

TECHNICAL DRAINAGE STUDY ADDENDUM **Durango Beltway Plaza**

City of Las Vegas, Nevada

Job No.: 103110
Date: August 2018

Prepared For:
Great American Capital
8350 W. Sahara Avenue, Suite 210
Las Vegas, Nevada 89117
(702) 255-4558

Prepared By:
Momeni Engineers, LLC
3110 South Durango Drive, Suite 205
Las Vegas, Nevada 89117
Phone: 702-902-2444
Fax: 702-248-8495

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Durango Beltway Plaza - Addendum Date: August 2018
Location of Development: a) Descriptive (Cross Streets): North/South: Riley Street
East/West: Rome Boulevard
b) Section: 20 Township: 19 S Range: 60 E
c) APN: 125-20-802-003

Name of Owner: Isaiah 55:11 Series Michah 6:8/Great American Capital
Telephone No.: 702-253-5371 Fax No.: 702-255-4556 E-mail Address: Matt@GreatAC.com
Address: 8350 W. Sahara Avenue, Suite 210 Las Vegas NV 89117

Contact Person – Name: Moe Momeni, P.E., S.E. Telephone No.: 702-902-2444
*E-mail Address: moe@momeniengineers.com Fax No.: 702-248-8492
Firm: Momeni Engineers, LLC
Address: 3110 Durango Drive Las Vegas NV 89117

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: 5.68+/- Ac Being Developed/Disturbed: 3.93+/- Ac

2. Is a portion or all of the subject property located in a 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: 22.30 +/- Ac

6. Has the site drainage been evaluated in the past? ☐ Yes** ☒ No If yes, please identify documentation: _____

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Southeasterly towards Riley Street

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

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.

***Newly Required Field**

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

Engineer's Seal

Local Entity File No.

Revision

Date

REFERENCE:

STANDARD FORM 1

Updated 05/01/2008

August 06, 2018

Albert Sung, P.E.
Flood Control Project Engineer
City of Las Vegas Department of Public Works
333 N. Rancho Drive
Las Vegas, Nevada 89106

RE: Addendum to the Technical Drainage Study for Durango Beltway Plaza
Location: SEC of Riley Street and Rome Boulevard
Application #: DS5018

CLV – Review Comments:

1. The site is adjacent to or crosses an existing or proposed *Clark County Regional Flood Control District* (CCRFCDD) master planned facility. Therefore, CCRFCDD concurrence is required prior to final approval of the drainage study.

Response:

Acknowledged. A copy of the Technical Drainage Study and subject Addendum will be submitted to CCRFCDD for concurrence upon receipt of a conditional approval from the City of Las Vegas.

2. The site is also adjacent to the *Clark County Beltway* to the south. The engineer must coordinate with *Clark County Public Works Department* (CCPW) and incorporate any concerns for boundary conditions along the south border. CCPW concurrence is required prior to the final approval of the drainage study.

Response:

Acknowledged. A copy of the Technical Drainage Study and subject Addendum will also be submitted to CCPW for concurrence upon receipt of a conditional approval from the City of Las Vegas.

3. The area of existing onsite basin NX1 should equal to the combined area of developed onsite basins ND1 and ND2. However, based on the numbers shown in *Table 2* and *Table 3* of the subject study (Page 5) do not match up. Review and revise accordingly.

Response:

Acknowledged. The area of basin ND2 was incorrectly entered on the Tables 3 & 4 as 0.38 ac instead of 1.78 ac. Notice that basin NX1 (6.09 ac) includes the southern portion of Rome Boulevard adjacent to the site and the area equals the combined areas of ND1 (3.93 ac), ND2 (1.78 ac) and ROME (0.38 ac) as shown on all the computations provided. Table 3 has been

corrected and is provided below as well as on the revised Proposed/Ultimate Condition Drainage Map (Sheet DR2). Note that the peak flows on for ND2 have also been corrected on Table 3 to match the HEC-1 results.

Table 3: Proposed Condition Peak Flow Summary Table			
Basin/Concentration Point	Area (ac)	Q₁₀ (cfs)	Q₁₀₀ (cfs)
*CP1	-	20	33
**ON4	8.15	11	19
**ON7	0.40	1	1
ROME	0.38	1	1
CP2	-	33	54
ND1	3.93	4	10
ND2	1.78	<1	1
CP3	-	4	11

*=Flows referenced from Sun Devil Auto Study (DS 4420)

**=Flows referenced from Montecito Lifestyle Center Study (DS 3186)

Table 4: Ultimate Condition Peak Flow Summary Table			
Basin/Concentration Point	Area (ac)	Q₁₀ (cfs)	Q₁₀₀ (cfs)
*CP1	-	20	33
**ON4	8.15	11	19
**ON7	0.40	1	1
ROME	0.38	1	1
CP2	-	33	54
ND1	3.93	4	10
ND2	1.78	2	5
CP3	-	6	15

*=Flows referenced from Sun Devil Auto Study (DS 4420)

**=Flows referenced from Montecito Lifestyle Center Study (DS 3186)

- It appears that the undeveloped portion to the east will be parceled out in the future. A swale is proposed in this undeveloped portion to accept flow from the proposed development. This will burden the land use of the future owner of the parcel because a public drainage easement will be required across the middle of the property. A better route for the subject site to discharge is aligning to the southeast corner of the developed portion. Review and revise accordingly in the next submittal.

Response:

Acknowledged. The proposed swale within the undeveloped future parcel has been realigned along the western boundary of the undeveloped portion of the site to discharge south and avoid encumbering the middle of the future property. Please refer to the revised grading plan for the new revised swale.

- Sheets DR1 & DR2: Identify and label an existing *Clark County Regional Flood Control District's* facility with Q100 flow. Show the 100-year water surface elevation in the sections of the regional facility corresponding to the buildings ends to verify that adequate freeboards are provided.

Response:

Acknowledged. The Q_{100} flow and the Water Surface Elevation (WSE) for the existing CCRFCD facility adjacent to the site has been labeled on the drainage maps (Sheet DR1 & DR2).

6. Also label the 100-year water surface elevations in the grading plans.

Response:

Acknowledged. The 100-year WSE have also been labeled on the revised grading plans.

7. A berm is proposed at the back of sidewalk in *Rome Boulevard* for onsite building flood protection. Extend the berm westerly to close the gap with the adjacent driveway entrance. Also raise the height of the berm to 18" instead of 12". Revise the pertinent *Detail Section J/D-1* and all plans and construction notes accordingly.

Response:

Acknowledged. The proposed berm has been extended west to close the subject gap and terminate at the proposed western property line wall and has also been raised to 18" high. Detail J/D-1 has been revised accordingly. Please refer to the revised grading plans and detail sheet provided with this submittal.

8. Per the referenced *Centennial Hills Skilled Nursing* project to the east of Riley Street, the southern end of *Riley Street* is a cul-de-sac with a triangular-shaped public drainage easement adjacent to the *Beltway* to the south. Incorporate the actual conditions in the subject grading plans and all pertinent maps and exhibits accordingly.

Response:

Acknowledged. The subject cul-de-sac and drainage easement have been incorporated in the revised grading plans. Please refer to the revised plans provided with this submittal.

9. Revise all proposed onsite storm drain to a minimum size of 12"-diameter. The proposed 6" will cause frequent clogging and maintenance burden for the property owner in the future.

Response:

Acknowledged. All the proposed onsite storm drains have been revised to 12"-diameter. Please refer to the revised grading plans provided with this submittal for revised storm drains.

10. Provide a note on the grading plans: All onsite storm drains and the associated facilities are privately owned and to be privately maintained by the property owner.

Response:

Acknowledged. The grading plans have been revised to include the note as requested. Please refer to the revised grading plans provided with this submittal.

11. Add a note in all pertinent sheets for the construction of all storm drain drop inlets per a newly

Durango Beltway Plaza – TDS Addendum (DS5018)

adopted USDCCA Drawing No. 421 (*Stormwater Quality Management Stamp and Sign Detail*).

Response:

N/A

12. In an effort to increase administrative efficiency, the *City of Las Vegas Public Works Department* requires all drainage studies submittals to be accompanied by an electronic copy of the submittal. Electronic documents must be submitted with one original hard copy of the study. Electronic documents should be on a universal computer-readable digital output replicating your submittal to be used for archival or display purposes. An Indexed Portable Document Format (PDF) or Print Ready CAD file formats with a minimum of 300dpi are the desired formats, but provided it is a high quality digitized replication of the submittal, other formats may be acceptable. If figures are in color, they must be scanned in color and saved as a separate file

A required CD was missing in the last submittal. In the next submittal, supplement a CD of the original submittal as well as a separate CD for the new submittal.

Response:

Acknowledged. Please refer to the appendix for the CDs containing the previous TDS submittal and the current Addendum submittal provide for your records.

We believe the responses to the above comments and the revisions on the plans have sufficiently addressed your concerns in the subject review memorandum. If you have any questions or require additional information, please do not hesitate to contact our office at (702) 902-2444.

Sincerely,
MOMENI ENGINEERS, LLC



Moe Momeni, P.E., S.E.
Project Manager



8/6/2018

APPENDIX

Appendix A – CLV Drainage Study Comment Letter

Appendix B – Revised Drainage Exhibits



Existing Condition

Proposed/Ultimate Condition Basin Map

Appendix C – Revised Improvement Plans

APPENDIX A

CLV Drainage Study Comment Letter

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: July 28, 2018
TO: Land Development Services Department of Building & Safety		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for: Durango Beltway Plaza	COPIES TO: Momeni Engineers, Inc.
Cross Streets:	SWC of Rome Blvd. & Riley Street	Great American Capital
File Number:	F:\Depot\DSMemos\DS5018A.doc.doc	Bart Anderson, P.E., DevCo
Parcel Number:	125-20-802-003	CCRFCFCD
Zoning Action:	SDR-72808; SUP-72807; VAR-72806 & MOD-72805	CCPW
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES	NO X

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	7/11/2018	7/26/2018	See Comments Below	\$400.00	497205: \$400
TOTAL FEES (LDDRS):				\$400.00	----

REMARKS:

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

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

1. The site is adjacent to or crosses an existing or proposed *Clark County Regional Flood Control District* (CCRFCFCD) master planned facility. Therefore, CCRFCFCD concurrence is required prior to final approval of the drainage study.
2. The site is also adjacent to the *Clark County Beltway* to the south. The engineer must coordinate with *Clark County Public Works Department* (CCPW) and incorporate any concerns for boundary conditions along the south border. CCPW concurrence is required prior to the final approval of the drainage study.
3. The area of existing onsite basin NX1 should equal to the combined area of developed onsite basins ND1 and ND2. However, based on the numbers shown in *Table 2* and *Table 3* of the subject study (Page 5) do not match up. Review and revise accordingly.
4. It appears that the undeveloped portion to the east will be parceled out in the future. A swale is proposed in this undeveloped portion to accept flow from the proposed development. This will burden the land use of the future owner of the parcel because a public drainage easement will be required across the middle of the property. A better route for the subject site to discharge is aligning to the southeast corner of the developed portion. Review and revise accordingly in the next submittal.

5. **Sheets DR1 & DR2:** Identify and label an existing *Clark County Regional Flood Control District's* facility with Q_{100} flow. Show the 100-year water surface elevation in the sections of the regional facility corresponding to the buildings ends to verify that adequate freeboards are provided.
6. Also label the 100-year water surface elevations in the grading plans.
7. A berm is proposed at the back of sidewalk in *Rome Boulevard* for onsite building flood protection. Extend the berm westerly to close the gap with the adjacent driveway entrance. Also raise the height of the berm to 18" instead of 12". Revise the pertinent *Detail Section J/D-1* and all plans and construction notes accordingly.
8. Per the referenced *Centennial Hills Skilled Nursing* project to the east of *Riley Street*, the southern end of *Riley Street* is a cul-de-sac with a triangular-shaped public drainage easement adjacent to the *Beltway* to the south. Incorporate the actual conditions in the subject grading plans and all pertinent maps and exhibits accordingly.
9. Revise all proposed onsite storm drain to a minimum size of 12"-diameter. The proposed 6" will cause frequent clogging and maintenance burden for the property owner in the future.
10. Provide a note on the grading plans: All onsite storm drains and the associated facilities are privately owned and to be privately maintained by the property owner.
11. Add a note in all pertinent sheets for the construction of all storm drain drop inlets per a newly adopted USDCCA Drawing No. 421 (*Stormwater Quality Management Stamp and Sign Detail*).
12. In an effort to increase administrative efficiency, the *City of Las Vegas Public Works Department* requires all drainage studies submittals to be accompanied by an electronic copy of the submittal. Electronic documents must be submitted with one original hard copy of the study. Electronic documents should be on a universal computer-readable digital output replicating your submittal to be used for archival or display purposes. An Indexed Portable Document Format (PDF) or Print Ready CAD file formats with a minimum of 300dpi are the desired formats, but provided it is a high quality digitized replication of the submittal, other formats may be acceptable. If figures are in color, they must be scanned in color and saved as a separate file.

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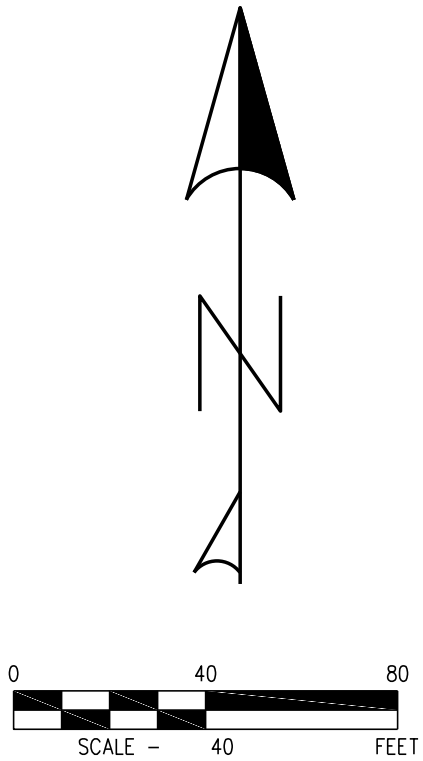
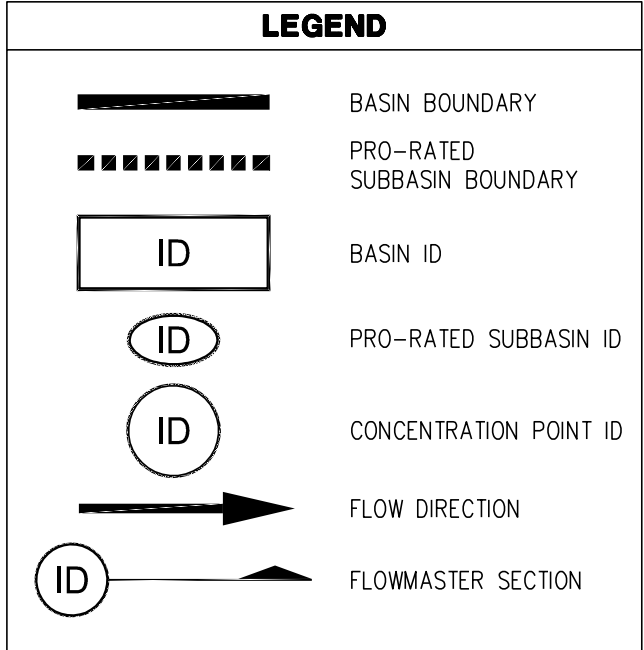
NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the *Nevada Division of Environmental Protection* a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained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

END OF REMARKS
ays

T/R/S: T19S/R60E/20
AREA G-20

APPENDIX B

Revised Drainage Exhibits



Basin/Concentration Point	Area (a/c)	Q ₁₀ (cfs)	Q ₁₀₀ (cfs)
**CP1	-	20	33
**ON4	8.15	11	19
**ON7	0.4	1	1
CP2	-	32	53
NX1	6.09	<1	3

*=Flow s referenced from Sun Devil Auto Study (DS 4420)

[illegible]

momeni ENGINEERS, LLC.
CIVIL & STRUCTURAL ENGINEERING
CIVIL & STRUCTURAL ENGINEERING
3110 S. DURANGO DRIVE, SUITE 205
LAS VEGAS, NEVADA 89117
TEL: (702) 902-2444 | FAX: (702) 248-9495

AUGUST 2018
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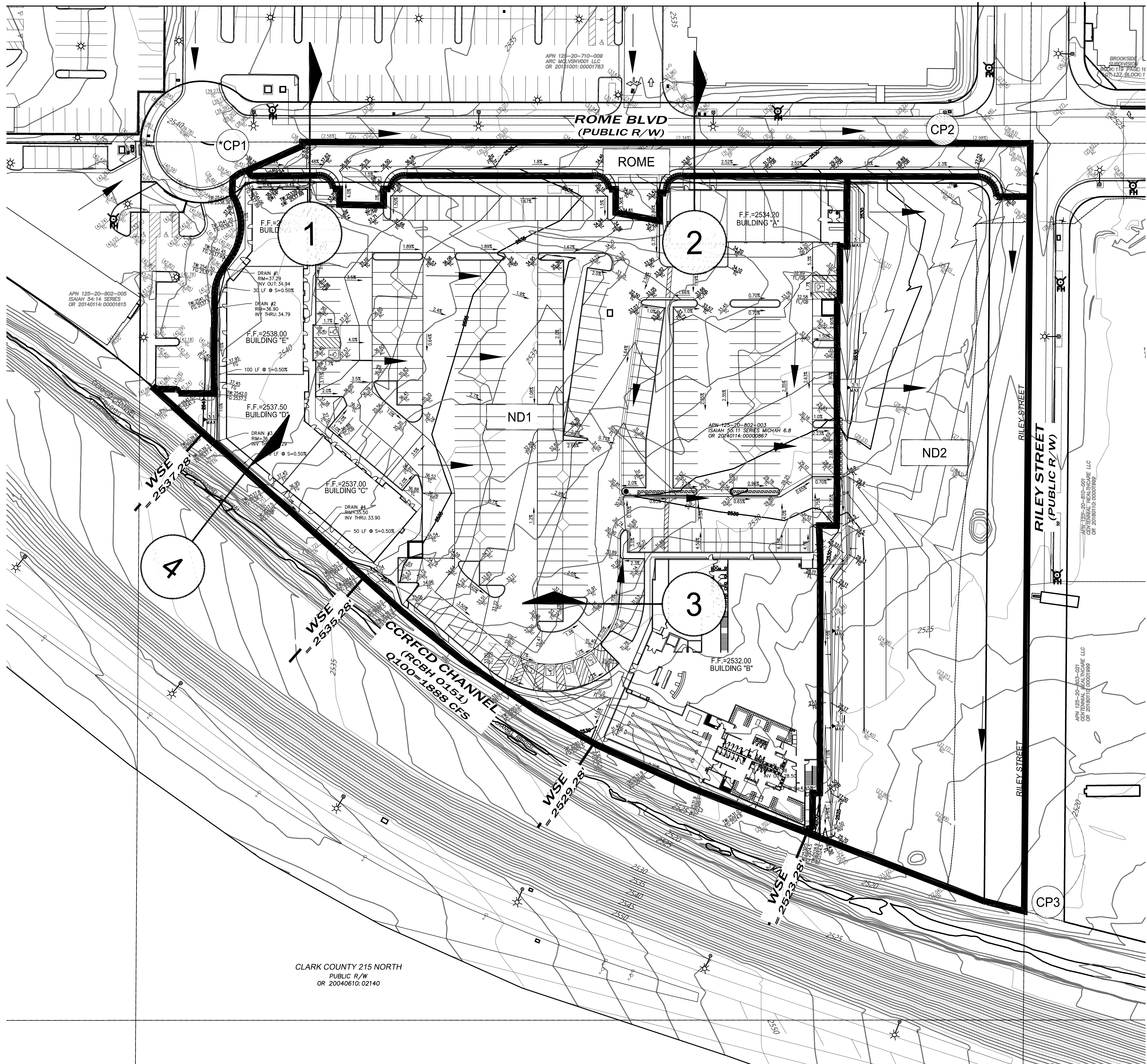
PROJECT: DURANGO BELTWAY
PLAZA
CITY OF LAS VEGAS, NEVADA

**DRAINAGE BASIN MAP
EXISTING CONDITION**

SHEET:

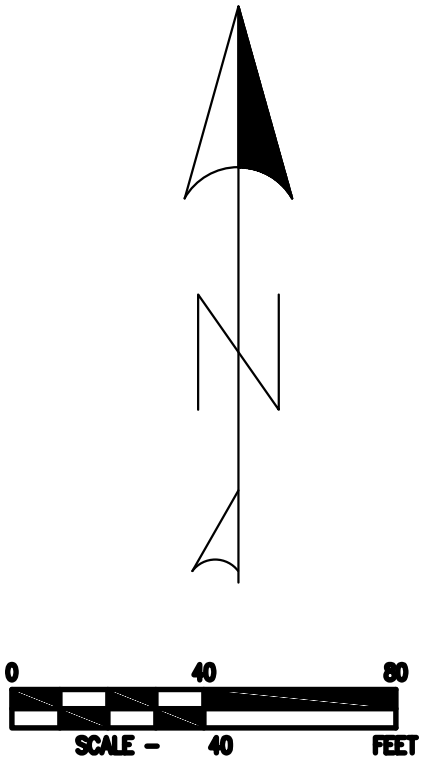
DR1

1 OF 2



LEGEND

- BASIN BOUNDARY
- PRO-RATED SUBBASIN BOUNDARY
- ID BASIN ID
- ID PRO-RATED SUBBASIN ID
- ID CONCENTRATION POINT ID
- FLOW DIRECTION
- FLOWMASTER SECTION



Proposed Condition Peak Flow Summary Table			
Basin/Concentration Point	Area (ac)	Q ₁₀ (cfs)	Q ₁₀₀ (cfs)
*CP1	-	20	33
**ON4	8.15	11	19
**ON7	0.4	1	1
ROME	0.38	1	1
CP2	-	33	54
ND1	3.93	4	10
ND2	1.78	<1	1
CP3	-	4	11

*Flow's referenced from Sun Devil Auto Study (DS 4420)
**Flow's referenced from Montecito Lifestyle Center Study (DS 3186)

Ultimate Condition Peak Flow Summary Table			
Basin/Concentration Point	Area (ac)	Q ₁₀ (cfs)	Q ₁₀₀ (cfs)
*CP1	-	20	33
**ON4	8.15	11	19
**ON7	0.40	1	1
ROME	0.38	1	1
CP2	-	33	54
ND1	3.93	4	10
ND2	1.78	2	5
CP3	-	6	15

*Flow's referenced from Sun Devil Auto Study (DS 4420)
**Flow's referenced from Montecito Lifestyle Center Study (DS 3186)

Street Flow Summary Proposed Condition - 100-Year						
Street	Hydraulic Cross-Section Identifier	Flow [Q100] (cfs)	Slope (%)	Depth [d] (ft)	Velocity [V] (ft/s)	100-year Velocity x Depth (V x D)
Rome Boulevard	1	33	1.50	0.55	3.65	2.01
Rome Boulevard	2	54	3.64	0.41	4.95	2.03
Rome Boulevard			1.80	0.63	4.28	2.70
Onsite Drive	3	10	2.60	0.59	4.98	2.94
Beltway Channel	4	*1888	0.70	0.30	2.37	0.71
			1.75	8.28	14.02	116.09

* Referenced from MPU

Onsite Drive Aisle Flow Summary Proposed Condition - 10-Year						
Street	Hydraulic Cross-Section Identifier	Flow [Q100] (cfs)	Slope (%)	Depth [d] (ft)	Velocity [V] (ft/s)	100-year Velocity x Depth (V x D)
Rome Boulevard	1	20	1.50	0.47	3.52	1.65
Rome Boulevard			3.64	0.41	4.95	2.03
Rome Boulevard	2	33	1.80	0.54	3.95	2.13
			2.60	0.50	4.81	2.41

REVISIONS		DATE	DESCRIPTION	APPROVAL

momeni ENGINEERS, LLC.
CIVIL & STRUCTURAL ENGINEERING
3110 S. DURANGO DRIVE, SUITE 205
LAS VEGAS, NEVADA 89117
TEL: (702) 902-2444 | FAX: (702) 248-9495

AUGUST 2018
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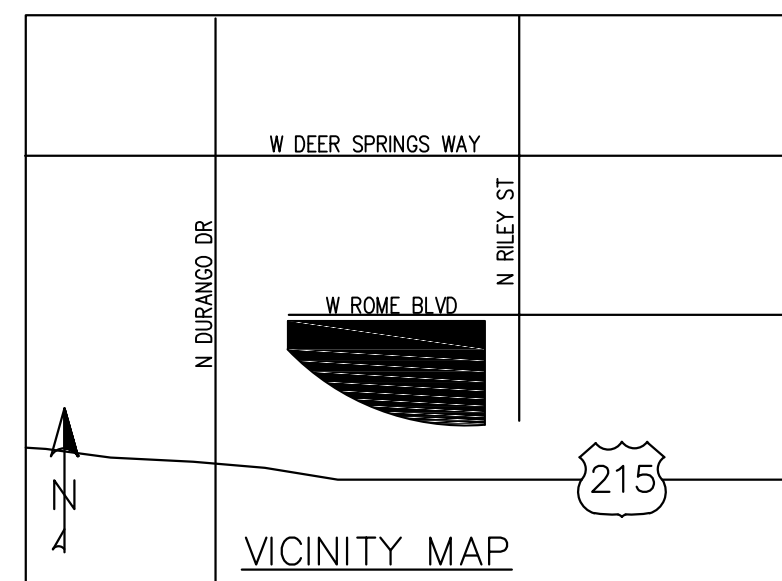
DURANGO BELTWAY PLAZA
CITY OF LAS VEGAS, NEVADA
DRAINAGE BASIN MAP
PROPOSED/ULTIMATE CONDITION

PROJECT: SHEET: **DR2**
2 OF 2

APPENDIX C

Revised Improvement Plans

APN 125-20-802-003
TOTAL ACREAGE 5.68 ACRES, DISTURBED ACREAGE 3.95 ACRES



APN: 125-20-802-003
NAME: ISAIAH 55:11 SERIES MICHAH 6:8
8350 W. SAHARA AVE #210
LAS VEGAS, NV 89117
PHONE (702) 253-5371
FAX (702) 255-4656

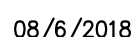
APN: 125-20-802-003
NAME: GREAT AMERICA CAPITOL
8350 W. SAHARA AVE #210
LAS VEGAS, NV 89117
CONTACT: MASS HUSS
PH: 702 253-5371
FAX: 702 255-4656
EMAIL: Matt@GreatAC.com

WATER:	LAS VEGAS VALLEY WATER DISTRICT
SEWER:	CLARK COUNTY WATER RECLAMATION DISTRICT
GAS:	SOUTHWEST GAS CORPORATION
ELECTRIC:	NEVADA POWER COMPANY
TELEPHONE:	CENTRAL TELEPHONE COMPANY, d/b/a CENTURYLINK
CABLE:	COX COMMUNICATIONS OF LAS VEGAS, INC.
TRASH:	REPUBLIC SERVICES OF NEVADA

GEOTECHNICAL REPORT PREPARED BY:
NOVA GEOTECHNICAL & INSPECTION SERVICES
4480 WEST HACIENDA AVENUE SUITE 104
LAS VEGAS, NEVADA 89118
PROJECT No.: G-18-045
DATED: 5 APRIL 2018

[illegible]

TEL: (702) 902-2444 | FAX: (702) 248-8495 | MOE@MHMENGINEERS.COM



8/6/2018
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COVER SHEET

C-1

1 OF 6
Proj #:

ABAN	ABANDON	HPS	HIGH PRESSURE SODIUM
AC	ASPHALTIC CONCRETE	ID	INSIDE DIAMETER
ACP	ASBESTOS CEMENT PIPE	INT	INTERSECTION
AGG	AGGREGATE	INV	INVERT
AP	ABANDON IN PLACE	IRR	IRRIGATION
ALT	ALTERNATE	LAT	LATERAL
BC	BACK OF CURB	LF	LINEAL FEET
BCR	BEGINNING OF CURB RETURN	LS	LANDSCAPE
BDRY	BOUNDARY	LT	LEFT
BEFTG	BOTTOM OF EXTENDED FOOTING	LVWD	LAS VEGAS VALLEY WATER DISTRICT
BEG	BEGIN	MH	MANHOLE
BFE	BASE FLOOD ELEVATION	MTR	METER
BM	BENCHMARK	NAP	NOT A PART
BSW	BACK OF SIDEWALK	NG	NATURAL GRADE
BVC	BEGINNING OF VERTICAL CURVE	NTS	NOT TO SCALE
CATV	CABLE TV	O/S	OFFSET LINE
C&G	CURB AND GUTTER	OC	ON CENTER
CAUSAD	CLARK COUNTY AREA UNIFORM STANDARD DRAWING	OD	OUTSIDE DIAMETER
CCRPFD	CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT	OPH	OVERHEAD POWER LINE
CCRD	CLARK COUNTY WATER RECLAMATION DISTRICT	PRX	POINT OF CURVATURE
CIP	CAST IRON PIPE	PCC	POINT OF COMPOUND CURVE
CL	CENTERLINE	PI	POINT OF INTERSECTION
CLV	CITY OF LAS VEGAS	PL	PROPERTY LINE
CM	CITY OF MESQUITE	PP	POWER POLE
CMP	CORRUGATED METAL PIPE	PRC	POINT OF REVERSE CURVE
CMU	CONCRETE MASONRY UNIT	PROPD	PROPOSED
CNLV	CITY OF NORTH LAS VEGAS	PT	POINT OF TANGENT
CO	CLEAN OUT	PVC	POLY VINYL CHLORIDE PIPE
COMM	COMMUNICATIONS	PVI	POINT OF VERTICAL INTERSECTION
CONC	CONCRETE	PVMT	PAVEMENT
COND	CONDUIT	R	RATE OF FLOW
CONST	CONSTRUCT OR CONSTRUCTION	R or RAD	RADIUS
CULV	CULVERT	RCB	REINFORCED CONCRETE BOX
DCSWCS	DESIGN & CONSTRUCTION STD'S FOR WASTE WATER COLLECTION SYSTEMS	RCP	REINFORCED CONCRETE PIPE
DI	DROP INLET	RR	RAILROAD
DIA	DIAMETER	RT	RIGHT
DIP	DUCTILE IRON PIPE	ROW	RIGHT-OF-WAY
DMH	DROP MANHOLE	SS	SANITARY SEWER
DOM	DOMESTIC	SD	STORM DRAIN
DWY	DRIVEWAY	SHT	SHEET
E or ELEC	ELECTRIC	SGT	SIGNAL
EAC	EDGE OF AC	SNWA	SOUTHERN NEVADA WATER AUTHORITY
EC	END OF CURVE	STA	STATION
ECR	END OF CURB RETURN	SL or SLTL	STREET LIGHT
E or ELEV	ELEVATION	STD	STANDARD
EP	EDGE OF PAVEMENT	SZV	SIGHT VISIBILITY ZONE
EVC	END OF VERTICAL CURVE	SW	SIDEWALK
EW	EACH WAY	T or TEL	TELEPHONE
EX or EXIST	EXISTING	TB	TOP OF BERM
FAST	FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION	TC	TOP OF CURB
FF	FACE OF CURB	TF	TOP OF FOOTING
FC	FINISH FLOOR	TMH	TOP OF MANHOLE
FG	FINISH GRADE	TRANS	TRANSITION
TH	FIRE HYDRANT	TS	TRAFFIC SIGNAL
FL	FLOW LINE	TW	TOP OF WALL
FO	FIBER OPTICS	TPY	TYPICAL
FS	FINISHED SURFACE	UG	UNDER GROUND
FTG	FOOTING	VC	VERTICAL CURVE
G	GAS	VCP	VITRIFIED CLAY PIPE
GALV	GALVANIZED	VERT	VERTICAL
GB	GRADE BREAK	VG	VALLEY GUTTER
H	HIGH OR HEIGHT	WL	WATER LINE
HDPE	HIGH DENSITY POLYETHYLENE	W/	WITH
HDWL	HEADWALL	W/O	WITHOUT
HGL	HYDRAULIC GRADE LINE	W	WIDE OR WIDTH
HOR	HORIZONTAL		

CLV CITY ENGINEER _____ DATE _____

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

CITY FIRE MARSHAL _____ DATE _____

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

PROJECT NO.: ### SHEETS:

SOUTHWEST GAS	DATE
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CENTRAL TELEPHONE COMPANY, d/b/a CENTURYLINK

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

COX COMMUNICATIONS LAS VEGAS, INC.

1.	COVER AND APPROVALS SHEET	C-1
2.	NOTE SHEET	C-2
3.	GRADING PLAN I (SHEET 1 OF 2)	G-1
4.	GRADING PLAN II (SHEET 2 OF 2)	G-2
5.	DETAIL SHEET I (SHEET 1 OF 2)	D-1
6.	DETAIL SHEET II (SHEET 2 OF 2)	D-2

APN: 125-20-802-003

LOT 1 AS SHOWN IN FILE 206, AT PAGE 97, OFFICIAL RECORDS OF CLARK COUNTY, NEVADA. THE NORTHEAST QUARTER (NE ¼) OF THE SOUTHWEST QUARTER (SW ¼) OF THE SOUTHEAST QUARTER (SE ¼) OF SECTION 20, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.

CITY OF LAS VEGAS BENCHMARK "5LV902056", RIVET & PLATE IN
TOP OF CURB AT SW CORNER OF DURANGO DR. & WESTBOUND
HIGHWAY 215 ON RAMP.

ELEVATION: 2558.08 (US SURVEY FEET) 779.704 (METERS)

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

SOUTH 00°16'37" WEST, BEING THE BEARING OF THE CENTERLINE OF DURANGO DRIVE AND THE WEST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF THE SOUTHEAST QUARTER (SE 1/4) OF SECTION 20, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN IN FILE 206 OF SURVEYS, AT PAGE 97, OFFICIAL RECORDS OF CLARK COUNTY, NEVADA.

CL OR SECTION LINE		
PROPERTY LINE		
RIGHT OF WAY LINE		
EASEMENT LINE		
SAWCUT LINE		
HEAVY AC PAVEMENT		
CONCRETE PAVEMENT		
	EXISTING	PROPOSED
EDGE OF PAVEMENT		
"A" TYPE CURB		
"L" TYPE CURB		
WALLS		
FENCE		
SIGN		
CONTOUR		
SPOT ELEVATION		
MANHOLE - SEE DESCRIPTION BELOW		
100W HPS STL.T.		
150W HPS STL.T.		
200W HPS STL.T.		
250W HPS STL.T.		
400W HPS STL.T.		
FIRE HYDRANT		
GATE VALVE		
REDUCER		
CLEAN OUT		
UTILITY BOX / VAULT		
S=SANITARY SEWER, D=STORM DRAIN, E=ELECTRICAL, T=TELEPHONE		
AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY. Call before you Dig 1-702-227-2929	AVOID HITTING UNDERGROUND TRAFFIC SIGNAL AND STREET LIGHT SYSTEM CONDUITS. IT'S COSTLY. Call before you UnderGround 1-702-432-5300 REEMT & METCAL SYSTEMS OF TRANSPORTATION (INC)	Call before you Dig AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY. OR 1-800-227-2600

S=SANITARY SEWER, D=STORM DRAIN, E=ELECTRICAL, T=TELEPHONE

Call
Before You
Overhead
1-702-227-2929



**AVOID HITTING
UNDERGROUND TRAFFIC
SIGNAL AND STREET
LIGHT SYSTEM CONDUITS
IT'S COSTLY**

Call **811** before you
UnderGround

1-702-432-5300

FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (FAST)

DEVIATIONS FROM STANDARDS	
NONE.	

QUANTITIES			
DESCRIPTION	PUBLIC QUANTITY	PRIVATE QUANTITY	
2-INCH ASPHALTIC CONCRETE PAVING		98,704	SY
3-INCH ASPHALTIC CONCRETE PAVING		1,722	SY
4-INCH ASPHALTIC CONCRETE PAVING	10,656		SY
TYPE I GRAVEL			
TYPE II GRAVEL	130	1,228	CY
EXCAVATION & EMBANKMENTS			
CURB & GUTTER "L" TYPE	424	431	LF
CURB "A" TYPE		3,164	LF
CONCRETE VALLEY GUTTER		261	LF
4-INCH CONCRETE SIDEWALK	2632	6376	SF

SIDEWALK UNDERDRAIN PER CCAUSD NO 236		
SIDEWALK UNDERDRAIN PER DETAIL 8 ON SHEET D-2		
RIP RAP D50=6" t=12"		
RIP RAP D50=3" T=6"	345	SF
8-INCH SANITARY SEWER C-900		
6-INCH SANITARY SEWER		
48-INCH SANITARY SEWER MANHOLES		
6" LATERAL CONNECTION		
CLEAN OUT 6-INCH PIPE		
1.5" TYPE-K COPPER LATERAL		
2-INCH PVC WATER LINE		
6-INCH PVC WATER LINE		
10-INCH PVC WATER LINE		
12-INCH PVC WATER LINE		

CITY OF LAS VEGAS GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA"; LATEST EDITION; 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 CONTRACTING AGENCY; THE WORKING BUILDING CODE; AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS DEVIATIONS FROM STANDARD PRACTICE.
2. THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES AS SHOWN FROM CIVIL PLANS LIBRARY OR FIELD SURVEY DATA ARE TO BE PRESERVED AND PROTECTED AT ALL TIMES THROUGHOUT THE PROJECT. THE RESPONSIBILITY OF THE CONTRACTOR: EXISTING UTILITY SERVICE LINE(S) MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCES WHICH MAY AFFECT HIS OPERATION DURING DESIGN AND CONSTRUCTION. THE CONTRACTOR SHALL TAKE EXTREME CARE AND EXTREME CAUTION TO SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR VERIFIED UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.
3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES AND STREET IMPROVEMENTS. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL TAKE ALL SUCH IMPROVEMENTS OR DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO THE CITY ENGINEER AND OWNING UTILITY COMPANY AT THE EXPENSE OF THE CONTRACTOR.
4. THE INSTALLATION SHALL BE AS SHOWN ON THESE PLANS, ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.
5. TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGNS TO BE APPROVED BY THE CITY OFF-SITE TO USE ON THE PROJECT.
6. PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.
7. EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300 IN EXTRUDED-TYPE CURB

- BE THE ONE-HALF (1/2") ABOVE OF ALL OTHERS AFTER COMPLETION, EXCEPT AT SIDEWALK RAMP OR CROSS CUTTERS
- CURB AND GUTTER FLOW TO UNACCEPTABLE TO THE CITY OF LAS VEGAS SHALL BE REMOVED AND REPLACED PER STANDARD DRAWING 216
- SEWERAL CURBS OR GUTTERS TO 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 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 SOLS REPORT AS PREPARED BY THE (COMPANY, REPORT #, DATE) APPROVED BY THE CITY ENGINEER, AND AS SHOWN ON THE PLANS
- THE EXACT LOCATION OF ANY DRAINAGE 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 DESTROYED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED OR PER AVAILABLE RECORDS IN ACCORDANCE WITH N.E.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 DRIVE, FIRE LINES, AND CROSS CUTTERS UNLESS WRITTEN APPROVAL IS GRANTED BY THE UTILITY COMPANY AND THE CITY ENGINEER WALK NOTES
- ALL WALLS, NEW OR EXISTING, ARE ONLY SHOWN ON CIVIL PLANS FOR THE PURPOSE OF REVIEWING GRADING RELATIONSHIPS; FLOODING AND LIGHT 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 LINES, 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 MDOT 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 BAILS, LOCATING RIBBON, ETC., THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO OFFSETS INSPECTION AND TESTING CERTIFYING THAT ALL FACILITIES 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 THE SANITARY SEWER AND STORM DRAIN LATERALS AND CONNECTIONS TO THE SANITARY (INVERT) LOCATION MAP(S) AND STORM DRAIN LATERALS AND TRANSITION STRUCTURES TO STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE INTERSECTION TO THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXCEED THE PUBLIC RIGHT-OF-WAY, AND STORM DRAIN LATERALS EXCEED THE PUBLIC RIGHT-OF-WAY. THE INFORMATION FROM THE INFORMATION SHOWN SHALL BE NOTED AND SUBMITTED TO THE CITY OF LAS VEGAS, INCLUDING THE LOCATION OF THE SEWER AND STORM DRAIN LATERALS AND CONNECTIONS TO THE OFFICIAL HORIZONTAL AND VERTICAL CONTROL NETWORKS OF THE CITY OF LAS VEGAS. FINAL LOCATION MAPS MUST BE SEALED AND CERTIFIED BY A NEVADA PROFESSIONAL LAND SURVEYOR TO HAVE POSITIONAL CERTAINITIES OF ± 0.09 METERS (± 3.0 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 247.030(1) AND SHALL SHOW THE LOCATION OF THE SANITARY AND STORM DRAIN LATERALS AND CONNECTIONS TO THE SANITARY (INVERT) LOCATION MAP(S) AND STORM DRAIN LATERALS AND TRANSITION STRUCTURES TO STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE INTERSECTION TO THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXCEED THE PUBLIC RIGHT-OF-WAY. ANY VARIATIONS FROM THE INFORMATION SHOWN SHALL BE NOTED AND SUBMITTED TO THE CITY OF LAS VEGAS, INCLUDING THE LOCATION OF THE SEWER AND STORM DRAIN LATERALS AND CONNECTIONS TO THE OFFICIAL HORIZONTAL AND VERTICAL CONTROL NETWORKS OF THE CITY OF LAS VEGAS. FINAL LOCATION MAPS MUST BE SEALED AND CERTIFIED BY A NEVADA PROFESSIONAL LAND SURVEYOR TO HAVE POSITIONAL CERTAINITIES OF ± 0.09 METERS (± 3.0 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
- CCTV VIDEO INSPECTION IS REQUIRED FOR ALL SEWER AND STORM 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.

LAS VEGAS VALLEY WATER DISTRICT NOTES

LVVWD PROJECT # ####

- NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN APPROVED FOR CONSTRUCTION BY THE LVVMD. FOLLOWING THE LVVMD PLAN APPROVAL, NOTICE SHALL BE GIVEN TO THE LVVMD COMMUNICATION SUPPORT CENTER (258-7711), TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. FOR FUTURE INSPECTIONS, NOTICE MUST BE GIVEN BY 2:00 P.M. THE BUSINESS DAY PRIOR TO THE REQUESTED LVVMD INSPECTION. WHEN REQUESTING INSPECTIONS, PLEASE REFER TO THE PROJECT # IDENTIFIED ABOVE.
- ALL WORK SHALL CONFORM TO LVVMD STANDARD PLANS, DRAWINGS, AND SPECIFICATIONS, AND TO THE 2010 EDITION OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS). THE LATEST EDITION OF UDACS SHALL SUPERSEDE ANY CONFLICTS WITH THE SPECIFICATIONS, THE REVISED DRAWINGS AND/OR SPECIFICATIONS.
- ALL WORK, EXCEPT AS NOTIFIED BY THESE PLANS OR OTHERWISE, SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT DRAFT OR EDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENT, CLARK COUNTY AREA.
- A SWAYE PIPE SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE LVVMD.
- ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE TYPE K COPPER TUBING WITH LVVMD APPROVED SERVICE SADDLES.
- ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAY AREAS.
- ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS, WALKWAYS AND OUTSIDE GUTTERS.
- ALL WATER AND STORM DRAIN OR SANITARY SEWER CROSSINGS SHALL CONFORM TO SECTION 2.22 OF THE 2010 EDITION OF THE UDACS.
- ALL WATER FACILITIES SHALL BE FILLED, DISINFECTED, PRESSURE TESTED, FLUSHED, FILLED, AND AN ACCEPTABLE WATER SAMPLE OBTAINED PRIOR TO CONNECTION TO THE LVVMD DISTRIBUTION SYSTEM.
- THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVMD CENTRAL STORES. TELEPHONE 258-3512 OR 258-3802, TWO (2) WORKING DAYS PRIOR TO METER PICKUP.
- ANY INTERRUPTION OF SERVICE MUST BE PERFORMED IN ACCORDANCE WITH UDACS SECTION 3.14.01, AND APPROVED BY THE LVVMD. THE LVVMD WILL BE NOTIFIED IN WRITING TO SCHEDULE ANY INTERRUPTION OF SERVICE TO ALL AFFECTED CUSTOMERS.
- ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVVMD PRE-APPROVED MATERIALS AND MANUFACTURER'S LISTING FOR NEW FACILITIES. LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.
- TELEPHONE "CALL BEFORE YOU DIG" AT "811" OR 1-800-227-2600.
- THE INSTALLATION OF LAS VEGAS VALLEY WATER DISTRICT (LVVMD) MUNICIPAL WATER FACILITIES ON ALL STREETS IS USUALLY TO BE IN ACCORDANCE WITH THE LVVMD STANDARD PLANS, DRAWINGS, AND SPECIFICATIONS FOR ASPHALT PAVEMENT SURFACES. ANY REPAIR WORK DONE BY THE LVVMD TO THE MUNICIPAL WATER FACILITIES WILL INCLUDE THE PLACEMENT OF AN APPROPRIATELY SIZED ASPHALT REPAIR PATCH ON THE STREET SURFACE.
- ANY DECORATIVE PAVING SURFACE WITHIN THE STREET IS THE RESPONSIBILITY OF THE OWNER'S ASSOCIATION, OR THE NEIGHBORHOOD PROPERTY OWNERS ASSOCIATION. IF THERE IS AN EXISTENCE, OR THE AGENCY HAVING JURISDICTION, OF DECORATIVE SURFACE MATERIALS PLACED WITHIN THE TEN FOOT EASEMENT ADJUTING A PUBLIC OR PRIVATE STREET, IF DISTURBED BY THE LVVMD DURING THE REPAIR OR OPERATION OF ITS FACILITIES, WILL BE REPLACED BY LVVMD WITH AN APPROPRIATELY SIZED PLAIN FINISH CONCRETE PATCH. THE LVVMD WILL NOT RESTORE, AND WILL NOT BE RESPONSIBLE FOR THE RESTORATION OF ANY DECORATIVE PAVING SURFACE WITHIN THE STREET. THE LVVMD WILL NOT ATTEMPT TO MATCH COLOR OR FINISH OF ANY ADJACENT MATERIALS.
- NO LEAD COMPLIANCE NOTE:
IN ACCORDANCE WITH THE FEDERAL SAFE DRINKING WATER ACT, ALL WATER WORKS DRAIN PRODUCTS PROPOSED TO BE RELOCATED, TO BE REPLACED, OR TO BE INSTALLED OR NEW MUST BE INSTALLED WITH THE LEAD FREE APPROVED PRODUCT. THE OLD LEADED PRODUCT MAY NOT BE REUSED.

CITY OF LAS VEGAS SEWER NOTES

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

CITY OF LAS VEGAS STREETLIGHT NOTES

1. ALL STREET LIGHTING INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STREET LIGHTING PLANS, THE "UNIFORM STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST REVISION (USS), AND THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA" (USD), LATEST REVISION.
2. NO DEVIATING OF STREET LIGHT, PULL BOX, CONDUITS, ETC., LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE TRAFFIC AND CITY ENGINEER. ANY DEVIATION FROM THE PLAN LOCATION WILL REQUIRE COMPLIANCE WITH SECTION 623.023 OF THE USS.
3. ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION IN ACCORDANCE WITH SECTION 623.03.01 OF THE USS.
4. ALL EMPTY CONDUIT SHALL HAVE AT LEAST ONE GREEN NO. #8 AWG WIRE INSTALLED AS TRACER WIRE IN ACCORDANCE WITH SECTION 623.02.01 OF THE USS PRIOR TO BACKFILLING AND FINAL INSPECTION.
5. ANY STRUCTURE SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC., SHALL HAVE A MINIMUM CLEARANCE IN COMPLIANCE WITH U.S. 320A WHEN POLE IS INSTALLED BETWEEN SIDEWALK, AND SHALL AT NO TIME COMPLETELY ENCLOSE THE STREET LIGHTING POLE.
6. ALL AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE TRAFFIC ENGINEERING DIVISION PRIOR TO ANY PRE-FINAL INSPECTION. THE AS-BUILT DRAWING NEEDS TO BE STAMPED AS-BUILT AND SIGNED BY THE PREPARER.
7. SERVICE POINTS SHALL BE COORDINATED WITH NV ENERGY, AND WHEREVER POSSIBLE, BE LOCATED NEAR THE CENTER OF THE CIRCUT. SERVICEPOINTS SHALL BE SHOWN ON THE PLANS.
8. WHENEVER THERE IS AN OVERHEAD UTILITY THAT MAY CONFLICT WITH THE INSTALLATION OF STREETLIGHTING CIRCUITS AND/OR POLES, THESE CONFLICTS MUST BE RESOLVED BETWEEN THE DEVELOPER AND THE UTILITIES INVOLVED BEFORE STREETLIGHT BASES ARE INSTALLED, AT NO EXPENSE TO THE CITY OF LAS VEGAS.
9. THE CONTRACTOR SHALL FURNISH COMPLETE CONDUIT, WIRE, ETC. FROM SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON THE PLANS.

- # CITY OF LAS VEGAS TRAFFIC SIGNAL NOTES

- [illegible]

CITY OF LAS VEGAS TRAFFIC NOTES

1. ALL CONSTRUCTION SIGNING, BARRICAADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
2. THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.
3. BEFORE ANY WORK IS STARTED IN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS AT 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.
4. IF A DEDICATED "SUGGESTED ROUTE" IS ENCRHOACHED 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 THE TIME THAT CHILDREN ARE LIKELY TO BE PRESENT.
5. IF THE IMPROVEMENTS NEGATIVELY AFFECT THE OBSTRUCTION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIAL TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.
6. WHEN CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PERMANENT SIGNS SHOWN ON THE PLANS, ALL NEW TRAFFIC SIGNS SHALL UTILIZE TYPE II RETROREFLECTIVE SHEETING IN ACCORDANCE WITH CAUUS 827 AND 716 AND SHALL HAVE AN ANTI-GRAFFITI PROTECTIVE OVERLAY FILM THAT IS A MATCHING COMPONENT TO, AND OF THE SAME COLOR AS, THE SIGN. AS THE SIGN IS APPLIED, THE 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.
7. WHEN A PROPOSED STREET LIGHT STANDARD IS LOCATED WITHIN FIVE (5') FEET OF ANY PROPOSED SIGN SHOWN ON THE PLAN, IT TO BE MOUNTED ON A SIGNPOST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGNPOST SHALL BE ELIMINATED.

8. ALL PERMANENT TRAFFIC CONTROL DEVICES CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HEREUNDER. REGARDLESS OF THE TYPE OR COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DEVICES FOR THE ENTIRE DURATION OF THE PROJECT.
9. STREET SIGNS AND STOP SIGNS SHALL BE INSTALLED PER CITY STANDARD SPECIFICATIONS FOR PLACEMENT OF STREET NAME SIGNS.
10. 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 IWSA WORK ZONE SAFETY SPECIALIST SET UP, MAINTAIN AND/OR REMOVE ALL TRAFFIC CONTROL DEVICES IN THE CITY OF LAS VEGAS CITY OF WAY.
11. 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.
12. 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 LOCATION OF STOP.
13. 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.
14. ANY WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
15. THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING DIVISION (TRANSPORTATION SECTION) THROUGH THE PROJECTS OFFICE OF THE CONTRACTOR PRIOR TO INITIATING ANY RECEIVING OR DIVERSION FOR ANY PERMITS OR TEMPORARY MODIFICATIONS. THE APPROVED DRAWINGS REGARDING FINAL PAYMENT 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 PAYMENT MARKINGS AND SIGNAGE, WHICH MAY INCLUDE OMITTING, ADDING, OR MODIFYING ANY MARKINGS OR SIGNAGE. THE CONTRACTOR SHALL ALSO PROVIDE THE MARKINGS AND LANE TERMINATIONS BETWEEN ADJACENT ROADWAY SEGMENTS ARE CONSTRUCTED.

LAS VEGAS FIRE & RESCUE FIRE PREVENTION FIRE HYDRANT AND ACCESS GENERAL NOTES

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

3. A PERMIT IS REQUIRED FROM LAS VEGAS FIRE AND RESCUE FOR THE INSTALLATION OF ON-SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND CONTRACTOR'S MATERIAL TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER BEFORE THE COMMENCEMENT OF WORK.
4. ON ANY RESIDENTIAL OR COMMERCIAL INSTALLATIONS, FIRE HYDRANTS SHALL BE INSTALLED AND FIRE APPARATUS ACCESS ROADS 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.
5. TO IDENTIFY THE FIRE HYDRANT LOCATIONS, THE CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF THE STREET ADJACENT TO THE FIRE HYDRANTS.

7. ALL ON-SITE UNDERGROUND WATER MAINS AND MATERIALS SHALL BE U.L. LISTED, A.W.W.A. APPROVED AND SHALL BE RATED FOR THE APPROPRIATE WORKING PRESSURE

8. PAINTING OF CURBS, FIRE HYDRANTS, PADS, PROTECTION OF FIRE HYDRANTS FROM PHYSICAL DAMAGE, AND ALL OTHER WORK NECESSARY PER PLANS SHALL BE COMPLETED BEFORE APPROVAL OF LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION.
9. PRIVATE HYDRANTS SHALL BE PAINTED RED.
10. PRIOR TO THE FINAL OCCUPANCY, A FIRE FLOW TEST SHALL BE WITNESSED BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION TO VERIFY AVAILABILITY OF THE REQUIRED FIRE FLOW.
11. FIRE HYDRANT SPACING SHALL BE AS FOLLOWS:

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

12. WHERE THE WATER MAINS ARE EXTENDED ALONG STREETS OR NEW STREETS ARE INSTALLED WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF THE STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT A MAXIMUM OF 1000 FT SPACING, TO

PROVIDE FOR TRANSPORTATION HAZARDS. WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR HAVE FOUR (4) OR MORE TRAFFIC LANES AND HAVE A TRAFFIC COUNT OF MORE THAN 30,000 PER DAY, HYDRANTS ARE REQUIRED ON EACH SIDE OF THE

STREET SPACE at 5000FT on an ALTERNATING BASIS. [FC § C02.08]

13. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE RADIUS OF A CUL-DE-SAC OR WITHIN 20 FT OF THE PERIMETER OF THE RADIUS OF A CUL-DE-SAC. [FC § C02.08]

14. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FT OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION. [FC § C02.12]

15. MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A ONE-TWO FAMILY DWELLING SHALL NOT EXCEED 300 FT, AS MEASURED BY AN APPROVED ROUTE. [FC § C02.04]

16. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FT, AS MEASURED BY AN APPROVED ROUTE. [FC § C02.07]

17. THE MAXIMUM DISTANCE FROM A HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FT. [FC § C02.08]

18. THE DISTANCE FROM A HYDRANT TO THE END OF A DEAD-END DRIVEWAY SHALL NOT EXCEED 100 FT. [FC § C02.08]

- INSTALLED ON A SINGLE SYSTEM. SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS CAN BE OUT OF SERVICE DUE TO A BREAK IN A WATER MAIN. [FC § 5304]
21. FIRE APPARATUS ACCESS ROADS SHALL BE PAVED TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES, AND SHALL BE DESIGNED AND MAINTAINED TO WITHSTAND THE HEAVIEST LOADS OF THE HEAVIEST LOADS. [FC § 5032.1]
22. THE GRADIENT FOR THE FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12% DURING APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 6% FOR 25 FT PRIOR TO OR AFTER THE GRADE CHANGE. ADJACENT TO THE STRUCTURES
23. GRADIENT SHALL NOT EXCEED 6% [FC § 5032.1, § 5032.8]
24. TURNING RADIUS FOR FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 52 FT OUTSIDE AND 28 FT INSIDE
25. TURNING RADIUS. [FC § 5032.4]
26. VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL NOT BE LESS THAN 13FT 6 INS. [FC § 5032.1]
27. FIRE DEPARTMENT ACCESS ROADS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 40 FT FLOW LINE TO FLOW LINE PARALLEL TO THE ROADWAY. THE MINIMUM CLEARANCE SHALL BE 13 FT 6 IN. [FC § 5032.1]
28. PARKING IS PERMITTED ONLY ON ONE SIDE OF THE FIRE APPARATUS ACCESS ROAD, NOT LESS THAN 24 FT WIDE, FLOW-LINE TO FLOW-LINE, WHEN NO PARKING IS PERMITTED ON EITHER SIDE. FIRE LINES THROUGH PARKING LOTS SHALL BE NOT LESS THAN 24 FT. [FC § 5032.1]
29. 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 FT IF THE BUILDING IS SPRINKLERED. [FC § 5031.1]
30. APPROVED SECONDARY FIRE APPARATUS ACCESS ROAD SHALL BE PROVIDED FOR 100 OR MORE DWELLING UNITS, ROADS (S) WITH DEAD-ENDS AND WITH A MINIMUM CLEARANCE IN EXCESS OF 600 FT. COMMERCIAL AND INDUSTRIAL DEVELOPMENTS WHERE BUILDINGS EXCEED 2 STORIES OR 30 FEET IN HEIGHT, OR EXCEEDING 62,000 SQUARE FEET IN AREA, [FC § 5031.2]
31. DEAD-END FIRE APPARATUS RDS AND/OR FIRE LINES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FT IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND HAVING A MINIMUM DIAMETER OF 81 FT. [FC § 5032.5]
32. FIRE APPARATUS ACCESS ROADS SHALL BE MARKED BY PLACONS APPROVED SIGNS AT THE START OF THE DESIGNATED FIRE LINES AND AT THE END OF THE DESIGNATED FIRE LINES. THE SIGNS SHALL BE THE DESIGNATED FIRE LINES SIGNS. 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 FT OR LESS THAN 6 FT FROM THE ROADWAY LEVEL. THE CURB ALONG OR ON THE PAVEMENT OR CEMENT (IF NO CURB IS PROVIDED) SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS. [FC § 5032.1]
33. ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE FC § 503.6 AND IFC APPENDIX M.

SOUTHWEST GAS CONSTRUCTION NOTES

1. IN THE EVENT OF NATURAL GAS EMERGENCIES CALL 911 AND 1-877-860-602
2. THERE SHALL BE A MINIMUM HORIZONTAL AND VERTICAL CLEARANCE OF 12-INCHES BETWEEN NATURAL GAS FACILITIES AND ANY UNDERGROUND FACILITIES AND/OR STRUCTURES, INCLUDING BUT NOT LIMITED TO WATER, SEWER, STORM DRAIN, COMMUNICATIONS, AND ELECTRIC
3. FOR VALVE ADJUSTMENT CALL 702-668-6107 48 HOURS PRIOR TO CONSTRUCTION.

4. IN THE EVENT OF NATURAL GAS CONFLICT WITH PROPOSED UTILITIES AND/OR STRUCTURES CONTACT 702-363-2099

CAUTION: HIGH PRESSURE GAS

CALL SOUTHWEST GAS AT 702-400-1789 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES 48 HOURS PRIOR TO CONSTRUCTION

LEGEND		
CL OR SECTION LINE		
PROPERTY LINE		
RIGHT OF WAY LINE		
EASEMENT LINE		
SAWCUT LINE		
HEAVY AC PAVEMENT		
CONCRETE PAVEMENT		
	EXISTING	PROPOSED
EDGE OF PAVEMENT		
"A" TYPE CURB		
"L" TYPE CURB		
WALLS		
FENCE		
SIGN		
CONTOUR		
SPOT ELEVATION		
MANHOLE - SEE DESCRIPTION BELOW		
100W HPS STL.T.		
150W HPS STL.T.		
200W HPS STL.T.		
250W HPS STL.T.		
400W HPS STL.T.		
FIRE HYDRANT		
GATE VALVE		
REDUCER		
CLEAN OUT		
UTILITY BOX/ VAULT		
S=STORM SEWER, D=STORM DRAIN, E=ELECTRICAL, T=TELEPHONE		
AVOID HITTING OVERHEAD POWER LINES. ITS COSTLY. Call before you Dig to find out where UNDERGROUND TRAFFIC SIGNAL AND STREET LIGHT SYSTEM CONDUITS, IT'S COSTLY. Call before you UnderGround 1-702-432-5300 OR 1-702-227-2600 811 FOR MY & NEAR, SEND A REQUEST [Logo]		



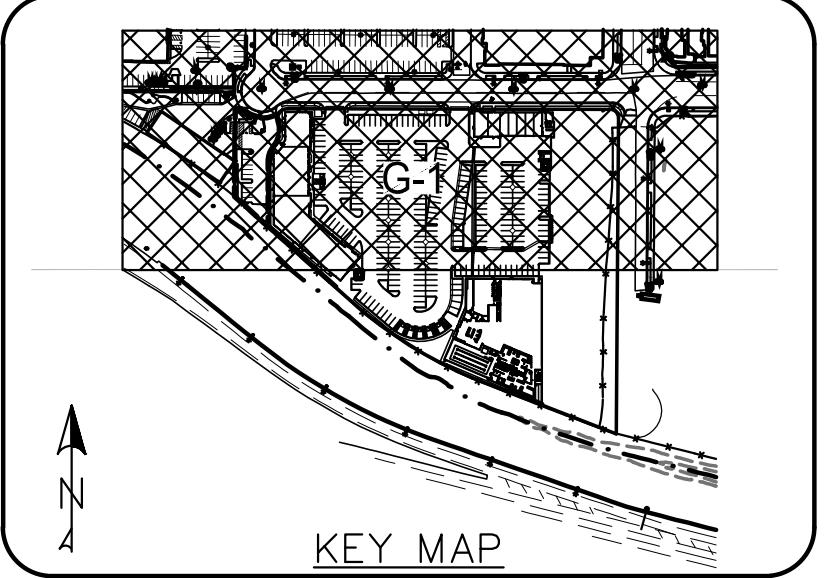
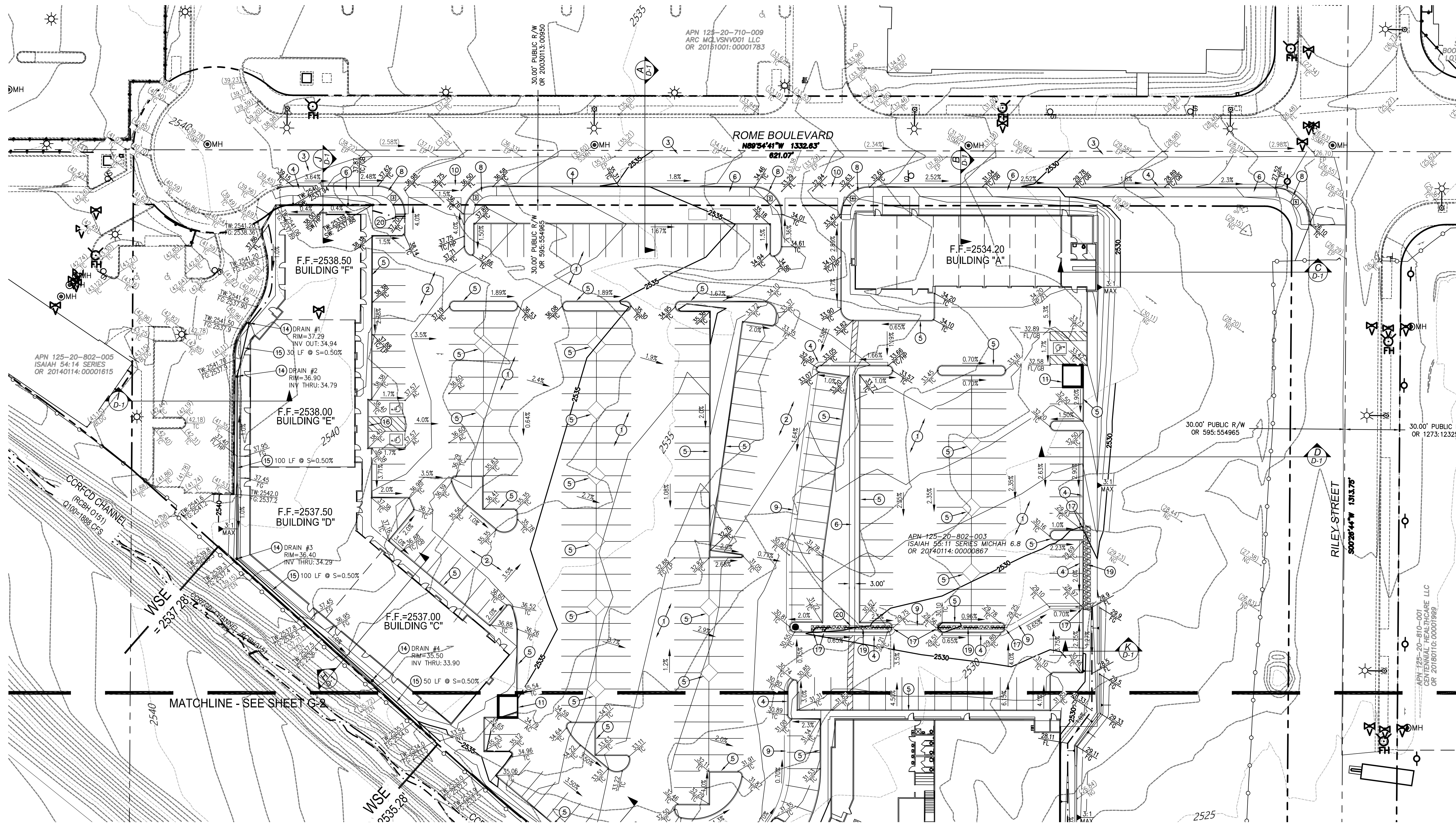
8/6/2018

8/6/2018
DATE
103109
PROJECT NUMBER
RM
DRAWN BY
RM
CHECKED BY

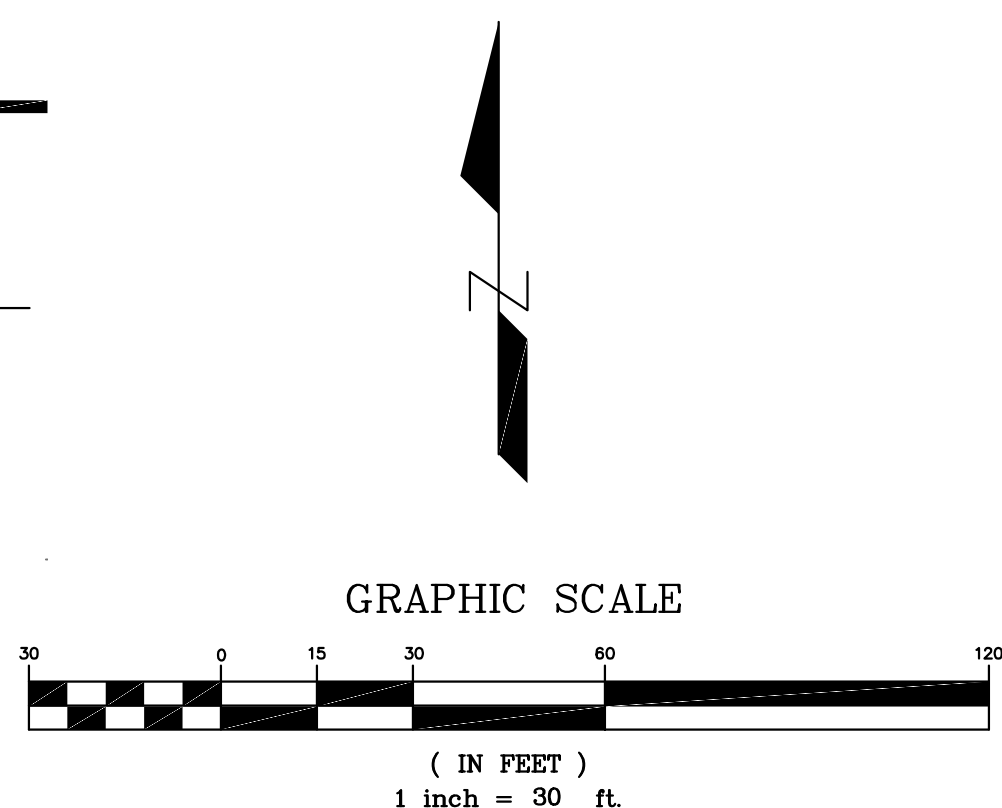
PROJECT:	DURANGO BELTWAY PLAZA CITY OF LAS VEGAS SWC OF ROME BLVD. AND RILEY ST.
	NOTES + QUANTITIES
SHEET:	
C-2	
2	OF 6

C-2

2 OF 6



- CONSTRUCTION NOTES:**
- 1. ALL CONSTRUCTION TO BE DONE IN ACCORDANCE WITH "CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS AND SPECIFICATIONS" (CAUSD) LATEST EDITION AND/OR REGULATING ENTITY HAVING JURISDICTION.
 - 2. CONSTRUCT LIGHT ASPHALT PAVEMENT PER DETAIL 1 ON SHEET D-2.
 - 3. CONSTRUCT HEAVY ASPHALT PAVEMENT PER DETAIL 1 ON SHEET D-2.
 - 4. SAWCUT AND MATCH EXISTING ASPHALT AT LIMITS SHOWN.
 - 5. CONSTRUCT "L" TYPE CURB PER CAUSD No. 216.
 - 6. CONSTRUCT "A" TYPE CURB PER DETAIL 2 ON SHEET D-2.
 - 7. CONSTRUCT 5' CONC. SIDEWALK PER CAUSD No. 234.
 - 8. CONSTRUCT SIDEWALK DRAIN PER DETAIL 6, SHEET D-2.
 - 9. CONSTRUCT SIDEWALK RAMP PER CAUSD No. 235, CASE 1. SEE SIDEWALK RAMP TABLE ON SHEET G-1 FOR "A" AND "B" DIMENSIONS.
 - 10. CONSTRUCT CONC. VALLEY GUTTER PER DETAIL 4 ON SHEET D-2.
 - 11. CONSTRUCT 8" CROSS GUTTER PER CAUSD No. 228.
 - 12. TRASH ENCLOSURE W/ GATES. REFER TO ARCH. PLANS FOR DETAILS.
 - 13. LANDSCAPE. REFER TO LANDSCAPE ARCH. PLANS FOR DETAILS.
 - 14. CONSTRUCT STEPS. REFER TO ARCH. PLANS FOR SPECIFICATIONS.
 - 15. INSTALL NYLOPLAST DRAIN INLET OR APPROVED EQUAL.
 - 16. INSTALL 12" SDR-35 PVC STORM DRAIN.
 - 17. CONSTRUCT DEPRESSED CURB, SEE DETAIL 3 ON SHEET D-2.
 - 18. CONSTRUCT 3" CURB OPENING, SEE DETAIL 6 ON SHEET D-2.
 - 19. CONSTRUCT CONCRETE SIDEWALK, SIZE PER PLAN.
 - 20. INSTALL RIPRAP, D50=3", THICKNESS=6".
 - 21. INSTALL 2' SIDEWALK UNDERDRAIN, PER CAUSD NO. 236.
- SEE SHEET C-2 FOR CLARK COUNTY STORMWATER MANAGEMENT NOTES.



SOUTHWEST GAS NOTE:

CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

SIDEWALK RAMP TABLE		
	"A" (FT.) MIN.	"B" (FT.) MIN.
1	4.5'	12.0'
2	4.5'	9.5'
3	8.0'	8.0'
4	12.0'	4.5'
5	15.0'	4.5'

- GRADING NOTES:**
- THE CONTRACTOR SHALL VERIFY ALL CONDITIONS OF EXISTING STRUCTURES INCLUDING LOCATION, ELEVATION AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO MOMENI ENGINEERS PRIOR TO CONSTRUCTION.
 - ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION DURING CONSTRUCTION THROUGH THE USE OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 - ADD 2500 TO PLAN GRADES WITH THE EXCEPTION OF FINISHED FLOORS UNLESS NOTED OTHERWISE.
 - CONTRACTOR TO VERIFY ALL HANDICAP ACCESSIBLE ROUTES AND PARKING STALLS ARE IN CONFORMANCE WITH A.D.A. ACCESSIBILITY GUIDELINES AND DO NOT EXCEED MAXIMUM SLOPES IN ANY DIRECTION PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES.
 - MOMENI ENGINEERS ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES SHOWN ON THIS DRAWING ARE FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES, INCLUDING BUT NOT LIMITED TO, THE WATER, FIRE, SANITARY SEWER, STORM SEWER, TELEPHONE, POWER, GAS, AND IRRIGATION LINES. ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. IF CONFLICTS EXIST IN THE FIELD, THE CONTRACTOR IS TO NOTIFY THE PROJECT ARCHITECT, OWNER'S REPRESENTATIVE, AND THE PROJECT ENGINEER IMMEDIATELY.
 - NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES, AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM THE TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THE RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.
 - CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CLARK COUNTY BUILDING DEPARTMENT.

EARTHWORK QUANTITIES:

EARTHWORK QUANTITIES		
CUT =	3,684 C.Y.	
FILL =	7,329 C.Y.	
A. THE ABOVE QUANTITIES DO NOT REFLECT LOSSES DUE TO SHRINKAGE.		
B. ALL ONSITE GRADING SHALL COMPLY WITH THE CONDITIONS SET FORTH IN THE PROJECT GEOTECHNICAL REPORT.		

DRAINAGE QUANTITIES:

	PUBLIC QUANTITY	PRIVATE QUANTITY	
2-INCH ASPHALTIC CONCRETE PAVING		98,704	SY
3-INCH ASPHALTIC CONCRETE PAVING		1,722	SY
4-INCH ASPHALTIC CONCRETE PAVING	10,656		SY
RIP RAP D50=3" T=6"		345	SF
TYPE II GRAVEL	130	1,228	CY
CONCRETE VALLEY GUTTER		261	LF
CURB & GUTTER "L" TYPE	424	431	LF

GRADING NOTE:

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

FLOOD ZONE NOTE:

THE PROJECT SITE IS LOCATED ON FEMA FLOOD INSURANCE RATE MAP (FIRM) PANEL No. 32003C1745F. EFFECTIVE DATE: NOVEMBER 27, 2002. THE SITE IS LOCATED WITHIN FEMA DESIGNATED ZONE X (UNSHADED), A ZONE X (UNSHADED) IS DESCRIBED AS AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

GEOTECHNICAL ENGINEER:

PREPARED BY: NOVA GEOTECHNICAL
4480 WEST HACIENDA AVE
SUITE 104
PHONE: (702) 873-3478
PROJECT G-18-045
DATED: 4/5/18

- TRAFFIC NOTES:**
- REPLACE ALL TRAFFIC CONTROL DEVICES (SIGNS AND/OR PAVEMENT MARKINGS), UNDER CLARK COUNTY'S JURISDICTION, THAT ARE DISTURBED, DESTROYED, MOVED OR MODIFIED BY TRENCHING ACTIVITIES TO CLARK COUNTY'S SATISFACTION. ALL MATERIAL USED SHALL MEET CLARK COUNTY'S SPECIFICATIONS OR WILL BE AN APPROVED EQUIVALENT.
 - IN THE EVENT THAT THE TRAFFIC SIGNAL CONDUITS, LOOP DETECTORS OR ASSOCIATED EQUIPMENT ARE DAMAGED BY CONTRACTOR, THE CONTRACTOR WILL HAVE AN MSA LEVEL II ELECTRICAL CONTRACTOR TO MAKE REPAIRS PER UNIFORM SPECIFICATION NO. 623.G.01.02.
 - CONTRACTOR SHALL CONTACT CLARK COUNTY TRAFFIC OPERATIONS DIRECTLY AT 702-455-8000 TO SCHEDULE COUNTY STAFF TO LOCATE UNDERGROUND STREETLIGHTING AND SIGNAL FACILITIES IN THE PROJECT AREA A MINIMUM OF 48 HRS. NOTICE IS REQUIRED PRIOR TO LOCATES. HOURS OF OPERATION: 6:30 AM - 5:00 PM, MONDAY THROUGH FRIDAY EXCLUDING HOLIDAYS.

BASIS OF BEARINGS:

SOUTH 007°16'37" WEST, BEING THE BEARING OF THE CENTERLINE OF DURANGO DRIVE AND THE WEST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF THE SOUTHEAST QUARTER (SE 1/4) OF SECTION 20, TOWNSHIP 19 SOUTH, RANGE 80 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN IN FILE 206 OF SURVEYS, AT PAGE 97, OFFICIAL RECORDS OF CLARK COUNTY, NEVADA.

BENCHMARK:

CITY OF LAS VEGAS BENCHMARK "5LV902056" RIVET & PLATE IN TOP OF CURB AT SW CORNER OF DURANGO DR. & WESTBOUND HIGHWAY 215 ON RAMP.

ELEVATION: 2558.08 (US SURVEY FEET)
779.704 (METERS)

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

GRADING PLAN CERTIFICATION:

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED FLOOD STUDY DS# 11111 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT.

MOE MOMENI, P.E. #12732

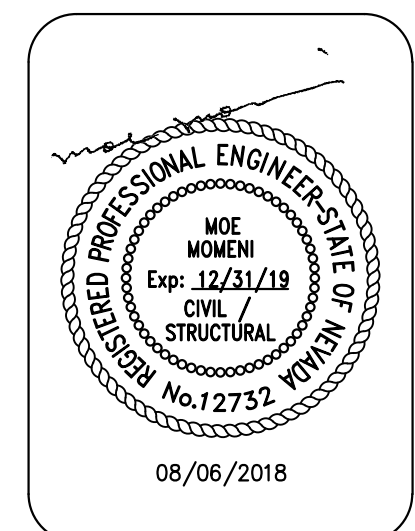
Call before you dig
Before you dig
Underground
1-702-432-5300
1-702-227-2929

811

Call before you dig
Call before you dig
Underground
1-702-432-5300
1-702-227-2929

REVISIONS	DESCRIPTION	DATE	BY	APPROVAL

momeni ENGINEERS, LLC.
CIVIL & STRUCTURAL ENGINEERING
3110 S. DURANGO DRIVE, SUITE 205
LAS VEGAS, NEVADA 89117
TEL: (702) 902-2444 | FAX: (702) 248-8495 | MOE@MOMENIENGINEERS.COM



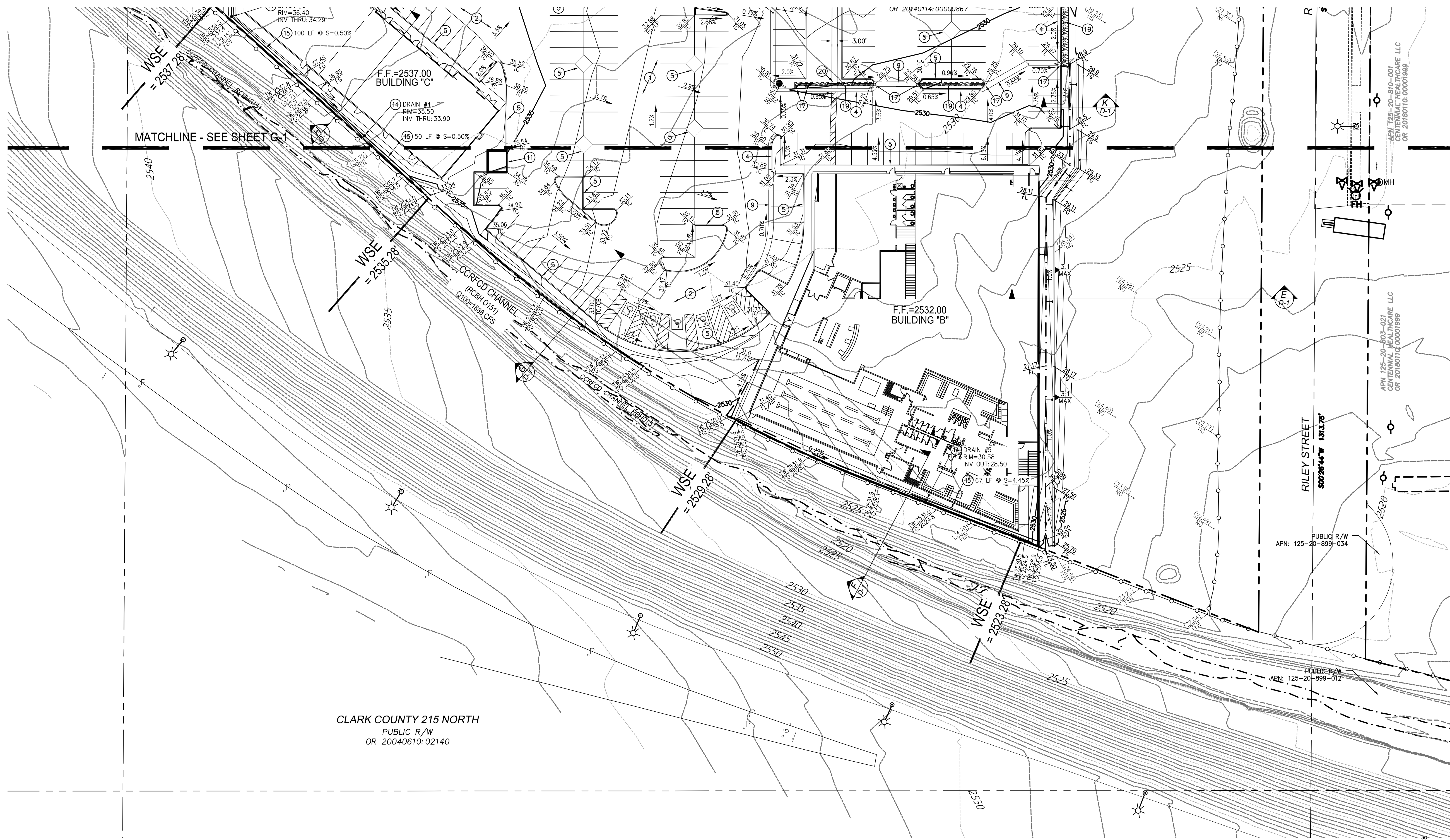
8/06/2018	DATE
103109	PROJECT NUMBER
RM	DRAWN BY
RM	CHECKED BY

DURANGO BELTWAY PLAZA
CITY OF LAS VEGAS
SWC OF ROME BLVD. AND RILEY ST.

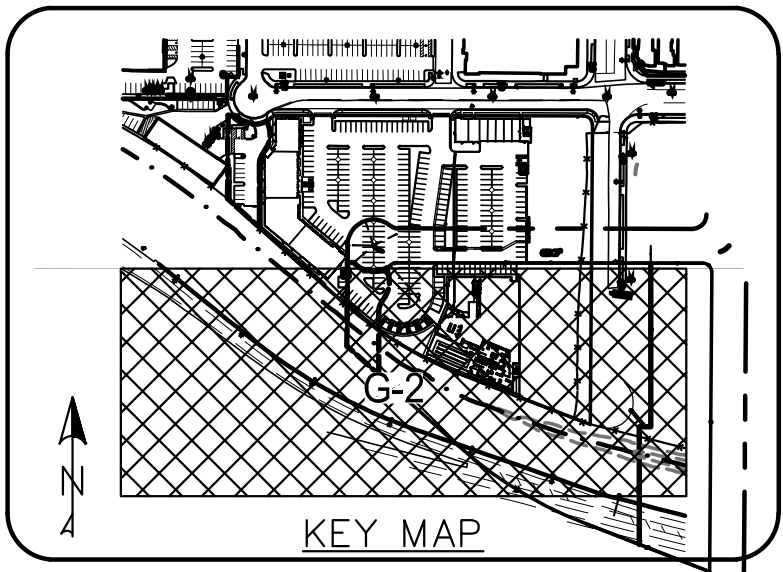
GRADING PLAN I

SHEET: **G-1**

3 OF 6



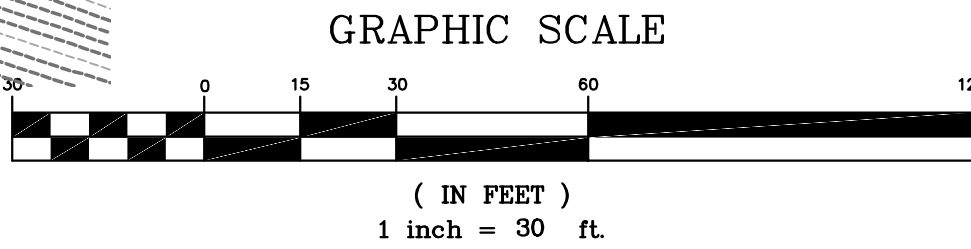
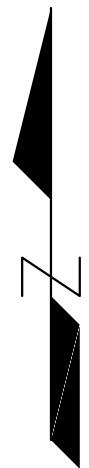
CLARK COUNTY 215 NORTH
PUBLIC R/W
OR 20040610:02140



CONSTRUCTION NOTES:

- ALL CONSTRUCTION TO BE DONE IN ACCORDANCE WITH "CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS AND SPECIFICATIONS" (CCASD) LATEST EDITION AND/OR REGULATING ENTITY HAVING JURISDICTION.
- 1) CONSTRUCT LIGHT ASPHALT PAVEMENT PER DETAIL 1 ON SHEET D-2.
 - 2) CONSTRUCT HEAVY ASPHALT PAVEMENT PER DETAIL 1 ON SHEET D-2.
 - 3) SAWCUT AND MATCH EXISTING ASPHALT AT LIMITS SHOWN.
 - 4) CONSTRUCT "L" TYPE CURB PER CCASD No. 216.
 - 5) CONSTRUCT "A" TYPE CURB PER DETAIL 2 ON SHEET D-2.
 - 6) CONSTRUCT 5' CONC. SIDEWALK PER CCASD No. 234.
 - 7) CONSTRUCT SIDEWALK DRAIN PER DETAIL 6, SHEET D-2.
 - 8) CONSTRUCT SIDEWALK RAMP PER CCASD No. 235, CASE I. SEE SIDEWALK RAMP TABLE ON SHEET G-1 FOR "A" AND "B" DIMENSIONS.
 - 9) CONSTRUCT CONC. VALLEY GUTTER PER DETAIL 4 ON SHEET D-2.
 - 10) CONSTRUCT 8" CROSS GUTTER PER CCASD No. 228.
 - 11) TRASH ENCLOSURE W/ GATES. REFER TO ARCH. PLANS FOR DETAILS.
 - 12) LANDSCAPE. REFER TO LANDSCAPE ARCH. PLANS FOR DETAILS.
 - 13) CONSTRUCT STEPS. REFER TO ARCH. PLANS FOR SPECIFICATIONS.
 - 14) INSTALL NYLOPLAST DRAIN INLET OR APPROVED EQUAL.
 - 15) INSTALL 12" SDR-35 PVC STORM DRAIN.
 - 16) CONSTRUCT DEPRESSED CURB, SEE DETAIL 3 ON SHEET D-2.
 - 17) CONSTRUCT 3" CURB OPENING, SEE DETAIL 6 ON SHEET D-2.
 - 18) CONSTRUCT CONCRETE SIDEWALK, SIZE PER PLAN.
 - 19) INSTALL RIPRAP, D50=3", THICKNESS=6".
 - 20) INSTALL 2" SIDEWALK UNDERDRAIN, PER CCASD No. 236.

SEE SHEET C-2 FOR CLARK COUNTY STORMWATER MANAGEMENT NOTES.



CAUTION: HIGH
PRESSURE GAS

SOUTHWEST GAS NOTE:

CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

SIDEWALK RAMP TABLE

	"A" (FT.) MIN.	"B" (FT.) MIN.
1	4.5'	12.0'
2	4.5'	9.5'
3	8.0'	8.0'
4	12.0'	4.5'
5	15.0'	4.5'

GRADING NOTE:

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

FLOOD ZONE NOTE:

THE PROJECT SITE IS LOCATED ON FEMA FLOOD INSURANCE RATE MAP (FIRM) PANEL No. 32003C1745F. THE SITE IS LOCATED WITHIN FEMA DESIGNATED ZONE X (UNSHADED). A ZONE X (UNSHADED) IS DESCRIBED AS AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

GEOTECHNICAL ENGINEER:

PREPARED BY: NOVA GEOTECHNICAL
4480 WEST HACIENDA AVE
SUITE 104
PHONE: (702) 873-3478
PROJECT G-18-045
DATED: 4/5/18

TRAFFIC NOTES:

1. REPLACE ALL TRAFFIC CONTROL DEVICES (SIGNS AND/OR PAVEMENT MARKINGS), UNDER CLARK COUNTY'S JURISDICTION, THAT ARE DISTURBED, DESTROYED, MOVED OR MODIFIED BY TRENCHING ACTIVITIES TO CLARK COUNTY'S SATISFACTION. ALL MATERIAL USED SHALL MEET CLARK COUNTY'S SPECIFICATIONS OR WILL BE AN APPROVED EQUIVALENT.
2. IN THE EVENT THAT THE TRAFFIC SIGNAL CONDUITS, LOOP DETECTORS OR ASSOCIATED EQUIPMENT ARE DAMAGED BY CONTRACTOR, THE CONTRACTOR WILL HIRE AN INSA LEVEL II ELECTRICAL CONTRACTOR TO MAKE REPAIRS PER UNIFORM SPECIFICATION NO. 623.G.01.02.
3. CONTRACTOR SHALL CONTACT CLARK COUNTY TRAFFIC OPERATIONS DIRECTLY AT 702-455-6000 TO SCHEDULE COUNTY STAFF TO LOCATE UNDERGROUND STREETLIGHTING AND SIGNAL FACILITIES IN THE PROJECT AREA A MINIMUM OF 48 HRS. NOTICE IS REQUIRED PRIOR TO LOCATES. HOURS OF OPERATION: 6:30 AM - 3:00 PM, MONDAY THROUGH FRIDAY EXCLUDING HOLIDAYS.

GRADING NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS OF EXISTING STRUCTURES INCLUDING LOCATION, ELEVATION, AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO MOMENTI ENGINEERS PRIOR TO CONSTRUCTION.
2. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION DURING CONSTRUCTION THROUGH THE USE OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
3. ADD 2500 TO PLAN GRADES WITH THE EXCEPTION OF FINISHED FLOORS UNLESS NOTED OTHERWISE.
4. CONTRACTOR TO VERIFY ALL HANDICAP ACCESSIBLE ROUTES AND PARKING STALLS ARE IN CONFORMANCE WITH A.D.A. ACCESSIBILITY GUIDELINES AND DO NOT EXCEED MAXIMUM SLOPES IN ANY DIRECTION PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES.
5. MOMENTI ENGINEERS ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES SHOWN ON THIS DRAWING ARE FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES, INCLUDING BUT NOT LIMITED TO, THE WATER, FIRE, SANITARY SEWER, STORM SEWER, TELEPHONE, POWER, GAS, AND IRRIGATION LINES. ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. IF CONFLICTS EXIST IN THE FIELD, THE CONTRACTOR IS TO NOTIFY THE PROJECT ARCHITECT, OWNER'S REPRESENTATIVE, AND THE PROJECT ENGINEER IMMEDIATELY.
6. NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES, AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM THE TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THE RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.
7. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CLARK COUNTY BUILDING DEPARTMENT.

EARTHWORK QUANTITIES:

EARTHWORK QUANTITIES:
CUT = 3,684 C.Y.
FILL = 7,329 C.Y.
A. THE ABOVE QUANTITIES DO NOT REFLECT LOSSES DUE TO SHRINKAGE.
B. ALL ONSITE GRADING SHALL COMPLY WITH THE CONDITIONS SET FORTH IN THE PROJECT GEOTECHNICAL REPORT.

DRAINAGE QUANTITIES:

	PUBLIC QUANTITY	PRIVATE QUANTITY	
2-INCH ASPHALTIC CONCRETE PAVING		98,704	SY
3-INCH ASPHALTIC CONCRETE PAVING		1,722	SY
4-INCH ASPHALTIC CONCRETE PAVING	10,656		SY
RIP RAP D50=3" T=6"		345	SF
TYPE II GRAVEL	130	1,228	CY
CONCRETE VALLEY GUTTER		261	LF
CURB & GUTTER "L" TYPE	424	431	LF

BASIS OF BEARINGS:

SOUTH 00°16'37" WEST, BEING THE BEARING OF THE CENTERLINE OF DURANGO DRIVE AND THE WEST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF THE SOUTHEAST QUARTER (SE 1/4) OF SECTION 20, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN IN FILE 206 OF SURVEYS, AT PAGE 97, OFFICIAL RECORDS OF CLARK COUNTY, NEVADA.

BENCHMARK:

CITY OF LAS VEGAS BENCHMARK "SLV802056" RIVET & PLATE IN TOP OF CURB AT SW CORNER OF DURANGO DR. & WESTBOUND HIGHWAY 215 ON RAMP.

ELEVATION: 2558.08 (US SURVEY FEET)
779.704 (METERS)

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

GRADING PLAN CERTIFICATION:

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED FLOOD STUDY DSR: ### ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT.

MOE MOMENTI, P.E. #12732

Call before you dig

Before You Overhead

1-702-227-2929

Call before you dig

UnderGround

1-702-432-5300

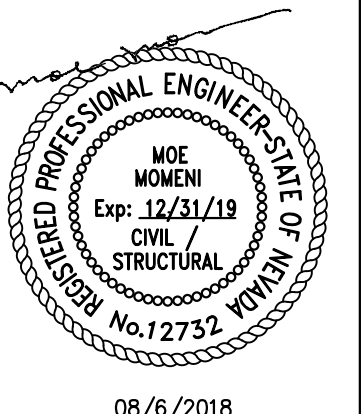
Call before you dig

UnderGround

1-702-227-2800

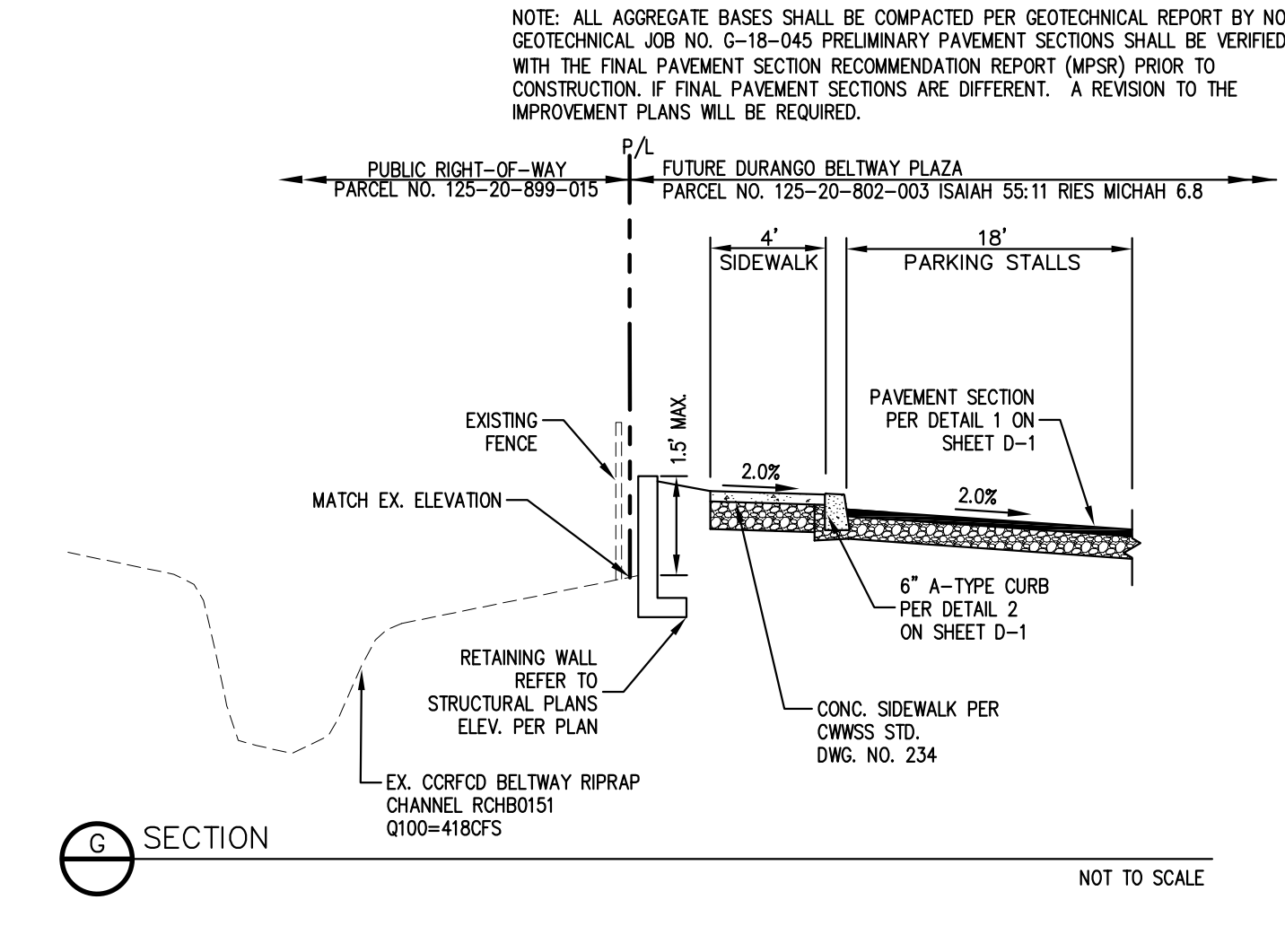
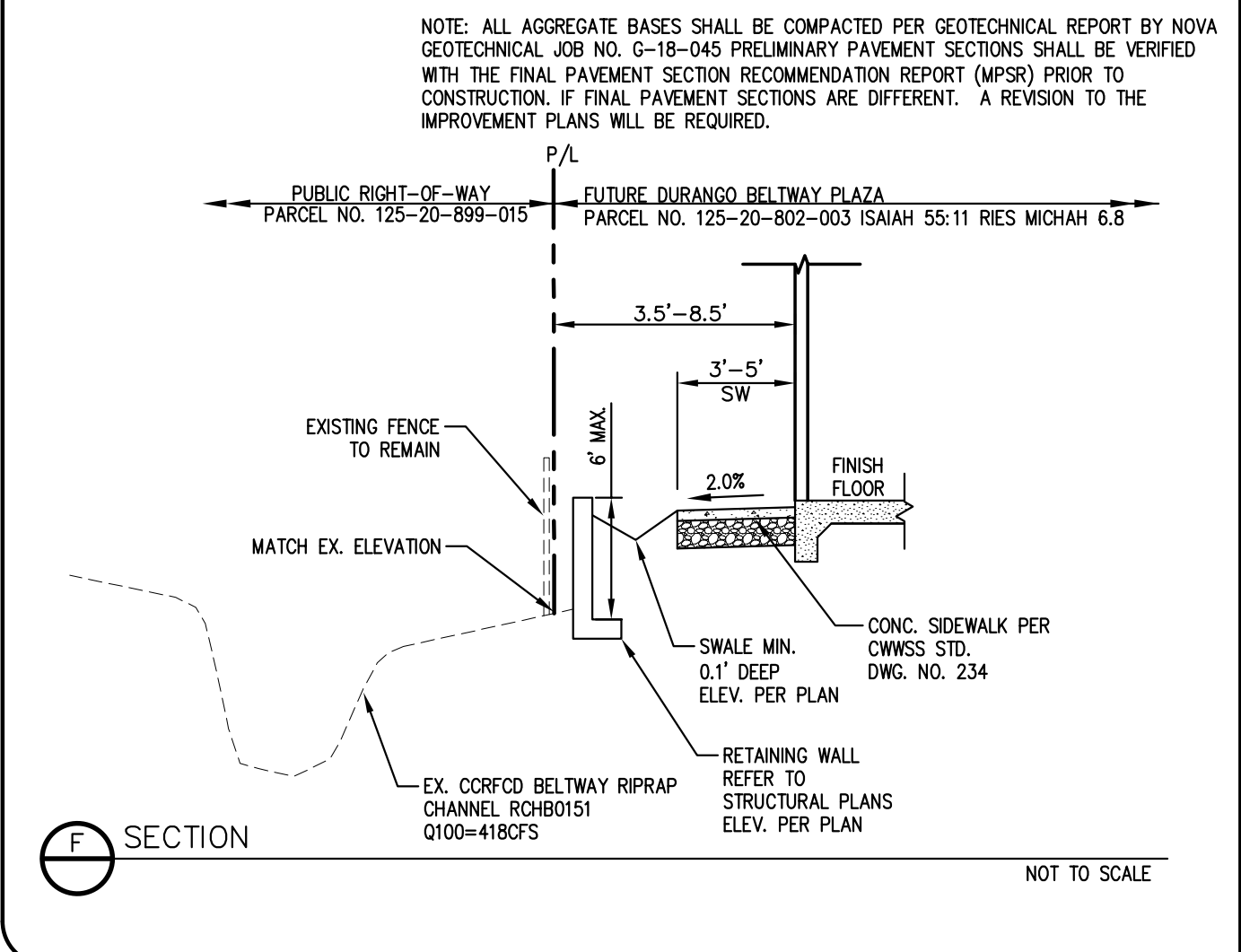
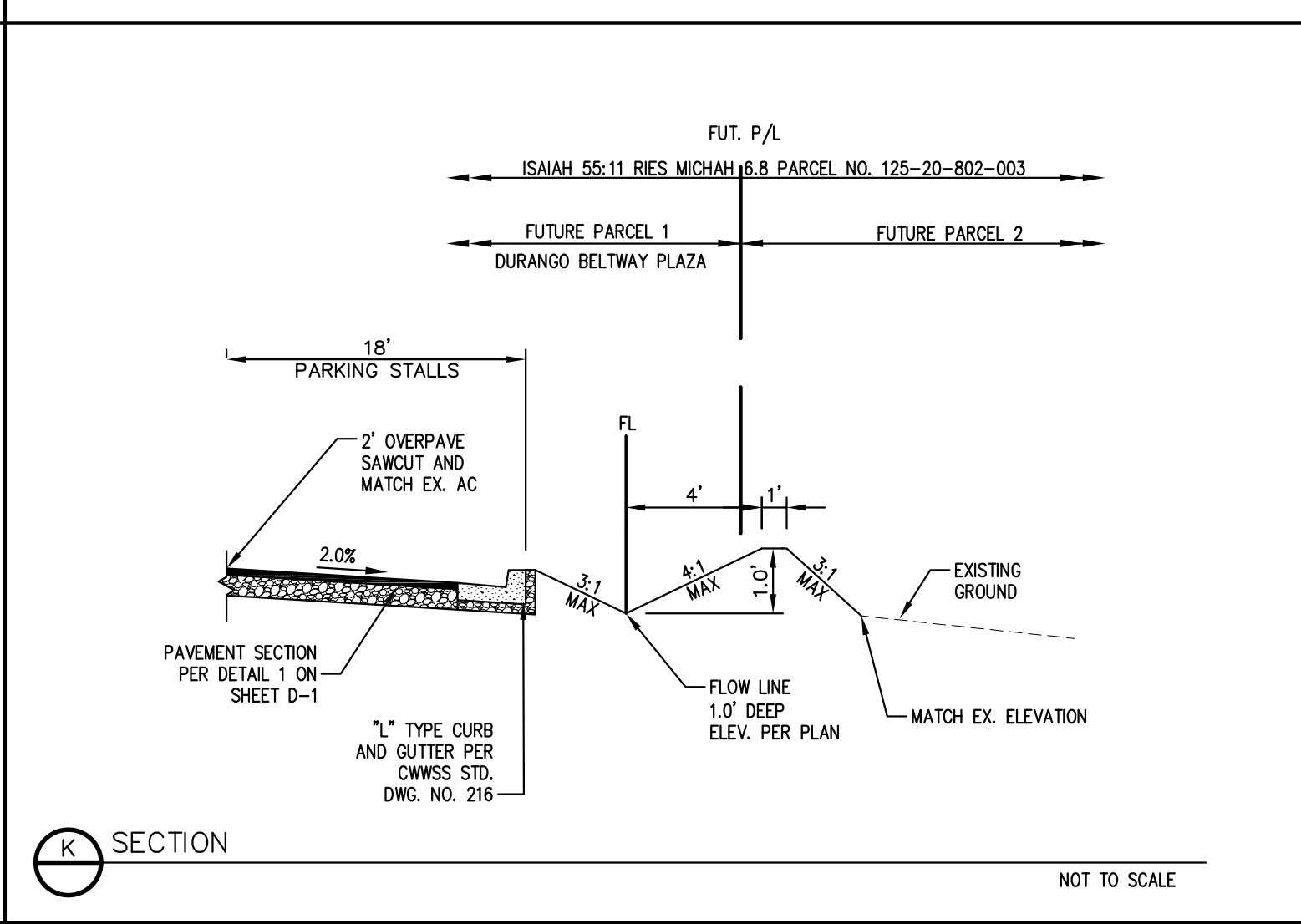
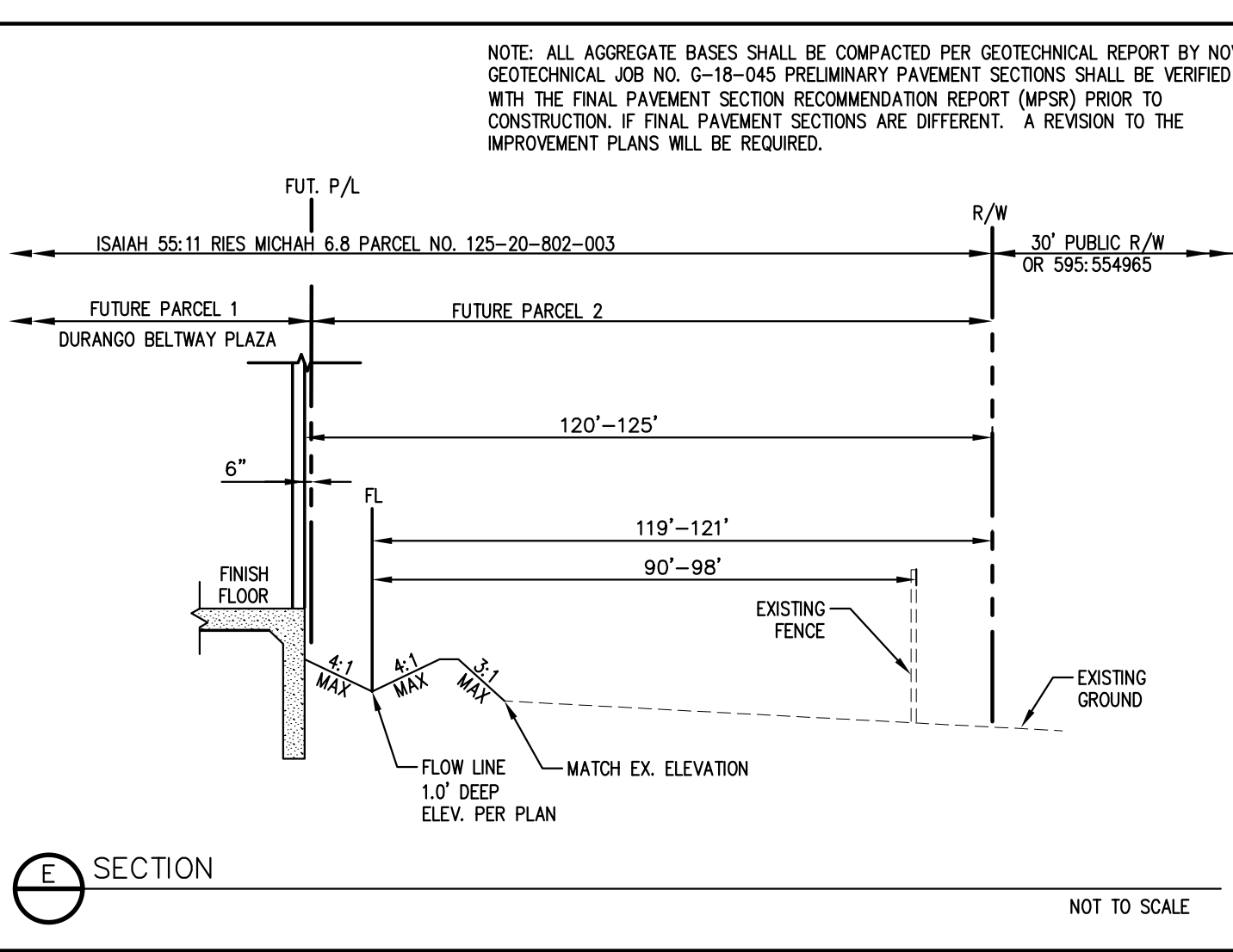
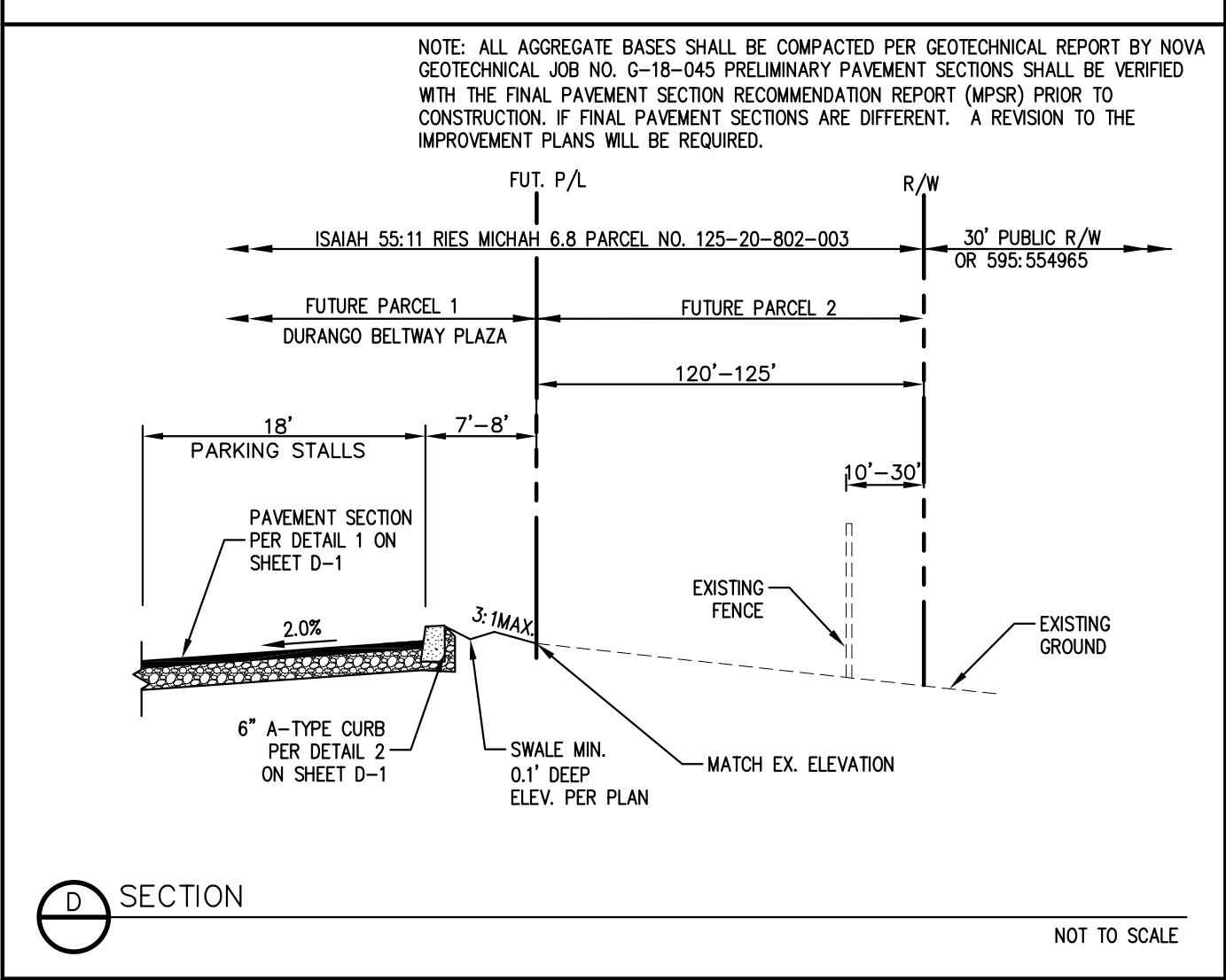
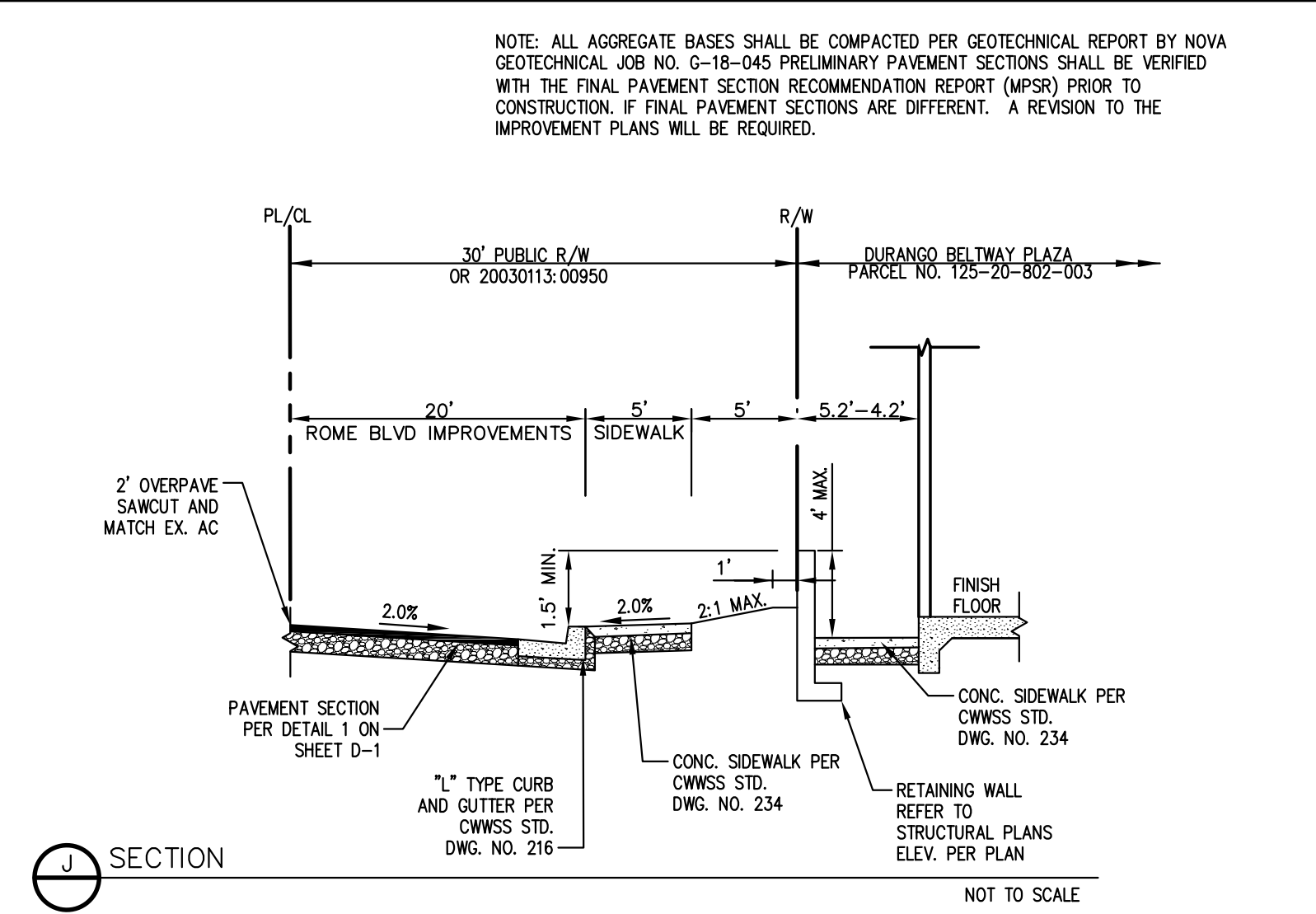
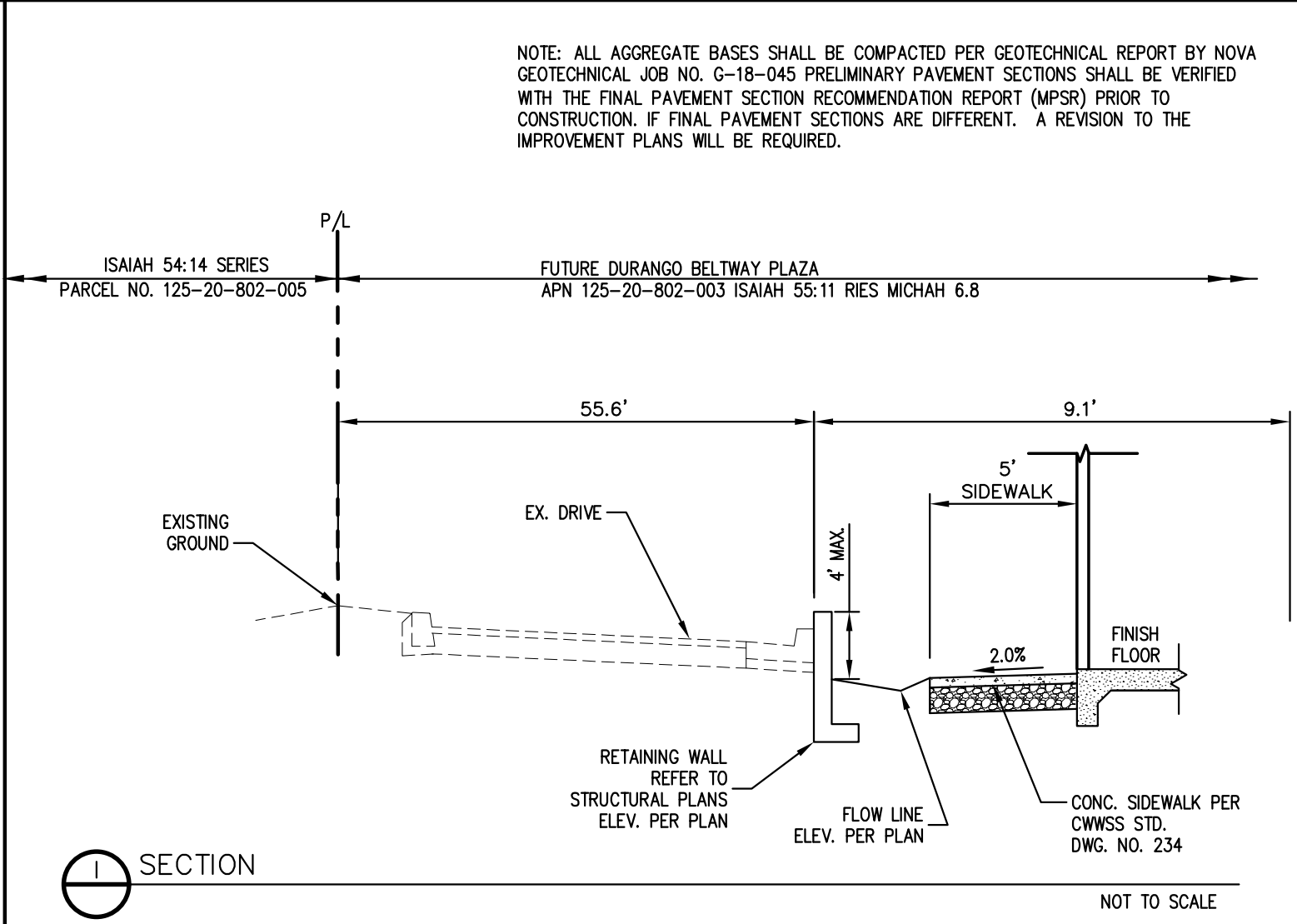
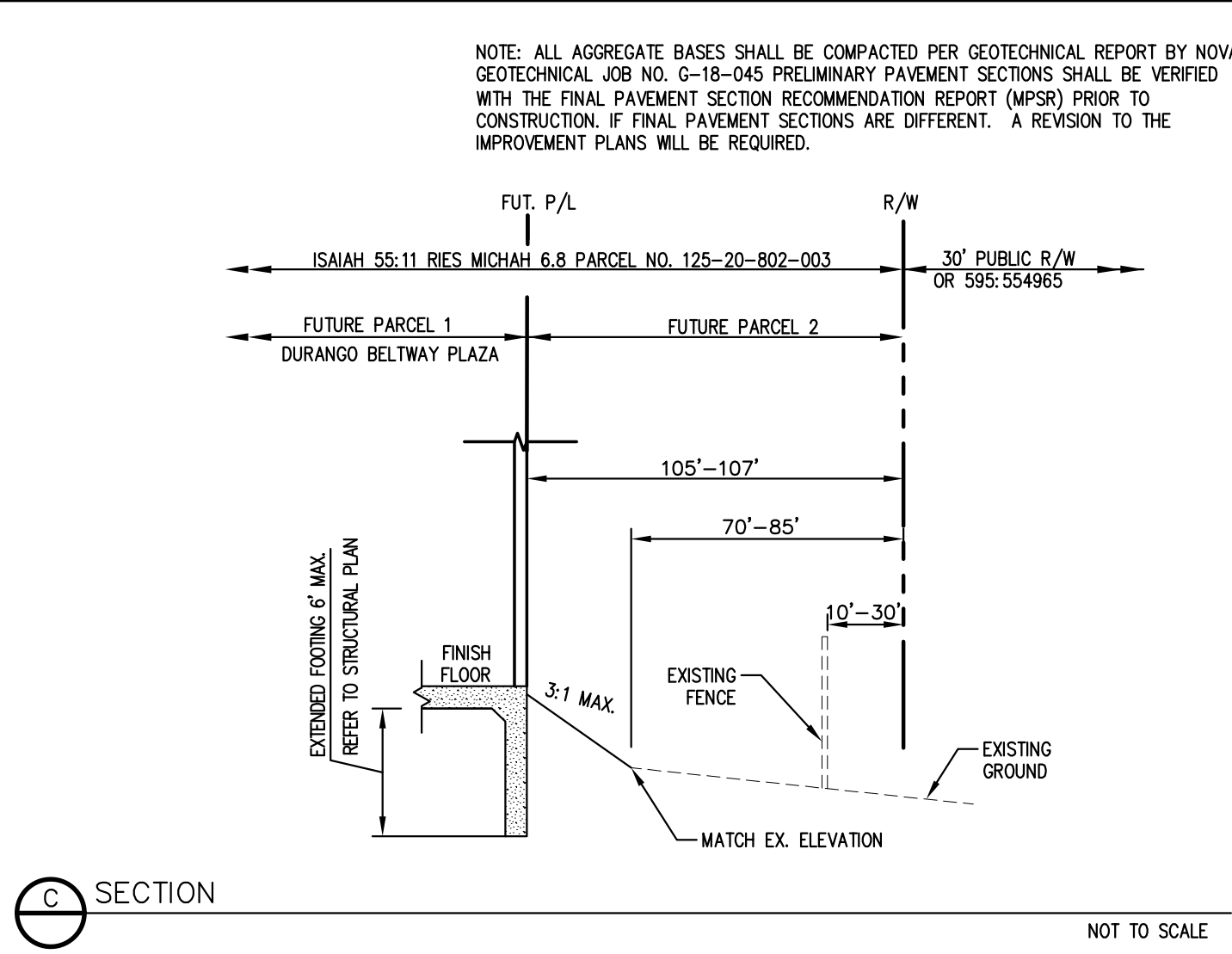
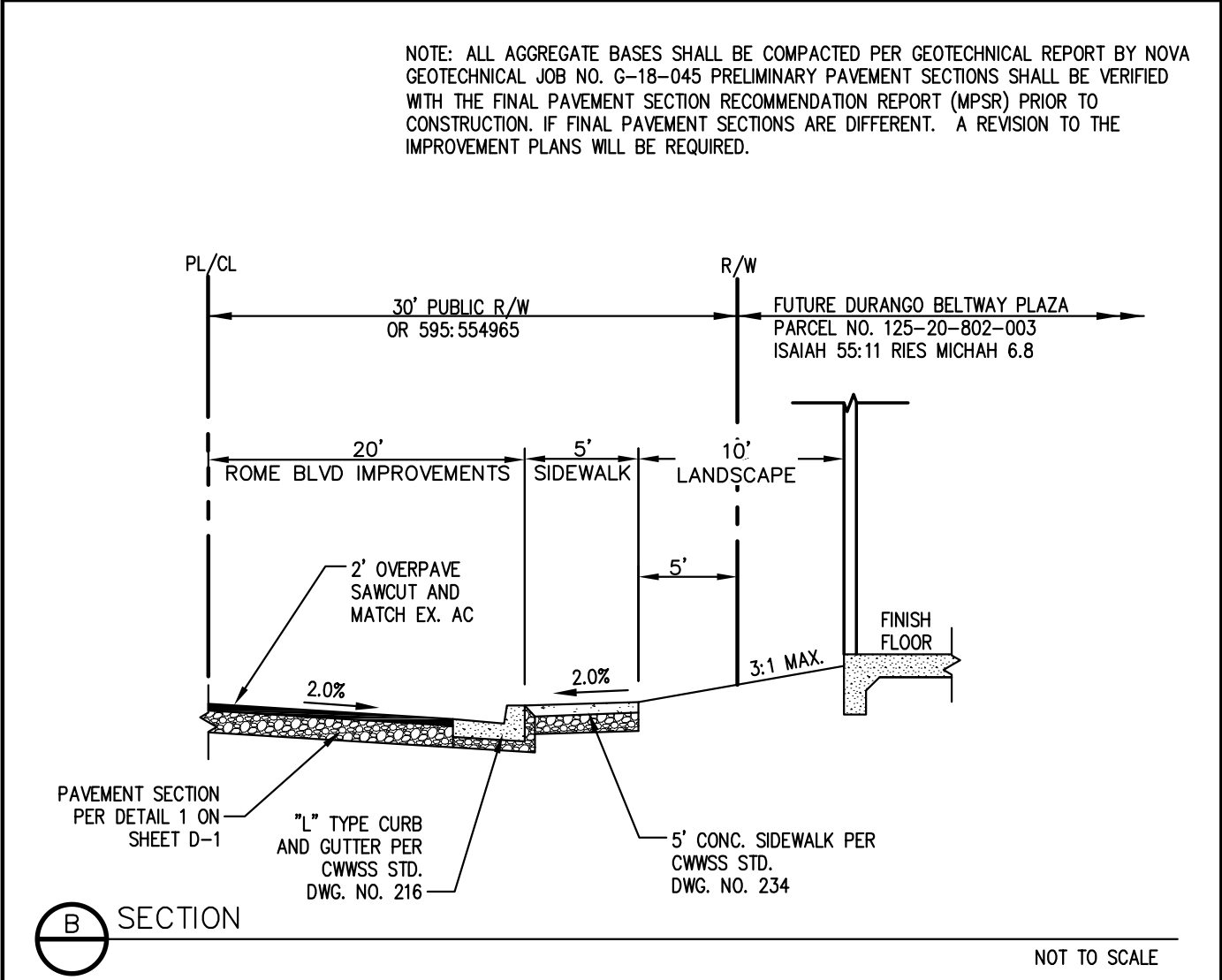
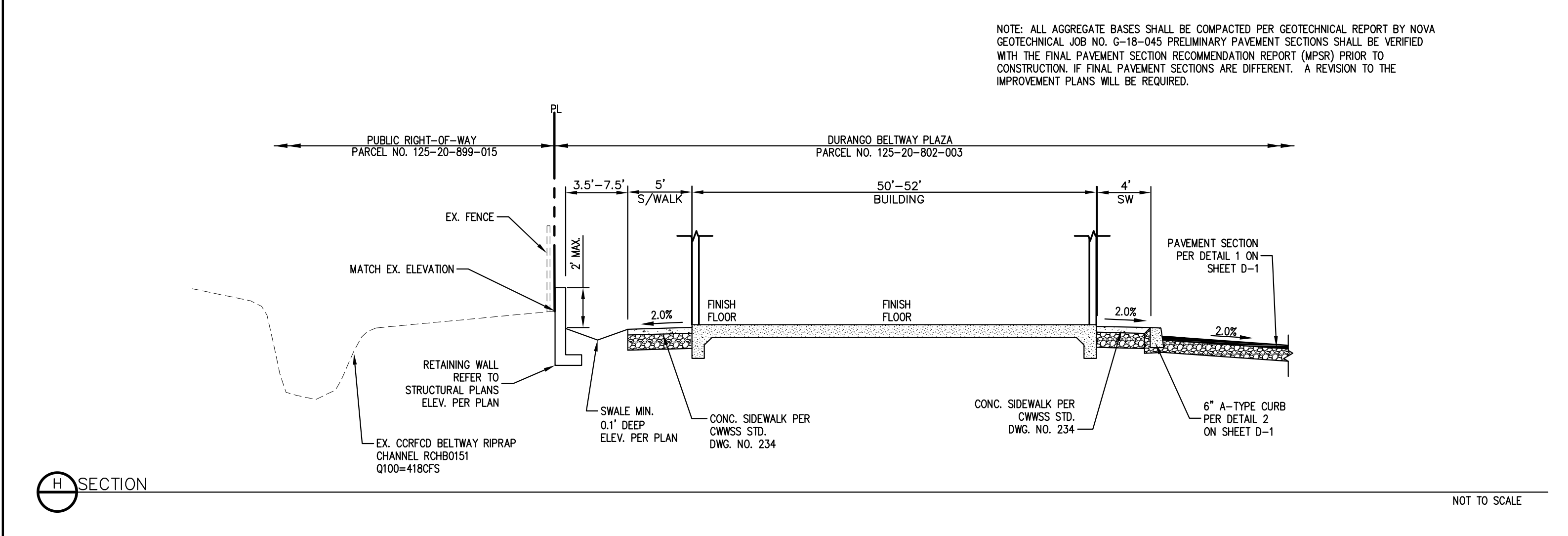
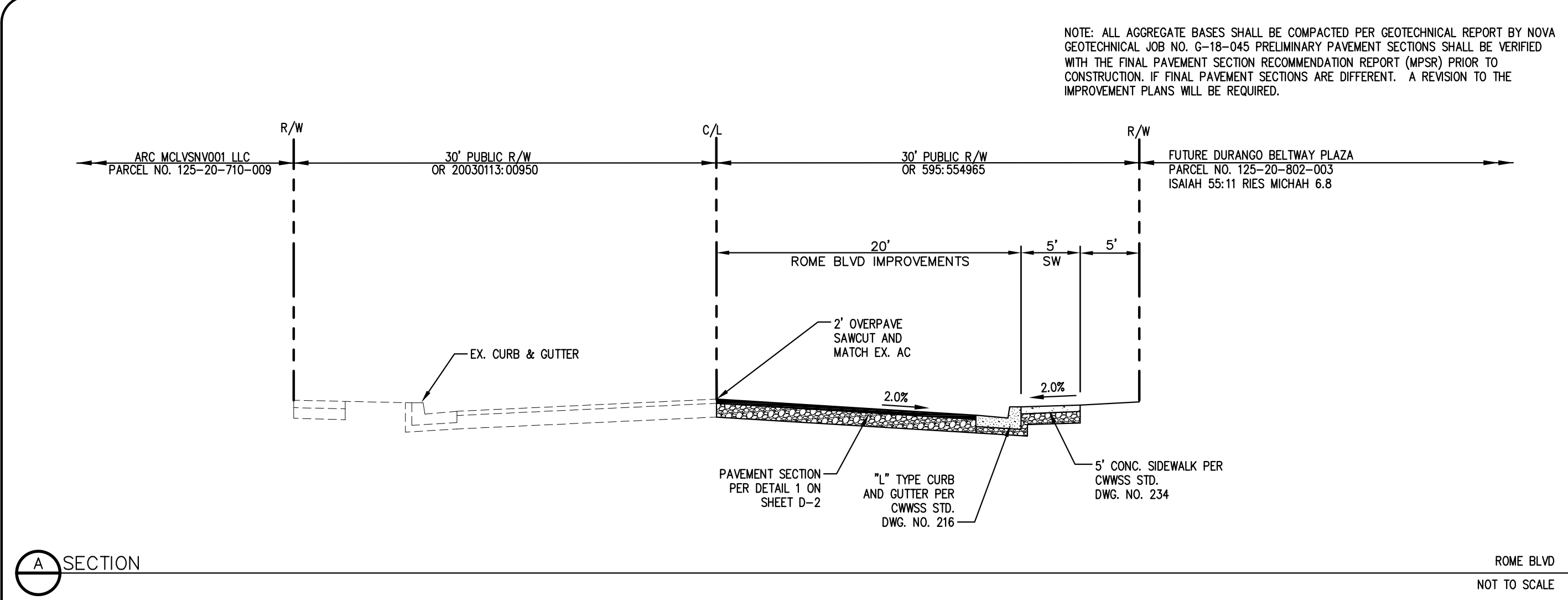
REVISIONS	DESCRIPTION	DATE	BY	APPROVAL

momenti ENGINEERS, LLC.
CIVIL & STRUCTURAL ENGINEERING
3110 S. DURANGO DRIVE, SUITE 205
LAS VEGAS, NEVADA 89117
TEL: (702) 902-2444 | FAX: (702) 246-8495 | MOE@MMENGINEERS.COM



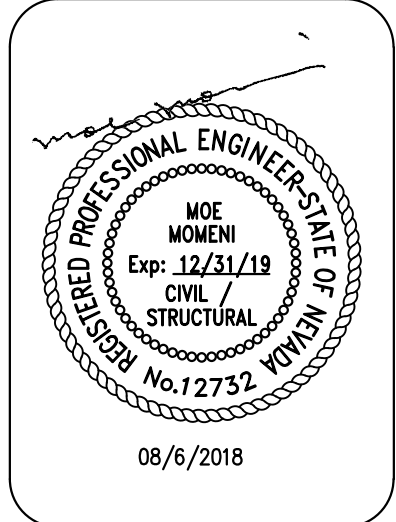
8/6/2018
DATE
103109
PROJECT NUMBER
RM
DRAWN BY
RM
CHECKED BY

PROJECT: **DURANGO BELTWAY PLAZA**
CITY OF LAS VEGAS
SWC OF ROME BLVD. AND RILEY ST.
GRADING PLAN II



REVISIONS	DATE	DESCRIPTION	APPROVAL

momeni ENGINEERS, LLC.
CIVIL & STRUCTURAL ENGINEERING
3110 S. DURANGO DRIVE, SUITE 205
LAS VEGAS, NEVADA 89117
TEL: (702) 902-2444 | FAX: (702) 248-8495 | MOE@MHENGINEERS.COM



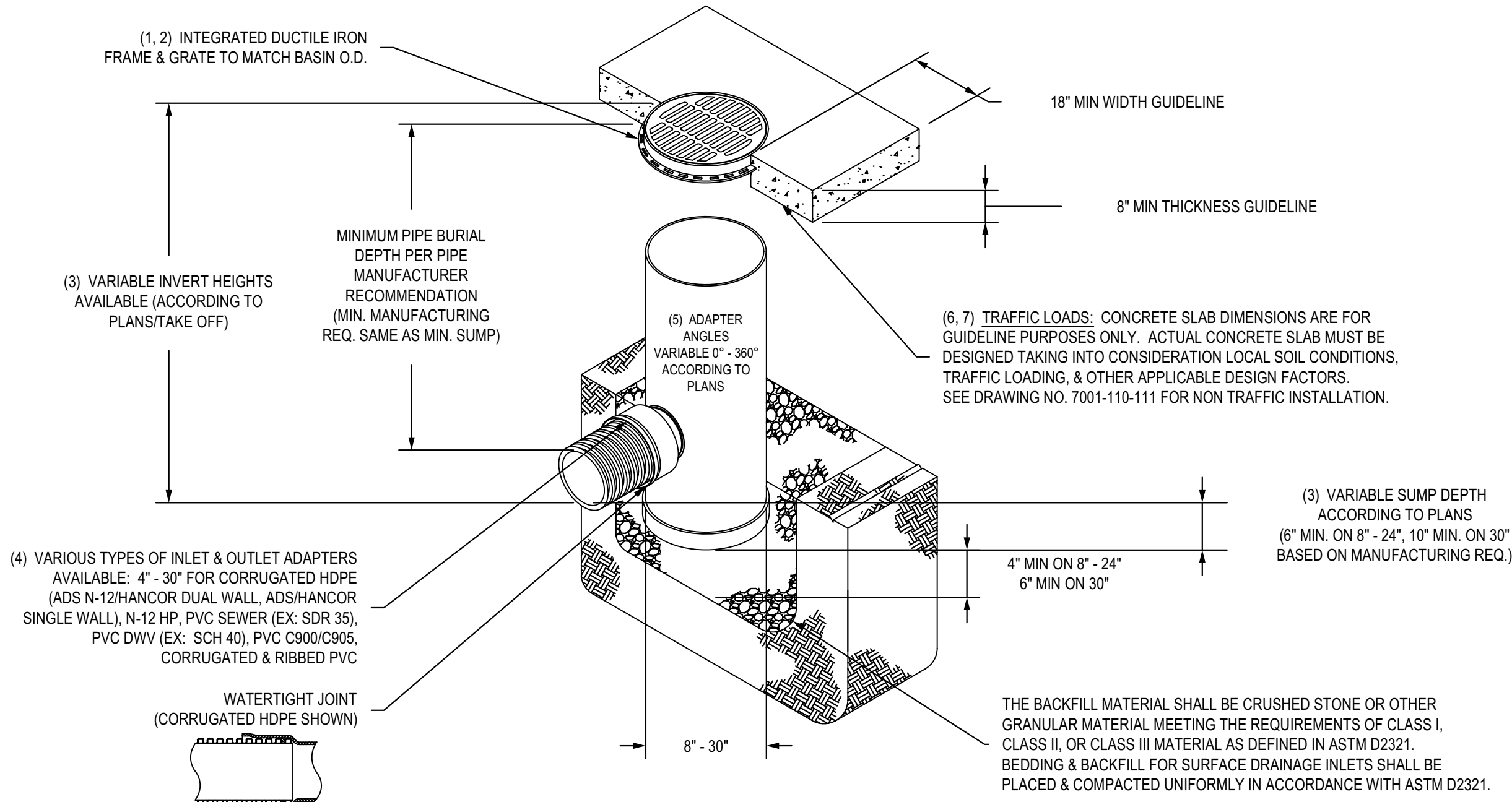
8/6/2018
DATE
103109
PROJECT NUMBER
RM
DRAWN BY
RM
CHECKED BY

PROJECT: **DURANGO BELTWAY PLAZA**
CITY OF LAS VEGAS
SWC OF ROME BLVD. AND FILEY ST.

DETAIL SHEET I

SHEET: **D-1**
5 OF 6

NYLOPLAST DRAIN BASIN WITH STANDARD GRATE



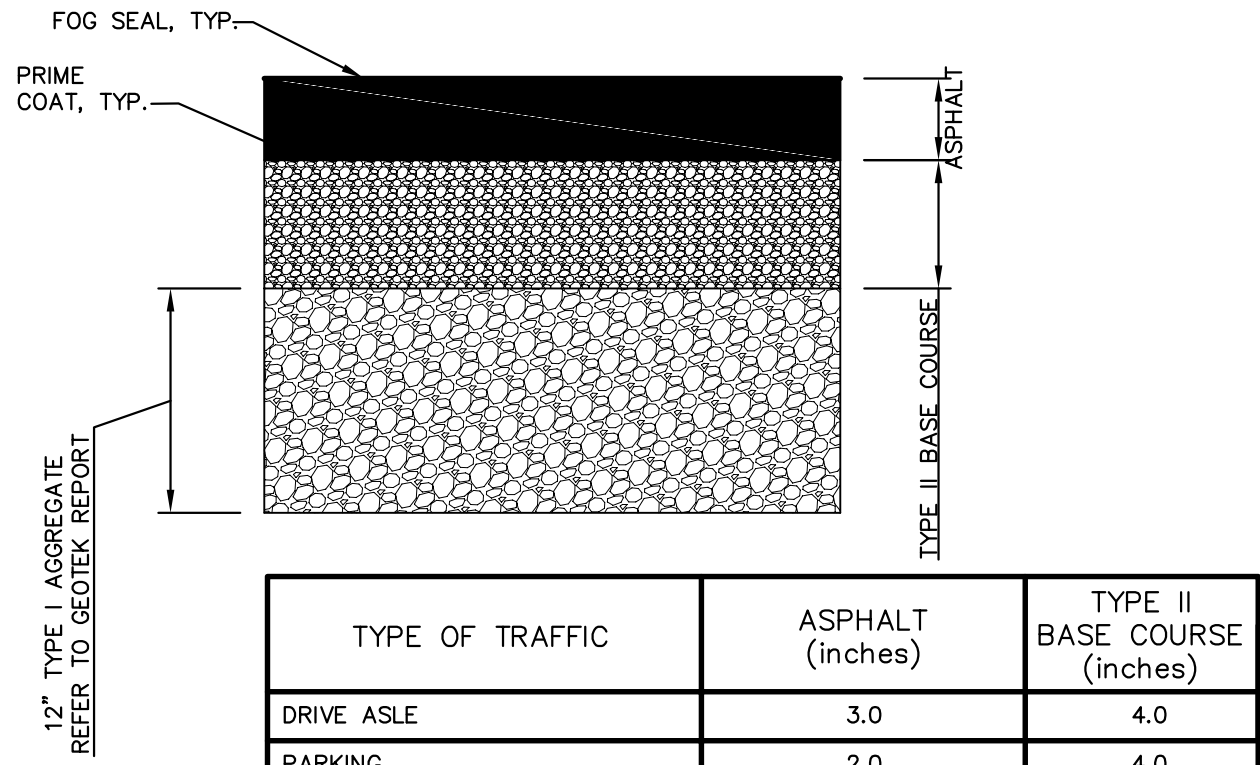
- 1 - 8" - 30" STANDARD GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
- 2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. 8" & 10" STANDARD GRATES FIT DIRECTLY ONTO DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
- 3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
- 4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12HANCOR DUAL WALL, N-12 HP, & PVC SEWER (4" - 24").
- 5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
- 6 - 12" - 30" STANDARD GRATES SHALL MEET H-20 LOAD RATING.
- 7 - 8" & 10" STANDARD GRATES ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY; NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

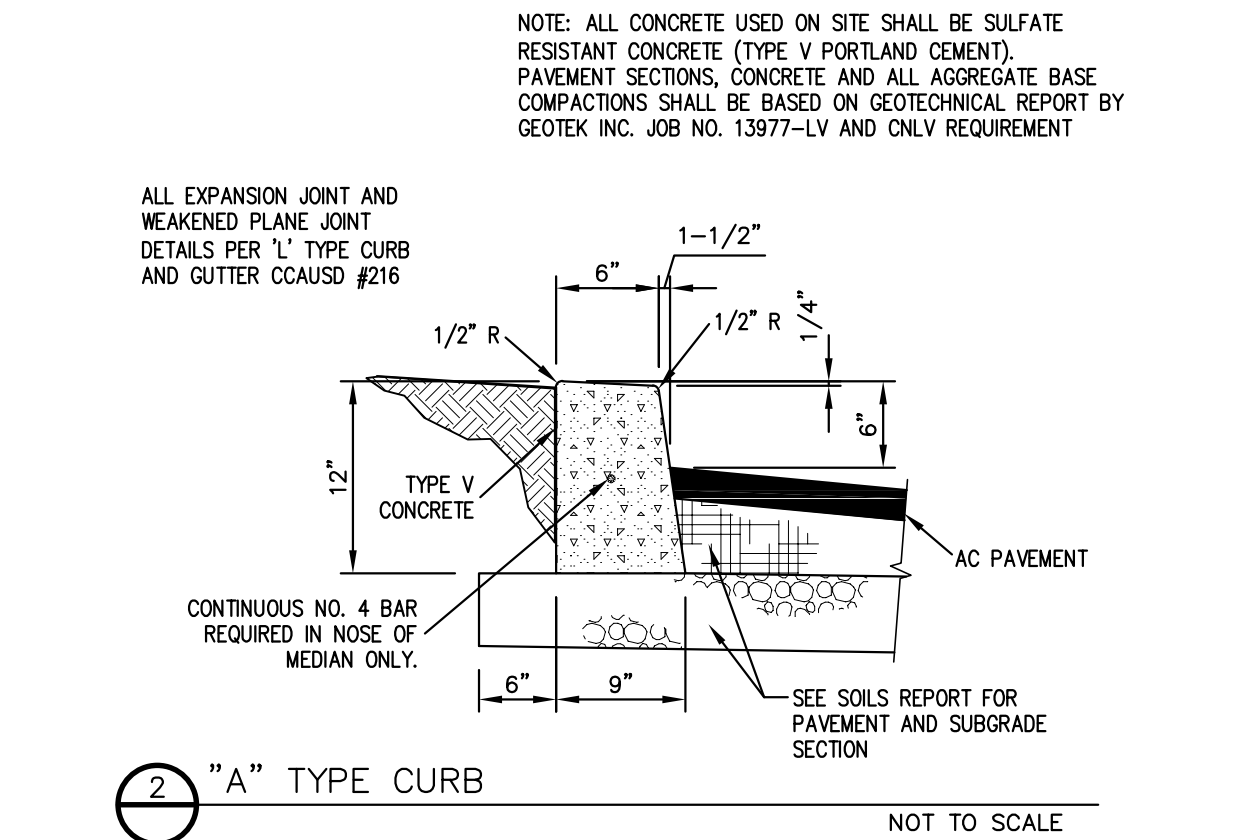
DRAWN BY EBC
DATE 1-23-06
REVISED BY NMH
DATE 03-11-16
DWG SIZE A
SCALE 1:40
SHEET 1 OF 1

MATERIAL
PROJECT NO./NAME
TITLE
DRAIN BASIN WITH STANDARD GRATE
QUICK SPEC INSTALLATION DETAIL

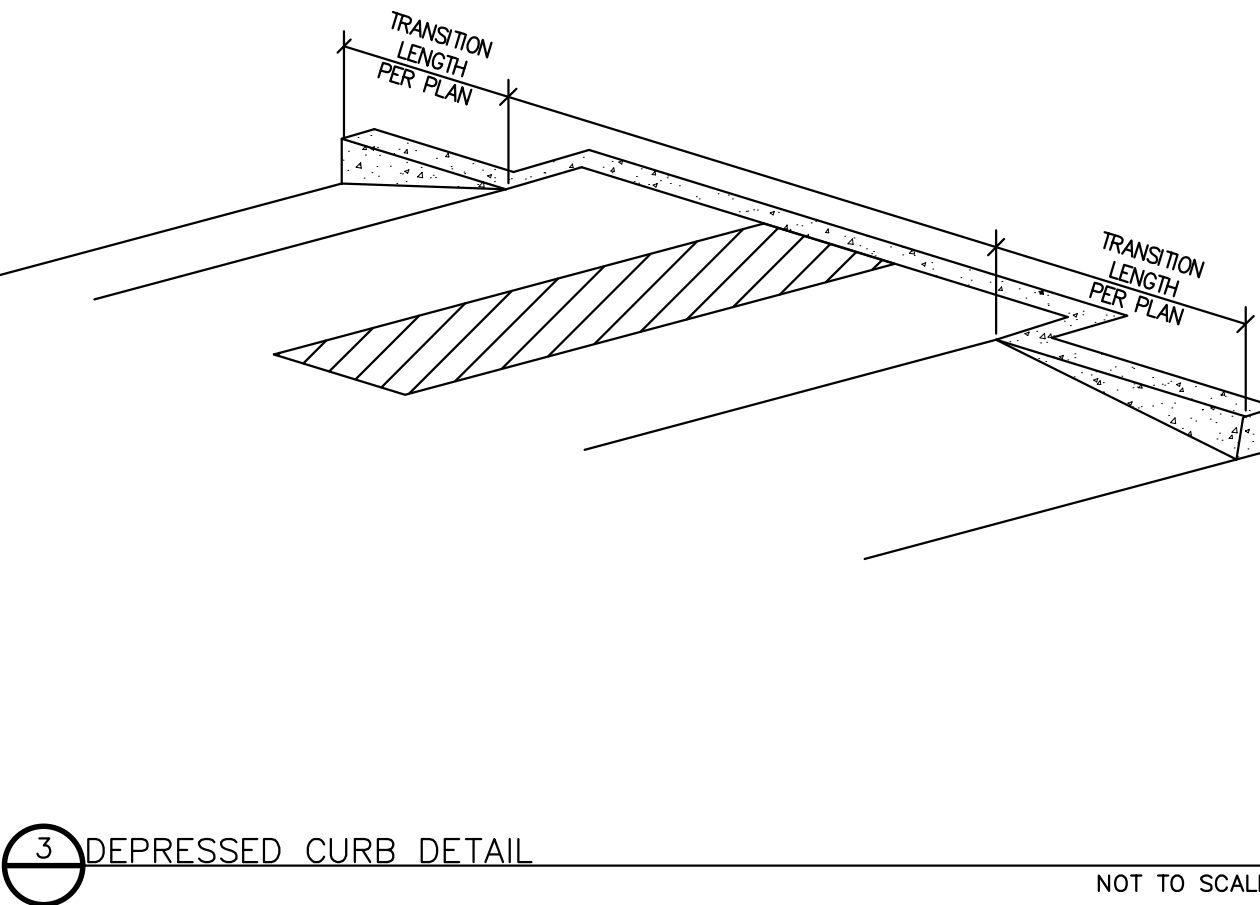
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com
TITLE
DRAIN BASIN WITH STANDARD GRATE
QUICK SPEC INSTALLATION DETAIL
DWG NO. 7001-110-144
REV H



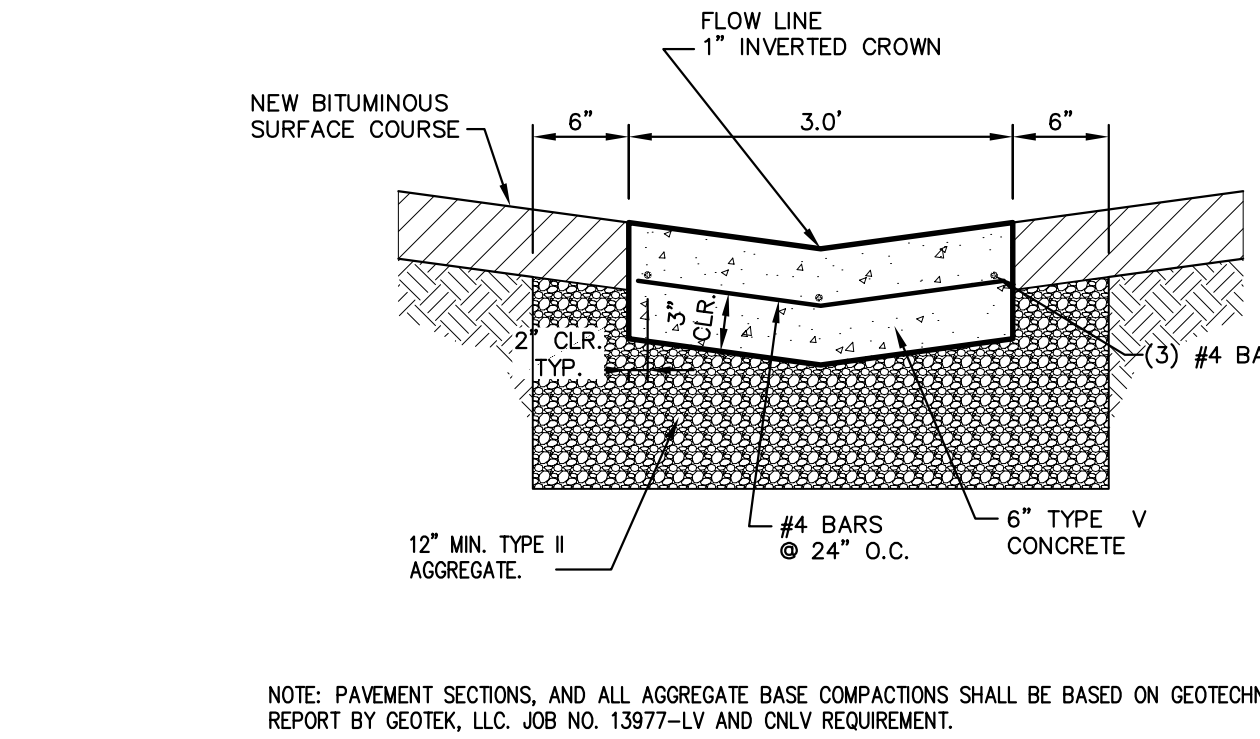
1 ASPHALT PAVEMENT SECTIONS (ON-SITE)
NOT TO SCALE



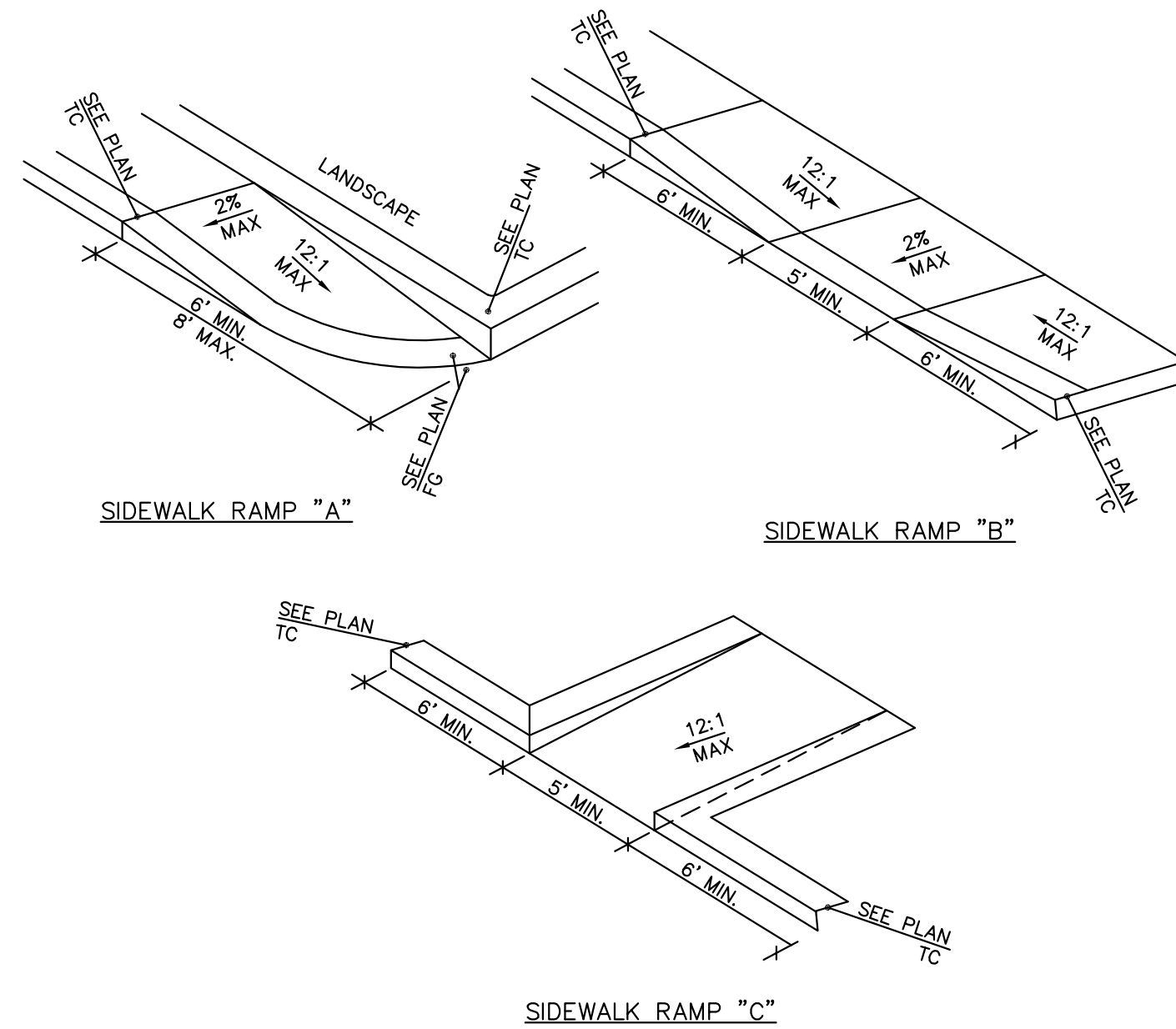
2 "A" TYPE CURB
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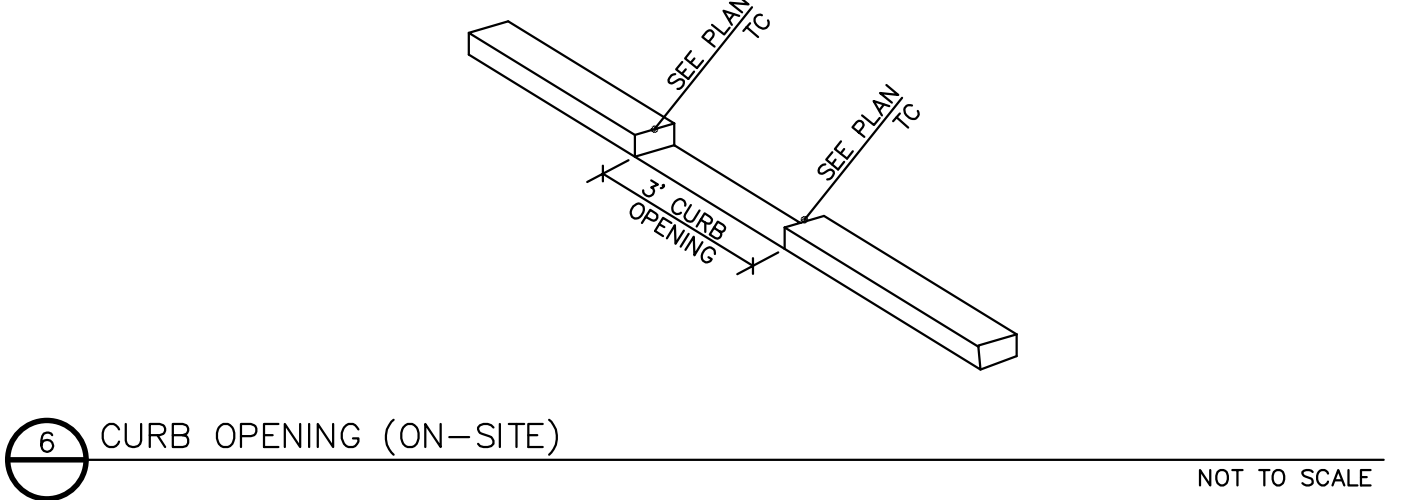
3 DEPRESSED CURB DETAIL
NOT TO SCALE



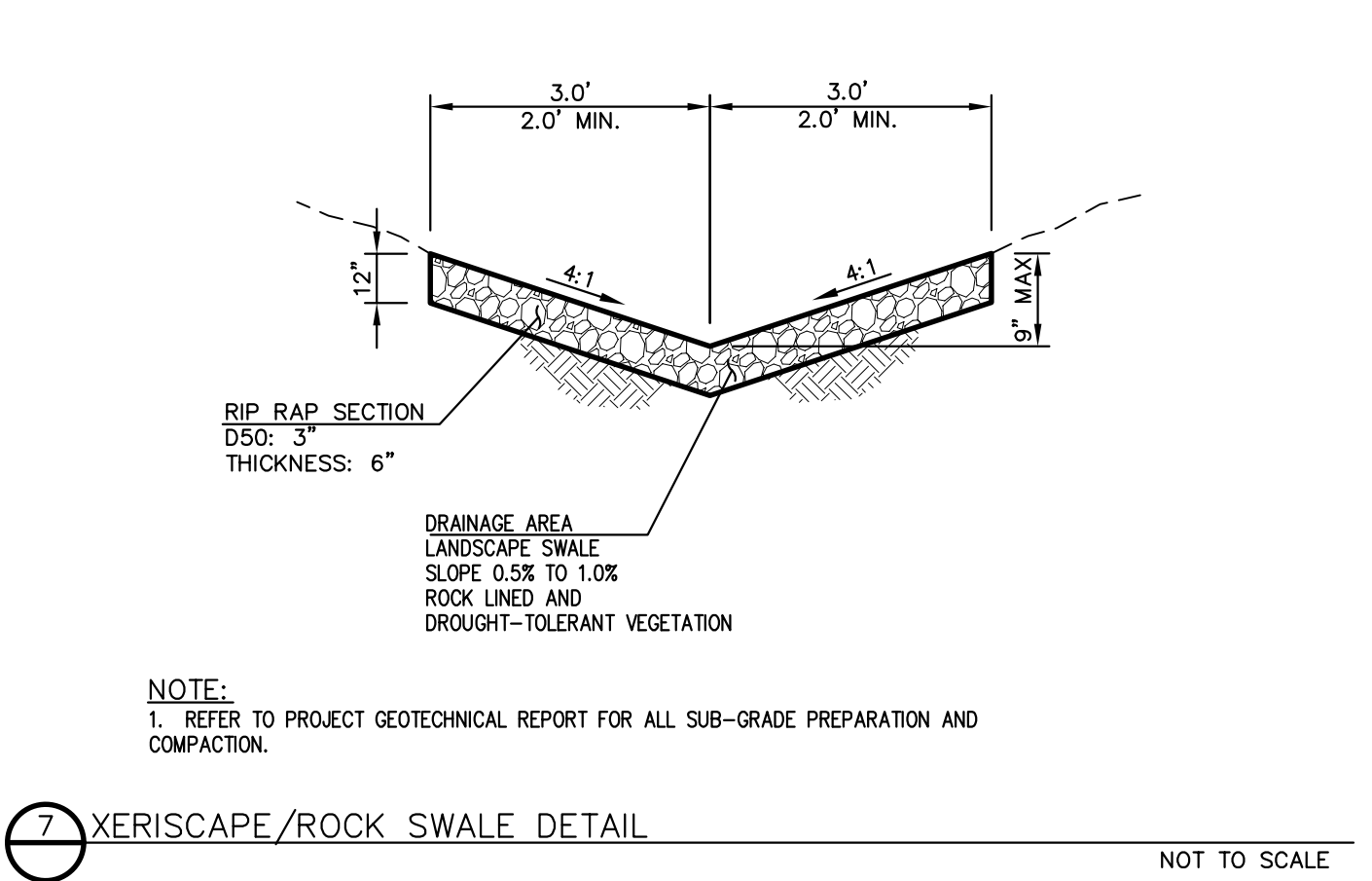
4 CONCRETE VALLEY GUTTER
NOT TO SCALE



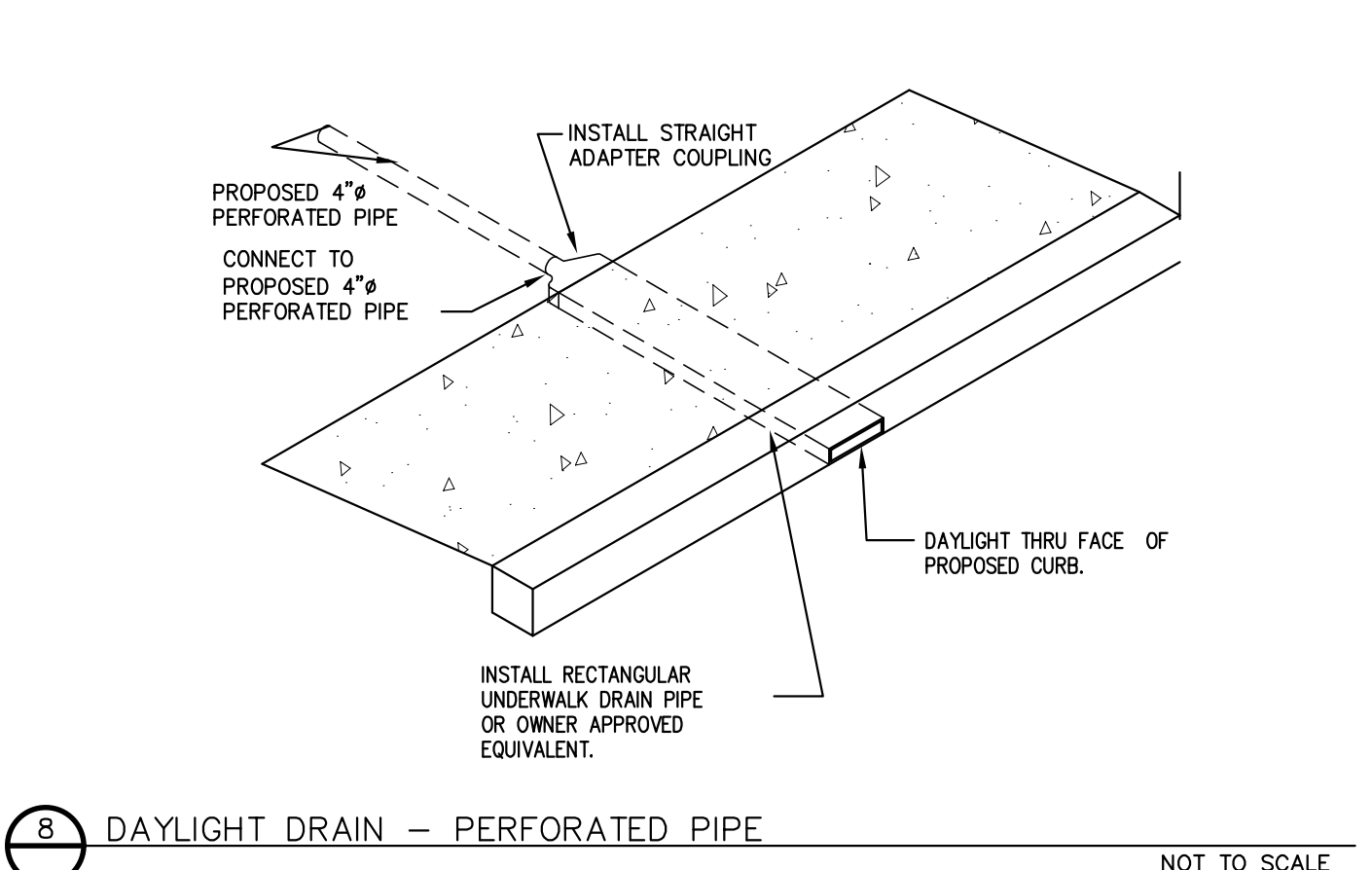
5 SIDEWALK RAMPS (ON-SITE)
NOT TO SCALE



6 CURB OPENING (ON-SITE)
NOT TO SCALE



7 XERISCAPE/ROCK SWALE DETAIL
NOT TO SCALE



8 DAYLIGHT DRAIN - PERFORATED PIPE
NOT TO SCALE

REVISIONS	DESCRIPTION	DATE	BY

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LAS VEGAS, NEVADA 89117
TEL: (702) 902-2444 | FAX: (702) 248-8495 | MOE@MHIENGINEERS.COM

MOE MOMENI
REGISTERED PROFESSIONAL ENGINEER-STATE OF NEVADA
Exp: 12/31/19
CIVIL / STRUCTURAL
No. 12755
08/6/2018

8/6/2018
DATE
103109
PROJECT NUMBER
RM
DRAWN BY
RM
CHECKED BY

PROJECT: **DURANGO BELTWAY PLAZA**
CITY OF LAS VEGAS
SWC OF ROME BLVD. AND RILEY ST.
DETAIL SHEET II
SHEET: **D-2**
6 OF 6