



TECHINICAL DRAINAGE STUDY UPDATE NO.2

Skye Canyon Parcel 2.10

MARCH 2022

PREPARED FOR:

Century Communities
Las Vegas, Nevada

Stanley Okey Amadi, P.E., CFM

Digitally signed by Stanley Okey
Amadi, P.E., CFM
DN: C=US,
E=Stanley.amadi@westwoodps.com,
O=Westwood PS, CN="Stanley Okey
Amadi, P.E., CFM"
Date: 2022.03.07 12:02:29-05'00'

PREPARED BY:

Westwood

Skye Canyon Parcel 2.10

Technical Drainage Study Update No.2

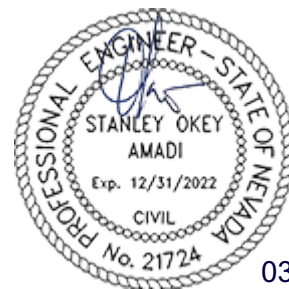
City of Las Vegas, Nevada

Prepared For:

Century Communities
6345 S. Jones Boulevard, Suite 400
Las Vegas, Nevada 89118
Phone: (702) 873-5338

Prepared By:

Westwood Professional Services
5725 W. Badura Avenue, Suite 100
Las Vegas, NV 89118
Phone: (702) 284-5300
Fax: (702) 284-5339



03/07/22

Project Number: CEN1909.000
Date: March 2022

Stanley Okey Amadi, P.E., CFM
NV Professional Engineer No. 21724

March 03, 2022

Albert Sung, P.E.
Engineering Associated
City of Las Vegas
495 S. Main Street
Las Vegas, NV 89101

Re: Update No.2 to the Technical Drainage Study for Skye Canyon Parcel 2.10

Dear Mr. Sung:

This letter certifies that all items provided on the Update No.2 to the Technical Drainage Study for Skye Canyon Parcel 2.10 submittal CD match the paper version bound into the study.

Please contact me if you have any questions.

Respectfully Submitted,

WESTWOOD PROFESSIONAL SERVICES



Phil Koerschner
Graduate Engineer – Water Resource Service

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Skye Canyon Parcel 2.10 - TDS Update No.2 Date: March 2022
 Location of Development: a) Descriptive (Cross Streets): North/South: Shaumber Road
East/West: Skye Canyon Park Drive
 b) Section: 12 Township: 19 South Range: 59 East
 c) APN: Portion of 126-12-695-006

Name of Owner: Private Right-of-Way/Century Communities Nevada, LLC
 Telephone No.: 702-873-5338 Fax No.: 702-220-6566 E-mail Address: Paul.Kenner@centurycommunities
 Address: 6345 South Jones Boulevard Las Vegas NV 89118

Contact Person – Name: Stanley Okey Amadi, P.E., CFM Telephone No.: (702) 284-5300
 *E-mail Address: stanley.amadi@westwoodps.com Fax No.: (702) 284-5399
 Firm: Westwood Professional Services
 Address: 5725 W. Badura Ave 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: 41.30 +/- acres Being Developed/Disturbed: 0.17 +/- acres

2. Is a portion or all of the subject property located in a 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

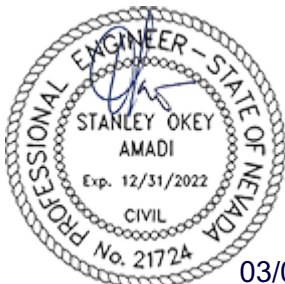
4. Proposed type of development (Residential, Commercial, Etc.): Residential

5. Approximate upstream land area which drains to the subject site: 0.10 +/- Sq.Miles

6. Has the site drainage been evaluated in the past? ☒ Yes** ☐ No If yes, please identify documentation: Technical Drainage Study for Skye Canyon Parcel 2.10 & Update 1 Study (DS 5307)

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Approved drainage pattern along Stroma Avenue
will continue and discharge north into the adjacent arroyo through storm drains at the northeast and northwest boundaries of the site.

8. Briefly describe your proposed schedule for the subject project: ASAP



Engineer's Seal

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

***Newly 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

CEN1909.000

March 03, 2022

City of Las Vegas
495 S. Main Street, 1st Floor
Las Vegas, Nevada 89101

**Subject: Technical Drainage Study Update No.2 for Skye Canyon Parcel 2.10
(DS5307)**

This letter is submitted as the Technical Drainage Study Update No.2 for Skye Canyon Parcel 2.10 (hereinafter referred to as the Update 2 Study). The Original Technical Drainage Study for Skye Canyon Parcel 2.10 was approved by the City of Las Vegas (CLV) on November 12, 2020. The Original Study addressed the site development in two phases and Phase 1 has been fully subdivided and mapped into individual residential lots, streets and common elements. A Technical Drainage Study Update for Skye Canyon Parcel 2.10 (hereinafter referred to as the Update 1 Study) was submitted to support the removal of a second driveway entry off of Skye Canyon Park Drive, addition of Lot 99A and a 30' wide Las Vegas Valley Water District Easement (LVVWD). The Update 1 Study was approved on December 07, 2020. Refer to Appendix A for the approval letters from the Original Study & the Update 1 Study.

Purpose

Since the approval of the Update 1 Study, the Fire Department has requested that a three-point turn be provided for easy maneuverability of fire trucks entering Stroma Avenue. This Update has been prepared to support the proposed revision to add a street stub within the 30-ft wide Las Vegas Valley Water District (LVVWD) Access Easement. The street stub will provide an area for a three-point turn as the Fire Department.

Hydrology

No revision to the approved hydrologic analysis of the site is provided as the proposed stub street will be constructed over an area for a previously proposed driveway. The street stub will be paved with curb and gutter and access easement will be fully concrete lined which is a similar cover as the driveway being replaced. Hence, no change in land use and Curve Number is anticipated. The drainage pattern will remain the same as already approved. Therefore, a revised hydrologic analysis is not necessary.

Street Hydraulics

Although, a portion of the curb and gutter along Stroma Avenue will be removed from the design to accommodate the proposed street stub, the flow path and street slope will continue east as originally designed. The street stub will comprise of a roll curb and gutter which will flow around the stubbed extension to convey any nuisance flows caught in the gutter and maintain the approved drainage pattern. Therefore, a revision to the street hydraulics is not necessary and has not been provided. Hydraulic Section 3G was utilized to analyze the southern half of Stroma Avenue in the Original Study. Section 3G was analyzed with the maximum and minimum street slopes and indicates corresponding depths of 0.33-ft and 0.34-ft both of which are contained by the top-of-curb. Excerpts of the reference material from the Original Study have been included in Appendix A.

Conclusions

The addition of the proposed street stub off of Stroma Avenue within LVVWD Assess Easement is in conformance with the Original Study design and will maintain the prior approved drainage patterns. The revision will not have any negative impact to the overall project. No finished floor elevations will be impacted by this revision. The improvement plans included in the last appendix supports the conclusions and recommendations detailed in this Update. If you have any questions or require additional information, please do not hesitate to contact us at (702) 284-5300.

Respectfully Submitted,
WESTWOOD PROFESSIONAL SERVICES



Stanley Okey Amadi, P.E., CFM
Project Manager - Water Resources Department

Pc: Mark Failla, P.E., CFM – Westwood PS
Michael Fang, P.E. – Westwood PS
Chelsea Jensen – Westwood PS

List of Appendices

- Appendix A Reference Material**
Technical Drainage Study for Skye Canyon Parcel 2.10
(DS5307)
- Approval Letter
 - Referenced Hydraulic Analyses
 - Referenced Drainage Exhibit
 - Referenced Improvement Plans (with clouded revisions)
- Appendix B Reference Material**
Technical Drainage Study Update for Skye Canyon Parcel 2.10
(DS5307C)
- Approval Letter
 - Referenced Report Excerpt
 - Referenced Improvement Plans (with clouded revisions)
- Appendix C CD of Electronic Files & Improvement Plans Sheets**

APPENDIX A

Reference Material

Technical Drainage Study for Skye Canyon Parcel 2.10
(DS5307)

CITY OF LAS VEGAS			DATE:
INTER-OFFICE MEMORANDUM			November 12, 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:		COPIES TO:
	Skye Canyon Parcel 2.10		Westwood Professional Services
Cross Streets:	Shaumber Rd & Skye Canyon Park Dr		Century Communities
File Number:	F:\Depot\DSMemos\DS05307B.doc		Bart Anderson, P.E., DevCo
Parcel Number:	126-12-610-002		
Zoning Action:	TMP-78708, MOD078707		
FEMA Flood Zone	YES	NO X	
Proposed Storm Drain	YES X	NO	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	7/29/2020	8/20/2020	See Comments Below	\$400.00	3931436: \$400
2 nd Submittal	10/13/2020	11/12/2020	Approved	\$400.00	4030978: \$400
			TOTAL FEES (LDDRS):	\$800.00	----

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.

1. All storm drain inlets that are more than 10'-deep (e.g. SDDI #6) require a special structural detail and calculations. Submit structural design and calculations to City Building & Safety Department for review and approval prior to the final approval of the drainage study.
2. Provide section callouts for Lots 308 and 335 to show solid grouted walls along the adjacent streets. Include TC grades along the adjacent street to verify extents of flood protection.
3. Provide a cross section detail across the public drainage easement proposed in the northeast corner of the site.
4. Public drainage easements, including access control, shall be constructed per CCAUSD 425.S1.

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: T19S/R59E/S12

AREA F-12

Worksheet for Section 3G (Half Street - Min %)

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope 4.67 %
Discharge 5.00 ft³/s
Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.38
0+00.36	0.38
0+01.33	0.06
0+01.33	0.00
0+02.50	0.13
0+02.50	0.17
0+18.00	0.48

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.38)	(0+02.50, 0.13)	0.013
(0+02.50, 0.13)	(0+18.00, 0.48)	0.016

Options

Current Roughness Weighted Method Pavlovskii's Method
Open Channel Weighting Method Pavlovskii's Method
Closed Channel Weighting Method Pavlovskii's Method

Results

Normal Depth 0.33 ft
Elevation Range 0.00 to 0.48 ft
Flow Area 1.08 ft²
Wetted Perimeter 10.24 ft
Hydraulic Radius 0.11 ft

Worksheet for Section 3G (Half Street - Min %)

Results

Top Width	10.09	ft
Normal Depth	0.33	ft
Critical Depth	0.43	ft
Critical Slope	0.00666	ft/ft
Velocity	4.63	ft/s
Velocity Head	0.33	ft
Specific Energy	0.67	ft
Froude Number	2.50	
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
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.33	ft
Critical Depth	0.43	ft
Channel Slope	4.67	%
Critical Slope	0.00666	ft/ft

Cross Section for Section 3G (Half Street - Min %)

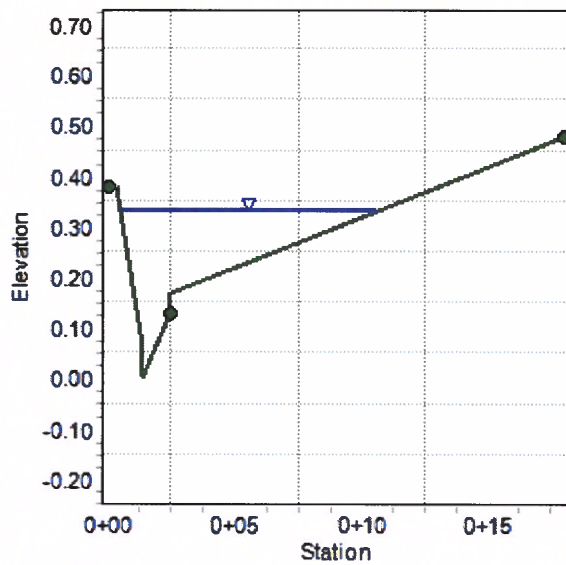
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	4.67	%
Normal Depth	0.33	ft
Discharge	5.00	ft ³ /s

Cross Section Image



Project Description

Manning Formula

Normal Depth

Input Data

5.67 %

5.00 ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.38
0+00.36	0.38
0+01.33	0.06
0+01.33	0.00
0+02.50	0.13
0+02.50	0.17
0+18.00	0.48

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.38)	(0+02.50, 0.13)	0.013
(0+02.50, 0.13)	(0+18.00, 0.48)	0.016

Options

Pavlovskii's Method

Pavlovskii's Method

Pavlovskii's Method

Results

0.32 ft

0.00 to 0.48 ft

1.00 ft²

9.81 ft

0.10 ft

Worksheet for Section 3G (Half Street - Max %)

Results

Top Width	9.66	ft
Normal Depth	0.32	ft
Critical Depth	0.43	ft
Critical Slope	0.00665	ft/ft
Velocity	5.00	ft/s
Velocity Head	0.39	ft
Specific Energy	0.71	ft
Froude Number	2.74	
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
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.32	ft
Critical Depth	0.43	ft
Channel Slope	5.67	%
Critical Slope	0.00665	ft/ft

Cross Section for Section 3G (Half Street - Max %)

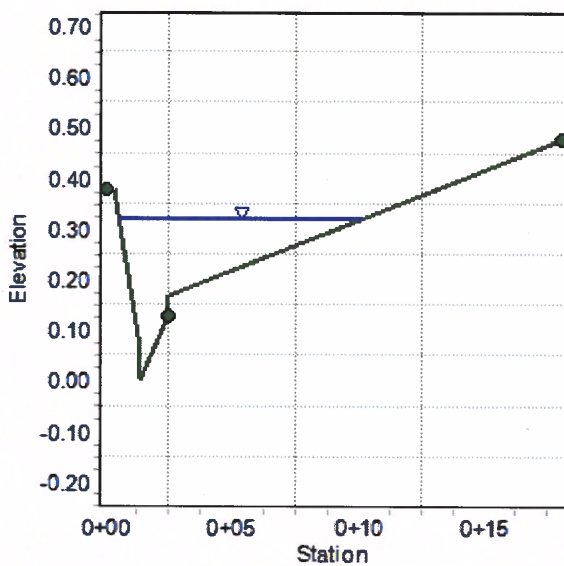
Project Description

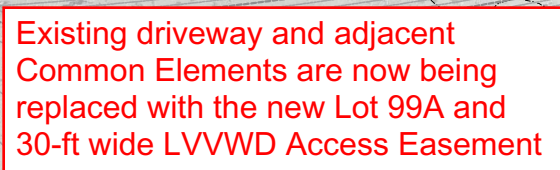
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

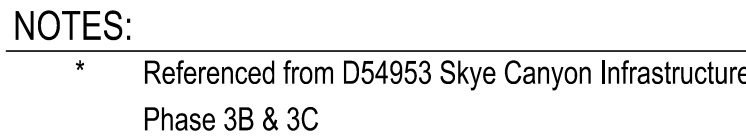
Channel Slope	5.67	%
Normal Depth	0.32	ft
Discharge	5.00	ft ³ /s

Cross Section Image



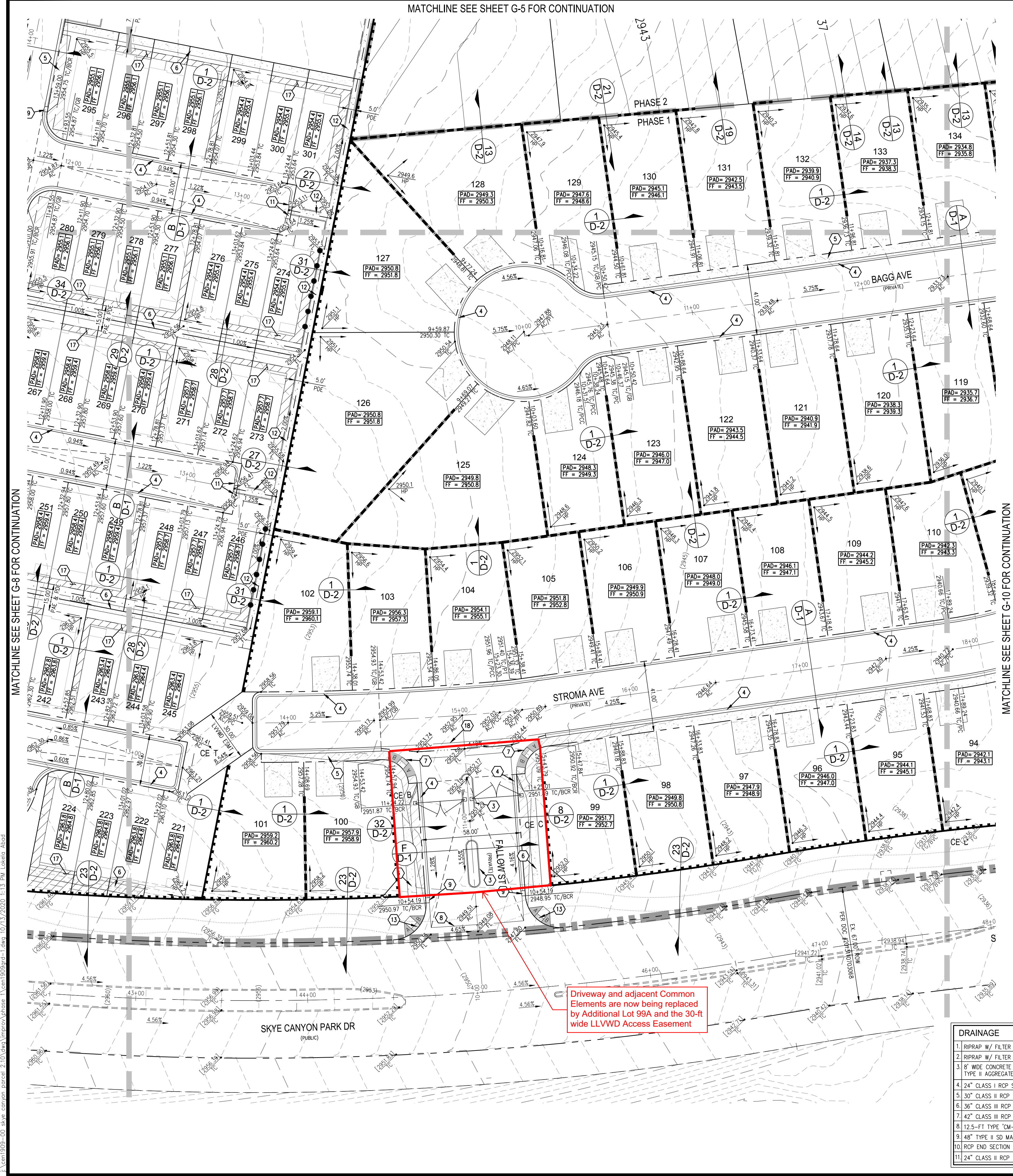


Sections 3G & 7* are referenced to assess the finished floor elevation of the new Lot 99A



Ultimate Condition Flow Rate Summary			
Basin/Concentration Point ID	Area (ac)	Q ₁₀ (cfs)	Q ₁₀₀ (cfs)
ON1	8.5	12	26
ON2	30.0	41	88
STR3*	2.4	5	9

Q = ON1 (A) + STR3* (A)+ ON1 (c)	15.0	2.00	0.41	3.69	1.51
3G Q = ON2(G)	5.0	4.25	0.34	4.48	1.52
		5.25	0.33	4.85	1.60



SOILS REPORT

SOILS REPORT BY GEOTEK RESIDENTIAL, LLC

PROJECT NO. 12203.3BC-LVR DATED 07/01/2020

EARTHWORKS

EARTHWORK QUANTITIES (RAW):
CUT= 191,540 CU YDS
FILL= 54,402 CU YDS

EXPORTED MATERIAL TO BE DISPOSED OF AT AN APPROVED LICENSED DISPOSAL FACILITY OR AT A SITE WITH AN APPROVED AND ACTIVE GRADING PERMIT.

DISCLAIMER NOTE

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

2) FOR ROADWAY WIDENING AND HALF STREET IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT SAWCUT LINE TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIP OF CURB PRIOR TO SUBGRADE PREPARATION AND CONSTRUCTION OF PROPOSED CURB LINE. IF MINIMUM OR MAXIMUM CROSS SLOPES DO NOT MEET AGENCY STANDARDS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.

2. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.

3. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.

4. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.

5. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.

6. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.

7. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLETING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.

8. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.

LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

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 ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.

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 IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE 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 CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.

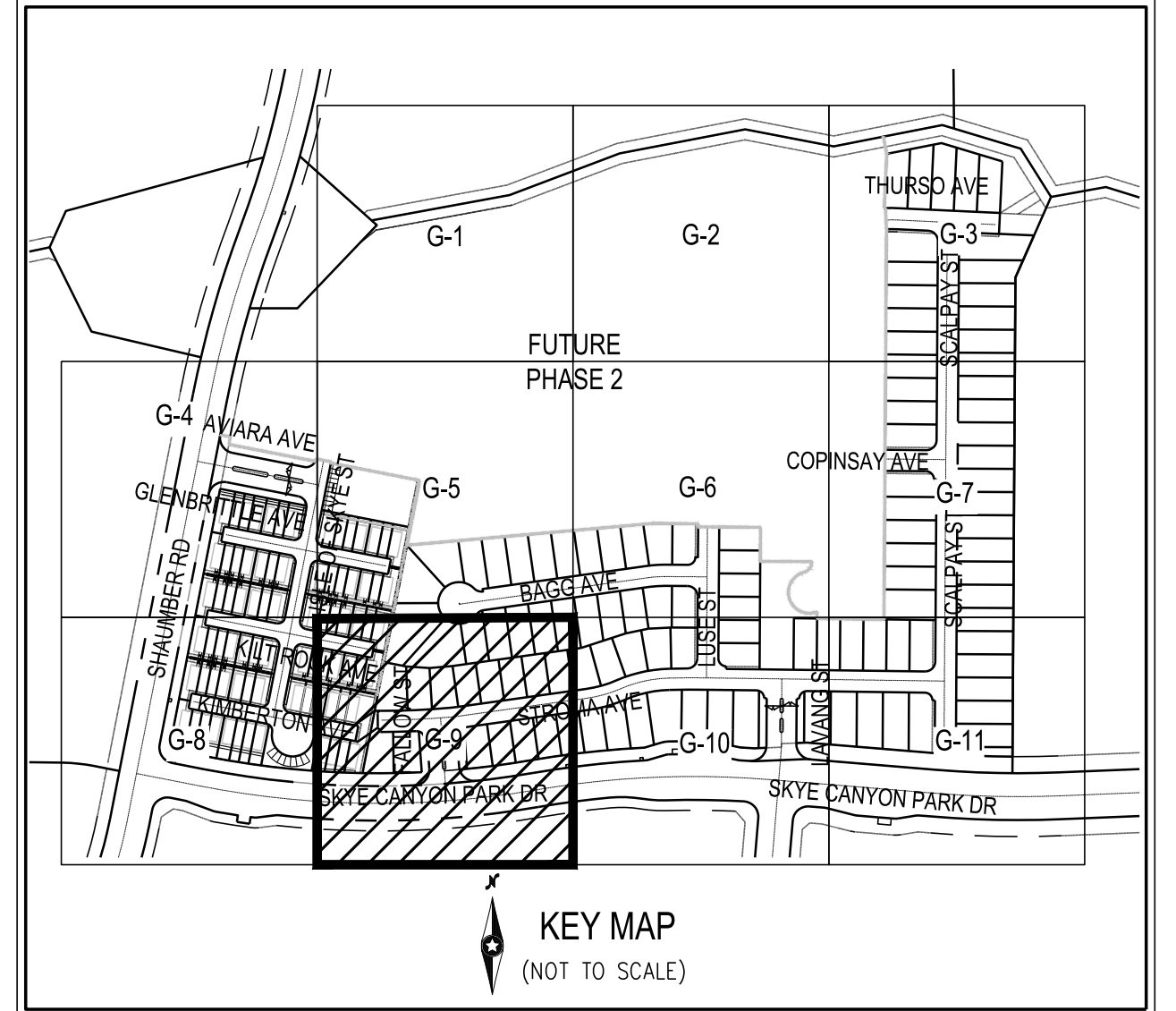
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPs WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.

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.

FLOOD ZONE

THE PROJECT SITE IS NOT LOCATED WITHIN A FEMA DESIGNATED ZONE X (UNSHADED) AS DEPICTED ON FLOOD INSURANCE RATE MAP (FIRM) PANEL 3200307750E, DATED SEPTEMBER 27, 2002. A ZONE X (UNSHADED) IS DESCRIBED AS AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

DRAINAGE	PRIVATE	PUBLIC
1) RIPRAP W/ FILTER FABRIC D50=8", THK=16"	SF 1,145	-
2) RIPRAP W/ FILTER FABRIC D50=12", THK=24"	SF 300	-
3) 8" WIDE CONCRETE VALLEY GUTTER W/10" TYPE II AGGREGATE BASE	SF 7,675	-
4) 24" CLASS I RCP STORM DRAIN	LF -	8
5) 30" CLASS II RCP STORM DRAIN	LF -	192
6) 36" CLASS III RCP STORM DRAIN	LF -	63
7) 42" CLASS III RCP STORM DRAIN	LF -	75
8) 12.5-FT TYPE "CM-2" DROP INLET	EA -	2
9) 48" TYPE II SD MANHOLE	EA -	2
10) RCP END SECTION	EA -	2
11) 24" CLASS I RCP STORM DRAIN	LF -	56



CONSTRUCTION NOTES

1) INSTALL ASPHALT PAVEMENT (SEE DETAILS FOR SECTION)

2) CONSTRUCT 24" "L" TYPE CURB PER CCAUSD NO. 216

3) CONSTRUCT "A" TYPE CURB PER CCAUSD NO. 219

4) CONSTRUCT 30" MOD. ROLL TYPE CURB PER CCAUSD NO. 217.1

5) CONSTRUCT 5-FT WIDE SIDEWALK PER CCAUSD NO. 234 (5" THICK W/ 5" TYPE II AGGREGATE BASE)

6) CONSTRUCT 5-FT WIDE SIDEWALK PER CCAUSD NO. 234 (4" THICK W/ 5" TYPE II AGGREGATE BASE)

7) CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES PER CCAUSD NO. 235, CASE I

8) CONSTRUCT 8-FT VALLEY GUTTER PER CCAUSD NO. 228

9) CONSTRUCT 3-FT TRANSITION FROM MODIFIED ROLLED CURB TO "L" TYPE CURB PER DETAIL 40 ON SHEET D-3

10) INSTALL RIP RAP W/ 6" TYPE II GRANULAR BEDDING WITH FILTER FABRIC D50=8", T=16"

11) INSTALL 30" ROLL CURB TO DEPRESSED CURB TRANSITION PER DETAIL 41 SHEET D-3

12) CONSTRUCT 4-FT CONCRETE U-CHANNEL PER DETAIL 43 ON SHEET D-3

13) CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES PER CCAUSD NO. 235, CASE II

14) INSTALL 6-FT HIGH TUBULAR STEEL FENCE PER DETAIL 47 ON SHEET D-3

15) INSTALL RIP RAP W/ 6" TYPE II GRANULAR BEDDING WITH FILTER FABRIC D50=12", T=24"

16) INSTALL L-CURB OPENING PER DETAIL 44 ON SHEET D-3

17) PUBLIC DRAINAGE EASEMENT TO BE PRIVATELY MAINTAINED BY HOA FOR CROSS-LOT DRAINAGE

18) CONSTRUCT MODIFIED 8-FT VALLEY GUTTER PER DETAIL 42 ON SHEET D-3

STORM DRAIN CONSTRUCTION NOTES

50) INSTALL 24" CLASS I RCP STORM DRAIN

52) INSTALL 30" CLASS II RCP STORM DRAIN

53) INSTALL 36" CLASS III RCP STORM DRAIN

54) INSTALL 42" CLASS III RCP STORM DRAIN

55) INSTALL 12.5-FT TYPE "CM2" DROP INLET PER CCAUSD 403

56) INSTALL 48" TYPE II SD MANHOLE PER CCAUSD 405.2

57) INSTALL RCP SD END SECTION PER DETAIL 45 ON SHEET D-3 (NOD STD DWG. R-2.31)

59) INSTALL 24" CLASS II RCP STORM DRAIN

PRIVATE STREET NOTE

ALL PRIVATE STREETS ARE P.U.E., PUBLIC SEWER EASEMENTS, AND PUBLIC DRAINAGE EASEMENTS TO BE PRIVATELY MAINTAINED BY HOA

SURVEY NOTE

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

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS 5307 ON FILE AT CITY OF LAS VEGAS FOR THE SUBJECT PROJECT.

10/13/2020 DATE

KEVIN M. BROSS, P.E. 245720

Westwood

5740 S. Anville Street
Suite 216
Las Vegas, NV 89118

Phone (702) 284-5300
Fax (702) 284-5399

westwoodps.com
Westwood Professional Services, Inc.

CITY OF LAS VEGAS, NV

CENTURY COMMUNITIES

SKYE CANYON 2.10 - PHASE 1

GRADING PLAN IX

DATE: 10/7/20

DRAFTER: LBA

DESIGNER: LBA

CHECKED: KMB

PROJECT NO. CEN1909

PROFESSIONAL ENGINEER - STATE OF NEVADA

KEVIN M. BROSS

Exp. 12/31/2020

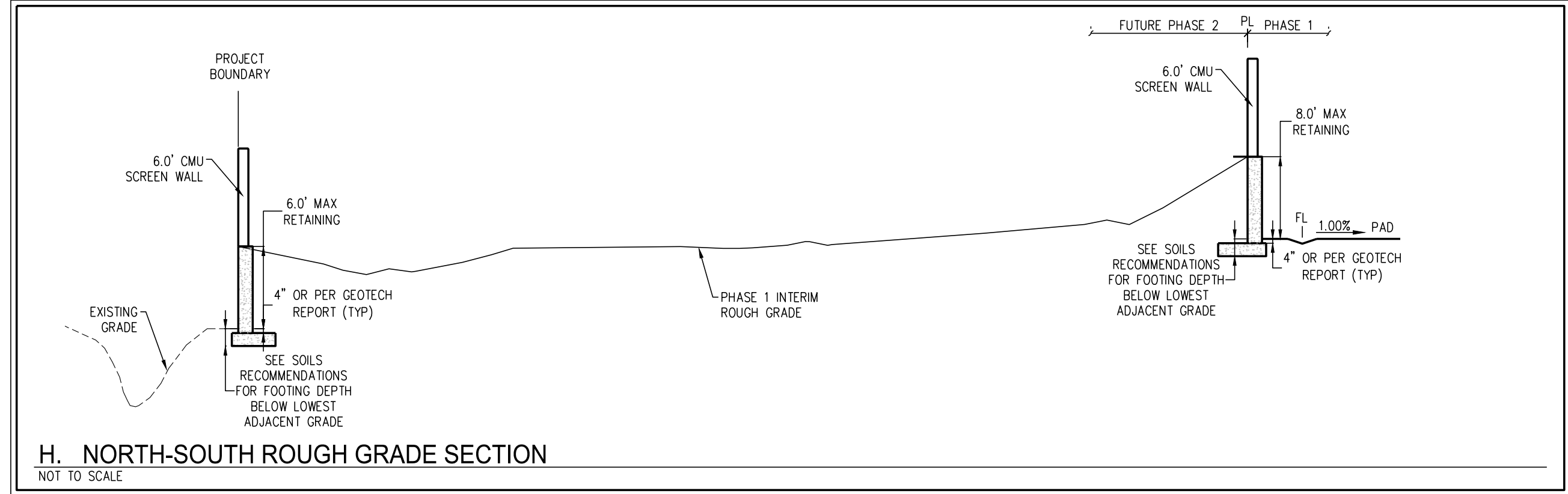
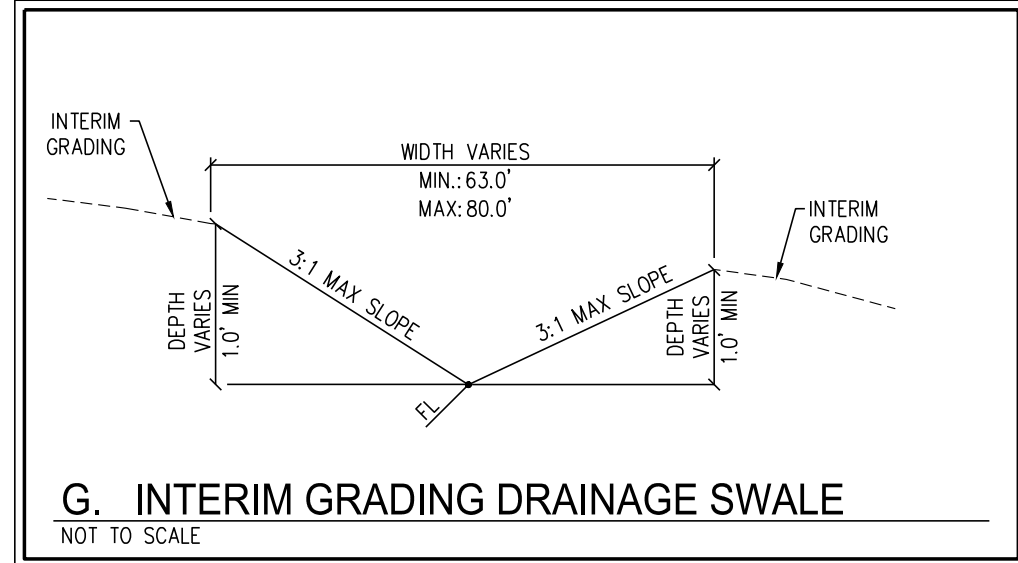
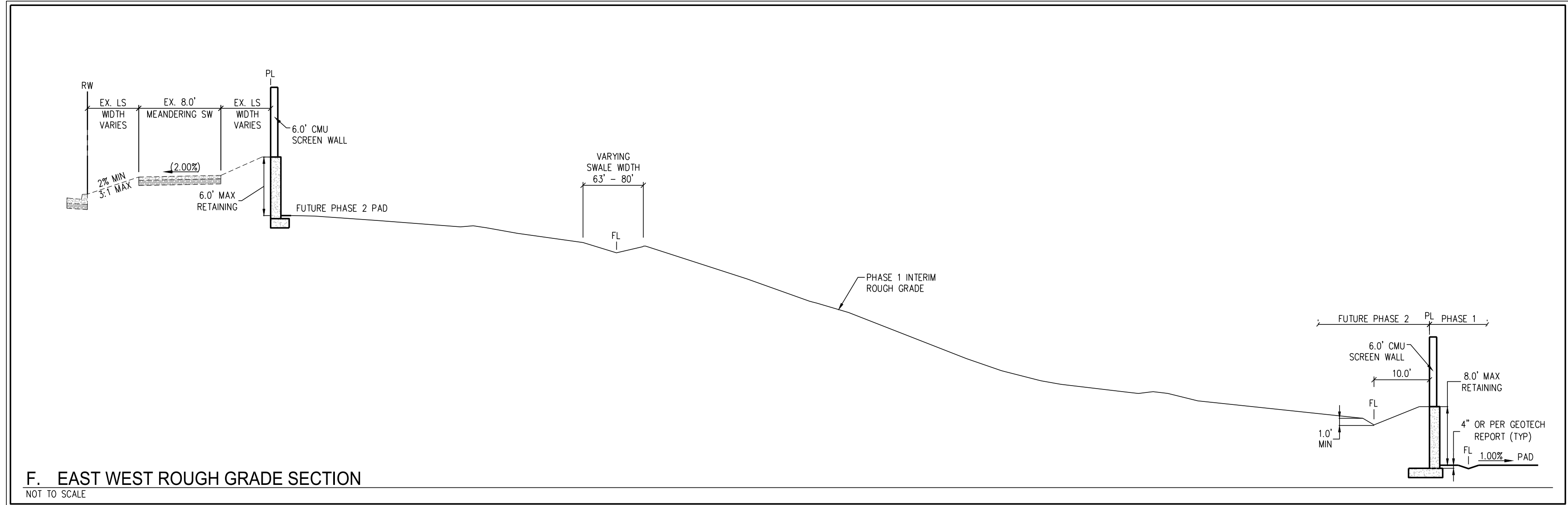
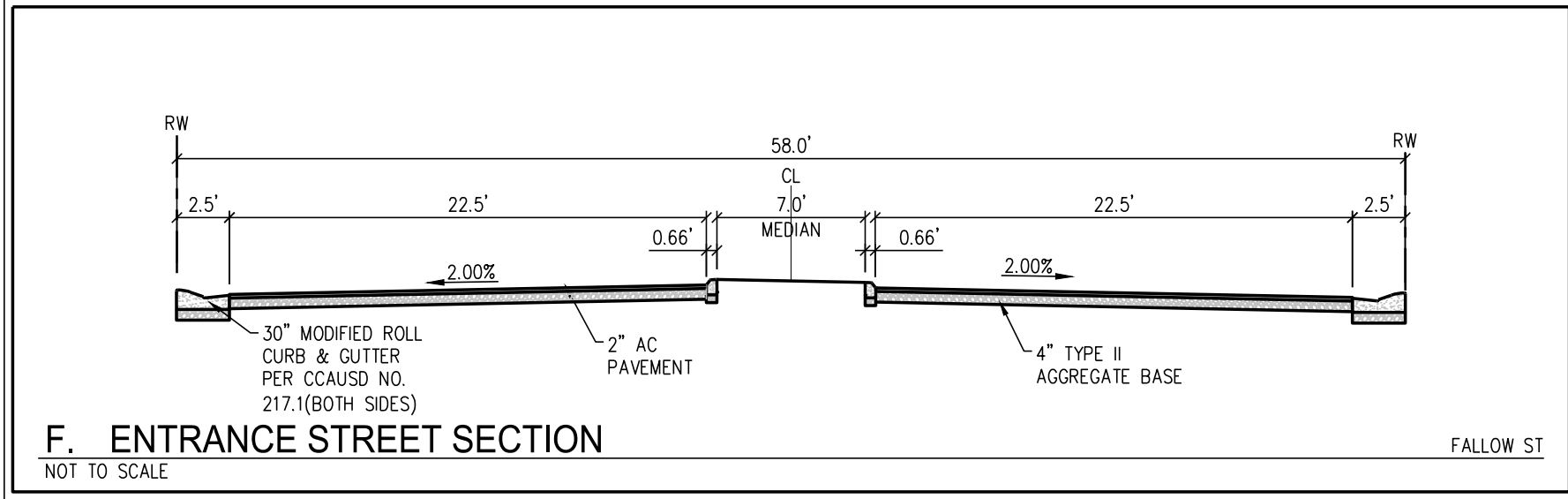
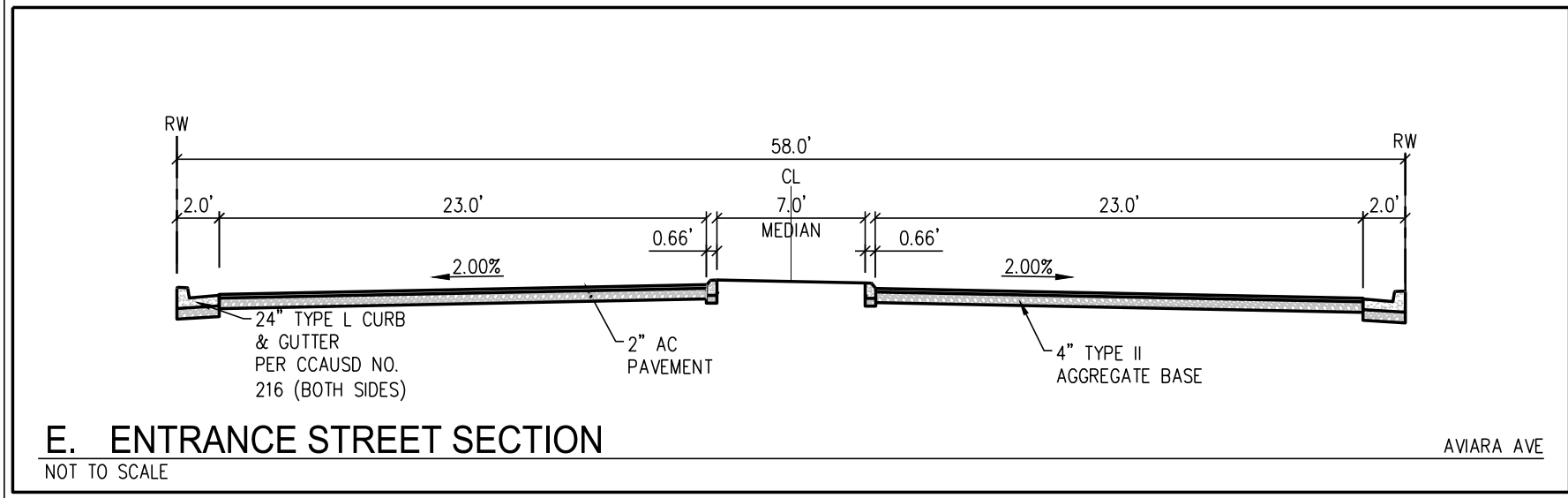
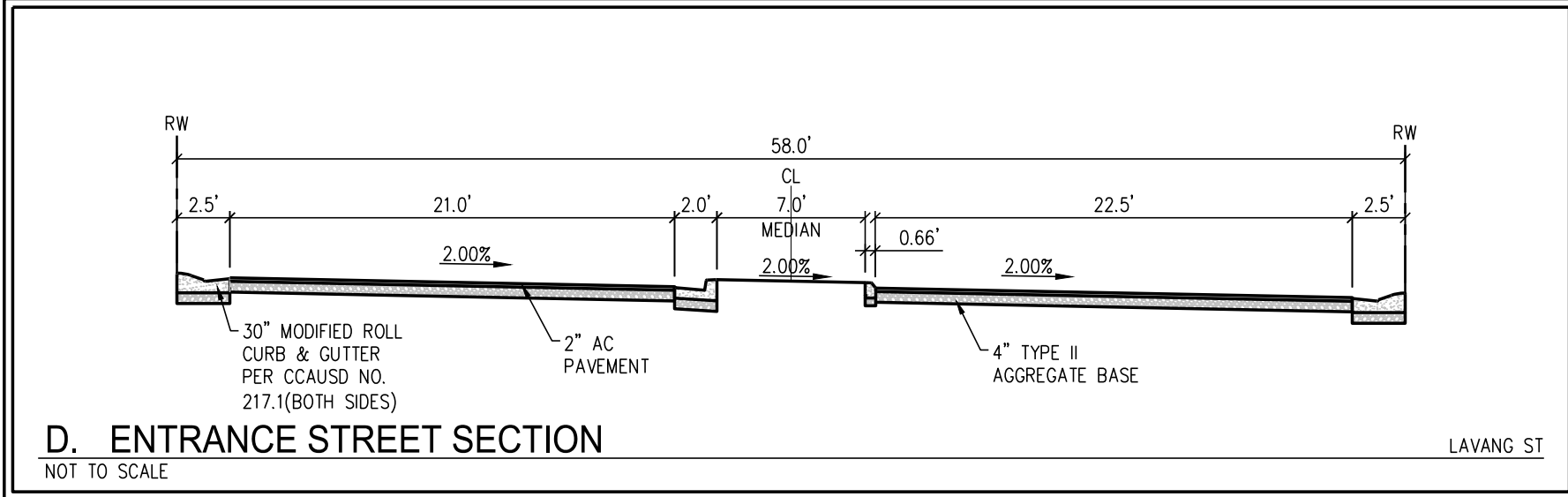
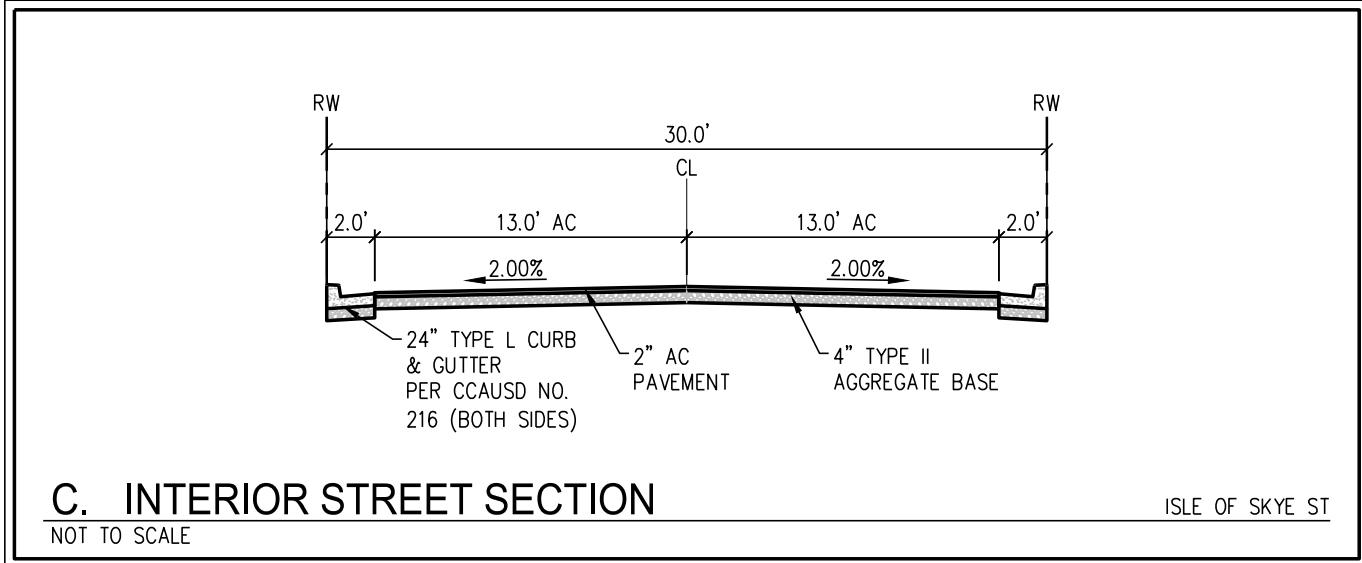
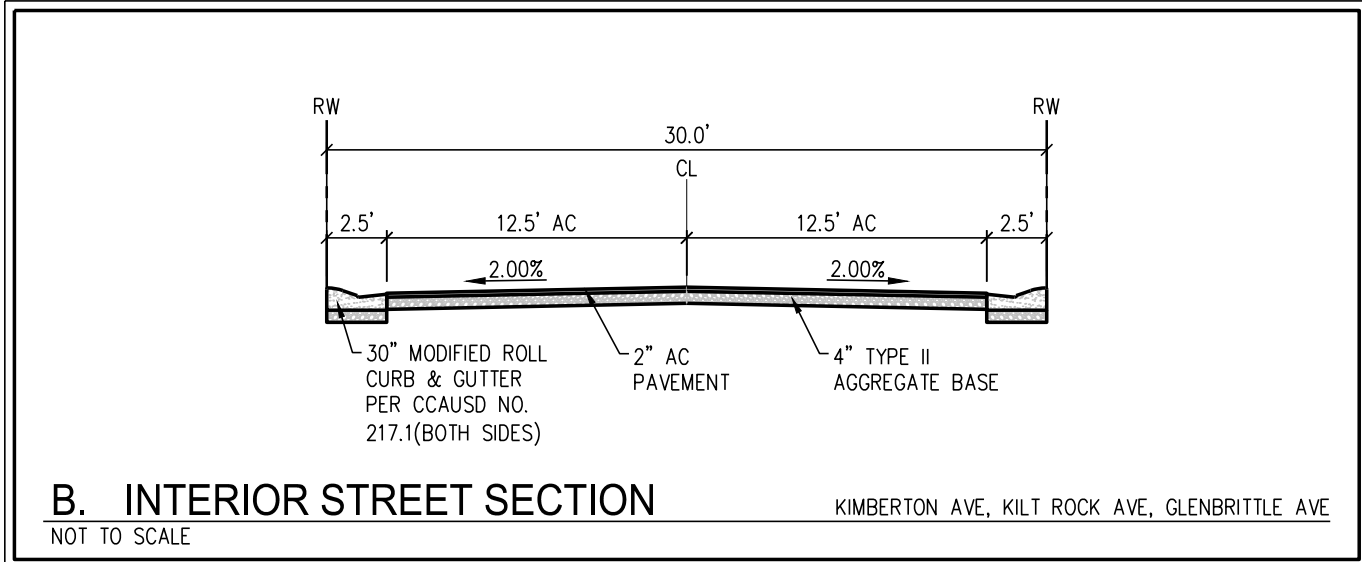
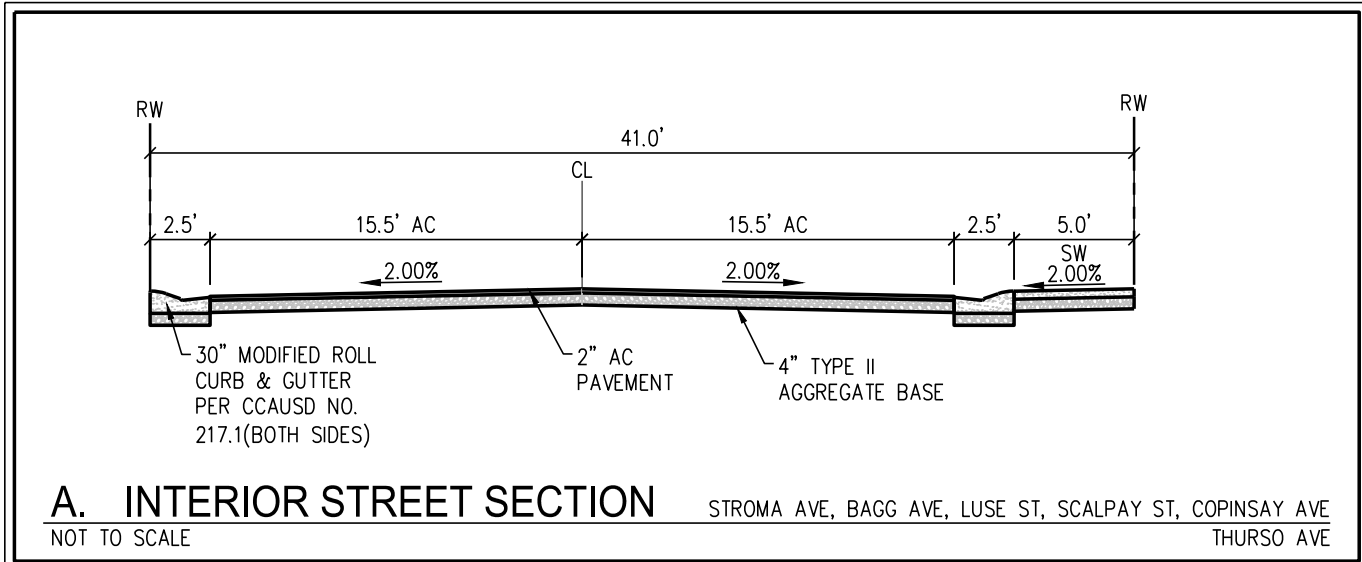
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10/13/2020

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Westwood

5740 S. Anville Street
Suite 216
Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

DATE: 10/7/20
BY: LBA
APP: KMB

DESCRIPTION: SKYE CANYON 2.10 - PHASE 1
NO. 1

CITY OF LAS VEGAS, NV

CENTURY COMMUNITIES

**SKYE CANYON 2.10 - PHASE 1
DETAIL SHEET I**

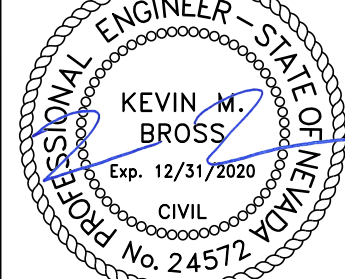
DATE: 10/7/20

DRAFTER: LBA

DESIGNER: LBA

CHECKED: KMB

PROJECT NO. CEN1909



D-1
SHEET 15 OF 19

APPENDIX B

Reference Material

**Technical Drainage Study Update for Skye Canyon Parcel 2.10
(DS05307C)**



TECHINICAL DRAINAGE STUDY UPDATE

Skye Canyon

Parcel 2.10

OCTOBER 2021

PREPARED FOR:
Century Communities
Las Vegas, Nevada

PREPARED BY:
Westwood

CITY OF LAS VEGAS			DATE:
INTER-OFFICE MEMORANDUM			December 7, 2020
TO: Land Development Services Department of Building & Safety			FROM: Albert Sung, P.E. Flood Control, Engr. Associate Department of Public Works
SUBJECT:	Drainage Study for:		COPIES TO:
	Skye Canyon Parcel 2.10		Westwood Professional Services
Cross Streets:	Shaumber Rd & Skye Canyon Park Dr		Century Communities
File Number:	F:\Depot\DSMemos\DS05307C.doc		Bart Anderson, P.E., DevCo
Parcel Number:	126-12-695-006		
Zoning Action:	TMP-78708, MOD078707		
FEMA Flood Zone	YES	NO X	
Proposed Storm Drain	YES X	NO	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	7/29/2020	8/20/2020	See Comments Below	\$400.00	3931436: \$400
2 nd Submittal	10/13/2020	11/12/2020	Approved	\$400.00	4030978: \$400
3 rd Submittal	11/02/2021	12/02/2021	Approved	\$100.00	4526321: \$100
			TOTAL FEES (LDDRS):	\$900.00	----

REMARKS:

3rd Submittal: Update #1 to remove one subdivision entrance, add a lot (Lot 99A) and add a 30' LVVWD and access easement.

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

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

1. All storm drain inlets that are more than 10'-deep (e.g. SDDI #6) require a special structural detail and calculations. Submit structural design and calculations to City Building & Safety Department for review and approval prior to the final approval of the drainage study.
2. Provide section callouts for Lots 308 and 335 to show solid grouted walls along the adjacent streets. Include TC grades along the adjacent street to verify extents of flood protection.
3. Provide a cross section detail across the public drainage easement proposed in the northeast corner of the site.
4. Public drainage easements, including access control, shall be constructed per CCAUSD 425.S1.

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
AYS/NW

T/R/S: T19S/R59E/S12
AREA F-12

Skye Canyon Parcel 2.10

Technical Drainage Study Update City of Las Vegas, Nevada

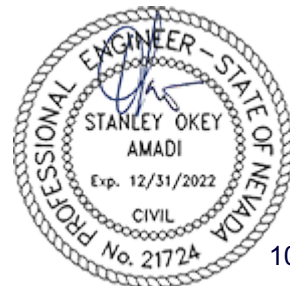
Prepared For:

Century Communities
6345 S. Jones Boulevard, Suite 400
Las Vegas, Nevada 89118
Phone: (702) 873-5338

Prepared By:

Westwood Professional Services
5725 W. Badura Avenue, Suite 100
Las Vegas, NV 89118
Phone: (702) 284-5300
Fax: (702) 284-5339

Project Number: CEN1909.000
Date: October 2021



10/28/21

Stanley Okey Amadi, P.E., CFM
NV Professional Engineer No. 21724
Assisted by: Kevin Hurtado

CEN1909.000

October 28, 2021

City of Las Vegas
495 S. Main Street, 1st Floor
Las Vegas, Nevada 89101

**Subject: Technical Drainage Study Update for Skye Canyon Parcel 2.10
(DS5307)**

This memorandum is being submitted as the Technical Drainage Study Update for Skye Canyon Parcel 2.10 (hereinafter referred to as the Update Study). The Original Technical Drainage Study for Skye Canyon Parcel 2.10 was approved by the City of Las Vegas (CLV) on November 12, 2020. The site is located at the northeast corner of the intersection of Shaumber Road and Skye Canyon Park Drive. The Original Study addressed the site development in two phases and Phase 1 has been fully subdivided and mapped into individual residential lots, streets and common elements. within an area identified as Highlands Ranch in the southwest portion of the Las Vegas Valley. Refer to Appendix A for the approval letter to the Original Study.

Purpose

This Update has been prepared to support the proposed plan revisions to eliminate the westernmost (second) driveway entrance to the site from Skye Canyon Park Drive and replace the driveway with an additional lot (Lot 99A) and a 30-ft wide Las Vegas Valley Water District (LVVWD) Access Easement. The Tentative Map for the site is currently being revised to incorporate the new lot per 21-06000 TMP currently under review. The update study will demonstrate that the finished floor elevation of the new lot will be protected from the 100-year storm event.

Hydrology

No revision to the approved hydrologic analysis of the site is provided as the proposed lot and easement addition will be constructed over an area for a previously proposed driveway. The easement will be fully concrete lined which is a similar cover as the driveway being replaced. The proposed new lot size is same as those already approved; hence, no change in land use and Curve Number is anticipated. Therefore, a revised hydrologic analysis is not necessary.

Street Sections & Finished Floor Evaluation

The new Lot 99A and the access easement are located between Lots 99 and 100 and fronts the interior street; Stroma Avenue while the rear of the lot is adjacent to Skye Canyon Park Drive.

Hydraulic Section 3G for the southern half of Stroma Avenue and referenced perimeter street Section 7 for Skye Canyon Park Drive have been utilized to evaluate the finished floor elevation of Lot 99A. Section 3G was analyzed with the maximum and minimum street slopes and indicates corresponding depths of 0.33-ft and 0.34-ft both of which are contained by the top-of-curb.

Likewise, the flow depth from Section 7 is 0.35-ft which is also contained by the top-of-curb in Skye Canyon Park Drive. The finished floor elevation of Lot 99A is elevated to more twice above the 100-year flow depth in both the interior and perimeter streets. Therefore, the finished floor is adequately protected. The finished floor analyses summary tables for Lots 99, 99A & 100 have

been provided in Appendix B. Excerpts of the reference material from the Original Study have been included in Appendix A.

Conclusions

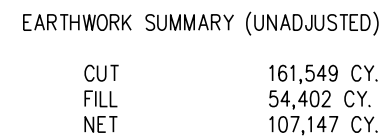
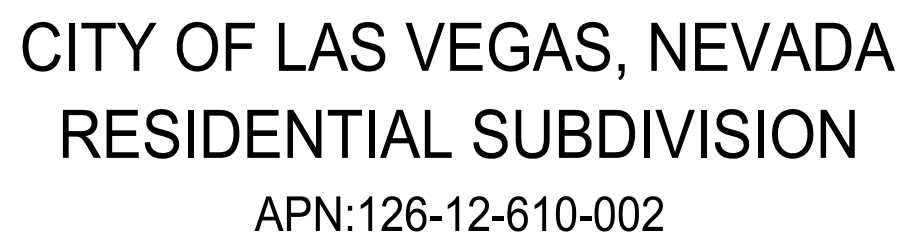
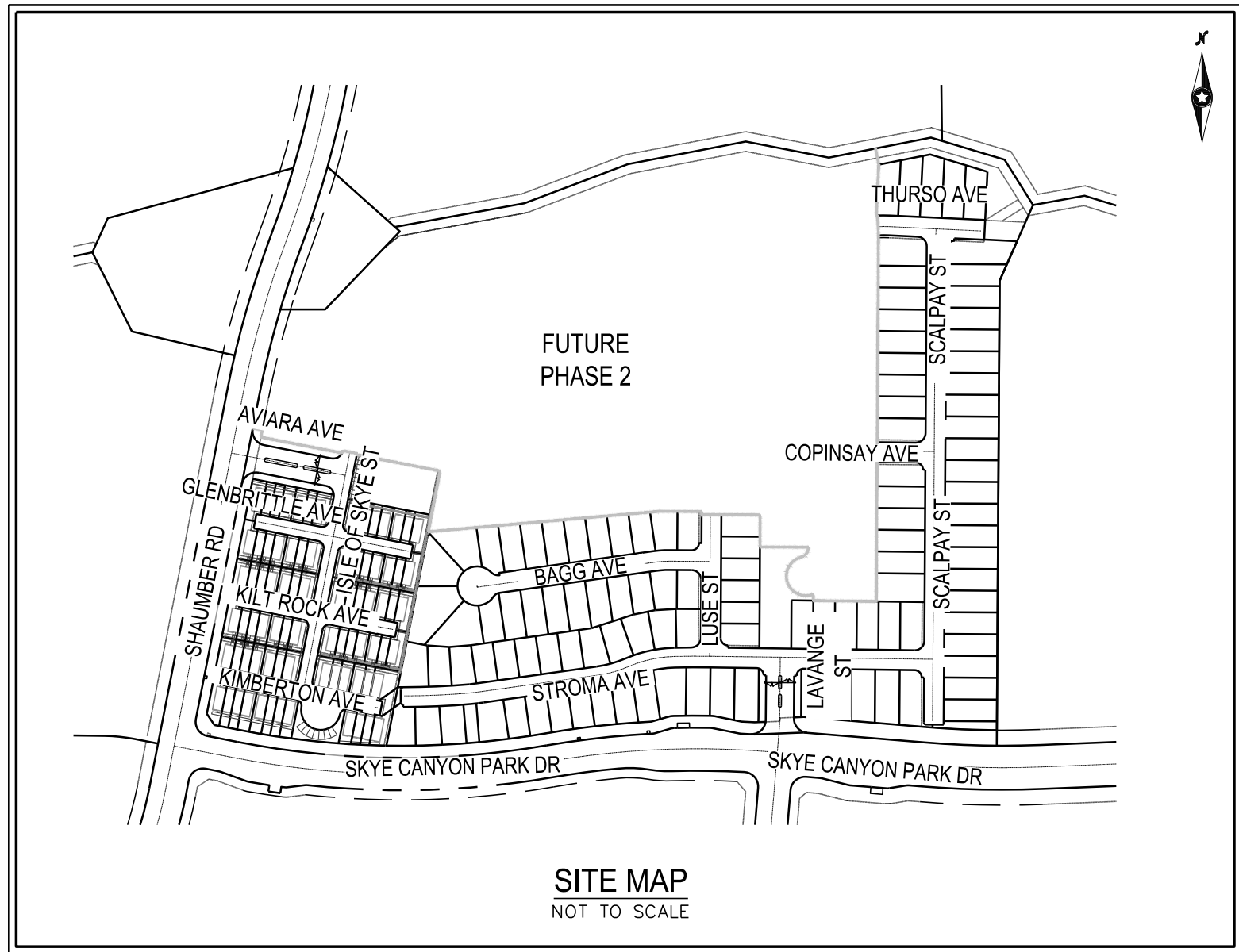
The addition of Lot 99A and adjacent LVVWD easement will not have any negative impact to the overall project. The finished floor of Lot 99A have been designed to meet the local and CCRFCD criteria stipulated in the HCDDM. The improvement plans included in the last appendix supports the conclusions and recommendations detailed in this Update. If you have any questions or require additional information, please do not hesitate to contact us at (702) 284-5300.

Respectfully Submitted,
WESTWOOD PROFESSIONAL SERVICES



Stanley Okey Amadi, P.E., CFM
Project Manager - Water Resources Department

Pc: Mark Failla, P.E., CFM – Westwood PS
Michael Fang, P.E. – Westwood PS
Chelsea Jensen – Westwood PS



ACREAGE (GROSS):	= 16.75 AC
ACREAGE (NET):	= 16.75 AC
DENSITY (LOTS/GROSS ACRE):	= 6.57 DU/AC
ZONING:	= T-D
TOTAL NO. OF SFR LOTS	= 110
TOTAL NO. OF COMMON ELEMENTS *	= 10
MINIMUM LOT SIZE	= 3600 SF±
MAXIMUM LOT SIZE	= 8,934 SF±
PROVIDED OPEN SPACE	= 74,237 SF±

ACREAGE (GROSS):	= 5.80 AC
ACREAGE (NET):	= 5.80 AC
ACREAGE (LOTS/GROSS ACRE):	= 13.97 DU/AC
ZONING:	= T-D
TOTAL NO. OF TOWNHOUSES	= 81
TOTAL NO. OF COMMON ELEMENTS *	= 6
MINIMUM LOT SIZE	= 1,417 SF±
MAXIMUM LOT SIZE	= 3,533 SF±
PROVIDED OPEN SPACE	= 47,637 SF±

NON

NOTE: ALL LAND SURFACE AREA DISTURBANCES OVER 1 ACRE REQUIRE A STORMWATER DISCHARGE PERMIT ISSUED BY THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP). A PHASED CONSTRUCTION UNIT IN A CONTIGUOUS SUBDIVISION IS CONSIDERED UNDER CONSTRUCTION UNTIL ALL STRIPPED SURFACE AREAS HAVE BEEN COVERED BY PAVING, BUILDING CONSTRUCTION OR PLANTING. A STORMWATER DISCHARGE PERMIT APPLICATION AND ASSOCIATED INFORMATION MAY BE DOWNLOADED FROM THE WEB SITE: [HTTP://WWW.STATE.NV.US/BWPC/STORM01.HTM](http://www.state.nv.us/bwpc/storm01.htm) PROJECTS THAT DISTURB MORE THAN ONE ACRE OF LAND MUST SUBMIT TO NDEP A "NOTICE OF INTENT" FOR INCLUSION UNDER STORMWATER PERMIT NO. NVRI000000 ALONG WITH THE APPROPRIATE FILING FEE.

PREPARED BY: GEOTEK RESIDENTIAL, LLC
ADDRESS: 6835 SOUTH ESCONDIDO STREET, SUITE B LAS VEGAS, NEVADA 89119
PHONE: (702) 897-1424 PROJECT No. 12203.3BC-LVR
DATED: 07/01/2020

- 3.4 * HYDRANT SPACING REQUIREMENTS WILL BE AS PER PRESCRIBED ADOPTED CODE
4. MINIMUM STREET WIDTHS AS DESCRIBED WITHIN GATED PRIVATE COMMUNITY INTERIOR STREETS AS FOLLOWS:
 - A. 24' WITH NO PARKING ON EITHER SIDE MEASURED TO FACE OF CURB.
 - B. 32' WITH PARKING FOR PARKING ON BOTH SIDES MEASURED TO FACE OF CURB.
- 7.5 REDUCED FIRE FLOW REQUIRED FOR COMMUNITIES ENTIRELY PROTECTED BY FIRE SPRINKLERS FROM 1,500 GPM TO 1,000 GPM FOR RESIDENCES LESS THAN 3,000 SF.
- 9.0 SIDEWALK REQUIRED ON ONE SIDE OF INTERIOR PRIVATE GATED STREETS IN COMPLIANCE WITH ONE OF THE ABOVE STREET SECTIONS REFERENCED TO IN ITEM #4.
11. SPRINKLER INSTALLATION REQUIREMENTS WILL FOLLOW THE BASE NFPA 130 REQUIREMENTS FOR SUCH LOCATIONS.
- 14.1 CITY OF LAS VEGAS AGREES THAT FOR SINGLE FAMILY DWELLINGS PROVIDED WITH FIRE SPRINKLERS, THERE WILL BE NO ADDITIONAL FEE FOR THE FIRE SPRINKLER REVIEW, PERMIT OR INSPECTIONS.
- 15.4 PLANS FOR RESIDENTIAL FIRE SPRINKLERS WILL BE PART OF THE STANDARD. PLANS WILL BE REQUIRED FOR SINGLE FAMILY DWELLING TRACT OR PRODUCTION HOME.
- 17.0 NO NET INCREASE IN ENTERPRISE FUND FOR IMPLEMENTING THE INSTALLATIONS OF FIRE SPRINKLER SYSTEMS WITHIN SINGLE FAMILY DWELLING TRACT OR PRODUCTION HOMES.
- 18.1 * HYDRANT SPACING REQUIREMENT AT "ALL INTERSECTIONS": MINIMUM SPACING AND REQUIRED LOCATIONS WILL BE IN ACCORDANCE WITH ADOPTED CODE.
- 19.1 ITEMS REFLECTED WITHIN THIS MOU FOR ALL PROJECTS PERMITTED WILL BE PERMITTED FOR THE YEAR OF ADOPTION OF 2018 INTERNATIONAL FIRE RESIDENTIAL CODE AS THE CODE OF RECORD, OR EFFECTIVE DATE OF THE TITLE CITY CHARTER, WHICHEVER IS LATER.
- 20.1 STREET LIGHTS ON PRIVATE STREETS WITHIN SINGLE FAMILY SUBDIVISIONS SHALL NOT BE REQUIRED.

A PORTION OF SECTION 12, TOWNSHIP 19 SOUTH, RANGE 59 EAST,
M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA

BENCHMARK NUMBER: USDA1934

U.S. DEPARTMENT OF AGRICULTURE BRASS DISC AT THE SOUTHWEST CORNER OF U.S. 95 AND KYLE CANYON ROAD.

ELEVATION = 2817.61 FEET, 858.81 METERS
N.A.V.D. 88 DATUM

PER THE CITY OF LAS VEGAS VERTICAL CONTROL WEBSITE

SOUTH 00°34'18" EAST, BEING THE BEARING OF THE EAST LINE OF THE NORTHEAST QUARTER (NE1/4) OF SECTION 12, TOWNSHIP 19 SOUTH, RANGE 59 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 157, PAGE 41 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA.

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE 'X' (AREA OUTSIDE THE 500 YEAR FLOODPLAIN), PER THE FEMA FIRM PANELS 32003C1750E DATED SEPTEMBER 27, 2002



DATE	5/4/20
S12	SKYE
T19	
R59	

DATE: 5/4/21

DRAFTER: LBA

DESIGNER: LBA

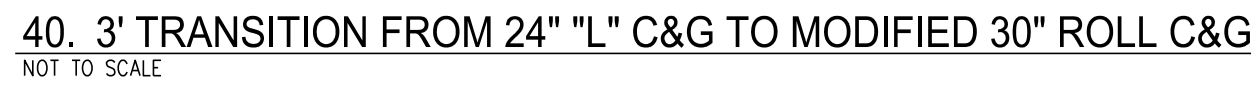
CHECKED: KMB

PROJECT NO.

CEN1909



C-1
SHEET 1 OF 60
CLV L20-02635
107Y5168



APPENDIX C

CD of Electronic Files & Improvement Plan Sheets