

DS #: 5023

APN: 137.33.810.003

PROJECT: Summerlin Village 24 - Parcel 1

SUBMITTAL: 3rd

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		October 30, 2018
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:	COPIES TO:
	Summerlin Village 24 - Parcel I	GCW Engineers/Surveyors
Cross Streets:	SWC of Crossbridge Drive & Suncreek Drive	Pardee Homes
File Number:	F:\Depot\DSMemos\DS5023C.doc	Bart Anderson, P.E., DevCo
Parcel Number:	137-33-810-003	
Zoning Action:	TMP-73319	
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	7/23/2018 & 8/8/2018	8/13/2018	Not Approved	\$400.00	497634: \$400
2 nd Submittal	9/17/2018	10/1/2018	Not Approved	\$400.00	499021: \$400
3 rd Submittal	10/9/2018	10/30/2018	See Comments Below	\$400.00	499916: \$400
TOTAL FEES (LDDRS):				\$1,200.00	----

REMARKS:

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

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

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

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

END OF REMARKS
WSP/AYS

T/R/S: T20S/R59E/33
AREA K-33

**2nd RESPONSE TO COMMENTS FOR THE
TECHNICAL DRAINAGE STUDY
FOR
Summerlin Village 24-Parcel I**

5523-A063

October 2018

Prepared for:

**Pardee Homes
4675 W Teco Avenue, Suite 115
Las Vegas, Nevada 89118
Phone: (702) 614-1400
Fax: (702) 614-1466**

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Village 24 - Parcel I Date: 10/09/2018

Location of Development: a) Descriptive (Cross Streets) North/South: N/A
East/West: Crossbridge Avenue

b) Section: 33 Township: 20 Range: 59

c) APN : 137-33-810-003

Name of Owner: Pardee Homes

Telephone No.: (702) 614-1400 Fax No.: (702) 614-1466 E-Mail Address: n/a

Address: 4675 West Teco Avenue, Suite 115, Las Vegas, NV 89118

Contact Person-Name: Steve Jones, P.E. Telephone No.: (702) 804-2000

* E-Mail Address: SJones@gcwengineering.com Fax No.: (702) 804-2299

Firm: GCW, Inc.

Address: 1555 South Rainbow Blvd, Las Vegas, NV 89146

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: 38 acres Being Developed/Disturbed: 38 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

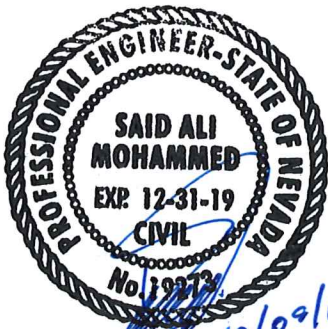
4. Proposed type of development (Residential, Commercial, Etc.): Residential

5. Approximate upstream land area which drains to the subject site: None

6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: Update #4 to the Conceptual Drainage Study for Summerlin Village 24

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: There is a 48" RCP at the southeast corner of the parcel.

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



Engineer's Seal

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

***New Required Field**

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

	Revision	Date

Local Entity File No. _____

REFERENCE:

STANDARD FORM 1

**2nd RESPONSE TO COMMENTS FOR THE
TECHNICAL DRAINAGE STUDY
FOR
Summerlin Village 24-Parcel I**

5523-A063

October 2018

Authored By:

Joseph Roberts, PE

Prepared By:

**GCW, Inc.
1555 S. Rainbow Blvd.
Las Vegas, Nevada 89146
Phone: (702) 804-2129
Fax: (702) 804-2299**

5523-A063

October 8, 2018

Albert Sung, PE
City of Las Vegas – Department of Public Works
333 N. Rancho Drive – 7th Floor
Las Vegas, NV 89106

Re: 2nd Response to City of Las Vegas Comments on the Technical Drainage Study for Summerlin Village 24-Parcel I (DS-5023A)

Dear Mr. Sung:

This letter addresses the City of Las Vegas (CLV) review comments dated October 1, 2018, included in the Appendix, regarding the project in its entirety.

Comment 1:

Second Request: Provide a copy of the zoning/planning conditions associated with this site (**TMP-73319**) with the next submittal to verify compliance with conditions. *Flood Control* will not issue conditional approval of the drainage study without the associated zoning/planning conditions (issued by the *City Council*). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study is revised and resubmitted.

Response:

The copy of the zoning and planning conditions documentation is included in the appendix.

Comment 2:

Second Request: *Figure 5 (Proposed Hydrology Map)*: Provide a summary table of interior and exterior street calculations, capacity calculations showing the street name, Q100 flow, slope, depth of flow, velocity, and depth times velocity product.

The revised Figure 5 does not show street names. Also, *Cross Sections A, B, etc* cannot be cross referenced from the table to the map? Review and revise accordingly.

Response:

Figure 5 has been updated to show street names and a summary table of worst case scenario for each street and the corresponding cross section has been added to Figure 5 as well. The cross section letters have been bolded and increased in size to be more easily identifiable as well.

Comment 3:

Previous comment regarding the overflow path during worst case scenario that the two sump inlets being totally clogged, the response was that an overflow path will be provided through the proposed public drainage easement to the south of the inlets. However, a proposed high point at "50.48FG/HP" in the drainage easement will create almost three feet of ponding water in the community. Reduce the maximum ponding depth to one foot. Address and resolve in the next

submittal.

Response:

The overflow path has been revised to be the entrance drive, and ponding depth is now less than a foot before it is utilized. In the revised plan, Sage Grass Avenue is the emergency overflow path. Please see the accompanying Figure 5 for the exact location, and sheet G-6 for detailed grading of the drop inlet area. The revised WSPG calculations are provided in the Appendix. The locations of Drop inlets 1 and 2 have been updated to better utilize the overflow path. Updated calculations for these drop inlets and the storm drain they connect to are also included in the appendix.

Comment 4:

In comparing the WSE in the wash and the proposed finished floor elevation of the southern lots, it is found that Lot 32 and Lot 33 are below the adjacent WSE in COS-3, the rest of the southern lots are all above the adjacent WSE. However, *Detail Section M/DT-2* should replace *Detail Section L/DT-2* as typical section for Lot 32 and Lot 33. Remove all *M/DT-2* from adjacent to all lots from 34 to 49 because this section is not representative to those lots. Review and revise accordingly.

Response:

The plans have been corrected to show the appropriate locations for Detail Sections M/DT-2 and L/DT-2.

Comment 5:

Detail Section M/DT-2: Provide a 3'-cutoff wall below the footing of the community retaining wall.

Response:

Per a discussion with Albert Sung, it was determined that the existing cutoff wall provided by the COS-3 Wash is sufficient to protect the southern lots from the flows in the Wash. The location of greatest worry were lots 32 and 33 since they have a FF elevation below the WSE. It was determined that the cutoff wall depth provided south of lots 32 and 33 will provide adequate protection from flow in the COS-3 wash. The depth of the existing cutoff wall varies from 6-8' and has been designed to provide protection that exceeds the 100-year scour throughout the entire wash. Pertinent reference material from the COS-3 Wash study including the scour depth calculations, typical sections, plans, and profiles are included in the appendix. The typical sections provided in the V24 Parcel I plans have also been updated to better reflect this cutoff wall.

If you have any questions or require additional information, please do not hesitate to contact me at 804-2129.

Respectfully,

GCW, INC.

Joseph Roberts, P.E.

APPENDIX

Worksheet for Overflow Weir for sump inlets

Project Description

Solve For Headwater Elevation

Input Data

Discharge		46.40	ft ³ /s
Crest Elevation		49.06	ft
Tailwater Elevation		0.00	ft
Weir Coefficient		3.00	US
Crest Length		38.00	ft
Number Of Contractions	0		

Results

Headwater Elevation	49.61	ft
Headwater Height Above Crest	0.55	ft
Tailwater Height Above Crest	-49.06	ft
Flow Area	20.87	ft ²
Velocity	2.22	ft/s
Wetted Perimeter	39.10	ft
Top Width	38.00	ft

Cross Section for Overflow Weir for sump inlets

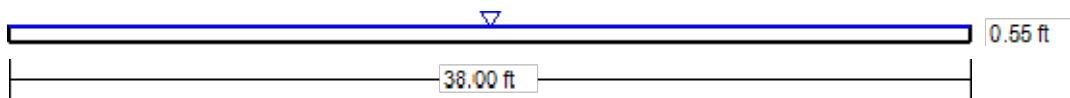
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Cross Section Image



V: 1
H: 1



Drop Inlet Sizing Calculation

Project Name: Village 24 - Parcel I

By: JR

Date: 10/08/2018

Drop Inlet Sizing in Sump

10-ft Type CM2 DI

DI #1 (FLOW FROM SECTION W WEST SIDE and 1/2 SECTION X)

Known:

Q= Design Flow	27.8	cfs
D _p = Ponding Depth at Inlet	0.5	ft
W= Grate Width	1.5	ft
L _g = Length of Grate	12.5	ft
L _c = Length of Curb Opening	15.0	ft
H _c = Curb Opening Height	0.5	ft
C _{wc} = Weir coefficient for curb opening	2.3	
C _{wg} = Weir coefficient for grate	3.0	
C _o = Orifice coefficient	0.67	
R _o = Grate opening factor	0.60	
C _{fg} = Clogging Factor for Grate	50	%
C _{fc} = Clogging Factor for Curb Opening	50	%

Grate Capacity Calculations:

P _g = Active grate weir length (agwl) = 2*W+L _g	15.50 ft
P _{agl} Adjusted agwl = 2*(1-C _{fg} /100)*W+L _g	14.00 ft
A _g = Grate area = W*L _g	18.75 ft ²
A _{aga} = Adjusted open grate area = A _g *R _o *(1-C _{fg} /100)	5.63 ft ²
check - If D _p <1.792*A _{aga} /P _{agl} ; weir; else orifice	weir
Q _{ig} = Flow intercepted by grate If "weir" controls Q _{ig} =C _{wg} *P _{agl} *D _p ^{1.5} If "orifice" controls Q _{ig} =C _o *A _{aga} *(64.4*D _p) ^{0.5}	14.8 cfs

Curb Opening Capacity Calculations

P _c = Active curb opening weir length (acowl) = L _c +1.8*W	17.70 ft
Pacl : Adjusted acowl = L _c +1.8*(1-C _{fc} /100)*W	16.35 ft
Ac= curb opening area (coa) = L _c *H _c	7.50 ft ²
A _{aca} = Adjusted coa = Ac*(1-C _{fc} /100)	3.75 ft ²
check - If D _p <H _c ; weir; else orifice	orifice
Q _{ic} = Flow intercepted by curb opening If "weir" controls Q _{ic} =C _{wc} *Pacl*D _p ^{1.5} If "orifice" controls Q _{ic} =C _o *A _{aca} *(64.4*D _p -H _c /2) ^{0.5}	14.2 cfs

Total Inlet Calculations

Q _{ti} = Flow Interception Capacity = Q _{ig} +Q _{ic}	29.1 cfs
q = Interception per unit ratio = Q _{ti} /L _g	1.94 cfs/ft

Actual Flow Collected by Drop Inlet

28 cfs



Drop Inlet Sizing Calculation

Project Name: Village 24 - Parcel I

By: JR

Date: 10/08/2018

Drop Inlet Sizing in Sump

10-ft Type CM2 DI

DI #2 (FLOW FROM SECTION W EAST SIDE and 1/2 SECTION X)

Known:

Q= Design Flow	18.7	cfs
D _p = Ponding Depth at Inlet	0.5	ft
W= Grate Width	1.5	ft
L _g = Length of Grate	10.0	ft
L _c = Length of Curb Opening	12.5	ft
H _c = Curb Opening Height	0.5	ft
C _{wc} = Weir coefficient for curb opening	2.3	
C _{wg} = Weir coefficient for grate	3.0	
C _o = Orifice coefficient	0.67	
R _o = Grate opening factor	0.60	
C _{fg} = Clogging Factor for Grate	50	%
C _{fc} = Clogging Factor for Curb Opening	50	%

Grate Capacity Calculations:

P _g = Active grate weir length (agwl) = 2*W+L _g	13.00 ft
P _{agl} Adjusted agwl = 2*(1-C _{fg} /100)*W+L _g	11.50 ft
A _g = Grate area = W*L _g	15.00 ft ²
A _{aga} = Adjusted open grate area = A _g *R _o *(1-C _{fg} /100)	4.50 ft ²
check - If D _p <1.792*A _{aga} /P _{agl} ; weir; else orifice	weir
Q _{ig} = Flow intercepted by grate If "weir" controls Q _{ig} =C _{wg} *P _{agl} *D _p ^{1.5} If "orifice" controls Q _{ig} =C _o *A _{aga} *(64.4*D _p) ^{0.5}	12.2 cfs

Curb Opening Capacity Calculations

P _c = Active curb opening weir length (acowl) = L _c +1.8*W	15.20 ft
Pacl : Adjusted acowl = L _c +1.8*(1-C _{fc} /100)*W	13.85 ft
Ac= curb opening area (coa) = L _c *H _c	6.25 ft ²
A _{aca} = Adjusted coa = Ac*(1-C _{fc} /100)	3.13 ft ²
check - If D _p <H _c ; weir; else orifice	orifice
Q _{ic} = Flow intercepted by curb opening If "weir" controls Q _{ic} =C _{wc} *Pacl*D _p ^{1.5} If "orifice" controls Q _{ic} =C _o *A _{aca} *(64.4*D _p -H _c /2) ^{0.5}	11.8 cfs

Total Inlet Calculations

Q _{ti} = Flow Interception Capacity = Q _{ig} +Q _{ic}	24.0 cfs
q = Interception per unit ratio = Q _{ti} /L _g	1.92 cfs/ft

Actual Flow Collected by Drop Inlet

19 cfs

LAT36IN.WSW

T1 STARLING SUMMERLIN VILLAGE 24 - PARCEL I
T2 GCW INC. PROJECT# 5523-A063
T3 FILENAME: 42 IN LATERAL (LAT42IN) WSW CALC BY JR
SO 1000.0003439.500 1 3444.479
R 1153.2203440.270 1 .013 .000 .000 1
R 1153.2303440.270 1 .013 .000 .000 0
JX 1153.2403440.270 3 2 2.013 27.800 18.7003440.2703440.270 80.0-45.0 .000
R 1279.8203440.900 3 .013 .000 60.000 0
R 1313.8103441.070 3 .013 .000 .000 0
SH 1313.8103441.070 3 .000
CD 1 4 1 .000 3.000 .000 .000 .000 .00
CD 2 4 1 .000 2.500 .000 .000 .000 .00
CD 3 4 1 .000 2.000 .000 .000 .000 .00
Q 9.100 .0

HEADING LINE NO 1 IS -	W S P G W	PAGE NO 1
HEADING LINE NO 2 IS -	WATER SURFACE PROFILE - TITLE CARD LISTING	
HEADING LINE NO 3 IS -	STARLING SUMMERLIN VILLAGE 24 - PARCEL I	
HEADING LINE NO 4 IS -	GCW INC. PROJECT# 5523-A063	
HEADING LINE NO 5 IS -	FILENAME: 42 IN LATERAL (LAT42IN) WSW CALC BY JR	

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia.-FT	Base Wt/or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1000.000	3439.500	4.979	3444.479	55.60	7.87	.96	3445.44	.00	2.42	.00	3.000	.000	.00	1 .0
153.220	.0050					.0069	1.06	4.98	.00	3.00	.013	.00	.00	PIPE
1153.220	3440.270	5.322	3445.592	55.60	7.87	.96	3446.55	.00	2.42	.00	3.000	.000	.00	1 .0
.010	.0000					.0069	.00	5.32	.00	.00	.013	.00	.00	PIPE
1153.230	3440.270	5.322	3445.592	55.60	7.87	.96	3446.55	.00	2.42	.00	3.000	.000	.00	1 .0
JUNCT STR	.0000					.0043	.00	5.32	.00	.00	.013	.00	.00	PIPE
1153.240	3440.270	7.349	3447.619	9.10	2.90	.13	3447.75	.00	1.08	.00	2.000	.000	.00	1 .0
126.580	.0050					.0016	.20	7.35	.00	1.08	.013	.00	.00	PIPE
1279.820	3440.900	6.950	3447.850	9.10	2.90	.13	3447.98	.00	1.08	.00	2.000	.000	.00	1 .0
33.990	.0050					.0016	.05	6.95	.00	1.08	.013	.00	.00	PIPE
1313.810	3441.070	6.835	3447.905	9.10	2.90	.13	3448.04	.00	1.08	.00	2.000	.000	.00	1 .0



MINOR STORM DRAIN LATERAL - CCRFCD MANUAL FRICTION LOSS CALCULATION SHEET

STORM DRAIN DESIGN						PIPE HYDRAULIC CHARACTERISTICS						LOSS	HGL			DESCRIPTION	
Q _{DESIGN}	DIAMETER (FT)	MANNING'S 'n'	INVERTS		LENGTH	A (FT ²)	R (FT)	Φ	V (FPS)	H _v = V ² /2g (FT)	S _f (FT/FT)	PIPE	PIPE			PARTIAL FLOW?	LATERAL
(CFS)			D / S ELEV.	U / S ELEV.								H _f (FT)	TRUNK WSE (from Model)	LATERAL PIPE D/S HGL ELEV. ¹	LATERAL PIPE U/S HGL ELEV. ¹		
7.2	1.5	0.013	3485.93	3486.36	8.6	1.77	0.375	0.004925	4.07	0.257771	0.004679	0.040	3487.37	3487.4	3487.9	No	18" LATERAL FROM DI #5
8.7	1.5	0.013	3485.93	3486.1	34.8	1.77	0.375	0.004925	4.92	0.376364	0.006831665	0.238	3487.37	3487.4	3487.6	No	18" LATERAL FROM DI #6
10.4	1.5	0.013	3469.02	3470	33.6	1.77	0.375	0.004925	5.89	0.537819	0.009762358	0.328	3474.14	3474.1	3474.1	No	18" LATERAL FROM DI #3
10.4	1.5	0.013	3469.02	3469.5	6.1	1.77	0.375	0.004925	5.89	0.537819	0.009762358	0.060	3474.14	3474.1	3474.1	No	18" LATERAL FROM DI #4
27.8	2.5	0.013	3440.27	3441.43	7.77	4.91	0.625	0.004925	5.66	0.49804	0.004582725	0.036	3447.62	3447.6	3447.6	No	30" LATERAL FROM DI #1
18.7	2.5	0.013	3440.27	3440.42	31.57	4.91	0.625	0.004925	3.81	0.22535	0.002073564	0.065	3447.62	3447.6	3447.6	No	30" LATERAL FROM DI #2

Pipe Friction Loss Calculations per CCRFCD Manual 804.2.1

$$\Phi = 2g (n^2) / 2.21$$

$$S_f = \Phi H_v / R^{1.33}$$

$$H_f = \text{Length} \times S_f$$

1 - Where HGL in lateral is below top of pipe (PARTIAL FLOW), assume HGL is at top of pipe.

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The revised Figure 5 still does not show street names. Also, *Cross Sections A, B*, etc cannot be cross referenced from the table to the map? Review and revise accordingly.
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END OF REMARKS
WSP/AYS

T/R/S: T20S/R59E/33
AREA K-33



**LAS VEGAS
CITY COUNCIL**

CAROLYN G. GOODMAN
Mayor

LOIS TARKANIAN
Mayor Pro Tem

STAVROS S. ANTHONY

BOB COFFIN

STEVEN G. SEROKA

MICHELE FIORE

CEDRIC CREAR

SCOTT D. ADAMS
City Manager

DEPARTMENT OF PLANNING

ROBERT SUMMERFIELD
DIRECTOR

**DEVELOPMENT
SERVICES CENTER**

DEPARTMENT OF PLANNING

333 N. RANCHO DRIVE
3RD FLOOR

LAS VEGAS, NV 89106

702.229.6301 | VOICE

702.474.7463 | FAX

711 | TTY



cityoflasvegas
lasvegasnevada.gov

June 13, 2018

Mr. Kevin Orrock
Howard Hughes Company, LLC
10801 W. Charleston Blvd., 3rd Floor
Las Vegas, Nevada 89014

**RE: TMP-73319 [PRJ-73310] - TENTATIVE MAP
PLANNING COMMISSION MEETING OF JUNE 12, 2018**

Dear Applicant:

Your request for a Tentative Map FOR A 116-LOT SINGLE FAMILY RESIDENTIAL SUBDIVISION on 37.98 acres on the west side of Crossbridge Drive, approximately 1,670 feet south of Suncreek Drive (APN 137-33-810-003), P-C (Planned Community) Zone, Ward 2 (Seroka) [PRJ-73310], was considered by the Planning Commission on June 12, 2018.

The Planning Commission voted to **APPROVE** your request, subject to the following:

Planning

1. Approval of the Tentative Map shall be for no more than four (4) years. If a Final Map is not recorded on all or a portion of the area embraced by the Tentative Map within four (4) years of the approval of the Tentative Map, this action is void.
2. Street names must be provided in accordance with the City's Street Naming Regulations.
3. A fully operational fire protection system, including fire apparatus roads, fire hydrants and water supply, shall be installed and shall be functioning prior to construction of any combustible structures.
4. In conjunction with creation, declaration and recordation of the subject common-interest community, and prior to recordation of the Covenants, Codes and Restrictions ("CC&R"), or conveyance of any unit within the community, the Developer is required to record a Declaration of Private Maintenance Requirements ("DPMR") as a covenant on all associated properties, and on behalf of all current and future property owners. The DPMR is to include a listing of all privately owned and/or maintained infrastructure improvements, along with assignment of maintenance responsibility for each to the

common interest community or the respective individual property owners, and is to provide a brief description of the required level of maintenance for privately maintained components. The DPMR must be reviewed and approved by the City of Las Vegas Department of Field Operations prior to recordation, and must include a statement that all properties within the community are subject to assessment for all associated costs should private maintenance obligations not be met, and the City of Las Vegas be required to provide for said maintenance. Also, the CC&R are to include a statement of obligation of compliance with the DPMR. Following recordation, the Developer is to submit copies of the recorded DPMR and CC&R documents to the City of Las Vegas Department of Field Operations.

5. All development is subject to the conditions of City Departments and State Subdivision Statutes.

Public Works

6. Provide proof of a Private Access over Common Lot "C" that matches the entry proposed on this Tentative Map. The easement granted on Book 152 Page 41 of Plats is only 40 feet wide.
7. Private streets must be granted and labeled on the Final Map for this site as Public Utility Easements (P.U.E.), Public Sewer Easements, and Public Drainage Easements with private maintenance by the Homeowner's Association.
8. Public sewer lines should be a minimum 10 feet from property lines and median islands.
9. Meet with the Fire Protection Engineering Section of the Department of Fire Services to discuss fire requirements for this Site Plan Prior to submittal of construction drawings for this site.
10. Prior to the release of a Final Map for recordation on this site, the property owner must contact the Special Improvement District Section of the Department of Public Works (702-229-2136) and sign a notarized affidavit acknowledging and agreeing to a per lot assessment of all lots that will be created through a Final Map for this site. The City shall prepare an apportionment report following recordation of the Final Map and this apportionment report must be signed by the property owner prior to the release of any building permits for this site.
11. All landscaping shall be situated and maintained so as to not create sight visibility obstructions for vehicular traffic at all development access drives and abutting street intersections.

12. The gated entry shall be modified on the ingress side so that vehicles on the ingress are parallel with the curb. Additionally, a queuing analysis must be submitted and approved by the City Traffic Engineer prior to submittal of construction drawings for this site.
13. A Drainage Plan and Technical Drainage Study must be submitted to and approved by the Department of Public Works prior to the issuance of any building or grading permits, submittal of any construction drawings or the submittal of a Map subdividing this site, whichever may occur first. Provide and improve all drainageways recommended in the approved drainage plan/study. The developer of this site shall be responsible to construct such neighborhood or local drainage facility improvements as are recommended by the City of Las Vegas Neighborhood Drainage Studies and approved Drainage Plan/Study concurrent with development of this site.
14. Site development to comply with all applicable conditions of approval for Summerlin Village 24 and all other applicable site related actions.
15. The approval of all Public Works related improvements shown on this Tentative Map is in concept only. Specific design and construction details relating to size, type and/or alignment of improvements, including but not limited to street, sewer and drainage improvements, shall be resolved prior to approval of the construction plans by the City. No deviations from adopted City Standards shall be allowed unless specific written approval for such is received from the City Engineer prior to the recordation of a Final Map or the approval of subdivision related construction plans, whichever may occur first. Approval of this Tentative Map does not constitute approval of any deviations. If such approval cannot be obtained, a revised Tentative Map must be submitted showing elimination of such deviations.

This action by the Planning Commission on **June 12, 2018** is final unless a written appeal is filed with the City Clerk within seven days of the date of the Planning Commission's decision as allowed by code or there is a review action filed by the City Council within the same time period. For additional information on appeals or review requests submitted please access <http://www.lasvegasnevada.gov/CheckStatus/DevelopmentApp.htm>, or contact the Department of Planning and Development at 702.229.6301 after **June 19, 2018**. No building permits or business licenses related to these items shall be issued prior to the expiration of the required ten day waiting period, or until any filed appeal is resolved pursuant to LVMC Title 19.18.

Sincerely,



Paul Bengtson
Senior Management Analyst
Case Planning Division

TMP-73319 [PRJ-73310] - Page Four
June 13, 2018

PB:nl

cc:

Mr. Dan Hale
Pardee Homes of Nevada
4675 W. Teco Road, Ste. 115
Las Vegas, Nevada 89118

Ms. Angie Scott
GCW, Inc.
1555 S. Rainbow Blvd.
Las Vegas, Nevada 89146

**TECHNICAL DRAINAGE STUDY
FOR
SUMMERLIN VILLAGE 24
PARCEL COS-3 WASH**

62024-226-3

March 2017

Prepared for:

**The Howard Hughes Company, LLC
10801 W. Charleston Blvd., 3rd Floor
Las Vegas, Nevada 89135
Phone: (702) 791-4300
Fax: (702) 791-4450**

GCV 
ENGINEERS \ SURVEYORS

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: May 2, 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:	
	Summerlin Village 24 – Parcel COS-3 Wash	
Cross Streets:	Open Space between Parcel H and Parcel I	
File Number:	F:\Depot\DSMemos\DS4869B.doc	
Parcel Number:	137-33-810-004	
Zoning Action:	FMP-62680	
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES	NO X
COPIES TO:		
		GCW Engineers & Surveyors
		Howard Hughes Company, LLC
		Bart Anderson, P.E., DevCo

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	3/23/2017	4/6/2017	Not Approved	\$400.00	479460: \$400
Supplement	4/18/2017	5/2/2017	See Comments Below	N/C	N/C
TOTAL FEES (LDDRS):				\$400.00	----

REMARKS:

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

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

- The subject "COS-3" wash is a common lot and public drainage easement to be privately maintained by the developer and future *Homeowners Association*. Record as such in the final map.

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

T/R/S: T20S/R59E/33
AREA K-33

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: Summerlin Village 24 Parcel COS-3 Wash Date: March 2017

Location of Development a) Descriptive (Cross Streets) North/South: Sky Vista Drive

East/West: Crossbridge Drive

b) Section: 33 Township: 20S Range: 59E

c) APN: 137-33-810-004

Name of Owner: The Howard Hughes Company, LLC.

Telephone No.: 791-4300 Fax No. 791-4450 E-Mail Address: Not available

Address: 10801 W. Charleston Blvd, 3rd Floor, Las Vegas, Nevada 89135

Contact Person-Name: Grant Tokumi, P.E.

Telephone No.: (702) 804-2000

* E-Mail Address: GTokumi@gcwengineering.com

Fax No.: (702) 804-2299

Firm: GCW, INC.

Address: 1555 S. Rainbow Blvd, Las Vegas, NV 89146

Type of Land Development/Land Disturbance

☐	Rezoning	☐	Subdivision Map	☐	Clearing and Grading Only
☐	Parcel Map	☐	Planned Unit Development	☒	Other (Please specify below)
☐	Large Parcel Map	☐	Building Permit		Storm Drain and Channel Improvements

1. Total Owned Land Area: At Site: 396.57 ± acres Being Developed/Disturbed: 6.76 ± 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

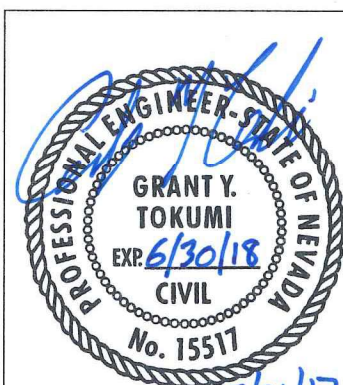
4. Proposed type of development (Residential, Commercial, Etc.): Storm Drain and Channel Improvements

5. Approximate upstream land area which drains to the subject site: 530.6 ± acres

6. Has the site drainage been evaluated in the past? ☒ Yes ☐ No If yes, please identify documentation: Update #2 to the Conceptual Drainage Study for Summerlin Village 24, GCW; Update to the Technical Drainage Study for Village 24 Parcel COS-4, GCW; Update #6 to the Technical Drainage Study for Summerlin Village 24 Unit 2 Improvements - Crossbridge Drive (Crossbridge Unit 1 to Sun Creek Road), GCW; Update #2 to the Technical Drainage Study for Summerlin Village 24 Unit 1 Improvements Including Parcels "A" & "B" Mass Grading, GCW.

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Existing wash south of Village 24

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



Engineer's Seal

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

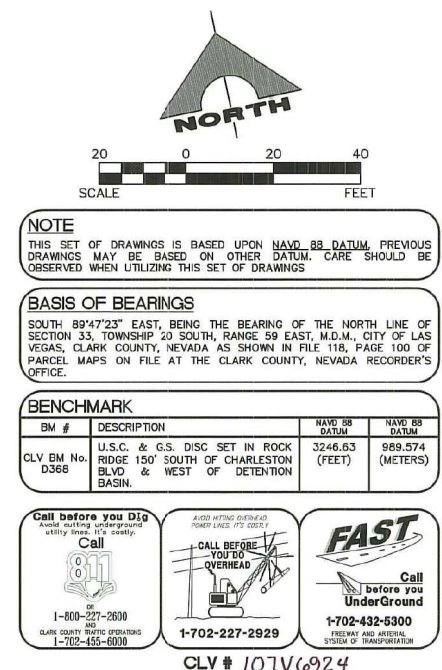
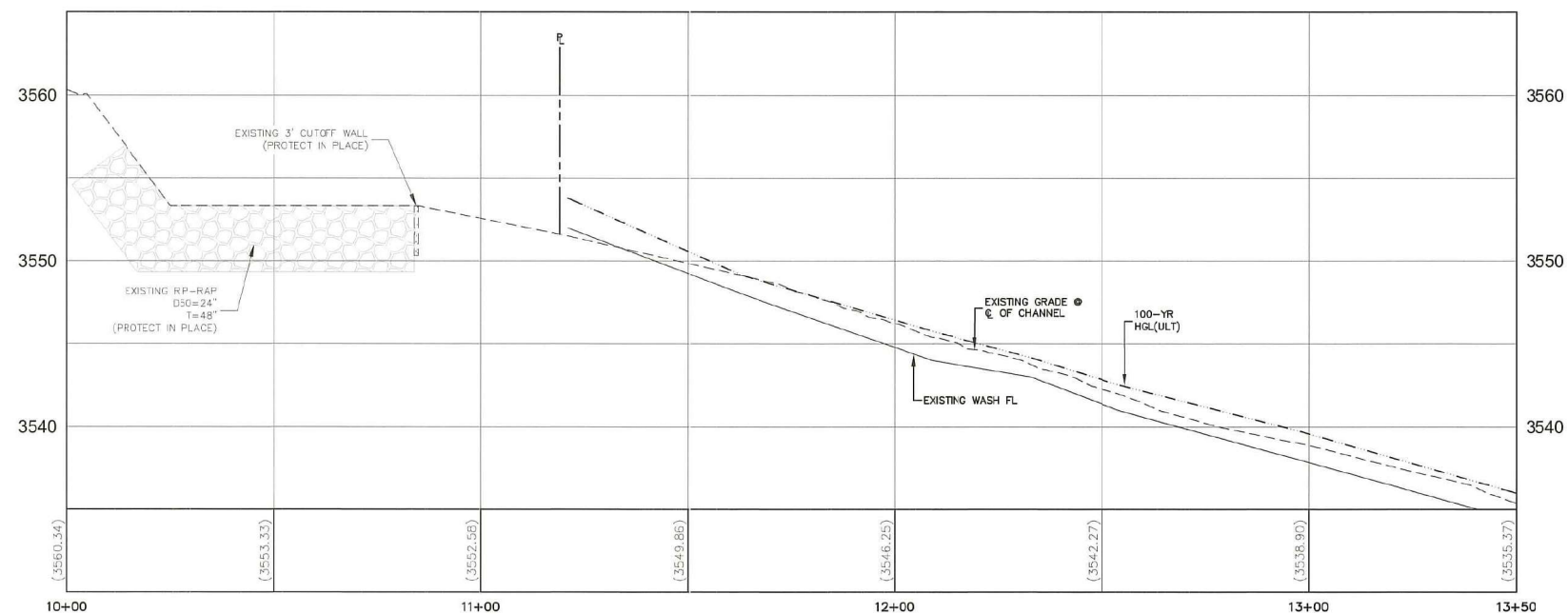
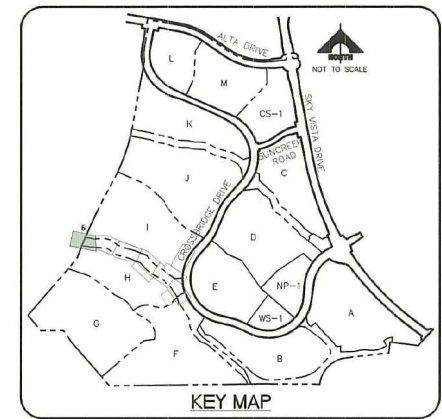
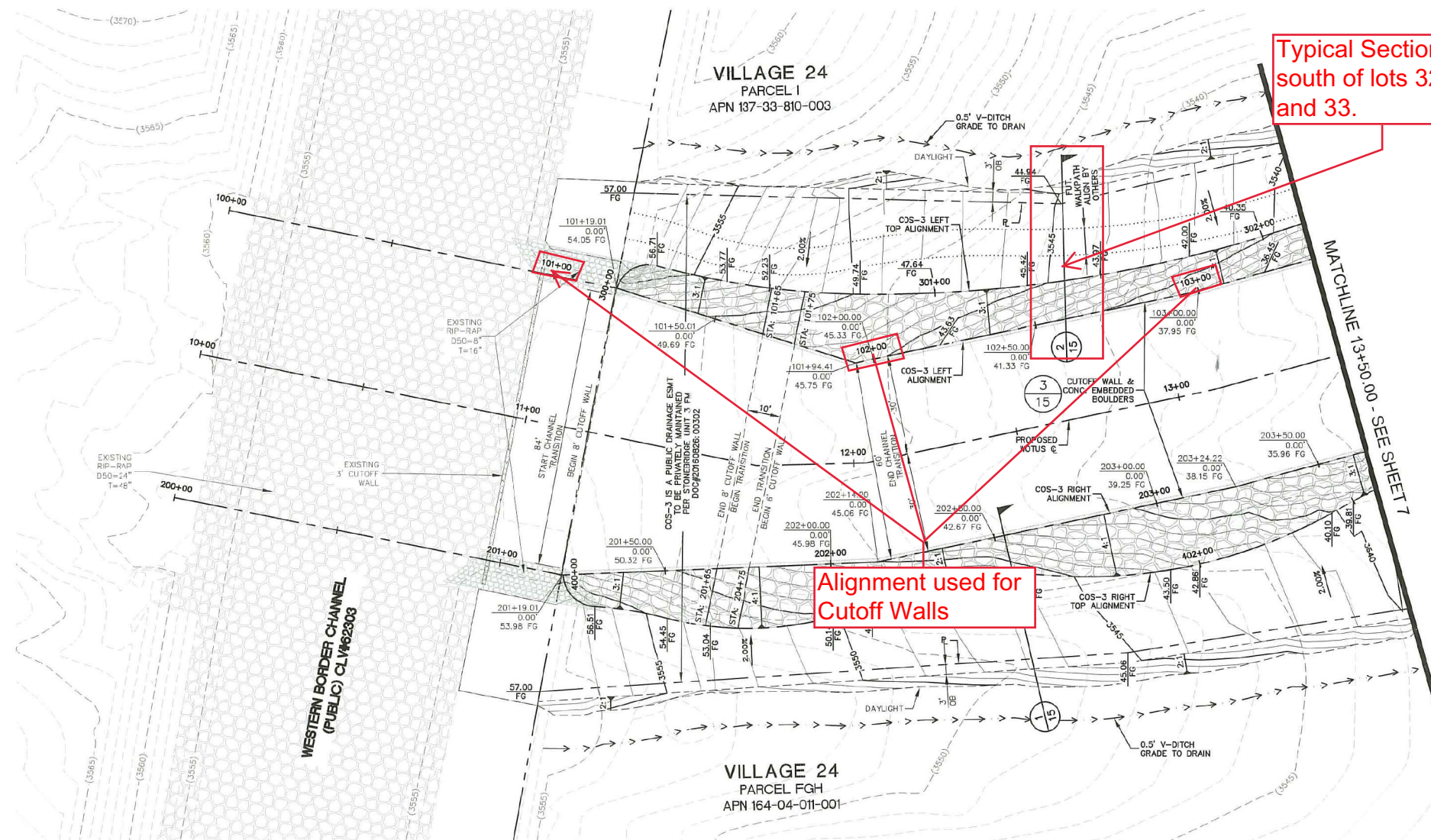
*New Required Field

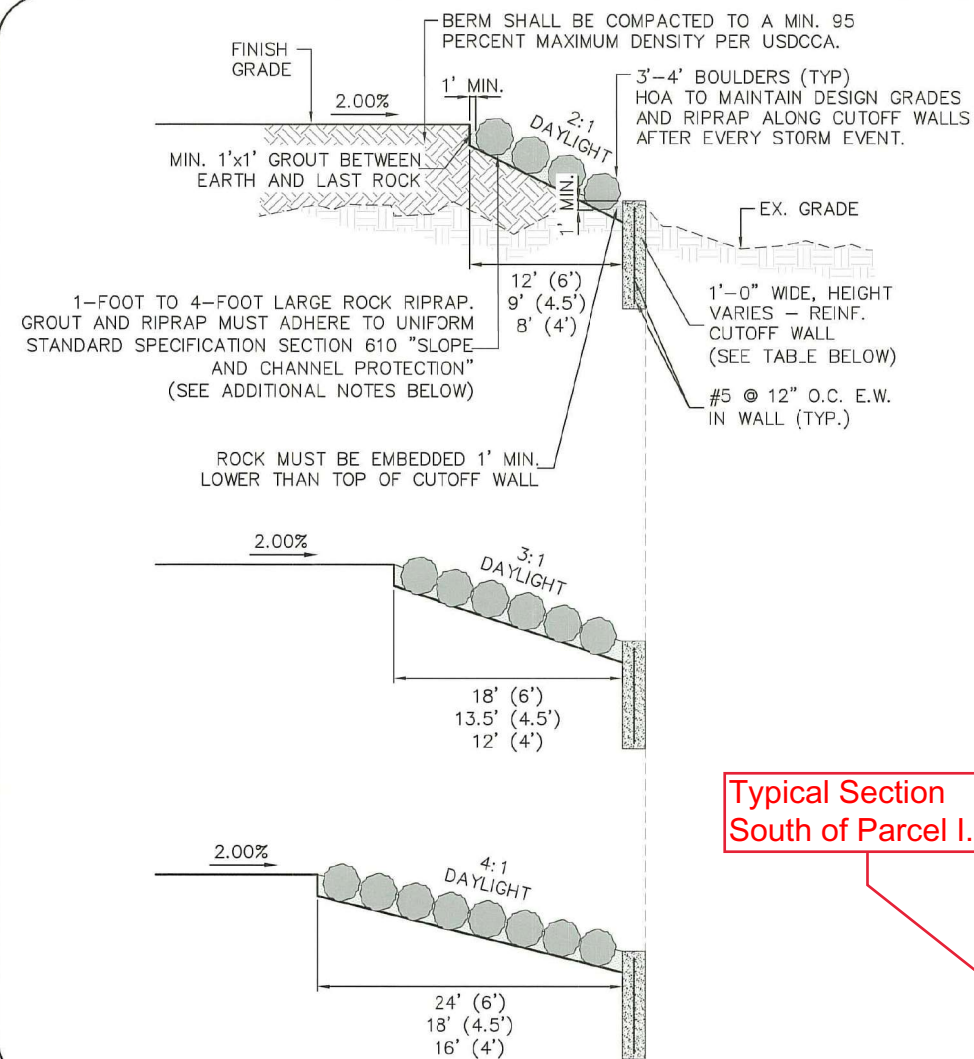
**Review and concurrence of the Clark County Regional Flood Control District is required.

Local Entity File No.	Revision	Date

REFERENCE:

STANDARD FORM 1





- NOTES:

1. WASHES MUST BE INSPECTED AND MAINTAINED AFTER EACH STORM EVENT. IF THE CUT-OFF WALL IS EXPOSED, BACKFILL MUST BE PLACED TO THE TOP OF CUT-OFF WALL, BENCHED 1-FOOT HORIZONTALLY AND GRADED TO A 3:1 SLOPE.
2. CONTRACTOR SHALL USE PRIMARILY 3-FOOT AND 4-FOOT LARGE ROCK (BOULDER) RIPRAP FOR SLOPE PROTECTION, WITH 1-FOOT AND 2-FOOT ROCK USED TO FILL VOIDS BETWEEN THE 3-FOOT AND 4-FOOT BOULDERS.
3. ALL VOIDS SHALL BE FILLED WITH GROUT TO A MINIMUM DEPTH OF HALF THE DEPTH OF THE ROCK/BOULDER.
4. BOTTOM ROW OF ROCK/BOULDER ADJACENT TO THE CUT-OFF WALL MUST BE EMBEDDED 1-FOOT BELOW THE TOP OF THE CUT-OFF WALL.
5. EXCLUDING THE BOTTOM ROW OF ROCK/BOULDER, THE BOTTOM OF ALL 3-FOOT AND 4-FOOT ROCK/BOULDER MUST BE A MINIMUM OF 1-FOOT BELOW THE TOP OF THE LOWER ROCK, AND 1-FOOT AND 2-FOOT ROCK MUST BE A MINIMUM OF 6" BELOW THE TOP OF THE LOWER ROCK.

SECTION 610
SLOPE AND CHANNEL PROTECTION ADDITIONAL NOTES

610.02.04 STONES FOR RIPRAP

- A. STONES USED FOR RIPRAP SHALL BE HARD, DURABLE, ANGULAR IN SHAPE, RESISTANT TO WEATHERING AND EROSION, AND FREE FROM SPOILS, CRACKS, AND ORGANIC MATTER.

ADD 4 AND 5 TO THIS SUBSECTION:

4. THE SPECIFIC GRAVITY OF THE CONCRETE EMBEDDED RIPRAP SHALL NOT BE LESS THAN 2.45.
5. THE NOMINAL STONE SIZE FOR THE GROUTED RIPRAP LARGE ROCK SHALL BE 3-FOOT TO 4-FOOT, WITH THE FOLLOWING LIMITATIONS:
 - A. THE PERCENTAGE OF STONES PER FOOTING SHALL BE 100%.
 - B. THE PERCENTAGE OF STONES PER FOOTING SHALL BE 100%.
 - C. CONTROL OF GRADATION WILL BE BY VISUAL INSPECTION.

REVISE SUBSECTION AS FOLLOWS:

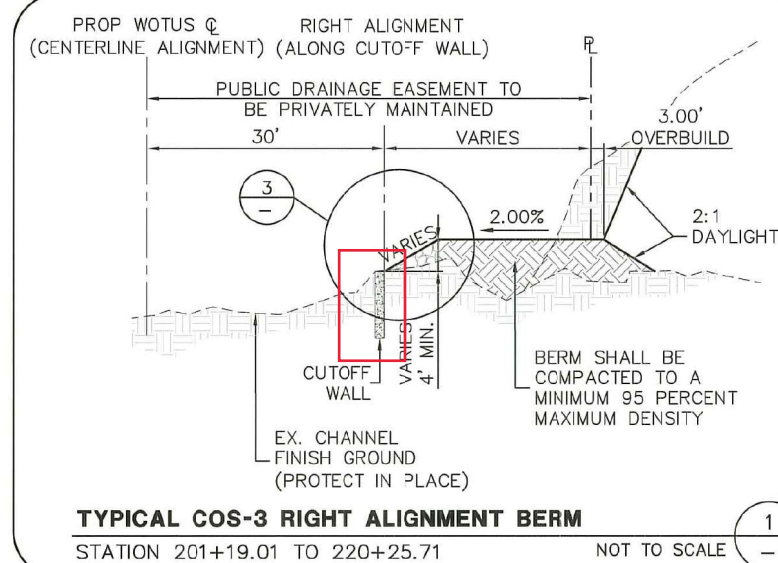
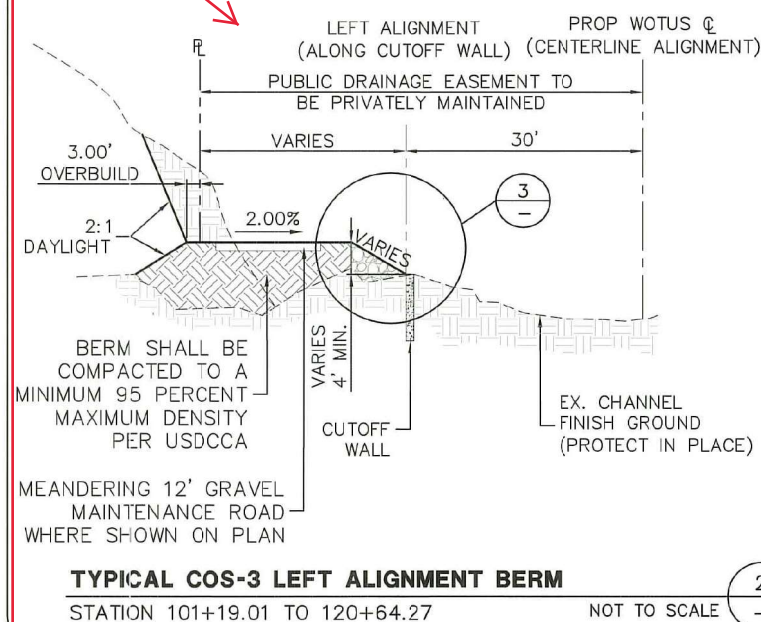
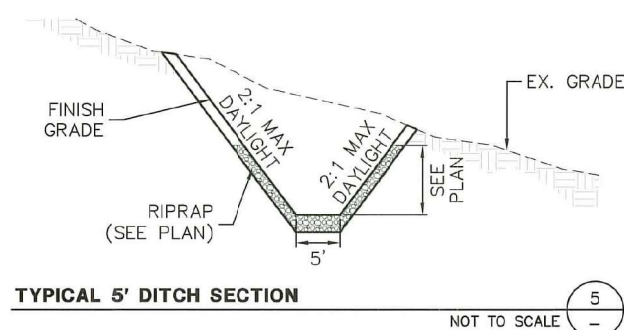
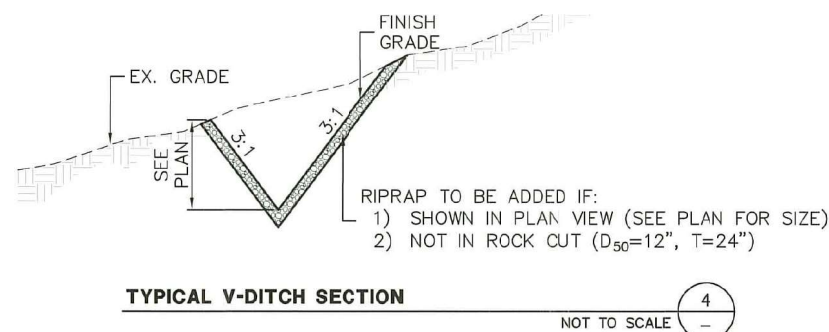
1. THE CONTRACTOR SHALL PROVIDE A SAMPLE OF STONE OF AT LEAST 5 TONS MEETING THE GRADATION FOR GROUTED RIPRAP ~~LARGE ROCK~~.

REVISE SUBSECTION D. AS FOLLOWS:

- D. CALICHE STONE OR CEMENTITIOUS MATERIALS MEETING THE REQUIREMENTS OF THIS SECTION MAY BE USED AS RIPRAP WITH PRIOR APPROVAL OF THE ENGINEER. CALICHE STONE OR CEMENTITIOUS MATERIAL MAY NOT BE USED FOR GROUTED RIPRAP LARGE ROCK.

APPROXIMATE STATIONING OF BERM HEIGHTS FOR COS-3			
HEIGHT	STATION		COMMENTS
4'	101+19.01	& 201+19.01	BEGIN
TRANS	115+93.54	& 215+95.48	25' TRANSITION
4.5'	116+18.54	& 216+20.48	—
TRANS	—	& 219+60.00	15' TRANSITION
6'	—	& 219+75.00	—
—	120+64.27	& 220+25.71	END

HEIGHT	STATION	COMMENTS
8'	101+19.01 & 201+19.01	BEGIN
TRANS	101+65 & 201+65	10' TRANSITION
6'	101+75 & 201+75	-
TRANS	105+97 & 205+84	10' TRANSITION
7'	106+07 & 205+94	-
TRANS	106+58 & 205+42	10' TRANSITION
6'	106+68 & 205+52	-
	120+64.27 & 220+25.71	END



RIPRAP GENERAL NOTE:
ALL RIPRAP SHALL ADHERE TO REQUIREMENTS OF UNIFORM STANDARD SPECIFICATION
SECTION 610 "SLOPE AND CHANNEL PROTECTION."

FOR GROUTED RIPRAP LARGE ROCK, SEE ADDITIONAL REQUIREMENTS
TO SECTION 610 "SLOPE AND CHANNEL PROTECTION ADDITIONAL
NOTES" PER DETAIL 3 SHEET 15.

TABLE 3
HEC-RAS SUMMARY – SUPERCRITICAL FLOW (ULTIMATE CONDITIONS)

Sta*	Plan Sta	ULT Q	FL Elevation	WS Elevation	Depth	Vel	Top Width	Froude #	Radius	Super- elevation	Total Depth	Chnl Height
		(cfs)	(ft)	(ft)	(ft)	(ft/s)	(ft)			(ft)	(ft)	(ft)
1000	27+52	720	3440.48	3442.10	1.62	11.06	67.54	1.93	0	0.0	2.9	4.0
960	27+94	720	3438.00	3440.00	2.00	10.26	64.63	1.69	560	0.2	3.5	6.0
925	28+29	720	3436.00	3437.20	1.20	11.97	56.43	2.04	560	0.2	2.7	6.0
850	29+08	799	3430.64	3432.82	2.18	10.54	72.11	1.78	560	0.2	3.7	4.0
775	30+01	799	3424.00	3425.99	1.99	13.38	51.57	2.19	0	0.0	3.4	6.0
700	30+61	799	3421.00	3422.42	1.42	14.43	60.51	2.66	0	0.0	2.8	6.0
550	-	1031	3415.41	3416.66	1.25	13.61	86.65	2.56	0	0.0	2.6	4.0

*See Figure 6

Scour

Scour calculations were performed for velocities in the flow corridor exceeding five (5) fps to determine erosion control measures to prevent undercutting of the proposed channel improvements. A 6-foot to 8-foot deep minimum vertical riprap cutoff wall is designed along the toe of the proposed channel improvements. Scour calculations are

B. The results from the calculations are summarized in Table 4.

Scour Calculations
South of Lots 32
and 33.

TABLE 4
COS-3 - SCOUR WALL CALCULATIONS (ULTIMATE CONDITIONS)

Sta*	Plan Sta	ULT Q	FL Elevation	WS Elevation	Depth	Vel	Calculated Scour Depth	Depth Required	Provided Scour Protection
		(cfs)	(ft)	(ft)	(ft)	(ft/s)	(ft)	(ft)	(ft)
2699	11+21	720	3552	3553.8	1.80	6.47	6.28	8.08	8
2650	11+63	720	3548	3549.13	1.13	14.98	6.28	7.05	8
2600	12+09	720	3544	3545.78	1.78	11.52	<1	1.37	
2575	12+33	720	3543	3544.16	1.16	11.65	<1	0.49	
2550	12+54	720	3541	3542.53	1.53	11.9	<1	0.76	
2500	12+98	720	3538	3539.73	1.73	10.89	1.53	2.53	
2450	13+55	720	3534	3535.63	1.63	12.09	1.53	3.59	
2425	13+85	720	3532	3533.74	1.74	11.39	<1	2.92	
2400	14+17	720	3530	3531.76	1.76	10.81	3.33	5.17	6
2350	14+55	720	3527.84	3529.2	1.36	11.07	3.33	4.99	6
2300	14+82	720	3525.91	3527.19	1.28	12.33	3.33	4.17	6
2250	15+08	720	3524	3525.53	1.53	12.22	3.33	4.25	6
2225	15+45	720	3521	3522.82	1.82	13.53	3.33	4.79	6
2200	15+72	720	3519	3521.24	2.24	11.49	<1	1.83	
2175	15+93	720	3518	3519.71	1.71	11.25	<1	0.95	
2150	16+13	720	3516	3518.2	2.20	11.5	3.74	5.64	7
2125	16+50	720	3513	3514.96	1.96	12.34	3.74	6.61	7
2100	16+84	720	3511	3512.58	1.58	11.88	<1	1.88	
2050	17+16	720	3509	3510.22	1.22	11.97	<1	0.86	6

TABLE 4
COS-3 - SCOUR WALL CALCULATIONS (ULTIMATE CONDITIONS)

Sta*	Plan Sta	ULT Q	FL Elevation	WS Elevation	Depth	Vel	Calculated Scour Depth	Depth Required	Provided Scour Protection
		(cfs)	(ft)	(ft)	(ft)	(ft/s)	(ft)	(ft)	(ft)
1975	17+91	720	3503.11	3505.18	2.07	10.47	2.22	3.91	6
1900	18+67	720	3498.25	3499.83	1.58	11.58		3.84	
1825	19+56	720	3492.7	3494.2	1.50	11		3.52	
1800	19+88	720	3490.8	3492.21	1.41	10.65		5.30	
1750	20+18	720	3489	3490.12	1.12	11.68		5.09	
1650	21+00	720	3483.81	3485.43	1.62	11.03		4.41	
1600	21+60	720	3479.84	3480.94	1.10	12.3		2.78	
1545	22+12	720	3476.56	3477.97	1.41	10.48	1.99	2.71	
1500	22+81	720	3471.78	3473	1.22	12.64		1.55	
1450	23+23	720	3468.69	3469.99	1.30	12.38	<1	0.99	
1375	24+04	720	3463.55	3464.93	1.38	12.12		0.82	
1300	24+62	720	3459.09	3461.11	2.02	10.97	1.16	2.62	
1225	25+37	720	3453.9	3455.83	1.93	11.54		2.73	
1150	26+15	720	3450	3451.22	1.22	10.14	3.85	4.18	
1075	26+89	720	3444	3446.17	2.17	12.21		5.85	
1050	27+21	720	3442	3443.87	1.87	12.24		5.25	
1000	27+52	720	3440.48	3442.1	1.62	11.06	<1	1.40	
960	27+94	720	3438	3440	2.00	10.26	3.54	5.08	
925	28+29	720	3436	3437.21	1.21	11.95		5.02	
850	29+08	799	3430.64	3432.82	2.18	10.54	3.21	4.97	
775	30+01	799	3424	3425.99	1.99	13.38		5.56	

GROSS ACREAGE:	39.20
NO. OF LOTS:	116
DENSITY(UNIT/AC):	2.98

LEGAL DESCRIPTION

LOT 1 AS SHOWN IN BOOK 152, PAGE 41 ON FILE AT THE CLARK COUNTY, NEVADA
RECORDER'S OFFICE, LYING WITHIN SECTION 33, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M.,
CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.



BASIS OF BEARING:

NORTH 05°36'00" WEST, BEING THE BEARING OF THE WEST LINE OF THE SOUTHWEST QUARTER (SW $\frac{1}{4}$) OF SECTION 33, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M. AS SHOWN IN BOOK 152, PAGE 41 OF PLATS ON FILE AT THE CLARK COUNTY, NEVADA RECORDER'S OFFICE.

BENCHMARK:

CITY OF LAS VEGAS BENCHMARK NO. D368, U.S.C. & G.S. DISC
SET IN ROCK RIDGE 150' SOUTH OF CHARLESTON BLVD & WEST
OF DETENTION BASIN.

ELEVATION: 3246.63 (FEET)
989.574 (METERS)

BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD'88)

OWNER

HUGHES HOWARD COMPANY LLC
10801 W CHARLESTON BLVD
LAS VEGAS, NV 89135
(702) 791-4000

DEVELOPER

PARDEE HOMES OF NEVADA
4675 W. TECO AVENUE, SUITE 115
LAS VEGAS, NV 89118
(702) 614-1400

ENGINEER

GCW, INC.
1555 SOUTH RAINBOW BLVD.
LAS VEGAS, NEVADA 89146
(702) 804-2000
(702) 804-2299 (FAX)

UTILITY/AGENCY APPROVALS

COX COMMUNICATIONS LAS VEGAS, INC.

CENTRAL TELEPHONE COMPANY, DBA CENTURY LINK

THE AFFIXED CENTRAL TELEPHONE COMPANY, DBA 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.

NV ENERGY

NEVADA POWER COMPANY ACKNOWLEDGES THAT WE HAVE RECEIVED YOUR PLANS AND WILL PROVIDE SERVICE TO ALL ELECTRICAL NEEDS ASSOCIATED WITH THIS PROJECT. NEVADA POWER COMPANY 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.

NV ENERGY – TRANSMISSION ENGINEERING

SOUTHWEST GAS CORP.

ALLEN PAVELKA, PE# 9029

CITY ENGINEER/ACTING
CITY OF LAS VEGAS, NEVADA

APPROVAL OF THESE PLANS IS LIMITED TO THOSE IMPROVEMENTS CONSTRUCTED IN THE DEDICATED RIGHTS-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 STANDARDS". THE ENGINEER SHALL RESOLVE ANY DEVIATION OTHER THAN THOSE LISTED IN "DEVIATIONS FROM STANDARDS" IN FAVOR OF THE UNIFORM STANDARD DRAWINGS AND SPECIFICATIONS CLARK COUNTY AREA NEVADA.

CLV PLANNING DEPARTMENT

THIS PLAN MEETS THE APPLICABLE STANDARDS OF THE CITY OF LAS VEGAS PLANNING DEPARTMENT

PLANNING DEPARTMENT

APPROVED FOR CONSTRUCTION

LAS VEGAS FIRE AND RESCUE, FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL DATE

SUMMERLIN DESIGN REVIEW COMMITTEE

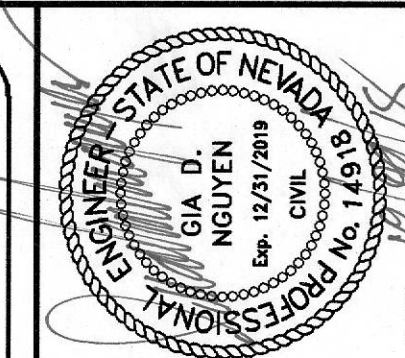
APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. _____ FIRST APPROVED DATE _____
LUVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL _____

L#

CLV DWG#	
----------	--



PROJECT NO.
5523-A063

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146

GCL
ENGINEERS & SURVEYORS

PARDEE HOMES

COVER SHEET

DRAWING

C1

1 OF 54 SHTS

CITY OF LAS VEGAS GRADING NOTES

- 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.
- 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.
- CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL EXCAVATION. ADEQUATE SHORING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR TO PREVENT UNDERMINING OF ANY ADJACENT FEATURES OR FACILITIES AND/OR CAVING OF THE EXCAVATION.
- 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.
- 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.
- CONTRACTOR SHALL GRADE TO THE LINES AND ELEVATIONS SHOWN ON THE PLANS WITHIN THE FOLLOWING HORIZONTAL AND VERTICAL TOLERANCES AND DEGREES OF COMPACTION, IN THE AREAS INDICATED:

	HORIZONTAL	VERTICAL	COMPACTION
A. PAVEMENT AREA SUBGRADE	0.1'±	+0.0' TO -0.1'	SEE SOILS REPORT
B. ENGINEERED FILL	0.5'±	+0.1' TO -0.1'	SEE SOILS REPORT

COMPACTION TESTING WILL BE PERFORMED BY THE OWNER OR HIS REPRESENTATIVE. COMPACTION SHALL COMPLY WITH THE REQUIREMENTS OF THE ENGINEER.
- ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.
- 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.
- THE CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS AND ALL OTHER PUBLIC RIGHT-OF-WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE PUBLICLY OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.
- IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED THAT IS NOT SHOWN ON THESE DRAWINGS, SUCH ITEM SHALL BE PROVIDED, AS DIRECTED BY THE CITY ENGINEER, AT NO EXPENSE TO THE CITY OF LAS VEGAS. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

REVISED 4/15/10

STORMWATER RUNOFF MANAGEMENT

- 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 WAYS OF THE CITY OF LAS VEGAS AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
- ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN THE CITY OF LAS VEGAS AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BEST MANAGEMENT PRACTICES MANUAL.
- TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY. REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
- AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPs WEEKLY, AND WITHIN 24 HOURS AFTER ANY 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 TO WEEKLY INSPECTIONS MAY APPLY. SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
- ACCUMULATED SEDIMENT IN BMPs SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

CITY OF LAS VEGAS SEWER NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS AND THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA. AS AMENDED, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATIONS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM CONSTRUCTION AS PER PLANS. ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE CITY ENGINEER.
- CHISEL "S" OR "G" IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.
- POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OF TYPE II AGGREGATE BASE.
- ALL MANHOLES PAVED IN STREETS EIGHTY (80') FOOT R/W AND LARGER SHALL HAVE CONCRETE COLLARS. STREETS LESS THAN EIGHTY (80') FOOT R/W WILL REQUIRE RETROFIT IF PAVING DOES NOT CONFORM TO CITY STANDARDS AT THE MANHOLE.
- TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO TWELVE INCH (12") DIAMETER. CONNECTIONS TO FIFTEEN INCH (15") OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES. IN LINE "Y" "S" SHALL BE USED ON LINES TWELVE INCHES (12") OR ABOVE.
- WATER MAINS SHALL BE PROTECTED IN ACCORDANCE WITH LVWD STANDARDS WHENEVER A SEWER OR GAS CROSSSES OVER A WATER MAIN OR THE SEWER IS LESS THAN EIGHTEEN INCH (18") UNDER A WATER MAIN.
- ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CITY OF LAS VEGAS MUST BE STATE OF NEVADA CLASS "A" CONTRACTORS.
- THE CITY OF LAS VEGAS WILL NOT ACCEPT ANY SEWER MAINS WHICH HAVE A VERTICAL DEFLECTION OF MORE THAN ONE TENTH (0.1') OF A FOOT FROM THE APPROVED CONSTRUCTION PLANS AT ANY LOCATION. SEWER MAINS FOUND TO EXCEED THIS TOLERANCE WILL HAVE TO BE REPAIRED OR REMOVED OR REPLACED TO THE SATISFACTION OF THE CITY ENGINEER PRIOR TO ACCEPTANCE BY THE CITY OF LAS VEGAS.
- INSTALLATION OF CURVED SEWER REQUIRES THE USE OF C-900 PIPE WHICH ALLOWS FOR PIPE DEFLECTION AT THE JOINTS.

REVISED 04/15/10

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CALL BEFORE OVERHEAD

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FAST

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1-702-432-5300

SYSTEM OF TRANSPORTATION

LAS VEGAS FIRE AND RESCUE GENERAL NOTES

- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LAS VEGAS FIRE AND RESCUE ADOPTED FIRE CODE ORDINANCE #6325 FOR HYDRANT SPECIFICATIONS AND HYDRANT INSTALLATION SPECIFICATIONS.
- ONLY FIRE HYDRANTS THAT ARE ON THE LAS VEGAS VALLEY WATER DISTRICT'S - APPROVED PRODUCTS LIST ARE ALLOWED TO BE INSTALLED.
- 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 SECTION 105.7.12]
- 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 SECTION 3310, SECTION 3312]
- TO IDENTIFY FIRE HYDRANT LOCATIONS, CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF STREET ADJACENT TO THE FIRE HYDRANTS [IFC SECTION 507.5.7.3]
- 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 SECTION 106.3]
- 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 SECTION 507.2.1]
- 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 SECTION 507]
- PRIVATE FIRE HYDRANTS SHALL BE PAINTED RED. [IFC SECTION 507]
- 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 SECTION 507]
- FIRE HYDRANTS SPACING SHALL BE AS FOLLOWS: [IFC SECTION C102]
 - RESIDENTIAL - 500 FT UNSPRINKLERED; 600 FT SPRINKLERED.
 - COMMERCIAL - 300 FT UNSPRINKLERED; 400 FT SPRINKLERED.
- WHERE NEW WATER MAINS ARE EXTENDED ALONG STREETS OR NEW STREETS ARE INSTALLED WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF THE STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT A MAXIMUM 1,000 FOOT SPACING, TO PROVIDE FOR TRANSPORTATION HAZARDS. WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR MORE THAN 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 FEET ON AN ALTERNATING BASIS. [IFC SECTION C102.8]
- NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE RADIUS OF A CUL-DE-SAC OR WITHIN 20 FEET OF THE PERIMETER OF THE RADIUS OF THE CUL-DE-SAC.
- NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FEET OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION. [IFC SECTION C102.12]
- 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 SECTION C102.4]
- THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FEET, AS MEASURED BY AN APPROVED ROUTE. [IFC SECTION C102.7]
- THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FT. [IFC SECTION C102.6]
- TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE IS 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM. SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS CAN BE OUT OF SERVICE DUE TO A BREAK IN A WATER MAIN. [IFC SECTION C104]
- 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 SECTION 503.2.3]
- THE GRADIENT FOR THE FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12% ANGLES OF APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 6% FOR 25 FEET PRIOR TO OR AFTER THE GRADE CHANGE. ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EXCEED 6%. [IFC SECTION 503.2.7, SECTION 503.2.8]
- THE TURNING RADIUS OF THE FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 52 FEET OUTSIDE AND 28 FEET INSIDE TURNING RADIUS. [IFC 503.2.4]
- VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL NOT BE LESS THAN 13 FEET 6 INCHES. [IFC SECTION 503.2.1]
- FIRE DEPARTMENT ACCESS ROADS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 40 FT FLOW LINE TO FLOW LINE WITH PARALLEL PARKING PERMITTED ON BOTH SIDES. NOT LESS THAN 32 FT WIDE, FLOW LINE TO FLOW LINE, WHERE PARKING IS PERMITTED ONLY ON ONE SIDE OF THE FIRE APPARATUS ACCESS ROAD. NOT LESS THAN 24 FT WIDE, FLOW LINE TO FLOW LINE, WHERE NO PARKING IS PERMITTED ON EITHER SIDE. FIRE LANES THROUGH PARKING LOTS SHALL NOT BE LESS THAN 24 FT. [IFC SECTION 503.2.1.1]
- A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL FO THE FIRST STORY IS LOCATED MORE THAN 150 FT FROM A FIRE DEPARTMENT VEHICLE ACCESS. THIS DISTANCE COULD BE INCREASED TO 250 FT IF THE BUILDING IS SPRINKLERED. [IFC SECTION 503.1.1]
- APPROVED SECONDARY FIRE APPARATUS ACCESS SHALL BE PROVIDED FOR 100 OR MORE DWELLING UNITS, ROAD(S) WITH DEAD-ENDS OR WITH A SINGLE POINT OF ACCESS IN EXCESS OF 600 FT. COMMERCIAL AND INDUSTRIAL DEVELOPMENTS WHERE BUILDINGS EXCEED 2 STORIES OR 30 FEET IN HEIGHT, OR EXCEEDING 62,000 SQUARE FEET IN AREA. [IFC SECTION 503.1.2]
- 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. [IFC SECTION 503.2.5]
- 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 IN STALLED 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 SECTION 503.3]
- ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE IFC SECTION 503.6 AND IFC APPENDIX M.

LAS VEGAS FIRE DEPARTMENT

DATE

REVISED MARCH 1, 2016

FLOOD ZONE NOTE

NO PORTION OF THE SITE FALLS WITHIN A FEMA DESIGNATED SPECIAL FLOOD HAZARD AREA. SITE LOCATED ON PANEL 32003C21506, DATED SEPTEMBER 27, 2002, TO REFLECT A LOW R. THIS PANEL SHOWS THAT THE PROJECT IS LOCATED WITHIN A ZONE X AND NOT LOCATED WITHIN A FEMA DESIGNATED 100-YEAR ZONE A OR SPECIAL FLOOD HAZARD AREA.

DEVIATION FROM STANDARDS

- NONE

CITY OF LAS VEGAS TRAFFIC NOTES

- ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
- THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.
- BEFORE ANY WORK IS STARTED IN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCED WARNING SIGNS FOR THE CONSTRUCTION ZONE. THE CONTRACTOR SHALL INSTALL TEMPORARY STOP SIGNS AT ALL NEW STREET ENCROACHMENTS INTO EXISTING CITY STREETS WHERE WARRANTED IMMEDIATELY AFTER FIRST GRADING WORK IS ACCOMPLISHED, AND SHALL MAINTAIN SAID SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.
- WHEN A DESIGNATED "SAFE ROUTE TO SCHOOL" IS ENROACHED 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.
- 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.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PERMANENT SIGNS SHOWN ON THE PLANS. ALL NEW SIGNS SHALL BE FABRICATED WITH DIAMOND GRADE VP CLASS 6 REFLECTIVE SHEETING OR APPROVED EQUAL. ALL NEW TRAFFIC SIGNS, EXCEPT STREET NAME AND SCHOOL SPEED LIMIT SIGNS, SHALL HAVE 3M SERIES 1160 OR APPROVED EQUIVALENT ANTI-GRAFFITI PROTECTIVE OVERLAY FILM. SCHOOL ZONE SIGNS SHALL HAVE 3M SERIES 1150 ANTI-GRAFFITI PROTECTIVE OVERLAY FILM. STREET NAME SIGNS SHALL CONFORM IN THEIR ENTIRETY TO CURRENT CITY STANDARDS. ALL OTHER SIGNS SHALL BE STANDARD SIZE UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT CITY STANDARDS.
- WHEN A PROPOSED STREET LIGHT STANDARD IS LOCATED WITHIN FIVE (5') FEET OF ANY PROPOSED SIGN SHOWN ON THE PLANS TO BE MOUNTED ON A SIGNPOST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGNPOST SHALL BE ELIMINATED.
- ALL PERMANENT TRAFFIC CONTROL DEVICES CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HERE ON, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.
- STREET SIGNS AND STOP SIGNS SHALL BE INSTALLED PER CITY STANDARD SPECIFICATIONS FOR PLACEMENT OF STREET NAME SIGNS.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES AND FLAGGERS TO INSURE THE SAFETY OF THE PUBLIC IN OR AROUND THE WORK AREA. THE CONTRACTOR SHALL HAVE A CERTIFIED ATSSA TRAFFIC CONTROL TECHNICIAN OR IMSA WORK ZONE SAFETY SPECIALIST SET UP, MAINTAIN AND/OR REMOVE ALL TRAFFIC CONTROL DEVICES IN THE CITY OF LAS VEGAS RIGHT-OF-WAY.
- 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.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING CITIZENS AREA TRANSIT (C.A.T.) IF THE CONSTRUCTION INTERRUPTS OR RELOCATES A BUS STOP OR HAS AN ADVERSE EFFECT ON BUS SERVICE ON THAT STREET TO ARRANGE FOR TEMPORARY RELOCATION OF STOP.
- GUARDS SHALL BE OBTAINED BY CONTACTING THE METROPOLITAN POLICE DEPARTMENT SPECIAL EVENTS UNIT (PHONE # 828-3442) WHO WILL PROVIDE OFFICERS PROPERLY TRAINED IN TRAFFIC CONTROL. FEES FOR THE USE OF THESE OFFICERS SHALL BE SET BY METRO AND WILL BE PAID BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL ARRANGEMENTS WITH METRO.
- ANY WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
- CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING DIVISION (TRANSPORTATION SECTION) THROUGH THE PROJECT'S OFFSITE INSPECTOR PRIOR TO INITIATING PAVING TO RECEIVE DIRECTION FOR ANY PERMANENT OR TEMPORARY MODIFICATIONS TO THE APPROVED DRAWINGS REGARDING FINAL PAVEMENT TRANSITIONS, MARKINGS AND SIGNING THAT ARE REQUIRED TO MATCH ADJACENT ROADWAY SEGMENTS. THE CONTRACTOR SHALL PROVIDE A DRAWING FOR APPROVAL BY THE TRAFFIC ENGINEERING DIVISION DEPICTING ANY ADJUSTMENTS TO THE FINAL PAVEMENT MARKINGS AND SIGNAGE, WHICH MAY INCLUDE OMITTING, ADDING OR MODIFYING PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SUCH THAT ADEQUATE TRANSITIONS AND LANE TERMINATIONS BETWEEN ADJACENT ROADWAY SEGMENTS ARE CONSTRUCTED.

REVISED 4/15/10

CITY OF LAS VEGAS STREETLIGHT NOTES

- ALL STREET LIGHTING INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STREET LIGHTING PLANS, THE "UNIFORM STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST REVISION (USS), AND THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA" (USD), LATEST REVISION.
- NO DEVIATION OF STREET LIGHT, PULL BOX, CONDUITS, ETC., LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE TRAFFIC AND CITY ENGINEER. ANY DEVIATION FROM THE PLAN LOCATION WILL REQUIRE COMPLIANCE WITH SECTION 623 OF THE USS.
- ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION IN ACCORDANCE WITH SECTION 623 G.03.01 OF THE USS.
- ALL EMPTY CONDUIT SHALL HAVE AT LEAST ONE GREEN NO. #8 AWG WIRE INSTALLED AS TRACER WIRE IN ACCORDANCE WITH SECTION 623 G.02.01 OF THE USS PRIOR TO BACKFILLING AND FINAL INSPECTION.
- ANY STRUCTURE SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC., SHALL LEAVE A MINIMUM CLEARANCE IN COMPLIANCE WITH USD NO. 320A WHEN POLE IS INSTALLED BEHIND SIDEWALK, AND SHALL AT NO TIME COMPLETELY ENCLOSE THE STREET LIGHTING POLE.
- AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE TRAFFIC ENGINEERING DIVISION PRIOR TO ANY PRE-FINAL INSPECTION. THE AS-BUILT DRAWING NEEDS TO BE STAMPED AS-BUILT AND SIGNED BY THE PREPARER.
- SERVICE POINTS SHALL BE COORDINATED WITH NV ENERGY, AND WHEREVER POSSIBLE, BE LOCATED NEAR THE CENTER OF THE CIRCUIT. SERVICEPOINTS SHALL BE SHOWN ON THE PLANS.
- WHEREVER THERE IS AN OVERHEAD UTILITY THAT MAY CONFLICT WITH THE INSTALLATION OF STREETLIGHTING CIRCUITS AND/OR POLES, THESE CONFLICTS MUST BE RESOLVED BETWEEN THE DEVELOPER AND THE UTILITIES INVOLVED BEFORE STREETLIGHT BASES ARE INSTALLED. AT NO EXPENSE TO THE CITY OF LAS VEGAS.
- THE CONTRACTOR SHALL FURNISH COMPLETE CONDUIT, WIRE, ETC. FROM SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON THE PLANS.

REVISED JUNE 28, 2016 (LD VERSION)

LAS VEGAS VALLEY WATER DISTRICT (LVVWD) STANDARD NOTES

LVVWD PROJECT # XXXXX

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

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

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

EXHIBIT 1
SOUTHWEST GAS CONSTRUCTION NOTES

ALL CIVIL IMPROVEMENT PLANS MUST INCLUDE SOUTHWEST GAS CORPORATION GENERAL NOTES ON THE NOTES SHEET AS INDICATED BELOW:

SOUTHERN NEVADA - SOUTHWEST GAS CORPORATION GENERAL NOTES

- IN THE EVENT OF NATURAL GAS EMERGENCIES CALL 911 AND 1-877-860-6020
- THERE SHALL BE A MINIMUM HORIZONTAL AND VERTICAL CLEARANCE OF 12-INCHES BETWEEN NATURAL GAS FACILITIES AND AN Y UNDERGROUND FACILITIES AND/OR STRUCTURES, INCLUDING BUT NOT LIMITED TO WATER, SEWER, STORM DRAIN, COMMUNICATIONS, AND ELECTRIC
- FOR VALVE ADJUSTMENT CONTACT 702-668-6107 48 HOURS PRIOR TO CONSTRUCTION
- IN THE EVENT OF A NATURAL GAS CONFLICT WITH PROPOSED UTILITIES AND/OR STRUCTURES CONTACT 702-365-2099

ALL CIVIL IMPROVEMENT PLANS MUST INCLUDE SOUTHWEST GAS CORPORATION HIGH PRESSURE NOTES ON THE NOTES SHEET AND ALL SHEETS DEPICTING HIGH PRESSURE NATURAL GAS MAINS AS INDICATED BELOW:

CALL SOUTHWEST GAS AT 702-400-7789 FOR STANDBY WHEN EXCAVATION OVER OR NEAR HIGH PRESSURE GAS LINES 48 HOURS PRIOR TO CONSTRUCTION

BASIS OF BEARING:

NORTH 05°36'00" WEST, BEING THE BEARING OF THE WEST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 33, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M. AS SHOWN IN BOOK 152, PAGE 41 OF PLATS ON FILE AT THE CLARK COUNTY, NEVADA RECORDER'S OFFICE.

BENCHMARK:

CITY OF LAS VEGAS BENCHMARK NO. D368, U.S.C. & G.S. DISC SET IN ROCK RIDGE 150' SOUTH OF CHARLESTON BLVD & WEST OF DETENTION BASIN.

ELEVATION: 3246.63 (FEET)
989.574 (METERS)

BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. _____ FIRST APPROVED DATE: _____
LVVWD APPROVED FIRE FLOW _____ GPM AT 20 PSI RESIDUAL

CITY OF LAS VEGAS GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA", LATEST ISSUE; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA", LATEST REVISED EDITION; THE "SUMMERLIN IMPROVEMENT STANDARDS" FOR WORK IN THE SUMMERLIN AREA; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; THE UNIFORM BUILDING CODE; AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS "DEVIATIONS FROM STANDARDS".
- THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES AS SHOWN FROM CLV PLANS LIBRARY ARE APPROXIMATE AND FOR RECORD PURPOSES. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCE'S 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.
- 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.
- ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS, ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.
- TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGNS TO BE APPROVED BY THE CITY, PRIOR TO THE USE ON THE PROJECT.
- PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.
- EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300' IN EXTRUDED-TYPE CURB.
- AC PAVEMENT TO BE ONE-HALF INCH (1/2") ABOVE LIP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS AND CROSS GUTTERS.
- CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY OF LAS VEGAS SHALL BE REMOVED AND REPLACED PER STANDARD DRAWING 216.
- 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.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION. THE EXTENT OF THE TRANSITIONS TO BE AS SHOWN ON PLANS.
- ALL GRADING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY THE NOVA GEOTECHNICAL & INSPECTION SERVICES, PROJECT NUMBER G-18-066, DATED MAY 17, 2018, APPROVED BY THE CITY ENGINEER, AND AS SHOWN ON THESE PLANS.
- 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.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING PERMANENT SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE REPLACED AND ADJUSTED PER AVAILABLE RECORDS IN ACCORDANCE WITH N.R.S. STATUTE NO. 625.380 & CITY OF LAS VEGAS TITLE 18, APPENDIX D.
- UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC., SHALL BE PRICED OUT OF DRIVEWAYS, DRIVEWAY APPROXS, FLOWLINES, AND CROSS GUTTERS UNLESS WRITTEN APPROVAL IS GRANTED BY THE UTILITY COMPANY AND THE CITY ENGINEER.
- WALL NOTES:
 - ALL WALLS, NEW OR EXISTING, ARE ONLY SHOWN ON CIVIL PLANS FOR THE PURPOSE OF ESTABLISHING THE LOCATION OF WALLS, FLOOR CONTROL, AND SIGHT DISTANCE AT INTERSECTIONS. NEW WALLS REQUIRE A SEPARATE PERMIT AND INSPECTION BY THE BUILDING DEPARTMENT.
 - ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHT OF WAY.
- CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE RIMS, AND SEWER CLEAN OUTS, ETC. TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.
- MATERIALS, HANDLING AND PLACEMENT OF PORTLAND CEMENT CONCRETE SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF NDOT OR THE CLARK COUNTY AREA SPECIFICATIONS (AS APPLICABLE) AND THE PLANS AND DETAILS SHOWN HEREON.
- WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC., THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO THE 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.
- AFTER HAUNCHING AND PRIOR TO BACKFILL OPERATIONS WHICH WOULD COVER SANITARY SEWER AND STORM DRAIN FACILITIES, CONTRACTOR IS REQUIRED TO SCHEDULE CLV OPEN-TRENCH UTILITY SURVEY INSPECTION FOR DETERMINATION OF FINAL LOCATION COORDINATES. FACILITIES TO BE LOCATED BY CLV SHALL INCLUDE AT A MINIMUM THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES AND TRANSITION STRUCTURES, STORM DRAIN LATERALS 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, SEWER AND STORM DRAIN MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS. THE LOCATION SHALL BE DESCRIBED 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 CERTAINITIES 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).
- CCTV VIDEO INSPECTION IS REQUIRED FOR ALL SEWER AND STORM DRAINS. THE CCTV VIDEO INSPECTION MUST BE PERFORMED PRIOR TO THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS LATEST EDITION.
- A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

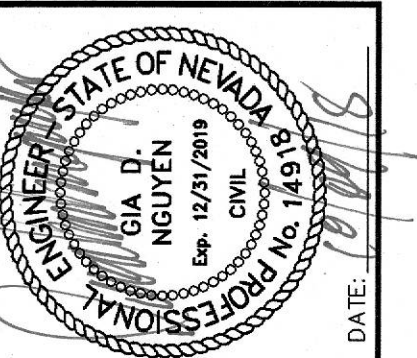
UTILITY APPROVAL

SOUTHWEST GAS CORP.

DATE:

L#

CLV DWG#



DATE:

GCW APP

DATE

AGEB APP

DATE

DATE

DATE

DATE

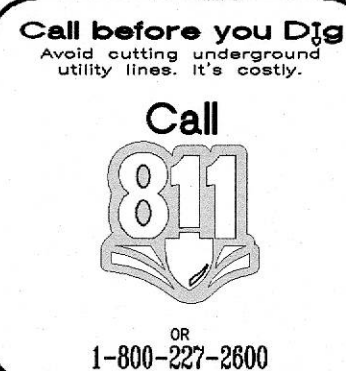
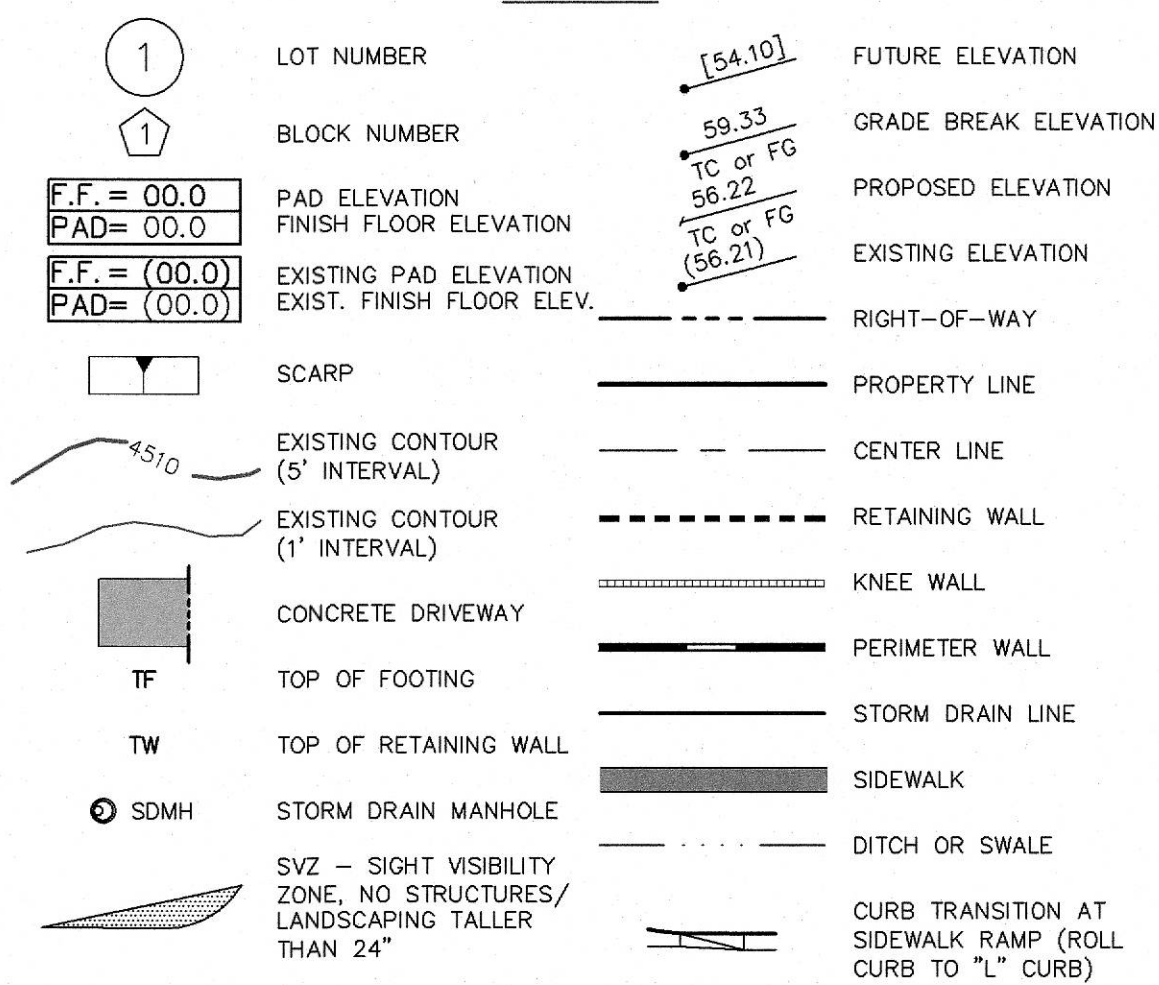
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ABBREVIATIONS			
A	AIR	DR	DRIVE
AB	AGGREGATE BASE	DS	DOWNSPOUT
AC	ASPHALT CONCRETE, ACRE	DTL	DETAIL
ACP	ASBESTOS CEMENT PIPE	DW	DRIVEWAY
ADDL	ADDITIONAL	DWG	DRAWING
A.E.	ACCESS EASEMENT	E	EAST
AP	ANGLE POINT	E.A.E.	EMERGENCY ACCESS EASEMENT
APN	ASSESSOR'S PARCEL NUMBER	ECR	END CURB RETURN
APPROX	APPROXIMATELY	ELE,ELEC	ELECTRICAL
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	ELEV	ELEVATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	EP, EOP	EDGE OF PAVEMENT
AVE	AVENUE	ESMT	EASEMENT
AVAR	AIR VALVE, AIR RELEASE	EVC	END VERTICAL CURVE
AVR	ASSEMBLY	EXIST,EX	EXISTING
AWWA	AMERICAN WATER WORKS ASSOCIATION	EXP	EXPANSION JOINT
BC	BACK OF CURB	FF	FACE OF CURB
BCR	BEGIN CURB RETURN	FF, FFE	FINISH FLOOR ELEVATION
BLM	BUREAU OF LAND MANAGEMENT	FG	FINISH GRADE
BLVD	BOULEVARD	FH	FIRE HYDRANT
BM	BENCHMARK	FL	FLOW LINE
BO	BLOW-OFF	FO	FIBER OPTIC
BVCE	BEGIN VERTICAL CURVE ELEVATION	FRP	FIBERGLASS REINFORCED PLASTIC
BVCS	BEGIN VERTICAL CURVE STATION	GB	GRADE BREAK
BW	BACK OF SIDEWALK	GND	GROUND
BWV	BACK WATER VALVE	GRD	GRADE, GROUND
C, c	CENTERLINE	H, HGT	HEIGHT
C&G	CURB AND GUTTER	HDWL	HEADWALL
C&TV	UNDERGROUND CABLE TV	HGL	HYDRAULIC GRADE LINE
CCBM	CLARK COUNTY BENCH MARK	HOA	HOME OWNERS ASSOCIATION
CCPW	CLARK COUNTY PUBLIC WORKS	HORIZ	HORIZONTAL
CCTV	CLOSED-CIRCUIT TELEVISION	HP	HIGH POINT, HIGH PRESSURE
COWRD	CLARK COUNTY WATER RECLAMATION DISTRICT	HPS	HIGH PRESSURE SODIUM
C.E.	COMMON ELEMENT	INT	INTERNATIONAL BUILDING CODE
CFS	CUBIC FEET PER SECOND	INT	INTERIM
CIP	CAPITAL IMPROVEMENTS PROJECT, CORRUGATED IRON PIPE	IP	INVERT
CIPM	CURED-IN-PLACE MANHOLE	LT	LEFT
CIPP	CURED-IN-PLACE PIPE	L	LENGTH
CIR	CIRCLE	L, LT	LEFT
CLR	CLEAR OR CLEARANCE	LF	LINEAR FEET
CLSM	CONTROLLED LOW STRENGTH MATERIAL	LIP	LIP OF GUTTER
CLV	CITY OF LAS VEGAS	LN	LANE
CMP	CORRUGATED METAL PIPE	LP	LIGHT POLE
CMU	CONCRETE MASONRY UNIT	LSCP	LANDSCAPE
CNLV	CITY OF NORTH LAS VEGAS	LVWMD	LAS VEGAS VALLEY WATER DISTRICT
CO	CLEANOUT	MAX	MAXIMUM
CONC	CONCRETE	MH	MANHOLE
COND	CONDUIT	MIN	MINIMUM
CONST	CONSTRUCT OR CONSTRUCTION	MLCP	MORTAR LINED AND COATED PIPE
COORD	COORDINATE	MOD	MODIFY/MODIFIED
COR	CORNER	MON	MONUMENT
CPEP	CORRUGATED POLYETHYLENE PIPE	MPH	MILES PER HOUR
CT	COURT	N	NORTH
CY	CUBIC YARD(S)	NDOT	NEVADA DEPARTMENT OF TRANSPORTATION
Δ	DELTA	NO	NUMBER
DCS	DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEM (LATEST EDITION)	NOSHA	STATE OF NEVADA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
D.E.	DRAINAGE EASEMENT	NPC	NEVADA POWER COMPANY
DEFL	DEFLECTION	NTS	NOT TO SCALE
D.G.	DESIGNED GRADE	OC	ON CENTER
D.I.	DROP INLET	OHC	OVERHEAD COX COMMUNICATION
DIA, Ø	DIAMETER	OHP	OVERHEAD POWER LINE
DIP	DUCTILE IRON PIPE	PEDESTRIAN ACCESS EASEMENT	PULL BOX
		PB	POINT OF CURVE, PRESSURE
		PC	CLASS
		PCC	POINT OF COMPOUND CURVE
		P.D.E.	PUBLIC DRAINAGE EASEMENT
		PE	PROJECT ENGINEER OR POLYETHYLENE
		PED	PEDESTRIAN
		PGL	PROFILE GRADE LINE
		PH	POT HOLE
		PI	POINT OF INTERSECTION
		PIV	POST INDICATOR VALVE
		P/L	PROPERTY LINE
		P/LCP	POLYURETHANE LINED AND COATED STEEL PIPE
		PMF	PAVEMENT MARKING FILM
		POB	POINT OF BEGINNING
		POC	POINT ON CURVE
		P.O.C.	POINT OF CONNECTION
		POT	POINT ON TANGENT
		PP	POWER POLE
		PROP	PROPOSED
		PRC	POINT OF REVERSE CURVE
		P.S.E.	PUBLIC SEWER EASEMENT TO BE PRIVATELY MAINTAINED BY HOA
		FUT	FUTURE
		G	GAS
		PT	GAGE, GUY ANCHOR
		P.U.E.	GRADE BREAK
		PVC	POLYVINYL CHLORIDE
		PVI	POINT OF VERTICAL INTERSECTION
		PVMT	PAVEMENT
		PVT	PRIVATE
		PZ	PRESSURE ZONE
		R, RAD	RADIAL, RADIUS
		R, RT	RIGHT
		RCB	REINFORCED CONCRETE BOX
		RCP	REINFORCED CONCRETE PIPE
		RD	ROAD
		RDMW	ROADWAY
		REC	RECTANGULAR
		REF	REFERENCE
		REINF	REINFORCED
		REQD	REQUIRED
		RM	TOP OF RIM ELEVATION
		RND	ROUND
		ROW,R/W	RIGHT OF WAY
		RP	RADIUS POINT
		RPM	RAISED PAVEMENT MARKERS
		RPPA	REDUCED PRESSURE PRINCIPAL ASSEMBLY
		RSOV	RESILIENT SEAT GATE VALVE
		S	SEWER, SOUTH
		SCH	SCHEDULE
		SD	STORM DRAIN
		SDMH	STORM DRAIN MANHOLE
		SECT	SECTION
		SF	SQUARE FOOT/FEET
		SHLDR	SHOULDER
		SHT	SHEET
		SL	STREET LIGHT
		SP	SERVICE POINT
		SQ	SQUARE
		SR	SEWER RECLAIM MAIN
		SS	SANITARY SEWER
		SSMH	SANITARY SEWER MANHOLE
		STA	STATION
		ST	STREET
		STD	STANDARD
		STL	STEEL
		STRUCT	STRUCTURE
		SVZ	SIGHT VISIBILITY ZONE
		SW	SIDEWALK
		SWG	SOUTHWEST GAS
		T	TELEPHONE OR TOP
		TAN	TANGENT
		TB	TOP OF BERM
		TC	TOP OF CURB
		TCE	TEMPORARY CONSTRUCTION ESMT
		TEL,TELE	TELEPHONE
		TEMP	TEMPORARY
		TF	TOP OF FOOTING
		TG	TOP OF GRATE
		TMH	TOP OF MANHOLE
		TOP	TOP OF PIPE
		TP	TELEPHONE POLE
		TRANS	TRANSITION
		TS	TRAFFIC SIGNAL
		TW	TOP OF RETAINING WALL
		TYP,(TYP)	TYPICAL
		UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS (LATEST EDITION)
		UG	UNDERGROUND
		ULT	ULTIMATE
		USDCCA	UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS CLARK COUNTY AREA, NEVADA (LATEST EDITION)
		UT	UNDERGROUND TELEPHONE
		VAR	VARIABLE/VARIES
		VC	VERTICAL CURVE
		VCP	VITRIFIED CLAY PIPE
		VERT	VERTICAL
		VG	VALLEY GUTTER
		VOL	VOLUME
		W	WATER, WEST, WATT
		W/	WITH
		W.I.	WROUGHT IRON
		WS	WATER SUPPLY
		WT	WEIGHT
		WTR	WATER
		XING	CROSSING
		YD	YARD, YARD DRAIN
		Z	PRESSURE ZONE

LEGEND



QUANTITY ESTIMATE

NOTE: CONTRACTOR TO VERIFY QUANTITIES FOR BIDDING PURPOSES

STREET IMPROVEMENT - PRIVATE

DESCRIPTION	UNIT	TOTAL
2" AC PAVEMENT	SY	26,184
3" AC PAVEMENT	SY	-
TYPE II AGGREGATE BASE MATERIAL	CY	4,032
1" TYPE CURB	LF	326
30" ROLL CURB	LF	12,484
14" TYPE CURB	LF	256
SIDEWALK RAMP	EA	18
CONCRETE CROSS GUTTER	SF	5,640
4" WIDE CONCRETE SIDEWALK	SF	28,616
5" WIDE CONCRETE SIDEWALK	SF	1,025
SIDEWALK UNDERDRAIN	EA	1
TYPE III MONUMENT	EA	47

DRAINAGE - PRIVATE

DESCRIPTION	UNIT	TOTAL
18" RCP	LF	83
24" RCP	LF	1,450
30" RCP	LF	39
36" RCP	LF	78
42" RCP	LF	173
48" TYPE II MANHOLE	EA	-
60" TYPE III MANHOLE	EA	6
60" TYPE I MANHOLE	EA	9
7.5" TYPE "CM2" MODIFIED DROP INLET	EA	1
10" TYPE "CM2" MODIFIED DROP INLET	EA	2
12.5" TYPE "CM2" MODIFIED DROP INLET	EA	2
15" TYPE "CM2" MODIFIED DROP INLET	EA	2

WATER - PUBLIC

DESCRIPTION	UNIT	TOTAL
12" PVC WATERLINE	LF	7,120
5" BEND PER UDACS PLATE NO. 31	EA	28
11.25" BEND PER UDACS PLATE NO. 31	EA	14
22.5" BEND PER UDACS PLATE NO. 31	EA	-
45" BEND PER UDACS PLATE NO. 31	EA	8
CAP & 2" BLOW-OFF PER UDACS PLATE NO. 36	EA	-
12" GATE VALVE, BOX, AND COVER PER UDACS PLATE NO. 30 & 39	EA	22
10" GATE VALVE, BOX, AND COVER PER UDACS PLATE NO. 30 & 39	EA	-
12" TEE PER UDACS PLATE NO. 31	EA	10
8" TEE PER UDACS PLATE NO. 31	EA	-
FIRE HYDRANT, VALVES, TEE, & 6" WATERLINE PER UDACS PLATES NO. 40	EA	14
8" CROSS PER UDACS PLATE NO. 31	EA	-
8" X 6" REDUCER PER UDACS PLATE NO. 30.	EA	-
10" X 8" REDUCER PER UDACS PLATE NO. 30.	EA	-
16" X 10" REDUCER PER UDACS PLATE NO. 30.	EA	-
1" WATER SERVICE WITH 3/4" WATER METER PER UDACS PLATE NO. 1	EA	116

WATER - PRIVATE

DESCRIPTION	UNIT	TOTAL
PRESSURE REDUCING VALVE	EA	27
WATER LATERAL	LF	1,953

SEWER - PUBLIC

DESCRIPTION	UNIT	TOTAL
8" PVC SANITARY SEWER PIPE	LF	6,424
48" DIA. SANITARY SEWER MANHOLE	EA	32
72" DIA. SANITARY SEWER MANHOLE	EA	1

SEWER - PRIVATE

DESCRIPTION	UNIT	TOTAL
4" PVC SANITARY SEWER LATERAL (PRIVATE)	LF	3,485
BACK WATER VALVE (PRIVATE)	EA	43

TRAFFIC-PRIVATE

DESCRIPTION	UNIT	TOTAL
STOP SIGN	EA	10
STREET SIGN	EA	29

UTILITY APPROVAL

SOUTHWEST GAS CORP.

DATE:

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. FIRST APPROVED DATE:
LVVMD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL

L#

CLV DWG#

PARDEE HOMES

SUMMERLIN VILLAGE 24 - PARCEL 1

LEGEND, ABBREVIATIONS, AND QUANTITIES

DRAWING

C3

3 OF 54 SHTS

PROJECT NO.

5523-A063

DESIGN:

DRAWN:

CHECK:

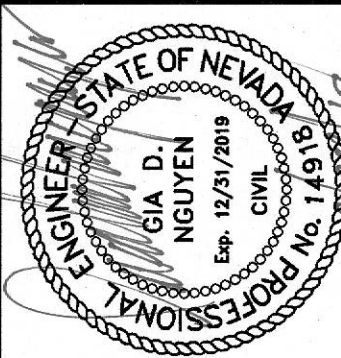
PLOT DATE: 10-09-18

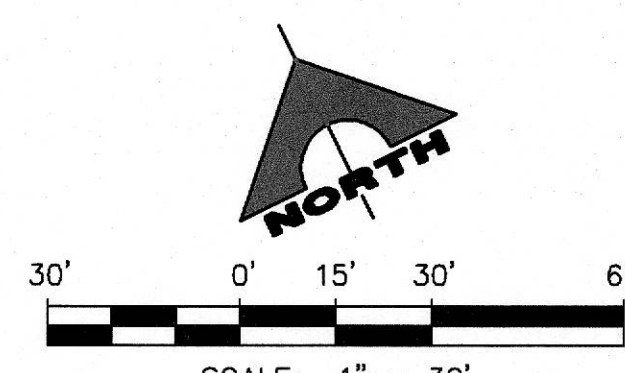
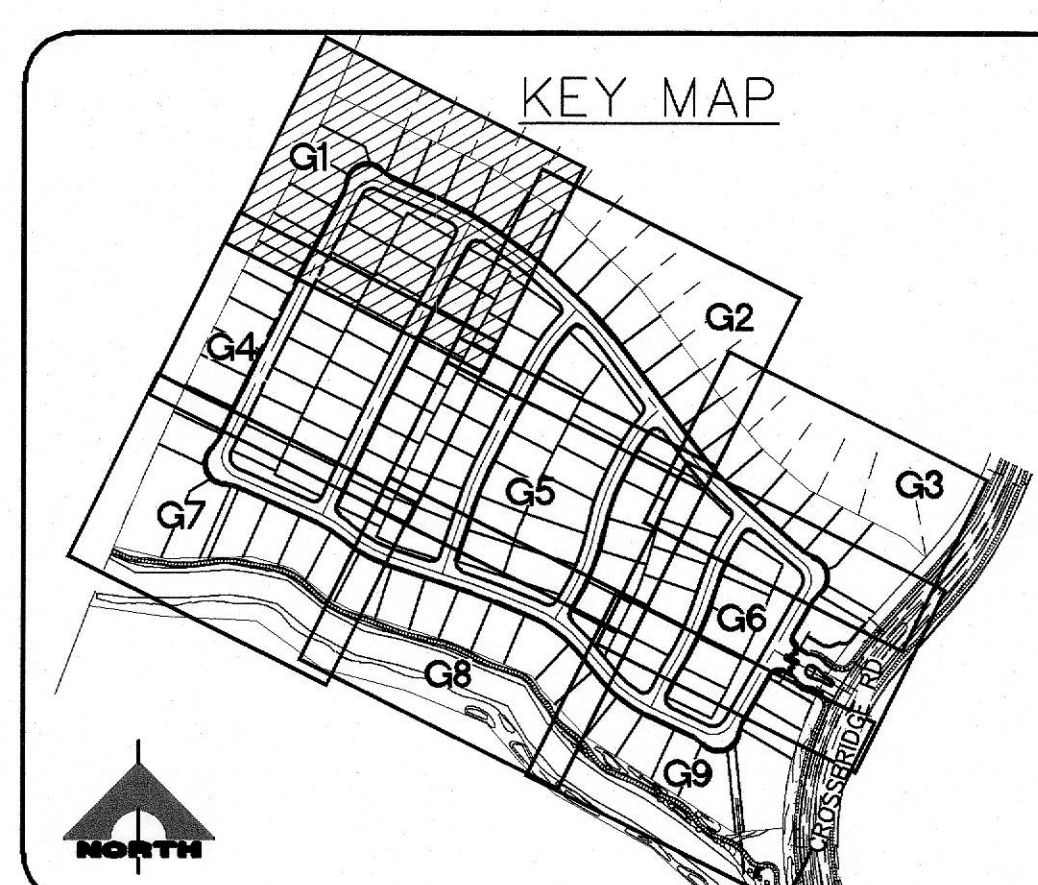
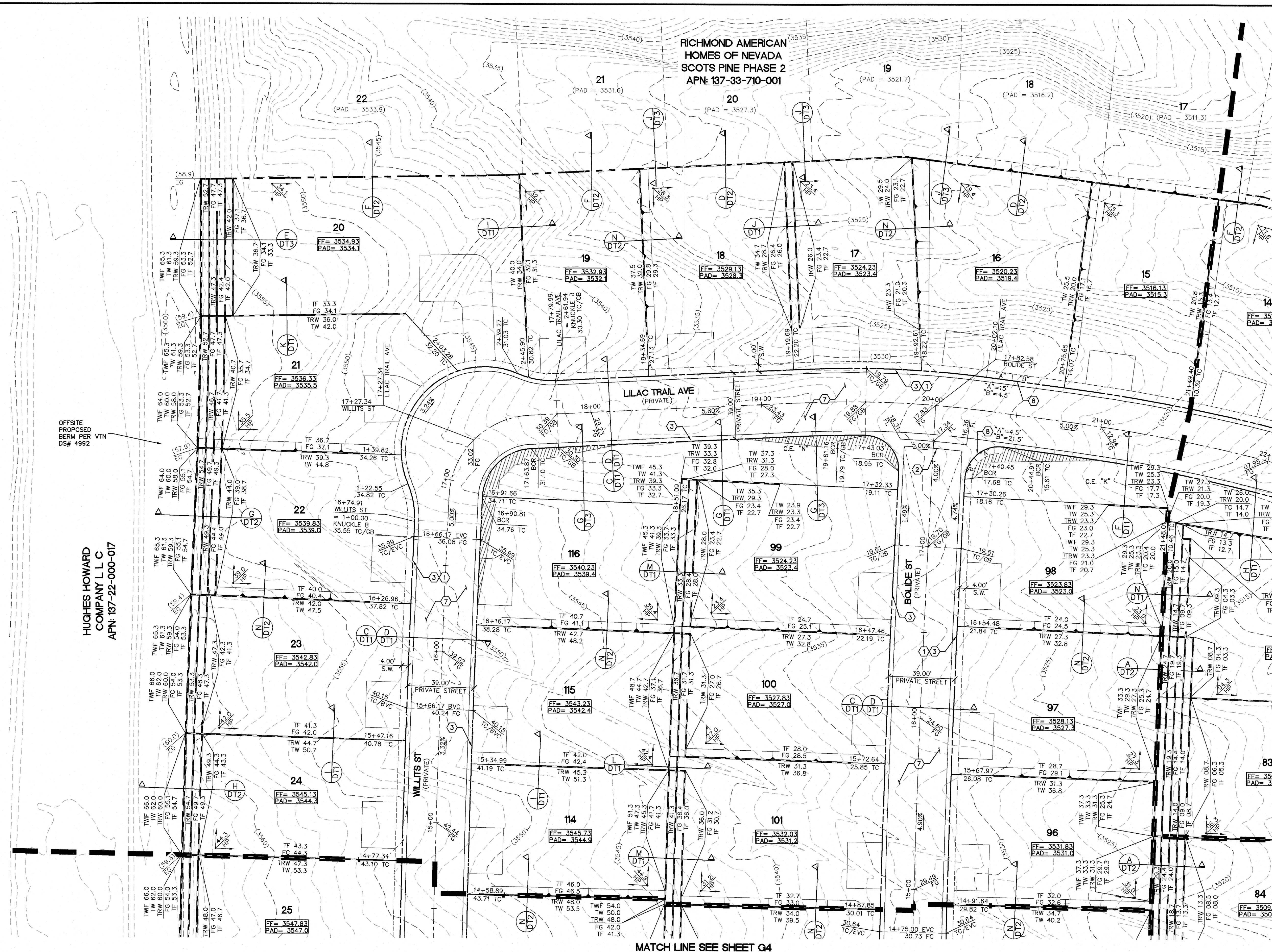
PLOT TIME: 08:48:33

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gowengineering.com

GCV
ENGINEERS \ SURVEYORS

F:\Projects\500\5523-A063\DWG\Production\A063-CV.dwg
Quang Vinh Nguyen





- CONSTRUCTION NOTES**
1. CONSTRUCT CONCRETE SIDEWALK PER USDOCA NO. 234.
 2. CONSTRUCT 8" WIDE VALLEY GUTTER PER USDOCA NO. 228 & 229.
 3. CONSTRUCT ROLL CURB PER USDOCA NO. 217.2.S1.
 4. CONSTRUCT MEDIAN "A" TYPE PER USDOCA NO. 218 & 219.
 5. CONSTRUCT "L" CURB PER USDOCA NO. 216.
 6. INSTALL GATE - SEE LANDSCAPE.
 7. CONSTRUCT 2" AC OVER 4" TYPE II BASE. SEE SOIL REPORT PREPARED BY NOVA GEOTECHNICAL PROJ. #G-18-066 FOR MORE DETAIL.
 8. CONSTRUCT HANDICAP RAMP PER USDOCA NO. 235 CASE 1. SEE PLAN FOR "A" & "B" DIMENSION.
 9. SAWCUT & MATCH TO EXISTING CURB & SIDEWALK. CONTRACTOR SHALL VERIFY EX. LOCATION & PAVEMENT PRIOR TO CONSTRUCTION.
 10. EXISTING CURB TO BE REMOVED.
 11. CONSTRUCT 10" TRANSITION FROM "L" CURB TO ROLL CURB PER DETAIL "B" SHEET DT3.
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 13. CONSTRUCT SIDEWALK UNDERDRAIN PER USDOCA NO. 236.
 14. CONSTRUCT HANDICAP RAMP PER USDOCA NO. 235 CASE 2. SEE PLAN FOR "A" & "B" DIMENSION.
 15. CONSTRUCT WROUGHT IRON FENCE PER DETAIL "M" SHEET DT3.

EARTHWORKS
CUT-RAW FILL-RAW
270,570 CY 181,050 CY

BASIS OF BEARING:
NORTH 05°36'00" WEST, BEING THE BEARING OF THE WEST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 33, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M. AS SHOWN IN BOOK 152, PAGE 41 OF PLATS ON FILE AT THE CLARK COUNTY, NEVADA RECORDER'S OFFICE.

BENCHMARK:
QTY OF LAS VEGAS BENCHMARK NO. D368, U.S.C. & G.S. DISC. SET IN ROCK RIDGE 150' SOUTH OF CHARLESTON BLVD. & WEST OF DETENTION BASIN.

ELEVATION: 3246.63 (FEET)
989.574 (METERS)

BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD'88).

DRAINAGE STUDY COMPLIANCE

I CERTIFY THAT THIS GRADING PLAN ARE CONFORMANCE WITH THE APPROVED DRAINAGE STUDY 055023A ON THE FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.

GIA D. NGUYEN, P.E.
NEVADA PE #14918

DATE

L# CLV DWG#

**RICHMOND AMERICAN
HOMES OF NEVADA
SCOTS PINE PHASE 2
APN: 137-33-710-001**

**HUGHES HOWARD
COMPANY L.L.C.
APN: 137-22-000-017**

STORMWATER 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 ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF THE 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 BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES SHALL BE 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 STORM WATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR 100000, 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 STORM WATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO NEVADA STORM WATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR 100000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMPs SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORM WATER 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.

NOTE

1. THE GEOTECHNICAL EXPLORATION PROPOSED RESIDENTIAL DEVELOPMENT SUMMERLIN VILLAGE 24 WEST OF CLARK COUNTY 215 BETWEEN CHARLESTON BOULEVARD AND SUMMERLIN PKWY LAS VEGAS, NEVADA AS PREPARED BY NOVA GEOTECHNICAL & INSPECTION SERVICES, PROJECT NUMBER G-18-066, DATED MAY 17, 2018.
2. CONSTRUCTION FOR BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE BUILDING SAFETY AND MAINTENANCE DEPARTMENT.
3. WALLS CONSTRUCTED OTHER THAN THOSE AS DETAILED ON THIS SHEET ARE TO BE CONSTRUCTED BY WALL SUB-CONTRACTOR, DETAILS AND STRUCTURAL CALCULATIONS PREPARED BY OTHERS.
4. NO OBJECT OVER 24" OTHER THAN TRAFFIC CONTROL DEVICES AND STREET LIGHT POLES CAN BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE.
5. ALL PRIVATE STREETS ARE TO BE DEDICATED AS PUBLIC DRAINAGE EASEMENT AND PUBLIC UTILITY EASEMENT TO BE PRIVATELY MAINTAINED.

NOTES TO CONTRACTOR

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

Call before you Dig
1-702-432-5300
FIREWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig
1-800-227-2929

Call before you dig overhead
1-702-227-2929

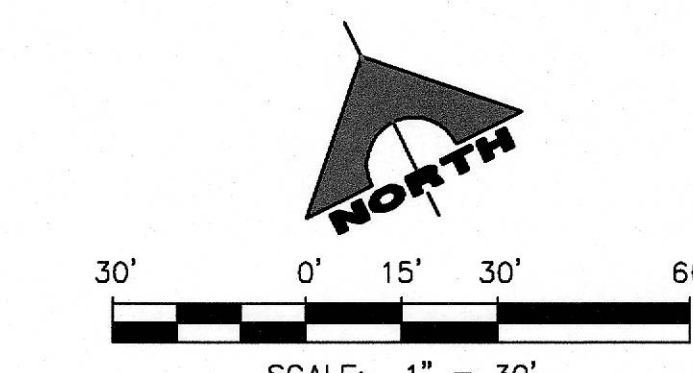
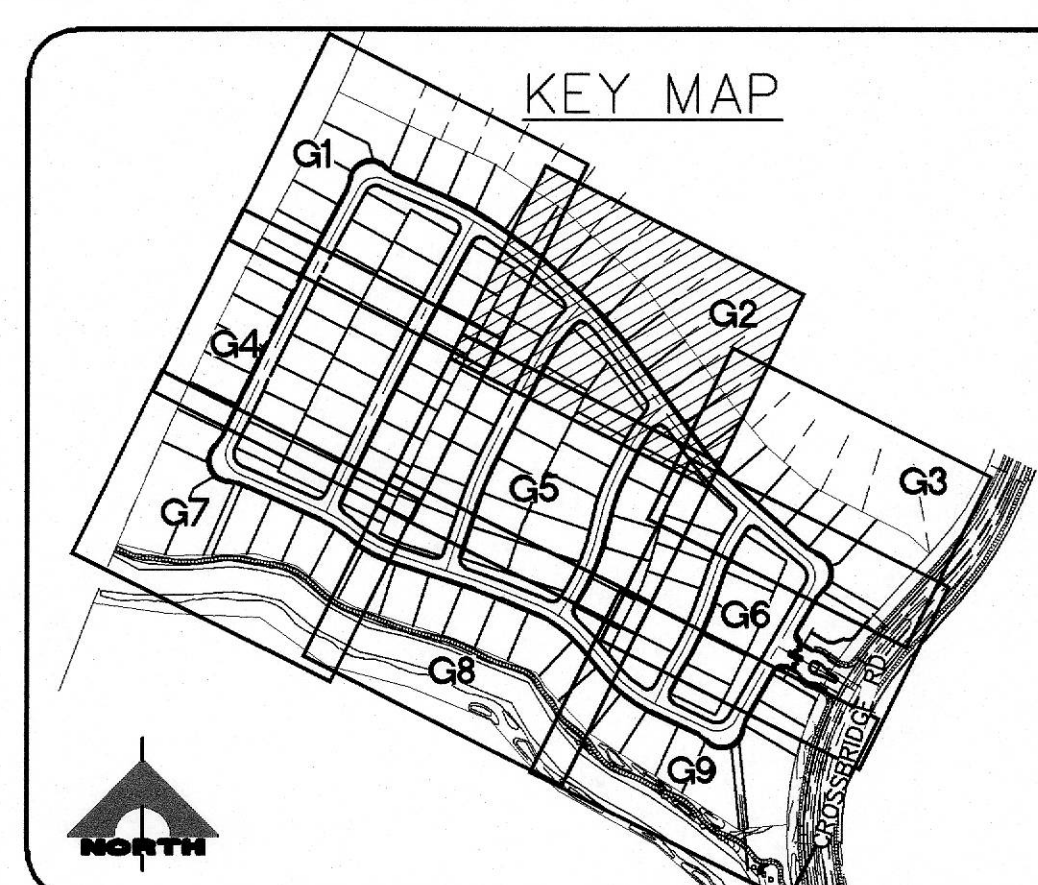
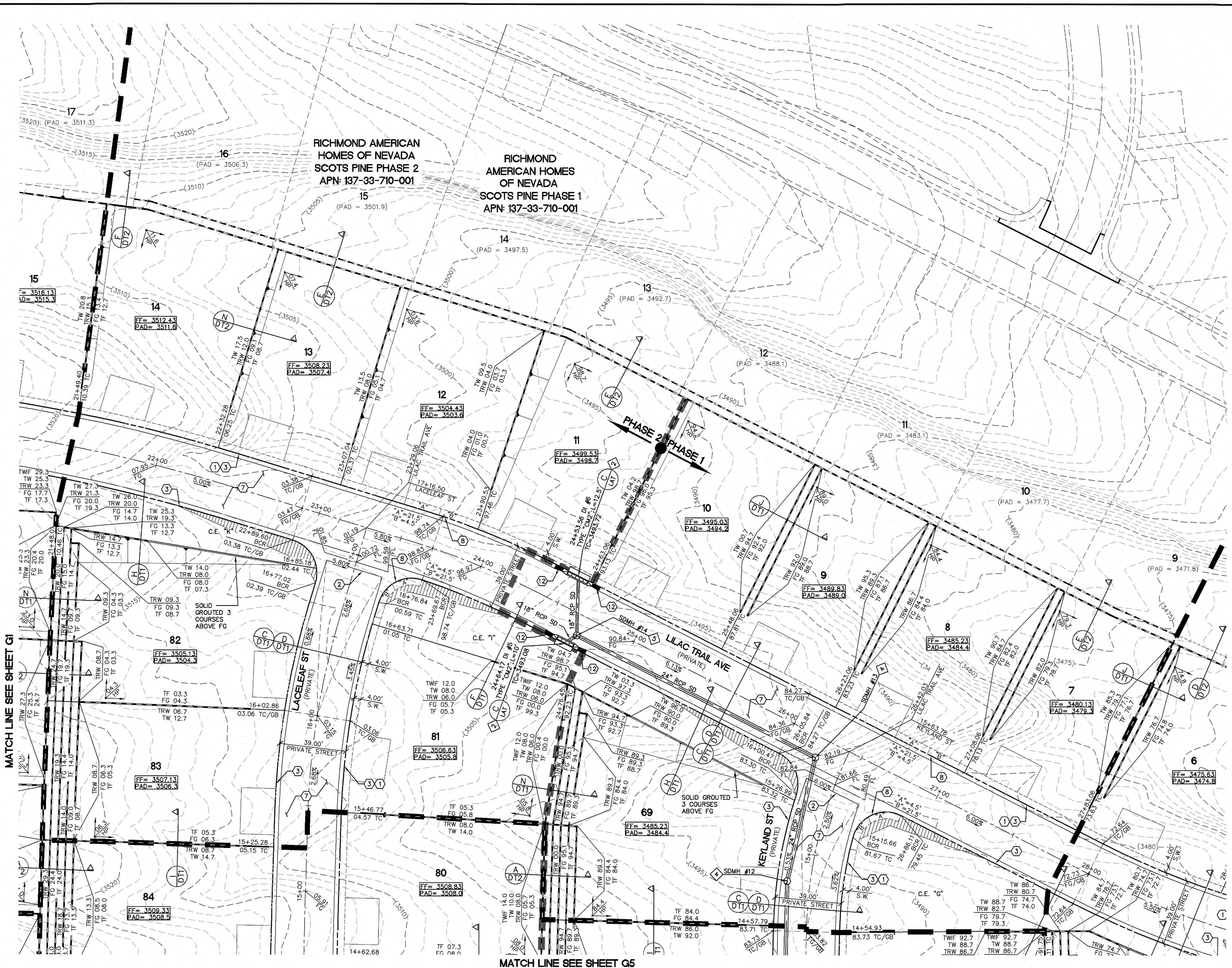
PROJECT NO. **5523-A063**
DESIGN: ON
DRAWN: ON
CHECK: GDN
PLOT DATE: 10-09-18
PLOT TIME: 11:20:25

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcnvengineers.com

GCV
ENGINEERS & SURVEYORS

PARDEE HOMES
SUMMERLIN VILLAGE 24 - PARCEL 1
GRADING PLAN 1

DRAWING
G1
4 OF 54 SHTS



- CONSTRUCTION NOTES**
- 1) CONSTRUCT CONCRETE SIDEWALK PER USDOCA NO. 234.
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 - 5) CONSTRUCT "L" CURB PER USDOCA NO. 216.
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 - 8) CONSTRUCT HANDICAP RAMP PER USDOCA NO. 235 CASE 1. SEE PLAN FOR "A" & "B" DIMENSION.
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 - 12) CONSTRUCT 5" TRANSITION FROM "L" CURB TO ROLL CURB PER DETAIL "C" SHEET DT3.
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- 1) CONNECT TO EXISTING STORM DRAIN.
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 - 3) CONSTRUCT TYPE II STORM DRAIN MANHOLE PER STD. DWG 405.1.
 - 4) CONSTRUCT 60" TYPE I STORM DRAIN MANHOLE PER STD. DWG 403.
 - 5) CONSTRUCT 60" TYPE III STORM DRAIN MANHOLE PER STD. DWG 406.1.

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CUT-RAW FILL-RAW
270,570 CY 181,050 CY

BASIS OF BEARING:
NORTH 05°36'00" WEST, BEING THE BEARING OF THE WEST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 33, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M. AS SHOWN IN BOOK 152, PAGE 41 OF PLATS ON FILE AT THE CLARK COUNTY, NEVADA RECORDER'S OFFICE.

BENCHMARK:
CITY OF LAS VEGAS BENCHMARK NO. 0368, U.S.C. & G.S. DISC SET IN ROCK RIDGE 150' SOUTH OF CHARLESTON BLVD & WEST OF DETENTION BASIN.
ELEVATION: 3246.63 (FEET)
989.574 (METERS)
BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD83).

DRAINAGE STUDY COMPLIANCE
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY DS5023A ON THE FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.

NOTES TO CONTRACTOR
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PROJECT NO.	5523-A063
DESIGN:	GN
DRAWN:	GN
CHECK:	GN
DATE:	11-20-16
DESCRIPTION	

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2200
F: 702.804.2299
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PARDEE HOMES
SUMMERLIN VILLAGE 24 - PARCEL 1
GRADING PLAN 2

DRAWING
G2
5 OF 54 SHTS

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SYSTEM OF TRANSPORTATION

Call before you Dig
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CALL BEFORE YOU DIG OVERHEAD
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PROJECT NO.
5523-A063

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F: 702.804.2299
gcwengineering.com

C:\Projects\500\5523-A063\DWG\Production\A063-GD.dwg

PARDEE HOMES

SUMMERLIN VILLAGE 24 - PARCEL 1

GRADING PLAN 3

DRAWING

G3

6 OF 54 SHTS



CUT-RAW	FILL-RAW
270.570 CY	181.050 CY

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NORTH 05°36'00" WEST, BEING THE BEARING OF THE WEST LINE OF THE SOUTHWEST QUARTER (SW $\frac{1}{4}$) OF SECTION 33, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M. AS SHOWN IN BOOK 152, PAGE 41 OF PLATS ON FILE AT THE CLARK COUNTY, NEVADA RECORDER'S OFFICE.

BENCHMARK:

CITY OF LAS VEGAS BENCHMARK NO. D368, U.S.C. & G.S. DISC
SET IN ROCK RIDGE 150' SOUTH OF CHARLESTON BLVD & WEST
OF DETENTION BASIN.

ELEVATION: 3246.63 (FEET)
989.574 (METERS)

BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD'88)

DRAINAGE STUDY COMPLIANCE

I CERTIFY THAT THIS GRADING PLAN ARE CONFORMANCE WITH
THE APPROVED DRAINAGE STUDY DS5023A ON THE FILE AT
THE CITY OF LAS VEGAS FOR THIS PROJECT

GIA D. NGUYEN, P.E.
NEVADA PE #14918

DATE _____

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14

CLV DWG#

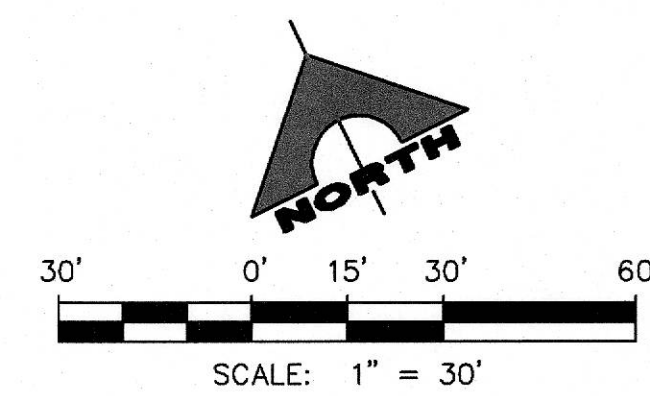
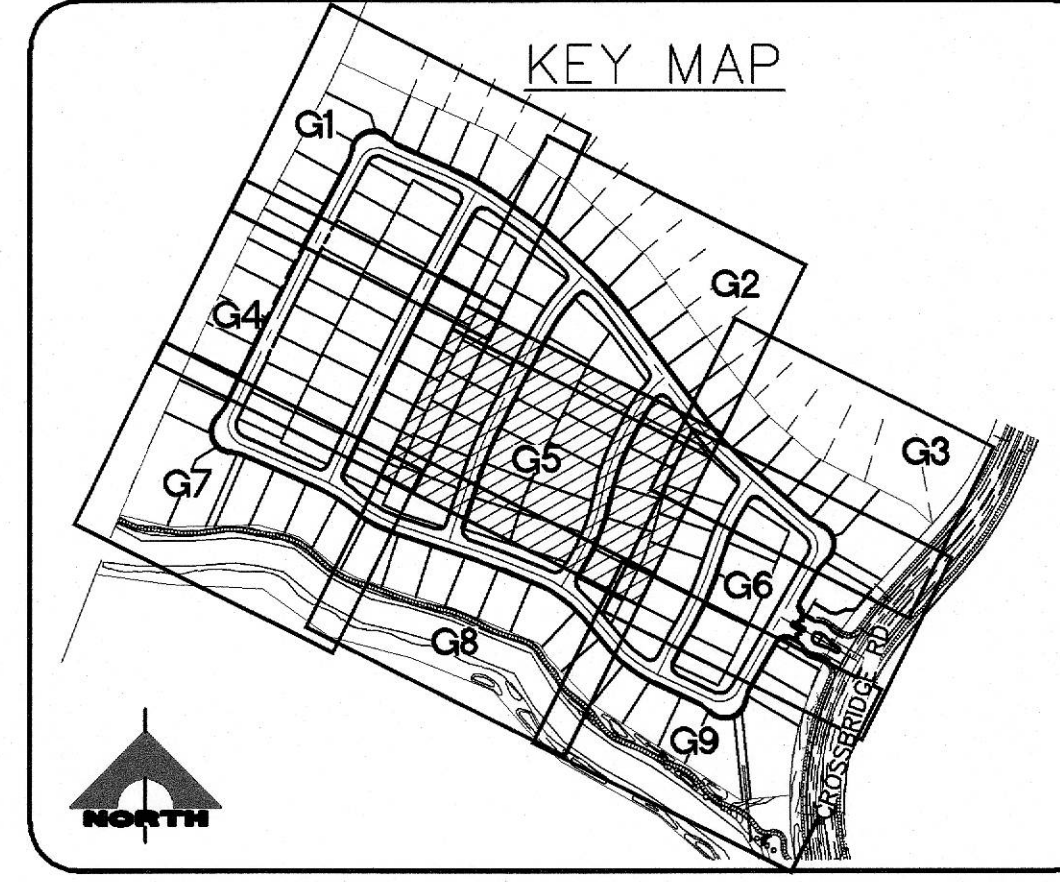


Call before you Dig
Avoid cutting underground utility lines. It's costly.

Call
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OR
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- CONSTRUCTION NOTES**
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CUT-RAW FILL-RAW
270,570 CY 181,050 CY

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GIA D. NGUYEN, P.E.
NEVADA PE #14918

DATE

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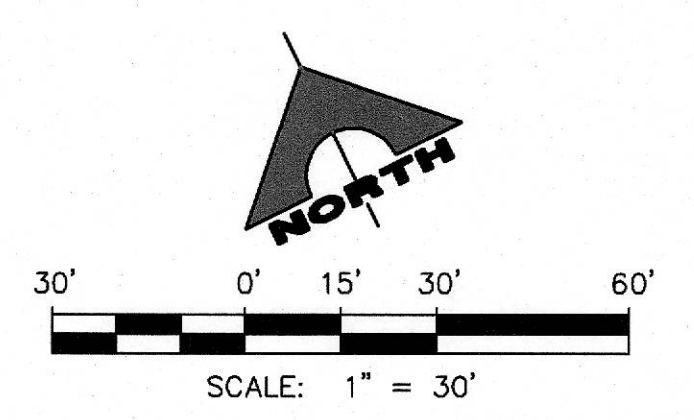
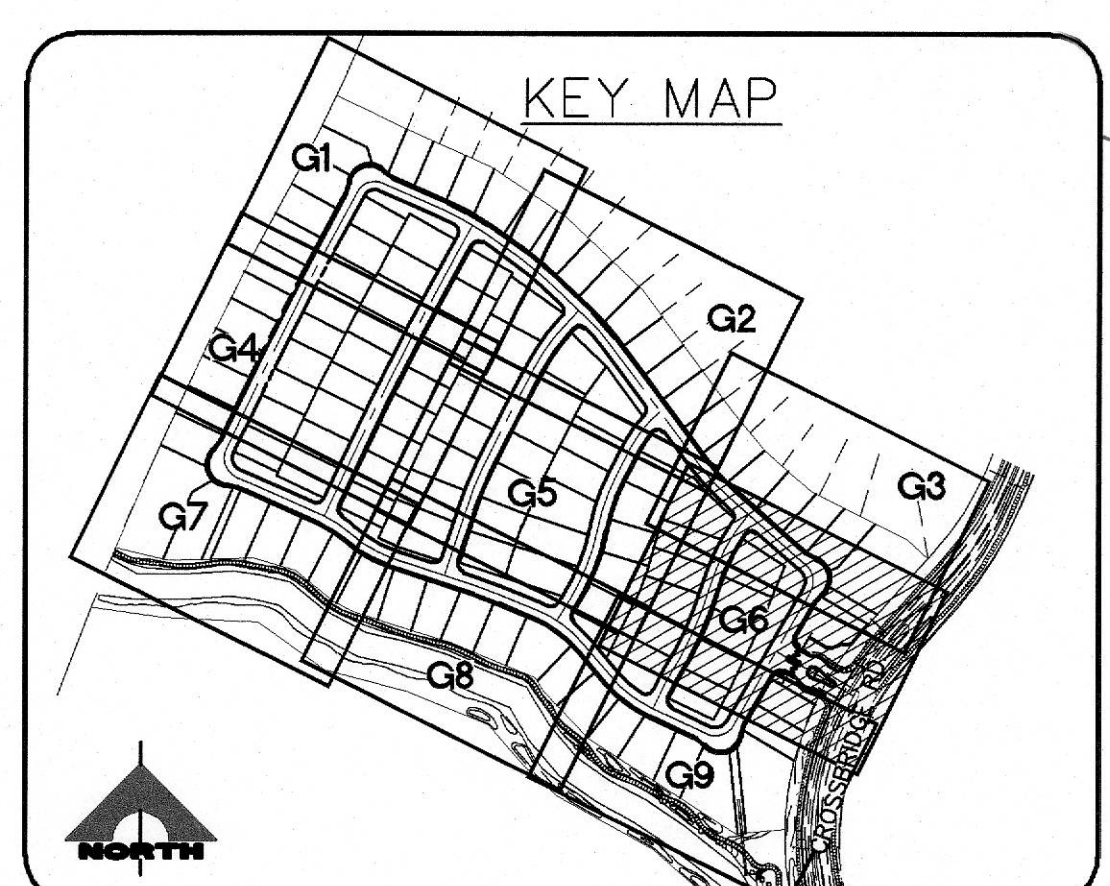
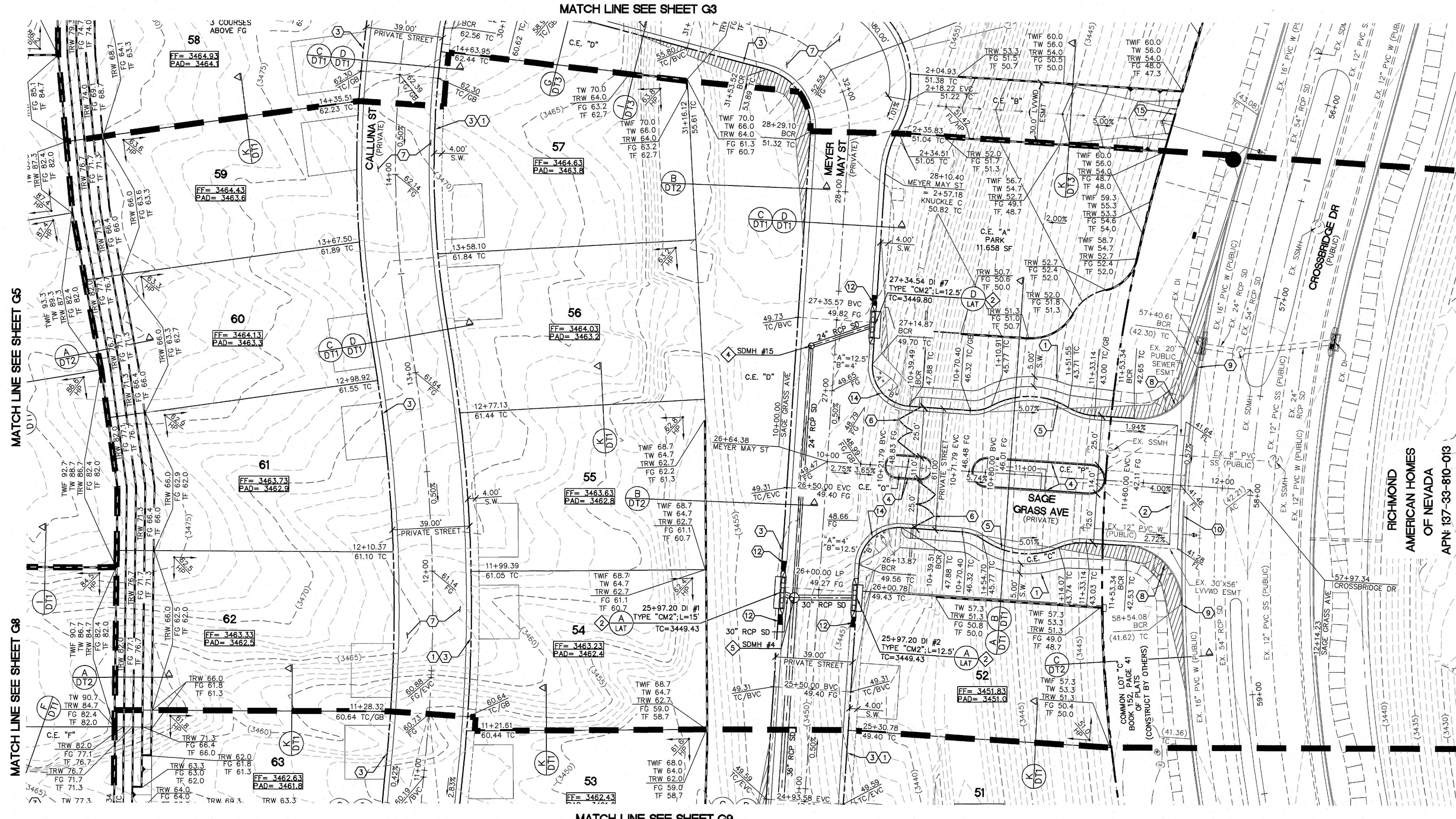
FREEWAY AND ARTERIAL
SYSTEM OF TRANSPORTATION

Call before you dig
Underground
1-702-227-2929

PROJECT NO. 5523-A063
DESIGN: GN
DRAWN: GN
CHECK: GDN
PLOT DATE: 10-09-18
PLOT TIME: 11:19:46
DESCRIPTION: GRADING PLAN 5

PARDEE HOMES
SUMMERLIN VILLAGE 24 - PARCEL 1
GRADING PLAN 5

DRAWING
G5
8 OF 54 SHTS



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270,570 CY 181,050 CY

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DRAINAGE STUDY COMPLIANCE
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GIA D. NGUYEN, P.E.
NEVADA PE #14918

DATE

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FAST
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FREEMAN AND ARTERIAL
SYSTEM OF TRANSPORTATION

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

Call
811
OR
1-800-227-2600

AVOID HITTING OVERHEAD
POWER LINES. IT'S COSTLY.

CALL BEFORE
YOU DO
OVERHEAD

1-702-227-2929

PROJECT NO. **5523-A063**
DESIGN: GN
DRAWN: GN
CHECK: GDN
PLOT DATE: 10-09-18
PLOT TIME: 11:19:36

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcnengineering.com

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ENGINEERS & SURVEYORS

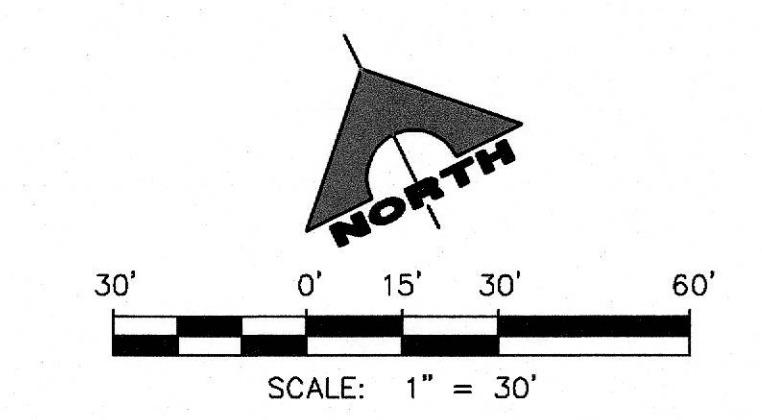
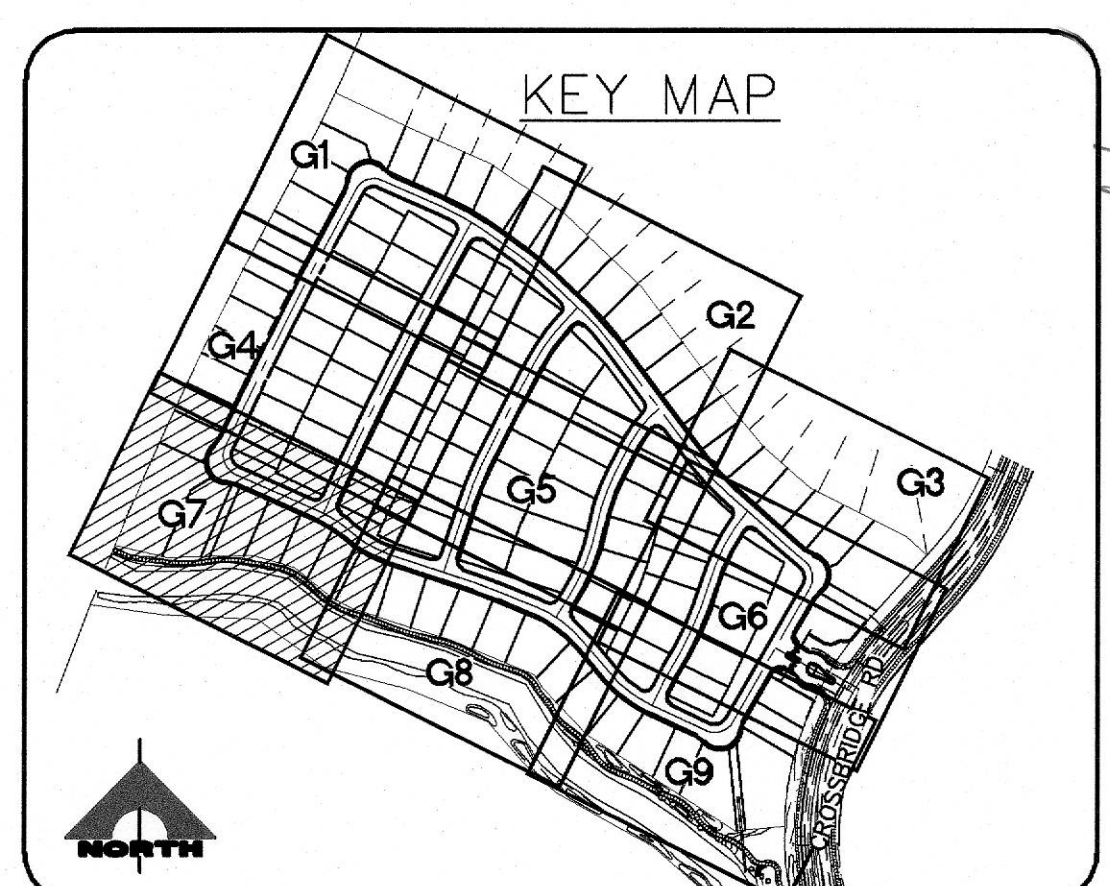
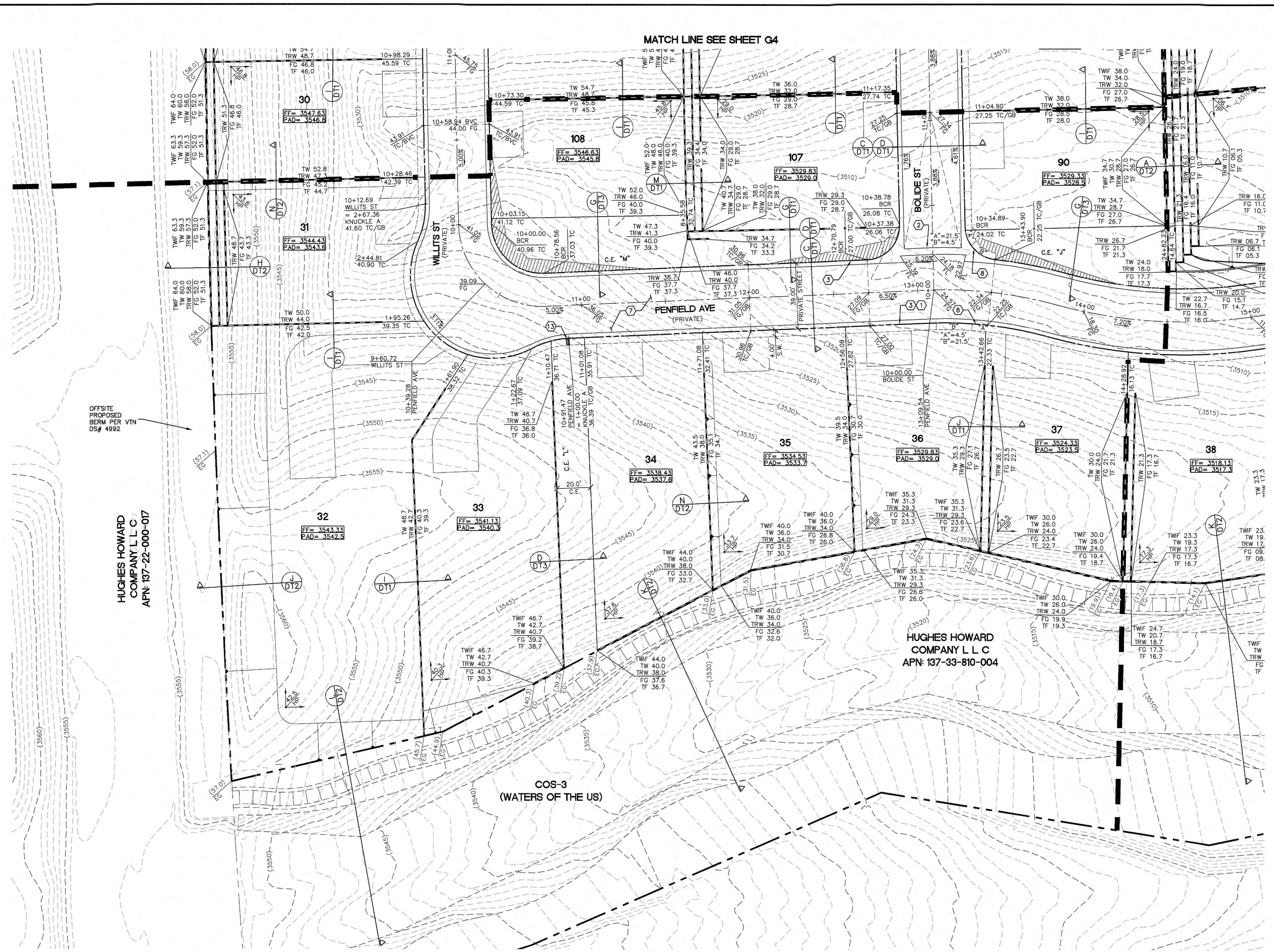
F:\Projects\5500\5523-A063\DWG\Production\A063-G6.dwg
Quang Vinh Nguyen

PARDEE HOMES

SUMMERLIN VILLAGE 24 - PARCEL 1

GRADING PLAN 6

DRAWING
G6
9 OF 54 SHTS



- CONSTRUCTION NOTES**
- 1) CONSTRUCT CONCRETE SIDEWALK PER USDOCA NO. 234.
 - 2) CONSTRUCT 8" WIDE VALLEY GUTTER PER USDOCA NO. 228 & 229.
 - 3) CONSTRUCT ROLL CURB PER USDOCA NO. 217.2.S1.
 - 4) CONSTRUCT MEDIAN "A" TYPE PER USDOCA NO. 218 & 219.
 - 5) CONSTRUCT "L" CURB PER USDOCA NO. 216.
 - 6) INSTALL GATE - SEE LANDSCAPE.
 - 7) CONSTRUCT 2" AC OVER 4" TYPE II BASE. SEE SOIL REPORT PREPARED BY NOVA GEOTECHNICAL PROJ. #G-18-066 FOR MORE DETAIL.
 - 8) CONSTRUCT HANDICAP RAMP PER USDOCA NO. 235 CASE 1. SEE PLAN FOR "A" & "B" DIMENSION.
 - 9) SAWCUT & MATCH TO EXISTING CURB & SIDEWALK. CONTRACTOR SHALL VERIFY EX. LOCATION & PAVEMENT PRIOR TO CONSTRUCTION.
 - 10) EXISTING CURB TO BE REMOVED.
 - 11) CONSTRUCT 10' TRANSITION FROM "L" CURB TO ROLL CURB PER DETAIL "B" SHEET DT3.
 - 12) CONSTRUCT 5' TRANSITION FROM "L" CURB TO ROLL CURB PER DETAIL "C" SHEET DT3.
 - 13) CONSTRUCT SIDEWALK UNDERDRAIN PER USDOCA NO. 236.
 - 14) CONSTRUCT HANDICAP RAMP PER USDOCA NO. 235 CASE 2. SEE PLAN FOR "A" & "B" DIMENSION.
 - 15) CONSTRUCT WROUGHT IRON FENCE PER DETAIL "M" SHEET DT3.

EARTHWORKS
CUT-RAW FILL-RAW
270,570 CY 181,050 CY

BASIS OF BEARING:
NORTH 05°38'00" WEST, BEING THE BEARING OF THE WEST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 33, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M. AS SHOWN IN BOOK 152, PAGE 41 OF PLATS ON FILE AT THE CLARK COUNTY, NEVADA RECORDER'S OFFICE.

BENCHMARK:
CITY OF LAS VEGAS BENCHMARK NO. D368, U.S.C. & G.S. DISC SET IN ROCK RIDGE 150' SOUTH OF CHARLESTON BLVD & WEST OF DETENTION BASIN.
ELEVATION: 3246.63 (FEET)
989.574 (METERS)
BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD'88).

DRAINAGE STUDY COMPLIANCE
I CERTIFY THAT THIS GRADING PLAN IS CONFORMANCE WITH THE APPROVED DRAINAGE STUDY D55023A ON THE FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.

GIA D. NGUYEN, P.E.
NEVADA PE #14918

DATE

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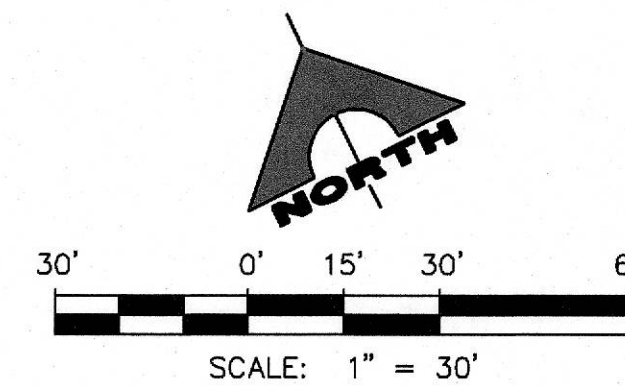
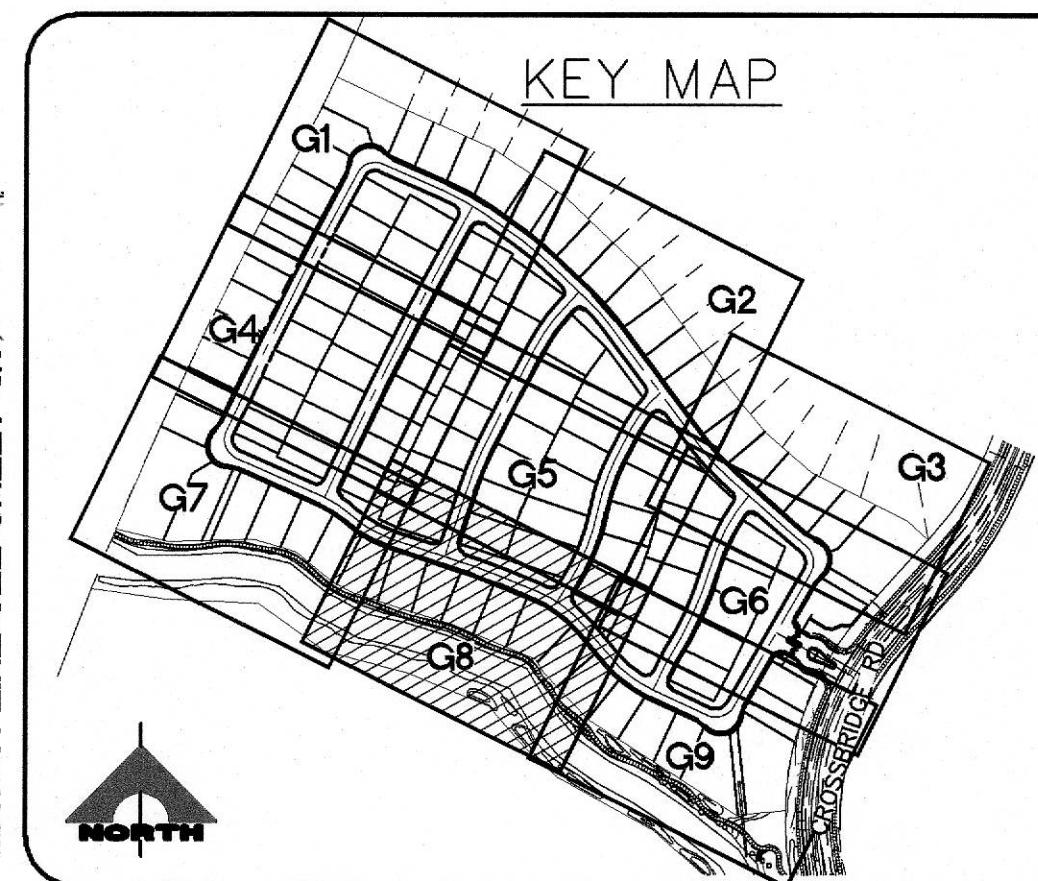
CALL BEFORE YOU DIG
OVERHEAD
1-702-227-2929

PROJECT NO. **5523-A063**
DESIGN: GN
DRAWN: GN
CHECK: GN
PLOT DATE: 10-09-18
PLOT TIME: 11:19:25

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ENGINEERS & SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
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F: 702.804.2299
gcvengineering.com

PARDEE HOMES
SUMMERLIN VILLAGE 24 - PARCEL 1
GRADING PLAN 7

DRAWING
G7
10 OF 54 SHTS



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GIA D. NGUYEN, P.E.
NEVADA PE #14918
DATE

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L# CLV DWG#

PROJECT NO.	5523-A063
DESIGN:	ON
DRAWN:	ON
CHECK:	GDN
PLOT DATE:	10-09-18
PLOT TIME:	11:19:15

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PARDEE HOMES
SUMMERLIN VILLAGE 24 - PARCEL 1
GRADING PLAN 8

DRAWING
G8
11 OF 54 SHTS

TYPICAL SECTION

SCALE: NTS (SHEETS G1-G6)

N

TYPICAL SECTION

SCALE: NTS (SHEETS G1-G6)

(M)

TYPICAL SECTION

SCALE: NTS (SHEETS G1-G6)

L

TYPICAL SECTION

SCALE: NTS (SHEETS G1 THRU G9)

K

TYPICAL SECTION (SIDE YARD)

SCALE: NTS (SHEETS G1 THRU G9)

J

TYPICAL SECTION (SIDE YARD)

SCALE: NTS (SHEETS G1 THRU G9)

TYPICAL SECTION

SCALE: NTS (SHEETS G2-G3, G8-G9)

H

TYPICAL SECTION

SCALE: NTS (SHEETS G1, G7 & G8)

G

TYPICAL SECTION

SCALE: NTS (SHEETS G1-G2, G5, G8-G9)

F

TYPICAL ROUGH GRADING SECTION

SCALE: NTS (SHEETS G1 THRU G9)

(D)

39' PRIVATE STREET SECTION

SCALE: NTS (SHEETS G1 THRU G9)

C

TYPICAL ROUGH GRADING SECTION

SCALE: NTS (SHEETS G6)

B

61' PRIVATE ENTRY

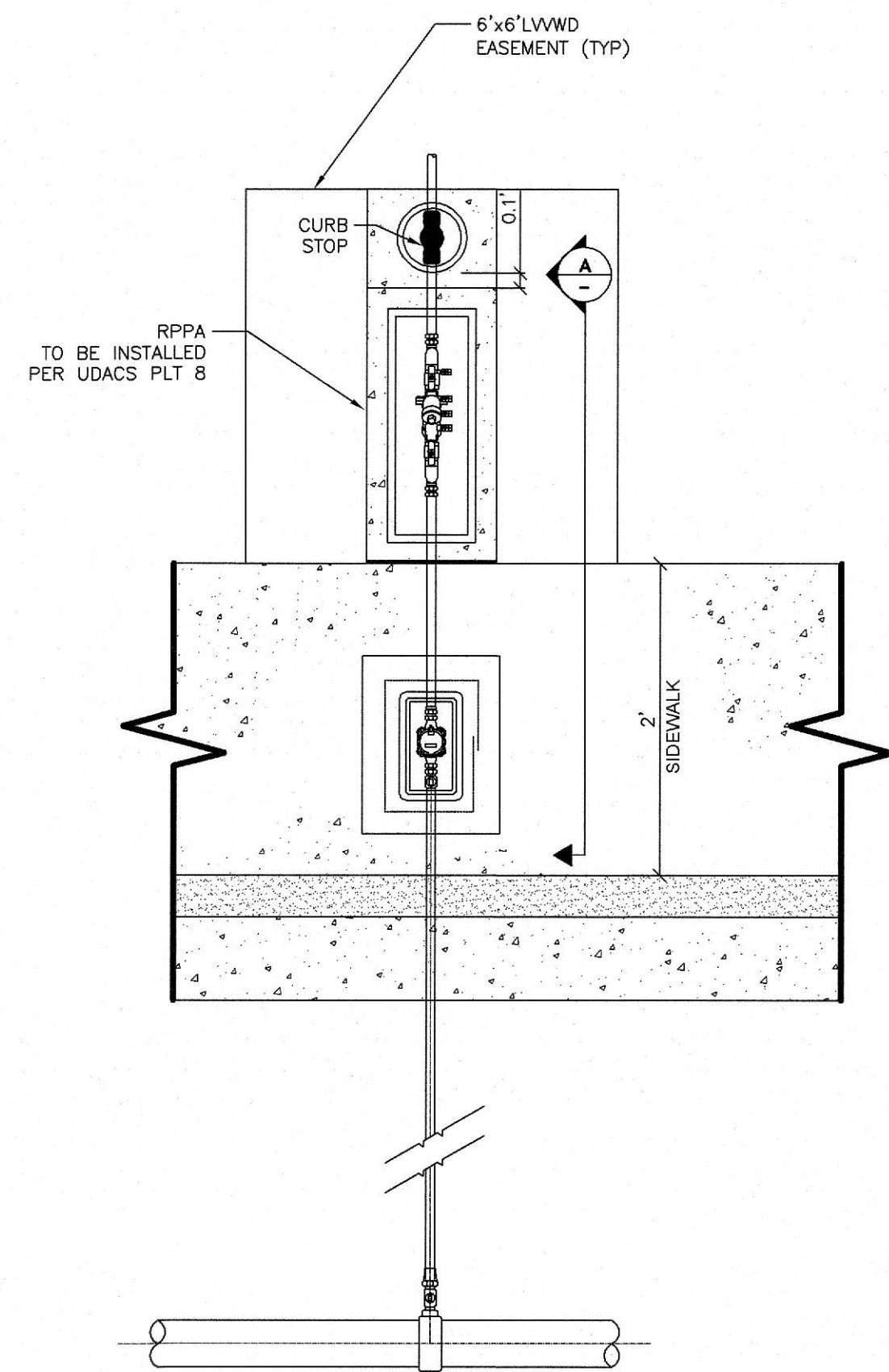
SCALE: NTS (SHEETS G6)

A

CROSSBRIDGE ROAD (PUBLIC)

SCALE: NTS (SHEETS G3, G6 & G9)

E



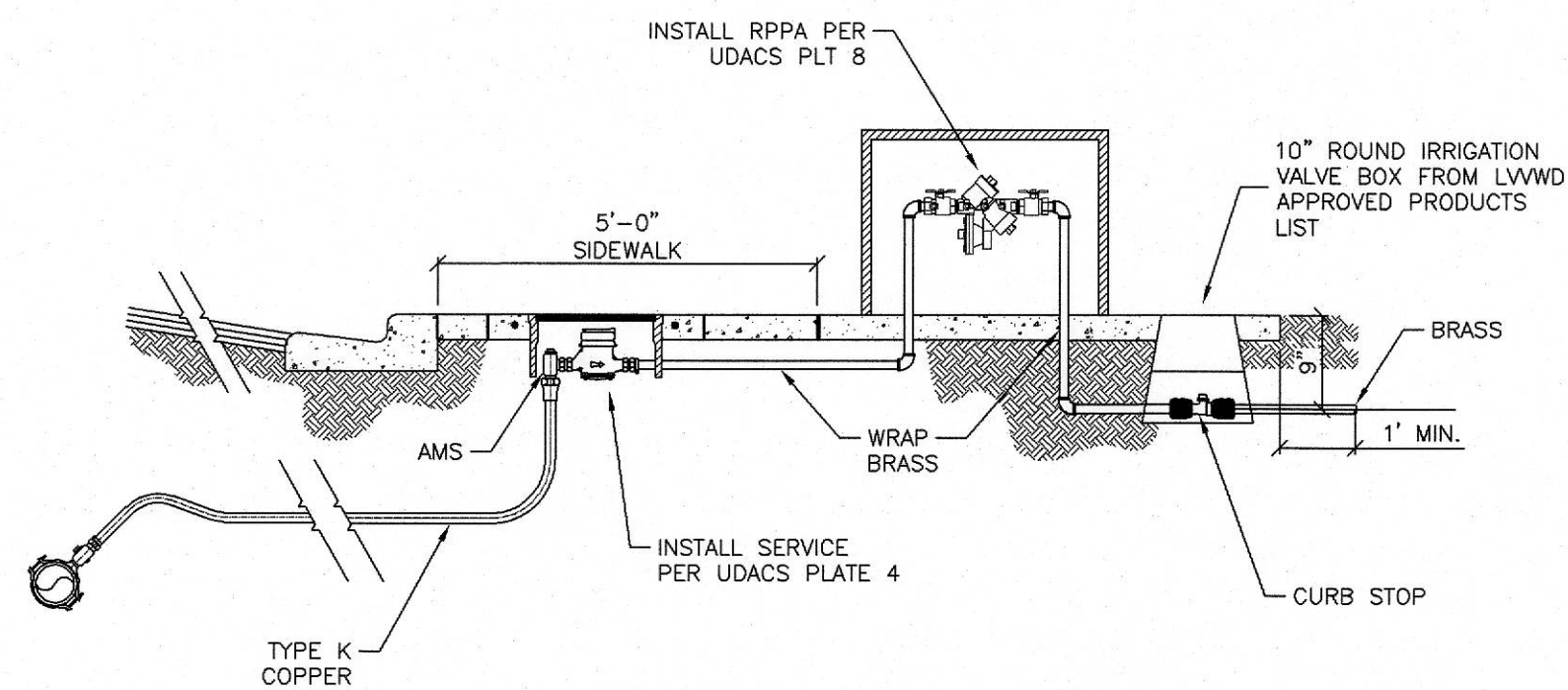
METER W/ RPPA PER UDACS PLATE NO. 4 AND 8 WITH CURB STOP

SCALE: NTS

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

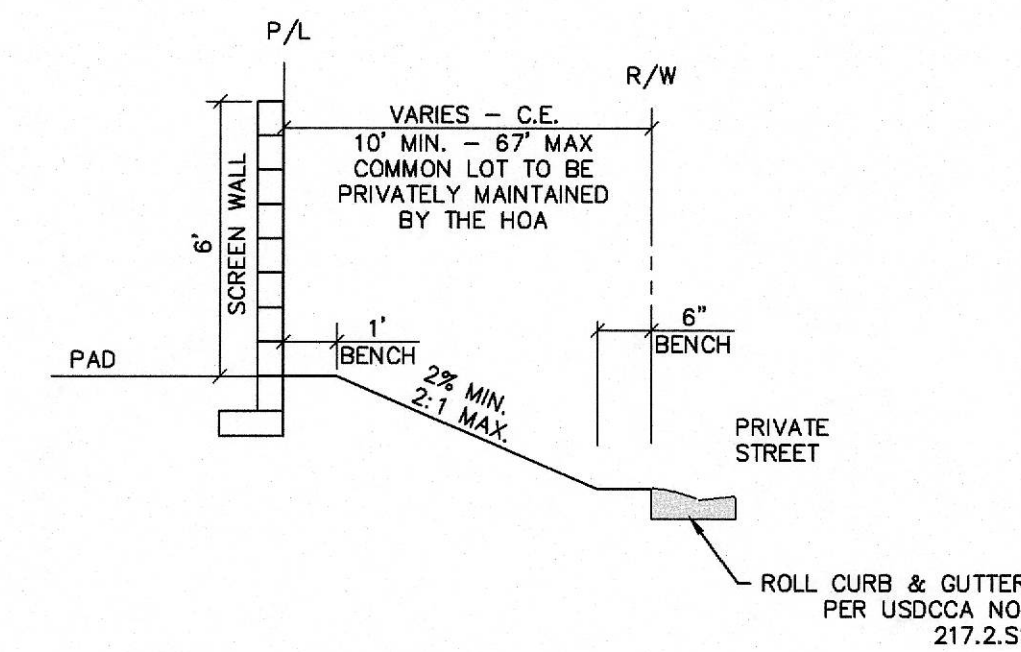
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SECTION A

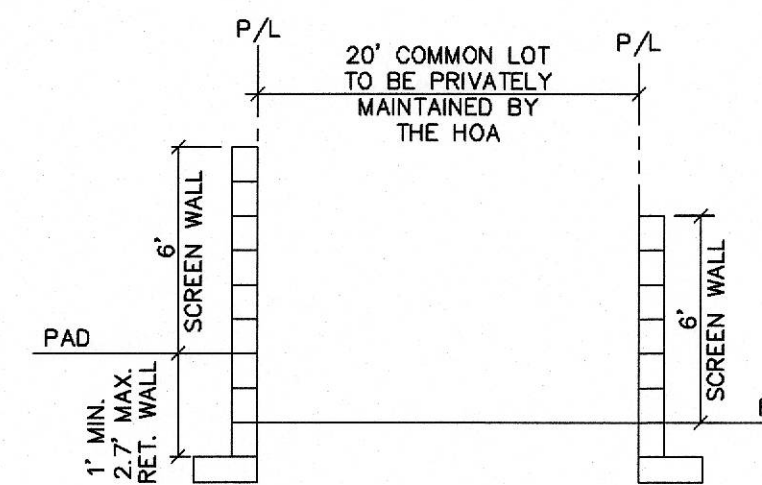
TYPICAL SECTION

SCALE: NTS (SHEETS G1-G3, G7-G9)



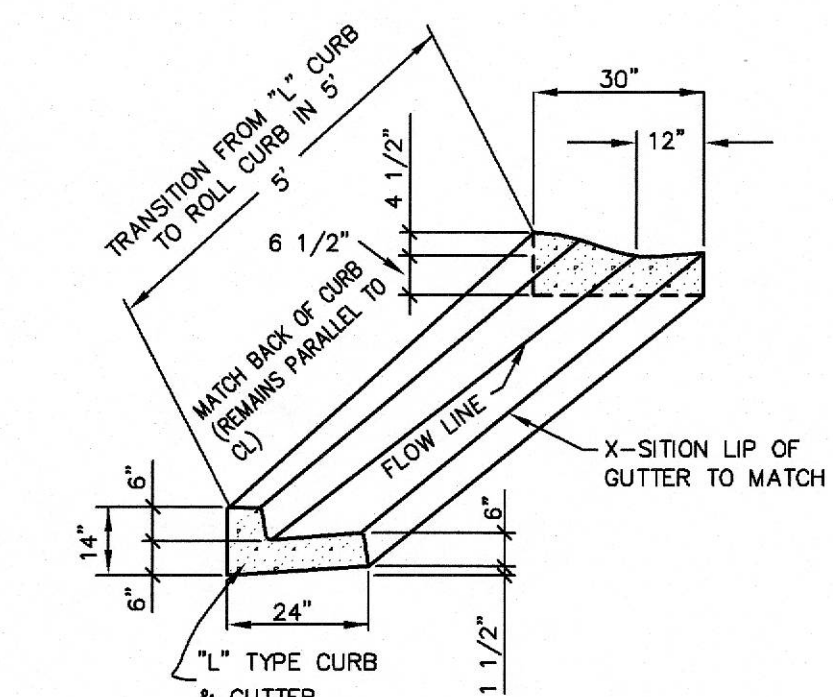
TYPICAL SECTION

SCALE: NTS (SHEETS G1-G3, G7-G9)



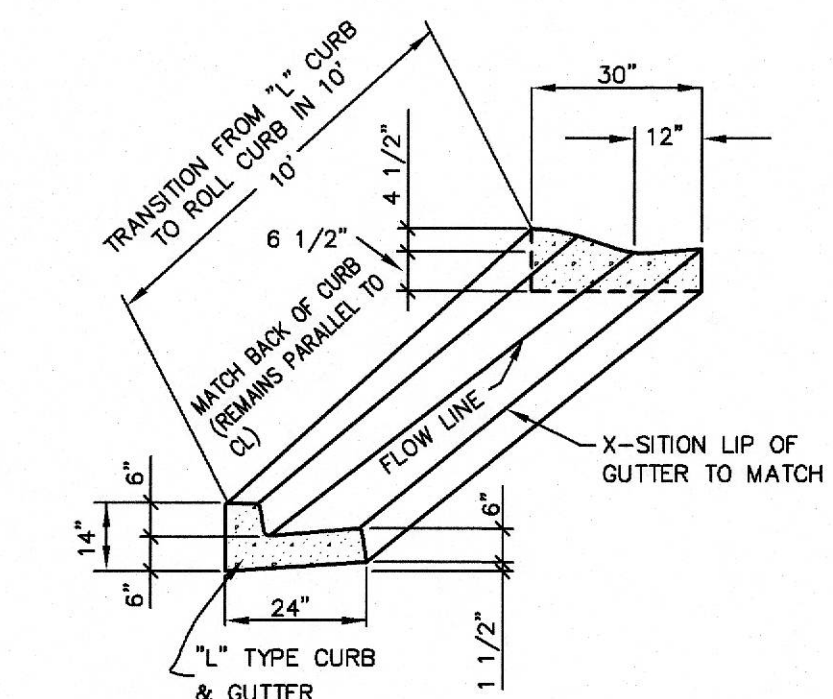
20' COMMON LOT

SCALE: NTS (SHEETS G9)



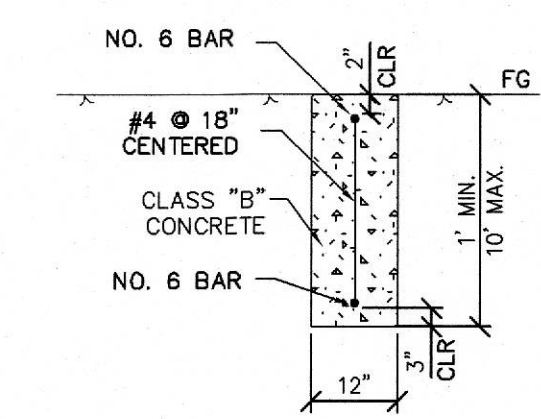
5' TRANSITION FROM "L" CURB TO ROLL CURB

SCALE: NTS



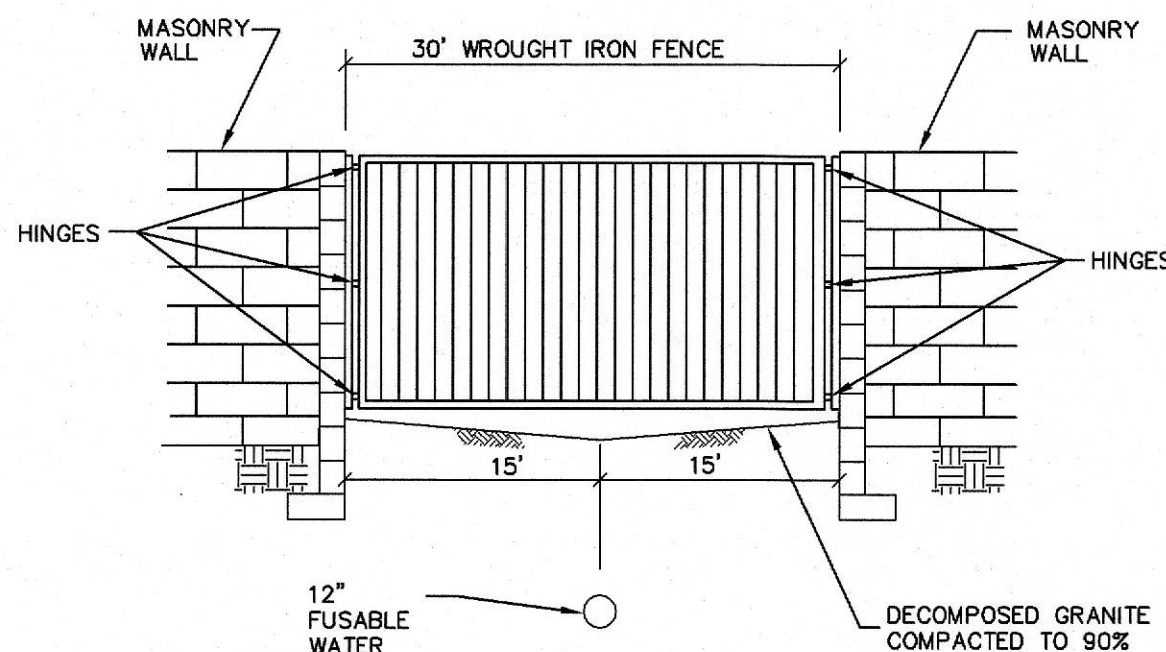
10' TRANSITION FROM "L" CURB TO ROLL CURB

SCALE: NTS



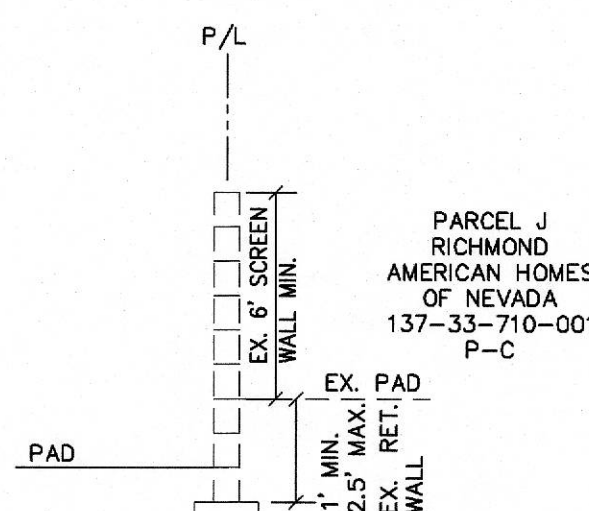
CUT-OFF WALL

SCALE: NTS (SHEETS G7)



WROUGHT IRON FENCE

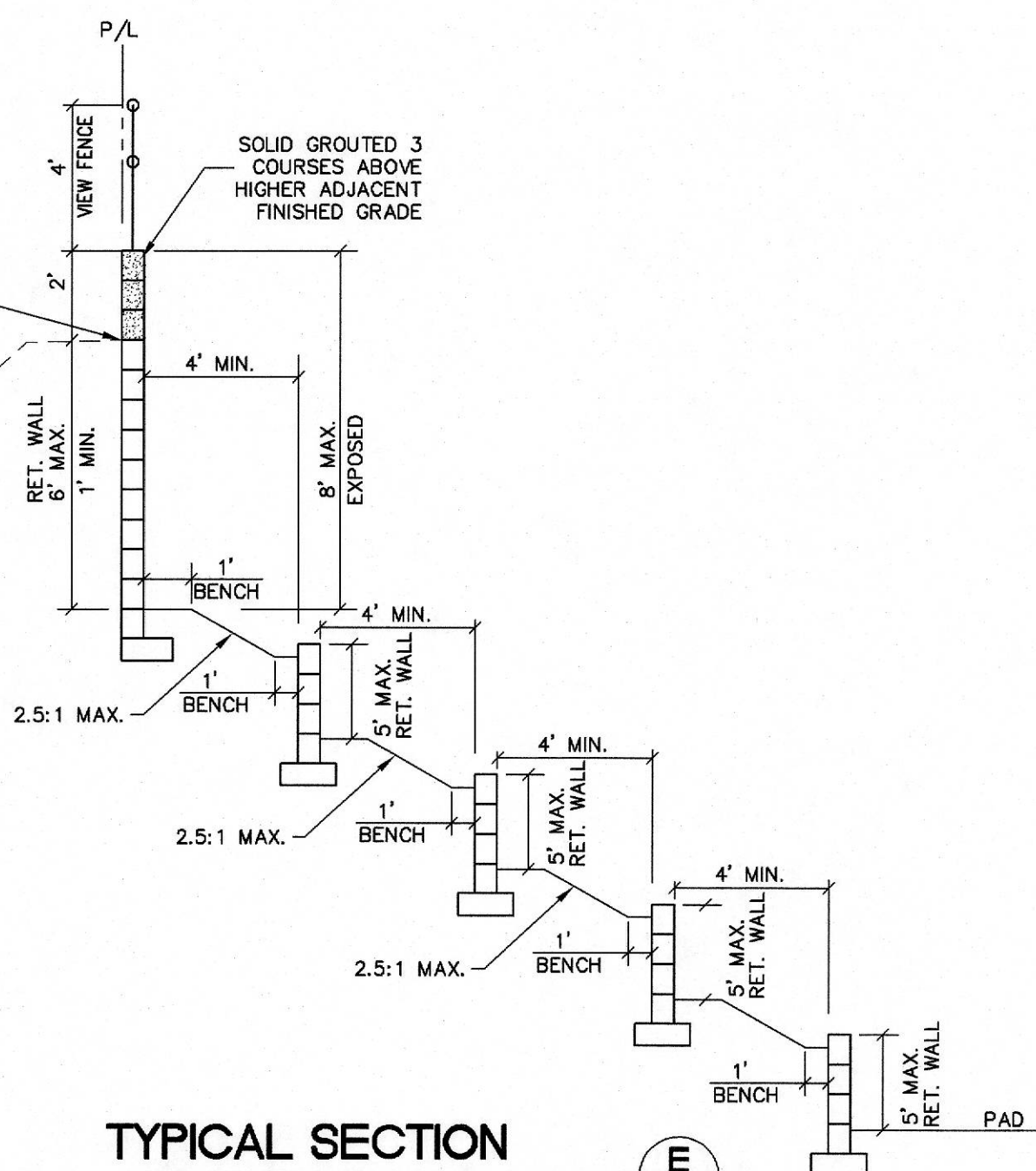
SCALE: NTS



TYPICAL SECTION

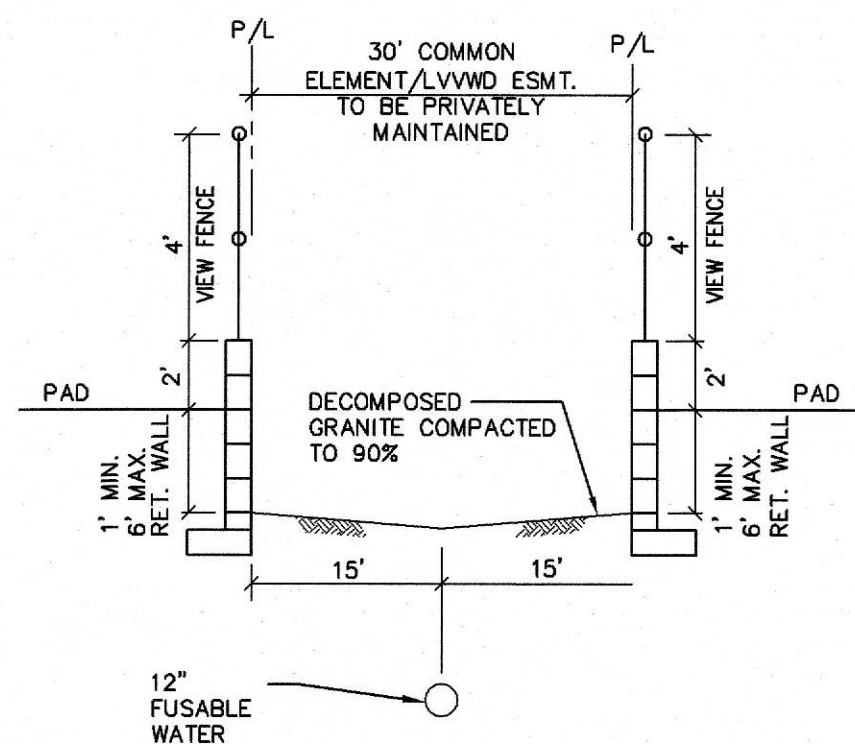
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HUGHES HOWARD COMPANY LLC
137-22-000-017
P-C



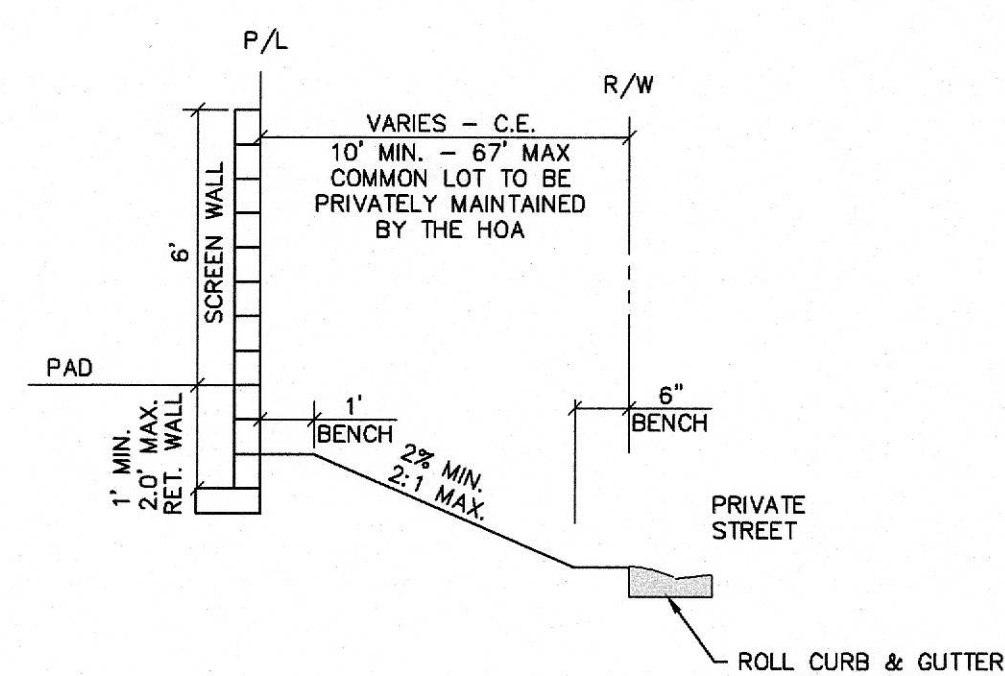
TYPICAL SECTION

SCALE: NTS (SHEETS G1)



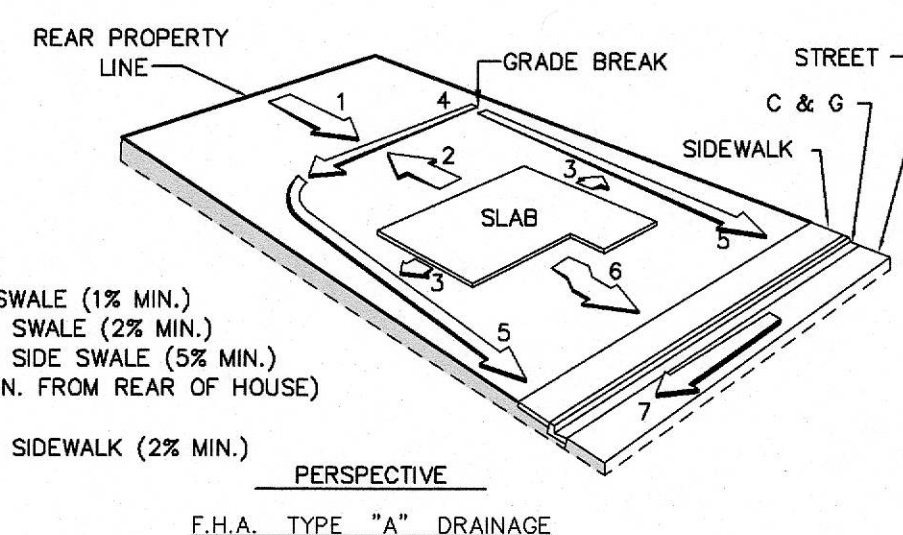
30' LVWD ESMT.

SCALE: NTS (SHEETS G1)



TYPICAL SECTION

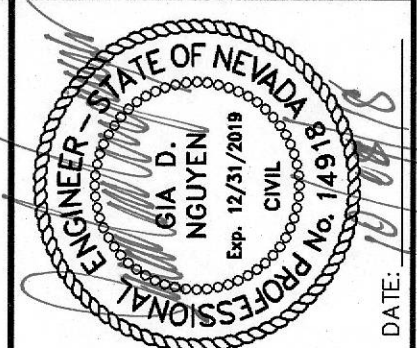
SCALE: NTS (SHEETS G1-G3, G7-G9)



- NOTES:**
1. SLOPE FROM REAR TO SWALE (1% MIN.)
 2. SLOPE FROM HOUSE TO SWALE (2% MIN.)
 3. SLOPE FROM HOUSE TO SIDE SWALE (5% MIN.)
 4. REAR SWALE 1% (10' MIN. FROM REAR OF HOUSE)
 5. SIDE SWALE 1%
 6. SLOPE FROM HOUSE TO SIDEWALK (2% MIN.)
 7. SLOPE OF STREET

TYPICAL TYPE "A" DRAINAGE DETAIL

SCALE: NTS



PROJECT NO.
5523-A063

DESIGN:
DRAWN:
CHECK:
PLOT DATE: 10-09-18
PLOT TIME: 08:46:28

GCV 1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
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PARDEE HOMES

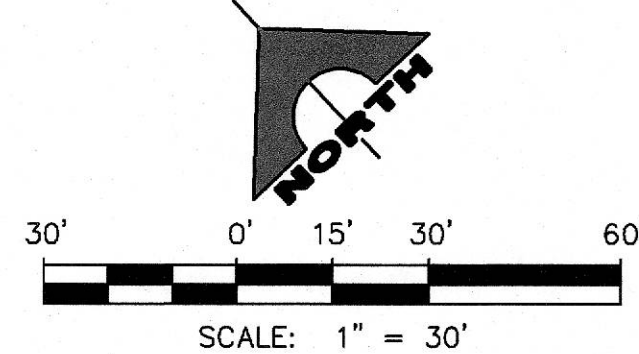
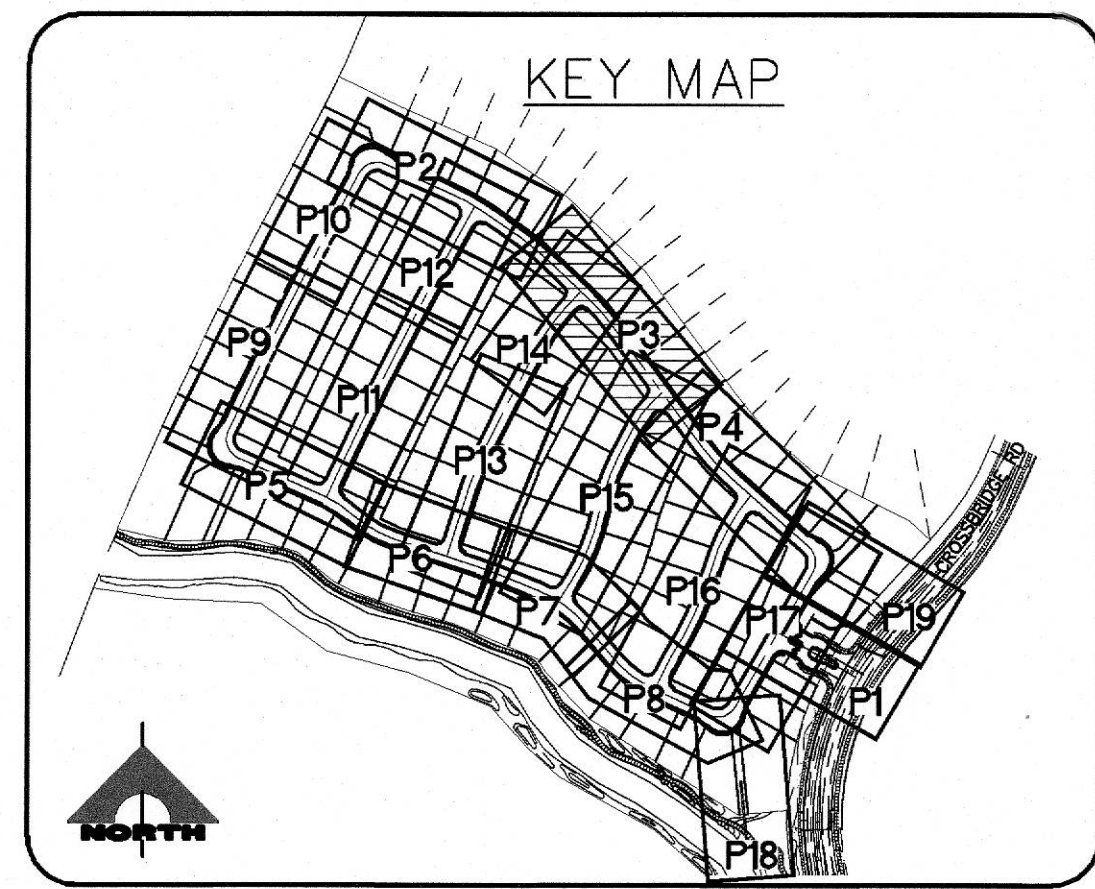
SUMMERLIN VILLAGE 24 - PARCEL 1

GRADING SECTIONS AND DETAILS 3

DRAWING

DT3

15 OF 54 SHTS



SEWER CONSTRUCTION NOTES

2 INSTALL 48" DIA. SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, AND SD-9 WITH PRECAST BASE.

CONSTRUCTION NOTES

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NOTE

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989.574 (METERS)

BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD'88).

UTILITY APPROVAL

SOUTHWEST GAS CORP

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. _____ FIRST APPROVED DATE: _____

L#

CLV DWG#

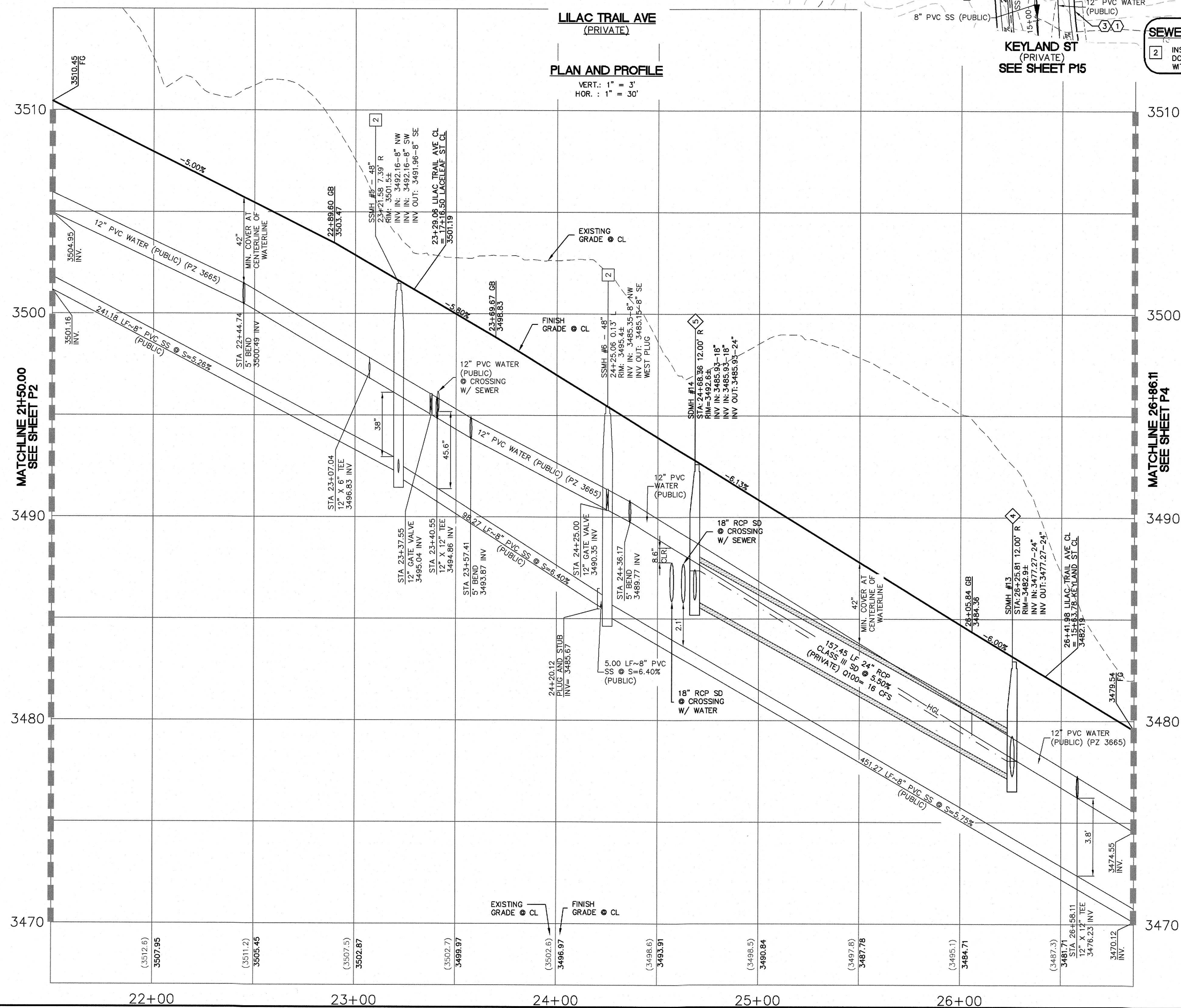
* FOR C905 SEE SHEET LAT FOR
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OR
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PROJECT NO.
5523-A063

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146

GCL
ENGINEERS & SURVEYORS

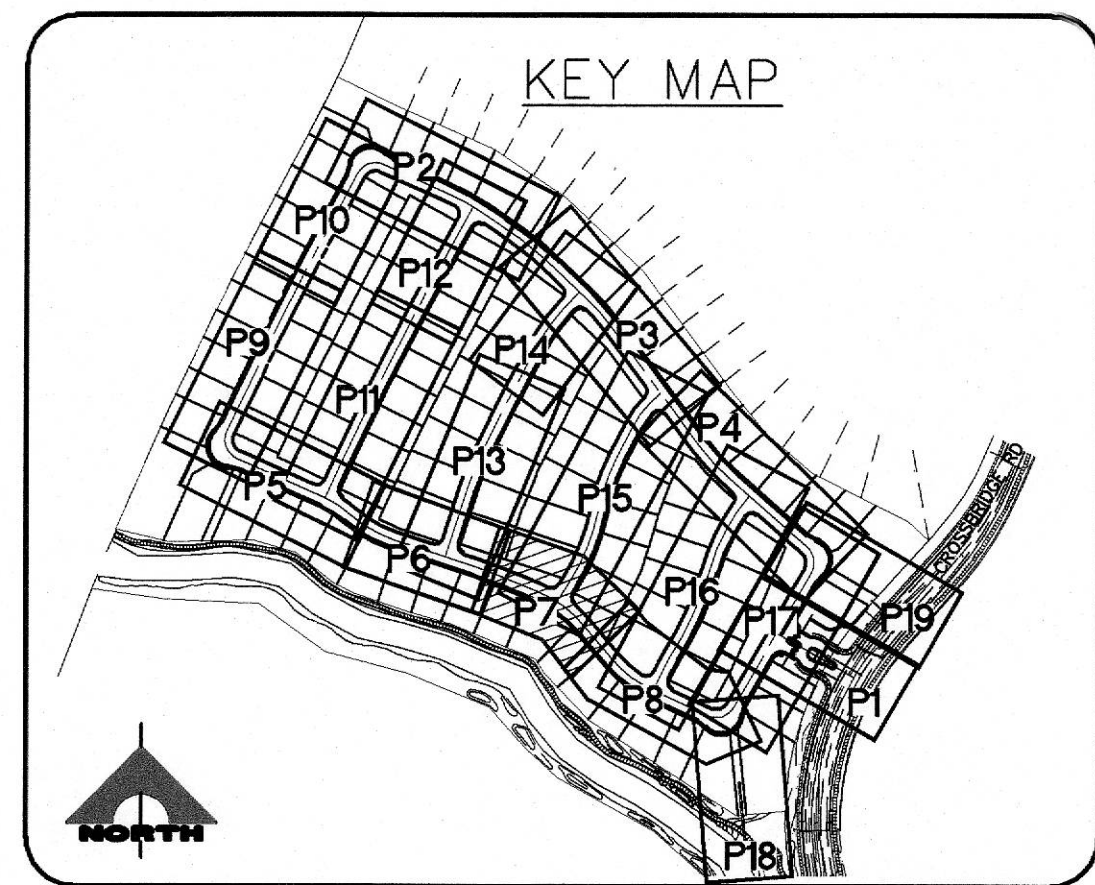
PARDEE HOMES

LILAC TRAIL AVE
STA. 21+50.00 TO STA. 26+86.11
PLAN AND PROFILE

DRAWING

P3

18 OF 54 SHTS



A north arrow pointing towards the top right, labeled "NORTH". Below it is a graphic scale bar with markings at 30', 0', 15', 30', and 60'. Below the scale bar is the text "SCALE: 1" = 30'".

- ## CONSTRUCTION NOTES
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SOUTHWEST QUARTER (SW $\frac{1}{4}$) OF SECTION 33, TOWNSHIP 20 SOUTH,
RANGE 59 EAST, M.D.M. AS SHOWN IN BOOK 152, PAGE 41 OF PLATS ON
FILE AT THE CLARK COUNTY, NEVADA RECORDER'S OFFICE.

BENCHMARK:

CITY OF LAS VEGAS BENCHMARK NO. D368, U.S.C. & G.S. DISC SET IN ROCK
RIDGE 150' SOUTH OF CHARLESTON BLVD & WEST OF DETENTION BASIN.

ELEVATION: 3246.63 (FEET)
989.574 (METERS)

BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD'88).

UTILITY APPROVAL

UTILITY APPROVAL

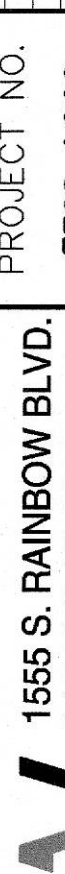
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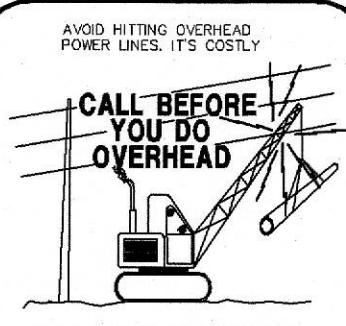
APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. _____ FIRST APPROVED DATE _____

PROJECT NO. _____ FIRST APPROVED DATE: _____

L#	CLV DWG#
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PARDEE HOMES SUMMERLIN VILLAGE 24 - PARCEL 1 PENFIELD AVE STA. 17+50.00 TO STA. 24+00.00 PLAN AND PROFILE			1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146 T: 702.804.2000 F: 702.804.2299 gowingengineering.com		PROJECT NO. 5523-A063		DESIGN: ON DRAWN: ON CHECK: GDN		PLOT DATE: 10-09-18 PLOT TIME: 08:46:14				DATE: 10/10/18	
	DRAWING P7 22 OF 54 SHTS		F:\Projects\5001\5523-A063\DWG\Production\A063-P1-8.dwg Gowing\th Nguyen		REV DATE		DESCRIPTION		DATE AGEN APP		DATE GCW APP			



1-702-227-2929

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

Call

011

Oil

1-800-227-2600

EAST



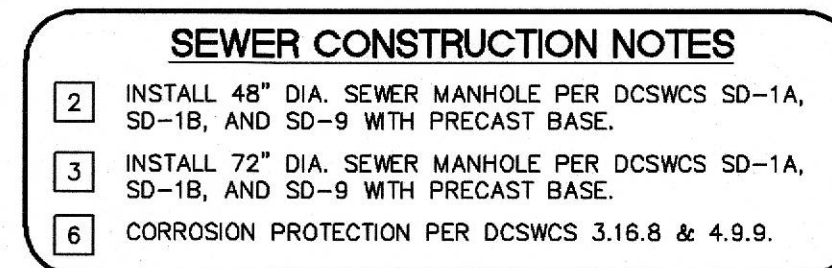
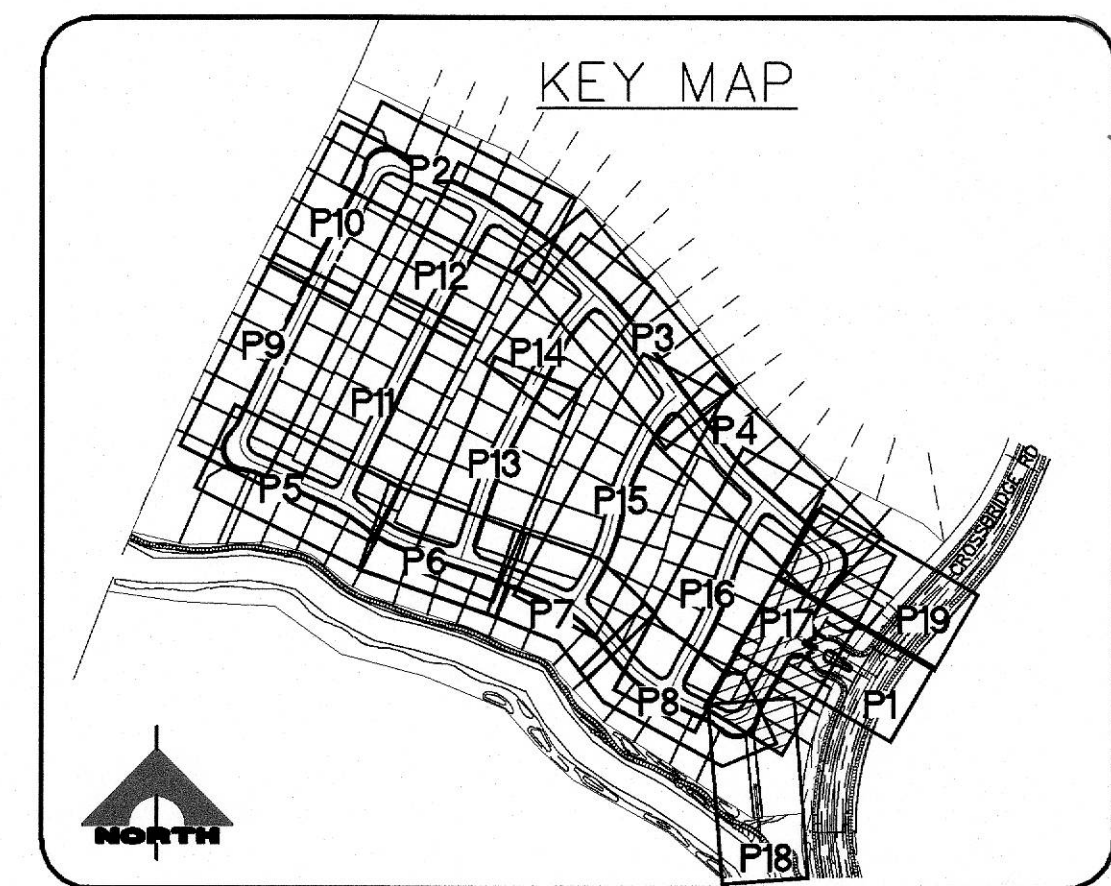
Call

before you

UnderGround

1-702-432-5300

FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION



- ## CONSTRUCTION NOTES
- (1) CONSTRUCT CONCRETE SIDEWALK PER USDOCA NO. 234.
 - (2) CONSTRUCT 8" WIDE VALLEY GUTTER PER USDOCA NO. 228 & 229.
 - (3) CONSTRUCT ROLL CURB PER USDOCA NO. 217.2.S1.
 - (4) CONSTRUCT MEDIAN "A" TYPE PER USDOCA NO. 218 & 219.
 - (5) CONSTRUCT "L" CURB PER USDOCA NO. 216.
 - (6) INSTALL GRADE - SEE LANDSCAPE.
 - (7) CONSTRUCT 2" AC OVER 4" TYPE II BASE. SEE SOIL REPORT FOR DATA BY NOVA GEOTECHNICAL PROJ. #9-18-056 FOR MORE DETAIL.
 - (8) CONSTRUCT HANDICAP RAMP PER USDOCA NO. 235 CASE 1. SEE PLAN FOR "A" & "B" DIMENSION.
 - (9) SAWCUT & MATCH TO EXISTING CURB & SIDEWALK. CONTRACTOR SHALL VERIFY EX. LOCATION & PAVEMENT PRIOR TO CONSTRUCTION.
 - (10) EXISTING CURB TO BE REMOVED
 - (11) CONSTRUCT 10' TRANSITION FROM "L" CURB TO ROLL CURB PER DETAIL "B" SHEET DT3.
 - (12) CONSTRUCT 5' TRANSITION FROM "L" CURB TO ROLL CURB PER DETAIL "C" SHEET DT3.
 - (13) CONSTRUCT SIDEWALK UNDERDRAIN PER USDOCA NO. 236.
 - (14) CONSTRUCT HANDICAP RAMP PER USDOCA NO. 235 CASE 2. SEE PLAN FOR "A" & "B" DIMENSION.
 - (15) CONSTRUCT WROUGHT IRON FENCE PER DETAIL "M" SHEET DT3.

- STORM DRAIN CONSTRUCTION NOTES**

 1. CONNECT TO EXISTING STORM DRAIN.
 2. CONSTRUCT MODIFIED TYPE "CM2" PER STD DWG 412.1 & 421. SEE PLAN PER SIZE.
 3. CONSTRUCT TYPE II STORM DRAIN MANHOLE PER STD. DWG 405.1.
 4. CONSTRUCT 60" TYPE I STORM DRAIN MANHOLE PER STD. DWG 403.
 5. CONSTRUCT 60" TYPE III STORM DRAIN MANHOLE PER STD. DWG 406.1.

NOTE

ALL ONSITE STORM DRAINS AND ASSOCIATED STORM FACILITIES ARE PRIVATELY OWNED AND TO BE PRIVATELY MAINTAINED BY THE HOA.

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

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NORTH 05°36'00" WEST, BEING THE BEARING OF THE WEST LINE OF THE SOUTHWEST QUARTER (SW ¼) OF SECTION 33, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M. AS SHOWN IN BOOK 152, PAGE 41 OF PLATS ON FILE AT THE CLARK COUNTY, NEVADA RECORDER'S OFFICE.

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989.574 (METERS)

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UTILITY APPROVAL _____

SOUTHWEST GAS CORP. DATE:

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
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OR
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FAST
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FREWAY AND ARTERIAL
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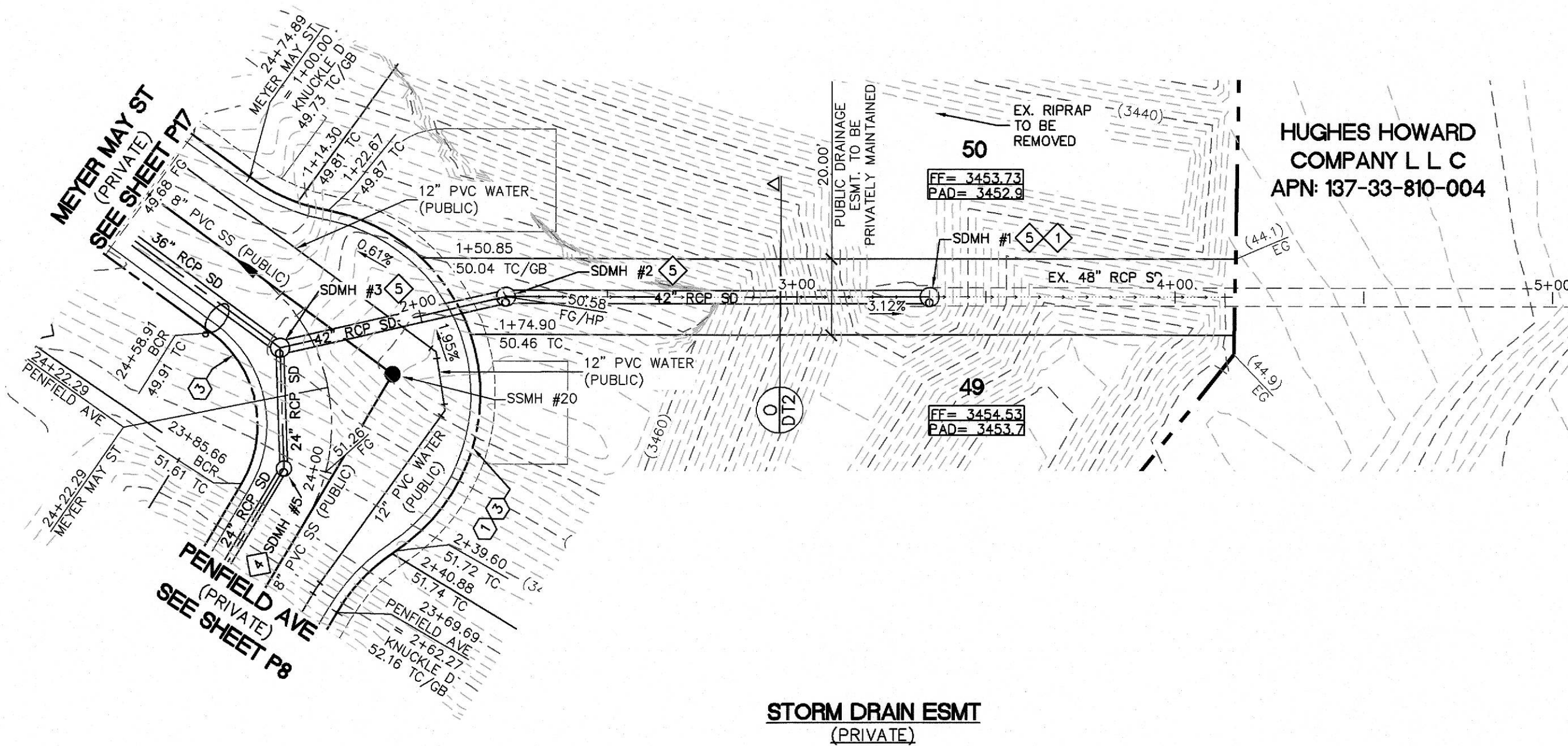
PROJECT NO.
5523-A063

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

GCL
ENGINEERS SURVEYORS

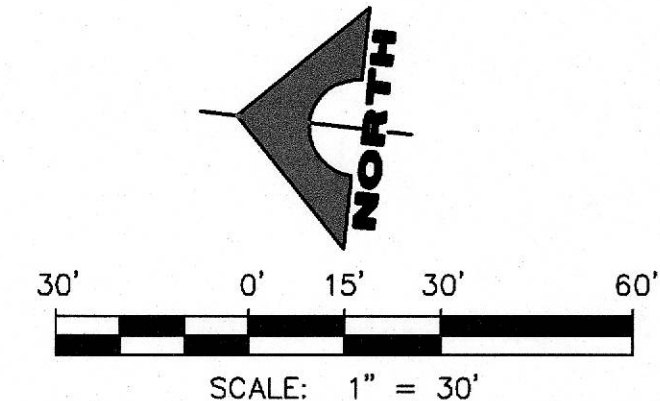
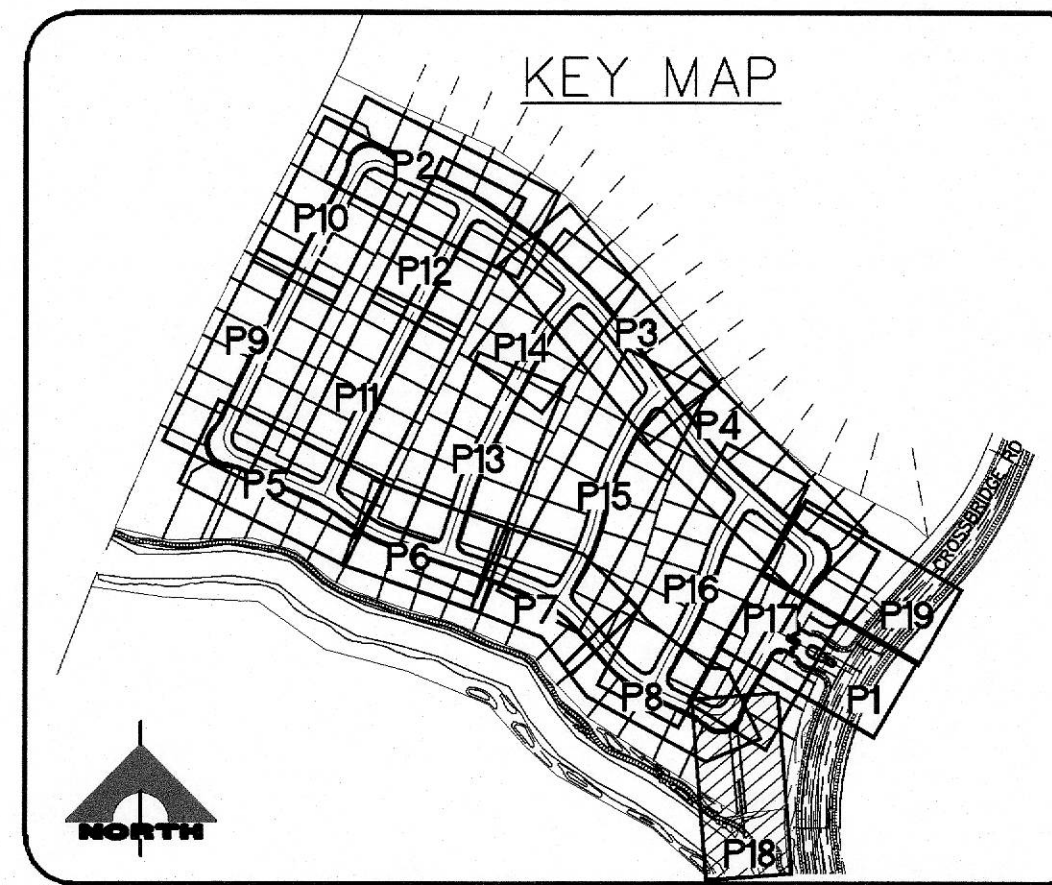
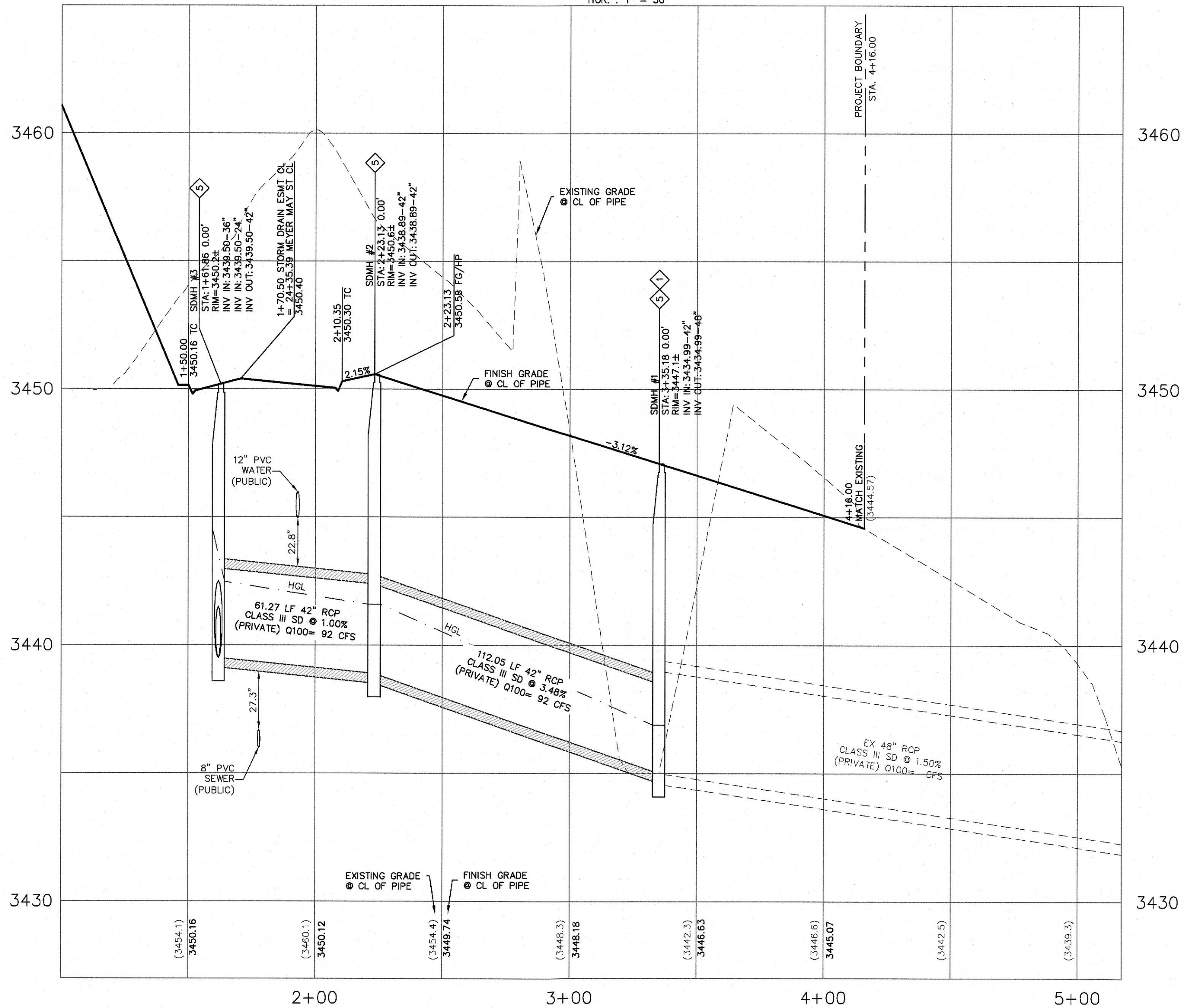
PARDEE HOMES

DRAWING
P17
32 OF 54 SHTS



PLAN AND PROFILE

VERT. : 1" = 3'
HOR. : 1" = 30'



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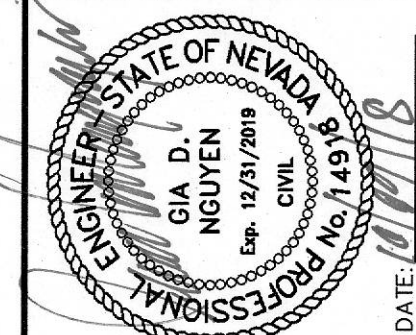
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UTILITY APPROVAL
SOUTHWEST GAS CORP. DATE:

APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. FIRST APPROVED DATE:

L# CLV DWG#



DATE	GCW APP
DATE	AGN APP
DATE	DESCRIPTION
DATE	REV

PROJECT NO. 5523-A063
DESIGN: GN
DRAWN: GN
CHECK: GN
PLOT DATE: 10-09-18
PLOT TIME: 08:44:55

GCV 1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcvengineering.com
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F:\Projects\5503\5523-A063\DWG\Production\A063-P18.dwg
Quangmin Nguyen

PARDEE HOMES
SUMMERLIN VILLAGE 24 - PARCEL 1
STORM DRAIN ESMT
STA. 1+50.00 TO STA. 4+16.00
PLAN AND PROFILE

DRAWING
P18
33 OF 54 SHTS



