

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		March 19, 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 West V22 – Kettle Ridge Drive (Street J) and Scurry Bend Drive (Street N) Street Improvements (both from Lake Mead Blvd. to Fleet Wing Ave.)	
Cross Streets:	Lake Mead Boulevard & Desert Foothill Drive	Howard Hughes Company, LLC
File Number:	F:\Depot\DSMemos\DS5156E.doc	Bart Anderson, P.E., DevCo
Parcel Number:	137-14-401-006 & 137-23-101-002	CCRFCD
Zoning Action:	N/A	
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	7/16/2019	8/8/2019	Not Approved	\$400.00	3490122: \$400
2 nd Submittal	9/11/2019	9/25/2019	Not Approved	\$400.00	3563447: \$400
3 rd Submittal	10/16/2019	10/30/2019	Conditional Approval	\$400.00	3612958: \$400
4 th Submittal & CCRFCD	2/25/2020 & 3/5/2020	3/10/2020	Concurrence Recv'd	\$100.00	3755821: \$100
Supplement	3/18/2020	3/19/2020	See Comments Below	N/C	N/C
TOTAL FEES (LDDRS):				\$1,300.00	----

REMARKS:

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

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

The following conditions are repeated until they are complete:

1. The project proposes to build temporary drainage facilities, ie, berms/swales along the west side of *Scurry Bend Drive* and *Kettle Ridge Drive* and at the southern end of *Kettle Ridge Drive* for interim flood protection. Prior to final plan approval the developer must complete a maintenance and liability agreement for the interim drainage improvements (berms or channels) 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 facility and an exhibit that adequately shows the location and limits of the drainage facility to *City of Las Vegas Flood Control* for approval. Once the drainage study is conditionally approved, the engineer should contact the *City's Land Development Section* (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 offsite berms / channels are no longer necessary and can be removed.

In an effort to increase administrative efficiency, for all original and re-submittal packages including updates and the addenda, the City of Las Vegas Public Works Department requires both a hardcopy and a digital copy (PDF) on CD for the drainage study.

A letter sealed and signed by a Nevada registered civil engineer must be included in every submittal certifying documents on the electronic CD matches 100% of the hardcopy submittal. The new submittal requirement is effective on May 1, 2019. If there are any questions regarding these new requirements, please contact Albert Sung in the City Flood Control Section at (702) 229-6541.



Sample Letter to
certify CD.pdf

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.

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.

END OF REMARKS
ays

T/R/S: T20S/R59E/14
AREA K-14

Rec'd: 3/12 & 3/18

Albert Sung

From: Anderson, Molly <Molly.Anderson@atkinsglobal.com>
Sent: Thursday, March 12, 2020 2:05 PM
To: Albert Sung
Subject: Kettle Ridge Drive Update #1 supplemental information
Attachments: Comment 1.pdf; Comment 2.pdf; Comment 3.pdf

DS 5156-1
K-14

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SUPPLEMENT
N/C

Albert,

As discussed, here are the requested items and a quick explanation:

Comment #1: From the *Sheet 18/39* to *Sheet 21/39*, there are various proposed direct connection of lateral pipes to the 6'x6' RCB. However, the connection detail has not been provided. Provide as such in the next submittal.

The response on *Storm Drain Construction Note #9* refers the connection detail to Sheet 33 should be revised to Sheet 34.

Comment response: The connection detail callouts have been revised. A sheet had been added to the plans between submittals, making the new sheet #35, which was not included in the Update #1 submittal. Please see the pdf attached titled "Comment 1".

Comment #2: Drop inlets deeper than 10' require special structural design and structural calculations. Provide a soils report, structural calculations and specifications, two wet stamped structural sets, and a grading plan to the *Building Department* for processing. The engineer must provide a copy of *Building Department* approval of the structures to *Flood Control* prior to the final acceptance of the drainage study.

Comment response: Structural approval has been received. Please see the pdf attached titled "Comment 2".

Comment #3: The *Master Drainage Study Update* for *Summerlin West Planning Area* proposes a modification to internal flow patterns that alters the flow patterns to the *Beltway Channel* system downstream of the *Summerlin Parkway* interchange. The modification proposes a storm drain system within *Summerlin Village 22* area (Storm Drain F) that will collect flows from the Gowan channel tributary area and route them into the *Beltway Channel* (MPU Facility APBE 0122). This resulted in increased flows in the *Beltway Channel* segment between *Summerlin Parkway* and *Far Hills Boulevard*, i.e., mitigation measures are required for the impacted *Beltway Channel* segment.

A technical drainage study for the modification of the *Beltway Channel* has been submitted and has just been conditionally approved. The subject drainage study will not be approved prior to the construction bond of the *Beltway Channel Modification* project has been executed.

Comment response: The construction bond of the Beltway Channel Modification project has been executed. The receipt provided by VTN Nevada was included in Appendix B of originally Approved Technical Drainage Study (TDS) for Summerlin West Village 22 Kettle Ridge Drive (Street J) Fleet Wing Avenue (Street G) to Lake Mead Boulevard & Scurry Bend Drive (Street N) Rough Grade: Fleet Wing Avenue (Street G) to Lake Mead Boulevard. I have included it attached in the pdf called "Comment 3" for your convenience.

Do you want hard copies of these items submitted to you officially as Supplement #1 or does this email suffice?

Thank you,

Molly Anderson PE

Senior Engineer

Engineering, Design and Project Management

Tel: +1 702 551 0330

Atkins, member of the SNC-Lavalin Group

2270 Corporate Circle, Suite 200

Henderson, NV 89074

+1 702 263 7275

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Anderson, Molly

From: Albert Sung <YSung@LasVegasNevada.GOV>
Sent: Thursday, March 12, 2020 4:46 PM
To: Anderson, Molly
Subject: RE: Kettle Ridge Drive Update #1 supplemental information

Molly,

I am fine with the write-up but I need the full size (24"x36") plans. So please send hard copy submitted as a Supplement.

Thanks!

Albert Y. Sung

Project Engineer
Public Works Dept. / Flood Control
(702) 229-6541
333 N. Rancho Dr. 7th Floor
Las Vegas, NV 89106



lasvegasnevada.gov



Your opinion is important! Click [here](#) to take a short survey.

From: Anderson, Molly <Molly.Anderson@atkinsglobal.com>
Sent: Thursday, March 12, 2020 2:05 PM
To: Albert Sung <YSung@LasVegasNevada.GOV>
Subject: Kettle Ridge Drive Update #1 supplemental information

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Albert,

As discussed, here are the requested items and a quick explanation:

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The response on *Storm Drain Construction Note #9* refers the connection detail to Sheet 33 should be revised to Sheet 34.

Anderson, Carl E

From: Shaun Boulton <sboulton@LasVegasNevada.GOV>
Sent: Wednesday, January 15, 2020 3:33 PM
To: Anderson, Carl E; Milstead, Caron; Luis Morales
Subject: RE: Atkins requesting update on structural reviews

Categories: SV22N: Overall & Miscellaneous

Hi Carl,

I have approved the structural review for SV22: Kettle Ridge (J) - Fleet Wing to Lake Mead L19-02315 and this email shall serve as an official structural approval letter. Please email me as soon as the revised civil plans have been uploaded for the second review.

Thank You,

Shaun Boulton, P.E.

Project Engineer
Building and Safety Department | Land Development Division
702-229-6565 phone | 702-631-3000 fax
333 North Rancho Drive, Las Vegas, NV 89106



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From: Anderson, Carl E <Carl.Anderson@atkinsglobal.com>
Sent: Wednesday, January 15, 2020 8:14 AM
To: Milstead, Caron <Caron.Milstead@atkinsglobal.com>; Luis Morales <lmorales@LasVegasNevada.GOV>
Cc: Shaun Boulton <sboulton@LasVegasNevada.GOV>
Subject: RE: Atkins requesting update on structural reviews

EXTERNAL EMAIL: This email originated from outside the organization, do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Luis/Shawn,

Please see the attached e-mail regarding L19-02315. I have also attached the PDF uploaded previously.

Thank you,

Carl Anderson *PE*

Project Manager
Engineering, Design and Project Management

Tel: +1 702 551 0333

Atkins, member of the SNC-Lavalin Group
2270 Corporate Circle, Suite 200
Henderson, NV 89074
+1 702 263 7275

From: Milstead, Caron <Caron.Milstead@atkinsglobal.com>

Sent: Wednesday, January 15, 2020 7:02 AM

To: Luis Morales <lmorales@LasVegasNevada.GOV>

Cc: Anderson, Carl E <Carl.Anderson@atkinsglobal.com>; Shaun Boulton <sboulton@LasVegasNevada.GOV>

Subject: RE: Atkins requesting update on structural reviews

Good morning,

Thanks so much for your prompt response. I will find out about the missing structural calculations. I will reach out to Shaun if necessary. Have a good day!

Sincerely,

Caron Milstead

Project Assistant III/ Processor
Engineering, Design and Project Management
Tel: +1 702 551 0370

Atkins, member of the SNC-Lavalin Group
2270 Corporate Circle, Suite 200
Henderson, NV 89074

From: Luis Morales <lmorales@LasVegasNevada.GOV>

Sent: Tuesday, January 14, 2020 5:33 PM

To: Milstead, Caron <Caron.Milstead@atkinsglobal.com>

Cc: Anderson, Carl E <Carl.Anderson@atkinsglobal.com>; Shaun Boulton <sboulton@LasVegasNevada.GOV>

Subject: RE: Atkins requesting update on structural reviews

Hi Caron,

I checked on the status of the projects you listed below. L19-02540, and L19-02745 will be done by myself and I should be getting to them either by the end of this week or early next week.

L19-02315 is Shaun's project (I have included him in this email). I noticed that the structural calcs weren't provided yet for this project and also Shaun stated in his comments that the structural will need to be reviewed prior to or during the next review.

Shaun,

If there is anything else you'd like to add Shaun please let Caron know.

Hopefully this helps answer your questions, but if not please feel free to reach back out to me.

Thanks,

Luis Morales, P.E.

Engineering Project Manager

Building and Safety Department | Land Development Division

702-229-2097 phone | 702-631-3000 fax | 702-752-3414 Cell

333 North Rancho Drive, Las Vegas, NV 89106



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From: Milstead, Caron <Caron.Milstead@atkinsglobal.com>

Sent: Friday, January 10, 2020 2:10 PM

To: Luis Morales <lmorales@LasVegasNevada.GOV>

Cc: Anderson, Carl E <Carl.Anderson@atkinsglobal.com>

Subject: Atkins requesting update on structural reviews

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Good afternoon Luis,

I am the project processor for Atkins and would like to know if you can update me on the status of the **structural reviews** for the following:

Summerlin Village 22: Lake Mead Boulevard (Desert Foothills to Kettle Ridge)

1. L19-02540
2. DS#5155

Summerlin Village 22: Desert Foothills Drive (Fleet Wing to)

1. L19-02745
2. DS#5170

Summerlin Village 22: Kettle Ridge Drive (Fleet Wing to Lake Mead)

1. L19-02315
2. DS#5156

Caron Milstead

Project Assistant III/ Processor
Engineering, Design and Project Management
Tel: +1 702 551 0370

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Henderson, NV 89074

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**CITY OF LAS VEGAS
BUILDING AND SAFETY DEPARTMENT
333 N. RANCHO DR.
LAS VEGAS, NV 89106**

Payment Receipt

Transaction Date: 9/19/2019 2:32:48 PM

Cashier: 984618

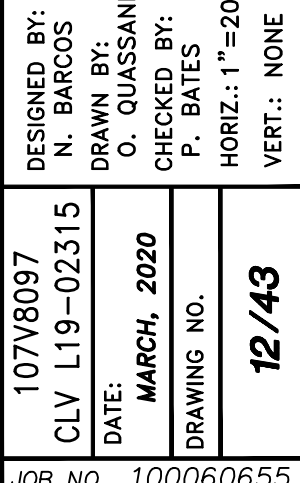
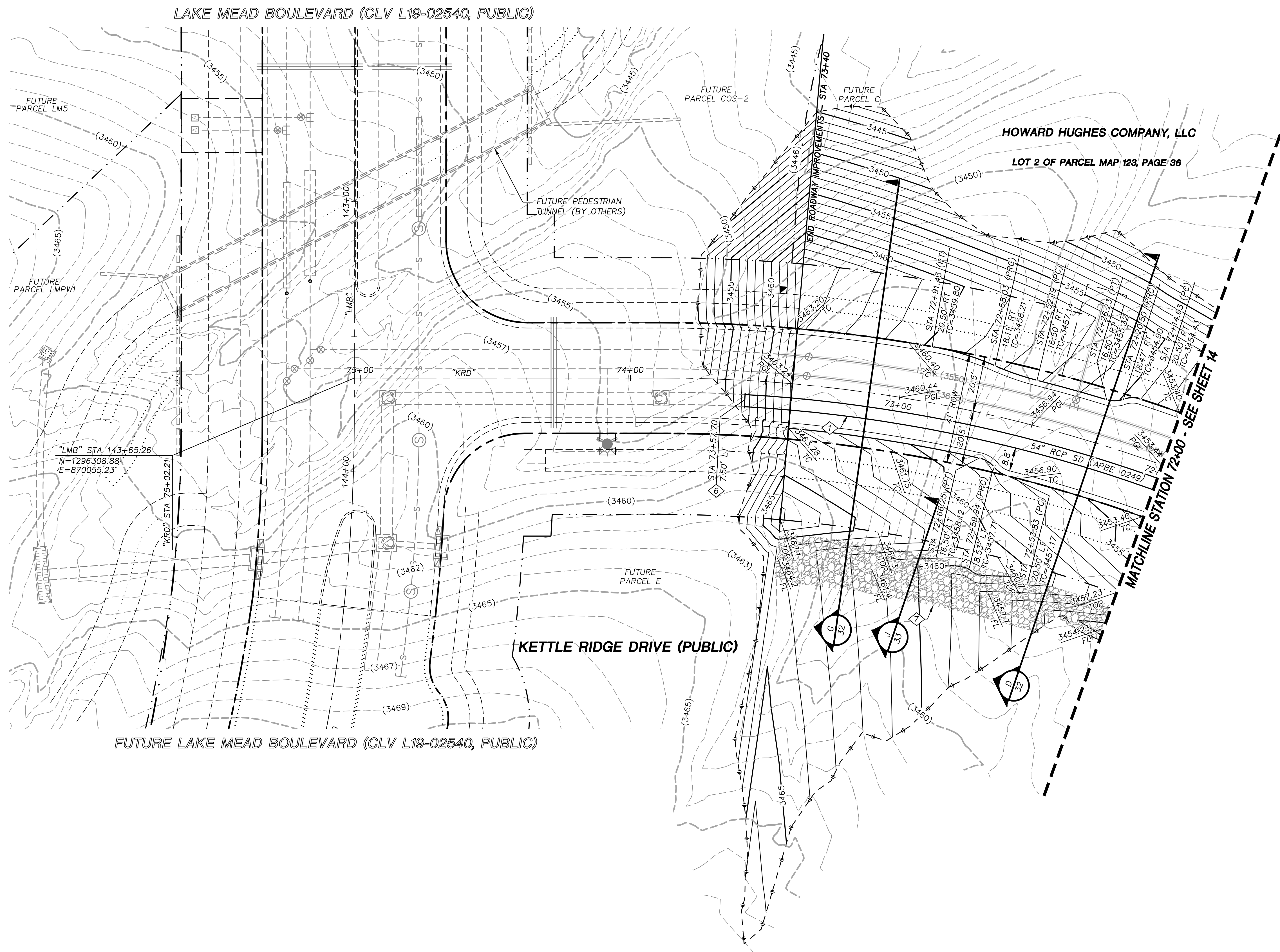
Receipt #: 856433

Payer: Summerlin MPC West

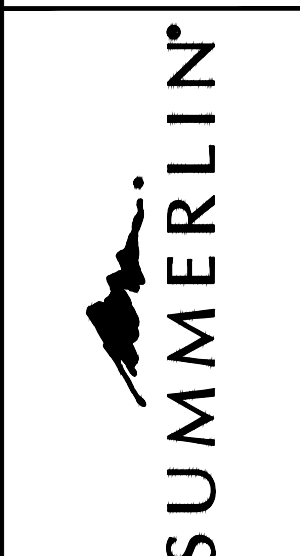
Business Address: 13723410001, , NV

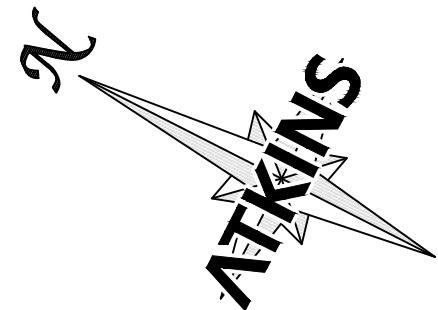
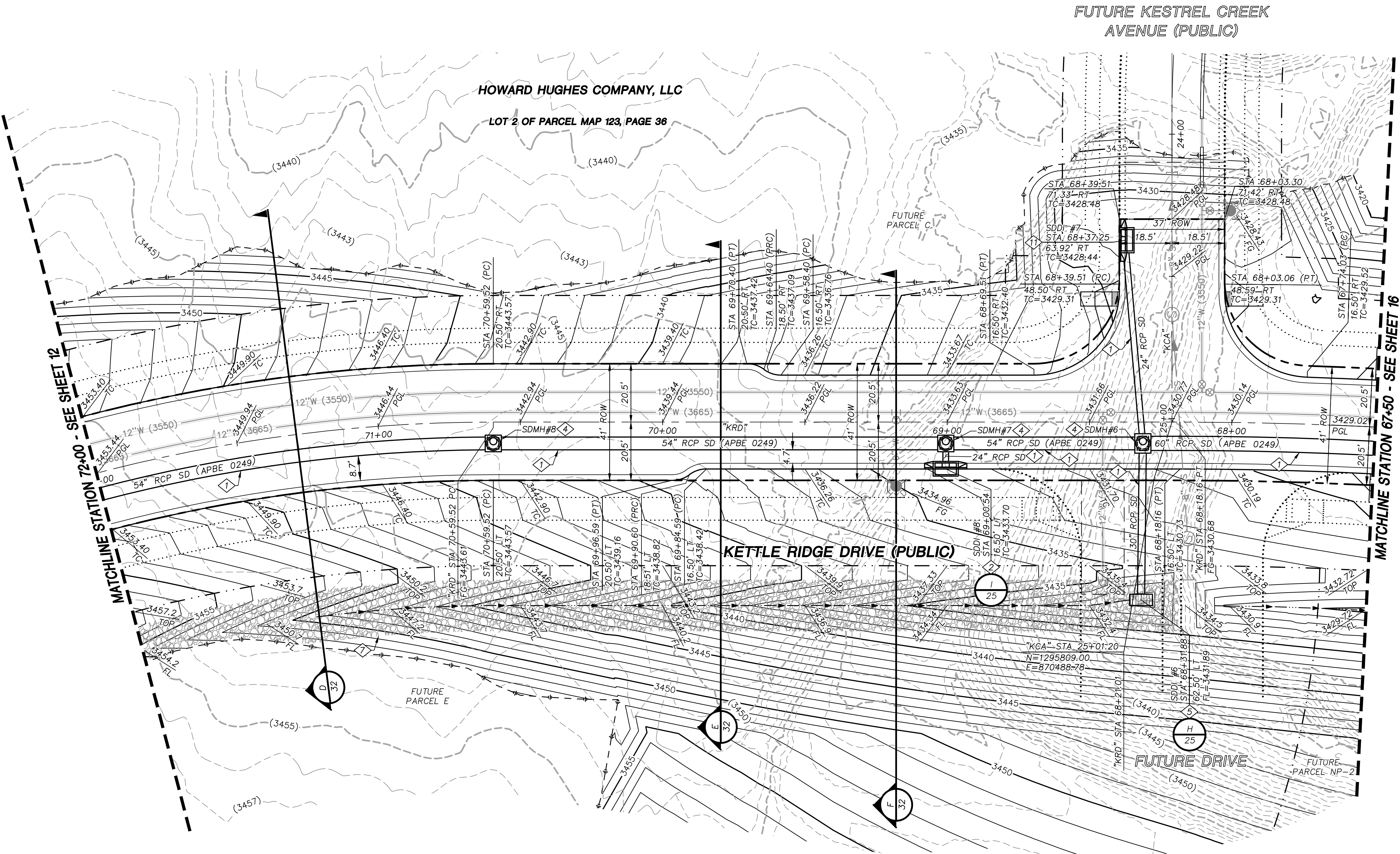
Application #	Charge Description	Amount Due	Amount Paid
L19-01775	Fire(FPE Express Fee)	\$80.00	\$80.00
L19-01775	Offsite(Express Plan Check Hourly Fee)	\$600.00	\$600.00
L19-01775	OffSite(Geotech Review)	\$400.00	\$400.00
L19-01775	Offsite(Improvement Agreements)	\$100.00	\$100.00
L19-01775	Offsite(Inspection Fee)	\$13,941.41	\$13,941.41
L19-01775	Offsite_Additional(Plan Check Fee)	\$2,261.48	\$2,261.48
	Total	\$17,382.89	\$17,382.89

Payment Tender	Payment ID / Check #	Amount Paid
Check	#40104891	\$17,382.89
Total Paid		\$17,382.89



ATKINS
22270 Corporate Circle Suite 200
Henderson, Nevada 89074
Telephone: +1.702.263.7275
Fax: +1.702.263.7200





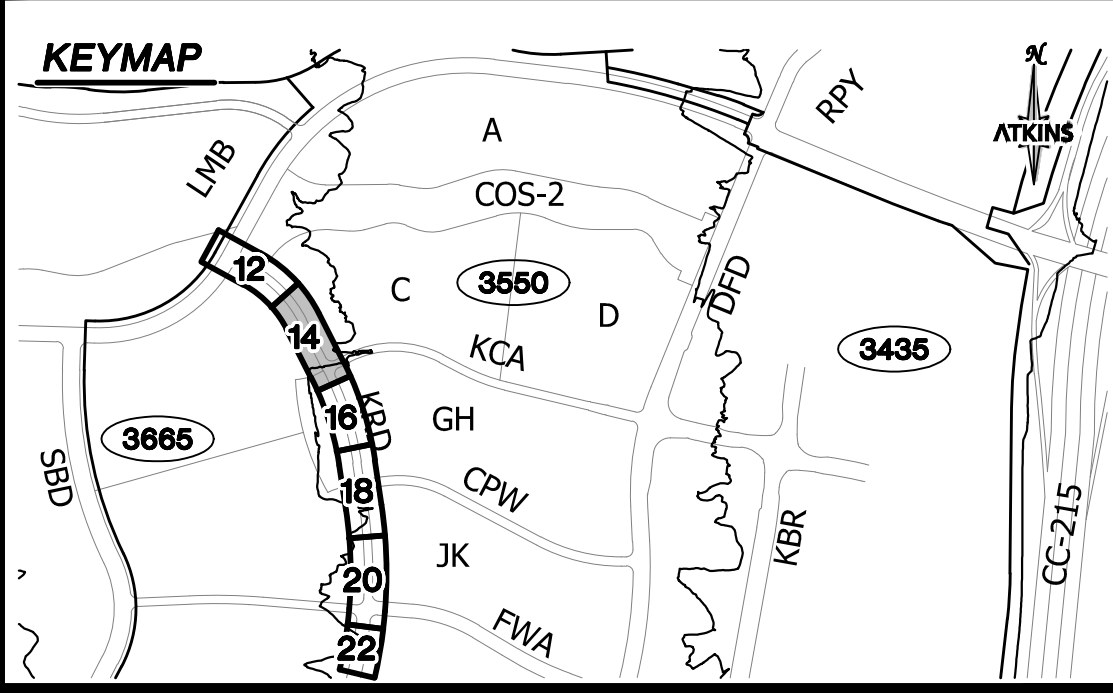
- STORM DRAIN CONSTRUCTION NOTES**
1. INSTALL STORM DRAIN. SEE SHEET 3 FOR ADDITIONAL STORM DRAIN NOTES AND INFORMATION.
 2. INSTALL TYPE "CM2" DROP INLET PER CCAUSD #412.1 & #421
 3. INSTALL TYPE II SD MANHOLE PER CCAUSD #405.2
 4. INSTALL TYPE III SD MANHOLE PER CCAUSD #406
 5. INSTALL NDOT TYPE 2 DROP INLET PER NDOT R-4.2.1 (SEE SHEET 29)
 6. STUB & PLUG STORM DRAIN FOR FUTURE CONNECTION PER MANUFACTURER'S PLUG, OR APPROVED EQUAL (SEE SHEET 34)
 7. INSTALL RIP-RAP (D50=8", THICKNESS=16") PER DETAIL H ON SHEET 32
 8. INSTALL SD JUNCTION STRUCTURE
 9. DIRECT CONNECTION INTO RCB SEE SHEET 35 FOR DETAIL
 10. INSTALL TYPE I SD RISER PER CCAUSD #403.1
 11. INSTALL TYPE "CM" DROP INLET PER CCAUSD #421 & #422
 12. INSTALL PRECAST REINFORCED CONCRETE BOX PER NDOT STANDARD 502 AND 503 SEE SHEET 34 FOR RCB INFORMATION

REVISIONS	
REV.	DESCRIPTION

ATKINS
2270 Corporate Circle Suite 200
Henderson, Nevada 89074
Telephone: +1702.263.7755
Fax: +1702.263.7200



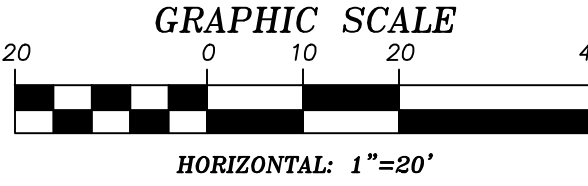
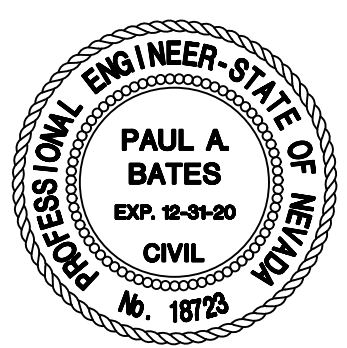
SUMMERLIN VILLAGE 22
KETTLE RIDGE DRIVE (STREET J) - FLEET WING AVENUE (STREET G) TO LAKE MEAD BOULEVARD
SCURRY BEND DRIVE (STREET N) ROUGH GRADE - FLEET WING AVENUE (STREET G) TO LAKE MEAD BOULEVARD
ROADWAY GRADING PLAN
KETTLE RIDGE DRIVE STA 67+00 TO STA 72+00



UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

DESIGNED BY: N. BARCOS
DRAWN BY: O. QUASSANI
CHECKED BY: P. BATES
HORIZ.: 1"=20'
VERT.: NONE

1078097
CLV L19-02315
DATE: MARCH, 2020
DRAWING NO. 14/43



APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT
PROJECT NO. 136892 FIRST APPROVED DATE: _____
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

GRADING PLAN CERTIFICATION
PAUL A. BATES PE#18723 DATE _____
CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY FOR THIS SITE ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.
DS#5156

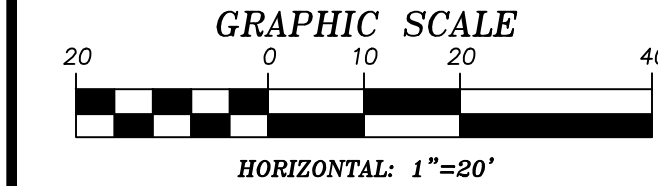
BASIS OF BEARING
GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS HIGH ELEVATION ZONE, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

BENCHMARK
CITY OF LAS VEGAS BENCHMARK: D368 (REVISED 2008)
NAVD88 ELEVATION: 989.574 METERS (3,246.63 FEET)
FND USC&GS DISC SET IN ROCK RIDGE 150' SOUTH OF CHARLESTON BLVD. & WEST OF DETENTION BASIN. T21S,R59E,S03

Call before you Dig
UnderGround
1-702-432-5300
PREMIER AND AUTHORIZED
SERVICE OF TRANSPORTATION

Call before you Dig
811
1-800-642-2444

CALL BEFORE YOU DIG
1-702-227-2929



APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT

PROJECT NO. 136892 FIRST APPROVED DATE: _____
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

GRADING PLAN CERTIFICATION

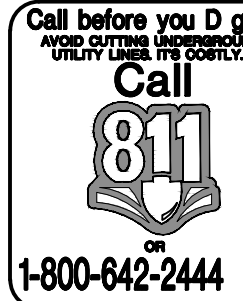
PAUL A. BATES PE#18723 DATE _____
CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY FOR THIS SITE ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT. DS#5156

BASIS OF BEARING

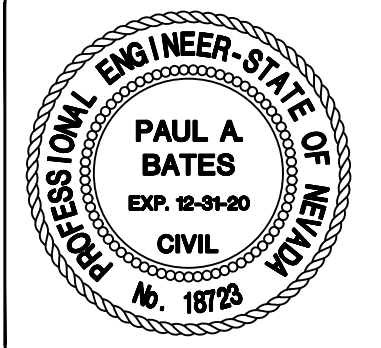
GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS HIGH ELEVATION ZONE, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK: D368 (REVISED 2008)
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FND USC&GS DISC SET IN ROCK RIDGE 150' SOUTH OF CHARLESTON BLVD. & WEST OF DETENTION BASIN. T21S,R59E,S03



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DESIGNED BY: N. BARCOS
DRAWN BY: O. QUASSANI
CHECKED BY: P. BATES
HORIZ.: 1"=20'
VERT.: NONE

1078097
CLV L19-02315
DATE: MARCH, 2020
DRAWING NO. 16/43

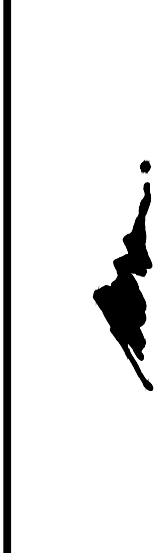
JOB NO. 100060655



SUMMERLIN VILLAGE 22

KETTLE RIDGE DRIVE (STREET J) - FLEET WING AVENUE (STREET G) TO LAKE MEAD BOULEVARD
SCURRY BEND DRIVE (STREET N) ROUGH GRADE - FLEET WING AVENUE (STREET G) TO LAKE MEAD BOULEVARD

ROADWAY GRADING PLAN
KETTLE RIDGE DRIVE STA. 64+50 TO STA. 67+50



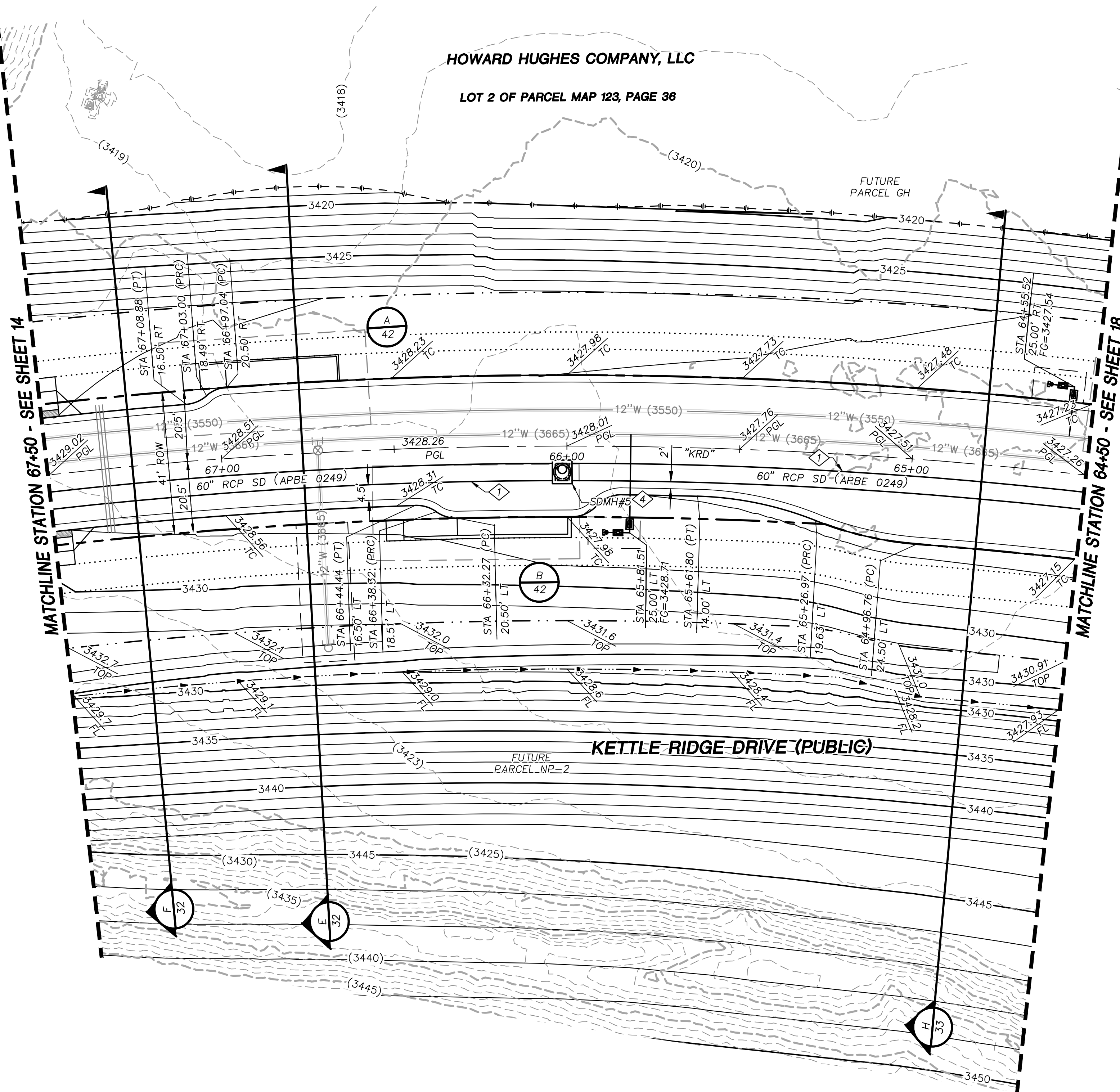
2270 Corporate Circle Suite 200
Henderson, Nevada 89074
Telephone: +1702.263.7275
Fax: +1702.263.7200

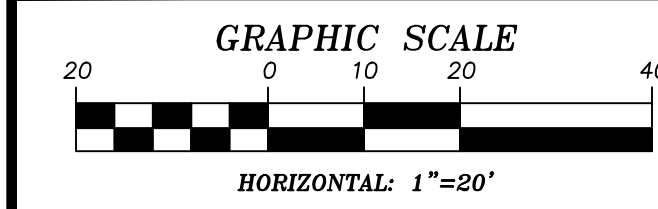
REVISIONS

REV.	DESCRIPTION	BY	DATE	APPROVAL

STORM DRAIN CONSTRUCTION NOTES

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8. INSTALL SD JUNCTION STRUCTURE
9. DIRECT CONNECTION INTO RCB SEE SHEET 35 FOR DETAIL
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11. INSTALL TYPE "CM" DROP INLET PER CCAUSD #421 & #422
12. INSTALL PRECAST REINFORCED CONCRETE BOX PER NDOT STANDARD 502 AND 503 SEE SHEET 34 FOR RCB INFORMATION





APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT

PROJECT NO. 136892 FIRST APPROVED DATE: _____

LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

GRADING PLAN CERTIFICATION

PAUL A. BATES PE#18723 DATE _____

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

DS#5156

BASIS OF BEARING

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS HIGH ELEVATION ZONE, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK: D368 (REVISED 2008)
NAVD88 ELEVATION: 989.574 METERS (3,246.63 FEET)
FND USC&GS DISC SET IN ROCK RIDGE 150' SOUTH OF CHARLESTON BLVD. & WEST OF DETENTION BASIN.
T21S,R59E,S03

FAST

Call before you dig

UnderGround

1-702-432-5300

PREMIER AND NATIONAL SERVICE OF TRANSPORTATION

Call before you dig

Call 811

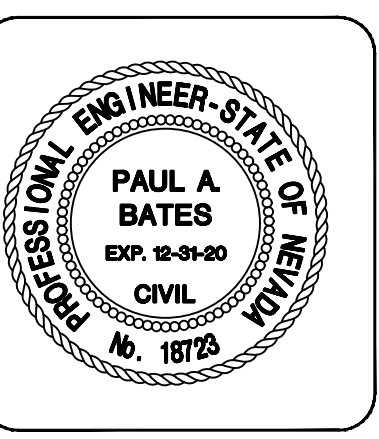
1-800-642-2444

AVOID HITTING OVERHEAD POWER LINES (PO) CABLES

CALL BEFORE YOU DIG OVERHEAD

1-702-227-2929

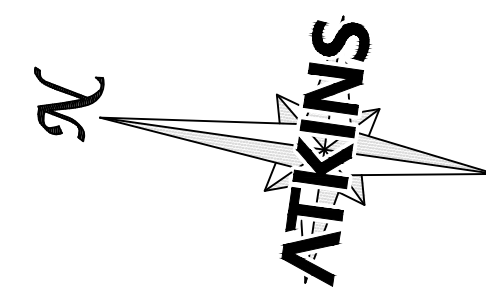
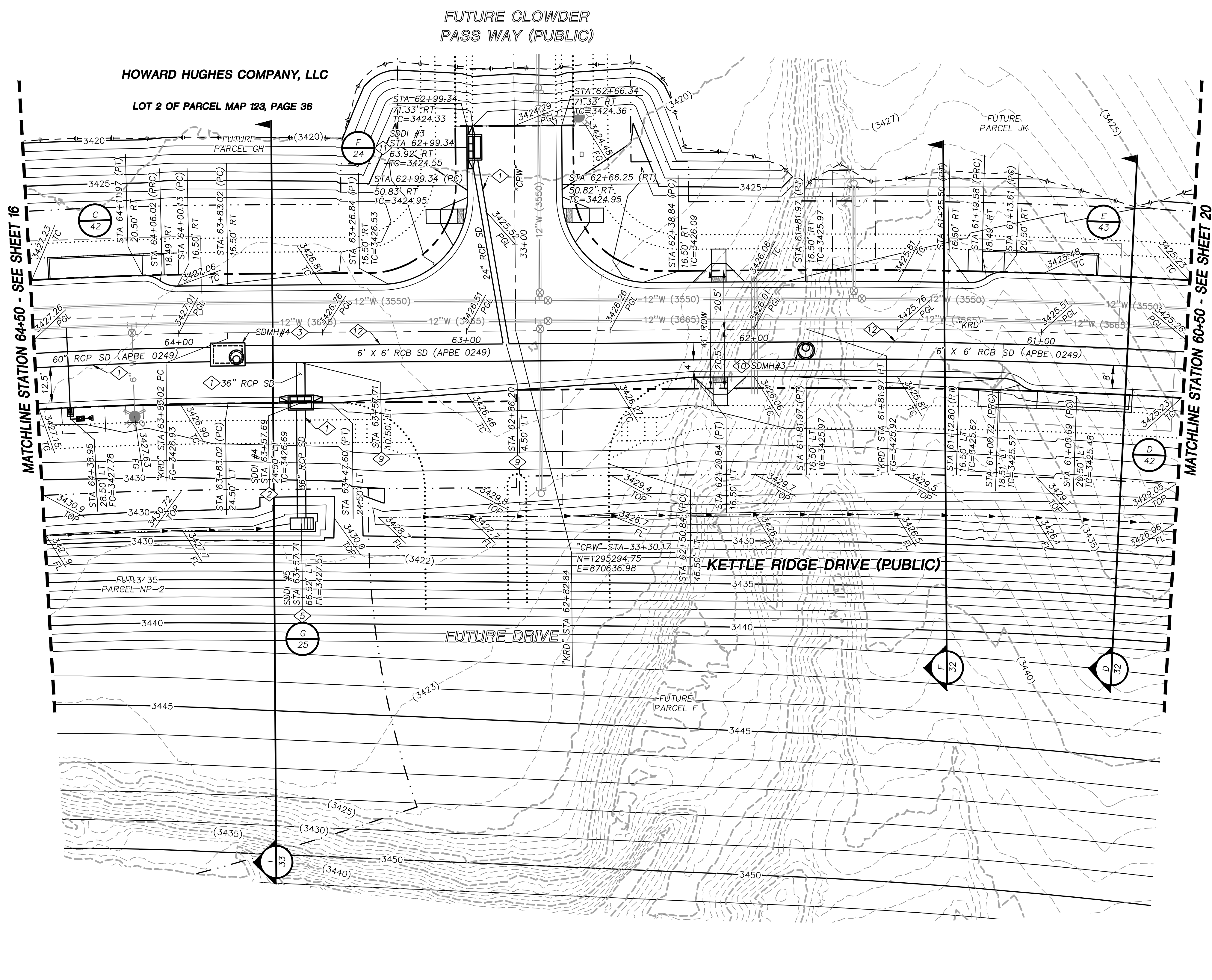
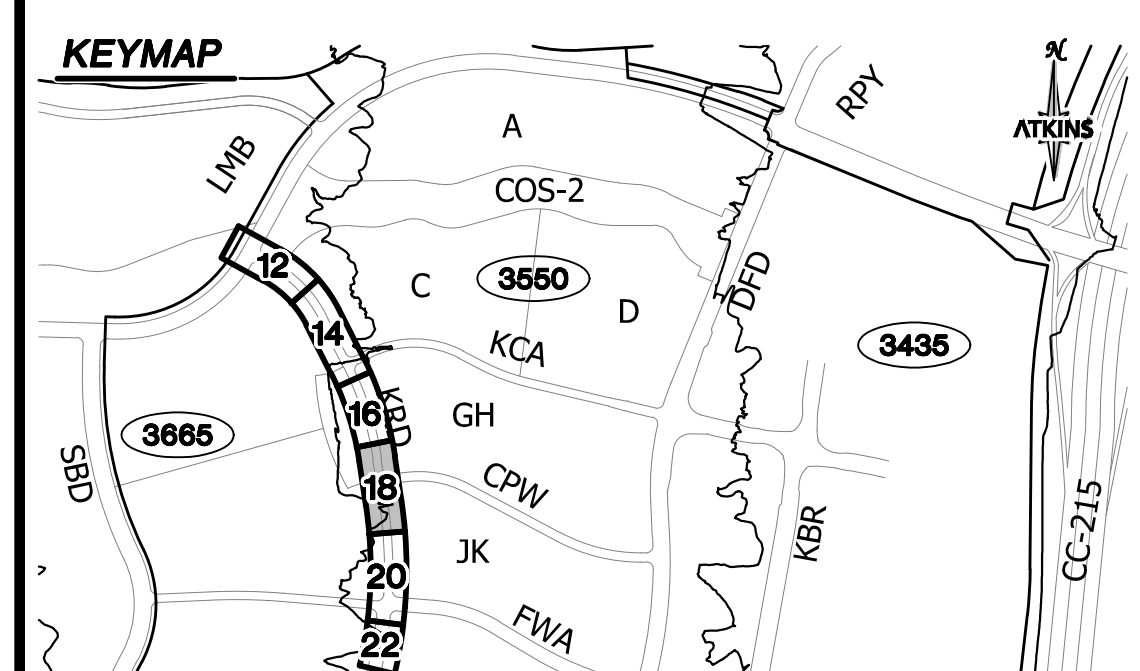
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DESIGNED BY: N. BARCOS
DRAWN BY: O. QUASSANI
CHECKED BY: P. BATES
HORIZ.: 1"=20'
VERT.: NONE

1078097
CLV L19-02315
DATE: MARCH, 2020
DRAWING NO. 18/43

JOB NO. 100060655



- STORM DRAIN CONSTRUCTION NOTES**
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ATKINS

2270 Corporate Circle Suite 200
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Telephone: +1702.263.7755
Fax: +1702.263.7200

SUMMERLIN

SUMMERLIN VILLAGE 22

KETTLE RIDGE DRIVE (STREET J) - FLEET WING AVENUE (STREET G) TO LAKE MEAD BOULEVARD

SCURRY BEND DRIVE (STREET N) ROUGH GRADE - FLEET WING AVENUE (STREET G) TO LAKE MEAD BOULEVARD

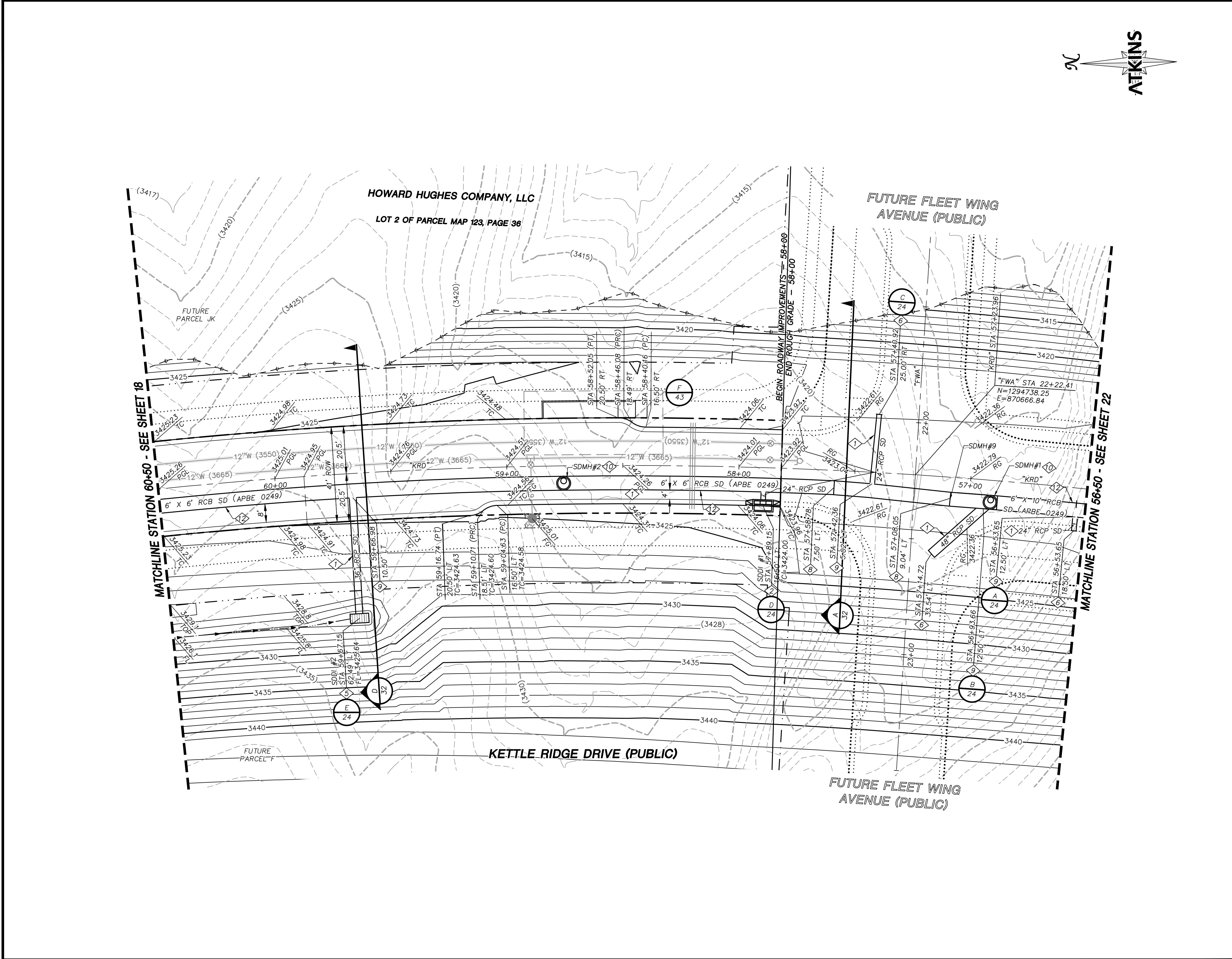
ROADWAY GRADING PLAN

KETTLE RIDGE DRIVE STA. 60+50 TO STA. 64+50

DESIGNED BY: N. BARCOS
DRAWN BY: O. QUASSANI
CHECKED BY: P. BATES
HORIZ.: 1"=20'
VERT.: NONE

1078097
CLV L19-02315
DATE: MARCH, 2020
DRAWING NO. 18/43

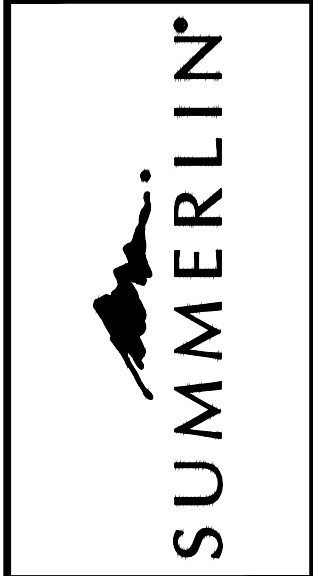
JOB NO. 100060655



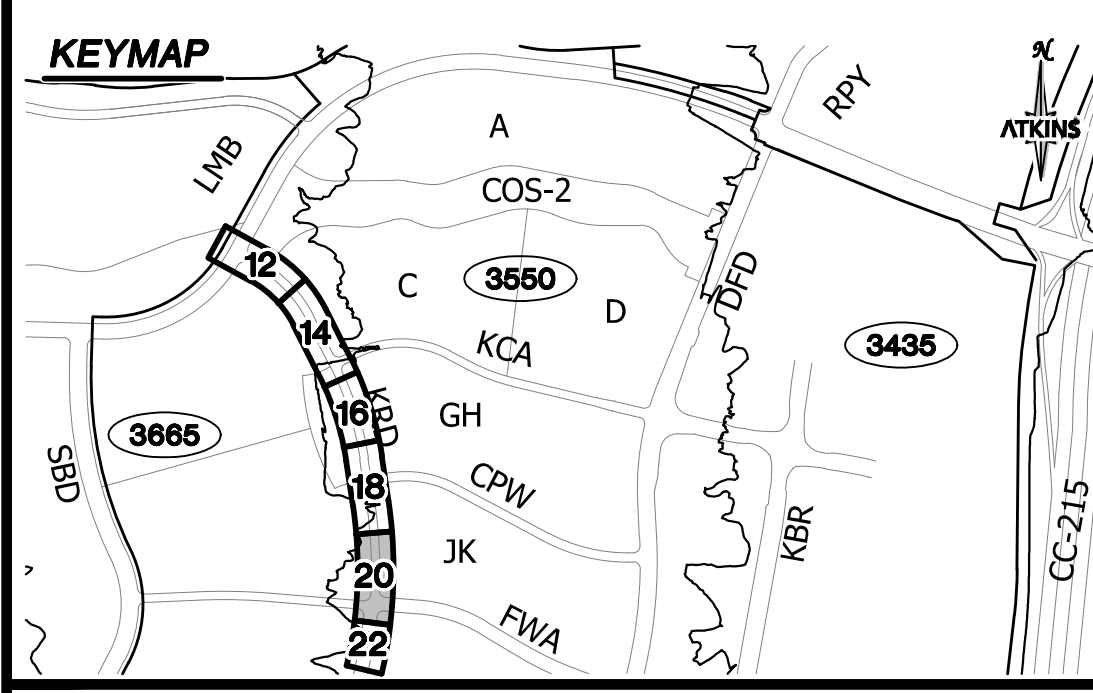
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REVISIONS		
REV.	DESCRIPTION	BY DATE APPROVAL

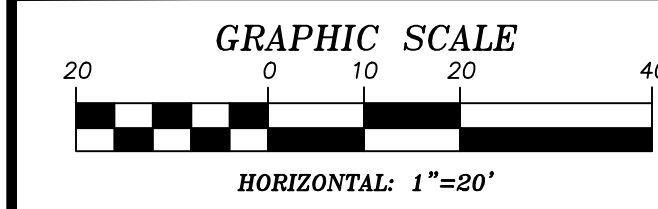
ATKINS
2270 Corporate Circle Suite 200
Henderson, Nevada 89074
Telephone: +1702.263.7755
Fax: +1702.263.7700



SUMMERLIN VILLAGE 22
KETTLE RIDGE DRIVE (STREET J) - FLEET WING AVENUE (STREET G) TO LAKE MEAD BOULEVARD
SCOURY BEND DRIVE (STREET N) ROUGH GRADE - FLEET WING AVENUE (STREET G) TO LAKE MEAD BOULEVARD
ROADWAY GRADING PLAN
KETTLE RIDGE DRIVE STA. 60+50 TO STA. 60+50



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		DRAWN BY: O. QUASSANI	
		CHECKED BY: P. BATES	
		HORIZ.: 1" = 20'	
		107V8097	CLV L19-02315
		DATE: MARCH, 2020	
		DRAWING NO.	20/43
		JOB NO. 100060655	



APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT
PROJECT NO. 136892 FIRST APPROVED DATE: _____
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

GRADING PLAN CERTIFICATION
PAUL A. BATES PE#18723 DATE _____
CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY FOR THIS SITE ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.
DS#5156

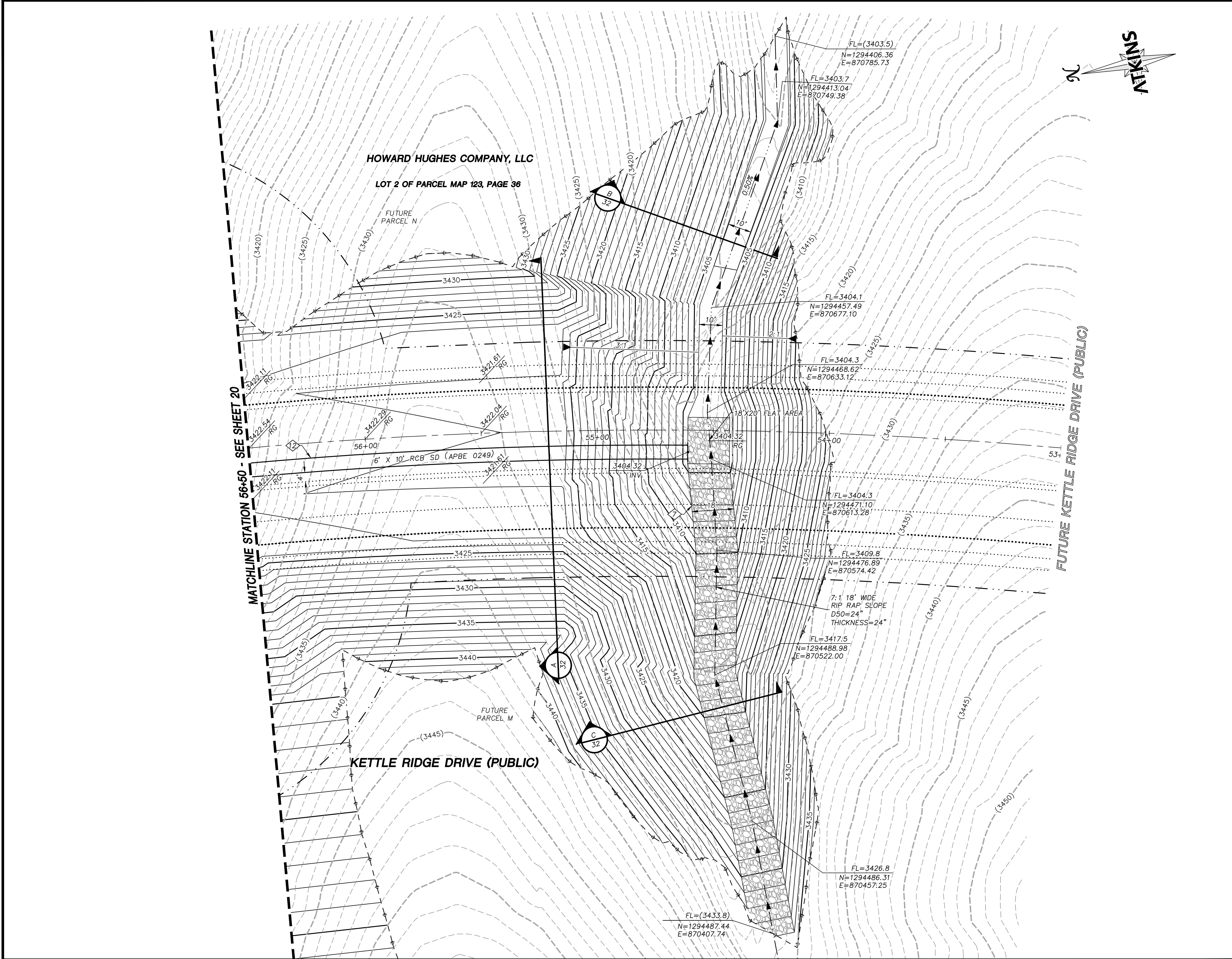
BASIS OF BEARING
GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS HIGH ELEVATION ZONE, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

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CITY OF LAS VEGAS BENCHMARK: D368 (REVISED 2008)
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FND USC&GS DISC SET IN ROCK RIDGE 150' SOUTH OF CHARLESTON BLVD. & WEST OF DETENTION BASIN.
T21S,R59E,S03

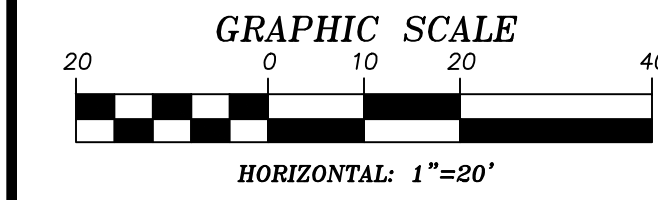
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FIREARM AND ANTI-AIRCRAFT SYSTEMS OF TRANSPORTATION

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STORM DRAIN CONSTRUCTION NOTES		
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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT

PROJECT NO. 136892 FIRST APPROVED DATE: _____

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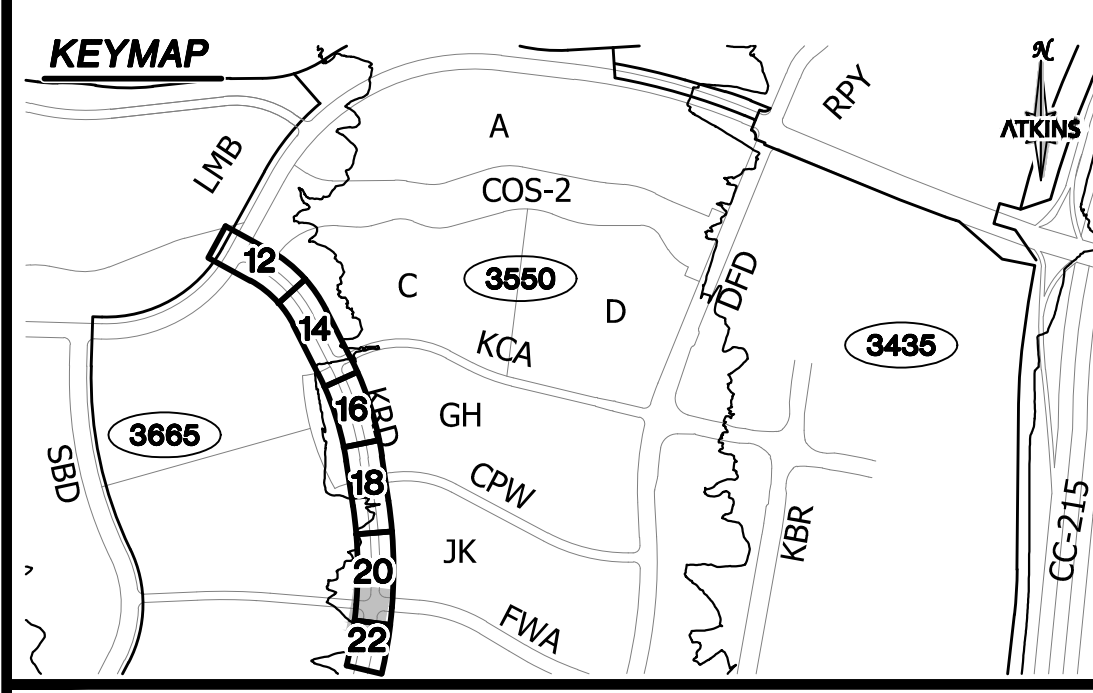
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DESIGNED BY: N. BARCOS
DRAWN BY: O. QUASSANI
CHECKED BY: P. BATES
HORIZ.: 1"=20'
VERT.: NONE

1078097
CLV L19-02315
DATE: MARCH, 2020
DRAWING NO. 22/43

2270 Corporate Circle Suite 200
Henderson, Nevada 89074
Telephone: +1702.263.7755
Fax: +1702.263.7200

SUMMERLIN VILLAGE 22

KETTLE RIDGE DRIVE (STREET J) - FLEET WING AVENUE (STREET G) TO LAKE MEAD BOULEVARD

SCURRY BEND DRIVE (STREET N) ROUGH GRADE - FLEET WING AVENUE (STREET G) TO LAKE MEAD BOULEVARD

ROADWAY GRADING PLAN

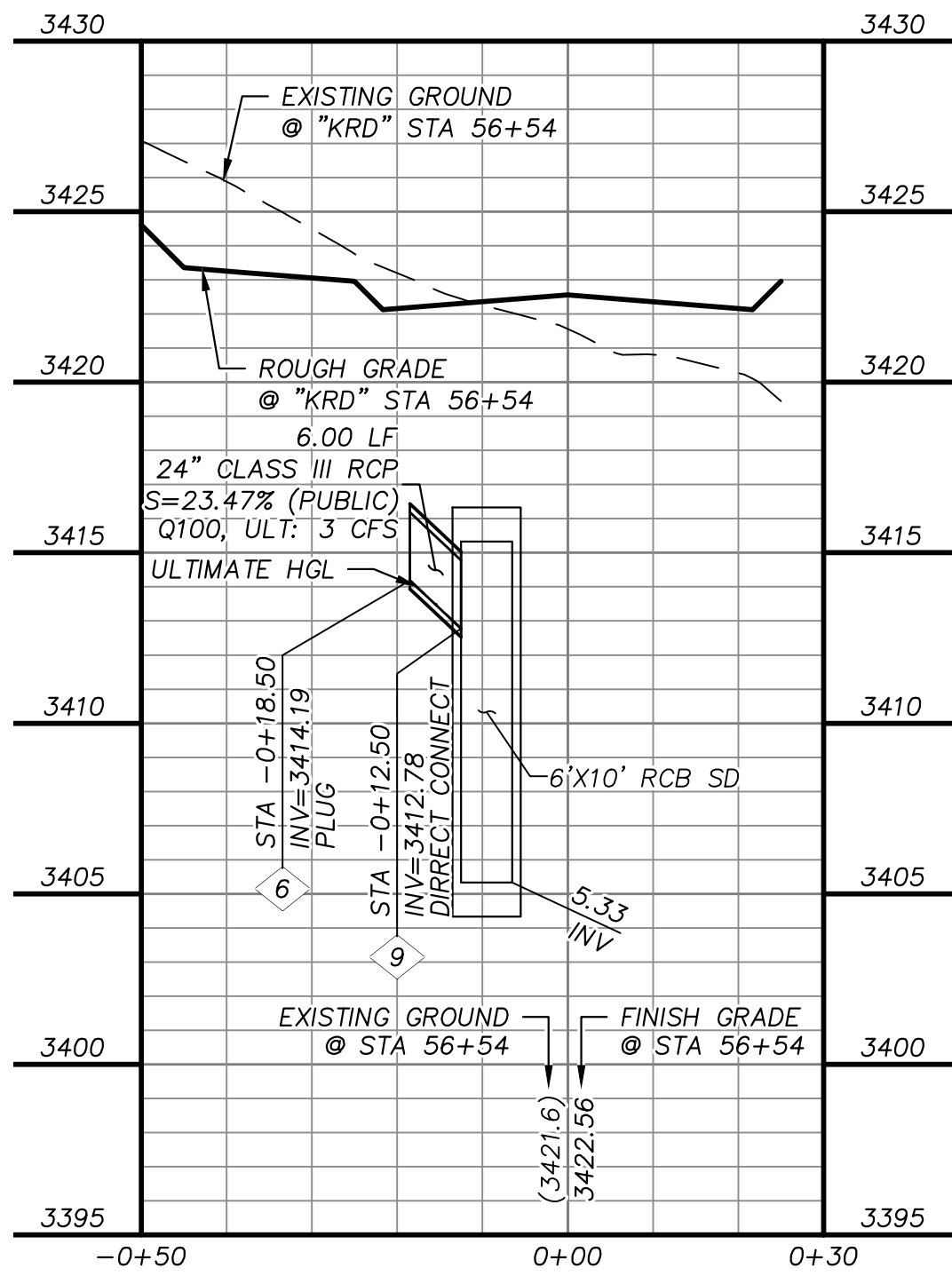
KETTLE RIDGE DRIVE BEGIN TO STA. 56+50

REVISIONS

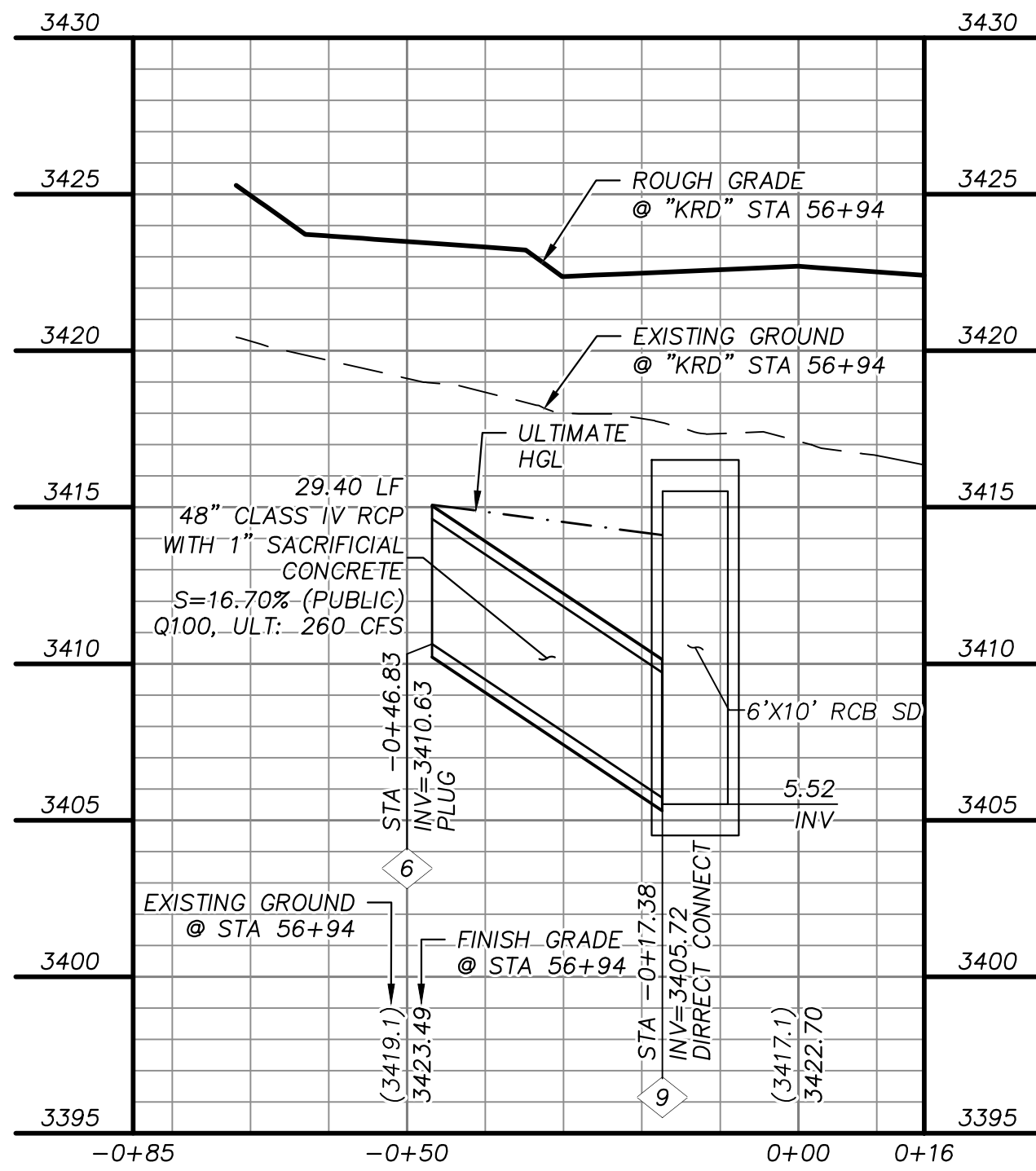
REV.	DESCRIPTION	BY	DATE	APPROVAL

PROJECT: Summerlin Village 22\100060655 - V22N Street J (Lake Mead to Street G)_Sheets\60655-09-GRAD-G1.dwg LAYOUT: 22 Mar 12, 2020 - 12:05PM

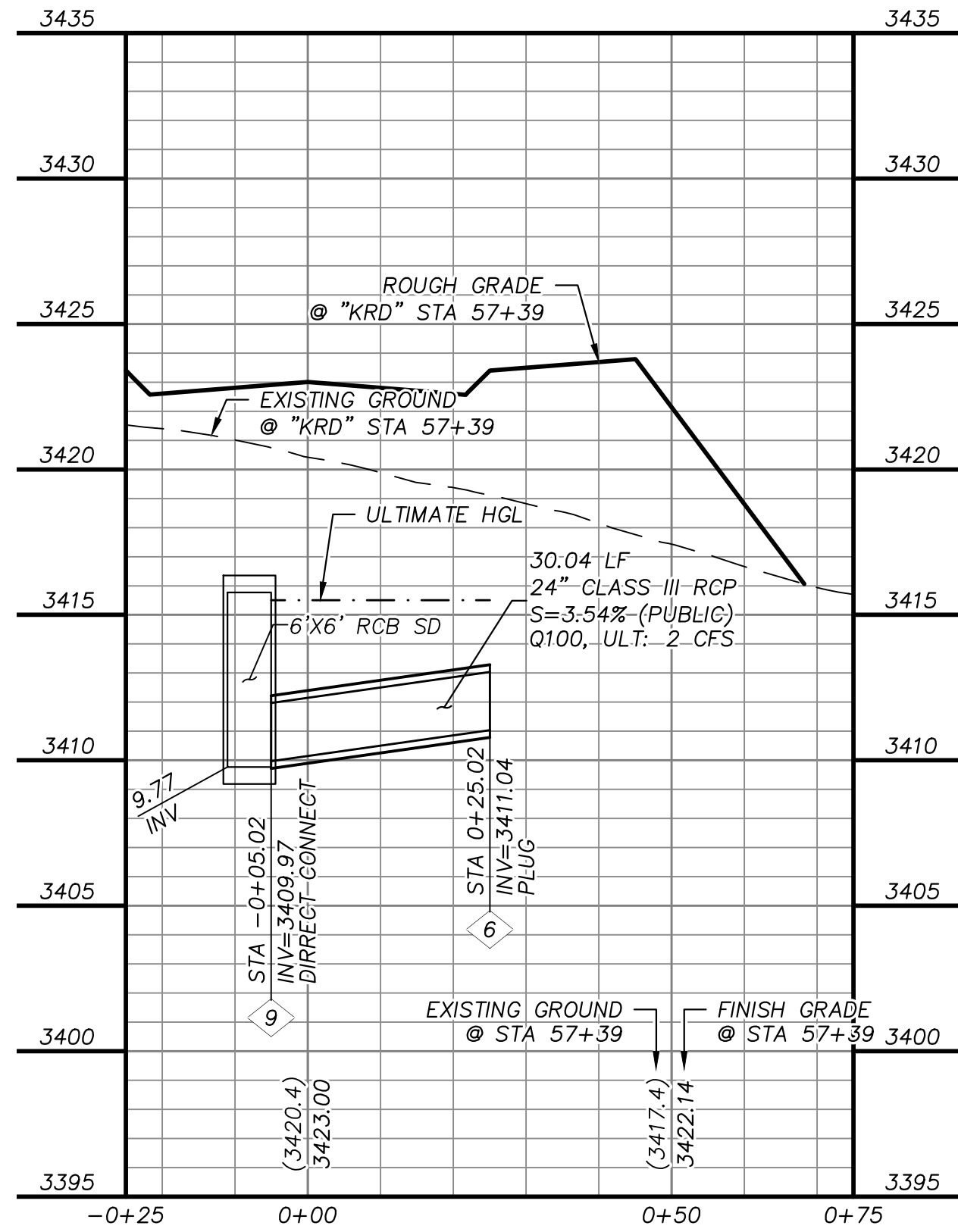
JOB NO. 100060655



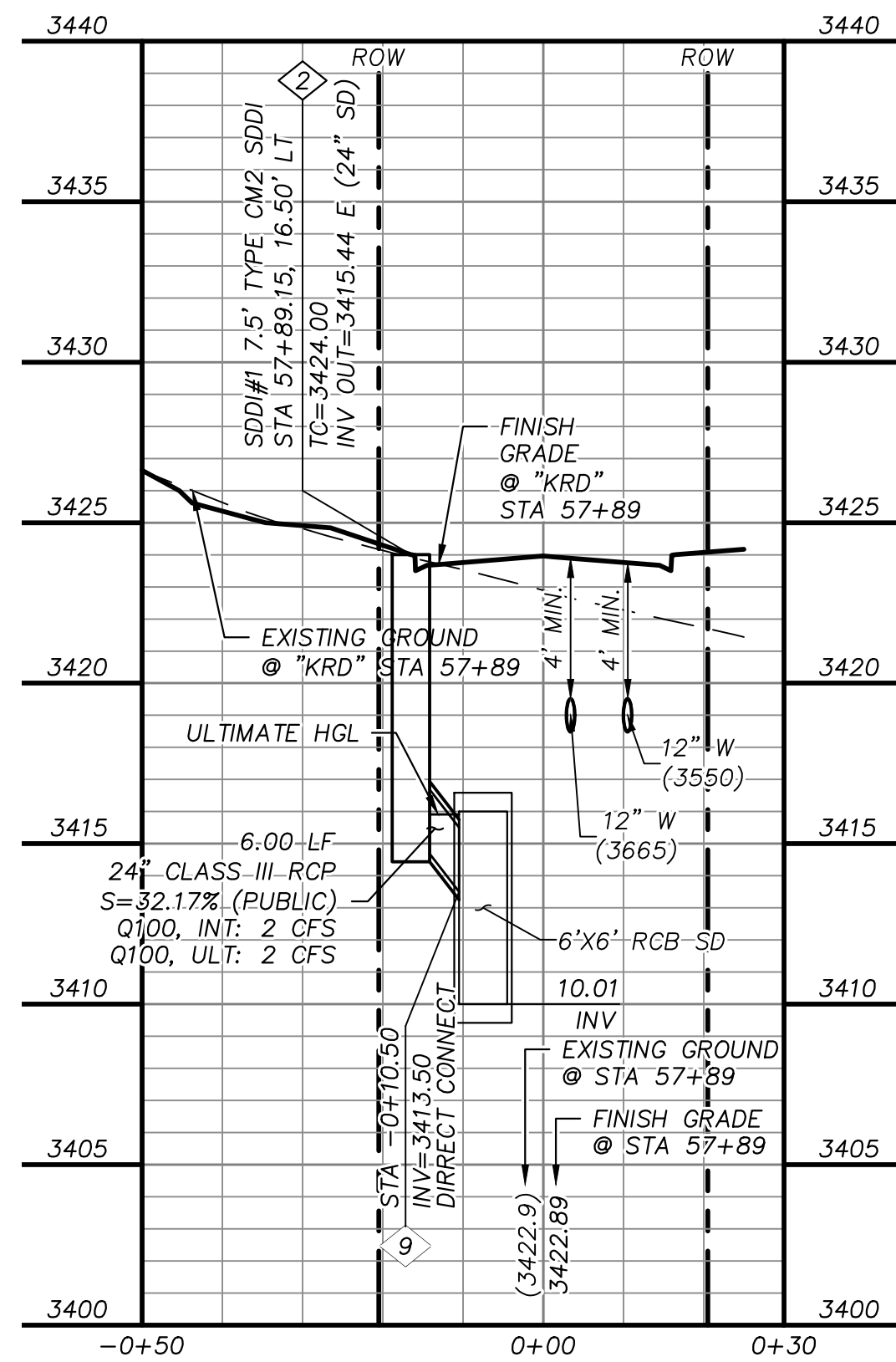
STORM DRAIN LATERAL
"KRD" STA. 56+54 SEE SHEETS 20 AND 21



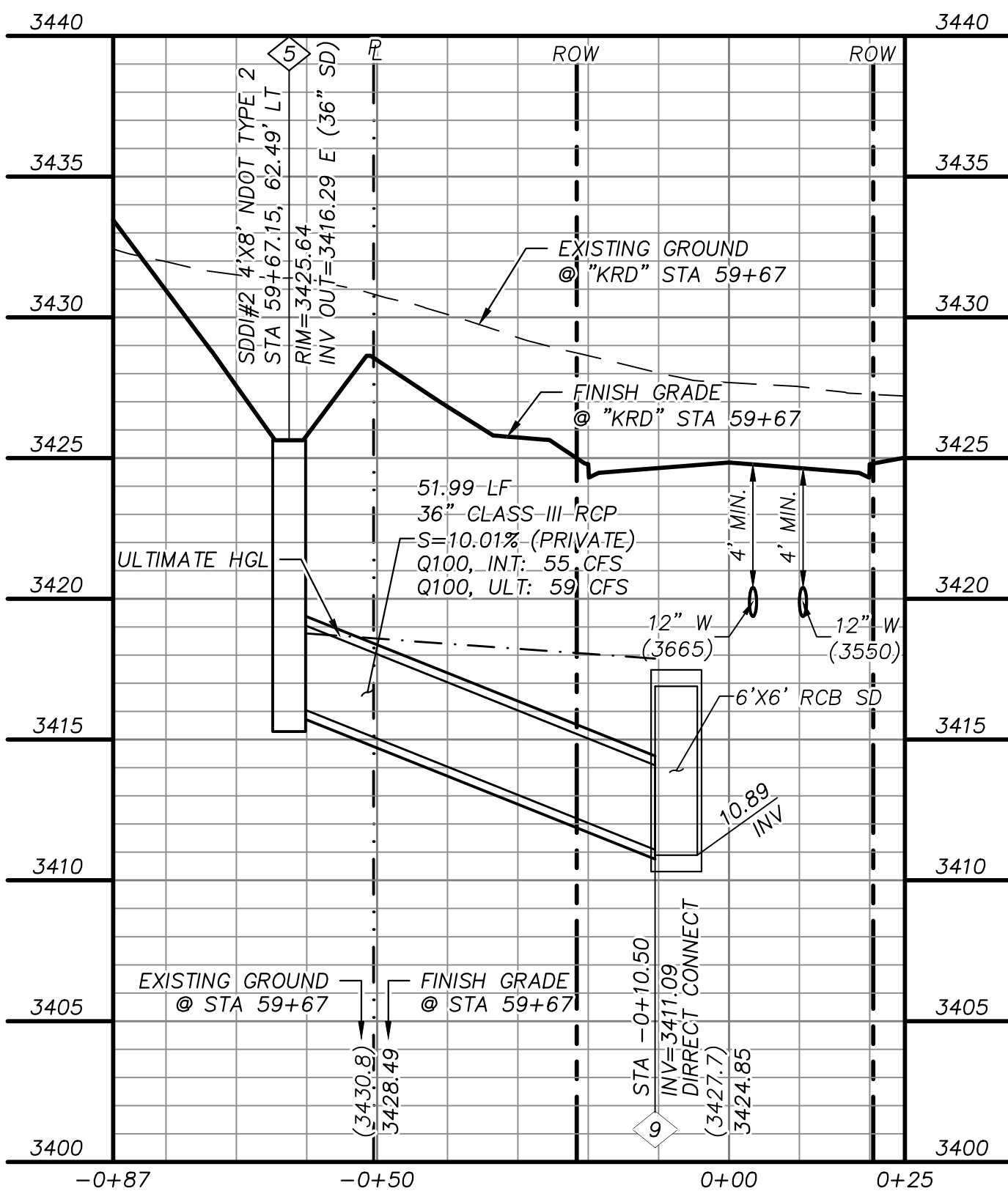
STORM DRAIN LATERAL
"KRD" STA. 56+94 SEE SHEETS 20 AND 21



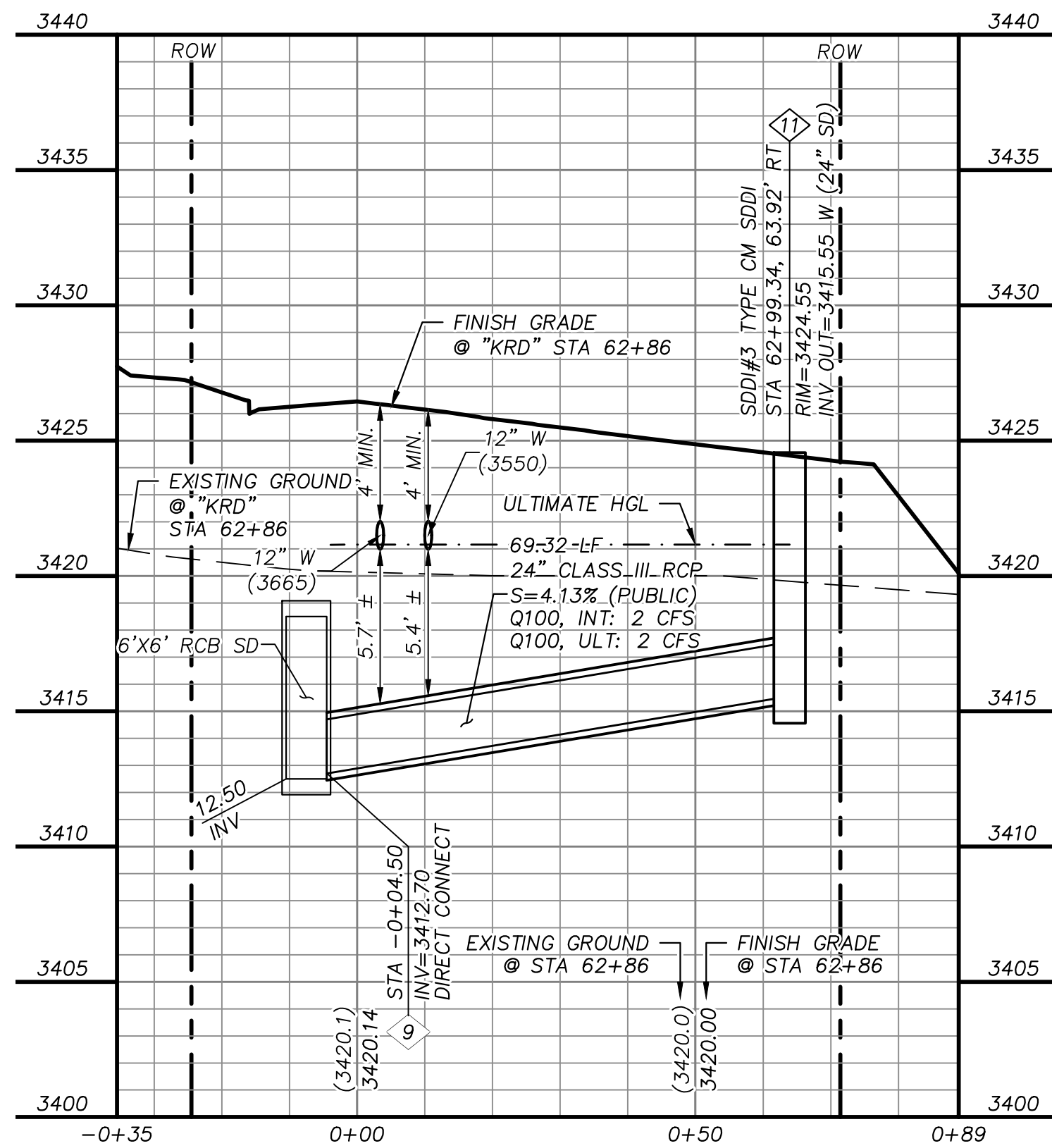
STORM DRAIN LATERAL
"KRD" STA. 57+39 SEE SHEETS 20 AND 21



STORM DRAIN LATERAL
"KRD" STA. 58+76 SEE SHEETS 20 AND 21



STORM DRAIN LATERAL
"KRD" STA. 59+67 SEE SHEETS 20 AND 21



STORM DRAIN LATERAL
"KRD" STA. 62+86 SEE SHEETS 18 AND 19

STORM DRAIN CONSTRUCTION NOTES

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REVISIONS

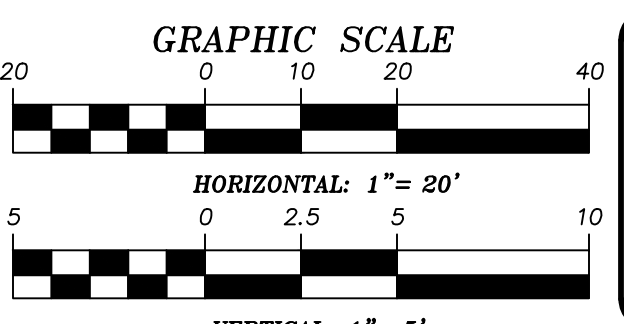
REV.	DESCRIPTION	DATE	APPROVAL

ATKINS
2270 Corporate Circle Suite 200
Henderson, Nevada 89074
Telephone: +1702.263.7755
Fax: +1702.263.7700

SUMMERLIN

SUMMERLIN VILLAGE 22
KETTLE RIDGE DRIVE (STREET J) - FLEET WING AVENUE (STREET G) TO LAKE MEAD BOULEVARD
SCURRY BEND DRIVE (STREET N) ROUGH GRADE - FLEET WING AVENUE (STREET G) TO LAKE MEAD BOULEVARD
STORM DRAIN LATERAL PROFILES

DESIGNED BY: N. BARCOS
DRAWN BY: O. QUASSANI
CHECKED BY: P. BATES
DATE: MARCH, 2020
DRAWING NO. 24/43
JOB NO. 100060655



APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 136892 FIRST APPROVED DATE: _____
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

GRADING PLAN CERTIFICATION

PAUL A. BATES PE#18723 DATE _____
CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY FOR THIS SITE ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.
DS#5156

BASIS OF BEARING

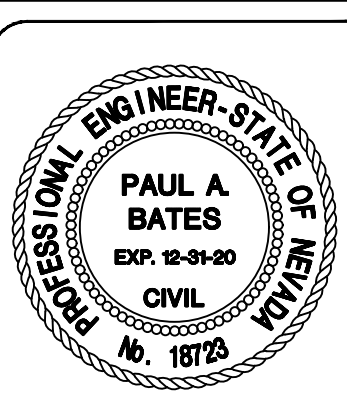
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BENCHMARK

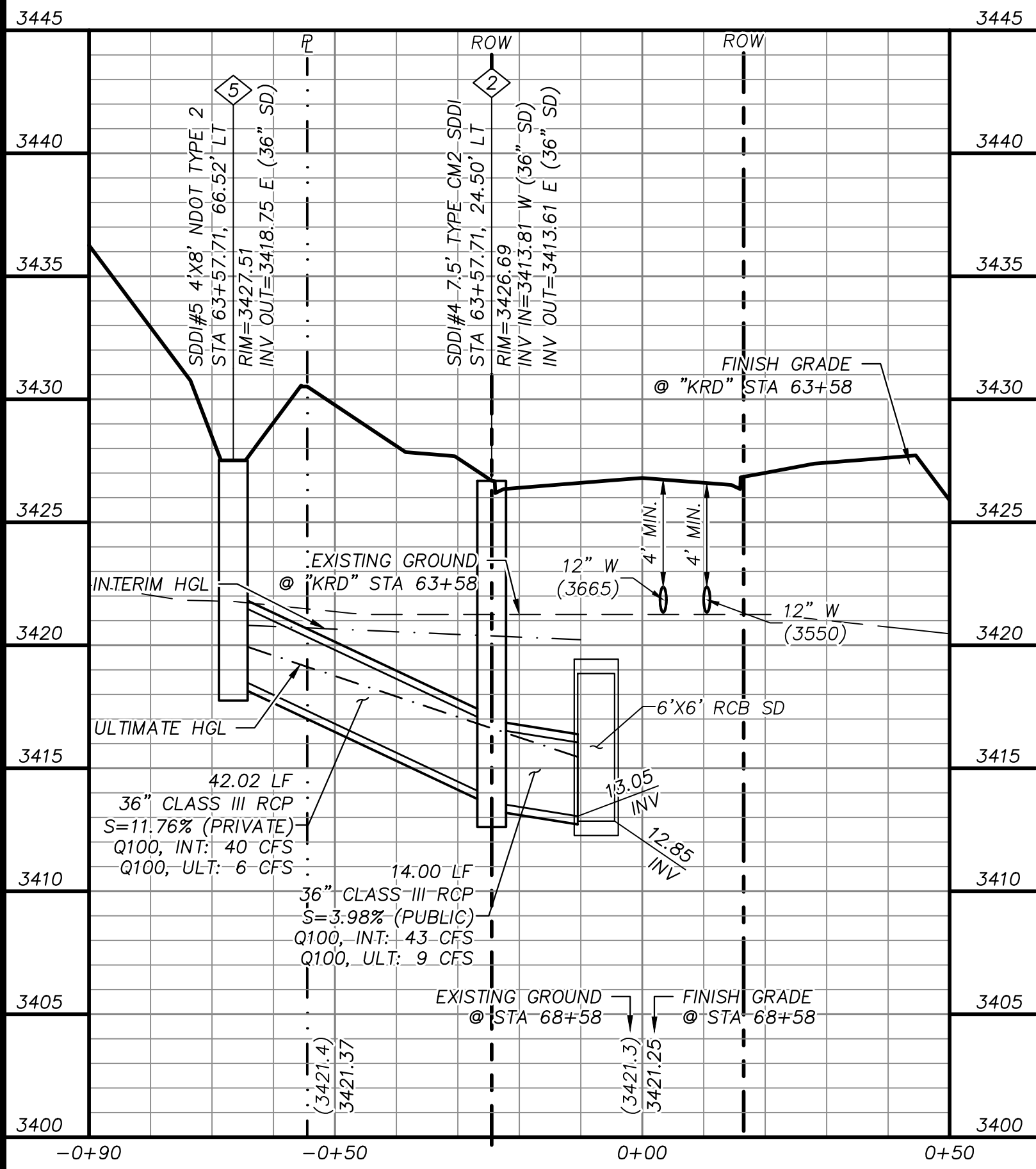
CITY OF LAS VEGAS BENCHMARK: D368 (REVISED 2008)
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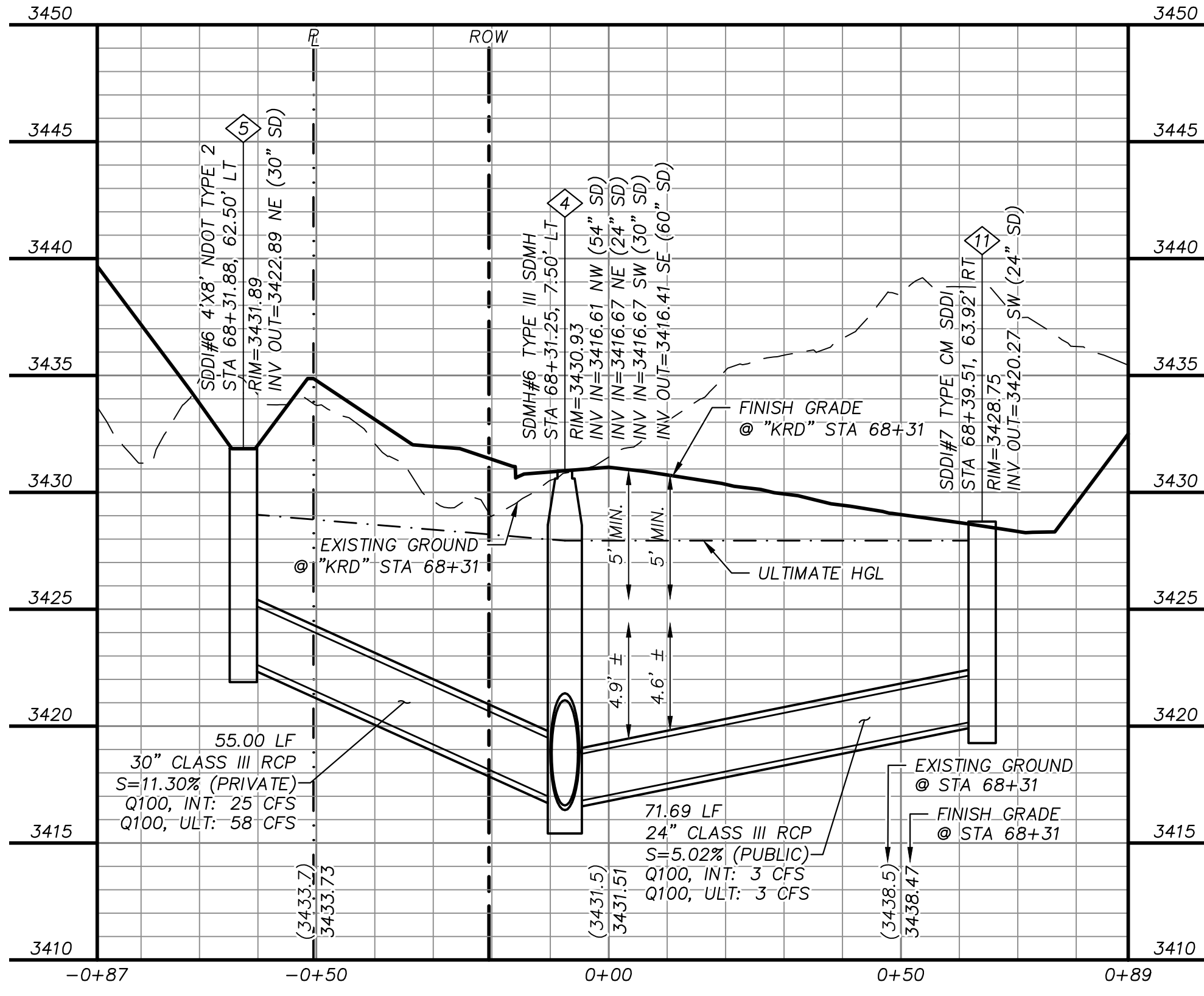
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STORM DRAIN LATERAL

"KRD" STA. 63+58 SEE SHEETS 18 AND 19

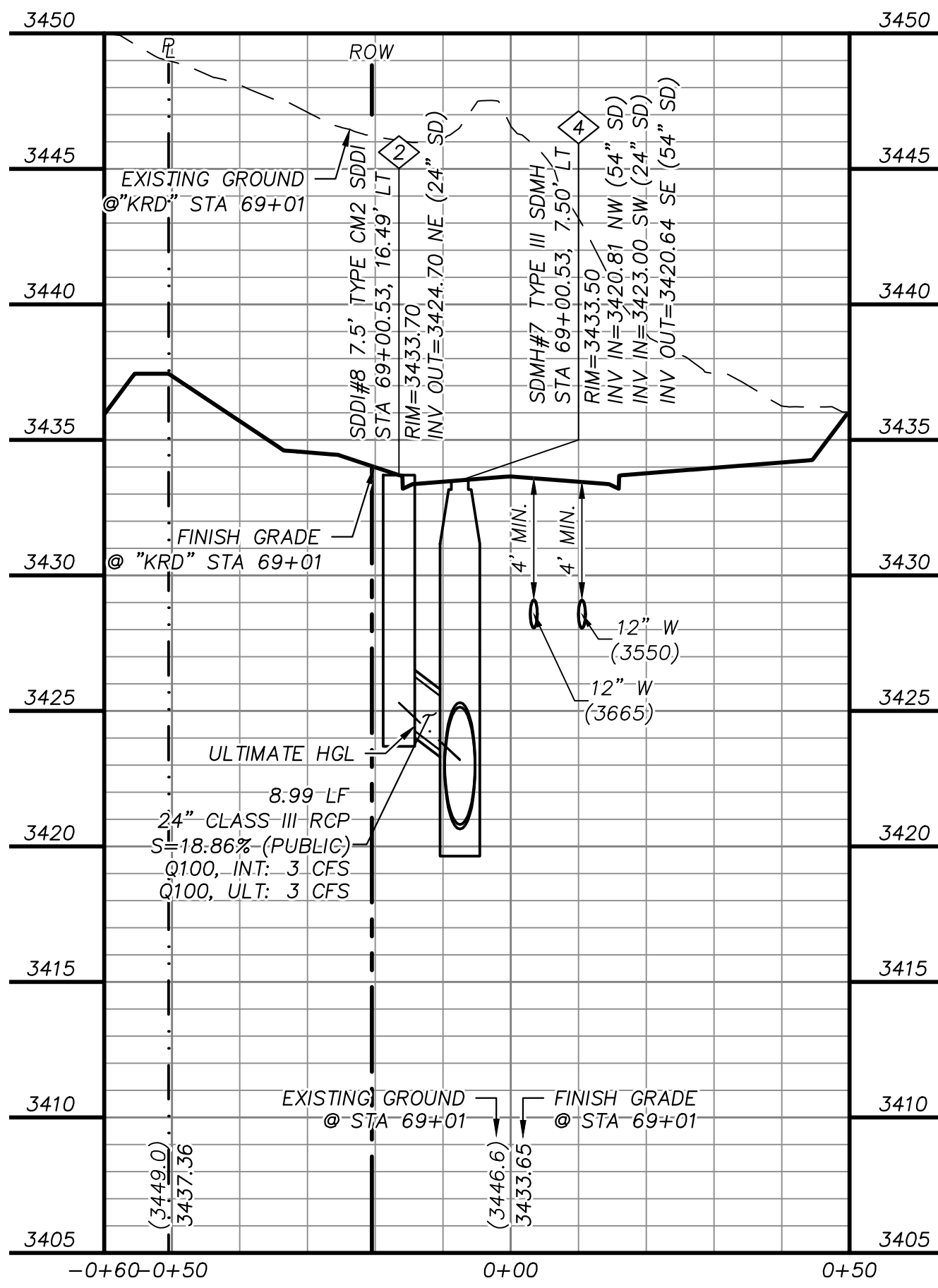
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25



STORM DRAIN LATERAL

"KRD" STA. 68+31 SEE SHEETS 14 AND 15

H
25



STORM DRAIN LATERAL

"KRD" STA. 69+01 SEE SHEETS 14 AND 15

I
25

STORM DRAIN CONSTRUCTION NOTES

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REVISIONS

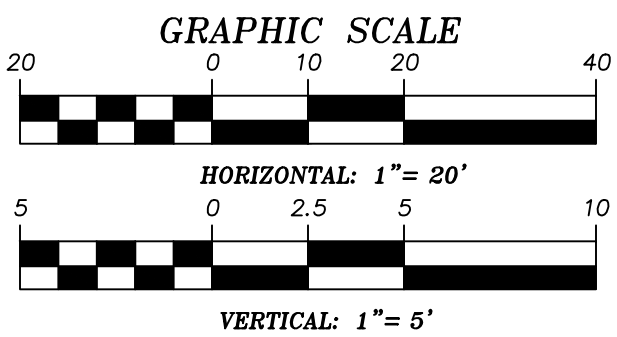
REV.	DESCRIPTION	BY	DATE	APPROVAL

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Fax: +1702.263.7200

SUMMERLIN

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STORM DRAIN LATERAL PROFILES

DESIGNED BY: N. BARCOS
DRAWN BY: O. QUASSANI
CHECKED BY: P. BATES
DATE: MARCH, 2020
DRAWING NO. 25/43
JOB NO. 100060655



APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 136892 FIRST APPROVED DATE: _____
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

GRADING PLAN CERTIFICATION

PAUL A. BATES PE#18723 DATE _____
CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY FOR THIS SITE ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.
DS#5156

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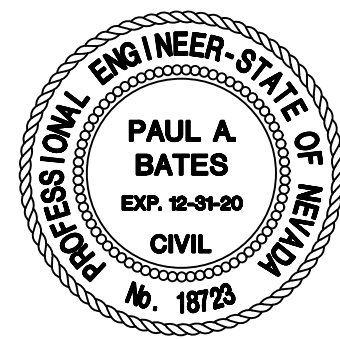
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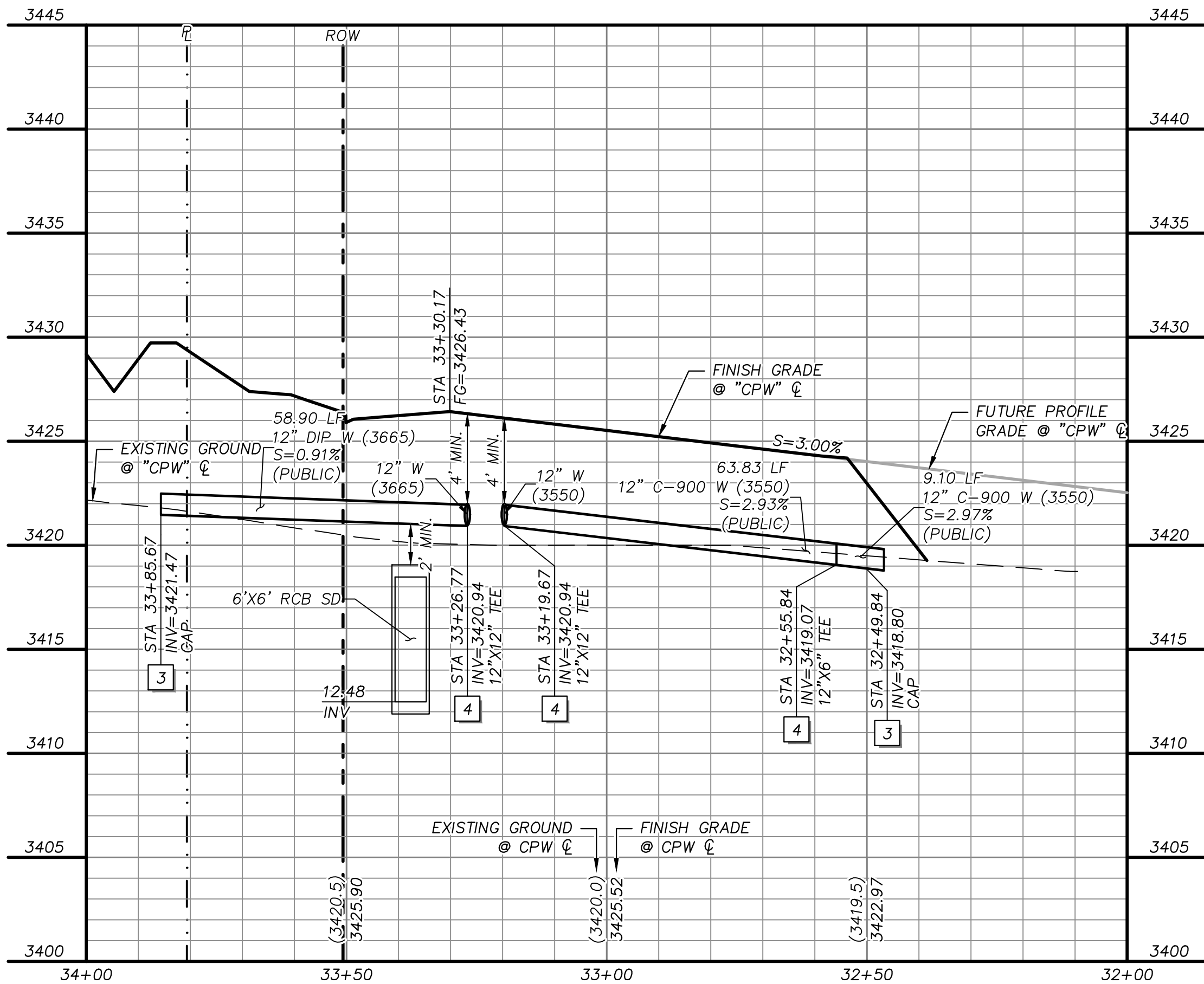
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CITY OF LAS VEGAS BENCHMARK: D368 (REVISED 2008)
NAVD88 ELEVATION: 989.574 METERS (3,246.63 FEET)
FND USC&GS DISC SET IN ROCK RIDGE 150' SOUTH OF CHARLESTON BLVD. & WEST OF DETENTION BASIN.
T21S,R59E,S03



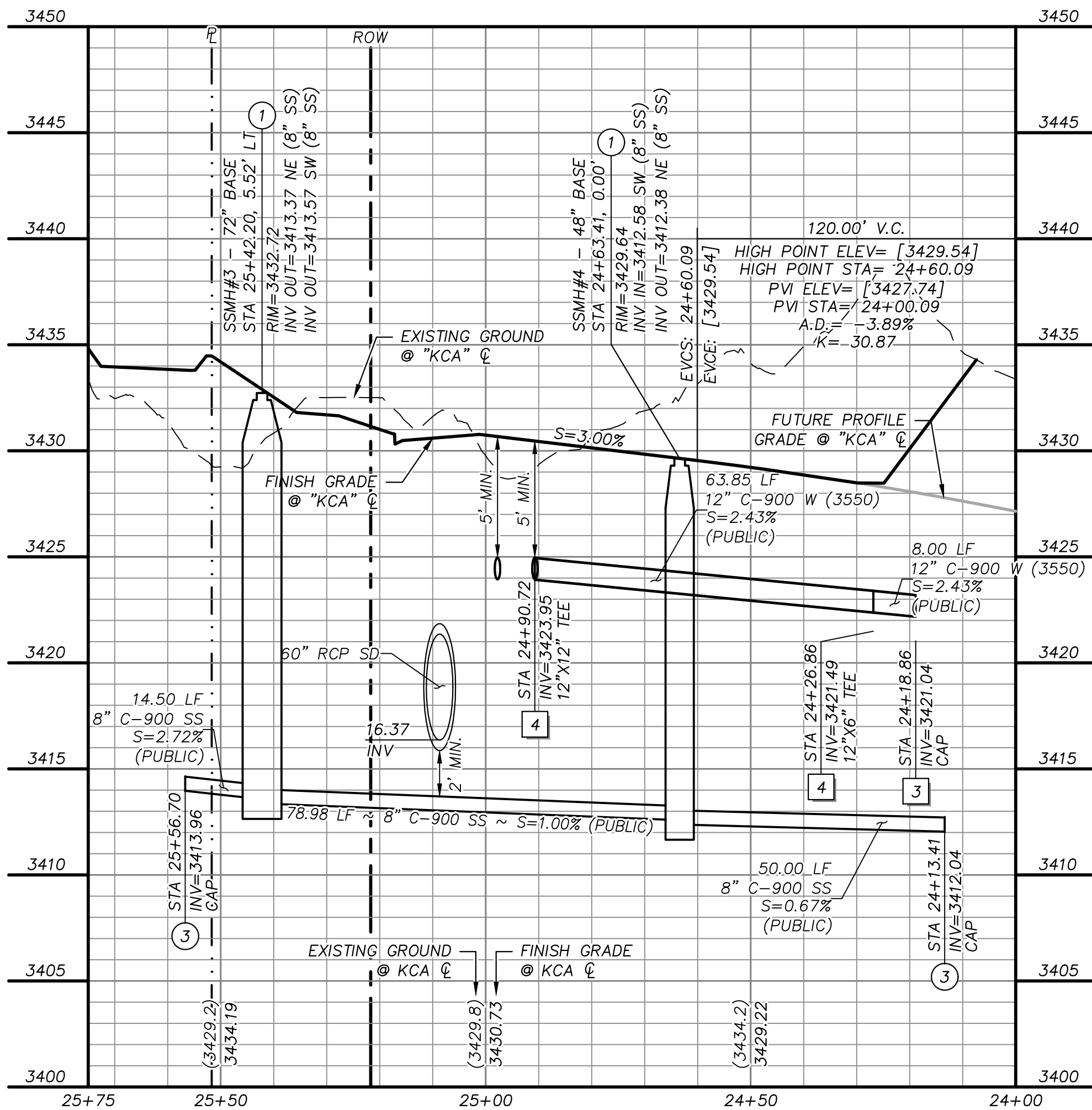
UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.





ROADWAY LATERAL CLOWDER PASS WAY

"KRD" STA. 62+83 SEE SHEETS 18 AND 19
FOR STORM DRAIN LATERAL INFORMATION
SEE DETAIL F ON SHEET 24.



ROADWAY LATERAL - KESTREL CREEK AVENUE

"KRD" STA. 68+21 SEE SHEETS 14 AND 15
FOR STORM DRAIN LATERAL INFORMATION
SEE DETAIL H ON SHEET 25.

STORM DRAIN CONSTRUCTION NOTES

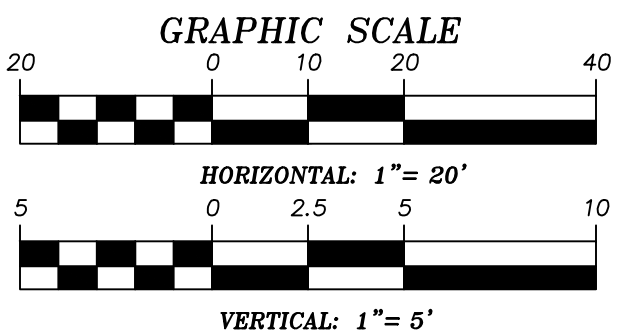
1. INSTALL STORM DRAIN. SEE SHEET 3 FOR ADDITIONAL STORM DRAIN NOTES AND INFORMATION.
2. INSTALL TYPE "CM2" DROP INLET PER CCAUSD #412.1 & #421
3. INSTALL TYPE II SD MANHOLE PER CCAUSD #405.2
4. INSTALL TYPE III SD MANHOLE PER CCAUSD #406
5. INSTALL NDOT TYPE 2 DROP INLET PER NDOT R-4.2.1 (SEE SHEET 29)
6. STUB & PLUG STORM DRAIN FOR FUTURE CONNECTION PER MANUFACTURER'S PLUG, OR APPROVED EQUAL (SEE SHEET 34)
7. INSTALL RIP-RAP (D50=8", THICKNESS=16") PER DETAIL H ON SHEET 32
8. INSTALL SD JUNCTION STRUCTURE
9. DIRECT CONNECTION INTO RCB SEE SHEET 35 FOR DETAIL
10. INSTALL TYPE I SD RISER PER CCAUSD #403.1
11. INSTALL TYPE "CM" DROP INLET PER CCAUSD #421 & #422
12. INSTALL PRECAST REINFORCED CONCRETE BOX PER NDOT STANDARD 502 AND 503 SEE SHEET 34 FOR RCB INFORMATION

SEWER CONSTRUCTION NOTES

1. INSTALL SEWER MANHOLE WITH SINGLE 24" LID PER DCSWCS SD-1, SD-3, SD-4 PER 2019 DCSWCS 4TH EDITION
2. INSTALL SEWER MAIN PER DCSWCS SD-17
3. STUB AND CAP SEWER PIPE. PLACE 4"x4" POST, DOUGLAS FIR, OVER END OF PIPE AND INSTALL THRUST BLOCK (1 CUBIC FT. MINIMUM).

WATERLINE CONSTRUCTION NOTES

1. INSTALL WATER MAIN PER UDACS PLATES #17 AND PLATE #19
2. INSTALL GATE VALVE PER UDACS PLATES #30 AND #39
3. INSTALL CAP AND 2" MANUAL BLOWOFF ASSEMBLY PER UDACS PLATE #36
4. INSTALL TEE W/ VALVE AND LATERAL PER UDACS PLATES #17, #19, #30, AND #39 (PER UDACS PLATE #31 FOR C900 JOINTS, PER UDACS 2.15 AND RESTRAINT JOINTS TABLE ON SHEET 9 FOR DIP JOINTS)
5. INSTALL FIRE HYDRANT WITH APPURTENANCES (CONCRETE PAD, LATERAL, VALVE, AND TEE) PER UDACS PLATES #30, #39, AND #40. (PER UDACS PLATE #31 FOR C900 JOINTS, PER UDACS 2.15 AND RESTRAINT JOINTS TABLE ON SHEET 9 FOR DIP JOINTS)
6. INSTALL DEFLECTION AT PIPE JOINTS (MAXIMUM OF 1')
7. INSTALL 1.5" METER WITH RPPA PER UDACS PLATES #4 AND #8



APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 136892 FIRST APPROVED DATE: _____
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

GRADING PLAN CERTIFICATION

PAUL A. BATES PE#18723 DATE _____
CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY FOR THIS SITE ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.
DS#5156

BASIS OF BEARING

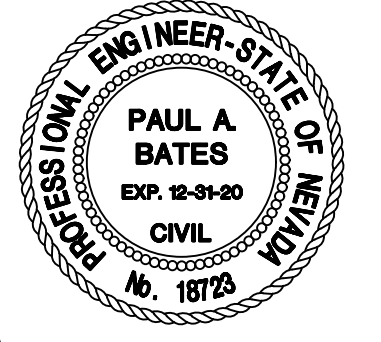
GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS HIGH ELEVATION ZONE, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

BENCHMARK

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DESIGNED BY: N. BARCOS
DRAWN BY: O. QUASSANI
CHECKED BY: P. BATES
DATE: MARCH, 2020
HORIZ.: 1"=20'
VERT.: 1"=5'

SUMMERLIN VILLAGE 22
KETTLE RIDGE DRIVE (STREET J) - FLEET WING AVENUE (STREET G) TO LAKE MEAD BOULEVARD
SCURRY BEND DRIVE (STREET N) ROUGH GRADE - FLEET WING AVENUE (STREET G) TO LAKE MEAD BOULEVARD

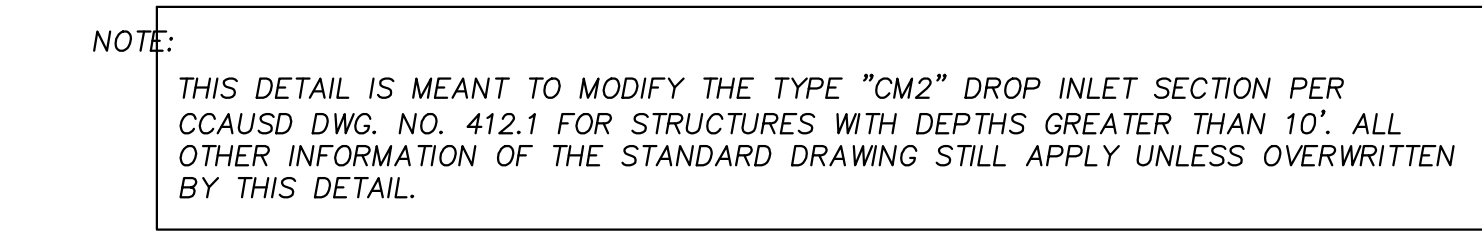
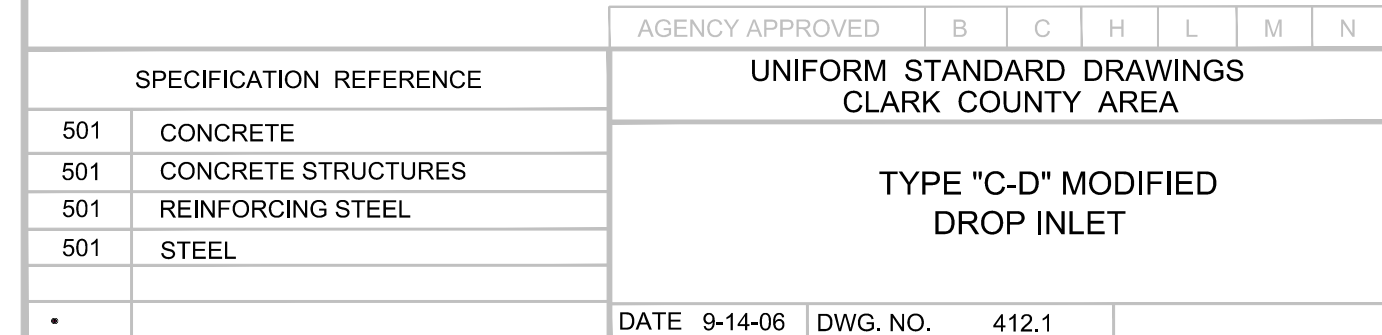
ROADWAY LATERAL PROFILES



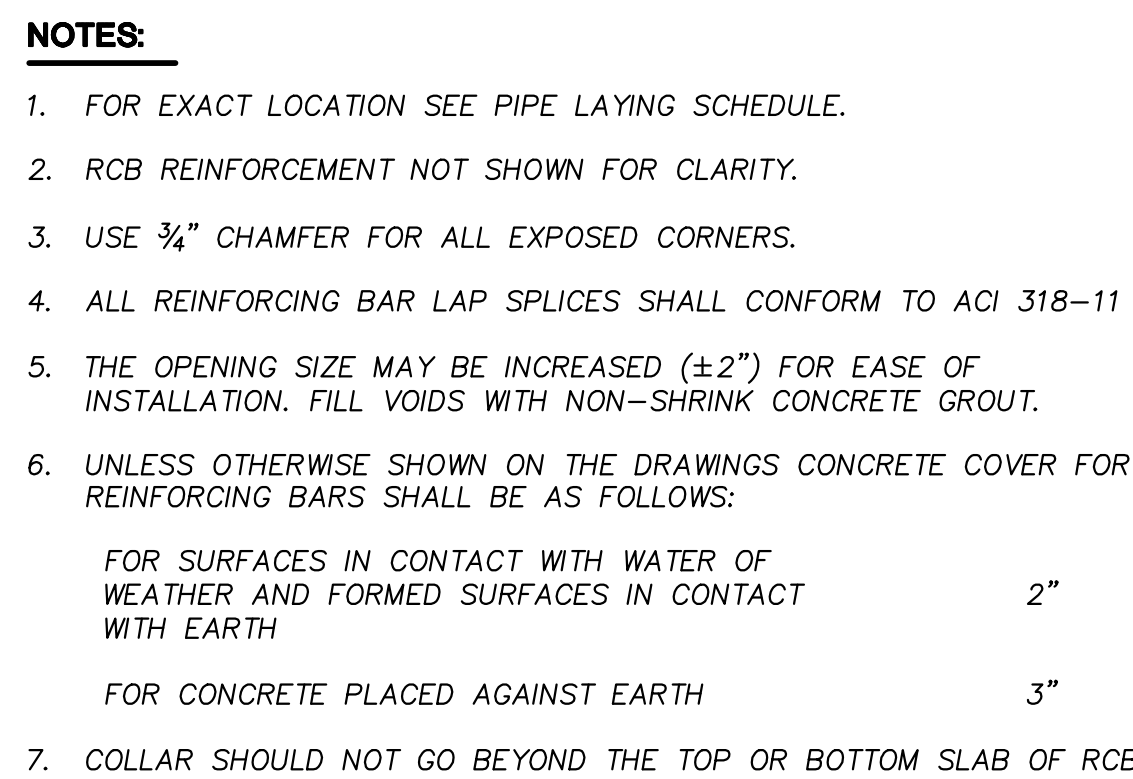
ATKINS
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Fax: +1702.263.7200

REVISIONS

REV.	DESCRIPTION	BY	DATE	APPROVAL



N.T.S.



N.T.S



N.T.S.



UNLESS OTHERWISE NOTED OR SPECIFIED, ALL STRUCTURAL CONCRETE SHALL BE MODIFIED MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI IN 28 DAYS. CEMENT USED IN STRUCTURAL CONCRETE SHALL BE TYPE V CEMENT UNLESS OTHERWISE NOTED.

REINFORCEMENT STEEL SHALL BE DEFORMED BARS CONFORMING IN QUALITY TO THE REQUIREMENTS OF ASTM A-615 "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT" GRADE 60.

- NOTES:**
1. ALL BARS LENGTHS TO BE I.D. + 3'-10"
 2. ASH= TOTAL AREA OF HORIZONTAL REINFORCEMENT MADE DISCONTINUOUS BY PIPE PENETRATION
 3. ASV= TOTAL AREA OF VERTICAL REINFORCEMENT MADE DISCONTINUOUS BY PIPE PENETRATION
 4. ASH AND ASV BARS SHALL BE EVENLY DISTRIBUTED ON EACH SIDE OF PIPE PENETRATION AND PLACED IN ADDITION TO TYPICAL WALL REINFORCEMENT SHOWN
 5. ASH AND ASV BARS SHALL BE UNIFORMLY SPACED OVER A DISTANCE NOT TO EXCEED 1/4 O.D. ON EACH SIDE OF THE PIPE PENETRATION