

DS #: 4712-1

APN: 137-27-813.002

PROJECT: Savona Phase 3 @ Summerlin V23B (Parcel CC) - Update

SUBMITTAL: 2nd Submittal

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		December 20, 2017
TO: Land Development Services Department of Building & Safety		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for:	
	Savona Phase 3 @ Summerlin V23B (Parcel CC) - Update	
Cross Streets:	NWC Desert Foothills Dr & Antelope Ridge Dr	
File Number:	F:\Depot\DSMemos\DS4712B.doc	
Parcel Number:	137-27-813-002	
Zoning Action:	TMP-54802	
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES X	NO
COPIES TO:		
		L.R. Nelson Consulting Engineers
		Woodside Homes
		Bart Anderson, P.E., DevCo

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal & Supplement	11/18/2014 & 12/8/2014	12/9/2014	Approved	\$400.00	377169: \$400
2 nd Submittal	12/12/2017	12/20/2017	Approved	\$100.00	492179: \$100
TOTAL FEES (LDDRS):				\$500.00	----

REMARKS:

2nd Submittal: Update #1 to revise the finish floor elevations of some lots

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

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

1. The final approval of this drainage study update is for *Phase 3 Improvement Plans* only.

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.

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END OF REMARKS

jkn

T/R/S: T20S/R59E/27

AREA K-27

**UPDATE TO THE
TECHNICAL DRAINAGE
STUDY FOR
SAVONA PHASE 3 @
SUMMERLIN V23B Parcel CC**

CITY OF LAS VEGAS, NEVADA

DS #4712A

Project Number: 220-016-143

December 2017

Prepared For:

Woodside Homes
4670 S. Fort Apache Road
Suite 200
Las Vegas, NV 89147
(702) 889-7800

Prepared By:

L.R. Nelson Consulting Engineers
6765 W. Russell Rd., Suite 200
Las Vegas, Nevada 89118
(702) 798-7978

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: SAVONA @ SUMMERLIN - PHASE 3 Date: Dec 11, 2017

Location of Development: a) Descriptive (Cross Streets) North/South: DESERT FOOTHILLS DRIVE

East/West: ANTELOPE RIDGE DRIVE

b) Section: 27 Township: 20 South Range: 59 East

c) APN: 137-27-813-002

Name of Owner: WOODSIDE HOMES

Telephone No.: 702-889-7824 Fax No.: _____ E-Mail Address: _____

Address: 4670 S. FORT APACHE, #200, Las Vegas, NV 89147

Contact Person-Name: James Aquino Telephone No.: 702-798-7978

* E-Mail Address: James.Aquino@lrneng.com Fax No.: 451-2296

Firm: L. R. Nelson Consulting Engineers, Inc.

Address: 6765 W. Russell Road, Suite 200, 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: 28.57 (+/-) Ac. Being Developed/Disturbed: 11.82 (+/-) Ac.

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: 10 (+/-) acres

6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: Technical Drainage Study for Savona Summerlin V23B - Phase 3, DS4712A, LR NELSON 12/14

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: MASTER PLANNED 42" STORM DRAIN SYSTEM PROVIDED IN THE SUMMERLIN VILLAGE 23B DESIGN DOCUMENTS

8. Briefly describe your proposed schedule for the subject project: As soon as possible.



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
DS4712A	
Local Entity File No.	

REFERENCE:

STANDARD FORM 1

December 11, 2017
Job No. 220016143

Mr. Albert Sung, P.E.
Flood Control Project Engineer
Department of Public Works
City of Las Vegas
333 N. Rancho Drive, 7th Floor
Las Vegas, Nevada 89107

Subject: Update to the Technical Drainage Study for Savona Phase 3 @ Summerlin V23B Parcel CC – DS#4712A

Dear Mr. Sung:

This update will serve as an up-to-date letter of the approved drainage study for Savona Phase 3 @ Summerlin V23B Parcel CC. It was noted that phase 3 was not completely build within a one-year time frame from the approval of the drainage study, and would require another update for this phase to bring the project up to current status as indicated on the City of Las Vegas Memorandum, dated December 9, 2014. The CLV memorandum has been attached to this update and highlighted for the purpose of this update.

The Phase 3 development is located within a portion of the South Half (S 1/2) of the Southeast Quarter (SE ¼) of Section 27, Township 20 South, Range 59 East, in Clark County, Nevada. The project site is situated at the northwest corner of Desert Foothills Drive and Antelope Ridge Drive. The Assessor's Parcel Number is 137-27-817-023.

Savona Phase 3 grading improvements have not changed as it was designed in the original approval of the development (Phase 1, 2 and 3). The drainage pattern and flowrates are in conformance to the approved study and supplement.

Finish floor elevations have remained the same with the exception of the follow below:

(1) Lot #	(2) Apv'd FFE (ft)	(3) Revised FFE (ft)	(4) Depth of Flow (ft)*	(5) 2 x Depth (ft)**	(6) Minimum FFE (ft)***	(5) Remark
41	3345.13	3344.93	0.61	1.22	3343.51	(3) > (6)****
57	3388.03	3387.73	0.41	0.82	3386.82	(3) > (6)****
92	3369.13	3368.83	0.33	0.66	3367.76	(3) > (6)****
93	3365.83	3365.63	0.33	0.66	3364.51	(3) > (6)****
94	3362.93	3362.73	0.33	0.66	3361.63	(3) > (6)****
98	3352.03	3351.53	0.33	0.66	3350.33	(3) > (6)****
103	3367.83	3367.43	0.33	0.66	3366.15	(3) > (6)****
120	3342.73	3343.63	0.61	1.22	3341.82	(3) > (6)****

*Referenced from the approved TDS, page 9 Section IV Hydraulic Analysis, Table 5 and Figure 7. See Appendix for referenced materials.

**Depth of Flow x 2 per CCRFCD manual

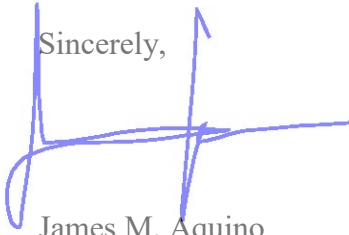
***Calculated highest upstream TC of lot plus column (5)

****If Column (3) is greater than Column (6), finish floor elevation is adequate and meets CCRFCD minimum requirement.

In result, Phase 3 of the development still remain in conformance to the approved study on file at the City of Las Vegas records. The above revised finish floor elevations are within the minimum twice the depth of flow within the interior roadway. This update meets current criteria set forth by the *Clark County Regional Flood Control District Hydrologic Criteria and Design Manual (HC&DDM)* and will not significantly impact the surrounding phases (1 and 2) of the properties. The approved grading plans/civils was signed off by the CLV on August 8, 2017 and have been provided with this submittal for your review and final approval of this update. See Appendix A, Referenced Materials/Approved Plans.

If you have any questions or comments, please do not hesitate to contact me by e-mail: James.Aquino@lrneng.com or by phone: (702) 798-7978.

Sincerely,



James M. Aquino
Project Manager

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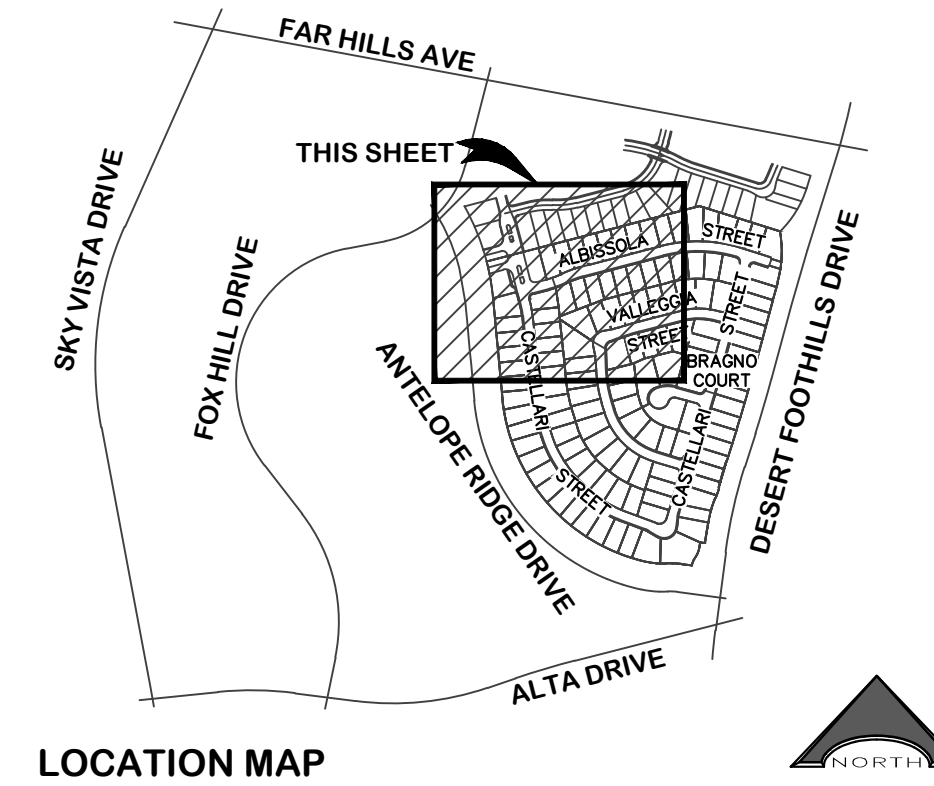
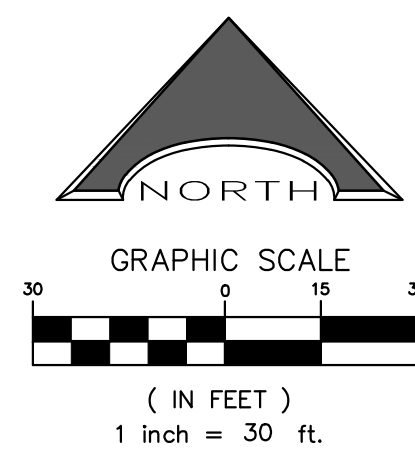
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END OF REMARKS

ays

T/R/S: T20S/R59E/27
AREA K-27



LOCATION MAP

CONSTRUCTION NOTES

1. CONSTRUCT "L" TYPE CURB & GUTTER (CCAUSD #216)
2. CONSTRUCT 4' CONCRETE SIDEWALK (CCAUSD #234)
3. CONSTRUCT 8' CROSS GUTTER (CCAUSD #228)

NOTE

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

BASIS OF BEARINGS

NORTH 15°02'07" EAST, BEING THE BEARING OF THE CENTERLINE OF DESERT FOOTHILLS DRIVE AS SHOWN ON THE PLAT OF SUMMERLIN VILLAGE 238 UNIT NO. 2, ON FILE IN THE CLARK COUNTY, NEVADA RECORDER'S OFFICE AS BOOK 145, PAGE 83 OF PLATS.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LV09 27SE6

A RIVET AND PLATE IN THE TOP OF CURB AT THE NORTHEAST CORNER OF MOUNTAIN SHADOW ROAD AND DESERT FOOTHILLS.

ELEVATION = 1013.556 METERS (3325.31 FEET) NAVD 1988.

LEGAL DESCRIPTION

PARCEL CC AS SHOWN ON THE FINAL MAP OF SUMMERLIN VILLAGE 238 UNIT NO. 2, A COMMON INTEREST COMMUNITY, ON FILE IN BOOK 145 OF PLATS, PAGE 83 LYING WITHIN SECTION 27, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.

FEMA FLOOD PLAIN INFORMATION

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ESTIMATED EARTHWORK QUANTITIES

CUT: 76,852 CY
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NET FILL: 11,130 CY

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DRAINAGE STUDY

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT. D54693.

JON H. HAYSLEIP, PE# 12584

DATE

DISCLAIMER NOTE

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

Call before you dig
Avoid cutting underground utility lines. It's costly.

1-800-227-2600
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-6000

Avoid overhead power line contact

Call before you OVERHEAD

1-702-227-2929
NEVADA POWER ENVIRONMENT AND SAFETY SERVICES DEPARTMENT

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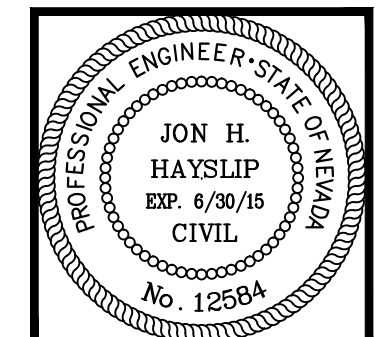
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EXHIBIT EXCERPT FROM APPROVED STUDY DATED DECEMBER 9, 2014

FINISH FLOOR ELEVATIONS REVISED PER APPROVED PLANS

SEE SHEET 5 FOR CONTINUATION

SEE SHEET 6 FOR CONTINUATION



DESIGNED BY:	MRB	DRAWN BY:	MRB	CHKD BY:	VRH
JOB NUMBER:	220-016-141	DATE:	November 2014	DATE:	November 2014
NO.		REVISION		DATE	

L. R. NELSON CONSULTING ENGINEERS, INC.

6765 West Russell Road, Suite 200
Las Vegas, Nevada 89118

(702) 798-7978
(702) 451-2296 FAX

• STRUCTURAL
• CIVIL
• PLANNING
• SURVEY



GRADING PLAN 1

PHASE 3 - SAVONA AT SUMMERLIN

IMPROVEMENT PLANS

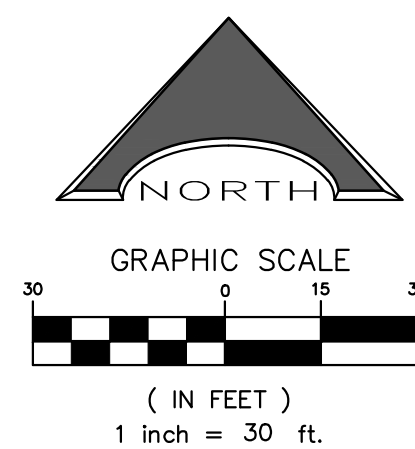
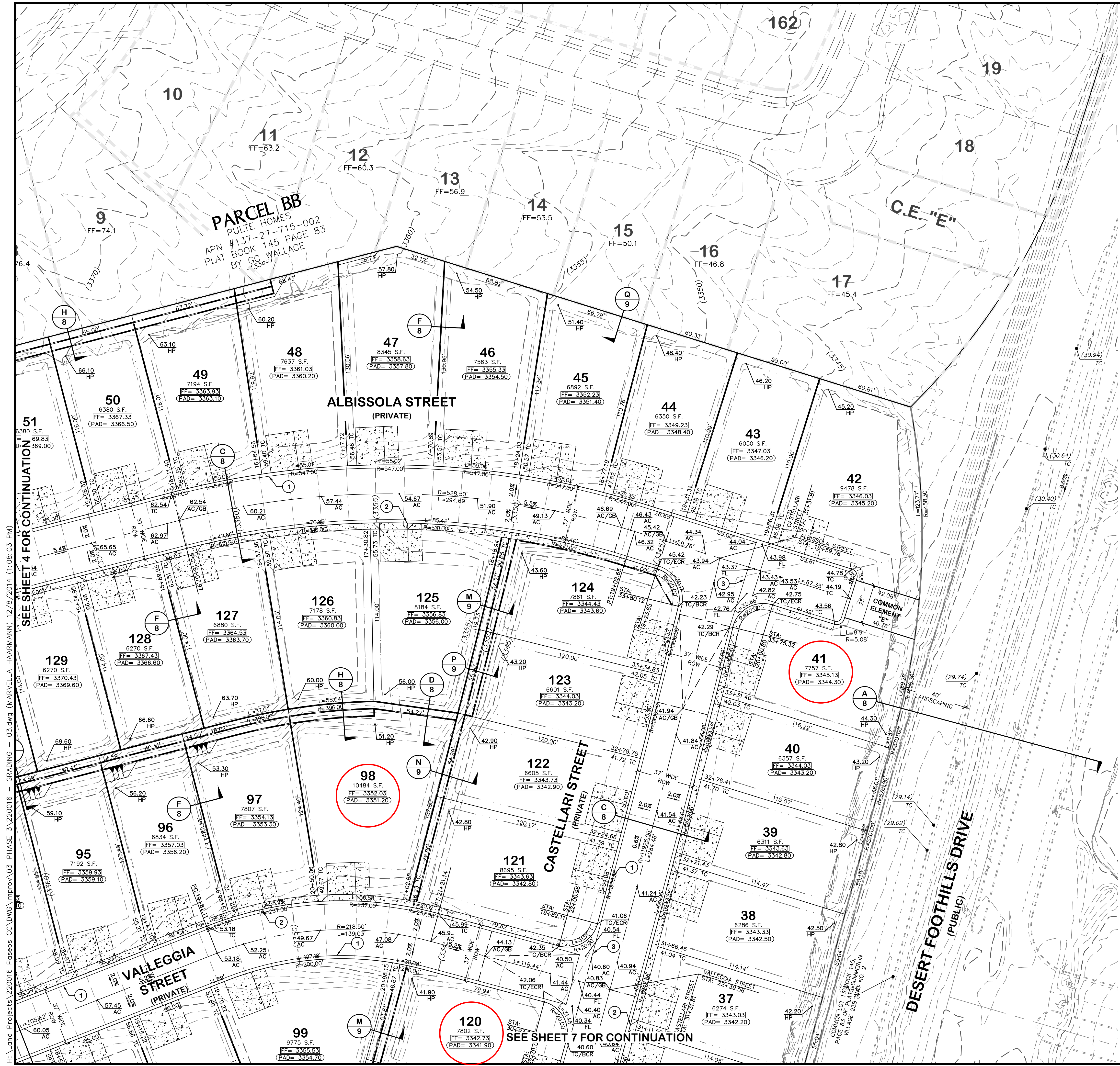
NEVADA
CITY OF LAS VEGAS

SHEET NUMBER

4

OF 17 SHEETS

CLV# --



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DRAINAGE STUDY

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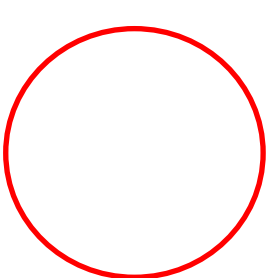
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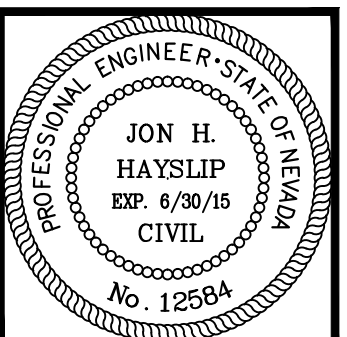
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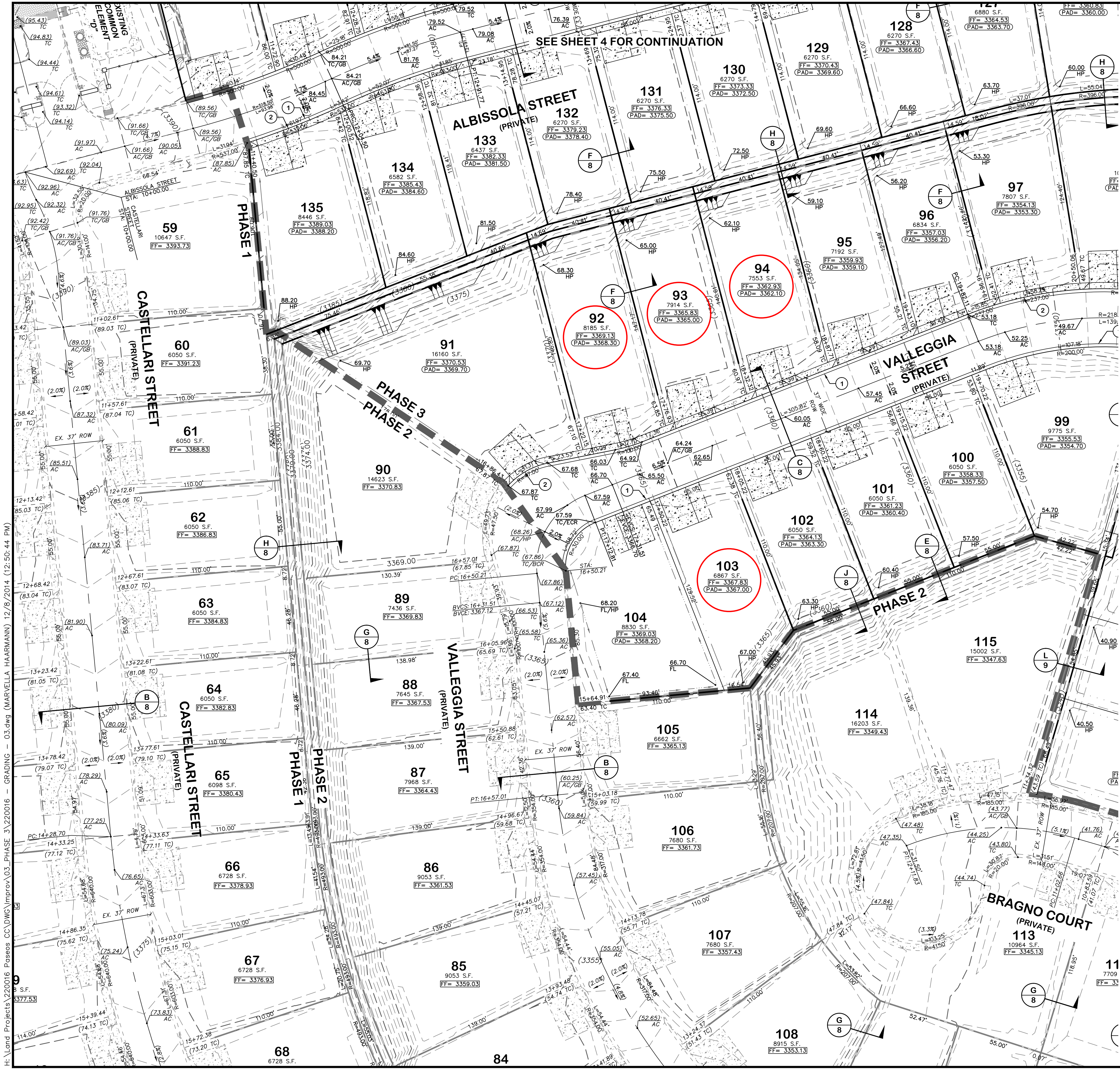
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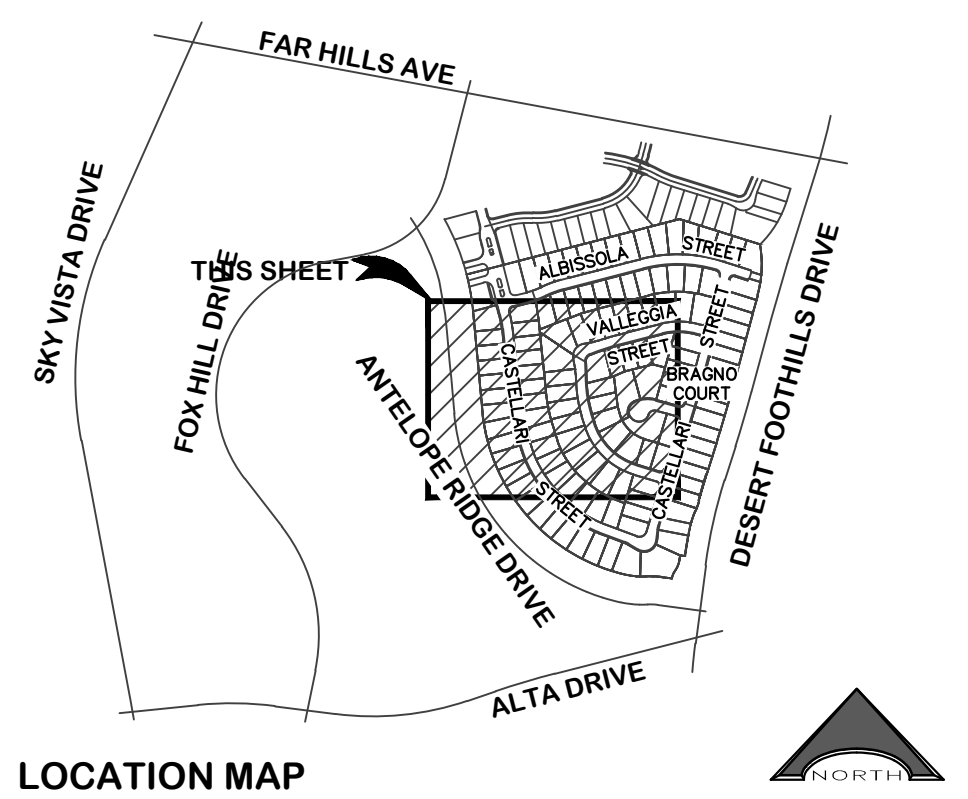
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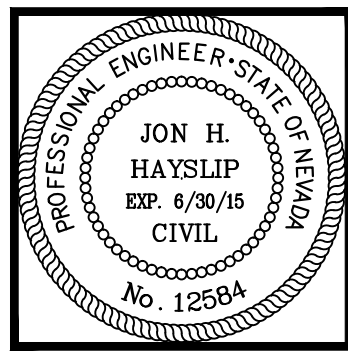
1-800-227-2600
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-6000

Avoid overhead power line contact

Call before you OVERHEAD
1-702-227-2929
NEVADA POWER ENVIRONMENT AND SAFETY SERVICES DEPARTMENT

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

1-800-227-2600
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-6000

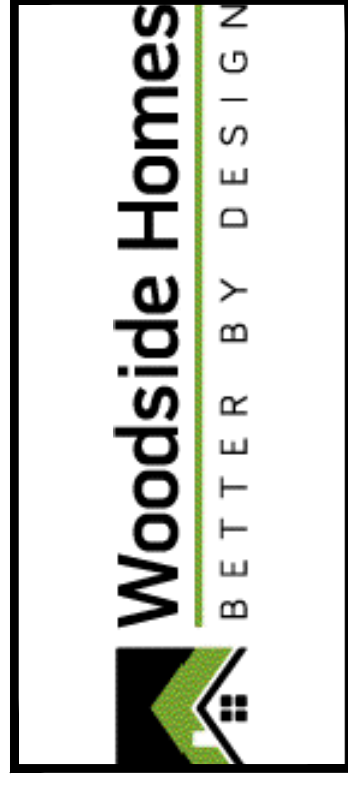


DESIGNED BY:	MB	DRAWN BY:	MB	CHKD BY:	VRH
DATE:	November 2014	DATE:	November 2014	DATE:	November 2014
NO.		REVISION		APPL	

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• CIVIL
• PLANNING
• SURVEY

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Las Vegas, Nevada 89118
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(702) 451-2296 FAX



PHASE 3 - SAVONA AT SUMMERLIN IMPROVEMENT PLANS

SHEET NUMBER
6
OF 17 SHEETS
CLV#

APPENDIX A

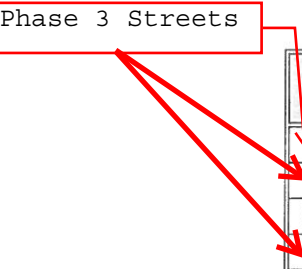
REFERENCED MATERIALS/APPROVED PLANS

IV. HYDRAULIC ANALYSIS

A. Depth of Flow

For the developed condition, the depth of flow summary table has been updated based upon the full buildout condition. In phase 3, depth of flow cross sections number 1 and 2 were revised from the original study, all other remain unchanged. The calculations for the updated cross sections are included in Appendix C.

Table 5: Proposed (Full Build Out) Onsite Street Flow Calculations



Street	Slope (%)	Q ₁₀₀ (cfs)	D ₁₀₀ (ft)	V ₁₀₀ (ft/s)	DV
Onsite Street – Sec. 1	5.40	23	0.41	5.95	2.4
Onsite Street – Sec. 2	0.60	35	0.61	3.10	1.9
Onsite Street – Sec. 2A1	0.60	47	0.67	3.49	2.3
Onsite Street – Sec. 3	5.20	10	0.33	4.86	1.6
Onsite Street – Sec. 4	5.10	5	0.28	4.21	1.2
Onsite Street – Sec. 5	4.90	14	0.36	5.12	1.8
Onsite Street – Sec. 6	2.80	26	0.46	4.75	2.2
Onsite Street – Sec. 7	7.30	26	0.41	6.87	2.8

Depth of flow cross section locations are shown on Figure 7, *Proposed Condition Drainage Basin Map*, in Appendix A.



PHASE 3

IMPROVEMENT PLANS

FOR

SAVONA AT SUMMERLIN

ANTELOPE RIDGE DRIVE and DESERT FOOTHILLS DRIVE

**CITY OF LAS VEGAS
STATE OF NEVADA
PORTION OF APN #137-27-813-023
ACRES
11.84 NET ACRES**

WOODSIDE HOMES

**4670 SOUTH FORT APACHE, #200
LAS VEGAS, NV 89147
(702) 889-7824
CONTACT: SCOTT ANDERSON**

SHEET INDEX

- | | |
|----|---------------------------|
| 1 | COVER SHEET |
| 2 | VICINITY – LOCATION MAP |
| 3 | GENERAL NOTES |
| 4 | GRADING PLAN 1 |
| 5 | GRADING PLAN 2 |
| 6 | GRADING PLAN 3 |
| 7 | GRADING PLAN 4 |
| 8 | DETAIL SHEET 1 |
| 9 | DETAIL SHEET 2 |
| 10 | UTILITY PLAN 1 |
| 11 | UTILITY PLAN 2 |
| 12 | UTILITY PLAN 3 |
| 13 | UTILITY PLAN 4 |
| 14 | PLAN & PROFILE SHEET 1 |
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| 17 | PLAN & PROFILE SHEET 4 |
| 18 | TRAFFIC & SIGNAGE PLAN 1 |
| 19 | TRAFFIC & SIGNAGE PLAN 2 |
| 20 | HORIZONTAL CONTROL PLAN 1 |
| 21 | HORIZONTAL CONTROL PLAN 2 |

THESE PLANS ARE APPROVED ON AUGUST 8, 2017 AND ON FILE AT THE CITY OF LAS VEGAS RECORDS. L-58636, CLV#107Y5023-3

DEVELOPER \ OWNER

WOODSIDE HOMES OF NEVADA, LLC
4670 SOUTH FORT APACHE, #200
LAS VEGAS, NV 89147
CONTACT: SCOTT ANDERSON
PHONE: 702-889-7824

ENGINEER

L.R. NELSON CONSULTING ENGINEERS, INC.
6765 WEST RUSSELL ROAD SUITE 200
LAS VEGAS, NEVADA 89118-1811
CONTACT: JON H. HAYSLIP, PE
PHONE : (702) 798-7978

LEGAL DESCRIPTION

PARCEL CC AS SHOWN ON THE FINAL MAP OF SUMMERLIN VILLAGE 23B UNIT NO. 2, A COMMON-INTEREST COMMUNITY, FILE IN BOOK 145 OF PLATS, PAGE 83 LYING WITHIN SECTION 27, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA

BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LV09 27SE6

A RIVET AND PLATE IN THE TOP OF CURB AT THE
NORTHEAST CORNER OF MOUNTAINSHADOW ROAD AND
DESERT FOOTHILLS.

ELEVATION = 1013.556 METERS (3325.31 FEET) NAVD 1988
DATUM

BASIS OF BEARING

NORTH 15°02'07" EAST, BEING THE BEARING OF THE CENTERLINE OF DESERT FOOTHILLS DRIVE AS SHOWN ON THE PLAT OF SUMMERLIN VILLAGE 23B UNIT NO. 2, ON FILE IN THE CLARK COUNTY, NEVADA RECORDER'S OFFICE AS BOOK 145, PAGE 83 OF PLATS.

APPROVALS


ALLEN PAVELKA, PE No. 9029
CITY OF LAS VEGAS CITY ENGINEER

APPROVAL OF THESE PLANS IS LIMITED TO THOSE IMPROVEMENTS CONSTRUCTED IN THE DEDICATED RIGHT-OF-WAY AND/OR DEDICATED EASEMENTS. THIS APPROVAL DOES NOT AUTHORIZE THE CONSTRUCTION OF ANY IMPROVEMENTS THAT DEVIATE FROM ADOPTED STANDARDS AND/OR SPECIFICATIONS, EXCEPT THOSE SPECIFICALLY LISTED UNDER DEVIATIONS FROM STANDARD. THE ENGINEER SHALL RESOLVE ANY DEVIATION OTHER THAN THOSE LISTED IN DEVIATIONS FROM STANDARD IN FAVOR OF THE UNIFORM STANDARD DRAWINGS AND SPECIFICATIONS CLARK COUNTY AREA NEVADA.

92 min 7/17/17
CITY FIRE DEPARTMENT DATE

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES **DATE**
MANAGER PROJECT No. 123631 (SHEETS 1-3, 9-18)
 LVVWD APPROVED FIRE FLOW 1,750 GPM AT 20 PSI RESIDENTIAL

Barbara Garrison 6.28.17
NEVADA POWER d.b.a. NV ENERGY DATE

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

Lusky & Dwyer 6/22/17
CENTRAL TELEPHONE CO. dba CENTURYLINK DATE

"THE AFFIXED CENTURY LINK APPROVAL DOES NOT ASSUME OR GUARANTEE LIABILITY FOR KNOWN OR UNKNOWN CONFLICTS WITH EXISTING OR PROPOSED IMPROVEMENTS. RESOLUTION OF ANY CONFLICT WILL BE ACCOMPLISHED PURSUANT TO LOCAL ORDINANCES, NEVADA REVISED STATUTES AND/OR PUBLIC UTILITY COMMISSION RULES AND REGULATIONS."

 6.28.17
COX COMMUNICATIONS LAS VEGAS, INC. DATE


SOUTHWEST GAS CORPORATION

7/10/17
DATE

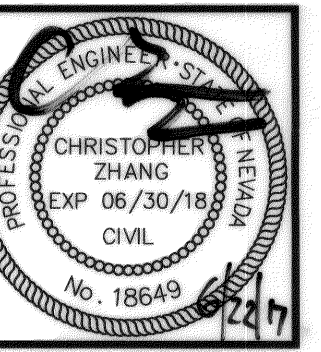
 **STEVE GERECKE** 080117
CHRIS KNIGHT, DIRECTOR OF BUILDING & SAFETY DEPT. OF PLANNING DATE
THIS PLAN MEETS THE APPLICABLE STANDARDS OF THE PLANNING
DEPARTMENT.

SUMMERLIN DESIGN REVIEW COMMITTEE

BY  TITLE Vice President DATE 6/22/17

DISCLAIMER NOTE

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[illegible]

L. R. NELSON CONSULTING ENGINEERS, INC.

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• CIVIL

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• SURVEY (702) 451-2296 FAX



Woodside Homes
BETTER BY DESIGN

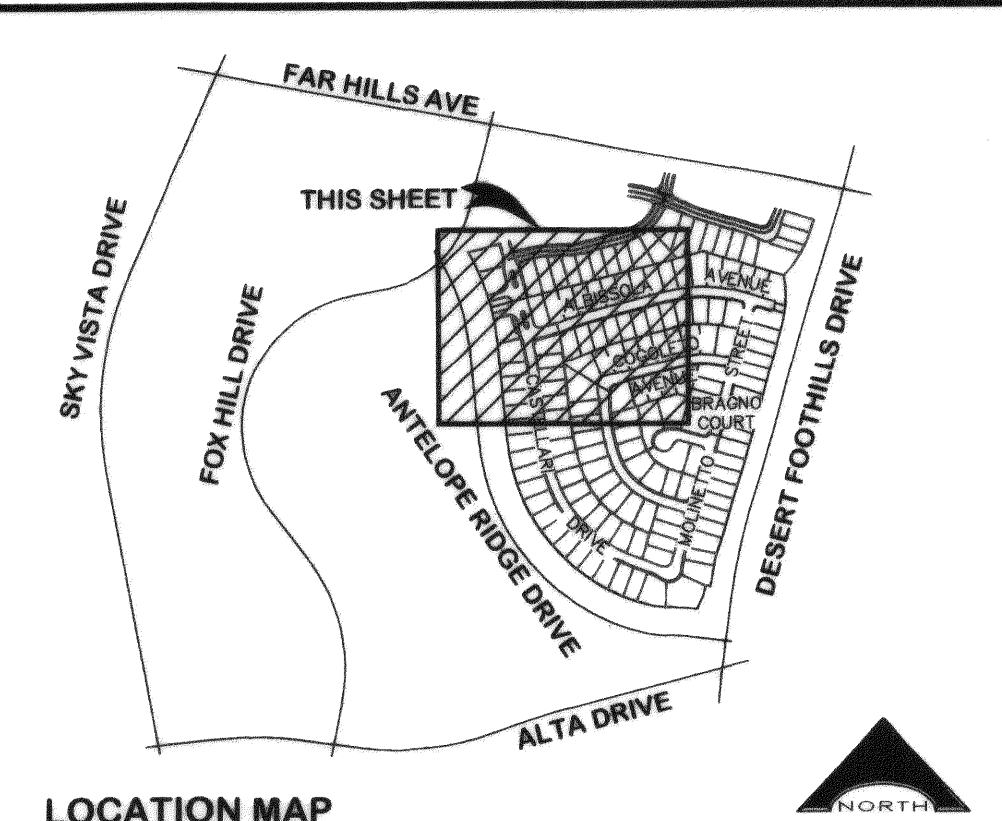
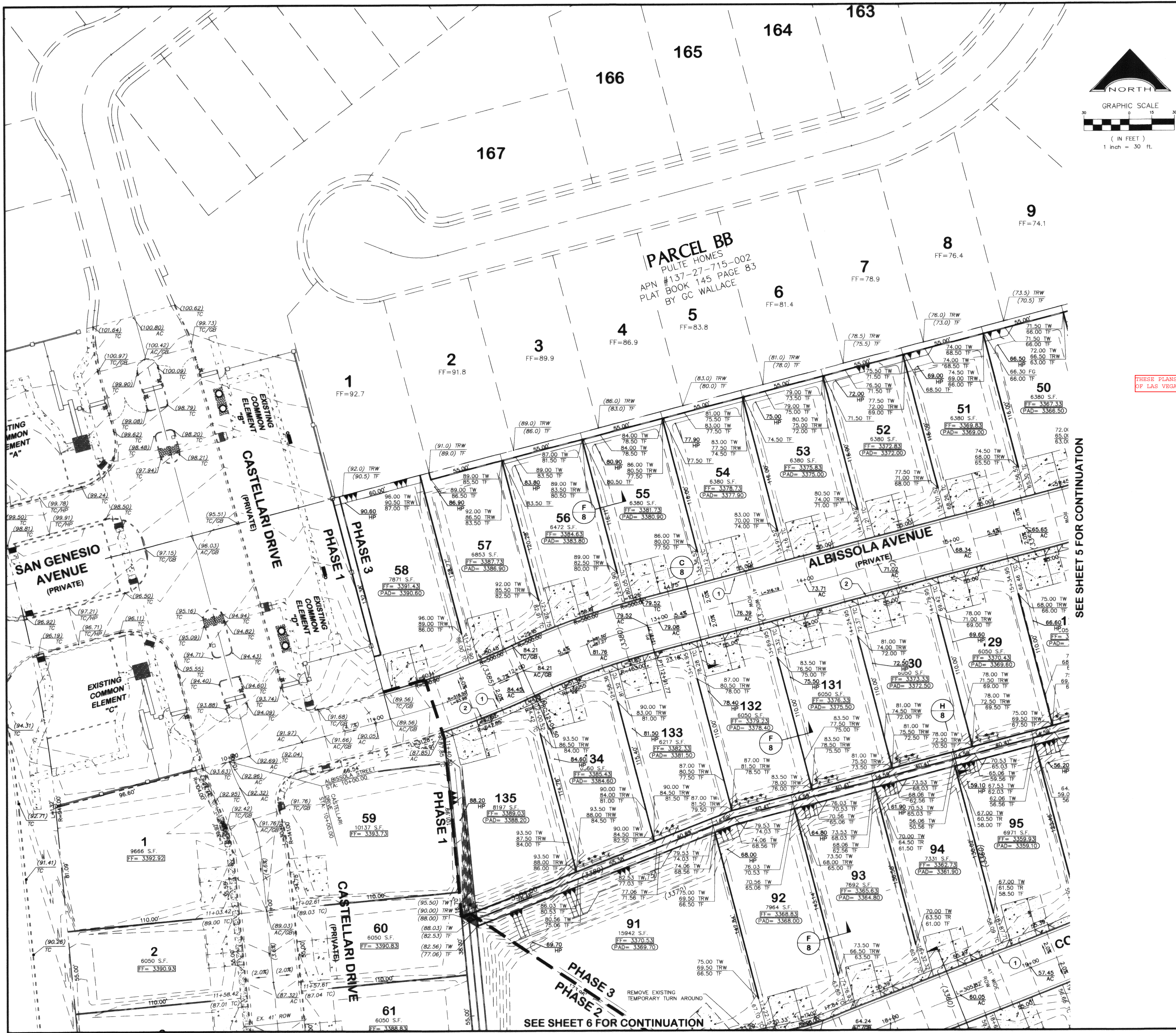
COVER SHEET

**PHASE 3 - SAVONA AT SUMMERLIN
IMPROVEMENT PLANS**

CITY OF LAS VEGAS

NEVADA

SHEET NUMBER
1
OF 21 SHEETS
L-58636
CLV# 10345022-3



- CONSTRUCTION NOTES**
1. CONSTRUCT "L" TYPE CURB & GUTTER (CCAUD #216)
 2. CONSTRUCT 4" CONCRETE SIDEWALK (CCAUD #234)
 3. CONSTRUCT 8" CROSS GUTTER (CCAUD #228)

NOTE

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

BASIS OF BEARINGS

NORTH 15°02'07" EAST, BEING THE BEARING OF THE CENTERLINE OF DESERT FOOTHILLS DRIVE AS SHOWN ON THE PLAT OF SUMMERLIN VILLAGE 238 UNIT NO. 2, ON FILE IN THE CLARK COUNTY, NEVADA RECORDER'S OFFICE AS BOOK 145, PAGE 83 OF PLATS.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LVD9 27SE6

A RIVET AND PLATE IN THE TOP OF CURB AT THE NORTHEAST CORNER OF MOUNTAIN SHADOW ROAD AND DESERT FOOTHILLS.

ELEVATION = 1013.556 METERS (3325.31 FEET) NAVD 1988.

LEGAL DESCRIPTION

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FEMA FLOOD PLAIN INFORMATION

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY-PANEL NUMBER 32003C 2150E, EFFECTIVE DATE SEPTEMBER 27, 2002, THE SITE IS LOCATED WITHIN A ZONE "X" AND SHADDED ZONE "X". A ZONE "X" IS DESCRIBED BY FEMA AS AN AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN. A SHADDED ZONE "X" IS DESCRIBED BY FEMA AS AN AREA WITHIN THE 0.2% CHANCE FLOOD PLAIN. THERE ARE NO ADDITIONAL LETTERS OF MAP REVISION (LOMR) ISSUED FOR THIS FEMA FIRM PANEL.

ESTIMATED EARTHWORK QUANTITIES

ITEM	QUANTITY
CUT:	4,473 CY
FILL:	2,647 CY
NET FILL:	1,826 CY

THESE QUANTITIES ARE FOR ESTIMATING PURPOSE ONLY. THE FILL FIGURE INCLUDES A 15% AVERAGE SHRINKAGE FACTOR. OTHER CONSIDERATIONS SUCH AS OVEREXCAVATION, CALICHE, BOULDERS, ETC. WILL LIKELY AFFECT THE ACTUAL FIELD FILL AND CUT QUANTITIES. IT IS RECOMMENDED THAT THE CONTRACTOR CONSULT WITH THE SOILS ENGINEER AND PROVIDE HIS OWN FINAL QUANTITIES PRIOR TO BIDDING THE PROJECT. THE CIVIL ENGINEER ACCEPTS NO LIABILITY FOR VARIATIONS IN THE ACTUAL EARTHWORK QUANTITIES.

DRAINAGE STUDY

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT. DS4693.

CHRISTOPHER ZHANG, PE# 18649

DATE: 7/11/17

DISCLAIMER NOTE

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FAST

Call before you Dig

1-800-227-2600

1-702-227-2929

Call before you Dig

UnderGround

1-702-432-5300

H# 58636

THESE PLANS ARE APPROVED ON AUGUST 8, 2017 AND ON FILE AT THE CITY OF LAS VEGAS RECORDS. L-58636, CLV#107Y5023-3

SEE SHEET 5 FOR CONTINUATION

SEE SHEET 6 FOR CONTINUATION

DESIGNED BY: MGB
JOB NUMBER: 220-016-141
NO.

DRAWN BY: MGB
DATE: June 2017
REVISION

CHECKED BY: VRH
DATE: June 2017
APPROVED

L. R. NELSON CONSULTING ENGINEERS, INC.

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SURVEY

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Las Vegas, Nevada 89118
(702) 798-7978
(702) 451-2296 FAX

Woodside Homes

BETTER BY DESIGN

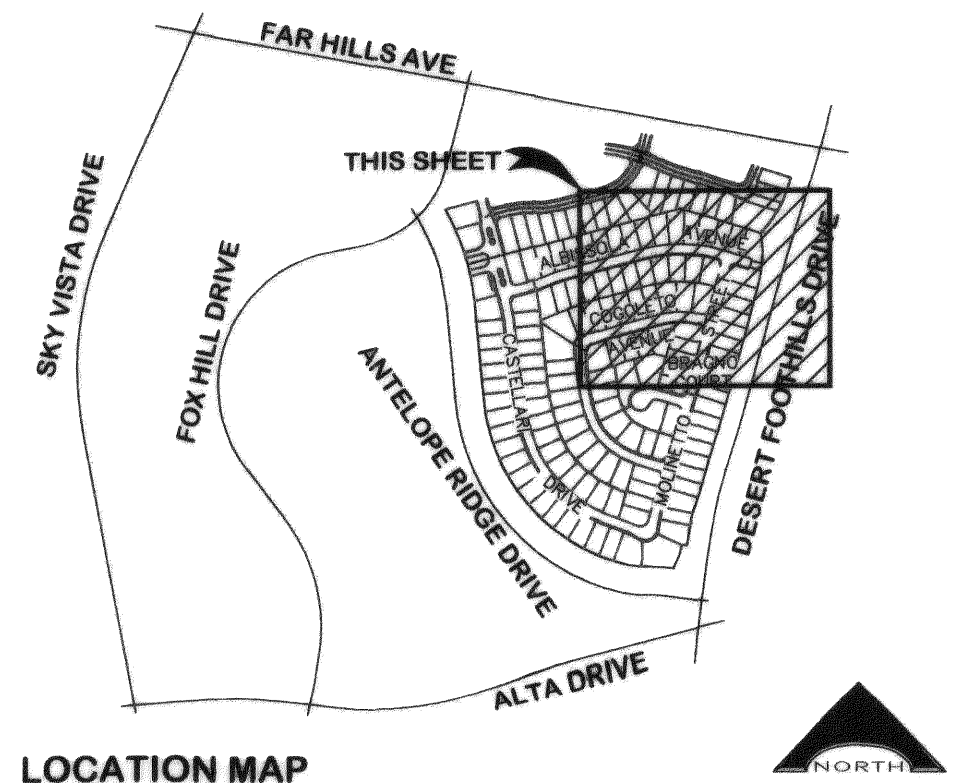
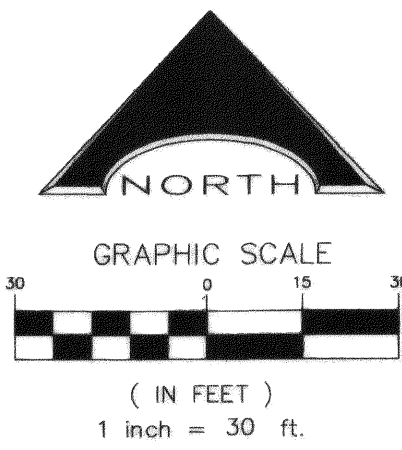
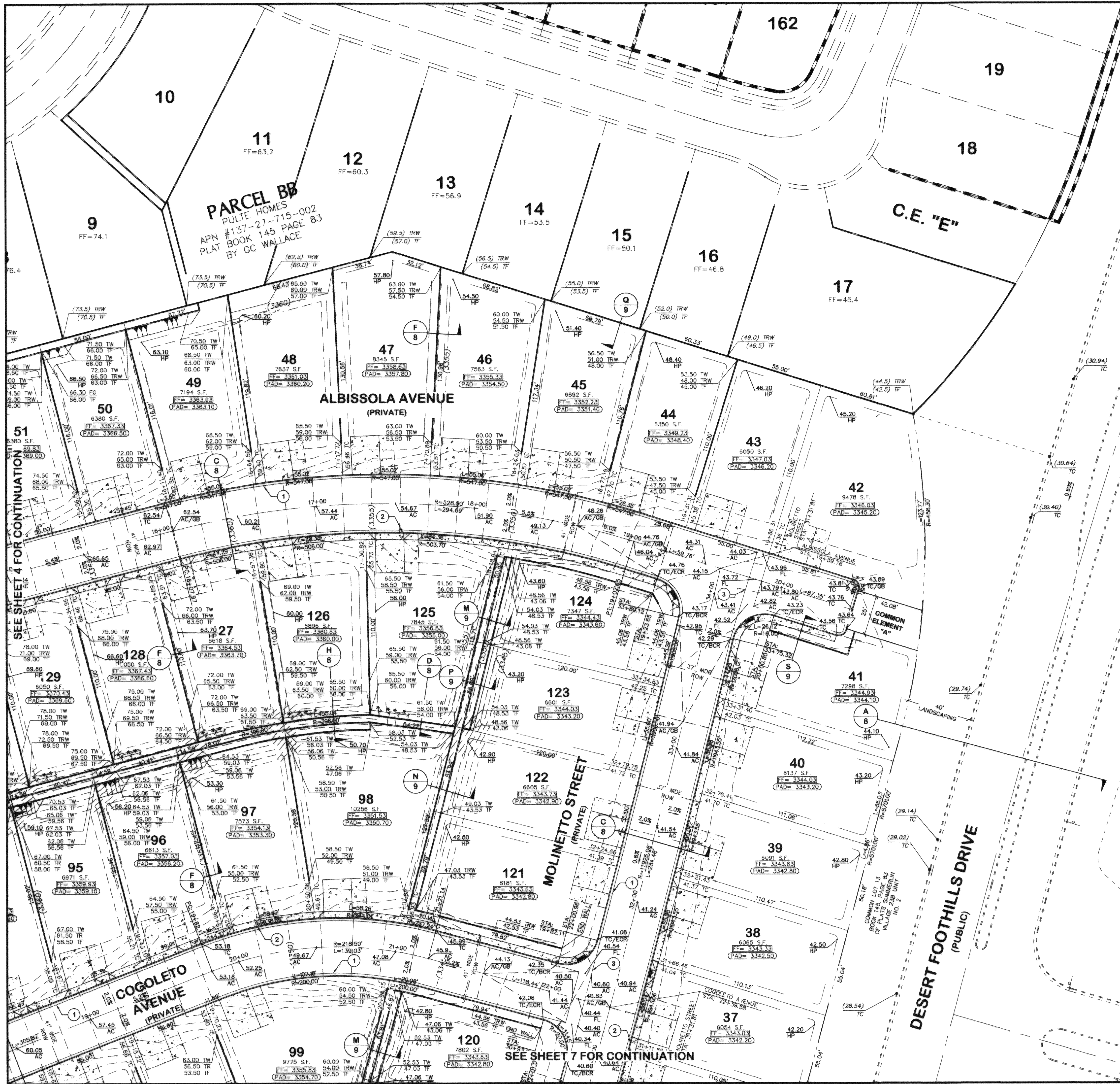
PHASE 3 - SAVONA AT SUMMERLIN
IMPROVEMENT PLANS

CITY OF LAS VEGAS

SHEET NUMBER

4

OF 21 SHEETS
CLV#107Y5023-3



LOCATION MAP

CONSTRUCTION NOTES

1. CONSTRUCT "L" TYPE CURB & GUTTER (CCAUSD #216)
2. CONSTRUCT 4' CONCRETE SIDEWALK (CCAUSD #234)
3. CONSTRUCT 8' CROSS GUTTER (CCAUSD #228)

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NOTE

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BASIS OF BEARINGS

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BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LV09 27SE6

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ESTIMATED EARTHWORK QUANTITIES

OUT: 4,473 CY
FILL: 2,647 CY
NET FILL: 1,826 CY

THESE QUANTITIES ARE FOR ESTIMATING PURPOSE ONLY. THE FILL FIGURE INCLUDES A 15% AVERAGE SHRINKAGE FACTOR. OTHER CONSIDERATIONS SUCH AS OVEREXCAVATION, CALICHE, BOULDERS, ETC. WILL LIKELY AFFECT THE ACTUAL FIELD FILL AND CUT QUANTITIES. IT IS RECOMMENDED THAT THE CONTRACTOR CONSULT WITH THE SOILS ENGINEER AND PROVIDE HIS OWN FINAL QUANTITIES PRIOR TO BIDDING THE PROJECT. THE CIVIL ENGINEER ACCEPTS NO LIABILITY FOR VARIATIONS IN THE ACTUAL EARTHWORK QUANTITIES.

DRAINAGE STUDY

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT. DS4683.

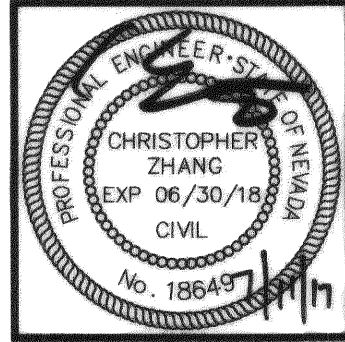
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Call before you Dig
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Call before you Dig
UnderGround
1-702-227-2929

FAST
Call before you Dig
UnderGround
1-702-432-5300
H# 58636



DESIGNED BY:	MGB	DRAWN BY:	MGB	CHECKED BY:	WRH
JOB NUMBER:	220-016-141	DATE:	June 2017	REVISION:	
NO.		DATE		APPL.	

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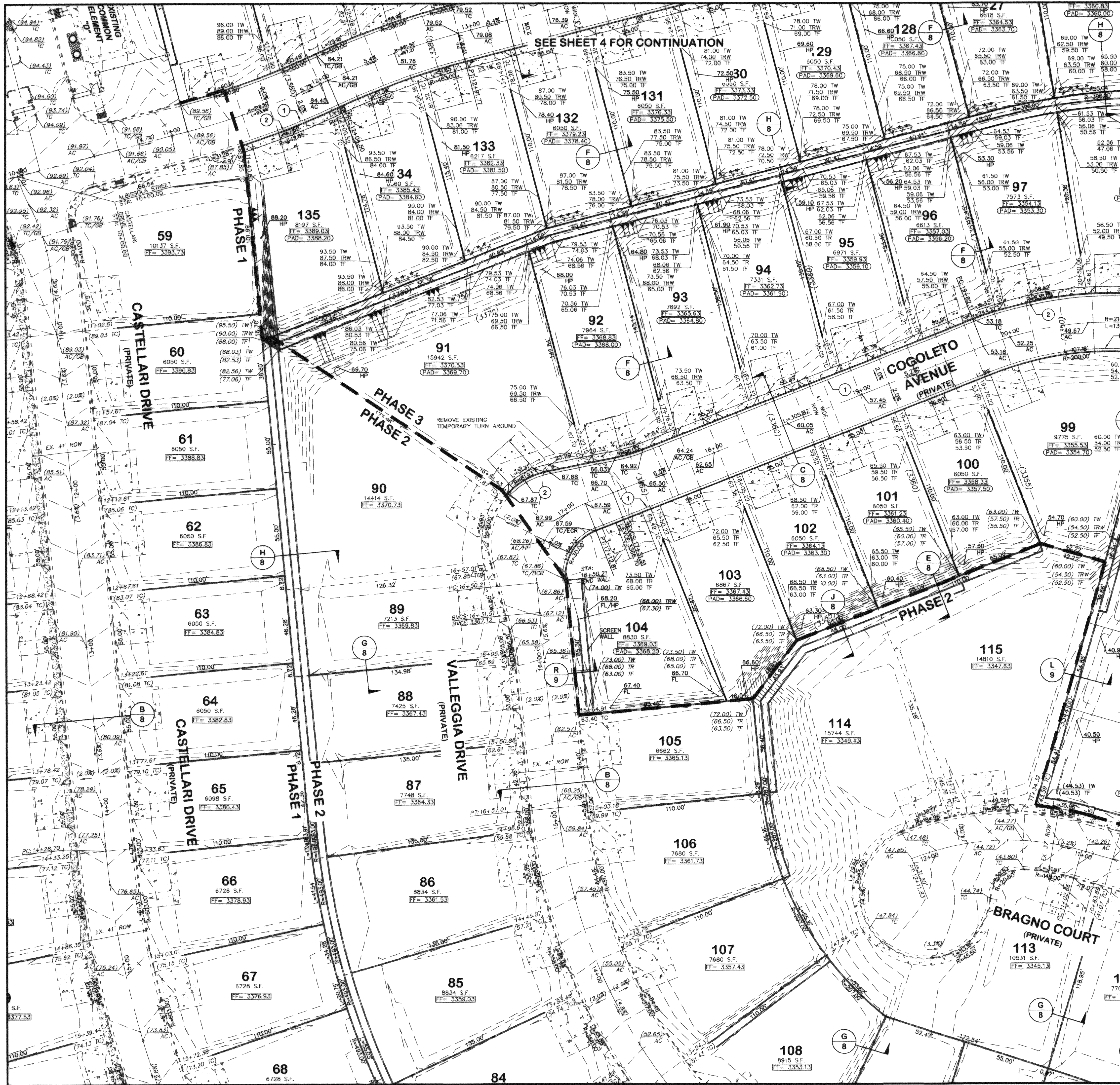
Woodside Homes
BETTER BY DESIGN

PHASE 3 - SAVONA AT SUMMERLIN
IMPROVEMENT PLANS
CITY OF LAS VEGAS

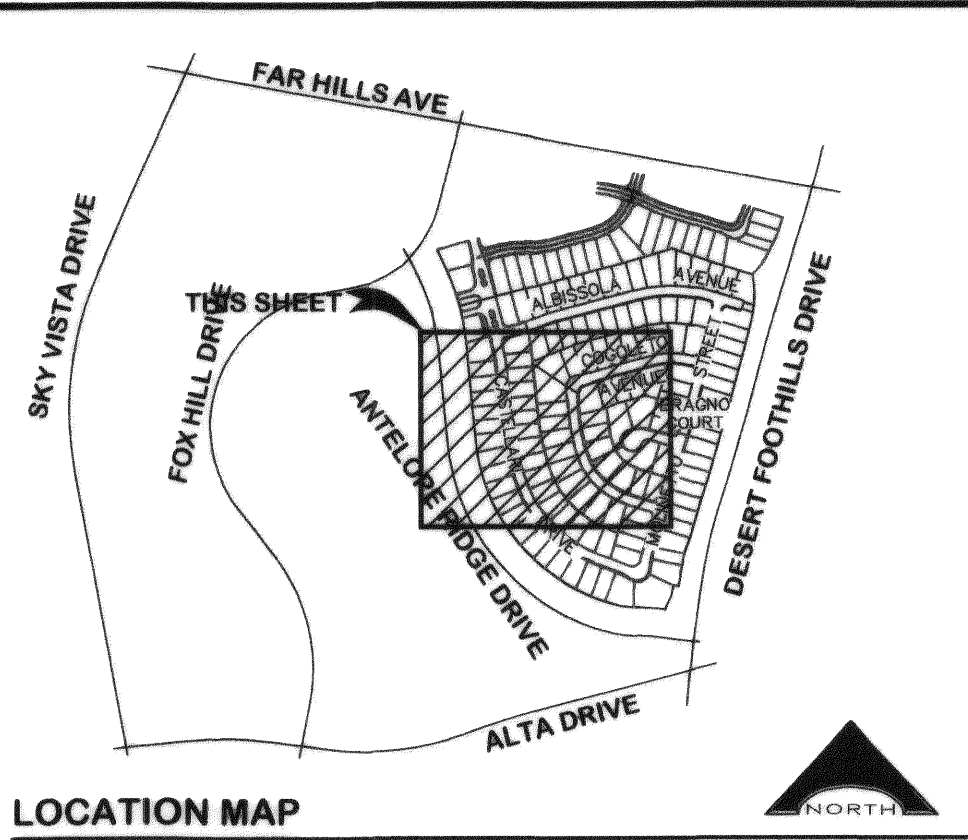
GRADING PLAN 2

PHASE 3 - SAVONA AT SUMMERLIN
IMPROVEMENT PLANS
CITY OF LAS VEGAS

SHEET NUMBER
5
OF 21 SHEETS
CLV#107Y5023-3



SEE SHEET 7 FOR CONTINUATION



CONSTRUCTION NOTES

1. CONSTRUCT "L" TYPE CURB & GUTTER (CCAU# #216)
2. CONSTRUCT 4" CONCRETE SIDEWALK (CCAU# #234)
3. CONSTRUCT 8" CROSS GUTTER (CCAU# #228)

NOTE

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BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LV09 27S86

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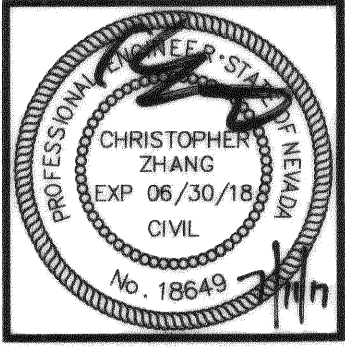
DRAINAGE STUDY

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CHRISTOPHER ZHANG, PE# 18649

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DESIGNED BY:	MOB	DRAWN BY:	MGB	CHECKED BY:	VRH
JOB NUMBER:	220-016-141	DATE:	June 2017	DATE:	APPL
NO.		REVISION			

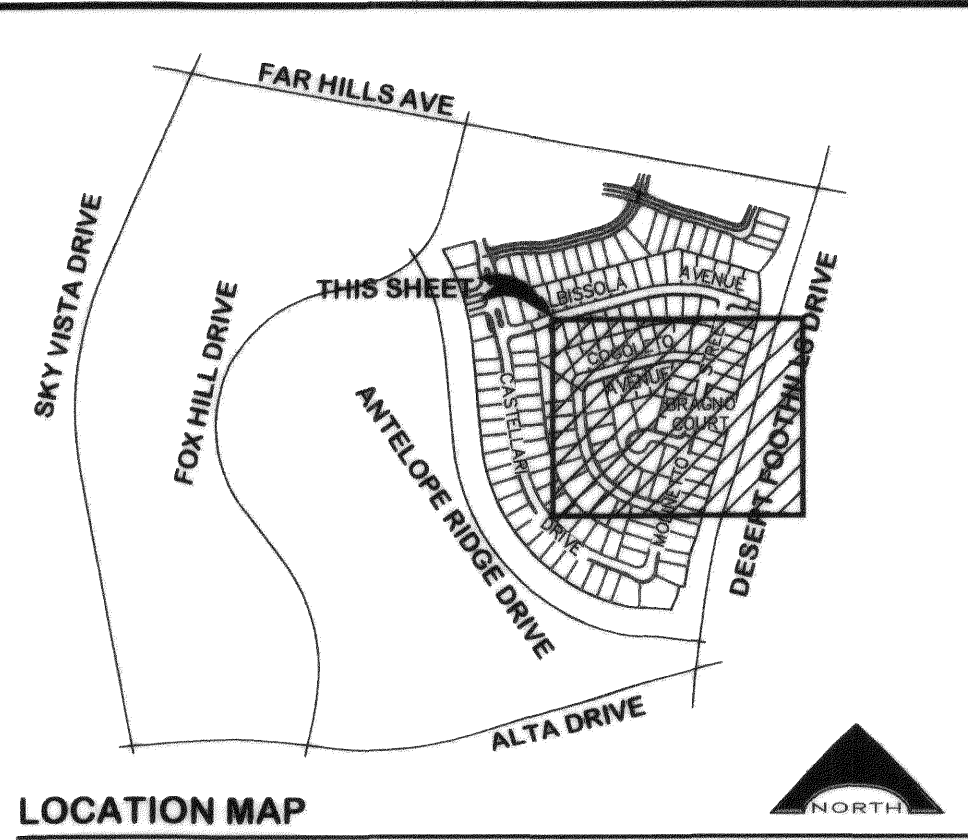
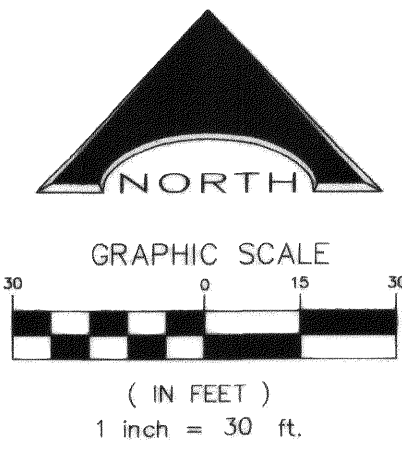
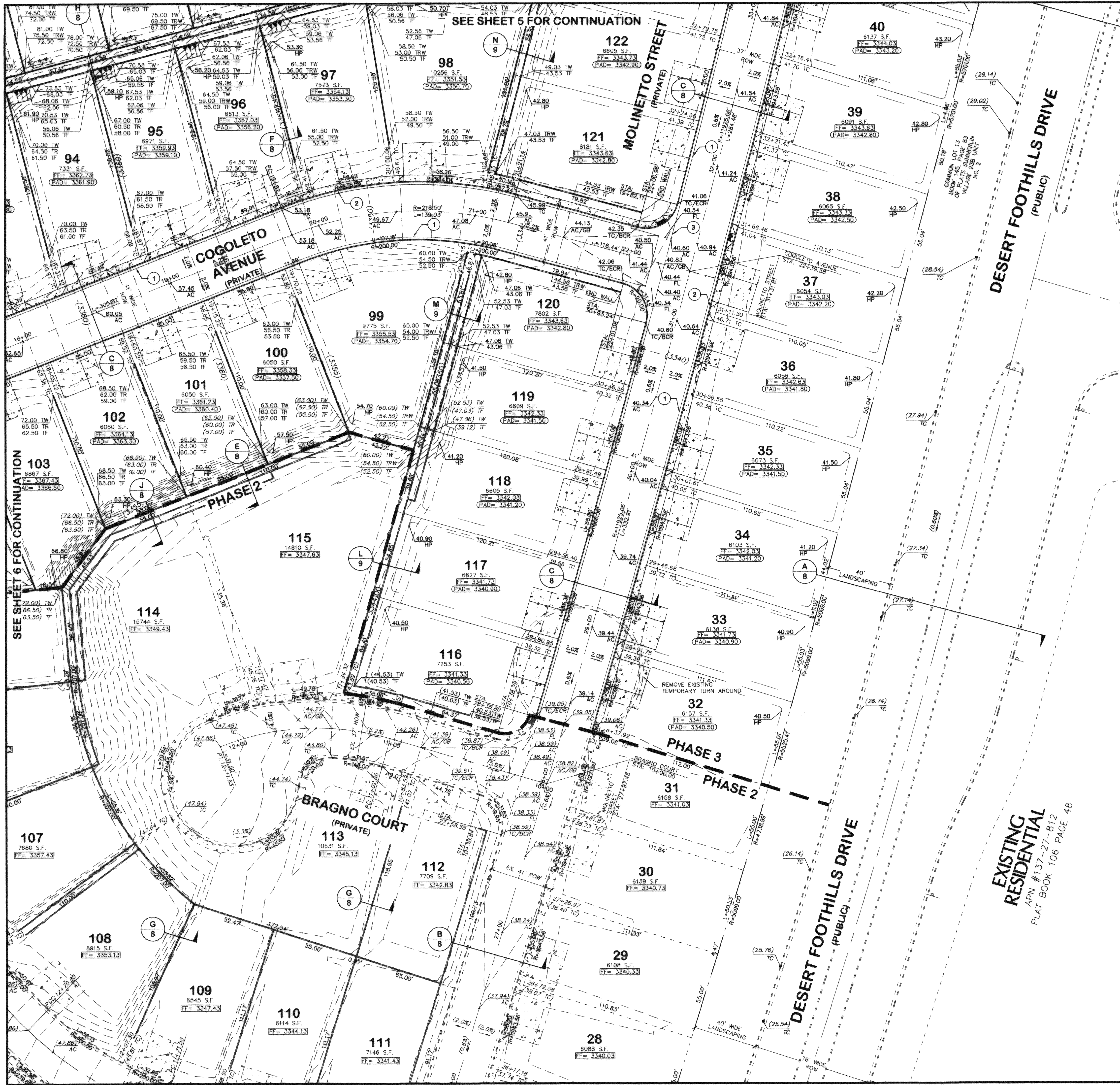
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Woodside Homes
BETTER BY DESIGN

PHASE 3 - SAVONA AT SUMMERLIN IMPROVEMENT PLANS
CITY OF LAS VEGAS

SHEET NUMBER
6
OF 21 SHEETS
CLV#1075023-3



LOCATION MAP

CONSTRUCTION NOTES

1. CONSTRUCT "L" TYPE CURB & GUTTER (CCAUD #216)
2. CONSTRUCT 4' CONCRETE SIDEWALK (CCAUD #234)
3. CONSTRUCT 8' CROSS GUTTER (CCAUD #228)

THESE PLANS ARE APPROVED ON AUGUST 8, 2017 AND ON FILE AT THE CITY OF LAS VEGAS RECORDS, L-58636, CLV#107Y5023-3

NOTE

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

BASIS OF BEARINGS

NORTH 15°02'07" EAST, BEING THE BEARING OF THE CENTERLINE OF DESERT FOOTHILLS DRIVE AS SHOWN ON THE PLAT OF SUMMERLIN VILLAGE 23B UNIT NO. 2, ON FILE IN THE CLARK COUNTY, NEVADA RECORDER'S OFFICE AS BOOK 145, PAGE 83 OF PLATS.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LV09 27S66
A RIVET AND PLATE IN THE TOP OF CURB AT THE NORTHEAST CORNER OF MOUNTAIN SHADOW ROAD AND DESERT FOOTHILLS.
ELEVATION = 1013.556 METERS (3325.31 FEET) NAVD 1988.

LEGAL DESCRIPTION

PARCEL CC AS SHOWN ON THE FINAL MAP OF SUMMERLIN VILLAGE 23B UNIT NO. 2, A COMMON INTEREST COMMUNITY, ON FILE IN BOOK 145 OF PLATS, PAGE 83 LYING WITHIN SECTION 27, TOWNSHIP 20 SOUTH, RANGE 59 EAST, W.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.

FEMA FLOOD PLAIN INFORMATION

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY-PANEL NUMBER 32003C 2150E, EFFECTIVE DATE SEPTEMBER 27, 2002, THE SITE IS LOCATED WITHIN A ZONE "X" AND SHADED ZONE "X". A ZONE "X" IS DESCRIBED BY FEMA AS AN AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN. A SHADED ZONE "X" IS DESCRIBED BY FEMA AS AN AREA WITHIN THE 0.2% CHANCE FLOOD PLAIN. THERE ARE NO ADDITIONAL LETTERS OF MAP REVISION (LOMR) ISSUED FOR THIS FEMA FIRM PANEL.

ESTIMATED EARTHWORK QUANTITIES

OUT: 4,473 CY
FILL: 2,647 CY
NET FILL: 1,826 CY

THESE QUANTITIES ARE FOR ESTIMATING PURPOSE ONLY. THE FILL FIGURE INCLUDES A 15% AVERAGE SHRINKAGE FACTOR. OTHER CONSIDERATIONS SUCH AS OVEREXCAVATION, CAULKE, BOULDERS, ETC. WILL LIKELY AFFECT THE ACTUAL FIELD FILL AND CUT QUANTITIES. IT IS RECOMMENDED THAT THE CONTRACTOR CONSULT WITH THE SOILS ENGINEER AND PROVIDE HIS OWN FINAL QUANTITIES PRIOR TO BIDDING THE PROJECT. THE CIVIL ENGINEER ACCEPTS NO LIABILITY FOR VARIATIONS IN THE ACTUAL EARTHWORK QUANTITIES.

DRAINAGE STUDY

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT. DS4983.

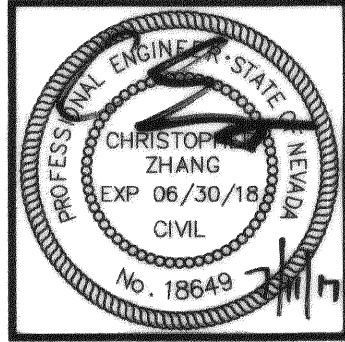
DISCLAIMER NOTE

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

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DESIGNED BY:	MGB	DRAWN BY:	MGB	CHKD BY:	VRH
JOB NUMBER:	220-018-141	DATE:	June 2017	DATE:	June 2017
NO.		REVISION		DATE:	

L. R. NELSON CONSULTING ENGINEERS, INC.
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PHASE 3 - SAVONA AT SUMMERLIN
IMPROVEMENT PLANS
CITY OF LAS VEGAS

SHEET NUMBER
7
OF 21 SHEETS
CLV#107Y5023-3