

DS #:

5076-1

APN:

138-06-301-013

PROJECT:

Jensen's Helena Area 4 - Update #1

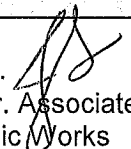
SUBMITTAL:

3rd

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		August 21, 2019
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:	
	Jensen & Helena Area 4 – Update #1	
Cross Streets:	SWC of Helena Ave and Grand Canyon Dr	COPIES TO:
File Number:	F:\Depot\DSMemos\DS5076C.doc	Taney Engineering
Parcel Number:	138-06-301-013	Lone Mountain Estates, LLC
Zoning Action:	TMP-74627	Bart Anderson, P.E., DevCo
FEMA Flood Zone	YES	CCPW
	NO	X
Proposed Storm Drain	YES	
	NO	X

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	12/12/2018	12/27/2018	See Comments Below	\$400.00	501622: \$400
2 nd Submittal	1/30/2019 & 3/27/2019	2/14/2019 & 3/28/2019		\$400.00	502815: \$400
3 rd Submittal	8/1/2019	8/20/2019	Approved	\$100.00	3510717: \$100
TOTAL FEES (LDDRS):				\$900.00	----

REMARKS:

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

X	is conditionally 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.

Update #1: Revised storm drain crossing Grand Canyon

1. Structural plans for the storm drain improvements must be submitted for review. Provide a soils report, structural calculations and specifications, two wet stamped structural sets, and a grading plan to the Building Department for processing. The engineer must provide a copy of Building Department approval of the structures to Flood Control prior to final acceptance of the drainage study.
2. Show the RCB crossing in profile view on Sheet PP2.
3. Revise the note on Section Detail A and M to call out "20' Public Drainage Easement to be Privately Maintained by HOA".

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/R60E/06

AREA L-06

UPDATE #1
TO THE
TECHNICAL DRAINAGE STUDY
FOR
JENSEN & HELENA AREA 4
SINGLE FAMILY RESIDENTIAL

LMT-18-001

CITY OF LAS VEGAS

JULY 2019

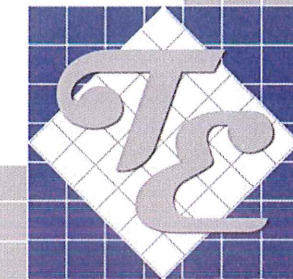
Prepared for:

Kris Templeton
Lone Mountain Estates LLC
3311 S. Rainbow Blvd., Ste 205
Las Vegas, NV 89146
(702) 873-6700 Ext 123



Engineer's Seal

TANEY ENGINEERING



6030 S. Jones Blvd.
Las Vegas, NV 89118
Phone (702) 362-8844
Fax (702) 362-5233

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Jensen and Helena - Area 4 Date: Jul 3, 2019

Location of Development: a) Descriptive (Cross Streets) North/South: N Grand Canyon St
East/West: Helena Ave

b) Section: 6 Township: 20S Range: 60E

c) APN: 138-06-301-013

Name of Owner: Lone Mountain Estates LLC

Telephone No.: (702) 873-6700 Fax No.: _____ E-Mail Address: kt@ktri.biz

Address: 3311 S. Rainbow Blvd. Ste 205, Las Vegas, NV 89146

Contact Person-Name: Lee L. Gong, P.E. Telephone No.: (702) 362-8844

* E-Mail Address: LeeG@taneycorp.com Fax No.: (702) 362-5233

Firm: Taney Engineering

Address: 6030 S. Jones, Suite 100, Las Vegas NV. 89118

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	

1. Total Owned Land Area: At Site: 15.1+/- acres Being Developed/Disturbed: 15.1+/- 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.): Residential

5. Approximate upstream land area which drains to the subject site: 133.01+/- acres

6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: A portion of the project site was evaluated (HTE #07-29544)

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: The site will discharge to an adjacent, undeveloped parcel to the east (138-06-301-013) similar to the existing drainage pattern.

8. Briefly describe your proposed schedule for the subject project: A.S.A.P



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



TANEY ENGINEERING

6030 S. JONES BLVD. LAS VEGAS, NV 89118
PHONE: (702) 362-8844 | FAX: (702) 362-5233
TANEYCORP.COM

Job No. LMT-18-001

Date: July 3, 2019

JURISDICTION:

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

UPDATE #1 to the Technical Drainage Study for Jensen & Helena Area 4

Dear Mr. Sung:

Taney Engineering is pleased to submit the Technical Drainage Study Update for **Jensen & Helena Area 4**. This update addresses the storm drain change on the plan. The project is located at Helena and the Grand Canyon alignment.

The original study was completed by us, Taney Engineering, and was approved by the City of Las Vegas on March 18, 2019 DS5076A. Concurrence approval from Clark County Public Works was received on May 8, 2019 PW19-13199.

This update is for the storm drain that is intercepting the flow in the 20' drainage easement. The approved drainage study showed the storm drain system being a 48" RCP. This is being revised to be a 5' X 2' RCB due to a conflict with the existing 42" waterline that is in Grand Canyon. Changing the RCP to the RCB allows for separation criteria to be met between the storm drain and waterline, as well as being able to maintain more than 18 inches of cover. A FlowMaster cross section of the 5' X 2' RCB has been included in this submittal showing that the discharge being intercepted by the grate inlets is contained in the RCB. The plans have been revised to show the RCB.

2018 MPU

The Las Vegas Valley Flood Control Master Plan Update of the Clark County Regional Flood Control District (MPU) has also been updated since the original study was approved. The project site is located on Figures F-17 and W-2A of the 2018 MPU. Copies are provided in Appendix A as Figures 1 and 2, respectively. The site is not bordered or crossed by any Regional facilities.

If there are any question or you need any additional information, please do not hesitate to contact our office.

Sincerely,
TANEY ENGINEERING

Jeff Thomson
Designer I



APPENDIX

APPENDIX A

Figures

APPENDIX B

Hydraulic Calculations

APPENDIX C

Reference Material

APPENDIX D

Improvement Plans



APPENDIX A

Figures

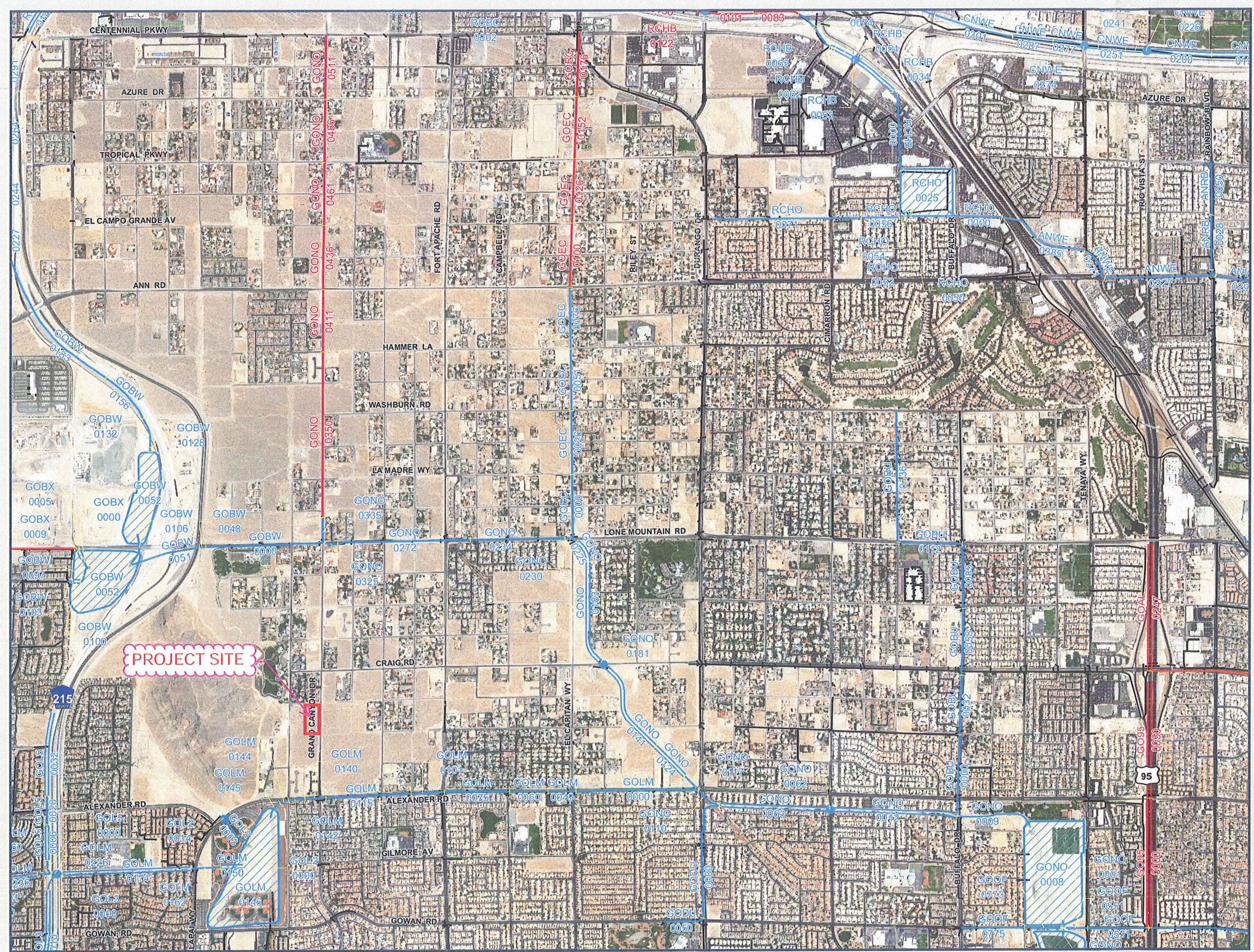
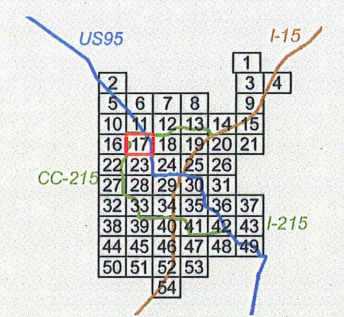
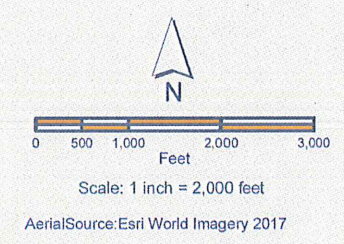


2018
LAS VEGAS VALLEY
FLOOD CONTROL
MASTER PLAN UPDATE

FIGURE F-17
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 |

FIGURE 1



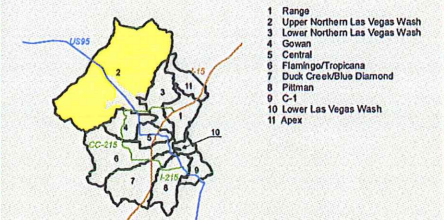


2018 Las Vegas Valley Master Plan Update

Figure W-2A
Upper Northern Las Vegas Wash Watershed

Legend

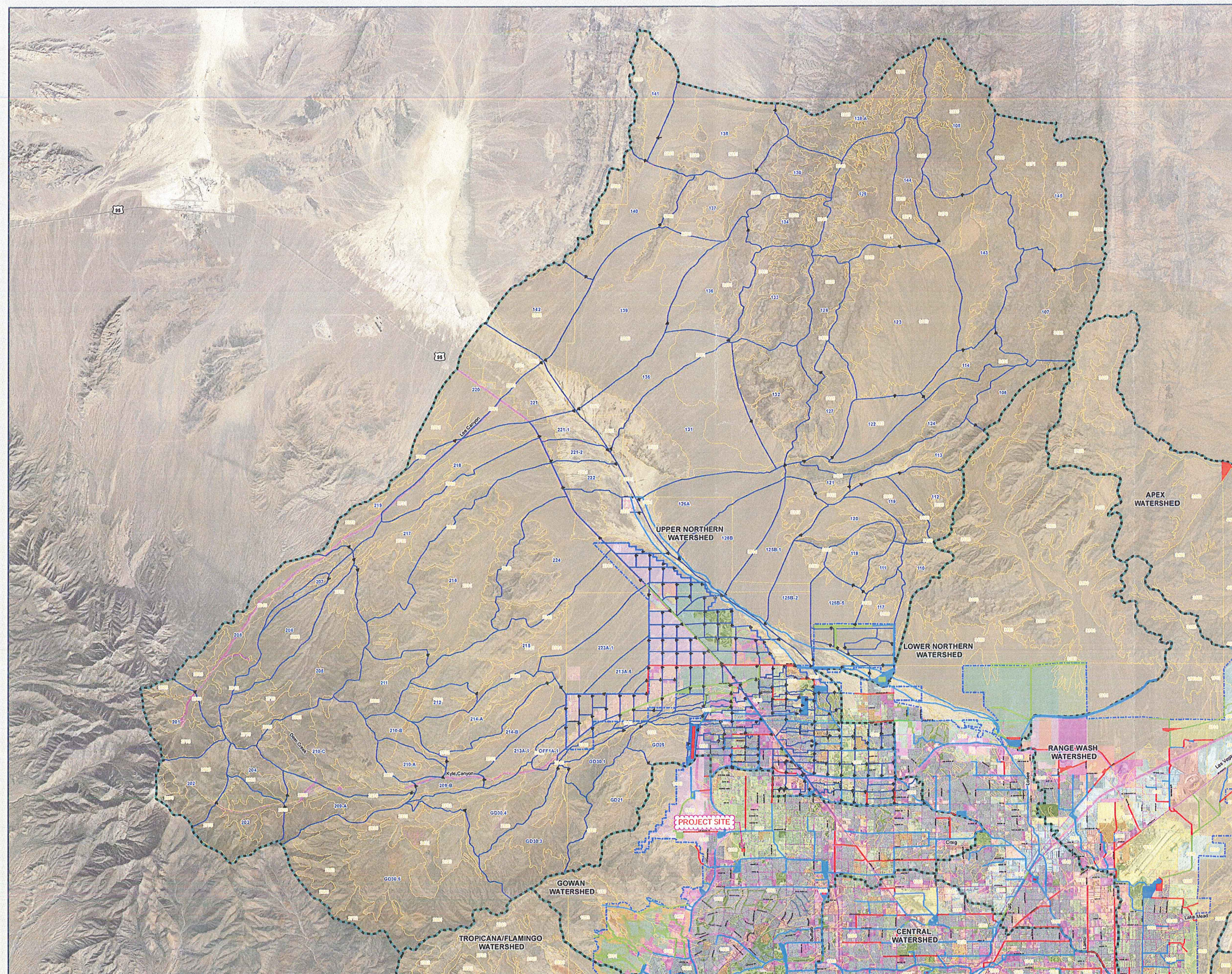
- Flow Arrows
- NodeID
flow(cfs) Concentration Points
- Existing Facilities
- Category A Proposed Facilities
- Category B Proposed Facilities
- Ultimate Development Boundary
- Watershed
- BasinID Subbasins
- MUSYM Soils
 - 1: Undeveloped Land, Open desert
 - 2: Parks, Golf Courses
 - 3: Rural, 0.5-1 units per acre (uses 1 unit/acre)
 - 4: Low-Density Residential, 1-2 units per acre (uses 2 units/acre)
 - 5: Medium-Density Residential, 2-4 units per acre (uses 3 units/acre)
 - 6: High-Density Residential, 4-8 units per acre (uses 6 units/acre)
 - 7: Public Facility and Residential, 8-12 units/acre
 - 8: Very High-Density Residential, 12 units/acre or more
 - 9: Commercial, Retail, Casino, High Rise Condominiums
 - 10: Light Industrial
 - 11: Heavy Industrial
 - 12: Schools
 - 13: Lakes



Scale: 1 inch = 1.6 mile
0 0.8 1.6 3.2
Miles

ATKINS
Member of the SNC-Lavalin Group

Louis Berger
FIGURE 2





APPENDIX B

Hydraulic Calculations

Worksheet for 5' X 2' RCB

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013
Channel Slope	1.21 %
Height	2.00 ft
Bottom Width	5.00 ft
Discharge	119.00 ft ³ /s

Results

Normal Depth	1.83 ft
Flow Area	9.13 ft ²
Wetted Perimeter	8.65 ft
Hydraulic Radius	1.06 ft
Top Width	5.00 ft
Critical Depth	2.60 ft
Percent Full	91.3 %
Critical Slope	0.00463 ft/ft
Velocity	13.03 ft/s
Velocity Head	2.64 ft
Specific Energy	4.47 ft
Froude Number	1.70
Discharge Full	100.47 ft ³ /s
Slope Full	0.00862 ft/ft
Flow Type	Supercritical

GVF Input Data

Downstream Depth	0.00 ft
Length	0.00 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.00 ft
Profile Description	
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.00 %
Normal Depth Over Rise	91.31 %
Downstream Velocity	Infinity ft/s

Worksheet for 5' X 2' RCB

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	1.83	ft
Critical Depth	2.60	ft
Channel Slope	1.21	%
Critical Slope	0.00463	ft/ft

Cross Section for 5' X 2' RCB

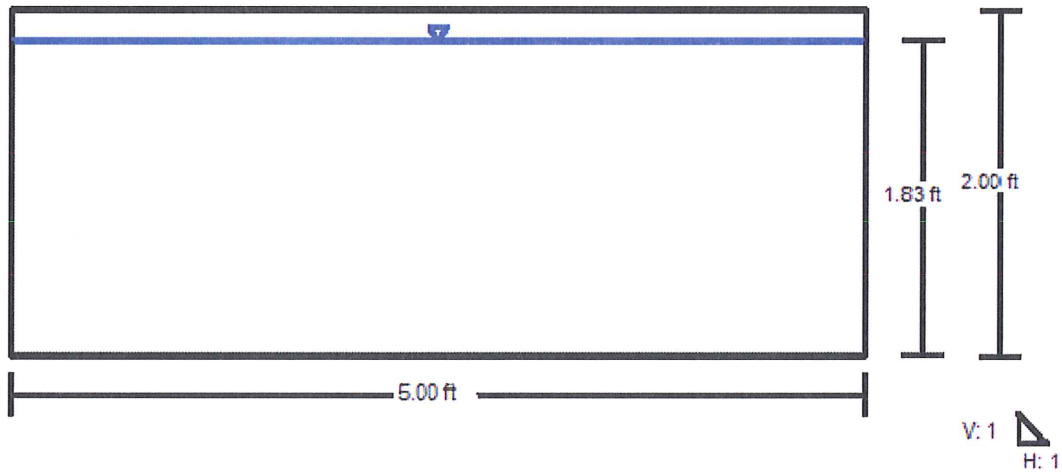
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013
Channel Slope	1.21 %
Normal Depth	1.83 ft
Height	2.00 ft
Bottom Width	5.00 ft
Discharge	119.00 ft ³ /s

Cross Section Image





APPENDIX C

Reference Material

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM			DATE: March 28, 2019
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: Jensen & Helena Area 4		COPIES TO: Taney Engineering
Cross Streets:	SWC of Helena Ave and Grand Canyon Dr		Lone Mountain Estates, LLC
File Number:	F:\Depot\DSMemos\DS5076A.doc		Bart Anderson, P.E., DevCo
Parcel Number:	138-06-301-013		CCPW
Zoning Action:	TMP-74627		
FEMA Flood Zone	YES	NO X	
Proposed Storm Drain	YES	NO X	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	12/12/2018	12/27/2018	See Comments Below	\$400.00	501622: \$400
2 nd Submittal	1/30/2019 & 3/27/2019	2/14/2019 & 3/28/2019		\$400.00	502815: \$400
			TOTAL FEES (LDDRS):	\$800.00	----

REMARKS:

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

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

1. The site is also adjacent to Clark County's jurisdiction. The engineer must coordinate with Clark County Department of Public Works (CCPW) and incorporate any concerns for boundary conditions along the north, west, and south borders. CCPW concurrence is required prior to final acceptance of the study.
2. This site accepts offsite flows and conveys them through the site. Public drainage easements must be recorded by separate document prior to the final acceptance of the improvement plans unless they are to be recorded by parcel or final map.
3. Helena Avenue, Grand Canyon Drive, and Hickam Avenue appear to be a part of parcel 138-06-301-013 and not yet dedicated as public right-of-way. Public right-of-ways must be recorded by separate document prior to the final acceptance of the improvement plans unless they are to be recorded by parcel or final map.
4. Revise the note on Detail A to call out "20' Public Drainage Easement to be Privately Maintained by HOA".

In an effort to increase administrative efficiency, for all original and re-submittal packages including updates and the addenda, the City of Las Vegas Public Works Department requires both a hardcopy and a digital copy (PDF) on CD for the drainage study.

A letter sealed and signed by a Nevada registered civil engineer must be included in every submittal certifying documents on the electronic CD matches 100% of the hardcopy submittal. The new submittal requirement is effective on May 1, 2019. If there are any questions regarding these new requirements, please contact Albert Sung in the City Flood Control Section at (702) 229-6541.

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/R60E/06
AREA L-06



Department of Public Works

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

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

Drainage Study Concurrence Letter

Date: May 8, 2019
Firm: Taney Engineering
Engineer: Robert Cunningham, P.E.
Address: 6030 South Jones Boulevard, Suite 100, Las Vegas, NV 89118
Phone: (702) 362-8844
Fax: (702) 362-5233
E-mail: rc@taneycorp.com

Subject: Technical Drainage Study for Jensen & Helena Area 4
Location: SWC of Helena Avenue and Grand Canyon Drive
APN: 138-06-301-013
Sec, Township, Range: S06, T20S, R60E
Flood Zone & Panel: Zone X, 2135F, Dated November 16, 2011
Application Number: PW19-13199

Submittals	Date Received	Date Returned	Reviewer	Miscellaneous
Technical	04/16/2019	05/08/2019	CR	
Addendum 1	04/16/2019	05/08/2019	CR	
Supplement	04/16/2019	05/08/2019	CR	

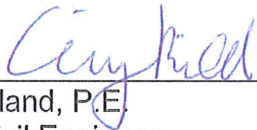
The above-referenced project is located within the **City of Las Vegas** adjacent to Clark County unincorporated areas. The drainage study was submitted to the County for concurrence on April 16, 2019. In addition, the County has received the City of Las Vegas acceptance letter dated March 28, 2019 for the Technical Drainage Study (DS5076A).

The County concurs with the acceptance of this Drainage Study by the City of Las Vegas. Please note that the County's review of this development is limited to drainage issues significant to Clark County unincorporated areas.

May 8, 2019

Page 2 of 2

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



Crissy Riland, P.E.
Senior Civil Engineer
Development Review
crissy@ClarkCountyNV.gov



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



APPENDIX D

Improvement Plans

CLV 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, NEVADA AREA," LATEST EDITION, 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 SHALL NOT BE SHOWN ON THESE 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 WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGN TO BE APPROVED BY THE CITY. PRIOR TO 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 OF EVERY 300' IN EXTRUDED-TYPE CURB.
 8. AC PAVEMENT TO BE ONE-HALF INCH (1/2") 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 TRANSITIONS TO BE AS SHOWN ON PLANS.
 12. ALL GRADING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY GEOTEK RESIDENTIAL, LLC (14434-LVR, NOVEMBER 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.E.S. STATUTE No. 225-330 & CITY OF LAS VEGAS TITLE 19, APPENDIX D.
 15. UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC. SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAYS, 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 CLEANOUTS, 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 MDOT 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. SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S) SHALL BE PROVIDED TO THE CITY AND APPROVED PRIOR TO ACCEPTANCE OF FACILITY VIDEO INSPECTION. THE MAP(S) SHALL INCLUDE THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES AND TRANSITION STRUCTURES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT-OF-WAY, AND STORM DRAIN MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS. THE LOCATION SHALL BE DESIGNATED BY COORDINATES WHICH SHALL BE BASED ON THE OFFICIAL HORIZONTAL AND VERTICAL CONTROL NETWORKS OF THE CITY OF LAS VEGAS. FINAL LOCATION MAPS MUST BE SEALED AND CERTIFIED BY A NEVADA PROFESSIONAL LAND SURVEYOR TO HAVE POSITIONAL CERTAINTIES OF ± 0.09 METERS (± 0.3 FEET) HORIZONTALLY AND VERTICALLY. A SEPARATE ELECTRONIC COMMA DELIMITED FILE FOR THE SANITARY SEWER AND STORM DRAIN COORDINATES SHALL ALSO ACCOMPANY THE SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S).
 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 EDITION.
 23. A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

CLV STREETLIGHT NOTES

1. ALL STREET LIGHTING INSTALLATION SHALL BE IN ACCORDANCE WITH THE STREET LIGHTING PLANS, THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY, NEVADA AREA," LATEST REVISION, AND THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY, NEVADA AREA," LATEST REVISION.
2. NO DEVIATION OF STREET LIGHT, PULL BOX, CONDUITS, ETC., LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE TRAFFIC/ELECTRIC FIELD OPERATIONS DIVISION AND THE CONSTRUCTION PROJECT REPRESENTATIVE. ANY DEVIATION FROM THE PLAN LOCATION WILL REQUIRE COMPLIANCE WITH SECTION 623.10.03 (E) OF THE SPECIFICATIONS.
3. ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION.
4. ALL EMPTY CONDUIT SHALL HAVE PULL STRINGS INSTALLED PRIOR TO FINAL INSPECTION.
5. ANY STRUCTURE, SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC., SHALL LEAVE A MINIMUM OF EIGHTEEN INCHES (18") TO THE FACE OF STREET LIGHTING POLE ON ALL SIDES WHEN STREET LIGHT IS INSTALLED BEHIND SIDEWALK, AND SHALL AT NO TIME COMPLETELY ENCLOSE THE STREET LIGHTING POLE.
6. AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE ELECTRICAL SERVICES SECTION PRIOR TO ANY PRE-FINAL INSPECTION. THE AS-BUILT DRAWINGS SHALL BE STAMPED AS-BUILT AND SIGNED BY THE PREPARER.
7. SERVICE POINTS SHALL BE COORDINATED WITH NEVADA POWER COMPANY, AND WHEREVER POSSIBLE, SHALL BE LOCATED NEAR THE CENTER OF THE CIRCUIT. SERVICE POINTS SHALL BE SHOWN ON THE 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 BEFORE STREET LIGHT BASES ARE INSTALLED AT NO EXPENSE TO THE CITY OF LAS VEGAS.
10. THE CONTRACTOR SHALL FURNISH COMPLETE SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON THE PLANS.

LEGAL DESCRIPTION

EAST HALF (E 1/2) OF THE SOUTHEAST QUARTER (SE 1/4) OF THE NORTHEAST QUARTER (NE 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 6, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.

SAID PARCEL CONTAINS 4.95 ACRES, MORE OR LESS.

EARTHWORK

TOTAL FOR OVERALL DEVELOPMENT: 4.269 CY CUT / 5.548 CY FILL / 1.279 CY NET

NOTE: THIS OPINION OF THE CUT AND FILL QUANTITIES IS PROVIDED AS REQUIRED BY THE GOVERNING ENTITY. THIS INFORMATION SHOULD NOT BE USED FOR BIDDING PURPOSES. ALL CONTRACTORS ARE RESPONSIBLE FOR THEIR OWN QUANTITIES. THESE TOTALS ARE RAW AND DO NOT ACCOUNT FOR SHRINKAGE AND SUBSIDENCE.

CLV TRAFFIC NOTES

1. ALL CONSTRUCTION SIGNING, BARRICAADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL OF 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 ZONES. THE CONTRACTOR SHALL INSTALL TEMPORARY STOP SIGNS AT ALL NEW STREET ENCROACHMENT INTO EXISTING CITY STREETS WHERE WARNING IS REQUIRED. TEMPORARY STOP SIGN GRADING WORK IS COMPLETED, AND SHALL MAINTAIN SAE SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.
4. WHEN A DESIGNATED "SAFE ROUTE TO SCHOOL" IS ENCLOSED UPON BY A CONSTRUCTION WORK ZONE AND PUBLIC WORKS STAFF IDENTIFIES A NEED FOR STUDENTS TO BE ASSISTED IN THE SAFE CROSSING THROUGH THAT WORK ZONE, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A QUALIFIED "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 TRAFFIC PAVEMENT 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. 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 FEET (5') OF ANY PROPOSED SIGN SHOWN ON THE PLANS TO BE MOUNTED ON A SIGN POST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGN POST 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 HEREUNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.
9. STREET SIGNS AND STOP 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 EQUIPMENT AND FLAG PERSONS NECESSARY TO ENSURE THE SAFETY OF THE PUBLIC IN AND AROUND THE WORK AREA. THE CONTRACTOR SHALL HAVE A CERTIFIED ATSSA TRAFFIC CONTROL TECHNICIAN OR INSA 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 CITIZEN 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 AND SHALL ARRANGE FOR TEMPORARY RELOCATION OF THE STOP.
13. GUARDS SHALL BE OBTAINED BY CONTACTING THE METROPOLITAN POLICE DEPARTMENT SPECIAL EVENTS UNIT (PHONE NO. 225-3442) 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. ALL WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
15. 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.

CLV 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 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. THE 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. COMPACTION AREA SUBGRADE	0.1'	±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 IN THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT, SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
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, BARRICADES, ETC.

STORMWATER RUNOFF MANAGEMENT NOTES

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

SOUTHERN NEVADA SOUTHWEST GAS CORP. GENERAL NOTES

1. IN THE EVENT OF NATURAL GAS EMERGENCIES CALL 911 AND 1-877-980-0020.
2. MINIMUM HORIZONTAL AND VERTICAL CLEARANCES SHALL BE MAINTAINED FOR ALL NATURAL GAS FACILITIES AND ANY UNDERGROUND UTILITIES AND/OR STRUCTURES, INCLUDING BUT NOT LIMITED TO WATER, SEWER, STORM DRAIN, COMMUNICATIONS, AND ELECTRIC SHALL BE AT LEAST 12-INCHES OR GREATER AS DICTATED BY LOCAL CODES AND STANDARDS.
 - A) ANY DEVIATION FROM SPECIFIED MINIMUM CLEARANCES MUST BE APPROVED BY ALL AFFECTED UTILITIES AND/OR MUNICIPALITIES.
3. FOR VALVE ADJUSTMENT CONTACT 702-668-6107 48 HOURS PRIOR TO CONSTRUCTION.
4. IN THE EVENT OF A NATURAL GAS CONFLICT WITH PROPOSED UTILITIES AND/OR STRUCTURES CONTACT 702-365-2099.
5. SWG STANDARD CONTACT NUMBER: (702-400-1789)

SOUTHWEST GAS CORPORATION DATE

CLV FIRE DEPARTMENT NOTES

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LAS VEGAS FIRE AND RESCUE ADOPTED FIRE CODE ORDINANCE # 6631 FOR HYDRANT SPECIFICATIONS AND HYDRANT INSTALLATION SPECIFICATIONS.
2. ONLY FIRE HYDRANTS THAT ARE ON THE LAS VEGAS VALLEY WATER DISTRICTS - APPROVED PRODUCTS LIST ARE ALLOWED TO BE INSTALLED.
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. IFC § 105.6.15
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. IFC § 3310, § 3312
5. TO IDENTIFY THE FIRE HYDRANT LOCATIONS, THE CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF THE STREET ADJACENT TO THE FIRE HYDRANTS. IFC § 507.5.7.3
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 WITH PRIOR FIRE PREVENTION APPROVAL. IFC § 106.3
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. IFC § 507.2.1, NFPA 24
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. IFC § 507
9. PRIVATE HYDRANTS SHALL BE PAINTED RED. IFC § 507.5.1
10. PRIOR TO THE FINAL OCCUPANCY, A FIRE FLOW TEST SHALL BE WITNESSED BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION TO VERIFY AVAILABILITY OF THE REQUIRED FIRE FLOW. IFC § 507
11. FIRE HYDRANT SPACING SHALL BE AS FOLLOWS: IFC § C102

H RESIDENTIAL - 500 FT UNSPRINKLERED; 600 FT SPRINKLERED.
H COMMERCIAL - 300 FT UNSPRINKLERED; 400 FT SPRINKLERED.
12. WHERE THE 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 A MAXIMUM OF 1000 FT SPACING, TO PROVIDE FOR TRANSPORTATION HAZARDS, WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR HAVE FOUR (4) 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 500 FT ON AN ALTERNATING BASIS. IFC § C102.8
13. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE RADIUS OF A CUL-DE-SAC OR WITHIN 20 FT OF THE PERIMETER OF THE RADIUS OF THE CUL-DE-SAC.
14. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 8 FT OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION. IFC § C102.10
15. A MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A ONE-TWO FAMILY DWELLING SHALL NOT EXCEED 300 FT, AS MEASURED BY AN APPROVED ROUTE. IFC § C102.4
16. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FT, AS MEASURED BY AN APPROVED ROUTE. IFC § C102.7
17. THE MAXIMUM DISTANCE FROM A HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FT. IFC § C102.6
18. TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE IS A 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM. FOR SYSTEMS REQUIRED TO HAVE TWO (2) SOURCES OF WATER SUPPLY, SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN TWO FIRE HYDRANTS AND/OR FIRE SPRINKLER LEAD-INS CAN BE OUT OF SERVICE DUE TO A SERVICE INTERRUPTION. FOR SYSTEMS PERMITTED TO HAVE ONE SOURCE OF WATER SUPPLY, SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 3 FIRE HYDRANTS AND/OR FIRE SPRINKLER LEAD-INS CAN BE OUT OF SERVICE DUE TO A SERVICE INTERRUPTION. IFC § C104
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. IFC § 503.2.3
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 FT PRIOR TO OR AFTER THE GRADE CHANGE. ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EXCEED 6%. IFC § 503.2.7, § 503.2.8
21. THE TURNING RADIUS OF THE FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 52 FT OUTSIDE AND 28 FT INSIDE TURNING RADIUS. IFC § 503.2.4
22. VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL NOT BE LESS THAN 13FT 6 INS. IFC § 503.2.1
23. FIRE DEPARTMENT ACCESS ROADS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 33 FT WITH PARKING ON BOTH SIDES MEASURED TO FACE OF CURB, NOT LESS THAN 28 FT WIDE WITH PARKING RESTRICTED TO ONE SIDE MEASURED TO FACE OF CURB. NOT LESS THAN 24 FT WIDE WITH NO PARKING ON EITHER SIDE MEASURED TO FACE OF CURB. FIRE LANES THROUGH PARKING LOTS SHALL BE NOT LESS THAN 24 FT. IFC § 503.2.1.1
24. A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FT FROM A FIRE DEPARTMENT VEHICLE ACCESS. IFC § 503.1.1
25. APPROVED SECONDARY FIRE APPARATUS ACCESS SHALL BE PROVIDED FOR 200 OR MORE DWELLING UNITS, ROAD(S) WITH DEAD-ENDS OR A SINGLE POINT OF ACCESS IN EXCESS OF 600 FT. CLV REGULATION AND MOUT
26. ALL DEAD-END FIRE APPARATUS ROADS AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FT IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND HAVING A MINIMUM DIAMETER OF 81 FT. CLV REGULATION
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 OF 100 FT 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 FT OR LESS THAN 6 FT FROM THE ROADWAY LEVEL. THE CURB ALONG OR ON THE PAVEMENT OR CEMENT (IF NO CURB IS PROVIDED) SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS. IFC § 503.3
28. ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. IFC § 503.6
29. WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS, OR HAVING FOUR OR MORE TRAVEL LANES AND A TRAFFIC COUNT OF MORE THAN 30,000 VEHICLES PER DAY, ALL HYDRANTS BEING UTILIZED TO DELIVER FIRE FLOW TO THE PROPOSED LOCATION SHALL BE LOCATED ON THE SAME SIDE OF THE STREET AS THE PROPOSED DEVELOPMENT. CLV REGULATION

CLV SEWER NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF DESIGN & 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 CONTRACTORS TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATIONS.
2. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO PERFORM CONSTRUCTION AS PER PLANS. ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE CITY ENGINEERS.
3. CHISEL "S" OR "G" 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 IN PAVED STREETS EIGHTY FEET (80') ROW AND LARGER SHALL HAVE CONCRETE COLLARS. STREETS LESS THAN EIGHTY FEET (80') WILL REQUIRE RETROFITTING 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 INCHES (12") IN DIAMETER. CONNECTIONS TO FIFTEEN INCH (15") OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES. IN-LINE "Y" SHALL BE USED ON LINES TWELVE INCHES (12") IN DIAMETER AND ABOVE.
7. WATER MAINS SHALL BE PROTECTED IN ACCORDANCE WITH LVVWD STANDARDS WHENEVER A SEWER MAIN CROSSES OVER A MAIN LINE OR THE SEWER IS LESS THAN EIGHTEEN INCHES (18") UNDER A WATER MAIN.
8. ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER JURISDICTION OF THE CITY OF LAS VEGAS MUST BE STATE OF NEVADA CLASS "A" CONTRACTORS.
9. THE CITY OF LAS VEGAS WILL NOT ACCEPT ANY SEWER MAINS WHICH HAVE A VERTICAL DEFLECTION OF MORE THAN ONE TENTH OF A FOOT (0.1') FROM THE APPROVED CONSTRUCTION PLANS AT ANY LOCATION. SEWER MAINS FOUND TO EXCEED THIS TOLERANCE WILL HAVE TO BE REPAIRED OR REMOVED AND REPLACED TO THE SATISFACTION OF THE CITY ENGINEER PRIOR TO ACCEPTANCE BY THE CITY OF LAS VEGAS.
10. INSTALLATION OF CURVED SEWER REQUIRES THE USE OF PVC C900 WHICH ALLOWS FOR PIPE DEFLECTION AT THE JOINTS.

LAS VEGAS VALLEY WATER DISTRICT NOTES

LVVWD PROJECT #136476

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

ANY DECORATIVE PAVING SURFACE WITHIN THE STREET IS THE RESPONSIBILITY OF THE OWNER'S ASSOCIATION, OR THE INDIVIDUAL PROPERTY OWNERS IF NO OWNER'S ASSOCIATION IS IN EXISTENCE, OR THE AGENCY HAVING JURISDICTION. DECORATIVE SURFACE MATERIALS PLACED WITHIN THE TEN FOOT EASEMENT ADJUTING A PUBLIC OR PRIVATE STREET, IF DISTURBED BY THE LVVWD DURING THE REPAIR OR OPERATION OF ITS FACILITIES, WILL BE REPLACED BY THE LVVWD WITH AN APPROPRIATELY SIZED PLAIN FINISH CONCRETE PATCH. THE LVVWD WILL NOT RESTORE, AND WILL NOT BE RESPONSIBLE FOR THE RESTORATION OF, ANY DECORATIVE PAVING SURFACE WITHIN THE STREET. THE LVVWD WILL NOT ATTEMPT TO MATCH COLOR OR FINISH OF ANY ADJACENT MATERIALS.

15. NO LEAD COMPLIANCE NOTE: TO COMPLY WITH THE FEDERAL SAFE DRINKING WATER ACT, ALL WATER WORKS BRASS PRODUCTS PROSED TO BE RELOCATED, OR INSTALLED AS NEW MUST BE INSTALLED WITH THE LEAD FREE APPROVED PRODUCT. THE OLD LEADED PRODUCT MAY NOT BE REUSED.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT# 134676, FIRST APPROVED DATE
LVVWD APPROVED FIRE FLOW: 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 1,500 GPM
LVVWD APPROVAL IS VALID FOR ONE (1) YEAR FROM THE SIGNATURE DATE. IF CONSTRUCTION IS NOT STARTED, PLANS MUST BE RESUBMITTED FOR REVIEW AND APPROVAL.

QUANTITIES

PAVING AND GRADING	PUBLIC	PRIVATE
3" AC PAVING	167 SY	
DRAINAGE	PUBLIC	PRIVATE
5X2 RCB	96 LF	
18 INCH RCP	61 LF	
6X6 JENSEN PRECAST DROP INLET	1 EA	
4X4 JENSEN PRECAST DROP INLET	4 CY	
RIP RAP (D50 = 9")	0.5 CY	
RIP RAP (D50 = 6")	5,692 SF	
DRAINAGE EASEMENT - CONCRETE RETAINING WALL	20 LF	1,010 LF
WROUGHT IRON GATE (6 FT TALL)		
WATER	PUBLIC	PRIVATE
10 IN PVC PIPE	1,077 LF	
1" WATER METER	6 EA	
WATER LATERAL		33 LF
FIRE HYDRANT ASSEMBLIES	2 EA	
SEWER	PUBLIC	PRIVATE
SEPTIC TANKS (ISDS)		5 EA
TRAFFIC	PUBLIC	PRIVATE

Avoid overhead power line contact, it's costly.

Call before you Overhead
1-702-227-2929

Call before you Dig
Avoid cutting underground utility lines, it's costly.

CALL
811
OR
1-800-227-2600

BASIS OF BEARING

NORTH 00°54'51" EAST, BEING THE BEARING OF EAST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 6, TOWNSHIP 20 SOUTH, RANGE 60 EAST M.D.B. & M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN IN FILE 101, PAGE 86 OF SURVEYS IN THE OFFICE OF THE CLARK COUNTY, NEVADA RECORDER.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK - MONUMENT ID NUMBER 06V0074
RIVET & PLATE IN TOP OF CURB AT CORNER OF ALEXANDER & GRAND CANYON
ELEVATION 792.842 METERS / 2601.18 FEET (NAVE88)

UTILITY DISCLAIMER

EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR EXISTING LOCATIONS.

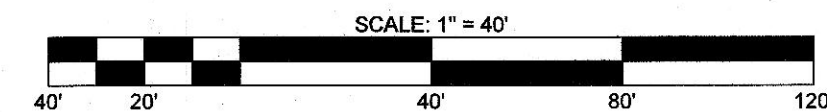
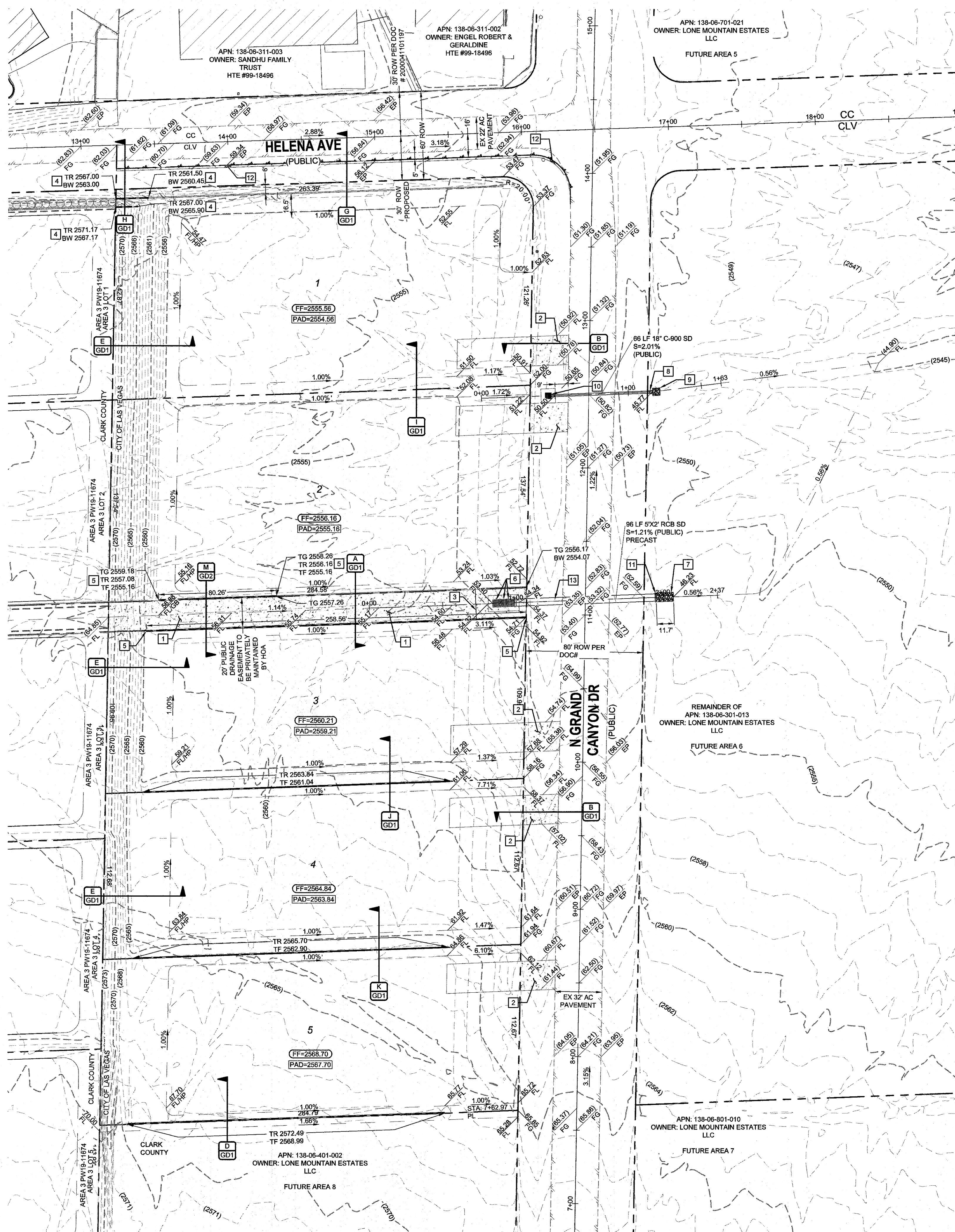
DEVIATIONS FROM STANDARDS

1. NONE

ABBREVIATIONS

AC	ASPHALTIC CONCRETE	FG	FINISH GRADE	R	RADIUS
FH	FINISH HYDRANT	RCH	REINFORCED CONCRETE BOX	RCB	REINFORCED CON

FILE NAME: S:\ACTIVE\LONE MOUNTAIN ESTATES\CLM\18-001 - JENSEN & HELEN\ENGR\DWG\SS\DRG\DIV\SS\AREA 4\UTD01_SHT_G_4.DWG



GRADING CONSTRUCTION NOTES

- 20' CONCRETE CHANNEL (DETAIL F/GD1)
 - DRIVEWAY 4' CONCRETE OVER 6" TYPE II (SECTION B/GD1)
 - INSTALL WROUGHT IRON GATE (SEE DETAIL G/GD1 AND USD# 425.S1)
 - INSTALL RETAINING WALLS* (SECTION H/GD1)
 - INSTALL RETAINING WALL* (SECTION A/GD1)
 - INSTALL (3) 5'X5' JENSEN PRECAST DROP INLET & CONCRETE APRON (SEE DETAIL W/GD2) WITH STAMP PER USD #421 (STRUCTURAL DESIGN REQUIRED)
 - RIPRAP PAD (18" THICKNESS, D50 = 9")
 - INSTALL RCP END SECTION (SEE GD1)
 - 3'X3' RIPRAP PAD (6" THICKNESS, D50 = 3")
 - INSTALL 4'X4' JENSEN PRECAST DROP INLET & CONCRETE APRON (SEE DETAIL P/GD2) WITH STAMP PER USD #421
 - CUSTOM STRUCTURALLY DESIGNED HEADWALL
 - 3' CUT-OFF-WALL (DETAIL L/GD1)
 - STORM DRAIN TO BE PRECAST WITH WATERTIGHT JOINTS PER UDACS 2.22.01
- * RETAINING WALLS TO STEP WITH SLOPE

SECTION II DRAINAGE COMPLIANCE
SECTION II DRAINAGE COMPLIANCE MUST BE COMPLETED BY THE ENGINEER AND SUBMITTED TO INSPECTION SCHEDULING, FOR STORM DRAIN SYSTEM FLOODWALL/SOMETHING ELSE, PRIOR TO PAD GRADING GRADING INSPECTIONS FOR LOTS ##, ##, ##, ##.

GEOTECHNICAL
GEOTEK RESIDENTIAL, LLC
6835 SOUTH ESCONCADO STREET, SUITE B
LAS VEGAS, NV 89119
(702) 897-1424
REPORT NO: 14434-LVR
DATE: 11/01/18

EARTHWORK

TOTAL FOR OVERALL DEVELOPMENT: 4,269 CY CUT / 5,548 CY FILL / 1,279 CY NET

NOTE: THIS OPINION OF THE CUT AND FILL QUANTITIES IS PROVIDED AS REQUIRED BY THE GOVERNING ENTITY. THIS INFORMATION SHOULD NOT BE USED FOR BIDDING PURPOSES. ALL CONTRACTORS ARE RESPONSIBLE FOR THEIR OWN QUANTITIES. THESE TOTALS ARE RAW AND DO NOT ACCOUNT FOR SHRINKAGE AND SUBSIDENCE.

FLOOD ZONE

THIS PROJECT IS LOCATED IN FLOOD ZONE "X", AN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD PLAIN PER FIRM PANEL 32003C2135F, REVISED NOVEMBER 16, 2011.

UTILITY DISCLAIMER

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GRADING NOTES

ADD 2500 FEET TO ALL GRADE TAGS TO GET ACTUAL ELEVATION.
THE ELEVATION DIFFERENCE BETWEEN THE PAD AND FINISH FLOOR IS DETERMINED FROM THE MINIMUM THICKNESS REQUIRED PER THE GEOTECHNICAL REPORT. FINISH FLOORS MAY INCREASE DEPENDING ON THE TYPE OF SOIL AND FOUNDATION PLAN USED. NOTE THAT THE STRUCTURAL PLANS & GEOTECHNICAL REPORT SHALL SUPERSEDE THE CIVIL IMPROVEMENT PLANS.

ALL PRIVATE STREETS AND DRAINAGE EASEMENTS ARE TO BE PRIVATELY OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION (H.O.A.).

ALL WORK TO BE PERFORMED OUTSIDE OF THE PROJECT BOUNDARY AND ON PRIVATE PROPERTY SHALL NOT BE PERFORMED UNTIL WRITTEN PERMISSION AND EASEMENTS HAVE BEEN OBTAINED FROM THE OFFSITE OWNER AND GIVEN TO THE GOVERNING ENTITY.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK - MONUMENT ID NUMBER 9LV007N4
RIVET & PLATE IN TOP OF CURB AT SE CORNER OF ALEXANDER & GRAND CANYON
ELEVATION 792.842 METERS / 2601.18 FEET (NAVE88)

GRADING CERTIFICATION

I CERTIFY THIS GRADING PLAN COMPLIES WITH THE APPROVED DRAINAGE STUDY, DS-5076, ON FILE WITH CLARK COUNTY FOR THIS PROJECT.

DESIGNED BY: ROBERT D. CUNNINGHAM, PE
CHECKED BY: NB
DATE: 7.10.19

ACCEPTANCE OF PLANS

SOUTHWEST GAS CORPORATION
DATE:

ACCEPTANCE OF PLANS FOR FILING

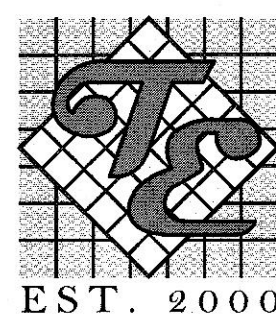
BY: DEVELOPMENT AND FLOOD CONTROL
DATE:

Call before you Overhead
1-702-227-2929

Call before you Dig
Call
811
OR
1-800-227-2800

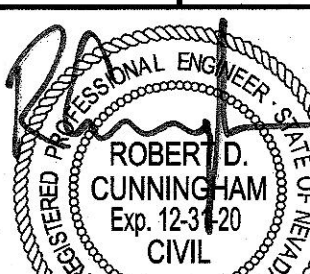
TEMPLETON DEVELOPMENT CORP.

3311 S. RAINBOW BLVD STE 225
LAS VEGAS, NV 89146
(702) 873-6700 FAX:
(702) 362-8844 FAX: (702) 362-8233



LONE MOUNTAIN ESTATES AREA 4
SINGLE-FAMILY RESIDENTIAL

GRADING PLAN



DATE: 7/10/2019

SCALE: 1"=40'

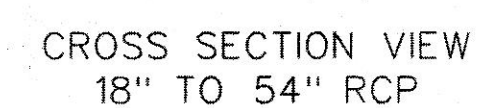
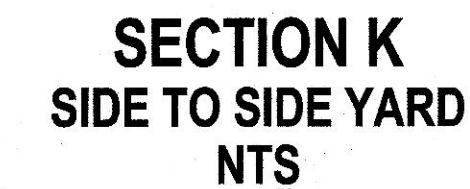
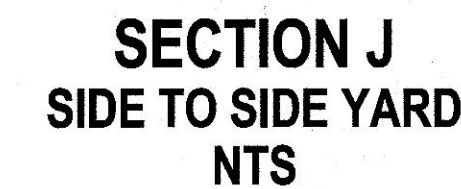
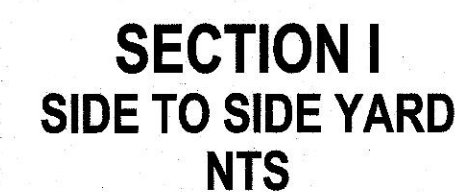
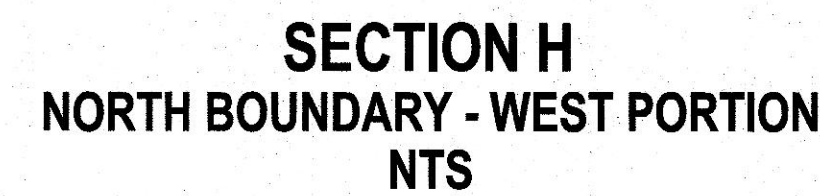
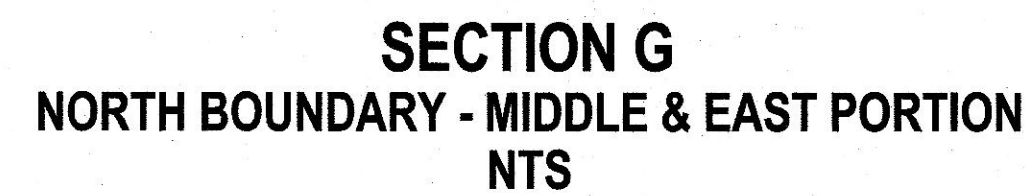
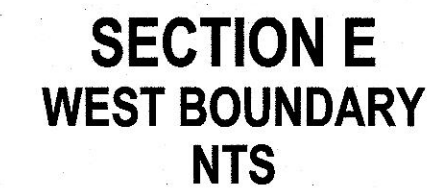
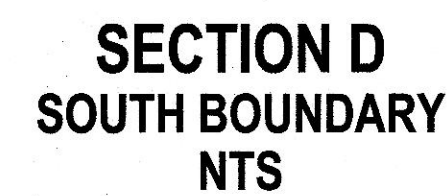
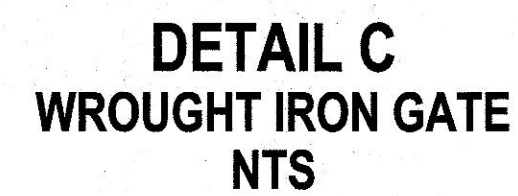
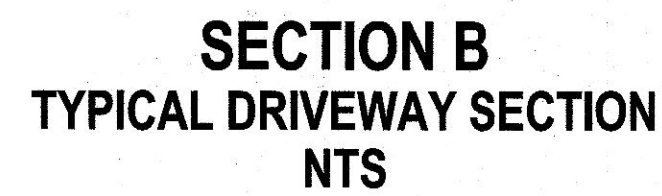
JOB NO: LMT-18-001

DESIGNED BY: NB CHECKED BY: RC

SHEET NAME: G1

SHEET NUMBER: 3 OF 9

CLV 0000000



NOTES:

1. Class and type of concrete shall be as specified for reinforced concrete pipe.
2. Structural design of end section shall conform to that of standard reinforced concrete culvert pipe.
3. Length of pipe shown on the design plans does not include connector section (length C).
4. Contact hydraulics Engineer for sizes not listed.
5. Actual dimensions of end sections may vary by manufacturer. Adjust pipe lengths as necessary to accommodate precast end sections used. See sheets R-1,12 and R-2,14 for extension beyond fill slope and pipe pay lengths.

DIAMETER	WEIGHT	A	B	C *	L	W
18"	670	9"	27"	46"	73"	36"
24"	1300	9 1/2"	43 1/2"	30"	73 1/2"	48"
30"	1850	12"	54"	19 3/4"	73 3/4"	60"
36"	3500	15"	63"	34 3/4"	97"	72"
42"	4930	21"	63"	35"	98"	78"
48"	6700	24"	72"	26"	98"	84"
54"	7150	27"	65"	35"	100"	90"

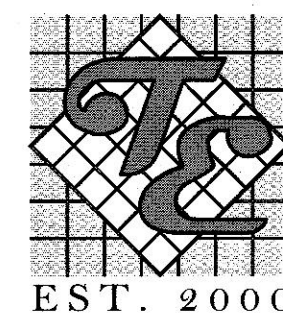
* For Reference Only

DETAIL N
FLARED END SECTION

TEMPLETON DEVELOPMENT CORP.
3311 S. RAINBOW BLVD STE 225

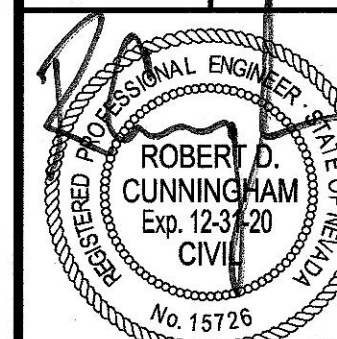
TON DEVELOPMENT
3311 S. RAINBOW BLVD STE 225
LAS VEGAS, NV 89146
702) 873-6700 FAX:

TON DEVELOPMENT
3311 S. RAINBOW BLVD STE 225
LAS VEGAS, NV 89146
702) 873-6700 FAX:



**LONE MOUNTAIN ESTATES AREA 4
SINGLE-FAMILY RESIDENTIAL**

GRADING DETAILS



DATE: 7/10/2019

SCALE: 1"=40'

JOB NO: LMT-18-001

DESIGNED BY:	CHECKED BY:
ND	BS

NB	RC
SHEET NAME:	

GD1

SHEET NUMBER:
10

4 OF 9

1000

CLV	00000000
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FILE NAME: S:\ACTIVE\ONE MOUNTAIN ESTATES LLC\1MT-18-001 - JENSEN & HELENA\ENG\IPS\DWGS\1SHEET DWGS\AREA 4\1MT001_SHT_GD_A4.DWG

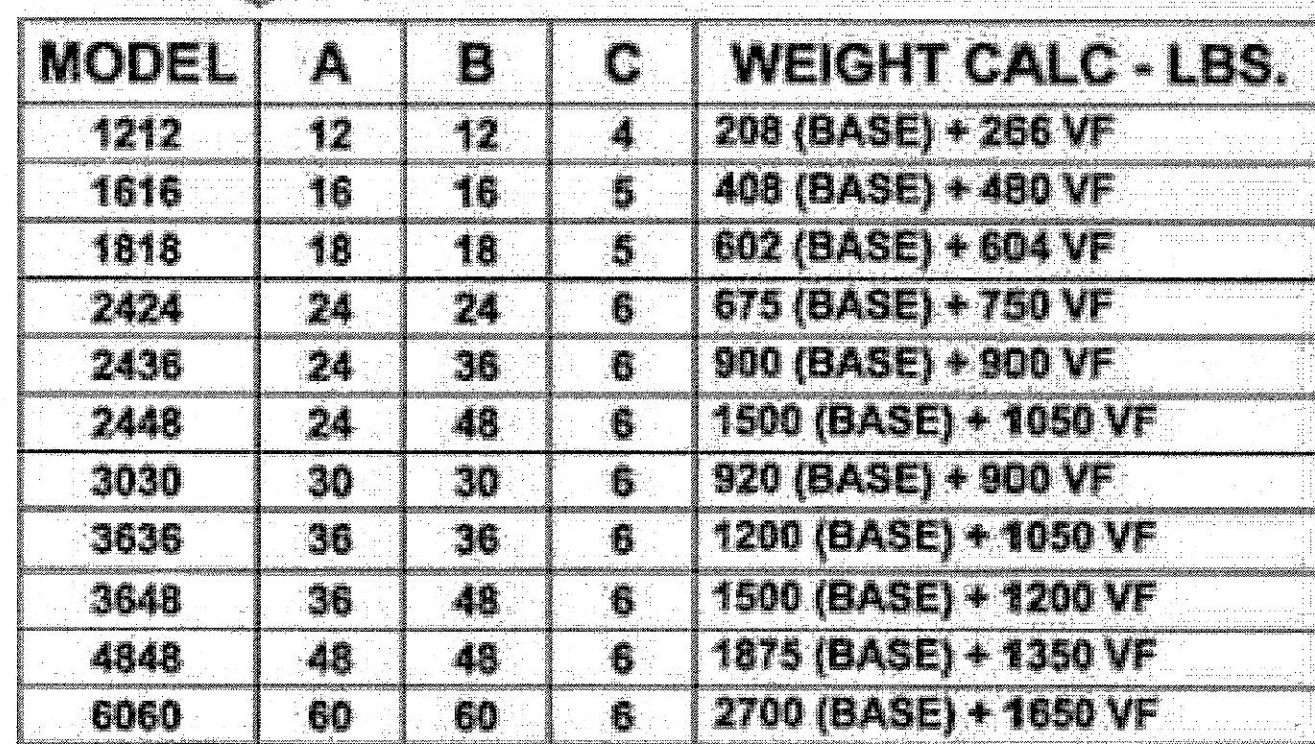
Avoid overhead power line contact. It's costly.

Call
before you
Overhead
1-702-227-2929

Call before you Dig
Avoid cutting underground utility lines. it's costly.

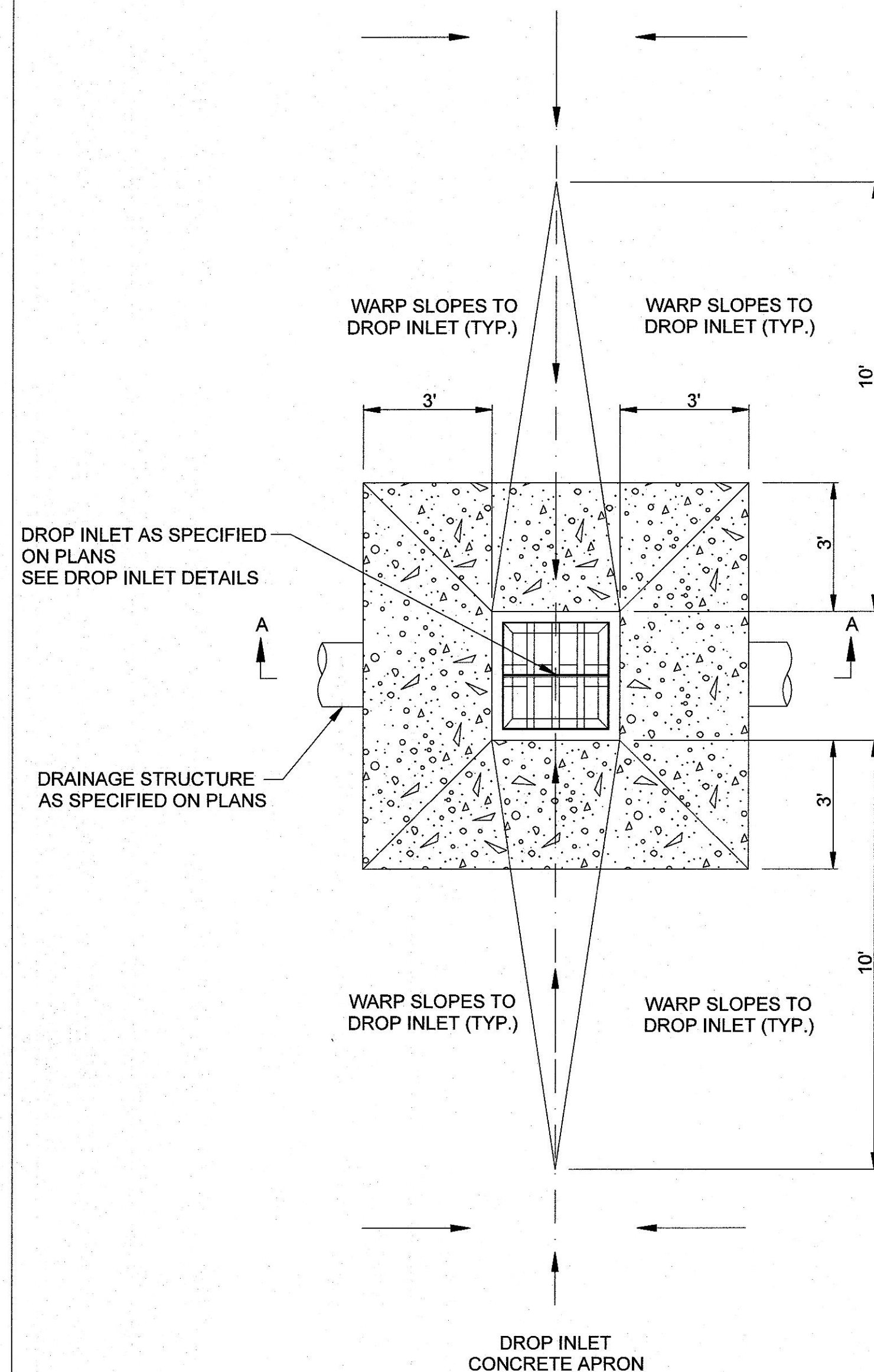
CALL
811

OR
1-800-227-2600

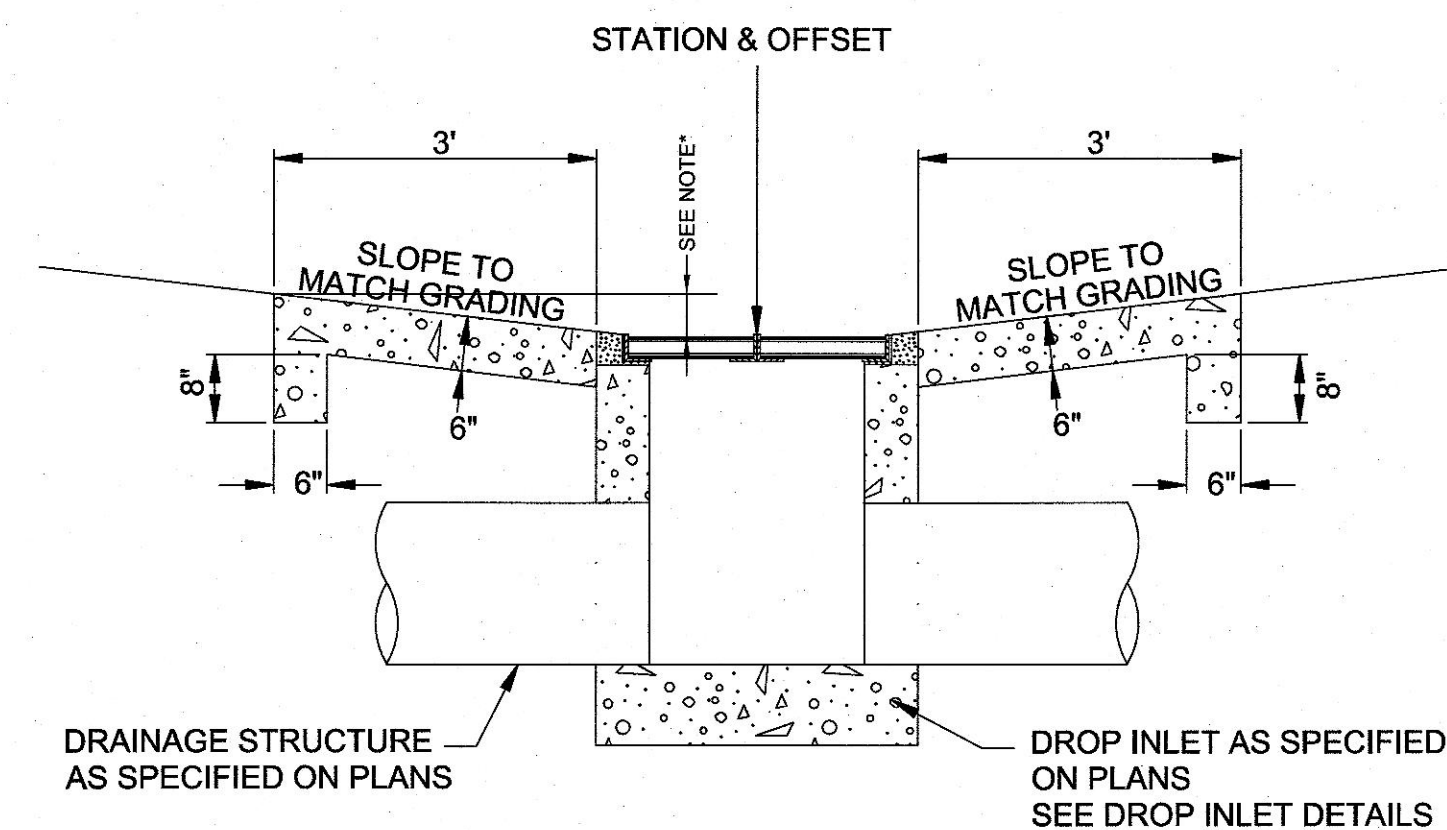


Jensen Procast reserves the right to make changes to product design and/or dimensions without notice. Please contact Jensen Procast whenever necessary for confirmation or advice on product design.

DETAIL O JENSEN PRECAST DROP INLET



DETAIL P
DROP INLET CONCRETE APRON

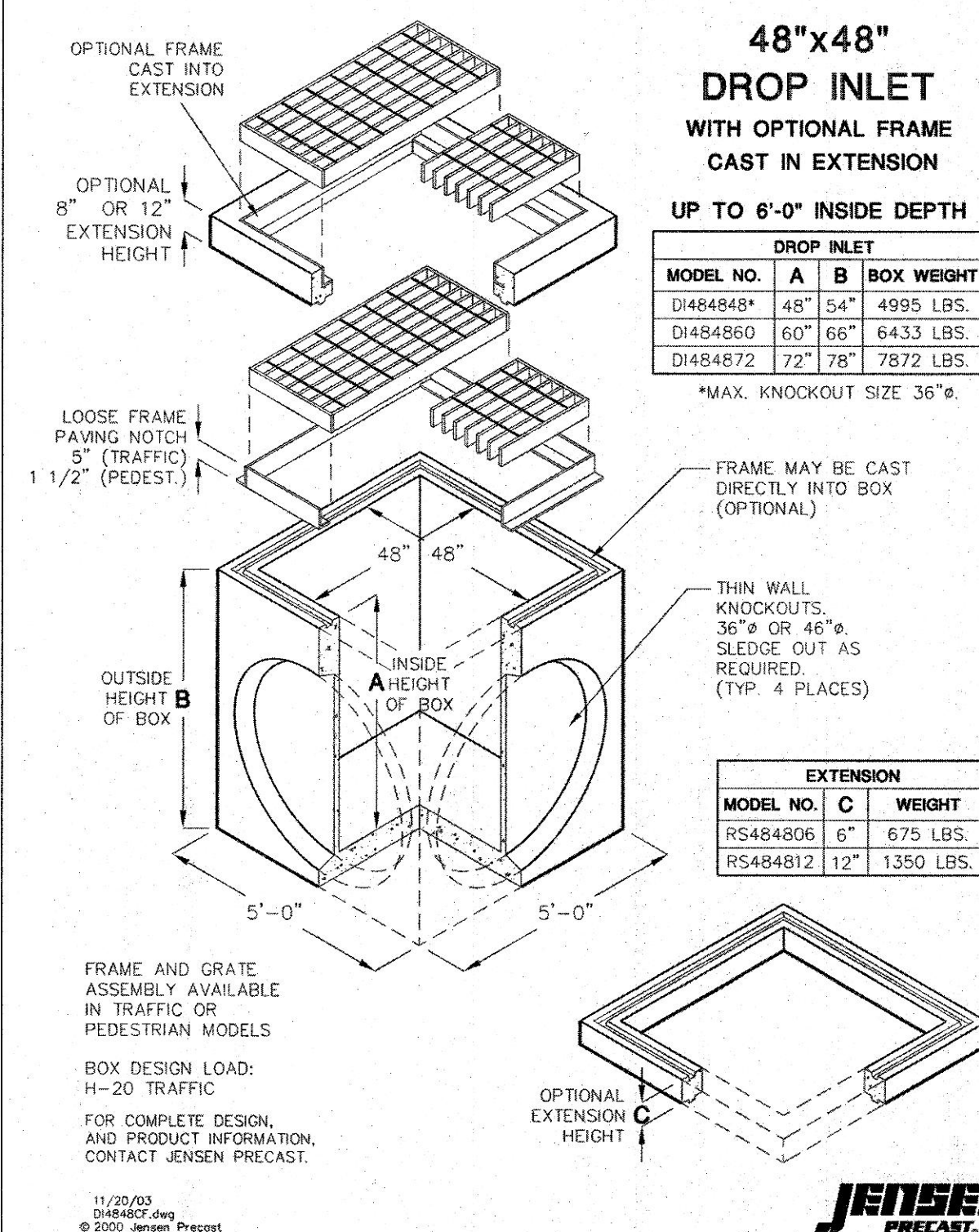


0.15' MIN FOR THE (1)
4'X4' DROP INLET

DROP INLET
CONCRETE APRON

Signed Original On File		R-4.2.7	(609)
CHIEF HYDRAULICS ENGINEER	ADOPTED	5/09	REVISION

DETAIL Q
4'X4' JENSEN PRECAST DROP INLET



JENSEN
PRECAST.

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utility lines. it's costly.

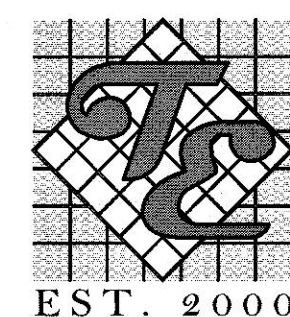
CALL
811
OR
1-800-227-2600

[illegible]

TEMPLETON DEVELOPMENT CORP.

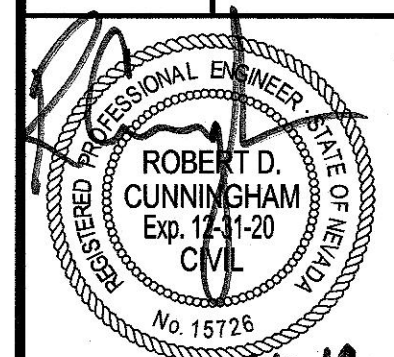
ION DEVELOPMENT
3311 S. RAINBOW BLVD STE 225
LAS VEGAS, NV 89146

TANEY & ENGINEERING
6030 S. JONES BOULEVARD
LAS VEGAS, NV 89118
(702) 362-8844 FAX: (702) 362-5233



**LONE MOUNTAIN ESTATES AREA 4
SINGLE-FAMILY RESIDENTIAL**

GRADING DETAILS 2



DATE: 7/10/2019

SCALE: 1"=40'

JOB NO: **LMT-18-001**

DESIGNED BY: NB	CHECKED BY: RC
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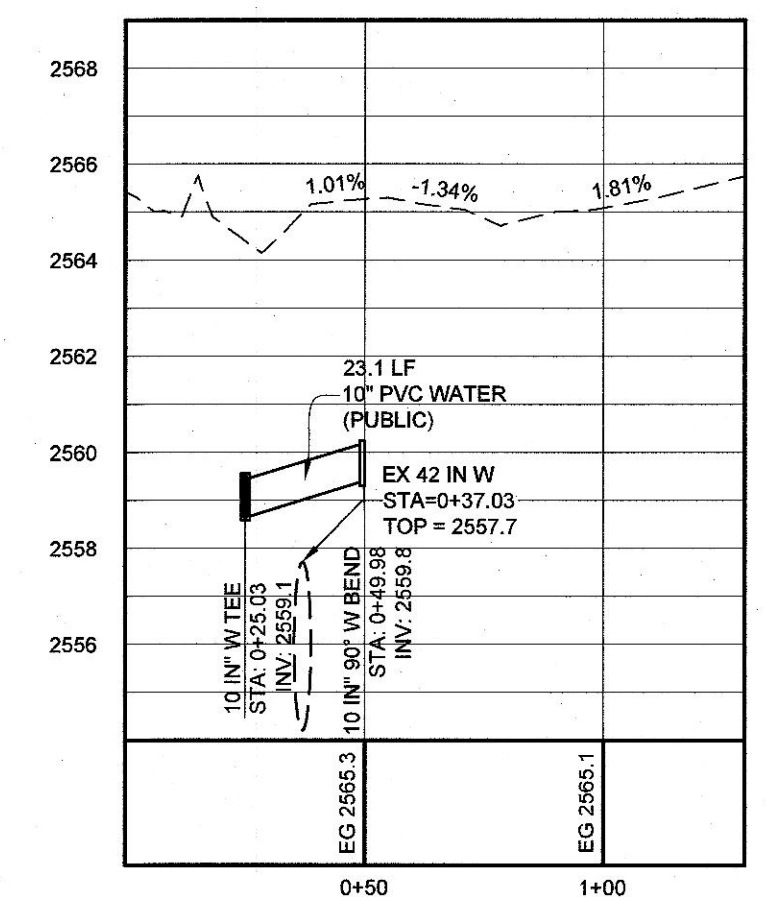
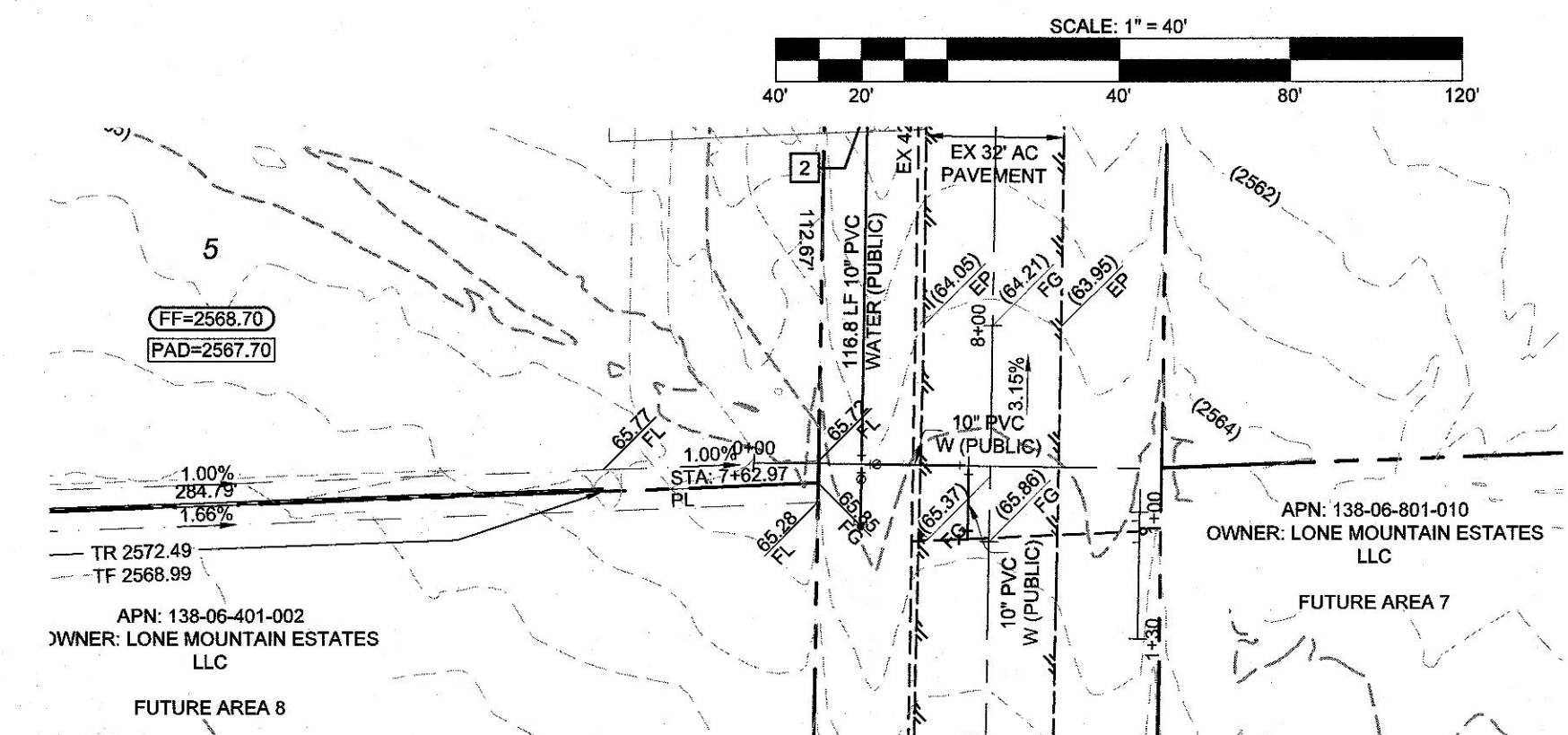
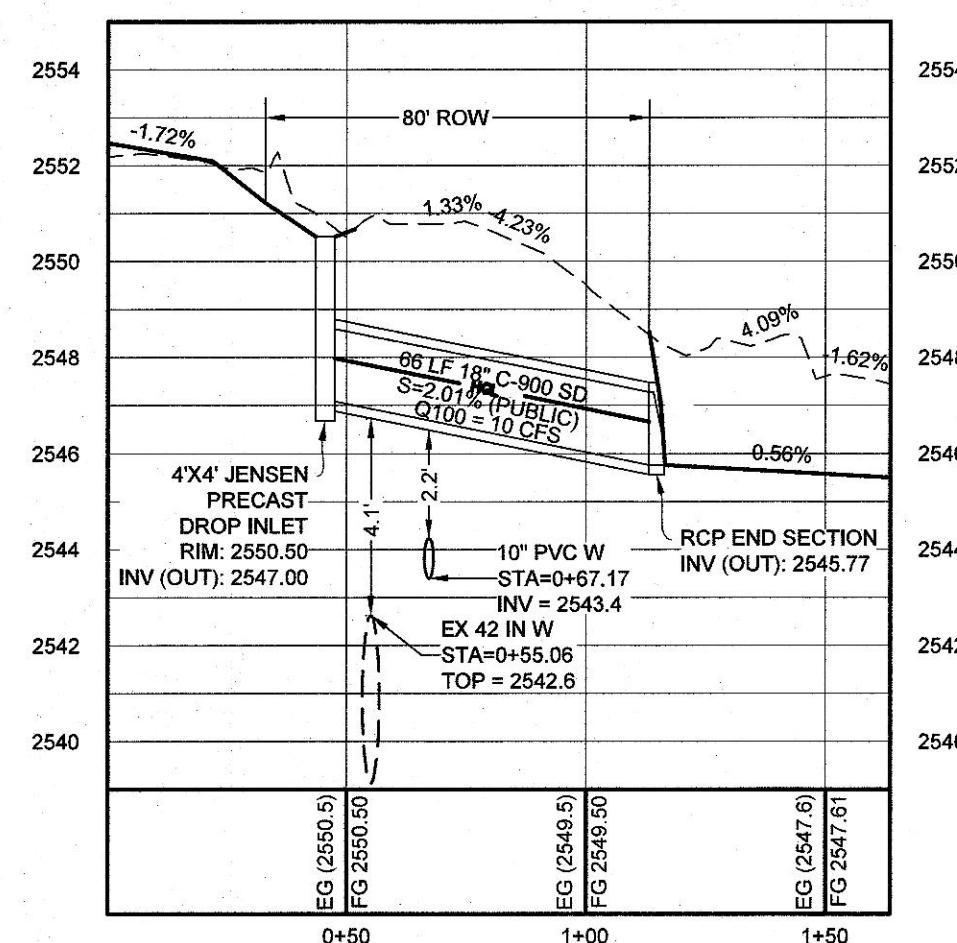
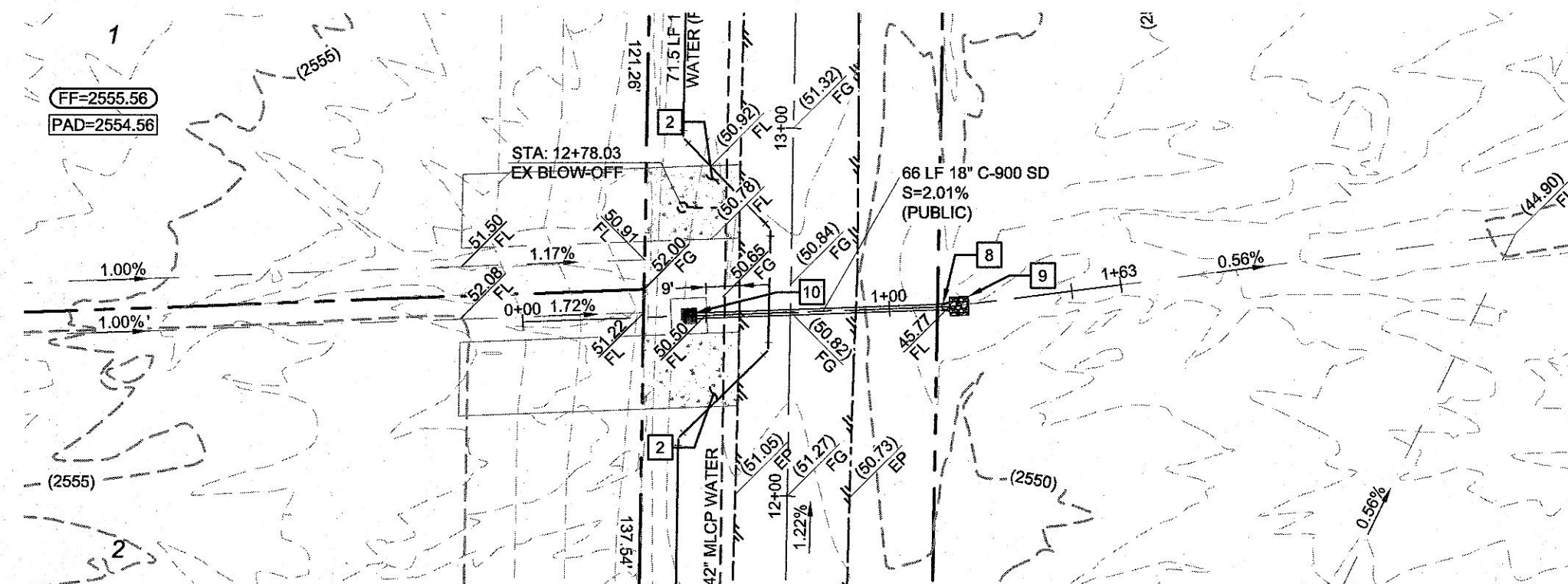
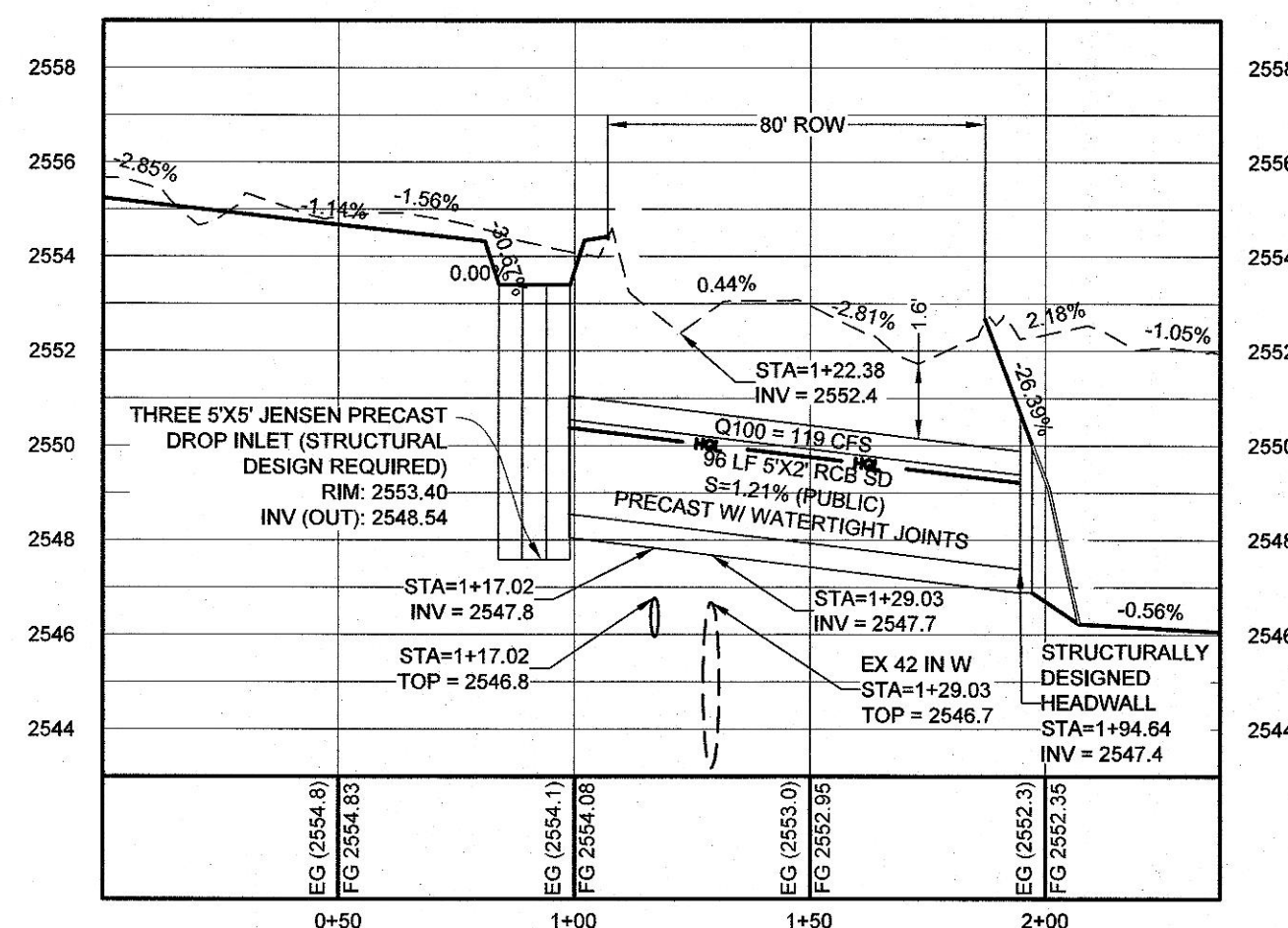
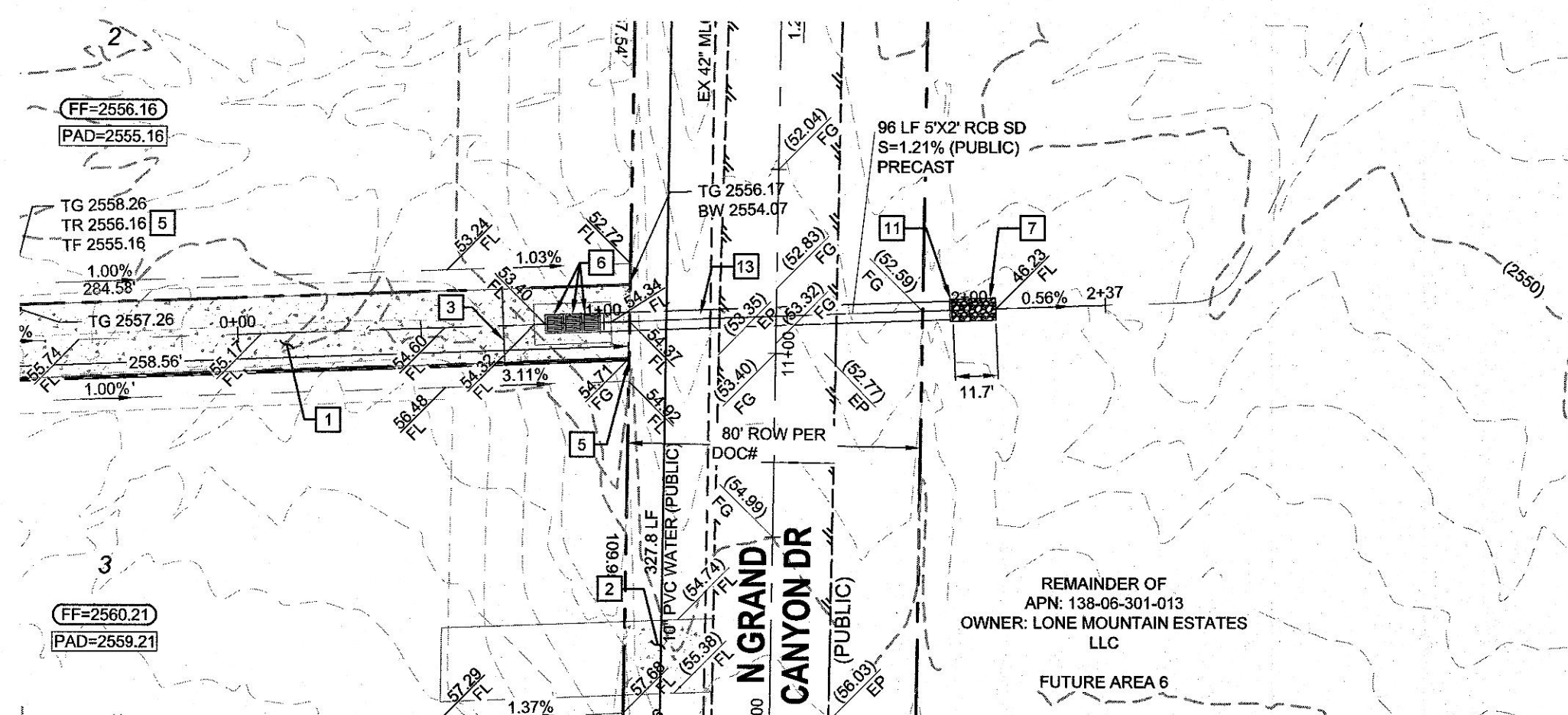
SHEET NAME: **GD2**

SHEET NUMBER:

5 OF 9

100 *Journal of Management Inquiry* 16(1) DOI: 10.1177/1056492607311111

CLV	0000000
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GRADING CONSTRUCTION NOTES

- 1 20' CONCRETE CHANNEL (DETAIL PG/01)
- 2 DRIVEWAY 4' CONCRETE OVER #1 TYPE II (SECTION BIG/D1)
- 3 INSTALL WROUGHT IRON GATE (SEE DETAIL CG/D1 AND USDF 425.51)
- 4 INSTALL RETAINING WALLS* (SECTION HIG/D1)
- 5 INSTALL RETAINING WALL* (SECTION AG/D1)
- 6 INSTALL (3) 5X6" JENSEN PRECAST DROP INLET & CONCRETE APRON (SEE DETAIL NG/D2) WITH STAMP PER US#421 (STRUCTURAL DESIGN REQUIRED)
- 7 RIPRAP PAD (18" THICKNESS, D50 = 9")
- 8 INSTALL RCP END SECTION (SEE GD/1)
- 9 3X3" RIPRAP PAD (6" THICKNESS, D50 = 3")
- 10 INSTALL 4'X4' JENSEN PRECAST DROP INLET & CONCRETE APRON (SEE DETAIL PG/D2) WITH STAMP PER US#421
- 11 CUSTOM STRUCTURALLY DESIGNED HEADWALL
- 12 3' CUT-OFF WALL (DETAIL LG/D1)
- 13 STORM DRAIN TO BE PRECAST WITH WATERTIGHT JOINTS PER UDACS 2.2.02

* RETAINING WALLS TO STEP WITH SLOPE

SCALE: 1" = 40'

40' 20' 40' 80' 120'

IMPLEMENTATION DEVELOPMENT CORP.

3311 S. RAINBOW BLVD STE 225
LAS VEGAS, NV 89146
(702) 873-6700 FAX:

TANEY & ENGINEERING
6030 S. JONES BOULEVARD
LAS VEGAS, NV 89118
(702) 362-8844 FAX: (702) 362-5233



**LONE MOUNTAIN ESTATES AREA 4
SINGLE-FAMILY RESIDENTIAL**

5' X 2' RCB SD, 18-IN RCP SD, SOUTH POC
STA: 0 TO 2+37, 0 TO 1+63, 0 TO 1+30

GEOTECHNICAL

GEOTEK RESIDENTIAL, LLC
6835 SOUTH ESCONDIDO STREET, SUITE B
LAS VEGAS, NV 89119
(702) 897-1424

REPORT NO: 14434-LVR
DATE: 11/01/18

UTILITY DISCLAIMER

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LINE AND CURVE DATA

FOR LINE AND CURVE DATA TABLES, SEE THE GRADING PLAN SHEETS FOR THIS PROJECT.

PROFILE NOTES

ADD 2500 FEET TO ALL GRADE TAGS TO GET ACTUAL ELEVATION.

ALL PRIVATE STREETS AND DRAINAGE EASEMENTS ARE TO BE PRIVATELY OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION (H.O.A.).

ALL WORK TO BE PERFORMED OUTSIDE OF THE PROJECT BOUNDARY AND ON PRIVATE PROPERTY SHALL NOT BE PERFORMED UNTIL WRITTEN PERMISSION AND EASEMENTS HAVE BEEN OBTAINED FROM THE OFFSITE OWNER AND GIVEN TO GOVERNING ENTITY.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK - MONUMENT ID NUMBER 9LV007N4
RIVET & PLATE IN TOP OF CURB AT SE CORNER OF ALEXANDER & GRAND CANYON
ELEVATION 792.842 METERS / 2601.18 FEET (NAVE88)

ACCEPTANCE OF PLANS FOR FILING

BY: _____ DATE: _____
DEVELOPMENT AND FLOOD CONTROL _____

Call before you Dig!
Avoid cutting underground utility lines. it's costly.

CALL
811

OR
1-800-227-2600

Avoid overhead power
line contact. it's costly.

Call
before you
Overhead
1-702-227-2929

DEPTH OF COVER DURING CONSTRUCTION
MAINTAIN MINIMUM TWENTY-FOUR (24) INCH COVER PER UDACS SECTION
2.08.04. GRADING MUST BE COMPLETED PRIOR TO WATERLINE
INSTALLATION.

WATER MAIN JOINT DEFLECTION NOTE (PVC 4"-24")

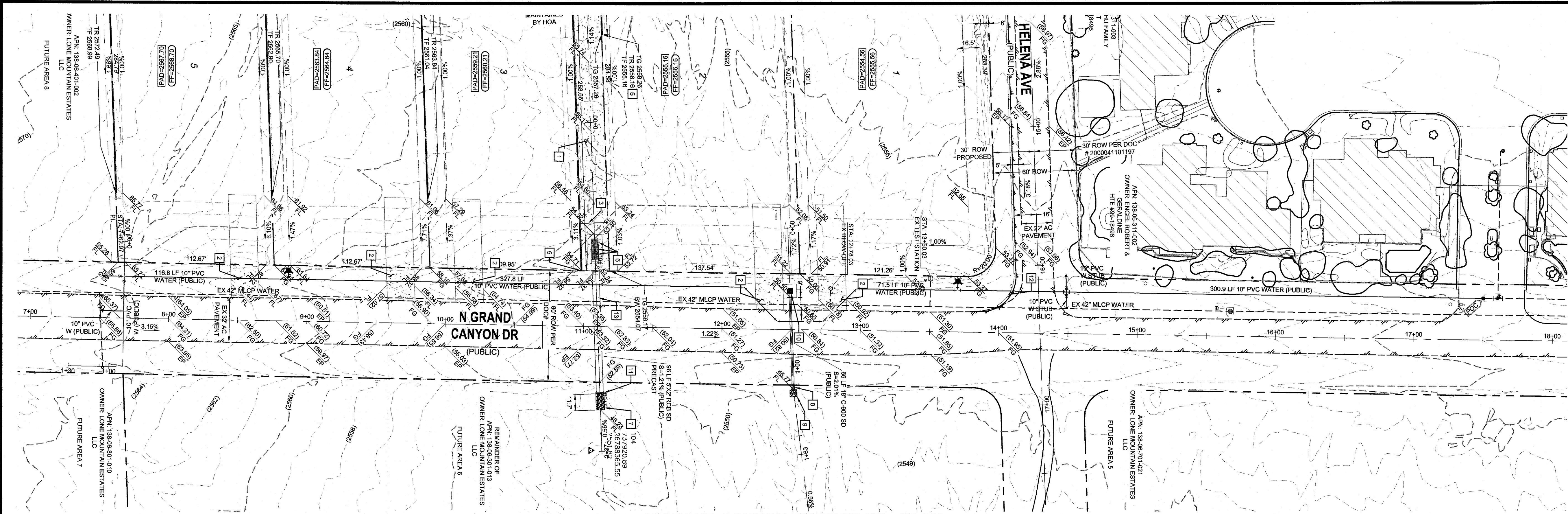
PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MAXIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.

FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTING SHALL BE USED.

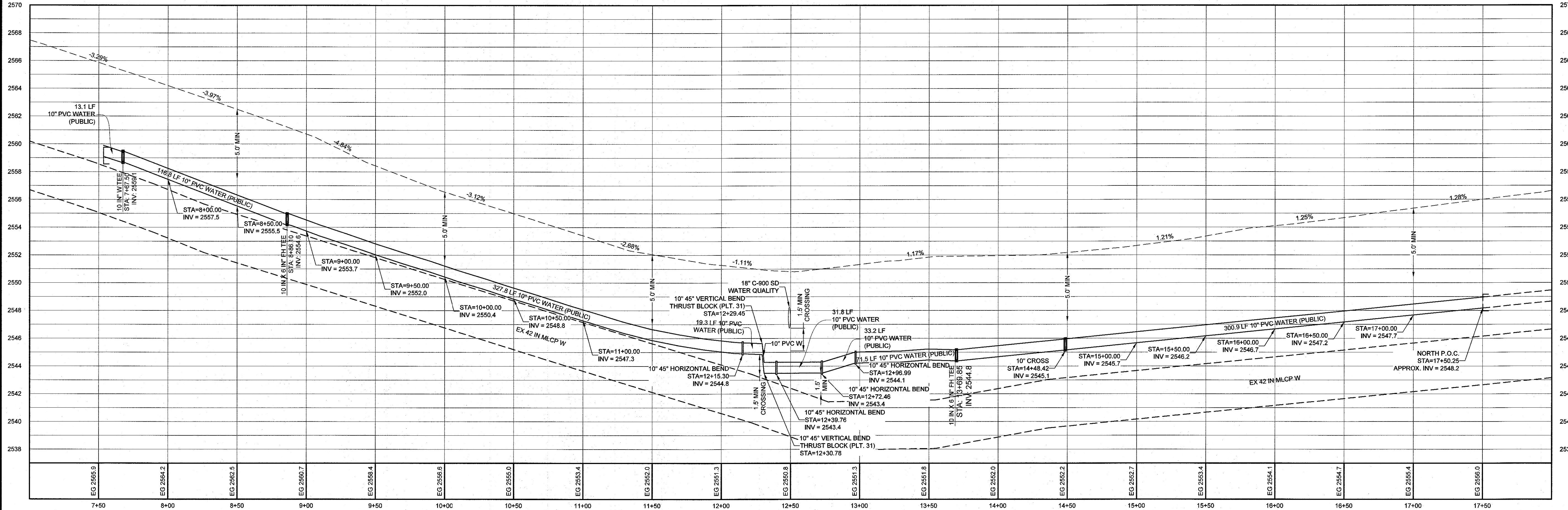
APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT# 136476 FIRST APPROVED DATE: _____
LVVWD APPROVED FIRE FLOW: 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 31 GPM

FILE NAME: S:\ACTIVE\ONE MOUNTAIN ESTATES LLC\MT-18-001 - JENSEN & HELENA\ENG\IPS\DWGS\SHEET DWGS\AREA 4\MT001_SHT_PP_A4.DWG



N GRAND CANYON DR (PUBLIC) - PLAN
STA: 7+00.00 TO 18+00.00



N GRAND CANYON DR (PUBLIC) - PROFILE
STA: 7+00.00 TO 18+00.00
SCALE: 1"=40' HORIZONTAL; 1"=4' VERTICAL

GEOTECHNICAL
GEOTEK RESIDENTIAL, LLC
6835 SOUTH ESCONCADO STREET, SUITE B
LAS VEGAS, NV 89119
(702) 897-1424
REPORT NO: 14434-LVR
DATE: 11/01/18

DEPTH OF COVER DURING CONSTRUCTION
MAINTAIN MINIMUM TWENTY-FOUR (24) INCH COVER PER UDACS SECTION
2.06.04. GRADING MUST BE COMPLETED PRIOR TO WATERLINE
INSTALLATION.

WATER MAIN JOINT DEFLECTION NOTE (PVC 4"-24")
PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM
ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A
MAXIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND
2.07.02.

FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE
JOINT DEFLECTION, FITTING SHALL BE USED.

Call before you Dig
before you Overhead
1-702-227-2929

Call before you Dig
before you Overhead
1-702-227-2929

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT# 136476 FIRST APPROVED DATE:
L'VWD APPROVED FIRE FLOW: 1,550 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 31 GPM

GRADING CONSTRUCTION NOTES

1. 20" CONCRETE CHANNEL (DETAIL FGD1)
2. DRIVEWAY 4" CONCRETE OVER 6" TYPE II (SECTION B/GD1)
3. EXISTING WROUGHT IRON GATE (SEE DETAIL C/GD1 AND USDF-425.51)
4. INSTALL RETAINING WALLS (SECTION H/GD1)
5. INSTALL RETAINING WALL (SECTION A/GD1)
6. INSTALL (3) 5X5' JENSEN PRECAST DROP INLET & CONCRETE APRON (SEE DETAIL P/GD2) WITH STAMP PER USD #421 (STRUCTURAL DESIGN REQUIRED)
7. RIPRAP PAD (18" THICKNESS, D50 = 9")
8. INSTALL RCP END SECTION (SEE GD1)
9. 3X3' RIPRAP PAD (6" THICKNESS, D50 = 3")
10. INSTALL 4X4' JENSEN PRECAST DROP INLET & CONCRETE APRON (SEE DETAIL P/GD2) WITH STAMP PER USD #421
11. CUSTOM STRUCTURALLY DESIGNED HEADWALL
12. 3" CUT-OFF-WALL (DETAIL L/GD1)
13. STORM DRAIN TO BE PRECAST WITH WATERTIGHT JOINTS PER UDACS 2.22.01

* RETAINING WALLS TO STEP WITH SLOPE

UTILITY DISCLAIMER

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LINE AND CURVE DATA

FOR LINE AND CURVE DATA TABLES, SEE THE GRADING PLAN SHEETS FOR THIS PROJECT.

PROFILE NOTES

ADD 2500 FEET TO ALL GRADE TAGS TO GET ACTUAL ELEVATION.
ALL PRIVATE STREETS AND DRAINAGE EASEMENTS ARE TO BE PRIVATELY OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION (H.O.A.).
ALL WORK TO BE PERFORMED OUTSIDE OF THE PROJECT BOUNDARY AND ON PRIVATE PROPERTY SHALL NOT BE PERFORMED UNTIL WRITTEN PERMISSION AND EASEMENTS HAVE BEEN OBTAINED FROM THE OFFSITE OWNER AND GIVEN TO GOVERNING ENTITY.

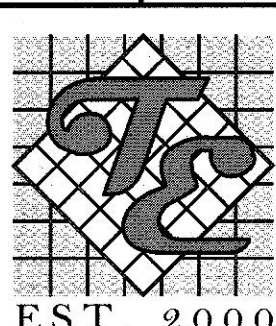
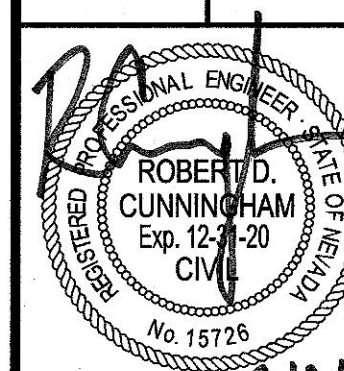
BENCHMARK

CITY OF LAS VEGAS BENCHMARK - MONUMENT ID NUMBER 9LV007N4
RIVET & PLATE IN TOP OF CURB AT SE CORNER OF ALEXANDER & GRAND CANYON
ELEVATION 792.842 METERS / 2591.18 FEET (NAVE88)

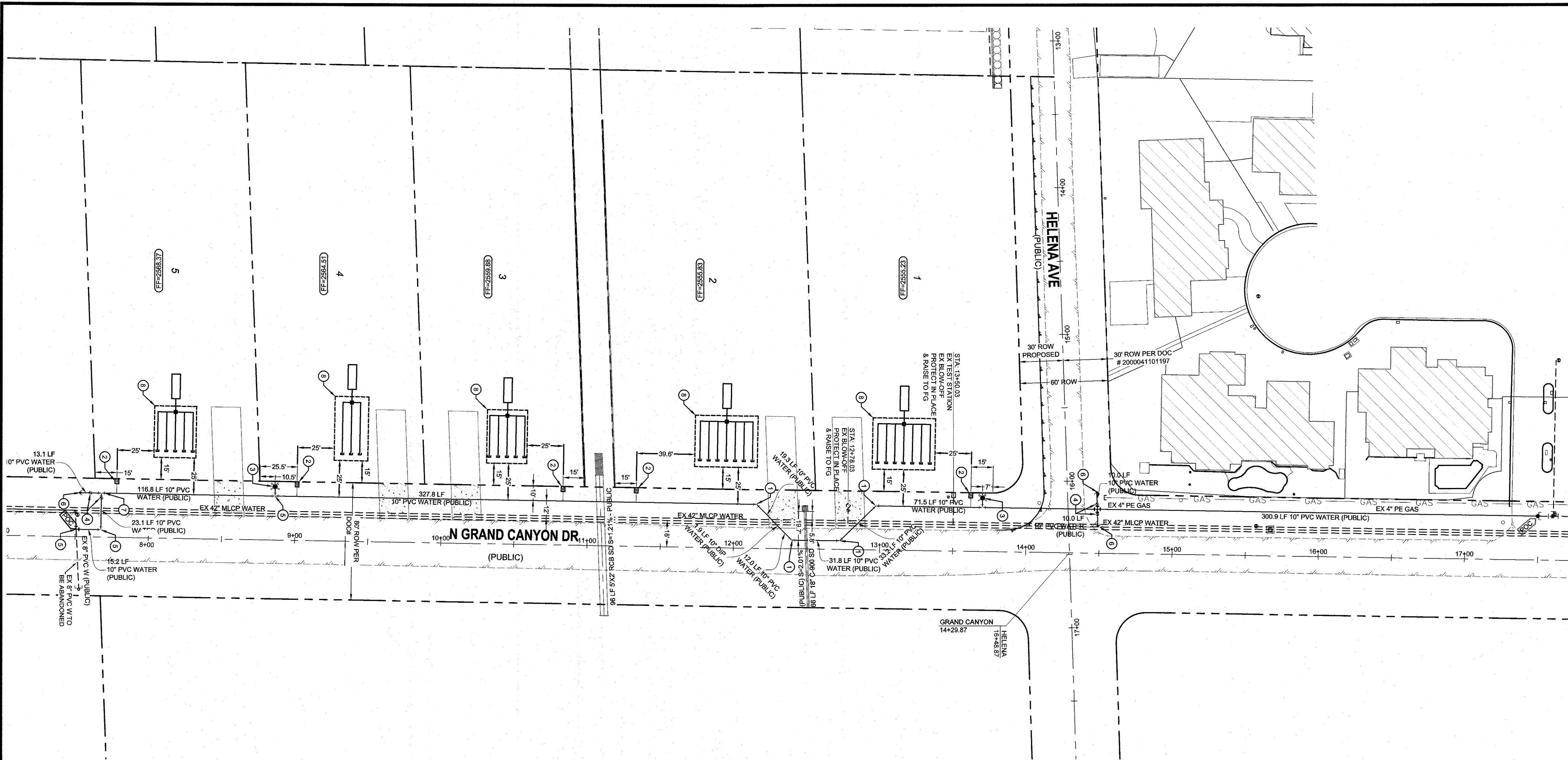
ACCEPTANCE OF PLANS FOR FILING

BY: DEVELOPMENT AND FLOOD CONTROL

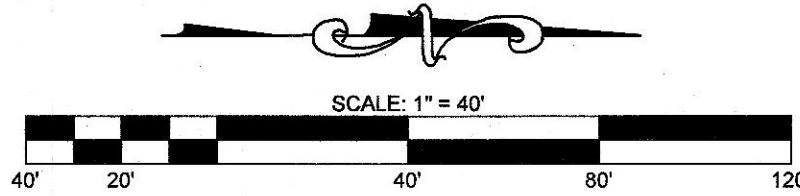
REVISIONS		DATE	
NO.	DESCRIPTION	BY	DATE

TEMPLETON DEVELOPMENT CORP. 3311 S. RAINBOW BLVD STE 225 LAS VEGAS, NV 89146 (702) 873-5700 FAX:		TANEY & ENGINEERING 6009 S. JONES BOULEVARD LAS VEGAS, NV 89119 (702) 362-2844 FAX: (702) 362-2233	
			
LONE MOUNTAIN ESTATES AREA 4 SINGLE-FAMILY RESIDENTIAL EX 42 IN MLCP WATER STA: 7+00 TO 18+00 PLAN & PROFILE 2			
			
DATE:	7/10/2019	CHECKED BY:	RC
SCALE:	1"=40'	DESIGNED BY:	NB
JOB NO:	LMT-18-001	SHEET NAME:	PP2
SHEET NUMBER:	7 OF 9	DATE:	CLV

FILE NAME: S:\ACTIVE\LONE MOUNTAIN ESTATES\LLO\MT-18-001 - JENSEN & HELENAVE\DWG\SSHSHEET\DWG\AREA-4\UT001_SHT_UT_A4.DWG



- UTILITY CONSTRUCTION NOTES**
- 10" 45° HORIZONTAL BEND (UDACS PLATE NO. 31)
 - INSTALL 1" WATER SERVICE WITH 1" WATER METER (UDACS PLT. 3)
 - FIRE HYDRANT ASSEMBLY W/ 6" GATE VALVE (UDACS PLATE NO. 40)
 - 10" GATE VALVE (UDACS PLATE NO. 30 & 39)
 - 10" 90° HORIZONTAL BEND (UDACS PLATE NO. 31)
 - INSTALL END CAP & 2" BLOW-OFF ASSEMBLY (UDACS PLATE NO. 36)
 - 10" TEE (UDACS PLATE NO. 31)
 - SEPTIC REQUIREMENTS (UDACS SEC. 4-9, FIGURE 1)



WATER MAIN JOINT DEFLECTION NOTE (PVC 4"-24")

PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MAXIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.

FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTING SHALL BE USED.

FIRE FLOW CALCULATIONS

FIRE FLOW REQUIREMENT IS 1500 GPM @ 20 PSI RESIDUAL.

BASED ON:
SQUARE FOOTAGE: 7,500 SQ. FT.
OF STORIES/FLOORS: 1-2
HEIGHT: 35-FT
SPRINKLER SYSTEM: YES
ANTICIPATED FIRE SPRINKLER FLOW DEMAND: 31 GPM

IF THE ANTICIPATED FIRE FLOW IS INSUFFICIENT, AND HOMES EXCEED THE DECLARED SQUARE FOOTAGE NOTED ABOVE, A NFPA 13D SPRINKLER SYSTEM SHALL BE REQUIRED.

NUMBER OF HYDRANTS PROVIDED: 2

- UTILITY NOTES**
- ALL WATER FACILITIES CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS" (UDACS), LATEST EDITION.
 - FIRE, WATER, AND SEWER SERVICES, AS APPROVED ON THIS PLAN, ARE INTENDED SPECIFICALLY FOR THE LOT AND USE SHOWN, AND ARE NOT INTENDED TO SERVICE ADDITIONAL PARCELS OR STRUCTURES WHICH MAY BE CREATED IN THE FUTURE. IN THE EVENT THAT THE PARCELS AND/OR LOTS SHOWN ON THIS PLAN ARE FURTHER DIVIDED TO CREATE ADDITIONAL PARCELS OR LOTS, THE OWNER IS REQUIRED TO PROVIDE SEPARATE FIRE, WATER, & SEWER SERVICES TO EACH.
 - WATER AND SEWER LATERALS SHALL BE INSTALLED A MINIMUM OF 48" APART IN SEPARATE TRENCHES. WATER LATERALS SHALL BE A MINIMUM OF 12" ABOVE THE SEWER LATERAL. (REF. UNIFORM PLUMBING CODE)
 - LOCATOR RIBBON SHALL BE USED FOR ALL SERVICE LATERALS NOT PERPENDICULAR TO THE MAIN. (TYPICAL)
 - ALL SEWER/STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF "UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS" (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
 - ALL WORK TO BE PERFORMED OUTSIDE OF THE PROJECT BOUNDARY AND ON PRIVATE PROPERTY SHALL NOT BE PERFORMED UNTIL WRITTEN PERMISSION AND EASEMENTS HAVE BEEN OBTAINED FROM THE OFFSITE OWNER AND GIVEN TO CLARK COUNTY.
 - ALL ONSITE STREETS AND DRAINAGE EASEMENTS ARE TO BE PRIVATELY OWNED AND MAINTAINED.
 - INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING. (UDACS PLT 15.)
 - 3' MIN. HORIZONTAL CLEARANCE REQUIRED BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.02.
 - 12" MIN. VERTICAL CLEARANCE REQUIRED BETWEEN WATER MAINS AND DRY UTILITIES AND 6" MIN. BETWEEN WATER LATERALS AND DRY UTILITIES PER UDACS SECTION 2.04.06.

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BENCHMARK

CITY OF LAS VEGAS BENCHMARK - MONUMENT ID NUMBER 9LV007N4
RIVET & PLATE IN TOP OF CURB AT SE CORNER OF ALEXANDER & GRAND CANYON
ELEVATION 792.842 METERS / 2601.16 FEET (NAVEB8)

ACCEPTANCE OF PLANS

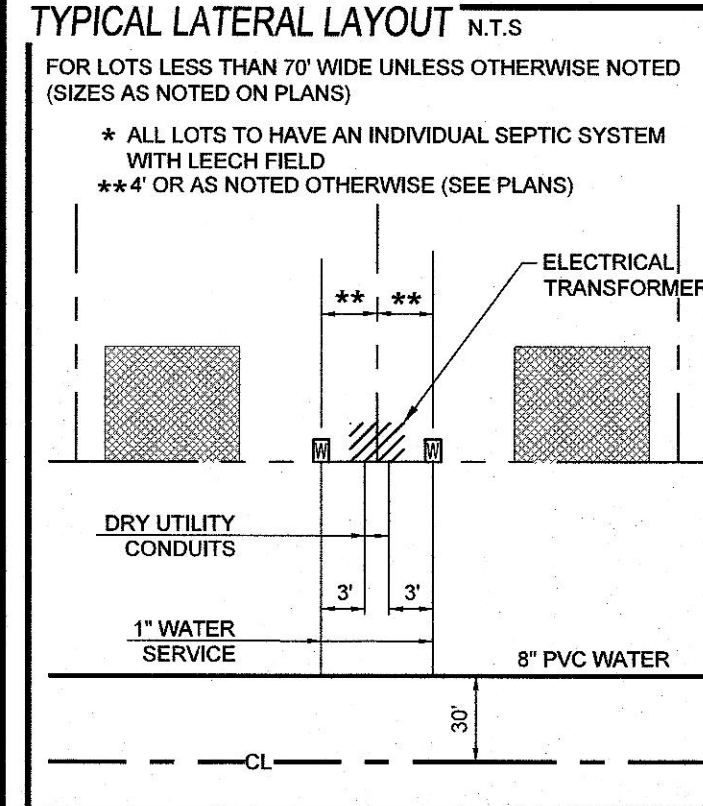
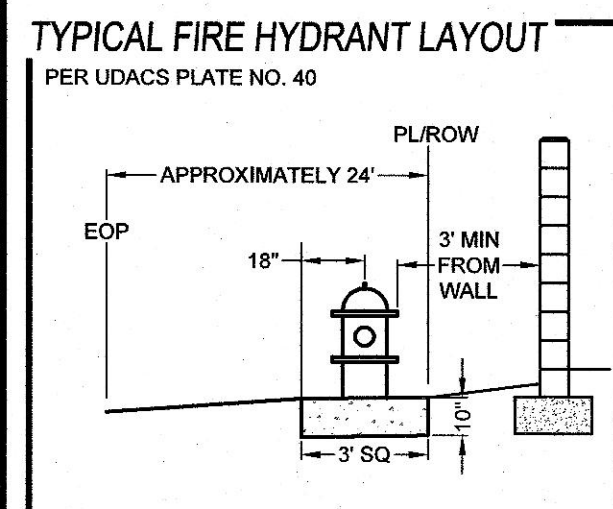
SOUTHWEST GAS CORPORATION _____ DATE _____

APPROVED FOR CONSTRUCTION _____

CITY OF LAS VEGAS FIRE DEPARTMENT

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW = 1500 G.P.M. AT 20 PSI RESIDUAL.

DATE _____



- PROCEDURES TO RELOCATE A CORROSION TEST STATION**
- CONTACT LVVWD INSPECTIONS AT 702-258-7171. PRIOR TO START FOR PRE-TEST.
 - THE LEADS THAT ARE CONNECTED TO THE PIPE REQUIRE #6 COPPER WIRE WITH A HMWPE JACKET SUCH AS RAYCHEM PERMARAD.
 - THE LEAD THAT IS CONNECTED TO THE REFERENCE CELL REQUIRES #14 COPPER WIRE WITH A HMWPE JACKET SUCH AS RAYCHEM PERMARAD.
 - CONNECT THE TWO WIRES TO BE SPliced WITH A COPPER BUTT CONNECTION USING THE PROPER CRIMPING TOOL.
 - MAKE EACH SPICE USING A 3M SCOTCHCAST RESIN SPlicing KIT.
 - RECONNECT THE TEST BOARD TO PROPER LEADS, AND PLACE THE TEST BOX AT THE NEW SITE.
 - THE TEST BOX AT THE NEW SITE WILL BE INSTALLED ACCORDING TO THE TYPICAL TEST BOX DETAIL.
 - ALL TESTS LEADS AND ANODE LEADS INSIDE THE TEST BOX SHALL BE BUNDLED TOGETHER AT 8 INCH INTERVALS WITH NYLON TIES AND SHALL BE PROVIDED WITH A MINIMUM OF 4 FEET OF BLACK TAPE.
 - ALL TEST LEADS AND ANODE LEADS SHALL BE COLOR CODED WITH COLORED TAPE AT EACH END, AND AT 4 FEET INTERVALS.
 - SCHEDULE FINAL TEST WITH LVVWD INSPECTIONS.

SEWAGE TREATMENT

SEWAGE TREATMENT FOR EACH LOT SHALL BE NITRATE REMOVAL WASTEWATER TREATMENT UNITS(S) SUBJECT TO THE STATE OF NEVADA REGULATIONS AND SUBJECT TO THE APPROVAL OF THE SOUTHERN NEVADA HEALTH DISTRICT.

PROTECT IN PLACE AND ADJUST LVVWD EXISTING FACILITIES TO FINISHED GRADE PER UDACS. ALL LVVWD FACILITIES SHALL BE ACCESSIBLE AT ALL TIMES.

CAUTION:

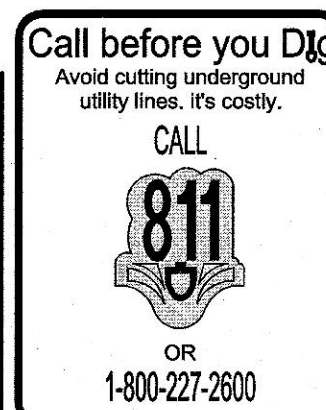
CATHODIC TEST WIRES RUN ALONG THE SIDE OF THE WATERLINE AT AN UNKNOWN DEPTH. TAKE CAUTION WHEN DIGGING.

USE OF CUT-OFF WALLS NEAR LVVWD FACILITIES

FIVE FEET MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN THE CUT-OFF WALL AND THE WATER MAIN. FOR CROSSING OVER THE PROPOSED WATER MAIN, THE MAIN MUST BE WITHIN A STEEL CASING (PER UDACS PLATE 23) SPANNING FIVE FEET ON EITHER SIDE OF THE CUTOFF WALL, AND VERTICAL SEPARATION OF NO LESS THAN ONE FOOT BETWEEN TOP OF CASING AND BOTTOM OF THE WALL. IF THE MAIN IS EXISTING, A MINIMUM OF ONE FOOT VERTICALLY IS REQUIRED AND CLSM I BETWEEN THE TOP OF THE MAIN AND THE BOTTOM OF THE CUTOFF WALL.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT# 136476 FIRST APPROVED DATE:
LVVWD APPROVED FIRE FLOW: 1500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 31 GPM



Call before you Dig

811
OR
1-800-227-2600

Call before you Dig

1-702-227-2929

REVISIONS		NO.		DESCRIPTION		BY		SHTS.		APPR.		DATE	

TEMPLETON DEVELOPMENT CORP.
3311 S. RAINBOW BLVD STE 235
LAS VEGAS, NV 89146
(702) 875-6700 FAX

JANEY ENGINEERING
8000 S. JONES BOULEVARD
LAS VEGAS, NV 89118
(702) 362-5884 FAX: (702) 362-5233

EST. 2000

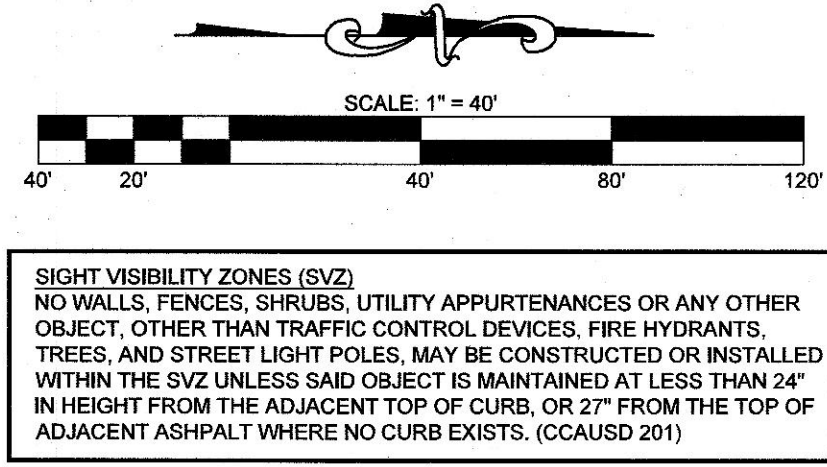
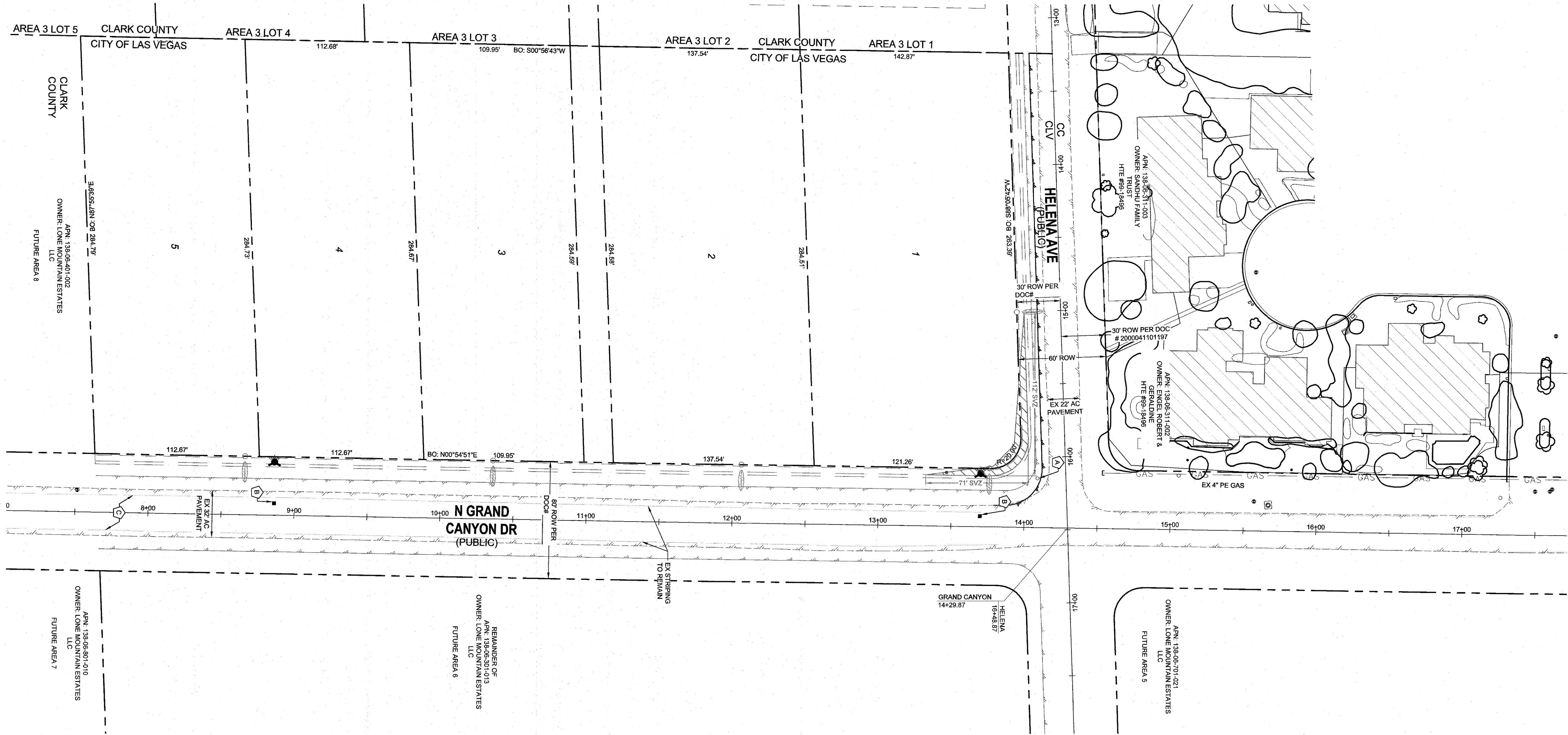
**LONE MOUNTAIN ESTATES AREA 4
SINGLE-FAMILY RESIDENTIAL**

UTILITY PLAN

UT1

8 OF 9

CLV 0000000



CONSTRUCTION NOTES

- A EXISTING R1-1 "STOP" SIGN & D-3 STREET NAME SIGNS
- B BLUE COLORED REFLECTIVE RAISED PAVEMENT MARKERS

Call before you Dig
Avoid cutting underground utility lines, it's costly.

CALL
811
OR
1-800-227-2600

Avoid overhead power line contact, it's costly.

Call before you Overhead
1-702-227-2929

TRAFFIC SIGN LEGEND

R1-1 "STOP" SIGN
30" X 30"

D-3 "STREET NAME" SIGN
9" X VARIES"

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BENCHMARK

CITY OF LAS VEGAS BENCHMARK - MONUMENT ID NUMBER SILV007N4
RIVET & PLATE IN TOP OF CURB AT SE CORNER OF ALEXANDER & GRAND CANYON
ELEVATION 792.942 METERS / 2601.18 FEET (NAVE88)

APPROVED FOR CONSTRUCTION

CITY OF LAS VEGAS FIRE DEPARTMENT
APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW = 1500 G.P.M. AT 20 PSI RESIDUAL.

TEMPLETON DEVELOPMENT CORP.			
3311 S. RAINBOW BLVD STE 225 LAS VEGAS, NV 89146 (702) 873-5700 FAX: (702) 873-5700			
LONE MOUNTAIN ESTATES AREA 4 SINGLE-FAMILY RESIDENTIAL			
TRAFFIC PLAN			
DATE:	7/10/2019		
SCALE:	1"=40'		
JOB NO:	LMT-18-001		
DESIGNED BY:	NB	CHECKED BY:	RC
SHEET NAME:	TR1		
SHEET NUMBER:	9	OF	9
CLV	0000000		