

DS #:

4684

APN:

125.25.614-002

PROJECT:

Building E.C Tropical S. Decatur

SUBMITTAL:

1st

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM

DATE:

July 16, 2014

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:

**Building E @ Tropical & Decatur
– Update to Decatur / 215**

COPIES TO:

CivilWorks Inc.

Cross Streets:

NWC of Decatur Boulevard & Rice Street

Decatur 215 LLC/Weingarten Realty

File Number:

F:\Depot\DSMemos\DS4686A.doc

Bart Anderson, P.E., DevCo

Parcel Number:

125-25-614-002

CNLV

Zoning Action:

SDR-52798

FEMA Flood Zone

YES

NO

X

Proposed Storm Drain

YES

NO

X

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	7/3/2014	7/16/2014	See Comments Below	\$400.00	362456: \$400
			TOTAL FEES (LDDRS):	\$400.00	----

REMARKS:

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

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

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

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

END OF REMARKS

ays

T/R/S: T19S/R60E/25

AREA G-25

 *** FAX TX REPORT ***

TRANSMISSION OK

JOB NO. 4157
 DESTINATION ADDRESS 7025341825
 PSWD/SUBADDRESS
 DESTINATION ID
 ST. TIME 07/16 08:53
 USAGE T 00' 27
 PGS. 1
 RESULT OK

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: July 16, 2014
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: Building E @ Tropical & Decatur - Update to Decatur / 215		COPIES TO: CivilWorks Inc.
Cross Streets:	NWC of Decatur Boulevard & Rice Street	Decatur 215 LLC/Weingarten Realty
File Number:	F:\Depot\DSMemos\DS4686A.doc	Bart Anderson, P.E., DevCo
Parcel Number:	125-25-614-002	CNLV
Zoning Action:	SDR-52798	
FEMA Flood Zone	YES NO X	
Proposed Storm Drain	YES NO X	

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TECHNICAL DRAINAGE STUDY FOR Building E @ Tropical & Decatur

(aka Update to the Technical Drainage Study for Decatur/215)

Project No. 109513027.00

July 2014

Prepared for:

Decatur 215 LLC/Weingarten Realty Investors
4440 N. 36th Street, Suite 200
Phoenix, AZ 85018

Prepared by:

CivilWorksInc
Engineering with "sensible" solutions tailored to your "specific" needs.

4945 W. Patrick Lane Las Vegas, NV 89118
Office: (702) 534-7555 Fax: (702) 534-1825

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: Building E @ Tropical & Decatur Date: July 2014
 Location of Development: a) Descriptive (Cross Streets) North/South: Decatur Boulevard
East/West: Tropical Parkway
 b) Section: 25 Township: 19 South Range: 60 East
 c) APN : 125-25-614-002

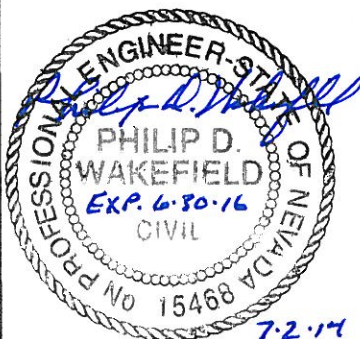
Name of Owner: Decatur 215 LLC/Weingarten Realty Investors
 Telephone No.: 602-217-8849 Fax No.: _____ E-Mail Address: _____
 Address: 4440 N. 36th Street, Suite 200

Contact Person-Name: Brandon Potts, P.E. Telephone No.: 702-534-7555
 * E-Mail Address: bap@civilworksonline.com Fax No.: 702-5341825
 Firm: Civilworks
 Address: 4945 W. Patrick Lane, Las Vegas NV 89118

Type of Land Development/Land Disturbance Process:

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

- Total Owned Land Area: At Site: 16 +/- acres Being Developed/Disturbed: Less than 1 acre
- 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.): Commercial
- Approximate upstream land area which drains to the subject site: 8 acres
- Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: Technical Drainage Study for Decatur/215
- If known, please briefly identify the proposed discharge point(s) of runoff from the site: No change to existing drainage patterns and in to Decatur Boulevard.
- Briefly describe your proposed schedule for the subject project: As soon as possible

 Engineer's Seal	Submit this form as part of the required drainage study to the local entity which has jurisdiction over the subject property. This form may provide sufficient information to serve as the Conceptual Drainage Study. *New Required Field **Review and concurrence of the Clark County Regional Flood Control District is required.								
	Local Entity File No. _____	<table border="1"> <thead> <tr> <th>Revision</th> <th>Date</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Revision	Date					
Revision	Date								
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 (CCRFCD) 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 CCRFCD Hydrologic Criteria and Drainage Design Manual (Design Manual).

An appointment must be made to preview this checklist in conjunction with CCRFCD 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	
N/A		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	
NA		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.
NA		Back of lot elevations and lot drainage pattern for all lots including common lots.
NA		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.)
NA		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.
NA		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	
NA		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.
NA		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.
NA		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.
NA		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	
NA		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.
NA		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.

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL																	
DRAINAGE SUBMITTAL CHECKLIST																	
Project Name: Building E @ Tropical & Decatur	Map ID																
Firm Name Civilworks	Engineer: Brandon Potts P.E.																
Address: 4945 W. Patrick Lane																	
City: Las Vegas	State: Nevada	Zip: 89118															
Phone Number (702) 534-7555	Fax Number: (702) 534-1825																
Property Owner: Decatur 215 LLC/Weingarten Realty Investors																	
Address: 4440 N. 36th Street, Suite 200																	
City: Phoenix	State: AZ	Zip: 85018															
Reviewed by:	Date Received:	Date Accepted for Review:															
The following checklist is intended as a guide for the engineer preparing a Technical Drainage Study to submit to the local entity and Clark County Regional Flood Control District (if necessary). The listed items are the minimum information required prior to the entity performing a review. The engineer will remain responsible to ensure the Technical Drainage Study is prepared within the guidelines as set forth in the Clark County Regional Flood Control District (CCRFCD) Hydrologic Criteria and Drainage Design Manual (MANUAL). This document is intended as an aid in preparing Technical Drainage Studies. 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. If items are not applicable for the subject site, provide N/A. I. GENERAL REQUIREMENT <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">Yes</td> <td style="width: 10%; text-align: center;">No</td> <td></td> </tr> <tr> <td style="text-align: center;"><u>X</u></td> <td style="text-align: center;"><u> </u></td> <td>Design Manual Standard Form 1 with the engineer's seal and signature.</td> </tr> <tr> <td style="text-align: center;"><u>NA</u></td> <td style="text-align: center;"><u> </u></td> <td>Design Manual Standard Form 4.</td> </tr> <tr> <td style="text-align: center;"><u>X</u></td> <td style="text-align: center;"><u> </u></td> <td>2 copies of the 24" x 36" Drainage Plan</td> </tr> <tr> <td style="text-align: center;"><u>NA</u></td> <td style="text-align: center;"><u> </u></td> <td>A notarized letter from the adjacent property owner(s) allowing off-site grading or discharge.</td> </tr> </table>			Yes	No		<u>X</u>	<u> </u>	Design Manual Standard Form 1 with the engineer's seal and signature.	<u>NA</u>	<u> </u>	Design Manual Standard Form 4.	<u>X</u>	<u> </u>	2 copies of the 24" x 36" Drainage Plan	<u>NA</u>	<u> </u>	A notarized letter from the adjacent property owner(s) allowing off-site grading or discharge.
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<u>NA</u>	<u> </u>	A notarized letter from the adjacent property owner(s) allowing off-site grading or discharge.															
REFERENCE:		STANDARD FORM 2															

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

II. MAPS AND EXHIBITS

Yes	No	
<u> X </u>	<u> </u>	A copy of a current Flood Insurance Rate Map (FIRM) with the site delineated.
<u> X </u>	<u> </u>	A copy of the current CCRFCD Master Plan Update Figure, (F-x), for Flood Control Facilities and Environmental areas with the site delineated.
<u> X </u>	<u> </u>	Off-site drainage basin maps for existing, interim and future conditions showing the existing topography, basin boundaries, concentration points, and flows in cfs.
<u> X </u>	<u> </u>	On-site drainage basin maps for existing and proposed conditions showing the existing topography, basin boundaries, concentration points, and on-site and off-site flows in cfs.
<u> X </u>	<u> </u>	Vicinity Map with local and major cross streets identified and a north arrow.

III. DRAINAGE PLAN

Yes	No	
<u> X </u>	<u> </u>	Sheet size: 24" x 36" sealed by a registered engineer in the State of Nevada.
<u> X </u>	<u> </u>	Minimum scale: 1" = 60'.
<u> X </u>	<u> </u>	Project Name.
<u> X </u>	<u> </u>	Vicinity Map with local and major cross streets.
<u> X </u>	<u> </u>	Revision box.
<u> X </u>	<u> </u>	North arrow and bar scale.
<u> X </u>	<u> </u>	Engineer's/consultant's address and phone number.
<u> X </u>	<u> </u>	Elevation datum and benchmark.
<u> X </u>	<u> </u>	Legend for symbols and abbreviations.
<u> X </u>	<u> </u>	Cut/fill scarps, where applicable.
<u> X </u>	<u> </u>	Street names, grades, widths.
<u> X </u>	<u> </u>	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.

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

III. DRAINAGE PLAN (Continued)

Yes	No	
<u>X</u>	<u> </u>	Existing contours encompassing the site and 100 feet beyond with spot elevations for important locations, where applicable
<u>X</u>	<u> </u>	Minimum finish floor elevations with top-of-curb elevations at upstream end of lot.
<u>X</u>	<u> </u>	Proposed typical street sections.
<u>NA</u>	<u> </u>	Streets with off-set crowns.
<u>X</u>	<u> </u>	Proposed contours or spot elevations in sufficient detail to exhibit intended drainage patterns and slopes.
<u>X</u>	<u> </u>	Property Lines.
<u>X</u>	<u> </u>	Right-of-way lines and widths, existing and proposed.
<u>X</u>	<u> </u>	Existing improvements and their elevations.
<u>X</u>	<u> </u>	Delineation of proposed onsite drainage basins indicating area and 10-year and 100-year storm peak flows at basin concentration points.
<u>X</u>	<u> </u>	Concentration points and drainage flow direction with Q100 and V100 and D100 in streets.
<u>X</u>	<u> </u>	Cumulative flows, velocity , and direction of flow at upstream and downstream ends of site for the 10-year and 100-year flows.
<u>NA</u>	<u> </u>	Location and cross-section of street capacity calculations.
<u>NA</u>	<u> </u>	Cross-sectional detail for channels, including cutoff wall locations.
<u>X</u>	<u> </u>	Existing and proposed drainage facilities, appurtenances, and connections (i.e., sidewalk, ditches, swales, storm drain systems, unimproved and improved channels, and culverts, etc.) stating size, material, shape, and slope with plan and profile and HGL calculations
<u>NA</u>	<u> </u>	Existing and proposed drainage easements and widths shown with sufficient detail. A cross sectional detail must be provided that shows appropriate lining and reinforcement.
<u>N/A</u>	<u> </u>	Location and detail of existing, proposed, and future block wall openings. Minimum size is 16" x 48". Wrought iron gate is required for flows > 10 cfs.
<u>N/A</u>	<u> </u>	Location and detail of flood walls illustrating depth of flow, proposed grouting height, etc.

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

III. DRAINAGE PLAN (Continued)

Yes	No	
<u>X</u>	<u> </u>	Perimeter retaining wall locations. All existing and proposed walls (retaining screen and flood) must be shown with adjacent ground elevations. Flood walls with 8-inch concrete masonry unit.
<u>X</u>	<u> </u>	Building and/or lot numbers.
<u>NA</u>	<u> </u>	Alignment of all existing, proposed, or future Regional Facilities adjacent to the site.
<u>NA</u>	<u> </u>	Limits of existing floodplain based on current FIRM or best available information; limits of proposed floodplains based on best available information.
<u>N/A</u>	<u> </u>	For areas in Zone A, AE, AH, and AO, base flood elevations (BFEs) must be shown for each lot; BFEs may be listed on each lot, or in a table. Finish floor elevations must be a minimum of 18 inches above BFE.
<u>NA</u>	<u> </u>	Appropriately elevated "humps" 6 inches above the 100 year water surface elevation at site accesses where the intent is to protect the site from the Q_{100} flows.
<u>X</u>	<u> </u>	Street slopes for perimeter and interior streets. The minimum slope is 0.4 percent.

IV. HYDROLOGIC ANALYSIS

Yes	No	
<u>NA</u>	<u> </u>	Appropriate soil information and Soils Map for existing and future conditions with subbasins and property delineated.
<u>NA</u>	<u> </u>	Input and output information for existing conditions from computer models (HEC-1 or TR-55). The flow routing diagram must be provided with HEC-1 models.
<u>NA</u>	<u> </u>	Input and output information for future conditions from computer models (HEC-1 or TR-55). The flow routing diagram must be provided with HEC-1 models.
<u>NA</u>	<u> </u>	Use of correct precipitation values in and around the McCarran Airport rainfall area.
<u>X</u>	<u> </u>	A discussion in the text of the hydrologic analysis justifying subbasin boundaries and cutoffs, supporting assumptions, and calculations.
<u>X</u>	<u> </u>	A summary table of stormwater flows showing basin area, Q_{10} and Q_{100} for both individual basins and combined basin flows, where applicable.
<u>X</u>	<u> </u>	Copies of supporting technical information referenced from a previously approved study and a statement accepting these results.
<u>X</u>	<u> </u>	On-site facilities must perpetuate flows through or around the site without significantly impacting adjacent property owners in accordance with current Nevada Drainage Law.

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

V. HYDRAULIC ANALYSIS

Yes <u>N/A</u>	No _____	Flow split calculations and supporting documentation or reference for the method of flow split calculations used.
<u>NA</u>	_____	Normal depth street flow calculations and cross section diagrams for all interior and perimeter streets. Provide "d x v" products for the Q_{100} and Q_{10} flows representing the worst case for interior and all perimeter streets. $Q_{100} \text{ d x v} \leq 8$. $Q_{10} \text{ d x v} \leq 6$ and 12 foot dry lane for rights-of-way ≥ 80 feet. Calculations must be labeled by street name as indicated on the Grading Plan
<u>NA</u>	_____	A summary table of interior and exterior street capacity calculations showing the street name, Q_{100} flow, slope, depth of flow, velocity and depth times velocity product and streets needing to meet 12 foot drv lane criteria.
<u>NA</u>	_____	Appropriate hydraulic calculations for block wall openings assuming a 50 percent vertical clogging factor. Assume the lower half of the opening is plugged.)
<u>NA</u>	_____	Appropriate hydraulic calculations at drainage easement entrance and discharge locations to set finish floor elevations. Hydraulic calculations must include submerged weir, superelevation and tee intersection losses, where appropriate
<u>X</u>	_____	Provide necessary freeboard requirements to set the finished floor elevations of all proposed buildings, 2 x depth of flow or depth of flow plus 18 inches of freeboard, whichever is less. The minimum requirement is 6 inches above adjacent upstream top of curb. Buildings adjacent to drainage easements must always be provided with 18 inches of freeboard above the Q_{100} weir height or flow depth, which ever is greater.
<u>NA</u>	_____	A complete water surface profile analysis (HEC-2, HEC-RAS, etc.) for channel flows and FEMA Zone A flood zones. • Field survey data. • Input and output information. • Plotted cross-sections based on survey with proper encroachments. • A map showing the location of the cross-sections. • Analysis of both sub and super-critical flow segments. • A summary table and a discussion of the results in the text of the report.
<u>N/A</u>	_____	Provide a 50 percent clogging factor in the capacity calculation for drop inlets.
<u>N/A</u>	_____	Hydraulic calculations for culverts and storm drains. D-Load calculations must be provided for storm drain pipes in public rights-of-way, including headwater pool inundation.
<u>X</u>	_____	The mitigation of nuisance water, both during construction and in the fully developed condition, must be addressed.

REFERENCE:

STANDARD FORM 2

July 1, 2014

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

**Re: Technical Drainage Study for Building E @ Tropical & Decatur
(aka Update #1 to the Technical Drainage Study for Decatur/215)**

Mr. Sung:

Civilworks has prepared this drainage study as an update to the approved Technical Drainage Study for Decatur/215. This study addresses the improvements for Building "E" only. The original study was conditionally approved on March 6, 2008 and subsequently concurred upon thereafter. Numerous updates were submitted and approved after the original drainage submittal (see approval letter in the reference material).

Location

The project area is within the Northeast Quarter (NE 1/4) of Section 25, Township 19 South, Range 60 East, Mount Diablo Meridian, City of Las Vegas, Nevada. The site is located on the northwest corner of Decatur Boulevard and Tropical Parkway (portion of APN 125-25-614-002). See Figure 1 and 1A, *Vicinity Map* and *APN Map*.

FEMA Floodplain Information

A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) Community-Panel Number 32003C1765F, effective date November 16, 2011 indicates the site is located within a FEMA Zone 'X'. A Zone 'X' is described by FEMA as areas outside of the 0.2% annual chance floodplain. A map depicting the FEMA flood zones in the vicinity of the site is included in the appendix of this study. (Figure 3- FIRM Map)

CCRFC Master Plan Information

As shown on Figure F-20 from the *Flood Control Master Plan Update of the Las Vegas Valley* (see Figures 4 and 5 in the Appendix), prepared by PBS&J, Louis Berger Group, etc., the subject site is not adjacent to a proposed Master Plan Flood Control Facility. Figure H-20 has also been provided (see Figure 6 in the appendix) and the site is a part of basin NW3A3-C.

Drainage Description

The existing offsite flows impacting the site come from the west. As shown in the approved *Technical Drainage Study for Decatur/215*, the Building "E" site is part of two onsite basins labeled ON-DEV5 and ON-DEV6 (see reference material). The flows are conveyed past the site in the existing driveway to the north and the existing valley gutter to the south. The flows are discharged in to Decatur Boulevard.

Conclusions

The finished floor shown on the original plans included in the approved *Technical Drainage Study for Decatur/215* are shown at an elevation of 2285.90 feet (see reference material). The current plans in this submittal show the finished floor elevation at 2286.00 feet. The finished floor is in compliance with the original approved study.

I trust this satisfies your concerns regarding this project. If there are any questions, or additional information necessary, please contact this office.

Sincerely,

Civilworks



Philip D. Wakefield, P.E.
Project Engineer

APPENDIX

FIGURES

Figure 1: Vicinity Map

Figure 1A: Assessor's Parcel Map

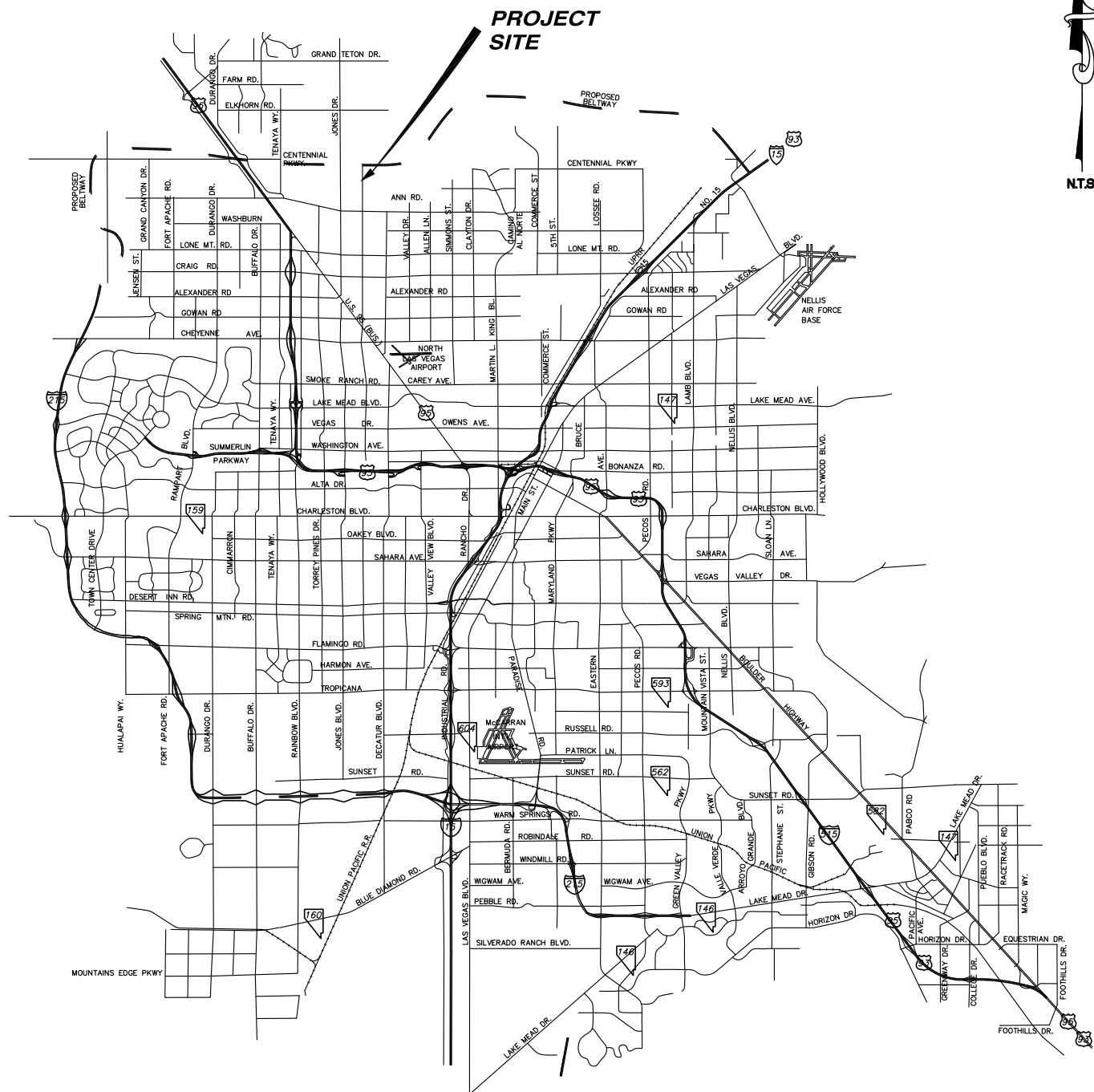
Figure 2: Site Description Map

Figure 3: F.I.R.M.

Figure 4: 2008 MPU Facility Map

Figure 5: 2008 MPU Facility Table

Figure 6: 2008 MPU Hydrologic Map



N.T.S.

CIVILWORKS
4945 W. PATRICK LANE
LAS VEGAS, NV 89118
(702) 534-7555 FAX:(702) 534-1825

FIGURE 1

VICINITY MAP

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

ASSESSOR'S PARCELS - CLARK CO., NV.

Michele W. Shafe - Assessor

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. 25

MAP S 2 NE 4

125-25-6

099	100	101	102
126	125	124	123
137	138	139	140
164	163	162	161

6	5	4	3	2	1
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36

8	4	8	4
5	1	5	1
6	2	6	2
7	3	7	3
8	4	8	4
5	1	5	1

Scale: 1" = 200'

Rev: 10/06/2011



FIGURE 1A



CCIVILWORKS
4945 W. PATRICK LANE
LAS VEGAS, NV 89118
(702) 534-7555 FAX:(702) 534-1825

FIGURE 2

SITE MAP

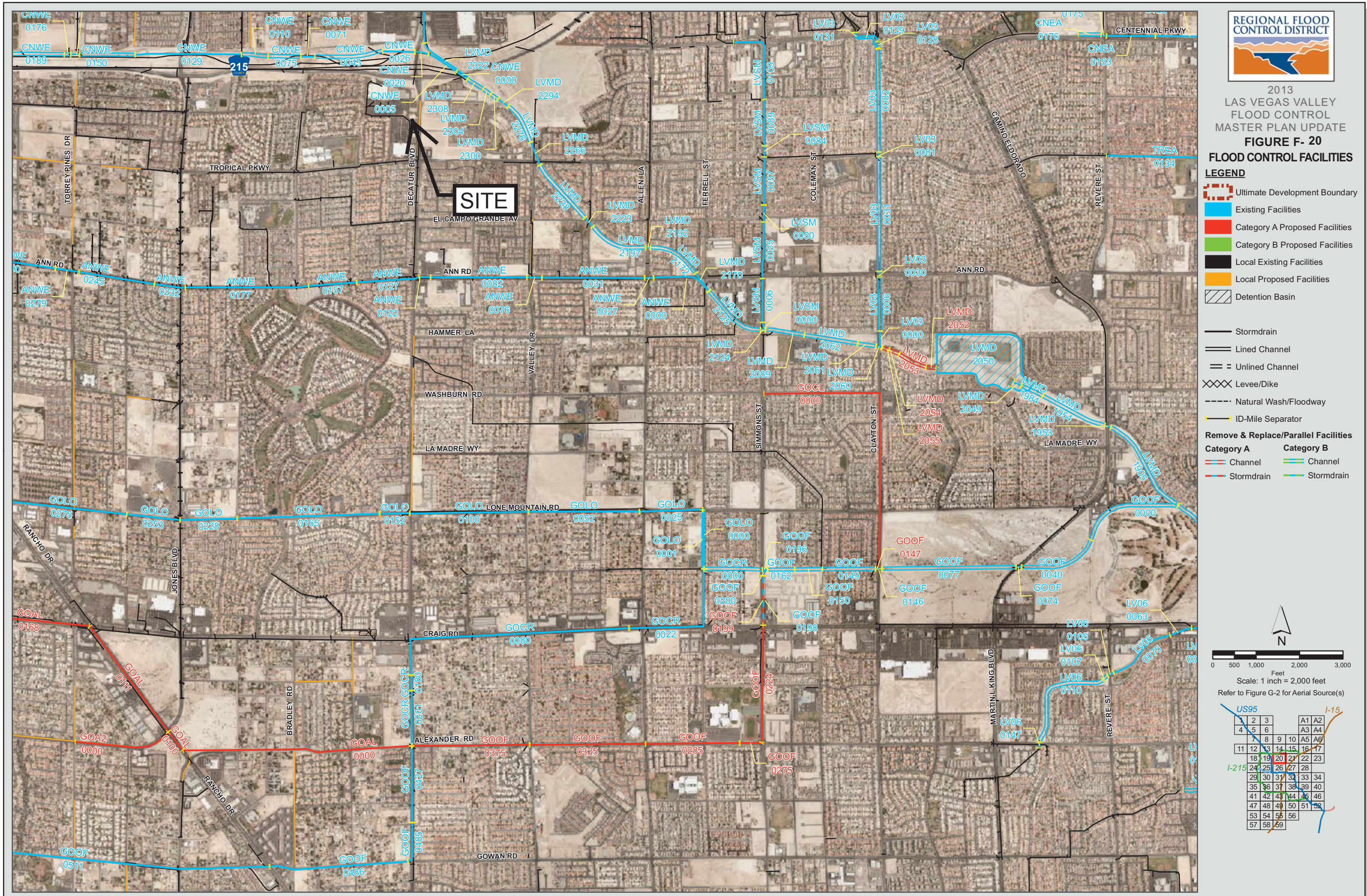


FIGURE 4

ID / River Mile	Status	Facility Description	Length (ft.)	Flow (cfs)	HEC-1 Node	HEC-1 Model	Tributary Area (sq.mi.)	Channel Slope (%) **
ANWE		ANN ROAD CHANNEL WEST						
0000	E	12' X 12' RCB	1400	2214	CNN043-C	CWEST3	3.41	0.66
0027	E	14' X 9' RCB	203	2214	CNN043-C	CWEST3	3.41	0.77
0031	E	12' X 10' RCB	2362	2214	CNN043-C	CWEST3	3.41	1.40
0076	E	16' X 8' RCB	350	2214	CNN043-C	CWEST3	3.41	0.93
0082	E	12' X 11' RCB	2217	1947	CNW3B2-C	CWEST3	2.99	0.71
0122	E	12' X 10' RCB	260	1947	CNW3B2-C	CWEST3	2.99	0.71
0127	E	10' X 8' RCB	1450	1947	CNW3B2-C	CWEST3	2.99	2.55
0157	E	10' X 9' RCB	1112	1257	CNW2D2-C	CWEST3	1.95	1.13
0177	E	12' X 10' RCB	2797	1257	CNW2D2-C	CWEST3	1.95	0.39
0232	E	12' X 8' RCB	714	1257	CNW2D2-C	CWEST3	1.95	0.43
0245	E	10' X 9' RCB	1721	993	CNW2D1-C	WEST3	6.84	0.80
0279	E	10' X 9' RCB	553	743	2CNW2B5C	WEST3	6.37	0.80
0290	E	8' X 8' RCB	2050	743	2CNW2B5C	WEST3	6.37	0.70
CNEA		CENTENNIAL PKWY CHANNEL EAST						
0123	E	14' X 6' RCB	1585	1457	CNN093-C	WEST3	1.67	0.92
0153	E	14' X 6' RCB	1125	1457	CNN093-C	WEST3	1.67	1.34
0175	E	15' X 6' RCB	125	1174	CNN078-C	WEST3	1.35	5.66
0176	E	Conc Chnl 15'W 6.5'D 0:1 SS	540	1174	CNN078-C	WEST3	1.35	0.70
CNWE		CENTENNIAL PKWY CHANNEL WEST						
0000	E	2: 27' X 10' RCB	309	4465	CNW3D3-C	WEST3	6.41	1.38
0005	E	4: 13.5' X 10' RCB	762	4465	CNW3D3-C	WEST3	6.41	1.10
0020	E	4: 13' X 10' RCB	310	4465	CNW3D3-C	WEST3	6.41	2.57
0026	E	4: 13.5' X 9' RCB	750	4465	CNW3D3-C	WEST3	6.41	0.61
0045	E	Conc Chnl 56'W 8'D 0:1 SS	1575	4465	CNW3D3-C	WEST3	6.41	0.61
0071	E	3: 18' X 8' RCBC @ Bradley	300	4465	CNW3D3-C	WEST3	6.41	0.61
0075	E	Conc Chnl 54'W 8'D 0:1 SS	775	4465	CNW3D3-C	WEST3	6.41	0.42
0110	E	Conc Chnl 54'W 9'D 0:1 SS	620	4382	2CW3B4-C	WEST3	6.15	0.42
0129	E	3: 18' X 8' RCB	2451	4382	2CW3B4-C	WEST3	6.15	0.40
0150	E	Conc Chnl 40'W 9.5'D 0:1 SS	2279	4233	CNW3B3-C	WEST3	5.64	0.42
0173	E	3: 18' X 8' RCBC @ Torrey Pines	200	4233	CNW3B3-C	WEST3	5.64	0.42
0176	E	Conc Chnl 40'W 9'D 0:1 SS	150	4233	CNW3B3-C	WEST3	5.64	0.41
0189	E	Conc Chnl 36'W 10'D 0:1 SS	1200	4067	CNW2D4-C	WEST3	5.15	0.42
GOA2		GOWAN OUTFALL - ALEXANDER BRANCH						
0000	P1	8' X 5' RCB	2281	523	CPT41-C	ALLGOW3	0.61	0.90
GOAL		GOWAN OUTFALL - ALEXANDER ROAD FACILITIES						
0000	P1	10' X 9' RCB	5280	1461	CPT5A2-C	ALLGOW3	3.23	1.00
0100	P1	10' X 8' RCB	540	1297	CCPT41-C	ALLGOW3	2.89	1.00
0111	P1	10' X 8' RCB	3000	880	CPT2B2	ALLGOW3	2.28	0.83
0168	P1	10' X 8' RCB	4200	880	CPT2B2	ALLGOW3	2.28	0.50
GOCL		GOWAN OUTFALL - CLAYTON BRANCH						
0000	P1	9' X 8' RCB	6785	814	CPT2B-1	ALLGOW3	1.11	0.61
GOCR		GOWAN OUTFALL - CRAIG ROAD						
0000	E	Conc Chnl 20'W 7'D 2:1 SS	1380	3101	CPT3D-3	ALLGOW3	5.78	1.06
0022	E	2: 8' X 8' RCB	3000	1120	CPT4C-2	ALLGOW3	1.75	0.50
0080	E	120" RCP	5850	995	CPT4C-1	ALLGOW3	1.50	0.50
0180	E	114" RCP	350	238	PT4B3-C	ALLGOW3	0.28	0.30
0201	E	96" RCP	1090	238	PT4B3-C	ALLGOW3	0.28	0.35
GOLO		GOWAN OUTFALL - LONE MTN. ROAD BRANCH						
0000	E	72" RCP	1370	308^	CPT2AD-1^	ALLGOW3	3.28	0.53
0001	E	13' X 8' RCB	1370	1433^	CPT2AD-1^	ALLGOW3	3.28	0.45
0025	E	16' X 8' RCB	1464	1741	CPT2AD-1	ALLGOW3	3.28	0.39
0052	E	16' X 8' RCB	2564	1741	CPT2AD-1	ALLGOW3	3.28	0.42
0100	E	16' X 8' RCB	2732	1605	C2AC2-C	ALLGOW3	2.96	0.37
0152	E	10' X 10' RCB	700	1605	C2AC2-C	ALLGOW3	2.96	0.71
0165	E	10' X 8' RCB	3300	1415	CPT2AB2	ALLGOW3	2.59	1.21
0228	E	10' X 8' RCB	1300	1244	C2AB1C	ALLGOW3	2.31	1.00
0253	E	10' X 6' RCB	1200	986	CPT3AC1	ALLGOW3	2.10	1.25
0275	E	8' X 6' RCB	3000	590	CPT3AA2	ALLGOW3	1.16	0.77
GOOF		GOWAN OUTFALL FACILITIES						
0000	E	Conc Chnl 20'W 7'D 2:1 SS	2500	5233	CPT-2B-3	GW5SC	14.66	1.25
0040	E	Conc Chnl 20'W 7'D 2:1 SS	1900	5058	CCPT2C1*	GW4SC	11.84	0.60
0074	E	2: 16' X 7' RCBC @ Camino Al Norte	131	5058	CCPT2C1*	GW4SC	11.84	1.30
0077	E	Conc Chnl 20'W 7'D 2:1 SS	3157	5058	CCPT2C1*	GW4SC	11.84	1.40
0146	E	3: 12' X 5' RCBC @ Clayton	150	4014^	CCPT2C1^	GW4SC	11.84	1.33
0147	P1	Add 1: 12' X 7' RCBC @ Clayton	150	1044^	CCPT2C1^	GW4SC	11.84	1.33
0149	E	Conc Chnl 20'W 7'D 2:1 SS	1228	5058	CCPT2C1	GW4SC	11.84	1.13
0150	E	Conc Chnl 20'W 7'D 2:1 SS	612	4772	CCPT3D-3	GW4SC	10.86	1.13
0162	E	Confluence Structure	678	4772	CCPT3D-3	GW4SC	10.86	0.90
0196	E	37.66' X 5.66' Bridge @ Simmons	112	3101	CPT3D-3	ALLGOW3	5.78	0.90
0198	E	14' X 6' RCB	1344	1164^	CPT4C-3^	GW3SC	5.85	0.41
0199	P1	Add 1: 24' X 6' RCB	1171	1581^	CPT4C-3^	GW3SC	5.85	0.40
0200	E	24' X 6' RCB	173	1581^	CPT4C-3^	GW3SC	5.85	0.89
0224	P1	1: 20' X 6' RCB and 1: 14' X 6' RCB	2700	2745	CPT4C-3	GW3SC	5.85	0.40
0275	P1	1: 16' X 8' RCB and 1: 14' X 6' RCB	515	2582	CPT5C-3	GW3SC	5.59	0.40
0285	P1	2: 14' X 8' RCB	2650	2582	CPT5C-3	GW3SC	5.59	0.45
0325	P1	2: 14' X 8' RCB	2650	2458	CPT5C-2	GW3SC	5.36	0.37
0375	P1	2: 12' X 8' RCB	2700	2375	CPT5C-1	GW3SC	5.17	0.56
0427	E	96" RCP	1510	630	DGOW2A	GW3SC	1.38	0.47
0485	E	90" RCP	1080	630	DGOW2A	GW3SC	1.38	0.47
0486	E	8' X 5' RCB	3300	630	DGOW2A	GW3SC	1.38	0.60
0511	E	8' X 5' RCB	8390	699	CPT6B-C	GW3SC	1.08	0.50
LV03		CLAYTON STREET CHANNEL						
0000	E	33' X 16' RCBC @ Hammer	400	1044	CNN057-C	WEST3	1.22	0.42
0006	E	Conc Chnl 9'W 9.4'D 1.5:1 SS	1300	1044	CNN057-C	WEST3	1.22	0.42
0030	E	2: 9' X 7' RCBC @ Ann	120	1044	CNN057-C	WEST3	1.22	0.42
0031	E	Conc Chnl 8'W 8.1'D 1.5:1 SS	2600	757	CNN054-C	WEST3	0.81	0.40
0081	E	2: 10' X 7' RCBC @ Tropical	100	757	CNN054-C	WEST3	0.81	0.42
0082	E	Conc Chnl 7'W 7.1'D 1.5:1 SS	2444	757	CNN054-C	WEST3	0.81	2.80
0128	E	Conc Chnl 7'W 7.1'D 1.5:1 SS	167	257	1/2NN052-C	WEST3	0.55	2.80
0129	E	2: 10' X 6' RCB	801	257	1/2NN052-C	WEST3	0.55	1.60
0131	E	10' X 6' RCB	665	257	1/2NN052-C	WEST3	0.55	1.28
LV05		WESTERN TRIBUTARY AT ALEXANDER RD						
0131	E	Conc Chnl 28'W 3'D 3:1 SS	1300	567	CLV99B-3	WEST3	0.64	0.76
LV06		WESTERN TRIBUTARY AT CRAIG RD						
0053	E	16' X 6' RCAP	782	1080	CLV99A-3	WEST3	1.31	1.56
0063	E	14' X 6' RCAP	526	1080	CLV99A-3	WEST3	1.31	1.88
0075	E	12' X 6' RCB	1608	1080	CLV99A-3	WEST3	1.31	0.72
0105	E	2: 8' X 6' RCBC @ Revere	158	1080	CLV99A-3	WEST3	1.31	1.71
0107	E	Conc Chnl 17.3'W 6'D 0:1 SS	140	1080	CLV99A-3	WEST3	1.31	3.79
0110	E	Conc Chnl 12'W 5.5'D 2:1 SS	2451	1080	CLV99A-3	WEST3	1.31	0.87
0147	E	12' X 6' RCBC @ Alexander	150	629	CLV99A-2	WEST3	0.74	1.16
LVMD		LAS VEGAS WASH - MIDDLE						
1877	E	Conc Chnl 30'W 10'D 1:1 SS	1570	6423	CNN104-C	WEST5	44.33	1.10
1905	E	Conc Chnl 12'W 10'D 1.65:1 SS	2440	3245	CNN086-C	WEST5	29.30	1.00
1953	E	2: 24' X 10' RCBC @ Camino Al Norte	145	3245	CNN086-C	WEST5	29.30	0.94
1954	E	Conc Chnl 32'W 7'D 2:1 SS	1587	3245	CNN086-C	WEST5	29.30	0.99
1984	E	Transition Structure	550	3221	LOWERDB	CWEST5	19.67	0.99
2048	E	68,000 cfs PMF Spillway		68000	LOWERIN	CWEST5	19.67	
2049	E	4: 7' X 7' RCB Outlet	200	3221	LOWERDB	CWEST5	19.67	
2050	E	700 ac-ft Lower Las Vegas Wash Detention Basin		6729	LOWERIN	CWEST5	19.67	
2052	P1	Conc Chnl 50'W 6'D 0:1 SS	240	6636	2C057-C	CWEST5	19.28	3.11
2053	P1	Conc Chnl 60'W 12'D 0:1 SS	690	6636	2C057-C	CWEST5	19.28	0.15
2054	P1	Conc Chnl 60'W 12'D 0:1 SS	260	6636	2C057-C	CWEST5	19.28	3.80
2055	P1	Conc Chnl 60'W 12'D 0:1 SS	165	6636	2C057-C	CWEST5	19.28	9.10
2060	E	4: 12.75' X 16' RCBC @ Clayton	144	6171	2C044-C	CWEST5	18.06	0.15
2061	E	Conc Chnl 54'W 16'D 0:1 SS	425	6171	2C044-C	CWEST5	18.06	0.15
2062	E	Conc Chnl 54'W 9'D 0:1 SS	1200	6171	2C044-C	CWEST5	18.06	1.35
2089	E	Conc Chnl 54'W 9'-9.5'D 0:1 SS	908	6171	2C044-C	CWEST5	18.06	0.50
2124	E	2: 26.5' X 10' RCBC @ Simmons	110	6046	2C043-C	CLVMD5	15.94	0.50
ID / River Mile	Status	Facility Description	Length (ft.)	Flow (cfs)	HEC-1 Node	HEC-1 Model	Tributary Area (sq.mi.)	Channel Slope (%) **
LVMD		LAS VEGAS WASH - MIDDLE						
2125	E	Conc Chnl 54'W 9'D 0:1 SS	1571	6046	2C043-C	CLVMD5	15.94	0.77
2170	E	4: 12' X 10' RCBC @ Ann Road	500	6046	2C043-C	CLVMD5	15.94	1.42
2172	E	Conc Chnl 50'W 10'D 0:1 SS	1289	5734	2C3D4-C*	CLVMD4	11.98	1.15
2192	E	2: 24.5' X 10' RCBC @ Allen	110	5734	2C3D4-C*	CLVMD4	11.98	1.15
2197	E	Conc Chnl 50'W 10'D 0:1 SS	1385	5734	2C3D4-C*	CLVMD4	11.98	1.37
2223	E	50' X 10' RCBC @ El Campo Grande	275	5734	2C3D4-C*	CLVMD4	11.98	1.60
2228	E	Conc Chnl 50'W 10'D 0:1 SS	1600	5734	2C3D4-C*	CLVMD4	11.98	1.83
2266	E	2: 24.5' X 10' RCBC @ Tropical	575	5734	2C3D4-C*	CLVMD4	11.98	0.80
2276	E	Conc Chnl 50'D 10'D 0:1 SS	985	5734	2C3D4-C*	CLVMD4	11.98	0.80
2294	E	2: 24.5' X 10' RCBC @ Ranchhouse	292	5734	2C3D4-C	CLVMD4	11.98	1.04
2300	E	Transition Structure	200	5734	2C3D4-C	CLVMD4	11.98	1.50
2304	E	Conc Chnl 70'W 10'D 0:1 SS	220	5734	2C3D4-C	CLVMD4	11.98	1.50
2308	E	Confluence Structure	480	5734	2C3D4-C	CLVMD4	11.98	0.90
2322	E	2: 15' X 9' RCB	1200	3317	CNW3D4-C	CWEST3	6.88	1.50
2324	E	2: 14' X 8' RCB	5485	3317	CNW3D4-C	CWEST3	6.88	0.40
LVSM		LAS VEGAS WASH-SIMMONS						
0000	E	12' X 8' RCB	195	790	CNN044-C	WEST3	0.81	0.63
0006	E	11' X 6' RCB	1005	790	CNN044-C	WEST3	0.81	0.30
0025	E	10' X 6' RCB	1310	790	CNN044-C	WEST3	0.81	0.44
0050	E	9' X 6' RCB	387	530	CNN040-C	WEST3	0.53	0.50
0057	E	8' X 6' RCB	1113	530	CNN040-C	WEST3	0.53	0.54
0084	E	72" RCP						

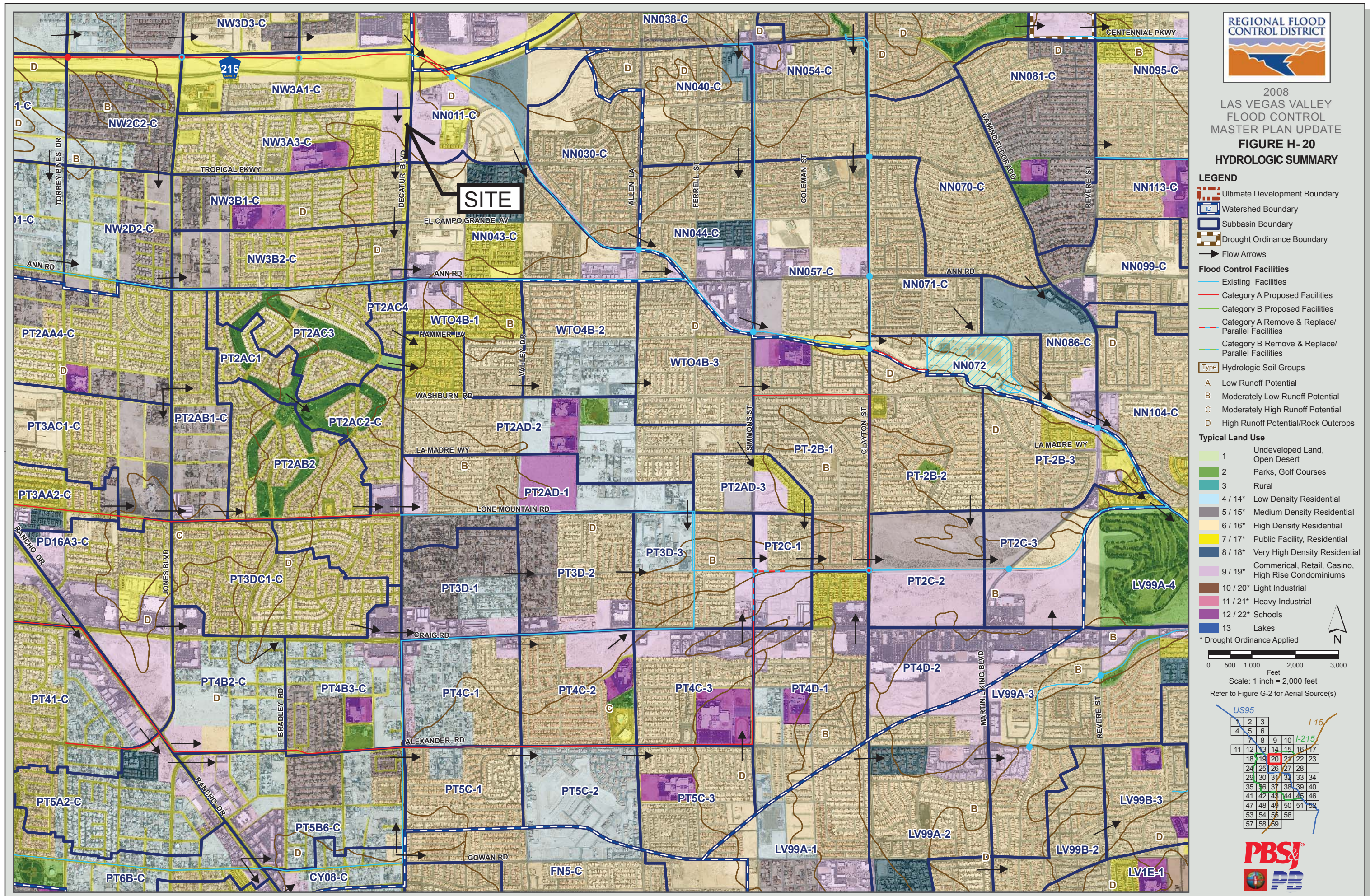


FIGURE 6

REFERENCE MATERIAL

Excerpts from the TDS for Decatur/215

CITY OF LAS VEGAS		DATE:	
INTER-OFFICE MEMORANDUM		November 18, 2008	
TO: Land Development Services Department of Public Works		FROM: Oh Sang Kwon, P.E. Flood Control Project Engineer Department of Public Works	
SUBJECT: Technical Drainage Study for Decatur and 215 – Update #3		COPIES TO: Southwest Engineering	
Cross Streets:	Decatur Blvd. & Tropical Pkwy.	Decatur III and IV, LLC	
File Number:	F:\Depot\DSMEMOS\DS4261K.doc	Bart Anderson, P.E., DevCo	
Parcel Number:	125-25-601-002 & 023, 125-25-510-010	CCPW	
Zoning Action:	TMP-25055 ; SDR-22582 & VAC-26687	CNLV	
FEMA Flood Zone	YES	NO	X
Proposed Storm Drain	YES	X	NO

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Trm. No.
1 st Submittal	12/7/2007	12/28/2007	Not Approved	\$400.00	83704: \$400
2 nd Submittal	1/24/2008	2/11/2008	Not Approved	\$400.00	86665: \$400
3 rd Submittal	2/20/2008 & 2/27/2008	3/6/2008	Not Approved	\$400.00	88505: \$400
Supplement	3/10/2008	3/10/2008	Conditionally Approved	N/C	N/C
CCDS	3/25/2008	5/8/2008	Concurrence	N/C	N/C
CNLV	4/28/2008	5/8/2008	Concurrence	N/C	N/C
Supplement	5/5/2008	5/8/2008	Approved	N/C	N/C
4 th Submittal	8/1/2008	8/7/2008	Approved	\$100.00	101048: \$100
5 th Submittal	9/25/2008 & 10/1/2008	10/6/2008	Not Approved	\$100.00	105362: \$100
6 th Submittal	10/8/2008	10/21/2008	Approved	\$400.00	106285: \$400
7 th Submittal	10/29/2008	11/4/2008	Not Approved	\$100.00	108181: \$100
Supplement	11/10/2008	11/13/2008	See Comment Below	N/C	N/C
TOTAL FEES (LDDRS):				\$1,900.00	----

REMARKS:

7th Submittal & Supplement: Update #3 to revise the lateral connection from D.I. #7 to the main storm drain in Decatur Boulevard

6th & 5th Submittals: Update #2 & Addendum to include Revision 7 and Revision 8

4th Submittal: Update #1 i) To change Drop Inlet #9 in Tropical Parkway from Type CM to Type A; ii) Re-route Drop Inlet #7 in Decatur Boulevard and Revise main line storm drain in slope and size

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

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

The following comments are repeated until they are complete:

1. Add the following note to the Final Map: "All subdivided parcels comprising this commercial subdivision shall provide perpetual inter-site common drainage rights across all existing and future parcel limits".
2. The vacation of existing drainage easements must be recorded prior to the recordation of the subject Final Map.
3. Revise all public drainage easement callout as "xx-ft Public Drainage Easement to be Privately Maintained".

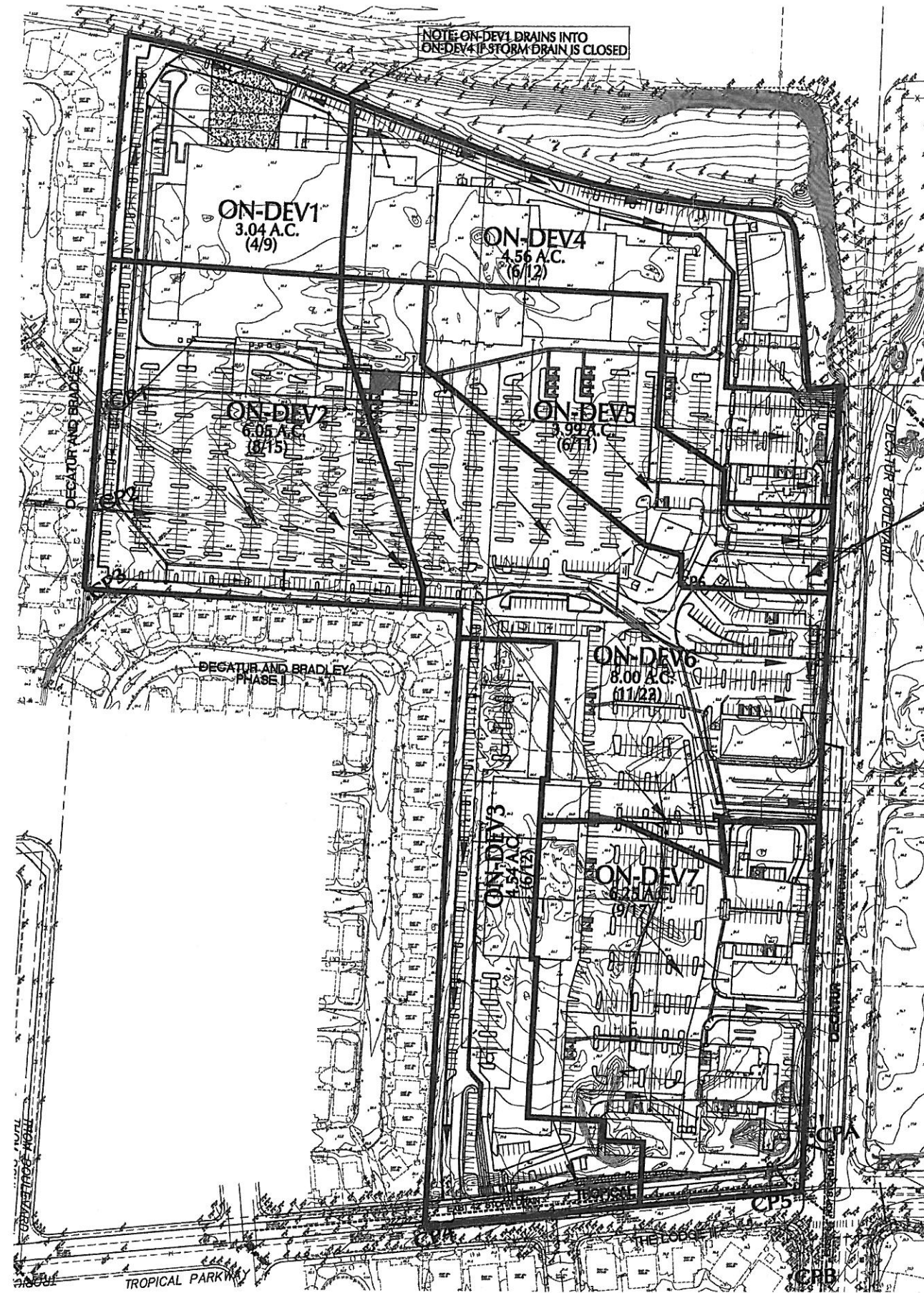
NOTE: Any future changes to the proposed design (or design assumptions) as outlined in the approved drainage study and attached preliminary grading plan which affect drainage must be addressed in a Drainage Study Amendment and accepted by the City of Las Vegas Flood Control Section. Additionally, conditional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

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

END OF REMARKS
BV/osk/ays

T/R/S: T19S/R60E/25
AREA G-25

Post-It* Fax Note	7671	Date	11/14/08	# of pages	2
To	Ed Rajnovich, P.E.	From	CLV		
Co./Dept.	Southwest Engineering	Co.	Flood Control		
Phone #		Phone #			
Fax #	648-41143	Fax #			



STREET FLOW SUMMARY								
STREET	Q10, CFS	Q100, CFS	d10, FT	d100, FT	v10, FPS	v100, FPS	10-YR, PXV	100-YR, PXV
TROPICAL PKWY	6	294	0.42	1.12	2.44	5.71	1.0	6.4
DECATUR BLVD	31 MAX	169 MAX	0.73	1.03 WEST HALF	2.88	3.88	2.1	4.0

FLOW SUMMARY			
CONC. POINT	Q10, CFS	Q100, CFS	COMMENT
CP1	18	45	FROM DRAINAGE STUDY FOR BRADLEY AND DECATUR
CP2	33	100	FROM DRAINAGE STUDY FOR BRADLEY AND DECATUR
CP3	N/A	N/A	MINIMAL DRAINAGE FROM THIS AREA
CP4	TOTAL= 52 SD= 52 SURFACE= 0	TOTAL= 334 SD= 52 SURFACE= 282	FROM DRAINAGE STUDY FOR THE LODGE III
CP5	TOTAL= 58 CFS SD= 52 CFS SURFACE= 6	TOTAL= 348 CFS SD= 52 CFS SURFACE= 294	CP4 ADDING ON-DEV3
CP6	59	160	CP1 & CP2 & ON-DEV2
CPA	95	231	FROM ON-DEV4 TO ON-DEV7 AND ON-DEV1 TO ON-DEV2
CPB	TOTAL= 153 CFS SURFACE= 15 CFS SD= 138 CFS	TOTAL= 577 CFS SURFACE= 439 CFS SD= 138 CFS	SURFACE AND STORM DRAIN (TOTAL)
ON-DEV1	4	9	INTO STORM DRAIN
ON-DEV2	8	15	INTO STORM DRAIN
ON-DEV3	6	12	TO TROPICAL PARKWAY
ON-DEV4	6	12	TO DECATUR
ON-DEV5	6	11	TO DECATUR
ON-DEV6	11	22	TO DECATUR
ON-DEV7	9	17	TO DECATUR

LEGEND

- EX-ON BASIN NAME
- * CP1 CONCENTRATION POINT
- 21/45 Q(10) / Q(100) IN CFS
- FLOW DIRECTION
- BASIN BOUNDARY



DECATUR/TROPICAL

070619.00

FIGURE 7

DEVELOPED CONDITION

(REVISED 01/08)

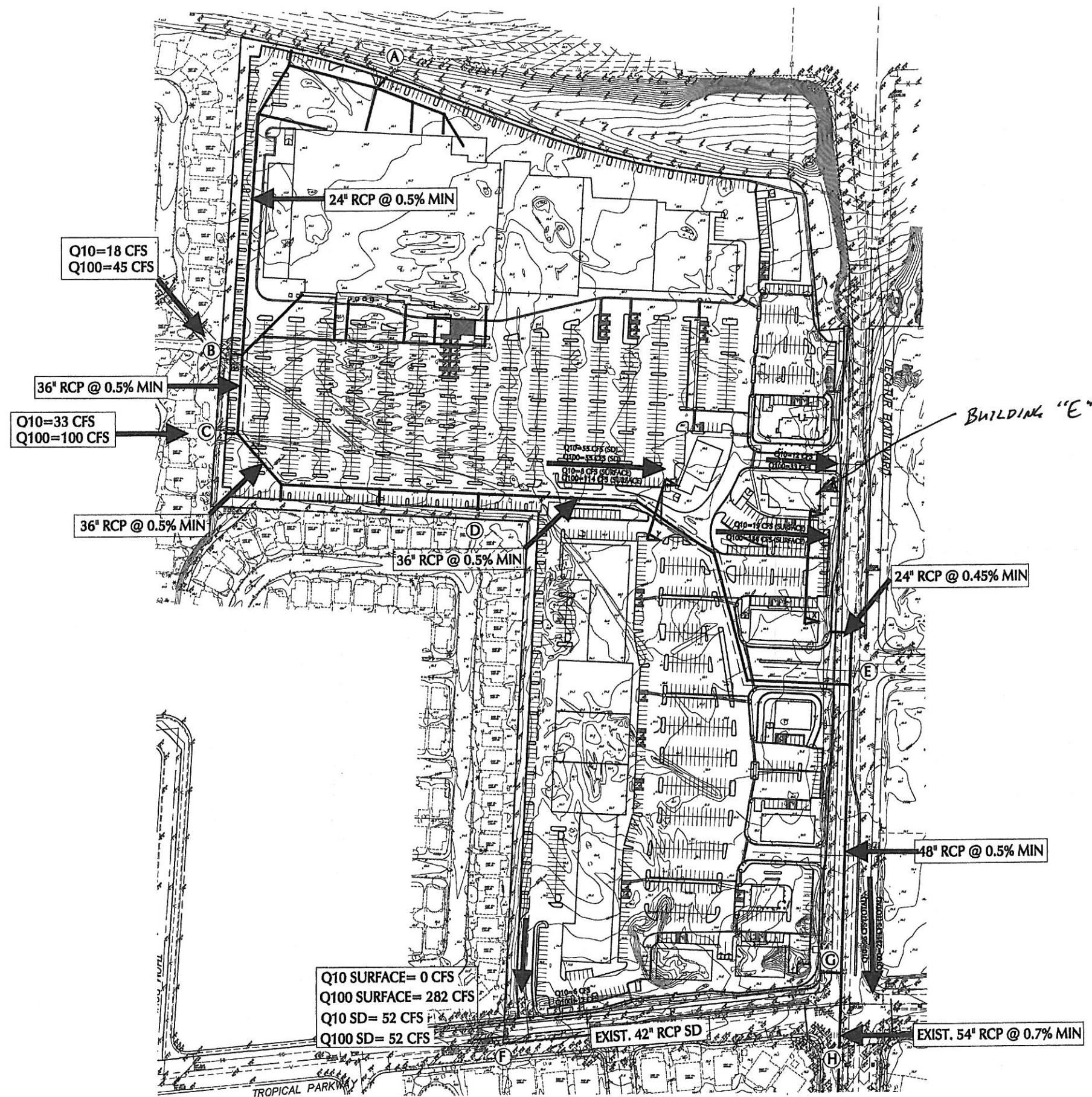
DRAINAGE MAP

1"=100' grading plan is a part of drainage study which was received on 1/24/2008 on 3610 North Rancho Drive Las Vegas, Nevada 89130 Telephone: (702) 648-9700 fax: (702) 648-4143



SOUTHWEST

LAND PLANNING • MAPPING • DEVELOPMENT



STORM DRAIN SUMMARY				
PT	Q10 IN SD	Q100 IN SD	Q10 INTO DI	Q100 INTO DI
A	4 CFS	9 CFS	4	9
B	22 CFS	34 CFS	18	25
C	55 CFS	55 CFS	33	21
D	55 CFS	55 CFS	0	0
E	86 CFS	86 CFS	31	31
F	52 CFS	52 CFS	0	0
G	86 CFS	86 CFS	0	0
H	138 CFS	138 CFS	0	0

SURFACE FLOW SUMMARY		
PT	Q10	Q100
A	0 CFS	0 CFS
B	0 CFS	20 CFS
C	0 CFS	99 CFS
D	8 CFS	114 CFS
E	0 CFS	138 CFS
F	0 CFS	282 CFS
G	9 CFS	155 CFS
H	15 CFS	439 CFS



DECATUR/TROPICAL

070619.00

FIGURE 8
STORM DRAIN
SYSTEM (REVISED 01/08)
1"=100'



SOUTHWEST

LAND PLANNING • MAPPING • DEVELOPMENT

This drawing is a
part of drainage study
4261 which was received
12/24/2000 and rejected on
1/3/2001
3610 North Rancho Drive
Las Vegas, Nevada 89130
Telephone: (702) 648-9700
fax: (702) 648-4143

CONDITIONS OF APPROVAL

SDR-52798



LAS VEGAS
CITY COUNCIL

CAROLYN G. GOODMAN
MAYOR

STAVROS S. ANTHONY
MAYOR PRO TEM

LOIS TARKANIAN
STEVEN D. ROSS
RICKI Y. BARLOW
BOB COFFIN
BOB BEERS

ELIZABETH N. FRETWELL
CITY MANAGER

February 13, 2014

RECEIVED

FEB 20 2014

NADEL

Mr. George Vesley
Decatur 215 of Nevada, LLC
4440 North 36th Street, Suite 200
Phoenix, Arizona 85018

**RE: SDR-52798 [PRJ-52712] - MINOR SITE DEVELOPMENT PLAN REVIEW
ADMINISTRATIVE CYCLE - MARCH 2014**

Dear Applicant:

Your request for a Minor Amendment of a previously approved Site Development Plan Review (SDR-22582) FOR A PROPOSED 8,184 SQUARE-FOOT RETAIL BUILDING WITH A 500 SQUARE-FOOT PATIO, AND TRASH ENCLOSURES AND LOADING ZONE RELOCATIONS on a portion of 16.95 acres at 6095 North Decatur Boulevard (APN 125-25-614-002), C-1 (Limited Commercial) Zone, Ward 6 (Ross) [PRJ-52712], has been considered administratively by the Department of Planning staff.

The Department of Planning has administratively **APPROVED** your request, subject to the following:

Planning

1. Approval of and conformance to the Conditions of Approval for Site Development Plan Review (SDR-22582) shall be required, if approved, except as modified herein.
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 development shall be in conformance with the site plan, landscape plan, and building elevations, date stamped 02/04/14, except as amended by conditions herein.
4. 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.
5. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.

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

VOICE 702.229.6301

FAX 702.474.0352

TTY 702.386.9108

www.lasvegasnevada.gov



Mr. George Vesley
Decatur 215 of Nevada, LLC
SDR-52798 [PRJ-52712] - Page Two
February 13, 2014

6. 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.
7. All City Code requirements and design standards of all City Departments must be satisfied, except as modified herein.

Public Works

8. An Update to the previously approved Drainage Plan and Technical Drainage Study must be submitted to and approved by the Department of Public Works prior to the issuance of any grading or building permits, submittal of construction drawings or the submittal of a Final Map for this site, whichever may occur first. Provide and improve all drainageways as recommended in the approved drainage plan/study.

This action by the Department of Planning staff on February 13, 2014 is final unless a written appeal is filed with the Director of the Department of Planning within ten days of the date of this letter.

Sincerely,



Steve Gebeke, AICP
Planning Supervisor
Public Planning Division

SG:nl

cc:

Mr. Jeremy Strawn
Nadel Nevada, Inc
175 East Warm Springs Road
Las Vegas, Nevada 89119

PLANS

**Grading Plan
Detail Sheet**

ABBREVIATIONS		
(SEE CIV. SHT. FOR COMPLETE LIST)		
AC	ASPHALTIC CONCRETE	
ADJ	ADJUST	
AGG	AGGREGATE	
BC	BACK OF CURB	
BCR	BEGINNING OF CURB RETURN	
BEG	BEGINNING OF VERTICAL CURVE	
BSW	BACK OF SIDEWALK	
BVC	BEGINNING OF VERTICAL CURVE	
CATV	CABLE TV	
CCAUSD	CLARK COUNTY AREA UNIFORM STANDARD DRAWING	
CCRFCD	CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT CENTERLINE	
CL	CITY OF LAS VEGAS	
CMU	CONCRETE MASONRY UNIT	
CO	CLEAN OUT	
COMM	COMMUNICATIONS	
CONC	CONCRETE	
COND	CONDUIT	
CULV	CULVERT	
DC	DEPRESSED CURB	
DI	DROP INLET	
DIP	DUCTILE IRON PIPE	
DOM	DOMESTIC	
ELEC	ELECTRIC	
EAC	EDGE OF AC	
EC	END OF CURVE	
ECR	END OF CURB RETURN	
ELEV	ELEVATION	
EP	EDGE OF PAVEMENT	
EVC	END OF VERTICAL CURVE	
EX	EXISTING	
FAST	FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION	
FF	FINISH FLOOR	
FG	FINISH GRADE	
FI	FIRE HYDRANT	
FL	FLOW LINE	
FO	FIBER OPTICS	
FS	FINISHED SURFACE	
GB	GRADE BREAK	
HDPE	HIGH DENSITY POLYETHYLENE	
HGL	HYDRAULIC GRADE LINE	
HP	HIGH POINT	
INV	INVERT	
IRR	IRRIGATION	
LAT	LATERAL	
LF	LINEAL FEET	
LS	LANDSCAPE	
LI	LEFT	
LVWD	LAS VEGAS VALLEY WATER DISTRICT	
MAX	MAXIMUM	
MH	MANHOLE	
MIN	MINIMUM	
MTR	METER	
PB	PULL BOX	
PL	PROPERTY LINE	
PP	POWER POLE	
PROP	PROPOSED	
PVC	POLY VINYL CHLORIDE PIPE	
PMAT	PAVEMENT	
RM	TOP OF MANHOLE OR CLEANOUT	
RT	RIGHT	
R/W	RIGHT-OF-WAY	
SS	SANITARY SEWER	
SD	STORM DRAIN	
SNWA	SOUTHERN NEVADA WATER AUTHORITY	
STA	STATION	
STLT	STREET LIGHT	
SVZ	SIGHT VISIBILITY ZONE	
SW	SIDEWALK	
TEL	TELEPHONE	
TC	TOP OF CURB	
TF	TOP OF FOOTING	
TV	TOP OF WALL	
TYP	TYPICAL	
UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS	
VG	VALLEY GUTTER	
WL	WATER LINE	

LEGEND		
DESCRIPTION	EXISTING	PROPOSED
UTILITIES		
B.O. VALVE		
FIRE HYDRANTS		
CLEAN OUT		
GATE VALVE		
METER		
REDUCER		
CAP		
11.25' ELBOW		
22.5' ELBOW		
45' ELBOW		
90' ELBOW		
CROSS		
TEE		
MANHOLES		
ELECTRICAL		
SANITARY SEWER		
STORM DRAIN		
TELEPHONE		
STREET LIGHTS		
100W HPS S.L.T.		
150W HPS S.L.T.		
200W HPS S.L.T.		
250W HPS S.L.T.		
400W HPS S.L.T.		
GRADING		
SPOT ELEV.	(12.34)	12.34
SLOPE	(1.2%)	1.2%
5' CONT.	(2005)	(2005)
1' CONT.	(2007)	(2007)
SITE		
SGN		
"L" CURB		
"A" CURB		
EDGE OF PAVT.		
WALL		
LINE TYPES		
CL OR SECTION LINE		
PROPERTY LINE		
RIGHT OF WAY LINE		
EASEMENT LINE		
SAWTOOTH LINE		
FLOW LINE		
SHADES		
HEAVY AC PAVEMENT		
LIGHT AC PAVEMENT		
CONCRETE PAVEMENT		

FLOOD ZONE NOTE

A REVIEW OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY-PANEL NUMBER 32003C1765F DATED NOVEMBER 16, 2011 INDICATES THE SITE IS LOCATED WITHIN A FEMA ZONE "X". A ZONE "X" IS DESCRIBED AS FEMA AREAS OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN.

GEOTECHNICAL NOTES:

A GEOLOGIST OR GEOTECHNICAL ENGINEER SHALL BE ON SITE DURING EXCAVATION AND MASS GRADING OPERATIONS TO EXAMINE THE SOIL CHARACTERISTICS AND GEOLOGICAL CONDITIONS ENCOUNTERED, AND TO PROVIDE PROFESSIONAL ADVICE TO THE OWNER IN THE EVENT THAT UNANTICIPATED SOIL PROBLEMS ARISE AND/OR SUBSURFACE SITE CONDITIONS ARE FOUND TO BE SIGNIFICANTLY DIFFERENT THAN DEFINED BY PRE-DESIGN EXPLORATION AND TESTING.

CONTRACTOR TO ENSURE POSITIVE DRAINAGE. NO PONDING ALLOWED. CONTRACTOR TO FOLLOW RECOMMENDATIONS AS OUTLINE IN THE PROJECT GEOTECHNICAL REPORT, INCLUDING BUT NOT LIMITED TO EXCAVATION, GRADING AND COMPACTION. REFER TO THE REPORT PREPARED BY:

XXXXXXXX
DATE: XXXXXXXX
PROJECT NUMBER XXXXXXXX

STORMWATER MANAGEMENT NOTES:

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF THE CITY OF LAS VEGAS AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.

2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN THE CITY OF LAS VEGAS ORDINANCE 14.18 AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.

3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVRI00000, SECTION III.A.5.

4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPs WEEKLY, AND WITHIN 24 HOURS AFTER ANY RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVRI00000, SECTION III.A.5.

5. ACCUMULATED SEDIMENT IN BMPs SHALL BE REMOVED WITHIN SEVEN DAYS AFTER 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.

GRADING NOTES:

1. SLOPES 4:1 OR STEEPER AND FINE-GRAINED MATERIALS THAT HAVE BEEN DISTURBED (SANDY AND SILTY MATERIALS) SHOULD BE PROTECTED WITH BURLAP OR OTHER EROSION CONTROL FABRIC/MATERIAL, UNLESS OTHERWISE SPECIFIED BY LANDSCAPE DRAWINGS AND SPECIFICATIONS OR THE SOILS REPORT.

2. CONTRACTOR SHALL DETERMINE HIS OWN FOOTING OR BASEMENT EXCAVATION QUANTITIES, EVEN THOUGH SHOWN ON ROUGH GRADING PLANS. ADDITIONALLY, STRUCTURE BACKFILL COSTS SHOULD BE INCLUDED IN THE COST OF THE STRUCTURE, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.

3. CONTRACTOR SHALL NOTIFY CIVILWORKS INC WITHIN 24 HOURS OF OMISSIONS AND ERRORS DISCOVERED ON PLANS. CIVILWORKS INC WILL NOT BE RESPONSIBLE FOR ANY "CORRECTIVE" WORK DONE BY OTHERS.

GRADING PLAN CERTIFICATION

BRANDON A. POTTS PE #13121 DATE:

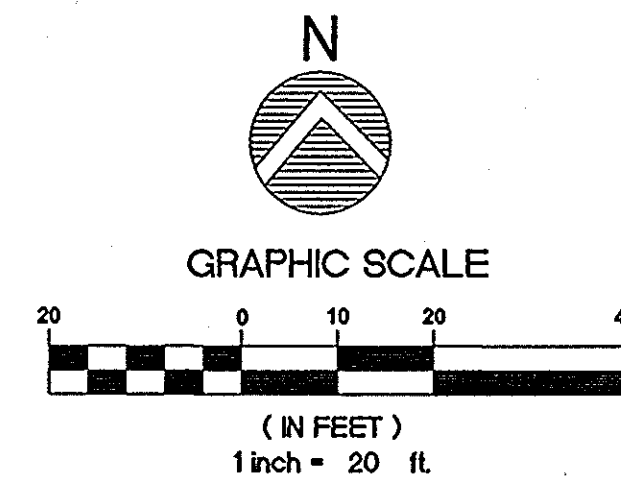
CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH APPROVED DRAINAGE STUDY XXXXX FOR THIS SITE ON FILE AT CITY OF LAS VEGAS FOR THIS PROJECT.

CURB TABLES

LINE	LENGTH	BEARING
L1	16.00	N01°19'58"W
L2	5.44	N37°41'15"E
L3	5.50	N37°41'15"E
L4	15.98	N35°22'35"E

CURVE	LENGTH	RADIUS	TANGENT	DELTA
C1	3.15	2.00	2.00	90°06'49"
C2	3.28	2.00	2.15	94°03'57"
C3	3.14	2.00	2.00	90°00'00"
C4	3.22	2.00	2.08	92°18'40"
C5	9.50	100.57	4.75	52°14'21"
C6	84.68	734.71	42.39	6°36'13"
C7	32.60	82.18	16.52	22°43'40"

*LENGTHS AND DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE STATED.



BENCHMARK

CITY OF LAS VEGAS BENCHMARK: SLV9025E4

RIVET AND PLATE IN TOP OF CURB @ SW CORNER OF TROPICAL PARKWAY & DECATUR.

ELEV. = 2275.77 (US SURVEY FEET)
693.657 (METERS)

BASIS OF BEARING

NORTH 02°01'35" EAST BEING THE CENTERLINE OF DECATUR BOULEVARD AS SHOWN BY MAP THEREOF ON FILE IN BOOK 140, PAGE 42 OF PLATS, IN THE CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

CONSTRUCTION NOTES:

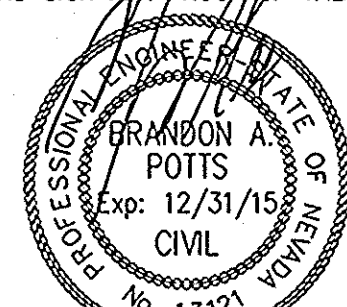
- ALL CONSTRUCTION TO BE DONE IN ACCORDANCE WITH "CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS (C.C.A.U.S.D.)" LATEST EDITION AND/OR REGULATING ENTITY HAVING JURISDICTION.

- CONSTRUCT AC PAVEMENT TO MATCH EXISTING.
- SAWCUT AND MATCH EXISTING AC.
- CONSTRUCT "A" TYPE CURB PER CCAUSD #216.
- REMOVE EXISTING LANDSCAPE BLOCK WALL AND CONSTRUCT 2' CMU RETAINING WALL WITH 4' PERIMETER WALL ON TOP PER DETAIL ON SHEET C5.
- CONSTRUCT 4' HIGH CMU RETAINING WALL W/ HANDRAILS PER DETAIL ON SHEET C5.
- CONSTRUCT "O" CURB FACE WITHIN LIMITS SHOWN.
- GRADE SWALE @ 1% MINIMUM PER PLAN.
- MATCH EXISTING ELEVATIONS.
- INSTALL 16 LF 4" PVC PIPE @ 1.0% TO DRAIN UNDER SIDEWALK.
- TRANSITION FROM 6" CURB FACE TO 0" CURB FACE.
- CONSTRUCT CONCRETE SIDEWALK (WIDTH VARIES) PER CCAUSD #234.
- RELOCATE EXISTING PALM TREE AT OWNER'S DIRECTION.
- REMOVE EXISTING CURB.
- PLACE PREFAB CONCRETE SPLASH BLOCK IN LANDSCAPING AT ROOF DRAIN LOCATION.
- TRASH ENCLOSURE PER ARCHITECT'S PLANS
- REMOVE EXISTING TREE
- RELOCATE EXISTING LOW VOLTAGE LANDSCAPE LIGHTING & PULLBOXES AT OWNER'S DIRECTION
- CONSTRUCT SIDEWALK RAMP @ 8.33% MAX. TRUNCATED DOMES PER CCAUSD #235.
- RELOCATE EXISTING ELECTRICAL PULLBOX
- CONTRACTOR TO VERIFY EXISTING CURB AT BACK OF RAMP. REMOVE CURB AND TRANSITION TO SIDEWALK.

GRADING PLAN

PROJECT NO.	0007200
DATE	01/15/15
DESIGNED BY	BRANDON A. POTTS
CHECKED BY	BRANDON A. POTTS
REVISIONS	
NO.	
DATE	
BY	
REASON	

PRINTS REQUIRE ENGINEER'S SEAL AND SIGN FOR PROOF OF VALIDITY



SHEET #	C3
3 OF 5	

CivilWorksInc
Engineering with "Sensible" solutions tailored to your "specific" needs.

Las Vegas, NV 89118
4945 W. Patrick Lane
Office #: (702)534-7555 Fax #: (702)534-1825

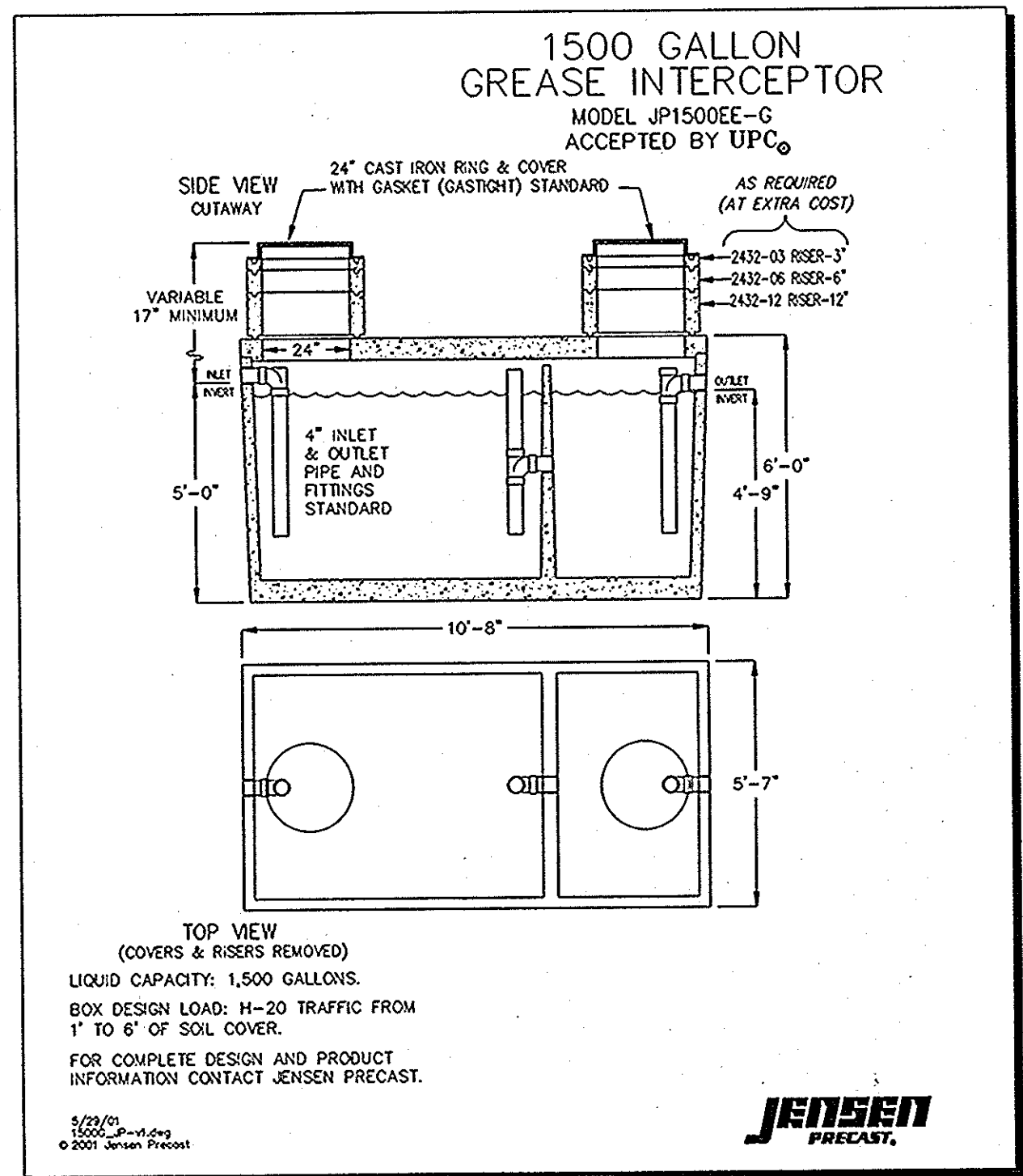
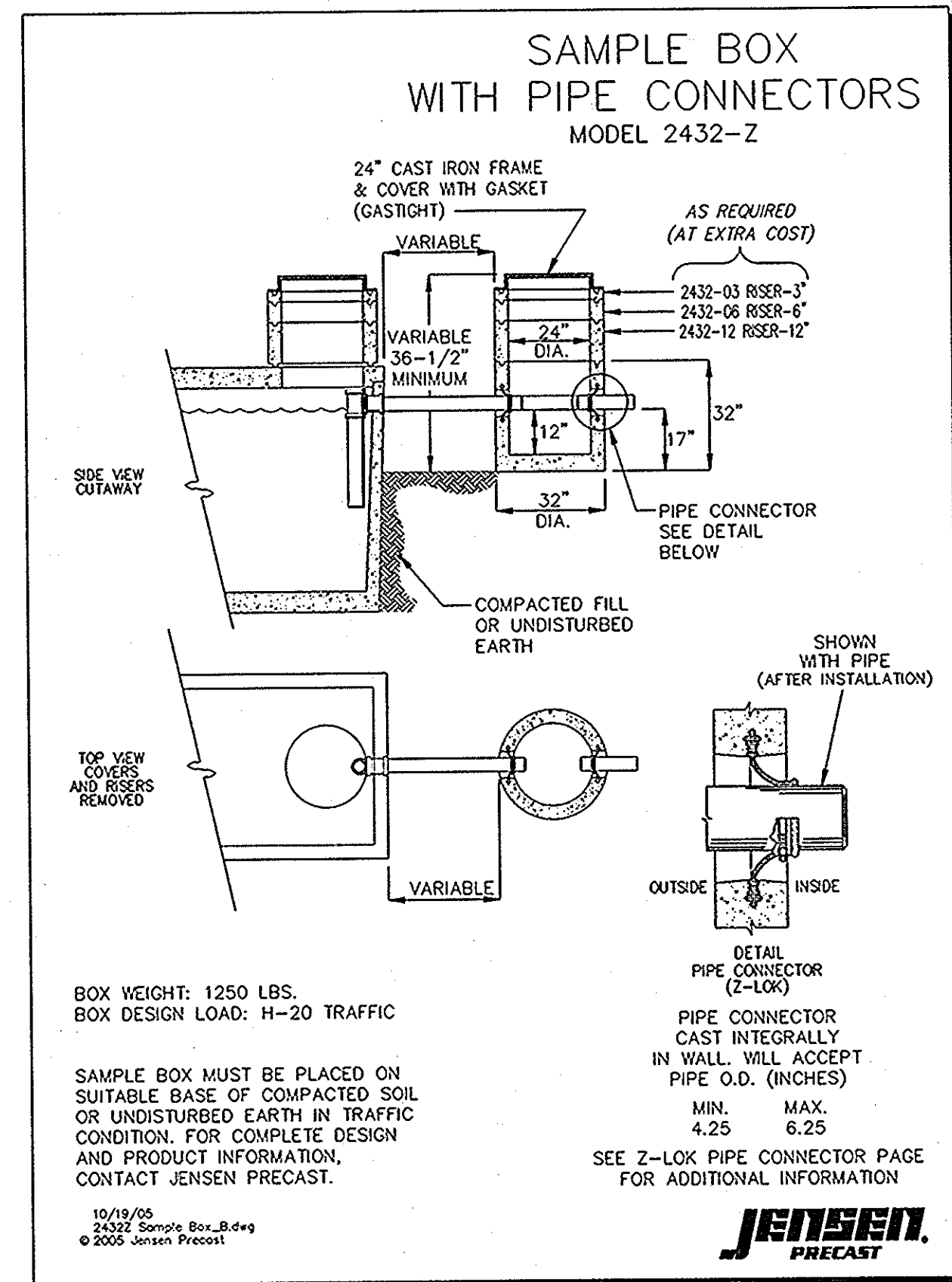
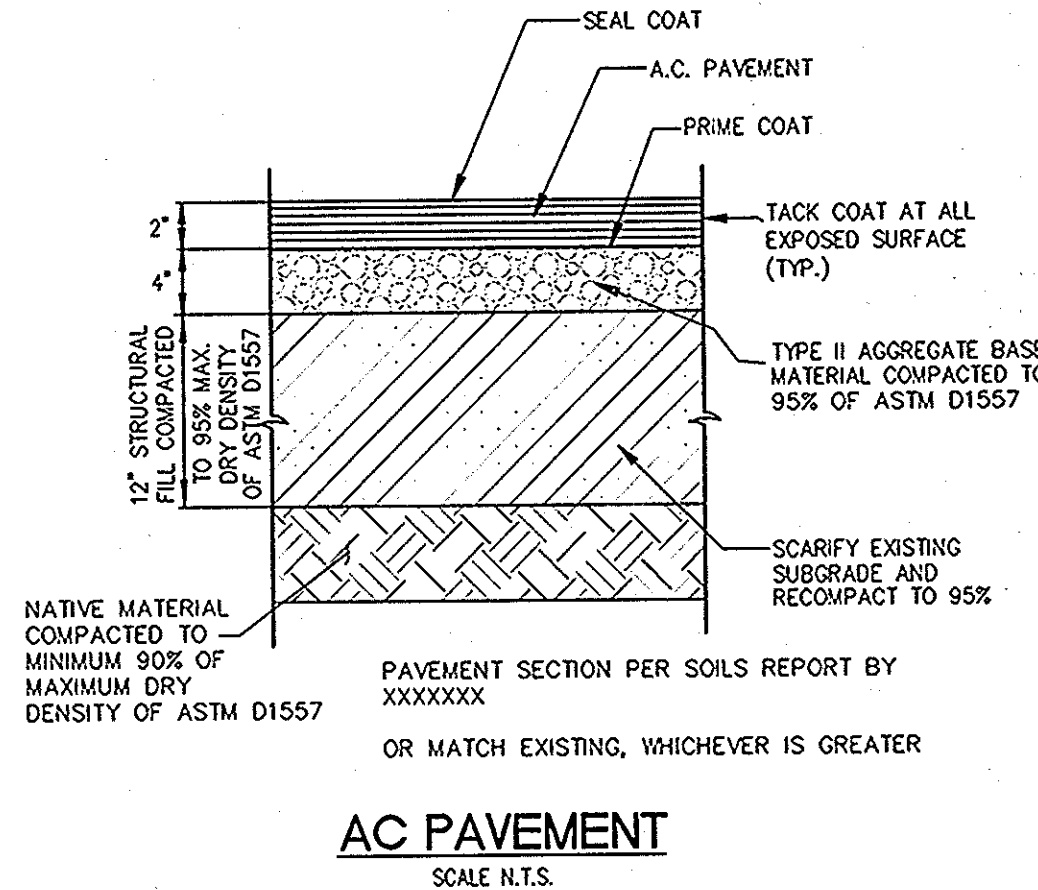
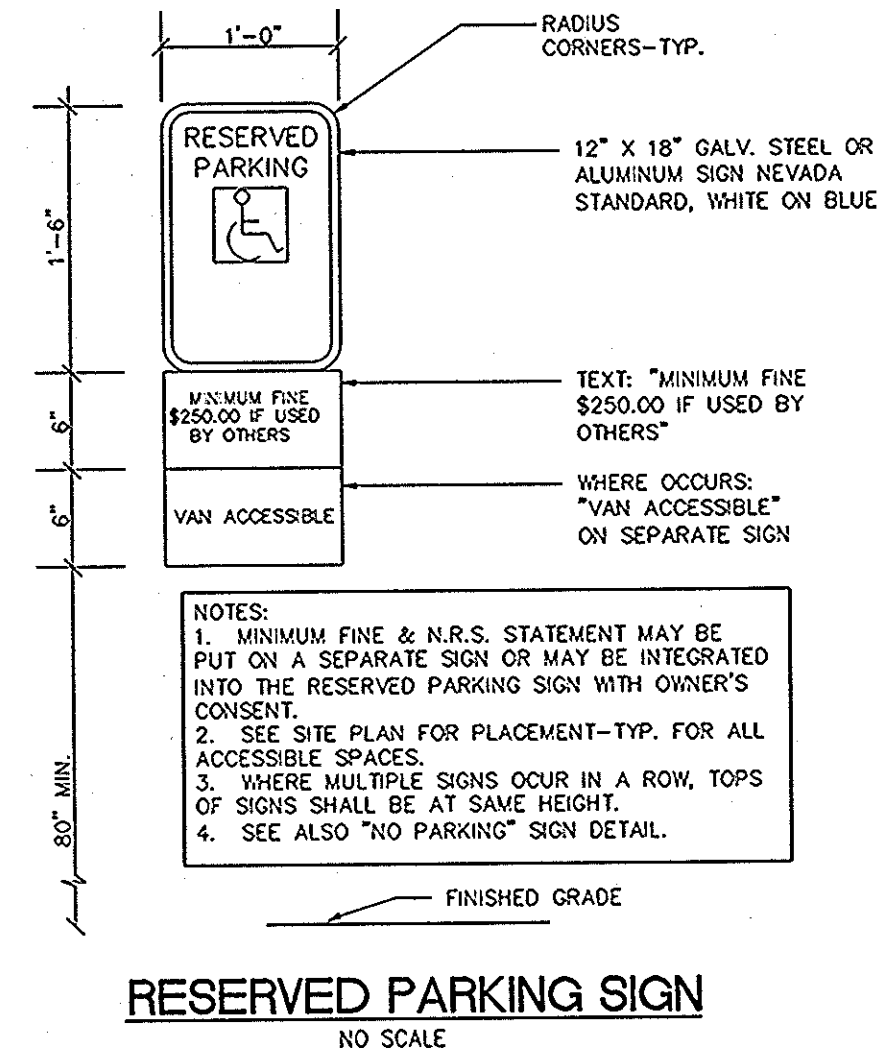
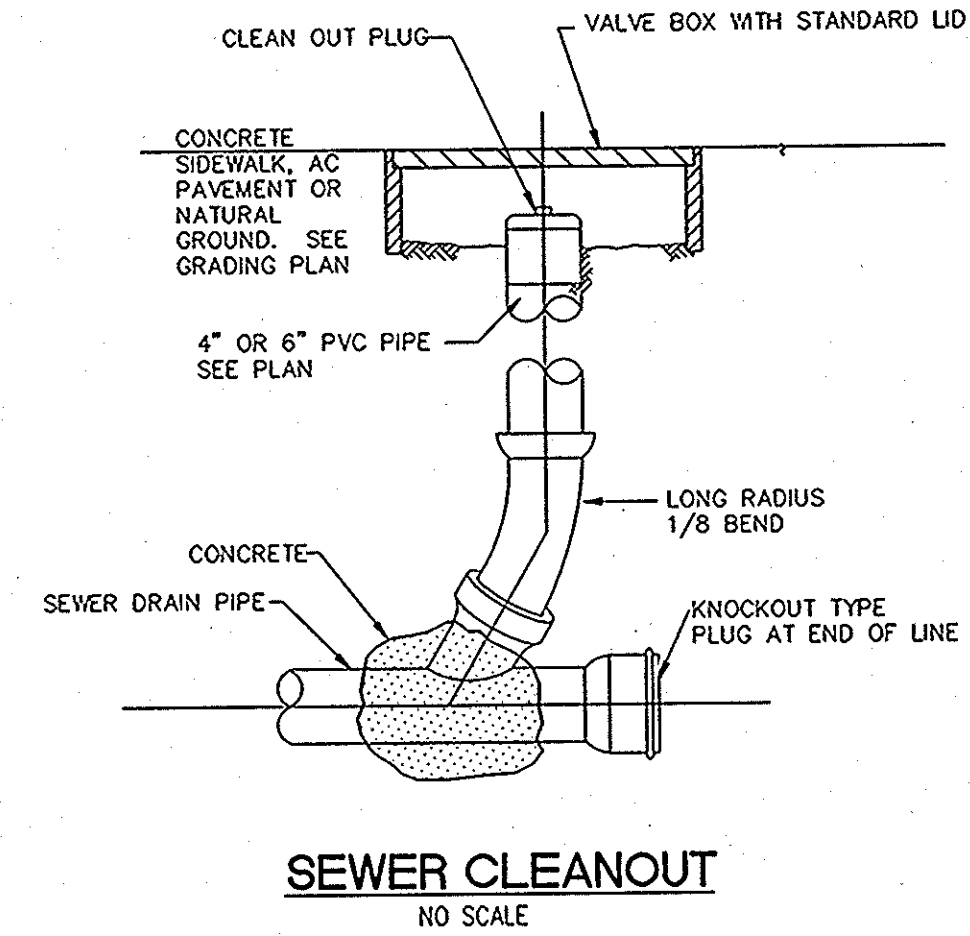
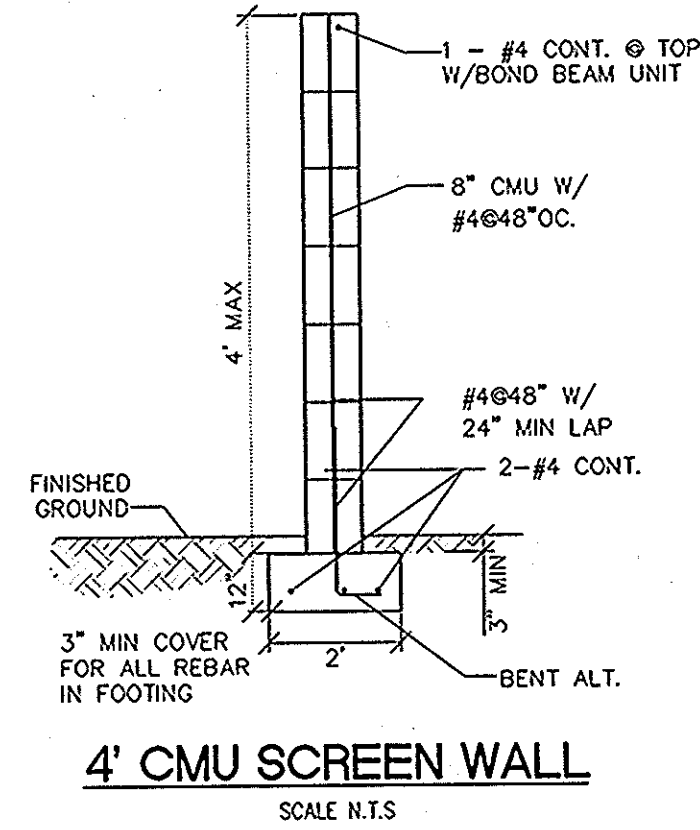
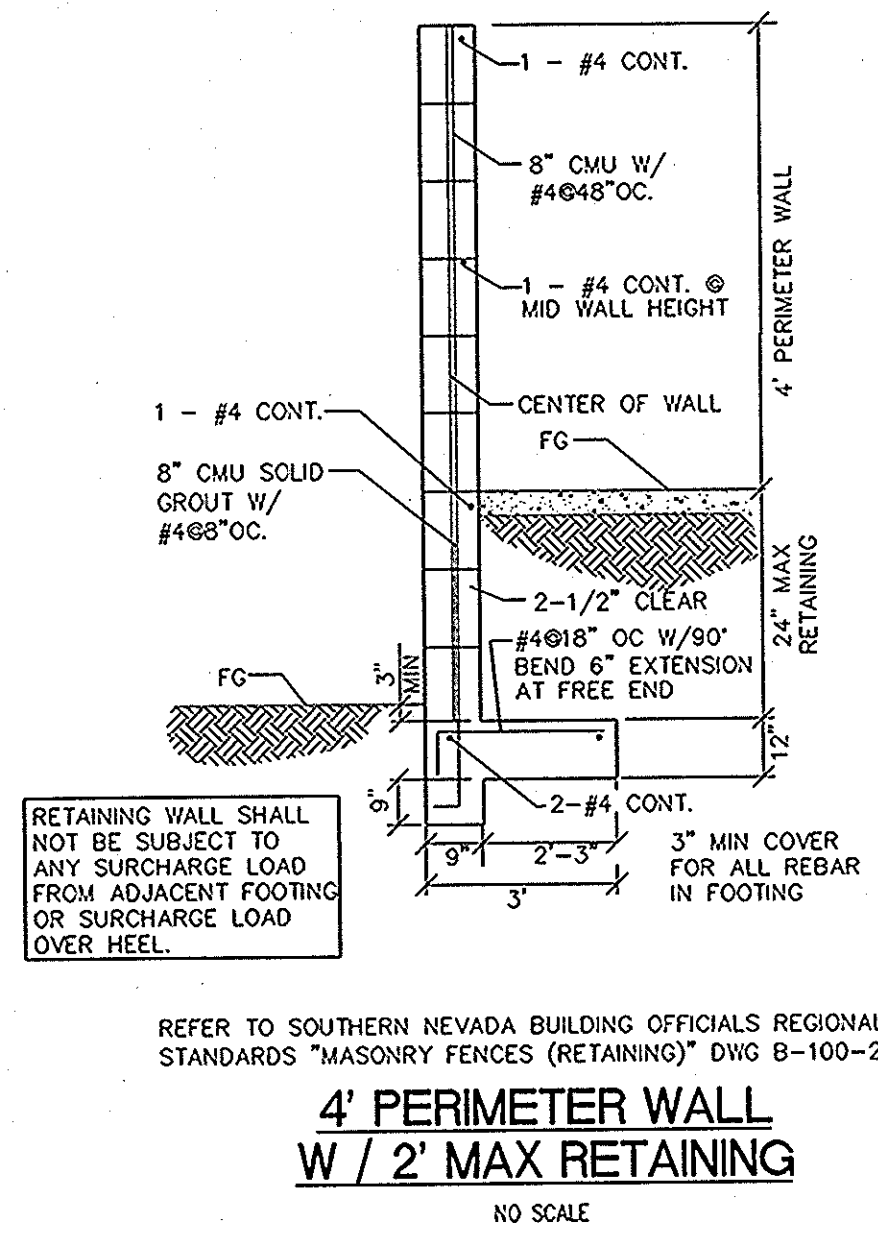
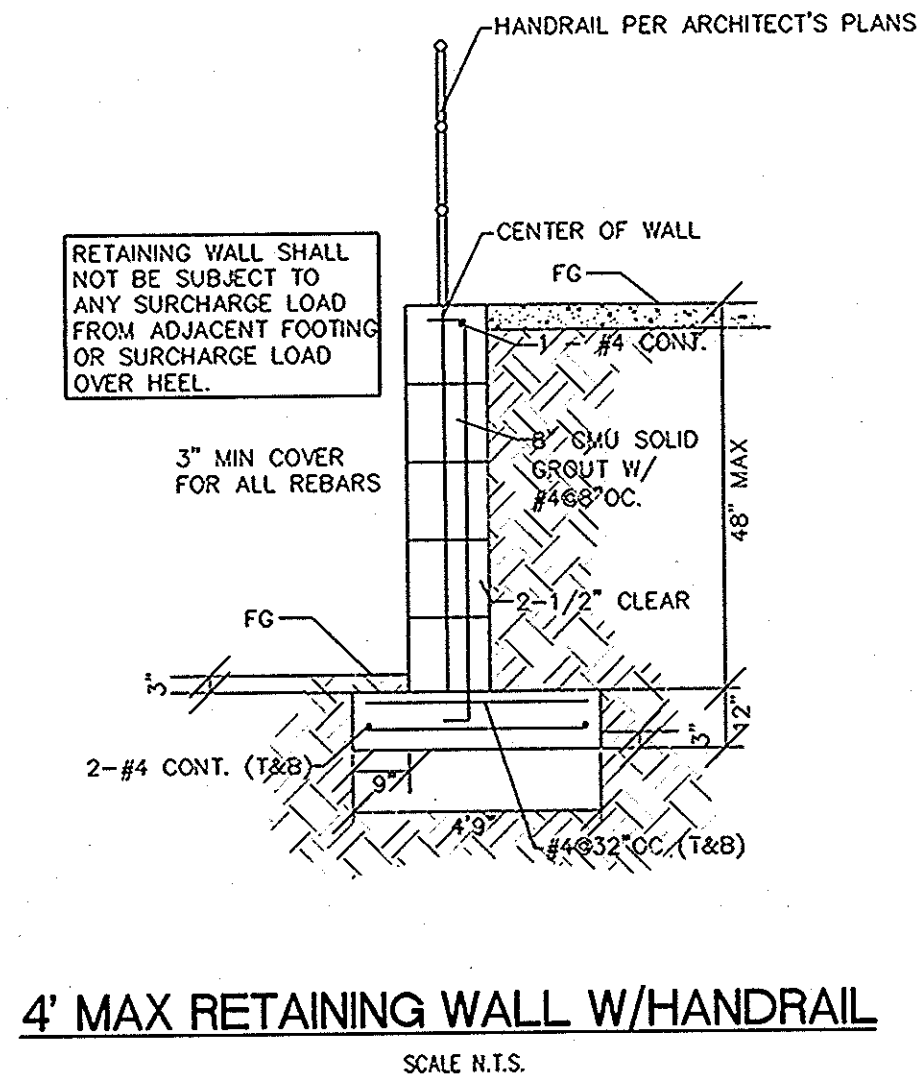
RETAIL BUILDING E
AT TROPICAL AND DECATUR

OWNER/DEVELOPER:
DECATUR 25, LLC/NEINGARTEN REALTY INVESTORS
4440 N. 30TH STREET, SUITE 200
PHOENIX, ARIZONA 85018
CONTACT: MELINDA LAWSON
PHONE: (602)277-8849 FAX: -

Call before you Dig
1-702-593-6111
Call before you Dig
1-702-593-6111
Call before you Dig
1-702-593-6111

ABBREVIATIONS		
(SEE C.V.R. SHT. FOR COMPLETE LIST)		
AC	ASPHALTIC CONCRETE	
ADJ	ADJUST	
AGG	AGGREGATE	
BC	BACK OF CURB	
BCR	BEGINNING OF CURB RETURN	
BEG	BEGIN	
BSW	BACK OF SIDEWALK	
BVC	BEGINNING OF VERTICAL CURVE	
CATV	CABLE TV	
CCAU/S	CLARK COUNTY AREA	
CCRFCD	CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT	
CL	CENTERLINE	
CLV	CITY OF LAS VEGAS	
CMU	CONCRETE MASONRY UNIT	
CO	CLEAN OUT	
COMM	COMMUNICATIONS	
CONC	CONCRETE	
CONDUIT	CONDUIT	
CULV	CULVERT	
DC	DEPRESSED CURB	
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DIP	DUCTILE IRON PIPE	
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ECR	END OF CURB RETURN	
ELEV	ELEVATION	
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EV	END OF VERTICAL CURVE	
EX	EXISTING	
FAST	FREWAY & ARTERIAL SYSTEM OF TRANSPORTATION	
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FO	FIBER OPTICS	
FS	FINISHED SURFACE	
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HDWL	HEADWALL	
HGL	HYDRAULIC GRADE LINE	
HP	HIGH POINT	
INV	INVERT	
IRR	IRRIGATION	
LAT	LATERAL	
LF	LINEAL FEET	
LS	LANDSCAPE	
LT	LEFT	
LVWD	LAS VEGAS VALLEY WATER DISTRICT	
MAX	MAXIMUM	
WH	MANHOLE	
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PB	PULL BOX	
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PROP	PROPOSED	
PVC	POLY VINYL CHLORIDE PIPE	
PVMT	PAVEMENT	
RIM	TOP OF MANHOLE OR CLEANOUT	
RT	RIGHT	
ROW	RIGHT-OF-WAY	
SS	SANITARY SEWER	
SD	STORM DRAIN	
SNWA	SOUTHERN NEVADA WATER AUTHORITY	
STA	STATION	
STLT	STREET LIGHT	
SVZ	SIGHT VISIBILITY ZONE	
SW	SIDEWALK	
TEL	TELEPHONE	
TC	TOP OF CURB	
TF	TOP OF FOOTING	
TW	TOP OF WALL	
TY	TYPICAL	
UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS	
VG	VALLEY GUTTER	
WL	WATER LINE	

LEGEND		
DESCRIPTION	EXISTING	PROPOSED
UTILITIES		
B.O. VALVE		
FIRE HYDRANTS		
CLEAN OUT		
GATE VALVE		
METER		
REDUCER		
CAP		
11.25' ELBOW		
22.5' ELBOW		
45' ELBOW		
90' ELBOW		
CROSS		
TEE		
MANHOLES		
ELECTRICAL		
SANITARY SEWER		
STORM DRAIN		
TELEPHONE		
STREET LIGHTS		
100W HPS STLT.		
150W HPS STLT.		
200W HPS STLT.		
250W HPS STLT.		
400W HPS STLT.		
GRADING		
SPOT ELEV.	(12.34)	12.34
SLOPE	(1.2%)	1.2%
5' CONT.	(2005)	2005
1' CONT.	(2007)	2007
SITE		
SGN		
1" CURB		
1/2" CURB		
EDGE OF PAVT.		
WALL		
LINE TYPES		
CL OR SECTION LINE		
PROPERTY LINE		
RIGHT OF WAY LINE		
EASEMENT LINE		
SAWTOOTH LINE		
FLOW LINE		
SHADES		
HEAVY AC PAVEMENT		
LIGHT AC PAVEMENT		
CONCRETE PAVEMENT		



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PHOENIX, ARIZONA 85018
CONTACT: MELINDA LAWSON
PHONE: (602)217-8849 FAX: -

DETAIL SHEET

DATE: 12/31/15
DRAWN BY: J. L. L. L.
CHECKED BY: J. L. L. L.
REVISIONS:

PRINTS REQUIRE ENGINEER'S SEAL AND SIGN FOR PROOF OF VALIDITY

BRANDON A. POMES
Exp: 12/31/15
CIVIL

SHEET # C5 5 OF 5