DS #: 5378

APN: 139-27-503-006

PROJECT: Catholic Charities of Southern Nevada - Ph 1

SUBMITTAL: 1st

SCANNED BY/DATE:

CHECKED BY/DATE:

CITY OF LAS VEGAS NEVADA

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM				DATE: November 16, 2020
TO: **Land Development Services** Department of Building & Safety				FROM: Jennifer Shinn, P.E. Flood Control, Engr. Associate Department of Public Works
SUBJECT:	Drainage Study for: **Catholic Charities of Southern Nevada – Phase 1**			**COPIES TO:** Kimley-Horn
Cross Streets:	NEC Main Street and Foremaster Lane			Catholic Charities of Southern Nevada
File Number:	F:\Depot\DSMemos\DS5378A.doc			Bart Anderson, P.E., DevCo
Parcel Number:	139-27-503-006			
Zoning Action:	20-0253-SDR1			
FEMA Flood Zone	YES	NO	**X**	
Proposed Storm Drain	YES	NO	**X**	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1st Submittal	10/21/2020	11/5/2020 & 11/16/2020	See Comments Below	$400.00	4042385: $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.

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.

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

END OF REMARKS

jks

T/R/S: T20S/R61E/27
AREA M-27

Update to the Technical Drainage Study for

Catholic Charities of Southern Nevada – Phase 1

Date Prepared:
October 2020

Prepared for:
Catholic Charities of Southern Nevada
1501 Las Vegas Boulevard
Las Vegas, NV 89101

Prepared by:
Kimley-Horn and Associates, Inc.
6671 Las Vegas Boulevard South, Suite 320
Las Vegas, NV 89119
702.862.3600

Kimley»Horn

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: Catholic Charities of Southern Nevada - Phase 1 Expansion Date: October 2020

Location of Development: a) Descriptive (Cross Streets) North/South: Las Vegas Boulevard

East/West: Owens Avenue

b) Section: 27 Township: 20S Range: 61E

c) APN : 125-28-510-001

Name of Owner: Catholic Charities of Southern Nevada

Telephone No.: Fax No.: N/A E-Mail Address: N/A

Address: 1501 North Las Vegas Boulevard; Las Vegas, NV 89101

Contact Person-Name: Michael Schwab, P.E. **Telephone No.:** 702.790.0206

* **E-Mail Address:** michael.schwab@kimley-horn.com **Fax No.:**

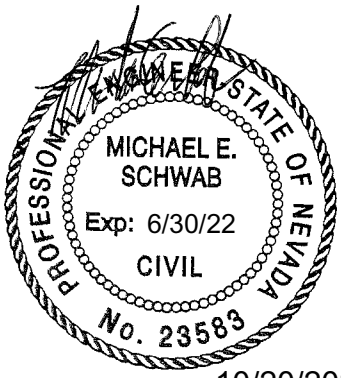
Firm: KIMLEY-HORN

Address: 6671 Las Vegas Boulevard South, Suite 320 Las Vegas, NV 89119

Type of Land Development/Land Disturbance Process:

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

1. Total Owned Land Area: At Site: +/- 6.07 acres Being Developed/Disturbed: +/- 0.93 acres
2. Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? ☐ **Yes**** ☒ **No**
3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☒ **Yes**** ☐ **No**
4. Proposed type of development (Residential, Commercial, Etc.): Commercial
5. Approximate upstream land area which drains to the subject site: N/A
6. Has the site drainage been evaluated in the past? ☒ **YES** ☐ **NO** If yes, please identify documentation: Technical Drainage Study for Catholic Charities of Southern Nevada - Phase 1; Martin & Martin, August 1997
7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Las Vegas BLVD, Owens Ave
8. Briefly describe your proposed schedule for the subject project: ASAP



10/20/2020

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.**

Revision	Date

Local Entity File No.

REFERENCE:

STANDARD FORM 1

Updated 05/01/2008

Kimley»Horn

October 20, 2020

Mr. Albert Sung, P.E.
City of Las Vegas Flood Control
333 Rancho Drive
Las Vegas, NV 89106

RE: ***Update to the Technical Drainage Study for Catholic Charities of Southern Nevada – Phase 1 (DS 2067)***

Dear Mr. Sung,

This letter certifies that all items provided on the *Update to the Technical Drainage Study for Catholic Charities of Southern Nevada – Phase 1* electronic submittal matches the paper version bound into the study.

With Kimley-Horn, you should expect more and will experience better. Please contact me at (702) 790-0206 or michael.schwab@kimley-horn.com should you have any questions or concerns.

Sincerely,

Michael Schwab, P.E.

Kimley»Horn

Update to the

Technical Drainage Study

for

Catholic Charities of Southern Nevada – Phase 1

Date Prepared:
October 2020

Prepared for:
Catholic Charities of Southern Nevada
1501 Las Vegas Boulevard
Las Vegas, NV 89101

Prepared by:
Kimley-Horn and Associates, Inc.
6671 Las Vegas Boulevard South, Suite 320
Las Vegas, NV 89119
702.862.3600

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October 2020
KH Project #092908028

Kimley»Horn

October 20, 2020

Mr. Albert Sung, P.E.
City of Las Vegas Flood Control
333 Rancho Drive
Las Vegas, NV 89106

RE: *Update to the Technical Drainage Study for Catholic Charities of Southern Nevada – Phase 1* (DS-2067)

Dear Mr. Sung,

The purpose of this letter is to serve as the **Update** to the subject project. The *Technical Drainage Study for Catholic Charities of Southern Nevada – Phase 1 (*hereinafter referred to as **TDS**) was approved by CLV on August 7, 1997. Pertinent reference material has been included in **Appendix B**. The **Update** included herein, is intended to supersede data contained in previous studies.

Since approval of **TDS**, some site changes are proposed, as shown on the grading plans found in **Appendix C**. The proposed revisions include:

- Demolition of an existing building and existing AC pavement, and repaving and striping at the northwest corner of the site
- Removal of driveway off Main Street at the northwest corner of the site.
- Remove and replace AC paving at southeast corner of the site.
- Proposed tent canopy at the southeast corner of the site.

The proposed revisions did not require any revisions to the hydrology as the revised grading does not change the drainage patterns from the approved **TDS**. In the northwest corner where the building will be demolished and the AC paving will be removed and replaced, runoff will still flow to Owens Avenue as in existing conditions. In the southeast corner were the AC paving will be removed and replaced and the tent canopy is proposed, the runoff will still flow to Las Vegas Boulevard as in existing conditions. Furthermore, none of the hydraulic sections used to check the finished floor elevations in the approved **TDS** have changed with the proposed revisions. The pertinent reference material from the approved **TDS** has been included in **Appendix B**.

There are no proposed buildings within these site changes; therefore, there are no new finish floor elevations to check. Please refer to **Appendix C** for the grading plans.

In general, the overall drainage patterns for the site are consistent with the original **TDS** and the proposed site plan does not significantly alter existing peak flows or the character of flows downstream of the development and do not pose any negative impacts on the downstream facilities and development.

With Kimley-Horn, you should expect more and will experience better. Please contact me at (702) 790-0206 or michael.schwab@kimley-horn.com should you have any questions.

Sincerely,

Michael Schwab, P.E.

Kimley»Horn

LIST OF APPENDICES

Appendix A – Documents

- Figure PRO – Proposed Basin Map
- Assessor's Parcel Map
- FEMA FIRM Map
- F-Map
- SDPR APPROVAL

Appendix B – Reference Material

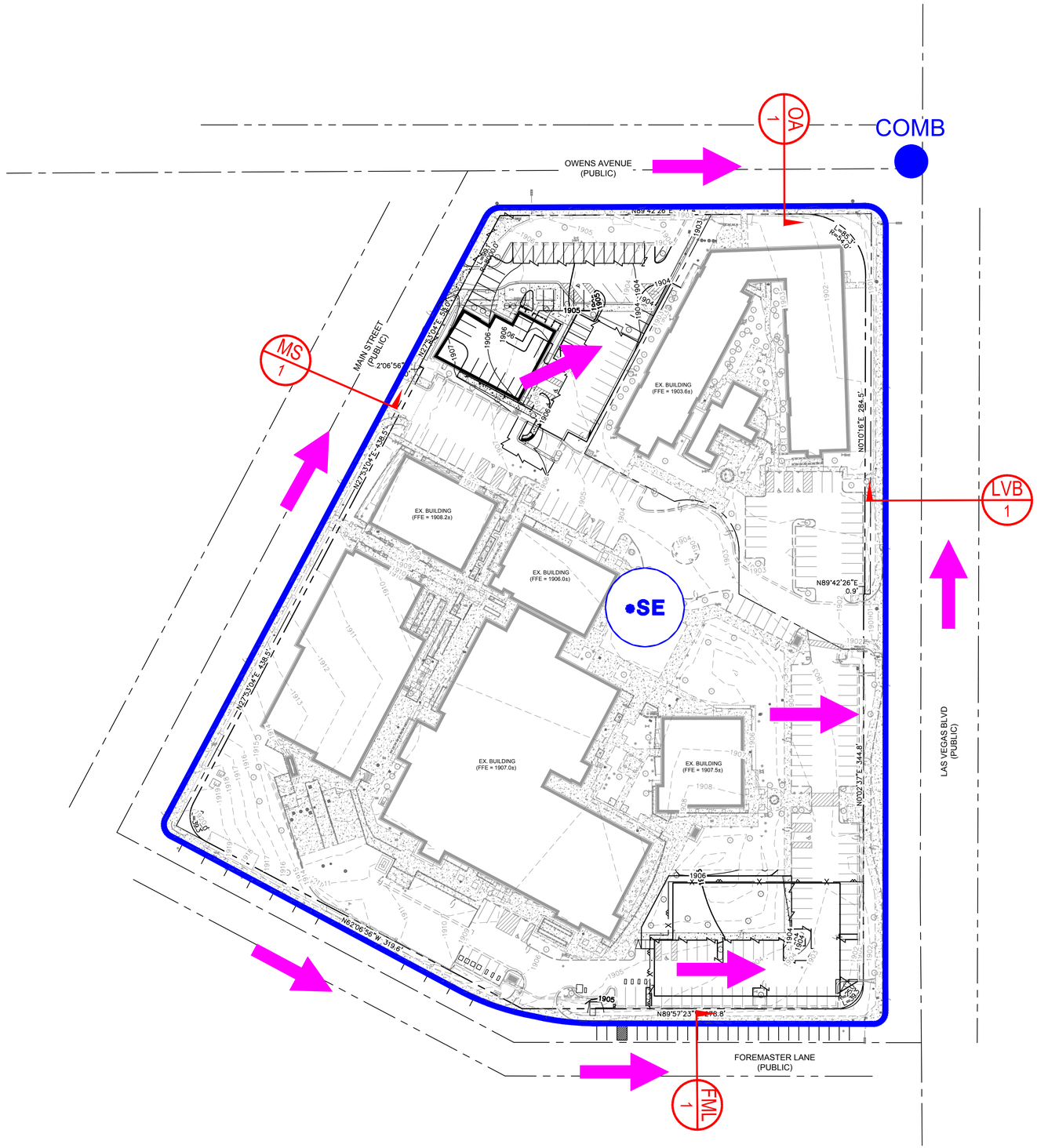
- Technical Drainage Study for Catholic Charities of Southern Nevada – Phase 1; Prepared by Martin & Martin, INC. Approved August 7, 1997. DS-2067.

Appendix C – Improvement Plans

Appendix D – Data CD

Appendix A – Documents

- Figure PRO – Proposed Basin Map
- Assessor's Parcel Map
- FEMA FIRM Map
- F-Map
- SDPR APPROVAL



NORTH

GRAPHIC SCALE IN FEET
0 25 50 100
SCALE: 1" = 50'

LEGEND

- XX — BASIN ID
- BASIN BOUNDARY
- FLOW ARROW
- CPX — CONCENTRATION POINT

Catholic Charities of Southern NV

EXISTING FLOW SUMMARY TABLE

BASIN ID/ COMB. PT.	BASIN AREA (ac)	10-YR FLOW (cfs)	100-YR FLOW (cfs)
*SE	7.6	9	20
*COMB	-	88	247

*Referenced from the CCSN Study (DS-2067)

ROADWAY HYDRAULIC SECTIONS

STREET SECTION	CHANNEL SLOPE %	Q_{100} (cfs)	FLOW DEPTH (ft)	VELOCITY (ft/s)	D*V ft^2/s	Q_{10} (cfs)	FLOW DEPTH (ft)	VELOCITY (ft/s)	D*V ft^2/s
*MS-1	2.77	7	0.4	3.87	1.55	NUISANCE FLOW IN EAST HALF			
*OA-1	1.50	NUISANCE FLOW IN SOUTH HALF				NUISANCE FLOW IN SOUTH HALF			
*LVB-1	1.00	1	0.99	5.27	5.22	80.0	0.75	3.62	2.72
*FML-1	4.50	1	0.22	3.21	0.71	8.0	0.32	4.10	1.31

*REFERENCED FROM CCSN STUDY (DS-2067)

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2020 KIMLEY-HORN AND ASSOCIATES, INC.
6671 LAS VEGAS BOULEVARD S., SUITE 320, LAS VEGAS, NV 89119
PHONE: 702-862-3600
WWW.KIMLEY-HORN.COM

KHA PROJECT 092805005
DATE 10/19/2020
SCALE AS SHOWN
DESIGNED BY MS
DRAWN BY MB
CHECKED BY MS

PROPOSED CONDITIONS BASIN MAP

CATHOLIC CHARITIES OF SOUTHERN NEVADA
CITY OF LAS VEGAS NEVADA

SHEET NUMBER
PRO

Plotted By:Schwab, Michael Sheet Set:192128000 - PAMA EXECUTIVE BUSINESS PARK Layout:KHA October 20, 2020 01:12:36pm K:\LAV_Civil\092805005 - Catholic Charities Expansion (Curlington)\Reports\DRAINAGE\01_TDS-JDF\Figures\CAD\Basin_Map.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

NOTES

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

No liability is assumed for the accuracy of the data deliniated 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.

USE THIS SCALE(FEET) WHEN MAP REDUCED FROM 11X17 ORIGINAL

0 100 200 400 600 800

MAP LEGEND

ASSESSOR'S PARCELS - CLARK COUNTY, NV.

Briana Johnson - Assessor

- 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 NUMER
- 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 T20S R61E

125	124	123
138	139	140
163	162	161

Scale: 1" = 200'

SEC. 27

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

Rev: 1/8/2019

MAP N 2 NE 4

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

139-27-5

CLARK COUNTY NEVADA

PROJECT AREA

OWENS AVE

INTERSTATE ROUTE NO 15

A ST

U.P.R.R.

U S HWY NO 91-93 NORTH MAIN ST

LAS VEGAS BLVD NORTH

FOREMASTER LN

PTU

PM 78-1

PM 107-96

PM 91-69

PM 123-7

PM 60-93

LEASE

PT 1

PT 2

PT 2-A

1-A

214

501

502

503

504

PT 139-27-601-006

PT 139-27-603-028

TAX DIST 214

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole–foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum.** For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC–3, #9202
1315 East–West Highway
Silver Spring, MD 20910–3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713–3242**, or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by the Clark County GIS Management Office (GISMO).

This map reflects more detailed and up–to–date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables *in the Flood Insurance Study report (which contains authoritative hydraulic data)* may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de–annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

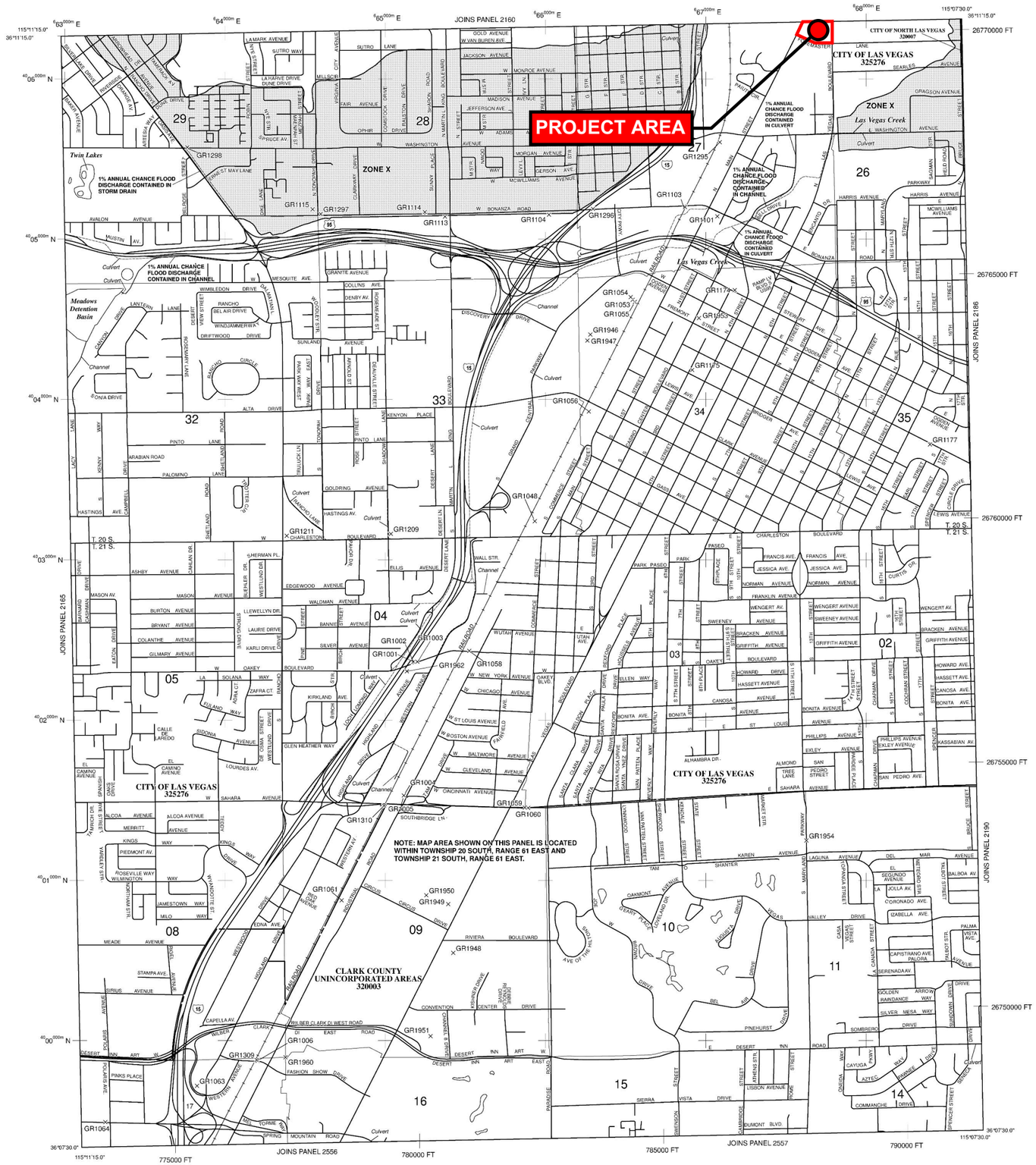
For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

The Digital Flood Insurance Rate Map (DFIRM) was produced through a unique partnership between Clark County and the Federal Emergency Management Agency (FEMA). Clark County has developed a long-term approach of floodplain management to decrease the costs associated with flooding. This is demonstrated by the Clark County commitment to share and maintain floodplain layers within their Geographic Information System Management Office (GISMO).

This DFIRM reflects several innovative features. These include:
+ Southern Nevada GIS–Cooperation among local government agencies throughout Clark County. The foundation of cooperation is the GIS Interlocal Agreements formed between fourteen regional participants. In part, the agreements specify that the Clark County GIS Management Office (GISMO) will be responsible for maintaining a GIS data warehouse and associated Southern Nevada GIS metadata.

+ The GISMO's responsibilities go beyond maintaining the GIS data warehouse. GISMO also maintains the Street Centerline Database used by 911 dispatch services. This centerline database serves as the basemap for this DFIRM.

DIGITAL DATA AVAILABILITY: http://www.co.clark.nv.us/ceit/gismo/gismo.htm



LEGEND

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

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

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

FLOODWAY AREAS IN ZONE AE

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

OTHER FLOOD AREAS

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

OTHER AREAS

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

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

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

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

- A — A — Cross section line
- 23 — 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4275000mN — 1000-meter Universal Transverse Mercator grid ticks, zone 11
- 6000000 FT — 5000-foot grid ticks: Nevada State Plane coordinate system, east zone (FIPSZONE 2701), Transverse Mercator
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
August 16, 1995
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
September 27, 2002

November 16, 2011 –to reflect updated topographic information, to change floodway, to add Base Flood Elevations, to update corporate limits, to change Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to delete Special Flood Hazard Areas, to change zone designations, to add roads and road names, and to incorporate previously issued Letters of Map Revision.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2170F

FIRM
FLOOD INSURANCE RATE MAP
CLARK COUNTY, NEVADA
AND INCORPORATED AREAS

PANEL 2170 OF 4090
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CLARK COUNTY	320003	2170	F
LAS VEGAS, CITY OF	325276	2170	F
NORTH LAS VEGAS, CITY OF	320007	2170	F

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

MAP NUMBER
32003C2170F

MAP REVISED
NOVEMBER 16, 2011

Federal Emergency Management Agency

REGIONAL FLOOD CONTROL DISTRICT

2018
LAS VEGAS VALLEY
FLOOD CONTROL
MASTER PLAN UPDATE

FIGURE F-25
FLOOD CONTROL FACILITIES

LEGEND

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

Remove & Replace/Parallel Facilities

Category A	Category B
Channel	Channel
Stormdrain	Stormdrain
Crossing	Crossing

N

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

Scale: 1 inch = 2,000 feet

AerialSource:Esri World Imagery 2017

US95 I-15 CC-215 I-215

ATKINS
Member of the SNC-Lavalin Group

Louis Berger

ID / Mile	Status	Facility Description	Length (ft.)	Flow (cfs)	HEC-1 Node	HEC-1 Model	Tributary Area (sq.mi.)	Channel Slope (%) **
CABZ		**CEDAR AVENUE - BONANZA**						
0010	E	60" RCP	1450					0.30
LCCH		**LAS VEGAS CREEK CHANNEL**						
0013	E	2: 12' X 6' RCB	2035	3050	CLC20-C	MEADOWS4	9.60	0.82
LV15		**FREEWAY CHANNEL**						
0000	E	CONC CHNL 20'W 10'D 1.5:1 SS (REPLACE W/ LV150001)	1759	5012	2CLV1E-3	CWEST4	11.19	0.12
0001	P0	CONC CHNL 55'W 11'D 0:1 SS (REPLACES LV150000)	1759	5012	2CLV1E-3	CWEST4	11.19	0.12
0035	E	CONC CHNL 20'W 10'D 1.5: SS	899	1404^	2CLV1D-5^	CWEST4	10.29	0.16
0050	E	2: 8' X 10' RCB	1504	1404^	2CLV1D-5^	CLVMD4	10.29	0.75
0051	E	12' X 10' RCB	2524	3275^	2CLV1D-5^	CLVMD4	10.29	5.20
0078	E	CONC CHNL 20'W 10'D 1.5:1 SS (REPLACE W/ LV150079)	1608	4679	2CLV1D-5	CWEST4	10.29	0.14
0079	P0	CONC CHNL 50'W 11'D 0:1 SS (REPLACES LV150078)	1608	4679	2CLV1D-5	CWEST4	10.29	0.14
0109	E	CONC CHNL 15-20'W 10'D 1.5:1 SS (REPLACE W/ LV150110)	1576	4353	CLV1D-4	CWEST4	9.49	0.11
0110	P0	CONC CHNL 45'W 11.5'D 0:1 SS (REPLACES LV150109)	1576	4353	CLV1D-4	CWEST4	9.49	0.11
0139	E	CONC CHNL 15'W 10'D 1.5:1 SS (REPLACE W/ LV150140)	3565	4353	CLV1D-4	CWEST4	9.49	0.18
0140	P0	CONC CHNL 45'W 11'D 0:1 SS (REPLACES LV150139)	3565	4353	CLV1D-4	CWEST4	9.49	0.18
0206	E	CONC CHNL 48'W 13'D 0:1 SS	329	4081	CW1C2	NW4SC	8.92	0.46
0208	E	CONFLUENCE STRUCTURE 64'-48'W 10-13'D 0:1 SS	298	4081	CW1C2	NW4SC	8.92	0.42
0210	E	3: 12' X 9' RCB	725	3689	CCVG24	NW3SC	7.14	0.25
0223	E	CONFLUENCE STRUCTURE 40'W 9'D 0:1 SS	185	3689	CCVG24	NW3SC	7.14	0.25
0230	E	12' X 4.5' RCBC @ LAKE MEAD	177	1265	DRAILRD	NW3	5.30	1.16
0231	E	CONC CHNL 8'W 8'D 0:1 SS	900	1265	DRAILRD	NW3	5.30	2.50
0248	E	8' X 8' RCBC @ UPRR	350	1265	DRAILRD	NW3	5.30	1.34
0255	E	CONC CHNL 8'W 8'D 0:1 SS	1330	1265	DRAILRD	NW3	5.30	2.00
0280	E	CONC CHNL 21'W 8'D 0:1 SS	550	2530	CCVG10	NW3	5.30	2.00
0284	E	14' X 6' RCB	1790	1444	CVG10-C	NW3	4.91	0.50
0316	E	11' X 6' RCB	3010	1152	CWA20-C	NW3	4.52	0.59
0372	E	9' X 6' RCB	1970	1152	CWA20-C	NW3	4.52	0.66
LVBR		**LAS VEGAS - BROOK**						
0000	E	96" CMPC @ UPRR	107	346^	CLV1D-5^	WEST3	0.80	0.35
0001	E	8' X 4' RCB @ UPRR	107	530^	CLV1D-5^	WEST3	0.80	0.93
0002	E	CONC CHNL 27'W 9'D 0:1 SS	125	876	CLV1D-5	WEST3	0.80	1.57
0005	E	CONC CHNL 18'W 4.75'D 0:1 SS	367	876	CLV1D-5	WEST3	0.80	2.43
0011	E	2: 9' X 3' RCBC @ LOSEE	135	876	CLV1D-5	WEST3	0.80	0.71
0013	E	CONC CHNL 12'W 4.5'D 2:1 SS	750	876	CLV1D-5	WEST3	0.80	1.50
0014	E	12' X 4' RCBC @ N. 5TH ST	100	876	CLV1D-5	WEST3	0.80	2.60
LVBZ		**LAS VEGAS WASH - BONANZA**						
0000	P	2: 12' X 7' RCB	1760	1753	CBN15-C	SW3	2.15	0.40
0025	P	2: 12' X 7' RCB	2700	1753	CBN15-C	SW3	2.15	0.40
0064	P	2: 12' X 7' RCB	2630	1603	CBN12-C	SW3	1.87	0.40
0114	P	2: 12' X 6' RCB	2740	1311	CBN10-C	SW3	1.54	0.40
0166	E	54" RCP (REPLACE W/ LVBZ0167)	930	1106	CBN09	SW3	1.29	0.45
0167	P0	10' X 9' RCB (REPLACES LVBZ0166)	930	1106	CBN09	SW3	1.29	0.45
0187	E	48" RCP (REPLACE W/ LVBZ0188)	1235	1106	CBN09	SW3	1.29	0.71
0188	P0	9' X 9' RCB (REPLACES LVBZ0187)	1235	1106	CBN09	SW3	1.29	0.71
0210	E	42" RCP (REPLACE W/ LVBZ0211)	704	1004	CBN08	SW3	1.05	1.37
0211	P0	8' X 8' RCB (REPLACES LVBZ0210)	704	1004	CBN08	SW3	1.05	1.37
0223	E	36" RCP (REPLACE W/ LVBZ0224)	2275	856	CBN03	SW3	0.84	0.72
0224	P0	8' X 8' RCB (REPLACES LVBZ0223)	2275	856	CBN03	SW3	0.84	0.72
LVCC		**LAS VEGAS WASH CARTIER CHANNEL**						
0000	P	CONC CHNL 12'W 9.5'D 0:1 SS	1900	995	CLW1A-3	CCWEST3	1.00	0.40
0035	P	10' X 5' RCB	6750	417	A-C	WEST3	0.40	0.32
LVCL		**LAS VEGAS WASH - COLTON**						
0000	E	CONC CHNL 9'W 13'D 0:1 SS	102	1071	CLV1E-3	WEST3	0.90	0.63
0002	E	102" RCP	157	1071	CLV1E-3	WEST3	0.90	0.62
0005	E	9' X 6' RCB	1320	1071	CLV1E-3	WEST3	0.90	0.94
0030	E	7' X 6' RCB	2148	1071	CLV1E-3	WEST3	0.90	2.22
LVCS		**LAS VEGAS WASH - COMMERCE STREET**						
0000	E	12' X 5' RCB	290	1590	CVG24	NW3	5.78	1.64
0004	E	10' X 6' RCB	510	1590	CVG24	NW3	5.78	4.84
0015	E	10' X 8' RCB	1700	1590	CVG24	NW3	5.78	0.97
0050	E	CONC CHNL 10'W 8'D 0:1 SS	200	1265	DCCVG10	NW3	5.30	2.27

ID / Mile	Status	Facility Description	Length (ft.)	Flow (cfs)	HEC-1 Node	HEC-1 Model	Tributary Area (sq.mi.)	Channel Slope (%) **
LVKC		**LAS VEGAS WASH - KING CHARLES CHANNEL**						
0000	E	CONC CHNL 35'W 10'D 0:1 SS	592	5518	CLV99B-7	CWEST5	14.74	0.40
0009	E	CONC CHNL 21.8'W 10'D 1.5:1 SS	3280	5518	CLV99B-7	CWEST5	14.74	0.40
LVLA		**LAS VEGAS WASH - LAMB**						
0000	P	2: 13' X 9' RCB	2200	2461	CLVW03	WEST3	3.30	0.30
0041	P	13' X 11' RCB	2600	2320	COA02	WEST3	3.07	0.58
0090	P	13' X 11' RCB	2700	2047	CLW64-3	WEST3	2.65	0.44
0141	P	13' X 10' RCB	2650	1693	CLW64-2	WEST3	2.12	0.38
0191	P	12' X 9' RCB	2700	1452	CLW64-1	WEST3	1.61	0.56
LVLE		**LAKE MEAD DRAIN TO LAS VEGAS WASH**						
0000	P	12' X 6' RCB	2600	660	CLV1B-2	WEST3	0.78	0.40
0047	P	12' X 4' RCB	2400	458	LV1B-1	WEST3	0.49	0.50
LVLM		**LAS VEGAS WASH - LAKE MEAD**						
0000	E	43"X 68" HERCP (REPLACE W/ LVLM0001)	847	1159	CLM20-C	NW3SC	1.36	4.60
0001	P0	12' X 4' RCB (REPLACES LVLM0000)	847	1159	CLM20-C	NW3SC	1.36	4.60
0016	E	54" RCP (REPLACE W/ LVLM0017)	965	1159	CLM20-C	NW3SC	1.36	4.38
0017	P0	12' X 4' RCB (REPLACES LVLM0016)	965	1159	CLM20-C	NW3SC	1.36	4.38
0033	E	60" RCP (REPLACE W/ LVLM0034)	1186	1159	CLM20-C	NW3SC	1.36	1.62
0034	P0	12' X 5' RCB (REPLACES LVLM0033)	1186	1159	CLM20-C	NW3SC	1.36	1.62
0059	E	72" RCP (REPLACE W/ LVLM0060)	5952	1159	CLM20-C	NW3SC	1.36	0.66
0060	P0	12' X 7' RCB (REPLACES LVLM0059)	5952	1159	CLM20-C	NW3SC	1.36	0.66
LVLV		**LAS VEGAS BLVD DRAIN**						
0000	P	2: 10' X 8' RCB	2600	823	CLW075-4	WEST3	1.03	0.10
LVMD		**LAS VEGAS WASH - MIDDLE**						
1178	E	EARTH CHNL 30'W 18'-20'D 2:1 SS (REPLACE W/ LVMD1179)	1500	13206	CLVW04-C	CLVWASH5	109.77	0.57
1179	P	CONC CHNL 60'W 9.5'D 2:1 SS (REPLACES LVMD1178)	1500	13206	CLVW04-C	CLVWASH5	109.77	0.57
1208	E	BANK-STAB. CHNL 65'W 15'D 2:1 SS (REPLACE W/ LVMD1209)	1420	13206	CLVW04-C	CLVWASH5	109.77	0.32
1209	P	CONC CHNL 60'W 11'D 2:1 SS (REPLACES LVMD1208)	1420	13206	CLVW04-C	CLVWASH5	109.77	0.32
1230	E	4 SPAN BRIDGE 162'W 13'D @ WASHINGTON	105	13172	CCLVW03	CLVWASH5	109.50	0.73
1232	E	BANK-STAB. CHNL 48'W 8'D 2:1 SS (REPLACE W/ LVMD1233)	1900	13172	CCLVW03	CLVWASH5	109.50	0.73
1233	P	CONC CHNL 90'W 8'D 0:1 SS (REPLACES LVMD1232)	1900	13172	CCLVW03	CLVWASH5	109.50	0.73
1271	E	4 SPAN BRIDGE 94'W 10'-12'D 2:1 SS @ LAMB	120	12412	CCLVW01C	CLVWASH5	106.21	0.38
1272	E	EARTH CHNL 80'W 10'D 2:1 SS (REPLACE W/ LVMD1273)	2400	12412	CCLVW01C	CLVWASH5	106.21	0.38
1273	P	CONC CHNL 80'W 9'D 2:1 SS (REPLACES LVMD1272)	2400	12412	CCLVW01C	CLVWASH5	106.21	0.38
1320	E	GABION CHNL 100'W 10'D 2:1 SS (REPLACE W/ LVMD1321)	1950	9070	CCK-C1	CLVWASH5	103.98	0.38
1321	P	CONC CHNL 80'W 8.5'D 2:1 SS (REPLACES LVMD1320)	1950	9070	CCK-C1	CLVWASH5	103.98	0.38
1354	E	5 SPAN BRIDGE 110'W 7'-8'D 2:1 SS @ OWENS	120	7810	2CLV1B-2	CLVWASH5	169.06	0.58
1355	E	GABION CHNL 100'W 10'D 2:1 SS	3122	7810	2CLV1B-2	CLVWASH5	169.06	0.58
1390	E	ENERGY DISSIPATOR	137	7692	CLW64-4	CLVWASH5	168.27	0.10
1400	E	CONC CHNL 90' W 12'D 0:1	173	7692	CLW64-4	CLVWASH5	168.27	5.00
1421	E	2 SPAN BRIDGE 84'W 8'D @ LAKE MEAD	200	8906	CLW64-4	CCWEST5	80.53	0.60
1424	E	CONC CHNL 78'W 8.5'D 0:1 SS	1615	8906	CLW64-4	CCWEST5	80.53	0.34
1444	E	CONC CHNL 84'W 8'D 0:1 SS	1450	8906	CLW64-4	CCWEST5	80.53	0.34
1482	E	1 SPAN BRIDGE 84'W 7'D @ CAREY	72	8906	CLW64-4	CCWEST5	80.53	1.00
1484	E	CONC CHNL 84'W 8'-9'D 0:1 SS	1880	8906	CLW64-4	CCWEST5	80.53	0.37
1522	E	CONC CHNL 90'W 10'D 0:1 SS	376	8866	2CLW1A-3	CCWEST5	80.16	0.53
1529	E	CONC CHNL 90'W 9'8'D 0:1 SS	360	8866	2CLW1A-3	CCWEST5	80.16	0.53
1534	E	1 SPAN BRIDGE 72.5'W 7.5'D @ LAS VEGAS BLVD	120	8742	CLW1A-4	CCWEST5	78.13	0.88
1536	E	CONC CHNL 70'W 8'D 0:1 SS	455	8742	CLW1A-4	CCWEST5	78.13	0.49
1543	E	CONFLUENCE STRUCTURE	393	8742	CLW1A-4	CCWEST5	78.13	1.44
1550	E	CONC CHNL 90'W 7.5'-9'D 0:1 SS	2150	8260	CHYPKOT	CCWEST5	77.19	0.45
1594	E	1 SPAN BRIDGE 90'W 5'D @ CHEYENNE	124	8260	CHYPKOT	CCWEST5	77.19	0.71
1595	E	CONC CHNL 90'W 7'D 0:1 SS	580	8260	CHYPKOT	CCWEST5	77.19	0.40
1606	E	TRANSITION STRUCTURE	144	8260	CHYPKOT	CCWEST5	77.19	0.40
1609	E	60' X 7.25' RCB WITH 2' CENTER PIER	221	8260	CHYPKOT	CCWEST5	77.19	0.40
1614	E	CONC CHNL 60'W 9'-11'D 0:1 SS	703	13796	CHYPKIN	CCWEST5	77.19	0.15
1626	E	TRANSITION STRUCTURE	227	13796	CHYPKIN	CCWEST5	77.19	2.46
1643	E	64,000 CFS PMF SPILLWAY (REPLACE W/ LVMD1644)		64000	CHYPKIN	CCWEST5	77.19	
1644	P	MODIFY 64,000 CFS PMF SPILLWAY, RAISE BY 1' (REPL LVMD1643)		64000	CHYPKIN	CCWEST5	77.19	
1645	E	456 AC-FT CHEYENNE PEAKING BASIN		13796	CHYPKIN	CCWEST5	77.19	
1646	P	UPGRADE TO 590 AC-FT CHEYENNE PEAKING BASIN		13796	CHYPKIN	CCWEST5	77.19	
1647	E	CONC CHNL 120'D 10'W 0:1 SS	800	13796	CHYPKIN	CCWEST5	77.19	0.40

ID / Mile	Status	Facility Description	Length (ft.)	Flow (cfs)	HEC-1 Node	HEC-1 Model	Tributary Area (sq.mi.)	Channel Slope (%) **
LVMD		**LAS VEGAS WASH - MIDDLE**						
1648	E	3 SPAN BRIDGE 95'W 8'-10'D 2:1 SS @ CIVIC CENTER	120	13796	CHYPKIN	CCWEST5	77.19	0.70
1663	E	CONC CHNL 80'W 10'D 2:1 SS	700	13715	3C99B-7	CCWEST5	76.87	0.70
1664	E	3 SPAN BRIDGE 75'W 10'D 2:1 SS @ I-15	120	13715	3C99B-7	CCWEST5	76.87	0.70
1665	E	TRANSITION STRUCTURE	200	8157	CLV99B-5	WEST5	48.36	0.36
1669	E	FREE SPAN BRIDGE 55'W 12'D @ UPRR	40	8157	CLV99B-5	WEST5	48.36	0.36
1670	E	CONC CHNL 82'W 10'D 0:1 SS	370	8157	CLV99B-5	WEST5	48.36	1.69
1677	E	CONC CHNL 80'W 10'D 2:1 SS	119	8157	CLV99B-5	WEST5	48.36	0.37
1679	E	4 SPAN BRIDGE 100'W 12'D 2:1 SS @ LOSEE	120	8157	CLV99B-5	WEST5	48.36	0.37
LVNC		**LAS VEGAS WASH - N CHANNEL**						
0001	E	18' X 7' RCB	150	1059	CLW100	CWEST5	14.59	0.33
0004	E	CONC CHNL 18'W 8.5'D 0:1 SS	200	1059	CLW100	CWEST5	14.59	0.33
0007	E	DROP STRUCTURE 18'W 2.8'D 3:1 SS	200	1059	CLW100	CWEST5	14.59	0.70
0008	E	CONC CHNL 18'W 10'D 2:1 SS	1250	1059	CLW100	CWEST5	14.59	0.70
0037	E	2: 14' X 7'-6' CMAP @ CHEYENNE	120	1059	CLW100	CWEST5	14.59	0.70
0038	E	CONC CHNL 32'W 8.5'D 2:1 SS	363	1059	CLW100	CWEST5	14.59	0.30
0043	E	CONC CHNL 12'W 6'-8'D 2:1 SS	1930	1059	CLW100	CWEST5	14.59	0.50
0079	E	TRANSITION CONC CHNL	350	1059	CLW100	CWEST5	14.59	1.00
0090	E	3: 12' X 6' RCB	120	1059	CLW100	CWEST5	14.59	0.70
0091	E	14' X 6' RCAP	1324	1059	CLW100	CWEST5	14.59	0.52
LVOE		**OWENS AVENUE - EAST**						
0000	P	15' X 12' RCB	4700	3018	CK-C1	SW5	24.06	0.47
0085	P	14' X 12' RCB	2540	2908	CG	SW5	23.74	0.62
0134	P	12' X 11' RCB	5380	2833	CE-C	SW5	23.51	1.00
0236	P	13' X 9' RCB	5000	2643	CH-C1	SW5	22.90	1.50
0331	P	13' X 12' RCB	1940	2576	DLVOE	SW5	22.61	0.60
0345	P	13' X 12' RCB	990	2576	DLVOE	SW5	22.61	0.60
LVOW		**OWENS AVENUE SYSTEM**						
0000	E	10' X 6' RCB	145	1219	CLM16B-C	NW3	2.43	0.76
0003	E	96" RCP	7500	1219	CLM16B-C	NW3	2.43	0.70
LVSR		**LAS VEGAS WASH - SMOKE RANCH**						
0000	E	CONC CHNL 22'W 8'D 0:1 SS	79	1086	CS1-C	NW3SC	1.42	2.32
0001	E	FREE SPAN BRIDGE 22'W 10'D	50	1086	CS1-C	NW3SC	1.42	2.32
0002	E	CONC CHNL 22'W 8'D 0:1 SS	468	1086	CS1-C	NW3SC	1.42	2.32
0009	E	72" RCP (REPLACE W/ LVSR0010)	702	1086	CS1-C	NW3SC	1.42	2.32
0010	P	10' X 5' RCB (REPLACES LVSR0009)	702	1086	CS1-C	NW3SC	1.42	2.32
0020	E	60" RCP (REPLACE W/ LVSR0021)	1320	1086	CS1-C	NW3SC	1.42	3.03
0021	P	10' X 5' RCB (REPLACES LVSR0020)	1320	1086	CS1-C	NW3SC	1.42	3.03
0045	E	54" RCP (REPLACE W/ LVSR0046)	1180	1086	CS1-C	NW3SC	1.42	3.41
0046	P	10' X 5' RCB (REPLACES LVSR0045)	1180	1086	CS1-C	NW3SC	1.42	3.41
0070	E	66" RCP (REPLACE W/ LVSR0071)	4118	1086	CS1-C	NW3SC	1.42	0.73
0071	P	10' X 8' RCB (REPLACES LVSR0070)	4118	1086	CS1-C	NW3SC	1.42	0.73
LVWH		**WASHINGTON AVENUE CHANNEL**						
0086	E	3: 12' X 8' RCB	1210	3825	CLVW01-C	SW5SC	16.58	0.35
0087	E	3: 12' X 8' RCB	1560	3825	CLVW01-C	SW5SC	16.58	0.33
0136	E	3: 12' X 8' RCB	2063	3728	CQ-C	SW5SC	16.35	0.33
0155	E	3: 10' X 8' RCB	3630	3618	CP-C	SW5SC	16.09	0.68
0234	E	2: 12' X 8' RCB	600	3502	CN-C	SW5SC	15.78	0.71
0240	E	2: 12' X 8' RCB	3240	3502	CN-C	SW5SC	15.78	1.50
0305	E	12' X 8' RCB	2950	1562^	CV1-C^	SW5SC	14.95	2.93
0361	E	12' X 8' RCB	548	1562^	CV1-C^	SW5SC	14.95	0.90
0371	E	12' X 8' RCB	590	1562^	CV1-C^	SW5SC	14.95	2.62
0382	E	CONC CHNL 50'W 10'D 0:1 SS	260	3124	CV1-C	SW5SC	14.95	0.80
0387	E	12' X 8' RCB	125	1562^	CV1-C^	SW5SC	14.95	7.43
0389	E	12' X 8' RCB	2110	1562^	CV1-C^	SW5SC	14.95	0.90
0426	E	16' X 8' RCB	150	1562^	CV1-C^	SW5SC	14.95	1.08
0429	E	SPLITTER STRUCTURE (2: 12' X 8' RCB)	190	2870	DCLC21	SW5	22.61	1.90
0431	E	3: 14.33' X 10' RCB	665	2870	DCLC21	SW5	22.61	0.15
0446	E	JUNCTION STRUCTURE	69	2870	DCLC21	SW5	22.61	0.15
0447	E	3: 14.33' X 10' RCB	1955	5193	CCAL93	SW5	22.05	0.15
RWSL		**RANGE WASH - SLOAN**						
0694	E	CONC CHNL 10'W 8'D 1.5:1 SS	1500	1686	C47C4	RW3SC	2.40	0.56

ID / Mile	Status	Facility Description	Length (ft.)	Flow (cfs)	HEC-1 Node	HEC-1 Model	Tributary Area (sq.mi.)	Channel Slope (%) **
RWSL		**RANGE WASH - SLOAN**						
0727	E	3: 10' X 8' RCBC	100	1592	C307E3	RW3SC	2.25	0.56
0728	E	CONC CHNL 12'W 8.5'D 1.5:1 SS	1345	1592	C307E3	RW3SC	2.25	0.56
WAGC		**WASHINGTON AVENUE CHANNEL - GRAND CENTRAL**						
0000	E	2: 12' X 4' RCB	700	505	LC21	SW3	0.56	0.20
0014	E	1: 12' X 4' RCB AND 1: 11' X 4' RCB	2440	505	LC21	SW3	0.56	0.20
WAPR		**WASHINGTON AVENUE CHANNEL PARALLEL**						
0000	E	12' X 8' RCB	2100	1562^	CV1-C^	SW5SC	14.95	2.20
0037	E	12' X 8' RCB	590	1562^	CV1-C^	SW5SC	14.95	5.60
0051	E	12' X 8' RCB	1200	1562^	CV1-C^	SW5SC	14.95	0.80
0074	E	12' X 8' RCB	550	1562^	CV1-C^	SW5SC	14.95	1.60
0089	E	14' X 8' RCB	395	1562^	CV1-C^	SW5SC	14.95	0.55
0097	E	14' X 8' RCB	1835	1562^	CV1-C^	SW5SC	14.95	1.24
0132	E	2: 9' X 8' RCB	387	1562^	CV1-C^	SW5SC	14.95	1.67

*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).

REGIONAL FLOOD CONTROL DISTRICT

2018 LAS VEGAS VALLEY FLOOD CONTROL MASTER PLAN UPDATE

FACILITY INVENTORY FIGURE F-25

LEGEND

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

ExistingFacility..... E
Proposed or Modified Facility..... P
Contingency Level
Category A..... P
Catgory B..... P0

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

Construction Features

Cast in Place Concrete Pipe	CIPCP	Reinforced Concrete Arch Culvert	RCAC
Corrugated Metal Arch Pipe Culvert	CMAP	Reinforced Concrete Box	RCB
Corrugated Metal Pipe Culvert	CMPC	Reinforced Concrete Box Culvert	RCBC
High Density Polyethylene	HDPE	Reinforced Concrete Pipe	RCP
Horizontal Elliptical Reinforced Concrete Pipe	HERCP	Reinforced Concrete Pipe Culvert	RCPC
Reinforced Concrete Arch Pipe	RCAP	Storm Sewer Pipe	SSP

ATKINS
Member of the SNC-Lavalin Group
Louis Berger

LAS VEGAS CITY COUNCIL

CAROLYN G. GOODMAN
Mayor

STAVROS S. ANTHONY
Mayor Pro Tem

MICHELE FIORE
CEDRIC CREAR
BRIAN KNUDSEN
VICTORIA SEAMAN
OLIVIA DÍAZ

SCOTT D. ADAMS
City Manager

DEPARTMENT OF PLANNING

ROBERT SUMMERFIELD
DIRECTOR

DEVELOPMENT SERVICES CENTER

333 N. RANCHO DRIVE
3RD FLOOR
LAS VEGAS, NV 89106
702.229.6301 | VOICE
702.474.7463 | FAX
711 | TTY

cityoflasvegas
lasvegasnevada.gov

October 26, 2020

Catholic Charities Southern NV
1501 North Las Vegas Boulevard
Las Vegas, Nevada 89101

RE: 20-0253-SDR1 – ADMINISTRATIVE SITE DEVELOPMENT PLAN REVIEW
ADMINISTRATIVE CYCLE – OCTOBER 2020

Dear Applicant:

Your request for a Site Development Plan Review FOR A PROPOSED PARKING LOT on 6.06 acres at 1526 Main Street (APN portion of 139-27-503-006), C-2 (General Commercial) Zone, Ward 5 (Crear) has been considered administratively by the Department of Planning staff.

The Department of Planning has administratively ***APPROVED*** your request subject to the following:

Planning

1. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas

2. All development shall be in conformance with the site plan date stamped 10/14/20 and landscape plan date stamped 10/13/20 except as amended by conditions herein.

3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.

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

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

6. A fully operational fire protection system, including fire apparatus roads, fire hydrants and water supply, shall be installed and shall be functioning prior to construction of any combustible structures.

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

Public Works

8. Remove unused driveway cuts adjacent to this site and replace with curb, gutter and sidewalk meeting current City Standards concurrent with development of this site. All existing paving damaged or removed by this development shall be restored at its original location and to its original width concurrent with development of this site.

9. The submitted Drainage Plan and Technical Drainage Study update must be approved by the Department of Public Works prior to submittal of any construction drawings or the issuance of any building or grading permits, whichever may occur first. Provide and improve all drainageways recommended in the approved Drainage Study update.

This action by the Department of Planning staff on **October 26, 2020** is final unless a written appeal is filed with the Director of the Department of Planning within ten days of the date of this letter.

Sincerely,

Eric McCammond
Senior Management Analyst
Case Planning Division

EM:nl

cc: Mr. Paul Spannhake
3770 Howard Hughes Parkway, Suite #100
Las Vegas, Nevada 89169

Appendix B – Reference Material

- Technical Drainage Study for Catholic Charities of Southern Nevada – Phase 1; Prepared by Martin & Martin, INC. Approved August 7, 1997. DS-2067

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM	DATE: August 7, 1997
TO: Diane Phomninh, P.E. Land Development Services Department of Public Works	FROM: Dennis W. Stransky, P.E. Flood Control Project Manager Department of Public Works
SUBJECT: Drainage Study for: **Catholic Charities of Southern Nevada, Phase I** FILE NO. H:\DEPOT\DS\DS2067B.DOC	COPIES TO: Martin & Martin, Inc. Catholic Charities of Southern Nevada John McNellis, P.E.

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

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES
1st Submittal	05/30/97	06/16/97	Not Acceptable	N/C
2nd Submittal	07/25/97	08/07/97	See Below	N/C
			TOTAL FEES	0

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

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

1. The sump outlet for the onsite storm drain system must have a 4-inch drain line that daylights to allow the bubbler to drain. The City of Las Vegas will not accept a bubbler without a drain line even for an interim condition.
2. Please note: the existing building at the elevation of 6.44 will be flooded during a 100-year storm event as there is no emergency overflow for this water. It is our understanding that the existing building will be replaced with future phases and that this is an interim condition.

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

PLANS SENT TO LAND DEVELOPMENT YES DWM **(initial)**

END OF REMARKS
DBM

T/R/S: **20S/61E/27**
AREA M-27

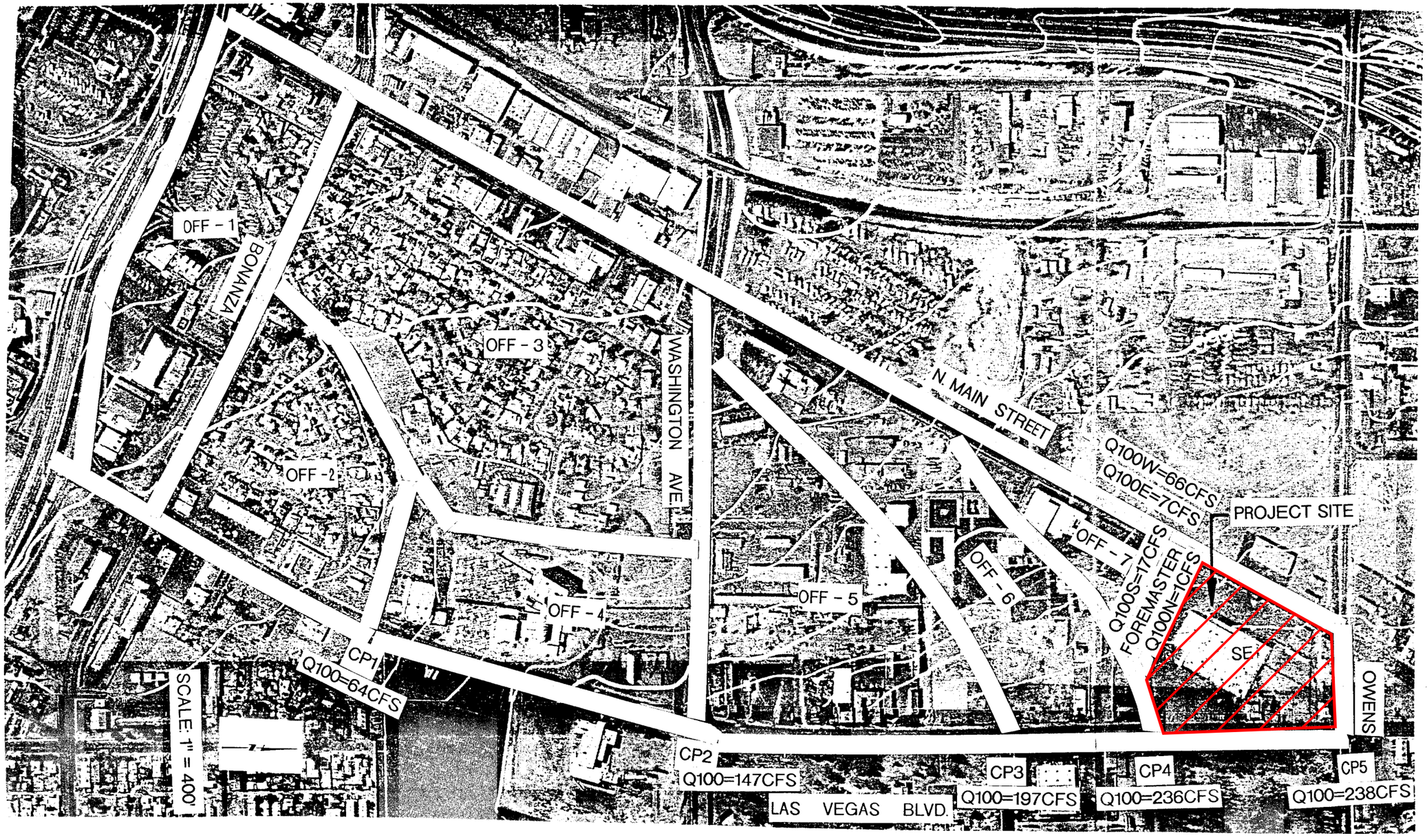
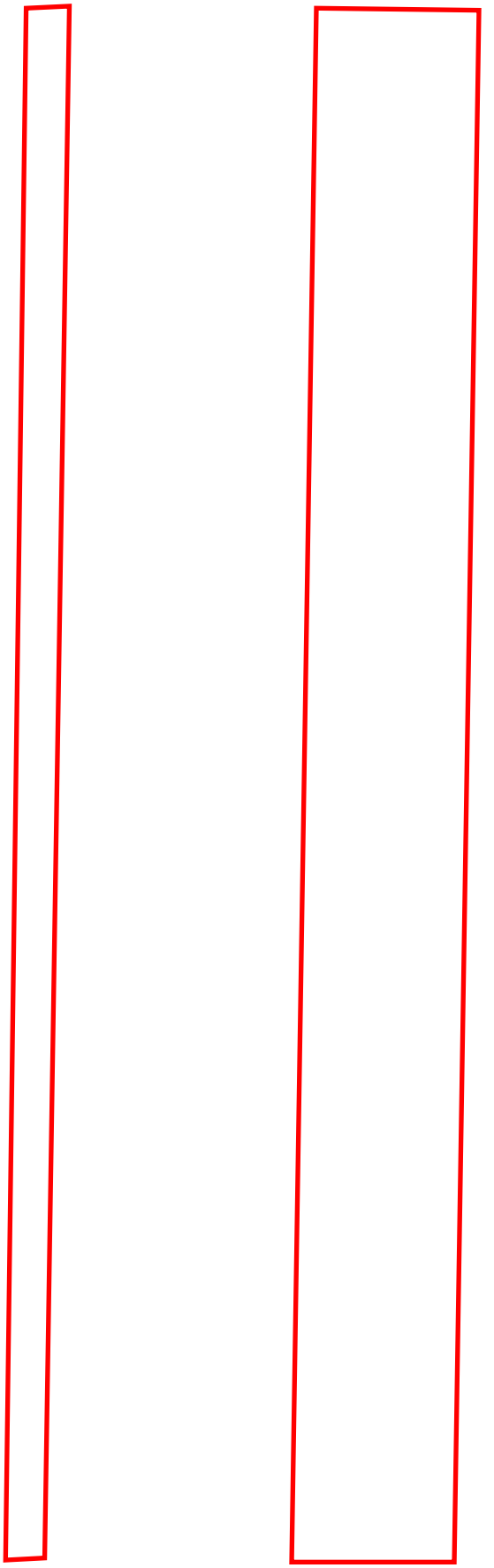


FIGURE 5 OFFSITE CONTRIBUTARY SUBAREAS AND EXISTING ONSITE SUBBASIN

MARTIN & MARTIN
CIVIL ENGINEERS
1909 SOUTH JONES BLVD.
PHONE (702) 248-8000



DEV. 100-YR @ FOREMASTER (SOUTH HALF)
Worksheet for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	DEV. 100-YR @ FOREMASTER (SOUTH HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.045000	ft/ft
Elevation range: 0.00 ft to 0.70 ft.		

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	0.70	0.00	12.00	0.016
10.50	0.50	12.00	30.00	0.017
10.50	0.00			
12.00	0.13			
12.00	0.17			
30.00	0.53			

Discharge	17.00	cfs

Results		
Wtd. Mannings Coefficient	0.017	
Water Surface Elevation	0.48	ft
Flow Area	2.96	ft^2
Wetted Perimeter	17.33	ft
Top Width	16.81	ft
Height	0.48	ft
Critical Depth	0.62	ft
Critical Slope	0.006430	ft/ft
Velocity	5.74	ft/s
Velocity Head	0.51	ft
Specific Energy	0.99	ft
Froude Number	2.41	
Flow is supercritical.		

DEV. 100-YR @ FOREMASTER (NORTH HALF)
Worksheet for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	DEV. 100-YR @ FOREMASTER (NORTH HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data				
Channel Slope	0.045000 ft/ft			
Elevation range: 0.00 ft to 0.70 ft.				
Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
30.00	0.53	30.00	48.00	0.017
48.00	0.17	48.00	60.00	0.016
48.00	0.13			
49.50	0.00			
49.50	0.50			
60.00	0.70			
Discharge	1.00 cfs			

Results		
Wtd. Mannings Coefficient	0.017	
Water Surface Elevation	0.22	ft
Flow Area	0.31	ft^2
Wetted Perimeter	4.47	ft
Top Width	4.20	ft
Height	0.22	ft
Critical Depth	0.28	ft
Critical Slope	0.009783	ft/ft
Velocity	3.21	ft/s
Velocity Head	0.16	ft
Specific Energy	0.38	ft
Froude Number	2.08	
Flow is supercritical.		

DEV. 100-YR FLOW @ FOREMASTER (SOUTH HALF)
Cross Section for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	DEV. 100-YR @ FOREMASTER (SOUTH HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

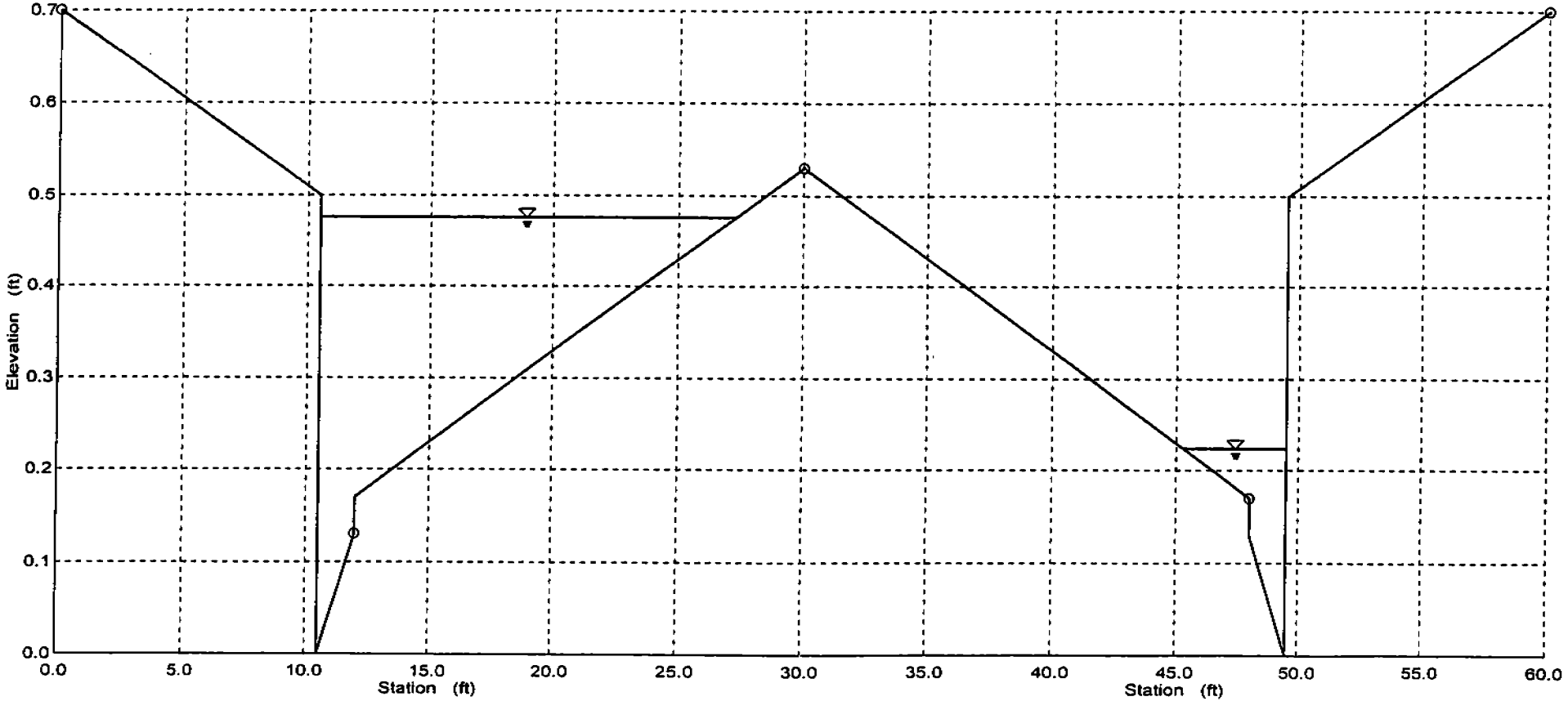
Section Data		
Wtd. Mannings Coefficient	0.017	
Channel Slope	0.045000	ft/ft
Water Surface Elevation	0.48	ft
Discharge	17.00	cfs

DEV. 100-YR FLOW @ FOREMASTER (NORTH HALF)
Cross Section for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	DEV. 100-YR @ FOREMASTER (NORTH HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.017	
Channel Slope	0.045000	ft/ft
Water Surface Elevation	0.22	ft
Discharge	1.00	cfs

PROJECT →



100-YR FLOW @ MAIN STREET (WEST HALF)
Worksheet for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	100-YR. FLOW @ MAIN STREET (WEST HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.027700	ft/ft
Discharge	66.00	cfs

Elevation range: 0.00 ft to 0.79 ft.

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	0.70	0.00	11.50	0.016
10.00	0.50	11.50	42.50	0.017
10.00	0.00			
11.50	0.13			
11.50	0.17			
42.50	0.79			

Results		
Wtd. Mannings Coefficient	0.017	
Water Surface Elevation	0.75	ft
Flow Area	10.78	ft^2
Wetted Perimeter	40.91	ft
Top Width	40.31	ft
Height	0.75	ft
Critical Depth	0.92	ft
Critical Slope	0.005578	ft/ft
Velocity	6.12	ft/s
Velocity Head	0.58	ft
Specific Energy	1.33	ft
Froude Number	2.09	

Flow is supercritical.

Water elevation exceeds lowest end station by 0.05 ft.

100-YR FLOW @ MAIN STREET (EAST HALF)
Worksheet for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	100-YR. FLOW @ MAIN STREET (EAST HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data				
Channel Slope	0.027700 ft/ft			
Elevation range: 0.00 ft to 0.79 ft.				
Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
42.50	0.79	42.50	73.50	0.017
73.50	0.17	73.50	85.00	0.016
73.50	0.13			
75.00	0.00			
75.00	0.50			
85.00	0.70			
Discharge	7.00 cfs			

Results		
Wtd. Mannings Coefficient	0.017	
Water Surface Elevation	0.40	ft
Flow Area	1.81	ft^2
Wetted Perimeter	13.39	ft
Top Width	12.95	ft
Height	0.40	ft
Critical Depth	0.48	ft
Critical Slope	0.006946	ft/ft
Velocity	3.87	ft/s
Velocity Head	0.23	ft
Specific Energy	0.63	ft
Froude Number	1.82	
Flow is supercritical.		

100-YR FLOW @ MAIN STREET (WEST HALF)
Cross Section for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	100-YR. FLOW @ MAIN STREET (WEST HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

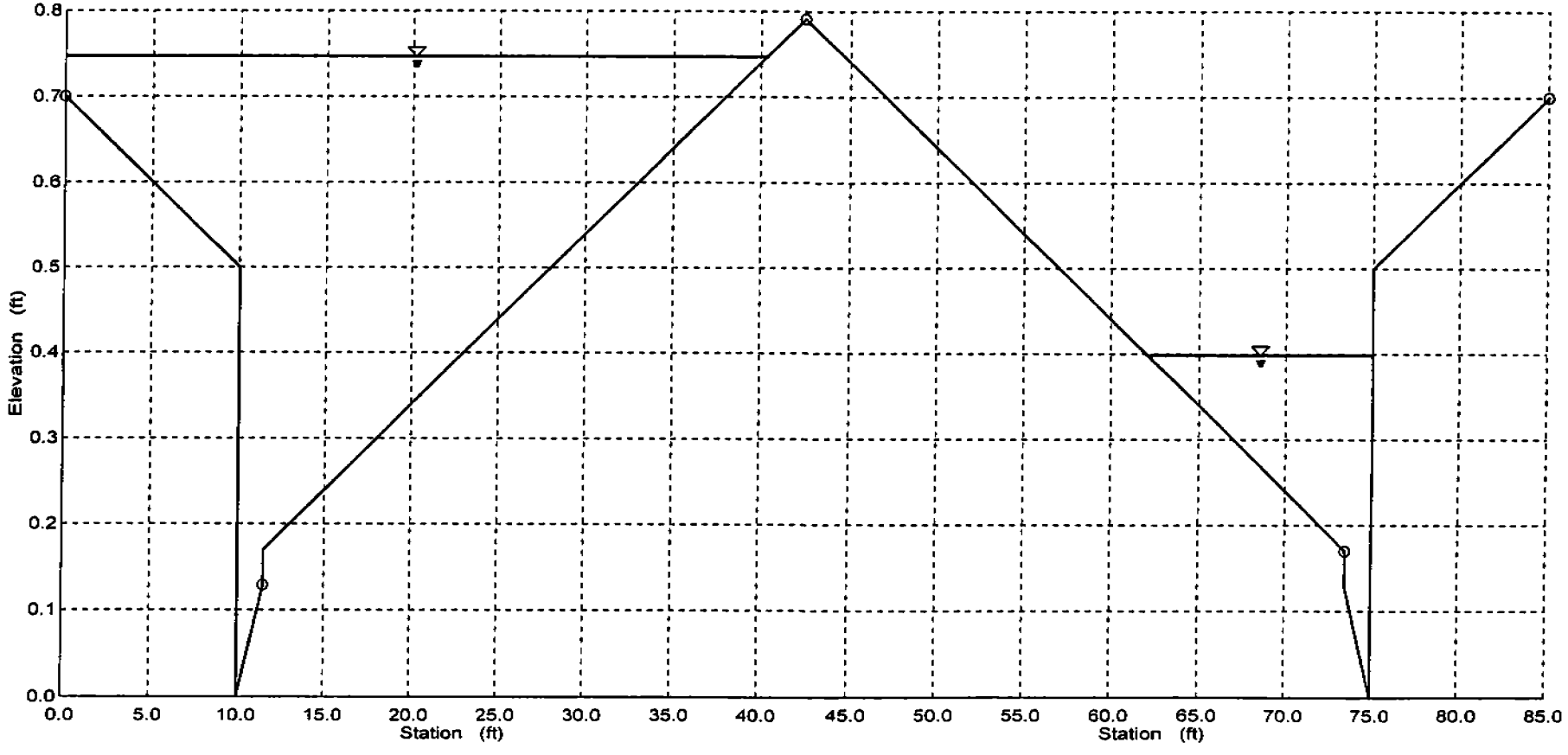
Section Data		
Wtd. Mannings Coefficient	0.017	
Channel Slope	0.027700	ft/ft
Water Surface Elevation	0.75	ft
Discharge	66.00	cfs

100-YR FLOW @ MAIN STREET (EAST HALF)
Cross Section for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	100-YR. FLOW @ MAIN STREET (EAST HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.017	
Channel Slope	0.027700	ft/ft
Water Surface Elevation	0.40	ft
Discharge	7.00	cfs

PROJECT →



Appendix C – Improvement Plans

CIVIL IMPROVEMENT PLANS

FOR

CATHOLIC CHARITIES OF SOUTHERN NEVADA - PHASE 1 EXPANSION

APN: 139-27-503-006

LAS VEGAS, NEVADA

PROJECT CONTACTS

CIVIL ENGINEER
KIMLEY-HORN AND ASSOCIATES, INC.
6671 LAS VEGAS BOULEVARD SOUTH, SUITE 320
LAS VEGAS, NEVADA 89119

CONTACT: THOMAS ACKERET, P.E.
(702)-862-3608

OWNER/DEVELOPER
CATHOLIC CHARITIES SOUTHERN NEVADA
1501 N LAS VEGAS BLVD

PROJECT SURVEYOR
WALLACE MORRIS KLINE SURVEYING, LLC.
5740 SOUTH ARVILLE STREET, #206
LAS VEGAS, NEVADA 89118
(702)-212-3967

PROJECT ARCHITECT
CUNNINGHAM GROUP ARCHITECTURE, Inc.
3770 HOWARD HUGHES PKWY #100, LAS VEGAS, NV 89169

CONTACT: PAUL SPARRHAKE
(702)-946-5390

PROJECT INFORMATION

NUMBER OF LOTS: 1

ACREAGE: ±6.07 ACRES

ZONING: GENERAL COMMERCIAL DISTRICT (C-2)

BENCHMARK

CLARK COUNTY VERTICAL CONTROL STATION 2LV0122SSE6, RIVET AND ALUMINUM PLATE IN TOP OF CURB, NORTHEAST CORNER OF OWENS AVE. AND MAIN STREET NEAR THE POC.

ELEVATION = 580.583 METERS
ELEVATION = 1904.79 U.S. SURVEY FEET (NAVD 88 V.2018

BASIS OF BEARING

SOUTH 89°42'26" EAST, BEING THE NORTH LINE OF THE NORTHEAST QUARTER (NE1/4) OF SECTION 27, TOWNSHIP 20 SOUTH, RANGE 61 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE 91, PAGE 69 OF PLATS, OFFICIAL RECORDS, CLARK COUNTY, NEVADA.

LEGAL DESCRIPTION

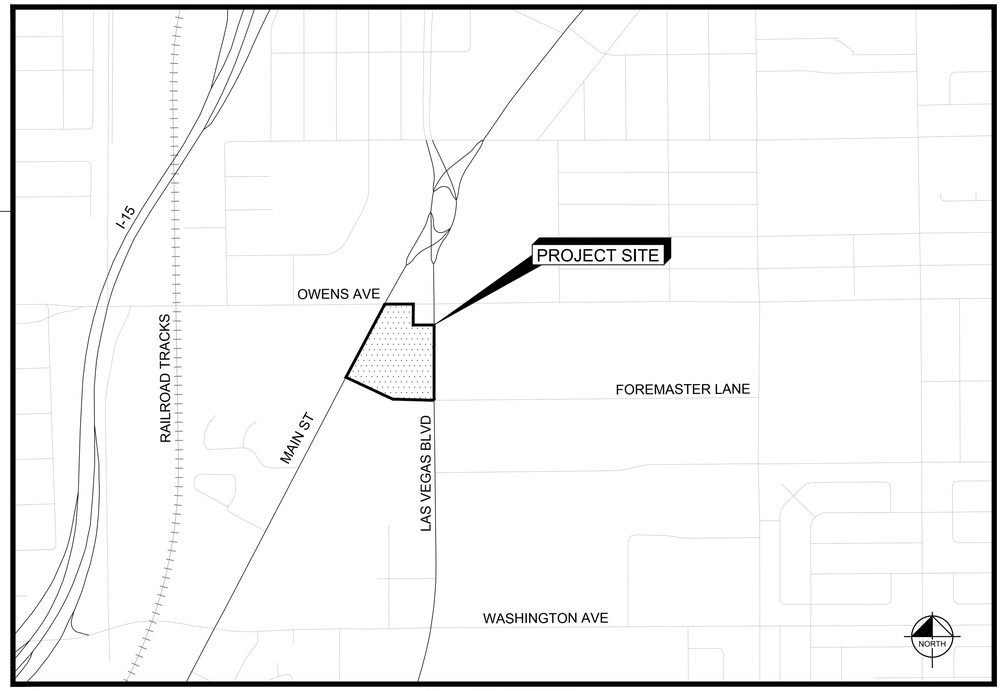
LOT 1 PARCEL MAP FILE 91, PAGE 69, TOWNSHIP 20, SECTION 27, RANGE 61

UTILITY NOTE

KIMLEY-HORN AND ASSOCIATES TAKES NO RESPONSIBILITY FOR EXISTING UTILITIES SHOWN HEREIN. THE EXISTING UTILITIES SHOWN ARE BASED ON INFORMATION PROVIDED BY-OTHER PARTIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND VERIFY THE LOCATIONS AND INVERTS OF THE EXISTING WITHIN THE VICINITY OF CONSTRUCTION ACTIVITIES. IF A CONFLICT IS FOUND TO EXIST, THE CONTRACTOR SHALL COORDINATE THE PROJECT ENGINEER, PROJECT ARCHITECT, AND THE OWNER IMMEDIATELY.

SHEET SET

SEE SHEET C0.03 FOR SHEET INDEX



PROJECT VICINITY MAP

NTS

CUNINGHAM GROUP

Cuningham Group Architecture, Inc.
3770 Howard Hughes Parkway, Suite 100, Las Vegas, NV 89169
www.cuningham.com

Kimley»Horn

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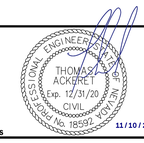
6671 LAS VEGAS BOULEVARD S., SUITE 320, LAS VEGAS, NV 89119
PHONE: 702-862-3600
WWW.KIMLEY-HORN.COM



11/10/2020

Revisions

No.	Date	Description

Project Information

Phase:	ELP Demolition	Date:	November 10, 2020
Project No.:	18-0621	PIC / AIC:	BE / PS

Catholic Charities of Southern Nevada

Sheet Title

COVER SHEET

Sheet Number PH1-C0.01

Current Revision

Call before you Dig
Avoid cutting underground utility lines. It's costly.
CALL 811 OR 1-800-227-2600

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BIM 360://19-0345 - Yacht Palace Cosmo MF & Expansion/19-0345_Yacht_Palace_Exp-Reno_Architectural.rvt
4/6/2020 9:13:37 AM

CITY OF LAS VEGAS GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 'UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA', LATEST ISSUE; THE 'UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA', LATEST REVISED EDITION; THE 'SUMMERLIN IMPROVEMENT STANDARDS'FOR WORK IN THE SUMMERLIN AREA; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; THE UNIFORM BUILDING CODE; AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS 'DEVIATIONS FROM STANDARDS'.

2. THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES AS SHOWN FROM CLV PLANS LIBRARY ARE APPROXIMATE AND FOR RECORD PURPOSES. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCES WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.

3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES AND STREET IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE, AND ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO THE CITY ENGINEER AND OWNING UTILITY COMPANY AT THE EXPENSE OF THE CONTRACTOR.

4. ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS, ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.

5. TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGNS TO BE APPROVED BY THE CITY, PRIOR TO THE USE ON THE PROJECT.

6. PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.

7. EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300'IN EXTRUDED-TYPE CURB.

8. AC PAVEMENT TO BE ONE-HALF INCH (½') ABOVE LIP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS AND CROSS GUTTERS.

9. CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY OF LAS VEGAS SHALL BE REMOVED AND REPLACED PER STANDARD DRAWING 216.

10. SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER STANDARD DRAWING 235. EXACT LOCATION OF RAMPS MAY BE ADJUSTED IN THE FIELD BY A CITY INSPECTOR.

11. CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION. THE EXTENT OF THE TRANSITIONS TO BE AS SHOWN ON PLANS.

12. ALL GRADING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY NOVA GEOTECHNICAL & INSPECTION SERVICES (PROJECT #G-18-038, DATED: MAY 15, 2018), APPROVED BY THE CITY ENGINEER, AND AS SHOWN ON THESE PLANS.

13. EXACT LOCATION OF ALL SAWCUT LINES MAY BE ADJUSTED OR DETERMINED IN THE FIELD BY A CITY OF LAS VEGAS ENGINEER IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATIONS.

14. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING PERMANENT SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE REPLACED AND ADJUSTED PER AVAILABLE RECORDS IN ACCORDANCE WITH N.R.S. STATUTE NO. 625.380 & CITY OF LAS VEGAS TITLE 18, APPENDIX D.

15. UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC., SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAY APRONS, FLOWLINES, AND CROSS GUTTERS UNLESS WRITTEN APPROVAL IS GRANTED BY THE UTILITY COMPANY AND THE CITY ENGINEER.

WALL NOTES:

16. ALL WALLS, NEW OR EXISTING, ARE ONLY SHOWN ON CIVIL PLANS FOR THE PURPOSE OF REVIEWING GRADING RELATIONSHIPS; FLOOD CONTROL AND SIGHT DISTANCE AT INTERSECTIONS. NEW WALLS REQUIRE A SEPARATE PERMIT AND INSPECTION BY THE BUILDING DEPARTMENT.

17. ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHT OF WAY.

18. CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE RIMS, AND SEWER CLEAN OUTS, ETC. TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.

19. MATERIALS, HANDLING AND PLACEMENT OF PORTLAND CEMENT CONCRETE SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF NDOT OR THE CLARK COUNTY AREA SPECIFICATIONS (AS APPLICABLE) AND THE PLANS AND DETAILS SHOWN HEREON.

20. WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC., THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO OFFSITE INSPECTION AND TESTING CERTIFYING THAT ALL DEVICES HAVE BEEN PLACED AND VERIFIED TO BE IN GOOD WORKING CONDITION PRIOR TO THE CONSTRUCTION OF ANY ROAD BASE.

21. AFTER HAUNCHING AND PRIOR TO BACKFILL OPERATIONS WHICH WOULD COVER SANITARY SEWER AND STORM DRAIN FACILITIES, CONTRACTOR IS REQUIRED TO SCHEDULE CLV OPEN-TRENCH UTILITY SURVEY INSPECTION FOR DETERMINATION OF FINAL LOCATION COORDINATES. FACILITIES TO BE LOCATED BY CLV SHALL INCLUDE AT A MINIMUM THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES AND TRANSITION STRUCTURES, STORM DRAIN LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT-OF-WAY, SEWER AND STORM DRAIN MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS.

22. CCTV VIDEO INSPECTION IS REQUIRED FOR ALL SEWER AND STORM DRAINS. THE CCTV VIDEO INSPECTIONS NEED TO BE PERFORMED PER THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS LATEST ADDITION.

23. A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

REVISED 02/03/15

CITY OF LAS VEGAS GRADING NOTES

1. IN THE EVENT THAT ANY UNFORESEEN CONDITIONS NOT COVERED BY THESE NOTES ARE ENCOUNTERED DURING GRADING OPERATIONS, THE OWNER/ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTION.

2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THIS PROJECT AND THE RELATED OFF-SITE WORK, SO AS TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES AND SLOPES SHOWN.

3. CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL EXCAVATION. ADEQUATE SHORING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR TO PREVENT UNDERMINING OF ANY ADJACENT FEATURES OR FACILITIES AND/OR CAVING OF THE EXCAVATION.

4. THE CONTRACTOR IS WARNED THAT AN EARTHWORK BALANCE WAS NOT NECESSARILY THE INTENT OF THIS PROJECT. ANY ADDITIONAL MATERIAL REQUIRED OR LEFTOVER MATERIAL FOLLOWING EARTHWORK OPERATIONS BECOMES THE RESPONSIBILITY OF THE CONTRACTOR.

5. THE GRADING CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER TO PROVIDE FOR THE REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ASSOCIATED PERMIT.

6. CONTRACTOR SHALL GRADE TO THE LINES AND ELEVATIONS SHOWN ON THE PLANS WITHIN THE FOLLOWING HORIZONTAL AND VERTICAL TOLERANCES AND DEGREES OF COMPACTION, IN THE AREAS INDICATED:
   HORIZONTAL VERTICAL COMPACTION
   A. PAVEMENT AREA SUBGRADE 0.1'+ +0.0' TO -0.1' SEE SOILS REPORT
   B. ENGINEERED FILL 0.5'+ +0.1' TO -0.1' SEE SOILS REPORT COMPACTION TESTING WILL BE PERFORMED BY THE OWNER OR HIS REPRESENTATIVE.

7. ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.

8. THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER.

9. THE CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS AND ALL OTHER PUBLIC RIGHT-OF-WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE PUBLICLY OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.

10. IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED THAT IS NOT SHOWN ON THESE DRAWINGS, THE OWNER AGREES TO PROVIDE AND INSTALL SUCH ITEM AT HIS OWN EXPENSE AND AT THE DIRECTION OF THE CITY ENGINEER. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

REVISED 04/15/10

1. ALL STREET LIGHTING INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STREET LIGHTING PLANS, THE 'UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA'; LATEST REVISION, AND THE 'UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA'; LATEST REVISION, AND ANY ADOPTED SPECIAL AREA STANDARDS.

2. NO DEVIATION OF STREET LIGHT, PULL BOX, CONDUITS (ETC.) LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF TRAFFIC ENGINEERING AND THE CITY ENGINEER.

3. ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION.

4. ALL STREET LIGHTING CONDUITS STUB SHALL HAVE AT LEAST ONE GREEN #8 THW WIRE INSTALLED, AS TRACER WIRE. WHEN 'EMPTY'CONDUIT IS COMPLETELY INSTALLED FROM PB TO PB, IT SHALL HAVE

CITY OF LAS VEGAS STREETLIGHT NOTES

MINIMUM OF 2 #4 AND 1 #8 THW WIRE WITH THE ENDS TAPED OR "SAFE OFF'PRIOR TO FINAL INSPECTION.

5. ANY STRUCTURE SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC., SHALL LEAVE A MINIMUM CLEARANCE IN ACCORDANCE WITH THE USD NO. 320A.

6. AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE TEFO PRIOR TO ANY PRE-FINAL INSPECTION. THE AS-BUILT DRAWING NEEDS TO BE STAMPED AS-BUILT AND SIGNED BY THE PREPARER.

7. SERVICE POINT SHALL BE COORDINATED WITH NV ENERGY COMPANY, AND WHEREVER POSSIBLE, BE LOCATED NEAR THE CENTER OF THE CIRCUIT. SERVICE POINTS SHALL BE SHOWN ON THE CIVIL PLANS.

8. IT SHALL BE ASSUMED THAT IN THE ABSENCE OF AN EXISTING, WORKABLE CIRCUIT TO ATTACH TO, ALL INSTALLATIONS SHALL REQUIRE A NEW SERVICE FOR OPERATION OF THE CIRCUIT.

9. WHEREVER THERE IS AN OVERHEAD UTILITY THAT MAY CONFLICT WITH THE INSTALLATION OF STREET LIGHTING CIRCUITS AND/OR POLES, THESE CONFLICTS MUST BE RESOLVED BETWEEN THE DEVELOPER AND THE UTILITIES INVOLVED, AT NO EXPENSE TO THE CITY OF LAS VEGAS, BEFORE STREETLIGHT BASES ARE INSTALLED.

10. THE CONTRACTOR SHALL FURNISH COMPLETE SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON PLANS.

11. THE DEVELOPER/OWNER WILL BE REQUIRED TO SUPPLY POWER TO ALL NEW PUBLIC STREET LIGHTS INSTALLED UNDER THIS DESIGN PRIOR TO BOND RELEASE OR PROJECT COMPLETION. THE DEVELOPER/OWNER WILL BE RESPONSIBLE FOR ALL ITEMS ASSOCIATED WITH THE INSTALLATION, CONSTRUCTION, ENERGIZING, MAINTENANCE AND OPERATIONAL COST OF SAID STREET LIGHTS PRIOR TO PROJECT COMPLETION. REFER TO THE PLAN FOR ANY NEW SERVICE REQUIREMENTS. THE TRANSFER OF OWNERSHIP FROM THE DEVELOPER/OWNER TO THE CITY OF LAS VEGAS FOR ALL NEW PUBLIC STREET LIGHT/S AND/OR SERVICE/S INSTALLED UNDER THIS PLAN DESIGN WILL BE IN CONJUNCTION WITH THIS PROJECT COMPLETION. COORDINATE ALL MAINTENANCE AND OPERATIONAL TRANSFERS WITH THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DEPARTMENT (TEFO) AT (702) 229-6331.

REVISED 04/15/10

CITY OF LAS VEGAS TRAFFIC NOTES

1. ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.

2. THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.

3. 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 STOP SIGNS AT ALL NEW STREET ENCROACHMENTS INTO EXISTING CITY STREETS WHERE WARRANTED IMMEDIATELY AFTER FIRST GRADING WORK IS ACCOMPLISHED, AND SHALL MAINTAIN SAID SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.

4. WHEN A DESIGNATED "SAFE ROUTE TO SCHOOL" IS ENCROACHED UPON BY A CONSTRUCTION WORK ZONE AND PUBLIC WORKS STAFF IDENTIFIES A NEED FOR STUDENTS TO BE ASSISTED IN THE SAFE CROSSING THROUGH THE WORK ZONE, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A "CROSSING GUARD". THE GUARD SHALL BE PRESENT FOR THE FULL DURATION OF TIME THAT CHILDREN ARE LIKELY TO BE PRESENT.

5. IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL OR RELOCATION OF ANY EXISTING PERMANENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PERMANENT SIGNS SHOWN ON THE PLANS. ALL NEW TRAFFIC SIGNS SHALL BE FABRICATED WITH DIAMOND GRADE VIP CLASS 6 REFLECTIVE SHEETING OR APPROVED EQUAL. ALL NEW TRAFFIC SIGNS, EXCEPT STREETNAME AND SCHOOL SPEED LIMIT SIGNS, SHALL HAVE 3M SERIES 1160 OR APPROVED EQUIVALENT ANTI-GRAFFITI PROTECTIVE OVERLAY FILM; SCHOOL ZONE SIGNS SHALL HAVE 3M SERIES 1150 ANTI-GRAFFITI PROTECTIVE OVERLAY FILM. STREET NAME SIGNS SHALL CONFORM IN THEIR ENTIRETY TO CURRENT CITY STANDARDS. ALL OTHER SIGNS SHALL BE STANDARD SIZE UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT CITY STANDARDS.

7. WHEN A PROPOSED STREET LIGHT STANDARD IS LOCATED WITHIN FIVE (5') FEET OF ANY PROPOSED SIGN SHOWN ON THE PLANS TO BE MOUNTED ON A SIGNPOST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGNPOST SHALL BE ELIMINATED.

8. 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 HERE UNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.

9. STREET SIGNS AND STOPS SIGNS SHALL BE INSTALLED PER CITY STANDARD SPECIFICATIONS FOR PLACEMENT OF STREET NAME SIGNS.

10. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES AND FLAGGERS TO INSURE THE SAFETY OF THE PUBLIC IN OR AROUND THE WORK AREA. THE CONTRACTOR SHALL HAVE A CERTIFIED ATSSA TRAFFIC CONTROL TECHNICIAN OR IMSA WORK ZONE SAFETY SPECIALIST SET UP, MAINTAIN AND/OR REMOVE ALL TRAFFIC CONTROL DEVICES IN THE CITY OF LAS VEGAS RIGHT OF WAY.

11. WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE EXPEDITED TO COMPLETION SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING CITIZENS AREA TRANSIT (C.A.T.) IF THE CONSTRUCTION INTERRUPTS OR RELOCATES A BUS STOP OR HAS AN ADVERSE EFFECT ON BUS SERVICE ON THAT STREET TO ARRANGE FOR TEMPORARY RELOCATION OF STOP.

13. GUARDS SHALL BE OBTAINED BY CONTACTING THE METROPOLITAN POLICE DEPARTMENT SPECIAL EVENTS UNIT PHONE # 828-3442) WHO WILL PROVIDE OFFICERS PROPERLY TRAINED IN TRAFFIC CONTROL. FEES FOR THE USE OF THESE OFFICERS SHALL BE SET BY METRO AND WILL BE PAID BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL ARRANGEMENTS WITH METRO.

14. ANY WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS OTHERWISE DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.

15. THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING DIVISION (TRANSPORTATION SECTION) THROUGH THE PROJECT'S OFFSITE INSPECTOR PRIOR TO INITIATING PAVING TO RECEIVE DIRECTION FOR ANY PERMANENT OR TEMPORARY MODIFICATIONS TO THE APPROVED DRAWINGS REGARDING FINAL PAVEMENT TRANSITIONS, MARKINGS AND SIGNING THAT ARE REQUIRED TO MATCH ADJACENT ROADWAY SEGMENTS. THE CONTRACTOR SHALL PROVIDE A DRAWING FOR APPROVAL BY THE TRAFFIC ENGINEERING DIVISION DEPICTING ANY ADJUSTMENTS TO THE FINAL PAVEMENT MARKINGS AND SIGNAGE, WHICH MAY INCLUDE OMITTING, ADDING OR MODIFYING PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SUCH THAT ADEQUATE TRANSITIONS AND LANE TERMINATIONS BETWEEN ADJACENT ROADWAY SEGMENTS ARE CONSTRUCTED.

REVISED 04/15/10

LAS VEGAS FIRE & RESCUE - GENERAL NOTES

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LAS VEGAS FIRE AND RESCUE ADOPTED FIRE ORDINANCE #6325 FOR HYDRANT SPECIFICATIONS AND HYDRANT INSTALLATION SPECIFICATIONS.

2. AUTHORIZED FIRE HYDRANTS ARE AS FOLLOWS:

   MUELLER COMPANY – A-423
   CLOW VALVE Co. – F-2546LVD
   AMERICAN FLOW CONTROL – B-84-B5

3. A PERMIT IS REQUIRED FROM LAS VEGAS FIRE AND RESCUE FOR THE INSTALLATION OF ON-SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND CONTRACTORS MATERIAL TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER BEFORE COMMENCEMENT OF WORK.

4. ON ANY RESIDENTIAL OR COMMERCIAL INSTALLATIONS, FIRE HYDRANTS SHALL BE INSTALLED AND FIRE APPARATUS ACCESS ROADS SHALL BE MAINTAINED BEFORE COMMENCEMENT OF ANY COMBUSTIBLE CONSTRUCTION. ALL FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER AND SHALL BE CAPABLE OF DELIVERING THE REQUIRED FIRE FLOW.

5. TO IDENTIFY THE FIRE HYDRANT LOCATIONS, THE CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF STREET ADJACENT TO THE FIRE HYDRANTS.

6. ALL UNDERGROUND INSPECTIONS, PRESSURE AND FLUSH VERIFICATIONS OF ALL FIRE HYDRANTS AND FIRE LINES, SHALL BE CONDUCTED BEFORE COVERING THE LINES. CENTER LOADING IS ACCEPTABLE FOR THE HYDRO TESTS WILL PRIOR FIRE PREVENTION APPROVAL.

7. ALL ON-SITE UNDERGROUND WATER MAINS AND MATERIALS SHALL BE U.L. LISTED, A.W.W.A. APPROVED AND SHALL BE RATED FOR THE APPROPRIATE WORKING PRESSURE.

8. PAINTING OF CURBS, FIRE HYDRANTS, PADS, PROTECTION OF FIRE HYDRANTS FROM PHYSICAL DAMAGE, AND ALL OTHER WORK NECESSARY PER PLANS SHALL BE COMPLETED BEFORE APPROVAL BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION.

9. PRIVATE FIRE HYDRANTS SHALL BE PAINTED RED.

10. PRIOR TO THE FINAL OCCUPANCY, A FLOW TEST MUST BE WITNESSED BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION.

11. FIRE HYDRANTS SPACING SHALL BE AS FOLLOWS:
    RESIDENTIAL – 500 FEET UNSPRINKLERED; 600 FEET SPRINKLERED.
    COMMERCIAL – 300 FEET UNSPRINKLERED; 400 FEET SPRINKLERED.

12. WHERE NEW WATER MAINS ARE EXTENDED ALONG STREETS OR NEW STREETS ARE INSTALLED WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF THE STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT MAXIMUM 1,000 FOOT SPACING, TO PROVIDE FOR TRANSPORTATION HAZARDS. WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR HAVE FOUR OR MORE TRAFFIC LANES AND HAVE A TRAFFIC COUNT OF MORE THAN 30,000 PER DAY, HYDRANTS ARE REQUIRED ON EACH SIDE OF THE STREET SPACED AT

LAS VEGAS FIRE AND RESCUE - GENERAL NOTES (CONT.)

500 FEET ON AN ALTERNATING BASIS.

13. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE REQUIRED RADIUS OF A CUL-DE-SAC OR WITHIN 20 FEET OF THE PERIMETER OF THE RADIUS OF THE CUL-DE-SAC.

14. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FEET OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION.

15. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A ONE-TWO FAMILY DWELLING SHALL NOT EXCEED 300 FEET, AS MEASURED BY AN APPROVED ROUTE.

16. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FEET, AS MEASURED BY AN APPROVED ROUTE.

17. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FEET.

18. TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE ARE 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM. SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS CAN BE OUT OF SERVICE DUE TO A BREAK IN A WATER MAIN.

19. ALL FIRE APPARATUS ACCESS ROADS SHALL BE PAVED TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES, AND SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF THE FIRE APPARATUS.

20. THE GRADIENT FOR THE FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12% ANGLES OF APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 6% FOR 25 FEET PRIOR TO OR AFTER THE GRADE CHANGE. ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EXCEED 6%.

21. THE TURNING RADIUS OF THE FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 52 FEET OUTSIDE AND 28 FEET INSIDE TURNING RADIUS.

22. VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL BE NOT LESS THAN 13 FEET 6 INCHES.

23. FIRE DEPARTMENT ACCESS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 40 FEET FLOW LINE TO FLOW LINE WITH PARALLEL PARKING PERMITTED ON BOTH SIDES. NOT LESS THAT 32 FEET WIDE, FLOW LINE TO FLOW LINE, WHERE PARKING IS PERMITTED ONLY ON ONE SIDE OF THE FIRE APPARATUS ACCESS ROAD. NOT LESS THAT 24 FEET WIDE, FLOW LINE TO FLOW LINE, WHERE NO PARKING IS PERMITTED ON EITHER SIDE. FIRE LANES THROUGH PARKING LOTS SHALL NOT BE LESS THAN 24 FEET.

24. A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHAN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FEET FROM A FIRE DEPARTMENT VEHICLE ACCESS. THIS DISTANCE COULD BE INCREASED TO 250 FEET IF THE BUILDING IS SPRINKLERED.

25. APPROVED SECONDARY FIRE APPARATUS ACCESS SHALL BE PROVIDED FOR 100 OR MORE DWELLING UNITS, ROAD(S) WITH DEAD-ENDS OR WITH A SINGLE POINT OF ACCESS IN EXCESS OF 600 FEET. COMMERCIAL AND INDUSTRIAL DEVELOPMENTS WHERE BUILDINGS EXCEED 2 STORIES OR 30 FEET IN HEIGHT, OR EXCEEDING 62,000 SQUARE FEET IN AREA.

26. ALL DEAD-END FIRE APPARATUS ACCESS ROADS AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FEET IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND AREA HAVING A MINIMUM DIAMETER OF 81 FEET.

27. ALL FIRE APPARATUS ACCESS ROADS SHALL BE MARKED BY PLACING APPROVED SIGNS AT THE START OF THE DESIGNATED FIRE LANE, ONE SIGN AT THE END OF THE FIRE LANE AND WITH SIGNS AT INTERVALS 100 FEET ALONG THE DESIGNATED FIRE LANES. SIGNS TO BE PLACED ON BOTH SIDES OF AN ACCESS ROADWAY IF NEEDED TO PREVENT PARKING ON EITHER SIDE. SIGNS TO BE INSTALLED NO HIGHER THAN 10 FEET OR LESS THAN 6 FEET FROM ROADWAY LEVEL. THE CURB ALONG OR ON THE PAVEMENT OR CEMENT (IF NO CURB IS NOT PROVIDED) SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS.

28. ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE IFC SECTION 503.6 AND IFC APPENDIX M.

EFFECTIVE JULY 15, 2016

CITY OF LAS VEGAS SEWER NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS AND THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, AS AMENDED. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATIONS.

2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM CONSTRUCTION AS PER PLANS. ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE CITY ENGINEER.

3. CHISEL 'S'OR 'C'IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.

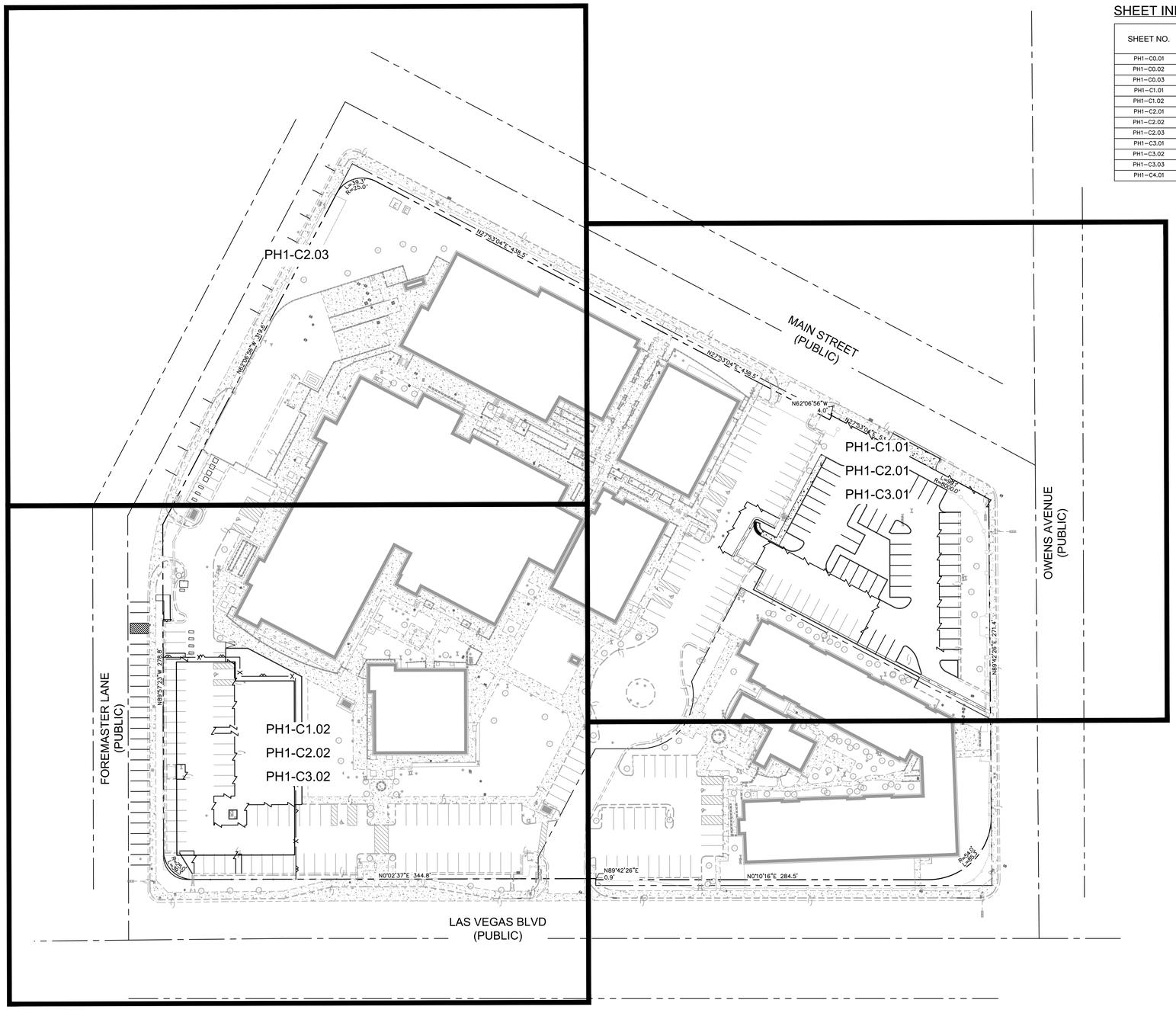
4. POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OF TYPE II AGGREGATE BASE.

5. ALL MANHOLES PAVED IN STREETS EIGHTY (80') FOOT R/W AND LARGER SHALL HAVE CONCRETE COLLARS. STREETS LESS THAN EIGHTY (80') FOOT R/W WILL REQUIRE RETROFIT IF PAVING DOES NOT CONFORM TO CITY STANDARDS AT THE MANHOLE.

6. TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO TWELVE INCH (12') DIAMETER. CONNECTIONS TO FIFTEEN INCH (15') OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES. IN LINE 'Y'S SHALL BE USED ON LINES TWELVE INCHES (12') OR ABOVE.

7. WATER MAINS SHALL BE PROTECTED IN ACCORDANCE WITH LVVWD STANDARDS WHENEVER A SEWER MAIN CROSSES OVER A WATER MAIN OR THE SEWER IS LESS THAN EIGHTEEN INCH (18') UNDER A WATER MAIN.

8. ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CITY OF L



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PROFESSIONAL ENGINEER
THOMAS J. ACKERET
Exp. 12/31/20
CIVIL
No. 18592
STATE OF NEVADA

Revisions

No.	Date	Description
	11/10/2020	

Project Information

Phase:	ELP Demolition	Date:	November 10, 2020
Project No.:	18-0621	PIC / AIC:	BE / PS

Catholic Charities of Southern Nevada

Sheet Title
SHEET INDEX

Sheet Number PH1-C0.03

Current Revision

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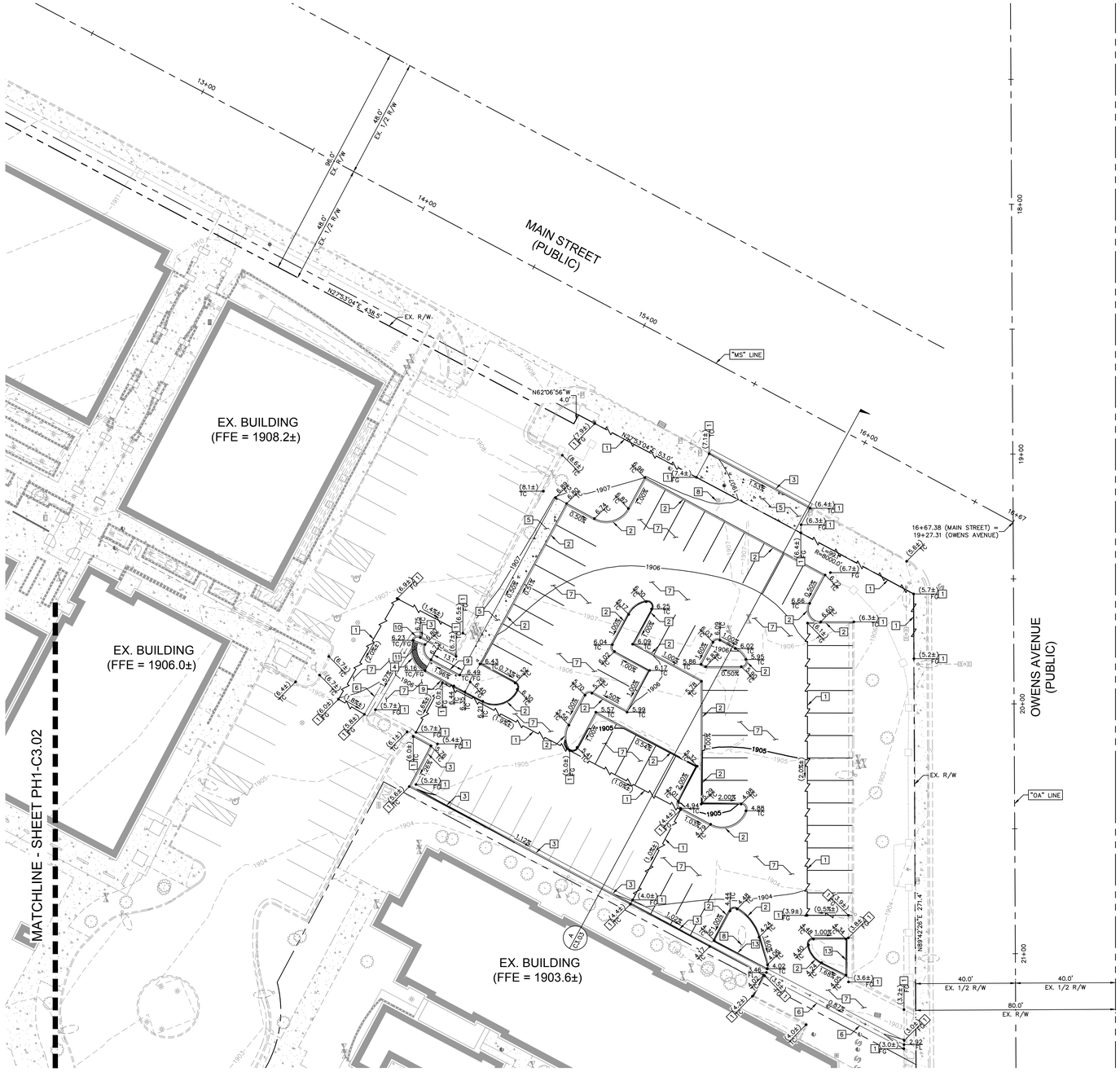

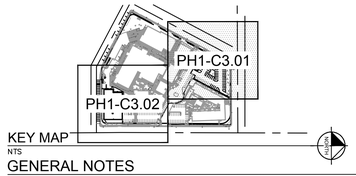

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY EXISTING IMPROVEMENTS SHOWN ON THE PLAN, AND NOTIFY ENGINEER IMMEDIATELY IF DISCREPANCIES ARE PRESENT.
2. CONTRACTOR TO PROTECT IN PLACE, DURING DEMOLITION AND CONSTRUCTION, ALL EXISTING IMPROVEMENTS THAT ARE TO REMAIN AS NOTED ON THE PLAN.
3. ANY EXISTING STRUCTURE, IMPROVEMENT, OR APPURTENANCE TO REMAIN THAT IS DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED OR REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
4. CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING UNDERGROUND UTILITIES BEFORE CONSTRUCTION AND PROTECT IN PLACE UNLESS NOTED ON THE PLANS.
5. ALL DIMENSIONS ARE MEASURED FROM BACK OF CURB UNLESS OTHERWISE NOTED ON PLANS.
6. ADD 1900 FEET TO ALL SPOT ELEVATIONS.

FLOOD ZONE NOTE

THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) INDICATES THAT THE SUBJECT SITE LIES WITHIN ZONE "X" OF FLOOD INSURANCE RATE MAP (FIRM) No. 32003C2910F AS SHOWN ON THE FIRM INDEX, REVISED NOVEMBER 16, 2011. ZONE "X" IS DEFINED BY FEMA AS "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD FLOODPLAIN".

CONSTRUCTION NOTES

1. MATCH EXISTING.
2. INSTALL MODIFIED TYPE "A" CURB PER DETAIL A ON SHEET C4.01.
3. INSTALL TYPE "L" CURB AND GUTTER PER CCAUSD NO. 216.
4. INSTALL 0" FACE CURB PER DETAIL B ON SHEET C4.01.
5. INSTALL CONCRETE SIDEWALK PER CCAUSD NO. 234.
6. INSTALL 3' WIDE VALLEY GUTTER PER DETAIL C ON SHEET C4.01.
7. INSTALL AC PAVING AND BASE MATERIAL TO MATCH EXISTING PAVEMENT SECTION AND GEOTECH RECOMMENDATIONS.
8. PROTECT IN PLACE.
9. INSTALL TRANSITION FROM 0" FACE CURB TO MODIFIED TYPE "A" CURB PER DETAIL D ON SHEET C4.01, LENGTH PER PLAN.
10. INSTALL TRANSITION FROM TYPE "L" CURB TO 0" FACE CURB PER DETAIL E ON SHEET C4.01, LENGTH PER PLAN.
11. INSTALL TRUNCATED DOMES (2' WIDTH) PER CCAUSD NO. 235, COLOR PER LANDSCAPE/ARCHITECTURAL REQUIREMENTS.
13. INSTALL 2" WIDE CHANNEL PER DETAIL G ON SHEET C4.01.

BENCHMARK

CLARK COUNTY VERTICAL CONTROL STATION 2LV0122SSE6, RIVET AND ALUMINUM PLATE IN TOP OF CURB, NORTHEAST CORNER OF OWENS AVE. AND MAIN STREET NEAR THE POC.

ELEVATION = 580.583 METERS
ELEVATION = 1904.79 U.S. SURVEY FEET (NAVD 88 V.2018)

BASIS OF BEARING

SOUTH 89°42'26" EAST, BEING THE NORTH LINE OF THE NORTHEAST QUARTER (NE1/4) OF SECTION 27, TOWNSHIP 20 SOUTH, RANGE 61 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE 91, PAGE 69 OF PLATS, OFFICIAL RECORDS, CLARK COUNTY, NEVADA.

NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

SCALE: 1" = 20'

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PHONE: 702-862-3600
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PROFESSIONAL ENGINEER
THOMAS J. ACKERET
Exp. 12/31/20
CIVIL
STATE OF NEVADA
No. 18592

Revisions

No.	Date	Description
	11/10/2020	

Project Information

Phase:	ELP Demolition	Date:	November 10, 2020
Project No.:	18-0621	PIC / AIC:	BE / PS

Catholic Charities of Southern Nevada

Sheet Title

GRADING PLAN - SHEET 1

Sheet Number PH1-C3.01

Current Revision

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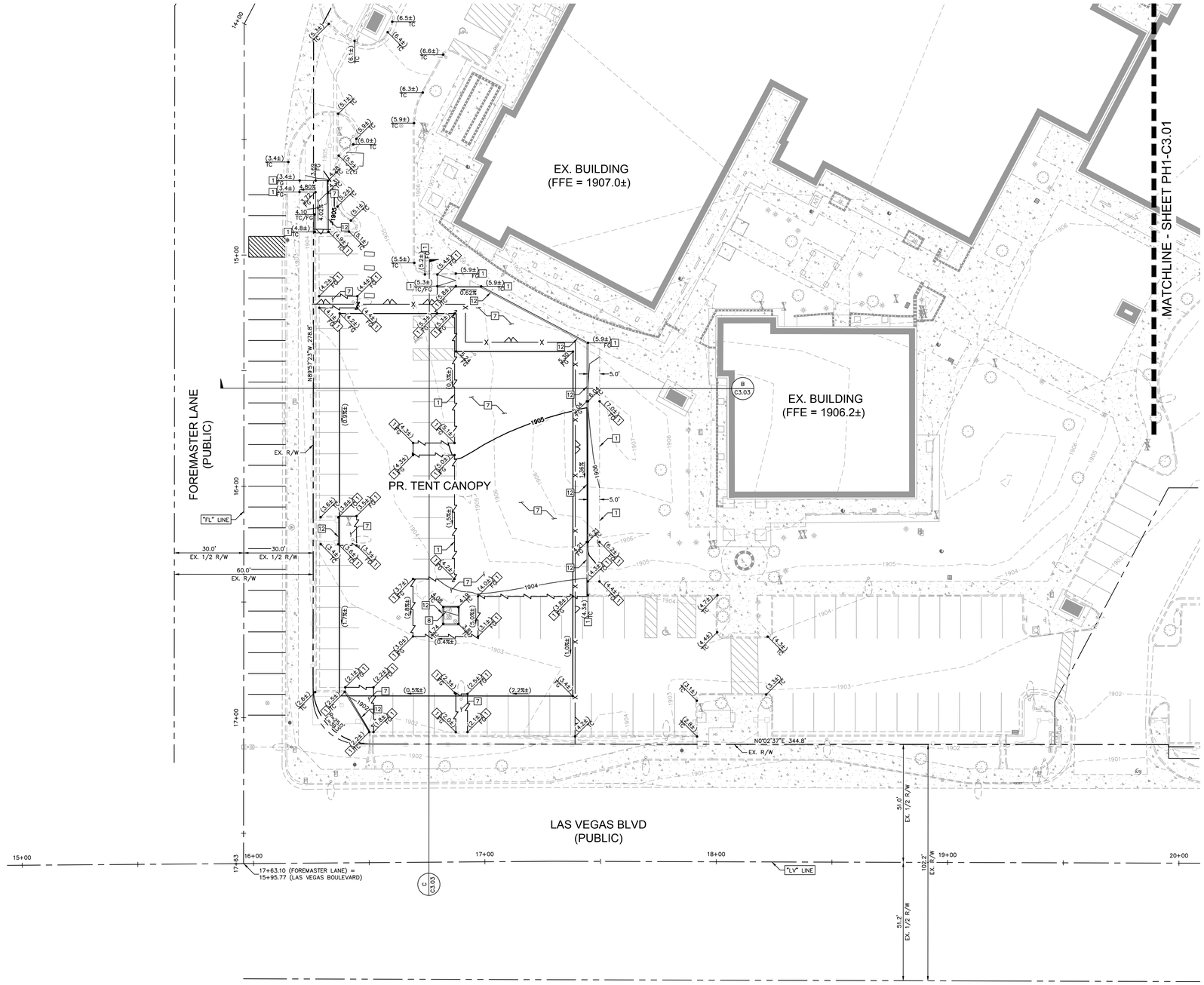

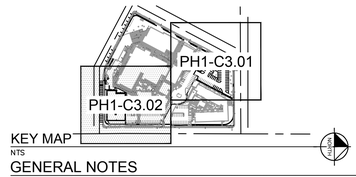

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY EXISTING IMPROVEMENTS SHOWN ON THE PLAN, AND NOTIFY ENGINEER IMMEDIATELY IF DISCREPANCIES ARE PRESENT.
2. CONTRACTOR TO PROTECT IN PLACE, DURING DEMOLITION AND CONSTRUCTION, ALL EXISTING IMPROVEMENTS THAT ARE TO REMAIN AS NOTED ON THE PLAN.
3. ANY EXISTING STRUCTURE, IMPROVEMENT, OR APPURTENANCE TO REMAIN THAT IS DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED OR REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
4. CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING UNDERGROUND UTILITIES BEFORE CONSTRUCTION AND PROTECT IN PLACE UNLESS NOTED ON THE PLANS.
5. ALL DIMENSIONS ARE MEASURED FROM BACK OF CURB UNLESS OTHERWISE NOTED ON PLANS.
6. ADD 1900 FEET TO ALL SPOT ELEVATIONS.

FLOOD ZONE NOTE

THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) INDICATES THAT THE SUBJECT SITE LIES WITHIN ZONE "X" OF FLOOD INSURANCE RATE MAP (FIRM) No. 32003C2910F AS SHOWN ON THE FIRM INDEX, REVISED NOVEMBER 16, 2011. ZONE "X" IS DEFINED BY FEMA AS "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD FLOODPLAIN".

CONSTRUCTION NOTES

1 MATCH EXISTING.

7 INSTALL AC PAVING AND BASE MATERIAL TO MATCH EXISTING PAVEMENT SECTION AND GEOTECH RECOMMENDATIONS.

8 PROTECT IN PLACE.

12 INSTALL MODIFIED ASPHALT CURB PER DETAIL F ON SHEET C4.01.

NOTE:
NO CONSTRUCTION ACTIVITIES SHALL OCCUR IN PUBLIC ROW.

NOTE:
CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE THROUGHOUT PROJECT LIMITS.

BENCHMARK

CLARK COUNTY VERTICAL CONTROL STATION 2LV0122SSE6, RIVET AND ALUMINUM PLATE IN TOP OF CURB, NORTHEAST CORNER OF OWENS AVE. AND MAIN STREET NEAR THE POC.

ELEVATION = 580.583 METERS
ELEVATION = 1904.79 U.S. SURVEY FEET (NAVD 88 V.2018)

BASIS OF BEARING

SOUTH 89°42'26" EAST, BEING THE NORTH LINE OF THE NORTHEAST QUARTER (NE1/4) OF SECTION 27, TOWNSHIP 20 SOUTH, RANGE 61 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE 91, PAGE 69 OF PLATS, OFFICIAL RECORDS, CLARK COUNTY, NEVADA.

NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

SCALE: 1" = 20'

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PROFESSIONAL ENGINEER
THOMAS J. ACKERET
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STATE OF NEVADA

Revisions

No.	Date	Description
	11/10/2020	

Project Information

Phase:	ELP Demolition	Date:	November 10, 2020
Project No.:	18-0621	PIC / AIC:	BE / PS

Catholic Charities of Southern Nevada

Sheet Title

GRADING PLAN - SHEET 2

Sheet Number PH1-C3.02

Current Revision

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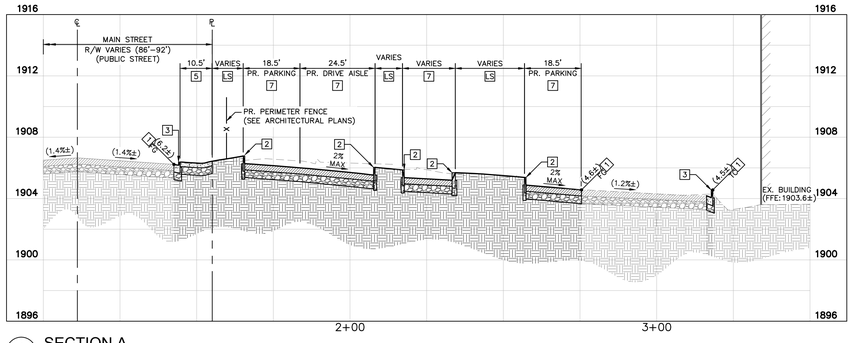
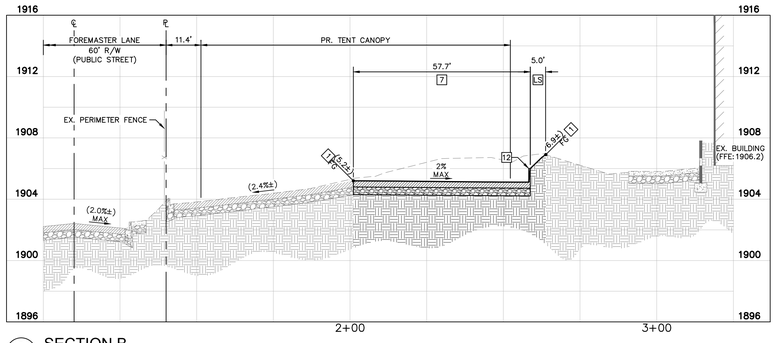
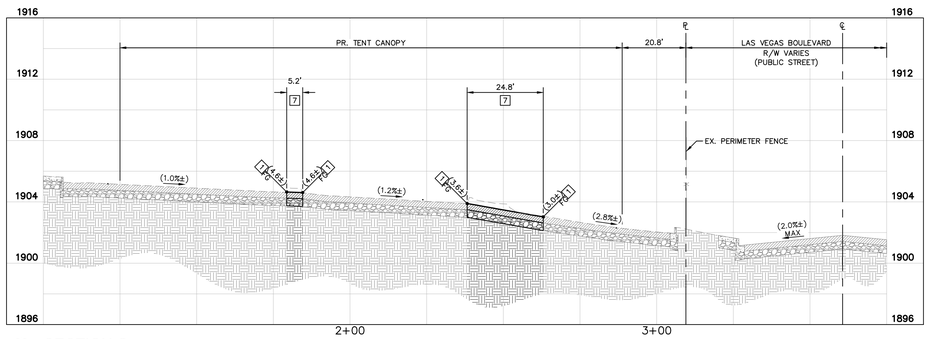


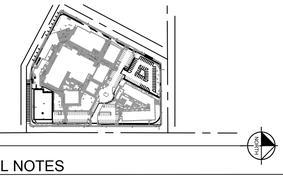
A / C3.01 SECTION A



B / C3.02 SECTION B



C / C3.02 SECTION C



NTS

GENERAL NOTES

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CONSTRUCTION NOTES

- [1] MATCH EXISTING.
- [2] INSTALL MODIFIED TYPE "A" CURB PER DETAIL A ON SHEET C4.01.
- [3] INSTALL TYPE "L" CURB AND GUTTER PER CCAUSD NO. 216.
- [5] INSTALL CONCRETE SIDEWALK PER CCAUSD NO. 234.
- [7] INSTALL AC PAVING AND BASE MATERIAL TO MATCH EXISTING PAVEMENT SECTION AND GEOTECH RECOMMENDATIONS.
- [12] INSTALL MODIFIED ASPHALT CURB PER DETAIL F ON SHEET C4.01.
- [LS] REFER TO LANDSCAPE PLAN.

BENCHMARK

CLARK COUNTY VERTICAL CONTROL STATION 2LV0122SSE6, RIVET AND ALUMINUM PLATE IN TOP OF CURB, NORTHEAST CORNER OF OWENS AVE. AND MAIN STREET NEAR THE POC.

ELEVATION = 580.583 METERS
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GRAPHIC SCALE IN FEET
0 10 20 40
HORIZONTAL
0 2 4 8
VERTICAL

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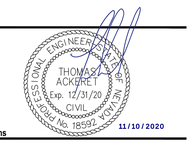

11/10/2020

Revisions

No.	Date	Description

Project Information

Phase:	ELP Demolition	Date:	November 10, 2020
Project No.:	18-0621	PIC / AIC:	BE / PS

Catholic Charities of Southern Nevada

Sheet Title

GRADING SECTIONS

Sheet Number PH1-C3.03

Current Revision

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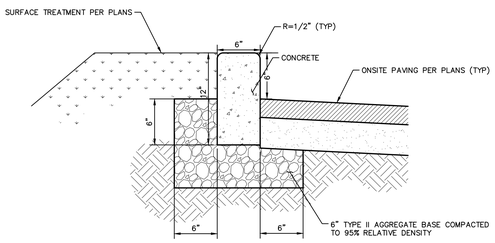
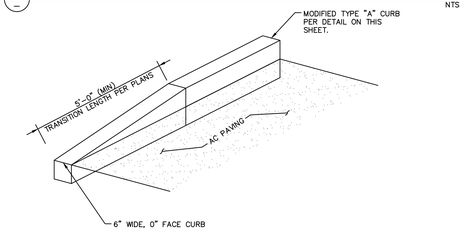


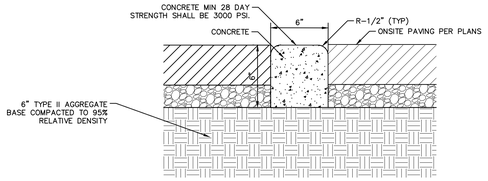
A — MODIFIED TYPE "A" CURB DETAIL

NTS



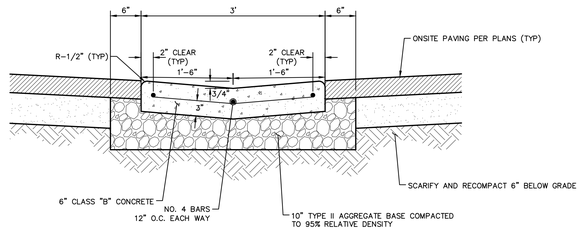
B — 0" FACE CURB DETAIL

NTS



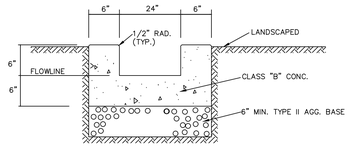
C — 3' WIDE VALLEY GUTTER DETAIL

NTS



D — 0" FACE CURB TRANSITION TO MODIFIED TYPE "A" CURB DETAIL

NTS



NOTES:

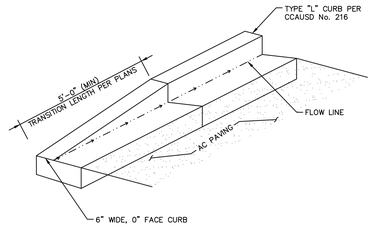
1. EXPANSION JOINTS REQUIRED AT ALL LOCATIONS WHERE CHANNEL MEETS CURB.
2. WEAKENED PLANE JOINTS REQUIRED AT 10' MAX. SPACING.

G — 2' CONCRETE CHANNEL DETAIL

NTS

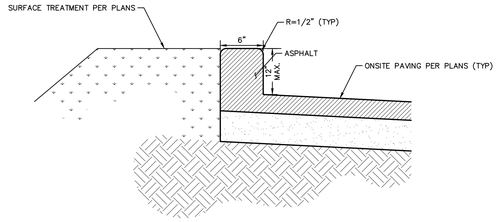
E — 0" FACE CURB TRANSITION TO TYPE "L" CURB DETAIL

NTS



F — MODIFIED ASPHALT CURB DETAIL

NTS



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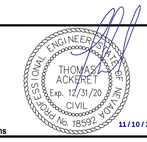

11/10/2020

Revisions

No.	Date	Description

Project Information

Phase:	ELP Demolition	Date:	November 10, 2020
Project No.:	18-0621	PIC / AIC:	BE / PS

Catholic Charities of Southern Nevada

Sheet Title

DETAILS - SHEET 1

Sheet Number

PH1-C4.01

Current Revision

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4/8/2020 9:13:37 AM

Appendix D – Data CD

Update to the Technical Drainage Study for

Catholic Charities of Southern Nevada – Phase 1

Date Prepared:
October 2020

Prepared for:
Catholic Charities of Southern Nevada
1501 Las Vegas Boulevard
Las Vegas, NV 89101

Prepared by:
Kimley-Horn and Associates, Inc.
6671 Las Vegas Boulevard South, Suite 320
Las Vegas, NV 89119
702.862.3600

Kimley»Horn

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: Catholic Charities of Southern Nevada - Phase 1 Expansion Date: October 2020

Location of Development: a) Descriptive (Cross Streets) North/South: Las Vegas Boulevard

East/West: Owens Avenue

b) Section: 27 Township: 20S Range: 61E

c) APN : 125-28-510-001

Name of Owner: Catholic Charities of Southern Nevada

Telephone No.: Fax No.: N/A E-Mail Address: N/A

Address: 1501 North Las Vegas Boulevard; Las Vegas, NV 89101

Contact Person-Name: Michael Schwab, P.E. **Telephone No.:** 702.790.0206

* **E-Mail Address:** michael.schwab@kimley-horn.com **Fax No.:**

Firm: KIMLEY-HORN

Address: 6671 Las Vegas Boulevard South, Suite 320 Las Vegas, NV 89119

Type of Land Development/Land Disturbance Process:

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

1. Total Owned Land Area: At Site: +/- 6.07 acres Being Developed/Disturbed: +/- 0.93 acres
2. Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? ☐ **Yes**** ☒ **No**
3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☒ **Yes**** ☐ **No**
4. Proposed type of development (Residential, Commercial, Etc.): Commercial
5. Approximate upstream land area which drains to the subject site: N/A
6. Has the site drainage been evaluated in the past? ☒ **YES** ☐ **NO** If yes, please identify documentation: Technical Drainage Study for Catholic Charities of Southern Nevada - Phase 1; Martin & Martin, August 1997
7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Las Vegas BLVD, Owens Ave
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

Updated 05/01/2008

Kimley»Horn

October 20, 2020

Mr. Albert Sung, P.E.
City of Las Vegas Flood Control
333 Rancho Drive
Las Vegas, NV 89106

RE: ***Update to the Technical Drainage Study for Catholic Charities of Southern Nevada – Phase 1 (DS 2067)***

Dear Mr. Sung,

This letter certifies that all items provided on the *Update to the Technical Drainage Study for Catholic Charities of Southern Nevada – Phase 1* electronic submittal matches the paper version bound into the study.

With Kimley-Horn, you should expect more and will experience better. Please contact me at (702) 790-0206 or michael.schwab@kimley-horn.com should you have any questions or concerns.

Sincerely,

Michael Schwab, P.E.

Kimley»Horn

Update to the

Technical Drainage Study

for

Catholic Charities of Southern Nevada – Phase 1

Date Prepared:
October 2020

Prepared for:
Catholic Charities of Southern Nevada
1501 Las Vegas Boulevard
Las Vegas, NV 89101

Prepared by:
Kimley-Horn and Associates, Inc.
6671 Las Vegas Boulevard South, Suite 320
Las Vegas, NV 89119
702.862.3600

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October 2020
KH Project #092908028

Kimley»Horn

October 20, 2020

Mr. Albert Sung, P.E.
City of Las Vegas Flood Control
333 Rancho Drive
Las Vegas, NV 89106

RE: *Update to the Technical Drainage Study for Catholic Charities of Southern Nevada – Phase 1* (DS-2067)

Dear Mr. Sung,

The purpose of this letter is to serve as the **Update** to the subject project. The *Technical Drainage Study for Catholic Charities of Southern Nevada – Phase 1 (*hereinafter referred to as **TDS**) was approved by CLV on August 7, 1997. Pertinent reference material has been included in **Appendix B**. The **Update** included herein, is intended to supersede data contained in previous studies.

Since approval of **TDS**, some site changes are proposed, as shown on the grading plans found in **Appendix C**. The proposed revisions include:

- Demolition of an existing building and existing AC pavement, and repaving and striping at the northwest corner of the site
- Removal of driveway off Main Street at the northwest corner of the site.
- Remove and replace AC paving at southeast corner of the site.
- Proposed tent canopy at the southeast corner of the site.

The proposed revisions did not require any revisions to the hydrology as the revised grading does not change the drainage patterns from the approved **TDS**. In the northwest corner where the building will be demolished and the AC paving will be removed and replaced, runoff will still flow to Owens Avenue as in existing conditions. In the southeast corner were the AC paving will be removed and replaced and the tent canopy is proposed, the runoff will still flow to Las Vegas Boulevard as in existing conditions. Furthermore, none of the hydraulic sections used to check the finished floor elevations in the approved **TDS** have changed with the proposed revisions. The pertinent reference material from the approved **TDS** has been included in **Appendix B**.

There are no proposed buildings within these site changes; therefore, there are no new finish floor elevations to check. Please refer to **Appendix C** for the grading plans.

In general, the overall drainage patterns for the site are consistent with the original **TDS** and the proposed site plan does not significantly alter existing peak flows or the character of flows downstream of the development and do not pose any negative impacts on the downstream facilities and development.

With Kimley-Horn, you should expect more and will experience better. Please contact me at (702) 790-0206 or michael.schwab@kimley-horn.com should you have any questions.

Sincerely,

Michael Schwab, P.E.

Kimley»Horn

LIST OF APPENDICES

Appendix A – Documents

- Figure PRO – Proposed Basin Map
- Assessor's Parcel Map
- FEMA FIRM Map
- F-Map
- SDPR APPROVAL

Appendix B – Reference Material

- Technical Drainage Study for Catholic Charities of Southern Nevada – Phase 1; Prepared by Martin & Martin, INC. Approved August 7, 1997. DS-2067.

Appendix C – Improvement Plans

Appendix D – Data CD

Appendix A – Documents

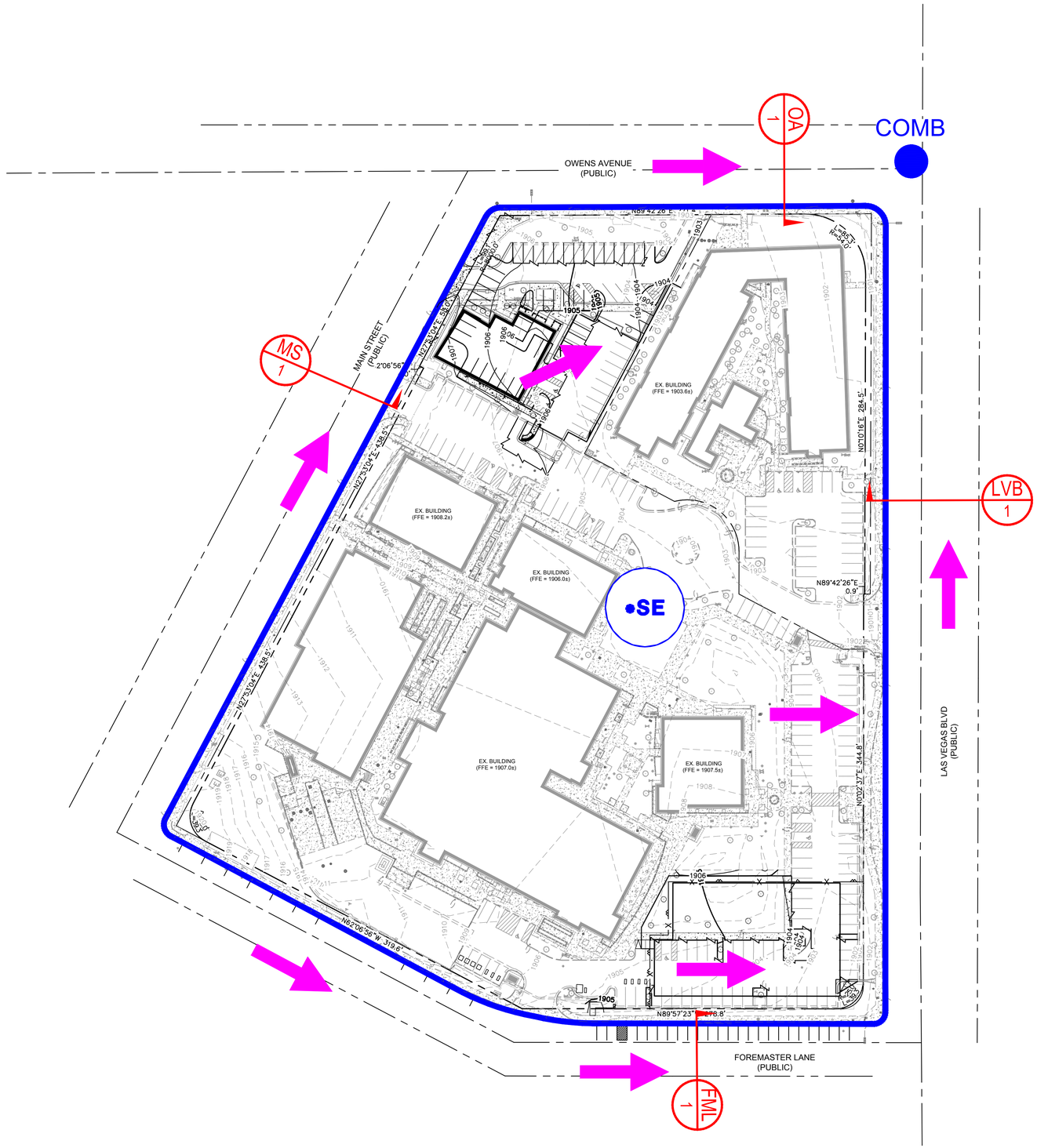
- Figure PRO – Proposed Basin Map
- Assessor's Parcel Map
- FEMA FIRM Map
- F-Map
- SDPR APPROVAL

Appendix B – Reference Material

- Technical Drainage Study for Catholic Charities of Southern Nevada – Phase 1; Prepared by Martin & Martin, INC. Approved August 7, 1997. DS-2067

Appendix C – Improvement Plans

Appendix D – Data CD



NORTH

GRAPHIC SCALE IN FEET
0 25 50 100
SCALE: 1" = 50'

LEGEND

- XX — BASIN ID
- BASIN BOUNDARY
- FLOW ARROW
- CPX — CONCENTRATION POINT

Catholic Charities of Southern NV

EXISTING FLOW SUMMARY TABLE

BASIN ID/ COMB. PT.	BASIN AREA (ac)	10-YR FLOW (cfs)	100-YR FLOW (cfs)
*SE	7.6	9	20
*COMB	-	88	247

*Referenced from the CCSN Study (DS-2067)

ROADWAY HYDRAULIC SECTIONS

STREET SECTION	CHANNEL SLOPE %	Q_{100} (cfs)	FLOW DEPTH (ft)	VELOCITY (ft/s)	D*V ft^2/s	Q_{10} (cfs)	FLOW DEPTH (ft)	VELOCITY (ft/s)	D*V ft^2/s
*MS-1	2.77	7	0.4	3.87	1.55	NUISANCE FLOW IN EAST HALF			
*OA-1	1.50	NUISANCE FLOW IN SOUTH HALF				NUISANCE FLOW IN SOUTH HALF			
*LVB-1	1.00	1	0.99	5.27	5.22	80.0	0.75	3.62	2.72
*FML-1	4.50	1	0.22	3.21	0.71	8.0	0.32	4.10	1.31

*REFERENCED FROM CCSN STUDY (DS-2067)

No.	REVISIONS	DATE	BY

Kimley»Horn
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PHONE: 702-862-3600
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KHA PROJECT 092805005
DATE 10/19/2020
SCALE AS SHOWN
DESIGNED BY MS
DRAWN BY MB
CHECKED BY MS

PROPOSED CONDITIONS BASIN MAP

CATHOLIC CHARITIES OF SOUTHERN NEVADA
CITY OF LAS VEGAS NEVADA

SHEET NUMBER
PRO

Plotted By:Schwab, Michael Sheet Set:192128000 - PAMA EXECUTIVE BUSINESS PARK Layout:KHA October 20, 2020 01:12:36pm K:\LAV_Civil\092805005 - Catholic Charities Expansion (Curlington)\Reports\DRAINAGE\01_TDS-JDF\Figures\CAD\Basin_Map.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

NOTES

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

No liability is assumed for the accuracy of the data deliniated 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.

USE THIS SCALE(FEET) WHEN MAP REDUCED FROM 11X17 ORIGINAL

0 100 200 400 600 800

MAP LEGEND

ASSESSOR'S PARCELS - CLARK COUNTY, NV.

Briana Johnson - Assessor

- 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 NUMER
- 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 T20S R61E

125	124	123
138	139	140
163	162	161

Scale: 1" = 200'

SEC. 27

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

Rev: 1/8/2019

MAP N 2 NE 4

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

139-27-5

CLARK COUNTY NEVADA

PROJECT AREA

OWENS AVE

INTERSTATE ROUTE NO 15

A ST

U.P.R.R.

U S HWY NO 91-93 NORTH MAIN ST

LAS VEGAS BLVD NORTH

FOREMASTER LN

PTU

PM 78-1

PM 107-96

PM 91-69

PM 123-7

PM 60-93

LEASE

PT 1

PT 2

PT 2-A

1-A

214

501

502

503

504

PT 139-27-601-006

PT 139-27-603-028

TAX DIST 214

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole–foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum.** For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC–3, #9202
1315 East–West Highway
Silver Spring, MD 20910–3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713–3242**, or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by the Clark County GIS Management Office (GISMO).

This map reflects more detailed and up–to–date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables *in the Flood Insurance Study report (which contains authoritative hydraulic data)* may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de–annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

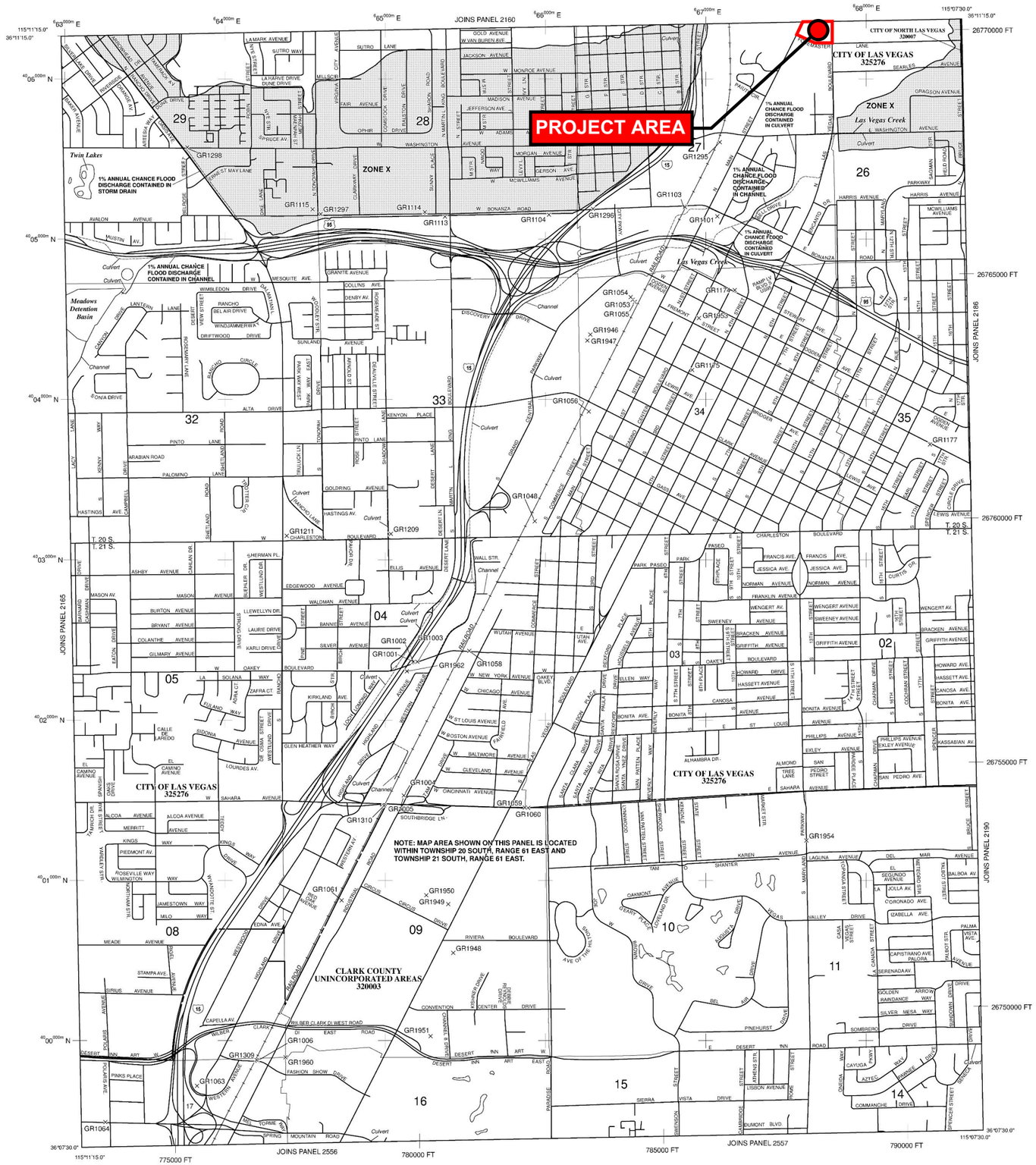
For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

The Digital Flood Insurance Rate Map (DFIRM) was produced through a unique partnership between Clark County and the Federal Emergency Management Agency (FEMA). Clark County has developed a long-term approach of floodplain management to decrease the costs associated with flooding. This is demonstrated by the Clark County commitment to share and maintain floodplain layers within their Geographic Information System Management Office (GISMO).

This DFIRM reflects several innovative features. These include:
+ Southern Nevada GIS–Cooperation among local government agencies throughout Clark County. The foundation of cooperation is the GIS Interlocal Agreements formed between fourteen regional participants. In part, the agreements specify that the Clark County GIS Management Office (GISMO) will be responsible for maintaining a GIS data warehouse and associated Southern Nevada GIS metadata.

+ The GISMO's responsibilities go beyond maintaining the GIS data warehouse. GISMO also maintains the Street Centerline Database used by 911 dispatch services. This centerline database serves as the basemap for this DFIRM.

DIGITAL DATA AVAILABILITY: http://www.co.clark.nv.us/ceit/gismo/gismo.htm



LEGEND

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

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

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

FLOODWAY AREAS IN ZONE AE

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

OTHER FLOOD AREAS

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

OTHER AREAS

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

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

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

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

- A — A — Cross section line
- 23 — 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4275000mN — 1000-meter Universal Transverse Mercator grid ticks, zone 11
- 6000000 FT — 5000-foot grid ticks: Nevada State Plane coordinate system, east zone (FIPSZONE 2701), Transverse Mercator
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
August 16, 1995
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
September 27, 2002

November 16, 2011 –to reflect updated topographic information, to change floodway, to add Base Flood Elevations, to update corporate limits, to change Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to delete Special Flood Hazard Areas, to change zone designations, to add roads and road names, and to incorporate previously issued Letters of Map Revision.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2170F

FIRM
FLOOD INSURANCE RATE MAP
CLARK COUNTY, NEVADA
AND INCORPORATED AREAS

PANEL 2170 OF 4090
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CLARK COUNTY	320003	2170	F
LAS VEGAS, CITY OF	325276	2170	F
NORTH LAS VEGAS, CITY OF	320007	2170	F

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

MAP NUMBER
32003C2170F

MAP REVISED
NOVEMBER 16, 2011

Federal Emergency Management Agency

REGIONAL FLOOD CONTROL DISTRICT

2018
LAS VEGAS VALLEY
FLOOD CONTROL
MASTER PLAN UPDATE

FIGURE F-25
FLOOD CONTROL FACILITIES

LEGEND

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

Remove & Replace/Parallel Facilities

Category A	Category B
Channel	Channel
Stormdrain	Stormdrain
Crossing	Crossing

N

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

Scale: 1 inch = 2,000 feet

AerialSource:Esri World Imagery 2017

US95 I-15 CC-215 I-215

ATKINS
Member of the SNC-Lavalin Group

Louis Berger

ID / Mile	Status	Facility Description	Length (ft.)	Flow (cfs)	HEC-1 Node	HEC-1 Model	Tributary Area (sq.mi.)	Channel Slope (%) **
CABZ		**CEDAR AVENUE - BONANZA**						
0010	E	60" RCP	1450					0.30
LCCH		**LAS VEGAS CREEK CHANNEL**						
0013	E	2: 12' X 6' RCB	2035	3050	CLC20-C	MEADOWS4	9.60	0.82
LV15		**FREEWAY CHANNEL**						
0000	E	CONC CHNL 20'W 10'D 1.5:1 SS (REPLACE W/ LV150001)	1759	5012	2CLV1E-3	CWEST4	11.19	0.12
0001	P0	CONC CHNL 55'W 11'D 0:1 SS (REPLACES LV150000)	1759	5012	2CLV1E-3	CWEST4	11.19	0.12
0035	E	CONC CHNL 20'W 10'D 1.5: SS	899	1404^	2CLV1D-5^	CWEST4	10.29	0.16
0050	E	2: 8' X 10' RCB	1504	1404^	2CLV1D-5^	CLVMD4	10.29	0.75
0051	E	12' X 10' RCB	2524	3275^	2CLV1D-5^	CLVMD4	10.29	5.20
0078	E	CONC CHNL 20'W 10'D 1.5:1 SS (REPLACE W/ LV150079)	1608	4679	2CLV1D-5	CWEST4	10.29	0.14
0079	P0	CONC CHNL 50'W 11'D 0:1 SS (REPLACES LV150078)	1608	4679	2CLV1D-5	CWEST4	10.29	0.14
0109	E	CONC CHNL 15-20'W 10'D 1.5:1 SS (REPLACE W/ LV150110)	1576	4353	CLV1D-4	CWEST4	9.49	0.11
0110	P0	CONC CHNL 45'W 11.5'D 0:1 SS (REPLACES LV150109)	1576	4353	CLV1D-4	CWEST4	9.49	0.11
0139	E	CONC CHNL 15'W 10'D 1.5:1 SS (REPLACE W/ LV150140)	3565	4353	CLV1D-4	CWEST4	9.49	0.18
0140	P0	CONC CHNL 45'W 11'D 0:1 SS (REPLACES LV150139)	3565	4353	CLV1D-4	CWEST4	9.49	0.18
0206	E	CONC CHNL 48'W 13'D 0:1 SS	329	4081	CW1C2	NW4SC	8.92	0.46
0208	E	CONFLUENCE STRUCTURE 64'-48'W 10-13'D 0:1 SS	298	4081	CW1C2	NW4SC	8.92	0.42
0210	E	3: 12' X 9' RCB	725	3689	CCVG24	NW3SC	7.14	0.25
0223	E	CONFLUENCE STRUCTURE 40'W 9'D 0:1 SS	185	3689	CCVG24	NW3SC	7.14	0.25
0230	E	12' X 4.5' RCBC @ LAKE MEAD	177	1265	DRAILRD	NW3	5.30	1.16
0231	E	CONC CHNL 8'W 8'D 0:1 SS	900	1265	DRAILRD	NW3	5.30	2.50
0248	E	8' X 8' RCBC @ UPRR	350	1265	DRAILRD	NW3	5.30	1.34
0255	E	CONC CHNL 8'W 8'D 0:1 SS	1330	1265	DRAILRD	NW3	5.30	2.00
0280	E	CONC CHNL 21'W 8'D 0:1 SS	550	2530	CCVG10	NW3	5.30	2.00
0284	E	14' X 6' RCB	1790	1444	CVG10-C	NW3	4.91	0.50
0316	E	11' X 6' RCB	3010	1152	CWA20-C	NW3	4.52	0.59
0372	E	9' X 6' RCB	1970	1152	CWA20-C	NW3	4.52	0.66
LVBR		**LAS VEGAS - BROOK**						
0000	E	96" CMPC @ UPRR	107	346^	CLV1D-5^	WEST3	0.80	0.35
0001	E	8' X 4' RCB @ UPRR	107	530^	CLV1D-5^	WEST3	0.80	0.93
0002	E	CONC CHNL 27'W 9'D 0:1 SS	125	876	CLV1D-5	WEST3	0.80	1.57
0005	E	CONC CHNL 18'W 4.75'D 0:1 SS	367	876	CLV1D-5	WEST3	0.80	2.43
0011	E	2: 9' X 3' RCBC @ LOSEE	135	876	CLV1D-5	WEST3	0.80	0.71
0013	E	CONC CHNL 12'W 4.5'D 2:1 SS	750	876	CLV1D-5	WEST3	0.80	1.50
0014	E	12' X 4' RCBC @ N. 5TH ST	100	876	CLV1D-5	WEST3	0.80	2.60
LVBZ		**LAS VEGAS WASH - BONANZA**						
0000	P	2: 12' X 7' RCB	1760	1753	CBN15-C	SW3	2.15	0.40
0025	P	2: 12' X 7' RCB	2700	1753	CBN15-C	SW3	2.15	0.40
0064	P	2: 12' X 7' RCB	2630	1603	CBN12-C	SW3	1.87	0.40
0114	P	2: 12' X 6' RCB	2740	1311	CBN10-C	SW3	1.54	0.40
0166	E	54" RCP (REPLACE W/ LVBZ0167)	930	1106	CBN09	SW3	1.29	0.45
0167	P0	10' X 9' RCB (REPLACES LVBZ0166)	930	1106	CBN09	SW3	1.29	0.45
0187	E	48" RCP (REPLACE W/ LVBZ0188)	1235	1106	CBN09	SW3	1.29	0.71
0188	P0	9' X 9' RCB (REPLACES LVBZ0187)	1235	1106	CBN09	SW3	1.29	0.71
0210	E	42" RCP (REPLACE W/ LVBZ0211)	704	1004	CBN08	SW3	1.05	1.37
0211	P0	8' X 8' RCB (REPLACES LVBZ0210)	704	1004	CBN08	SW3	1.05	1.37
0223	E	36" RCP (REPLACE W/ LVBZ0224)	2275	856	CBN03	SW3	0.84	0.72
0224	P0	8' X 8' RCB (REPLACES LVBZ0223)	2275	856	CBN03	SW3	0.84	0.72
LVCC		**LAS VEGAS WASH CARTIER CHANNEL**						
0000	P	CONC CHNL 12'W 9.5'D 0:1 SS	1900	995	CLW1A-3	CCWEST3	1.00	0.40
0035	P	10' X 5' RCB	6750	417	A-C	WEST3	0.40	0.32
LVCL		**LAS VEGAS WASH - COLTON**						
0000	E	CONC CHNL 9'W 13'D 0:1 SS	102	1071	CLV1E-3	WEST3	0.90	0.63
0002	E	102" RCP	157	1071	CLV1E-3	WEST3	0.90	0.62
0005	E	9' X 6' RCB	1320	1071	CLV1E-3	WEST3	0.90	0.94
0030	E	7' X 6' RCB	2148	1071	CLV1E-3	WEST3	0.90	2.22
LVCS		**LAS VEGAS WASH - COMMERCE STREET**						
0000	E	12' X 5' RCB	290	1590	CVG24	NW3	5.78	1.64
0004	E	10' X 6' RCB	510	1590	CVG24	NW3	5.78	4.84
0015	E	10' X 8' RCB	1700	1590	CVG24	NW3	5.78	0.97
0050	E	CONC CHNL 10'W 8'D 0:1 SS	200	1265	DCCVG10	NW3	5.30	2.27

ID / Mile	Status	Facility Description	Length (ft.)	Flow (cfs)	HEC-1 Node	HEC-1 Model	Tributary Area (sq.mi.)	Channel Slope (%) **
LVKC		**LAS VEGAS WASH - KING CHARLES CHANNEL**						
0000	E	CONC CHNL 35'W 10'D 0:1 SS	592	5518	CLV99B-7	CWEST5	14.74	0.40
0009	E	CONC CHNL 21.8'W 10'D 1.5:1 SS	3280	5518	CLV99B-7	CWEST5	14.74	0.40
LVLA		**LAS VEGAS WASH - LAMB**						
0000	P	2: 13' X 9' RCB	2200	2461	CLVW03	WEST3	3.30	0.30
0041	P	13' X 11' RCB	2600	2320	COA02	WEST3	3.07	0.58
0090	P	13' X 11' RCB	2700	2047	CLW64-3	WEST3	2.65	0.44
0141	P	13' X 10' RCB	2650	1693	CLW64-2	WEST3	2.12	0.38
0191	P	12' X 9' RCB	2700	1452	CLW64-1	WEST3	1.61	0.56
LVLE		**LAKE MEAD DRAIN TO LAS VEGAS WASH**						
0000	P	12' X 6' RCB	2600	660	CLV1B-2	WEST3	0.78	0.40
0047	P	12' X 4' RCB	2400	458	LV1B-1	WEST3	0.49	0.50
LVLM		**LAS VEGAS WASH - LAKE MEAD**						
0000	E	43"X 68" HERCP (REPLACE W/ LVLM0001)	847	1159	CLM20-C	NW3SC	1.36	4.60
0001	P0	12' X 4' RCB (REPLACES LVLM0000)	847	1159	CLM20-C	NW3SC	1.36	4.60
0016	E	54" RCP (REPLACE W/ LVLM0017)	965	1159	CLM20-C	NW3SC	1.36	4.38
0017	P0	12' X 4' RCB (REPLACES LVLM0016)	965	1159	CLM20-C	NW3SC	1.36	4.38
0033	E	60" RCP (REPLACE W/ LVLM0034)	1186	1159	CLM20-C	NW3SC	1.36	1.62
0034	P0	12' X 5' RCB (REPLACES LVLM0033)	1186	1159	CLM20-C	NW3SC	1.36	1.62
0059	E	72" RCP (REPLACE W/ LVLM0060)	5952	1159	CLM20-C	NW3SC	1.36	0.66
0060	P0	12' X 7' RCB (REPLACES LVLM0059)	5952	1159	CLM20-C	NW3SC	1.36	0.66
LVLV		**LAS VEGAS BLVD DRAIN**						
0000	P	2: 10' X 8' RCB	2600	823	CLW075-4	WEST3	1.03	0.10
LVMD		**LAS VEGAS WASH - MIDDLE**						
1178	E	EARTH CHNL 30'W 18'-20'D 2:1 SS (REPLACE W/ LVMD1179)	1500	13206	CLVW04-C	CLVWASH5	109.77	0.57
1179	P	CONC CHNL 60'W 9.5'D 2:1 SS (REPLACES LVMD1178)	1500	13206	CLVW04-C	CLVWASH5	109.77	0.57
1208	E	BANK-STAB. CHNL 65'W 15'D 2:1 SS (REPLACE W/ LVMD1209)	1420	13206	CLVW04-C	CLVWASH5	109.77	0.32
1209	P	CONC CHNL 60'W 11'D 2:1 SS (REPLACES LVMD1208)	1420	13206	CLVW04-C	CLVWASH5	109.77	0.32
1230	E	4 SPAN BRIDGE 162'W 13'D @ WASHINGTON	105	13172	CCLVW03	CLVWASH5	109.50	0.73
1232	E	BANK-STAB. CHNL 48'W 8'D 2:1 SS (REPLACE W/ LVMD1233)	1900	13172	CCLVW03	CLVWASH5	109.50	0.73
1233	P	CONC CHNL 90'W 8'D 0:1 SS (REPLACES LVMD1232)	1900	13172	CCLVW03	CLVWASH5	109.50	0.73
1271	E	4 SPAN BRIDGE 94'W 10'-12'D 2:1 SS @ LAMB	120	12412	CCLVW01C	CLVWASH5	106.21	0.38
1272	E	EARTH CHNL 80'W 10'D 2:1 SS (REPLACE W/ LVMD1273)	2400	12412	CCLVW01C	CLVWASH5	106.21	0.38
1273	P	CONC CHNL 80'W 9'D 2:1 SS (REPLACES LVMD1272)	2400	12412	CCLVW01C	CLVWASH5	106.21	0.38
1320	E	GABION CHNL 100'W 10'D 2:1 SS (REPLACE W/ LVMD1321)	1950	9070	CCK-C1	CLVWASH5	103.98	0.38
1321	P	CONC CHNL 80'W 8.5'D 2:1 SS (REPLACES LVMD1320)	1950	9070	CCK-C1	CLVWASH5	103.98	0.38
1354	E	5 SPAN BRIDGE 110'W 7'-8'D 2:1 SS @ OWENS	120	7810	2CLV1B-2	CLVWASH5	169.06	0.58
1355	E	GABION CHNL 100'W 10'D 2:1 SS	3122	7810	2CLV1B-2	CLVWASH5	169.06	0.58
1390	E	ENERGY DISSIPATOR	137	7692	CLW64-4	CLVWASH5	168.27	0.10
1400	E	CONC CHNL 90' W 12'D 0:1	173	7692	CLW64-4	CLVWASH5	168.27	5.00
1421	E	2 SPAN BRIDGE 84'W 8'D @ LAKE MEAD	200	8906	CLW64-4	CCWEST5	80.53	0.60
1424	E	CONC CHNL 78'W 8.5'D 0:1 SS	1615	8906	CLW64-4	CCWEST5	80.53	0.34
1444	E	CONC CHNL 84'W 8'D 0:1 SS	1450	8906	CLW64-4	CCWEST5	80.53	0.34
1482	E	1 SPAN BRIDGE 84'W 7'D @ CAREY	72	8906	CLW64-4	CCWEST5	80.53	1.00
1484	E	CONC CHNL 84'W 8'-9'D 0:1 SS	1880	8906	CLW64-4	CCWEST5	80.53	0.37
1522	E	CONC CHNL 90'W 10'D 0:1 SS	376	8866	2CLW1A-3	CCWEST5	80.16	0.53
1529	E	CONC CHNL 90'W 9'8'D 0:1 SS	360	8866	2CLW1A-3	CCWEST5	80.16	0.53
1534	E	1 SPAN BRIDGE 72.5'W 7.5'D @ LAS VEGAS BLVD	120	8742	CLW1A-4	CCWEST5	78.13	0.88
1536	E	CONC CHNL 70'W 8'D 0:1 SS	455	8742	CLW1A-4	CCWEST5	78.13	0.49
1543	E	CONFLUENCE STRUCTURE	393	8742	CLW1A-4	CCWEST5	78.13	1.44
1550	E	CONC CHNL 90'W 7.5'-9'D 0:1 SS	2150	8260	CHYPKOT	CCWEST5	77.19	0.45
1594	E	1 SPAN BRIDGE 90'W 5'D @ CHEYENNE	124	8260	CHYPKOT	CCWEST5	77.19	0.71
1595	E	CONC CHNL 90'W 7'D 0:1 SS	580	8260	CHYPKOT	CCWEST5	77.19	0.40
1606	E	TRANSITION STRUCTURE	144	8260	CHYPKOT	CCWEST5	77.19	0.40
1609	E	60' X 7.25' RCB WITH 2' CENTER PIER	221	8260	CHYPKOT	CCWEST5	77.19	0.40
1614	E	CONC CHNL 60'W 9'-11'D 0:1 SS	703	13796	CHYPKIN	CCWEST5	77.19	0.15
1626	E	TRANSITION STRUCTURE	227	13796	CHYPKIN	CCWEST5	77.19	2.46
1643	E	64,000 CFS PMF SPILLWAY (REPLACE W/ LVMD1644)		64000	CHYPKIN	CCWEST5	77.19	
1644	P	MODIFY 64,000 CFS PMF SPILLWAY, RAISE BY 1' (REPL LVMD1643)		64000	CHYPKIN	CCWEST5	77.19	
1645	E	456 AC-FT CHEYENNE PEAKING BASIN		13796	CHYPKIN	CCWEST5	77.19	
1646	P	UPGRADE TO 590 AC-FT CHEYENNE PEAKING BASIN		13796	CHYPKIN	CCWEST5	77.19	
1647	E	CONC CHNL 120'D 10'W 0:1 SS	800	13796	CHYPKIN	CCWEST5	77.19	0.40

ID / Mile	Status	Facility Description	Length (ft.)	Flow (cfs)	HEC-1 Node	HEC-1 Model	Tributary Area (sq.mi.)	Channel Slope (%) **
LVMD		**LAS VEGAS WASH - MIDDLE**						
1648	E	3 SPAN BRIDGE 95'W 8'-10'D 2:1 SS @ CIVIC CENTER	120	13796	CHYPKIN	CCWEST5	77.19	0.70
1663	E	CONC CHNL 80'W 10'D 2:1 SS	700	13715	3C99B-7	CCWEST5	76.87	0.70
1664	E	3 SPAN BRIDGE 75'W 10'D 2:1 SS @ I-15	120	13715	3C99B-7	CCWEST5	76.87	0.70
1665	E	TRANSITION STRUCTURE	200	8157	CLV99B-5	WEST5	48.36	0.36
1669	E	FREE SPAN BRIDGE 55'W 12'D @ UPRR	40	8157	CLV99B-5	WEST5	48.36	0.36
1670	E	CONC CHNL 82'W 10'D 0:1 SS	370	8157	CLV99B-5	WEST5	48.36	1.69
1677	E	CONC CHNL 80'W 10'D 2:1 SS	119	8157	CLV99B-5	WEST5	48.36	0.37
1679	E	4 SPAN BRIDGE 100'W 12'D 2:1 SS @ LOSEE	120	8157	CLV99B-5	WEST5	48.36	0.37
LVNC		**LAS VEGAS WASH - N CHANNEL**						
0001	E	18' X 7' RCB	150	1059	CLW100	CWEST5	14.59	0.33
0004	E	CONC CHNL 18'W 8.5'D 0:1 SS	200	1059	CLW100	CWEST5	14.59	0.33
0007	E	DROP STRUCTURE 18'W 2.8'D 3:1 SS	200	1059	CLW100	CWEST5	14.59	0.70
0008	E	CONC CHNL 18'W 10'D 2:1 SS	1250	1059	CLW100	CWEST5	14.59	0.70
0037	E	2: 14' X 7'-6' CMAP @ CHEYENNE	120	1059	CLW100	CWEST5	14.59	0.70
0038	E	CONC CHNL 32'W 8.5'D 2:1 SS	363	1059	CLW100	CWEST5	14.59	0.30
0043	E	CONC CHNL 12'W 6'-8'D 2:1 SS	1930	1059	CLW100	CWEST5	14.59	0.50
0079	E	TRANSITION CONC CHNL	350	1059	CLW100	CWEST5	14.59	1.00
0090	E	3: 12' X 6' RCB	120	1059	CLW100	CWEST5	14.59	0.70
0091	E	14' X 6' RCAP	1324	1059	CLW100	CWEST5	14.59	0.52
LVOE		**OWENS AVENUE - EAST**						
0000	P	15' X 12' RCB	4700	3018	CK-C1	SW5	24.06	0.47
0085	P	14' X 12' RCB	2540	2908	CG	SW5	23.74	0.62
0134	P	12' X 11' RCB	5380	2833	CE-C	SW5	23.51	1.00
0236	P	13' X 9' RCB	5000	2643	CH-C1	SW5	22.90	1.50
0331	P	13' X 12' RCB	1940	2576	DLVOE	SW5	22.61	0.60
0345	P	13' X 12' RCB	990	2576	DLVOE	SW5	22.61	0.60
LVOW		**OWENS AVENUE SYSTEM**						
0000	E	10' X 6' RCB	145	1219	CLM16B-C	NW3	2.43	0.76
0003	E	96" RCP	7500	1219	CLM16B-C	NW3	2.43	0.70
LVSR		**LAS VEGAS WASH - SMOKE RANCH**						
0000	E	CONC CHNL 22'W 8'D 0:1 SS	79	1086	CS1-C	NW3SC	1.42	2.32
0001	E	FREE SPAN BRIDGE 22'W 10'D	50	1086	CS1-C	NW3SC	1.42	2.32
0002	E	CONC CHNL 22'W 8'D 0:1 SS	468	1086	CS1-C	NW3SC	1.42	2.32
0009	E	72" RCP (REPLACE W/ LVSR0010)	702	1086	CS1-C	NW3SC	1.42	2.32
0010	P	10' X 5' RCB (REPLACES LVSR0009)	702	1086	CS1-C	NW3SC	1.42	2.32
0020	E	60" RCP (REPLACE W/ LVSR0021)	1320	1086	CS1-C	NW3SC	1.42	3.03
0021	P	10' X 5' RCB (REPLACES LVSR0020)	1320	1086	CS1-C	NW3SC	1.42	3.03
0045	E	54" RCP (REPLACE W/ LVSR0046)	1180	1086	CS1-C	NW3SC	1.42	3.41
0046	P	10' X 5' RCB (REPLACES LVSR0045)	1180	1086	CS1-C	NW3SC	1.42	3.41
0070	E	66" RCP (REPLACE W/ LVSR0071)	4118	1086	CS1-C	NW3SC	1.42	0.73
0071	P	10' X 8' RCB (REPLACES LVSR0070)	4118	1086	CS1-C	NW3SC	1.42	0.73
LVWH		**WASHINGTON AVENUE CHANNEL**						
0086	E	3: 12' X 8' RCB	1210	3825	CLVW01-C	SW5SC	16.58	0.35
0087	E	3: 12' X 8' RCB	1560	3825	CLVW01-C	SW5SC	16.58	0.33
0136	E	3: 12' X 8' RCB	2063	3728	CQ-C	SW5SC	16.35	0.33
0155	E	3: 10' X 8' RCB	3630	3618	CP-C	SW5SC	16.09	0.68
0234	E	2: 12' X 8' RCB	600	3502	CN-C	SW5SC	15.78	0.71
0240	E	2: 12' X 8' RCB	3240	3502	CN-C	SW5SC	15.78	1.50
0305	E	12' X 8' RCB	2950	1562^	CV1-C^	SW5SC	14.95	2.93
0361	E	12' X 8' RCB	548	1562^	CV1-C^	SW5SC	14.95	0.90
0371	E	12' X 8' RCB	590	1562^	CV1-C^	SW5SC	14.95	2.62
0382	E	CONC CHNL 50'W 10'D 0:1 SS	260	3124	CV1-C	SW5SC	14.95	0.80
0387	E	12' X 8' RCB	125	1562^	CV1-C^	SW5SC	14.95	7.43
0389	E	12' X 8' RCB	2110	1562^	CV1-C^	SW5SC	14.95	0.90
0426	E	16' X 8' RCB	150	1562^	CV1-C^	SW5SC	14.95	1.08
0429	E	SPLITTER STRUCTURE (2: 12' X 8' RCB)	190	2870	DCLC21	SW5	22.61	1.90
0431	E	3: 14.33' X 10' RCB	665	2870	DCLC21	SW5	22.61	0.15
0446	E	JUNCTION STRUCTURE	69	2870	DCLC21	SW5	22.61	0.15
0447	E	3: 14.33' X 10' RCB	1955	5193	CCAL93	SW5	22.05	0.15
RWSL		**RANGE WASH - SLOAN**						
0694	E	CONC CHNL 10'W 8'D 1.5:1 SS	1500	1686	C47C4	RW3SC	2.40	0.56

ID / Mile	Status	Facility Description	Length (ft.)	Flow (cfs)	HEC-1 Node	HEC-1 Model	Tributary Area (sq.mi.)	Channel Slope (%) **
RWSL		**RANGE WASH - SLOAN**						
0727	E	3: 10' X 8' RCBC	100	1592	C307E3	RW3SC	2.25	0.56
0728	E	CONC CHNL 12'W 8.5'D 1.5:1 SS	1345	1592	C307E3	RW3SC	2.25	0.56
WAGC		**WASHINGTON AVENUE CHANNEL - GRAND CENTRAL**						
0000	E	2: 12' X 4' RCB	700	505	LC21	SW3	0.56	0.20
0014	E	1: 12' X 4' RCB AND 1: 11' X 4' RCB	2440	505	LC21	SW3	0.56	0.20
WAPR		**WASHINGTON AVENUE CHANNEL PARALLEL**						
0000	E	12' X 8' RCB	2100	1562^	CV1-C^	SW5SC	14.95	2.20
0037	E	12' X 8' RCB	590	1562^	CV1-C^	SW5SC	14.95	5.60
0051	E	12' X 8' RCB	1200	1562^	CV1-C^	SW5SC	14.95	0.80
0074	E	12' X 8' RCB	550	1562^	CV1-C^	SW5SC	14.95	1.60
0089	E	14' X 8' RCB	395	1562^	CV1-C^	SW5SC	14.95	0.55
0097	E	14' X 8' RCB	1835	1562^	CV1-C^	SW5SC	14.95	1.24
0132	E	2: 9' X 8' RCB	387	1562^	CV1-C^	SW5SC	14.95	1.67

*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).

REGIONAL FLOOD CONTROL DISTRICT

2018 LAS VEGAS VALLEY FLOOD CONTROL MASTER PLAN UPDATE

FACILITY INVENTORY FIGURE F-25

LEGEND

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

ExistingFacility..... E
Proposed or Modified Facility..... P
Contingency Level
Category A..... P
Catgory B..... P0

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

Construction Features

Cast in Place Concrete Pipe	CIPCP	Reinforced Concrete Arch Culvert	RCAC
Corrugated Metal Arch Pipe Culvert	CMAP	Reinforced Concrete Box	RCB
Corrugated Metal Pipe Culvert	CMPC	Reinforced Concrete Box Culvert	RCBC
High Density Polyethylene	HDPE	Reinforced Concrete Pipe	RCP
Horizontal Elliptical Reinforced Concrete Pipe	HERCP	Reinforced Concrete Pipe Culvert	RCPC
Reinforced Concrete Arch Pipe	RCAP	Storm Sewer Pipe	SSP

ATKINS
Member of the SNC-Lavalin Group
Louis Berger

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM	DATE: August 7, 1997
TO: Diane Phomninh, P.E. Land Development Services Department of Public Works	FROM: Dennis W. Stransky, P.E. Flood Control Project Manager Department of Public Works
SUBJECT: Drainage Study for: **Catholic Charities of Southern Nevada, Phase I** FILE NO. H:\DEPOT\DS\DS2067B.DOC	COPIES TO: Martin & Martin, Inc. Catholic Charities of Southern Nevada John McNellis, P.E.

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

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES
1st Submittal	05/30/97	06/16/97	Not Acceptable	N/C
2nd Submittal	07/25/97	08/07/97	See Below	N/C
			TOTAL FEES	0

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

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

1. The sump outlet for the onsite storm drain system must have a 4-inch drain line that daylights to allow the bubbler to drain. The City of Las Vegas will not accept a bubbler without a drain line even for an interim condition.
2. Please note: the existing building at the elevation of 6.44 will be flooded during a 100-year storm event as there is no emergency overflow for this water. It is our understanding that the existing building will be replaced with future phases and that this is an interim condition.

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

PLANS SENT TO LAND DEVELOPMENT YES DWM **(initial)**

END OF REMARKS
DBM

T/R/S: **20S/61E/27**
AREA M-27

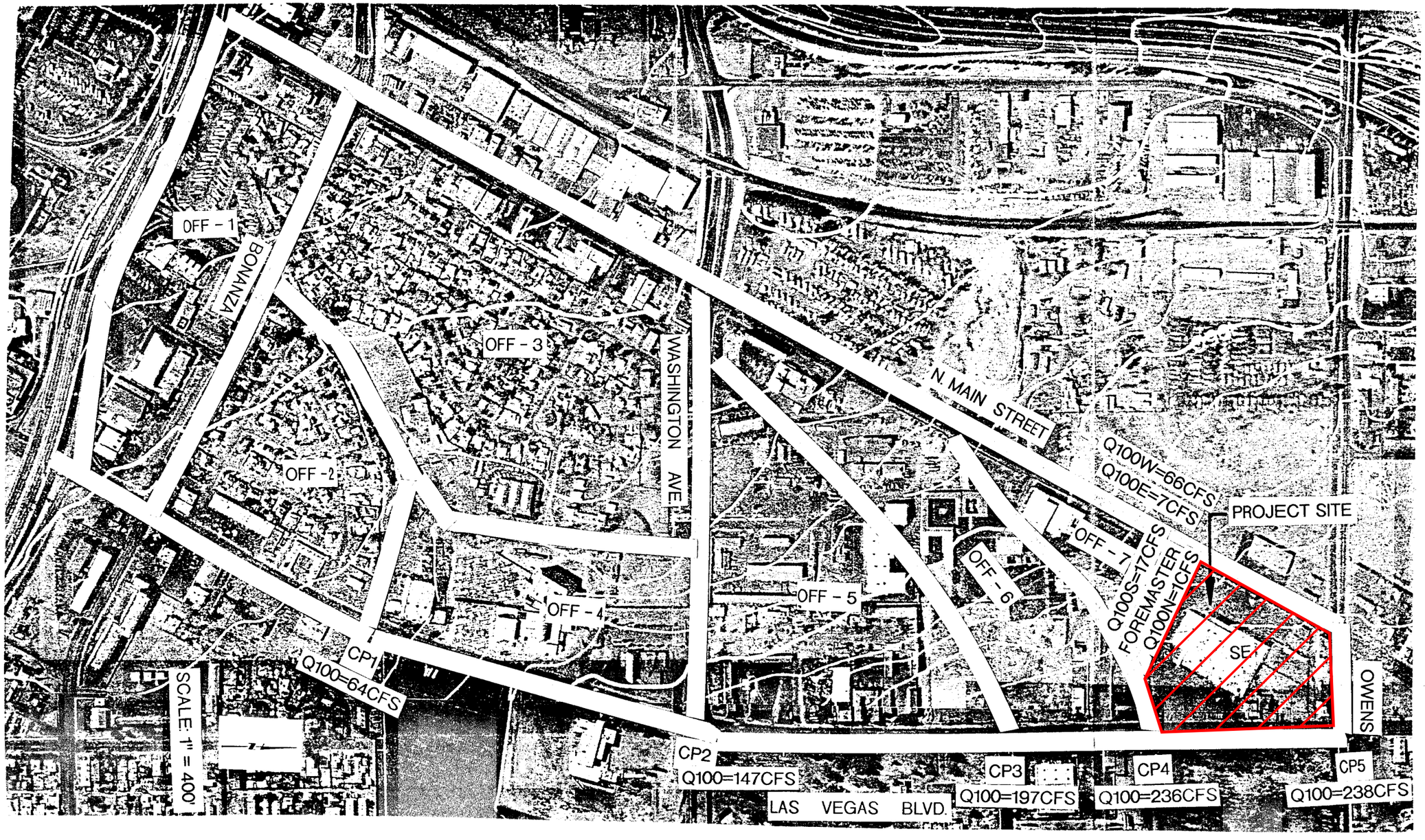
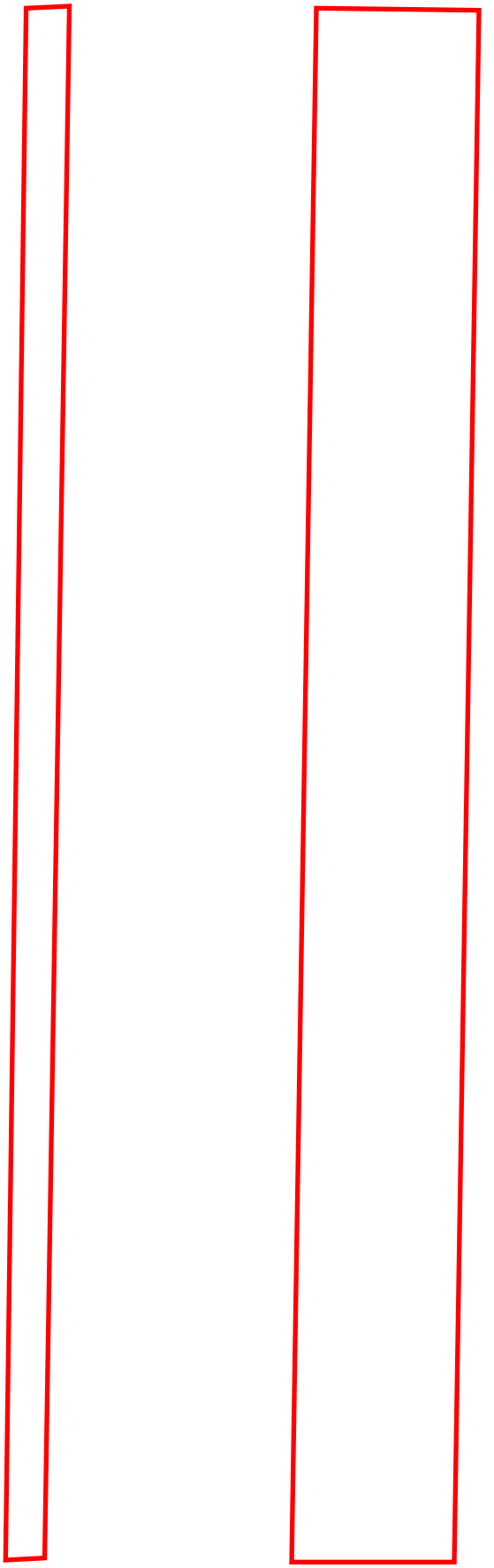


FIGURE 5 OFFSITE CONTRIBUTARY SUBAREAS AND EXISTING ONSITE SUBBASIN

MARTIN & MARTIN
CIVIL ENGINEERS
1909 SOUTH JONES BLVD.
PHONE (702) 248-8000



DEV. 100-YR @ FOREMASTER (SOUTH HALF)
Worksheet for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	DEV. 100-YR @ FOREMASTER (SOUTH HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.045000	ft/ft
Elevation range: 0.00 ft to 0.70 ft.		

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	0.70	0.00	12.00	0.016
10.50	0.50	12.00	30.00	0.017
10.50	0.00			
12.00	0.13			
12.00	0.17			
30.00	0.53			

Discharge	17.00	cfs

Results		
Wtd. Mannings Coefficient	0.017	
Water Surface Elevation	0.48	ft
Flow Area	2.96	ft^2
Wetted Perimeter	17.33	ft
Top Width	16.81	ft
Height	0.48	ft
Critical Depth	0.62	ft
Critical Slope	0.006430	ft/ft
Velocity	5.74	ft/s
Velocity Head	0.51	ft
Specific Energy	0.99	ft
Froude Number	2.41	
Flow is supercritical.		

DEV. 100-YR @ FOREMASTER (NORTH HALF)
Worksheet for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	DEV. 100-YR @ FOREMASTER (NORTH HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data				
Channel Slope	0.045000 ft/ft			
Elevation range: 0.00 ft to 0.70 ft.				
Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
30.00	0.53	30.00	48.00	0.017
48.00	0.17	48.00	60.00	0.016
48.00	0.13			
49.50	0.00			
49.50	0.50			
60.00	0.70			
Discharge	1.00 cfs			

Results		
Wtd. Mannings Coefficient	0.017	
Water Surface Elevation	0.22	ft
Flow Area	0.31	ft^2
Wetted Perimeter	4.47	ft
Top Width	4.20	ft
Height	0.22	ft
Critical Depth	0.28	ft
Critical Slope	0.009783	ft/ft
Velocity	3.21	ft/s
Velocity Head	0.16	ft
Specific Energy	0.38	ft
Froude Number	2.08	
Flow is supercritical.		

DEV. 100-YR FLOW @ FOREMASTER (SOUTH HALF)
Cross Section for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	DEV. 100-YR @ FOREMASTER (SOUTH HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

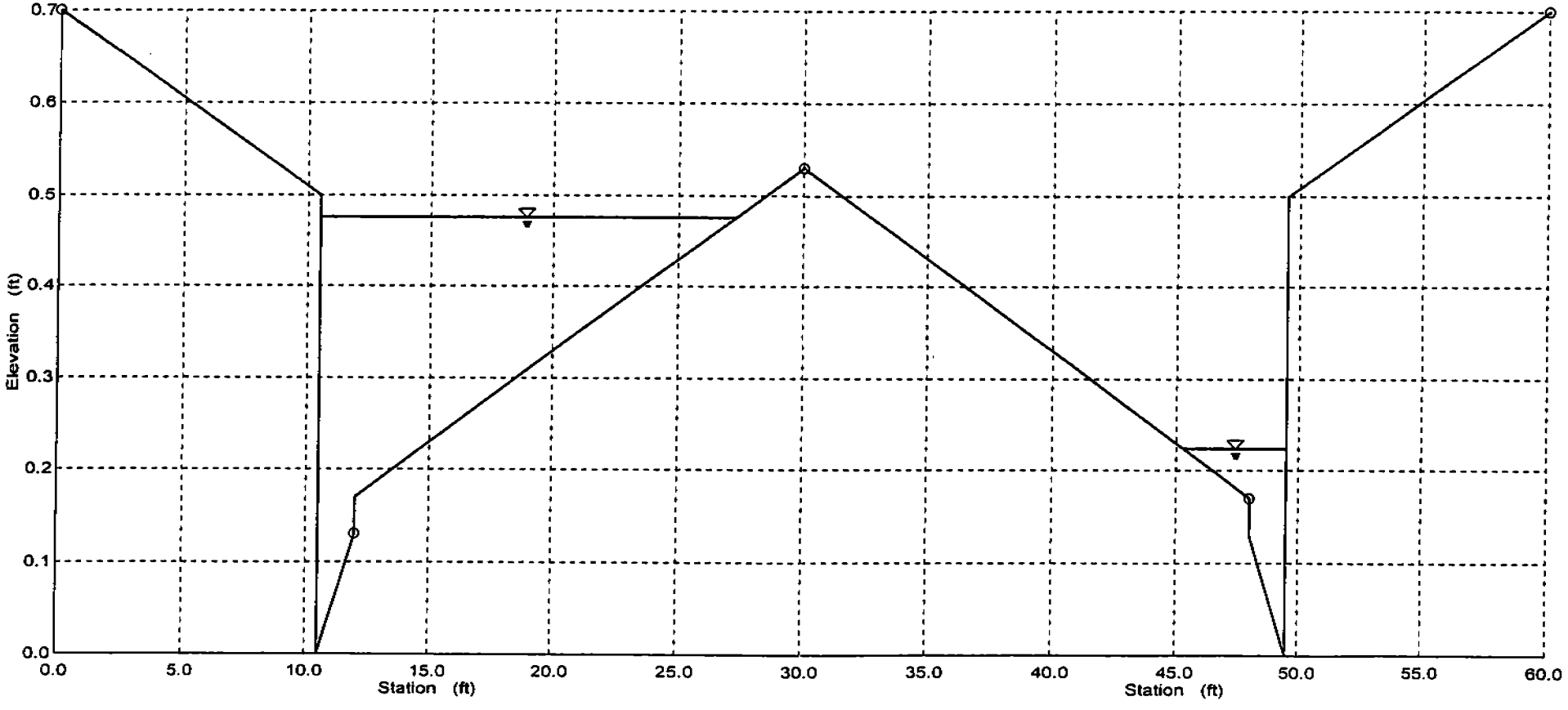
Section Data		
Wtd. Mannings Coefficient	0.017	
Channel Slope	0.045000	ft/ft
Water Surface Elevation	0.48	ft
Discharge	17.00	cfs

DEV. 100-YR FLOW @ FOREMASTER (NORTH HALF)
Cross Section for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	DEV. 100-YR @ FOREMASTER (NORTH HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.017	
Channel Slope	0.045000	ft/ft
Water Surface Elevation	0.22	ft
Discharge	1.00	cfs

PROJECT →



100-YR FLOW @ MAIN STREET (WEST HALF)
Worksheet for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	100-YR. FLOW @ MAIN STREET (WEST HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.027700	ft/ft
Discharge	66.00	cfs

Elevation range: 0.00 ft to 0.79 ft.

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	0.70	0.00	11.50	0.016
10.00	0.50	11.50	42.50	0.017
10.00	0.00			
11.50	0.13			
11.50	0.17			
42.50	0.79			

Results		
Wtd. Mannings Coefficient	0.017	
Water Surface Elevation	0.75	ft
Flow Area	10.78	ft^2
Wetted Perimeter	40.91	ft
Top Width	40.31	ft
Height	0.75	ft
Critical Depth	0.92	ft
Critical Slope	0.005578	ft/ft
Velocity	6.12	ft/s
Velocity Head	0.58	ft
Specific Energy	1.33	ft
Froude Number	2.09	

Flow is supercritical.

Water elevation exceeds lowest end station by 0.05 ft.

100-YR FLOW @ MAIN STREET (EAST HALF)
Worksheet for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	100-YR. FLOW @ MAIN STREET (EAST HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data				
Channel Slope	0.027700 ft/ft			
Elevation range: 0.00 ft to 0.79 ft.				
Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
42.50	0.79	42.50	73.50	0.017
73.50	0.17	73.50	85.00	0.016
73.50	0.13			
75.00	0.00			
75.00	0.50			
85.00	0.70			
Discharge	7.00 cfs			

Results		
Wtd. Mannings Coefficient	0.017	
Water Surface Elevation	0.40	ft
Flow Area	1.81	ft^2
Wetted Perimeter	13.39	ft
Top Width	12.95	ft
Height	0.40	ft
Critical Depth	0.48	ft
Critical Slope	0.006946	ft/ft
Velocity	3.87	ft/s
Velocity Head	0.23	ft
Specific Energy	0.63	ft
Froude Number	1.82	
Flow is supercritical.		

100-YR FLOW @ MAIN STREET (WEST HALF)
Cross Section for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	100-YR. FLOW @ MAIN STREET (WEST HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

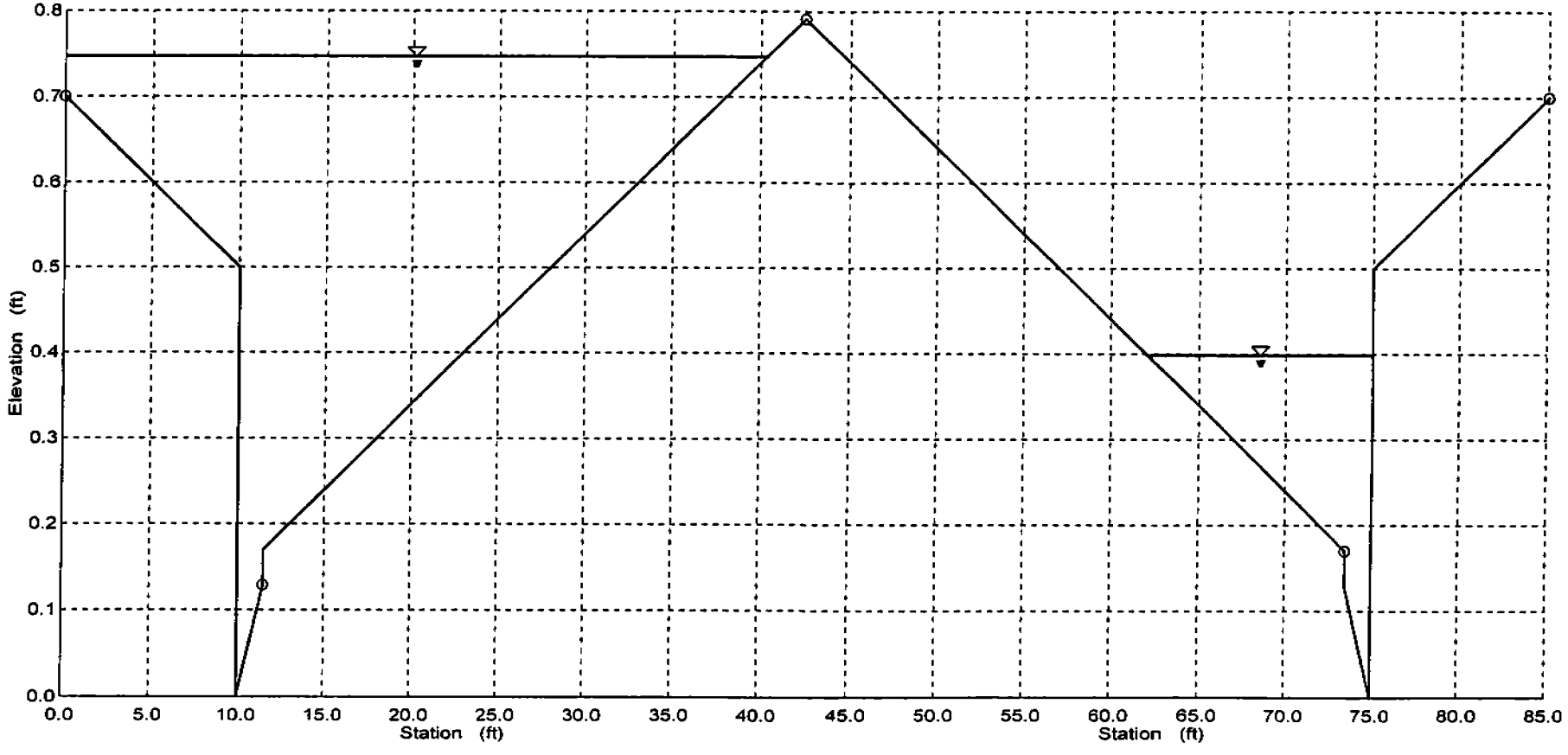
Section Data		
Wtd. Mannings Coefficient	0.017	
Channel Slope	0.027700	ft/ft
Water Surface Elevation	0.75	ft
Discharge	66.00	cfs

100-YR FLOW @ MAIN STREET (EAST HALF)
Cross Section for Irregular Channel

Project Description	
Project File	a:\church\church.fm2
Worksheet	100-YR. FLOW @ MAIN STREET (EAST HALF)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.017	
Channel Slope	0.027700	ft/ft
Water Surface Elevation	0.40	ft
Discharge	7.00	cfs

PROJECT →



CIVIL IMPROVEMENT PLANS

FOR

CATHOLIC CHARITIES OF SOUTHERN NEVADA - PHASE 1 EXPANSION

APN: 139-27-503-006

LAS VEGAS, NEVADA

PROJECT CONTACTS

CIVIL ENGINEER
KIMLEY-HORN AND ASSOCIATES, INC.
6671 LAS VEGAS BOULEVARD SOUTH, SUITE 320
LAS VEGAS, NEVADA 89119

CONTACT: THOMAS ACKERET, P.E.
(702)-862-3608

OWNER/DEVELOPER
CATHOLIC CHARITIES SOUTHERN NEVADA
1501 N LAS VEGAS BLVD

PROJECT SURVEYOR
WALLACE MORRIS KLINE SURVEYING, LLC.
5740 SOUTH ARVILLE STREET, #206
LAS VEGAS, NEVADA 89118
(702)-212-3967

PROJECT ARCHITECT
CUNNINGHAM GROUP ARCHITECTURE, Inc.
3770 HOWARD HUGHES PKWY #100, LAS VEGAS, NV 89169

CONTACT: PAUL SPARRHAKE
(702)-946-5390

PROJECT INFORMATION

NUMBER OF LOTS: 1

ACREAGE: ±6.07 ACRES

ZONING: GENERAL COMMERCIAL DISTRICT (C-2)

BENCHMARK

CLARK COUNTY VERTICAL CONTROL STATION 2LV0122SSE6, RIVET AND ALUMINUM PLATE IN TOP OF CURB, NORTHEAST CORNER OF OWENS AVE. AND MAIN STREET NEAR THE POC.

ELEVATION = 580.583 METERS
ELEVATION = 1904.79 U.S. SURVEY FEET (NAVD 88 V.2018

BASIS OF BEARING

SOUTH 89°42'26" EAST, BEING THE NORTH LINE OF THE NORTHEAST QUARTER (NE1/4) OF SECTION 27, TOWNSHIP 20 SOUTH, RANGE 61 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE 91, PAGE 69 OF PLATS, OFFICIAL RECORDS, CLARK COUNTY, NEVADA.

LEGAL DESCRIPTION

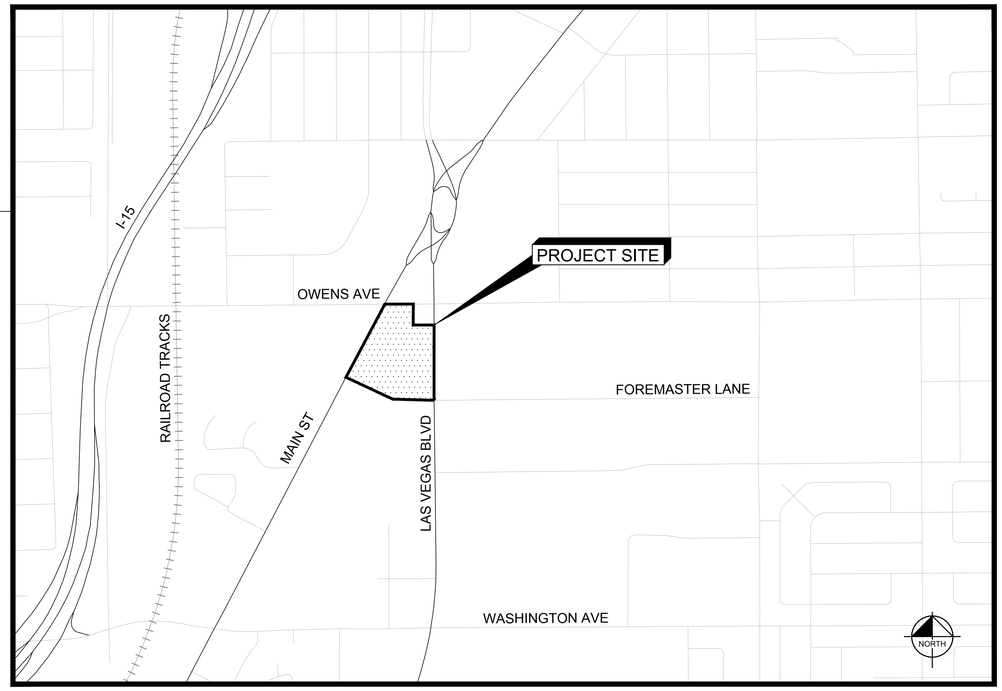
LOT 1 PARCEL MAP FILE 91, PAGE 69, TOWNSHIP 20, SECTION 27, RANGE 61

UTILITY NOTE

KIMLEY-HORN AND ASSOCIATES TAKES NO RESPONSIBILITY FOR EXISTING UTILITIES SHOWN HEREIN. THE EXISTING UTILITIES SHOWN ARE BASED ON INFORMATION PROVIDED BY-OTHER PARTIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND VERIFY THE LOCATIONS AND INVERTS OF THE EXISTING WITHIN THE VICINITY OF CONSTRUCTION ACTIVITIES. IF A CONFLICT IS FOUND TO EXIST, THE CONTRACTOR SHALL COORDINATE THE PROJECT ENGINEER, PROJECT ARCHITECT, AND THE OWNER IMMEDIATELY.

SHEET SET

SEE SHEET C0.03 FOR SHEET INDEX



PROJECT VICINITY MAP

NTS

CUNINGHAM GROUP

Cuningham Group Architecture, Inc.
3770 Howard Hughes Parkway, Suite 100, Las Vegas, NV 89169
www.cuningham.com

Kimley»Horn

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6671 LAS VEGAS BOULEVARD S., SUITE 320, LAS VEGAS, NV 89119
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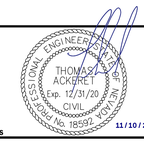

11/10/2020

Revisions

No.	Date	Description

Project Information

Phase:	ELP Demolition	Date:	November 10, 2020
Project No.:	18-0621	PIC / AIC:	BE / PS

Catholic Charities of Southern Nevada

Sheet Title

COVER SHEET

Sheet Number PH1-C0.01

Current Revision

Call before you Dig
Avoid cutting underground utility lines. It's costly.
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CITY OF LAS VEGAS GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 'UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA', LATEST ISSUE; THE 'UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA', LATEST REVISED EDITION; THE 'SUMMERLIN IMPROVEMENT STANDARDS'FOR WORK IN THE SUMMERLIN AREA; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; THE UNIFORM BUILDING CODE; AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS 'DEVIATIONS FROM STANDARDS'.

2. THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES AS SHOWN FROM CLV PLANS LIBRARY ARE APPROXIMATE AND FOR RECORD PURPOSES. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCES WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.

3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES AND STREET IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE, AND ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO THE CITY ENGINEER AND OWNING UTILITY COMPANY AT THE EXPENSE OF THE CONTRACTOR.

4. ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS, ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.

5. TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGNS TO BE APPROVED BY THE CITY, PRIOR TO THE USE ON THE PROJECT.

6. PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.

7. EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300'IN EXTRUDED-TYPE CURB.

8. AC PAVEMENT TO BE ONE-HALF INCH (½') ABOVE LIP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS AND CROSS GUTTERS.

9. CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY OF LAS VEGAS SHALL BE REMOVED AND REPLACED PER STANDARD DRAWING 216.

10. SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER STANDARD DRAWING 235. EXACT LOCATION OF RAMPS MAY BE ADJUSTED IN THE FIELD BY A CITY INSPECTOR.

11. CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION. THE EXTENT OF THE TRANSITIONS TO BE AS SHOWN ON PLANS.

12. ALL GRADING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY NOVA GEOTECHNICAL & INSPECTION SERVICES (PROJECT #G-18-038, DATED: MAY 15, 2018), APPROVED BY THE CITY ENGINEER, AND AS SHOWN ON THESE PLANS.

13. EXACT LOCATION OF ALL SAWCUT LINES MAY BE ADJUSTED OR DETERMINED IN THE FIELD BY A CITY OF LAS VEGAS ENGINEER IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATIONS.

14. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING PERMANENT SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE REPLACED AND ADJUSTED PER AVAILABLE RECORDS IN ACCORDANCE WITH N.R.S. STATUTE NO. 625.380 & CITY OF LAS VEGAS TITLE 18, APPENDIX D.

15. UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC., SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAY APRONS, FLOWLINES, AND CROSS GUTTERS UNLESS WRITTEN APPROVAL IS GRANTED BY THE UTILITY COMPANY AND THE CITY ENGINEER.

WALL NOTES:

16. ALL WALLS, NEW OR EXISTING, ARE ONLY SHOWN ON CIVIL PLANS FOR THE PURPOSE OF REVIEWING GRADING RELATIONSHIPS; FLOOD CONTROL AND SIGHT DISTANCE AT INTERSECTIONS. NEW WALLS REQUIRE A SEPARATE PERMIT AND INSPECTION BY THE BUILDING DEPARTMENT.

17. ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHT OF WAY.

18. CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE RIMS, AND SEWER CLEAN OUTS, ETC. TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.

19. MATERIALS, HANDLING AND PLACEMENT OF PORTLAND CEMENT CONCRETE SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF NDOT OR THE CLARK COUNTY AREA SPECIFICATIONS (AS APPLICABLE) AND THE PLANS AND DETAILS SHOWN HEREON.

20. WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC., THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO OFFSITE INSPECTION AND TESTING CERTIFYING THAT ALL DEVICES HAVE BEEN PLACED AND VERIFIED TO BE IN GOOD WORKING CONDITION PRIOR TO THE CONSTRUCTION OF ANY ROAD BASE.

21. AFTER HAUNCHING AND PRIOR TO BACKFILL OPERATIONS WHICH WOULD COVER SANITARY SEWER AND STORM DRAIN FACILITIES, CONTRACTOR IS REQUIRED TO SCHEDULE CLV OPEN-TRENCH UTILITY SURVEY INSPECTION FOR DETERMINATION OF FINAL LOCATION COORDINATES. FACILITIES TO BE LOCATED BY CLV SHALL INCLUDE AT A MINIMUM THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES AND TRANSITION STRUCTURES, STORM DRAIN LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT-OF-WAY, SEWER AND STORM DRAIN MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS.

22. CCTV VIDEO INSPECTION IS REQUIRED FOR ALL SEWER AND STORM DRAINS. THE CCTV VIDEO INSPECTIONS NEED TO BE PERFORMED PER THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS LATEST ADDITION.

23. A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

REVISED 02/03/15

CITY OF LAS VEGAS GRADING NOTES

1. IN THE EVENT THAT ANY UNFORESEEN CONDITIONS NOT COVERED BY THESE NOTES ARE ENCOUNTERED DURING GRADING OPERATIONS, THE OWNER/ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTION.

2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THIS PROJECT AND THE RELATED OFF-SITE WORK, SO AS TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES AND SLOPES SHOWN.

3. CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL EXCAVATION. ADEQUATE SHORING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR TO PREVENT UNDERMINING OF ANY ADJACENT FEATURES OR FACILITIES AND/OR CAVING OF THE EXCAVATION.

4. THE CONTRACTOR IS WARNED THAT AN EARTHWORK BALANCE WAS NOT NECESSARILY THE INTENT OF THIS PROJECT. ANY ADDITIONAL MATERIAL REQUIRED OR LEFTOVER MATERIAL FOLLOWING EARTHWORK OPERATIONS BECOMES THE RESPONSIBILITY OF THE CONTRACTOR.

5. THE GRADING CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER TO PROVIDE FOR THE REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ASSOCIATED PERMIT.

6. CONTRACTOR SHALL GRADE TO THE LINES AND ELEVATIONS SHOWN ON THE PLANS WITHIN THE FOLLOWING HORIZONTAL AND VERTICAL TOLERANCES AND DEGREES OF COMPACTION, IN THE AREAS INDICATED:
   HORIZONTAL VERTICAL COMPACTION
   A. PAVEMENT AREA SUBGRADE 0.1'+ +0.0' TO -0.1' SEE SOILS REPORT
   B. ENGINEERED FILL 0.5'+ +0.1' TO -0.1' SEE SOILS REPORT COMPACTION TESTING WILL BE PERFORMED BY THE OWNER OR HIS REPRESENTATIVE.

7. ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.

8. THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER.

9. THE CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS AND ALL OTHER PUBLIC RIGHT-OF-WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE PUBLICLY OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.

10. IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED THAT IS NOT SHOWN ON THESE DRAWINGS, THE OWNER AGREES TO PROVIDE AND INSTALL SUCH ITEM AT HIS OWN EXPENSE AND AT THE DIRECTION OF THE CITY ENGINEER. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

REVISED 04/15/10

1. ALL STREET LIGHTING INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STREET LIGHTING PLANS, THE 'UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA'; LATEST REVISION, AND THE 'UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA'; LATEST REVISION, AND ANY ADOPTED SPECIAL AREA STANDARDS.

2. NO DEVIATION OF STREET LIGHT, PULL BOX, CONDUITS (ETC.) LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF TRAFFIC ENGINEERING AND THE CITY ENGINEER.

3. ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION.

4. ALL STREET LIGHTING CONDUITS STUB SHALL HAVE AT LEAST ONE GREEN #8 THW WIRE INSTALLED, AS TRACER WIRE. WHEN 'EMPTY'CONDUIT IS COMPLETELY INSTALLED FROM PB TO PB, IT SHALL HAVE

CITY OF LAS VEGAS STREETLIGHT NOTES

MINIMUM OF 2 #4 AND 1 #8 THW WIRE WITH THE ENDS TAPED OR "SAFE OFF'PRIOR TO FINAL INSPECTION.

5. ANY STRUCTURE SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC., SHALL LEAVE A MINIMUM CLEARANCE IN ACCORDANCE WITH THE USD NO. 320A.

6. AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE TEFO PRIOR TO ANY PRE-FINAL INSPECTION. THE AS-BUILT DRAWING NEEDS TO BE STAMPED AS-BUILT AND SIGNED BY THE PREPARER.

7. SERVICE POINT SHALL BE COORDINATED WITH NV ENERGY COMPANY, AND WHEREVER POSSIBLE, BE LOCATED NEAR THE CENTER OF THE CIRCUIT. SERVICE POINTS SHALL BE SHOWN ON THE CIVIL PLANS.

8. IT SHALL BE ASSUMED THAT IN THE ABSENCE OF AN EXISTING, WORKABLE CIRCUIT TO ATTACH TO, ALL INSTALLATIONS SHALL REQUIRE A NEW SERVICE FOR OPERATION OF THE CIRCUIT.

9. WHEREVER THERE IS AN OVERHEAD UTILITY THAT MAY CONFLICT WITH THE INSTALLATION OF STREET LIGHTING CIRCUITS AND/OR POLES, THESE CONFLICTS MUST BE RESOLVED BETWEEN THE DEVELOPER AND THE UTILITIES INVOLVED, AT NO EXPENSE TO THE CITY OF LAS VEGAS, BEFORE STREETLIGHT BASES ARE INSTALLED.

10. THE CONTRACTOR SHALL FURNISH COMPLETE SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON PLANS.

11. THE DEVELOPER/OWNER WILL BE REQUIRED TO SUPPLY POWER TO ALL NEW PUBLIC STREET LIGHTS INSTALLED UNDER THIS DESIGN PRIOR TO BOND RELEASE OR PROJECT COMPLETION. THE DEVELOPER/OWNER WILL BE RESPONSIBLE FOR ALL ITEMS ASSOCIATED WITH THE INSTALLATION, CONSTRUCTION, ENERGIZING, MAINTENANCE AND OPERATIONAL COST OF SAID STREET LIGHTS PRIOR TO PROJECT COMPLETION. REFER TO THE PLAN FOR ANY NEW SERVICE REQUIREMENTS. THE TRANSFER OF OWNERSHIP FROM THE DEVELOPER/OWNER TO THE CITY OF LAS VEGAS FOR ALL NEW PUBLIC STREET LIGHT/S AND/OR SERVICE/S INSTALLED UNDER THIS PLAN DESIGN WILL BE IN CONJUNCTION WITH THIS PROJECT COMPLETION. COORDINATE ALL MAINTENANCE AND OPERATIONAL TRANSFERS WITH THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DEPARTMENT (TEFO) AT (702) 229-6331.

REVISED 04/15/10

CITY OF LAS VEGAS TRAFFIC NOTES

1. ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.

2. THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.

3. 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 STOP SIGNS AT ALL NEW STREET ENCROACHMENTS INTO EXISTING CITY STREETS WHERE WARRANTED IMMEDIATELY AFTER FIRST GRADING WORK IS ACCOMPLISHED, AND SHALL MAINTAIN SAID SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.

4. WHEN A DESIGNATED "SAFE ROUTE TO SCHOOL" IS ENCROACHED UPON BY A CONSTRUCTION WORK ZONE AND PUBLIC WORKS STAFF IDENTIFIES A NEED FOR STUDENTS TO BE ASSISTED IN THE SAFE CROSSING THROUGH THE WORK ZONE, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A "CROSSING GUARD". THE GUARD SHALL BE PRESENT FOR THE FULL DURATION OF TIME THAT CHILDREN ARE LIKELY TO BE PRESENT.

5. IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL OR RELOCATION OF ANY EXISTING PERMANENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PERMANENT SIGNS SHOWN ON THE PLANS. ALL NEW TRAFFIC SIGNS SHALL BE FABRICATED WITH DIAMOND GRADE VIP CLASS 6 REFLECTIVE SHEETING OR APPROVED EQUAL. ALL NEW TRAFFIC SIGNS, EXCEPT STREETNAME AND SCHOOL SPEED LIMIT SIGNS, SHALL HAVE 3M SERIES 1160 OR APPROVED EQUIVALENT ANTI-GRAFFITI PROTECTIVE OVERLAY FILM; SCHOOL ZONE SIGNS SHALL HAVE 3M SERIES 1150 ANTI-GRAFFITI PROTECTIVE OVERLAY FILM. STREET NAME SIGNS SHALL CONFORM IN THEIR ENTIRETY TO CURRENT CITY STANDARDS. ALL OTHER SIGNS SHALL BE STANDARD SIZE UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT CITY STANDARDS.

7. WHEN A PROPOSED STREET LIGHT STANDARD IS LOCATED WITHIN FIVE (5') FEET OF ANY PROPOSED SIGN SHOWN ON THE PLANS TO BE MOUNTED ON A SIGNPOST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGNPOST SHALL BE ELIMINATED.

8. 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 HERE UNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.

9. STREET SIGNS AND STOPS SIGNS SHALL BE INSTALLED PER CITY STANDARD SPECIFICATIONS FOR PLACEMENT OF STREET NAME SIGNS.

10. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES AND FLAGGERS TO INSURE THE SAFETY OF THE PUBLIC IN OR AROUND THE WORK AREA. THE CONTRACTOR SHALL HAVE A CERTIFIED ATSSA TRAFFIC CONTROL TECHNICIAN OR IMSA WORK ZONE SAFETY SPECIALIST SET UP, MAINTAIN AND/OR REMOVE ALL TRAFFIC CONTROL DEVICES IN THE CITY OF LAS VEGAS RIGHT OF WAY.

11. WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE EXPEDITED TO COMPLETION SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING CITIZENS AREA TRANSIT (C.A.T.) IF THE CONSTRUCTION INTERRUPTS OR RELOCATES A BUS STOP OR HAS AN ADVERSE EFFECT ON BUS SERVICE ON THAT STREET TO ARRANGE FOR TEMPORARY RELOCATION OF STOP.

13. GUARDS SHALL BE OBTAINED BY CONTACTING THE METROPOLITAN POLICE DEPARTMENT SPECIAL EVENTS UNIT PHONE # 828-3442) WHO WILL PROVIDE OFFICERS PROPERLY TRAINED IN TRAFFIC CONTROL. FEES FOR THE USE OF THESE OFFICERS SHALL BE SET BY METRO AND WILL BE PAID BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL ARRANGEMENTS WITH METRO.

14. ANY WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS OTHERWISE DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.

15. THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING DIVISION (TRANSPORTATION SECTION) THROUGH THE PROJECT'S OFFSITE INSPECTOR PRIOR TO INITIATING PAVING TO RECEIVE DIRECTION FOR ANY PERMANENT OR TEMPORARY MODIFICATIONS TO THE APPROVED DRAWINGS REGARDING FINAL PAVEMENT TRANSITIONS, MARKINGS AND SIGNING THAT ARE REQUIRED TO MATCH ADJACENT ROADWAY SEGMENTS. THE CONTRACTOR SHALL PROVIDE A DRAWING FOR APPROVAL BY THE TRAFFIC ENGINEERING DIVISION DEPICTING ANY ADJUSTMENTS TO THE FINAL PAVEMENT MARKINGS AND SIGNAGE, WHICH MAY INCLUDE OMITTING, ADDING OR MODIFYING PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SUCH THAT ADEQUATE TRANSITIONS AND LANE TERMINATIONS BETWEEN ADJACENT ROADWAY SEGMENTS ARE CONSTRUCTED.

REVISED 04/15/10

LAS VEGAS FIRE & RESCUE - GENERAL NOTES

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LAS VEGAS FIRE AND RESCUE ADOPTED FIRE ORDINANCE #6325 FOR HYDRANT SPECIFICATIONS AND HYDRANT INSTALLATION SPECIFICATIONS.

2. AUTHORIZED FIRE HYDRANTS ARE AS FOLLOWS:

   MUELLER COMPANY – A-423
   CLOW VALVE Co. – F-2546LVD
   AMERICAN FLOW CONTROL – B-84-B5

3. A PERMIT IS REQUIRED FROM LAS VEGAS FIRE AND RESCUE FOR THE INSTALLATION OF ON-SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND CONTRACTORS MATERIAL TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER BEFORE COMMENCEMENT OF WORK.

4. ON ANY RESIDENTIAL OR COMMERCIAL INSTALLATIONS, FIRE HYDRANTS SHALL BE INSTALLED AND FIRE APPARATUS ACCESS ROADS SHALL BE MAINTAINED BEFORE COMMENCEMENT OF ANY COMBUSTIBLE CONSTRUCTION. ALL FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER AND SHALL BE CAPABLE OF DELIVERING THE REQUIRED FIRE FLOW.

5. TO IDENTIFY THE FIRE HYDRANT LOCATIONS, THE CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF STREET ADJACENT TO THE FIRE HYDRANTS.

6. ALL UNDERGROUND INSPECTIONS, PRESSURE AND FLUSH VERIFICATIONS OF ALL FIRE HYDRANTS AND FIRE LINES, SHALL BE CONDUCTED BEFORE COVERING THE LINES. CENTER LOADING IS ACCEPTABLE FOR THE HYDRO TESTS WILL PRIOR FIRE PREVENTION APPROVAL.

7. ALL ON-SITE UNDERGROUND WATER MAINS AND MATERIALS SHALL BE U.L. LISTED, A.W.W.A. APPROVED AND SHALL BE RATED FOR THE APPROPRIATE WORKING PRESSURE.

8. PAINTING OF CURBS, FIRE HYDRANTS, PADS, PROTECTION OF FIRE HYDRANTS FROM PHYSICAL DAMAGE, AND ALL OTHER WORK NECESSARY PER PLANS SHALL BE COMPLETED BEFORE APPROVAL BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION.

9. PRIVATE FIRE HYDRANTS SHALL BE PAINTED RED.

10. PRIOR TO THE FINAL OCCUPANCY, A FLOW TEST MUST BE WITNESSED BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION.

11. FIRE HYDRANTS SPACING SHALL BE AS FOLLOWS:
    RESIDENTIAL – 500 FEET UNSPRINKLERED; 600 FEET SPRINKLERED.
    COMMERCIAL – 300 FEET UNSPRINKLERED; 400 FEET SPRINKLERED.

12. WHERE NEW WATER MAINS ARE EXTENDED ALONG STREETS OR NEW STREETS ARE INSTALLED WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF THE STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT MAXIMUM 1,000 FOOT SPACING, TO PROVIDE FOR TRANSPORTATION HAZARDS. WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR HAVE FOUR OR MORE TRAFFIC LANES AND HAVE A TRAFFIC COUNT OF MORE THAN 30,000 PER DAY, HYDRANTS ARE REQUIRED ON EACH SIDE OF THE STREET SPACED AT

LAS VEGAS FIRE AND RESCUE - GENERAL NOTES (CONT.)

500 FEET ON AN ALTERNATING BASIS.

13. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE REQUIRED RADIUS OF A CUL-DE-SAC OR WITHIN 20 FEET OF THE PERIMETER OF THE RADIUS OF THE CUL-DE-SAC.

14. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FEET OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION.

15. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A ONE-TWO FAMILY DWELLING SHALL NOT EXCEED 300 FEET, AS MEASURED BY AN APPROVED ROUTE.

16. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FEET, AS MEASURED BY AN APPROVED ROUTE.

17. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FEET.

18. TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE ARE 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM. SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS CAN BE OUT OF SERVICE DUE TO A BREAK IN A WATER MAIN.

19. ALL FIRE APPARATUS ACCESS ROADS SHALL BE PAVED TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES, AND SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF THE FIRE APPARATUS.

20. THE GRADIENT FOR THE FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12% ANGLES OF APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 6% FOR 25 FEET PRIOR TO OR AFTER THE GRADE CHANGE. ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EXCEED 6%.

21. THE TURNING RADIUS OF THE FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 52 FEET OUTSIDE AND 28 FEET INSIDE TURNING RADIUS.

22. VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL BE NOT LESS THAN 13 FEET 6 INCHES.

23. FIRE DEPARTMENT ACCESS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 40 FEET FLOW LINE TO FLOW LINE WITH PARALLEL PARKING PERMITTED ON BOTH SIDES. NOT LESS THAT 32 FEET WIDE, FLOW LINE TO FLOW LINE, WHERE PARKING IS PERMITTED ONLY ON ONE SIDE OF THE FIRE APPARATUS ACCESS ROAD. NOT LESS THAT 24 FEET WIDE, FLOW LINE TO FLOW LINE, WHERE NO PARKING IS PERMITTED ON EITHER SIDE. FIRE LANES THROUGH PARKING LOTS SHALL NOT BE LESS THAN 24 FEET.

24. A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHAN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FEET FROM A FIRE DEPARTMENT VEHICLE ACCESS. THIS DISTANCE COULD BE INCREASED TO 250 FEET IF THE BUILDING IS SPRINKLERED.

25. APPROVED SECONDARY FIRE APPARATUS ACCESS SHALL BE PROVIDED FOR 100 OR MORE DWELLING UNITS, ROAD(S) WITH DEAD-ENDS OR WITH A SINGLE POINT OF ACCESS IN EXCESS OF 600 FEET. COMMERCIAL AND INDUSTRIAL DEVELOPMENTS WHERE BUILDINGS EXCEED 2 STORIES OR 30 FEET IN HEIGHT, OR EXCEEDING 62,000 SQUARE FEET IN AREA.

26. ALL DEAD-END FIRE APPARATUS ACCESS ROADS AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FEET IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND AREA HAVING A MINIMUM DIAMETER OF 81 FEET.

27. ALL FIRE APPARATUS ACCESS ROADS SHALL BE MARKED BY PLACING APPROVED SIGNS AT THE START OF THE DESIGNATED FIRE LANE, ONE SIGN AT THE END OF THE FIRE LANE AND WITH SIGNS AT INTERVALS 100 FEET ALONG THE DESIGNATED FIRE LANES. SIGNS TO BE PLACED ON BOTH SIDES OF AN ACCESS ROADWAY IF NEEDED TO PREVENT PARKING ON EITHER SIDE. SIGNS TO BE INSTALLED NO HIGHER THAN 10 FEET OR LESS THAN 6 FEET FROM ROADWAY LEVEL. THE CURB ALONG OR ON THE PAVEMENT OR CEMENT (IF NO CURB IS NOT PROVIDED) SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS.

28. ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE IFC SECTION 503.6 AND IFC APPENDIX M.

EFFECTIVE JULY 15, 2016

CITY OF LAS VEGAS SEWER NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS AND THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, AS AMENDED. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATIONS.

2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM CONSTRUCTION AS PER PLANS. ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE CITY ENGINEER.

3. CHISEL 'S'OR 'C'IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.

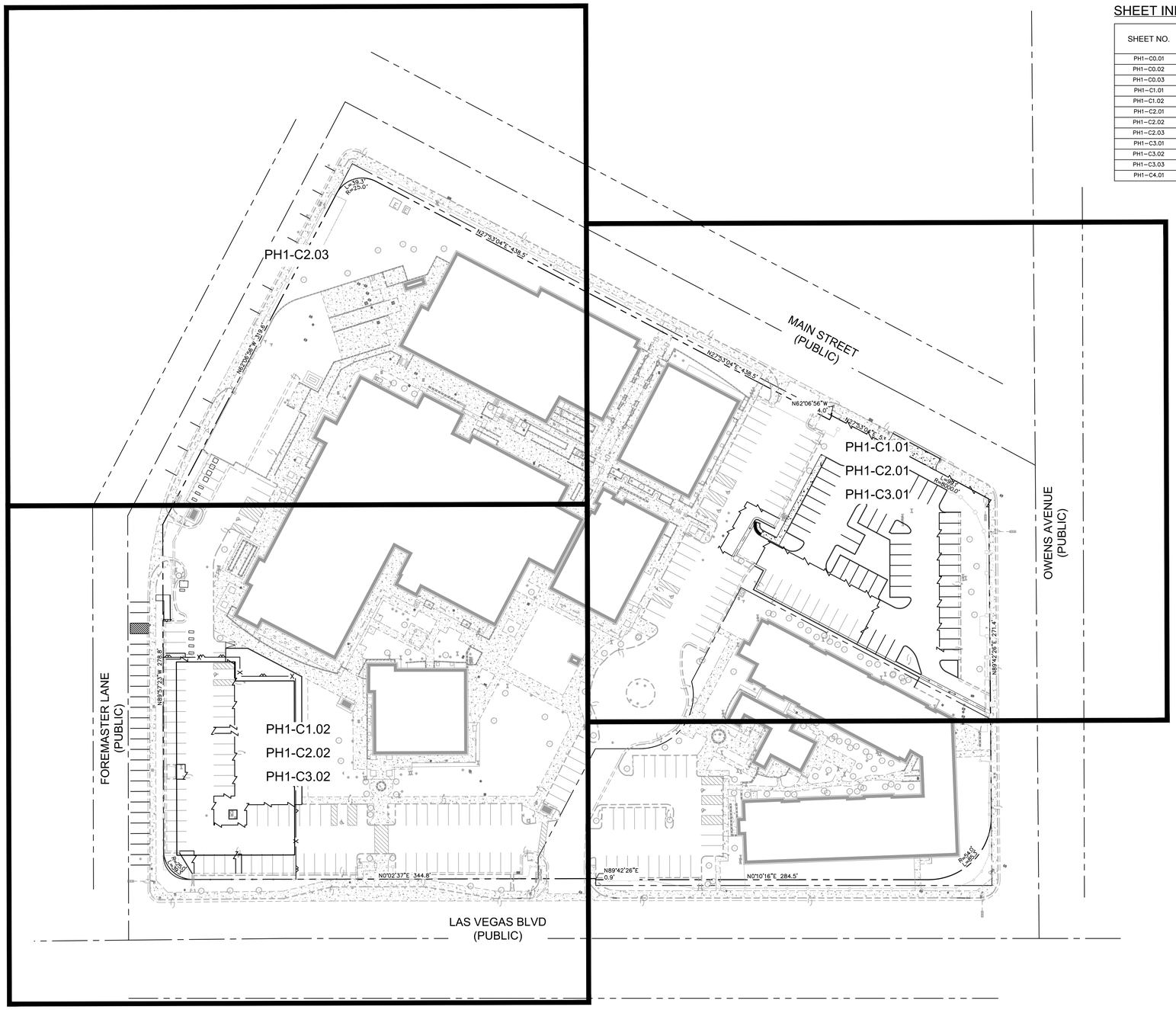
4. POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OF TYPE II AGGREGATE BASE.

5. ALL MANHOLES PAVED IN STREETS EIGHTY (80') FOOT R/W AND LARGER SHALL HAVE CONCRETE COLLARS. STREETS LESS THAN EIGHTY (80') FOOT R/W WILL REQUIRE RETROFIT IF PAVING DOES NOT CONFORM TO CITY STANDARDS AT THE MANHOLE.

6. TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO TWELVE INCH (12') DIAMETER. CONNECTIONS TO FIFTEEN INCH (15') OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES. IN LINE 'Y'S SHALL BE USED ON LINES TWELVE INCHES (12') OR ABOVE.

7. WATER MAINS SHALL BE PROTECTED IN ACCORDANCE WITH LVVWD STANDARDS WHENEVER A SEWER MAIN CROSSES OVER A WATER MAIN OR THE SEWER IS LESS THAN EIGHTEEN INCH (18') UNDER A WATER MAIN.

8. ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CITY OF L



SHEET INDEX

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PH1-C0.02	GENERAL NOTES						
PH1-C0.03	SHEET INDEX						
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No. 18592
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Revisions

No.	Date	Description
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Project Information

Phase:	ELP Demolition	Date:	November 10, 2020
Project No.:	18-0621	PIC / AIC:	BE / PS

Catholic Charities of Southern Nevada

Sheet Title
SHEET INDEX

Sheet Number PH1-C0.03

Current Revision

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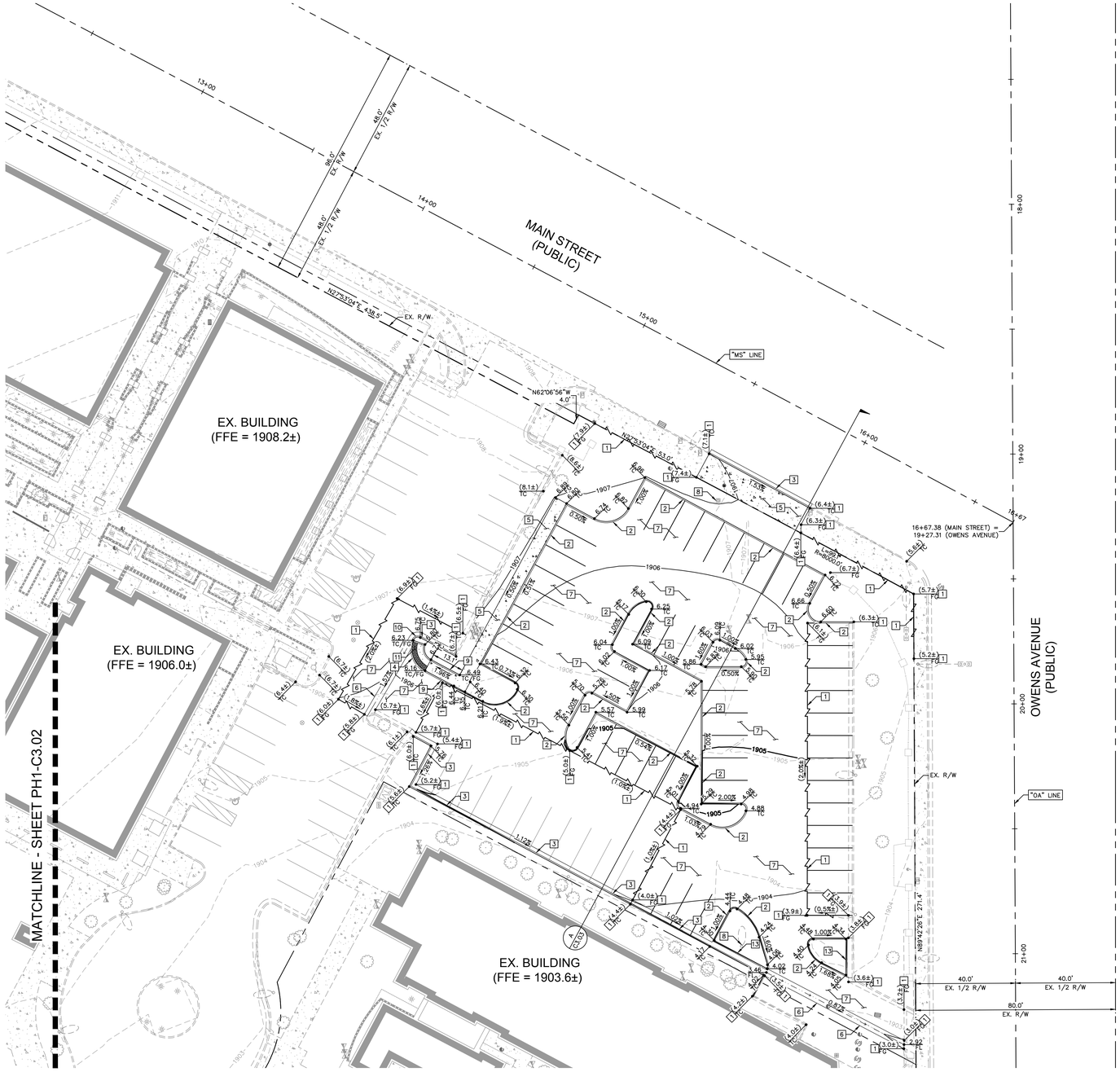

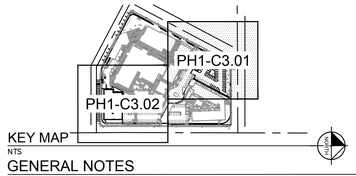

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY EXISTING IMPROVEMENTS SHOWN ON THE PLAN, AND NOTIFY ENGINEER IMMEDIATELY IF DISCREPANCIES ARE PRESENT.
2. CONTRACTOR TO PROTECT IN PLACE, DURING DEMOLITION AND CONSTRUCTION, ALL EXISTING IMPROVEMENTS THAT ARE TO REMAIN AS NOTED ON THE PLAN.
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4. CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING UNDERGROUND UTILITIES BEFORE CONSTRUCTION AND PROTECT IN PLACE UNLESS NOTED ON THE PLANS.
5. ALL DIMENSIONS ARE MEASURED FROM BACK OF CURB UNLESS OTHERWISE NOTED ON PLANS.
6. ADD 1900 FEET TO ALL SPOT ELEVATIONS.

FLOOD ZONE NOTE

THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) INDICATES THAT THE SUBJECT SITE LIES WITHIN ZONE "X" OF FLOOD INSURANCE RATE MAP (FIRM) No. 32003C2910F AS SHOWN ON THE FIRM INDEX, REVISED NOVEMBER 16, 2011. ZONE "X" IS DEFINED BY FEMA AS "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD FLOODPLAIN".

CONSTRUCTION NOTES

1. MATCH EXISTING.
2. INSTALL MODIFIED TYPE "A" CURB PER DETAIL A ON SHEET C4.01.
3. INSTALL TYPE "L" CURB AND GUTTER PER CCAUSD NO. 216.
4. INSTALL 0" FACE CURB PER DETAIL B ON SHEET C4.01.
5. INSTALL CONCRETE SIDEWALK PER CCAUSD NO. 234.
6. INSTALL 3' WIDE VALLEY GUTTER PER DETAIL C ON SHEET C4.01.
7. INSTALL AC PAVING AND BASE MATERIAL TO MATCH EXISTING PAVEMENT SECTION AND GEOTECH RECOMMENDATIONS.
8. PROTECT IN PLACE.
9. INSTALL TRANSITION FROM 0" FACE CURB TO MODIFIED TYPE "A" CURB PER DETAIL D ON SHEET C4.01, LENGTH PER PLAN.
10. INSTALL TRANSITION FROM TYPE "L" CURB TO 0" FACE CURB PER DETAIL E ON SHEET C4.01, LENGTH PER PLAN.
11. INSTALL TRUNCATED DOMES (2' WIDTH) PER CCAUSD NO. 235, COLOR PER LANDSCAPE/ARCHITECTURAL REQUIREMENTS.
13. INSTALL 2" WIDE CHANNEL PER DETAIL G ON SHEET C4.01.

BENCHMARK

CLARK COUNTY VERTICAL CONTROL STATION 2LV0122SSE6, RIVET AND ALUMINUM PLATE IN TOP OF CURB, NORTHEAST CORNER OF OWENS AVE. AND MAIN STREET NEAR THE POC.

ELEVATION = 580.583 METERS
ELEVATION = 1904.79 U.S. SURVEY FEET (NAVD 88 V.2018)

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NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

SCALE: 1" = 20'

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THOMAS J. ACKERET
Exp. 12/31/20
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No. 18592

Revisions

No.	Date	Description
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Project Information

Phase:	ELP Demolition	Date:	November 10, 2020
Project No.:	18-0621	PIC / AIC:	BE / PS

Catholic Charities of Southern Nevada

Sheet Title

GRADING PLAN - SHEET 1

Sheet Number PH1-C3.01

Current Revision

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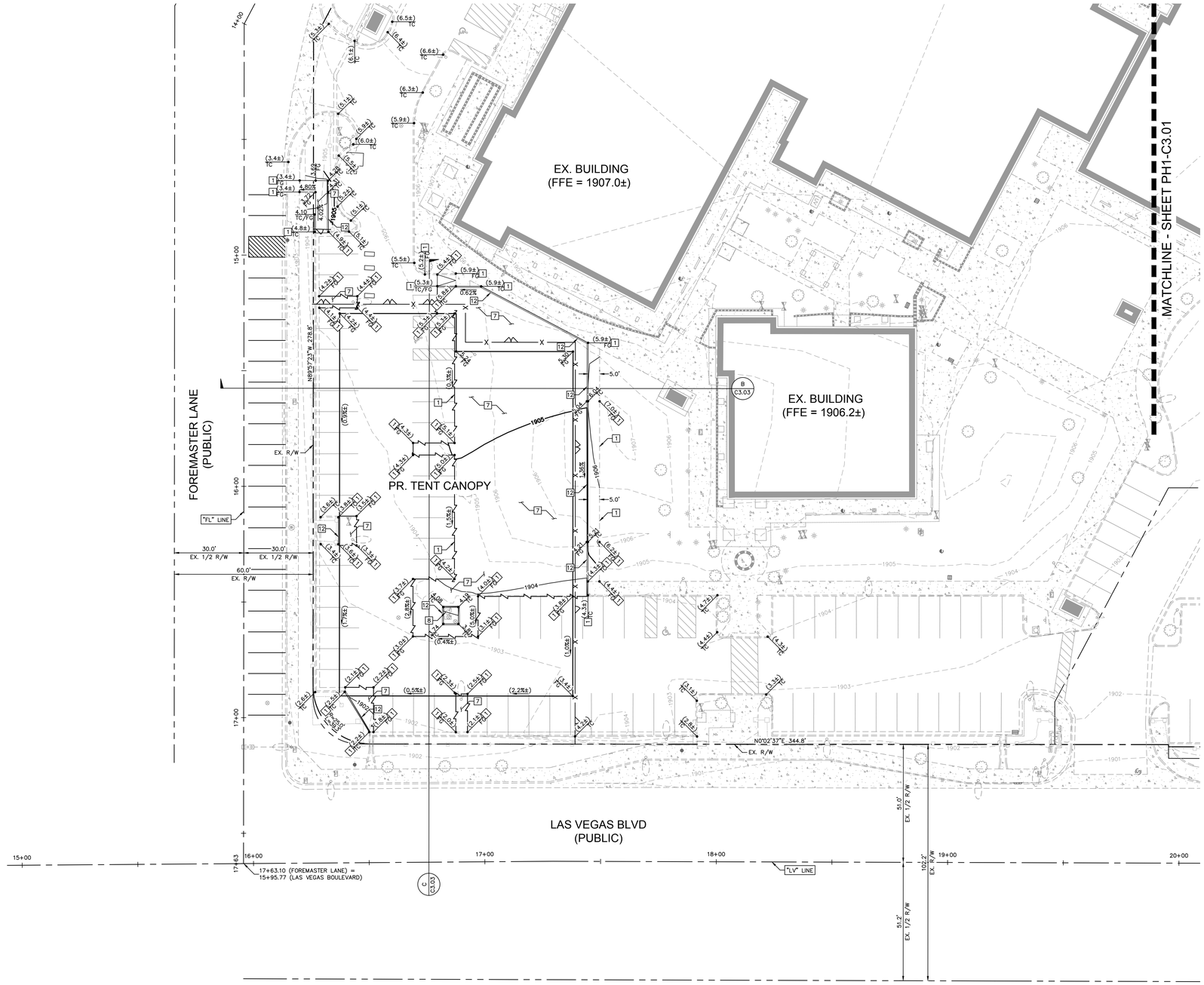

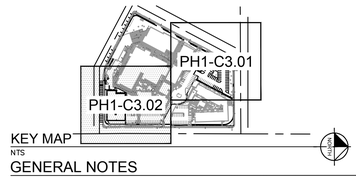

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CONSTRUCTION NOTES

1 MATCH EXISTING.

7 INSTALL AC PAVING AND BASE MATERIAL TO MATCH EXISTING PAVEMENT SECTION AND GEOTECH RECOMMENDATIONS.

8 PROTECT IN PLACE.

12 INSTALL MODIFIED ASPHALT CURB PER DETAIL F ON SHEET C4.01.

NOTE:
NO CONSTRUCTION ACTIVITIES SHALL OCCUR IN PUBLIC ROW.

NOTE:
CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE THROUGHOUT PROJECT LIMITS.

BENCHMARK

CLARK COUNTY VERTICAL CONTROL STATION 2LV0122SSE6, RIVET AND ALUMINUM PLATE IN TOP OF CURB, NORTHEAST CORNER OF OWENS AVE. AND MAIN STREET NEAR THE POC.

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Revisions

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Project Information

Phase:	ELP Demolition	Date:	November 10, 2020
Project No.:	18-0621	PIC / AIC:	BE / PS

Catholic Charities of Southern Nevada

Sheet Title

GRADING PLAN - SHEET 2

Sheet Number PH1-C3.02

Current Revision

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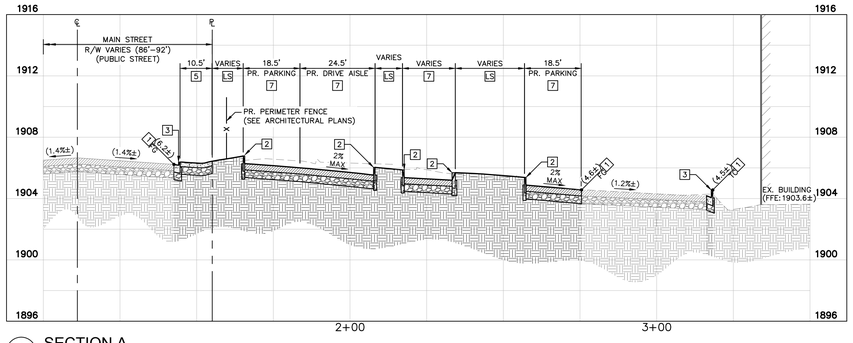
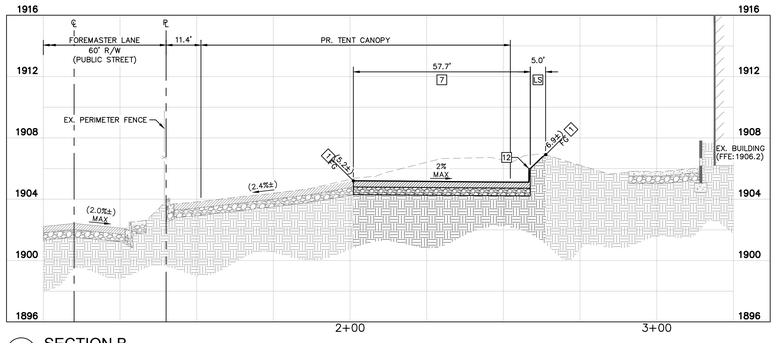
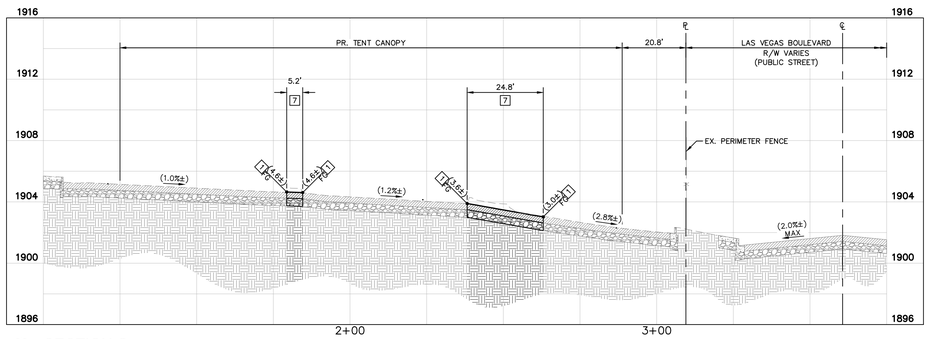


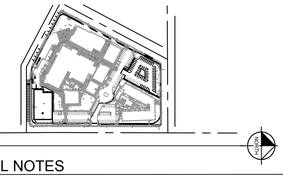
A / C3.01 SECTION A



B / C3.02 SECTION B



C / C3.02 SECTION C



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CONSTRUCTION NOTES

- [1] MATCH EXISTING.
- [2] INSTALL MODIFIED TYPE "A" CURB PER DETAIL A ON SHEET C4.01.
- [3] INSTALL TYPE "L" CURB AND GUTTER PER CCAUSD NO. 216.
- [5] INSTALL CONCRETE SIDEWALK PER CCAUSD NO. 234.
- [7] INSTALL AC PAVING AND BASE MATERIAL TO MATCH EXISTING PAVEMENT SECTION AND GEOTECH RECOMMENDATIONS.
- [12] INSTALL MODIFIED ASPHALT CURB PER DETAIL F ON SHEET C4.01.
- [LS] REFER TO LANDSCAPE PLAN.

BENCHMARK

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HORIZONTAL
0 2 4 8
VERTICAL

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Catholic Charities of Southern Nevada

Sheet Title
GRADING SECTIONS

Sheet Number PH1-C3.03

Current Revision

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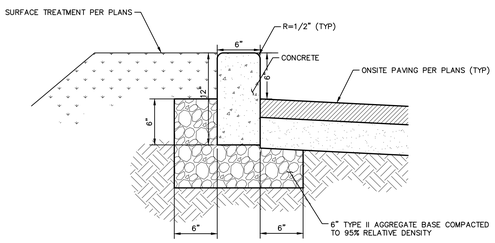

A — MODIFIED TYPE "A" CURB DETAIL

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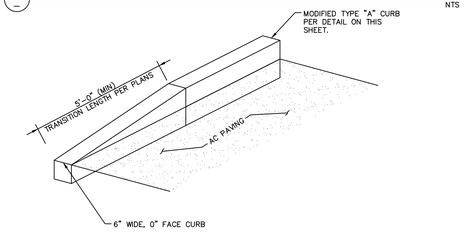

B — 0" FACE CURB DETAIL

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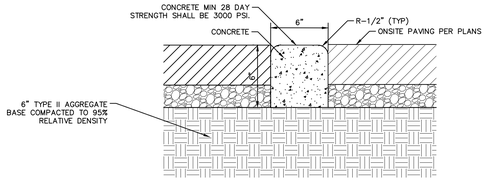

C — 3' WIDE VALLEY GUTTER DETAIL

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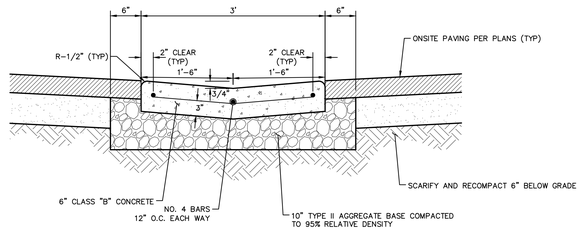

D — 0" FACE CURB TRANSITION TO MODIFIED TYPE "A" CURB DETAIL

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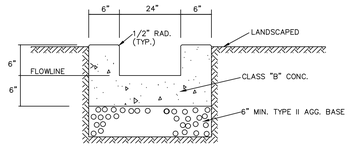


NOTES:

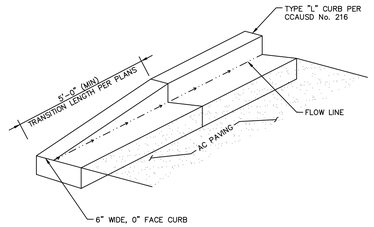
1. EXPANSION JOINTS REQUIRED AT ALL LOCATIONS WHERE CHANNEL MEETS CURB.
2. WEAKENED PLANE JOINTS REQUIRED AT 10' MAX. SPACING.

G — 2' CONCRETE CHANNEL DETAIL

NTS

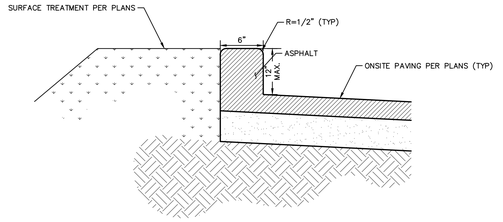
E — 0" FACE CURB TRANSITION TO TYPE "L" CURB DETAIL

NTS



F — MODIFIED ASPHALT CURB DETAIL

NTS



CUNINGHAM GROUP

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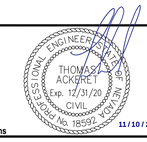

11/10/2020

Revisions

No.	Date	Description

Project Information

Phase:	ELP Demolition	Date:	November 10, 2020
Project No.:	18-0621	PIC / AIC:	BE / PS

Catholic Charities of Southern Nevada

Sheet Title

DETAILS - SHEET 1

Sheet Number

PH1-C4.01

Current Revision

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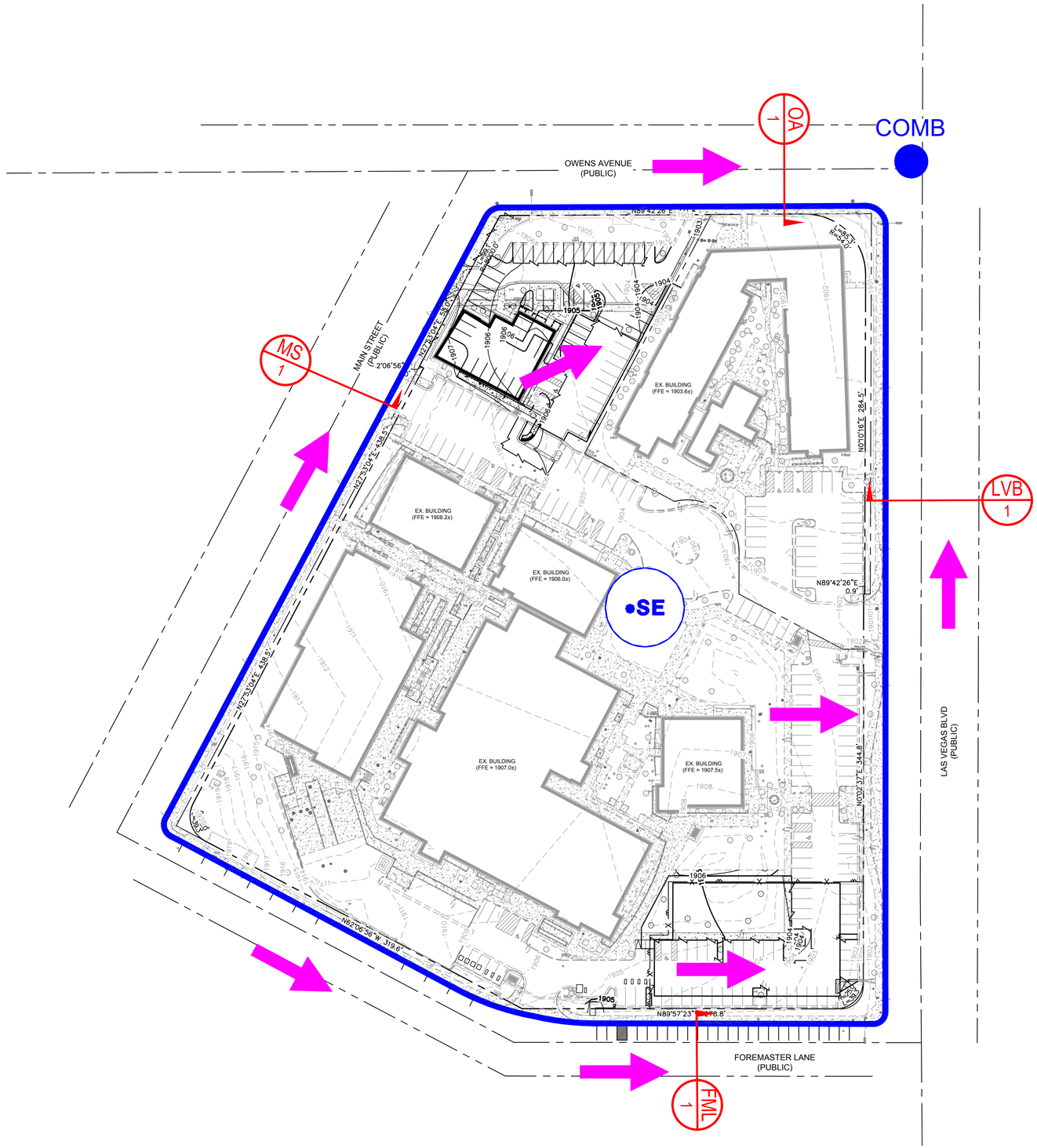

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100
SCALE: 1" = 50'

LEGEND

- XX — BASIN ID
- BASIN BOUNDARY
- FLOW ARROW
- CPX — CONCENTRATION POINT

Catholic Charities of Southern NV

EXISTING FLOW SUMMARY TABLE

BASIN ID/ COMB. PT.	BASIN AREA (ac)	10-YR FLOW (cfs)	100-YR FLOW (cfs)
*SE	7.6	9	20
*COMB	-	88	247

*Referenced from the CCSN Study (DS-2067)

ROADWAY HYDRAULIC SECTIONS

STREET SECTION	CHANNEL SLOPE %	Q_{100} (cfs)	FLOW DEPTH (ft)	VELOCITY (ft/s)	D*V ft^2/s	Q_{10} (cfs)	FLOW DEPTH (ft)	VELOCITY (ft/s)	D*V ft^2/s
*MS-1	2.77	7	0.4	3.87	1.55	NUISANCE FLOW IN EAST HALF			
*OA-1	1.50	NUISANCE FLOW IN SOUTH HALF				NUISANCE FLOW IN SOUTH HALF			
*LVB-1	1.00	1	0.99	5.27	5.22	80.0	0.75	3.62	2.72
*FML-1	4.50	1	0.22	3.21	0.71	8.0	0.32	4.10	1.31

*REFERENCED FROM CCSN STUDY (DS-2067)

No.	REVISIONS	DATE	BY

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KHA PROJECT 092805005
DATE 10/19/2020
SCALE AS SHOWN
DESIGNED BY MS
DRAWN BY MB
CHECKED BY MS

PROPOSED CONDITIONS BASIN MAP

CATHOLIC CHARITIES OF SOUTHERN NEVADA
CITY OF LAS VEGAS NEVADA

SHEET NUMBER
PRO

Plotted By:Schwab, Michael Sheet Set:192128000 - PAMA EXECUTIVE BUSINESS PARK Layout:KHA October 20, 2020 01:12:36pm K:\LAV_Civil\092805005 - Catholic Charities Expansion (Curlington)\Reports\DRAINAGE\01_TDS-JDF\Figures\CAD\Basin_Map.dwg
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