

DS #: 4788

APN: 138-15-510-005

PROJECT: Mountain View Hospital - Emergency Expansion

SUBMITTAL: 1st Submittal

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: May 2, 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:	
	Mountain View Hospital – Emergency Expansion	
Cross Streets:	SEC of Cheyenne Blvd. & Tenaya Way	
File Number:	F:\Depot\DSMemos\DS4788A.doc	
Parcel Number:	138-15-510-005	
Zoning Action:	SDR-63543	
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES	NO X
		COPIES TO: Littlejohn Engineering Associates Sunrise Mountain View Hospital Bart Anderson, P.E., DevCo

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal & Supplement	3/21/2016 & 5/2/2016	5/2/2016	See Comments Below	\$400.00	437539: \$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: T20S/R60E/15
AREA L-15

Albert Sung

From: Albert Sung
Sent: Wednesday, April 06, 2016 4:42 PM
To: 'Nathan Melson'
Subject: RE: MountainView Hospital Drainage Study

Hi Nathan,

The drainage update is approvable pending on the Site Development Review (SDR-63543) to be officially approved by the Planning Commission/City Council. The copy you attached in the last email was from planning staff who are not the ultimate authority for approval. I cannot send you an approval of the drainage update at this point. Please wait until you get a copy of the SDR approval by the Planning Commission/City Council and forward the approval letter to me once you have it.

Hope this explain your concerns. Thanks.

Albert Sung, P.E.
Flood Control, Public Works

From: Nathan Melson [mailto:nmelson@leainc.com]
Sent: Wednesday, April 06, 2016 6:05 AM
To: Albert Sung
Subject: FW: MountainView Hospital Drainage Study

Albert,

I am following up on our drainage study submittal on 3/21/16 for the MountainView Hospital ED Expansion. Per comment 8 of the Staff Report from the city's planning department, do you have any comments regarding our drainage study update for the hospital?

Nathan H. Melson, PE
Project Engineer



LITTLEJOHN – An S&ME Company
1935 21st Ave. South
Nashville, Tennessee 37212
P: 615-385-4144 D: 615-324-6983 F: 615-385-4020

nmelson@leainc.com
www.leainc.com
www.smeinc.com

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From: Troy Stevens [<mailto:TStevens@laytonconstruction.com>]
Sent: Tuesday, March 22, 2016 3:44 PM
To: Nathan Melson <nmelson@leainc.com>
Cc: Jack Parker <jparker@leainc.com>
Subject: RE: FedEx Shipment 775882666054 Delivered

Please see the attached receipts

R. Troy Stevens | Senior Project Manager
Layton Construction Company, LLC
3050 North Tenaya Way | Las Vegas, NV 89128
P 702 233-6361 | M 702 497-8672 | F 702 658-1531

www.LaytonConstruction.com

PHOENIX | BOISE | IRVINE | SALT LAKE CITY | ORLANDO | HAWAII | NASHVILLE | LAS VEGAS
EOE/AA | NV Lic. 0053556

From: Nathan Melson [<mailto:nmelson@leainc.com>]
Sent: Wednesday, March 16, 2016 12:55 PM
To: Troy Stevens
Cc: Jack Parker
Subject: FW: FedEx Shipment 775882666054 Delivered

We received the delivery receipt for the CLV Flood Control Department submittal package. It needs to be given to Albert Sung. He said his office is located on the 7th floor and that he will give the person delivering the package a receipt to pay the review fee on a different floor. Please have the person making the delivery for us email me should they have any questions.

Thank you for helping us facilitate this!

Nathan H. Melson, PE
Project Engineer



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Nashville, Tennessee 37212
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-----Original Message-----

From: Kathleen Wilson
Sent: Wednesday, March 16, 2016 2:47 PM
To: Nathan Melson <nmelson@leainc.com>
Subject: FW: FedEx Shipment 775882666054 Delivered



**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

April 13, 2016

Rec'd : 5/2/16

LITTLEJOHN ENGINEERING
ASSOCIATES

APR 18 2016

RECEIVED

Mr. Chris Mo'wan CEO
Sunrise Mountainview Hospital
3100 N. Tenaya Way
Las Vegas, Nevada 89128

**RE: SDR-63543 [PRJ-63425] - SITE DEVELOPMENT PLAN REVIEW
PLANNING COMMISSION MEETING OF APRIL 12, 2016**

Dear Applicant:

Your request for a Major Amendment to a previously approved Plot Plan Review [Z-0068-85(15)] FOR A PROPOSED 71,027 SQUARE-FOOT, 64-BED EXPANSION AND PARKING LOT RECONFIGURATION TO AN EXISTING HOSPITAL on 38.06 acres at 3100 North Tenaya Way (APN 138-15-510-005), C-PB (Planned Business Park) Zone, Ward 1 (Tarkanian) [PRJ-63425], was considered by the Planning Commission on April 12, 2016.

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

Planning

1. Conformance to the Conditions of Approval for Plot Plan Review [Z-0068-85(15)].
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 building elevations date stamped, site plan, landscape plan, date stamped 03/15/16, 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.
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.

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 7-1-1
www.lasvegasnevada.gov



/city of las vegas

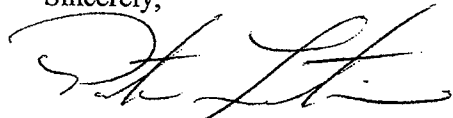
7. All City Code requirements and design standards of all City Departments must be satisfied, except as modified herein.

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 submittal of any construction drawings or the issuance of any building or grading permits, whichever may occur first. Provide and improve all drainageways recommended in the approved drainage study update.
9. Site development to comply with all applicable conditions of approval for Site Development Plan Review Z-0068-85(15) and all other applicable site-related actions.

This action by the Planning Commission on **April 12, 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 **April 25, 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,



Peter Lowenstein, AICP
Planning Section Manager

PL:nl

cc:

Mr. Jack Parker
Littlejohn Engineering Associates
1935 Twenty-First Avenue South
Nashville, TN 37212

Albert Sung

From: Nathan Melson <nmelson@leainc.com>
Sent: Monday, May 02, 2016 6:40 AM
To: Albert Sung
Cc: Jack Parker
Subject: RE: MountainView Hospital Drainage Study
Attachments: 20151197_2016-04-13_PC Site Dev Plan Review.pdf

Albert,

Per our previous discussions, please find the planning commission approval letter attached. Let me know if you need any additional information.

Thanks,

Nathan H. Melson, PE
Project Engineer



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Nashville, Tennessee 37212
P: 615-385-4144 D: 615-324-6983 F: 615-385-4020

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Flood Control, Public Works

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Nathan H. Melson, PE
Project Engineer



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Cc: Jack Parker <jparker@leainc.com>
Subject: RE: FedEx Shipment 775882666054 Delivered

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Nathan H. Melson, PE
Project Engineer



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Subject: FW: FedEx Shipment 775882666054 Delivered

Delivered

Kathleen Wilson
Administrative Support

LITTLEJOHN – An S&ME Company
1935 21st Ave. South
Nashville, Tennessee 37212
615-385-4144
kwilson@leainc.com
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-----Original Message-----

From: trackingupdates@fedex.com [mailto:trackingupdates@fedex.com]
Sent: Wednesday, March 16, 2016 2:45 PM
To: Kathleen Wilson <kwilson@leainc.com>
Subject: FedEx Shipment 775882666054 Delivered

This tracking update has been requested by:

Company Name: Littlejohn
Name: Kathleen Wilson/Nathan Melson
E-mail: kwilson@leainc.com

Our records indicate that the following shipment has been delivered:

Reference: 20151197
Ship (P/U) date: Mar 15, 2016
Delivery date: Mar 16, 2016 12:41 pm
Sign for by: C.CHON
Delivery location: LAS VEGAS, NV
Delivered to: Receptionist/Front Desk
Delivery date: Wed, 3/16/2016 12:41 pm
Service type: FedEx Standard Overnight
Packaging type: FedEx Envelope
Number of pieces: 1
Weight: 1.00 lb.
Special handling/Services: Deliver Weekday

Tracking number: 775882666054

Shipper Information	Recipient Information
Kathleen Wilson/Nathan Melson	R. Troy Stevens
Littlejohn	Layton Construction
1935 Twenty First Avenue South	3050 N TENAYA WAY
Nashville	LAS VEGAS
TN	NV
US	US
37212	89128

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To learn more about FedEx Express, please visit our website at fedex.com.

All weights are estimated.

To track the status of this shipment online, please use the following:

<https://www.fedex.com/insight/findit/nrp.jsp?tracknumbers=775882666054&language=en&opco=FX&clienttype=ivpodalr>
t

This tracking update has been sent to you by FedEx on the behalf of the Requestor noted above. FedEx does not validate the authenticity of the requestor and does not validate, guarantee or warrant the authenticity of the request, the requestor's message, or the accuracy of this tracking update. For tracking results and fedex.com's terms of use, go to fedex.com.

Thank you for your business.

Transmittal

DATE: 5/2/2016 **Project No.:** 20151197
TO: Albert Sung, PE (702) 229-2001 **Project Phase:** _____
Company: City of Las Vegas – Flood Control Department
Address: 333 N. Rancho Drive, Las Vegas, Nevada 89106
Project Name: MountainView Hospital Emergency Department Expansion

We are sending the following:

☐ Letter	☐ Drawings	☐ Contract
☐ Change Order	☒ Computer Disk	☐ Specifications
☐ Other		
☐ Under Separate Cover Letter		

Via:

☐ Mail	☐ Courier	☒ Overnight
-------------------------------	----------------------------------	---

Purpose:

☐ Approval	☐ Your Use	☐ Your Records
☐ Review & Comment	☒ As Requested	☐ Bids Due

Description	Sets
CD containing Drainage Study Submittal	1

Remarks:

Per your request, please find a CD containing a copy of the drainage study documents that were submitted to you on 3/15/2016.

COPIES: Jack Parker, PE **FROM:** Nathan Melson, PE



Littlejohn
An S&ME Company

March 15, 2016

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

**RE: MountainView Hospital Emergency Department Expansion
3100 North Tenaya Way, Las Vegas, NV 89128
Littlejohn Project No. 20151197**

Dear Mr. Sung:

The proposed project to the existing MountainView Hospital in Las Vegas, Nevada, consists of a vertical expansion atop the existing bed tower, an ED expansion, a biplane addition, and a new roll out helipad.

The original drainage study for the referenced site was approved on October 22, 1994, and prepared by G.C. Wallace, Inc. This study assumed the site was fully developed (a curve number (CN) of 93 was used for commercially developed sites). Subsequent updates to the drainage study are as follows:

<u>Update Submitted by:</u>	<u>Approval Date</u>
G.C. Wallace, Inc.	October 28 th , 2003
Littlejohn Engineering Associates	March 7 th , 2012

It is now proposed to construct the above additions to the southern side of the hospital. This expansion will also include the reconfiguration of nearby parking areas and drive aisles. These improvements will not increase but simply reconfigure existing impervious surfaces while maintaining approved drainage patterns. Additionally, no modifications to the existing onsite stormwater pipe network are anticipated for these improvements.

Because impervious cover will not be increased and drainage patterns will remain the same, runoff from the site will remain the same, and the proposed improvements will not have any effect on previously approved calculations.

Sincerely,

LITTLEJOHN ENGINEERING ASSOCIATES, INC.

Nathan Melson, PE

Rec'd: 3/21/16
DS 4788
L-15
\$400-

SDR-63543

Transmittal

DATE:	3/15/2016	Project No.:	20151197
TO:	Albert Sung, PE (702) 229-2001	Project Phase:	
Company:	City of Las Vegas – Flood Control Department		
Address:	333 N. Rancho Drive, Las Vegas, Nevada 89106		
Project Name:	MountainView Hospital Emergency Department Expansion		

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☒ Letter	☒ Drawings	☐ Contract
☐ Change Order	☐ Computer Disk	☐ Specifications
☐ Other		
☐ Under Separate Cover Letter		

Via:

☐ Mail	☒ Courier	☐ Overnight
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Purpose:

☐ Approval	☐ Your Use	☐ Your Records
☒ Review & Comment	☐ As Requested	☐ Bids Due

Description	Sets
Cover Letter	1
Check for Review Fee	1
CCRFCD Standard Form 1	1
CCRFCD Standard Form2	1
CLV Standard Form 2 Checklist Supplement	1
Grading and Drainage Plans	1

Remarks:

Please find the documents above enclosed for the subject project. If you have any questions or concerns, please do not hesitate to give us a call.

COPIES:	Jack Parker, PE	FROM:	Nathan Melson, PE
----------------	-----------------	--------------	-------------------

**Placeholder for \$400 Check
for CLV-FCD Review Fee**

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: MountainView Hospital ED Expansion Date: Feb 23, 2016

Location of Development: a) Descriptive (Cross Streets) North/South: Tenaya Way
East/West: Cheyenne Avenue

b) Section: 15 Township: 20 S Range: 60 E

c) APN : 138-15-510-005

Name of Owner: Sunrise MountainView Hospital

Telephone No.: (702) 255-5065 Fax No.: (702) 255-5074 E-Mail Address: _____

Address: 3100 N. Tenaya Way, Las Vegas, NV, 89128

Contact Person-Name: Jack Parker Telephone No.: (615) 385-4144

* E-Mail Address: jparker@leainc.com Fax No.: (615) 385-4020

Firm: Littlejohn Engineering Associates

Address: 1935 21st Avenue South, Nashville, TN 37212

Type of Land Development/Land Disturbance Process:

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

1. Total Owned Land Area: At Site: 30 acres Being Developed/Disturbed: 1.72 acres

2. Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? ☐ Yes** ☒ No

3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☐ Yes** ☒ No

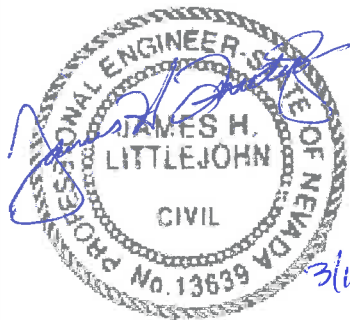
4. Proposed type of development (Residential, Commercial, Etc.): Commercial

5. Approximate upstream land area which drains to the subject site: 0 acres

6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: GC Wallace, Inc. Drainage Study for Sunrise Mountain View Hospital and Office Building, September 1994

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: 6x3 RCB in NDOT right-of-way under US 95 approximately 900' south of the intersection with Cheyenne Avenue (from previous permit)

8. Briefly describe your proposed schedule for the subject project: Construction Start: 05/01/2016 - 05/01/2017



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

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

Project Name: MountainView Hospital ED Expansion		Map ID: 1381510005
Firm Name: Littlejohn Engineering Associates		Engineer: Jack Parker
Address: 1935 21st Avenue South		
City: Nashville	State: TN	Zip: 37212
Phone Number: (615) 385-4144		Fax Number: (615) 385-4020
Property Owner: Sunrise MountainView Hospital		
Address: 3100 N. Tenaya Way		
City: Las Vegas	State: NV	Zip: 89128
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

Yes	No	
<u>X</u>	<u> </u>	Design Manual Standard Form 1 with the engineer's seal and signature.
<u>n/a</u>	<u> </u>	Design Manual Standard Form 4 .
<u>X</u>	<u> </u>	2 copies of the 24" x 36" Drainage Plan.
<u>n/a</u>	<u> </u>	A notarized letter from the adjacent property owner(s) allowing off-site grading or discharge.

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.

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

II. MAPS AND EXHIBITS (Continued)

Yes No

- n/a _____ Off-site drainage basin maps for existing, interim and future conditions showing the existing topography, basin boundaries, concentration points, and flows in cfs.
- X _____ 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.
- X _____ Vicinity Map with local and major cross streets identified and a north arrow.

III. DRAINAGE PLAN

Yes No

- X _____ Sheet size: 24" x 36" sealed by a registered engineer in the State of Nevada.
- X _____ Minimum scale: 1" = 60'.
- X _____ Project name.
- X _____ Vicinity Map with local and major cross streets.
- X _____ Revision box.
- X _____ North arrow and bar scale.
- X _____ Engineer's/consultant's address and phone number.
- X _____ Elevation datum and benchmark.
- X _____ Legend for symbols and abbreviations.
- _____ n/a _____ Cut/fill scarps, where applicable.
- X _____ Street names, grades, widths.
- 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.
- X _____ Existing contours encompassing the site and 100 feet beyond with spot elevations for important locations, where appropriate.
- X _____ Minimum finish floor elevations with top-of-curb elevations at upstream end of lot.
- _____ n/a _____ Proposed typical street sections.

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

III. DRAINAGE PLAN (Continued)

Yes	No	
<u> </u>	<u>n/a</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 on-site drainage basins indicating area and 10-year and 100-year storm peak flows at basin concentration points.
<u> </u>	<u>n/a</u>	Concentration points and drainage flow direction with Q_{100} and V_{100} and D_{100} in streets.
<u> </u>	<u>n/a</u>	Cumulative flows, velocity, and direction of flow at upstream and downstream ends of site for the 10-year and 100-year flows.
<u> </u>	<u>n/a</u>	Location and cross-section of street capacity calculations.
<u> </u>	<u>n/a</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> X </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> </u>	<u>n/a</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> </u>	<u>n/a</u>	Location and detail of flood walls illustrating depth of flow, proposed grouting height, etc.
<u> </u>	<u>n/a</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> </u>	<u>n/a</u>	Alignment of all existing, proposed, or future Regional Facilities adjacent to the site.
<u> </u>	<u>n/a</u>	Limits of existing floodplain based on current FIRM or best available information; limits of proposed floodplains based on best available information.

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

III. DRAINAGE PLAN (Continued)

Yes No

- n/a 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.
- n/a 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.
- n/a Street slopes for perimeter and interior streets. The minimum slope is 0.4 percent.
- n/a Location and detail of best management practice (BMP) for parking lots and low impact development (LID) (if required).

IV. HYDROLOGIC ANALYSIS

Yes No

- X Appropriate soil information and Soils Map for existing and future conditions with subbasins and property delineated.
- n/a 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.
- n/a 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.
- n/a Use of correct precipitation values in and around the McCarran Airport rainfall area.
- n/a A discussion in the text of the hydrologic analysis justifying subbasin boundaries and cutoffs, supporting assumptions, and calculations.
- X A summary table of stormwater flows showing basin area, Q_{10} and Q_{100} for both individual basins and combined basin flows, where applicable.
- X Copies of supporting technical information referenced from a previously approved study and a statement accepting these results.
- X On-site facilities must perpetuate flows through or around the site without significantly impacting adjacent property owners in accordance with current Nevada Drainage Law.
- n/a Calculation for impervious area for parking lots and LIDs (if required).

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

V. HYDRAULIC ANALYSIS

Yes No

- | | | |
|-------|------------|--|
| _____ | <u>n/a</u> | Flow split calculations and supporting documentation or reference for the method of flow split calculations used. |
| _____ | <u>n/a</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 d x v ≤ 8. Q ₁₀ d x v ≤ 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>n/a</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 dry lane criteria. |
| _____ | <u>n/a</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>n/a</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>n/a</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, whichever is greater. |
| _____ | <u>n/a</u> | <p>A complete water surface profile analysis (HEC-2, HEC-RAS, etc.) for channel flows and FEMA Zone A flood zones.</p> <ul style="list-style-type: none"> • 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>n/a</u> | The mitigation of nuisance water, both during construction and in the fully developed condition, must be addressed. |
| _____ | <u>n/a</u> | Provide BMP type, size and supporting calculations for parking lots and LIDs (if required). |

REFERENCE:

STANDARD FORM 2



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. <u> </u> 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	
	N/A	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.
	N/A	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.
	N/A	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.
	N/A	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	
	N/A	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.
	N/A	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.
	N/A	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.

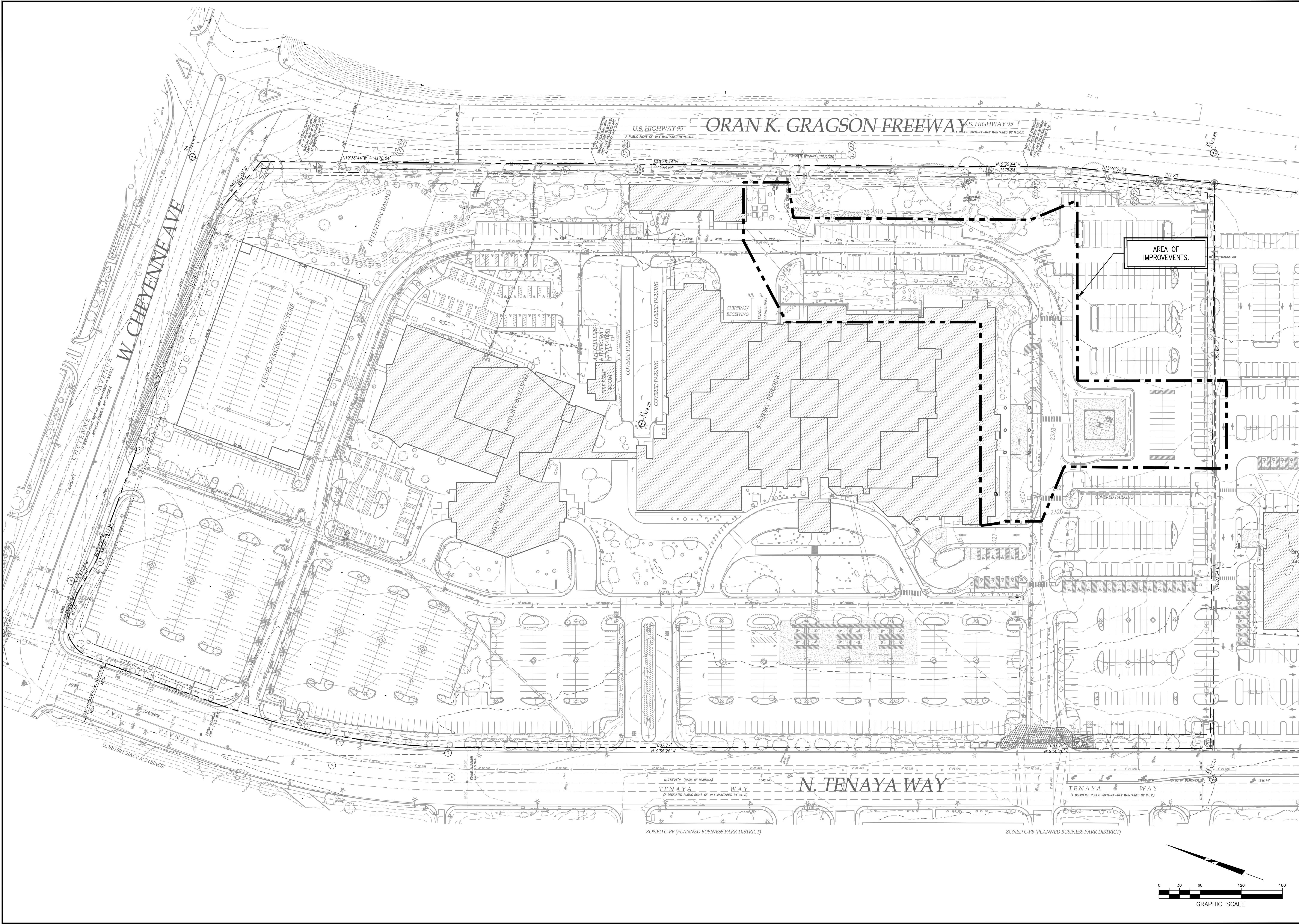
CITY OF LAS VEGAS MINIMUM DRAINAGE STUDY CRITERIA CHECKLIST

III. Local Entity Criteria - City of Las Vegas – Manual Section 1600		
Yes	No	
	N/A	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.
	N/A	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.

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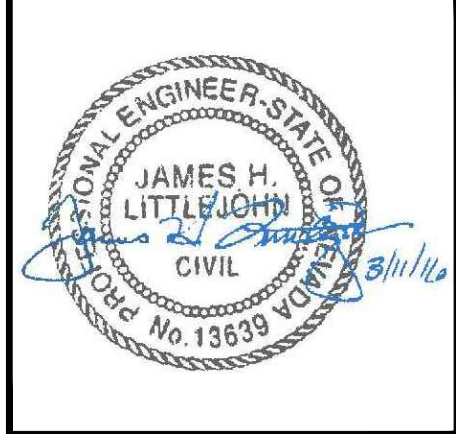


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EMERGENCY DEPARTMENT
EXPANSION**
LAS VEGAS, NEVADA

**SUNRISE
MOUNTAINVIEW
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3100 N TENAYA WAY
LAS VEGAS, NV 89128
(702)225-5065



DATE	REVISIONS
02/25/2016	20151197

C1.0
EXISTING
CONDITIONS

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GENERAL NOTES

1. THE PROJECT SITE IS SHOWN ON LOT 1 LAS VEGAS TECHNOLOGY CENTER UNIT 2, BOOK 62, PAGE 44 OF PLATS.
2. BASE INFORMATION WAS TAKEN FROM A SURVEY PREPARED BY L.R. NELSON CONSULTING ENGINEERS, INC. DATED NOV. 15, 2010. LITTLEJOHN ENGINEERING ASSOCIATES AND ANY OF THEIR CONSULTANTS SHALL NOT BE HELD RESPONSIBLE FOR THE ACCURACY AND/OR COMPLETENESS OF THAT INFORMATION SHOWN HEREON OR ANY ERRORS OR OMISSIONS RESULTING FROM SUCH.
3. THE SITE LAYOUT IS BASED ON REFERENCE POINTS AS NOTED.
4. THE CONTRACTOR SHALL CHECK ALL EXISTING CONDITIONS, (I.E. INVERTS, UTILITY ROUTINGS, UTILITY CROSSINGS, AND DIMENSIONS) IN THE FIELD PRIOR TO COMMENCEMENT OF WORK. REPORT ANY DISCREPANCIES TO THE ENGINEER.
5. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR ANY DAMAGE ACCORDING TO LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL CALL NATIONAL ONE CALL (811) 72 HOURS PRIOR TO PROCEEDING WITH ANY EXCAVATION.
6. THE CONTRACTOR SHALL CONFORM TO ALL LOCAL CODES AND RECEIVE APPROVAL WHERE NECESSARY BEFORE CONSTRUCTION.
7. EXISTING PAVEMENT OF PUBLIC ROADWAYS SHALL BE PATCHED IN ACCORDANCE WITH LOCAL AGENCY STANDARDS WHEREVER UTILITY INSTALLATION REQUIRES REMOVAL OF THE EXISTING PAVEMENT. COORDINATE PAVEMENT TRENCHING LOCATIONS WITH SITE CIVIL, PLUMBING AND ELECTRICAL PLANS.
8. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. SLIGHT FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY.
9. DIMENSIONS ARE TO FACE OF CURB AND/OR EXTERIOR FACE OF BUILDING UNLESS OTHERWISE NOTED.
10. CONCRETE FOR CURBS AND SIDEWALKS SHALL BE 3500 PSI CONCRETE.
11. ANY WORK UNACCEPTABLE TO THE OWNER'S REPRESENTATIVE OR TO THE CITY OF LAS VEGAS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
12. ACCESSIBLE RAMPS SHALL HAVE A MAXIMUM SLOPE OF 1:12. GRADES WITHIN ACCESSIBLE SPACES SHALL BE MAXIMUM 2% IN ALL DIRECTIONS.
13. THE PROPOSED BUILDING SHALL BE LAID OUT UTILIZING THE EXISTING STRUCTURE AS A CONTROL POINT AND THE ARCHITECTURAL DRAWINGS. DIMENSIONS SHOWN TO THE PROPOSED BUILDING ARE CALCULATED TO THE FACE OF EXTERIOR WALL. SEE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS.
14. CURBS SHALL BE PARALLEL TO THE CENTERLINE OF DRIVES. THE CURB SHALL BE PLACED ONLY AFTER HAVING ALL BREAK POINTS (PC & PT OF CURVES) LOCATED AT THE FACE OF CURB OR AT A CONSISTENT OFFSET BY A REGISTERED LAND SURVEYOR.
15. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE MANUAL OF ACCIDENT PREVENTION AND CONSTRUCTION ISSUED BY AGC OF AMERICA, INC. AND THE SAFETY AND HEALTH REGULATIONS OF CONSTRUCTION ISSUED BY THE U.S. DEPARTMENT OF LABOR.
16. THE CONTRACTOR SHALL PAVE IN THE DIRECTION OF TRAFFIC.
17. THE CONTRACTOR SHALL COLD PLANE IN THE DIRECTION OF TRAFFIC.
18. THE CONTRACTOR WILL BE REQUIRED TO ADJUST GRADES OF INTERSECTING STREETS, ALLEYS, PUBLIC ENTRANCES AND PRIVATE DRIVES AS DIRECTED BY THE ENGINEER.
19. ALL ROADWAY AND SIDEWALK CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS AND SPECIFICATIONS OF CITY OF LAS VEGAS.
20. ALL CONSTRUCTION MATERIALS AND INSTALLATION SHALL CONFORM TO CITY OF LAS VEGAS AND NEVADA DOT REGULATIONS AND SPECIFICATIONS.
21. ALL PAVEMENT MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE CITY OF LAS VEGAS AND NEVADA DOT STANDARDS AND SPECIFICATIONS.
22. ALL CURBING WILL BE REQUIRED TO ADJUST TO THE GRADES OF INTERSECTING STREETS, ALLEYS, PUBLIC ENTRANCES, AND PRIVATE DRIVES AS DIRECTED BY THE ENGINEER.
23. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE MANUAL OF ACCIDENT PREVENTION AND CONSTRUCTION ISSUED BY AGC OF AMERICA, INC. AND THE SAFETY AND HEALTH REGULATIONS OF CONSTRUCTION ISSUED BY THE U.S. DEPARTMENT OF LABOR.

DEMOLITION NOTES

1. ALL MATERIALS BEING REMOVED AND NOT RELOCATED UNDER THE NEW CONSTRUCTION, INCLUDING TREES AND SHRUBS, SIGNS, UTILITY STRUCTURES, ETC., SHALL BE FIRST OFFERED TO THE OWNER'S REPRESENTATIVE AND IF NOT ACCEPTED SHALL THEN BE PROPERLY DISPOSED OF BY THE CONTRACTOR.
2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL CHARTED AND UNCHARTED UTILITIES. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR ANY DAMAGE ACCORDING TO LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY.
3. THE CONTRACTOR SHALL VERIFY THE LIMITS OF DEMOLITION WITH THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK.
4. IN AREAS WHERE EXISTING PAVEMENT, WALKS, OR CURBS ARE TO BE REMOVED, SAW CUT TO PROVIDE A CLEAN EDGE. COORDINATE EXTENT OF PAVEMENT DEMOLITION WITH THE LIMIT OF NEW IMPROVEMENTS ON THE SITE LAYOUT PLAN & UTILITY INSTALLATION.
5. CONTRACTOR SHALL COORDINATE PHASING OF THE DEMOLITION WITH THE OWNER'S REPRESENTATIVE AND CITY OF LAS VEGAS PRIOR TO BEGINNING WORK. DISRUPTION OF EXISTING UTILITY SERVICES AND TRAFFIC PATTERNS SHALL BE MINIMIZED TO THE EXTENT POSSIBLE AND INITIATED ONLY AFTER APPROVAL BY THE CITY OF LAS VEGAS AND THE UTILITY COMPANIES.
6. CAVITIES LEFT BY STRUCTURE REMOVAL SHALL BE SUITABLY BACKFILLED AND COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS.
7. THE CONTRACTOR SHALL USE WATER SPRINKLING AND OTHER SUITABLE METHODS AS NECESSARY TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION WORK.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION AND REMOVAL NECESSARY TO ACCOMPLISH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.
9. THE CONTRACTOR SHALL PRESERVE AND PROTECT SURVEY CONTROL POINTS AND SHALL BE RESPONSIBLE FOR REPLACEMENT OF ANY DISTURBED CONTROL POINTS.
10. EXISTING LIGHT STANDARDS BEING REMOVED SHALL BE FIRST OFFERED TO THE OWNER PRIOR TO DISPOSING OF THEM. COORDINATE LIGHTING DEMOLITION AND LAYOUT WITH THE ELECTRICAL DRAWINGS.
11. RELOCATION OF EXISTING PLANT MATERIALS SHALL BE COORDINATED WITH THE OWNER AND RELOCATED TO A DESIGNATED AREA ON SITE.
12. EXISTING TREES TO BE PRESERVED ARE TO BE BARRICADED BEFORE BEGINNING CONSTRUCTION. IN ACCORDANCE WITH THE TREE PRESERVATION NOTES AND DETAIL ON THE LANDSCAPE PLAN.
13. NO UTILITY OR STORM SEWER LINES SHALL BE DEMOLISHED UNTIL THE NEW LINES HAVE BEEN INSTALLED AND ARE PLACED INTO OPERATION.
14. THE CONTRACTOR SHALL INCORPORATE INTO HIS WORK ANY ISOLATION VALVES OR TEMPORARY PLUGS REQUIRED TO CONSTRUCT NEW UTILITY LINES AND DEMOLISH EXISTING UTILITY LINES.
15. SELECTIVE CLEARING CONSISTING OF REMOVAL OF VINES, SAPLINGS UNDER 1" DIAMETER AND UNDERBRUSH SHALL BE PERFORMED IN TREE PRESERVATION AREAS INTERNAL TO THE PROJECT AND NOTED ON PLANS.
16. WHERE WATER LINE AND SEWER LINE ABANDONMENT IS PLANNED, THE CONTRACTOR MAY ABANDON WATER LINES AND SEWER LINES IN PLACE WHERE THEY OCCUR AT LEAST 24" (TO TOP OF PIPE) BELOW FINAL SUBGRADE ELEVATIONS AND OUTSIDE THE BUILDING FOOT PRINT. ALL UTILITY LINES BEING ABANDONED IN PLACE SHALL HAVE ALL ENDS PERMANENTLY CLOSED USING A CONCRETE PLUG.
17. EXISTING IRRIGATION LINES LIE WITHIN THE AREA AFFECTED BY THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL REMORK THE EXISTING IRRIGATION SYSTEMS IN ACCORDANCE WITH DIRECTIVES NOTED ON THE LANDSCAPE PLAN. SERVICE SHALL BE MAINTAINED DURING CONSTRUCTION TO THE LANDSCAPED AREAS CURRENTLY IRRIGATED.

SITE GRADING NOTES

1. THE DISTURBED AREA FOR THIS PROJECT IS APPROXIMATELY 1.72 ACRES.
2. THE SUBJECT PROPERTY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD ZONE ACCORDING TO COMMUNITY PANEL NO.(s) 32003C2135F & 32003C2155F OF THE F.E.M.A. FLOOD INSURANCE RATE MAPS FOR CLARK COUNTY, NEVADA WITH AN EFFECTIVE DATE OF NOVEMBER 16, 2011.
3. CONSTRUCT SILT BARRIERS BEFORE BEGINNING GRADING OPERATIONS.
4. MULCH AND SEED ALL DISTURBED AREAS AS SOON AS POSSIBLE AFTER FINAL GRADING IS COMPLETED, UNLESS OTHERWISE INDICATED. CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
5. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR ANY DAMAGE ACCORDING TO LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY.
6. PROVIDE TEMPORARY CONSTRUCTION ACCESS(ES) AT THE POINT(S) WHERE CONSTRUCTION VEHICLES EXIT THE CONSTRUCTION AREA. MAINTAIN PUBLIC ROADWAYS FREE OF TRACKED MUD AND DIRT.
7. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF THE STORM DRAIN CONNECTIONS AT THE BUILDING WITH THE PLUMBING PLANS.
8. THE CONTRACTOR SHALL CHECK ALL EXISTING GRADES AND DIMENSIONS IN THE FIELD PRIOR TO BEGINNING WORK AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
9. THE CONTRACTOR SHALL ADJUST THE CASTINGS OF ALL NEW AND EXISTING STRUCTURES TO MATCH PROPOSED FINISH GRADES.
10. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE MANUAL OF ACCIDENT PREVENTION AND CONSTRUCTION ISSUED BY AGC OF AMERICA, INC. AND THE SAFETY AND HEALTH REGULATIONS OF CONSTRUCTION ISSUED BY THE U.S. DEPARTMENT OF LABOR.
11. PROPOSED CONTOUR LINES AND SPOT ELEVATIONS ARE THE RESULT OF AN ENGINEERED GRADING DESIGN AND REFLECT A PLANNED INTENT WITH REGARD TO DRAINAGE AND MOVEMENT OF MATERIALS. SHOULD THE CONTRACTOR HAVE ANY QUESTION OF THE INTENT OR ANY PROBLEM WITH THE CONTINUITY OF GRADES, THE ENGINEER SHALL BE CONTACTED IMMEDIATELY.
12. ALL CUT AND FILL SLOPES SHALL BE 3 HORIZONTAL TO 1 VERTICAL OR FLATTER UNLESS OTHERWISE INDICATED ON THE PLANS.
13. ALL PIPES UNDER EXISTING PAVED AREAS SHALL BE BACKFILLED TO THE TOP OF SUBGRADE WITH CRUSHED STONE.
14. MINIMUM GRADE ON ASPHALT OR CONCRETE PAVING SHALL BE 1.0%. THE MAXIMUM GRADES WITHIN ACCESSIBLE SPACES SHALL BE 2% IN ANY DIRECTION.
15. CONTRACTOR SHALL CONFORM TO ALL APPLICABLE CODES AND OBTAIN APPROVAL AS NECESSARY BEFORE BEGINNING CONSTRUCTION.
16. ALL EARTHWORK, INCLUDING THE EXCAVATED SUBGRADE AND EACH LAYER OF FILL, SHALL BE MONITORED AND APPROVED BY A QUALIFIED GEOTECHNICAL ENGINEER, OR HIS REPRESENTATIVE.
17. IF ANY SPRINGS OR UNDERGROUND STREAMS ARE EXPOSED DURING CONSTRUCTION PERMANENT FRENCH DRAINS MAY BE REQUIRED. THE DRAINS SHALL BE SPECIFIED AND LOCATED DURING CONSTRUCTION AS REQUIRED BY THE CONDITIONS WHICH ARE ENCOUNTERED, AND SHALL BE APPROVED BY THE ENGINEER.
18. THIS GRADING & DRAINAGE PLAN IS NOT A DETERMINATION OR GUARANTEE OF THE SUITABILITY OF THE SUBSURFACE CONDITIONS FOR THE WORK INDICATED. A GEOTECHNICAL SOILS REPORT HAS BEEN PREPARED AND IS AVAILABLE FROM THE OWNER. DETERMINATION OF THE SUBSURFACE CONDITIONS FOR THE WORK INDICATED IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
19. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO COMPACT FILL SUFFICIENTLY AROUND AND OVER ALL PIPES, STRUCTURES, VALVE STEMS, ETC., INSIDE THE PROPOSED PAVED AREAS TO AVOID SETTLEMENT. ANY SETTLEMENT DURING THE WARRANTY PERIOD SHALL BE RESTORED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
20. IN NO CASE SHALL SLOPE, HEIGHT, SLOPE INCINATION, OR EXCAVATION DEPTH, INCLUDING TRENCH CONSTRUCTION, EXCEED THOSE SPECIFIED IN LOCAL, STATE AND FEDERAL REGULATIONS, SPECIFICALLY THE CURRENT OSHA HEALTH AND SAFETY STANDARDS FOR EXCAVATIONS (29 CFR PART 1926) SHALL BE FOLLOWED.
21. DO NOT DISTURB VEGETATION OR REMOVE TREES EXCEPT WHEN NECESSARY FOR GRADING PURPOSES.
22. STRIP TOPSOIL FROM ALL CUT AND FILL AREAS AND STOCKPILE UPON COMPLETION OF GENERAL GRADING OVER ALL DISTURBED AREAS, TO A MINIMUM DEPTH OF 6". CONTRACTOR SHALL SUPPLY ADDITIONAL TOP SOIL IF INSUFFICIENT QUANTITIES EXIST ON SITE.
23. TOP OF GRATE ELEVATIONS AND LOCATION OF COORDINATES FOR DRAINAGE STRUCTURES SHALL BE AS SHOWN ON THE DETAIL, UNLESS NOTED OTHERWISE. THE GRATES SHALL SLOPE LONGITUDINALLY WITH THE PAVEMENT GRADES.
24. ALL DRAINAGE CONSTRUCTION MATERIALS AND INSTALLATION SHALL CONFORM TO THE REQUIREMENTS AND SPECIFICATIONS OF THE CITY OF LAS VEGAS.
25. POSITIVE DRAINAGE SHALL BE ESTABLISHED AS THE FIRST ORDER OF WORK AND SHALL BE MAINTAINED AT ALL TIMES DURING AND AFTER CONSTRUCTION. SOIL SOFTENED BY PERCHED WATER IN FOUNDATION AND PAVEMENT AREAS MUST BE UNDERCUT AND REPLACED WITH SUITABLE FILL MATERIALS APPROVED BY THE GEOTECHNICAL ENGINEER. GROUNDWATER INFILTRATION INTO EXCAVATIONS SHOULD BE EXPECTED, AND THE WATER SHALL BE REMOVED USING GRAVITY DRAINAGE OR PUMPING.
26. REINFORCED CONCRETE STORM DRAINAGE PIPE SHALL BE CLASS III, WALL "8".
27. FILL SLOPES 3:1 AND GREATER SHALL BE PLACED AND COMPACTED 5' BEYOND PROPOSED LIMITS AND THEN EXCAVATED BACK TO THE PROPOSED LOCATION.
28. THE CONTRACTOR SHALL PROVIDE AN ASBUILT SURVEY STAMPED BY A LICENSED SURVEYOR IN THE SAME STATE OF THE PROJECT OF ALL PUBLIC STORM SYSTEMS AND ONSITE DETENTION PONDS AND WATER QUALITY MEASURES VERIFYING COMPLIANCE WITH DESIGN DOCUMENTS.
29. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 72 HOURS PRIOR TO INSTALLATION OF THE WATER QUALITY DEVICE.
30. ALL FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT. THIS MATERIAL SHALL BE PLACED IN LIFTS DIRECTED BY THE GEOTECHNICAL ENGINEER AND COMPACTED AS SPECIFIED BY THE GEOTECHNICAL ENGINEER (TO _____% STANDARD PROCTOR / MODIFIED PROCTOR).
31. THE LOCATION OF ALL DIVERSION SWALES AND DITCHES SHALL BE FIELD ADJUSTED TO AVOID TREES AS POSSIBLE. THE CONTRACTOR SHALL WALK THE ALIGNMENT OF THESE SWALES AND DITCHES IN THE FIELD TO VERIFY AVOIDANCE OF TREES.
32. SEDIMENT REMOVED FROM SEDIMENT CONTROL STRUCTURES IS TO BE PLACED AT A SITE APPROVED BY THE ENGINEER. IT SHALL BE TREATED IN A MANNER SO THAT THE AREA AROUND THE DISPOSAL SITE WILL NOT BE CONTAMINATED OR DAMAGED BY THE SEDIMENT IN THE RUN-OFF. COST FOR THIS TREATMENT IS TO BE INCLUDED IN PRICE BID FOR EARTHWORK. THE CONTRACTOR SHALL OBTAIN THE DISPOSAL SITE AS PART OF THIS WORK.
33. STOCKPILED TOPSOIL OR FILL MATERIAL IS TO BE TREATED SO THE SEDIMENT RUN-OFF WILL NOT CONTAMINATE SURROUNDING AREAS OR ENTER NEARBY STREAMS.
34. ANY SITE USED FOR DISPOSAL AND/OR STOCKPILE OF ANY MATERIAL SHALL BE PROPERLY PERMITTED FOR SUCH ACTIVITY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEE THAT ALL REQUIRED PERMITS ARE SECURED FOR EACH PROPERTY UTILIZED. A COPY OF THE APPROVED PERMIT MUST BE PROVIDED TO THE INSPECTOR PRIOR TO COMMENCEMENT OF WORK ON ANY PROPERTY. FAILURE TO DO SO MAY RESULT IN THE CONTRACTOR REMOVING ANY ILLEGALLY PLACED MATERIAL AT HIS OWN EXPENSE.
35. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO WASTE EXCESS EARTH MATERIAL OFF SITE AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL FIRST OFFER THE EXCESS MATERIAL TO THE OWNER. IF NOT ACCEPTED BY THE OWNER, THE CONTRACTOR SHALL DISPOSE OF EARTH MATERIAL OFF SITE. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO IMPORT SUITABLE MATERIAL (AT NO ADDITIONAL COST TO THE OWNER) FOR EARTHWORK OPERATIONS IF SUFFICIENT AMOUNTS OF EARTH MATERIAL ARE NOT AVAILABLE ON SITE.
36. SEGMENTAL WALLS SHALL BE PROVIDED BY THE CONTRACTOR AS A DESIGN BUILD. WALL DESIGN PLANS STAMPED BY A REGISTER ENGINEER IN THE STATE OF THE PROJECT SHALL BE SUBMITTED TO THE ENGINEER AS A SHOP DRAWING. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY ADDITIONAL GEOTECHNICAL INFORMATION NECESSARY TO PROPERLY DESIGN THE WALL.
37. CONTRACTOR TO INSTALL INLET PROTECTION ON ALL PROPOSED INLETS AS THEY ARE INSTALLED. CONTRACTOR TO ALSO INSTALL ROCK CHECK DAMS IN PROPOSED DITCH AS IT IS INSTALLED.

SITE UTILITY NOTES

1. THE SANITARY SEWER SHALL BE OF THE MATERIAL INDICATED ON THE PLAN. POLYVINYLCHLORIDE (PVC) SHALL BE (SDR35). DUCTILE IRON PIPE (D.I.P.) SHALL BE CLASS 52.
2. ALL WATER LINES, SEWER LINES, AND APPURTENANCES SHALL BE OF MATERIALS AND CONSTRUCTION THAT CONFORM TO THE LOCAL AGENCY STANDARDS AND SPECIFICATIONS.
3. PROVIDE A MINIMUM 36" OF COVER OVER ALL WATER LINES.
4. THE CONTRACTOR SHALL MAINTAIN 10 FEET HORIZONTAL SEPARATION BETWEEN SANITARY SEWER LINES AND WATER LINES. WHERE THESE CRITERIA CANNOT BE MET, THE CONTRACTOR SHALL MAINTAIN 18" VERTICAL SEPARATION BETWEEN WATER AND SEWER LINES.
5. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT HORIZONTAL AND VERTICAL LOCATION OF EXISTING MANHOLES OR SANITARY SEWER LINES AT THE POINT OF CONNECTION PRIOR TO THE COMMENCEMENT OF ORDERING OF MATERIALS, CONSTRUCTION OR REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES DO NOT CONFLICT WITH SANITARY SEWERS, SANITARY SEWER SERVICES, STORM SEWERS, OR ANY OTHER UTILITY OR STRUCTURE, EXISTING OR PROPOSED.
7. THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY.
8. BEFORE CONNECTIONS ARE MADE INTO EXISTING UTILITIES, THE NEW LINES ARE TO BE FLUSHED AND TESTED BY THE CONTRACTOR IN ACCORDANCE WITH THE CITY OF LAS VEGAS WATER AND SEWER DEPARTMENT SPECIFICATIONS.
9. ALL TRENCHES CUT IN EXISTING ROADS OR DRIVES SHALL UTILIZE A CLEAN SAW CUT AND SHALL BE BACKFILL (100%) TO FINAL SUBGRADE WITH #57 STONE. REPAIR ROADS PER LOCAL AGENCY REQUIREMENTS.
10. REPAIR ALL DAMAGE TO EXISTING FEATURES (I.E. DRIVES, ROADS, YARDS, LANDSCAPING, ETC...) TO PRE-CONSTRUCTION CONDITION.
11. THE CONTRACTOR SHALL PROVIDE ALL HORIZONTAL AND VERTICAL BENDS TO ATTAIN THE ALIGNMENT INDICATED ON THE PLANS. PROVIDE VERTICAL BENDS WHERE NECESSARY TO ALLOW WATER LINES TO PASS UNDER OR OVER OTHER UTILITY LINES. (ALL BENDS AND BRACES NEEDED MAY NOT BE ACTUALLY SHOWN). PROVIDE BRACING AND/OR RODDING AT ALL BENDS AND TEES AS REQUIRED BY WATER DEPARTMENT.
12. REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) OR DUAL CHECK WILL BE REQUIRED ON ALL TESTS AND FILL LINES (JUMPER) NEEDED FOR WATER MAIN CONSTRUCTION AND MUST BE APPROVED BY THE WATER DEPARTMENT.
13. COORDINATE THE EXACT LOCATION OF ALL UTILITIES ENTERING THE BUILDING WITH THE PLUMBING PLANS.
14. WATER METERS SHALL BE NO DEEPER THAN 24" FROM TOP OF METER TO PROPOSED FINISHED GRADE.
15. THE CONTRACTOR SHALL VERIFY REQUIRED PIPE LENGTHS. EXISTING PIPE MATERIAL AND SIZES AS SHOWN ON PLANS.
16. REPAIR EXISTING PAVEMENT, CURBS, WALKS, LANDSCAPING, ETC. THAT ARE DAMAGED BY CONSTRUCTION ACTIVITIES TO A LIKE NEW CONDITION AT NO ADDITIONAL COST TO THE OWNER.
17. THE PROPOSED GAS LINE CONSTRUCTION AND INSTALLATION SHALL BE COORDINATED WITH THE LOCAL GAS COMPANY BY THE CONTRACTOR.
18. THE PROPOSED ELECTRIC LINE CONSTRUCTION AND INSTALLATION SHALL BE COORDINATED WITH THE LOCAL ELECTRIC COMPANY BY THE CONTRACTOR.
19. THE PROPOSED TELEPHONE LINE CONSTRUCTION AND INSTALLATION SHALL BE COORDINATED WITH THE LOCAL TELEPHONE COMPANY BY THE CONTRACTOR.
20. WHERE DRAINAGE OR UTILITY LINES OCCUR IN PROPOSED FILL AREAS, THE FILL MATERIAL IS TO BE PLACED AND COMPACTED TO (____%) OF MAXIMUM DRY DENSITY ACCORDING TO ASTM (_____) PRIOR TO INSTALLATION OF DRAINAGE OR UTILITY LINES. FILL IS TO BE INSPECTED BY A PROFESSIONAL GEOTECHNICAL ENGINEER TESTING FIRM EMPLOYED BY THE OWNER. RESULTS OF THE TEST SHALL BE FURNISHED TO THE OWNER'S REPRESENTATIVE. CONTRACTOR TO PAY FOR ANY RETESTING.
21. THE CONTRACTOR SHALL ADJUST THE ALIGNMENT OF THE WATER LINES (HORIZONTALLY AND/OR VERTICALLY) TO ALLOW THE REQUIRED BRACING AT BENDS AND TEES.
22. EXISTING CASTINGS LOCATED IN FILL/CUT AREAS SHALL BE ADJUSTED TO ENSURE THAT THE TOP OF CASTING IS FLUSH WITH THE FINISHED GRADE.
23. WATER SERVICES SHALL BE 1/2" TYPE K COPPER AND SHALL INCLUDE CORPORATION STOPS, CURB STOPS, PRESENT METER BOX AND ALL OTHER FITTINGS AS REQUIRED BY LOCAL DEPARTMENT.
24. THE OUTSIDE OF ALL MANHOLES SHALL BE COATED WITH BITUMINOUS PAINT.
25. ALL WATER LINE SERVICES SHALL TERMINATE AT A METER BOX LOCATED 10 FEET FROM THE R.O.W. LINE.
26. THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER.
27. PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS.
28. ALL CONNECTIONS TO EXISTING MANHOLES SHALL BE BY THE CORING AND RESILIENT SEAL METHOD.
29. FIRE HYDRANT ASSEMBLIES INCLUDE THE APPROPRIATE SIZED TEE (WITH KICKER), 6" LINE TO HYDRANT, 6" GATE VALVE (WITH VALVE BOX), AND FIRE HYDRANT (WITH KICKER). HYDRANTS SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
30. THE CONCRETE CAPS AND ENCASEMENTS ON WATER AND SEWER LINES SHALL BE A MINIMUM OF 6" THICK. USE 3000 PSI CONCRETE.
31. ALL SANITARY SEWER SERVICES SHALL BE 6" DIAMETER AND EXTEND 10 FEET BEYOND THE PROPERTY LINE.
32. CONTRACTOR SHALL MARK THE LOCATION OF ALL NEW PVC LINES WITH #8 WIRE.
33. BACKFLOW PREVENTION DEVICE FOR THE DOMESTIC WATER SERVICE SHALL BE LOCATED INSIDE THE BUILDING, SEE PLUMBING PLANS.
34. SIAMSESE STAND PIPE TO BE GALVANIZED STEEL.
35. ALL PROPOSED LOT CORNERS SHALL BE FIELD STAKED PRIOR TO CONSTRUCTION OF SANITARY SEWERS. CONTROL POINTS ARE AS SHOWN ON THE SITE LAYOUT PLAN.
36. THE HOME BUILDER SHALL VERIFY THE SANITARY SEWER SERVICE ELEVATION PRIOR TO SETTING THE FINISHED FLOOR ELEVATIONS FOR ALL LOTS. THE SANITARY SEWER MAIN AND SERVICES WERE DESIGNED BASED ON SETTING MINIMUM FINISHED FLOOR ELEVATIONS ON A NUMBER OF CRITICAL LOTS. THE HOME BUILDER SHALL ADHERE TO THE MINIMUM FINISHED FLOOR ELEVATIONS LISTED ON THE SANITARY SEWER SHEETS.
37. SEWER SERVICES TO BE 6" DIAMETER PVC AT A MINIMUM SLOPE OF 1.0% UNLESS SHOWN OTHERWISE ON THE DRAWINGS. LINES SHALL START 5' BEYOND THE BUILDINGS. COORDINATE CONNECTION POINTS WITH THE BUILDING PLUMBING DRAWINGS. PROVIDE A MINIMUM 30" OF COVER OVER ALL SEWER SERVICES IN GRASS AREAS AND 48" OF COVER IN PAVED AREAS.
38. ALL FIRE LINES SHALL BE INSTALLED BY A SPRINKLER CONTRACTOR LICENSED IN THE STATE OF THE PROJECT.

EROSION CONTROL NOTES:

1. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATION BEGINS AND MUST BE CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY BUT MUST BE REPLACED AT THE END OF THE WORKDAY.
2. THE FOLLOWING RECORDS SHALL BE MAINTAINED ON OR NEAR SITE: THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; THE DATES WHEN STABILIZATION MEASURES ARE INITIATED; INSPECTION RECORDS AND RAINFALL RECORDS.
3. THE CONTRACTOR SHALL MAINTAIN A RAIN GAUGE AND DAILY RAINFALL RECORDS AT THE SITE OR USE A REFERENCE SITE FOR A RECORD OF DAILY AMOUNT OF PRECIPITATION.
4. PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN 10 DAYS PRIOR TO GRADING OR EARTH MOVING UNLESS THE AREA IS SEEDED AND/OR MULCHED OR OTHER TEMPORARY COVER IS INSTALLED.
5. CONSTRUCTION MUST BE SEQUENCED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED AREAS.
6. SEDIMENT SHOULD BE REMOVED FROM SEDIMENT TRAPS, SILT FENCES, SEDIMENTATION PONDS AND OTHER SEDIMENT CONTROLS AS NECESSARY AND MUST BE REMOVED WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50% OR AS DIRECTED BY OWNERS REPRESENTATIVE.
7. THE CONTRACTOR SHALL REMOVE SEDIMENT FROM ALL DRAINAGE STRUCTURES BEFORE ACCEPTANCE BY LOCAL GOVERNING AGENCY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
8. THE CONTRACTOR SHALL REMOVE THE TEMPORARY EROSION AND WATER POLLUTION CONTROL DEVICES ONLY AFTER A SOLID STAND OF GRASS HAS BEEN ESTABLISHED ON GRADED AREAS AND WHEN IN THE OPINION OF THE OWNER'S REPRESENTATIVE, THEY ARE NO LONGER NEEDED.



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CITY OF LAS VEGAS GENERAL NOTES:

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS OR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA", LATEST ISSUE; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA", LATEST REVISED EDITION; THE "SUMMERLIN IMPROVEMENT STANDARDS" FOR WORK IN THE SUMMERLIN AREA; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; THE UNIFORM BUILDING CODE; AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS "DEVIATIONS FROM STANDARDS".
 - THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES AS SHOWN FROM CLV PLANS LIBRARY ARE APPROXIMATE AND FOR RECORD PURPOSES. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCE'S WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.
 - THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES AND STREET IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE, AND ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORILY TO THE CITY ENGINEER AND OWNING UTILITY COMPANY AT THE EXPENSE OF THE CONTRACTOR.
 - ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS, ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.
 - TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGNS TO BE APPROVED BY THE CITY, PRIOR TO THE USE ON THE PROJECT.
 - PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.
 - EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300' IN EXTRUDED-TYPE CURB.
 - AC PAVEMENT TO BE ONE-HALF INCH (½") ABOVE LIP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS AND CROSS GUTTERS.
 - CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY OF LAS VEGAS SHALL BE REMOVED AND REPLACED PER STANDARD DRAWING 216.
 - SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER STANDARD DRAWING 235. EXACT LOCATION OF RAMPS MAY BE ADJUSTED IN THE FIELD BY A CITY INSPECTOR.
 - CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION. THE EXTENT OF THE TRANSITIONS TO BE AS SHOWN ON PLANS.
 - ALL GRADING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY THE (COMPANY , - REPORT #, DATE) APPROVED BY THE CITY ENGINEER, AND AS SHOWN ON THESE PLANS.
 - EXACT LOCATION OF ALL SAWCUT LINES MAY BE ADJUSTED OR DETERMINED IN THE FIELD BY A CITY OF LAS VEGAS ENGINEER IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATIONS.
 - THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING PERMANENT SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE REPLACED AND ADJUSTED PER AVAILABLE RECORDS IN ACCORDANCE WITH N.R.S. STATUTE NO. 625.380 & CITY OF LAS VEGAS TITLE 18, APPENDIX D.
 - UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC., SHALL BE 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:
- ALL WALLS, NEW OR EXISTING, ARE ONLY SHOWN ON CIVIL PLANS FOR THE PURPOSE OF REVIEWING GRADING RELATIONSHIPS; FLOOD CONTROL AND SIGHT DISTANCE AT INTERSECTIONS. NEW WALLS REQUIRE A SEPARATE PERMIT AND INSPECTION BY THE BUILDING DEPARTMENT.
 - ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHT OF WAY.
 - CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE RIMS, AND SEWER CLEAN OUTS, ETC. TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.
 - MATERIALS, HANDLING AND PLACEMENT OF PORTLAND CEMENT CONCRETE SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF NDOT OR THE CLARK COUNTY AREA SPECIFICATIONS (AS APPLICABLE) AND THE PLANS AND DETAILS SHOWN HEREON.
 - WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC., THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO OFFSITE INSPECTION AND TESTING CERTIFYING THAT ALL DEVICES HAVE BEEN PLACED AND VERIFIED TO BE IN GOOD WORKING CONDITION PRIOR TO THE CONSTRUCTION OF ANY ROAD BASE.
 - SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S) SHALL BE PROVIDED TO THE CITY AND APPROVED PRIOR TO ACCEPTANCE OF FACILITY VIDEO INSPECTION. THE MAP(S) SHALL INCLUDE THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES AND TRANSITION STRUCTURES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT-OF-WAY, AND STORM DRAIN MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS. THE LOCATION SHALL BE DESCRIBED BY COORDINATES WHICH SHALL BE BASED ON THE OFFICIAL HORIZONTAL AND VERTICAL CONTROL NETWORKS OF THE CITY OF LAS VEGAS. FINAL LOCATION MAPS MUST BE SEALED AND CERTIFIED BY A NEVADA PROFESSIONAL LAND SURVEYOR TO HAVE POSITIONAL CERTANTIES OF ± 0.09 METERS (± 0.3 FEET) HORIZONTALLY AND VERTICALLY. A SEPARATE ELECTRONIC COMMA DELIMITED FILE FOR THE SANITARY SEWER AND STORM DRAIN COORDINATES SHALL ALSO ACCOMPANY THE SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S).
 - 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 (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, 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 AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT-OF-WAY. ANY DEVIATIONS FROM THE INFORMATION SHOWN SHALL BE NOTED AND SUBMITTED AS A REVISION TO THE PLANS AND APPROVED PRIOR TO ACCEPTANCE OF FACILITY VIDEO INSPECTION.
 - 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.
 - A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

CITY OF LAS VEGAS GRADING NOTES:

- IN THE EVENT THAT ANY UNFORESEEN CONDITIONS NOT COVERED BY THESE NOTES ARE ENCOUNTERED DURING GRADING OPERATIONS, THE OWNER/ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTION.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THIS PROJECT AND THE RELATED OFF-SITE WORK, SO AS TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES AND SLOPES SHOWN.
- CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL EXCAVATION, ADEQUATE SHORING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR TO PREVENT UNDERMINING OF ANY ADJACENT FEATURES OR FACILITIES AND/OR CAVING OF THE EXCAVATION.
- THE CONTRACTOR IS WARNED THAT AN EARTHWORK BALANCE WAS NOT NECESSARILY THE INTENT OF THIS PROJECT. ANY ADDITIONAL MATERIAL REQUIRED OR LEFTOVER MATERIAL FOLLOWING EARTHWORK OPERATIONS BECOMES THE RESPONSIBILITY OF THE CONTRACTOR.
- THE GRADING CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER TO PROVIDE FOR THE REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ASSOCIATED PERMIT.
- CONTRACTOR SHALL GRADE TO THE LINES AND ELEVATIONS SHOWN ON THE PLANS WITHIN THE FOLLOWING HORIZONTAL AND VERTICAL TOLERANCES AND DEGREES OF COMPACTION, IN THE AREAS INDICATED:

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

COMPACTION TESTING WILL BE PERFORMED BY THE OWNER OR HIS REPRESENTATIVE.
- ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.
- THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER.
- THE CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS AND ALL OTHER PUBLIC RIGHT-OF-WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE PUBLICLY OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.
- IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED THAT IS NOT SHOWN ON THESE DRAWINGS, THE OWNER AGREES TO PROVIDE AND INSTALL SUCH ITEM AT HIS OWN EXPENSE AND AT THE DIRECTION OF THE CITY ENGINEER. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

CITY OF LAS VEGAS STREETLIGHT NOTES:

- ALL STREET LIGHTING INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STREET LIGHTING PLANS, THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST REVISION, AND THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST REVISION, AND ANY ADOPTED SPECIAL AREA STANDARDS.
- NO DEVIATION OF STREET LIGHT, PULL BOX, CONDUITS (ETC.) LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF TRAFFIC ENGINEERING AND THE CITY ENGINEER.
- ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION.
- ALL STREET LIGHTING CONDUITS STUB SHALL HAVE AT LEAST ONE GREEN #8 THW WIRE INSTALLED, AS TRACER WIRE. WHEN "EMPTY CONDUIT" IS COMPLETELY INSTALLED FROM PB TO PB, IT SHALL HAVE MINIMUM OF 2 #4 AND 1 #8 THW WIRE WITH THE ENDS TAPED OR "SAFE OFF" PRIOR TO FINAL INSPECTION.
- ANY STRUCTURE SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC., SHALL LEAVE A MINIMUM CLEARANCE IN ACCORDANCE WITH THE USD NO. 320A.
- AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE TETO PRIOR TO ANY PRE-FINAL INSPECTION. THE ASBUILT DRAWING NEEDS TO BE STAMPED AS-BUILT AND SIGNED BY THE PREPARER.
- SERVICE POINT SHALL BE COORDINATED WITH MY ENERGY COMPANY, AND WHEREVER POSSIBLE, BE LOCATED NEAR THE CENTER OF THE CIRCUIT. SERVICE POINTS SHALL BE SHOWN ON THE CIVIL PLANS.
- IT SHALL BE ASSUMED THAT IN THE ABSENCE OF AN EXISTING, WORKABLE CIRCUIT TO ATTACH TO, ALL INSTALLATIONS SHALL REQUIRE A NEW SERVICE FOR OPERATION OF THE CIRCUIT.
- WHEREVER THERE IS AN OVERHEAD UTILITY THAT MAY CONFLICT WITH THE INSTALLATION OF STREET LIGHTING CIRCUITS AND/OR POLES, THESE CONFLICTS MUST BE RESOLVED BETWEEN THE DEVELOPER AND THE UTILITIES INVOLVED, AT NO EXPENSE TO THE CITY OF LAS VEGAS, BEFORE STREETLIGHT BASES ARE INSTALLED.
- THE CONTRACTOR SHALL FURNISH COMPLETE SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON PLANS.
- THE DEVELOPER/OWNER WILL BE REQUIRED TO SUPPLY POWER TO ALL NEW PUBLIC STREET LIGHTS INSTALLED UNDER THIS DESIGN PRIOR TO BOND RELEASE OR PROJECT COMPLETION. THE DEVELOPER/OWNER WILL BE RESPONSIBLE FOR ALL ITEMS ASSOCIATED WITH THE INSTALLATION, CONSTRUCTION, ENERGIZING, MAINTENANCE AND OPERATIONAL COST OF SAID STREET LIGHTS PRIOR TO PROJECT COMPLETION. REFER TO THE PLAN FOR ANY NEW SERVICE REQUIREMENTS. THE TRANSFER OF OWNERSHIP FROM THE DEVELOPER/OWNER TO THE CITY OF LAS VEGAS FOR ALL NEW PUBLIC STREET LIGHTS AND/OR SERVICE/S INSTALLED UNDER THIS PLAN DESIGN WILL BE IN CONJUNCTION WITH THIS PROJECT COMPLETION. COORDINATE ALL MAINTENANCE AND OPERATIONAL TRANSFERS WITH THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DEPARTMENT (TETO) AT (702) 229-6331.

CITY OF LAS VEGAS TRAFFIC NOTES:

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

CITY OF LAS VEGAS STORMWATER RUNOFF MANAGEMENT NOTES:

- THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATE IN, THE PUBLIC RIGHTS OF WAYS OF THE CITY OF LAS VEGAS AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
- ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN THE CITY OF LAS VEGAS AND LAS VEGAS VALLEY CONSTRUCTION SITE BEST MANAGEMENT PRACTICES MANUAL.
- TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY. REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NR100000, SECTION III.A.12.
- AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT AREA EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS AND ALL BMP'S WEEKLY, AND WITHIN 24 HOURS AFTER ANY ACTUAL RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NR100000, SECTION III.A.12.
- ACCUMULATED SEDIMENT IN BMP'S 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.

LAS VEGAS FIRE & RESCUE GENERAL NOTES:

- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CITY OF LAS VEGAS FIRE DEPARTMENT'S ORDINANCE # 5667, "HYDRANT SPECIFICATIONS", AND "HYDRANT INSTALLATION SPECIFICATION".
- AUTHORIZED FIRE HYDRANTS FOR THIS PROJECT ARE:

A. KENNEDY – GUARDIAN MODELS K81A AND K81D
B. MUELLER – SUPER CENTURION 250 MODEL A-423
C. CLOW – MEDALLION MODEL F-254SLV0
D. TROY VALVE – PATRIOT MODEL PT8100N NEVADA HYDRANT
E. U.S. PIPE – METROFLOW/M-03
- 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.
- TO IDENTIFY THE FIRE HYDRANT LOCATIONS, CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF STREET ADJACENT TO THE FIRE HYDRANTS AS REQUIRED BY ORDINANCE #5667.
- ALL UNDERGROUND INSPECTIONS, PRESSURE AND FLUSH VERIFICATIONS OF ALL FIRE HYDRANTS AND FIRE LINES, SHALL BE CONDUCTED BEFORE COVERING THE LINES. CALL THE CITY OF LAS VEGAS INSPECTION HOT-LINE AT 229-2071 TO REQUEST AN INSPECTION BY THE CITY OF LAS VEGAS FIRE DEPARTMENT.
- PAINTING OF THE CURBS AND FIRE HYDRANTS AND ALL OTHER WORK NECESSARY AS REQUIRED BY ORDINANCE #5667, FOR THE PROTECTION OF FIRE HYDRANTS FROM PHYSICAL DAMAGE, SHALL BE COMPLETED BEFORE APPROVAL BY THE CITY OF LAS VEGAS FIRE DEPARTMENT.
- A PERMIT IS REQUIRED FROM THE CITY OF LAS VEGAS FIRE DEPARTMENT FOR THE ON-SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER BEFORE COMMENCEMENT OF WORK.
- PRIVATE FIRE HYDRANTS SHALL BE PAINTED RED.
- PRIOR TO THE FINAL OCCUPANCY, A FLOW TEST MUST BE WITNESSED BY THE CITY OF LAS VEGAS FIRE DEPARTMENT TO VERIFY AVAILABILITY OF THE REQUIRED FIRE FLOW.
- 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.
- FIRE HYDRANTS SPACING SHALL BE:

RESIDENTIAL – 500 FEET UNSPRINKLERED; 600 FEET SPRINKLERED.
COMMERCIAL – 300 FEET UNSPRINKLERED; 400 FEET SPRINKLERED.
- WHERE NEW WATER MAINS ARE EXTENDED ALONG STREETS OR NEW STREETS ARE INSTALLED WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF THE STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT MAXIMUM 1,000 FOOT SPACING, TO PROVIDE FOR TRANSPORTATION HAZARDS. WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR HAVE FOUR OR MORE TRAFFIC LANES AND HAVE A TRAFFIC COUNT OF MORE THAN 30,000 PER DAY, HYDRANTS ARE REQUIRED ON EACH SIDE OF THE STREET SPACED AT 500 FEET ON AN ALTERNATING BASIS.
- NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE REQUIRED RADIUS OF A CUL-DE-SAC OR WITHIN 20 FEET OF THE PERIMETER OF THE RADIUS OF THE CUL-DE-SAC.
- NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FEET OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION.
- THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A ONE-TWO FAMILY DWELLING SHALL NOT EXCEED 300 FEET, AS MEASURED BY AN APPROVED ROUTE.
- THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FEET, AS MEASURED BY AN APPROVED ROUTE.
- THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FEET.
- TWO SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE ARE 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM. SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS CAN BE OUT OF SERVICE DUE TO A BREAK IN A WATER MAIN.
- 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.
- THE GRADIENT FOR THE FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12% ANGLES OF APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 6% FOR 25 FEET PRIOR TO OR AFTER THE GRADE CHANGE. ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EXCEED 6%.
- THE TURNING RADIUS OF THE FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 52 FEET OUTSIDE AND 28 FEET INSIDE TURNING RADIUS.
- VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL BE NOT LESS THAN 13 FEET 6 INCHES.
- FIRE DEPARTMENT ACCESS ROADS IN ALL RESIDENTIAL DEVELOPMENTS (EXCEPT FOR THE APARTMENT BUILDINGS) SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 36 FEET FLOW LINE TO THE FLOW LINE (THIS WIDTH MAY BE REDUCED TO 24 FEET, IF ALL BUILDINGS FRONTING THE STREET ARE SPRINKLERED) FOR MAIN RESIDENTIAL STREETS, WITH PARKING PERMITTED ON BOTH SIDES OF THE STREET. PRIVATE DRIVE ANGLES, DRIVEWAYS, ETC. SHALL BE ALLOWED TO BE REDUCED TO A MINIMUM WIDTH OF 24 FEET WIDE FLOW LINE TO THE FLOW LINE WHEN SERVING NO MORE THAN 6 RESIDENCES, AND WHEN ON STREET PARKING IS DISALLOWED.
- ALL FIRE APPARATUS ACCESS ROADS IN COMMERCIAL DEVELOPMENTS AND APARTMENT COMPLEXES SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 24 FEET (FLOW LINE TO THE FLOW LINE), PROVIDED NO PARKING IS ALLOWED ON EITHER SIDE; 32 FEET (FLOW LINE TO THE FLOW LINE), IF PARALLEL PARKING IS ALLOWED ON ONE SIDE ONLY; AND 40 FEET (FLOW LINE TO THE FLOW LINE), IF PARALLEL PARKING IS ALLOWED ON BOTH SIDES. THESE WIDTHS MAY BE REDUCED BY 4 FEET IF ALL BUILDINGS ARE SPRINKLERED.
- A FIRE DEPARTMENT ACCESS ROAD SHALL EXTEND TO WITHIN 50 FEET OF A SINGLE EXTERIOR DOOR PROVIDING ACCESS TO THE INTERIOR OF THE BUILDING.
- A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FEET FROM A FIRE DEPARTMENT VEHICLE ACCESS. THIS DISTANCE COULD BE INCREASED TO 250 FEET IF THE BUILDING IS SPRINKLERED.
- 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 FEET, AND FOR ALL COMMERCIAL, INDUSTRIAL, AND MULTI-FAMILY RESIDENTIAL DEVELOPMENTS.
- ALL DEAD-END FIRE APPARATUS ACCESS ROADS AND OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FEET IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND AREA HAVING A MINIMUM DIAMETER OF 81 FEET.
- 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 100 FEET ALONG ALL DESIGNATED FIRE LANES. SIGNS TO BE PLACED ON BOTH SIDES OF AN ACCESS ROADWAY IF NEEDED TO PREVENT PARKING ON EITHER SIDE. SIGNS TO BE INSTALLED NO HIGHER THAN 10 FEET OR LESS THAN 6 FEET FROM ROADWAY LEVEL. THE CURB ALONG OR ON THE PAVEMENT OR CEMENT IF A CURB IS NOT PROVIDED SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS.
- ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF LAS VEGAS GUIDELINES FOR AUTOMATIC EMERGENCY VEHICLE ACCESS GATES.

CITY OF LAS VEGAS SEWER NOTES:

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

NO DEVIATIONS

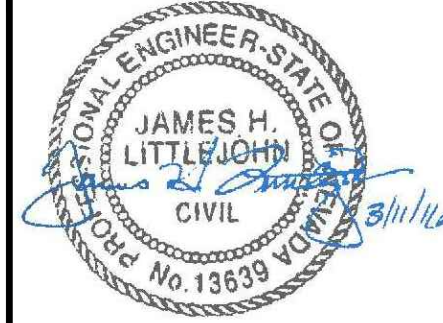
APPROVED FOR CONSTRUCTION

LAS VEGAS FIRE & RESCUE DATE

LAS VEGAS VALLEY WATER DISTRICT DATE

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EMERGENCY DEPARTMENT
EXPANSION
LAS VEGAS, NEVADA

SUNRISE
MOUNTAINVIEW
HOSPITAL
3100 N TENAYA WAY
LAS VEGAS, NV 89128
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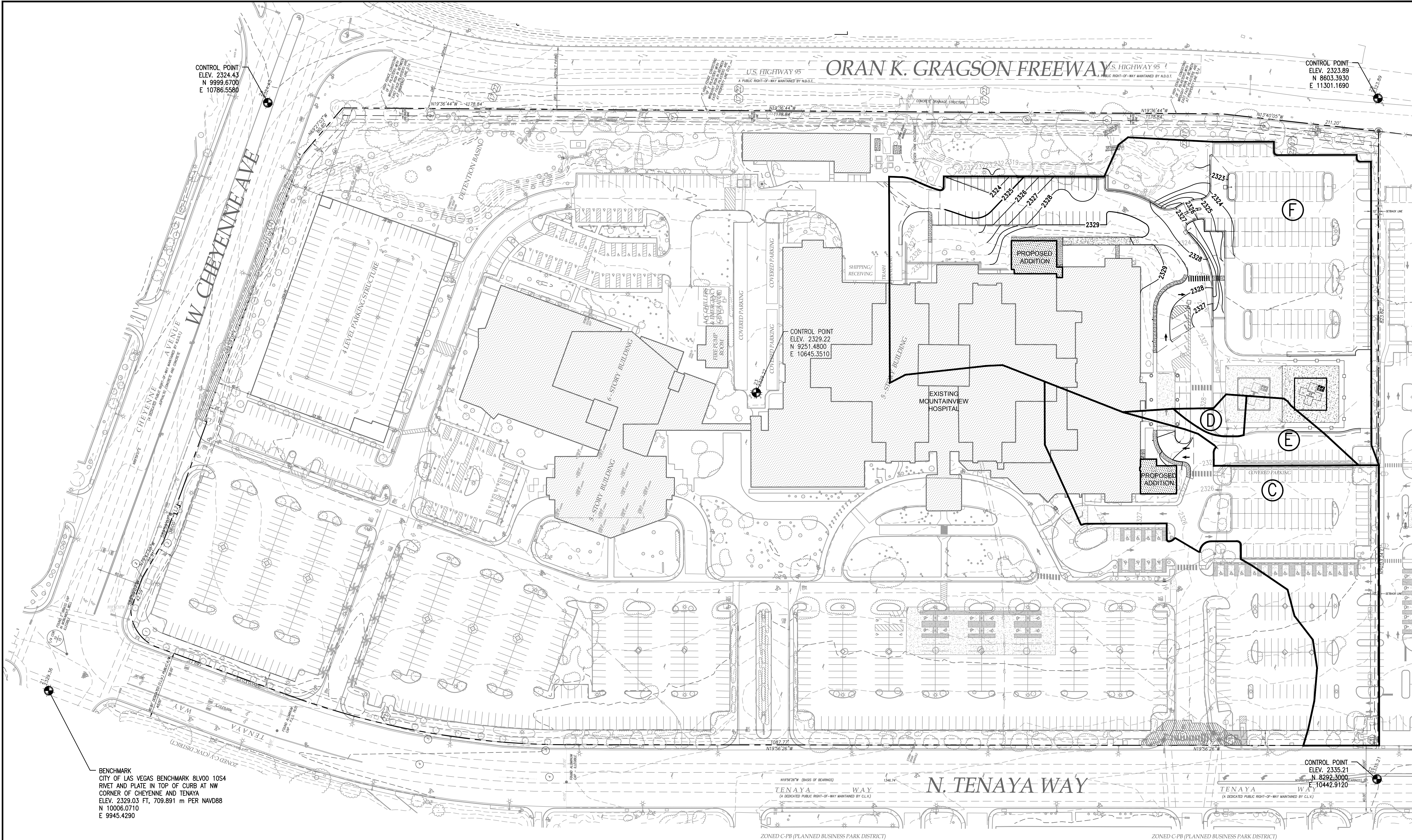
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BENCHMARK
CITY OF LAS VEGAS BENCHMARK 8LV00 1054
RIVET AND PLATE IN TOP OF CURB AT NW
CORNER OF CHEYENNE AND TENAYA
ELEV. 2329.03 FT, 709.891 m PER NAVD88
N 10006.0710
E 9945.4290

SUB-BASIN	10 YEAR PEAK FLOW (CFS)	100 YEAR PEAK FLOW (CFS)	DRAINAGE AREA (ACRES)
C	3.81	6.91	1.979
D	0.14	0.26	0.075
E	0.55	1.00	0.286
F	9.09	16.48	4.720

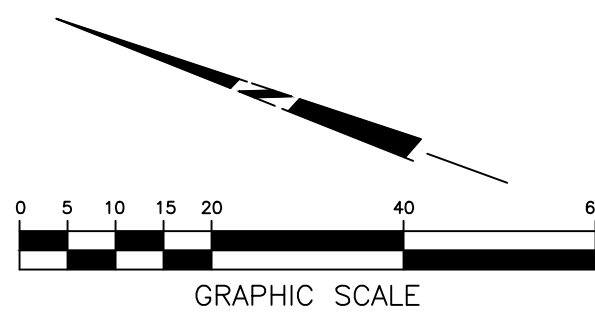
THE GRADING PLAN CONFORMS WITH APPROVED DRAINAGE STUDY DS-4520.

JIM LITTLEJOHN P.E.
LITTLEJOHN ENGINEERING ASSOCIATES

DATE

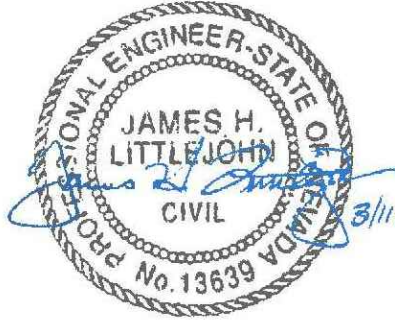


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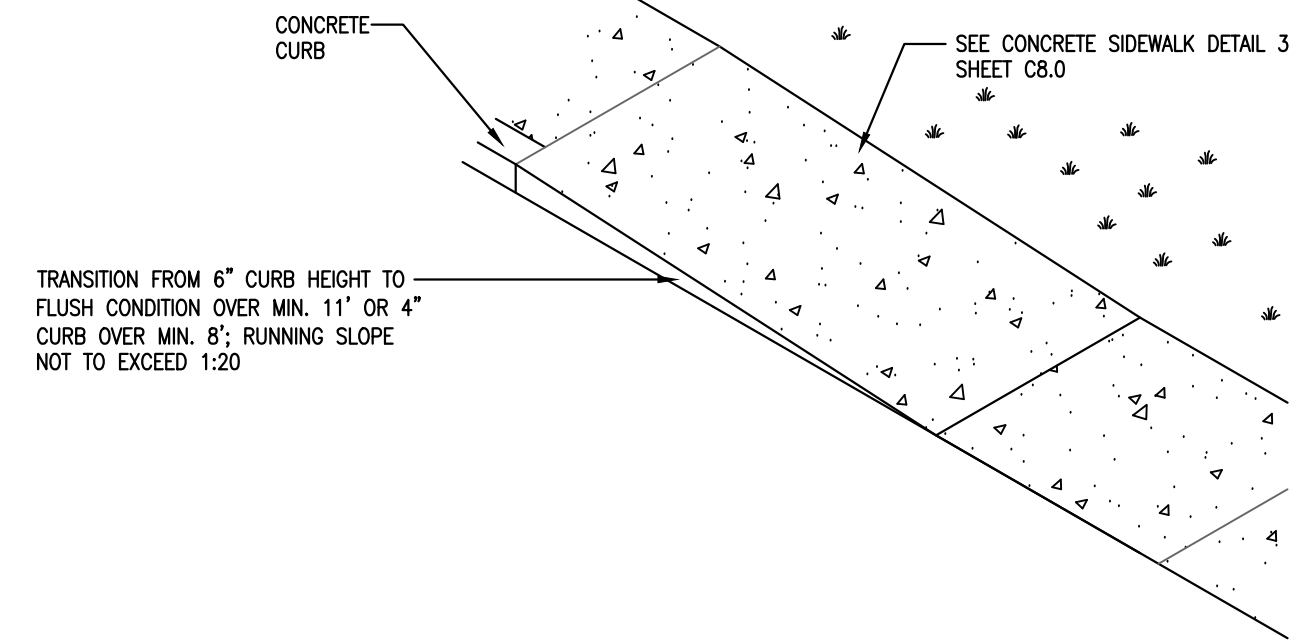


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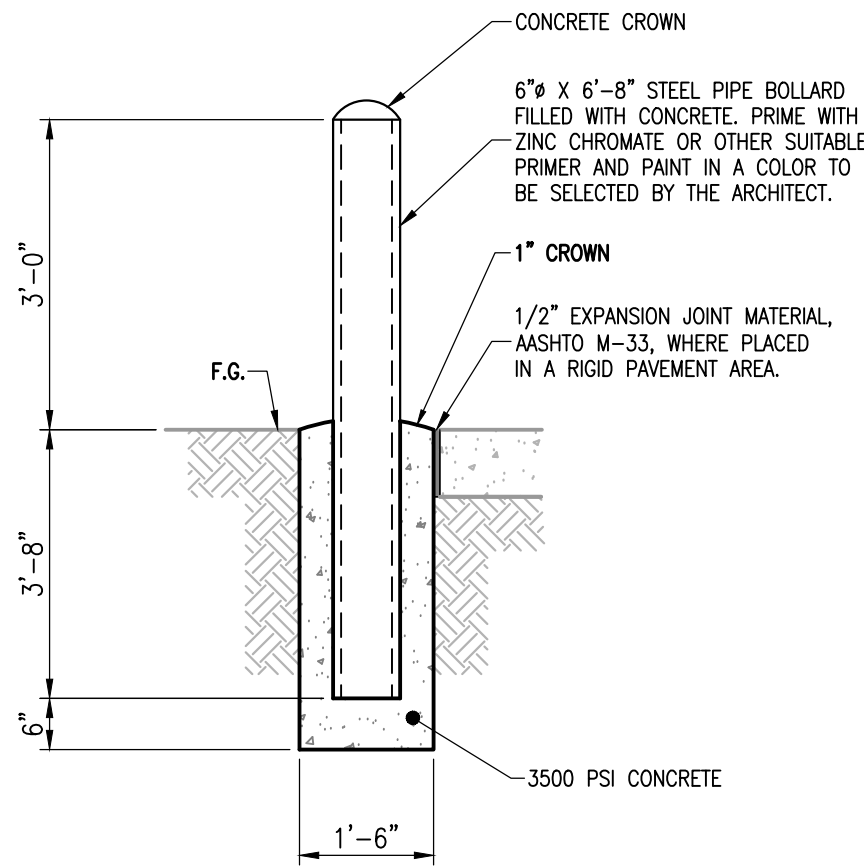
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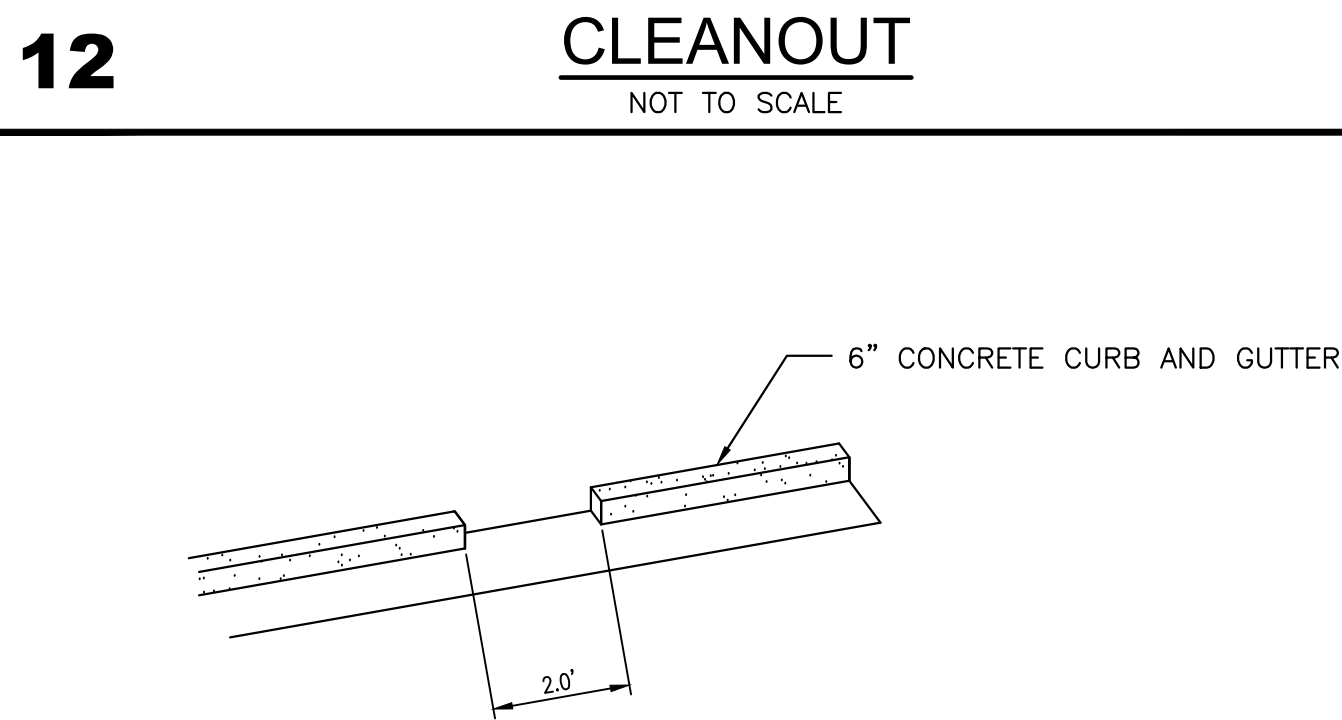
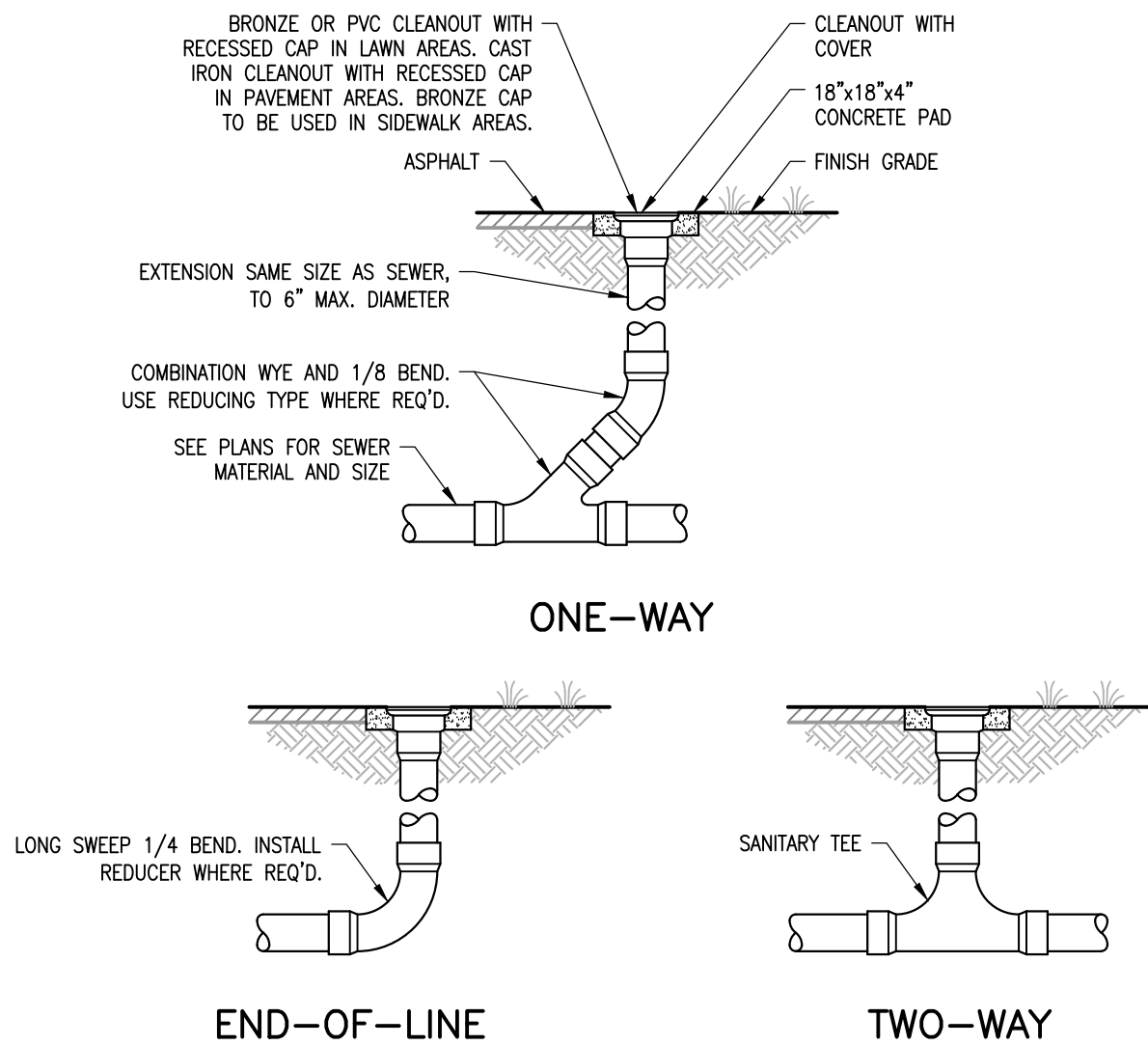
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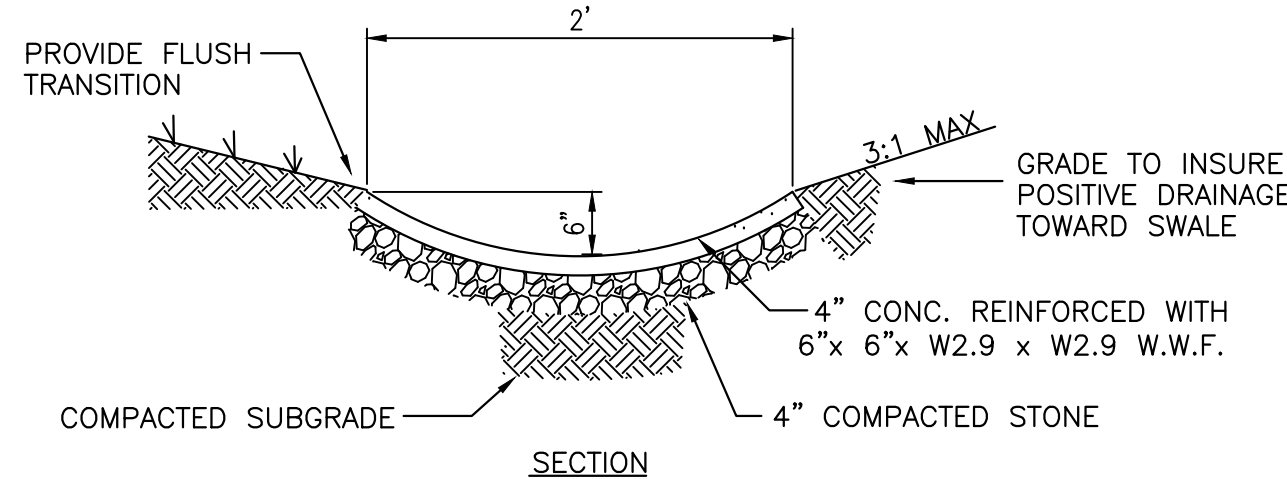
10 CURB TRANSITION TO FLUSH
NOT TO SCALE



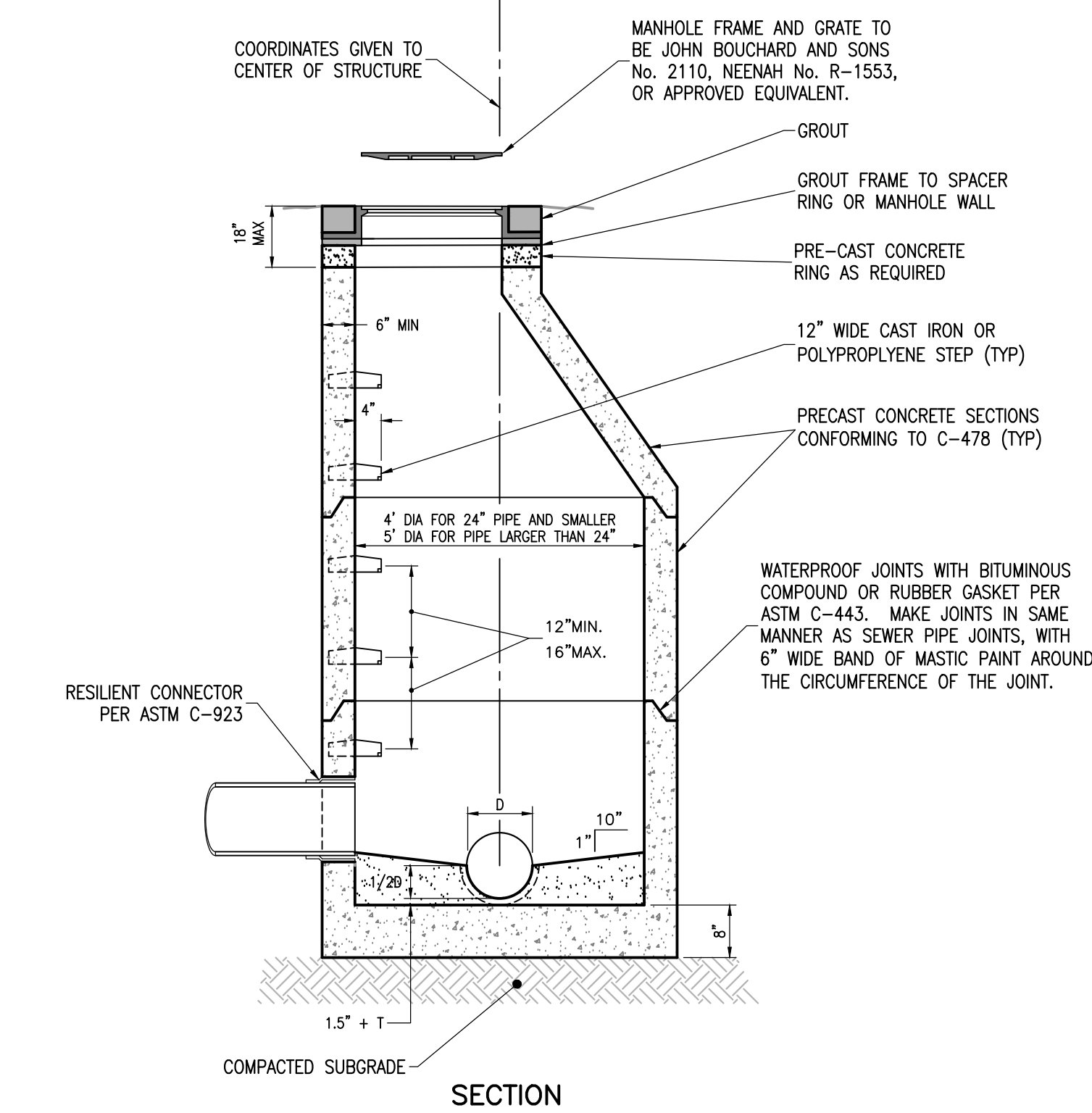
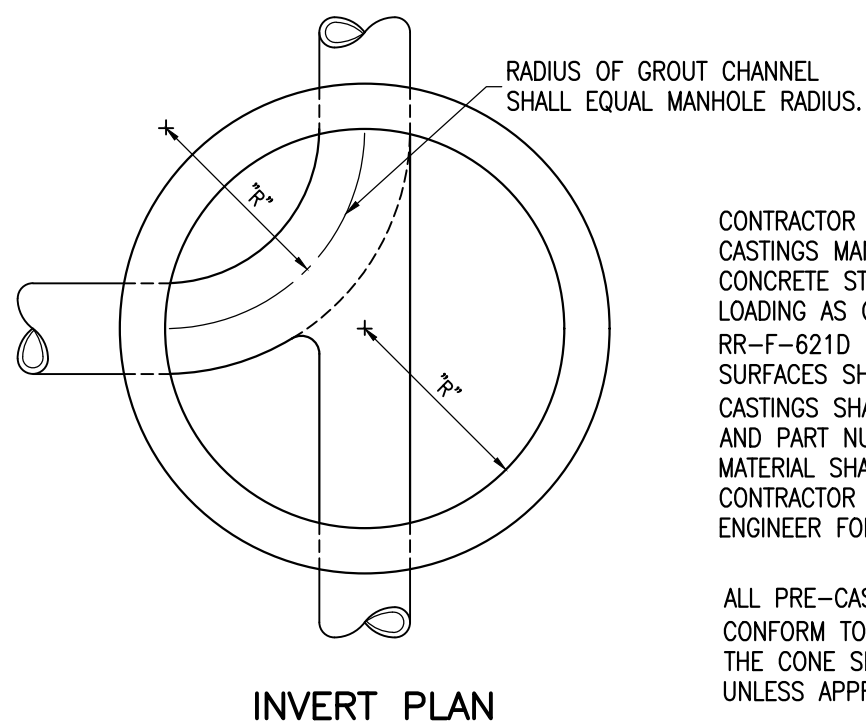
11 STEEL BOLLARD
NOT TO SCALE



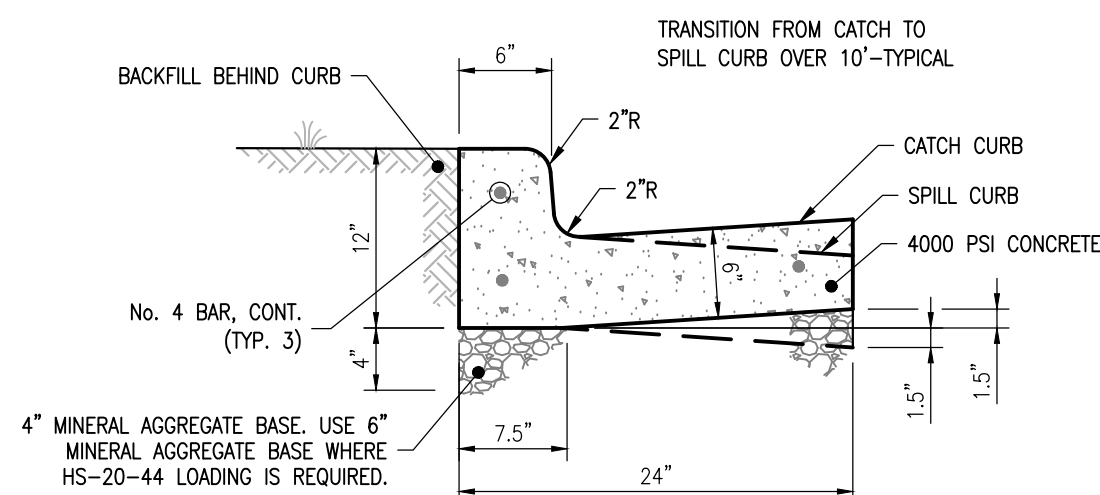
13 2' CURB CUT
NOT TO SCALE



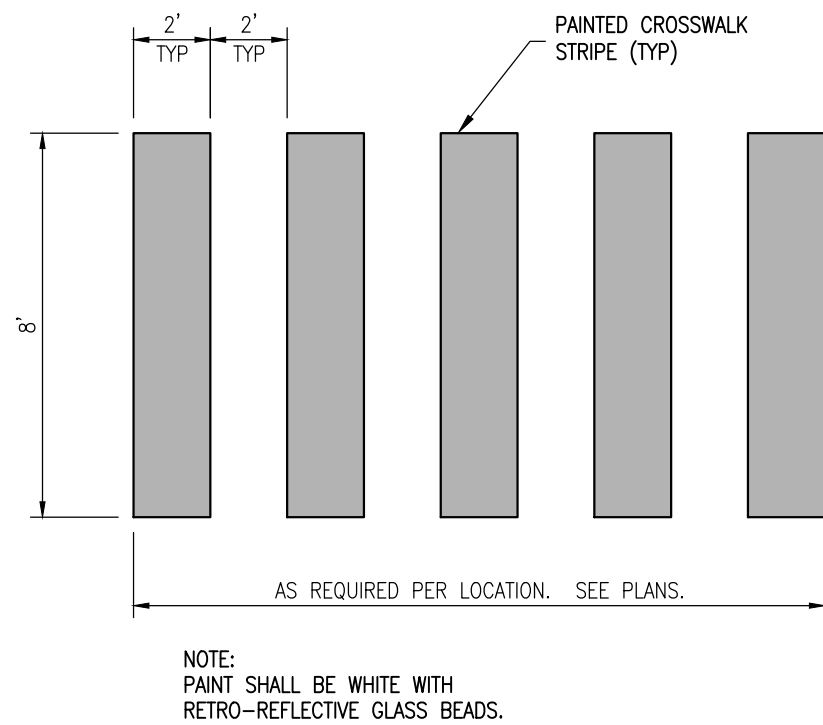
8 CONCRETE SWALE
NOT TO SCALE



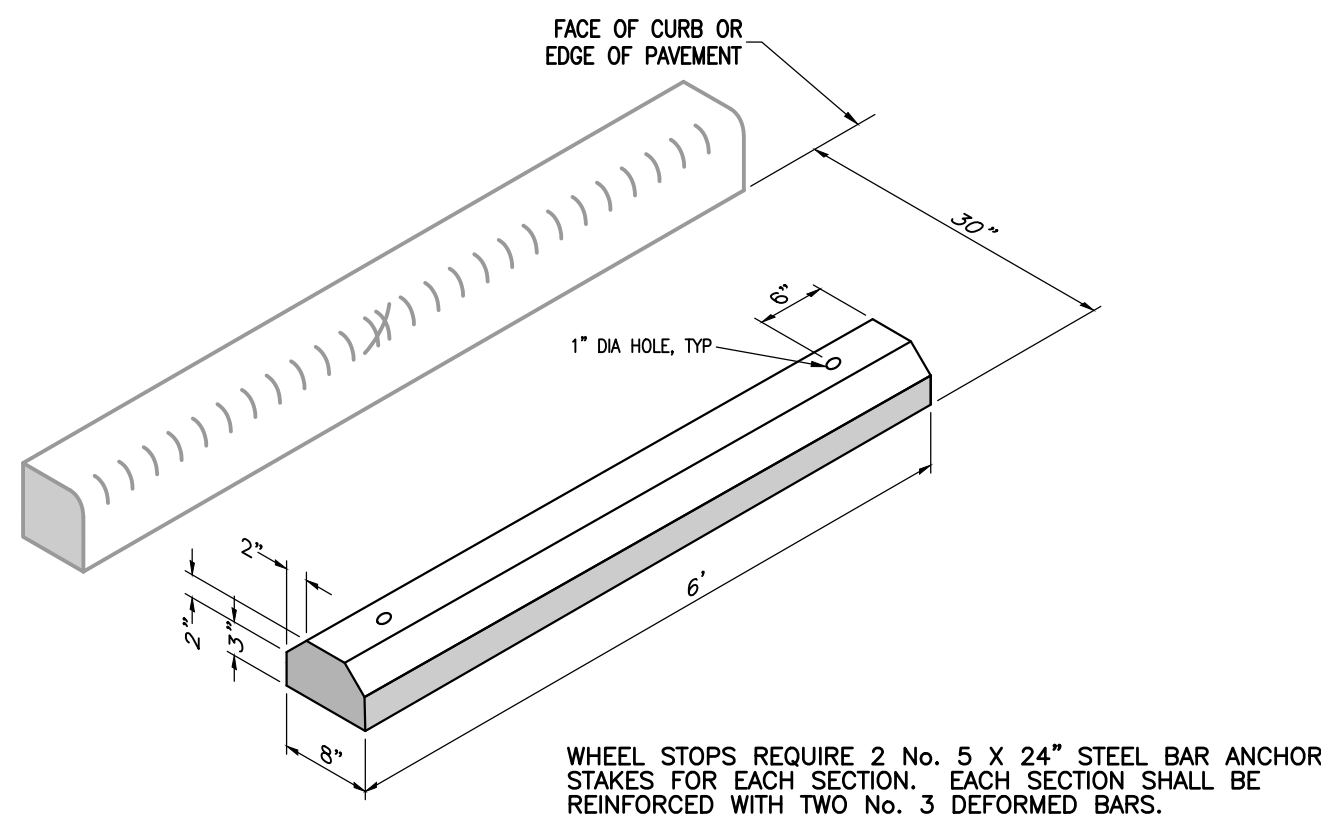
9 SANITARY SEWER MANHOLE
NOT TO SCALE



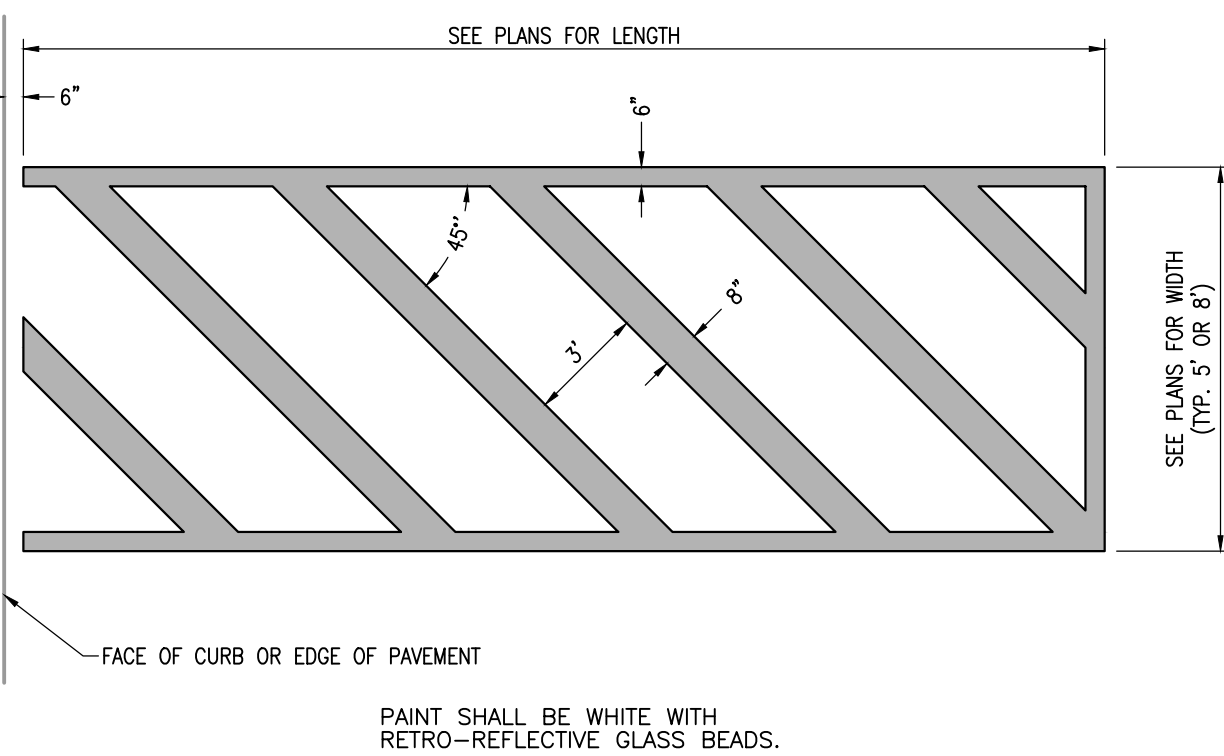
4 CONCRETE CURB AND GUTTER
NOT TO SCALE



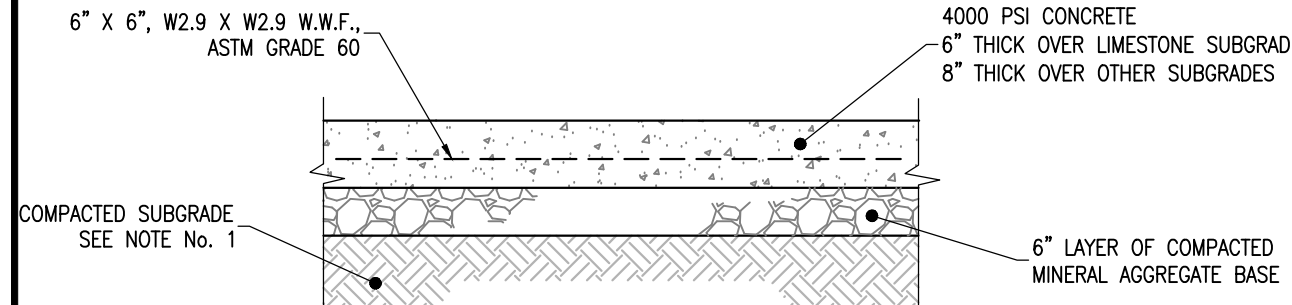
5 PEDESTRIAN CROSSWALK
NOT TO SCALE



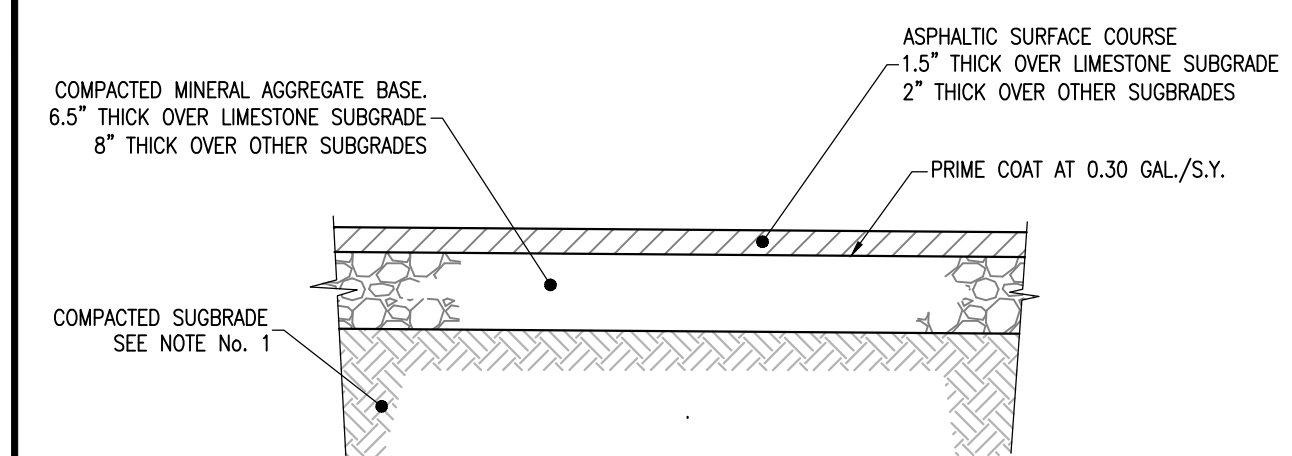
6 CONCRETE WHEELSTOP
NOT TO SCALE



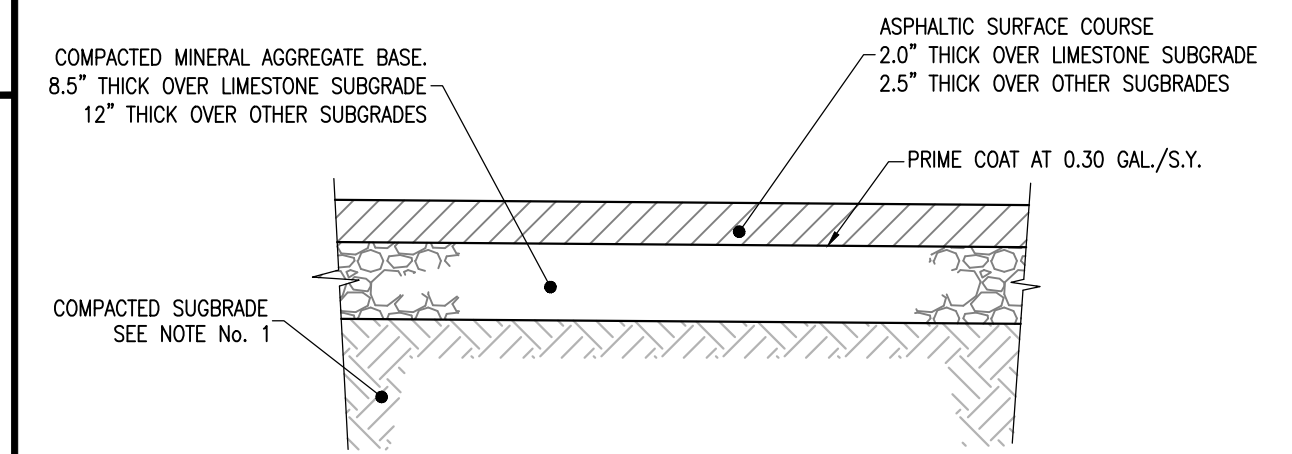
7 PAVEMENT STRIPING
NOT TO SCALE



CONCRETE PAVEMENT



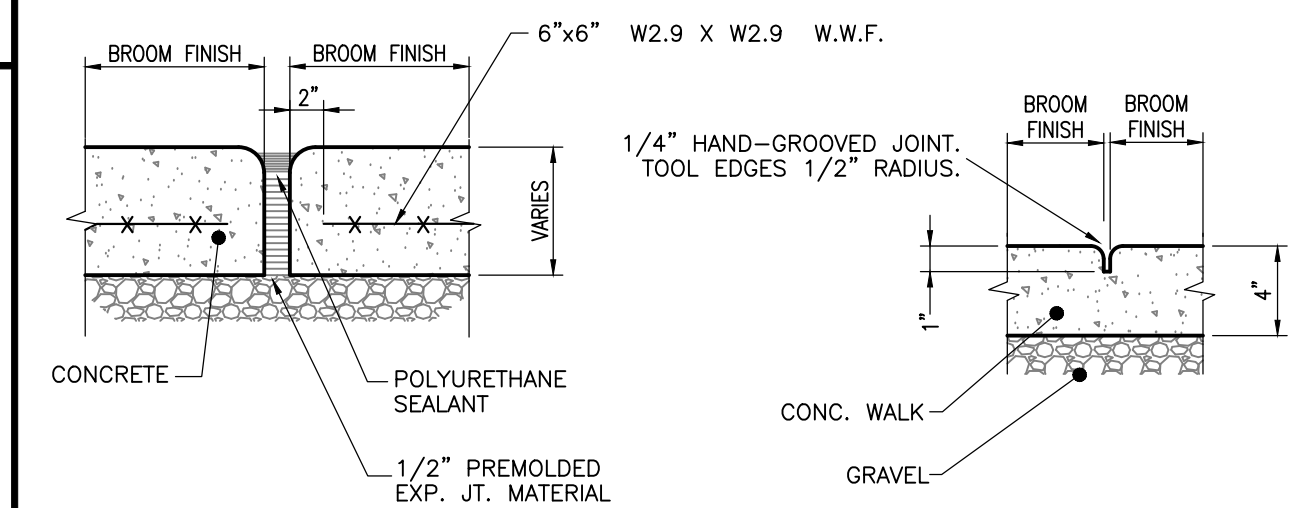
LIGHT DUTY PAVEMENT



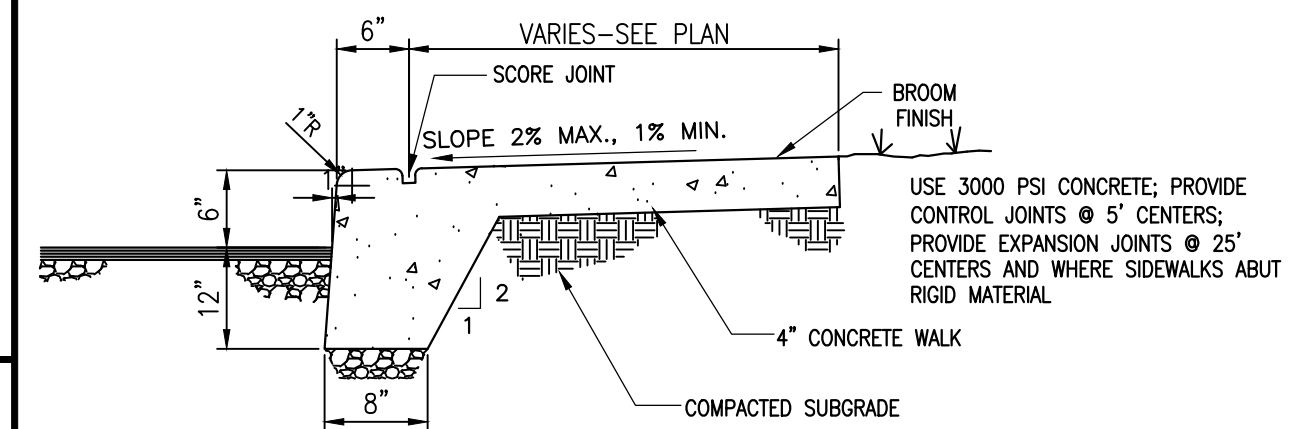
HEAVY DUTY PAVEMENT

- NOTES:
1. LIMESTONE ROCK SUBGRADE SHALL BE PROOF-ROLLED TO LOCATE ANY UNDERLYING POCKETS OF CLAY OR OTHER UNSUITABLE SUBGRADE. UNSUITABLE MATERIALS SHALL BE EXCAVATED AND REPLACED WITH SELECT FILL. OTHER SUBGRADES SHALL BE COMPACTED TO AT LEAST 95% OF STANDARD PROCTOR AFTER ANY UNSUITABLE MATERIAL HAS BEEN EXCAVATED AND REPLACED WITH SELECT FILL.

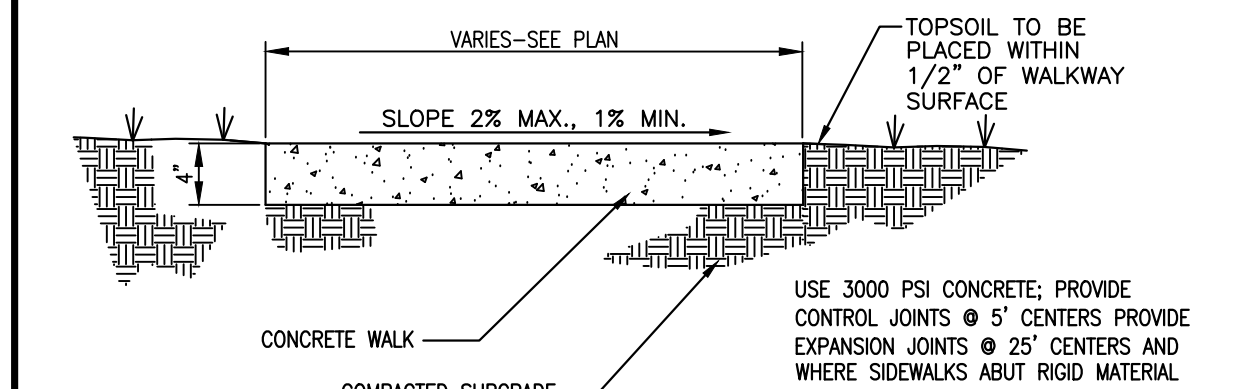
1 PAVEMENT SECTIONS
NOT TO SCALE



2 SIDEWALK JOINTS
NOT TO SCALE



SIDEWALK WITH TURNDOWN CURB



SIDEWALK IN TURF AREAS

3 CONCRETE SIDEWALK
NOT TO SCALE

5

3

NOT TO SCALE



C7.1

DETAILS