
	Clark County Regional Flood Control District	Regional Significance, Adjacent to or Impacts CCRFCD MPU Facility or in a SFHA

BOARD OF COUNTY COMMISSIONERS
STEVE SISOLAK, Chairman • CHRIS GIUNCHIGLIANI, Vice Chair
SUSAN BRAGER • LARRY BROWN • JAMES B. GIBSON • MARILYN KIRKPATRICK • LAWRENCE WEEKLY
YOLANDA T. KING, County Manager

The referenced **Technical Drainage Study Update** has been reviewed and is accepted as complying with minimum improvement standards. As set forth in the subject drainage study, the following measures will be taken to mitigate flood hazards.

This update is to reduce the number of lots in the subdivision from 3 to 2. The previously approved Technical Drainage Studies are: 16-43375 and 17-36053UP.

The site shall be graded with respect to drainage as shown on "**Infante - 2 Lot Residential MSM 17-600097**", grading plan sheets C-1, C-2, C-3, C-05, C7, and C-8, signed and sealed by Randolph A. Skorpinski, P.E., on February 16, 2018.

Check appropriate conditions

	Retaining/screen wall combination may be in excess of current Clark County Unified Development Code, Chapter 30.64.050.
	A FEMA Elevation Certificate, completed by a licensed surveyor, must be submitted to and approved by CCPW Development Review Plan Check prior to the issuance of Certificates of Occupancy for those structures.
X	Mylars of the grading plan must be submitted to the CCPW Development Review Plan Check for approval signatures prior to map recordation (residential) or permit issuance (commercial).
	An administrative variance to allow the finished floor elevation(s) to be set below the current Clark County criteria must be approved. The finished floor variance must be submitted to CCPW Development Review front counter after drainage study approval and prior to offsite final review.
X	The grading plan will be reviewed by the Building Office Operations Division to ensure compliance with the ADA access requirements. Revisions to the grading plan may be required if the site accessibility design does not comply with the requirements set forth in the Accessibility Chapter of the Clark County Building Code.
	The plans show work is proposed on another property. Notarized written permission must be obtained prior to plan approval. A grading permit must be obtained from Building Dept prior to grading.
X	Right-of-way dedication must be verified.
	Any previously approved drainage easements that are not being used must be vacated.
	Per <i>Regional Flood Control District policies and Procedures manual, Section VIII. D. 13. Uniform Regulations for the Control of Drainage</i> , the Engineer of Record shall provide As-Built plans or record drawings to the District after completion and final inspection of such privately installed flood control facilities that have regional flood control significance.
	Structural calculations are required. The structural calculations, plans, and details must be approved prior to "Offsite" submittal and prior to CCRFCD submittal, if applicable.
X	Plan revisions can be found on the red-lined plans and must be addressed.
X	Prepare drainage easement documents as shown on the grading plans.

Additional Conditions:

1. There appears to be an MSM (17-600097) still pending for the parcel. While there do not appear to be any preliminary conditions that would alter the design, and zoning conditions issued that require changes to the grading plan may require an Update to this Technical Drainage Study.
2. Any improvements not depicted on the above mentioned grading plans may require an Update to this Technical Drainage Study.

The County's review is solely based on the information submitted by the Engineer of Record. The County's review is strictly limited to compliance with minimum County Codes and Standards. The Engineer of Record is responsible for researching and addressing situations that may require designs above and beyond the minimum codes for issues of public safety and impacts to upstream, downstream and adjacent properties. The County assumes no liability for information data, designs or conclusions of the Engineer of Record.



Patrick Robinson, P.E.
Senior Civil Engineer
Development Review
Patrick.Robinson@ClarkCountyNV.gov

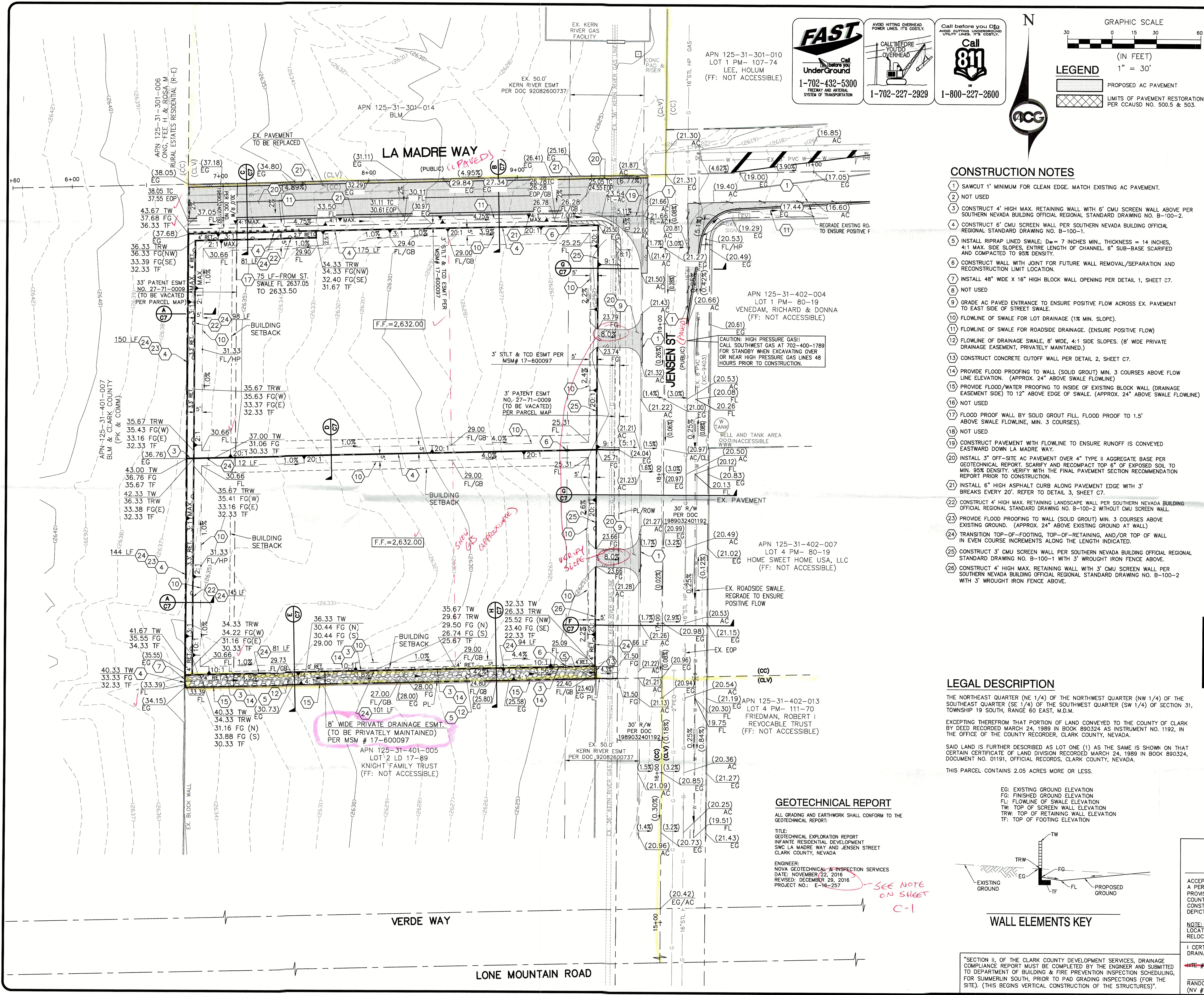


W. Layne Weber, P.E., CFM
Principal Engineer
Development Review
wlweber@ClarkCountyNV.gov

SW CORNER LA MADRE WAY & JENSEN ST.
LAS VEGAS, NEVADA 89149
APN: 125 - 31- 401 - 004

Z:\projects current\Commercial Clients\Angelo Infante\Projects\160236 Infante 4 Lot\Engineering\Civil Drawings\Improvement Plans\160236-CI-COV-2.dwg, 2/15/2018 1:41:15 PM

Z:\projects_current\Commercial Clients\Angelo Infante\Projects\160236-C5-GP.dwg, 2/15/2018 2:03:37 PM



FAST
Call before you dig
Underground
1-702-432-5300
FIRE AND AIRPORT
SYSTEM OF TRANSPORTATION

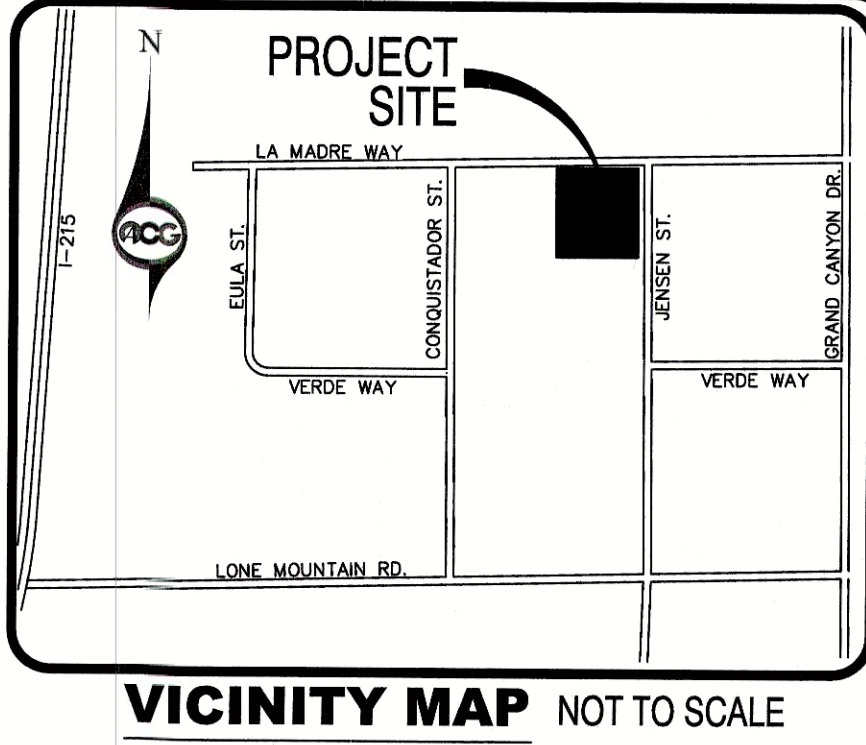
AVOID HITTING OVERHEAD
POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DIG
1-702-227-2929

Call before you dig
Avoid cutting underground
utilities. IT'S COSTLY.
Call 811
1-800-227-2600

GRAPHIC SCALE
(IN FEET)
1" = 30'

LEGEND
PROPOSED AC PAVEMENT
LIMITS OF PAVEMENT RESTORATION
PER CCAUO NO. 500.5 & 503.

ACG



- ### CONSTRUCTION NOTES
- SAW CUT 1" MINIMUM FOR CLEAN EDGE. MATCH EXISTING AC PAVEMENT.
 - NOT USED
 - CONSTRUCT 4' HIGH MAX. RETAINING WALL WITH 6" CMU SCREEN WALL ABOVE PER SOUTHERN NEVADA BUILDING OFFICIAL REGIONAL STANDARD DRAWING NO. B-100-2.
 - CONSTRUCT 6" CMU SCREEN WALL PER SOUTHERN NEVADA BUILDING OFFICIAL REGIONAL STANDARD DRAWING NO. B-100-1.
 - INSTALL RIPRAP LINED SWALE; D₅₀ = 7 INCHES MIN., THICKNESS = 14 INCHES, 4:1 MAX. SIDE SLOPES, ENTIRE LENGTH OF CHANNEL. 6" SUB-BASE SCARIFIED AND COMPACTED TO 95% DENSITY.
 - CONSTRUCT WALL WITH JOINT FOR FUTURE WALL REMOVAL/SEPARATION AND RECONSTRUCTION LIMIT LOCATION.
 - INSTALL 48" WIDE X 16" HIGH BLOCK WALL OPENING PER DETAIL 1, SHEET C7.
 - NOT USED
 - GRADE AC PAVED ENTRANCE TO ENSURE POSITIVE FLOW ACROSS EX. PAVEMENT TO EAST SIDE OF STREET SWALE.
 - FLOWLINE OF SWALE FOR LOT DRAINAGE (1% MIN. SLOPE).
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 - PROVIDE FLOOD/WATER PROOFING TO INSIDE OF EXISTING BLOCK WALL (DRAINAGE EASEMENT SIDE) TO 12" ABOVE EDGE OF SWALE. (APPROX. 24" ABOVE SWALE FLOWLINE)
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 - CONSTRUCT PAVEMENT WITH FLOWLINE TO ENSURE RUNOFF IS CONVEYED EASTWARD DOWN LA MADRE WAY.
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 - INSTALL 6" HIGH ASPHALT CURB ALONG PAVEMENT EDGE WITH 3' BREAKS EVERY 20'. REFER TO DETAIL 3, SHEET C7.
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 - TRANSITION TOP-OF-FOOTING, TOP-OF-RETAINING, AND/OR TOP OF WALL IN EVEN COURSE INCREMENTS ALONG THE LENGTH INDICATED.
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 - CONSTRUCT 4' HIGH MAX. RETAINING WALL WITH 3" CMU SCREEN WALL PER SOUTHERN NEVADA BUILDING OFFICIAL REGIONAL STANDARD DRAWING NO. B-100-2 WITH 3" WROUGHT IRON FENCE ABOVE.

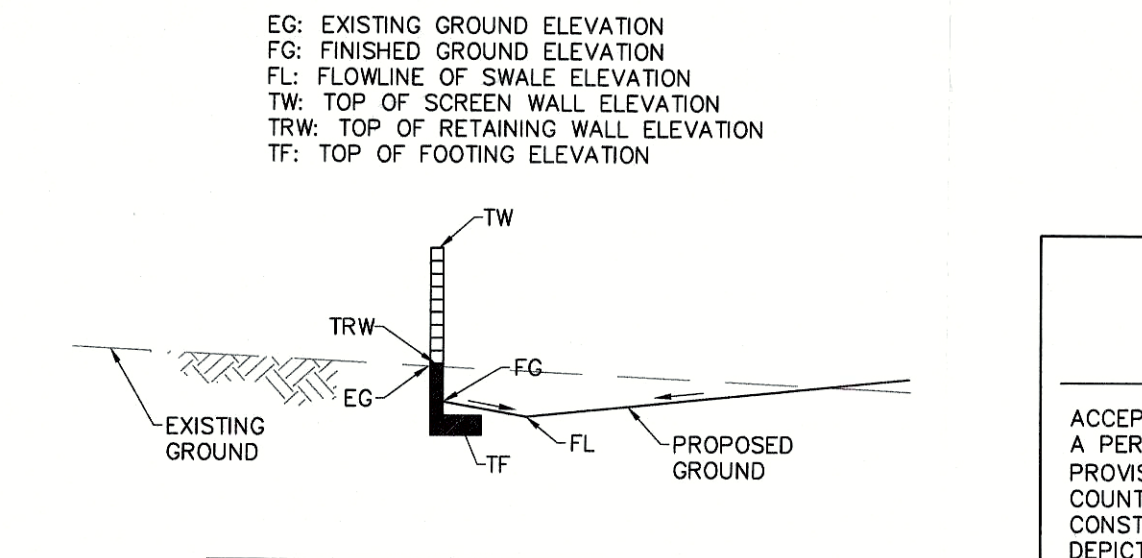
LEGAL DESCRIPTION

THE NORTHEAST QUARTER (NE 1/4) OF THE NORTHWEST QUARTER (NW 1/4) OF THE SOUTHEAST QUARTER (SE 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 31, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M.

EXCEPTING THEREFROM THAT PORTION OF LAND CONVEYED TO THE COUNTY OF CLARK BY DEED RECORDED MARCH 24, 1989 IN BOOK 890324, AS INSTRUMENT NO. 1192, IN THE OFFICE OF THE COUNTY RECORDER, CLARK COUNTY, NEVADA.

SAID LAND IS FURTHER DESCRIBED AS LOT ONE (1) AS THE SAME IS SHOWN ON THAT CERTAIN CERTIFICATE OF LAND DIVISION RECORDED MARCH 24, 1989 IN BOOK 890324, DOCUMENT NO. 01911, OFFICIAL RECORDS, CLARK COUNTY, NEVADA.

THIS PARCEL CONTAINS 2.05 ACRES MORE OR LESS.



WALL ELEMENTS KEY

SECTION II, OF THE CLARK COUNTY DEVELOPMENT SERVICES, DRAINAGE COMPLIANCE REPORT MUST BE COMPLETED BY THE ENGINEER AND SUBMITTED TO DEPARTMENT OF BUILDING & FIRE PREVENTION INSPECTION SCHEDULING, FOR SUMMERLIN SOUTH, PRIOR TO PAD GRADING INSPECTIONS (FOR THE SITE). (THIS BEGINS VERTICAL CONSTRUCTION OF THE STRUCTURES)

BENCHMARK

BM = BLV903154
Elevation = 2593.59' / 790.528(m) City of Las Vegas Rivet and Round plate in concrete pad, Northeast corner of Lone Mountain Road and Grand Canyon Drive, 200' +/- North of Lone Mountain. NAVD 1988

BASIS OF BEARINGS

N 88°37'34" E BEING THE NORTH LINE OF THE SE 1/4 SW 1/4 SECTION 31, TOWNSHIP 19 SOUTH, RANGE 60 EAST M.D.M. AS PER RECORD OF SURVEY FILE 115 PAGE 93, CLARK COUNTY, NEVADA RECORDS.

FLOOD ZONE INFORMATION

AS SHOWN BY FLOOD INSURANCE RATE MAP NO. 32003C1745E, DATED SEPTEMBER 27, 2002, LOCATED IN UNSHADDED ZONE X. AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

UTILITY NOTE

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SITE VISIBILITY ZONE

SIGHT VISIBILITY ZONE - SEE SHEETS C4 FOR SVZ INFORMATION

NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM TOP OF CURB OR WHEN NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THIS RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.

WALL AND RETAINING WALL NOTE

CONTRACTOR IS RESPONSIBLE FOR PROPER CONSTRUCTION OF RETAINING AND BLOCK WALLS. ELEVATIONS PROVIDED ON PLAN REPRESENT MINIMUM REQUIREMENTS AT THAT LOCATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY SET ALL VERTICAL (COURSE) TRANSITION POINTS (I.E. TOP OF FOOTING, TOP OF RETAINING, AND TOP OF WALL) TO ACCOMMODATE THE DESIGN SHOWN ON THIS PLAN.

LANDSCAPE NOTE:

REMOVE ALL EXISTING LANDSCAPE FEATURES SUCH AS TREES, SHRUBS, GRASS, DECORATIVE ROCK, TREE WELLS, ETC IN CONFLICT WITH PROPOSED IMPROVEMENTS. REFER TO ARCHITECTURAL LANDSCAPE PLAN.

HANDICAP ACCESSIBILITY NOTE:

CONTRACTOR TO COMPLY WITH ALL ADA REQUIREMENTS. IF CONTRACTOR FINDS DISCREPANCIES WITH ANY INFORMATION INDICATED ON THESE PLANS, ACG DESIGN IS TO BE NOTIFIED BY CONTRACTOR IMMEDIATELY.

NOTE

ACG DESIGN ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS, SHOWN OR NOT SHOWN. THE UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM RECORD INFORMATION AND ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY THE LOCATIONS AND DEPTHS OF ALL RELEVANT UTILITIES PRIOR TO COMMENCING WITH CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY THE ENGINEER OF WORK, IN WRITING, OF ANY CONFLICTS OR DISCREPANCIES.

NOTE: PROPOSED DRIVEWAY APPROACH IS A NON-STANDARD SECTION AND SHALL NOT BE MAINTAINED BY CCPW.

CLARK COUNTY
PUBLIC WORKS DEVELOPMENT REVIEW
ACCEPTANCE OF PLANS FOR FILING BY

ACCEPTANCE OF THESE PLANS FOR FILING SHALL NOT BE CONSTRUED TO BE A PERMIT FOR OR AN APPROVAL OF ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS AND/OR SPECIFICATIONS. CLARK COUNTY SHALL BE HELD FREE FROM DAMAGES WHICH MAY RESULT FROM CONSTRUCTION OF THE IMPROVEMENTS FROM THE ENGINEERING DESIGN DEPICTED HEREIN.

NOTE: POWER POLES AND/OR OTHER EXISTING FACILITIES NOT IN PROPER LOCATION BASED ON PROPOSED IMPROVEMENTS SHOWN HEREON WILL BE RELOCATED AT NO EXPENSE TO THE CLARK COUNTY.

I CERTIFY THAT THIS GRADING PLAN CONFORMS TO THE APPROVED DRAINAGE STUDY FOR THIS SITE ON FILE AT CLARK COUNTY.

PW18-11461

RANDOLPH SKORPINSKI, P.E.
(NV #14985)

DATE

APPROVAL

REVISIONS

INFANTE - 2 LOT RESIDENTIAL (MSM 17-600097)

GRADING PLAN SHEET

APN: 125-31-401-004

SW CORNER W. LA MADRE WAY & N. JENSEN ST. LAS VEGAS, NEVADA 89149

ACG DESIGN

430 CAMERON ST., SUITE 12-A

LAS VEGAS, NEVADA 89003

OFFICE: 702.448.8737

WEBSITE: WWW.ACGDESIGN.COM

ENGINEER'S SEAL

RANDOLPH SKORPINSKI

EXP: 06-30-18

CIVIL

NO. 14985

FEB 16 2018

DATE: 02/14/18

PROJ. NO: 160236

DRAWN BY: ARB

CHECKED BY: RAS

SCALE: 1" = 30'

JURISDICTION: CLARK COUNTY

DRAWING NUMBER: C-05

SHEET 5 OF 8

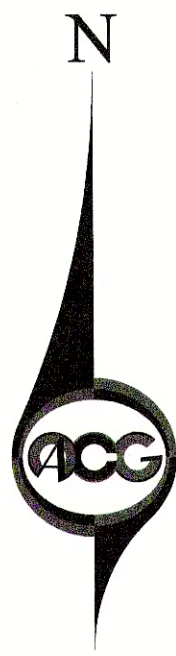
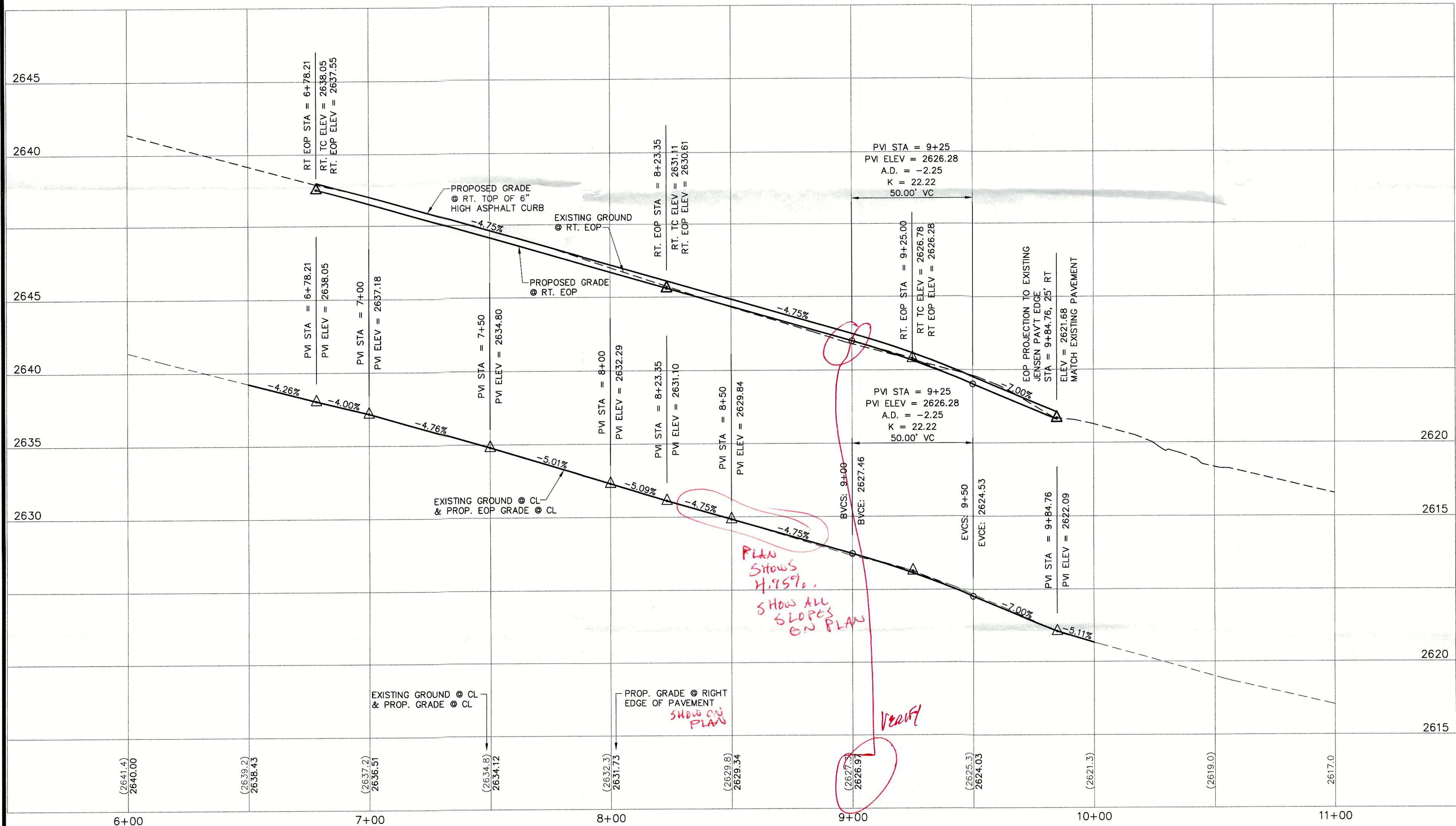
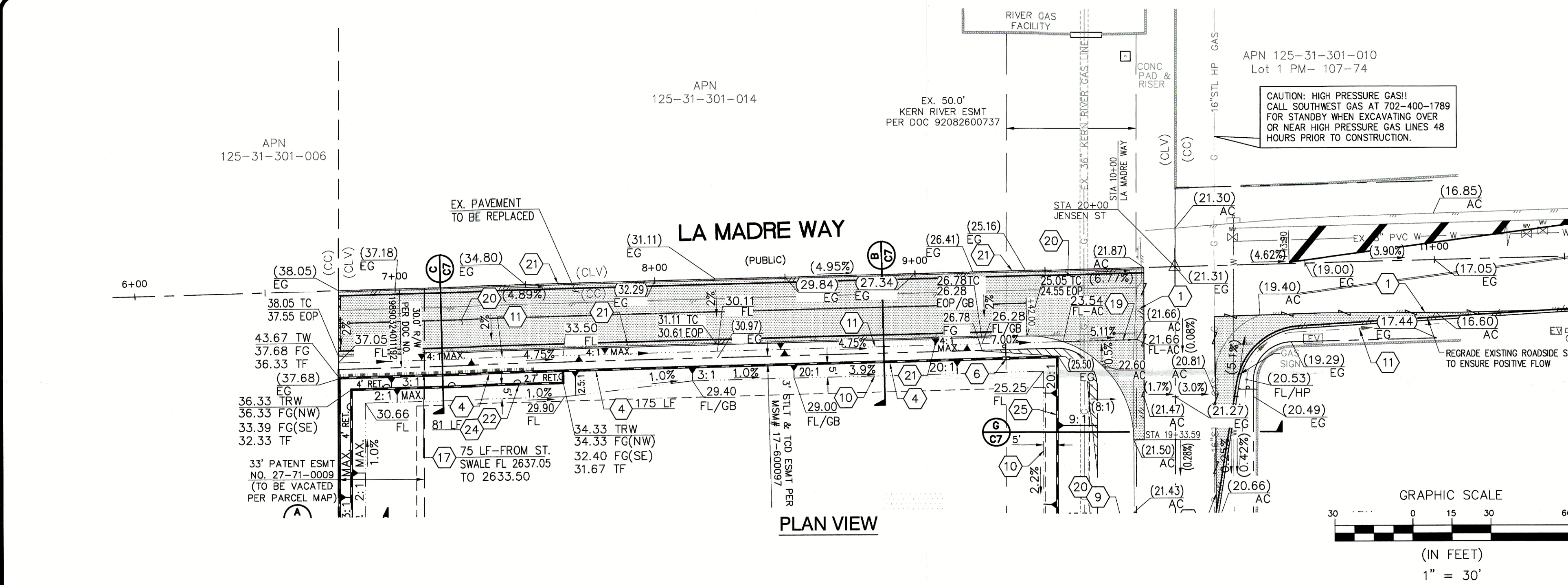
AGENCY NUMBER: HTE # 16-57573

APPROVAL

DATE

DESCRIPTION

Z:\projects_current\Commercial Clients\Angelo Infante\Projects\160236-C8-P&P-La Madre.dwg, 2/15/2018 2:07:08 PM



CONSTRUCTION NOTES

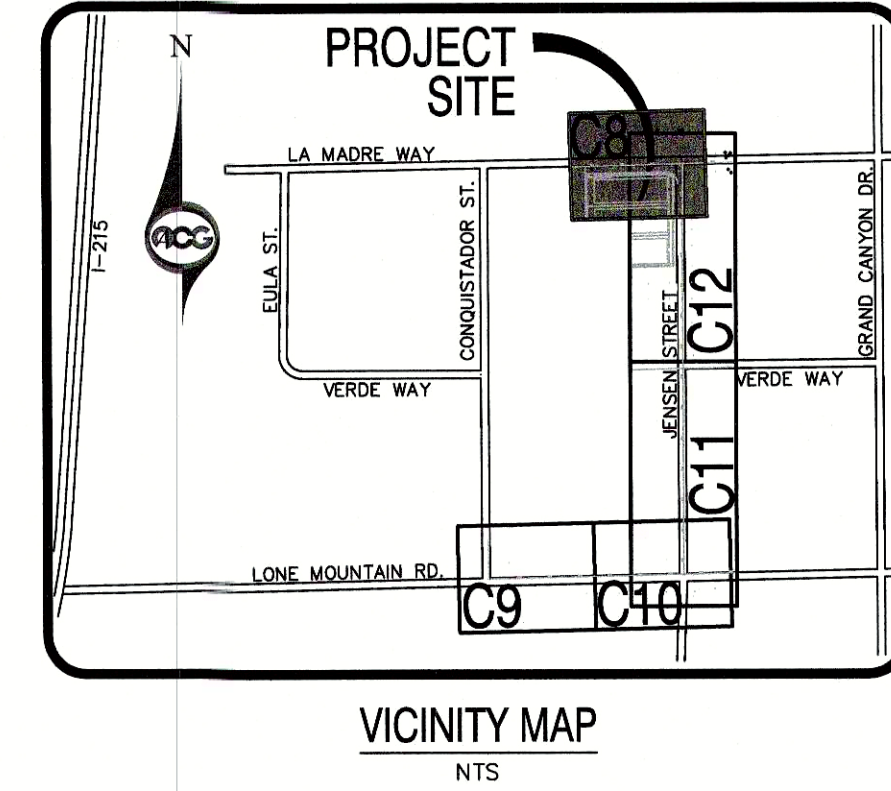
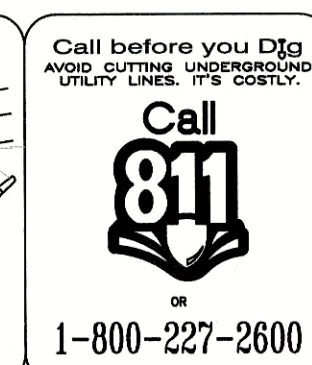
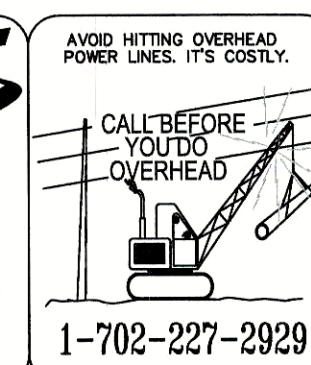
- 1 SAWCUT 1' MINIMUM FOR CLEAN EDGE. MATCH EXISTING AC PAVEMENT.
- 2 NOT USED
- 3 CONSTRUCT 4' HIGH MAX. RETAINING WALL WITH 6" CMU SCREEN WALL ABOVE PER SOUTHERN NEVADA BUILDING OFFICIALS REGIONAL STANDARD DRAWING NO. B-100-2.
- 4 CONSTRUCT 6" CMU SCREEN WALL PER SOUTHERN NEVADA BUILDING OFFICIALS REGIONAL STANDARD DRAWING NO. B-100-1.
- 5 INSTALL RIPRAP LINED SWALE; D₅₀ = 7 INCHES MIN., THICKNESS = 14 INCHES, 4:1 MAX. SIDE SLOPES, ENTIRE LENGTH OF CHANNEL. 6" SUB-BASE SCARIFIED AND COMPACTED TO 95% DENSITY.
- 6 CONSTRUCT WALL WITH JOINT FOR FUTURE WALL REMOVAL/SEPARATION AND RECONSTRUCTION LIMIT LOCATION.
- 7 INSTALL 48" WIDE X 16" HIGH BLOCK WALL OPENING PER DETAIL 1, SHEET C7.
- 8 NOT USED
- 9 GRADE AC PAVED ENTRANCE TO ENSURE POSITIVE FLOW ACROSS EX. PAVEMENT TO EAST SIDE OF STREET SWALE.
- 10 FLOWLINE OF SWALE FOR LOT DRAINAGE (1% MIN. SLOPE).
- 11 FLOWLINE OF SWALE FOR ROADSIDE DRAINAGE. (ENSURE POSITIVE FLOW)
- 12 FLOWLINE OF DRAINAGE SWALE, 8' WIDE, 4:1 SIDE SLOPES. (8' WIDE PRIVATE DRAINAGE EASEMENT, PRIVATELY MAINTAINED.)
- 13 CONSTRUCT CONCRETE CUTOFF WALL PER DETAIL 2, SHEET C7.
- 14 PROVIDE FLOOD PROOFING TO WALL (SOLID GROUT) MIN. 3 COURSES ABOVE FLOW LINE ELEVATION. (APPROX. 24" ABOVE SWALE FLOWLINE)
- 15 PROVIDE FLOOD/WATER PROOFING TO INSIDE OF EXISTING BLOCK WALL (DRAINAGE EASEMENT SIDE) TO 12" ABOVE EDGE OF SWALE. (APPROX. 24" ABOVE SWALE FLOWLINE)
- 16 NOT USED
- 17 FLOOD PROOF WALL BY SOLID GROUT FILL. FLOOD PROOF TO 1.5' ABOVE SWALE FLOWLINE, MIN. 3 COURSES.
- 18 NOT USED
- 19 CONSTRUCT PAVEMENT WITH FLOWLINE TO ENSURE RUNOFF IS CONVEYED EASTWARD DOWN LA MADRE WAY.
- 20 INSTALL 3" OFF-SITE AC PAVEMENT OVER 4" TYPE II AGGREGATE BASE PER GEOTECHNICAL REPORT. SCARIFY AND RECOMPACT TOP 6" OF EXPOSED SOIL TO MIN. 95% DENSITY. VERIFY WITH THE FINAL PAVEMENT SECTION RECOMMENDATION REPORT PRIOR TO CONSTRUCTION.
- 21 INSTALL 6" HIGH ASPHALT CURB ALONG PAVEMENT EDGE WITH 3' BREAKS EVERY 20'. REFER TO DETAIL 3, SHEET C7.
- 22 CONSTRUCT 4' HIGH MAX. RETAINING LANDSCAPE WALL PER SOUTHERN NEVADA BUILDING OFFICIALS REGIONAL STANDARD DRAWING NO. B-100-2 WITHOUT CMU SCREEN WALL.
- 23 PROVIDE FLOOD PROOFING TO WALL (SOLID GROUT) MIN. 3 COURSES ABOVE EXISTING GROUND. (APPROX. 24" ABOVE EXISTING GROUND AT WALL)
- 24 TRANSITION TOP-OF-FOOTING, TOP-OF-RETAINING, AND/OR TOP OF WALL IN EVEN COURSE INCREMENTS ALONG THE LENGTH INDICATED.
- 25 CONSTRUCT 3' CMU SCREEN WALL PER SOUTHERN NEVADA BUILDING OFFICIALS REGIONAL STANDARD DRAWING NO. B-100-1 WITH 3' WROUGHT IRON FENCE ABOVE.
- 26 CONSTRUCT 4' HIGH MAX. RETAINING WALL WITH 3' CMU SCREEN WALL PER SOUTHERN NEVADA BUILDING OFFICIALS REGIONAL STANDARD DRAWING NO. B-100-2 WITH 3' WROUGHT IRON FENCE ABOVE.

GEOTECHNICAL REPORT

ALL GRADING AND EARTHWORK SHALL CONFORM TO THE GEOTECHNICAL REPORT:

TITLE:
GEOTECHNICAL EXPLORATION REPORT
INFANTE RESIDENTIAL DEVELOPMENT
SWC LA MADRE WAY AND JENSEN STREET
CLARK COUNTY, NEVADA

ENGINEER:
NOVA GEOTECHNICAL & INSPECTION SERVICES
DATE: NOVEMBER 22, 2016
REVISED: DECEMBER 29, 2016
PROJECT NO.: E-16-257



BENCHMARK

BM= BLV903154
Elevation = 2593.59' / 790.528(m) City of Las Vegas Rivet and Round plate in concrete pad, Northeast corner of Lone Mountain Road and Grand Canyon Drive, 200'+/- North of Lone Mountain. NAVD 1988

BASIS OF BEARINGS

N 88°37'34" E BEING THE NORTH LINE OF THE SE 1/4 SW 1/4 SECTION 31, TOWNSHIP 19 SOUTH, RANGE 60 EAST M.D.M. AS PER RECORD OF SURVEY FILE 115 PAGE 93, CLARK COUNTY, NEVADA RECORDS.

FLOOD ZONE INFORMATION

AS SHOWN BY FLOOD INSURANCE RATE MAP NO. 32003C1745E, DATED SEPTEMBER 27, 2002, LOCATED IN UNSHADED ZONE X, AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

UTILITY NOTE

EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. CALL BEFORE YOU DIG. 1-800-227-2600.

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SIGHT VISIBILITY ZONE - SEE SHEETS C4 FOR SVZ INFORMATION

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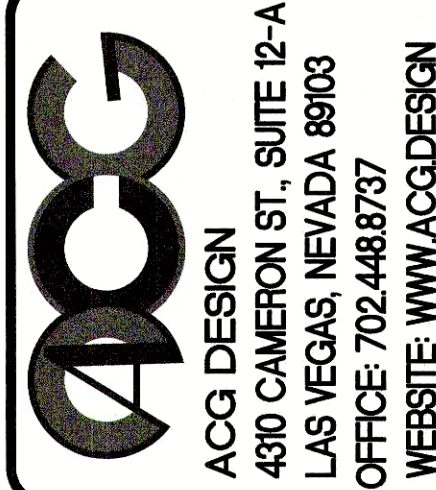
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APPROVAL	REVISIONS	DESCRIPTION	APPROVED BY	DATE

INFANTE - 2 LOT RESIDENTIAL (MSM 17-600097)	LA MADRE WAY PLAN & PROFILE
APN: 125-31-401-004	APN: 125-31-401-004
SW CORNER W. LA MADRE WAY & N. JENSEN ST.	LAS VEGAS, NEVADA 89149



DATE:	02/14/18
PROJ. NO:	160236
DRAWN BY:	ARB
CHECKED BY:	RAS
SCALE:	AS NOTED
JURISDICTION:	CLARK COUNTY

DRAWING NUMBER:	C-8
SHEET	8 OF 8
AGENCY NUMBER:	HTE # 16-57573