

DS #:

4823

APN:

125.22.501-001

PROJECT:

Elkhorn 40-Residential Development

SUBMITTAL:

1st Submittal

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		September 20, 2016
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:	
	Elkhorn 40 – Residential Development	
Cross Streets:	SEC of Elkhorn Road & Tenaya Way	
File Number:	F:\Depot\DSMemos\DS4823A.doc	
Parcel Number:	125-22-501-001	
Zoning Action:	TMP-65275; ZON-63488; WVR-65331; WVR-65593 & Variances	
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES	NO X
		COPIES TO: Triton Engineering D.R. Horton, Inc. Bart Anderson, P.E., DevCo CCPW

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	9/7/2016	9/20/2016	See Comments Below	\$400.00	457451: \$400
			TOTAL FEES (LDDRS):	\$400.00	----

REMARKS:

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

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

1. Provide a copy of the zoning/planning conditions associated with this site (**TMP-65275; ZON-63488; WVR-65331; WVR-65593 & Variances**) 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 approved by the **City Council**. Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and resubmitted.
2. Sites with a grade difference of 2 feet above or below existing are required to have approval from the *City Planning and Development Department*. The engineer must submit copies of the grading plans and detail sheet with a letter justifying the grade difference to the *City Planning Department* (229-6301). The engineer must provide Planning approval with the next submittal.
3. The site is adjacent to the jurisdiction of Clark County. The engineer must coordinate with *Clark County Department of Public Works* (CCPW) and incorporate any concerns for boundary conditions along the east border. CCPW concurrence is required prior to final acceptance of the drainage study.
4. A concentration point valuation at the intersection of *Rio Vista Way* and *Wittig Avenue* was missing in the *Existing and Developed Conditions Drainage Map* (**Figure 3** and **Figure 4**). Provide as such in the next submittal so that a comparison of drainage impact to the neighborhoods prior to and post development can be determined.

5. On **Figure 4**, add *Rio Vista* and *Wittig* in the *Hydraulic Section* column of the “**Normal Depth Flow Calculations**” table.
6. The proposed finished floor elevations of houses along *Tenaya Way* are below the street grade. It is understood that the existing rockery wall performs as a flood wall for onsite protection. However, the existing rockery wall must provide a freeboard of minimum 18” above the 100-year water surface in *Tenaya Way*. Address and verify in the next submittal.
7. It appears that the finished floor elevations of Lots 65 to 70 do not meet the twice-the-depth criteria in *Wittig Avenue*. Address and justify the F.F. of those lots in the next submittal. Otherwise, raise the lots accordingly.
8. At the intersection of *Elkhorn Road* and *Tenaya Way*, provide a nominal drop inlet in *Tenaya Way* at the BCR with an 18”-lateral and connect to the existing storm drain in *Tenaya Way*.

Address what needs to be done to a reach of storm drain connecting existing SDMH #504 and SDMH #506 which appears to connect to nowhere.
9. **Sheet 5 (Grading Plan III)**: Provide a nominal drop inlet in *Tenaya Way* with an 18”-lateral and connect to an existing SDMH #790. Revise the grading plan and all pertinent storm drain plans accordingly.
10. **Sheet 6 (Grading Plan IV)**: In the two common elements and public drainage easements, remove the proposed riprap to concrete lined the whole element.

The proposed 10'-public drainage easement between Lot 78 and Lot 79 does not meet City criteria for the 100-year flow is greater than 20cfs. Provide a 20'-wide public drainage easement in the next submittal.
11. Revise the slope in all cul-de-sac bulbs and knuckles in all pertinent streets to a minimum of 1%.
12. *City of Las Vegas* does not allow HDPE pipe in public right-of-ways or public drainage easements. Note that *City of Las Vegas* only allows the use of HDPE storm drain pipes for privately owned and privately maintained storm drain systems which serve and are located exclusively on private properties. Any proposed HDPE storm drain pipes must also meet all design criteria established by the *Clark County Regional Flood Control District* and must be installed per *Clark County Regional Transportation Commission Uniform Standard Drawings and Specifications*.
13. Private streets must be public drainage easements. Provide a note on the grading plans: “ All private streets are P.U.E., Public Sewer Easements and Public Drainage Easements to be privately maintained by the HOA”.
14. All drainage easements must be public drainage easements to be privately maintained and common lots to be labeled on the grading plans and to be dedicated as such in the final map.
15. The engineer must provide a table on the grading plans that shows a quantity estimate of all drainage improvements within Public Drainage Easements. All drainage improvements within Public Drainage Easements must be bonded and inspected.
16. Add a note in all pertinent sheets for the construction of all storm drain drop inlets per a newly adopted USDCCA Drawing No. 421 (*Stormwater Quality Management Stamp and Sign Detail*).

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

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T/R/S: T19S/R60E/22
AREA G-22

 *** FAX TX REPORT ***

TRANSMISSION OK

JOB NO. 1399
 DESTINATION ADDRESS 7022543062
 PSWD/SUBADDRESS
 DESTINATION ID
 ST. TIME 09/20 15:08
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 PGS. 2
 RESULT OK

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TECHNICAL DRAINAGE STUDY

FOR

Elkhorn 40 Residential Development

City of Las Vegas, Nevada

Prepared for:

DR Horton

1081 Whitney Ranch Drive, #141

Henderson, NV 89014

Office: (702)635-3600 - Fax: (702)538.0735

Prepared by:

Triton Engineering

6757 W. Charleston Blvd., Suite B

Las Vegas, NV 89146

Office: (702) 254-1480 - Fax: (702) 254-3062

APN 125-22-501-001

August 2016

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: Technical Drainage Study for Elkhorn 40 Date: August 2016

Location of Development: a) Descriptive (Cross Streets) North/South: Tenaya
 East/West: Elkhorn
 b) Section: 22 Township: 19S Range: 60E
 c) APN : 125-22-501-001

Name of Owner: Greengale Properties, LLC, Owners, - DR Horton, Developers

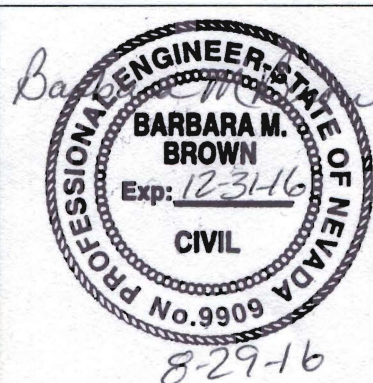
Telephone No.: (702)672-1939 Fax No.: (702) 538-0735 E-Mail Address: MEJones3@DRHorton.com
 Address: 1081 Whitney Ranch Drive #141, Henderson, NV 89014

Contact Person-Name: Kelly J. Wittwer, P.E. Telephone No.: (702) 254-1480
 * E-Mail Address: KWittwer@tritoneng.com Fax No.: (702) 254-3062
 Firm: Triton Engineering, LLC
 Address: 6757 West Charleston Boulevard, Suite B, 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	

- Total Owned Land Area: At Site: 37.35 ac Being Developed/Disturbed: 37.35 ac.
- Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? ☐ Yes** ☒ No
- Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☐ Yes** ☒ No
- Proposed type of development (Residential, Commercial, Etc.): Residential
- Approximate upstream land area which drains to the subject site: 160 acres + / -
- Has the site drainage been evaluated in the past? ☐ YES ☒ NO If yes, please identify documentation: _____
- If known, please briefly identify the proposed discharge point(s) of runoff from the site: Discharge to the east to Rio Vista Street
- 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



CITY OF LAS VEGAS

MINIMUM DRAINAGE STUDY CRITERIA STANDARD FORM 2 CHECKLIST SUPPLEMENT

(Revised 5/18/11)

The following checklist is intended as a supplemental guide for the engineer preparing a Technical Drainage Study submittal to the City of Las Vegas. This supplement focuses on requirements specific to the City of Las Vegas. The requirements presented are in addition to the Clark County Regional Flood Control District (CCRFC) Manual Standard Form 2. The listed items are the minimum information required prior to the City performing a review. The engineer will remain responsible to ensure the Technical Drainage Study is prepared within the guidelines as set forth in the CCRFC Hydrologic Criteria and Drainage Design Manual (Design Manual).

An appointment must be made to preview this checklist in conjunction with CCRFC Standard Form 2 prior to the City accepting a new drainage study for review. The engineer must contact the Flood Control Section at (702) 229-6541 to schedule a submittal appointment.

If items are not applicable for the subject site, provide N/A.

I. GENERAL REQUIREMENT		
Yes	No	
	X	A notarized letter from the adjacent property owner(s) allowing off-site grading. (A copy of the letter must be received prior to final acceptance of the drainage study.)
X		Copies of all conditions of approval for development related to this property. (e.g. zoning, use permit, tentative map, etc.) Verify compliance with conditions.
X		An electronic copy of the complete submittal is required to be submitted with one original hard copy of the study. Electronic documents should be on a universal computer-readable digital output device replicating your submittal. An Indexed Portable Document Format (PDF) or Print Ready CAD file formats with a minimum of 300dpi are the desired formats. If figures are in color, they must be scanned in color and saved as a separate file.  by initial here, the engineer on record acknowledges that the electronic copy is an identical replicate of the original hard copy submitted to the City of Las Vegas.

II. GRADING PLAN INFORMATION		
Yes	No	
X		(1) 24" X 36" copy of the Grading Plan, (including all Detail Sheets) sealed by the engineer.
X		Proposed future and existing spot grades for top of curbs and street crowns at lot lines, grade breaks, and along curb returns on both sides of the street. Note: Proposed top of curb elevations must be provided for both sides of roadways even if only half street construction is required.
X		Label existing topography at a minimum 5 foot elevation interval including adjacent developments, finished floor elevations of existing buildings and top of existing curbs extending 100 feet around the perimeter of the site. (*Measured from the centerline of the adjacent roadway.)

CITY OF LAS VEGAS MINIMUM DRAINAGE STUDY CRITERIA CHECKLIST

II. GRADING PLAN INFORMATION		
Yes	No	
X		Proposed on-site and off-site storm drains and other flood control facilities with plan and profile sheets for public storm drains showing the class of pipe, (Class III, IV, V, etc.), design hydraulic grade line, (HGL) and 100 year storm flow. A public drainage easement must be provided over on-site storm drains conveying off-site flows. An overflow path must be provided over all storm drains.
X		All existing and "to be constructed" walls with cross-sections showing wall type, (e.g. block wall, retaining wall, flood wall, etc.), with limits clearly defined, adjacent ground elevations. Wall heights must meet current ordinances and in no case exceed 14 feet above the adjacent property.
X		Street slopes for both interior and perimeter streets. Note: The minimum slope for a roadway is 0.4 percent, a minimum 18-inch storm drain must be provided where minimum slopes cannot be met.
X		Back of lot elevations and lot drainage pattern for all lots including common lots.
	X	Sites with a grade difference two feet above or below existing ground are required to have approval from City of Las Vegas Current Planning. Current Planning approval is required prior to final approval of the drainage study.
X		On-site facilities must perpetuate flows through or around the site without significantly impacting adjacent property owners. (The project must pass flows through the site every 600 feet where the project is blocking flow paths.)
	X	This project uses a solid grouted stem wall (or approved alternate) at the back of sidewalk to provide erosion protection for landscaped areas where the depth of flow in the roadway exceeds the back of walk elevation. A corresponding cross-section detail is included.
	X	Commercial and Common Lot Landscape areas are not allowed to drain over the sidewalk. The grading plans show flow lines with grades and sidewalk under drains for all landscape areas draining to the public ROW.

III. Local Entity Criteria - City of Las Vegas – Manual Section 1600		
Yes	No	
	X	Concrete valley gutters are required in parking lots with slopes less than 1 percent. Slopes through cul-de-sac must be at a 1 percent minimum where flow is drained through the cul-de-sac.
X		Ten-foot wide public drainage easements to be privately maintained are allowed for flow less than 20 cfs. The depth of flow entering the easement must be checked using the submerged weir calculation.
	X	The limits of the flood zones and the base flood elevations (BFE) must be shown on all grading plans for all developments within a Special Flood Hazard Zone A, AO, AE, etc.
X		Minimum finish floor elevation is 6 inches above highest adjacent top of curb. Finish floor calculations must include allowances for super elevations on curves and velocity head for tee intersections.
X		Finished floor elevations for buildings adjacent to public drainage easements must be a minimum of 18 inches above the Q100 weir of submerged weir elevation, whichever is greater.

CITY OF LAS VEGAS MINIMUM DRAINAGE STUDY CRITERIA CHECKLIST

III. Local Entity Criteria - City of Las Vegas – Manual Section 1600		
Yes	No	
	X	Lots with "B and C Type Drainage" that drain from one lot to another through a drainage easement shall be required to install an underground nuisance drainage system or a 2-foot valley gutter. 16" x 24" minimum block wall openings are required for both options.
	X	Bubblers are required across 80 foot and greater ROW streets. When flows exceed 10 cfs, bubblers larger than 18 inches will be required up to a maximum of 36". Inlets must be sized to match the pipe size provided.

- Contact the Flood Control Section regarding the drainage study review fee. These fees are payable at the time of submittal.
- The Drainage Study must be conditionally approved prior to submitting improvement plans to the Civil and Planning Development of the Department of Building and Safety for review.

This document is intended as an aid in preparing Technical Drainage Studies for the City of Las Vegas. Each study submitted is reviewed for compliance with local and regional criteria. This form is not intended to be all-inclusive and does not limit the extent of the information, calculations or exhibits which may be necessary to properly evaluate the intended land use.

INTRODUCTION

This Technical Drainage Study was prepared to address drainage and grading design of a project, consisting of 95 single-family residential units planned for development on a 40-acre parcel. The subject study will apply to the offsite development of the site, with onsite areas being rough graded, and considered a single lot. Subsequently, an Update study will be submitted as the onsite area is planned for improvement of the individual residential lots. The site is in the northwest portion of the Las Vegas Valley, in the City of Las Vegas, Nevada.

This Technical Drainage study was prepared in accordance with criteria specified in the Clark County Regional Flood Control District (CCRFCD) Hydrologic Criteria and Drainage Design Manual (updated 2000), which is herein referred to as the "Drainage Manual". All pertinent reference information and calculations is presented in the Appendix of this report.

LOCATION

The site of the proposed development is located in the North Half (N1/2) of the Northeast Quarter (NE1/4) of Section 22, Township 19 South (T19S), Range 60 East (R60E), M.D.M. in the City of Las Vegas, Nevada. The site is located on the southeast corner of Tenaya Way and Elkhorn Road. See Figure 1, *Vicinity Map*, and Figure 2, *Location Map*.

SITE DESCRIPTION

The subject site is currently undeveloped and has minimal vegetal covering. About one third of the area of the site appears to have been graded and used for agricultural use in the past, and approximately two thirds of the area, that being mostly the northern areas, remain as natural desert terrain. The site is relatively flat, sloping gradually to drain to the east to the at a slope of approximately 1%. The site is impacted by storm water runoff from offsite only on the bordering streets of Elkhorn Road on the north, and Tenaya Way on the west.

The site is bound by Elkhorn Road (100-foot right-of-way) on the north, which is currently fully improved on the north half of the street with full street standard improvements. The south half (site side) is currently partially improved with rural standards. There is an existing rockery wall along the right-of-way line, along the entire northern boundary of the subject site. A 6-foot CMU screen wall exists at the top of the rockery wall. Overhead power lines also exist along this alignment. Full street improvements are planned to Elkhorn Road with the current project on the south half of the street.

The site is bound by Tenaya Way (80-foot right-of-way) on the west, which is currently fully improved with street improvements on the west half of the street. The east half (site side) of the street is currently also fully improved with standard street improvements, lacking sidewalk and streetlights only. There is an existing rockery wall along the right-of-way line all along Tenaya Way at the western boundary of the property. There is a landscaping strip between the front of the rockery wall and an existing 6-foot CMU screen wall along this boundary. Completion of the sidewalk and landscaping improvements are planned for the Tenaya Way alignment at this time.

The site is bound by the Wittig Avenue alignment on the south, which is a private street, not located on the subject parcel, which is currently minimally improved. No civil improvements are planned to the private street on the Wittig Avenue alignment with the current project.

The site is bound by the Rio Vista Street alignment on the east, which is a private pathway, and not located on the subject parcel, which is very minimally improved. No civil improvements are planned to the private street on the Rio Vista Street alignment with the current project.

The site is bound by existing large agricultural areas on the east and south. The site is bound by existing medium-lot subdivisions on the west and north.

MASTER PLANNING INFORMATION

The subject site is not located adjacent to, nor crossed by any existing or planned CCRFCD Regional Drainage Facilities, as shown on Figure F-13 of the CCRFCD MPU updated 2013. Figures F13 and H13 of the MPU have been copied, annotated and included in the appendix of this report.

FLOODPLAIN INFORMATION

The subject site is not located within a Federal Emergency Management Agency (FEMA) Special Flood Hazard Zone. According to the Flood Insurance Rate Maps (FIRM) Map 32003C1765F, dated November 16, 2011, and Map 32003C 1745E, dated September 27, 2002, the subject site is located within "Zone X", which is described as "Areas determined to be outside the 0.2% annual chance floodplain". The FIRM panels have been annotated and included in the appendix of this report.

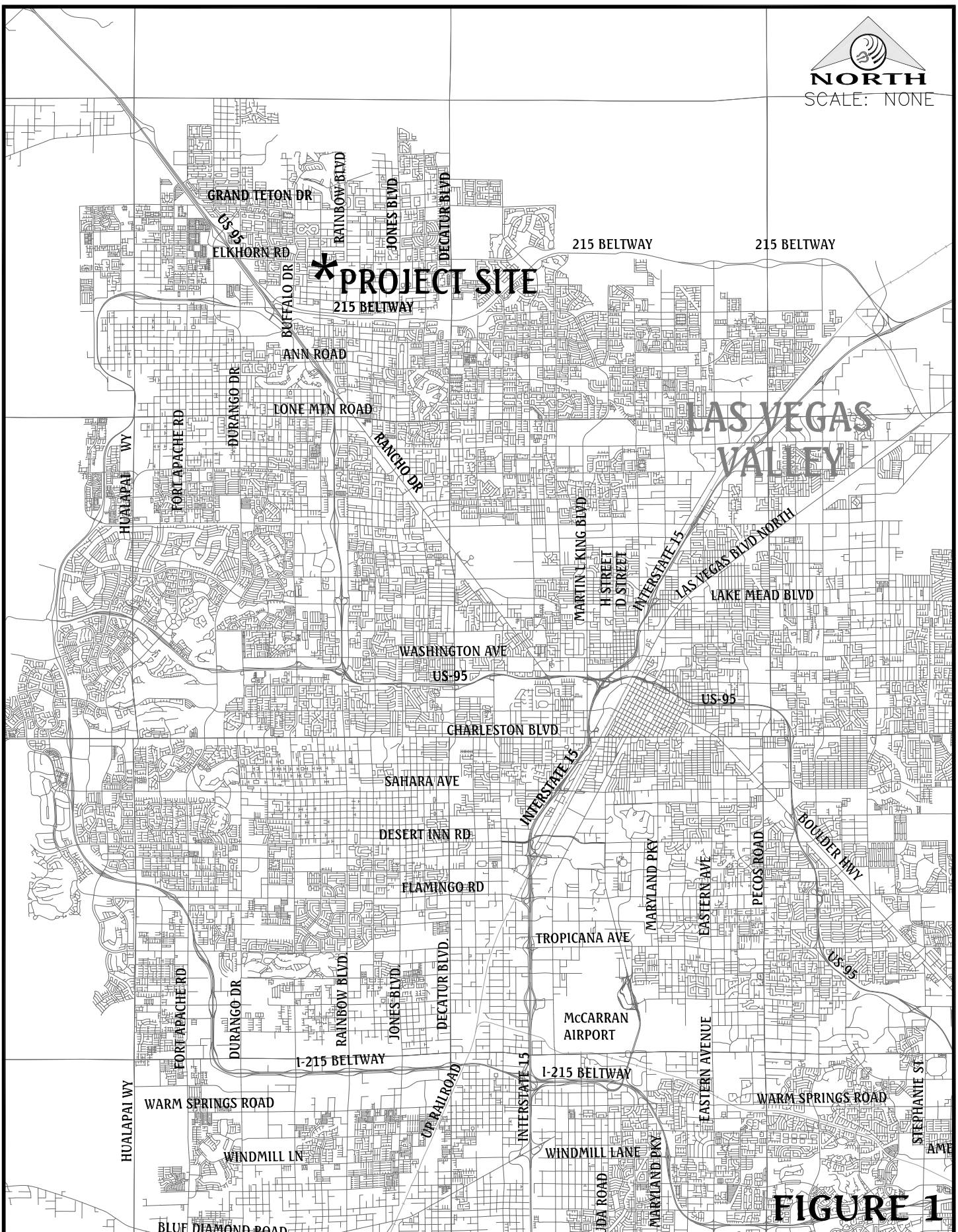


FIGURE 1

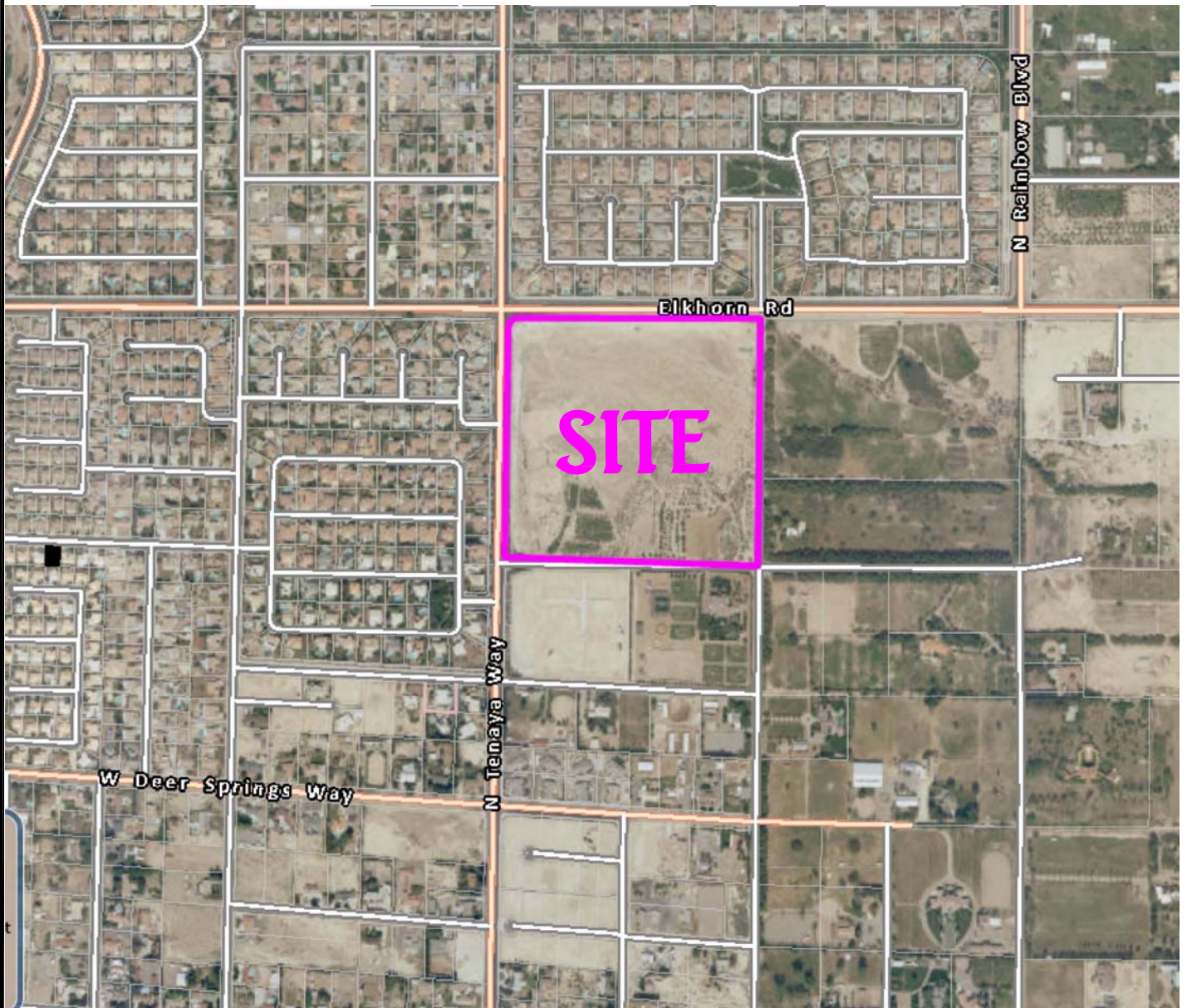


FIGURE 2

PREVIOUS STUDIES

There were several studies on record for the vicinity of the subject site. All of the studies below were reviewed, but only some were referenced for specific information, as follows:

Technical Drainage Study for Shenandoah, (by Vpoint Engineering, April 2000) DS 2222

The Shenandoah site is located on the west side of Tenaya Way, between Chinn Ridge Avenue and Haley Avenue. The subject site is located adjacent to parts of the site on the east side of Tenaya Way. The site has since been constructed, consisting of 72 lots on 40 acres. The site discharges runoff flow to Tenaya Way, but only downstream of (south of) the subject site. A storm drain system was constructed in Tenaya Way with the project, also downstream of the subject site. The study was reviewed for informational purposes but nothing specific was referenced from it.

Technical Drainage Study for Stampede Estates, (by ?) DS 2326

The Stampede Estates project is a residential site on 20 acres, which constructed adjacent to the subject site on the southwest corner of Tenaya Way and Elkhorn Road. The drainage study was not available for review.

Offsite Master Stormwater Hydraulics Study for Bella Vista, by Lochsa Engineering, October 2001, DS 2954

This was the original study for the Wyeth Ranch site, providing conceptual hydrology and hydraulics for that site and pertinent storm water conveyance facilities. With the Bella Vista study was also an amendment to the CCRFCD MPU that removed the regional facility planned in the Elkhorn Road alignment adjacent to the subject site. The facility which was removed is still shown on the City of Las Vegas' North Neighborhood Study maps as a proposed facility, but has been removed as shown on the CCRFCD MPU 2008 and 2013 maps. The study gives peak flow rates in Elkhorn Road of 183 cfs and 490 cfs in the 10- and 100-year storm events, respectively at the subject site. These peak flow rates were taken from the original City of Las Vegas' Northwest Neighborhood Study (which was later updated in 1999). Although the study was reviewed for general information, nothing specific was referenced from the Bella Vista study.

Technical Drainage Study for Wyeth Ranch, (by Stantec Consulting, August 2002) DS 3046

The Wyeth Ranch project is a 161-lot subdivision on 75 acres, located on the north side of Elkhorn Road

at the subject site, extending from Tenaya Way to Rainbow Boulevard. The study gives peak flow rates in Elkhorn Road adjacent to the subject site of 183 cfs and 490 cfs in the 10- and 100-year storm events, respectively. These peak flow rates were referenced from the Bella Vista study (above) which utilized the outdated Northwest Neighborhood Study. The study states that the slope of Elkhorn Road (east of the subject site) is extremely flat at about 0.25%. The study proposes the 18" storm drain in Elkhorn Road adjacent to the site. The 18" storm drain currently exists as well as a stub to the south from an existing manhole. The improvements to the subject site will include the construction of a drop inlet in Elkhorn Road at the end of the drop inlet, as intended by the Wyeth Ranch Study. Other than the storm drain plans, there was nothing specific referenced from the study.

Technical Drainage Study for Parcel Map at Tenaya Way and Haley Avenue, and Updates (by Orion Engineering and Surveying, Inc., June 2004) DS 2729

The Parcel Map study was prepared for the subject site and the 20 acres on the south side of Haley Avenue between Tenaya Way and Rio Vista Street. The study includes updates which apply to the existing rockery walls existing in the area, which include the rockery walls constructed along Tenaya Way and Elkhorn Road at the subject site.

The study gives peak flow rates in Elkhorn Road of 107 cfs and 233 cfs in the 10- and 100-year storm events, respectively. These peak flow rates are published in the City of Las Vegas' Northwest Neighborhood Study, for Existing Conditions (which are also cited for use in the subject study). The study states that the private road Rio Vista Avenue, was constructed with a hump near Elkhorn Road, so that no flow is expected to convey south from the Elkhorn Road alignment onto the private property.

Technical Drainage Study for LeMaster Residence, by RedRock Engineering & Surveying, Inc., October 2004, DS 3652

This is the study for the residence which exists on the 5 acres of land at the southwest corner of Wittig and Rio Vista. The study relies on the findings of the study for the Parcel Map at Tenaya Way and Haley Avenue (above). The study was reviewed for general information, but nothing specific was referenced from it.

City of Las Vegas Northwest Neighborhood Study (Phase I), (by PBS & J, Inc., September 1999)

The *City of Las Vegas' Northwest Neighborhood Study* (referred to as *CLVNWNS* in this report) was prepared for drainage planning in the northwest areas of the City of Las Vegas. The study gives existing conditions hydrology as well as future conditions hydrology along with planned drainage facilities. In the study, the existing conditions hydrology was created using developed conditions curve numbers, with

only existing drainage facilities present. The developed conditions hydrology incorporates all upstream drainage facilities along with the developed conditions land usage. The existing conditions hydrology was found to be the most accurate for reference in the subject study. Figure E-2 of that study gives peak flow rates of 107 cfs and 233 cfs in the 10- and 100-year storm events, respectively at the intersection of Elkhorn Road and Tenaya Way. These data are cited directly for use in the subject study.

Figure E-2 also gives peak flow rates at the intersection of Tenaya Way and Wittig Avenue. However, a public road project on Tenaya Way has established a drainage study which made those values obsolete, and peak flow rates for Tenaya Way are cited from the study from the road project, discussed below.

The Neighborhood Study gives recommendations for future conditions, as well, on Figure F-2. That figure shows zero surface flow at the subject site along Elkhorn Road, due to a planned CCRFCD Regional Facility. That facility has since been removed from the CCRFCD Master Plan, making the Neighborhood Study's Future Conditions analysis obsolete.

Pre-Design Report for Tenaya Way Improvements, Northern Beltway to Elkhorn Road, (by Washington Infrastructure Services, April 2003)

This report was prepared for roadway improvements, including storm drain and conveyance channel improvements, along Tenaya Way, including the reach adjacent to the subject site, south of Elkhorn Road. The basin, CEN2C1a, which discharges 18 cfs to Tenaya Way at the subject site in the 100-year storm event, was referenced directly from the study and inserted into the HEC1 hydrologic analysis for the subject site. There is an existing storm drain located in Tenaya Way at this location. The pipe is 18-inches in diameter and conveys 3 cfs. This information is also cited directly for use in the subject study. No changes are planned to the storm drain system in Tenaya Way at the subject site.

EXISTING DRAINAGE DESCRIPTION

EXISTING ONSITE DRAINAGE DESCRIPTION

Referring to *Figure 3, Existing Conditions Drainage Map*, under existing conditions, the Basin XN1 drains to the east to its boundary with an existing residential area. There is an existing private pathway along the eastern boundary at the Rio Vista alignment.

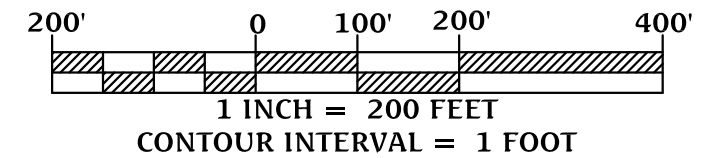
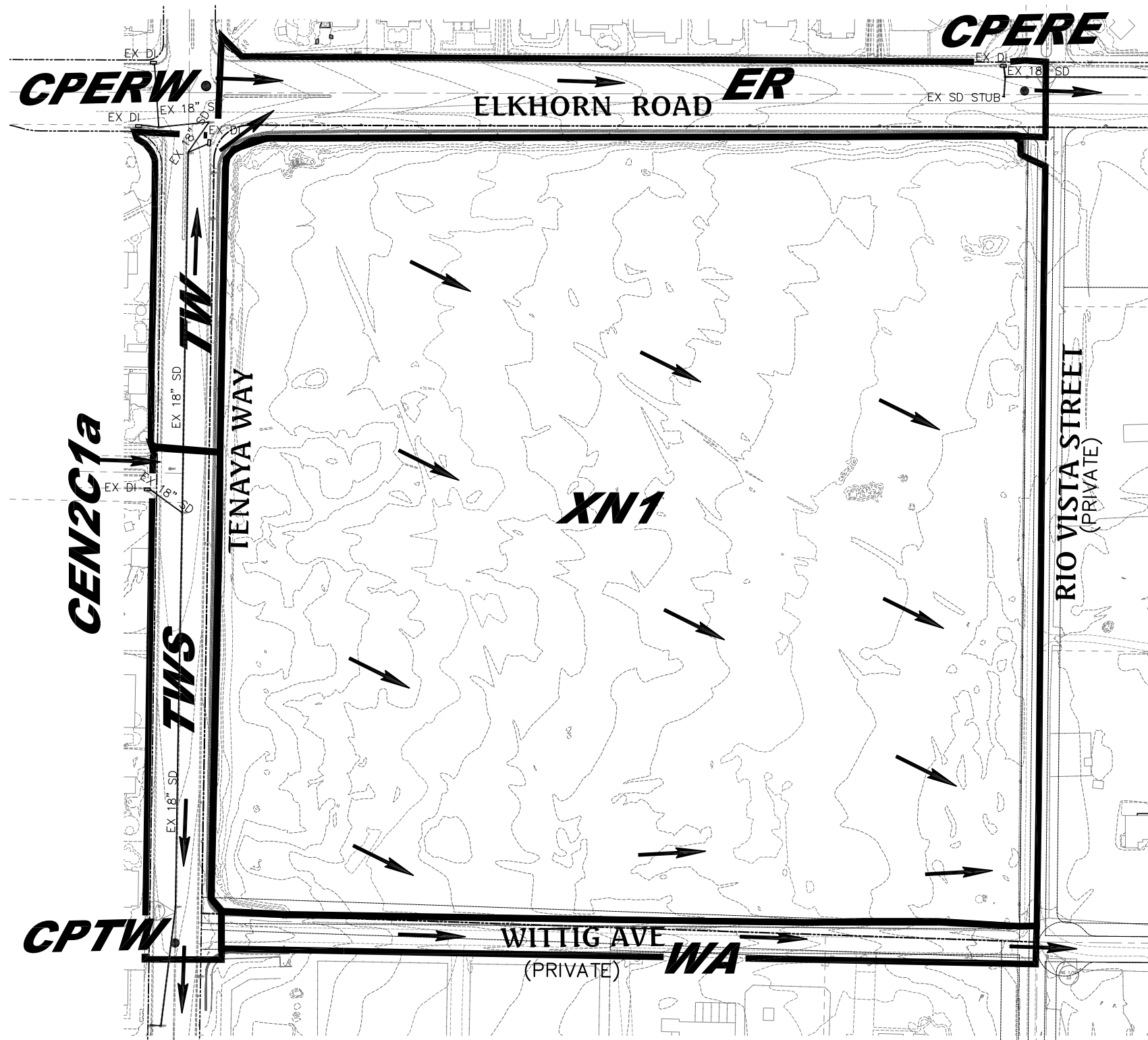
EXISTING OFFSITE DRAINAGE DESCRIPTION

Under existing conditions, the subject site is impacted by runoff flow in the bordering street sections of Tenaya Way on the east, and Elkhorn Road on the north, as shown on *Figure 3, Existing Conditions Drainage Map*. It is noted that the subject site is protected by existing rockery walls along both the Tenaya Way and the Elkhorn Road street sections.

Runoff flow approaching from the west in the Elkhorn alignment is referenced from the *CLVNWNS* (Existing Conditions analysis) at the Tenaya Way intersection as point CPERW as 107 cfs and 233 cfs in the 10- and 100-year storm events, respectively. A small street area, shown as area TW, flows northerly on Tenaya Way, entering Elkhorn Road and continuing to the east, combining with street area ER and offsite flows from CPERW at point CPERE, where it continues to the east.

Runoff flow approaching from the west from the existing residential development enters Tenaya Way at point CEN2C1a. This flow was quantified in the preliminary design report for Tenaya Way as 7 cfs and 24 cfs in the 10- and 100-year storm events, respectively. The flow enters Tenaya Way and continues to the south, combining with flow from street area TWS at point CPTW, where it continues southerly. There is an existing storm drain system in Tenaya Way which works to collect nuisance flow at the subject site, and convey it southerly within Tenaya Way.

Runoff flow from the private street area of Wittig Avenue shown as WA on Figure 3, flows past the site on its southern boundary and continues to the east at the Wittig/Rio Vista intersection into private residential areas.



DRAINAGE LEGEND	
XT32	BASIN IDENTIFICATION
	BASIN BOUNDARY
CPT4	CONCENTRATION POINT
	FLOW PATH

SUMMARY OF PEAK FLOW RATES				
CONC. POINT/ DRAINAGE AREA	AREA, ACRES	PEAK FLOW, CFS		NOTES
		10-YR	100-YR	
CPERW		107	233	1
XN1	35.07	27	66	
WA	1.63	3	5	
TW	1.24	2	4	
ER	3.54	6	10	
CPERE		114	246	2
TWS	1.88	3	5	
CEN2C1A		7	24	3
CPTW		9	29	4

Notes:

1. Referenced from *City of Las Vegas, Northwest Neighborhood Study*, by PBS & J, Revised September 1999, Existing Conditions

2. Includes flow from CPERW (107/233 + 7/13 = 114/246)

3. Referenced from *Tenaya Way Improvements PreDesign Report*, Washington Infrastructure Services, April 2003.

4. A small amount of flow is expected to be flowing underground in the existing 18-inch storm drain pipe at this location.

FIGURE 3

INTERIM DRAINAGE DESCRIPTION

Since the vast majority of the surrounding area is currently fully developed, the existing conditions peak flow rates, which were referenced from the *CLVNWNS*, represent the worst case conditions and there is no necessity for an interim conditions hydrologic analysis.

DEVELOPED DRAINAGE DESCRIPTION

DEVELOPED ONSITE DRAINAGE DESCRIPTION

Referring to *Figure 4, Developed Conditions Drainage Map*, the subject site becomes developed as proposed with 95 single-family residential lots. Runoff from onsite area DN1 flows easterly, discharging through a drainage easement into historical flow paths to the east.

Runoff from onsite area DN2 also flows easterly, discharging through a drainage easement, into historical flow paths to the east.

Runoff from onsite area DN3 flows northerly and is discharged through a drainage easement, into the Elkhorn Road fully-improved street section.

DEVELOPED OFFSITE DRAINAGE DESCRIPTION

Under developed conditions, the subject site is impacted by runoff flow in the bordering street sections of Tenaya Way on the east, and Elkhorn Road on the north, as shown on *Figure 3, Existing Conditions Drainage Map*. It is noted that the subject site is protected by existing rockery walls along both the Tenaya Way and the Elkhorn Road street sections.

Runoff flow approaching from the west in the Elkhorn alignment is referenced from the *CLVNWNS* (Existing Conditions analysis) at the Tenaya Way intersection as point CPERW as 107 cfs and 233 cfs in the 10- and 100-year storm events, respectively. A small street area, shown as area TW, flows northerly on Tenaya Way, entering Elkhorn Road and continuing to the east, combining with street area ER at point CPERE, where it continues to the east.

A drop inlet will be constructed at the existing pipe stub to the south in Elkhorn Road near the western boundary of the site. The inlet was designed with the road improvements planned for Elkhorn Road with the Wyeth Ranch project, which exists to the north of the subject site.

Runoff flow approaching from the west from the existing residential development enters Tenaya Way at point CEN2C1a. This flow was quantified in the preliminary design report for Tenaya Way as 7 cfs and 24 cfs in the 10- and 100-year storm events, respectively. The flow enters Tenaya Way and continues to the south, combining with flow from street area TWS at point CPTW, where it continues southerly. There is an existing storm drain system in Tenaya Way which works to collect nuisance flow at the subject site, and convey it southerly within Tenaya Way.

Runoff flow from the private street area of Wittig Avenue shown as WA on Figure 3, flows past the site on it's southern boundary and continues to the east at the Wittig/Rio Vista intersection into private residential areas.

HYDROLOGIC ANALYSIS

COMPUTER MODELING

The HEC-1 Flood Hydrograph Package was used to compute the storm water runoff peak flow rates for the hydrologic analysis. Standard Form 4 from the *Drainage Manual* was implemented as a spreadsheet used for tabulation of the variables for input to the HEC-1 modeling program. See appendix for hydrology calculations.

Results of the computer modeling are summarized on Figures 3 and 4 of this report.

RAINFALL

Rainfall depths were calculated based on the CCRFCD Drainage Manual Criteria, which allows application of McCarran Airport rainfall depths of 1.58" and 2.77" in the 10- and 100-year, 6-hour storm events, respectively. In the hydrologic HEC-1 model there were no losses allowed for Depth Area and no losses for hydrograph routing.

RUNOFF

The Soil Conservation Services (SCS) Curve Number methodology was used in this computation within the HEC-1 computer model. The Hydrologic Soils Group for the watershed studied was determined from the USDA Soils Conservation Service to be entirely within Hydrologic Soils Group D, which has the highest potential for precipitation runoff. Mapping of the watershed's Hydrologic Soils Group was not necessary since the entire area is within the same Group. Curve numbers were selected from the Drainage Manual for the land usage and hydrologic condition of each drainage basin.

Times of concentration were calculated on the Drainage Manual Form 4, and were input to the HEC-1 computer model as lag time.

HYDRAULIC ANALYSIS

NORMAL DEPTH STREET CALCULATIONS

Normal street flow depths were calculated using the FlowMaster computer program. All streets were found to meet *Drainage Manual* criteria. Development of the subject site does not significantly worsen the drainage situation in the streets either upstream or downstream of the subject site. Calculations are included in the appendix and summarized on Figure 4, *Developed Conditions Drainage Map*.

STORM DRAIN COLLECTION

The *CLVNWNS* (Revised September 1999) shows a future regional facility in Elkhorn Road at the subject site. However, this facility was removed from the CCCRFCD Master Plan, after being replaced by drainage facilities in the Wyeth Ranch development to the north.

The *CLVNWNS* also shows a future storm drain in Tenaya Way at the subject site. This planned storm drain has been replaced with the facilities which currently exist along Tenaya Way, which have been constructed with the prior public roads project.

There is an existing nuisance storm drain in Elkhorn Road, for which a stub has been constructed to the south side of the street, toward the subject site. That inlet will be constructed with the improvements to the subject site.

SUMMARY/CONCLUSION

This study and improvement drawings complies with the drainage laws and regulations set forth by the City of Las Vegas and the Clark County Regional Flood Control District.

Development of this site is not expected to have a negative drainage impact on any upstream or downstream properties.

The site is adequately protected from flood damage caused by a 100-year flood or less, as specified by the CCRFCD Hydrologic Criteria and Drainage Design Manual.

This site is not within a Special Flood Hazard Zone as designated by FEMA.

Nuisance flow is released from the site into the lined curb and gutter adjacent street section of Elkhorn Road. Other nuisance flow will be discharged into concrete easements, which will have a permeable rock-lined swale toward the end of each, before being discharged into historical flow paths to the east.

REFERENCES

Hydrologic Criteria and Drainage Design Manual, by Clark County Regional Flood Control District, Updated 2000.

Clark County Regional Flood Control District Master Plan Update 2008, (Facility update 2013) prepared by PBS&J and VTN Nevada.

<http://websoilsurvey.sc.egov.usda.gov/>

City of Las Vegas Northwest Neighborhood Study (Phase I), (by PBS & J, Inc., September 1999)

Technical Drainage Study for Shenandoah, (by Vpoint Engineering, April 2000) DS 2222

Technical Drainage Study for Stampede Estates, (by ?) DS 2326

Offsite Master Stormwater Hydraulics Study for Bella Vista, by Lochsa Engineering, October 2001, DS 2954

Technical Drainage Study for Wyeth Ranch, (by Stantec Consulting, August 2002) DS 3046

Technical Drainage Study for Parcel Map at Tenaya Way and Haley Avenue, and Updates (by Orion Engineering and Surveying, Inc., June 2004) DS 2729

Technical Drainage Study for LeMaster Residence, by RedRock Engineering & Surveying, Inc., October 2004, DS 3652

Pre-Design Report for Tenaya Way Improvements, Northern Beltway to Elkhorn Road, (by Washington Infrastructure Services, April 2003)

APPENDIX

ZONING CONDITIONS



**LAS VEGAS
CITY COUNCIL**

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MAYOR PRO TEM

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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65269 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 77-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 41 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

VAR-65269 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 **August 22, 2016**. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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BOB BEERS

ELIZABETH N. FRETWELL
CITY MANAGER

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65277 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 43 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
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5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

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VAR-65277 [PRJ-65268] - Page Two
August 10, 2016

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Sincerely,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
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Ms. Aimce Ignatowicz-English
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ELIZABETH N. FRETWELL
CITY MANAGER

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65278 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 38 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

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VAR-65278 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,

A handwritten signature in black ink, appearing to read "Steve Gebeke", with a long horizontal stroke extending to the right.

Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimce Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65279 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 45 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

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August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 **August 22, 2016**. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

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August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65280 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 36 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125 22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

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VAR-65280 /PRJ-65268/ - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 **August 22, 2016**. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

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**LAS VEGAS
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BOB BEERS

ELIZABETH N. FRETWELL
CITY MANAGER

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65281 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 47 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

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VAR-65281 /PRJ-65268/ - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 **August 22, 2016**. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimce Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65282 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 34 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

VAR-65282 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
CITY COUNCIL**

CAROLYN G. GOODMAN
MAYOR

STEVEN D. ROSS
MAYOR PRO TEM

LOIS IARKANIAN

RICKI Y. BARLOW

STAVROS S. ANTHONY

BOB COFFIN

BOB BEERS

ELIZABETH N. FRIETWELL
CITY MANAGER

CITY OF LAS VEGAS
DEPARTMENT OF PLANNING

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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65283 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 32 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

VAR-65283 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 **August 22, 2016**. 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,



Steve Gebcke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



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MAYOR

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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

RE: VAR-65284 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 49 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

VAR-65284 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65285 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 77-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 40 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

VAR-65285 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 **August 22, 2016**. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65289 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 77-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 30 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

VAR-65289 /PRJ-65268/ - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
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6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



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City of Las Vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65291 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 75-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 26 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

VAR-65291 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebecke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Airnee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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MAYOR

STEVEN D. ROSS
MAYOR PRO TEM

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RICKI Y. BARLOW

STAVROS S. ANTHONY
BOB COFFIN
BOB BEERS

ELIZABETH N. FRETWELL
CITY MANAGER

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65292 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 75-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 25 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

CITY OF LAS VEGAS
DEPARTMENT OF PLANNING
DEVELOPMENT SERVICES CENTER
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/city of las vegas

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 **August 22, 2016**. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
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**LAS VEGAS
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BOB BEERS

ELIZABETH N. FRETWELL
CITY MANAGER

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65293 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 75-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 23 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

CITY OF LAS VEGAS
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/city of las vegas

VAR-65293 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 **August 22, 2016**. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
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6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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MAYOR PRO TEM

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CITY MANAGER

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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65294 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 78-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 21 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

VAR-65294 /PRJ-65268/ - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 **August 22, 2016**. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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City of Las Vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65302 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 66 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

VAR-65302 /PRJ-65268/ - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 **August 22, 2016**. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimce Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
CITY COUNCIL**

CAROLYN G. GOODMAN
MAYOR

STEVEN D. ROSS
MAYOR PRO TEM

LOIS TARKANIAN
RICKI Y. BARLOW

STAVROS S. ANTHONY
BOB COFFIN
BOB BEERS

ELIZABETH N. FRETWELL
CITY MANAGER

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65303 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 68 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

CITY OF LAS VEGAS
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VAR-65303 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Airnee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



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STAVROS S. ANTHONY
BOB COFFIN
BOB BEERS

ELIZABETH N. FRETWELL
CITY MANAGER

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65304 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 70 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

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VAR-65304 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65306 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 72 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



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BOB COFFIN
BOB BEERS

ELIZABETH N. FRETWELL
CITY MANAGER

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65307 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 74 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

CITY OF LAS VEGAS
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/city of las vegas

VAR-65307 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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BOB BEERS

ELIZABETH N. FRETWELL
CITY MANAGER

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65308 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 76 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

CITY OF LAS VEGAS
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City of Las Vegas

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
CITY COUNCIL**

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CITY MANAGER

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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65309 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 77 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

VAR-65309 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebcke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
CITY COUNCIL**

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MAYOR PRO TEM

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CITY MANAGER

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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65310 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 81 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

VAR-65310 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
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**LAS VEGAS
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August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65311 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 83 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

VAR-65311 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 **August 22, 2016**. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65313 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 84 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:ml

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65314 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 86 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 **August 22, 2016**. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65315 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 87 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:ml

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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MAYOR PRO TEM

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CITY MANAGER

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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65316 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 73-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 89 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

VAR-65316 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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STAVROS S. ANTHONY
BOB COFFIN
BOB REERS

ELIZABETH N. FRETWELL
CITY MANAGER

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65318 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 75-FOOT LOT WIDTH WHERE 80 FEET IS REQUIRED ON LOT 79 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

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/city of las vegas

VAR-65318 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65319 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A 10-FOOT REAR YARD SETBACK WHERE 30 FEET IS REQUIRED ON LOT 65 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

VAR-65319 [PRJ-65268] - Page Two
August 10, 2016

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 **August 22, 2016**. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
CITY COUNCIL**

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/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65321 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW A NINE-FOOT REAR YARD SETBACK WHERE 30 FEET IS REQUIRED ON LOT 78 OF A PROPOSED 95-LOT SINGLE-FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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.html>, or contact the Department of Planning and Development at 702.229.6301 after **August 22, 2016**. 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,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



**LAS VEGAS
CITY COUNCIL**

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BOB COFFIN
BOB BEERS

ELIZABETH N. FRETWELL
CITY MANAGER

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65326 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW NO ADDITIONAL OFFSITE IMPROVEMENTS WHERE COMPLETE STREETS STANDARDS REQUIRE A FIVE-FOOT SIDEWALK, A FIVE-FOOT AMENITY ZONE AND OTHER AMENITIES ALONG ELKHORN ROAD AND TO ALLOW A CONNECTIVITY RATIO OF 1.25 WHERE 1.30 IS THE MINIMUM REQUIRED on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

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

Planning

1. The Variance to allow a connectivity ratio of 1.25 where 1.30 is required is approved.
2. The Variance to allow no additional offsite improvements where complete streets standards require a five-foot sidewalk, a five-foot amenity zone and other amenities along Elkhorn Road. *is denied.*
3. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275
4. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
5. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.

CITY OF LAS VEGAS
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**LAS VEGAS
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BOB BEERS

ELIZABETH N. FRETWELL
CITY MANAGER

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65326 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW NO ADDITIONAL OFFSITE IMPROVEMENTS WHERE COMPLETE STREETS STANDARDS REQUIRE A FIVE-FOOT SIDEWALK, A FIVE-FOOT AMENITY ZONE AND OTHER AMENITIES ALONG ELKHORN ROAD AND TO ALLOW A CONNECTIVITY RATIO OF 1.25 WHERE 1.30 IS THE MINIMUM REQUIRED on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

The Planning Commission voted to recommend **APPROVAL** of your request subject to the following amended conditions:

Planning

1. The Variance to allow a connectivity ratio of 1.25 where 1.30 is required is approved.
2. The Variance to allow no additional offsite improvements where complete streets standards require a five-foot sidewalk, a five-foot amenity zone and other amenities along Elkhorn Road is denied.
3. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275
4. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
5. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.

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6. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
7. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

This action by the Planning Commission on **August 9, 2016** is final unless a written appeal is filed with the City Clerk within ten 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 August 22, 2016. 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,



Steve Gebeck, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
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City of Las Vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: VAR-65326 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Variance TO ALLOW NO ADDITIONAL OFFSITE IMPROVEMENTS WHERE COMPLETE STREETS STANDARDS REQUIRE A FIVE-FOOT SIDEWALK, A FIVE-FOOT AMENITY ZONE AND OTHER AMENITIES ALONG ELKHORN ROAD AND TO ALLOW A CONNECTIVITY RATIO OF 1.25 WHERE 1.30 IS THE MINIMUM REQUIRED on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

The Planning Commission voted to recommend **APPROVAL** of your request subject to the following amended conditions:

Planning

1. The Variance to allow a connectivity ratio of 1.25 where 1.30 is required is approved.
2. The Variance to allow no additional offsite improvements where complete streets standards require a five-foot sidewalk, a five-foot amenity zone and other amenities along Elkhorn Road.
3. Conformance to the approved conditions for all related Variance applications, WVR-65331, WVR-65593 and TMP-62275
4. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
5. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.

6. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
7. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

This item will be considered by the City Council on September 21, 2016, at 1:00 P.M. in the Council Chambers of City Hall, 495 South Main Street, Las Vegas, Nevada. ***The Council requires that you or your representative be present at this meeting.*** If you or your representative chooses not to attend, the City Council may act in your absence without your input.

Sincerely,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
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**LAS VEGAS
CITY COUNCIL**

CAROLYN G. GOODMAN
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ELIZABETH N. FRETWELL
CITY MANAGER

CITY OF LAS VEGAS
DEPARTMENT OF PLANNING
DEVELOPMENT SERVICES CENTER
333 NORTH RANGHO DRIVE
3RD FLOOR
LAS VEGAS, NEVADA 89106

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TTY 7-1-1
www.lasvegasnevada.gov



/city of las vegas

August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: WVR-65331 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Waiver FROM LVMC 13.52 TO ALLOW OVERHEAD TRANSMISSION LINES WHERE UNDERGROUND UTILITIES ARE REQUIRED on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

The Planning Commission voted to recommend **APPROVAL** of your request subject to the following amended conditions:

Planning

1. This approval shall be void two (2) years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
2. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
3. A Waiver from of Title 13.52 to allow above ground power transmission lines where undergrounding them is required is approved.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

August 10, 2016

6. Conformance to the approved conditions for all related Variance applications, WVR-65593 and TMP-62275

This item will be considered by the City Council on September 21, 2016, at 1:00 P.M. in the Council Chambers of City Hall, 495 South Main Street, Las Vegas, Nevada. ***The Council requires that you or your representative be present at this meeting.*** If you or your representative chooses not to attend, the City Council may act in your absence without your input.

Sincerely,



Steve Gebeke, AICP
Planning Supervisor
Case Planning Division

SG:nl

cc:

Mr. Mark Jones
DR Horton
1081 Whitney Ranch Drive, Ste. 141
Henderson, Nevada 89014

Ms. Aimee Ignatowicz-English
Triton Engineering
6757 W. Charleston Blvd., Ste. B
Las Vegas, Nevada 89146



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August 10, 2016

Mr. Jeff Gale
Greengale Properties, LLC
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: WVR-65593 [PRJ-65268] - VARIANCE
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request TO ALLOW NO STREETLIGHTS FOR ALL INTERIOR STREETS WHERE STREETLIGHTS ARE REQUIRED on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

The Planning Commission voted to recommend **APPROVAL** of your request, subject to the following:

Planning

1. This approval shall be void two (2) years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
2. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
3. A Waiver from of Title 19.02.240 to allow no street lighting along proposed interior private streets where such is required is approved.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. All City Code requirements and design standards of all City departments must be satisfied, except as modified herein.

WVR-65593 /PRJ-65268/ - Page Two
August 10, 2016

6. Conformance to the approved conditions for all related Variance applications, WVR-65331 and TMP-62275.

This item will be considered by the City Council on September 21, 2016, at 1:00 P.M. in the Council Chambers of City Hall, 495 South Main Street, Las Vegas, Nevada. ***The Council requires that you or your representative be present at this meeting.*** If you or your representative chooses not to attend, the City Council may act in your absence without your input.

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August 10, 2016

Mr. Jeff Gale
Greengale Properties, I.L.C.
7092 N. Tenaya Way
Las Vegas, Nevada 89131

**RE: TMP-65275 [PRJ-65268] – TENTATIVE MAP RELATED TO VAR-65269,
VAR-65277 THROUGH VAR-65285, VAR-65289, VAR-65291 THROUGH
VAR-65294, VAR-65302 THROUGH VAR-65304, VAR-65306 THROUGH
VAR-65311, VAR-65313 THROUGH VAR-65316, VAR-65318, VAR-65319,
VAR-65321, VAR-65326, WVR-65331 AND WVR-65593
PLANNING COMMISSION MEETING OF AUGUST 9, 2016**

Dear Applicant:

Your request for a Tentative Map FOR A 95-LOT SINGLE FAMILY RESIDENTIAL SUBDIVISION on 39.18 acres at the southeast corner of Elkhorn Road and Tenaya Way (APN 125-22-501-001), R-D (Single Family Residential-Restricted) Zone, Ward 6 (Ross) [PRJ-65268], was considered by the Planning Commission on August 9, 2016.

The Planning Commission voted to recommend **APPROVAL** of 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. Approval of VAR-65269, VAR-65277, VAR-65278, VAR-65279, VAR-65280, VAR-65281, VAR-65282, VAR-65283, VAR-65284, VAR-65285, VAR-65289, VAR-65290, VAR-65291, VAR-65292, VAR-65293, VAR-65294, VAR-65302, VAR-65303, VAR-65304, VAR-65306, VAR-65307, VAR-65308, VAR-65309, VAR-65310, VAR-65311, VAR-65311, VAR-65313, VAR-65314, VAR-65315, VAR-65316, VAR-65318, VAR-65319, VAR-65321, VAR-65322, VAR-65326, WVR-65331 and WVR-65593 shall be required, if approved.
3. The required street trees (24-inch box 30 feet on-center) along Elkhorn Road are required even with the approval of the associated perimeter landscape waiver unless written verification from NV Energy is provided that restricts the installation of landscape in the vicinity of overhead powerlines. At that time, the applicant shall coordinate with the Department of Planning prior to approval of civil improvement plans to determine the best landscaping scheme for the buffer and amenity zones adjacent to Elkhorn Road.

4. Street names must be provided in accordance with the City's Street Naming Regulations.
5. 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.
6. 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.
7. The required street trees (24-inch box 30 feet on-center) along Elkhorn Road are required even with the approval of the associated perimeter landscape waiver unless written verification from NV Energy is provided that restricts the installation of landscape in the vicinity of overhead powerlines. At that time, the applicant shall coordinate with the Department of Planning prior to approval of civil improvement plans to determine the best landscaping scheme for the buffer and amenity zones adjacent to Elkhorn Road.
8. All development is subject to the conditions of City Departments and State Subdivision Statutes.

Public Works

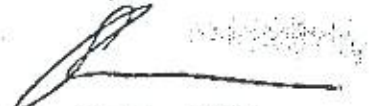
9. Grant pedestrian access easements for all public sidewalk located outside of the public right-of-way.
10. Construct half street improvements on Elkhorn Road and Tenaya Way meeting complete street standards, except as amended by conditions herein, adjacent to this site concurrent with the development of this site. All existing paving damaged or removed by this development shall be restored at its original location and to its original width concurrent with development of this site. Improvements on Elkhorn Road may be modified through the approval of VAR-65326 and WVR-65331.

11. 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 to be privately maintained by the Homeowner's Association.
12. All landscaping and private improvements installed with this project 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.
13. Sewer connection shall not be allowed to the sewer located in the Rio Vista Street alignment unless the property owner to the east grants an easement to this site. No permanent structures or landscaping over 3 feet in height may be within Public Sewer Easements granted on this site.
14. A working sanitary sewer connection shall be in place prior to final inspection of any units within this development. Full permanent improvements on all major access streets, including all required landscaped areas between the perimeter wall and adjacent public street, shall be constructed and accepted by the City prior to issuance of any building permits beyond 50% of all units within this development. All off-site improvements adjacent to this site, including all required landscaped areas between the perimeter walls and adjacent public streets, shall be constructed and accepted prior to issuance of building permits beyond 75%. The above thresholds notwithstanding, all required Improvements shall be constructed in accordance with Title 19.02.130.D.
15. Submit an Encroachment Agreement for landscaping and private improvements (including the portion of the proposed Equestrian Trail within the Elkhorn right-of-way) in the Elkhorn Road and Tenaya Way public rights-of-way prior to the issuance of permits for these improvements. The applicant must carry an insurance policy for the term of the Encroachment Agreement and add the City of Las Vegas as an additionally insured entity on this insurance policy. If requested by the City, the applicant shall remove property encroaching in the public right-of-way at the applicant's expense pursuant to the terms of the City's Encroachment Agreement. The installation and maintenance of all private improvements in the public right of way shall be the responsibility of the applicant and any successors in interest to the property and assigns pursuant to the terms of the Encroachment Agreement. Coordinate all requirements for the Encroachment Agreement with the Land Development Section of the Department of Building and Safety (229-4836).
16. 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 or submittal of any construction drawings, 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.

17. As per Unified Development Code (UDC) 19.16.060.G, all requirements must be complied with or such future compliance must be guaranteed by an approved performance security method in accordance with UDC sections 19.02.130.C and 19.02.130.E.
18. 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 item will be considered by the City Council on September 21, 2016, at 1:00 P.M. in the Council Chambers of City Hall, 495 South Main Street, Las Vegas, Nevada. ***The Council requires that you or your representative be present at this meeting.*** If you or your representative chooses not to attend, the City Council may act in your absence without your input.

Sincerely,



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HYDROLOGY

RUNOFF CURVE NUMBERS (URBAN AREAS¹)

Cover description		Curve numbers for hydrologic soil group—			
Cover type and hydrologic condition	Average percent impervious area ²	A	B	C	D
<i>Fully developed urban areas (vegetation established)</i>					
Open space (lawns, parks, golf courses, cemeteries, etc.): ³					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved: curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved: open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) ⁴ ...		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					

See Table 602A

Developing urban areas

Newly graded areas (pervious areas only, no vegetation) ⁵	77	86	91	94
--	----	----	----	----

1 Average runoff condition, and $I_p = 0.2S$.

2 The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system. Impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using Figure 603.

3 CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

4 Composite CN's for natural desert landscaping should be computed using Figure 603 based on the impervious area percentage (CN #98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

5 Composite CN's to use for the design of temporary measures during grading and construction should be computed using Figure 603 based on the degree of development impervious area percentage) and the CN's for the newly graded pervious areas.

Revision	Date

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

RUNOFF CURVE NUMBERS (SEMIARID RANGELANDS¹)

Cover description		Curve numbers for hydrologic soil group—			
Cover type	Hydrologic condition ²	A ³	B	C	D
Herbaceous—mixture of grass, weeds, and low-growing brush, with brush the minor element.	Poor		80	87	93
	Fair		71	81	89
	Good		62	74	85
Oak-aspen—mountain brush mixture of oak brush, aspen, mountain mahogany, bitter brush, maple, and other brush.	Poor		66	74	79
	Fair		48	57	63
	Good		30	41	48
Pinyon-juniper—pinyon, juniper, or both; grass understory.	Poor		75	85	89
	Fair		58	73	80
	Good		41	61	71
Sagebrush with grass understory.	Poor		67	80	85
	Fair		51	63	70
	Good		35	47	55
Desert shrub—major plants include saltbush, greasewood, creosotebush, blackbrush, bursage, palo verde, mesquite, and cactus.	Poor	63	77	85	88
	Fair	55	72	81	86
	Good	49	68	79	84

¹Average runoff condition, and $I_a = 0.2S$.

²Poor: <30% ground cover (litter, grass, and brush overstory).

Fair: 30 to 70% ground cover.

Good: >70% ground cover.

³Curve numbers for group A have been developed only for desert shrub.

Revision	Date

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

RUNOFF CURVE NUMBERS - RESIDENTIAL DISTRICTS

Average Lot Size or Usage ¹	Percent Impervious ²	Curve Number for Hydrologic Soil Groups			
		A	B	C	D
Apartments/Condos	72	81	88	91	93
Townhouses/6,000 sq ft lots or less ³	69	80	87	90	92
7,000 sq ft lots	63	76	84	89	91
8,000 sq ft lots	58	73	82	88	90
10,000 sq ft lots	38	61	75	83	87
14,000 sq ft lots	30	57	72	81	86
20,000 sq ft lots	25	54	70	80	85
40,000 sq ft lots	20	51	68	79	84
80,000 sq ft lots	12	46	65	77	82

1 Lot size should represent the size of the average lot and not the gross acreage divided by the number of lots.

2 Actual percent impervious value should be compared to selected land use type.

3 In cases where average residential lots are smaller than 6,000 sq ft, commercial/business/industrial land use should be used.

Revision	Date

REFERENCE:

TABLE 602A

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

SIX-HOUR STORM DISTRIBUTIONS

Percent of Total Storm Depth				Percent of Total Storm Depth			
Storm Time (In Minutes)	SDN3	SDN4	SDN5	Storm Time (In Minutes)	SDN3	SDN4	SDN5
0	0.0	0.0	0.0	185	32.2	37.6	43.0
5	2.0	2.0	2.0	190	35.2	41.5	47.7
10	5.7	5.8	5.9	195	40.9	46.2	51.4
15	7.0	7.5	8.0	200	49.9	53.0	56.1
20	8.7	9.9	11.0	205	59.0	61.0	63.0
25	10.8	12.6	14.4	210	71.0	71.0	71.0
30	12.4	13.7	15.0	215	74.4	73.2	72.0
35	13.0	14.5	16.0	220	78.1	75.6	73.1
40	13.0	14.9	16.8	225	81.2	78.2	75.2
45	13.0	15.1	17.1	230	81.9	79.9	77.9
50	13.0	15.5	18.0	235	83.5	81.3	79.0
55	13.0	15.6	18.2	240	85.1	82.3	79.5
60	13.0	15.9	18.7	245	85.6	83.0	80.4
65	13.3	16.2	19.0	250	86.0	83.5	81.0
70	14.0	16.9	19.7	255	86.8	84.4	82.0
75	14.2	17.2	20.2	260	87.6	85.1	82.6
80	14.8	17.9	21.0	265	88.8	86.4	84.0
85	15.8	18.9	22.0	270	91.0	88.5	85.9
90	17.2	20.1	23.0	275	92.6	90.8	88.9
95	18.1	21.1	24.1	280	93.7	92.4	91.0
100	19.0	22.0	25.0	285	95.0	94.4	93.8
105	19.7	22.8	25.9	290	97.0	96.8	96.6
110	19.9	23.2	26.5	295	97.6	97.3	97.0
115	20.0	24.0	28.0	300	98.2	97.8	97.4
120	20.1	24.6	29.0	305	98.5	98.2	97.9
125	20.4	25.2	30.0	310	98.7	98.4	98.1
130	21.4	26.0	30.5	315	98.9	98.6	98.3
135	22.9	26.9	30.9	320	99.0	98.8	98.5
140	24.1	27.6	31.0	325	99.3	99.1	98.9
145	24.9	28.3	31.7	330	99.3	99.2	99.0
150	25.1	28.6	32.1	335	99.4	99.3	99.2
155	25.6	29.2	32.7	340	99.5	99.4	99.3
160	27.0	30.2	33.3	345	99.8	99.7	99.6
165	27.8	31.2	34.6	350	99.8	99.8	99.7
170	28.1	32.1	36.1	355	99.9	99.9	99.9
175	28.3	33.2	38.1	360	100.0	100.0	100.0
180	29.5	35.2	40.8				

- Notes: 1. For drainage areas less than 8 square miles in size, use SDN 3.
 2. For drainage areas greater than or equal to 8 square miles and less than 12 square miles in size, use SDN 4.
 3. For drainage areas greater than or equal to 12 square miles, use SDN 5.
 4. A graphical representation of these values is presented on **Figure 515**.

Revision	Date

REFERENCE:

TABLE 503

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DEPTH-DURATION-FREQUENCY VALUES FOR McCARRAN AIRPORT RAINFALL AREA (IN INCHES)

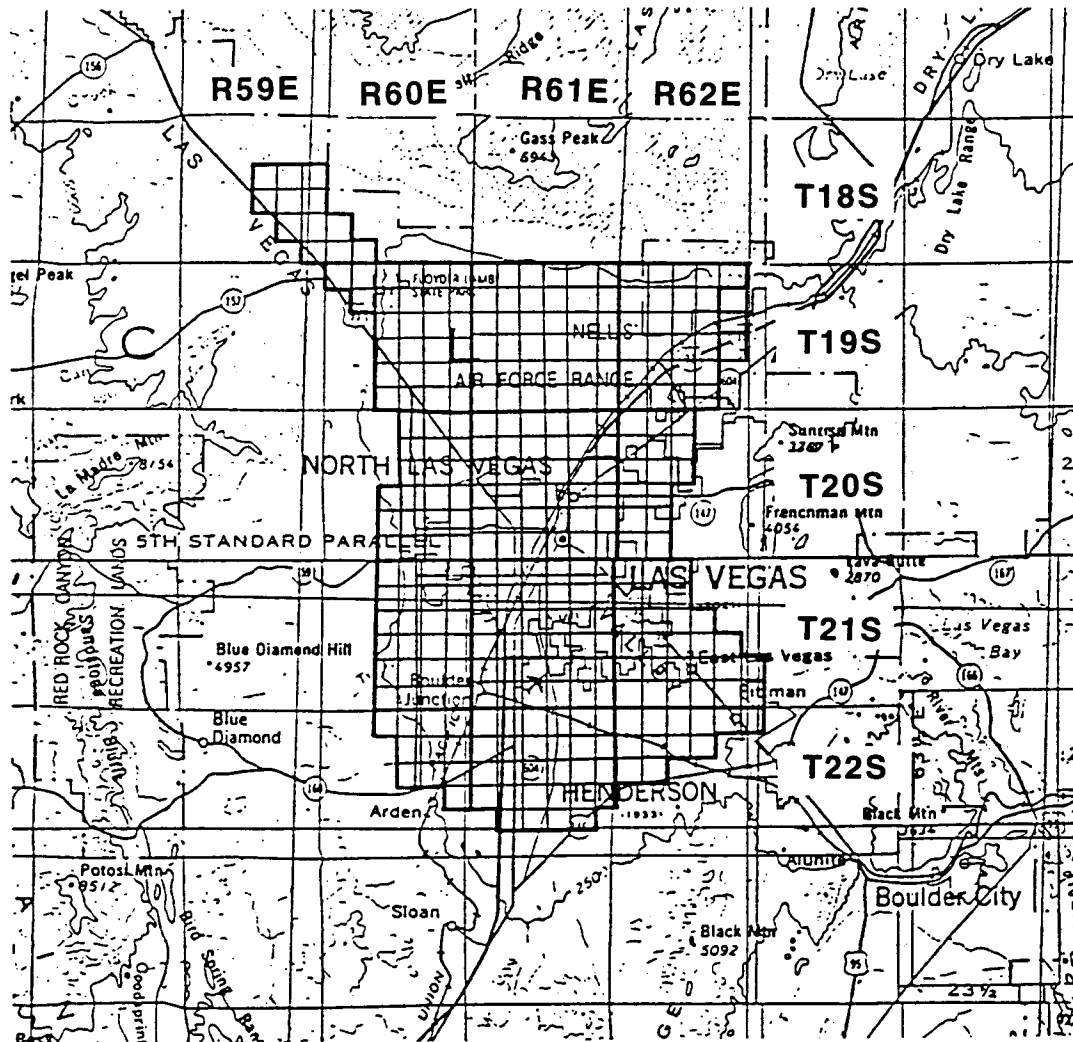
TIME	RECURRENCE INTERVAL					
	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR
5 min.	0.15	0.27	0.35	0.46	0.54	0.63
10 min.	0.25	0.44	0.57	0.74	0.89	1.02
15 min.	0.33	0.57	0.74	0.97	1.15	1.32
30 min.	0.44	0.78	1.01	1.31	1.55	1.79
1 hour	0.52	0.89	1.15	1.50	1.78	2.06
2 hour	0.59	1.01	1.30	1.70	2.01	2.30
3 hour	0.64	1.08	1.39	1.82	2.15	2.48
6 hour	0.72	1.22	1.58	2.05	2.41	2.77
24 hour (TR-55)	1.20	1.60	1.80	2.40	2.70	2.96

- NOTE: 1. Refer to Figure 513 for a description and drawing of the area included in the McCarran Airport Rainfall Area.
2. The 24 hour values presented above are for use with TR-55 only.
3. Table 501 adjustments not required.

Revision	Date

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

McCARRAN AIRPORT RAINFALL AREA



TOWNSHIP RANGE SECTIONS

18 South	59 East	13-15,22-26,36
18 South	60 East	30-32 22
19 South	60 East	1-6,8-16,21-28,33-36
19 South	61 East	ALL SECTIONS
19 South	62 East	2-11,14-23,27-34
20 South	60 East	1-3,10-15,21-28,33-36
20 South	61 East	ALL SECTIONS

TOWNSHIP RANGE SECTIONS

20 South	62 East	4-9,16-20,29-32
21 South	60 East	1-4,9-16,21-28,33-36
21 South	61 East	ALL SECTIONS
21 South	62 East	4-9,15-23, 25-36
22 South	60 East	1-4,10-15,24
22 South	61 East	1-24,26-29
22 South	62 East	1-10,17-18

Notes:

1. Refer to Table 505 and Figure 516 Depth-Duration- Frequency values in the McCarran Airport Rainfall Area.
2. Refer to Table 506 and Figure 517 for Time-Intensity-Frequency values on the McCarran Airport Rainfall Area.

Revision	Date

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL - STANDARD FORM 4

Momentum Engineers, Ltd.

6101 Kings Brook Ct.

Las Vegas NV 89149

Sub-Basin Data					Initial/Overland Time (T _i)			Travel Time (T _t)					T _c	T _c Check (Urbanized Basins)		Final T _c	T _{lag}	Remarks				
DESIG (1)	CN (2)	K (3)	AREA (acres) (4)	AREA (mi ²) (5)	LENGTH (ft) (6)	SLOPE (%) (7)	T _i (min) (8)	LENGTH (ft) (9)	SLOPE (%) (10)	V ₁ (fps) (11)	V ₂ (fps) (12)	T _t (min) (13)	T _c =T _i +T _t (min) (14)	TOTAL (ft) (15)	T _c (min) (16)	T _c (min) (17)	T _{lag} (hrs) (18)	Remarks (19)				
DEVELOPED CONDITION																						
DN1	87	0.758	8.97	0.0140	120	1.0	6.7	750	0.5	1.0	2.2	10.3	17.0	870	14.8	14.8	0.148					
DN2	87	0.758	17.59	0.0275	120	1.0	6.7	1550	0.5	1.0	2.2	16.4	23.2	1670	19.3	19.3	0.193					
DN3	87	0.758	7.40	0.0116	120	1.0	6.7	1000	0.5	1.0	2.2	12.2	18.9	1120	16.2	16.2	0.162					
ER	98	0.904	3.54	0.0055	42	2.0	1.8	1270	0.7	1.0	2.6	13.3	15.2	1312	17.3	15.2	0.152					
TWS	98	0.904	1.88	0.0029	35	2.0	1.7	780	0.4	1.0	1.9	10.7	12.4	815	14.5	12.4	0.124					
WA	98	0.904	1.63	0.0025	20	2.0	1.3	1250	0.8	1.0	2.7	12.9	14.2	1270	17.1	14.2	0.142					
TW	98	0.904	1.24	0.0019	35	2.0	1.7	480	0.5	1.0	N/A	8.0	9.7	515	12.9	9.7	0.097					
UNDEVELOPED CONDITION																						
XN1	88	0.77	35.07	0.0548	200	0.9	8.7	1250	0.8	1.3	2.6	11.0	19.7	N/A	N/A	19.7	0.197					
$T_i = (1.8(1.1-K)L^{1/2}) / (S^{1/3})$ $T_c = T_i + T_t$ $K = 0.0132(CN) - 0.39$ $T_{lag} = 0.6T_c$										Travel Time Velocity Formulas Existing $V_1 = 14.8(S/100)^{1/2}$ $V_2 = 29.4(S/100)^{1/2}$				Developed $V_1 = 20.2(S/100)^{1/2}$ $V_2 = 30.6(S/100)^{1/2}$				All basins over one square mile are calculated by the equation $T_{lag} = 20Kn(L \cdot L_c / S^{0.5})^{0.33}$ (SEE SEPARATE SPREADSHEET)				
REFERENCE:									CCRFCD HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL													
STANDARD FORM 4																						

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```

X      X  XXXXXXXX  XXXXXX  X
X      X  X      X      X  XX
X      X  X      X      X  X
XXXXXXXX  XXXXX  X      XXXXXX  X
X      X  X      X      X      X
X      X  X      X      X      X
X      X  XXXXXXXX  XXXXXX  XXXX

```

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE. THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY, DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

PAGE 1

```

LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
1         ID
2         ID      EXISTING AND DEVELOPED CONDITIONS MODEL
3         ID      ELKHORN 40 RESIDENTIAL DEVELOPMENT
4         ID      MOMENTUM ENGINEERS FOR TRITON ENGINEERING - B BROWN
5         ID
6         ID
7         ID      6-HOUR STORM DISTRIBUTION #3
8         ID      10- AND 100-YEAR STORM EVENTS
9         ID      NO REDUCTION FOR DEPTH AREA
10        ID      NO HYDROGRAPH ROUTING LOSSES
11        ID
12        IT      5          0          0          300
13        IO      5          0          0
14        IN      5          0          0
15        JR      PREC      0.57      1
16        KK      XN1
17        KM
18        BA      .0548
19        PB      2.77
20        KM      SDN #3

```

21	PC	0.000	0.020	0.057	0.070	0.087	0.108	0.124	0.130	0.130	0.130
22	PC	0.130	0.130	0.130	0.133	0.140	0.142	0.148	0.158	0.172	0.181
23	PC	0.190	0.197	0.199	0.200	0.201	0.204	0.214	0.229	0.241	0.249
24	PC	0.251	0.256	0.270	0.278	0.281	0.283	0.295	0.322	0.352	0.409
25	PC	0.499	0.590	0.710	0.744	0.781	0.812	0.819	0.835	0.851	0.856
26	PC	0.860	0.868	0.876	0.888	0.910	0.926	0.937	0.950	0.970	0.976
27	PC	0.982	0.985	0.987	0.989	0.990	0.993	0.993	0.994	0.995	0.998
28	PC	0.998	0.999	1.000							
29	LS	0	88								
30	UD	0.197									
	*										
31	KK	WA									
32	BA	.0025									
33	LS	0	98								
34	UD	0.142									
	*										
35	KK	TW									
36	BA	.0019									
37	LS	0	98								
38	UD	0.097									
	*										
39	KK	ER									
40	BA	.0055									
41	LS	0	98								
42	UD	0.152									
	*										

1

HEC-1 INPUT

PAGE 2

LINE	ID	1	2	3	4	5	6	7	8	9	10
43	KK	CPERE									
44	HC	2									
	*										
45	KK	TWS									
46	BA	.0029									
47	LS	0	98								
48	UD	0.124									
	*										
49	KK	EN2C1A									
50	KM										
51	KM										
52	BA	.0280									
53	LS	0	80								
54	UD	0.186									
	*										
55	KK	CPTW									
56	HC	2									
	*										
57	KK	DUMMY									
58	HC	4									
	*										

THIS BASIN IS CEN2C1a REFERENCED FROM
TENAYA WAY ROAD IMROVEMENTS PREDESIGN STUDY

59	KK	TW	
60	KM		
61	BA	.0019	
62	LS	0	98
63	UD	0.097	
	*		
64	KK	ER	
65	BA	.0055	
66	LS	0	98
67	UD	0.152	
	*		
68	KK	DN3	
69	BA	.0116	
70	LS	0	87
71	UD	0.162	
	*		
72	KK	CPEPE	
73	HC	3	
	*		

HEC-1 INPUT

PAGE 3

1

LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
------	---

74	KK	TWS	
75	BA	.0029	
76	LS	0	98
77	UD	0.124	
	*		

78	KK	EN2C1A	
79	KM		
80	KM		
81	BA	.0280	
82	LS	0	80
83	UD	0.186	
	*		

THIS BASIN IS CEN2C1a REFERENCED FROM
TENAYA WAY ROAD IMPROVEMENTS PREDESIGN STUDY

84	KK	CPTW	
85	HC	2	
	*		

86	KK	DN1	
87	BA	.0140	
88	LS	0	87
89	UD	0.148	
	*		

90	KK	DN2	
91	BA	.0275	
92	LS	0	87
93	UD	0.193	
	*		

94	KK	WA	
95	BA	.0025	
96	LS	0	98

97 UD 0.142

*

98 ZZ

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT
LINE

(V) ROUTING

(--->) DIVERSION OR PUMP FLOW

NO.

(.) CONNECTOR

(<---) RETURN OF DIVERTED OR PUMPED FLOW

```
16      XN1
      .
31      .      WA
      .
35      .      TW
      .
39      .      ER
      .
43      .      CPERE.....
      .
45      .      TWS
      .
49      .      EN2C1A
      .
55      .      CPTW.....
      .
57      DUMMY.....
      .
59      .      TW
      .
64      .      ER
      .
68      .      DN3
      .
72      .      CPERE.....
      .
74      .      TWS
      .
78      .      EN2C1A
      .
84      .      CPTW.....
      .
86      .      DN1
      .
```

90 DN2
94 WA

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
* JUN 1998 *
* VERSION 4.1 *
*
* RUN DATE 25AUG16 TIME 14:33:44 *
*

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EXISTING AND DEVELOPED CONDITIONS MODEL
ELKHORN 40 RESIDENTIAL DEVELOPMENT
MOMENTUM ENGINEERS FOR TRITON ENGINEERING - B BROWN

6-HOUR STORM DISTRIBUTION #3
10- AND 100-YEAR STORM EVENTS
NO REDUCTION FOR DEPTH AREA
NO HYDROGRAPH ROUTING LOSSES

13 IO OUTPUT CONTROL VARIABLES
IPRNT 5 PRINT CONTROL
IPLOT 0 PLOT CONTROL
QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA
NMIN 5 MINUTES IN COMPUTATION INTERVAL
IDATE 1 0 STARTING DATE
ITIME 0000 STARTING TIME
NQ 300 NUMBER OF HYDROGRAPH ORDINATES
NDDATE 2 0 ENDING DATE
NDTIME 0055 ENDING TIME
ICENT 19 CENTURY MARK

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 24.92 HOURS

ENGLISH UNITS
DRAINAGE AREA SQUARE MILES
PRECIPITATION DEPTH INCHES
LENGTH, ELEVATION FEET
FLOW CUBIC FEET PER SECOND
STORAGE VOLUME ACRE-Feet
SURFACE AREA ACRES
TEMPERATURE DEGREES FAHRENHEIT

JP MULTI-PLAN OPTION

NPLAN 1 NUMBER OF PLANS

JR MULTI-RATIO OPTION
RATIOS OF PRECIPITATION
.57 1.00

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO PRECIPITATION	
				RATIO 1 .57	RATIO 2 1.00
HYDROGRAPH AT					
+	XN1	.05	1	FLOW TIME	27. 3.67
					66. 3.58
HYDROGRAPH AT					
+	WA	.00	1	FLOW TIME	3. 3.58
					5. 3.58
HYDROGRAPH AT					
+	TW	.00	1	FLOW TIME	2. 3.50
					4. 3.50
HYDROGRAPH AT					
+	ER	.01	1	FLOW TIME	6. 3.58
					10. 3.58
2 COMBINED AT					
+	CPERE	.01	1	FLOW TIME	7. 3.58
					13. 3.58
HYDROGRAPH AT					
+	TWS	.00	1	FLOW TIME	3. 3.58
					5. 3.58
HYDROGRAPH AT					
+	EN2C1A	.03	1	FLOW TIME	7. 3.67
					24. 3.58
2 COMBINED AT					
+	CPTW	.03	1	FLOW TIME	9. 3.58
					29. 3.58
4 COMBINED AT					
+	DUMMY	.10	1	FLOW TIME	46. 3.58
					113. 3.58
HYDROGRAPH AT					
+	TW	.00	1	FLOW TIME	2. 3.50
					4. 3.50
HYDROGRAPH AT					
+	ER	.01	1	FLOW TIME	6. 3.58
					10. 3.58

HYDROGRAPH AT						
+	DN3	.01	1	FLOW	6.	15.
				TIME	3.58	3.58
3 COMBINED AT						
+	CPERE	.02	1	FLOW	13.	28.
				TIME	3.58	3.58
HYDROGRAPH AT						
+	TWS	.00	1	FLOW	3.	5.
				TIME	3.58	3.58
HYDROGRAPH AT						
+	EN2C1A	.03	1	FLOW	7.	24.
				TIME	3.67	3.58
2 COMBINED AT						
+	CPTW	.03	1	FLOW	9.	29.
				TIME	3.58	3.58
HYDROGRAPH AT						
+	DN1	.01	1	FLOW	7.	18.
				TIME	3.58	3.58
HYDROGRAPH AT						
+	DN2	.03	1	FLOW	12.	32.
				TIME	3.67	3.58
HYDROGRAPH AT						
+	WA	.00	1	FLOW	3.	5.
				TIME	3.58	3.58

*** NORMAL END OF HEC-1 ***

HYDRAULICS

Project Description

Input Data

Options

Results

Worksheet for Sec R 30-ft easement

Results

Critical Slope	0.00477	ft/ft
Velocity	2.72	ft/s
Velocity Head	0.12	ft
Specific Energy	0.41	ft
Froude Number	1.02	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.30	ft
Critical Depth	0.30	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.00477	ft/ft

Cross Section for Sec R 30-ft easement

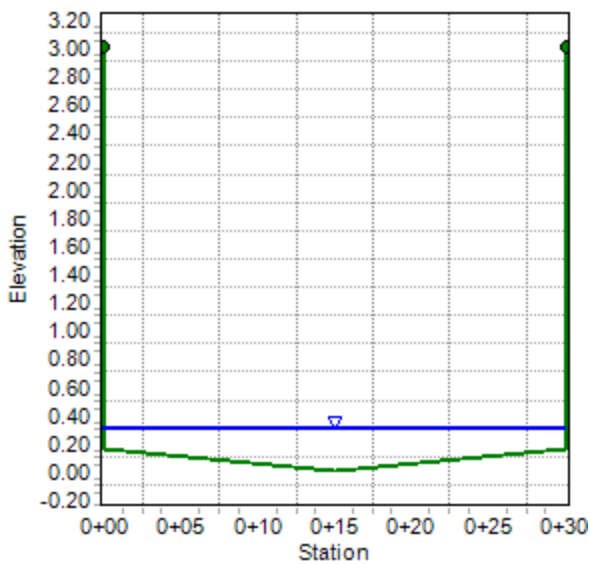
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00500	ft/ft
Normal Depth	0.30	ft
Discharge	18.00	ft ³ /s

Cross Section Image



Worksheet for Sec R Zero velocity weir calc

Project Description

Solve For Headwater Elevation

Input Data

Discharge		18.00	ft ³ /s
Crest Elevation		0.00	ft
Tailwater Elevation		-0.10	ft
Crest Surface Type	Paved		
Crest Breadth		30.00	ft
Crest Length		30.00	ft

Results

Headwater Elevation	0.34	ft
Headwater Height Above Crest	0.34	ft
Tailwater Height Above Crest	-0.10	ft
Weir Coefficient	2.99	US
Submergence Factor	1.00	
Adjusted Weir Coefficient	2.99	US
Flow Area	10.29	ft ²
Velocity	1.75	ft/s
Wetted Perimeter	30.69	ft
Top Width	30.00	ft

Worksheet for Sec S 10-ft easement

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope 0.00500 ft/ft
Discharge 32.00 ft³/s
Section Definitions

Station (ft)	Elevation (ft)
-0+00.01	3.00
0+00.00	0.05
0+05.00	0.00
0+10.00	0.05
0+10.01	3.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(-0+00.01, 3.00)	(0+10.01, 3.00)	0.014

Options

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

Results

Normal Depth 0.65 ft
Elevation Range 0.00 to 3.00 ft
Flow Area 6.28 ft²
Wetted Perimeter 11.21 ft
Hydraulic Radius 0.56 ft
Top Width 10.00 ft
Normal Depth 0.65 ft
Critical Depth 0.71 ft

Worksheet for Sec S 10-ft easement

Results

Critical Slope	0.00382	ft/ft
Velocity	5.10	ft/s
Velocity Head	0.40	ft
Specific Energy	1.06	ft
Froude Number	1.14	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.65	ft
Critical Depth	0.71	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.00382	ft/ft

Cross Section for Sec S 10-ft easement

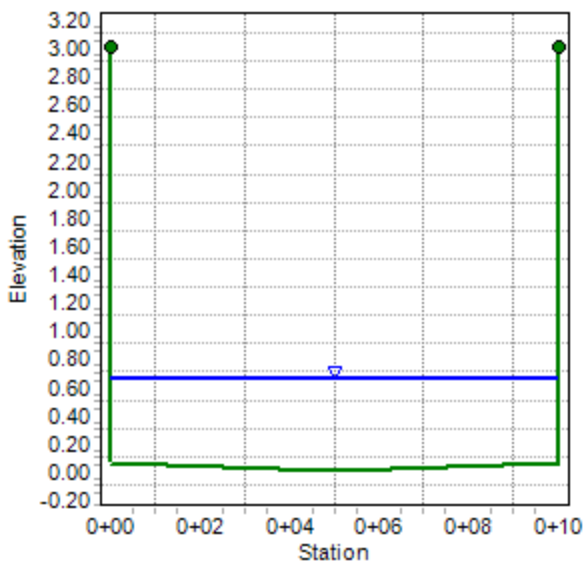
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00500	ft/ft
Normal Depth	0.65	ft
Discharge	32.00	ft ³ /s

Cross Section Image



Worksheet for Sec S Zero velocity weir calc

Project Description

Solve For Headwater Elevation

Input Data

Discharge		32.00	ft ³ /s
Crest Elevation		0.00	ft
Tailwater Elevation		-0.10	ft
Crest Surface Type	Paved		
Crest Breadth		10.00	ft
Crest Length		10.00	ft

Results

Headwater Elevation	1.04	ft
Headwater Height Above Crest	1.04	ft
Tailwater Height Above Crest	-0.10	ft
Weir Coefficient	3.04	US
Submergence Factor	1.00	
Adjusted Weir Coefficient	3.04	US
Flow Area	10.35	ft ²
Velocity	3.09	ft/s
Wetted Perimeter	12.07	ft
Top Width	10.00	ft

Project Description

Input Data

Options

Results

Worksheet for Sec T 10-ft easement

Results

Critical Slope	0.00424	ft/ft
Velocity	3.83	ft/s
Velocity Head	0.23	ft
Specific Energy	0.64	ft
Froude Number	1.08	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.42	ft
Critical Depth	0.44	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.00424	ft/ft

Cross Section for Sec T 10-ft easement

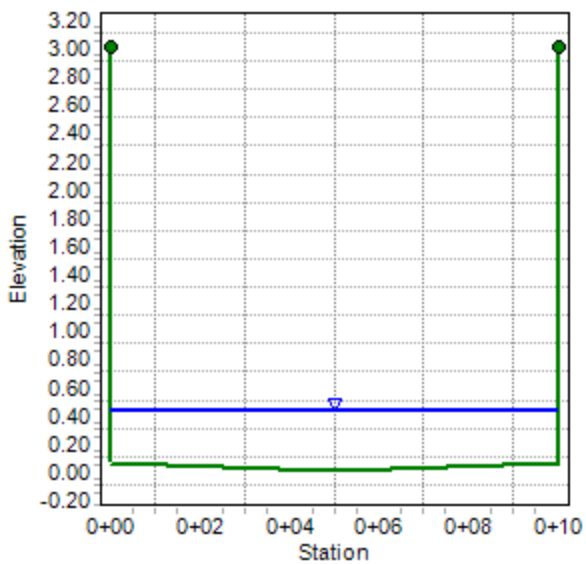
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00500	ft/ft
Normal Depth	0.42	ft
Discharge	15.00	ft ³ /s

Cross Section Image



Worksheet for Sec T Zero velocity weir calc

Project Description

Solve For Headwater Elevation

Input Data

Discharge		15.00	ft ³ /s
Crest Elevation		0.00	ft
Tailwater Elevation		-0.10	ft
Crest Surface Type	Paved		
Crest Breadth		10.00	ft
Crest Length		10.00	ft

Results

Headwater Elevation	0.63	ft
Headwater Height Above Crest	0.63	ft
Tailwater Height Above Crest	-0.10	ft
Weir Coefficient	3.02	US
Submergence Factor	1.00	
Adjusted Weir Coefficient	3.02	US
Flow Area	6.27	ft ²
Velocity	2.39	ft/s
Wetted Perimeter	11.25	ft
Top Width	10.00	ft

Project Description

Input Data

Station (ft)	Elevation (ft)
--------------	----------------

Roughness Segment Definitions

Options

Bentley Systems, Inc. Haestad Methods Soildyne Corp. Master V8i (SELECTseries 1) [08.11.01.03]
8/30/2016 10:49:05 PM 27 Siemens Company Drive Suite 200 W Watertown, CT 06795 USA +1-203-755-1666 Page 1 of 2

Worksheet for Sec A - Elkhorn Road 10yr

Results

Normal Depth		0.86	ft
Elevation Range	0.00 to 1.23 ft		
Flow Area		29.31	ft ²
Wetted Perimeter		84.21	ft
Hydraulic Radius		0.35	ft
Top Width		82.59	ft
Normal Depth		0.86	ft
Critical Depth		0.88	ft
Critical Slope		0.00535	ft/ft
Velocity		3.65	ft/s
Velocity Head		0.21	ft
Specific Energy		1.06	ft
Froude Number		1.08	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.86	ft
Critical Depth	0.88	ft
Channel Slope	0.00630	ft/ft
Critical Slope	0.00535	ft/ft

Cross Section for Sec A - Elkhorn Road 10yr

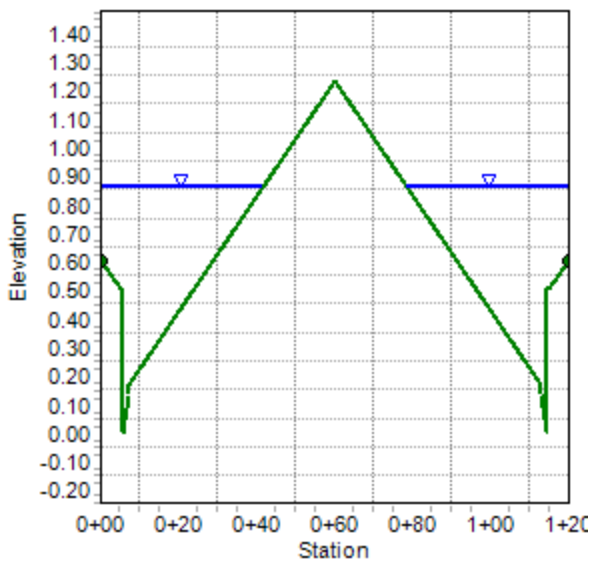
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00630	ft/ft
Normal Depth	0.86	ft
Discharge	107.00	ft ³ /s

Cross Section Image



Worksheet for Sec A - Elkhorn Road 100yr

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00630	ft/ft
Discharge	261.00	ft ³ /s
Section Definitions		

Station (ft)	Elevation (ft)
0+00.00	0.60
0+05.00	0.50
0+05.50	0.50
0+05.50	0.00
0+07.00	0.13
0+07.00	0.17
0+60.00	1.23
1+13.00	0.17
1+13.00	0.13
1+14.50	0.00
1+14.50	0.50
1+15.00	0.50
1+20.00	0.60

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.60)	(1+20.00, 0.60)	0.016

Options

Current Roughness Weighted Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Worksheet for Sec A - Elkhorn Road 100yr

Results

Normal Depth		1.14	ft
Elevation Range	0.00 to 1.23 ft		
Flow Area		56.26	ft ²
Wetted Perimeter		112.69	ft
Hydraulic Radius		0.50	ft
Top Width		110.51	ft
Normal Depth		1.14	ft
Critical Depth		1.19	ft
Critical Slope		0.00470	ft/ft
Velocity		4.64	ft/s
Velocity Head		0.33	ft
Specific Energy		1.47	ft
Froude Number		1.15	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.14	ft
Critical Depth	1.19	ft
Channel Slope	0.00630	ft/ft
Critical Slope	0.00470	ft/ft

Cross Section for Sec A - Elkhorn Road 100yr

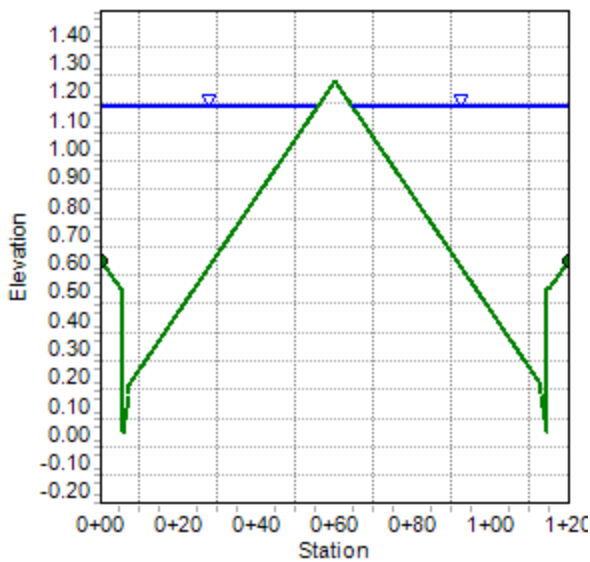
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00630	ft/ft
Normal Depth	1.14	ft
Discharge	261.00	ft ³ /s

Cross Section Image



Project Description

Input Data

Station (ft)	Elevation (ft)
--------------	----------------

Roughness Segment Definitions

Options

Bentley Systems, Inc. Haestad Methods Soild Engineering Master V8i (SELECTseries 1) [08.11.01.03]
8/30/2016 10:52:46 PM 27 Siemens Company Drive Suite 200 W Watertown, CT 06795 USA +1-203-755-1666 Page 1 of 2

Worksheet for Sec B Tenaya 10yr north

Results

Normal Depth		0.31	ft
Elevation Range	0.00 to 0.83 ft		
Flow Area		1.64	ft ²
Wetted Perimeter		17.24	ft
Hydraulic Radius		0.09	ft
Top Width		16.54	ft
Normal Depth		0.31	ft
Critical Depth		0.28	ft
Critical Slope		0.00893	ft/ft
Velocity		1.22	ft/s
Velocity Head		0.02	ft
Specific Energy		0.33	ft
Froude Number		0.68	
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.31	ft
Critical Depth	0.28	ft
Channel Slope	0.00400	ft/ft
Critical Slope	0.00893	ft/ft

Cross Section for Sec B Tenaya 10yr north

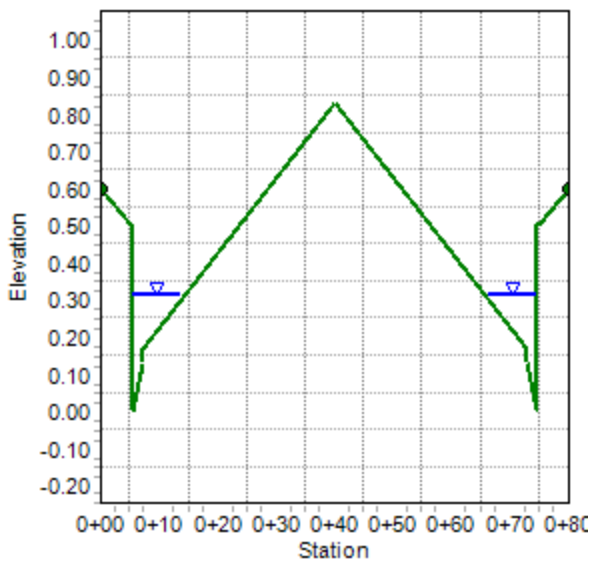
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00400	ft/ft
Normal Depth	0.31	ft
Discharge	2.00	ft ³ /s

Cross Section Image



Project Description

Input Data

Station (ft)

Elevation (ft)

Roughness Segment Definitions

Start Station

Ending Station

Roughness Coefficient

(0+00.00, 0.60)

(0+80.00, 0.60)

0.016

Options

Bentley Systems, Inc. Haestad Methods Software Bentley CenterMaster V8i (SELECTseries 1) [08.11.01.03]

Worksheet for Sec B Tenaya 100yr north

Results

Normal Depth		0.37	ft
Elevation Range	0.00 to 0.83 ft		
Flow Area		2.80	ft ²
Wetted Perimeter		23.33	ft
Hydraulic Radius		0.12	ft
Top Width		22.50	ft
Normal Depth		0.37	ft
Critical Depth		0.33	ft
Critical Slope		0.00819	ft/ft
Velocity		1.43	ft/s
Velocity Head		0.03	ft
Specific Energy		0.40	ft
Froude Number		0.71	
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.37	ft
Critical Depth	0.33	ft
Channel Slope	0.00400	ft/ft
Critical Slope	0.00819	ft/ft

Cross Section for Sec B Tenaya 100yr north

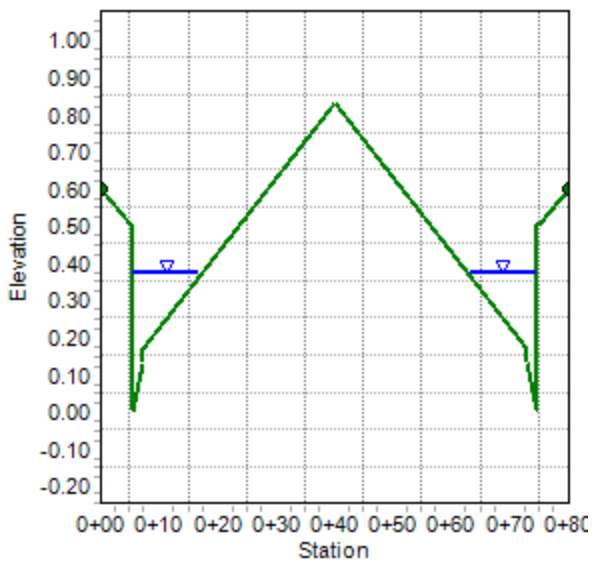
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00400	ft/ft
Normal Depth	0.37	ft
Discharge	4.00	ft ³ /s

Cross Section Image



Worksheet for Sec C Tenaya 10yr south

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00400	ft/ft
Discharge	9.00	ft ³ /s
Section Definitions		

Station (ft)	Elevation (ft)
0+00.00	0.60
0+05.00	0.50
0+05.50	0.50
0+05.50	0.00
0+07.00	0.13
0+07.00	0.17
0+40.00	0.83
0+73.00	0.17
0+73.00	0.13
0+74.50	0.00
0+74.50	0.50
0+75.00	0.50
0+80.00	0.60

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.60)	(0+80.00, 0.60)	0.016

Options

Current Roughness Weighted Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Worksheet for Sec C Tenaya 10yr south

Results

Normal Depth		0.45	ft
Elevation Range	0.00 to 0.83 ft		
Flow Area		5.20	ft ²
Wetted Perimeter		32.39	ft
Hydraulic Radius		0.16	ft
Top Width		31.39	ft
Normal Depth		0.45	ft
Critical Depth		0.42	ft
Critical Slope		0.00736	ft/ft
Velocity		1.73	ft/s
Velocity Head		0.05	ft
Specific Energy		0.50	ft
Froude Number		0.75	
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.45	ft
Critical Depth	0.42	ft
Channel Slope	0.00400	ft/ft
Critical Slope	0.00736	ft/ft

Cross Section for Sec C Tenaya 10yr south

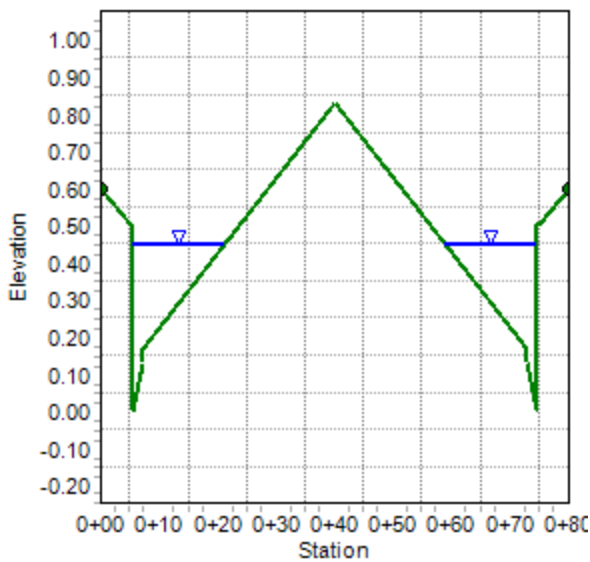
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00400	ft/ft
Normal Depth	0.45	ft
Discharge	9.00	ft ³ /s

Cross Section Image



Worksheet for Sec C Tenaya 100yr south

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope 0.00400 ft/ft
Discharge 29.00 ft³/s
Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.60
0+05.00	0.50
0+05.50	0.50
0+05.50	0.00
0+07.00	0.13
0+07.00	0.17
0+40.00	0.83
0+73.00	0.17
0+73.00	0.13
0+74.50	0.00
0+74.50	0.50
0+75.00	0.50
0+80.00	0.60

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.60)	(0+80.00, 0.60)	0.016

Options

Current Roughness Weighted Method Improved Lotter's Method
Open Channel Weighting Method Improved Lotter's Method
Closed Channel Weighting Method Horton's Method

Worksheet for Sec C Tenaya 100yr south

Results

Normal Depth		0.64	ft
Elevation Range	0.00 to 0.83 ft		
Flow Area		13.57	ft ²
Wetted Perimeter		61.78	ft
Hydraulic Radius		0.22	ft
Top Width		60.60	ft
Normal Depth		0.64	ft
Critical Depth		0.60	ft
Critical Slope		0.00654	ft/ft
Velocity		2.14	ft/s
Velocity Head		0.07	ft
Specific Energy		0.71	ft
Froude Number		0.80	
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.64	ft
Critical Depth	0.60	ft
Channel Slope	0.00400	ft/ft
Critical Slope	0.00654	ft/ft

Cross Section for Sec C Tenaya 100yr south

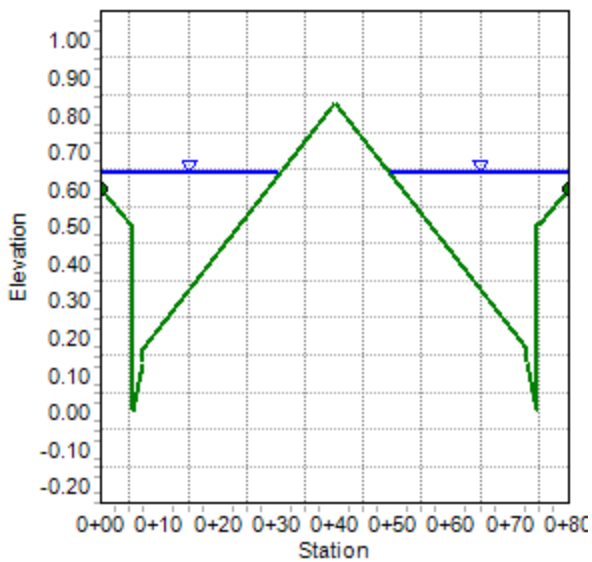
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00400	ft/ft
Normal Depth	0.64	ft
Discharge	29.00	ft ³ /s

Cross Section Image



Worksheet for Sec D Onsite 47-ft 10yr

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope 0.00500 ft/ft
Discharge 12.00 ft³/s
Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.60
0+05.00	0.50
0+05.50	0.50
0+05.50	0.00
0+07.00	0.13
0+07.00	0.17
0+23.50	0.50
0+39.50	0.17
0+39.50	0.13
0+41.50	0.00
0+41.50	0.50
0+42.00	0.50
0+47.00	0.60

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.60)	(0+47.00, 0.60)	0.016

Options

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

Worksheet for Sec D Onsite 47-ft 10yr

Results

Normal Depth		0.47	ft
Elevation Range	0.00 to 0.60 ft		
Flow Area		5.89	ft ²
Wetted Perimeter		34.22	ft
Hydraulic Radius		0.17	ft
Top Width		33.18	ft
Normal Depth		0.47	ft
Critical Depth		0.45	ft
Critical Slope		0.00706	ft/ft
Velocity		2.04	ft/s
Velocity Head		0.06	ft
Specific Energy		0.54	ft
Froude Number		0.85	
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.47	ft
Critical Depth	0.45	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.00706	ft/ft

Cross Section for Sec D Onsite 47-ft 10yr

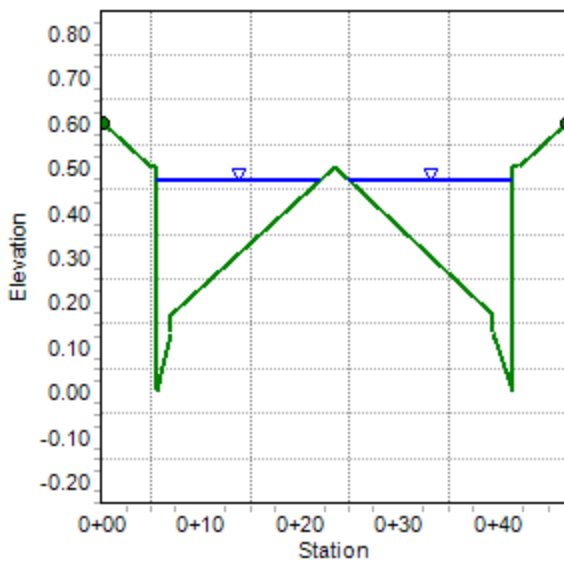
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00500	ft/ft
Normal Depth	0.47	ft
Discharge	12.00	ft ³ /s

Cross Section Image



Project Description

Input Data

Station (ft)

Elevation (ft)

Roughness Segment Definitions

Start Station

Ending Station

Roughness Coefficient

(0+00.00, 0.60)

(0+47.00, 0.60)

0.016

Options

Bentley Systems, Inc. Haestad Methods Soildyne Center Master V8i (SELECTseries 1) [08.11.01.03]

Worksheet for Sec D Onsite 47-ft 100yr

Results

Normal Depth		0.62	ft
Elevation Range	0.00 to 0.60 ft		
Flow Area		12.17	ft ²
Wetted Perimeter		48.14	ft
Hydraulic Radius		0.25	ft
Top Width		47.00	ft
Normal Depth		0.62	ft
Critical Depth		0.61	ft
Critical Slope		0.00616	ft/ft
Velocity		2.63	ft/s
Velocity Head		0.11	ft
Specific Energy		0.73	ft
Froude Number		0.91	
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.62	ft
Critical Depth	0.61	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.00616	ft/ft

Cross Section for Sec D Onsite 47-ft 100yr

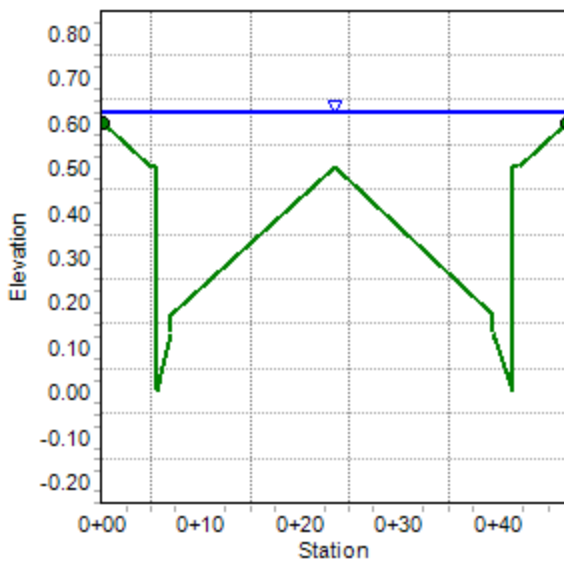
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00500	ft/ft
Normal Depth	0.62	ft
Discharge	32.00	ft ³ /s

Cross Section Image



REFERENCE MATERIAL

NOTES

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

No liability is assumed for the accuracy of the data delineated herein. Information on roads and other non-assessed parcels may be obtained from the Road Document Listing in the Assessor's Office.

This map is compiled from official records, including surveys and deeds, but only contains the information required for assessment. See the recorded documents for more detailed legal information.

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

0

100

200

400

600

800

MAP LEGEND

PARCEL BOUNDARY

SUB BOUNDARY

PM/LD BOUNDARY

ROAD EASEMENT

MATCH / LEADER LINE

HISTORIC LOT LINE

HISTORIC SUB BOUNDARY

HISTORIC PM/LD BOUNDARY

SECTION LINE

CONDOMINIUM UNIT

AIR SPACE PCL

RIGHT OF WAY PCL

SUB-SURFACE PCL

001

ROAD PARCEL NUMBER

001

PARCEL NUMBER

1.00

ACREAGE

202

PARCEL SUB/SEQ NUMBER

PB 24-45

PLAT RECORDING NUMBER

5

BLOCK NUMBER

5

LOT NUMBER

GL5

GOV. LOT NUMBER

BOOK

T19S R60E

SEC.

22

MAP

N 2 NE 4

125-22-5

099

100

101

102

126

125

124

123

137

138

139

140

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1

CLARK COUNTY

ASSESSOR

MAPPING DIVISION

NEVADA

Scale: 1" = 200 '

Rev: 02/09/2011

The map displays a grid of parcels with various boundaries and features. Key elements include:

- Site 125-22-501-001:** A large parcel outlined in red, labeled "SITE 125-22-501-001" in red text. It is located in the upper left quadrant of the map.
- Parcel 502:** A large parcel outlined in blue, labeled "502" in red text. It is located in the center-right of the map.
- Parcel 125:** A parcel outlined in blue, labeled "125" in red text. It is located in the lower right of the map.
- Roads:** Several roads are shown, including "TENAYA WAY" (vertical), "RIO VISTA ST" (vertical), "RAINBOW BLVD" (vertical), "WITTIC AVE" (horizontal), and "ELKHORN RD" (horizontal).
- Boundaries:** Various boundary types are indicated by different line styles and colors, including parcel boundaries (solid red), sub-boundaries (dashed red), PM/LD boundaries (solid blue), road easements (dashed blue), match/leader lines (dotted green), historic lot lines (dashed black), historic sub-boundaries (dashed red), historic PM/LD boundaries (dashed blue), and section lines (dashed purple).
- Other Labels:** "PM 37-34" is labeled in blue text on the right side of the map. "PM 100-09" is labeled in blue text at the bottom left. "001" and "005" are labeled in green text near the top of the map.

TAX DIST 125,200

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

PANEL 1745 OF 4090
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY	NUMBER	PANEL	SUFFIX
LAS VEGAS, CITY OF	32003	1745	F
CLARK COUNTY	32003	1745	E

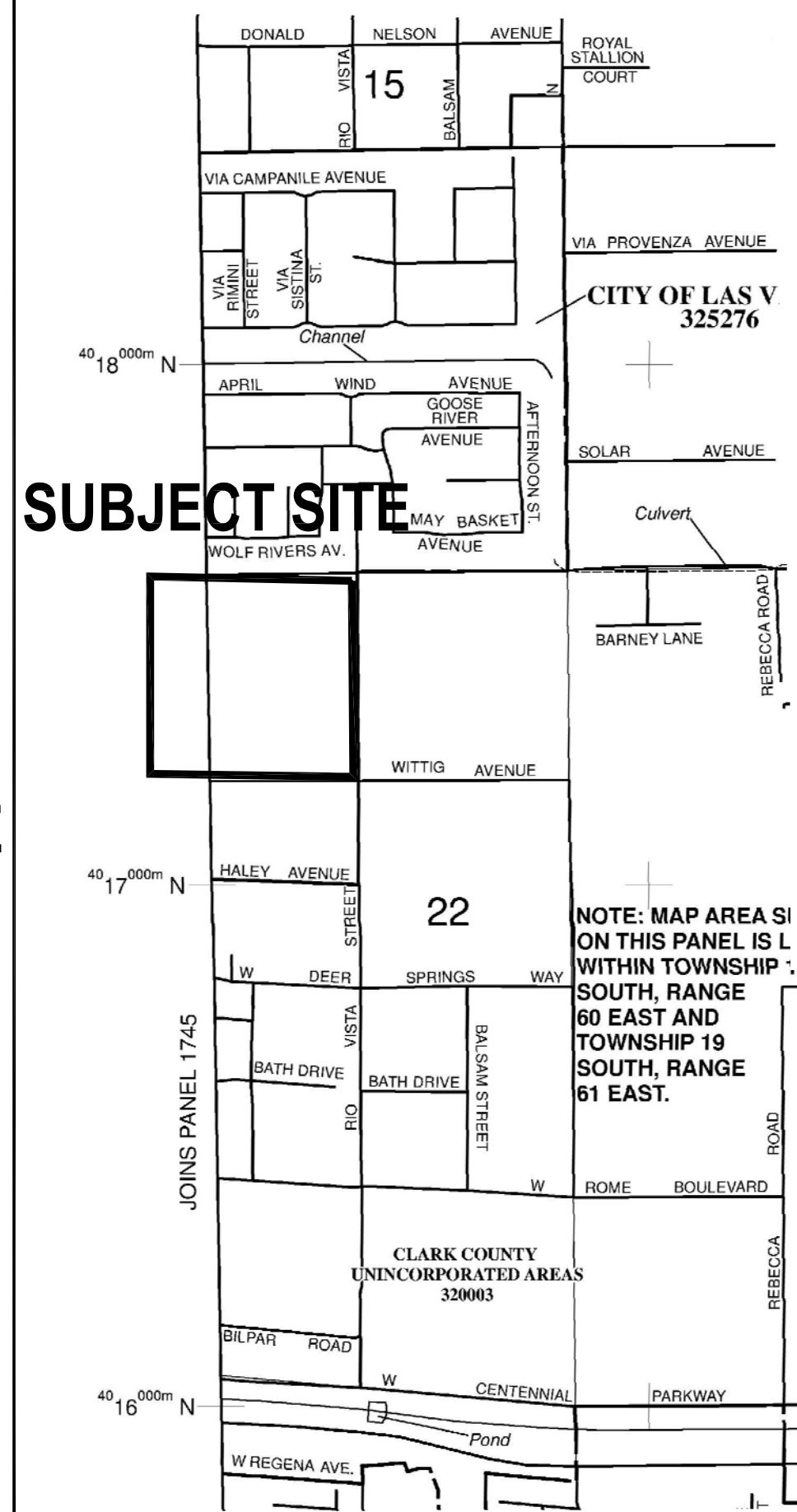
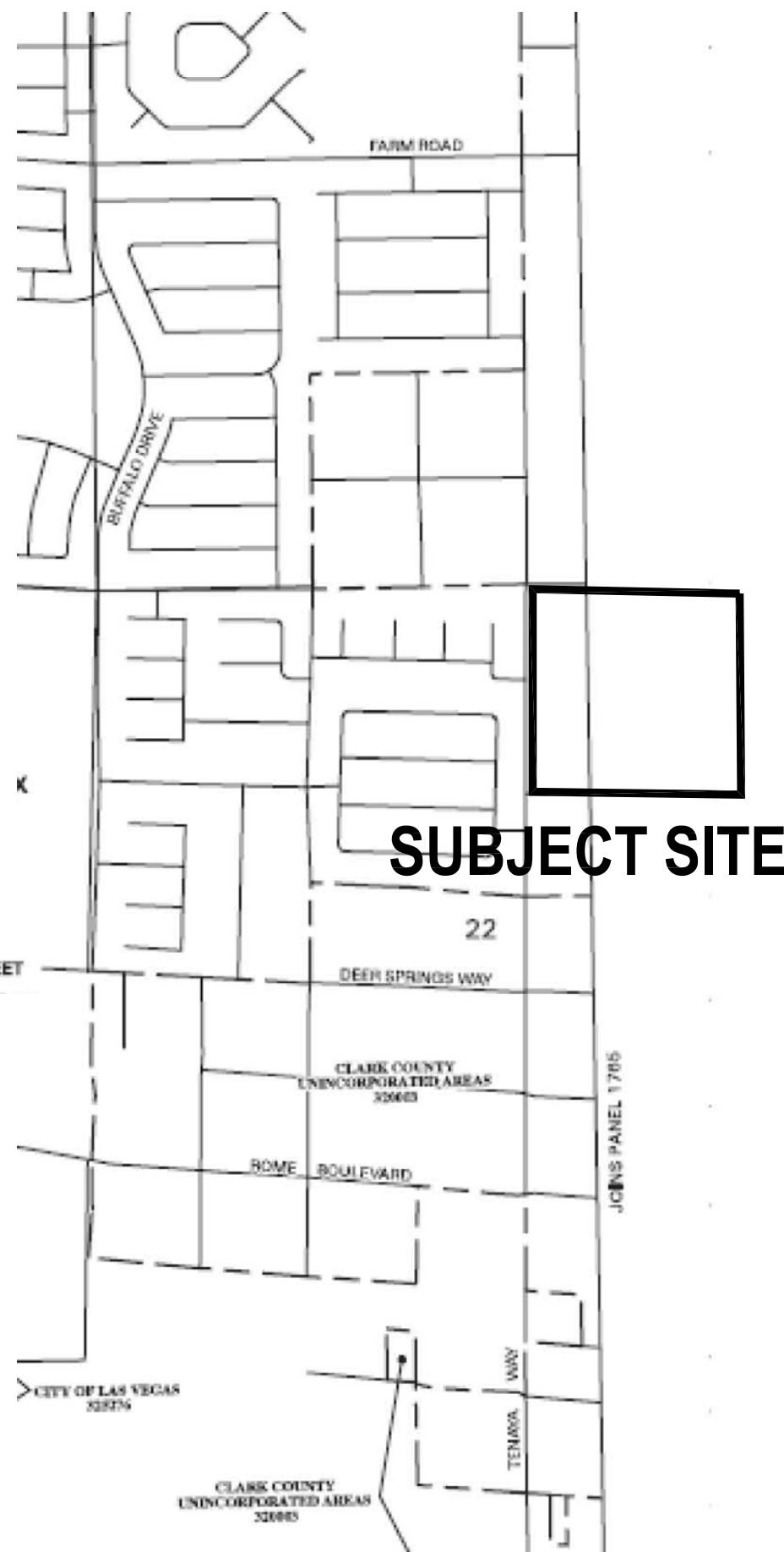
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
32003C1745 E

MAP REVISED:
SEPTEMBER 27, 2002

Federal Emergency Management Agency

MAP SCALE 1" = 1000'



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

PANEL 1765 OF 4090
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CLARK COUNTY	32003	1765	F
LAS VEGAS, CITY OF	325276	1765	F
NORTH LAS VEGAS, CITY OF	32007	1765	F

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

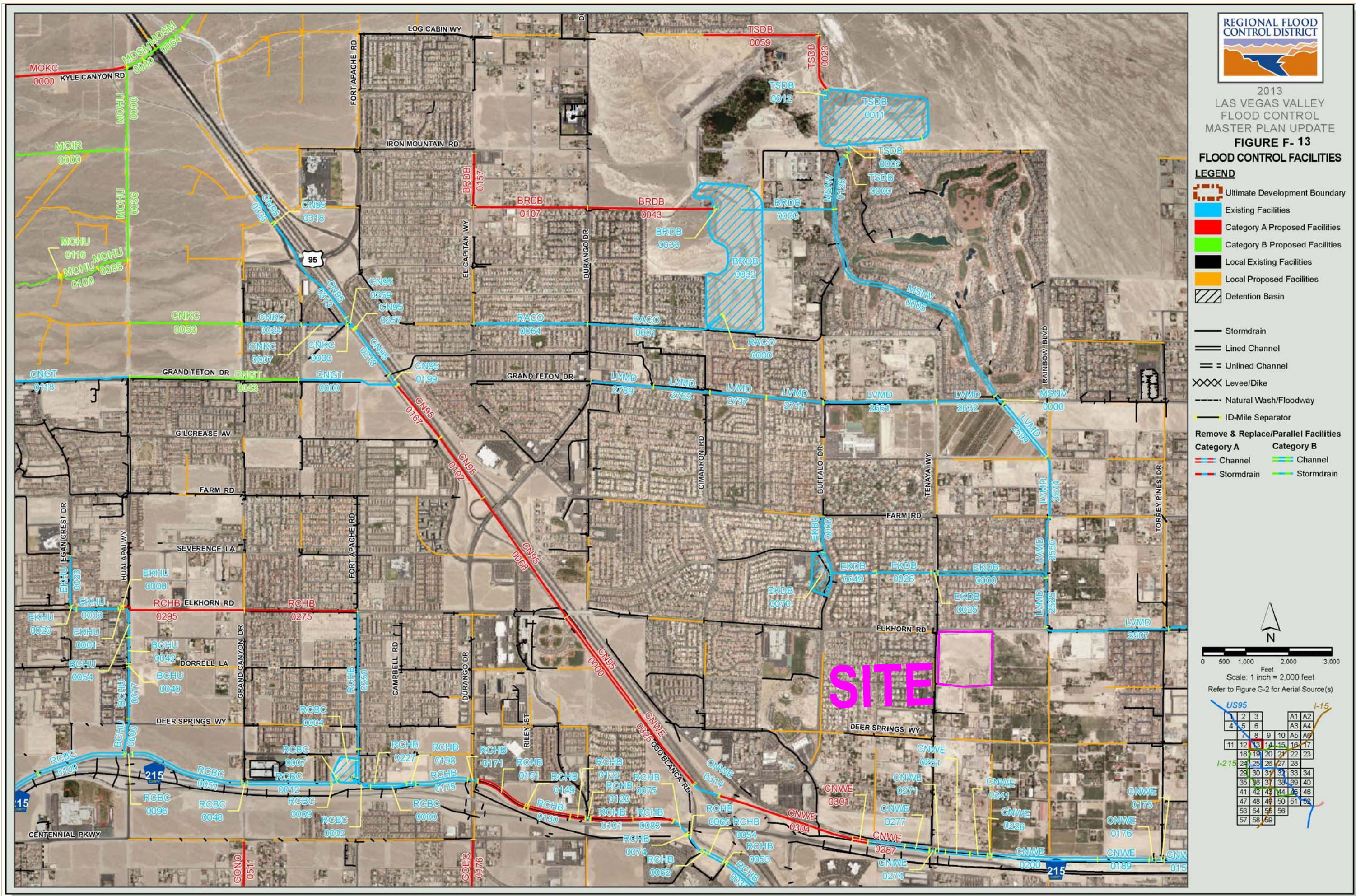
MAP NUMBER
32003C1765F

MAP REVISED
NOVEMBER 16, 2011

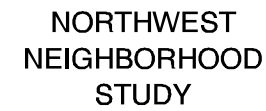
Federal Emergency Management Agency

MAP SCALE 1" = 1000'

NOTE: MAP AREA SHOWN ON THIS PANEL IS LIMITED TO WITHIN TOWNSHIP 19 SOUTH, RANGE 60 EAST AND TOWNSHIP 19 SOUTH, RANGE 61 EAST.



ELKHORN 40 - 125-22-501-001



- SUB-BASIN BOUNDARY

●→ FLOW ARROW

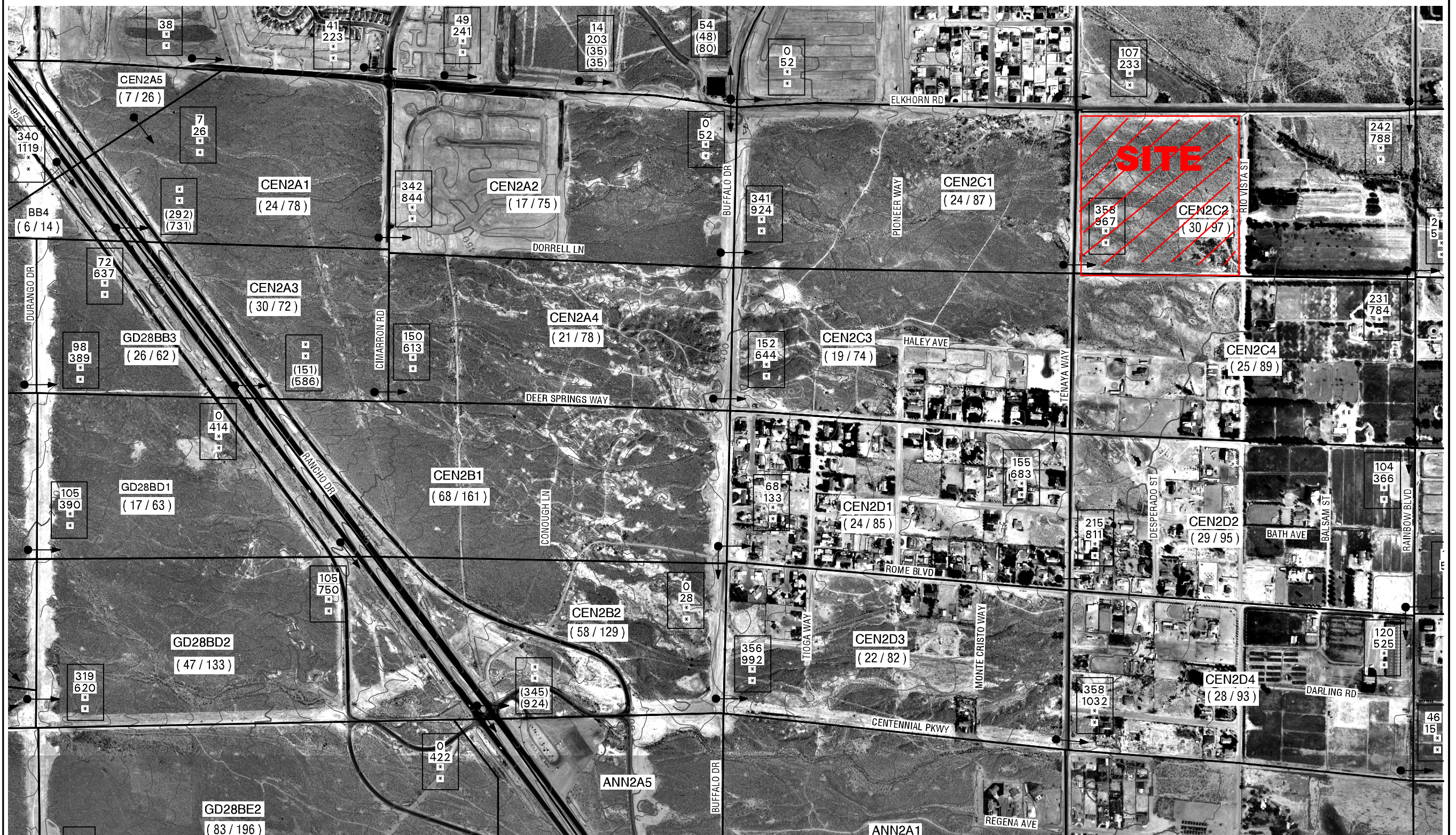
250	10-YEAR STREET FLOW
500	100-YEAR STREET FLOW
300	10-YEAR FACILITY FLOW
800	100-YEAR FACILITY FLOW

(FLOWS IN CFS)

BWJS ↔ Basin-ID
(13 / 59) ↔ Contributing flow
(10-Year / 100-Year
from the basin (cfs)

PHOTO DATE: APRIL 1996

FIGURE E-2



EXISTING DRAINAGE CONDITIONS

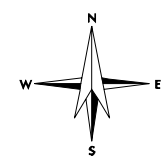


ENGINEERING PLANNING SURVEYING GIS
901, N. Green Valley Pkwy, Ste 100, Henderson NV 89014
Phone: (702) 263-7275 Fax: (702) 263-7200

HUALPAI	FT. APACHE	DURANGO	BUFFALO	RAINBOW	JONES	DECATUR		
1	2	3	ELKHORN					
4	5	6	CENTENNIAL					
7	8	9	ANN					
10	11	12	LONE MOUNTAIN					
						13	14	ALEXANDER
						15	16	CHEYENNE
						17	18	SMOKE RANCH

NOTE:

Existing conditions are based on future
CN values with only existinig local and
CCRFCD facilities in place



A horizontal number line with tick marks at 800, 600, 400, 200, 0, 400, and 800. The segments between the tick marks are shaded in an alternating pattern: black, white, black, white, black, white, black.

SCALE: 1 INCH = 800 FEET

REVISÉD SEPTÉMBER 1999

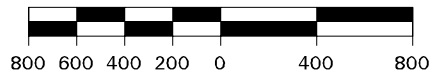
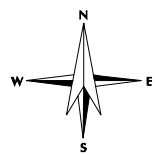
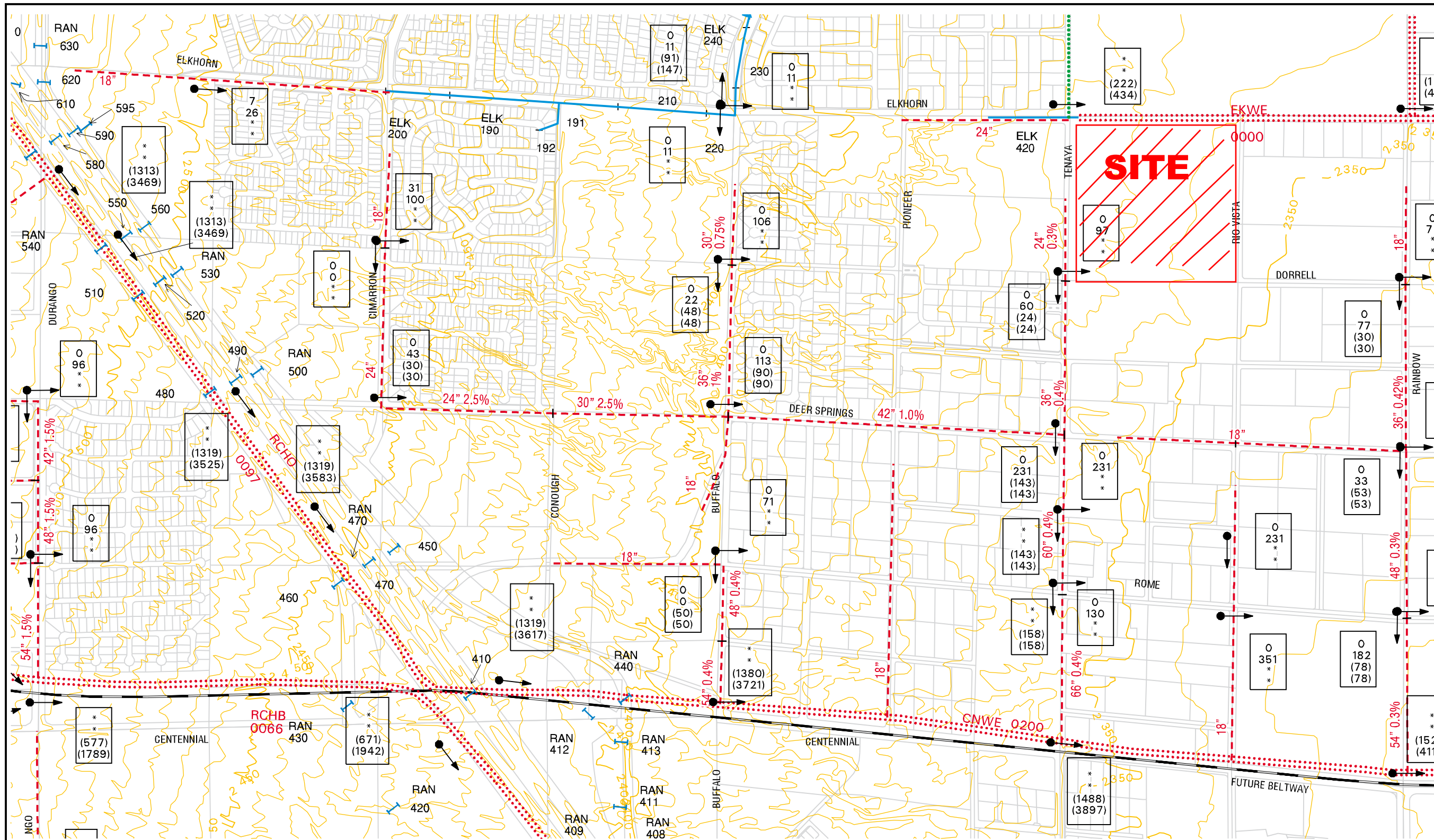


NORTHWEST NEIGHBORHOOD STUDY

LEGEND

- EXISTING REGIONAL DETENTION BASINS
- PROPOSED REGIONAL DETENTION BASINS
- EXISTING LOCAL DETENTION BASINS
- EXISTING REGIONAL BRIDGES
- PROPOSED REGIONAL BRIDGES
- EXISTING LOCAL BRIDGES
- EXISTING REGIONAL CULVERT
- PROPOSED REGIONAL CULVERT
- EXISTING LOCAL CULVERT
- EXISTING REGIONAL PIPELINE
- PROPOSED REGIONAL PIPELINE
- EXISTING LOCAL PIPELINE
- PROPOSED LOCAL PIPELINE
- EXISTING REGIONAL CHANNEL
- PROPOSED REGIONAL CHANNEL
- EXISTING LOCAL CHANNEL
- PROPOSED REGIONAL PIPELINE (Not Included In 1996 MPU)
- PROPOSED REGIONAL CHANNEL (Not Included In 1996 MPU)
- EXISTING REGIONAL DIKE/LEVEE
- PROPOSED REGIONAL DIKE/LEVEE
- EXISTING LOCAL DIKE/LEVEE
- EXISTING STORM WATER PUMPING STATION
- PROPOSED BELTWAY ALIGNMENT

FIGURE F-2



SCALE: 1 INCH = 800 FEET

→ FLOW ARROW

250 10-YEAR STREET FLOW
500 100-YEAR STREET FLOW
(300) 10-YEAR FACILITY FLOW
(800) 100-YEAR FACILITY FLOW

(FLOWS IN CFS)

NOTE:

Ultimate drainage conditions are based on future CN values with all flood control facilities in place

See the "September 1999 City of Las Vegas Northwest Neighborhood Study Phase 2" for proposed facilities in and north of Elkhorn.

REVISED SEPTEMBER 1999

FUTURE DRAINAGE CONDITIONS

HUALPAIN	FT. APACHE	DURANGO	BUFFALO	RAINBOW	JONES	DECATUR
1	2	3				ELKHORN
4	5	6				CENTENNIAL
7	8	9				ANN
10	11	12				LONE MOUNTAIN
			13	14		ALEXANDER
			15	16		CHEYENNE
			17	18		SMOKE RANCH



901 North Green Valley Parkway, Suite 100
Henderson, Nevada 89014-6139
Phone: 702/263-7275
Fax: 702/263-7200

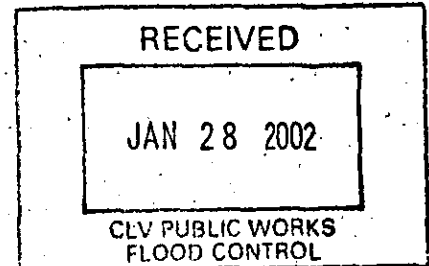
ENGINEERING PLANNING GIS SURVEYING CONSTRUCTION SERVICES

TECHNICAL DRAINAGE STUDY

FOR

WYETH RANCH

ADDENDUM NO. 2



3046
G-15
N/C

January 25, 2002

Prepared for

**Pulte Homes of Nevada
1635 Village Center Circle, #200
Las Vegas, Nevada 89134
(702) 256-7900**

Project No.: 0147.0230

Prepared by

PENTACORE



CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		Revised June 25, 2003
TO: Land Development Services Department of Public Works		FROM: Greg McDermott, P.E. <i>[Signature]</i> Flood Control Project Manager Department of Public Works
SUBJECT:	Drainage Study for: WYETH RANCH	COPIES TO: Pulte Homes of Nevada
Cross Streets:	NEC Elkhorn Road & Tenaya Way	Stantec
FILE NO.:	F:\Depot\DSMEMOS\DS3046D.doc	Bart Anderson, P.E., DEVCO
Parcel Number:	125-15-801-001	Council Liaison Office - Ward 6 Attn: Leni Skaar
Zoning Action:		CCRFC
FEMA Flood Zone	YES	No X
Proposed Storm Drain	YES X	No

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES
1 st Submittal	12/7/2001	12/21/2001	Not Accepted	\$250.00
2 nd Submittal	1/9/2002	1/23/2002	Not Accepted	\$250.00
3 rd Submittal	1/28/2002	1/29/2002	Pending CCRFC	N/C
Revised Memo	4/11/2003	4/11/2003	Acceptable	N/C
Revised Memo	6/25/2003	6/25/2003	See Comments Below	N/C
			TOTAL FEES (LDDRS):	\$500.00

REMARKS:

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

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

- The Rainbow Channel is substantially complete. Hold released on building permits for Lots 47 through 57.**

The following comments will be repeated from the previous submittal until they are resolved:

- Provide removable bollards or wrought iron fence at the beginning and end of all drainage easements. Provide construction notes and details for these improvements on the improvement plans.*

(Clarification: The removable bollards provided are located 20 feet from the back of curb at the entrance to the drainage easements. Revise the improvement plans to show the removable bollards at 5 feet or less from the back of curb to prevent vehicle parking or storage within the easement.)

- The grass-lined channel in the Severance alignment must be constructed prior to the subject development.*
- It is understood that a single Home Owners Association (HOA) will be formed between the subject development and the north 80-acre development. A Joint Maintenance & Liability Agreement*

between a single Association and the City of Las Vegas must be prepared and executed prior to the recordation of the final map.

5. Per previous comment #7: *The stem wall adjacent to the sidewalk must be shown to provide 8" CMU solid grouted to 2 courses above the back of walk. Revise details I/8 and I/9 accordingly.*
6. Sheet 6: Provide 18" lateral at the drop inlet in the intersection of Severance channel and Rainbow Boulevard to pass centerline of Rainbow.

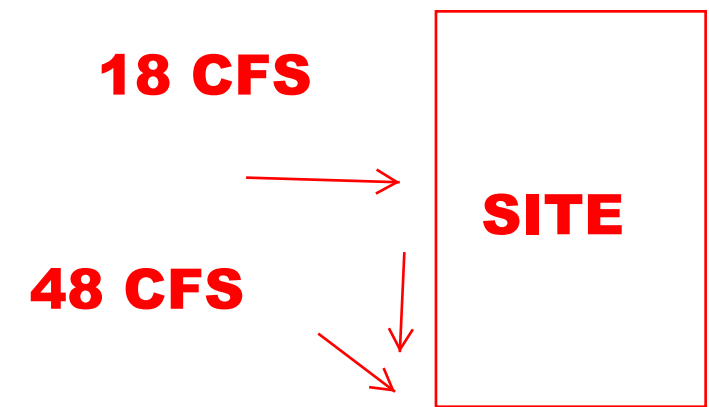
Sheet 7: Provide 18" lateral from the SDMH at Sta 10+65.43 (Elkhorn) to pass the centerline of street.

END OF REMARKS

Gam/jwb/ays

T/R/S: T19S/R60E/15

AREA G15



SITE

SITE



**THIS BASIN INSERTED
INTO SUBJECT HEC-1**

Q=3 CFS
18" SD

Q=3 CFS
18" SD

GRADING PLANS

36.53 ACRES



SHEET **1** OF 24
C.L.V. DWG.#

ABN - ABANDON
 AC - ASPHALTIC CONCRETE
 AGR - AGGREGATE
 # - AND
 APPR - ASSESSOR PARCEL NUMBER
 APPROX - APPROXIMATE
 ASSY - ASSEMBLY
 AVE - AVENUE

 BC - BACK OF CURB
 BRK - BACK OF CURVE RETURN
 BK - BOOK/BACK
 BLDG - BUILDING
 BLK - BLOCK
 BLVD - BUREAU OF LAND MANAGEMENT
 BLM - BOULEVARD
 BM - BENCHMARK
 BO - BLOW OFF ASSEMBLY
 BOB - BACK OF CURB
 BOT - BOTTOM
 BOW - BACK OF WALK
 BRG - BEARING
 BV - BACK VERTICAL CURVE
 BW - BACK OF WALK
 BVW - BACK OF WALK VELOCITY

 C/C - CENTER TO CENTER
 C&G - CURB & GUTTER
 CL - CLARK COUNTY
 CE - COMMON ELEMENT
 C - CAST IRON
 CP - CAST IRON PIPE / CAST IN PLACE
 CIR - CIRCLE
 CL OR C - CENTERLINE
 CNLV - CITY OF NORTH LAS VEGAS

 CO - COUNTY
 COH - CITY OF HENDERSON
 CONC - CONCRETE
 CONT - CONTINUOUS
 COORD - COORDINATE
 CTR - CENTER
 CV - CONTROL VALVE
 Δ - DELTA ANGLE
 D/W OR DWT - DRAINWAY
 DEPT - DEPARTMENT
 DET - DETAIL
 DES - DESIGN
 DD - DESIGN GRADE
 DI - DROP INLET/DUCTILE IRON
 DIA OR Ø - DIAMETER
 DIM - DIMENSION
 DIP - DUCTILE IRON PIPE
 DIR - DIRECTION
 DIST - DISTANCE
 DMH - DROP MANHOLE
 DN - DOWN
 DR - DRIVE
 DWS - DRAINAGE
 DWG - DRAWING

 E - EAST/EDGE
 EA - EACH
 EX - EXISTING
 ELE - ELEVATION
 EOP - EDGE OF PAVEMENT
 EQ - EQUATION OF SHOULDER
 EQ - EQUAL OR EQUATION
 EQ SP - EQUALLY SPACED
 ESMT - EASEMENT
 EST - ESTIMATE
 EV - END OF VERTICAL CURVE
 EW - EACH WAY
 EXIST - EXISTING

 F/F - FACE TO FACE
 FC - FACE OF CURB
 FT - FINISHED FLOOR
 FG - FINISHED GRADE
 FH - FIRE HYDRANT
 FIG - FIGURE
 FL - FINISH LOW LINE
 FLR - FLOOR
 FN - FENCE
 FND - FOUND
 FOC - FACE OF CURB
 FOW - FACE OF WALL
 FPM - FEET PER MINUTE
 FPS - FEET PER SECOND
 FT - FOOT OR FEET
 FTT - FOOTING
 FUT - FUTURE

 G/B - GRADE BREAK
 GALV - GALVANIZED
 GB - GRADE BREAK
 GND - GROUND
 GPD - GALLONS PER DAY
 GPH - GALLONS PER HOUR
 GPM - GALLONS PER MINUTE
 GRD - GRADE
 GRT - GATE
 GV - GATE VALVE

 HORIZ - HORIZONTAL
 HP - HIGH POINT
 HPG - HIGH PRESSURE GAS
 HT - HEIGHT
 HWY - HIGHWAY

 IN - INCH
 INST - INSTALL
 INT - INTERIOR
 INV - INVERT
 IRR - IRRIGATION

 LB OR # - POUND
 LEN OR L - LENGTH OF CURVATURE
 LF - LINEAR FOOT
 LG - LONG
 LN - LANE
 LT - LEFT/LIGHT
 LVMD - LAS VEGAS VALLEY
 W - WATER DISTRICT
 LWR - LOWER

 M - METER
 M&T - MATERIAL
 MAX - MAXIMUM
 MECH - MECHANICAL
 MFR - MANUFACTURER
 MW - MILLION GALLONS PER DAY
 MW - MILLION GALLONS PER DAY
 MH - MANHOLE
 MIN - MINIMUM
 MISC - MISCELLANEOUS
 MJ - MECHANICAL JOINT
 MKR - MARKER
 ML - MORTAR LINED
 MLC - MORTAR LINED & COATED
 MVC - MIDDLE OF VERTICAL CURVE

 N - NORTH
 N/A - NOT APPLICABLE
 NAP - NEVADA DEPARTMENT
 NDOT - NORTH DAKOTA
 OF - OF TRANSPORTATION
 NE - NORTHEAST
 NF - NORTH FACE
 NO - NO
 NAT - NATURAL GROUND
 NO. # - NUMBER
 NWS - NOT TO SCALE
 NW - NORTHWEST

 O/O - OUT TO OUT
 OC - ON CENTER
 OD - OUTSIDE DIAMETER
 OF - OUTSIDE FACE
 OHP - OVER HEAD POWER
 OHTL - OVER HEAD TELEPHONE
 ORIG - ORIGINAL
 OVL - OVERFLOW

 O/O - OUT TO OUT
 OC - ON CENTER
 OD - OUTSIDE DIAMETER
 OF - OUTSIDE FACE
 OHP - OVER HEAD POWER
 OHTL - OVER HEAD TELEPHONE
 ORIG - ORIGINAL
 OVL - OVERFLOW

 PL OR P - PROPERTY LINE
 PAVMT - PAVEMENT
 PB - PULL BOX
 PC - POINT OF CURVE
 PCC - POINT OF COMPOUND CURVE
 PE - POLYETHYLENE
 PED - PEDESTAL
 PERM - PERMANENT
 PERP - PERPENDICULAR
 PH - PHASE
 PI - POINT OF INTERSECTION
 PKG - PACKAGE
 PKWY - PARKWAY
 PL - PLACE/PLATE/PARCEL LINE
 PLT - PLATE (DRAWINGS)
 POLY - POLYETHYLENE
 PP - POWER POLE
 PR - PAIR
 PRC - POINT OF REVERSE CURVE/
 PRECAST REINFORCED CONCRETE
 PRELIM - PRELIMINARY
 PROP - PROPOSED
 PRV - PRESSURE REGULATING VALVE
 PS - PUMP STATION
 PSL - POUNDS PER SQUARE FOOT
 PSI - POUNDS PER SQUARE INCH
 PT - POINT/POINT OF TANGENT
 PUE - PUBLIC UTILITY EASEMENT
 PVI - POINT OF VERTICAL INTERSECTION
 PWC - POLYVINYL CHLORIDE PIPE
 QTR - QUARTER
 QTY - QUANTITY

 R - RADIUS
 (R) - RADIAL
 R/W - RIGHT OF WAY
 ROB - REINFORCED CONCRETE BOX
 ROF - REINFORCED CONCRETE FOOT
 RD - ROAD
 RED - REDUCER
 RED - REQUIRED
 RET - RETURN
 REV - REVISION OR REVERSE
 ROW - RIGHT OF WAY
 RPPA - REDUCED PRESSURE
 PRINCIPLE ASSEMBLY
 RR - RAILROAD

 S - SOUTH/SLOPE
 S/C - SAW CUT
 SCOP - STEEL CYLINDER CONCRETE
 S&W - SIDEWALK
 SCH - SCHEDULE
 SD - STORM DRAIN
 SDMH - STORM DRAIN MANHOLE
 SUNK - SUNK
 SE - SECTION
 SEC - SOUTH/EAST
 SEC - SECTION/SECOND
 SEC - SEGMENT
 SHDR - SHOULDER
 SHT - SHEET
 SID - SIGNAL IMPROVEMENT
 DISTRICT
 SIG - SIGNAL
 SL - SLOPE
 SLV - SLEEVE
 SNWA - SOUTHERN NEVADA WATER AUTHORITY
 SPEC(S) - SPECIFICATION(S)
 SQ - SQUARE
 SQ FT - SQUARE FOOT/FEET
 SQ YD - SQUARE YARD
 SS - SANITARY SEWER
 ST - STREET
 STA - STATION
 STD - STANDARD
 STL - STEEL
 STLT - STREET LIGHT
 SUR - SURVEY
 SW - SOUTHWEST OR SOUTHWEST
 SQR - SQUARE YARD
 SYS - SYMBOL
 SYS - SYSTEM

 T&B - TOP & BOTTOM
 TAN - TANGENT
 TEM - TEMPORARY BENCHMARK
 TO - TOP OF CURB
 TD - TRENCH DRAIN
 TEMP - TEMPORARY
 THK - THICKNESS
 THR BLK - THRUST BLOCK
 TMR - TOP OF MANHOLE
 TOP - TOP OF FOOTING
 TOP - TOP OF GRADE
 TOP - TOP OF PIPE
 TOR - TOP OF RIM
 TOW - TOP OF SLAB
 TOSW - TOP OF SIDEWALK
 TOT - TOTAL
 TOP - TOP OF WALL
 (TYP) - TYPICAL

 UN - UNLESS NOTED OTHERWISE
 UPDR - UPMON PACIFIC RAILROAD
 UNUS - UNITED STATES GEOLOGIC SURVEY
 UTILS - UTILITIES

 V - VOLT OR VALVE
 VAR - VARIES
 VB - VALVE BOX
 VOP - VITRIFIED
 VO - VERTICAL CURVE
 VEL - VELOCITY
 VERT - VERTICAL
 VGL - VALVE GUTTER
 VOL - VOLUME
 VPI - VERTICAL POINT OF INTERSECTION

 W/ - WITH
 W - WEST/WATER
 W/O - WITH OUT
 WD - WIDTH
 WDM - WASTE DRAIN
 WDN - WASTE DRAIN
 WL - WROUGHT IRON
 WL - WASTE LINE
 WPT - POINT/WEATHER PROOF
 WS - WATER SURFACE
 WT - WEIGHT
 WTR - WATER
 WY - WATER VALVE
 WWF - WELDED WIRE FABRIC
 WLD - WELDED WIRE MESH

 XFMR - TRANSFORMER
 XFR - TRANSFER
 XSEC - CROSS SECTION

 Y - YARD
 YLD - YIELD

	CENTERLINE		EXISTING GAS		PROPOSED CONCRETE DRIVEWAY
	UNIT BOUNDARY		EXISTING SEWER MAIN		0" LIP DRIVEWAY
	PROPOSED 1' GRADE CONTOUR		EXISTING SEWER MAIN		2:1 SCARP
	PROPOSED 5' GRADE CONTOUR		PROPOSED SEWER MAIN		COURSES OF 8" CMU NUMBER OF COURSES
	EXISTING 1' GRADE CONTOUR		EXISTING STORM DRAIN		CUL-DE-SAC BACK OF CURB STATION
	EXISTING 5' GRADE CONTOUR		PROPOSED STORM DRAIN		KNUCKLE BACK OF CURB STATION
	PROPOSED PROPERTY LINE		EXISTING WATER MAIN		SIGHT VISIBILITY RESTRICTION ZONE
	PROPOSED SETBACK LINE		PROPOSED WATER MAIN		PROPOSED RATE & FLOW DIRECTION
	PROPOSED HINGE LINE		EXISTING FIRE HYDRANT		PROPOSED ELEVATION WITH DESCRIPTION
	PROPOSED SWALE		LOT NUMBER		EXISTING ELEVATION WITH DESCRIPTION
	EXISTING CURB AND GUTTER		PROPOSED FINISH FLOOR		PROPOSED HANDICAP RAMP
	PROPOSED CURB AND GUTTER		PROPOSED PAD ELEVATION		
	RETAINING WALL		EXISTING STREET LIGHT		
	GARDEN WALL WITH SOLID GROUT		PROPOSED 100w HPS STREET LIGHT		
	EXISTING FENCE		PROPOSED 150w HPS STREET LIGHT		
	EXISTING EDGE OF PAVEMENT		PROPOSED 200w HPS STREET LIGHT		
	PROPOSED EDGE OF PAVEMENT		PROPOSED 250w HPS STREET LIGHT		
	PROPOSED STREETLIGHT CONDUIT		PROPOSED 400w HPS STREET LIGHT		
	PROPOSED NO. 3 1/2 CONCRETE PULL BOX W/ METAL COVER				

LVVWD PROJECT #

1. NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN APPROVED FOR CONSTRUCTION BY 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 TWO (2) BUSINESS DAYS PRIOR TO THE REQUESTED LVVWD INSPECTION. WHEN REQUESTING INSPECTIONS, PLEASE REFER TO THE PROJECT # IDENTIFIED ABOVE.
2. 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.
3. ALL WORK, EXCEPT AS MODIFIED BY THESE PLANS OR BY NOTE 2 ABOVE, SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT DRAFT OR EDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENT, CLARK COUNTY AREA.
4. A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE LVVWD.
5. ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE TYPE K COPPER TUBING WITH LVVWD APPROVED SERVICE SADDLES.
6. ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAY AREAS.
7. ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS, VALLEY AND CURB GUTTERS.
8. ALL WATER AND STORM DRAIN OR SANITARY SEWER CROSSINGS SHALL CONFORM TO SECTION 2.22 OF THE 2010 EDITION OF THE UDACS.
9. ALL WATER FACILITIES SHALL BE FILLED, DISINFECTED, PRESSURE TESTED, FLUSHED, FILLED, AND AN ACCEPTABLE WATER SAMPLE OBTAINED, PRIOR TO CONNECTION TO THE LVVWD DISTRIBUTION SYSTEM.
10. 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.
11. ANY INTERRUPTION OF SERVICE MUST BE PERFORMED IN ACCORDANCE WITH UDACS SECTION 3.14.01, AND APPROVED BY THE LVVWD INSPECTION DIVISION PRIOR TO SHUTDOWN. PROPER WRITTEN NOTIFICATION MUST BE GIVEN TO ALL AFFECTED CUSTOMERS.
12. ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVVWD PRE-APPROVED MATERIALS AND MANUFACTURER'S LISTING FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.
13. TELEPHONE "CALL BEFORE YOU DIG" AT "811" OR 1-800-227-2600.
14. 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 REPLACEMENT OF 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 10 FOOT EASEMENT ABUTTING A PUBLIC OR PRIVATE STREET, IF DISTRIBUTED BY THE LVVWD DURING THE REPAIR OR OPERATION OF ITS FACILITIES, WILL BE PLACED BY LVVWD WITH AN APPROPRIATELY SIZED PLAIN FINISH CONCRETE PATCH. THE LVVWD WILL NOT RESTORE, AND WILL NOT BE RESPONSIBLE FOR THE DISTRIBUTION OF ANY DECORATIVE PAVING SURFACE WITHIN THE STREET. THE LVVWD WILL NOT ATTEMPT TO MATCH COLOR OR FINISH OF ANY ADJACENT MATERIALS.

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 APPLIED TO, THE LAS VEGAS VALLEY CONSTRUCTION SITE 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 SHALL BE REQUIRED BY THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BEST MANAGEMENT PRACTICES MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY BE REQUIRED BY THE NEVADA STATE WATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVRI000000, 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, AND WIND-DRIVEN SAND OR DUST. IN THE EVENT OF A MINIMUM OF ONE (1) INCH 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 TO ACCEPTABLE LEVELS OF RISK TO THE DISTURBED LAND AND DISTURBANCE ACTIVITIES. REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVRI000000, SECTION III.A.1.2.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

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

1. ALL CONSTRUCTIONS 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; LOCAL SUMMERLIN IMPROVEMENT STANDARDS" FOR WORK IN THE SUMMERLIN AREA; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; THE UNIFORM BUILDING CODE; AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS "DEVIATIONS FROM STANDARDS".

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

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

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

5. TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM 90 DAYS. MIX DESIGNS TO BE APPROVED BY THE CITY, PRIOR TO THE USE ON THE PROJECT.

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

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

8. AC PAVEMENT TO BE ONE-HALF INCH (1/2) ABOVE TOP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS AND CROSS GUTTERS.

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

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

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

12. ALL GRADING WORK SHALL CONFORM TO THE SOLIS REPORT AS PREPARED BY THE (COMPANY, _ REPORT #, DATE) APPROVED BY THE CITY ENGINEER, AND AS SHOWN ON THESE PLANS.

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

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

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

WALL NOTES:

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

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

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

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

20. WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF PUBLIC SEWER MANHOLE STORM DRAIN MANHOLES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT-OF-WAY, AND STORM DRAIN MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS. THE LOCATION SHALL BE DESCRIBED BY COORDINATES WHICH SHALL BE BASED ON THE LOCAL 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 (OR 0.3 FEET) HORIZONTALLY AND VERTICALLY. SEPARATE ELECTRONIC COMMA DELIMITED FILE FOR THE SANITARY SEWER AND STORM DRAIN COORDINATES SHALL ALSO COMPA THE SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S).

OR

~~SANITARY SEWER AND STORM DRAIN FACILITIES SHOWN ON THESE PLANS SHALL BE USED TO MEET THE REQUIREMENTS OF NRS 455 AND SHALL SHOW AT A MINIMUM THE HORIZONTAL AND VERTICAL ALIGNMENT OF PUBLIC SEWER MANHOLE STORM DRAIN MANHOLES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, AND THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN WHERE THE LATERALS EXIT THE PUBLIC RIGHT-OF-WAY. ANY DEVIATIONS FROM THIS INFORMATION SHOWN SHALL BE NOTED AND SUBMITTED AS A REVISION TO THE PLANS AND APPROVED PRIOR TO ACCEPTANCE OF FACILITY VIDEO INSPECTION.~~

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

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

REVISED 02/03/15

1. 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.

2. ONLY FIRE HYDRANTS THAT ARE ON THE LAS VEGAS VALLEY WATER DISTRICT'S - APPROVED PRODUCTS LIST ARE ALLOWED TO BE INSTALLED.

3. A PERMIT IS REQUIRED FROM LAS VEGAS FIRE AND RESCUE FOR THE INSTALLATION OF ON-SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND CONTRACTORS MATERIAL TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER BEFORE COMMENCEMENT OF WORK. [FC § 105.7.12]

4. ON ANY RESIDENTIAL OR COMMERCIAL INSTALLATIONS, FIRE HYDRANTS SHALL BE INSTALLED AND FIRE APPARATUS ACCESS ROADS SHALL BE MAINTAINED BEFORE COMMENCEMENT OF ANY COMBUSTIBLE CONSTRUCTION. ALL FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER AND SHALL BE CAPABLE OF DELIVERING THE REQUIRED FIRE FLOW. [FC § 3310, § 3312]

5. TO IDENTIFY THE FIRE HYDRANT LOCATIONS, THE CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF THE STREET ADJACENT TO THE FIRE HYDRANTS. [FC § 507.5.7.3]

6. ALL UNDERGROUND INSPECTIONS, PRESSURE AND FLUSH VERIFICATIONS OF ALL FIRE HYDRANTS AND FIRE LINES, SHALL BE CONDUCTED BEFORE COVERING THE LINES. CENTER LOADING IS ACCEPTABLE FOR THE HYDRO TESTS WITH PRIOR FIRE PREVENTION APPROVAL. [FC 106.3]

7. ALL ON-SITE UNDERGROUND WATER MAINS AND MATERIALS SHALL BE U.L. LISTED, A.W.W.A. APPROVED AND SHALL BE RATED FOR THE APPROPRIATE WORKING PRESSURE. [FC § 507.2.1, NFPA 24]

8. PAINTING OF CURBS, FIRE HYDRANTS, PADS, PROTECTION OF FIRE HYDRANTS FROM PHYSICAL DAMAGE, AND ALL OTHER WORK NECESSARY PER PLANS SHALL BE COMPLETED BEFORE APPROVAL BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION. [FC § 507]

9. PRIVATE HYDRANTS SHALL BE PAINTED RED. [FC § 507.5.7.1]

10. PRIOR TO THE FINAL OCCUPANCY, A FIRE FLOW TEST SHALL BE WITNESSED BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION TO VERIFY AVAILABILITY OF THE REQUIRED FIRE FLOW. [FC § 507]

11. FIRE HYDRANT SPACING SHALL BE AS FOLLOWS: [FC § C102]

- RESIDENTIAL - 500 FT UNSPRINKLERED; 600 FT SPRINKLERED.
- COMMERCIAL - 300 FT UNSPRINKLERED; 400 FT SPRINKLERED.

12. WHERE THE WATER MAINS ARE EXTENDED ALONG STREETS OR NEW STREETS ARE INSTALLED WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF THE STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT A MAXIMUM OF 1000 FT SPACING TO PROVIDE FOR TRANSPORTATION HAZARDS, WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR HAVE FOUR (4) OR MORE TRAFFIC LANES AND HAVE A TRAFFIC COUNT OF MORE THAN 30,000 PER DAY, HYDRANTS ARE REQUIRED ON EACH SIDE OF THE STREET SPACED AT 500 FT ON AN ALTERNATING BASIS. [FC § C102.8]

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

14. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FT OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION. [FC § C102.12]

15. A MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A ONE-TWO FAMILY DWELLING SHALL NOT EXCEED 300 FT, AS MEASURED BY AN APPROVED ROUTE. [FC § C102.4]

16. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT LOCATION (DOC) SHALL NOT EXCEED 100 FT, AS MEASURED BY AN APPROVED ROUTE. [FC § C102.7]

17. THE MAXIMUM DISTANCE FROM A HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FT. [FC § C102.6]

18. TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE IS 4 OR MORE FIRE HYDRANTS/SPRINKLER LINES 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. [FC § C104]

19. ALL FIRE APPARATUS ACCESS ROADS SHALL BE PAVED TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES, AND SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF THE FIRE APPARATUS. [FC § 503.2.3]

20. THE GRADIENT FOR THE FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12% ANGLES OF APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 6% FOR 25 FT PRIOR TO OR AFTER THE GRADE CHANGE, ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EXCEED 6%. [FC § 503.2.7, § 503.2.8]

21. THE TURNING RADIUS OF THE FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 52 FT OUTSIDE AND 28 FT INSIDE TURNING RADIUS. [FC § 503.2.4]

22. VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL NOT BE LESS THAN 13FT 6 IN. [FC § 503.2.1]

23. 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 BE NOT LESS THAN 24 FT. [FC § 503.2.1.1]

24. A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FT FROM A FIRE DEPARTMENT VEHICLE ACCESS. THIS DISTANCE COULD BE INCREASED TO 250 FT IF THE BUILDING IS SPRINKLERED. [FC § 503.1.1]

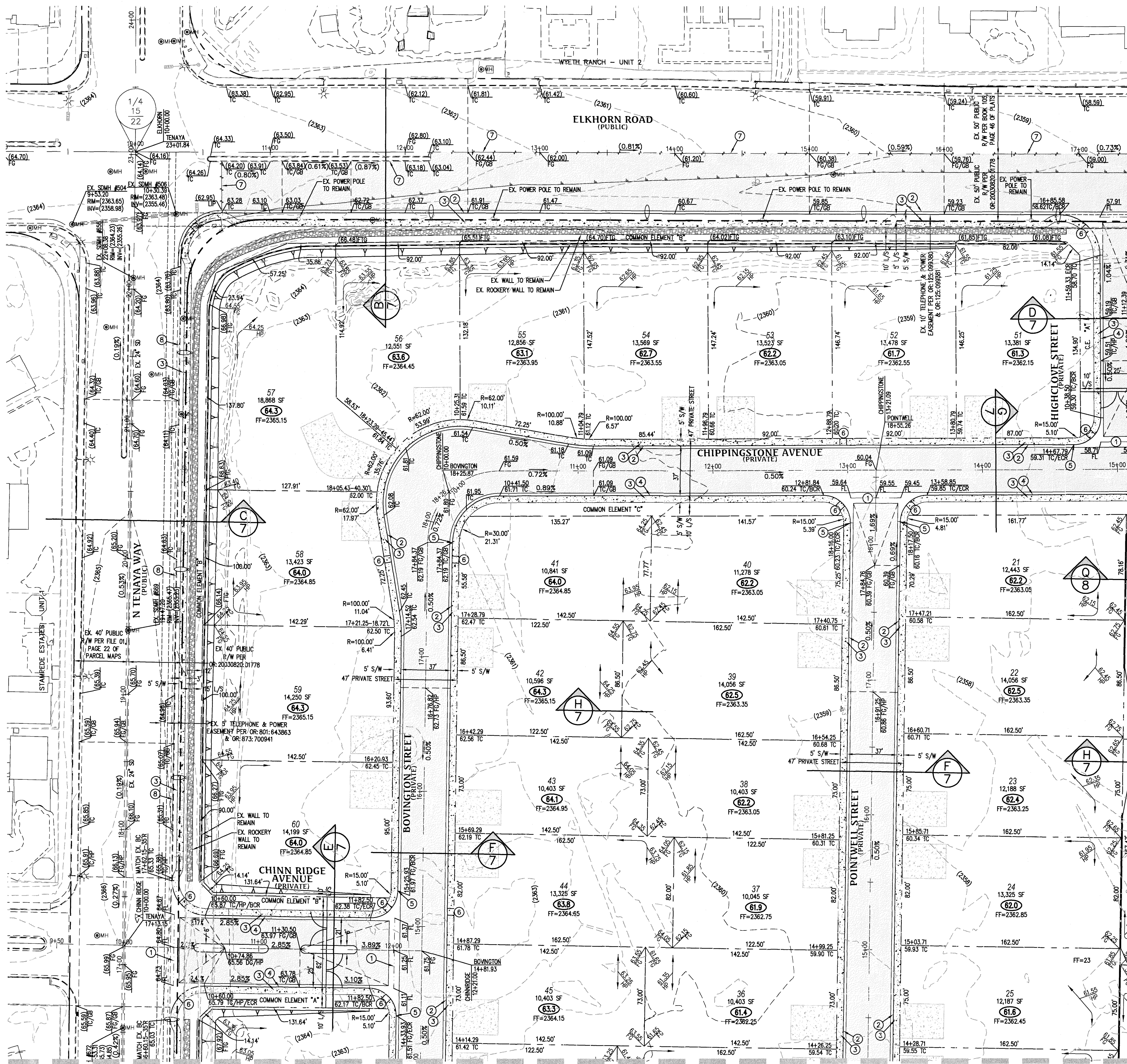
25. APPROVED SECONDARY FIRE APPARATUS ACCESS SHALL BE PROVIDED FOR 100 OR MORE DWELLING UNITS, ROAD(S) WITH DEAD-ENDS OR WITH A SINGLE POINT OF ACCESS IN EXCESS OF 600 FT, COMMERCIAL AND INDUSTRIAL DEVELOPMENTS WHERE LANDINGS EXCEED 2 STORIES OR 30 FEET IN HEIGHT, OR EXCEEDING 62,000 SQUARE FEET IN AREA. [FC § 503.1.2]

26. ALL DEAD-END FIRE APPARATUS ROADS AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FT IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND HAVING A MINIMUM DIAMETER OF 81 FT. [FC § 503.2.5]

27. ALL FIRE APPARATUS ACCESS ROADS SHALL BE MARKED BY PLACING APPROVED SIGNS AT THE START OF THE DESIGNATED FIRE LANE, ONE SIGN AT THE END OF THE FIRE LANE AND WITH SIGNS AT INTERVALS OF 100 FT ALONG THE DESIGNATED FIRE LANES TO BE PLACED ON BOTH SIDES OF AN ACCESS ROADWAY IF NEEDED TO PREVENT PARKING ON EITHER SIDE. SIGNS TO BE INSTALLED NO HIGHER THAN 10 FT OR LESS THAN 6 FT FROM THE ROADWAY LEVEL, THE CURB ALONG OR ON THE PAVEMENT OR CEMENT (IF NO CURB IS PROVIDED) SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS. [FC § 503.3]

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

EFFECTIVE 03/01/16



SEE SHEET 5

SEE SHEET 4

GRADING NOTES

1. ALL PROPOSED PAD ELEVATIONS AND SWALE ELEVATIONS ARE ROUGH GRADES. ALL OTHER PROPOSED ELEVATIONS ARE FINISHED GRADES.
2. THE GRADING PLANS SHALL BE AT THE PROJECT SITE THROUGHOUT THE COURSE OF CONSTRUCTION.
3. ALL GRADING SHALL BE PERFORMED IN CONFORMANCE WITH THE LINES, GRADES AND DETAILS AS SHOWN ON THESE PLANS. ANY DEVIATION FROM THESE PLANS WILL ONLY BE PERMITTED UPON WRITTEN APPROVAL FROM THE ENGINEER.
4. ALL PADS ARE TO BE GRADED WITHIN $\pm 0.3'$ OF THE ELEVATIONS AS SHOWN ON THE PLANS. GRADING IS NOT COMPLETE UNTIL THE ENGINEER HAS CERTIFIED THAT THE PADS HAVE BEEN GRADED IN SUBSTANTIAL CONFORMANCE TO THE PLANS.
5. ALL PLACEMENT OF OVERSIZED MATERIALS AND/OR FILL MATERIALS SHALL BE PER THE SOILS REPORT REFERENCED ON THIS PLAN.

FLOODZONE NOTE

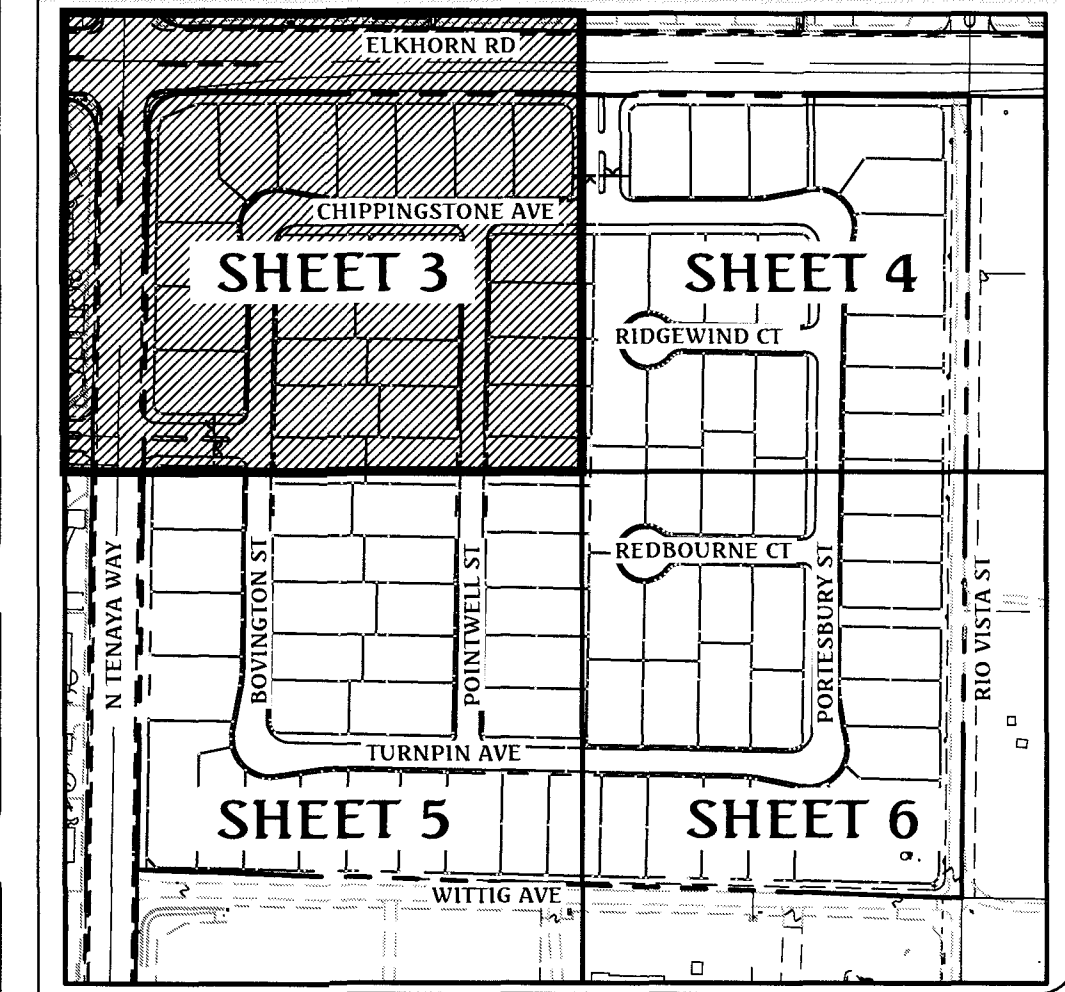
THIS SITE IS LOCATED COMPLETELY WITHIN ZONE X PER FEMA MAP #32003C1765F, PANEL 1765F, DATED NOVEMBER 16, 2011. ZONE X IS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOODPLAIN.

SOILS INFORMATION

SOILS REPORT DATA
REPORT BY: GEOTEK RESIDENTIAL, LLC
PROJECT NO.: 12902-LVR
DATED: APRIL 27, 2016
CUT AND FILL DATA
CUT TOTAL: 31,623 CY
FILL TOTAL: 99,820 CY
NET (FILL): 68,197 CY

KEY MAP

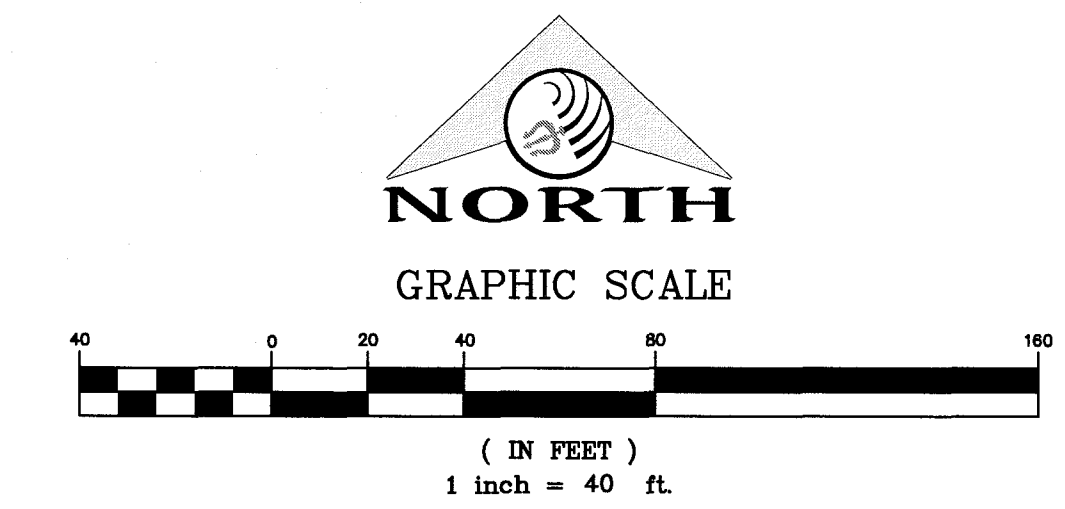
SCALE: 1" = 300'



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GRADING LEGEND

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- BOUNDARY LINE
- STREET CENTERLINE
- EDGE OF PAVEMENT
- EXISTING CURB, GUTTER, & SIDEWALK
- PROPOSED CURB, GUTTER, & SIDEWALK
- PROPOSED AC PAVING
- EX. FENCE
- EX. BLOCK WALL
- PROPOSED RETAINING WALL
- TOP OF FOOTING
- APPROX. WALL LENGTH
- TOP OF RETAINING WALL
- PROPOSED SCARP

BASIS OF BEARING

NORTH 00°56'37" EAST, BEING THE BEARING OF THE WEST LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE IN THE CLARK COUNTY RECORDER'S OFFICE IN FILE 163, PAGE 26 OF SURVEYS.

BENCHMARK

CLARK COUNTY BENCHMARK STATION: 6LV80 155SE6
RIVET AND PLATE IN TOP OF CURB AT THE NORTHWEST CORNER OF RIO VISTA AND ELKHORN ROAD.
ELEVATION = 717.800 METERS (NAVD'88 V.2003)
ELEVATION = 2354.98 US SURVEY FEET (NAVD'88 V.2003)

CONSTRUCTION NOTES

1. CONSTRUCT 6" WIDE CROSS GUTTER, PER CCAUSD No. 228
2. CONSTRUCT "R" TYPE CURB AND GUTTER, PER CCAUSD No. 217.S2
3. CONSTRUCT 5" WIDE SIDEWALK, PER CCAUSD No. 234
4. CONSTRUCT "L" TYPE CURB AND GUTTER, PER CCAUSD No. 216
5. 5' TRANSITION FROM L-TYPE CURB/SPANDREL TO R-TYPE CURB
6. CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT, PER CCAUSD No. 235, CASE I
7. SAWCUT AND MATCH EXISTING ASPHALT
8. EXISTING CURB AND GUTTER TO REMAIN AND PROTECT IN PLACE
9. INSTALL REMOVABLE LOCKING BOLLARDS @ 5' O.C., PER DETAIL R, SHEET 8
10. CONSTRUCT SIDEWALK DRAIN, PER CCAUSD No. 236

DATE: 08/31/16
DRAWN BY: J. PEARCE
DESIGNED BY:
CHECKED BY:
JOB NO.: 007108
SCALE: 1"=40'

DR HORTON
ELKHORN 40
GRADING PLAN 1

PROFESSIONAL ENGINEER
JAMES M. PEARCE
Exp. 12-31-
CIVIL
No. 9552
CLARK COUNTY, NEVADA

SHEET 3 OF 24
C.L.V. DWG.#



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THIS SITE IS LOCATED COMPLETELY WITHIN
ZONE X PER FEMA MAP #32003C1765F, PANEL
1765F, DATED NOVEMBER 16, 2011. ZONE X IS
DETERMINED TO BE OUTSIDE THE 100-YEAR
FLOODPLAIN.

SOILS REPORT DATA
REPORT BY: GEOTEK RESIDENTIAL, LLC
PROJECT No.: 12902~LVR
DATED: APRIL 27, 2016

CUT AND FILL DATA

CUT TOTAL:	31,623 CY
FILL TOTAL:	99,820 CY
NET (FILL):	68,197 CY

Diagram illustrating various road cross-section symbols and their corresponding descriptions:

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- BOUNDARY LINE
- STREET CENTERLINE
- EDGE OF PAVEMENT
- EXISTING CURB, GUTTER, & SIDEWALK
- PROPOSED CURB, GUTTER, & SIDEWALK
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CLARK COUNTY BENCHMARK STATION: 6LV90 15SSE6
RIVET AND PLATE IN TOP OF CURB AT THE NORTHWEST
CORNER OF RIO VISTA AND ELKHORN ROAD.
ELEVATION = 717.800 METERS (NAVD'88 V.2003)
ELEVATION = 2354.98 US SURVEY FEET (NAVD'88 V.2003)

DATE : 08/31/16
PM : J. PEARCE
DRAWN BY :
DESIGNED BY :
CHECKED BY :
ADA CHECKED :
JOB NO. : 007.108
SCALE : 1"=4'

Triton

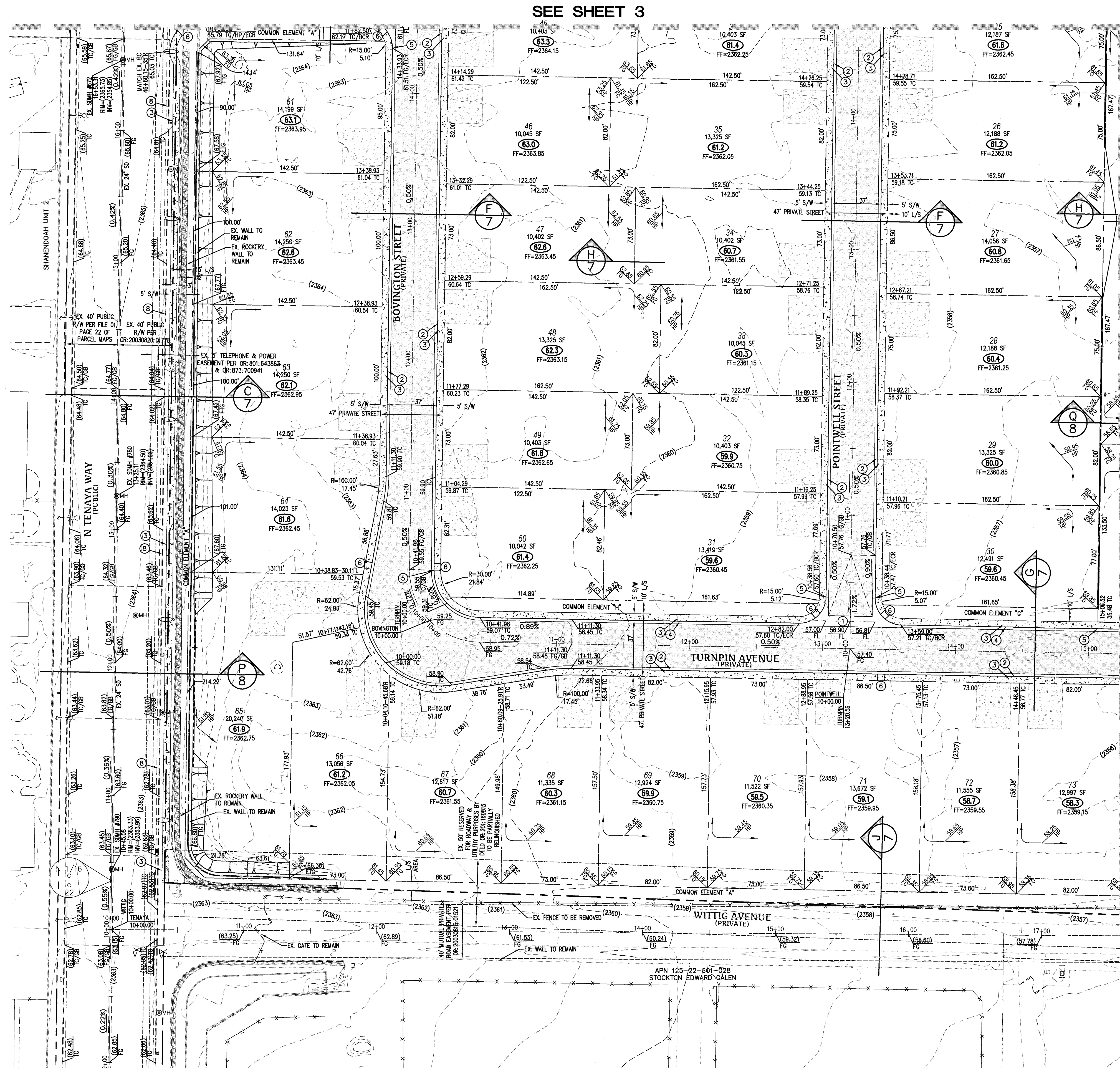
Engineering

Office: (702) 254-1400
Fax: (702) 254-1401
www.tritoneng.com

6757 W. Charleston Blvd.,
Suite B
Las Vegas, Nevada 89146

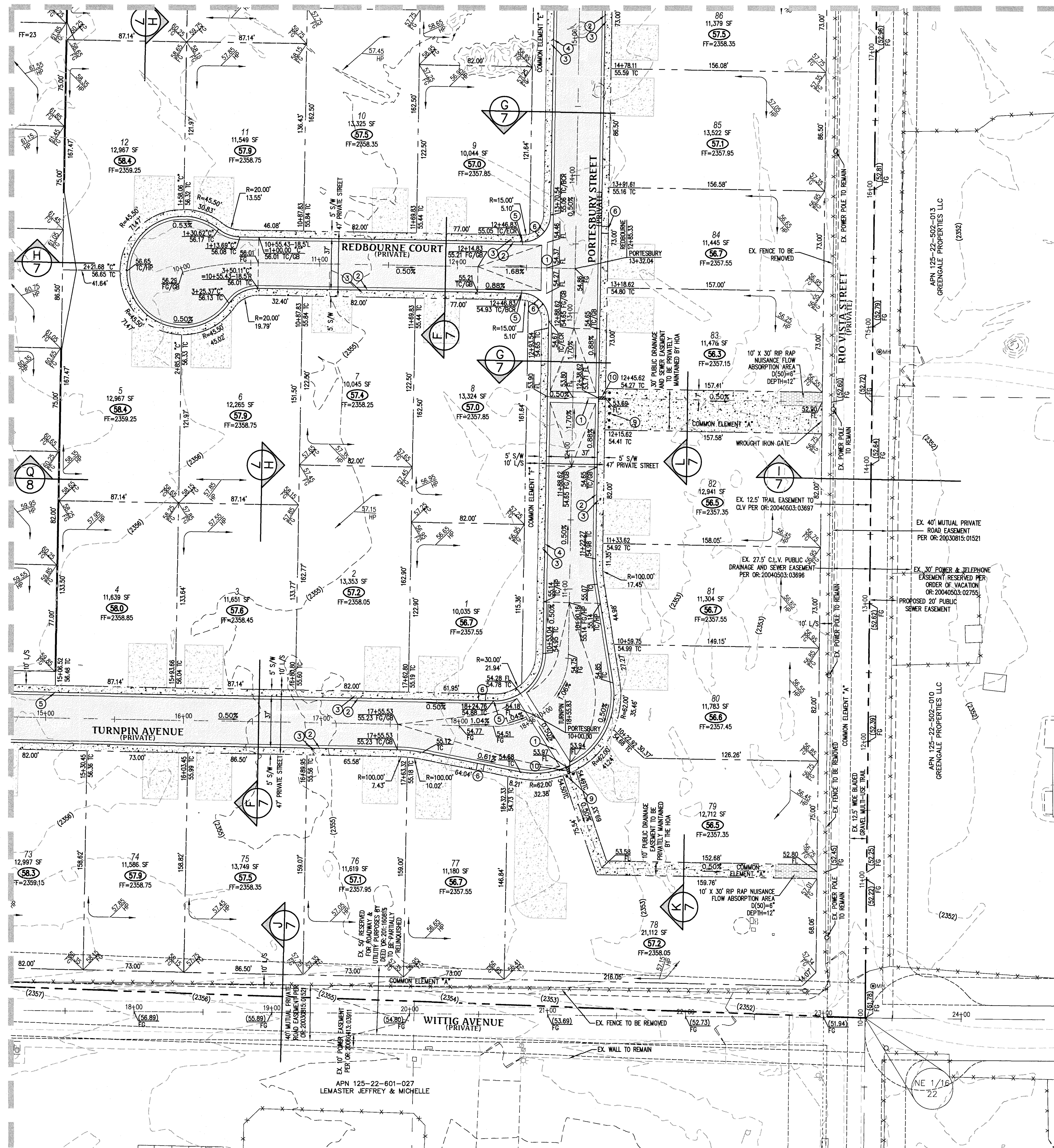
DR HORTON	ELKHORN 40	GRADING PLAN II
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SHEET **4** OF 24
C.L.V. DWG.#



SEE SHEET 5

SEE SHEET 4



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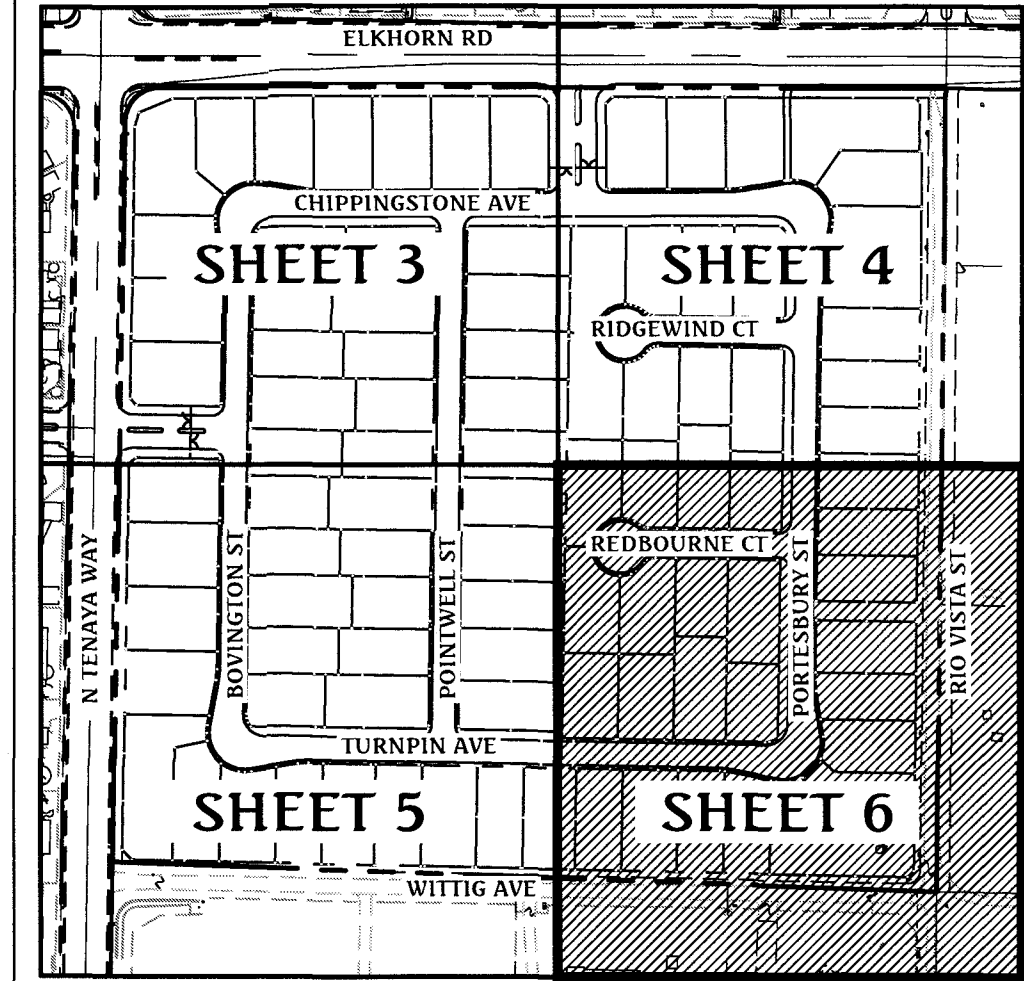
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KEY MAP

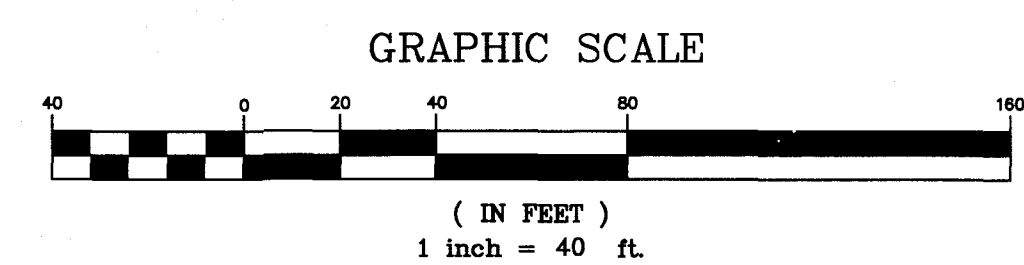
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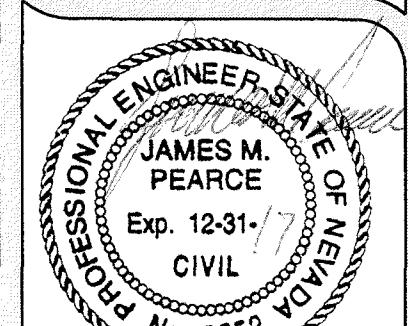
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DATE: 08/31/16
 PM: J. PEARCE
 DRAWN BY:
 DESIGNED BY:
 CHECKED BY:
 ADA CHECKED:
 JOB NO.: 007-108
 SCALE: 1"=40'

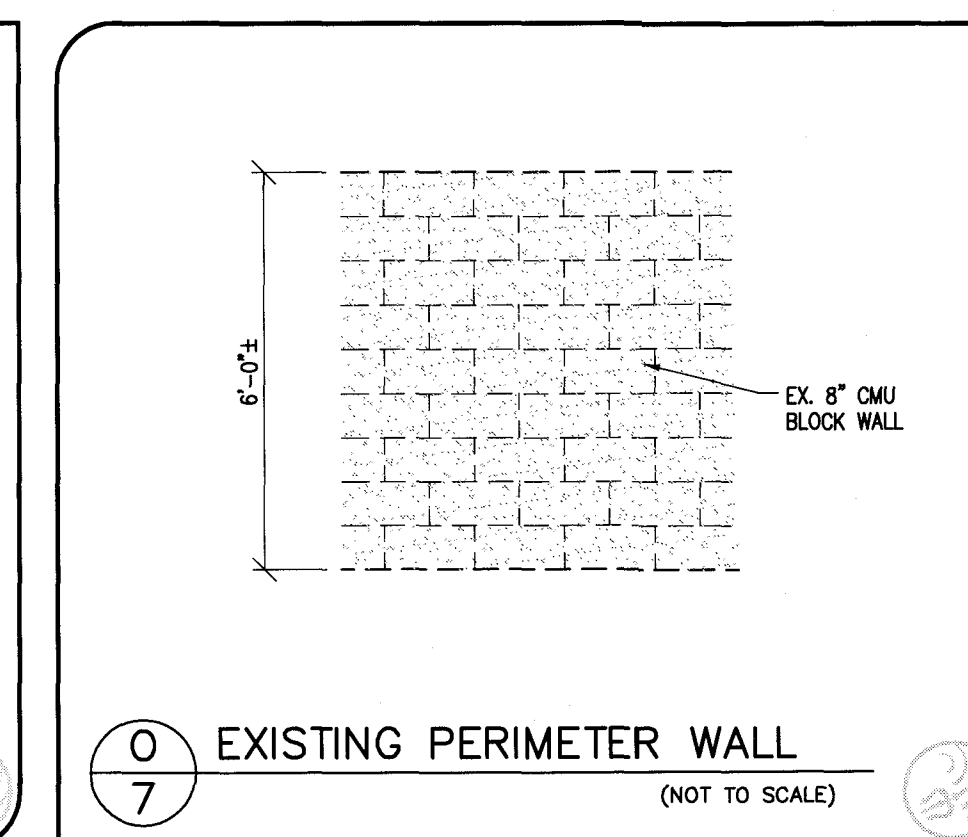
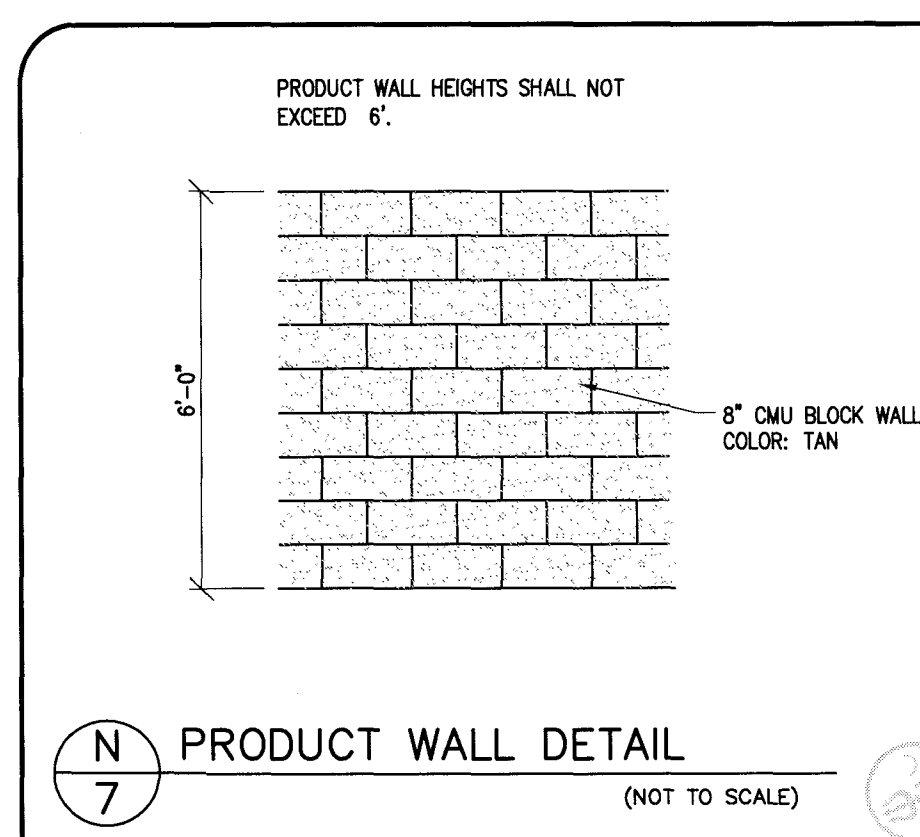
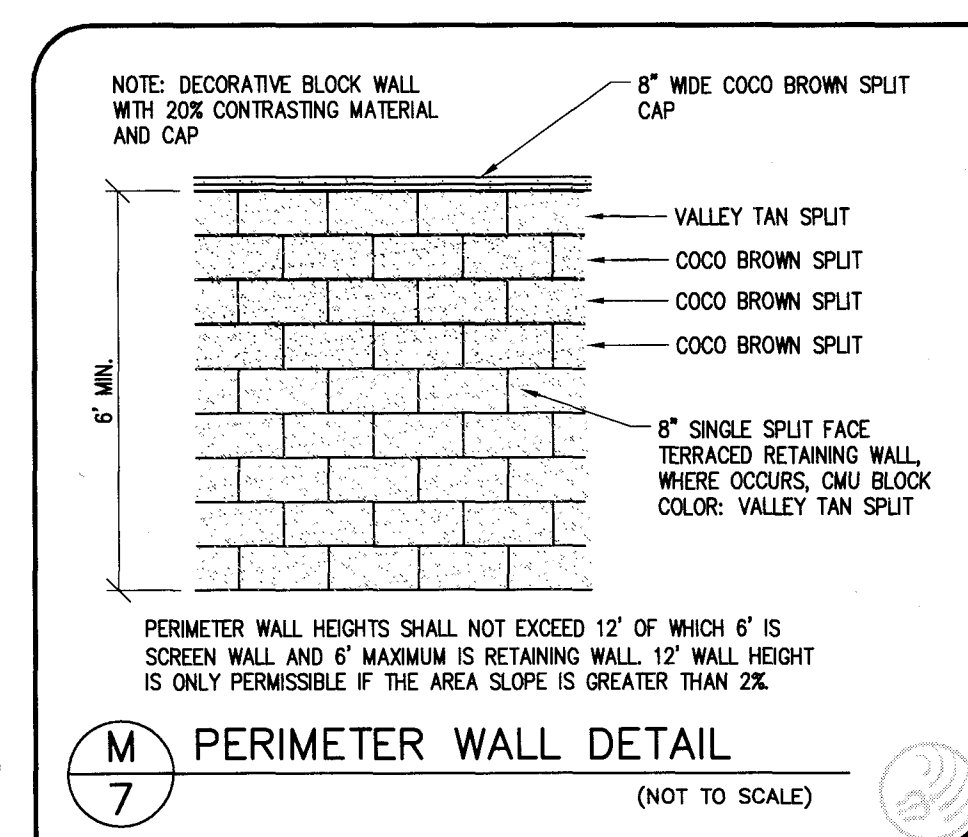
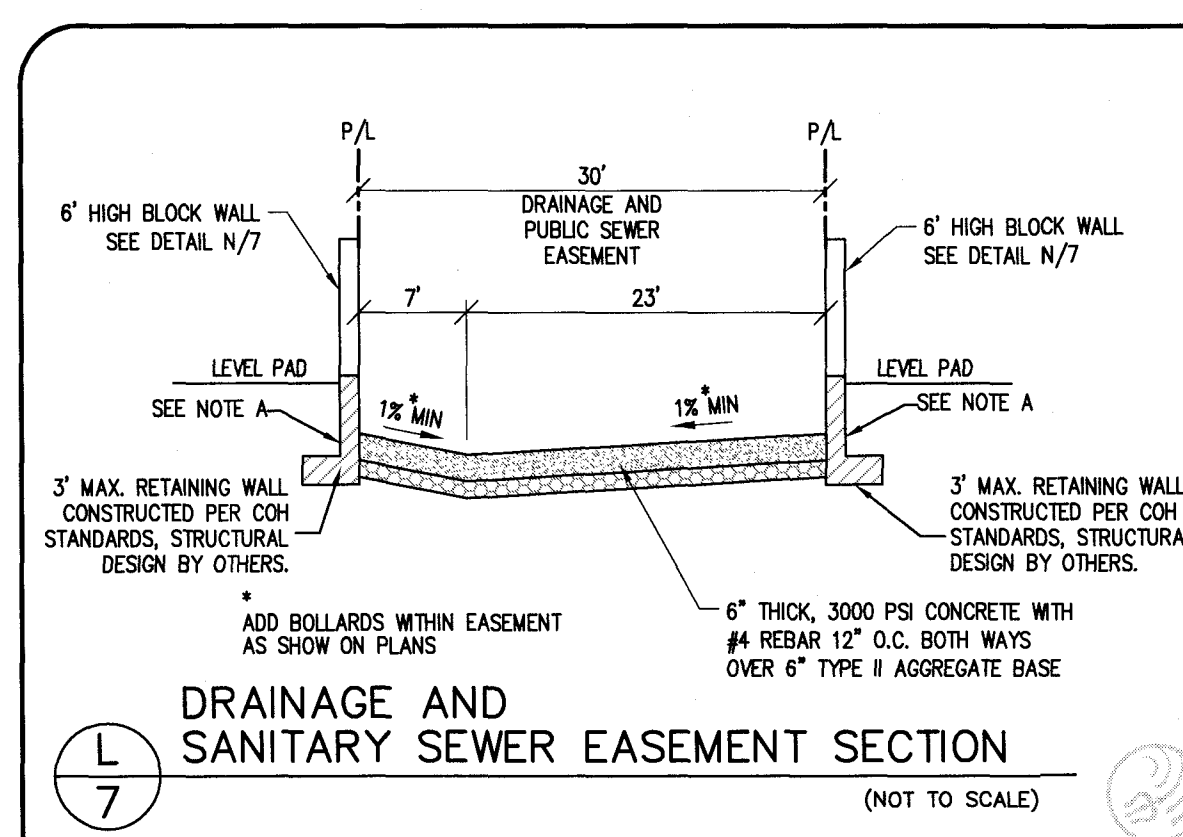
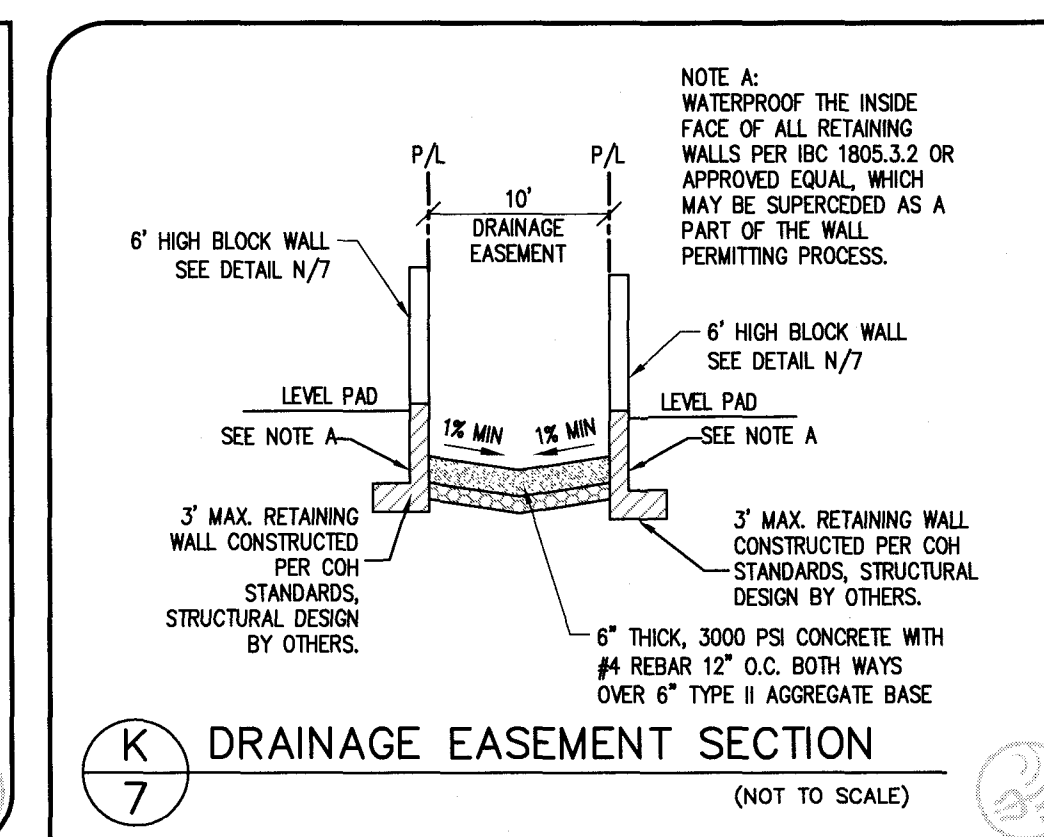
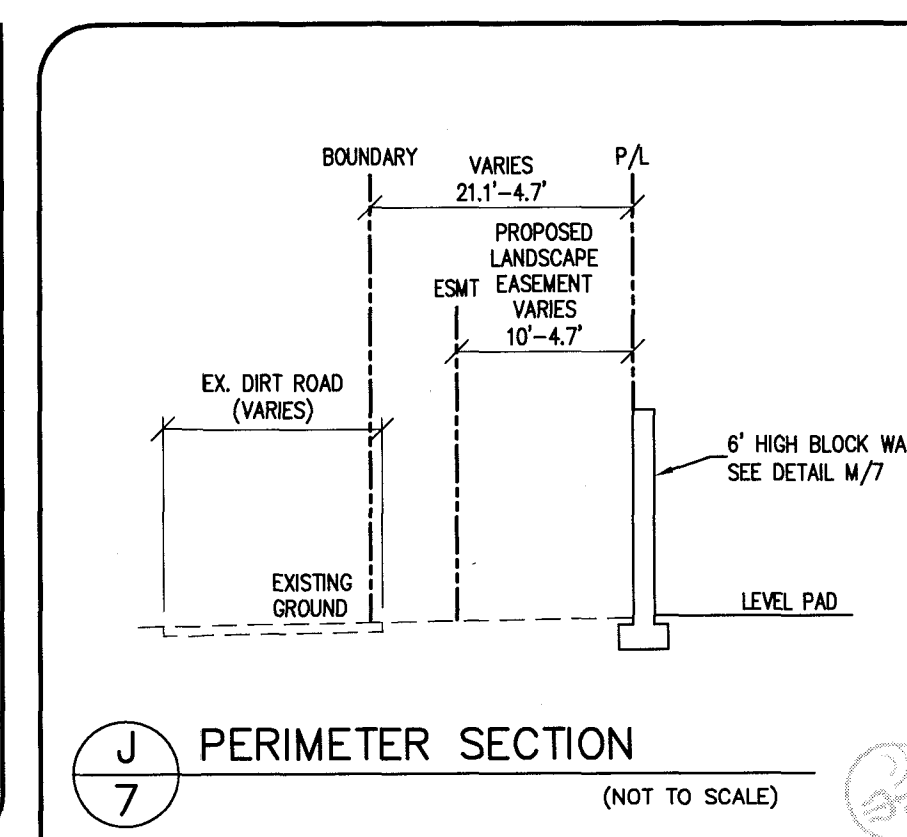
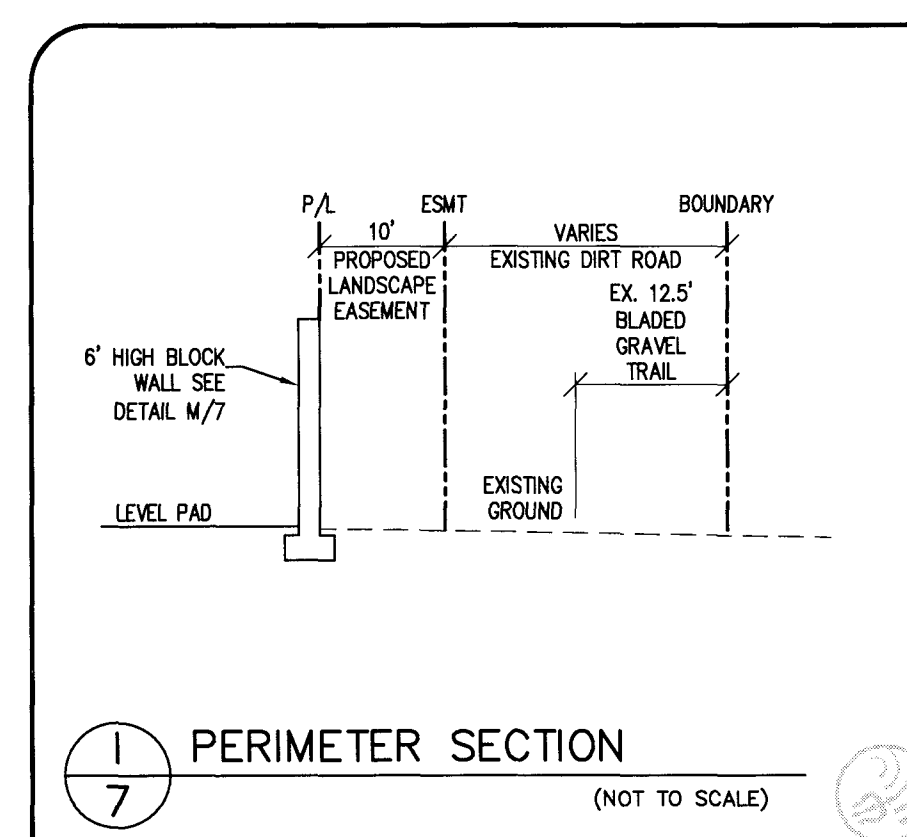
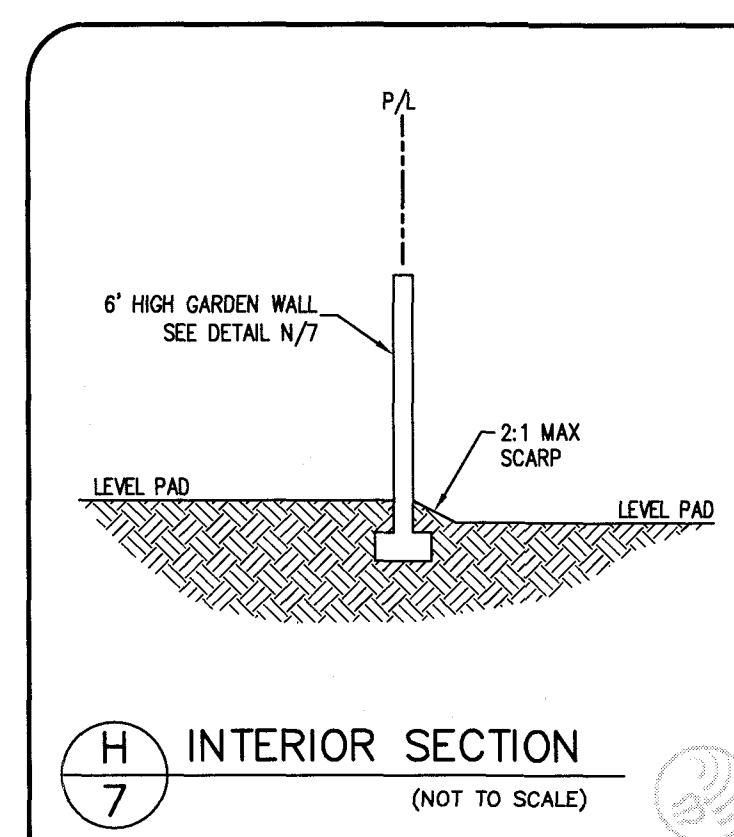
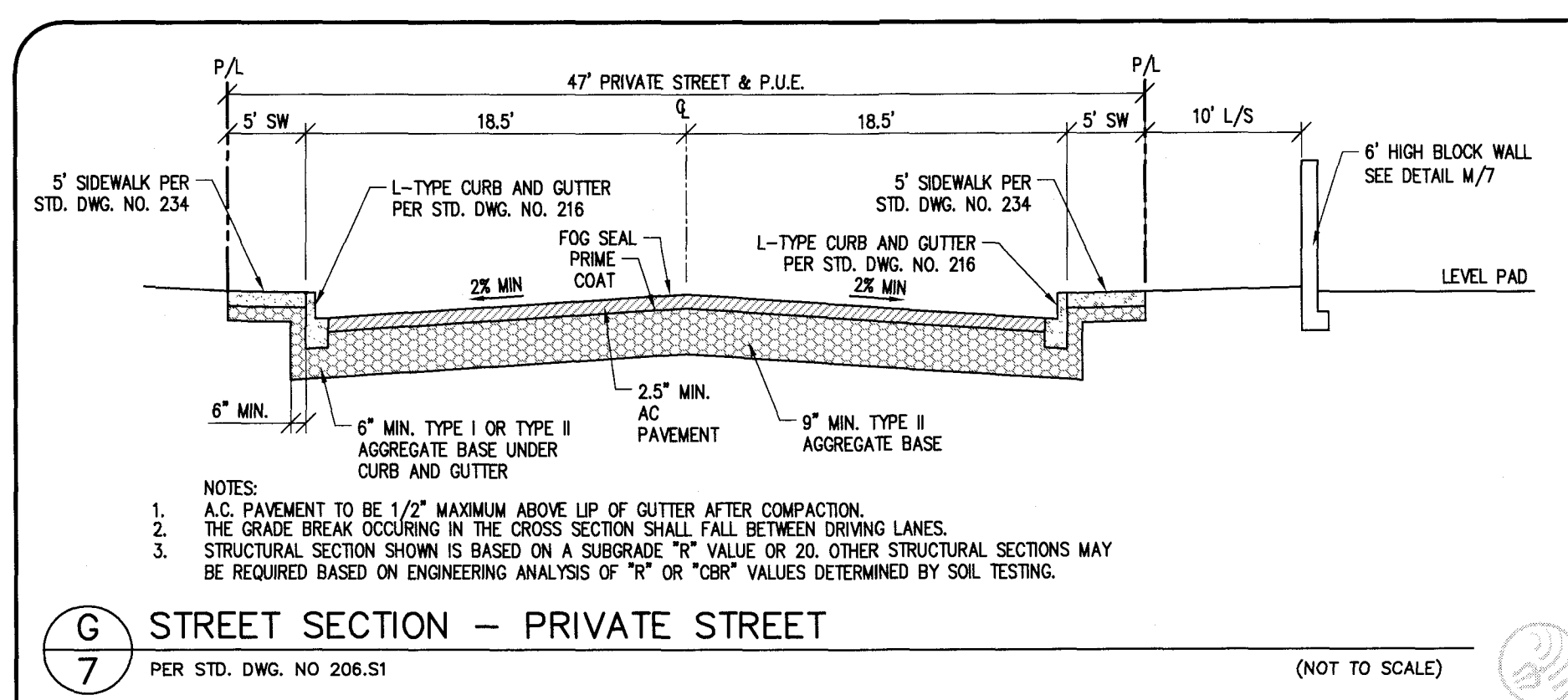
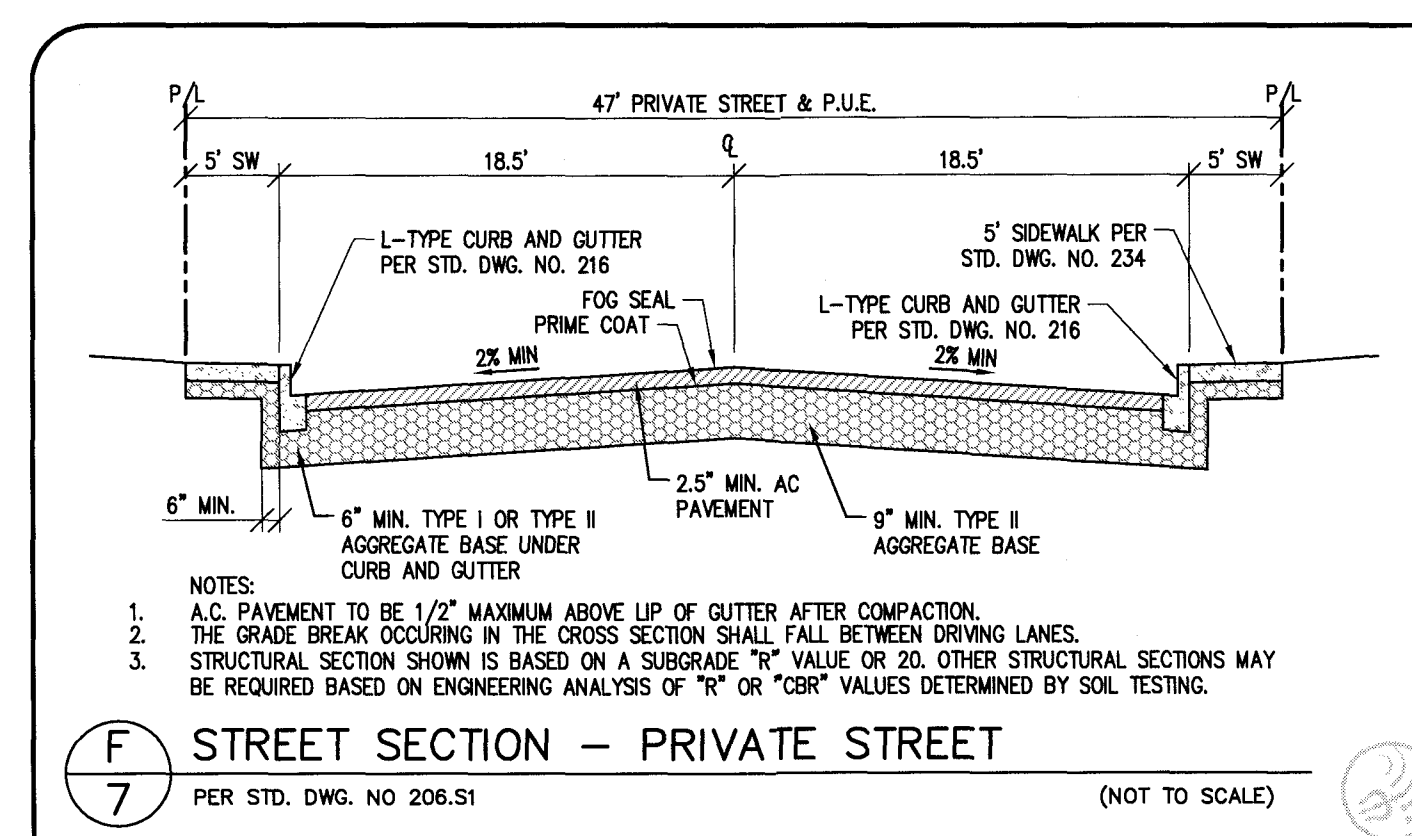
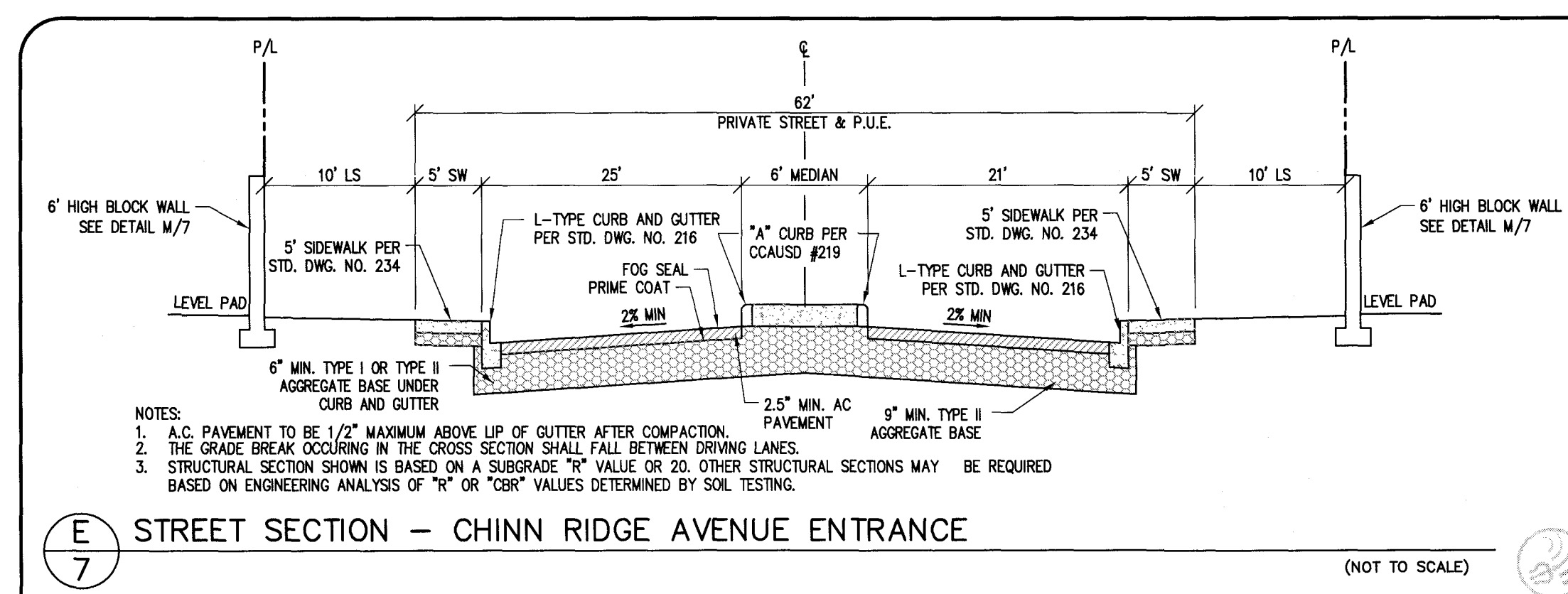
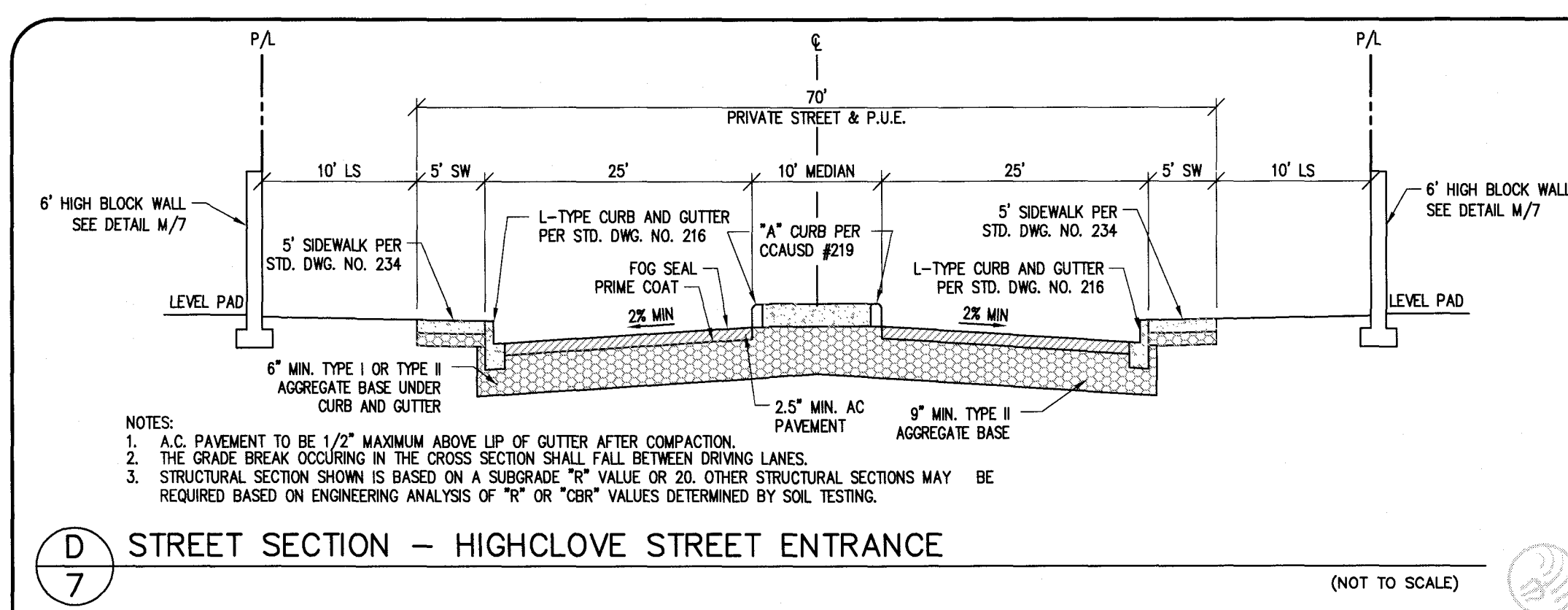
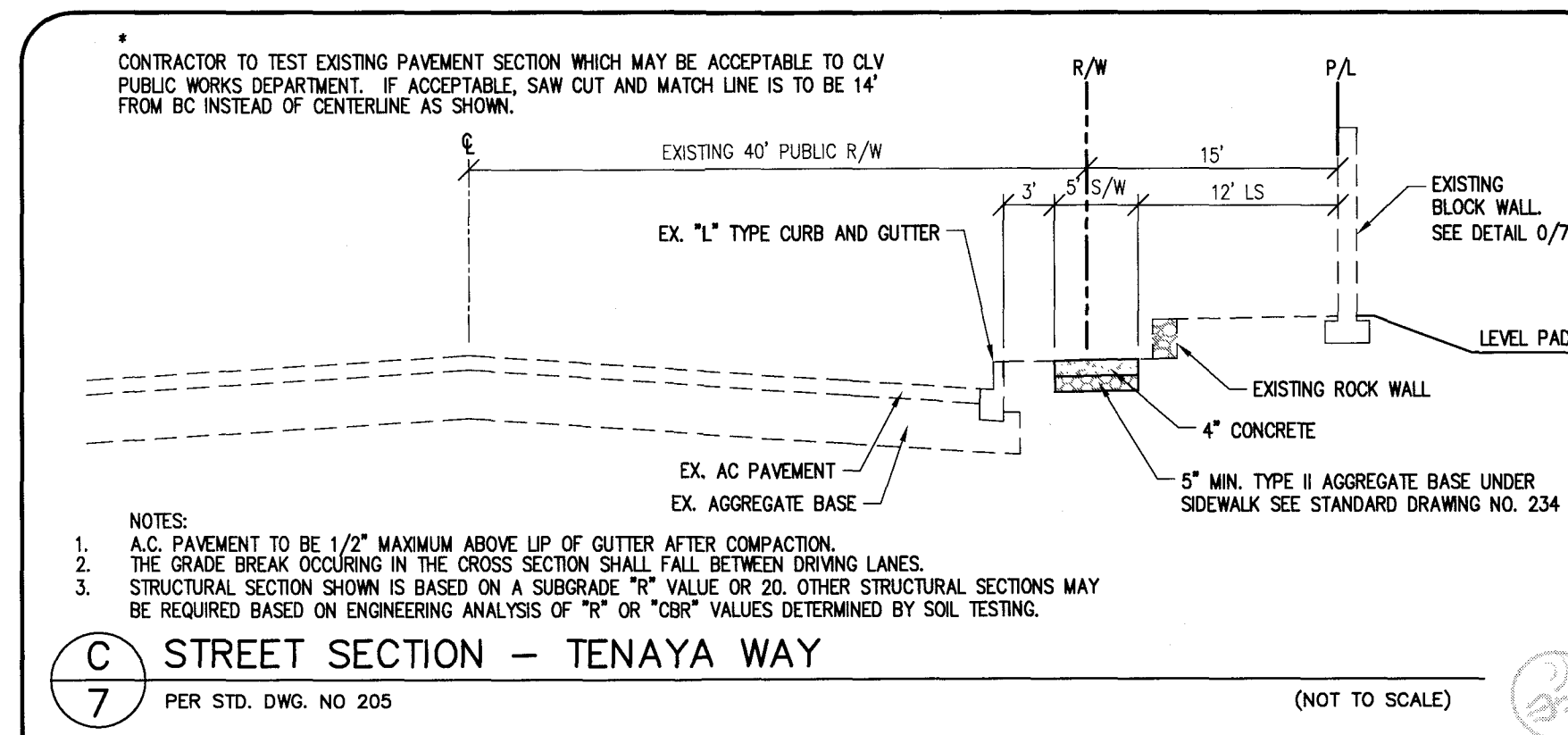
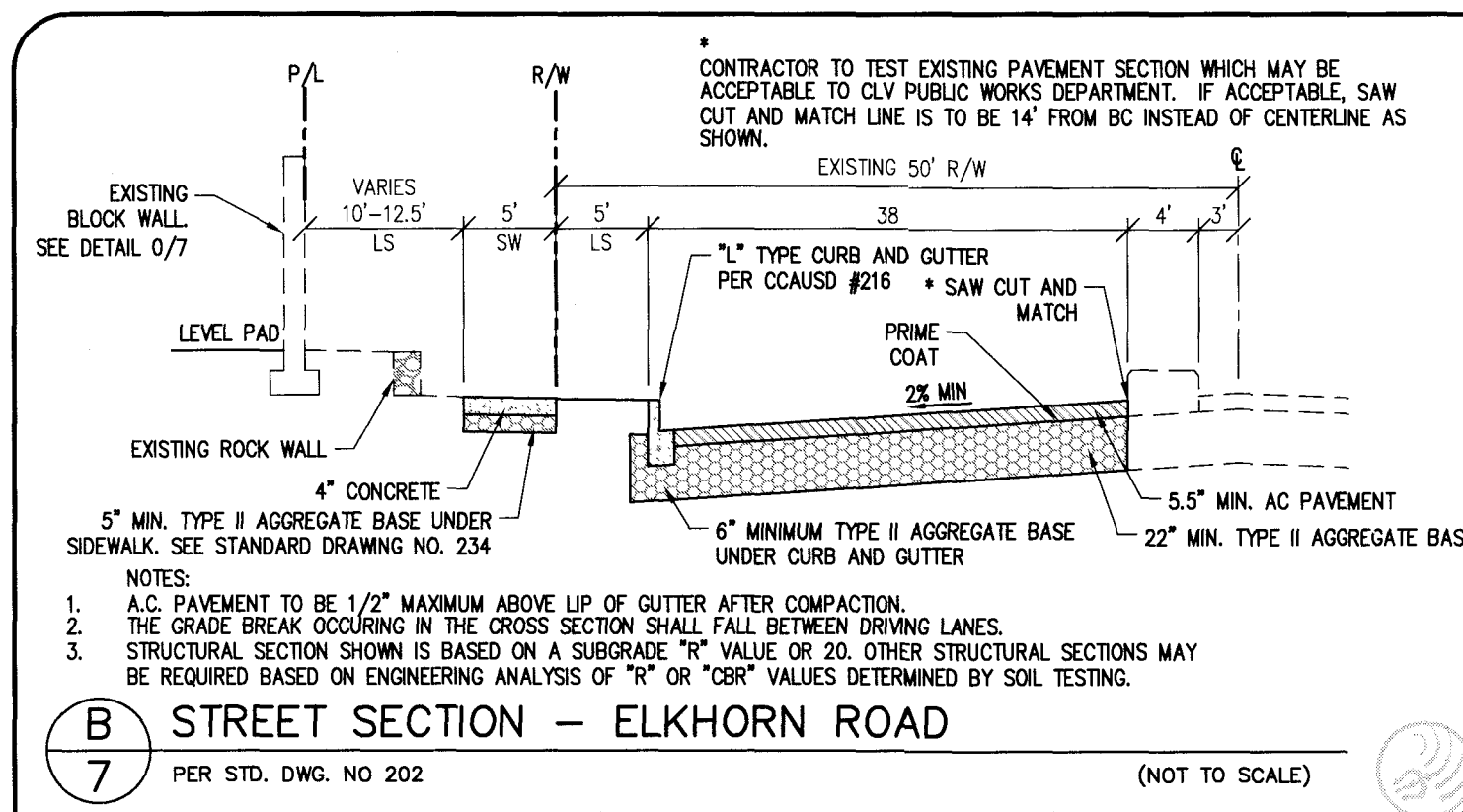
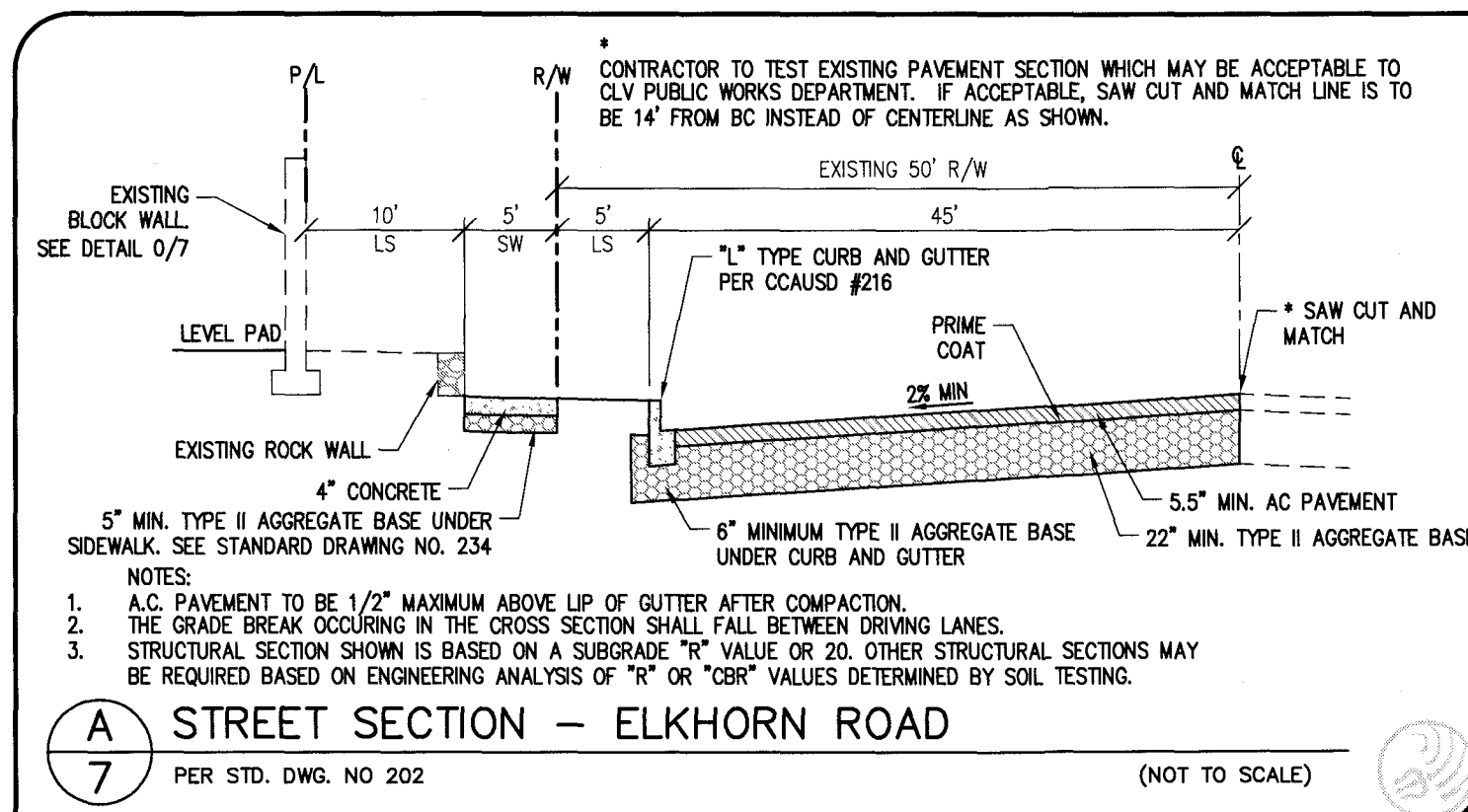
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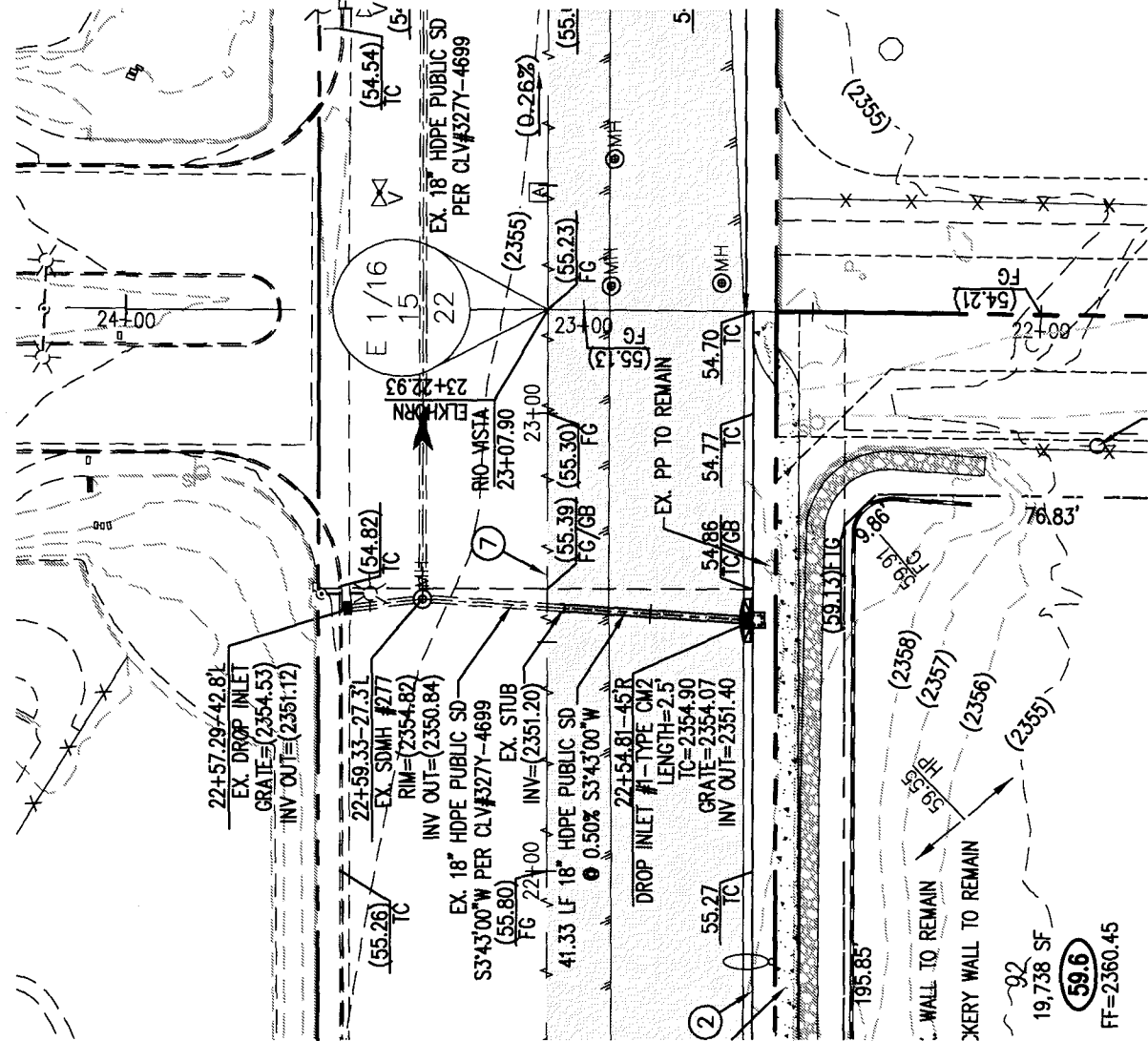
DR HORTON
 ELKHORN 40
 GRADING PLAN IV



SHEET 6 OF 24
 C.L.V. DWG.#



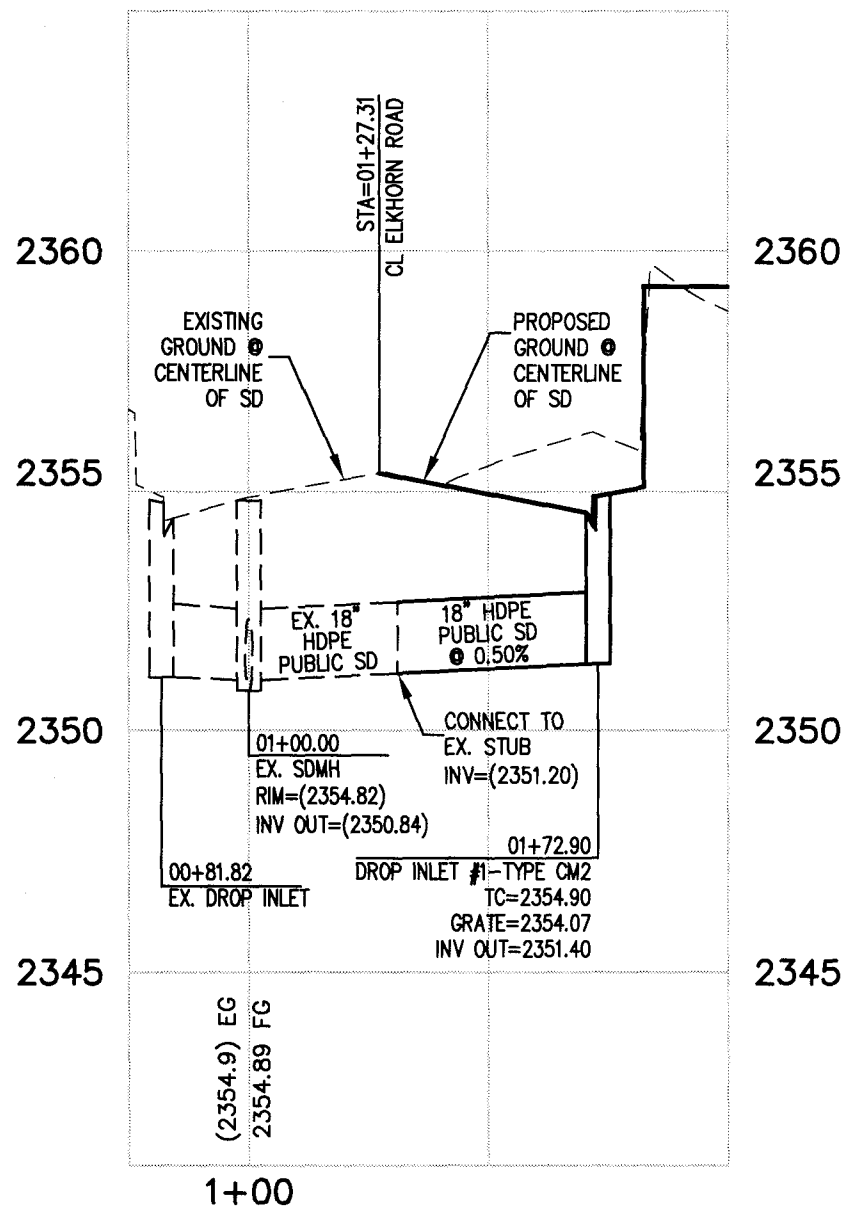
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STORM DRAIN (PUBLIC)

PLAN

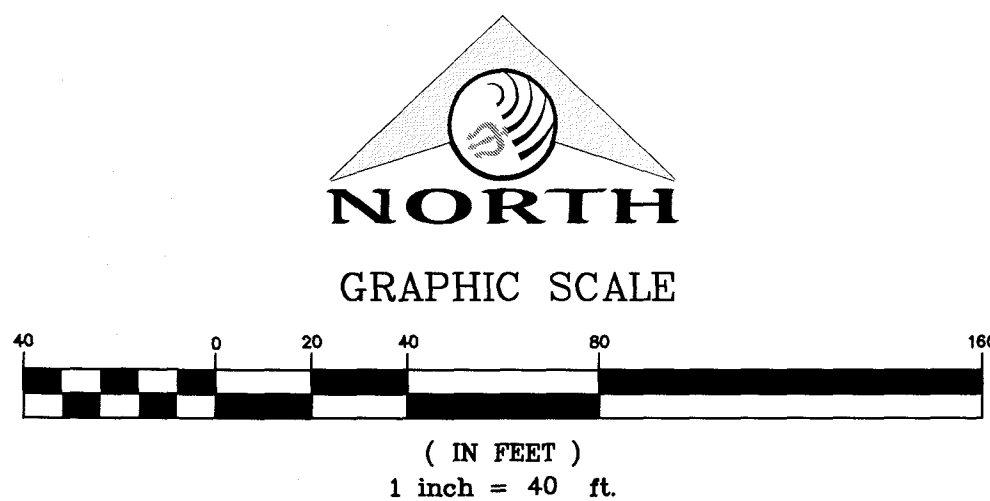
SCALE: HORIZ. 1" = 40'



STORM DRAIN (PUBLIC)

PROFILE

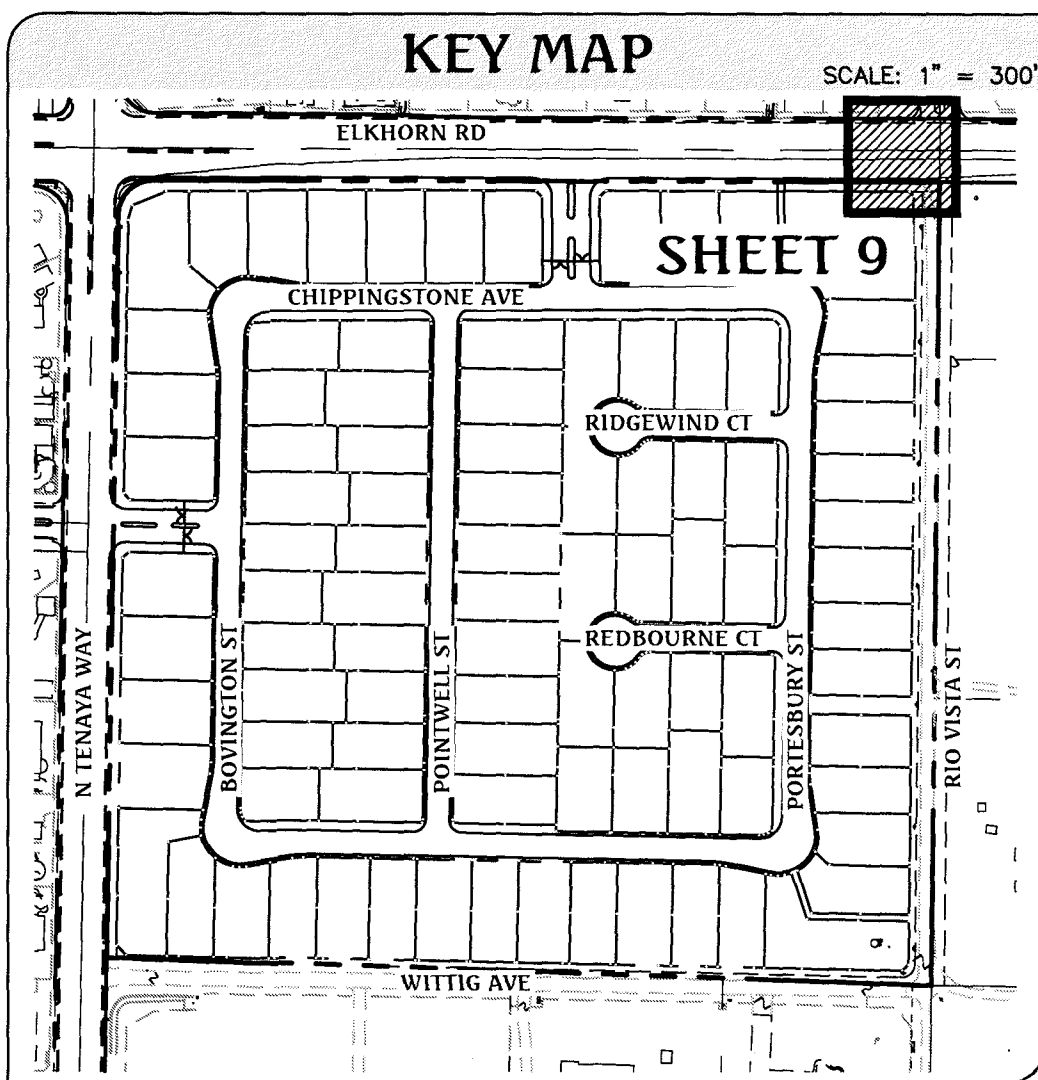
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VERT. 1" = 4'



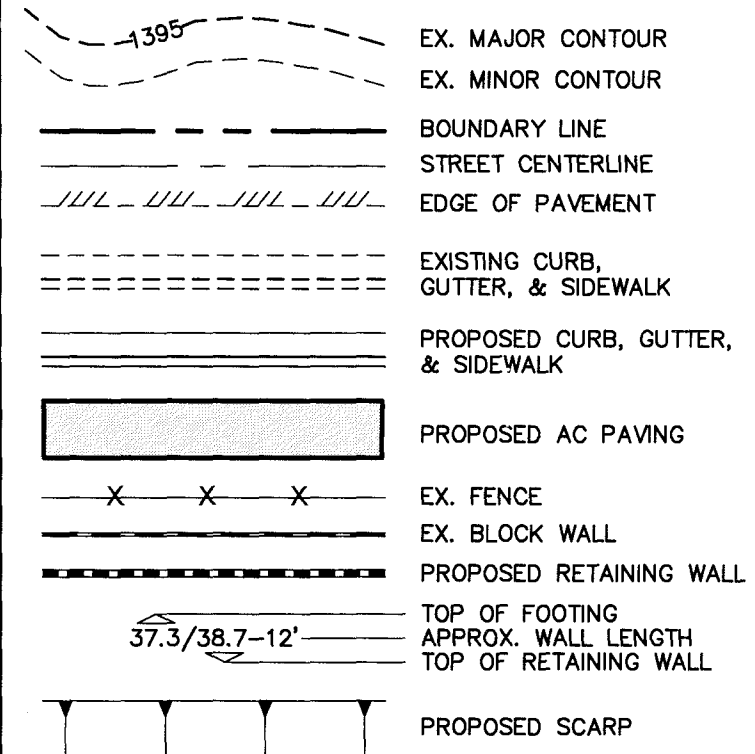
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GRADING LEGEND



CONSTRUCTION NOTES

1. CONSTRUCT 8' WIDE CROSS GUTTER, PER CCAUSD No. 228
2. CONSTRUCT "R" TYPE CURB AND GUTTER, PER CCAUSD No. 217.S2
3. CONSTRUCT 5' WIDE SIDEWALK, PER CCAUSD No. 234
4. CONSTRUCT "L" TYPE CURB AND GUTTER, PER CCAUSD No. 216
5. 5' TRANSITION FROM L-TYPE CURB/SPANDREL TO R-TYPE CURB
6. CONSTRUCT SIDEWALK RAMP USING ARMOR TILE PER CCAUSD No. 216
7. SAWCUT AND MATCH EXISTING ASPHALT
8. EXISTING CURB AND GUTTER TO REMAIN AND PROTECT IN PLACE
9. INSTALL REMOVABLE LOCKING BOLLARDS @ 5' O.C., PER DETAIL R, SHEET 8
10. CONSTRUCT SIDEWALK DRAIN, PER CCAUSD No. 236

BASIS OF BEARING

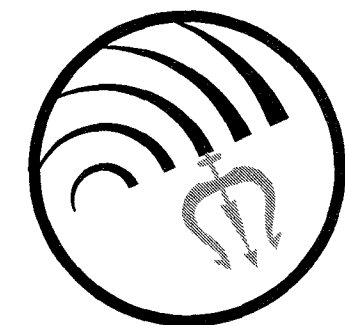
NORTH 00°56'37" EAST, BEING THE BEARING OF THE WEST LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE IN THE CLARK COUNTY RECORDER'S OFFICE IN FILE 163, PAGE 26 OF SURVEYS.

BENCHMARK

CLARK COUNTY BENCHMARK STATION: 6LV90 15SS68
RIVET AND PLATE IN TOP OF CURB AT THE NORTHWEST CORNER OF RIO VISTA AND ELKHORN ROAD.
ELEVATION = 717.800 METERS (NAVD'88 V.2003)
ELEVATION = 2354.98 US SURVEY FEET (NAVD'88 V.2003)

DATE	NO.	DESCRIPTION	DATE	APP'D
08/31/16				
PM: J. PEARCE				
DRAWN BY:				
DESIGNED BY:				
CHECKED BY:				
ADA CHECKED:				
JOB NO.: 007108				
SCALE: 1"=40'				

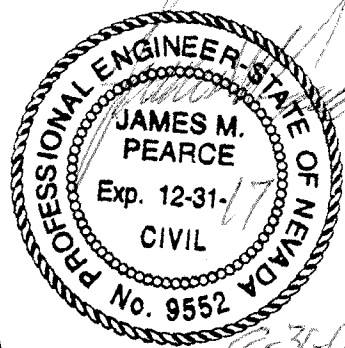
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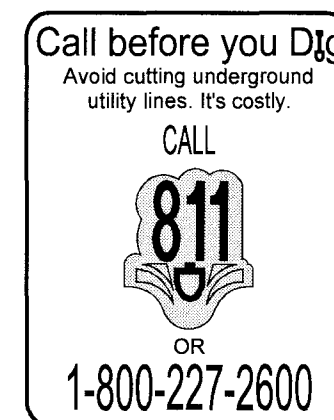
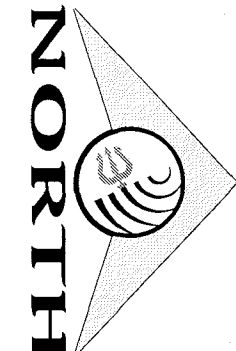
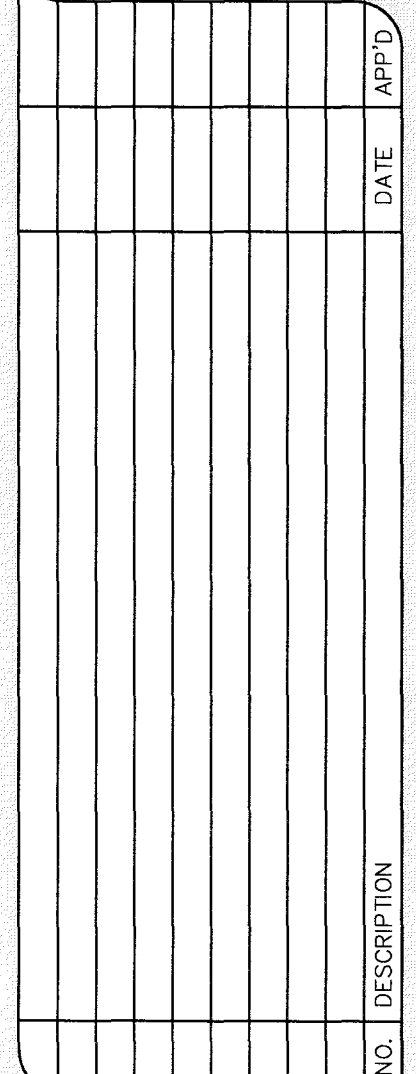
DR HORTON

ELKHORN 40

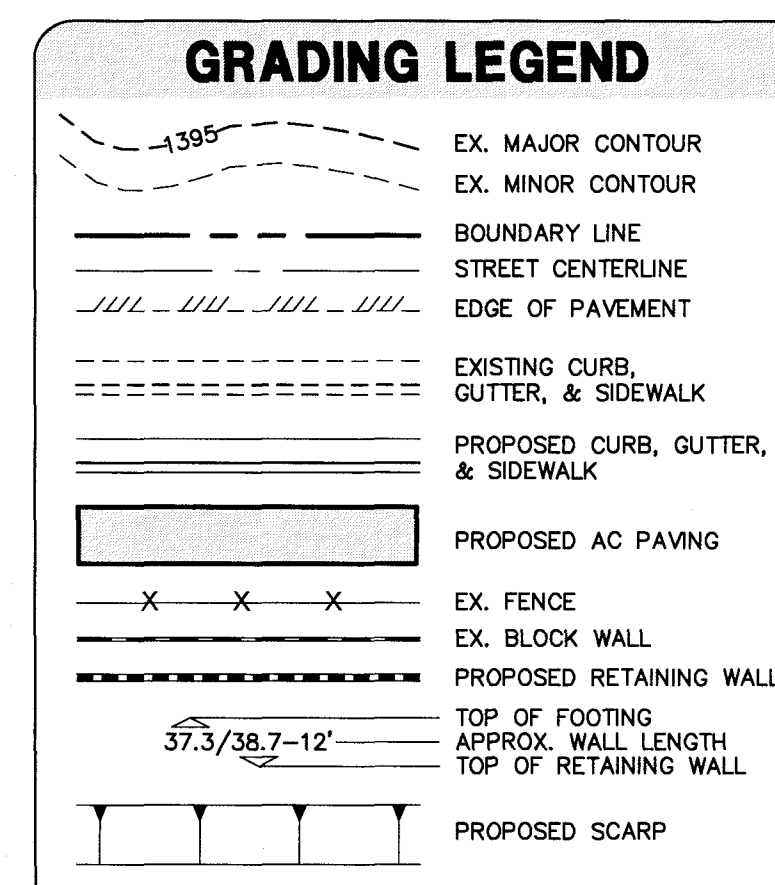
STORM DRAIN



SHEET **9** OF 24
C.L.V. DWG.#



- ## CONSTRUCTION NOTES
1. CONSTRUCT 8" WIDE CROSS GUTTER,
PER CCAUSD NO. 228
 2. CONSTRUCT "N" TYPE CURB AND GUTTER,
PER CCAUSD NO. 217.52
 3. CONSTRUCT 5" WIDE SIDEWALK,
PER CCAUSD NO. 235
 4. CONSTRUCT "L" TYPE CURB AND GUTTER,
PER CCAUSD NO. 216
 5. TRANSITION FROM L-TYPE CURB/SPANDREL TO
"N" TYPE CURB
 6. CONSTRUCT SIDEWALK RAMP USING ARMOR TILE
TRUNCATED DOMES OR EQUIVALENT,
PER CCAUSD NO. 235, CASE
 7. SAWCUT AND MATCH EXISTING ASPHALT
 8. EXISTING CURB AND GUTTER TO REMAIN AND
PROTECT IN PLACE
 9. INSTALL REMOVABLE LOCKING BOLLARDS @ 5'
O.C., PER DETAIL R, SHEET B
 10. CONSTRUCT SIDEWALK DRAIN
 11. CONSTRUCT NO. 236



- ## BASIS OF BEARING
- NORTH 00°56'37" EAST, BEING THE BEARING OF THE WEST LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE IN THE CLARK COUNTY RECORDER'S OFFICE IN FILE 163, PAGE 26 OF SURVEYS.

- BENCHMARK**
CLARK COUNTY BENCHMARK STATION: 6LV90 15S5E6
RIVET AND PLATE IN TOP OF CURB AT THE NORTHWEST
CORNER OF RIO VISTA AND ELKHORN ROAD.
ELEVATION = 717.800 METERS (NAVD'88 V.2003)
ELEVATION = 2354.98 US SURVEY FEET (NAVD'88 V.2003)

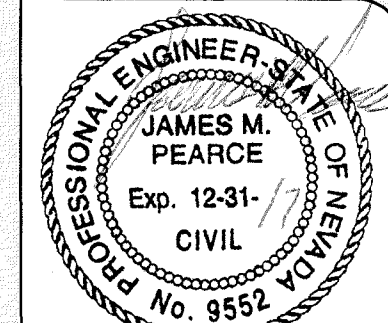
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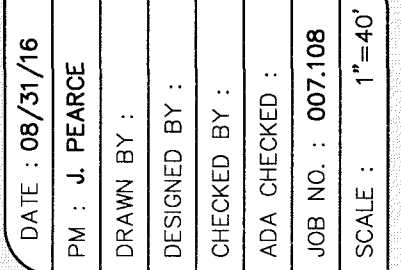
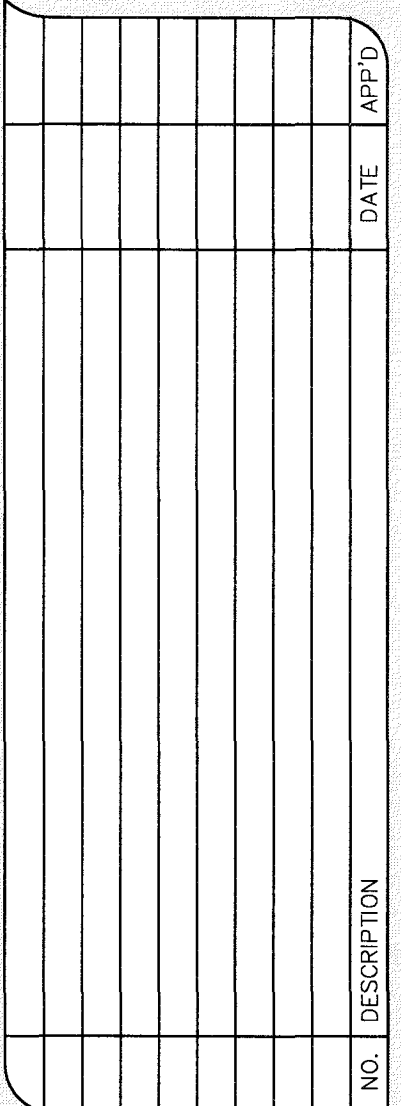
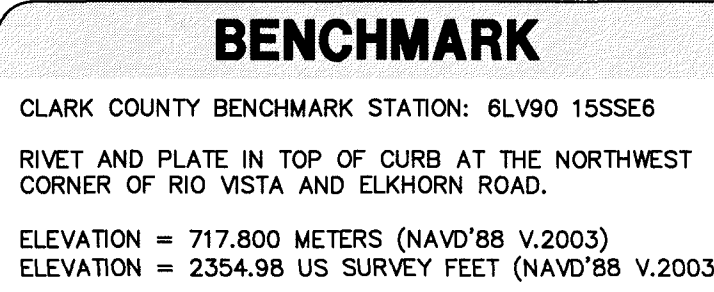
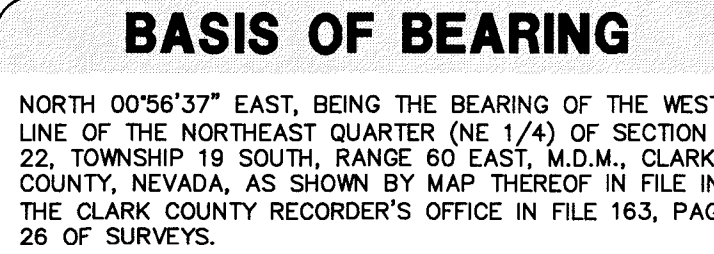
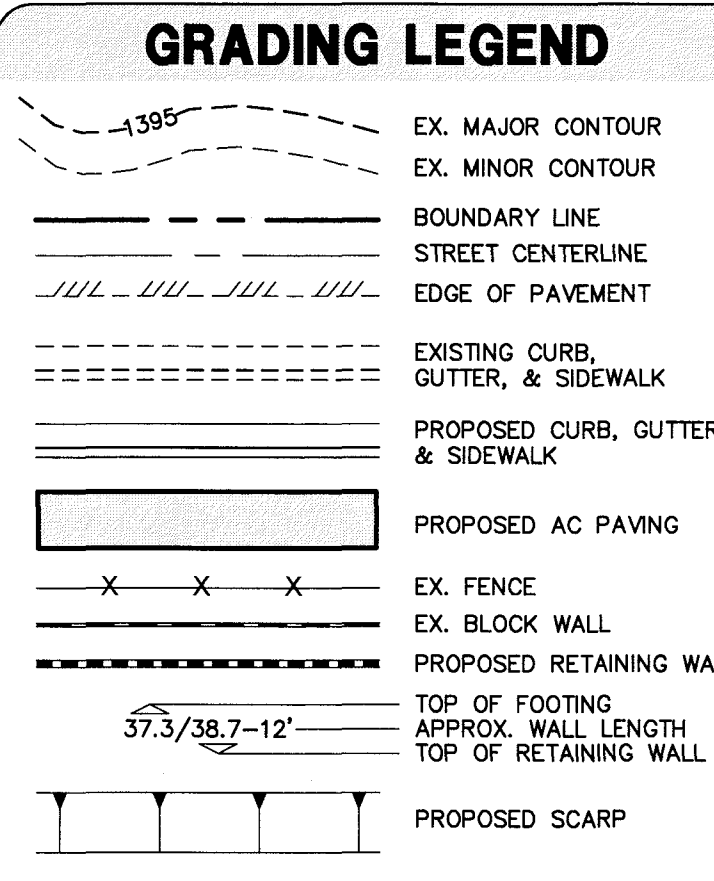
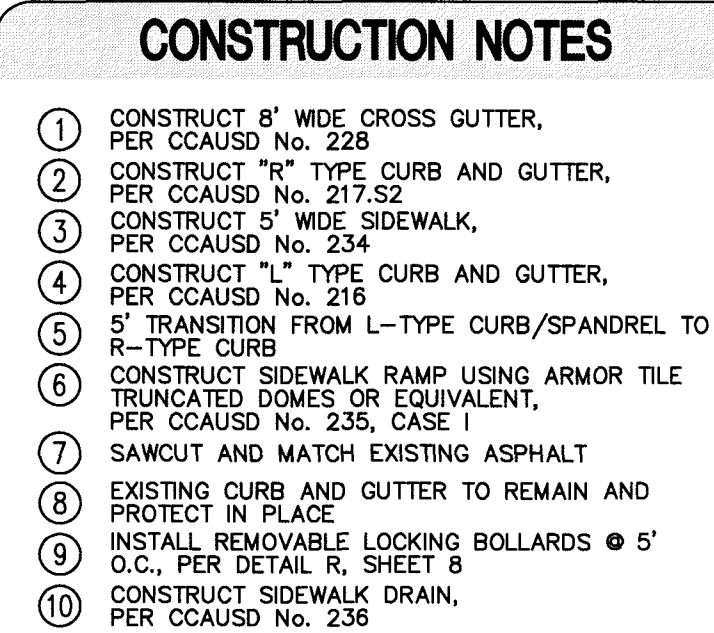
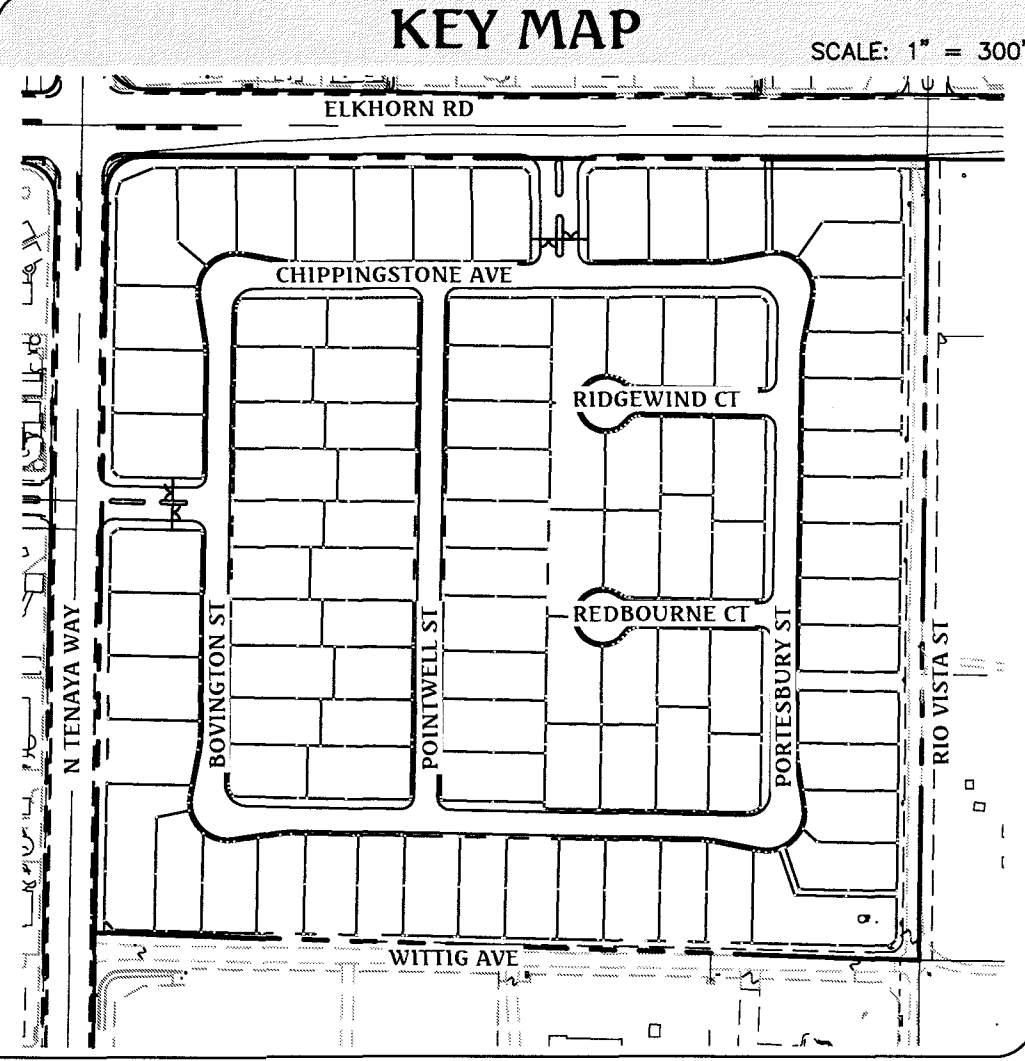
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ELKHORN 40	



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PROFESSIONAL ENGINEER-STATE OF NEVADA

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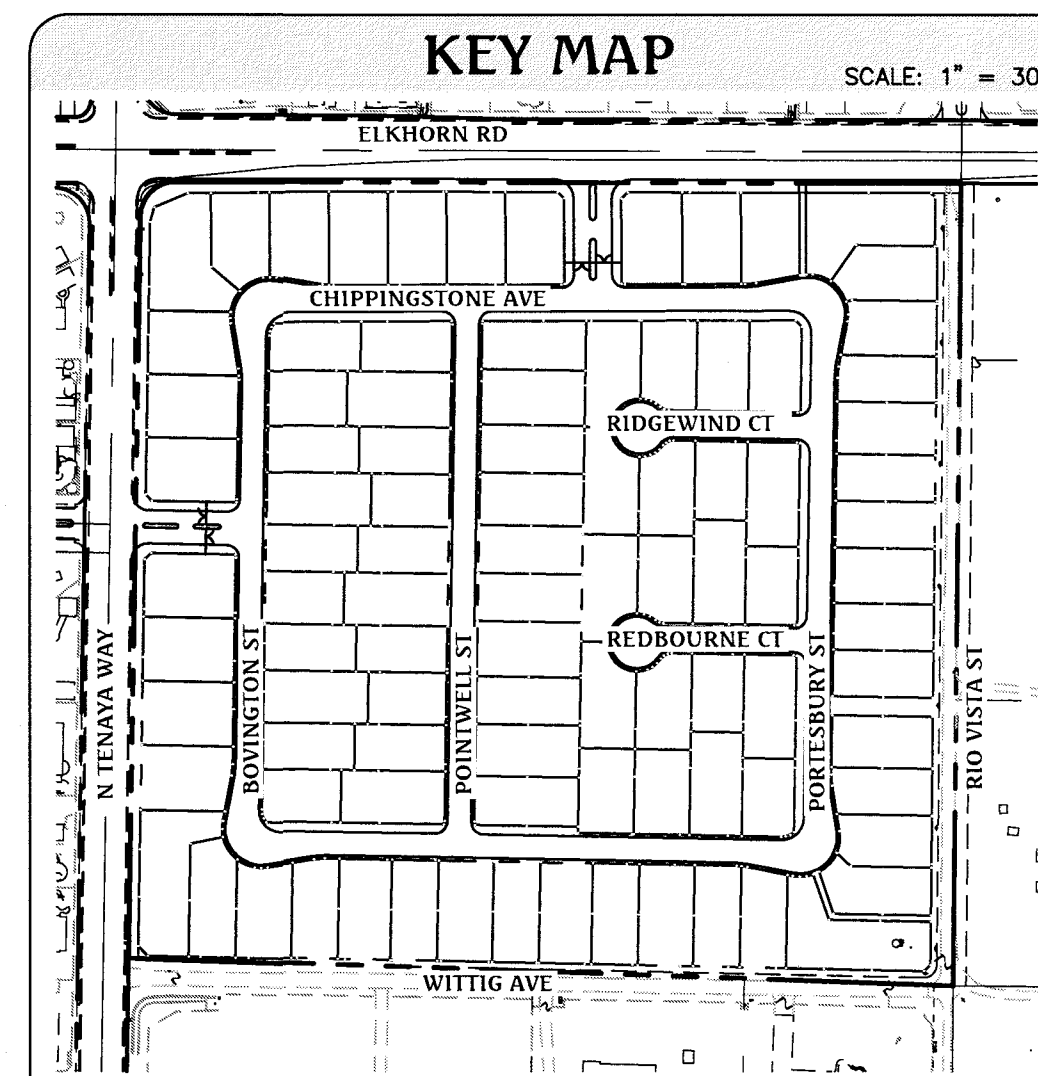
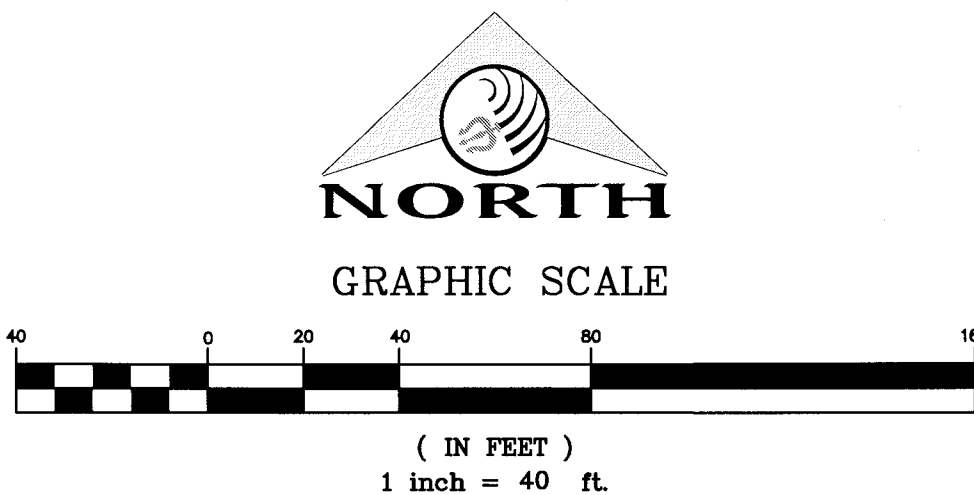
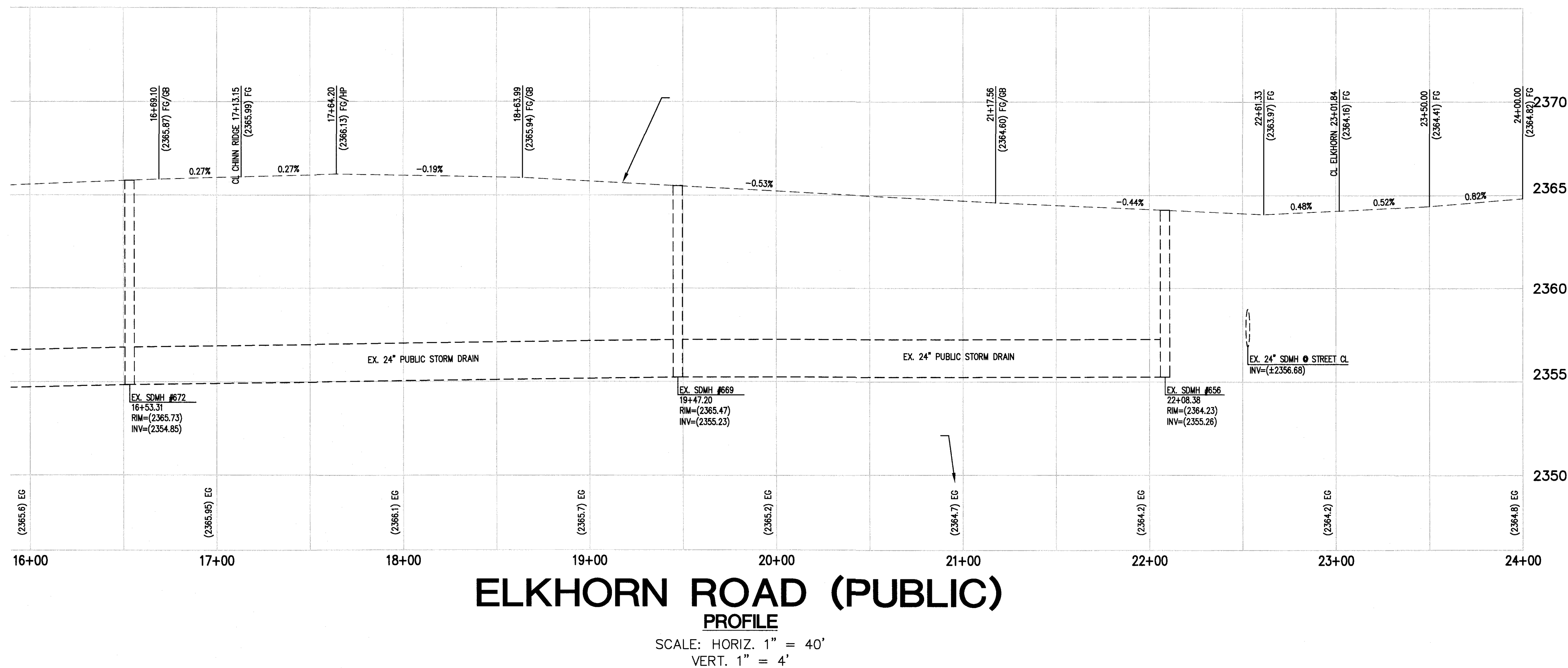
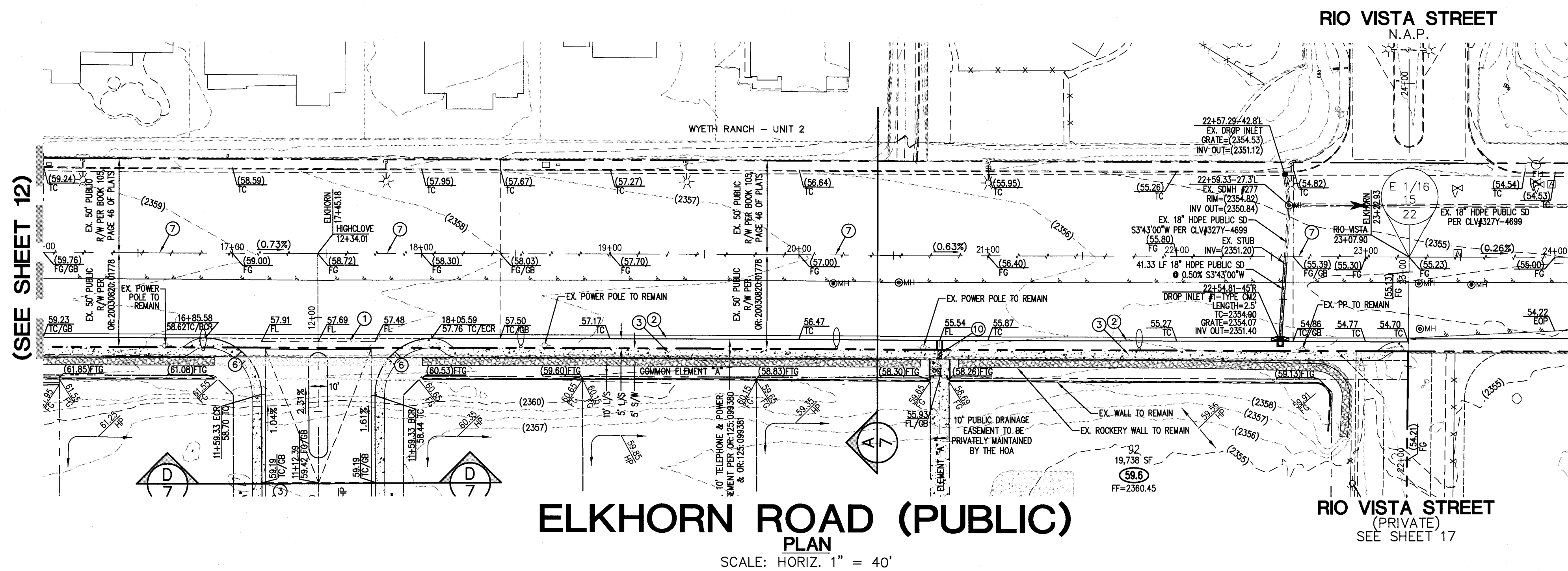
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SHEET **11** OF 24

C.L.V. DWG.#

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- CONSTRUCTION NOTES**
1. CONSTRUCT 8' WIDE CROSS GUTTER, PER CCAUSD No. 228
 2. CONSTRUCT "R" TYPE CURB AND GUTTER, PER CCAUSD No. 217-S2
 3. CONSTRUCT 5' WIDE SIDEWALK, PER CCAUSD No. 234
 4. CONSTRUCT "L" TYPE CURB AND GUTTER, PER CCAUSD No. 216
 5. 5' TRANSITION FROM L-TYPE CURB/SPANDREL TO R-TYPE CURB
 6. CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT, PER CCAUSD No. 235, CASE 1
 7. SAWCUT AND MATCH EXISTING ASPHALT
 8. EXISTING CURB AND GUTTER TO REMAIN AND PROTECT IN PLACE
 9. INSTALL REMOVABLE LOCKING BOLLARDS @ 5' O.C. PER DETAIL R, SHEET 8
 10. CONSTRUCT SIDEWALK DRAIN, PER CCAUSD No. 236

- GRADING LEGEND**
- EX. MAJOR CONTOUR
 - EX. MINOR CONTOUR
 - BOUNDARY LINE
 - STREET CENTERLINE
 - EDGE OF PAVEMENT
 - EXISTING CURB, GUTTER, & SIDEWALK
 - PROPOSED CURB, GUTTER, & SIDEWALK
 - PROPOSED AC PAVING
 - EX. FENCE
 - EX. BLOCK WALL
 - PROPOSED RETAINING WALL
 - TOP OF FOOTING
 - APPROX. WALL LENGTH
 - TOP OF RETAINING WALL
 - PROPOSED SCARP

BASIS OF BEARING

NORTH 00°56'37" EAST, BEING THE BEARING OF THE WEST LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE IN THE CLARK COUNTY RECORDER'S OFFICE IN FILE 163, PAGE 26 OF SURVEYS.

BENCHMARK

CLARK COUNTY BENCHMARK STATION: 6LV90 15SSE6

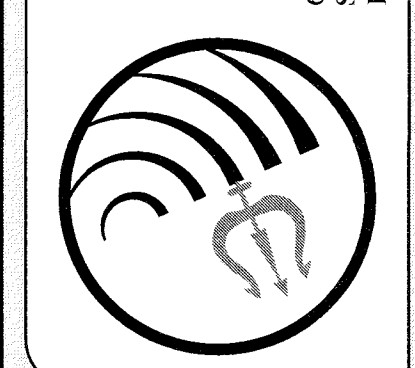
RIVET AND PLATE IN TOP OF CURB AT THE NORTHWEST CORNER OF RIO VISTA AND ELKHORN ROAD.

ELEVATION = 717.800 METERS (NAVD'88 V.2003)
ELEVATION = 2354.98 US SURVEY FEET (NAVD'88 V.2003)

DATE: 08/21/16
PM: J. PEARCE
DRAWN BY:
DESIGNED BY:
CHECKED BY:
ADA CHECKED:
JOB NO.: 007108
SCALE: 1"=40'

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SHEET 13 OF 24
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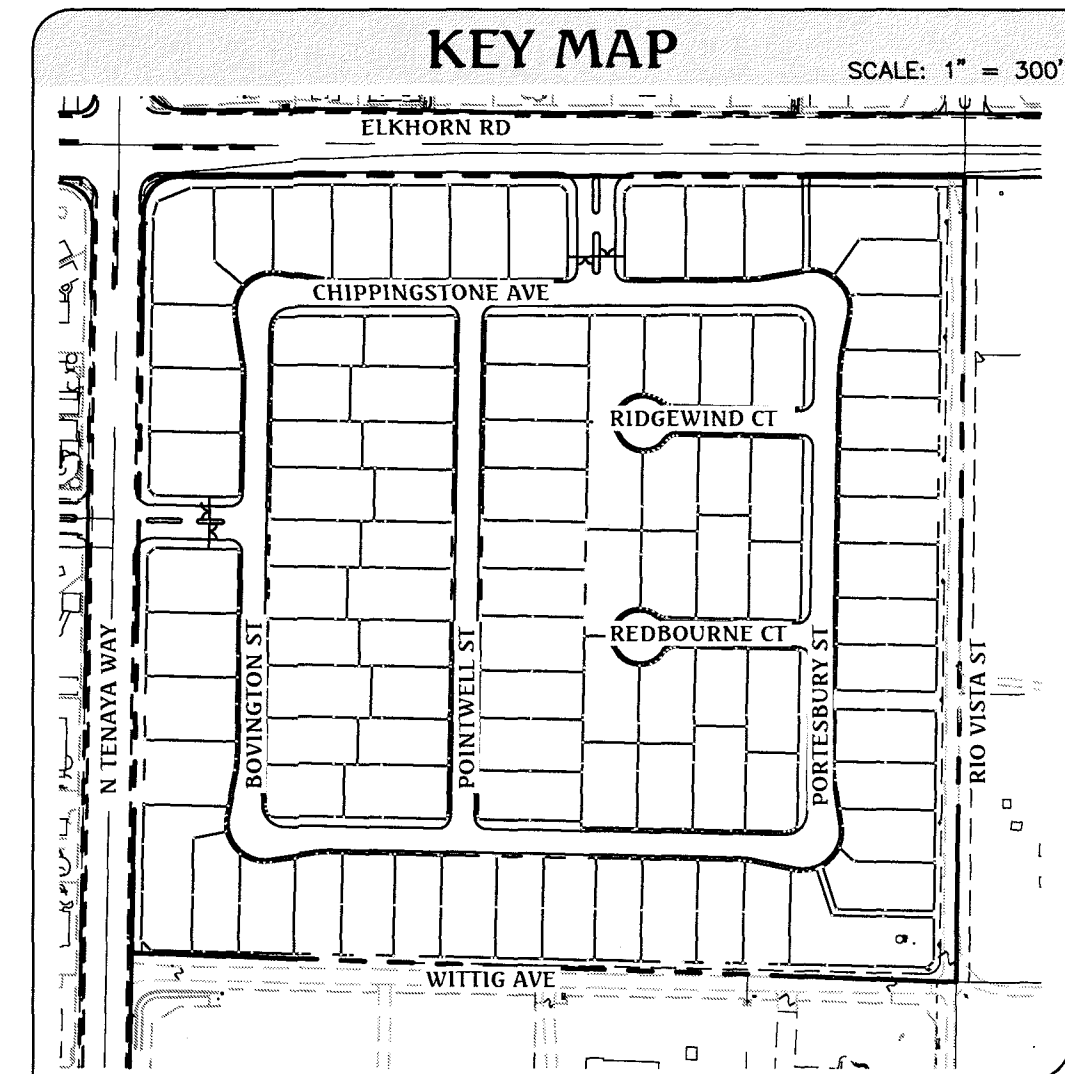
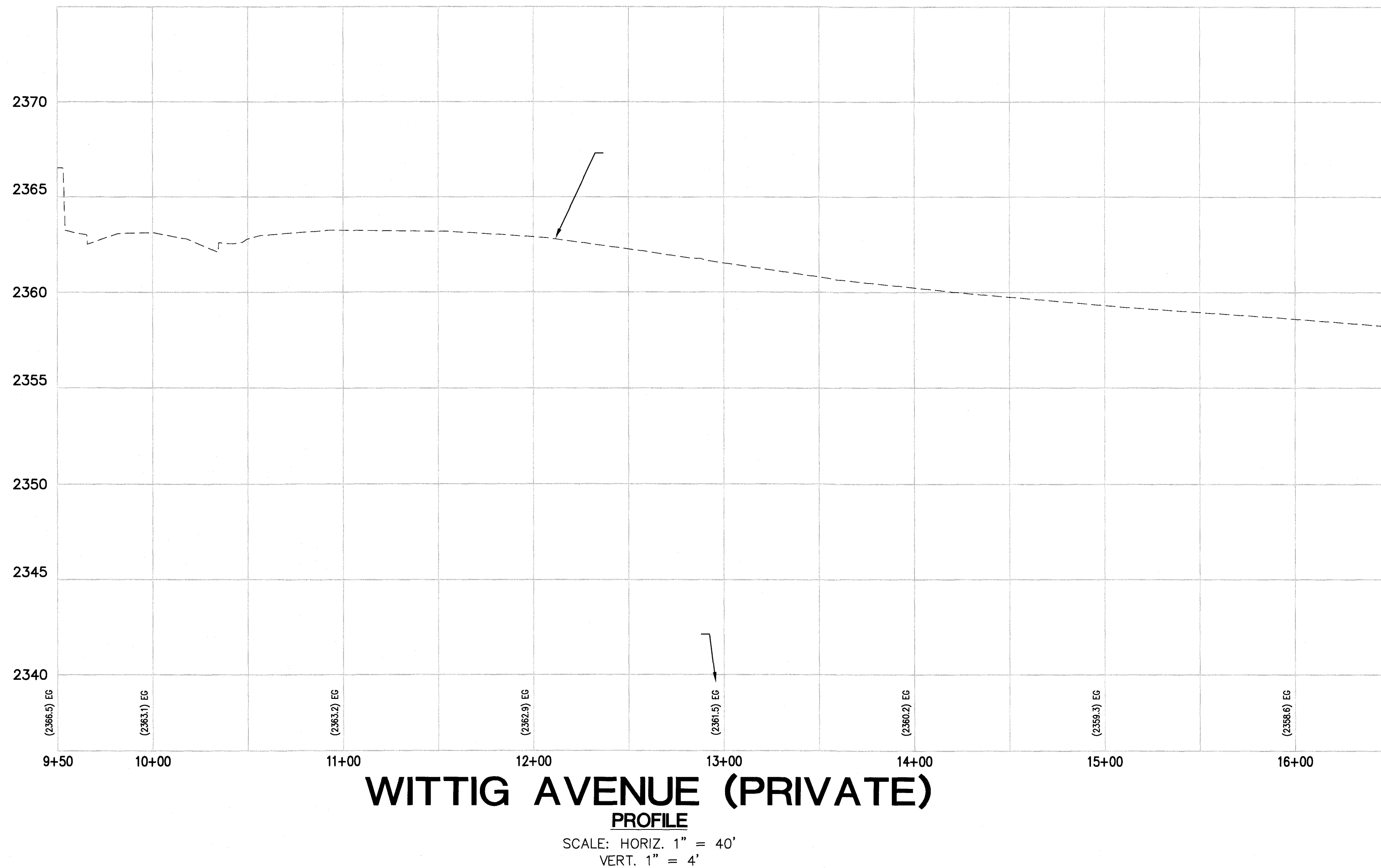
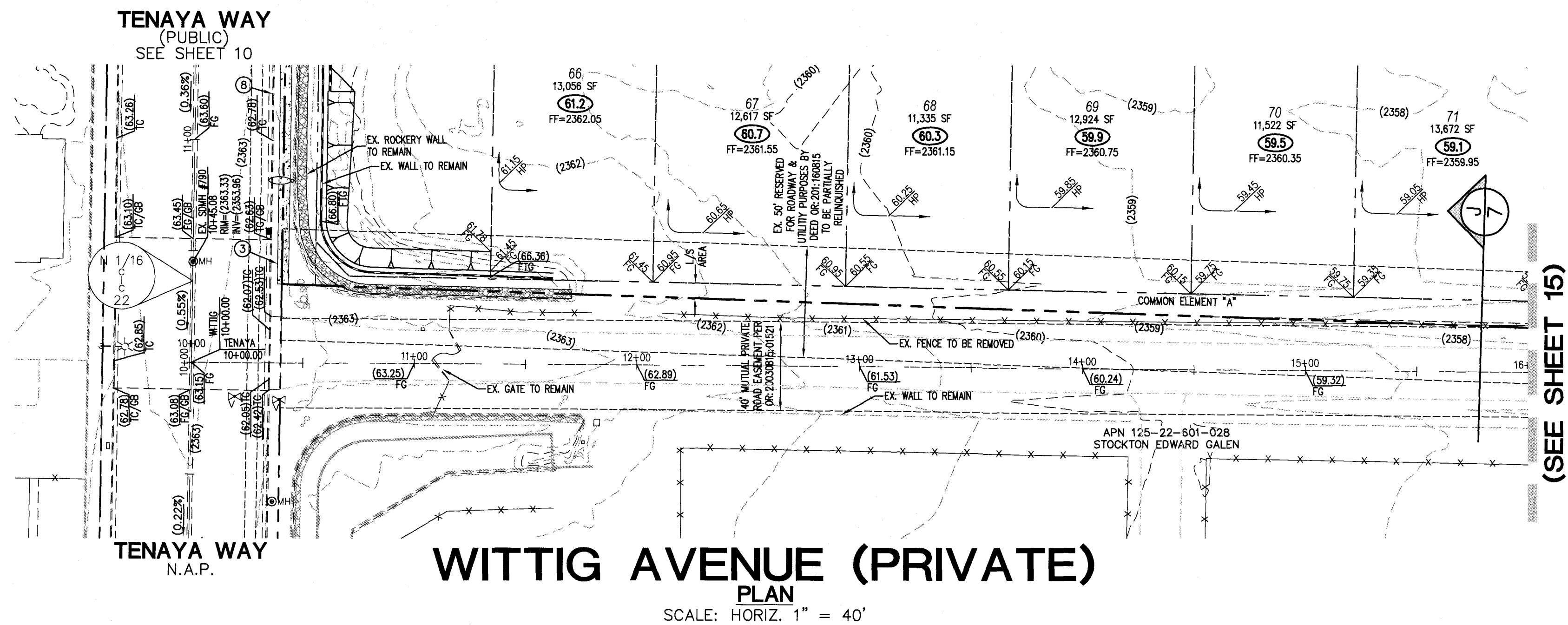
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CONSTRUCTION NOTES

1. CONSTRUCT 8" WIDE CROSS GUTTER, PER CCAUSD No. 228
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4. CONSTRUCT "L" TYPE CURB AND GUTTER, PER CCAUSD No. 216
5. "S" TRANSITION FROM L-TYPE CURB/SPANDREL TO R-TYPE CURB
6. CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT, PER CCAUSD No. 235, CASE 1
7. SAWCUT AND MATCH EXISTING ASPHALT
8. EXISTING CURB AND GUTTER TO REMAIN AND PROTECT IN PLACE
9. INSTALL REMOVABLE LOCKING BOLLARDS @ 5' O.C., PER DETAIL R, SHEET 5
10. CONSTRUCT SIDEWALK DRAIN, PER CCAUSD No. 236

GRADING LEGEND

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- BOUNDARY LINE
- STREET CENTERLINE
- EDGE OF PAVEMENT
- EXISTING CURB, GUTTER, & SIDEWALK
- PROPOSED CURB, GUTTER, & SIDEWALK
- PROPOSED AC PAVING
- EX. FENCE
- EX. BLOCK WALL
- PROPOSED RETAINING WALL
- TOP OF FOOTING
- APPROX. WALL LENGTH
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BASIS OF BEARING

NORTH 00°56'37" EAST, BEING THE BEARING OF THE WEST LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE IN THE CLARK COUNTY RECORDER'S OFFICE IN FILE 163, PAGE 26 OF SURVEYS.

BENCHMARK

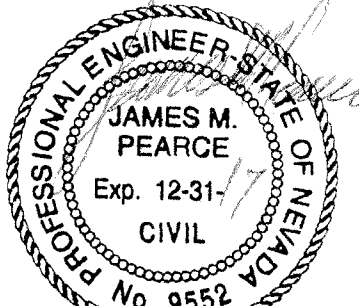
CLARK COUNTY BENCHMARK STATION: 6LV90 15SSE6
RIVET AND PLATE IN TOP OF CURB AT THE NORTHWEST CORNER OF RIO VISTA AND ELKHORN ROAD.
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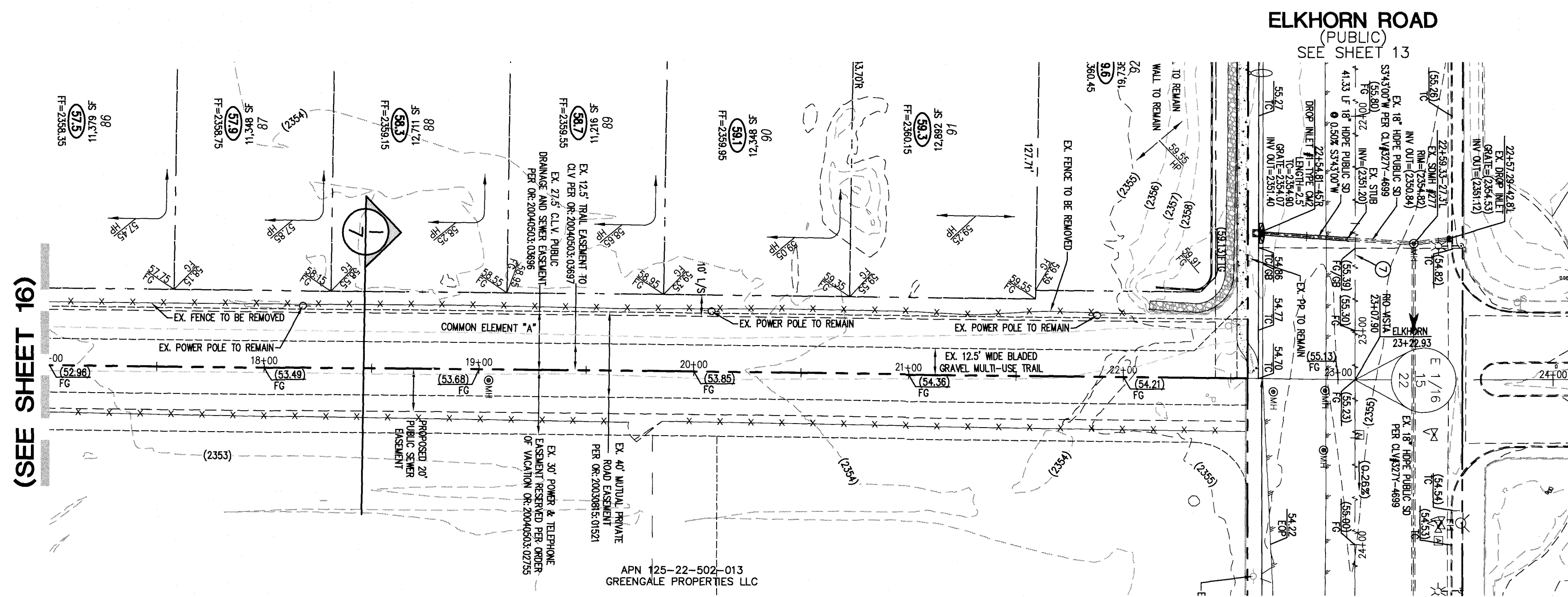


(IN FEET)
1 inch = 40 ft.

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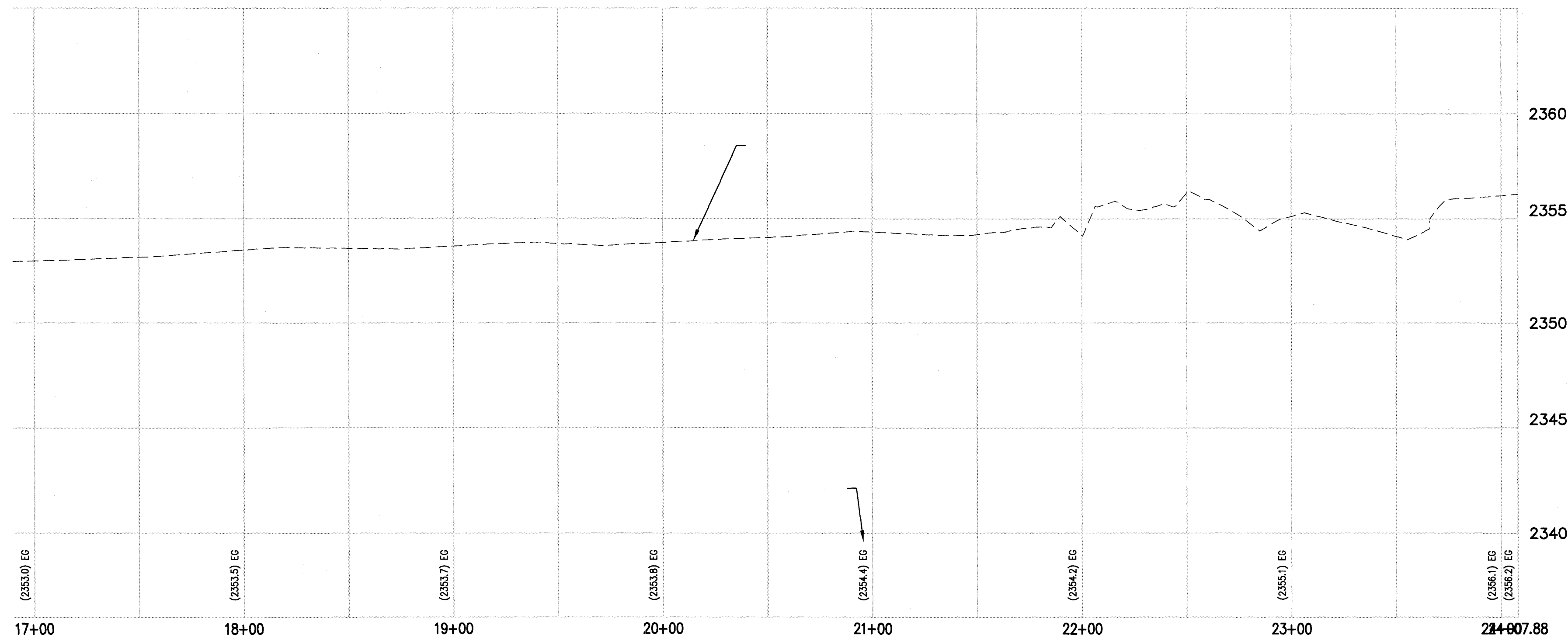
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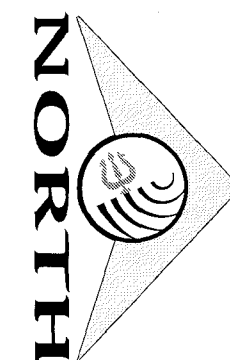
RIO VISTA STREET (PRIVATE)

PLAN
SCALE: HORIZ. 1" = 40'

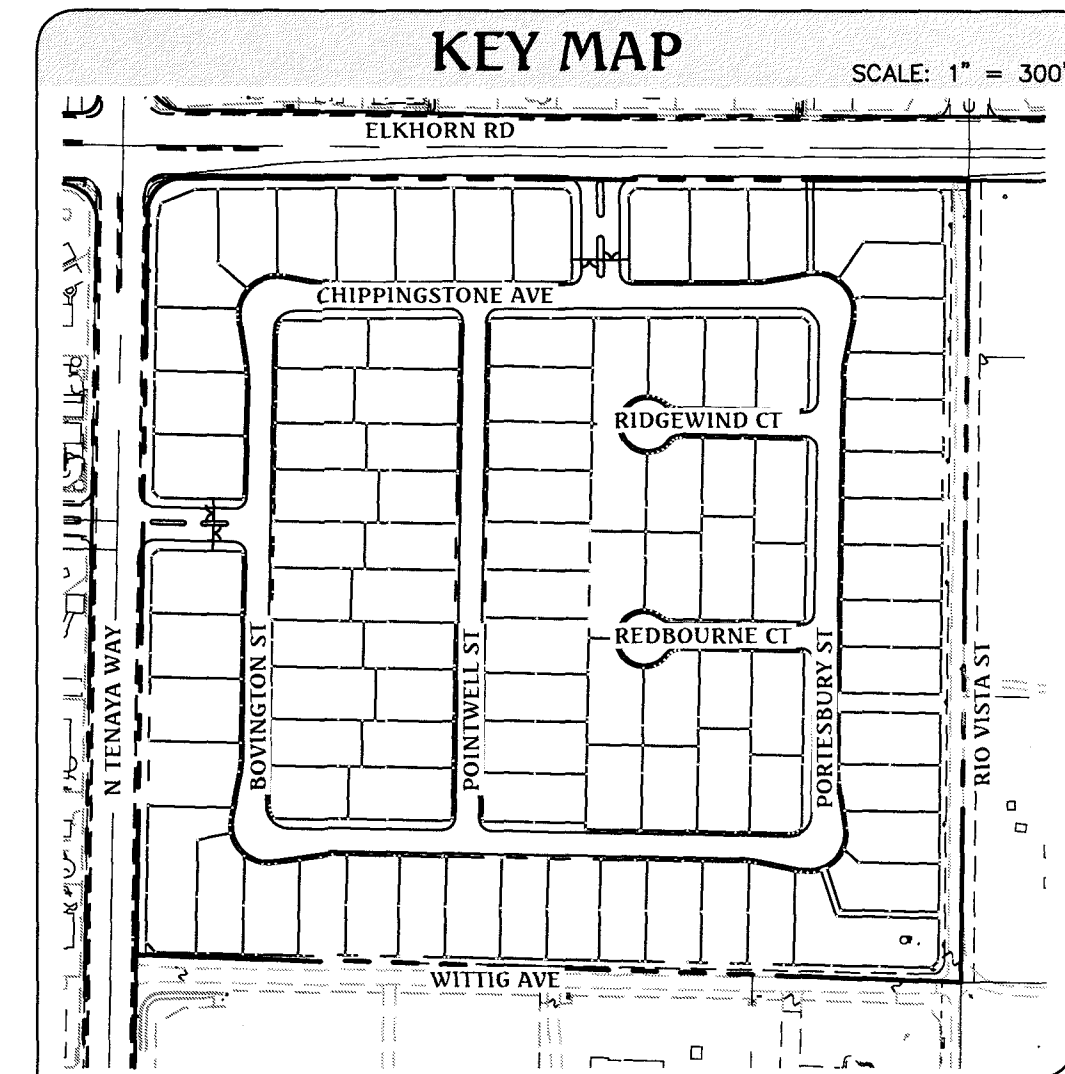
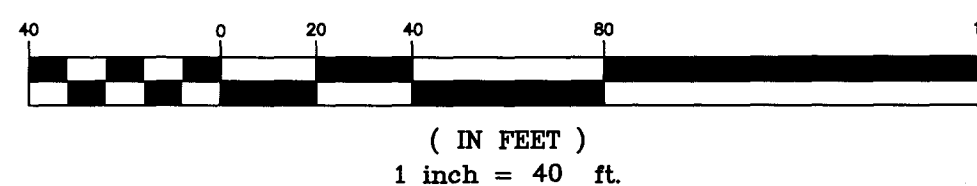


RIO VISTA STREET (PRIVATE)

PROFILE
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



GRAPHIC SCALE



KEY MAP

SCALE: 1" = 300'

CONSTRUCTION NOTES

- CONSTRUCT 8' WIDE CROSS GUTTER, PER CCAUSD No. 228
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- CONSTRUCT "L" TYPE CURB AND GUTTER, PER CCAUSD No. 216
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- CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT, PER CCAUSD No. 235, CASE 1
- SAWCUT AND MATCH EXISTING ASPHALT
- EXISTING CURB AND GUTTER TO REMAIN AND PROTECT IN PLACE
- INSTALL REMOVABLE LOCKING BOLLARDS @ 5' O.C., PER DETAIL R, SHEET 8
- CONSTRUCT SIDEWALK DRAIN, PER CCAUSD No. 236

GRADING LEGEND

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- BOUNDARY LINE
- STREET CENTERLINE
- EDGE OF PAVEMENT
- EXISTING CURB, GUTTER, & SIDEWALK
- PROPOSED CURB, GUTTER, & SIDEWALK
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BENCHMARK

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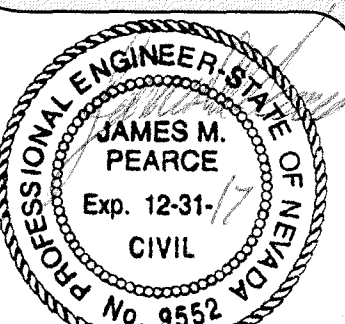
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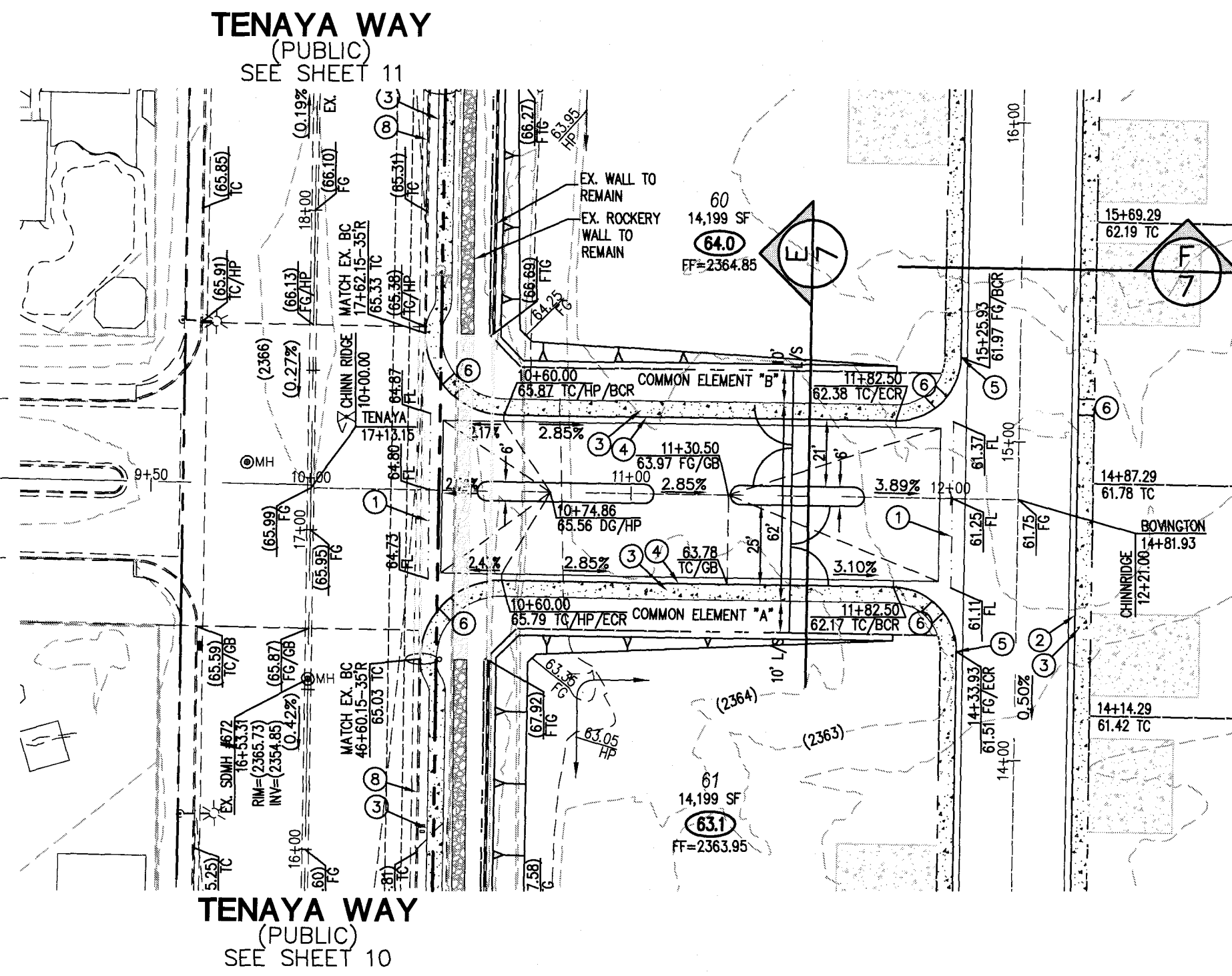
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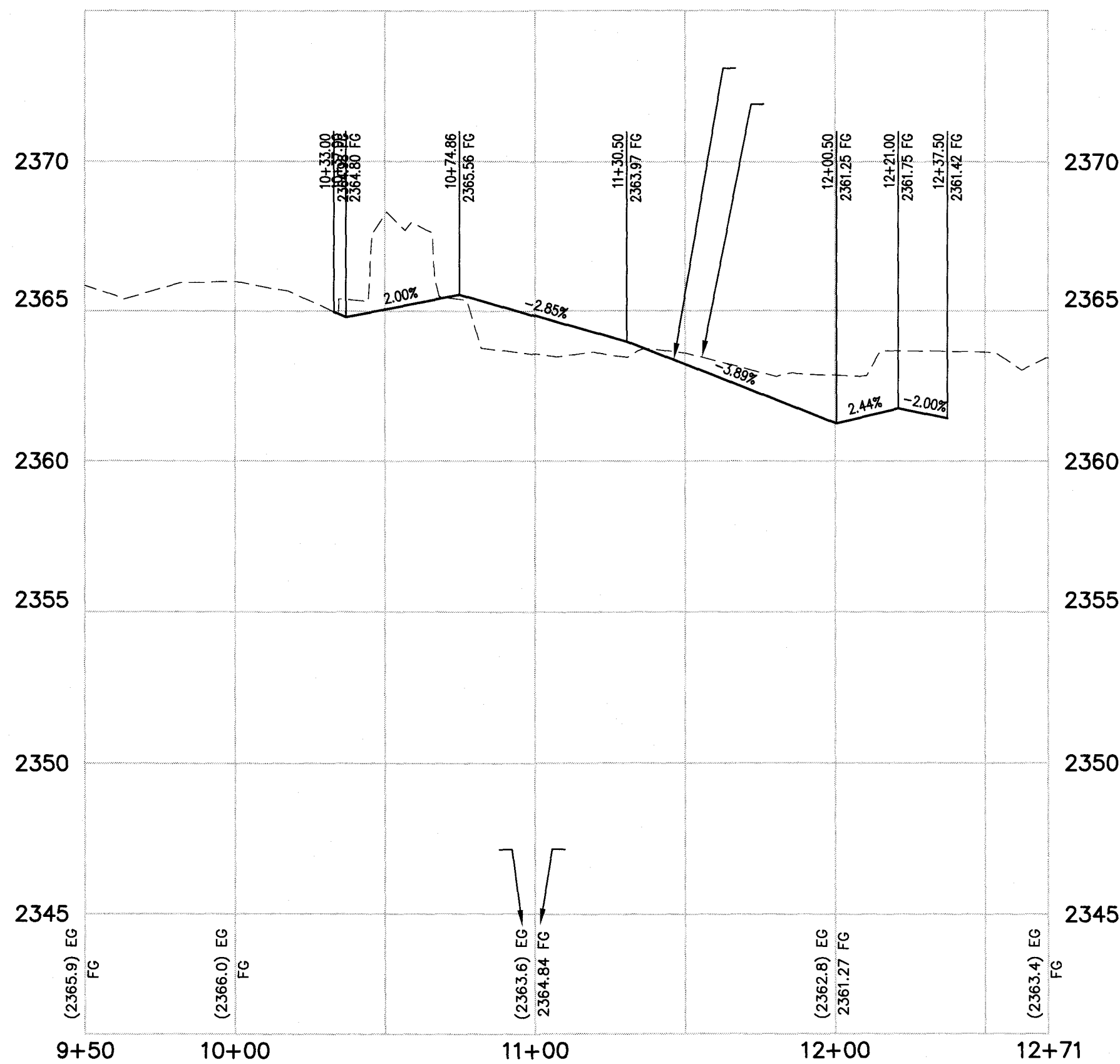
DR HORTON
ELKHORN 40
RIO VISTA STREET II
(17+00 - 24+00)
PLAN AND PROFILE



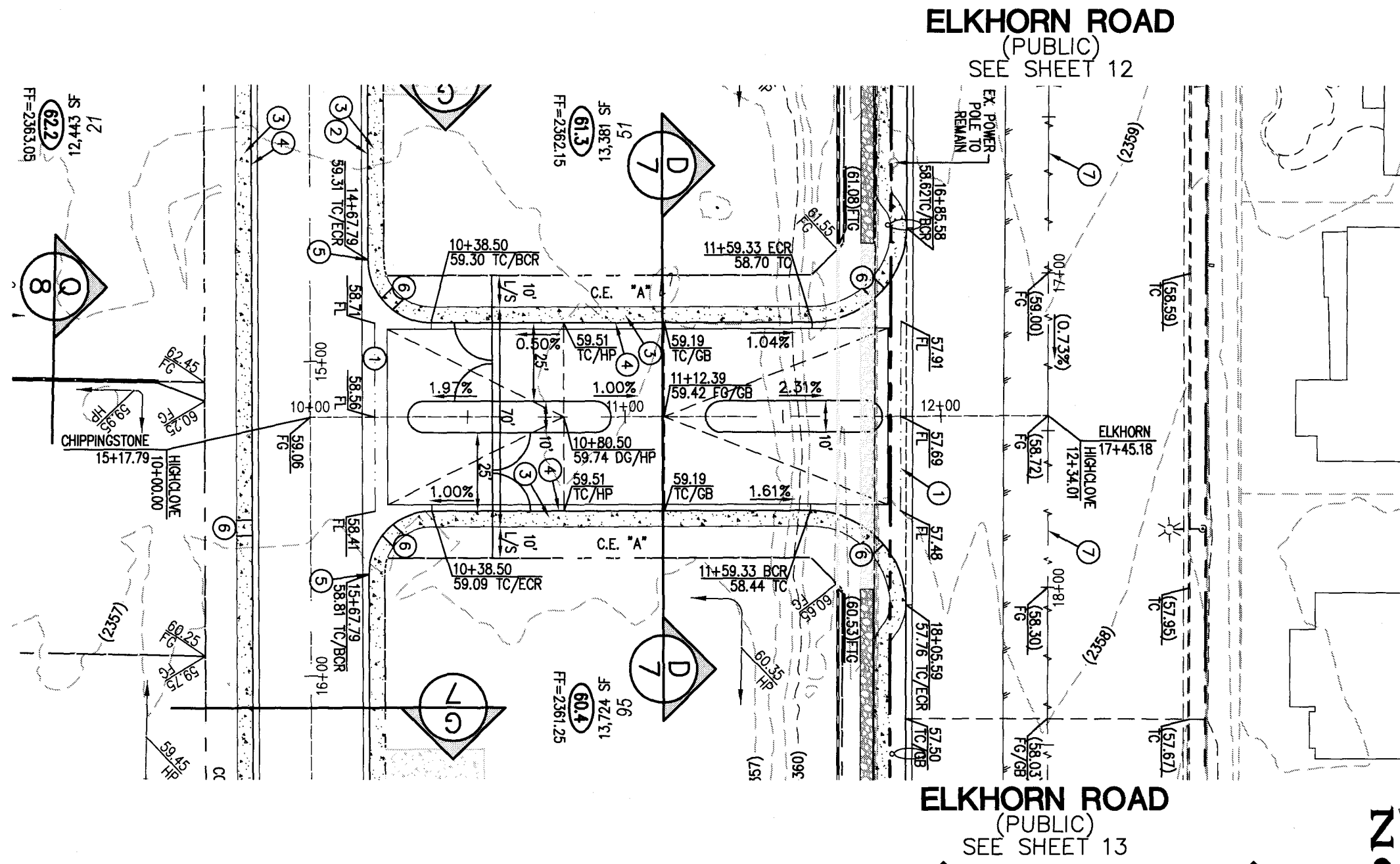
SHEET **17** OF 24
C.L.V. DWG.#



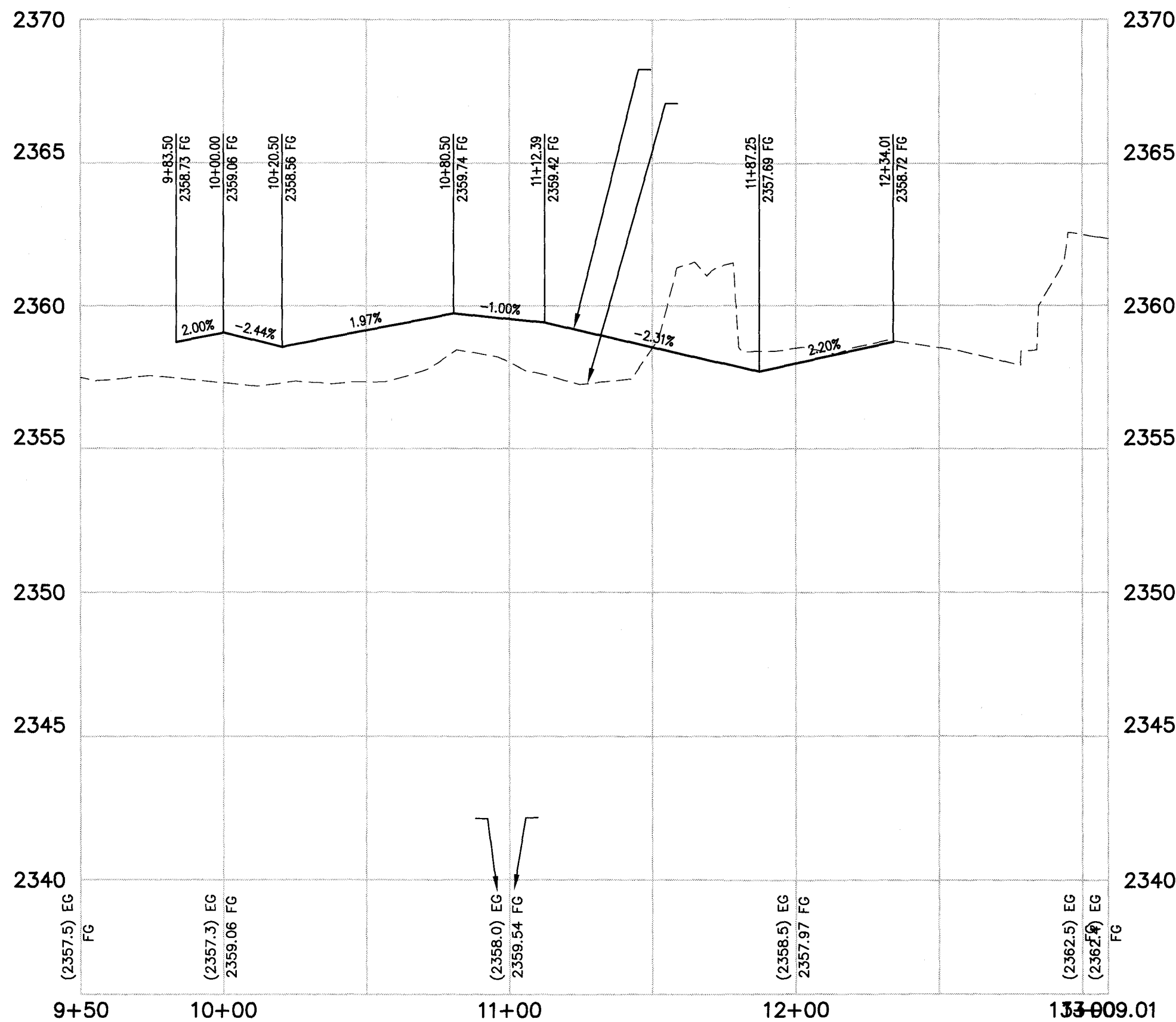
CHINN RIDGE AVENUE (PRIVATE)
PLAN
SCALE: HORIZ. 1" = 40'



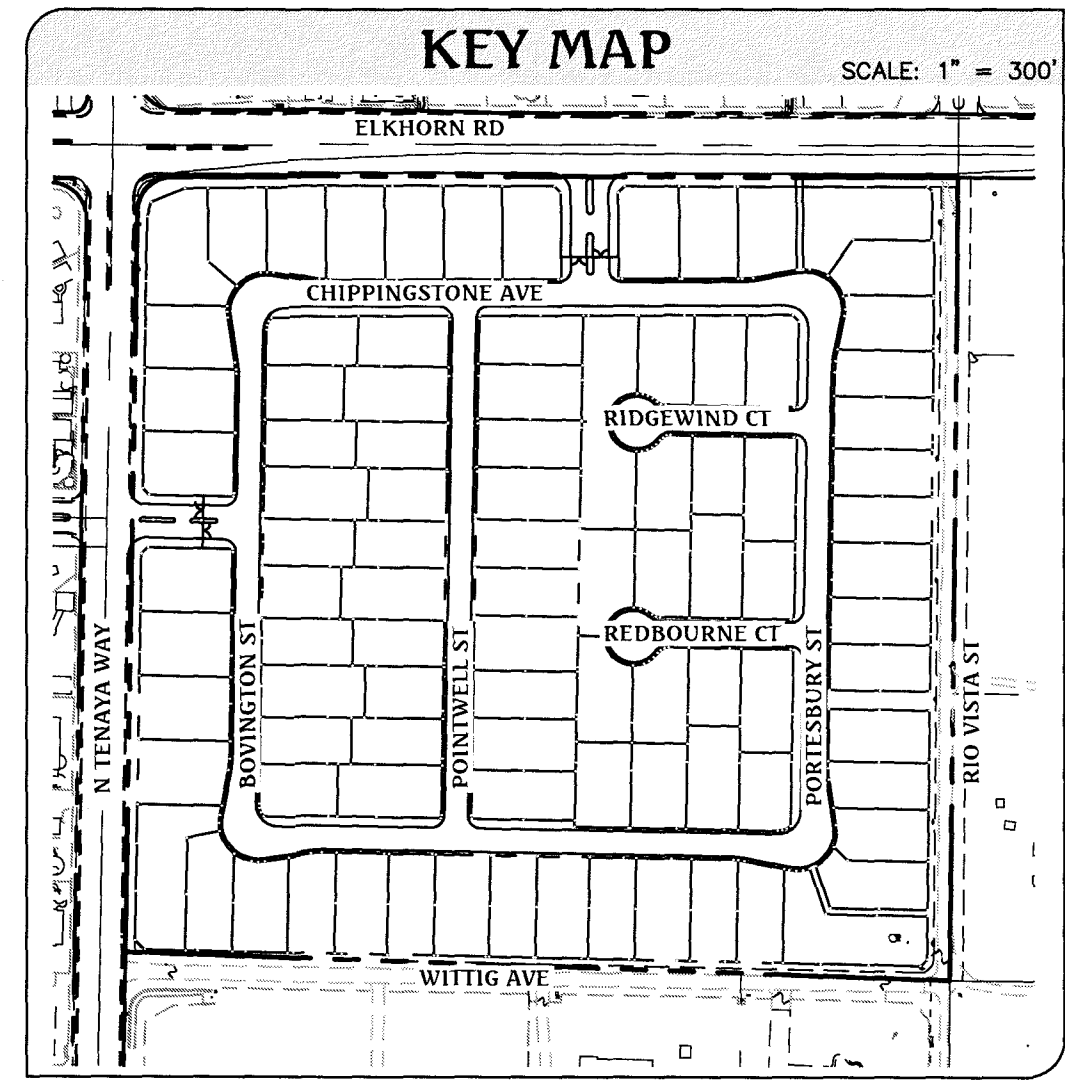
CHINN RIDGE AVENUE (PRIVATE)
PROFILE
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



HIGHCLOVE STREET (PRIVATE)
PLAN
SCALE: HORIZ. 1" = 40'



HIGHCLOVE STREET (PRIVATE)
PROFILE
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



CONSTRUCTION NOTES

1. CONSTRUCT 8" WIDE CROSS GUTTER, PER CCAUSD No. 228
2. CONSTRUCT "R" TYPE CURB AND GUTTER, PER CCAUSD No. 217.52
3. CONSTRUCT 5" WIDE SIDEWALK, PER CCAUSD No. 234
4. CONSTRUCT "L" TYPE CURB AND GUTTER, PER CCAUSD No. 216
5. 5' TRANSITION FROM L-TYPE CURB/SPANDREL TO R-TYPE CURB
6. CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT, PER CCAUSD No. 235, CASE 1
7. SAWCUT AND MATCH EXISTING ASPHALT
8. EXISTING CURB AND GUTTER TO REMAIN AND PROTECT IN PLACE
9. INSTALL REMOVABLE LOCKING BOLLARDS @ 5' O.C., PER DETAIL R, SHEET 8
10. CONSTRUCT SIDEWALK DRAIN, PER CCAUSD No. 236

GRADING LEGEND

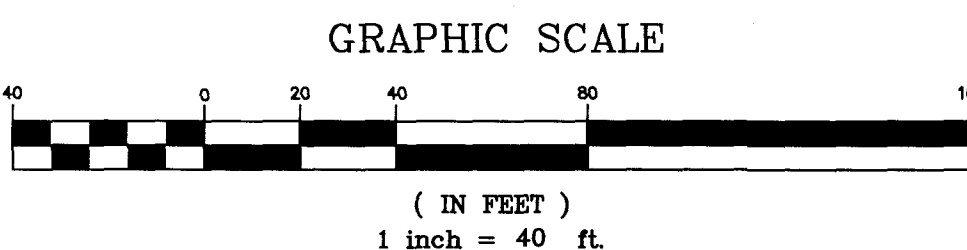
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- BOUNDARY LINE
- STREET CENTERLINE
- EDGE OF PAVEMENT
- EXISTING CURB, GUTTER, & SIDEWALK
- PROPOSED CURB, GUTTER, & SIDEWALK
- PROPOSED AC PAVING
- EX. FENCE
- EX. BLOCK WALL
- PROPOSED RETAINING WALL
- TOP OF FOOTING
- APPROX. WALL LENGTH
- TOP OF RETAINING WALL
- PROPOSED SCARP

BASIS OF BEARING

NORTH 00°56'37" EAST, BEING THE BEARING OF THE WEST LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE IN THE CLARK COUNTY RECORDER'S OFFICE IN FILE 163, PAGE 26 OF SURVEYS.

BENCHMARK

CLARK COUNTY BENCHMARK STATION: 6LV80 15SSE6
RIVET AND PLATE IN TOP OF CURB AT THE NORTHWEST CORNER OF RIO VISTA AND ELKHORN ROAD.
ELEVATION = 717.800 METERS (NAV80/88 V.2003)
ELEVATION = 2354.98 US SURVEY FEET (NAV80/88 V.2003)



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

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY
Call before you Dig
Overhead
1-702-227-2929

DATE: 08/31/16

PM: J. PEARCE

DRAWN BY:

CHECKED BY:

ADA CHECKED BY:

JOB NO.: 007.108

SCALE: 1" = 40'

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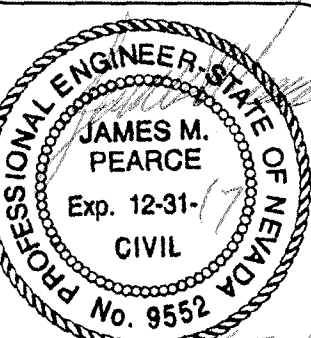
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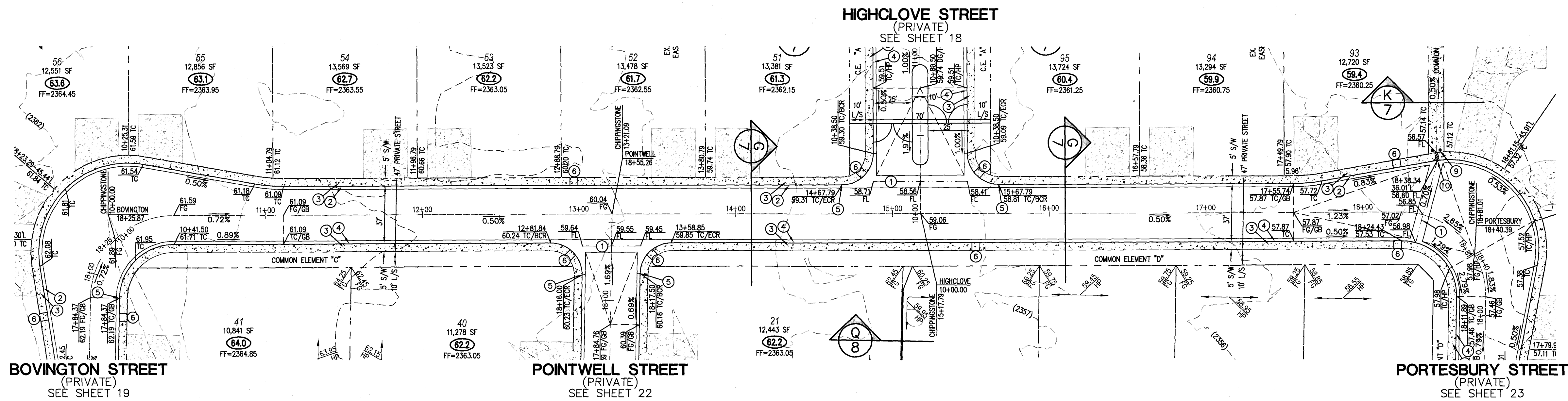
DR. HORTON

ELKHORN 40

CHINN RIDGE AVENUE (9+50 - 12+50)
HIGHCLOVE STREET (9+50 - 13+00)
PLAN AND PROFILE

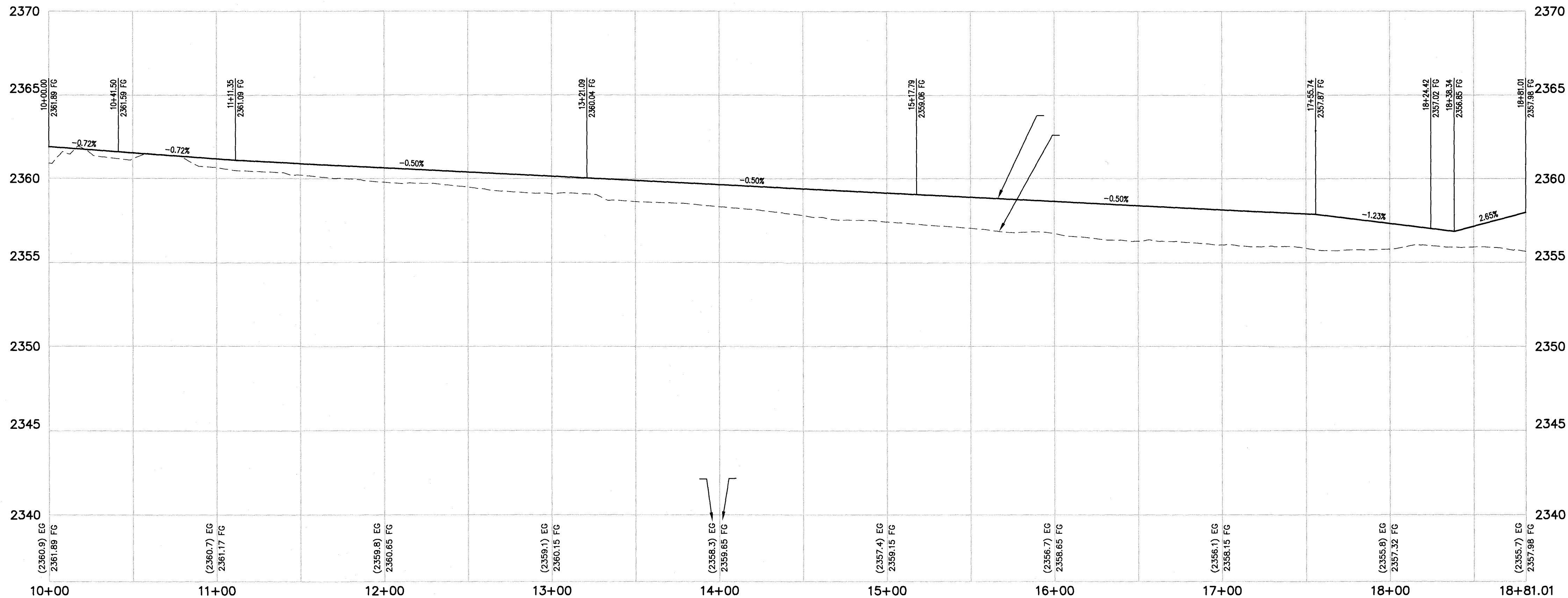


SHEET **18** of 24
C.L.V. DWG.#



CHIPPINGSTONE AVENUE (PRIVATE)

PLAN
SCALE: HORIZ. 1" = 40'



CHIPPINGSTONE AVENUE (PRIVATE)

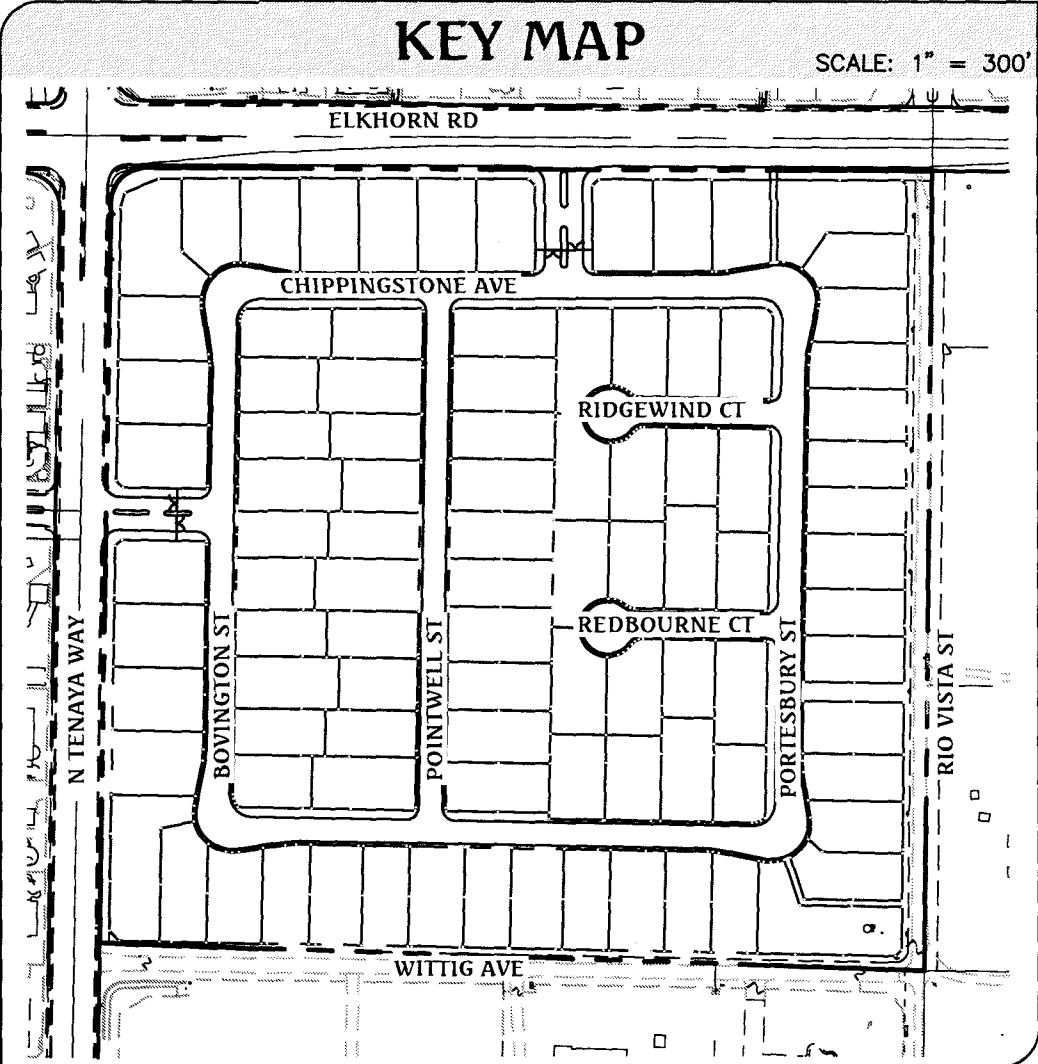
PROFILE

SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.



CONSTRUCTION NOTES

1. CONSTRUCT 8" WIDE CROSS GUTTER, PER CCAUSD No. 228
2. CONSTRUCT "R" TYPE CURB AND GUTTER, PER CCAUSD No. 217.S2
3. CONSTRUCT 5" WIDE SIDEWALK, PER CCAUSD No. 234
4. CONSTRUCT "L" TYPE CURB AND GUTTER, PER CCAUSD No. 216
5. 5' TRANSITION FROM L-TYPE CURB/SPANDREL TO R-TYPE CURB
6. CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT, PER CCAUSD No. 235, CASE 1
7. SAWCUT AND MATCH EXISTING ASPHALT
8. EXISTING CURB AND GUTTER TO REMAIN AND PROTECT IN PLACE
9. INSTALL REMOVABLE LOCKING BOLLARDS @ 5' O.C., PER DETAIL R, SHEET 8
10. CONSTRUCT SIDEWALK DRAIN, PER CCAUSD No. 236

GRADING LEGEND

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- BOUNDARY LINE
- STREET CENTERLINE
- EDGE OF PAVEMENT
- EXISTING CURB, GUTTER, & SIDEWALK
- PROPOSED CURB, GUTTER, & SIDEWALK
- PROPOSED AC PAVING
- EX. FENCE
- EX. BLOCK WALL
- PROPOSED RETAINING WALL
- TOP OF FOOTING
- APPROX. WALL LENGTH
- TOP OF RETAINING WALL
- PROPOSED SCARP

BASIS OF BEARING

NORTH 00°56'37" EAST, BEING THE BEARING OF THE WEST LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE IN THE CLARK COUNTY RECORDER'S OFFICE IN FILE 163, PAGE 28 OF SURVEYS.

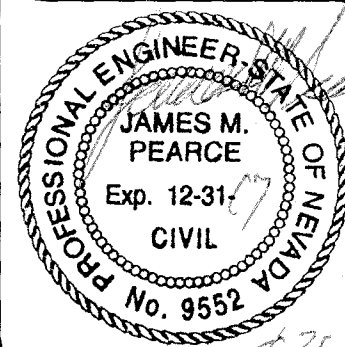
BENCHMARK

CLARK COUNTY BENCHMARK STATION: 6LV90 15S5E6
RIVET AND PLATE IN TOP OF CURB AT THE NORTHWEST CORNER OF RIO VISTA AND ELKHORN ROAD.
ELEVATION = 717.800 METERS (NAVD'88 V.2003)
ELEVATION = 2354.98 US SURVEY FEET (NAVD'88 V.2003)

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DR HORTON
ELKHORN 40
CHIPPINGSTONE AVENUE
(10+00 - 18+81.01)
PLAN AND PROFILE

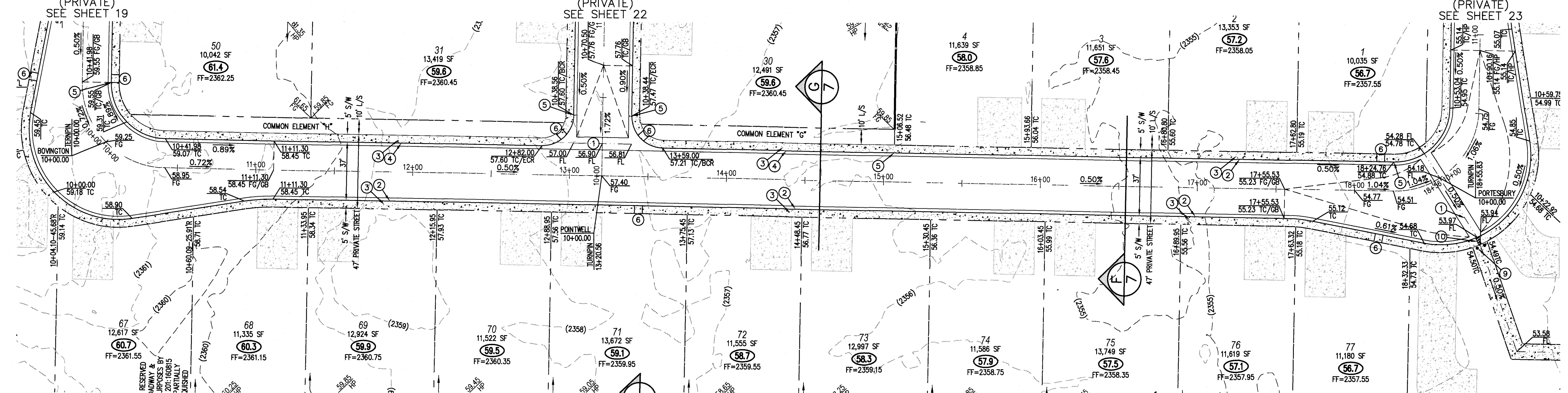


SHEET **20** OF 24
C.L.V. DWG.#

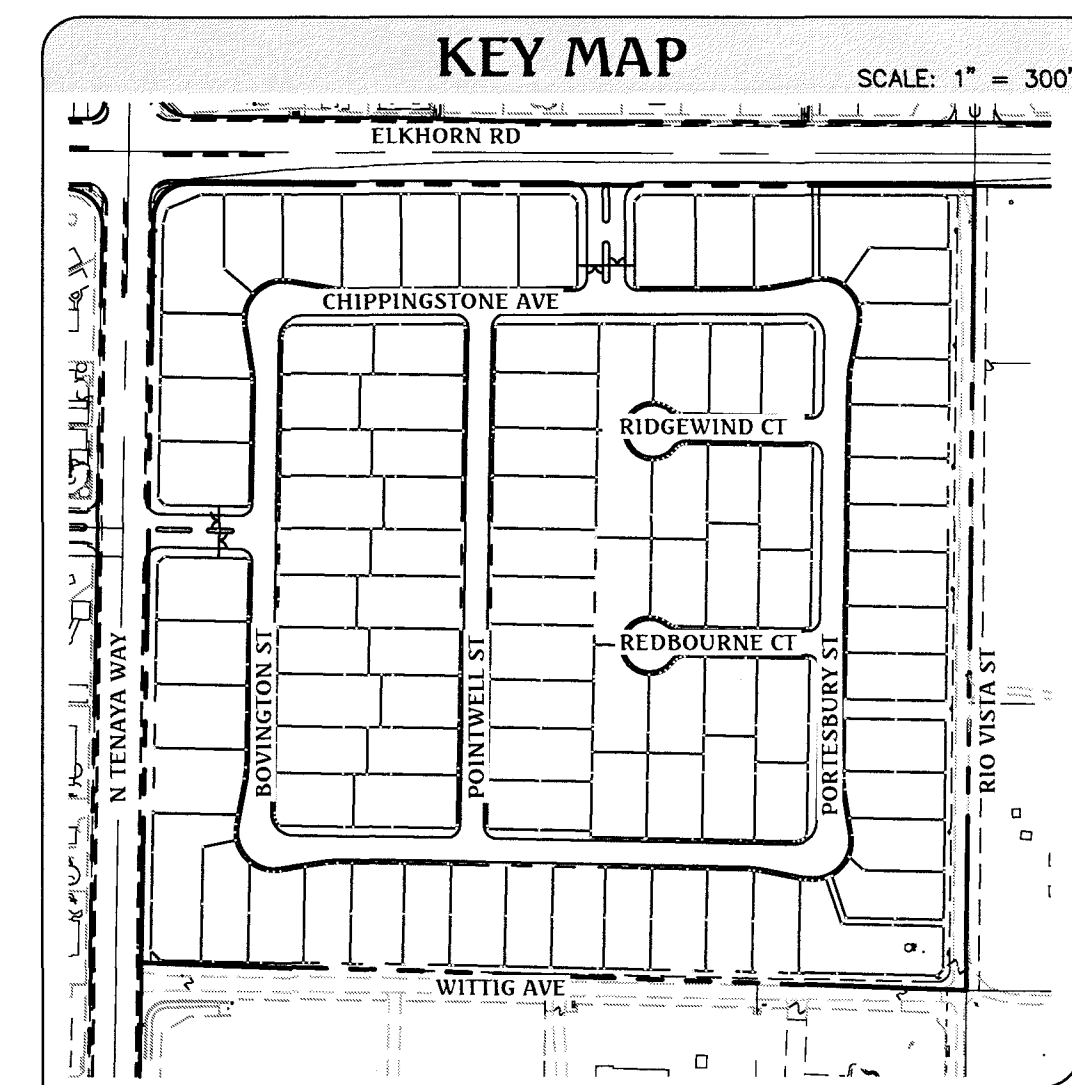
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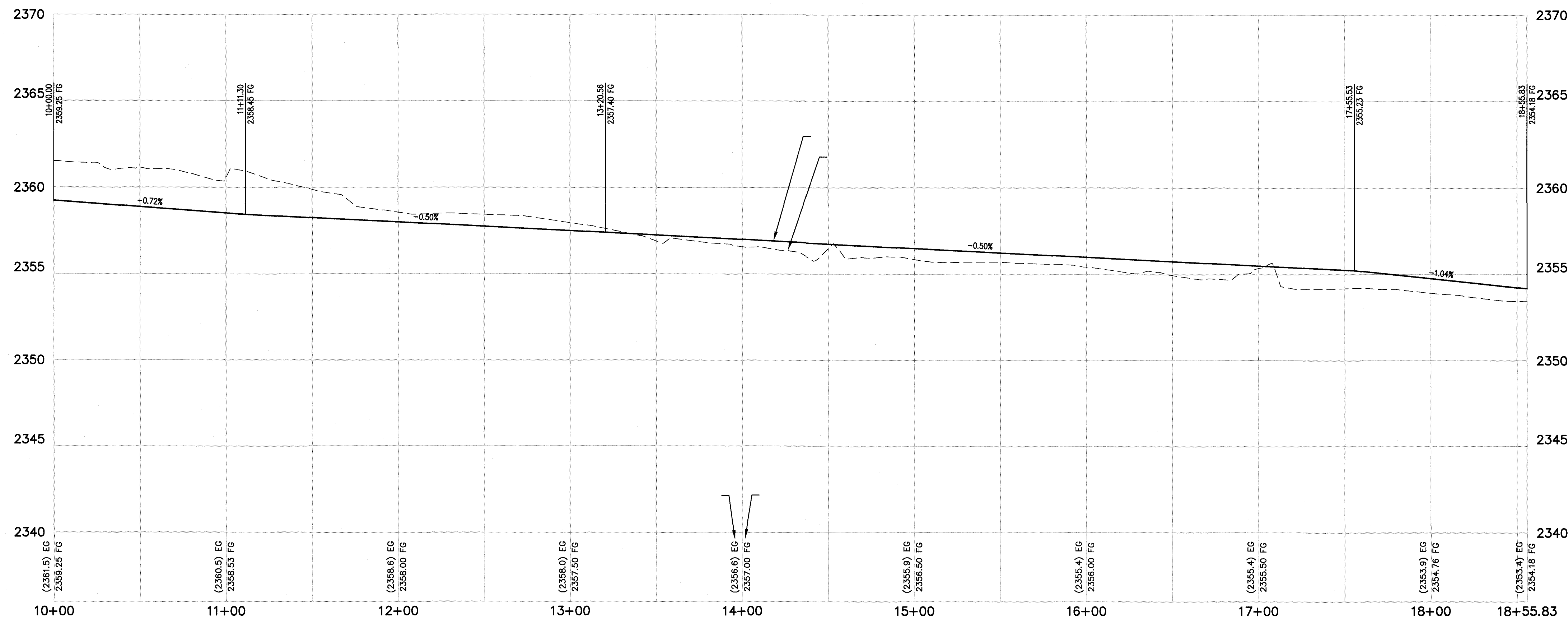
BOVINGTON STREET
(PRIVATE)
SEE SHEET 19POINTWELL STREET
(PRIVATE)
SEE SHEET 22PORTESBURY STREET
(PRIVATE)
SEE SHEET 23TURNPIN AVENUE (PRIVATE)
PLAN

SCALE: HORIZ. 1" = 40'



KEY MAP

SCALE: 1" = 300'

TURNPIN AVENUE (PRIVATE)
PROFILESCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

CONSTRUCTION NOTES

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2. CONSTRUCT "R" TYPE CURB AND GUTTER, PER CCAUSD No. 217.52
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7. SAWCUT AND MATCH EXISTING ASPHALT
8. EXISTING CURB AND GUTTER TO REMAIN AND PROTECT IN PLACE
9. INSTALL REMOVABLE LOCKING BOLLARDS @ 5' O.C., PER DETAIL R, SHEET 8
10. CONSTRUCT SIDEWALK DRAIN, PER CCAUSD No. 236

GRADING LEGEND

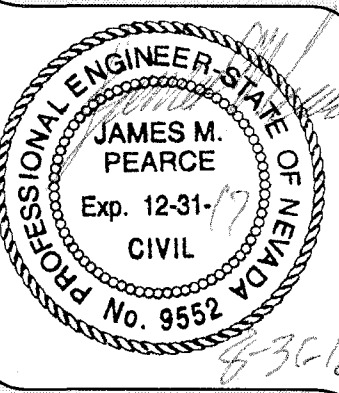
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- BOUNDARY LINE
- STREET CENTERLINE
- EDGE OF PAVEMENT
- EXISTING CURB, GUTTER, & SIDEWALK
- PROPOSED CURB, GUTTER, & SIDEWALK
- PROPOSED AC PAVING
- EX. FENCE
- EX. BLOCK WALL
- PROPOSED RETAINING WALL
- TOP OF FOOTING
- APPROX. WALL LENGTH
- TOP OF RETAINING WALL
- PROPOSED SCARP

BASIS OF BEARING

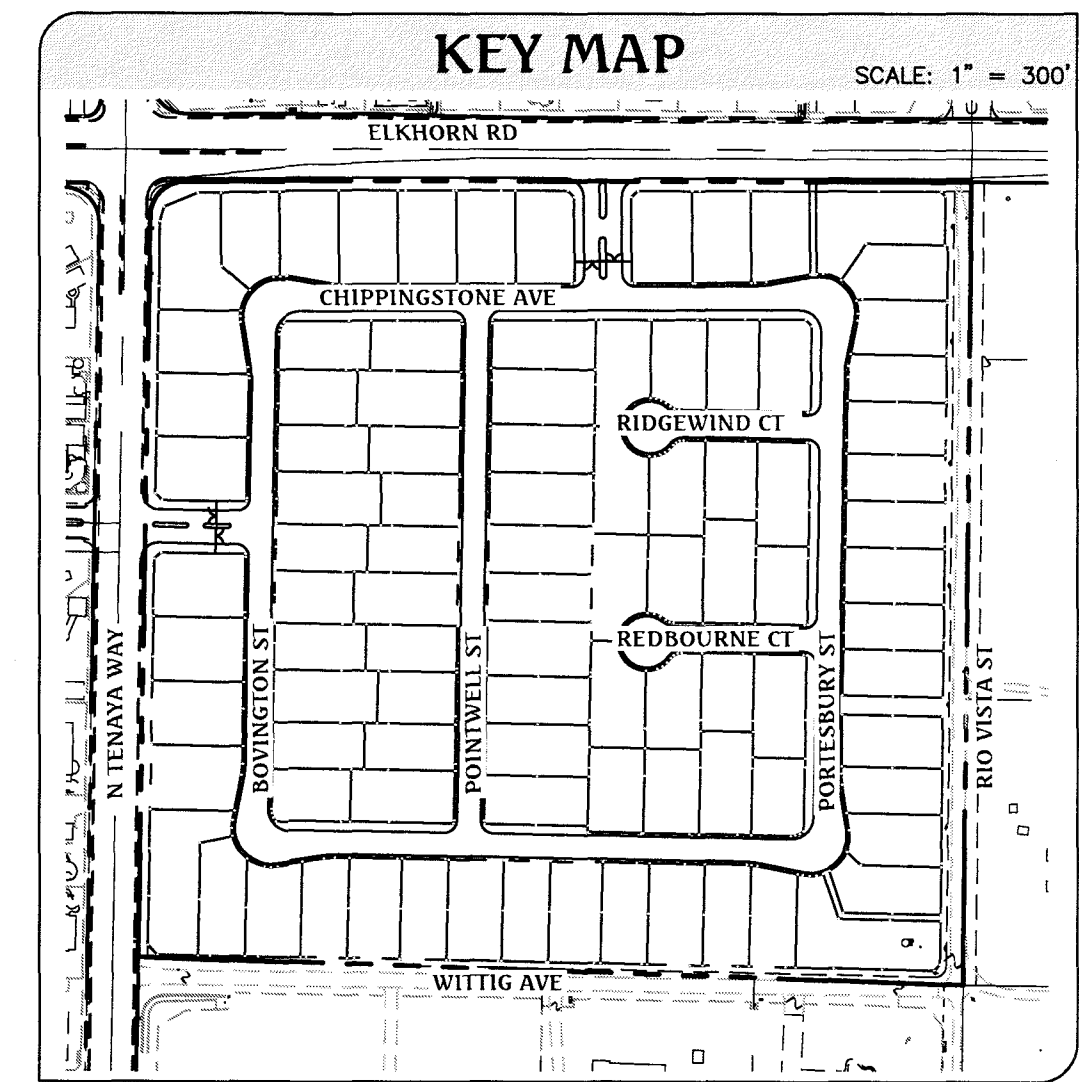
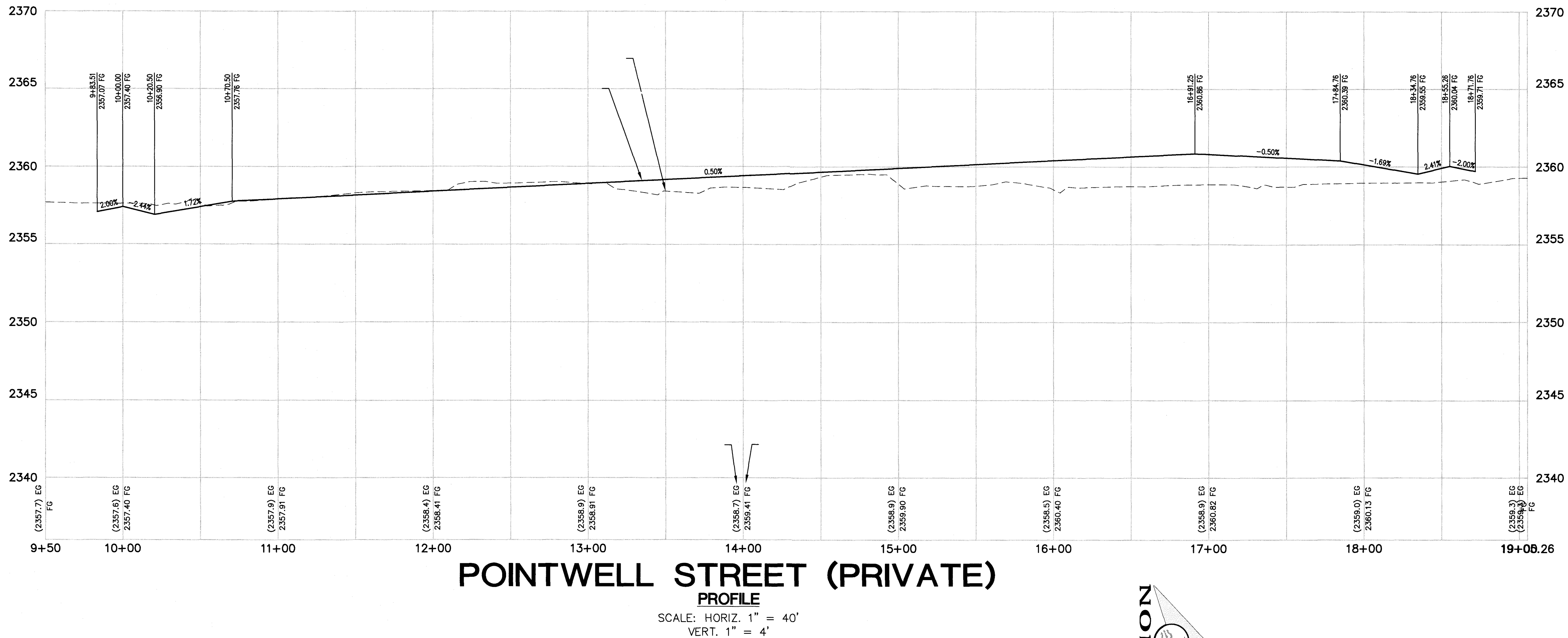
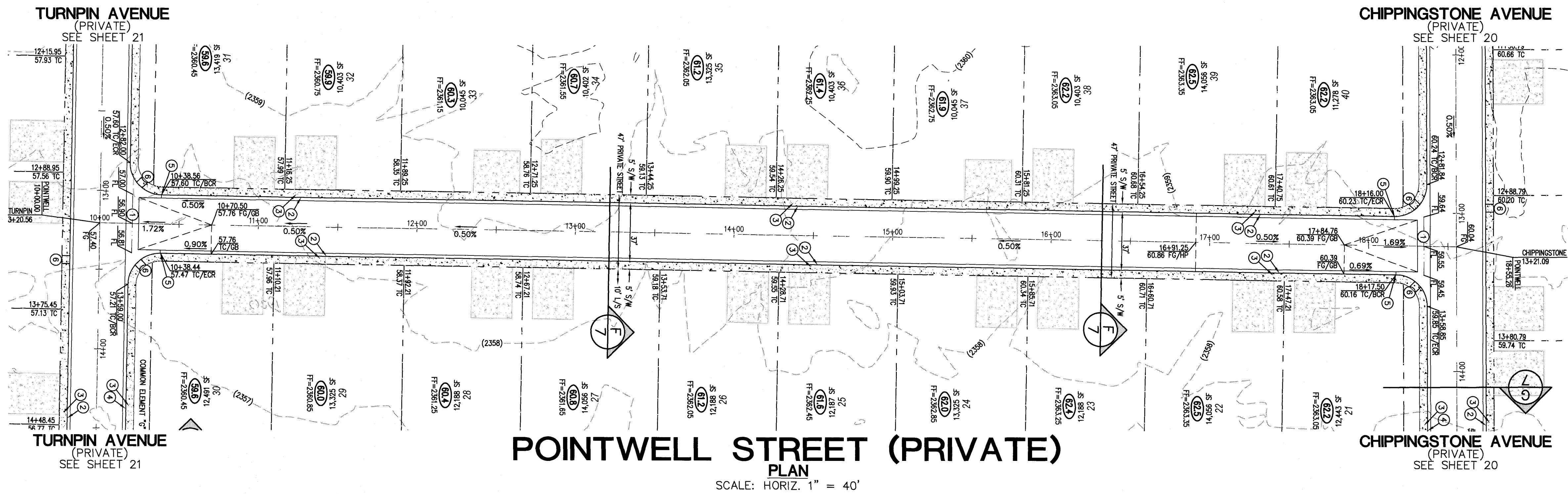
NORTH 00°56'37" EAST, BEING THE BEARING OF THE WEST LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE IN THE CLARK COUNTY RECORDER'S OFFICE IN FILE 163, PAGE 26 OF SURVEYS.

BENCHMARK

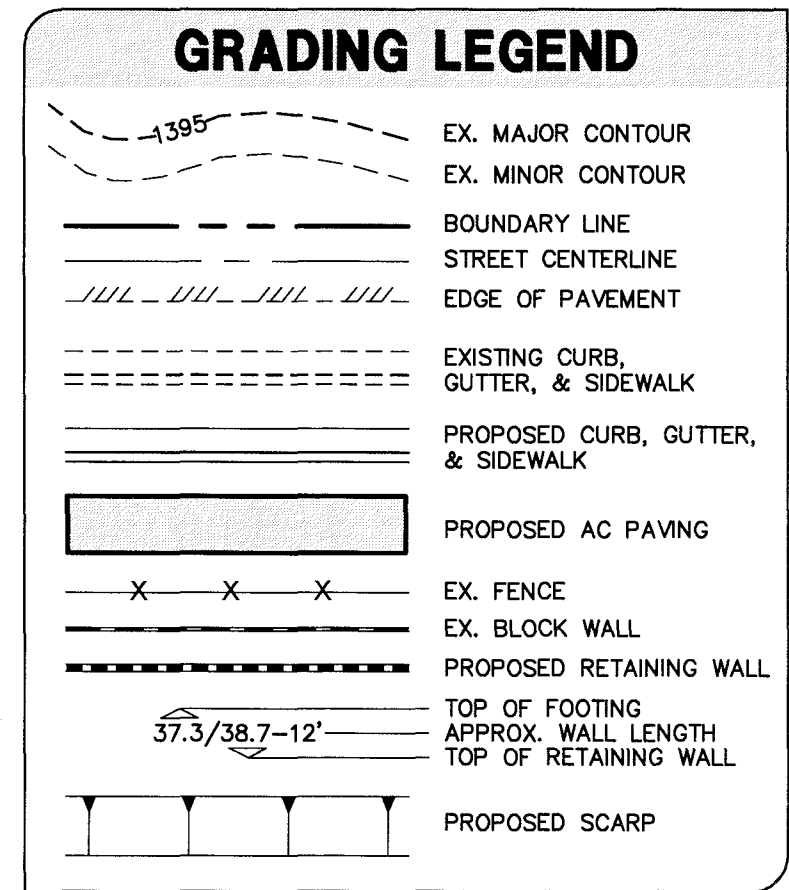
CLARK COUNTY BENCHMARK STATION: 6LV90 15S5E6
RIVET AND PLATE IN TOP OF CURB AT THE NORTHWEST CORNER OF RIO VISTA AND ELKHORN ROAD.
ELEVATION = 717.800 METERS (NAVD'88 V.2003)
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21
OF 24
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- CONSTRUCTION NOTES**
1. CONSTRUCT 8' WIDE CROSS GUTTER, PER CCAUSD No. 228
 2. CONSTRUCT "R" TYPE CURB AND GUTTER, PER CCAUSD No. 217.52
 3. CONSTRUCT 5' WIDE SIDEWALK, PER CCAUSD No. 234
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 5. TRANSITION FROM L-TYPE CURB/SPANDREL TO R-TYPE CURB
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BASIS OF BEARING

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BENCHMARK

CLARK COUNTY BENCHMARK STATION: 6LV90 15SS66
RIVET AND PLATE IN TOP OF CURB AT THE NORTHWEST CORNER OF RIO VISTA AND ELKHORN ROAD.
ELEVATION = 717.800 METERS (NAVD'88 V.2003)
ELEVATION = 2354.98 US SURVEY FEET (NAVD'88 V.2003)

DATE: 08/31/16
PM: J. PEARCE
DRAWN BY:
DESIGNED BY:
CHECKED BY:
ADA CHECKED:
JOB NO.: 007.108
SCALE: 1"=40'

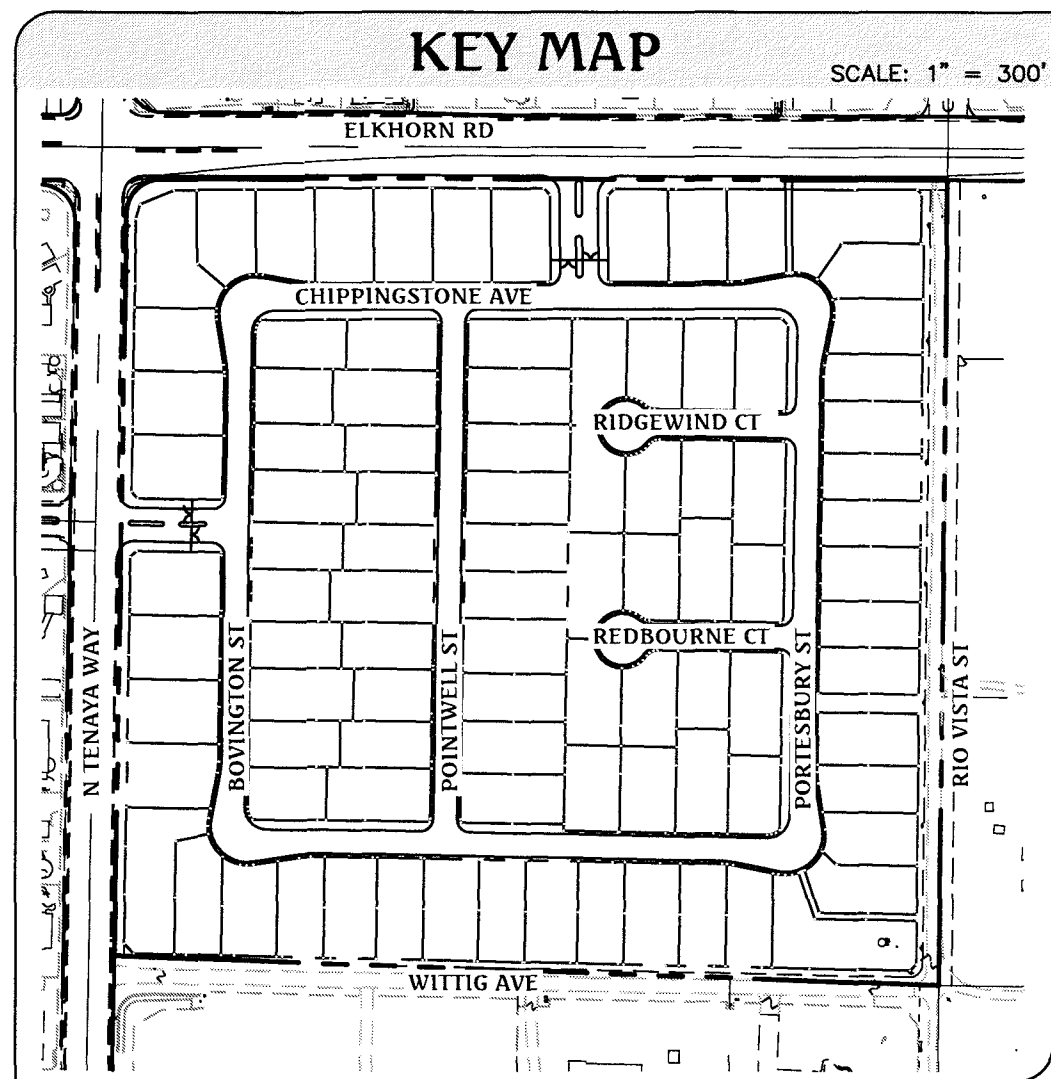
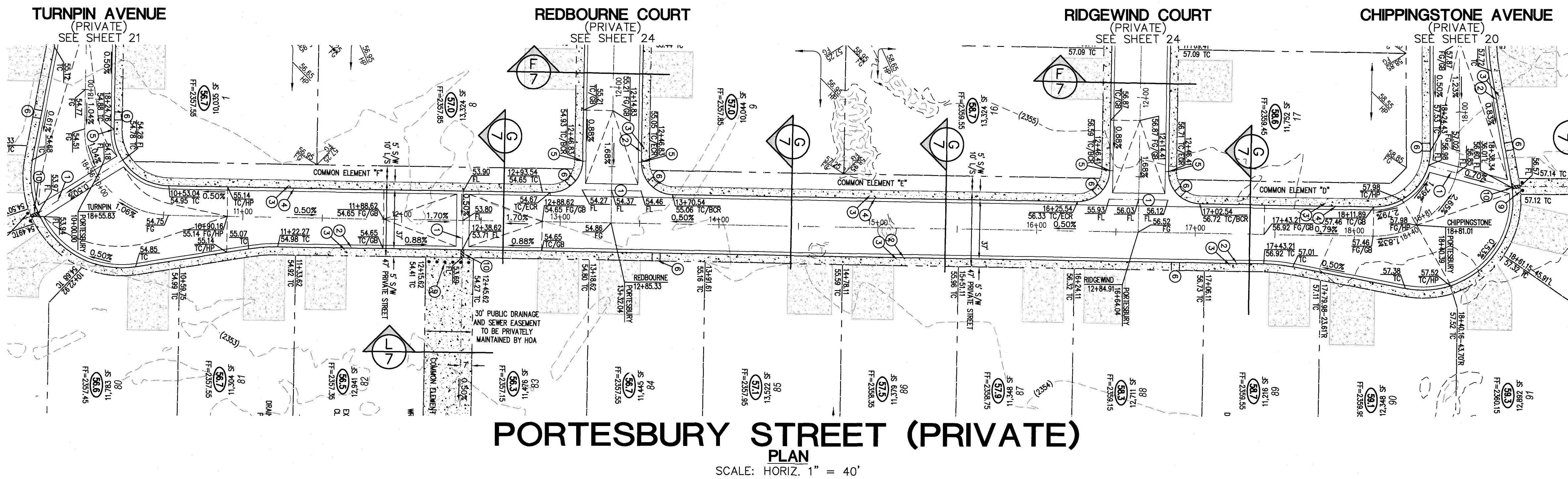
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DR HORTON
ELKHORN 40
POINTWELL STREET
(9+50 - 19+00)
PLAN AND PROFILE

PROFESSIONAL ENGINEER-STATE OF NEVADA
JAMES M. PEARCE
Exp. 12-31-17
CIVIL
No. 9552

SHEET **22** OF 24
C.L.V. DWG.#

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CONSTRUCTION NOTES

1. CONSTRUCT 8' WIDE CROSS GUTTER, PER CCAUD No. 228
2. CONSTRUCT "R" TYPE CURB AND GUTTER, PER CCAUD No. 217.52
3. CONSTRUCT 5' WIDE SIDEWALK, PER CCAUD No. 234
4. CONSTRUCT "L" TYPE CURB AND GUTTER, PER CCAUD No. 218
5. 5' TRANSITION FROM L-TYPE CURB/SPANDELO TO R-TYPE CURB
6. CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOWNS OR EQUIVALENT, PER CCAUD No. 235, CASE 1
7. SAWCUT AND MATCH EXISTING ASPHALT
8. EXISTING CURB AND GUTTER TO REMAIN AND PROTECT IN PLACE
9. INSTALL REMOVABLE LOOKING BOLLARDS @ 5' O.C., PER DETAIL R, SHEET 8
10. CONSTRUCT SIDEWALK DRAIN, PER CCAUD No. 236

GRADING LEGEND

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
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- STREET CENTERLINE
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- EXISTING CURB, GUTTER, & SIDEWALK
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BENCHMARK

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DATE	NO.	DESCRIPTION	DATE	APP'D
08/31/16				
DRAWN BY:				
DESIGNED BY:				
CHECKED BY:				
ADA CHECKED:				
JOB NO.:	007.108			
SCALE:	1"=40'			

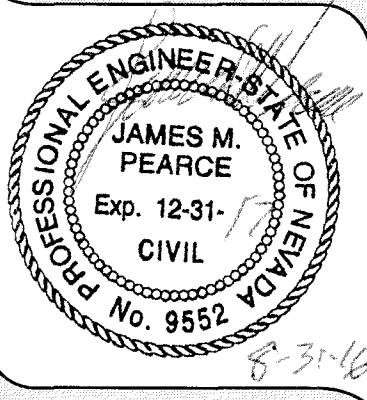
DATE: 08/31/16	NO. 007.108
DRAWN BY: J. PEARCE	SCALE: 1"=40'
DESIGNED BY:	
CHECKED BY:	
ADA CHECKED:	
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SCALE:	1"=40'

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ELKHORN 40
PORTESBURY STREET
(10+00 - 18+40.39)
PLAN AND PROFILE



SHEET **23** OF 24
C.L.V. DWG.#

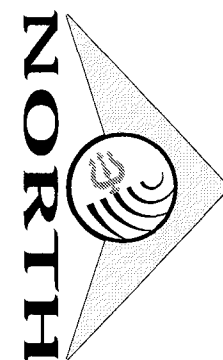
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Call before you Overhead
1-702-227-2929



GRAPHIC SCALE

