

DS #:

4980.2

APN:

187-22-000-017

PROJECT:

Summerlin V23B Sky Vista Dr. Alta to Fox Hills
Update #2

SUBMITTAL:

512

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		May 9, 2019
TO: Land Development Services Department of Building & Safety		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT: Drainage Study for: Summerlin V23B Sky Vista Dr - Alta to Far Hills – Update #2		COPIES TO: GCW, Inc.
Cross Streets:	Sky Vista Drive from Alta to Far Hills	The Howard Hughes Company, LLC
File Number:	F:\Depot\DSMemos\DS4980F.doc	Bart Anderson, P.E., DevCo
Parcel Number:	137-22-000-017	CCRFCD
Zoning Action:	MDR-72841	
FEMA Flood Zone	YES NO X	
Proposed Storm Drain	YES X NO	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	4/11/2018	4/23/2018 & 5/3/2018	Not Approved	\$400.00	495088: \$400
2 nd Submittal	7/3/2018	7/20/2018 & 7/24/2018	Conditional Approval	\$400.00	497102: \$400
CCRFCD	8/20/2018	9/4/2018	Concurrence Recv'd	N/C	N/C
3 rd Submittal	12/20/2018	1/17/2019	Not Approved	\$100.00	501989: \$100
4 th Submittal	1/30/2019	2/13/2019	Approved	N/C	N/C
5 th Submittal	4/22/2019	5/9/2019	See Comments Below	\$100.00	3099214: \$100
TOTAL FEES (LDDRS):				\$1,000.00	----

REMARKS:

5th Submittal: Update #2 to revise the size and slope of a stub at Station 363+05.60

3rd & 4th Submittals: Update & Supplement to connect the 2nd outfall pipe from DB5 to the Sky Vista Drive Storm Drain System and the Relocation of an existing stub

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.

The following comments are repeated until they are complete:

- The project proposed to build temporary drainage facilities including drainage berms/ditches along predominantly the west side of the proposed *Sky Vista Drive*. Prior to the final plans approval, the developer must complete a **Maintenance & Liability Agreement** for the interim drainage improvements and post a minimum maintenance bond of \$50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The engineer must submit an estimate of the quantities for constructing the facilities and an exhibit that adequately shows the location and limits of the drainage facilities to *City Flood Control Section* for approval. Once the drainage study is conditionally approved, the engineer/developer should contact *City Land Development Section* (702-229-6371) to begin the agreement process.

In order for the maintenance bond to be released in the future, a drainage update/letter will be required to justify that the berms/ditches are no longer necessary and can be removed.

2. Since the street and the associated storm drain facilities will eventually be dedicated to the **City of Las Vegas**, the engineer/developer must coordinate with *City of Las Vegas Streets & Sanitation Department* for their review and approval for maintenance issues prior to the final acceptance of the subject improvement plans.
3. All offsite interim flood control facilities such as but not limited to berms / ditches and temporary sumps are privately owned and to be privately maintained by the *Howard Hughes Company*.

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

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

END OF REMARKS
WSP/AYS

T/R/S: T20S/R59E/22
AREA K-22

**UPDATE #2 TO THE
TECHNICAL DRAINAGE STUDY FOR
VILLAGE 23B SKY VISTA DRIVE
ALTA DRIVE TO FAR HILLS AVENUE**

62023B-240

April 2019

Authored by:

Cameron Bencini, PE

Prepared By:

**GCW, Inc.
1555 S. Rainbow Blvd.
Las Vegas, NV 89146
(702) 804-2000**

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Update 2 to Village 23B Sky Vista Drive Alta Drive to Far Hills Avenue Date: April 2019

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

East/West: Alta Drive , Far Hills Avenue

b) Section: 22 Township: 20 S Range: 59 E

c) APN : 137-22-000-017

Name of Owner: Hughes Howard Company, LLC

Telephone No.: (702) 791 - 4300 Fax No.: N/A E-Mail Address: chris.anderson@howardhughes.com

Address: 10801 Charleston Blvd., 3rd Floor, Las Vegas, Nevada 89146

Contact Person-Name: Cameron Bencini Telephone No.: (702) 804-2126

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

Firm: GCW, Inc.

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

Type of Land Development/Land Disturbance Process:

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

1. Total Owned Land Area: At Site: +/- 12 Acres Being Developed/Disturbed: +/- 12 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

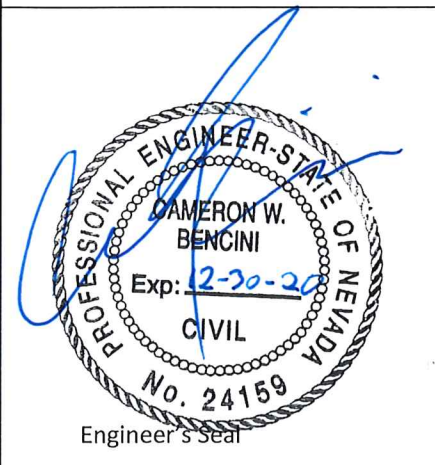
4. Proposed type of development (Residential, Commercial, Etc.): Road Improvement

5. Approximate upstream land area which drains to the subject site: +/- 4000 Acres

6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: The Conceptual Drainage Study for Summerlin Village 23B

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: The flow generated by the proposed Sky Vista Drive storm drain conveyed by the Existing 10'X8' RCB

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.

***New Required Field**

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

Local Entity File No.	Revision	Date

REFERENCE:

STANDARD FORM 1

62023B-240

April 18, 2019

Albert Y. Sung, PE
Flood Control Project Manager
City of Las Vegas - Land Development Services
Department of Public Works
333 N. Rancho Drive
Las Vegas, Nevada 89106

**Re: Update #2 to the Technical Drainage Study for
Summerlin Village 23B Sky Vista Drive – Alta Drive to Far Hills Avenue (DS4980)**

Dear Mr. Sung:

The purpose of this letter is to serve as the second update to the subject project and to accompany an improvement plan revision submittal being made concurrently with this update. The *Technical Drainage Study for Summerlin Village 23B Sky Vista Alta Drive to Far Hills Avenue* (hereinafter referred to as the Sky Vista Drive Study) prepared by GCW, Inc was approved by the City of Las Vegas Public Works Department on September 4, 2018 and by the Clark County Regional Flood Control District on August 20, 2018. The subsequent update, (Update #1) was approved on February 13, 2019.

Since the approval of the Sky Vista Drive Study, the lateral pipe extending west at station 363+12.70 has been slightly relocated to better serve future Summerlin Village 24A Parcel O. In short, the previously approved 60" RCP has been removed and replaced with a 48" RCP. The 48" RCP has the capacity to convey the oncoming flows in all flow conditions without causing negligible effects to downstream infrastructure or developments. The proposed revision is in compliance with the *CCRFCD Hydrologic Criteria and Drainage Design Manual* (Manual).

The plan and profiles have been re-reviewed for completeness and accuracy. Flow rates and HGLs has been updated based on the storm drain model on the plans. Applicable reference material are included in this submittal.

The original approved plans clouded where changes have been made are included in the appendix for reference to the changes. If you have any questions or require additional information, please contact me by cbencini@gcwengineering.com.

Cordially,

GCW, INC.



Cameron Bendini, PE
Flood Control Division

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		September 4, 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: Summerlin V23B Sky Vista Drive - Alta to Far Hills		COPIES TO: GCW, Inc.
Cross Streets:	Sky Vista Drive from Alta to Far Hills	The Howard Hughes Company, LLC
File Number:	F:\Depot\DSMemos\DS4980C.doc	Bart Anderson, P.E., DevCo
Parcel Number:	137-22-000-017	CCRFCD
Zoning Action:	MDR-72841	
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES X	NO

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	4/11/2018	4/23/2018 & 5/3/2018	Not Approved	\$400.00	495088: \$400
2 nd Submittal	7/3/2018	7/20/2018 & 7/24/2018	Conditional Approval	\$400.00	497102: \$400
CCRFCD	8/20/2018	9/4/2018	Concurrence Recv'd	N/C	N/C
TOTAL FEES (LDDRS):				\$800.00	----

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:
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The following comments are repeated until they are complete:

- The project proposed to build temporary drainage facilities including drainage berms/ditches along predominantly the west side of the proposed *Sky Vista Drive*. Prior to the final plans approval, the developer must complete a **Maintenance & Liability Agreement** for the interim drainage improvements and post a minimum maintenance bond of \$50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The engineer must submit an estimate of the quantities for constructing the facilities and an exhibit that adequately shows the location and limits of the drainage facilities to *City Flood Control Section* for approval. Once the drainage study is conditionally approved, the engineer/developer should contact *City Land Development Section* (702-229-6371) to begin the agreement process.

In order for the maintenance bond to be released in the future, a drainage update/letter will be required to justify that the berms/ditches are no longer necessary and can be removed.

- Since the street and the associated storm drain facilities will eventually be dedicated to the **City of Las Vegas**, the engineer/developer must coordinate with *City of Las Vegas Streets & Sanitation Department* for their review and approval for maintenance issues prior to the final acceptance of the subject improvement plans.

3. Revise all added nuisance drop inlets (DIs #7, #8, #9, #12, #13 and #14) to Type CM. Note that the lengths of CM inlets are in the multiple of 2.5'. Revise the length call out from 4' to 5'.
4. The segment of existing 60"-storm drain to be replaced with additional sacrificial concrete as shown on *Sheet 14* must be provided with a structural detail on the plans. A Special Construction Note must be added to the Grading Plans and the Plan and Profile Sheet that calls out the special construction requirement for the additional sacrificial concrete.
5. All offsite interim flood control facilities such as but not limited to berms / ditches and temporary sumps are privately owned and to be privately maintained by the *Howard Hughes Company*.

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

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

END OF REMARKS
WSP/AYS

T/R/S: T20S/R59E/22
AREA K-22

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: February 13, 2019
TO: Land Development Services Department of Building & Safety		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for:	
Summerlin V23B Sky Vista Drive - Alta to Far Hills - Update		COPIES TO: GCW, Inc.
Cross Streets:	Sky Vista Drive from Alta to Far Hills	The Howard Hughes Company, LLC
File Number:	F:\Depot\DSMemos\DS4980E.doc	Bart Anderson, P.E., DevCo
Parcel Number:	137-22-000-017	CCRFCD
Zoning Action:	MDR-72841	
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES X	NO

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3 rd Submittal	12/20/2018	1/17/2019	Not Approved	\$100.00	501989: \$100
4 th Submittal	1/30/2019	2/13/2019	See Comments Below	N/C	N/C
TOTAL FEES (LDDRS):				\$900.00	----

REMARKS:

3rd & 4th Submittals: Update & Supplement to connect the 2nd outfall pipe from DB5 to the Sky Vista Drive Storm Drain System and the Relocation of an existing stub

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END OF REMARKS
WSP/AYS

T/R/S: T20S/R59E/22
AREA K-22

REGIONAL FLOOD CONTROL DISTRICT



Steven C. Parrish, P.E.
General Manager/Chief
Engineer

BOARD OF DIRECTORS

Lawrence L. Brown, III
Chairman
Clark County

Mayor Debra March
Vice-Chairman
City of Henderson

David Ballweg
City of Mesquite

Chris Giunchigliani
Clark County

Mayor Carolyn Goodman
City of Las Vegas

Mayor John J. Lee
City of North Las Vegas

Dr. Lois Tarkanian
City of Las Vegas

Mayor Rodney Woodbury
City of Boulder City

August 20, 2018

Mr. Oh Sang Kwon, P.E.
City of Las Vegas Department of Public Works
333 North Rancho Drive
Las Vegas, NV 89106

**DISTRICT CONCURRENCE: VILLAGE 23B SKY VISTA DRIVE - ALTA DRIVE
TO FAR HILLS AVENUE
(DS4980B) (RFCN No. 18-10108)**

Dear Mr. Kwon:

Clark County Regional Flood Control District (District) reviewed Technical Drainage Study dated April 11, 2018, and Addendum No. 1 dated June 28, 2018 for above-mentioned project as submitted by GCW, INC. In addition, District is in receipt of the Conditional Letter of Acceptance from City of Las Vegas Department of Public Works dated July 24, 2018.

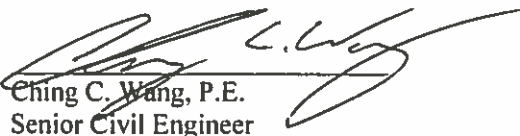
District concurs with acceptance of this Technical Drainage Study by City of Las Vegas Department of Public Works.

District's review of this project was limited to issues of Regional Flood Control Significance as defined in *Uniform Regulations for the Control of Drainage*.

Please be aware that as additional information becomes available and/or restudies of Flood Insurance Studies are performed, information submitted by GCW, INC. may be superseded. Compliance with regulatory elements and design standards specified in *Uniform Regulations for the Control of Drainage* does not imply a guarantee that properties will be free from flooding or flood damage. The District, its officials, or employees assume no liability for information, data, or conclusions presented by consulting engineers. We, therefore, make no warranties, either expressed or implied, in conducting this review.

STEVEN C. PARRISH, P.E.
General Manager/Chief Engineer

BY:


Ching C. Wang, P.E.
Senior Civil Engineer

CCW:dd

c: Stephen M. Jones, P.E., GCW, Inc.

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Cross Section for 48" RCP - 362+99.85

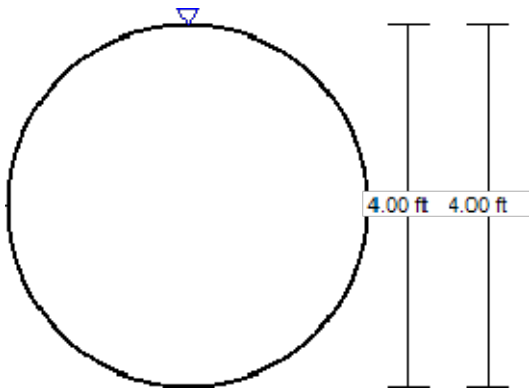
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.013
Channel Slope	6.00 %
Normal Depth	4.00 ft
Diameter	4.00 ft
Discharge	351.83 ft ³ /s

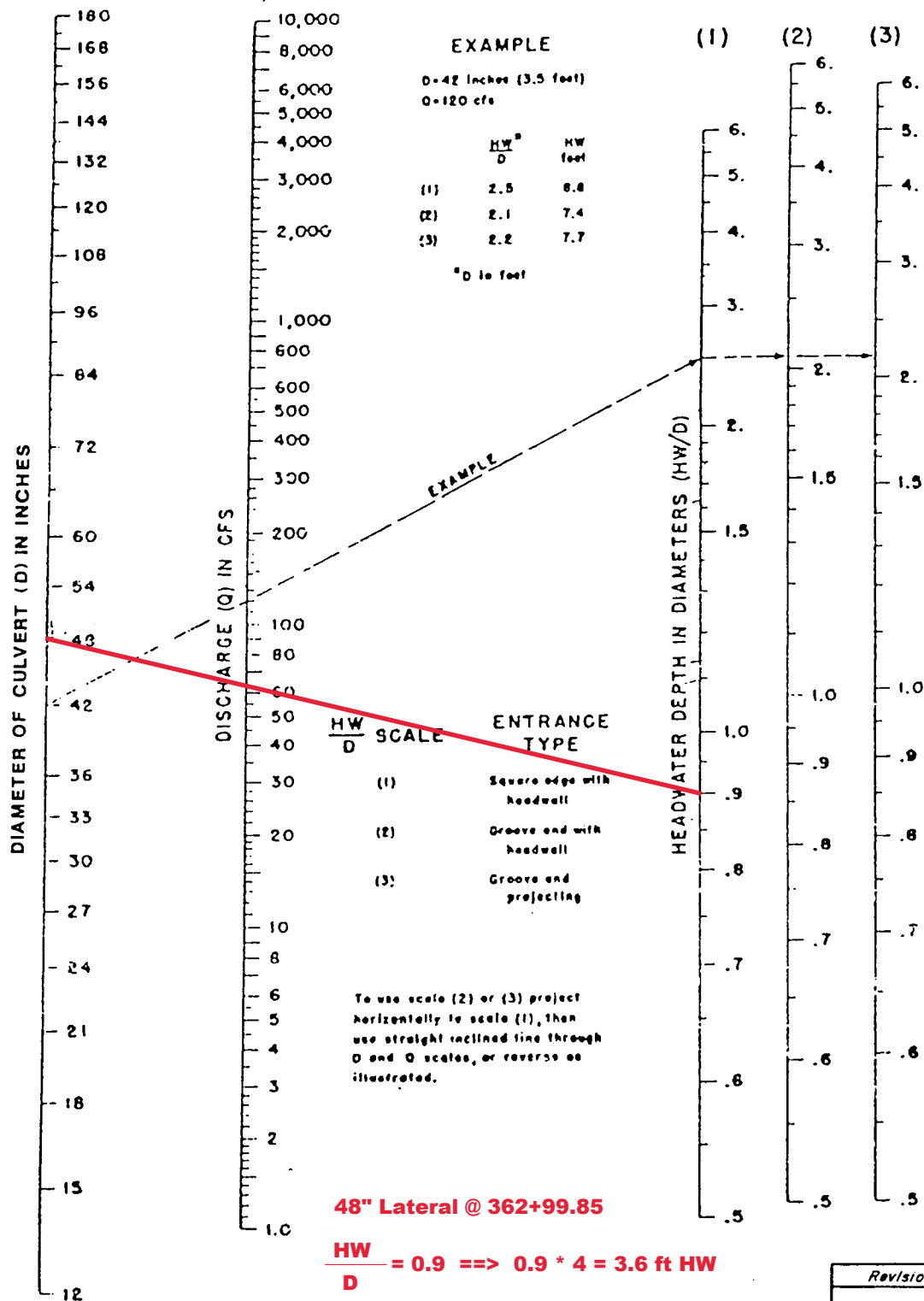
Cross Section Image



V: 1
H: 1

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

NOMOGRAPH - INLET CONTROL RCP



Revision	Date

Worksheet for 48" RCP - 362+99.85

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.013	
Channel Slope	6.00	%
Normal Depth	4.00	ft
Diameter	4.00	ft
Discharge	351.83	ft ³ /s

Results

Discharge	351.83	ft ³ /s
Normal Depth	4.00	ft
Flow Area	12.57	ft ²
Wetted Perimeter	12.57	ft
Hydraulic Radius	1.00	ft
Top Width	0.00	ft
Critical Depth	3.98	ft
Percent Full	100.0	%
Critical Slope	0.05681	ft/ft
Velocity	28.00	ft/s
Velocity Head	12.18	ft
Specific Energy	16.18	ft
Froude Number	0.00	
Maximum Discharge	378.47	ft ³ /s
Discharge Full	351.83	ft ³ /s
Slope Full	0.06000	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

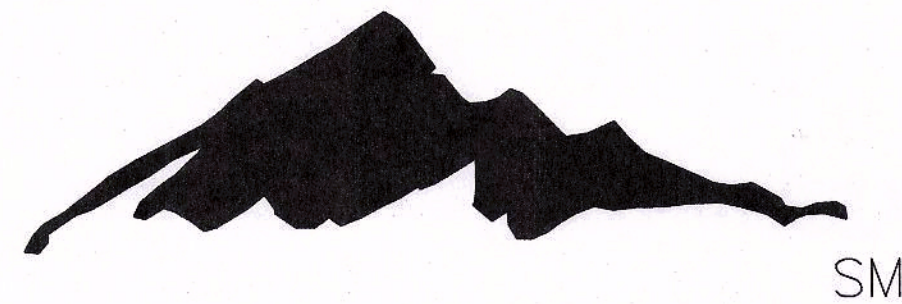
Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for 48" RCP - 362+99.85

GVF Output Data

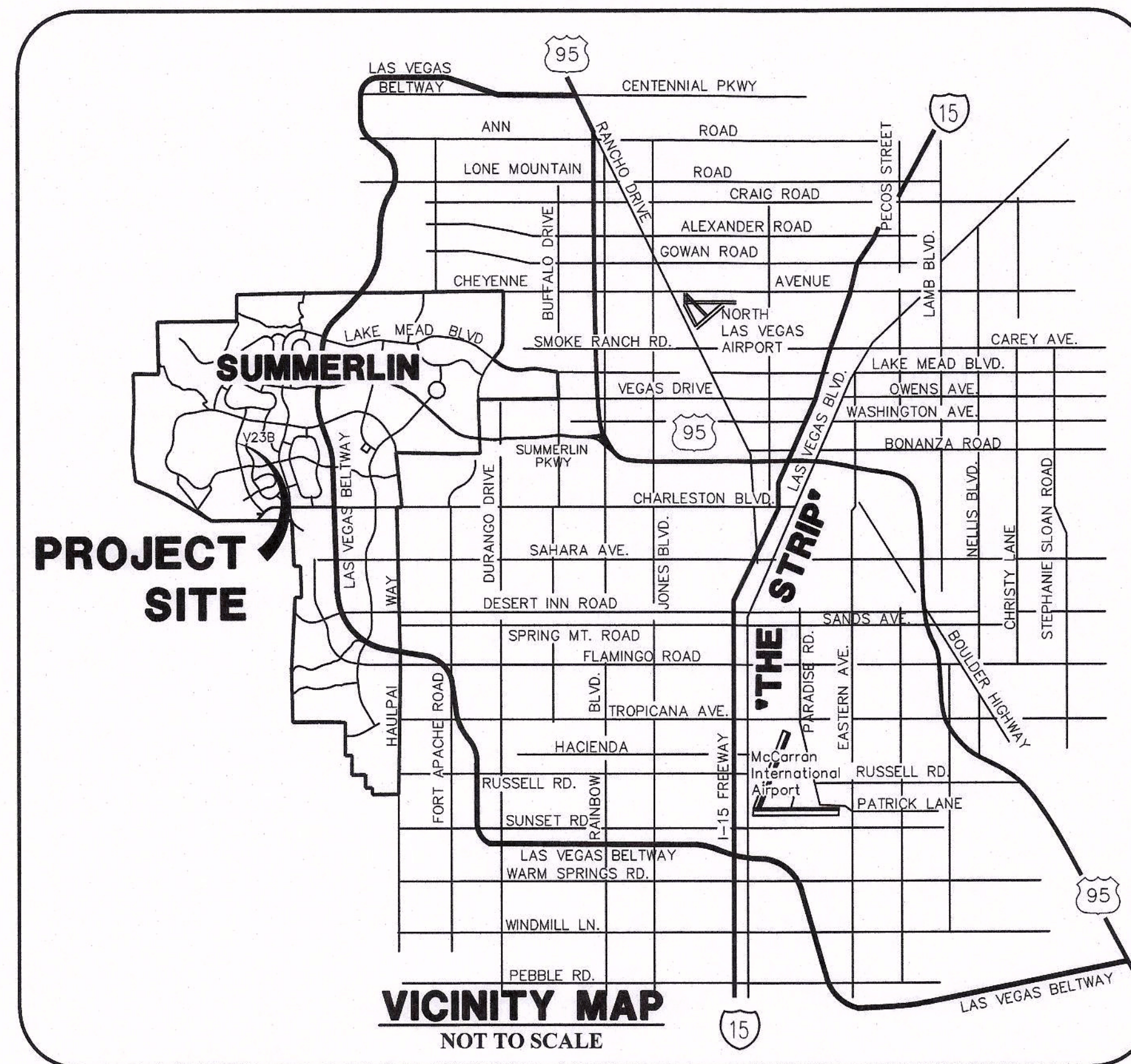
Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	4.00	ft
Critical Depth	3.98	ft
Channel Slope	6.00	%
Critical Slope	0.05681	ft/ft

SUMMERLIN



VILLAGE 23B SKY VISTA DRIVE IMPROVEMENTS ALTA DRIVE TO FAR HILLS AVENUE 2018

A.P.N. 137-22-000-017 (PORTION), 137-34-111-010, 137-34-111-011, 137-27-410-002, 137-27-310-002, 137-27-210-004
SID NO. 810 PROJECTS 8A, 8B, AND 8C



VICINITY MAP
NOT TO SCALE

DRAINAGE CERTIFICATION

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

MICHAEL FANG, P.E. 24464

4/16/19
DATE

APPROVED FOR CONSTRUCTION

CITY OF LAS VEGAS FIRE DEPARTMENT

DATE

CLV PLANNING DEPARTMENT

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

CITY OF LAS VEGAS PLANNING DEPARTMENT

DATE

THE HOWARD HUGHES COMPANY, LLC

KEVIN ORROCK
TITLE: VICE PRESIDENT

DATE

ALLEN PAVELKA, PE, PE# 9029
CITY ENGINEER
CITY OF LAS VEGAS, NEVADA

DATE

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

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 126398 FIRST APPROVED DATE: 10/22/18
LVWD APPROVED FIRE FLOW: TOTAL 1500 GPM / ON SITE N/A GPM
(SHEETS: 1-6, 9-23, 28-37, 44-46)

UTILITY/AGENCY APPROVALS

COX COMMUNICATIONS LAS VEGAS, INC. DATE

CENTRAL TELEPHONE CO. DBA CENTURYLINK DATE
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.

NV ENERGY DATE

NEVADA POWER COMPANY ACKNOWLEDGES THAT WE HAVE RECEIVED YOUR PLANS AND WILL PROVIDE SERVICE TO ALL ELECTRICAL NEEDS ASSOCIATED WITH THIS PROJECT. NEVADA POWER COMPANY RESERVES THE RIGHT TO ADDRESS ANY EXISTING OR FUTURE CONFLICTS ONCE THE FINAL DESIGN IS COMPLETED. THE NEW SERVICE AND THE RESOLUTION OF ANY CONFLICTS WILL BE ACCOMPLISHED PURSUANT TO THE NEVADA PUBLIC UTILITY COMMISSION'S RULES AND REGULATIONS.

NV ENERGY - TRANSMISSION ENGINEERING DATE

ORIGINALLY SIGNED 09-27-2018

SOUTHWEST GAS CORPORATION DATE

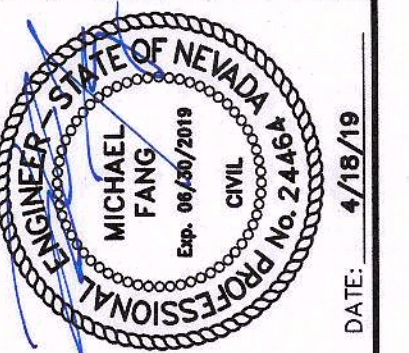
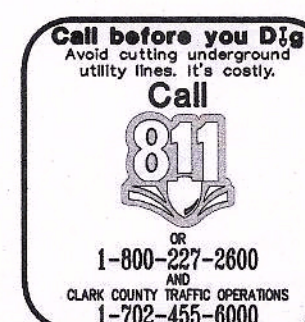
OWNER/DEVELOPER

THE HOWARD HUGHES COMPANY, LLC
10801 W. CHARLESTON BLVD., 3RD FLOOR
LAS VEGAS, NEVADA 89135
OFFICE PHONE NO. (702) 791-4300

ENGINEER

GCW
ENGINEERS \ SURVEYORS

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



PROJECT NO.	DESIGN	DRAWN	CHECK	PLOT DATE	TIME	REV	DATE	AGN APP	DATE	GCW APP	DATE
62023B-240	LG/MB	LG/MB	JLJ	04-18-19	11:26:35						

PROJECT NO. 62023B-240
DESIGN: LG/MB
DRAWN: LG/MB
CHECK: JLJ
PLOT DATE: 04-18-19
PLOT TIME: 11:26:35

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com
ENGINEERS \ SURVEYORS
F:\Projects\600\62023B-240\DWG\Production\240-G1.dwg
Michael Fang

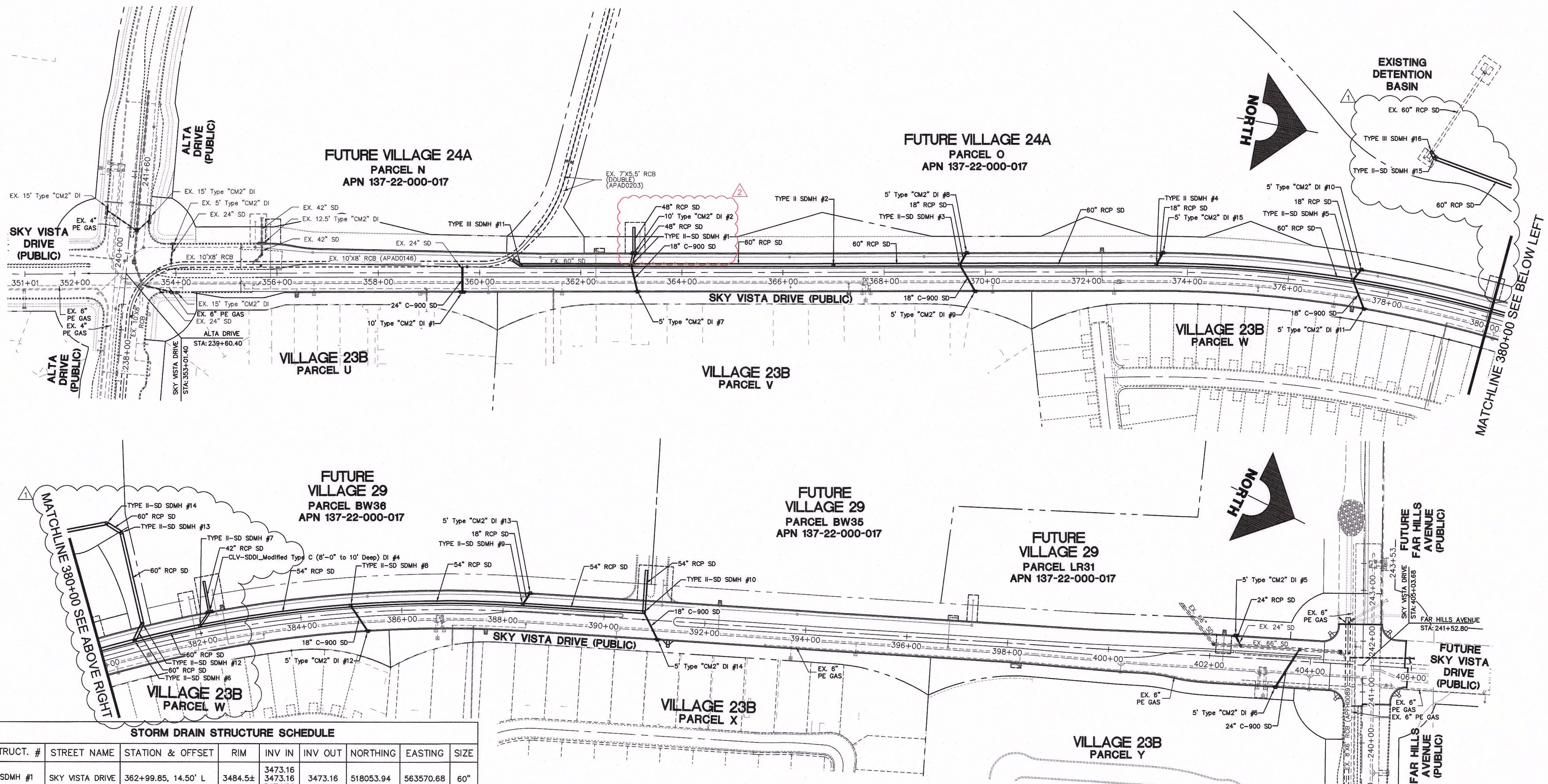
THE HOWARD HUGHES COMPANY, LLC
VILLAGE 23B SKY VISTA DRIVE
ALTA DRIVE TO FAR HILLS AVENUE
COVER SHEET

DRAWING

1

1 OF 46 SHTS

CLV# 107V7418 L18-01503-R001

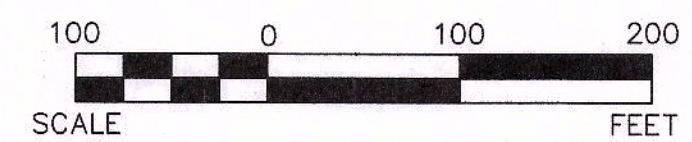


STORM DRAIN STRUCTURE SCHEDULE

STRUCT. #	STREET NAME	STATION & OFFSET	RIM	INV IN	INV OUT	NORTHING	EASTING	SIZE
SDMH #1	SKY VISTA DRIVE	362+99.85, 14.50' L	3484.5±	3473.16 3473.16 3474.20	3473.16	518053.94	563570.68	60"
SDMH #2	SKY VISTA DRIVE	366+99.85, 14.50' L	3501.5±	3487.25	3487.25	518447.07	563496.85	60"
SDMH #3	SKY VISTA DRIVE	369+50.00, 14.50' L	3508.5±	3496.08 3498.74 3498.74	3496.08	518692.92	563450.67	60"
SDMH #4	SKY VISTA DRIVE	373+38.67, 14.50' L	3518.8±	3507.07 3508.54	3507.07	519074.98	563378.93	60"
SDMH #5	SKY VISTA DRIVE	377+26.43, 14.50' L	3529.0±	3518.72 3519.09 3519.09	3518.72	519462.47	563338.43	60"
SDMH #6	SKY VISTA DRIVE	380+68.98, 14.46' L	3538.1±	3525.44 3525.44	3525.44	519806.44	563352.90	60"
SDMH #7	SKY VISTA DRIVE	382+01.01, 14.50' L	3541.6±	3528.73 3528.73	3528.73	519937.98	563370.98	60"
SDMH #8	SKY VISTA DRIVE	385+00.00, 14.50' L	3549.4±	3538.49 3541.21	3538.49	520231.08	563437.46	60"
SDMH #9	SKY VISTA DRIVE	388+37.90, 14.50' L	3556.2±	3544.44 3547.15	3544.44	520550.04	563554.04	60"
SDMH #10	SKY VISTA DRIVE	390+78.40, 14.50' L	3560.5±	3548.65 3552.80	3548.65	520769.84	563651.67	60"
SDMH #11	SKY VISTA DRIVE	360+81.49, 15.07' L	3475.1±	3463.66 3463.66	3463.66	517839.23	563610.43	60"
SDMH #12	SKY VISTA DRIVE	380+91.97, 43.00' L	3538.7±	3528.80	3528.80	519832.82	563327.22	60"
SDMH #13	SKY VISTA DRIVE	380+93.03, 227.09' L	3551.7±	3531.08	3531.08	519855.94	563144.59	60"
SDMH #14	SKY VISTA DRIVE	380+71.03, 251.69' L	3552.2±	3531.51	3531.51	519834.83	563117.37	60"
SDMH #15	SKY VISTA DRIVE	378+36.29, 278.69' L	3552.6±	3534.74	3534.74	519577.55	563073.78	60"
SDMH #16	SKY VISTA DRIVE	378+29.14, 288.62' L	3552.9±	3534.90	3534.90	519569.76	563063.72	60"

STORM DRAIN STRUCTURE SCHEDULE

STRUCT. #	STREET NAME	STATION & OFFSET	RIM	INV IN	INV OUT	NORTHING	EASTING	SIZE
DI #1	SKY VISTA DRIVE	359+66.01, 38.00' R	3470.0±		3464.93	517735.53	563683.91	10'
DI #2	SKY VISTA DRIVE	363+05.60, 38.00' L	3484.7±	3474.61	3474.61	518055.26	563546.53	10'
DI #3	SKY VISTA DRIVE	369+00.00, 37.09' L	3436.2±	3526.30	3526.30	519739.33	563322.86	12.5'
DI #4	SKY VISTA DRIVE	382+24.45, 37.97' L	3542.2±	3532.20	3532.20	519965.26	563351.80	12.5'
DI #5	SKY VISTA DRIVE	402+48.84, 42.84' L	3560.0±		3550.13	521851.01	564100.90	5'
DI #6	SKY VISTA DRIVE	403+33.69, 53.83' R	3559.1±		3552.88	521889.31	564223.69	5'
DI #7	SKY VISTA DRIVE	363+12.70, 38.00' R	3485.0±		3479.60	518076.26	563619.91	5'
DI #8	SKY VISTA DRIVE	369+63.56, 38.00' L	3508.7±		3501.45	518701.91	563425.07	5'
DI #9	SKY VISTA DRIVE	369+80.31, 38.00' R	3509.2±		3503.70	518732.40	563496.67	5'
DI #10	SKY VISTA DRIVE	377+39.77, 38.00' L	3529.3±		3521.80	519475.39	563314.62	5'
DI #11	SKY VISTA DRIVE	377+57.41, 38.00' R	3529.8±		3524.44	519494.38	563390.29	5'
DI #12	SKY VISTA DRIVE	385+30.89, 38.00' R	3550.0±		3544.60	520245.59	563496.54	5'
DI #13	SKY VISTA DRIVE	388+51.46, 38.00' L	3556.4±		3549.86	520571.98	563538.07	5'
DI #14	SKY VISTA DRIVE	391+08.71, 38.00' R	3561.5±		3556.09	520776.23	563711.96	5'
DI #15	SKY VISTA DRIVE	373+51.90, 38.00' L	3519.0±		3511.25	519083.94	563353.43	5'

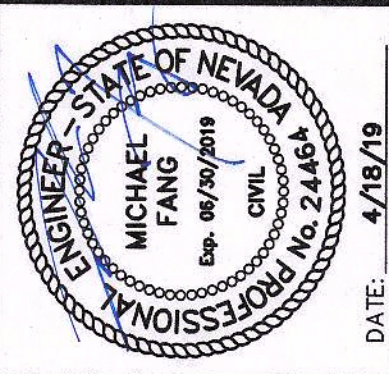


SOUTHWEST GAS APPROVAL

ORIGINALLY APPROVED 09/27/18
SOUTHWEST GAS CORPORATION DATE

APPROVED FOR CONSTRUCTION

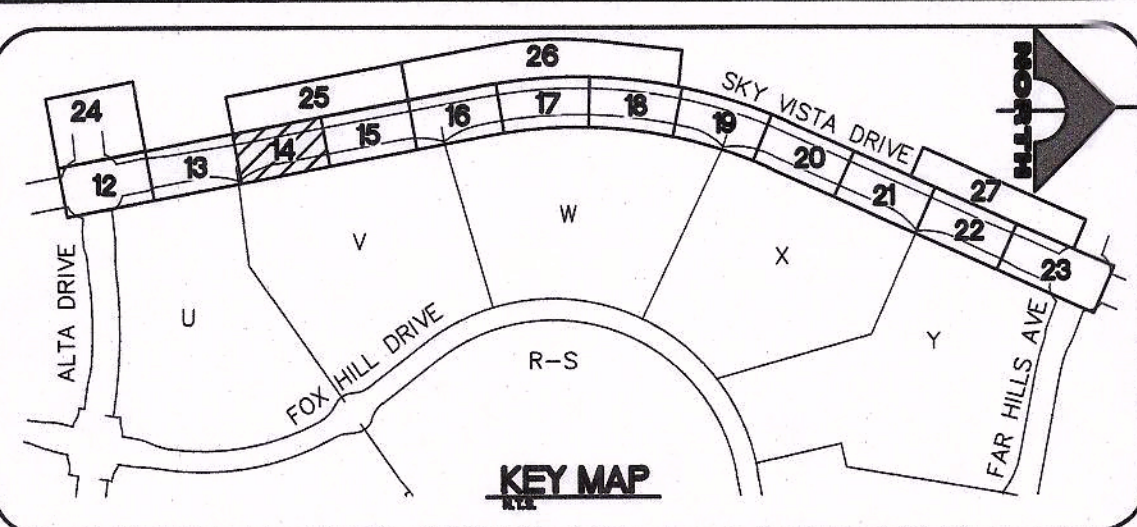
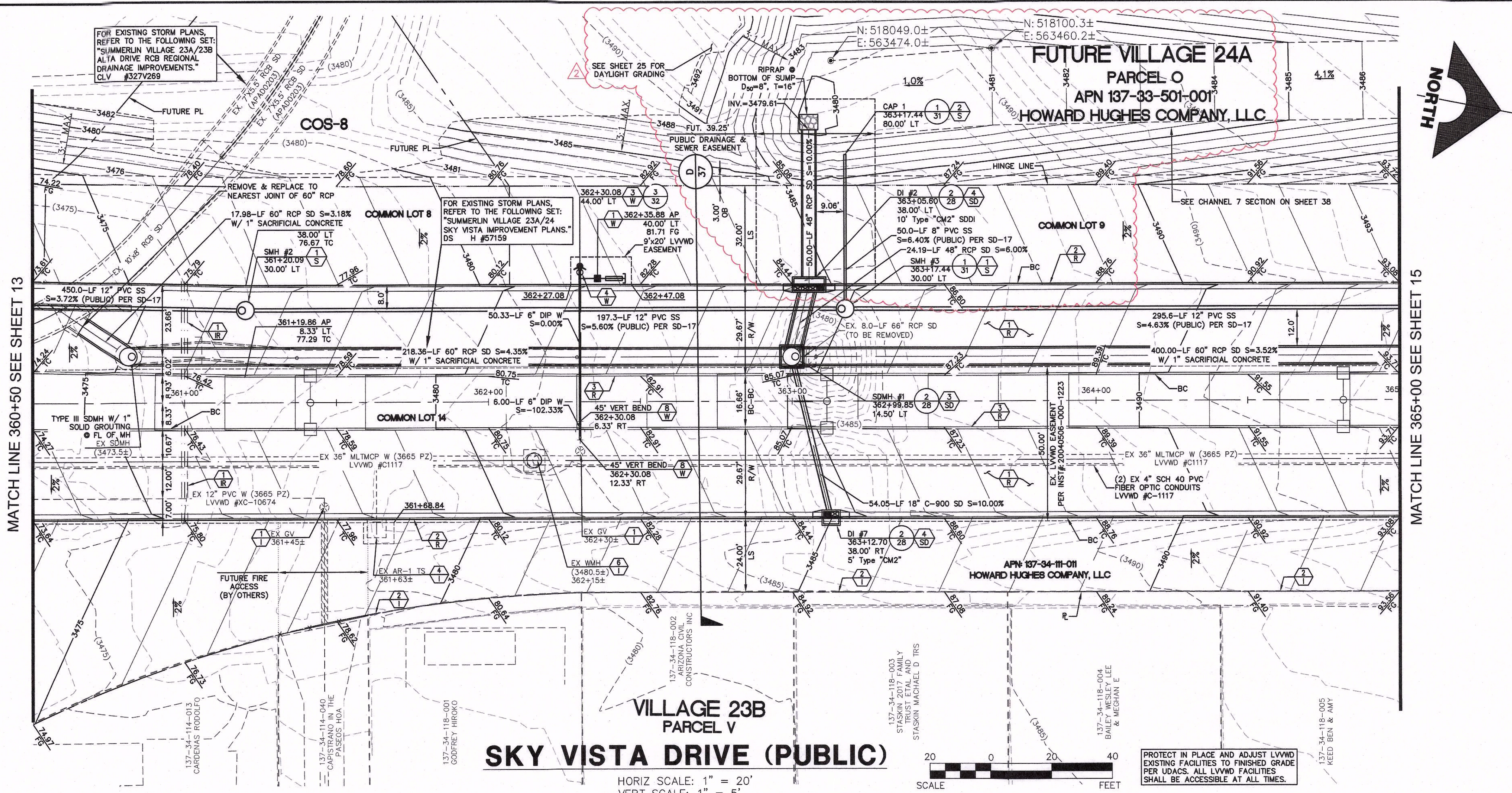
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 126398 FIRST APPROVED DATE: 10/22/18



PROJECT NO.	DATE	DESCRIPTION
62023B-240		
DESIGN: LC/MB		
DRAWN: LC/MB		
CHECK: JJJ		
PLOT DATE: 04-18-19		
PLOT TIME: 11:27:28		

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

THE HOWARD HUGHES COMPANY, LLC
VILLAGE 23B SKY VISTA DRIVE
ALTA DRIVE TO FAR HILLS AVENUE
MASTER UTILITY PLAN - STORM DRAIN
DRAWING 10
10 OF 46 SHTS



- IMPROVEMENT NOTES:**
- ADJUST WATER VALVE BOX TO FINISHED GRADE PER UDACS PLATE NO. 39. VALVE SHALL BE ACCESSIBLE AT ALL TIMES.
 - EXISTING MASONRY WALL AND FENCE BY OTHERS. PROTECT IN PLACE.
 - EXISTING WATER 6" BLOW-OFF PROTECT IN PLACE. RAISE COVER TO FINAL GRADE.
 - EXISTING WATER TEST STATION PROTECT IN PLACE. RAISE TO FINAL CURB GRADE.
 - EXISTING WATER FIBER OPTIC PULLBOX PROTECT IN PLACE. RAISE TO FINAL CURB GRADE.
 - EXISTING WATER ACCESS MANHOLE PROTECT IN PLACE. RAISE TO FINAL PAVEMENT GRADE PER DETAIL 8 SHEET 35 & DETAIL 9 SHEET 36.
 - EXISTING WATER VALVE VAULT PROTECT IN PLACE.
 - EXISTING WATER AVAR PROTECT IN PLACE. ADJUST TO FINISH GRADE IF REQUIRED. PER UDACS PLATE NO. 38.
 - EXISTING MANHOLE PROTECT IN PLACE. RAISE COVER TO FINAL PAVEMENT GRADE IF IMPACTED BY PAVEMENT IMPROVEMENTS.
 - EXISTING DROP INLET PROTECT IN PLACE.
 - EXISTING WATER FIBER OPTIC SPLICER PIT PROTECT IN PLACE. RAISE TO FINAL GRADE PER DETAIL 8 SHEET 35 & DETAIL 9, 10 SHEET 36.

- ROADWAY IMPROVEMENTS NOTES:**
- INSTALL A.C. PAVEMENT PER STREET SECTIONS, SEE SHEET 37.
 - INSTALL 6" "L" TYPE CURB & GUTTER, SEE SUMMERLIN STD DWG S-47.
 - INSTALL "A" TYPE ISLAND CURB, SEE SUMMERLIN STD DWG S-50.
 - INSTALL CONCRETE BUS TURNOUT PER USD DWG. NO. 234.1.
- WATER CONSTRUCTION NOTES:**
- INSTALL 1-1/2" WATER METER AND 1-1/2" RPPA PER UDACS PL. NO. 4 AND 8 (IRRIGATION) & PER DETAIL 7 SHEET 35.
 - INSTALL CAP W/ 2" BLOW-OFF ASSEMBLY PER UDACS PL. NO. 36.
 - INSTALL FIRE HYDRANT PER UDACS PL. NO. 30, 39 AND 40. FOR "DEEP" FIRE HYDRANTS SEE UDACS PL. NO. 41.
 - INSTALL GATE VALVE AND BOX PER UDACS PL. NO. 30 AND 39.
 - INSTALL TEE PER UDACS PL. NO. 31.
 - INSTALL HORIZONTAL BEND PER UDACS PL. NO. 31.
 - REMOVE CAP AND BLOWOFF PER UDACS PL. NO. 36 AND CONNECT TO EX WATER LINE (CONTRACTOR TO VERIFY SIZE, INVERT AND LOCATION OF EX WATER PRIOR TO CONSTRUCTION).
 - INSTALL VERTICAL BEND PER UDACS PL. NO. 31 UNLESS OTHERWISE IDENTIFIED. (SEE PLAN FOR ANGLE).
 - INSTALL REDUCER (SEE PLAN FOR SIZE).
 - INSTALL 12"X6" TAPPING SLEEVE AND 6" TAPPING VALVE PER UDACS PLT No. 30, 31, 34, 39 & SECTION 2.24.01B.
 - INSTALL 12"X12" TAPPING SLEEVE AND 12" TAPPING VALVE PER UDACS PLT No. 30, 31, 34, 39 & SECTION 2.24.01A.

- SEWER CONSTRUCTION NOTES:**
- INSTALL SEWER MANHOLE PER DCS STD. DWG. 1A AND 1B, WITH SINGLE 24" LID.
 - STUB AND CAP SEWER PIPE PER DETAIL 2, DRAWING 35.
 - REMOVE PLUG AND CONNECT TO EX SEWER LINE (CONTRACTOR TO VERIFY SIZE, INVERT AND LOCATION OF EX SEWER PRIOR TO CONSTRUCTION).
 - INSTALL STEEL CASING PER UDACS PL. NO. 23 WITH MECHANICALLY RESTRAINED JOINTS AND SPACERS AT 4' O.C. OR CLSM.
- STORM DRAIN CONSTRUCTION NOTES:**
- INSTALL TYPE I MANHOLE PER USD DWG. NO. 403.
 - INSTALL TYPE II MANHOLE PER USD DWG. NO. 405.1.
 - INSTALL TYPE II-SD MANHOLE PER USD DWG. NO. 405.2.
 - INSTALL TYPE "CM2" DROP INLET PER USD DWG. NO. 412.1 AND 421.
 - REMOVE PLUG AND CONNECT TO EX STORM DRAIN LINE (CONTRACTOR TO VERIFY SIZE, INVERT AND LOCATION OF EX STORM DRAIN PRIOR TO CONSTRUCTION).
 - BASE AND WALLS TO BE CAST-IN-PLACE MONOLITHIC POUR. SEAL BETWEEN WALLS AND ROOF TO BE KENT SEAL, OR APPROVED EQUAL.
 - INSTALL TYPE "C" DROP INLET PER USD DWG. NO. 413 AND 421.
 - INSTALL TEMPORARY PLUG AND CAP.

- IRRIGATION CONSTRUCTION NOTES:**
- BANK "A": 1-6" & 2-4" SCH 40 PVC. PER DETAIL 3 DRAWING 35.
 - BANK "B": 2-4" SCH 40 PVC. PER DETAIL 4 DRAWING 35.

BENCHMARK

BM #	DESCRIPTION	NAVD 88 DATUM	NAVD 88 DATUM
5LV09-34NE6	RIVET AND PLATE IN TOP OF CURB @ NORTHEAST CORNER OF DESERT FOOTHILLS AND ALTA DRIVE	3304.45 (FEET)	1007.197 (METERS)

NOTE

THIS SET OF DRAWINGS IS BASED UPON NAVD 88 DATUM. PREVIOUS DRAWINGS MAY BE BASED ON OTHER DATUM. CARE SHOULD BE OBSERVED WHEN UTILIZING THIS SET OF DRAWINGS.

BASIS OF BEARINGS

NORTH 89°45'05" EAST BEING THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M., AS SHOWN BY MAP ON FILE IN FILE 91, PAGE 28 OF PARCEL MAPS IN THE CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 126398 DATE: _____

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

811
1-800-227-2800
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-0000

Call before you Dig
Avoid hitting overhead power lines. It's costly.

1-702-227-2929

FAST
Call before you Under Ground
1-702-432-5300
PREPARE AND ATTEND SYSTEM OF TRANSPORTATION

PROFESSIONAL SEAL
MICHAEL FANG
No. 2446
Exp. 06/30/2019
DATE: 4/19/19

PROJECT NO. 62023B-240
DESIGN: LG/MB
DRAWN: LG/MB
CHECK: JJJ
PLOT DATE: 04-18-19
PLOT TIME: 11:29:50

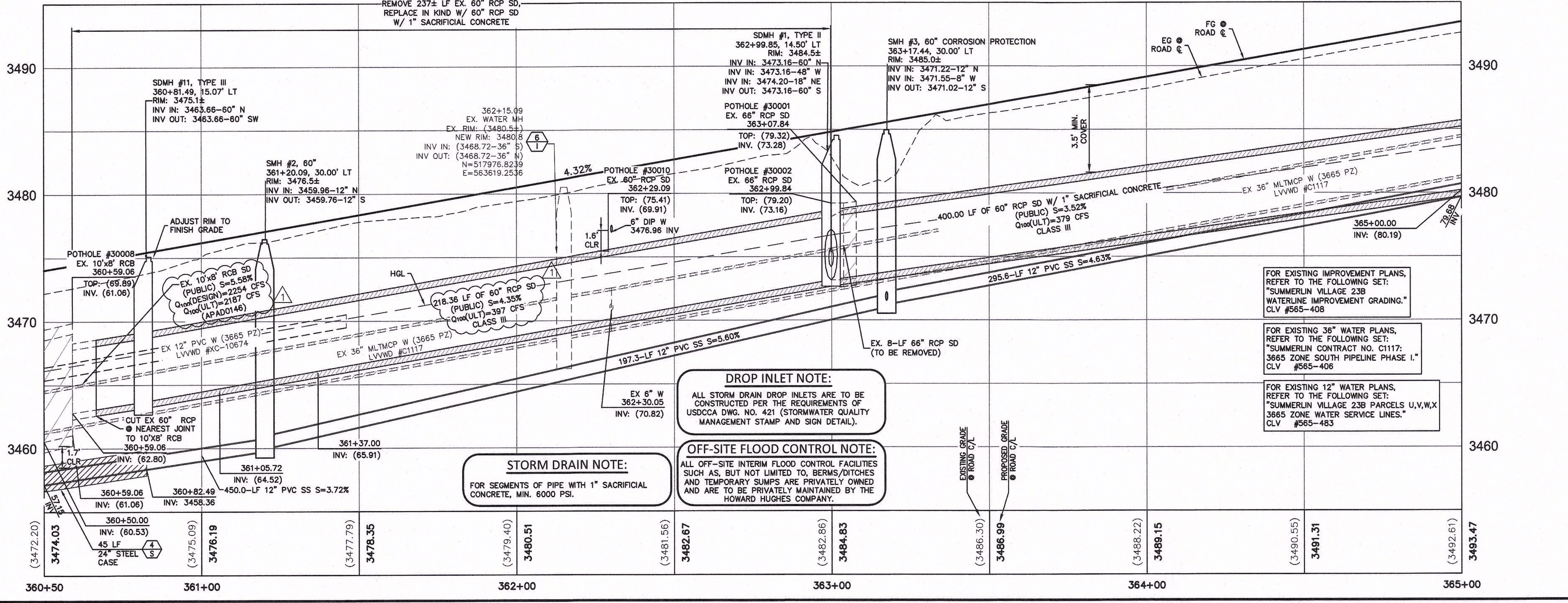
1555 S. RAINBOW BLVD.
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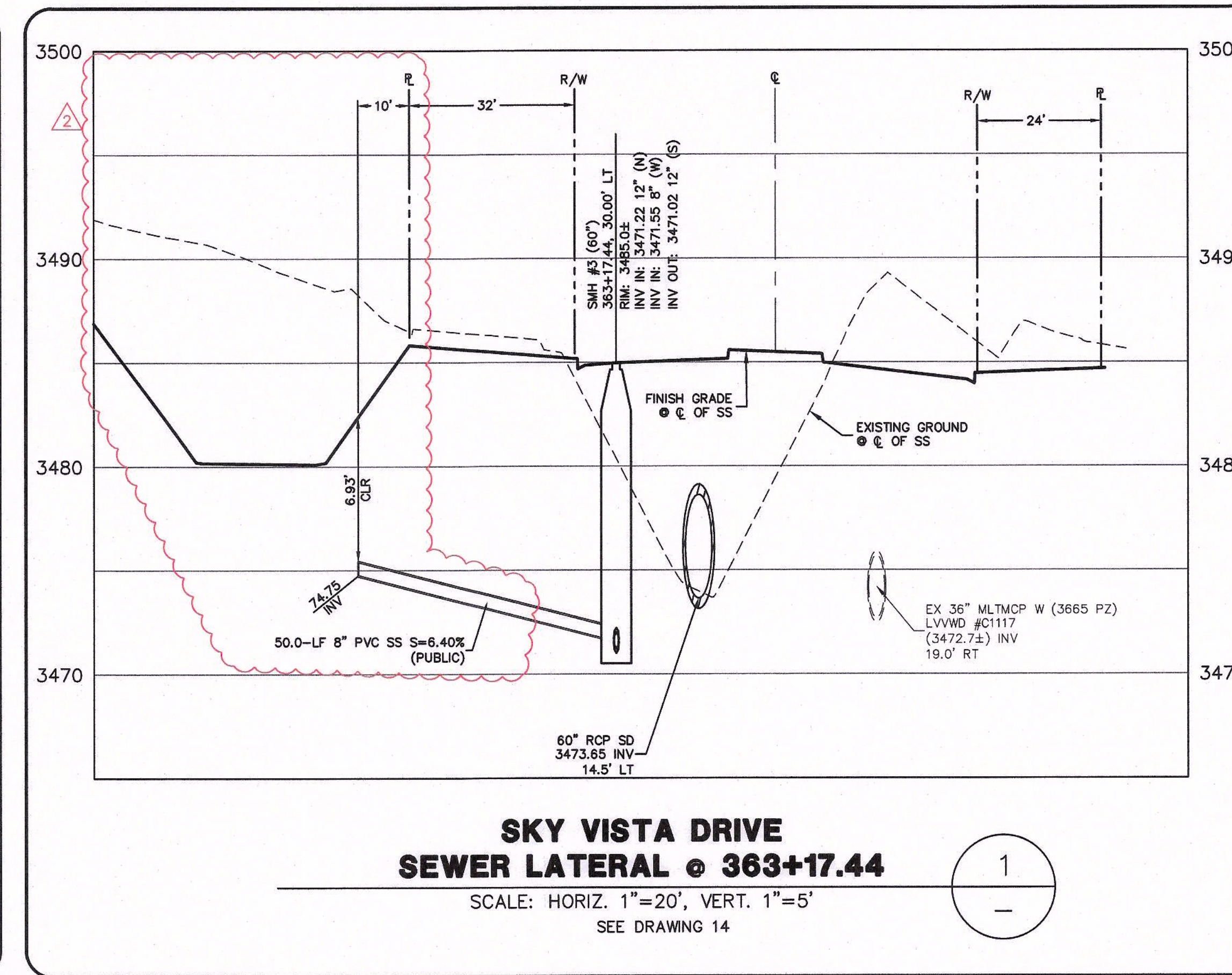
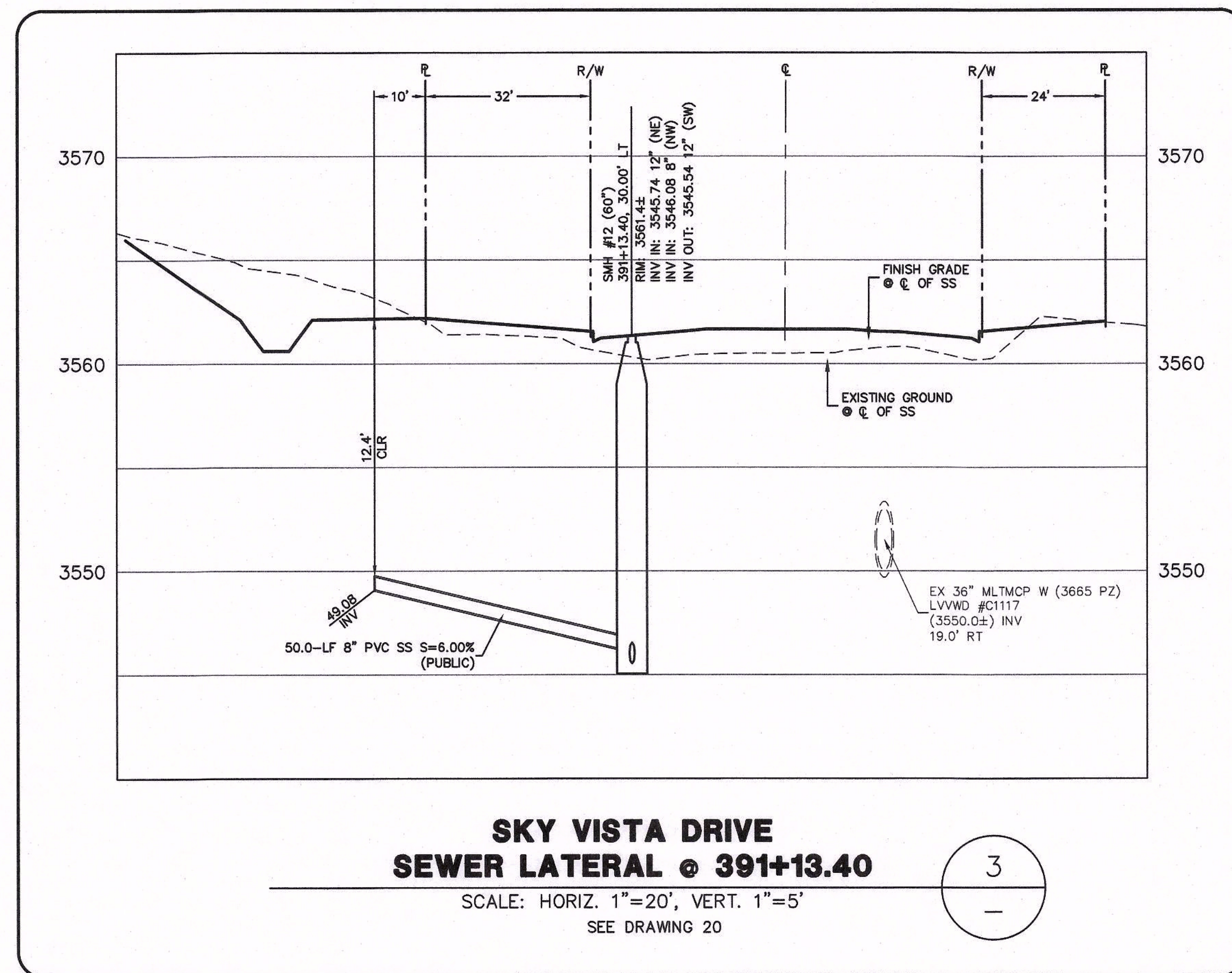
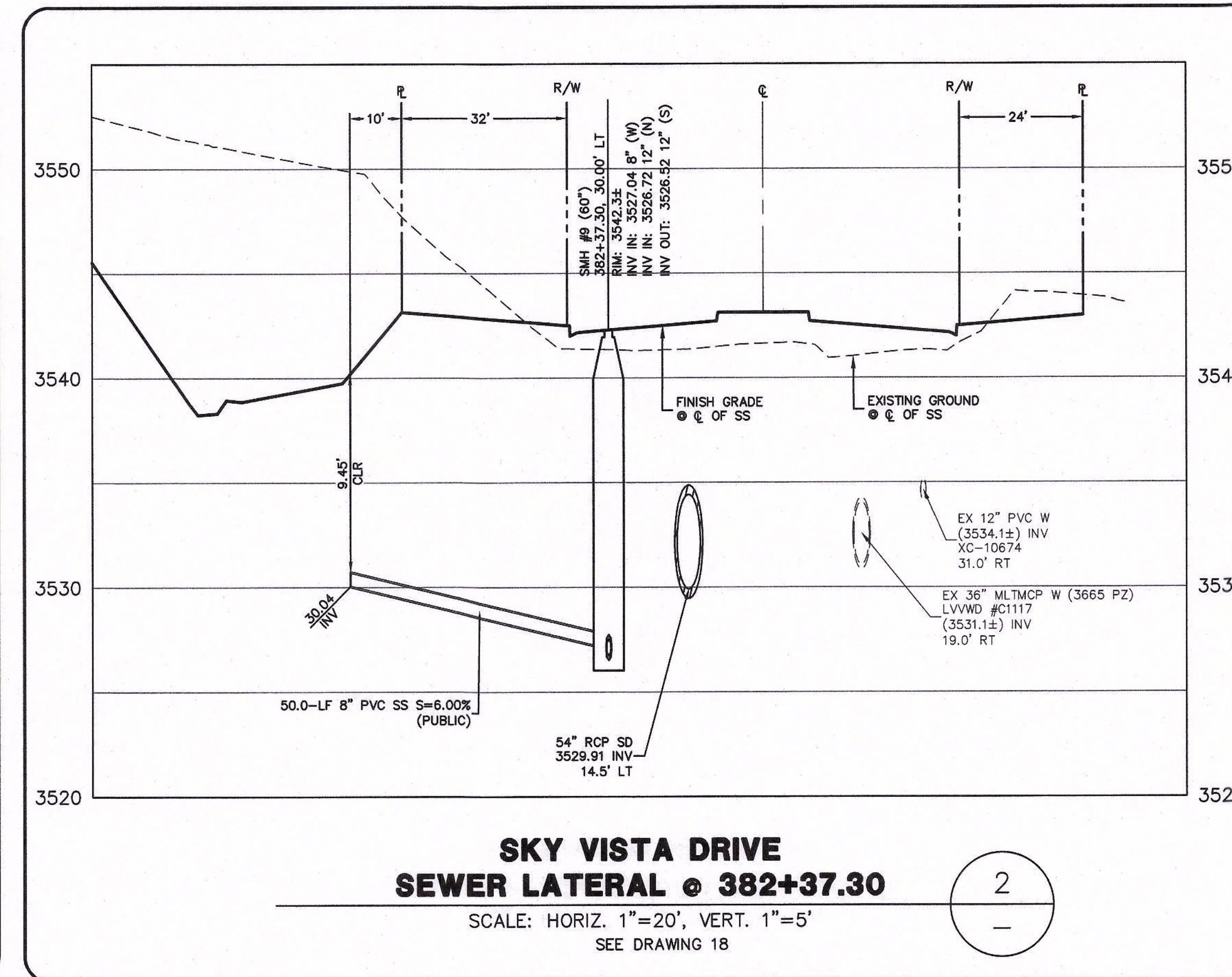
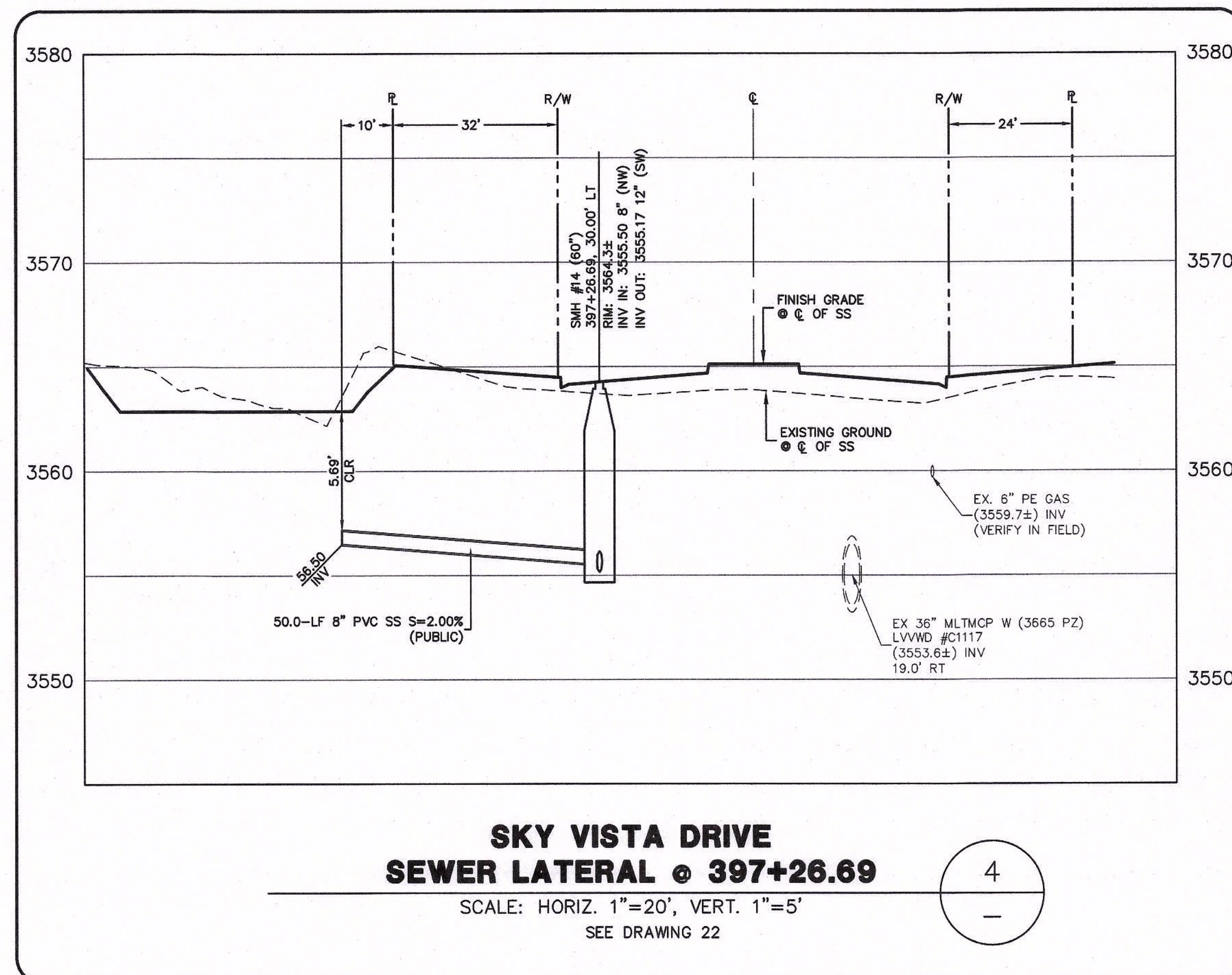
ENGINEERS & SURVEYORS

THE HOWARD HUGHES COMPANY, LLC
VILLAGE 23B SKY VISTA DRIVE
ALTA DRIVE TO FAR HILLS AVENUE

PLAN AND PROFILE 3

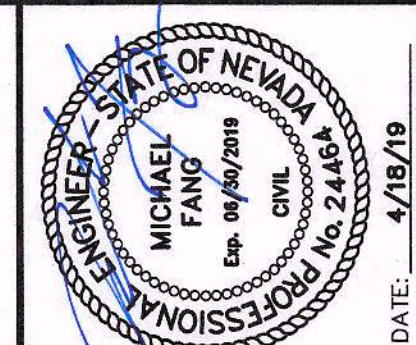
DRAWING 14
14 OF 46 SHTS





APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 126398 FIRST APPROVED DATE: _____



PROJECT NO.	DATE	AGENCY	DATE	DESCRIPTION
62023B-240				
DESIGN: LG/MB				
DRAWN: LG/MB				
CHECK: JJJ				
PLOT DATE: 04-18-19				
PLOT TIME: 11:32:02				

PROJECT NO. 62023B-240

DESIGN: LG/MB

DRAWN: LG/MB

CHECK: JJJ

PLOT DATE: 04-18-19

PLOT TIME: 11:32:02

THE HOWARD HUGHES COMPANY, LLC

VILLAGE 238 SKY VISTA DRIVE

ALTA DRIVE TO FAR HILLS AVENUE

LATERAL PROFILES 4

DRAWING

31

31 OF 46 SHTS