CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Acting Director

Mayor Timothy M. Keller

July 2, 2019

Scott Eddings, P.E.
Huitt-Zollars
333 Rio Rancho Blvd., Suite 101
Rio Rancho, NM, 87124

RE: **Winrock Road B Extension**
2100 Louisiana Blvd NE
Grading Plan Stamp Date: 6/28/19
Drainage Report Stamp Date: none
Hydrology File: J19D058G

Dear Mr. Eddings:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based on submittal received on 6/28/19, the Grading Plan cannot be approved until the following are corrected:

Prior to Site Plan for Building Permit:

1. Please sign and date the Engineer's Stamp in the Drainage Report.
2. Show the proposed access easement. This might be the yellow dashed line on the grading plan, but there's no legend for it.
3. Inlet 7D really just needs to be eliminated and replaced with a manhole. Then, the curb cuts/sidewalk culverts can be upsized (or additional ones added) to route this 10.5cfs from this subbasin into the Stormwater Quality (SWQ) Pond.
4. Since there's really no building to require a C.O inspection by Hydrology, the Engineers Certification of Grading and Drainage will need to be tied to work order closeout and listed as an item on the Infrastructure List.
5. Also on the Infrastructure List, include the *SWQ Pond w/ Drainage Covenant*.

Prior to Grading Permit, Paving Permit & Work Order:

6. Inlet calculations are required and flow bypass for each inlet need to be determined. For inlets in a sump, demonstrate 2x 100-yr capacity.
7. Provide details, contributing flows, and capacity calculations for the curb cuts; the broad crested weir equation is probably the most appropriate for these.

8. Additional information is needed for the SWQ Pond. Provide pond details such as SWQ water surface elevation (WSE), 100-yr WSE, top of pond bottom of pond, include sections.

9. How will stormwater be prevented from entering the parking garage? The waterblock needs to be supported with depth of flow calculated at the top of the ramp along Road B.

10. Provide the pump station design. A drain will be needed at the base of the ramp and will need to include a sump, pump station, and pump sized to lift the 100-yr flow back up to Manhole 7C.

11. As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Curtis Cherne, PE, ccherne@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Winrock Town Center - Road B Extension

Project Title: Grading and Drainage Building Permit #: _____ Hydrology File #: J19D058G

DRB#: 2018-001579 EPC#: _____ Work Order#: 4553.90

Legal Description: A-1-A-1-A-1 Winrock Town Center

City Address: 2100 Louisiana Blvd NE

Applicant: Winrock Partners LLC Contact: Darin Sand

Address: 100 Sun Avenue

Phone#: 505-881-0100 Fax#: _____ E-mail: seddings@huitt-zollars.com

Other Contact: Huitt-Zollars, Inc. Contact: Scott Eddings

Address: 333 Rio Rancho Blvd, Rio Rancho, NM 87124

Phone#: 505-235-7211 Fax#: _____ E-mail: seddings@huitt-zollars.com

TYPE OF DEVELOPMENT: _____ PLAT (# of lots) _____ RESIDENCE X DRB SITE ___ ADMIN SITE

IS THIS A RESUBMITTAL? X Yes _____ No

DEPARTMENT _____ TRANSPORTATION X HYDROLOGY/DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

____ ENGINEER/ARCHITECT CERTIFICATION
____ PAD CERTIFICATION
____ CONCEPTUAL G & D PLAN
X GRADING PLAN
X DRAINAGE REPORT
____ DRAINAGE MASTER PLAN
____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
____ ELEVATION CERTIFICATE
____ CLOMR/LOMR
____ TRAFFIC CIRCULATION LAYOUT (TCL)
____ TRAFFIC IMPACT STUDY (TIS)
____ STREET LIGHT LAYOUT
____ OTHER (SPECIFY) _____
____ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

____ BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY

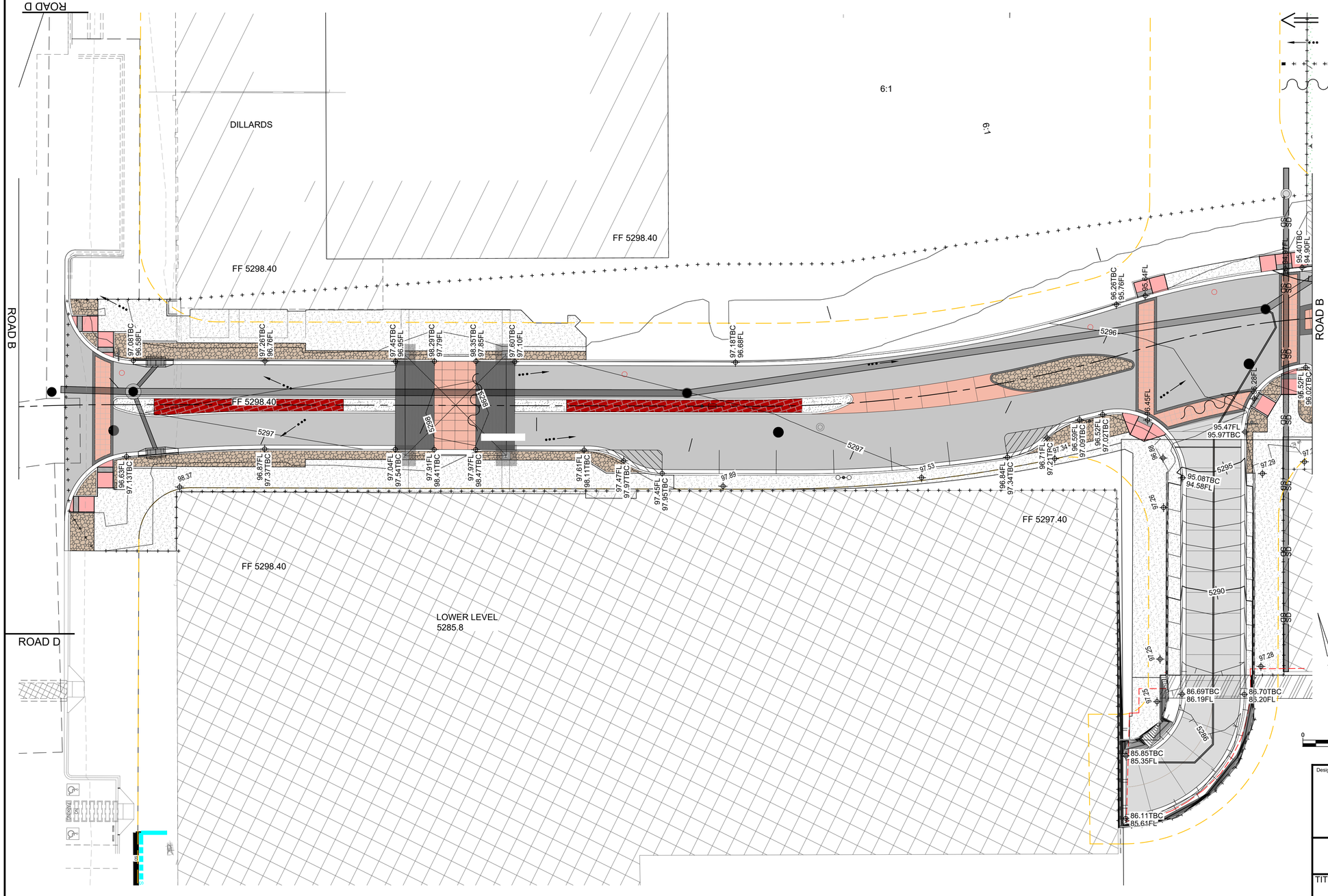
X PRELIMINARY PLAT APPROVAL
____ SITE PLAN FOR SUB'D APPROVAL
X SITE PLAN FOR BLDG. PERMIT APPROVAL
____ FINAL PLAT APPROVAL

____ SIA/ RELEASE OF FINANCIAL GUARANTEE
____ FOUNDATION PERMIT APPROVAL
____ GRADING PERMIT APPROVAL
____ SO-19 APPROVAL
____ PAVING PERMIT APPROVAL
____ GRADING/ PAD CERTIFICATION
____ WORK ORDER APPROVAL
____ CLOMR/LOMR
____ FLOODPLAIN DEVELOPMENT PERMIT
____ OTHER (SPECIFY) _____

DATE SUBMITTED: June 28, 2019 By: Scott Eddings

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____



LEGEND

- BASIN BOUNDARY
- DISCHARGE LOCATION
- FLOW DIRECTION
- LIMITS OF DISTURBANCE
- HIGH POINT

AS BUILT INFORMATION
CONTRACTOR — DATE
WORK STARTED BY — DATE
STAKED BY CONSTRUCTION — DATE
ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE

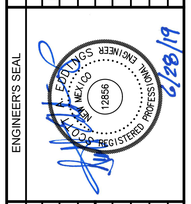
BENCH MARKS
FOUND MONUMENT "20, H18"
STANDARD 3 1/4" ALUMINUM DISC: (FOUND IN PLACE)
NEW MEXICO STATE PLANE COORDINATES (CENTRAL ZONE-N.A.D. 1983)
N=1,493,154.978
E=1,545,648.210
PUBLISHED EL=6283.22 (NAVD 1988)
GROUND TO GRID FACTOR=0.999661580
DELTA ALPHA ANGLE=-0°11'00.11"

MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL



NO.	REMARKS	DATE
	REVISIONS	
	DESIGN	
DESIGNED BY: SAE	DATE: June 28, 2019	
DRAWN BY: LRT	DATE: June 28, 2019	
DWG NAME: 20-22_GRADING PLAN.dwg	PROJ #: R3036899.04	
CHECKED BY: SAE	DATE: June 28, 2019	

nm811 Know what's below. Call before you dig.
TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Albuquerque
6501 Americas Pkwy NE, Suite 550
Albuquerque, New Mexico 87110
Phone (505) 883-8114 Fax (505) 883-5022

WINROCK PARTNERS, LLC.
WINROCK TOWN CENTER
PHASE B ROAD B EXTENSION

TITLE:
GRADING PLAN

Design Review Committee	City Engineer	Last Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
4553.90	J-19-Z	20	53

ROAD B

Plotted: 6/28/2019 2:40:07 PM, By: Eidenze, Scott
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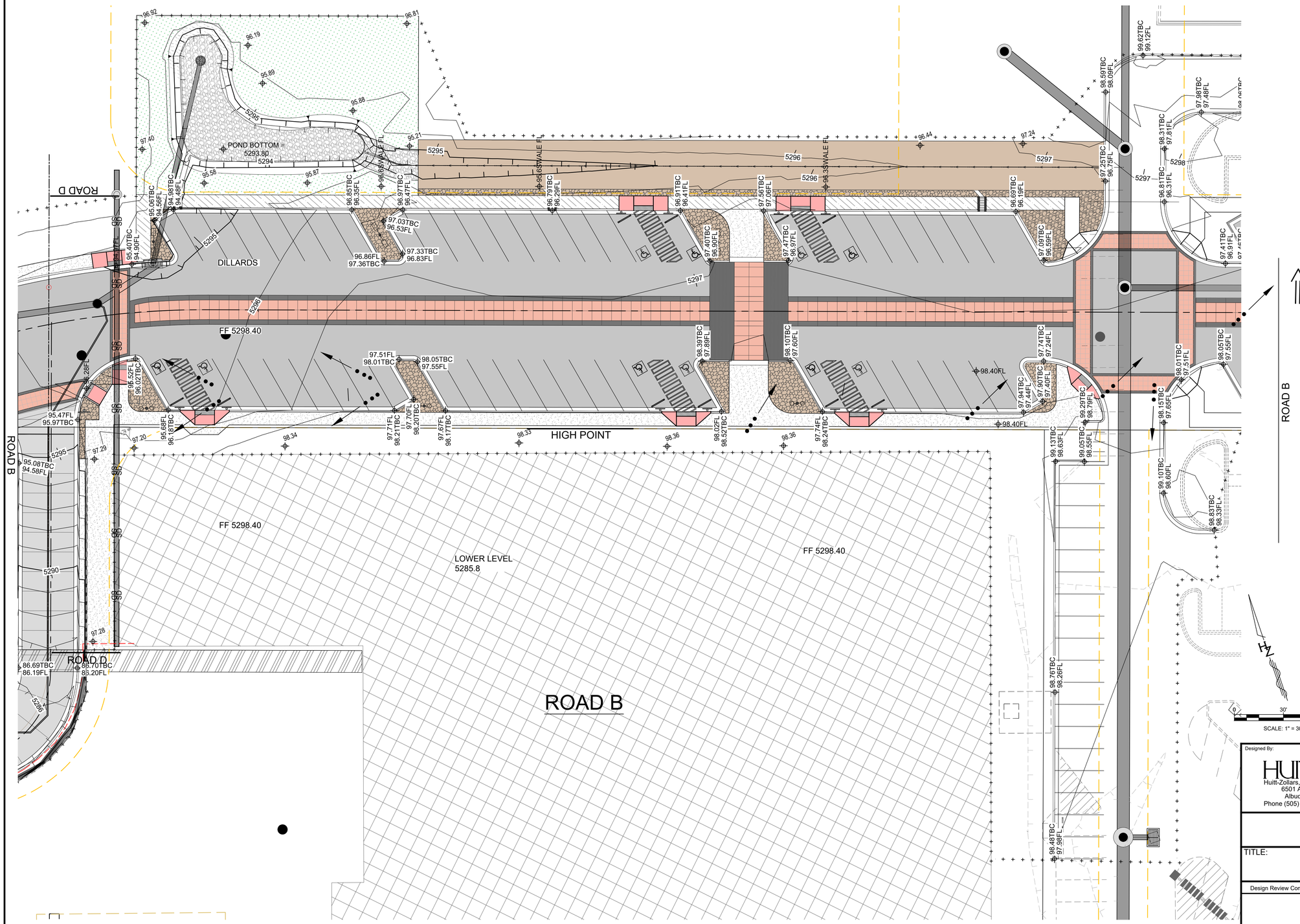

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FIELD NOTES		
NO.	BY	DATE

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RECORD CHANGES	
ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE
MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

ENGINEER'S SEAL

STEVEN A. SORDING — NEW MEXICO — 12856 — REGISTERED PROFESSIONAL ENGINEER — 6/28/19

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
DESIGNED BY: SAE		DATE: June 28, 2019	
DRAWN BY: LRT		DATE: June 28, 2019	
DWG NAME: 20-22_GRADING PLAN.dwg		PROJ #: R303699.04	
CHECKED BY: SAE		DATE: June 28, 2019	

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Huitt-Zollars, Inc. Albuquerque
6501 Americas Pkwy NE, Suite 550
Albuquerque, New Mexico 87110
Phone (505) 883-8114 Fax (505) 883-5022

WINROCK PARTNERS, LLC.
WINROCK TOWN CENTER
PHASE B ROAD B EXTENSION

TITLE:
GRADING PLAN

Design Review Committee	City Engineer	Last Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
4553.90	J-19-Z	21	53

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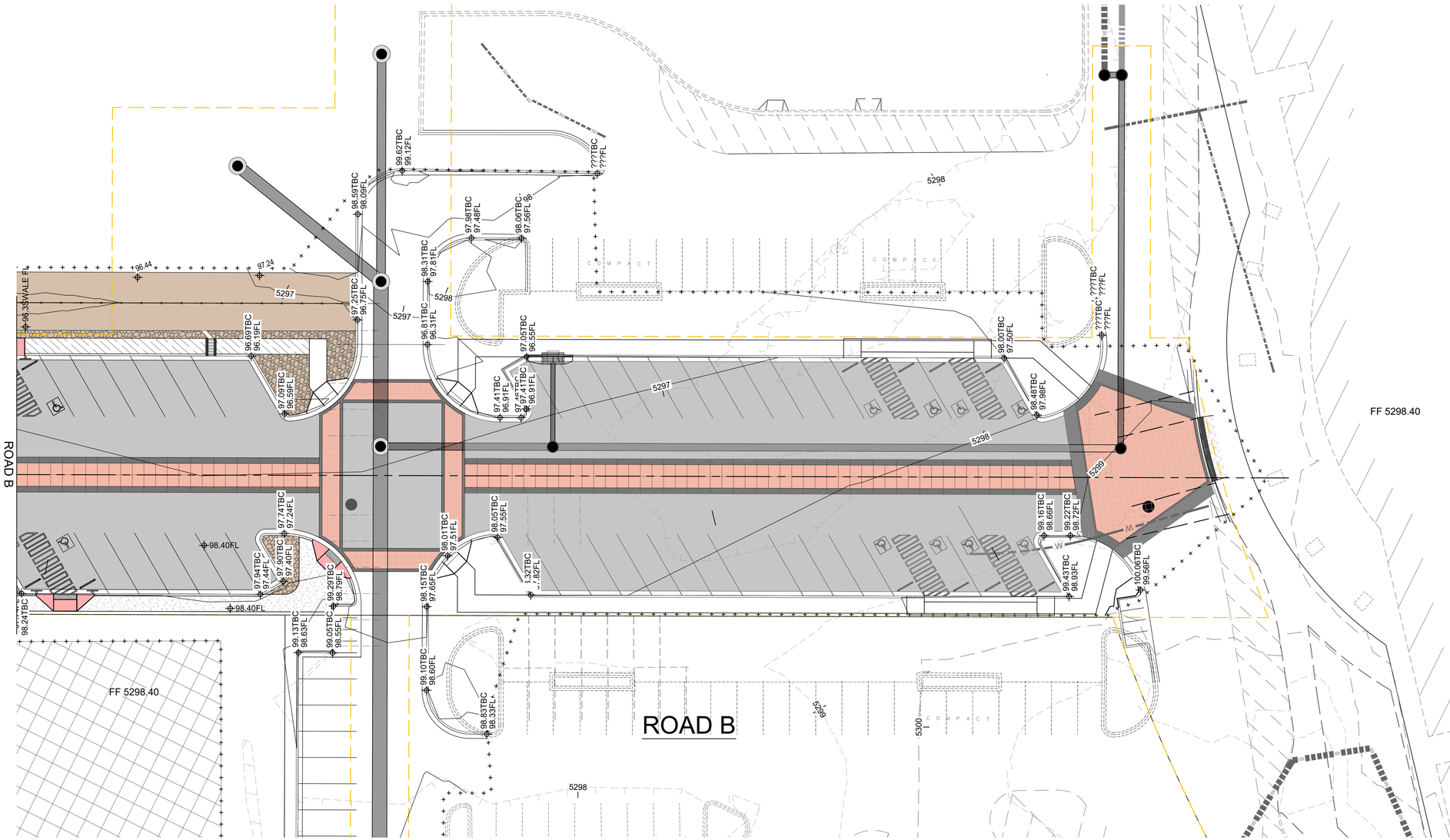

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CONTRACTOR	DATE
WORK STAKED BY	
AS-BUILTS BY	DATE
ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	
CONSTRUCTION OBSERVATION BY	DATE

MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

ENGINEER'S SEAL

STATE OF NEW MEXICO
12858
REGISTERED PROFESSIONAL ENGINEER
SCOTT A. ELLIOTT
6/28/19

NO.	DATE	REMARKS	BY
REVISIONS			
DESIGN			
DESIGNED BY: SAE	DATE: June 28, 2019		
DRAWN BY: LRT	DATE: June 28, 2019		
DWG NAME: 20-22_GRADING PLAN.dwg	PROJ #: R3038699.04		
CHECKED BY: SAE	DATE: June 28, 2019		

0 50 100'
1" = 50'

nm811 Know what's below. Call before you dig.
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Huitt-Zollars, Inc. Albuquerque
6501 Americas Pkwy NE, Suite 550
Albuquerque, New Mexico 87110
Phone (505) 883-8114 Fax (505) 883-5022

WINROCK PARTNERS, LLC.
WINROCK TOWN CENTER
PHASE B ROAD B EXTENSION

TITLE:
GRADING PLAN

Design Review Committee	City Engineer	Last Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
4553.90	J-19-Z	22	53

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Last Saved:6/28/2019 2:44:11 PM, seddings

WINROCK TOWN CENTER ROAD B EXTENSION DRAINAGE STUDY

Prepared For

Project Location:

Albuquerque, New Mexico

JUNE 2019

Prepared By

HUITT-ZOLLARS

ENGINEERING ARCHITECTURE CONSTRUCTION MANAGEMENT SURVEY

6501 Americas Parkway. NE, Suite 830
Albuquerque, NM 87110
(505) 883-8114, Fax (505) 883-5022
www.huitt-zollars.com

WINROCK TOWN CENTER ROAD B EXTENSION
DRAINAGE STUDY

CITY OF ALBUQUERQUE
PROJECT NO. 4553.90

PREPARED FOR:

PREPARED BY:

HUITT-ZOLLARS
333 RIO RANCHO BLVD., SUITE 101
RIO RANCHO, NEW MEXICO 87124

JUNE 2019

HZI Project No. R303699.04

Winrock Town Center Road B Extension
Drainage Study

I, Scott A. Eddings, being first duly sworn upon my oath, state that I am a registered professional engineer, qualified in civil engineering and that the accompanying report was prepared by me or under my supervision and is true and correct to the best of my knowledge and belief.

APPENDICES

INTRODUCTION

This drainage report addresses the proposed infrastructure required to convey the storm water runoff from Road B Extension and surrounding developments. Existing and proposed conditions have been analyzed to determine infrastructure requirements to improve drainage conditions along Road B Extension.

FLOOD HAZARD ZONE

Winrock Town Center does not lie within a flood zone as shown on Flood Insurance Rate Map Number 35001C0352H, dated August 16, 2012. See Appendix A for the FEMA Flood Insurance Rate Map.

RELATED REPORTS

This report references the Drainage Master Plan for Winrock Town Center (DMP) by Isaacson & Arfman, PA, dated June 26, 2015. The DMP provided analysis for Winrock Town Center. All hydrology calculations were completed for the 100-year, 6-hour storm. The DMP defines allowable peak flowrates at major analysis points. This drainage study for Road B Extension will utilize hydrology calculations from the DMP.

This report also references the Winrock Town Center Drainage Implementation Plan (DIP) by Huitt-Zollars, Inc., dated May 23, 2019. The DIP provides a basis for storm drain system recommendations for this report.

JURISDICTIONS OF PUBLIC AGENCIES

This project is located entirely within the City of Albuquerque (CoA) Municipal Limits and is therefore within their jurisdiction and must comply with the City's development requirements. The storm drain system will remain private as it currently is.

METHODOLOGY

This drainage report follows procedures outlined in the Development Process Manual, Chapter 22, by City of Albuquerque (DPM). This report will utilize hydrology calculations from the DMP. This report will utilize Bentley StormCAD V8i for the hydraulic modeling of the storm drain pipe system. For headloss calculations at junctions, the HEC-22 Energy Method (Third Edition) was chosen to comply with City of Albuquerque DPM requirements. See Appendix E for the StormCAD output files.

EXISTING CONDITIONS

Winrock site is a complex of buildings that includes the main mall, a number of outlying restaurants, Chuze, and movie theater. The existing mall building is composed of a number of individual buildings that were closed by an overall structure. The site is approximately 80 acres which is approximately 88% impervious. As previously studied in recent drainage reports, the site has multiple drainage outfalls which are summarized below and shown on Exhibit 1 of the Winrock Town Center Drainage Implementation Plan:

- AP-A – Discharge flowrate = 81.9 CFS
- AP-B – Discharge flowrate = 123.4 CFS
- AP-C – Discharge flowrate = 15.5 CFS
- AP-D – Discharge flowrate = 120.1 CFS
- AP-E – Discharge flowrate = 5.5 CFS
- AP-F – Discharge flowrate = 12.9 CFS
- AP-G – Discharge flowrate = 81.1 CFS

Winrock Partners, LLC completed Phase A infrastructure improvements in 2017. Phase A infrastructure included the following roadway segments as summarized below:

- Road B from Louisiana Blvd to the western face of the existing Winrock Mall
    - public roadway
    - public storm drain
    - public water line
    - public sanitary sewer line
    - public reuse water line
- Road C from Uptown Loop to current Men's Warehouse,
    - public roadway
    - public storm drain
    - public water line
    - public sanitary sewer line
- Road D from Road B to Road C
    - public roadway
    - public storm drain
    - public water line

Road B Extension project occurs within the demolished portion of Winrock Mall and will connect the existing Road B to the Regal Cinemas parking lot.

PROPOSED CONDITIONS

Construction limits of this project are the Regal Cinemas at the east end and Road D at the west end along the Road B Extension corridor. This project proposes to build the roadway, associated underground utilities, and the necessary storm drain improvements affecting the Road B Extension project area.

See Appendix B for a Basin Map. Existing basins delineated from the DMP are used for this report. Proposed basins affecting the drainage within the Road B Extension project are delineated from the proposed grading plan to be completed in conjunction with this drainage report. The proposed basins are slightly modified from the DMP existing basins, however, the minor changes do not affect the overall drainage system of Winrock Town Center. This project discharges into the storm drain systems of Analysis Point B (AP-B) and Analysis Point D (AP-D). Proposed basin peak flowrates were prorated from the DMP existing basins. Refer to the table below for a flowrate comparison at the ultimate outfalls of AP-B and AP-D.

Analysis Point	Allowable Q per DMP (CFS)	Actual Q (CFS)
AP-B	123.4	121.9
AP-D	120.1	118.6

The hydraulic capacity of the existing storm drain systems have been modeled and determined that it can adequately convey storm water from the project area during the design storm event. Hydraulic analysis of the storm drain system was completed with the use of StormCAD, a sewer modeling program. Please refer to Appendix E for StormCAD Output Files. Construction plans for this project include hydraulic grade lines computed by StormCAD.

STORMWATER QUALITY

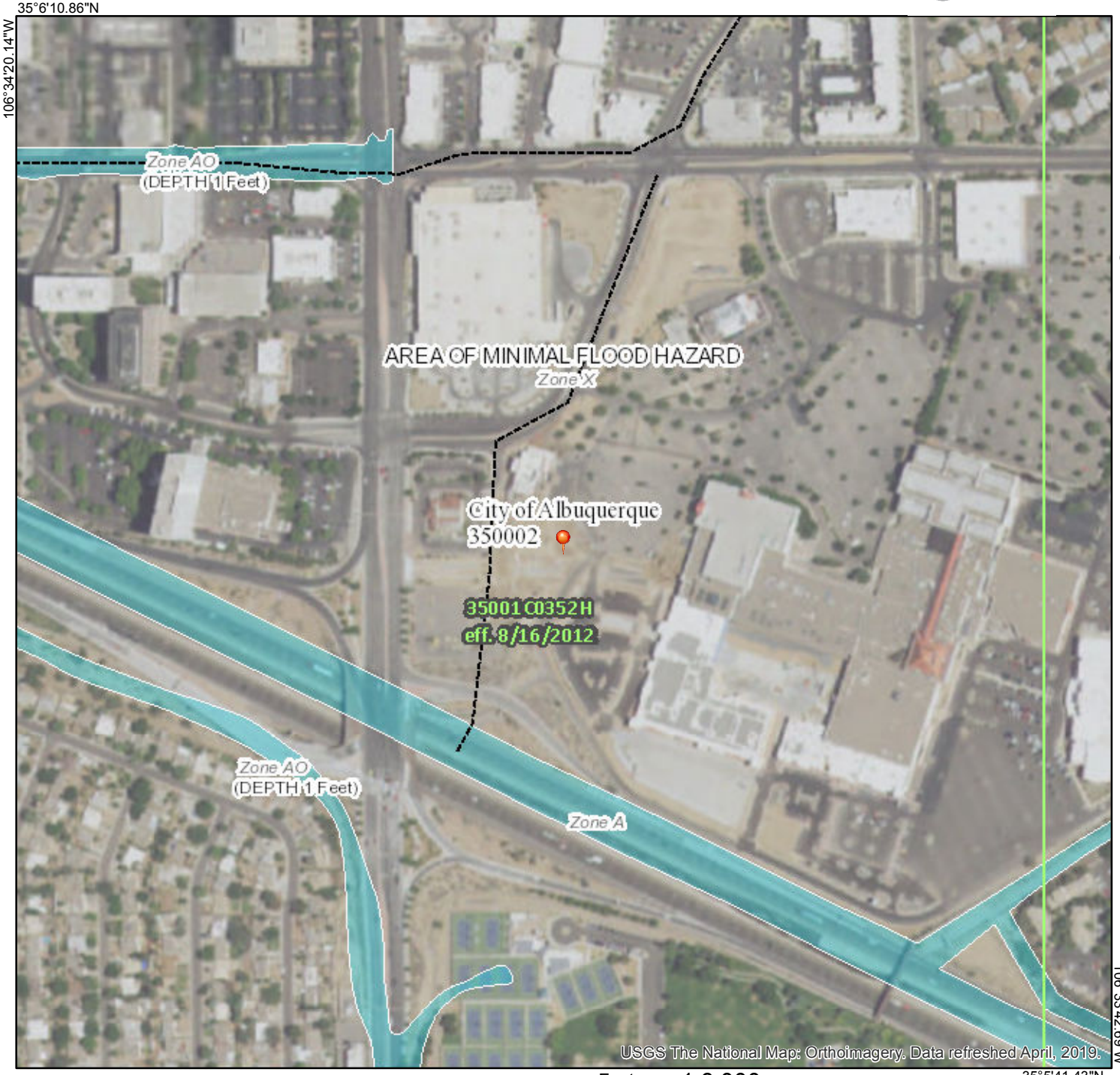
As part of compliance with the stormwater quality program implemented by the City of Albuquerque in cooperation with the EPA, a number of Low Impact Development (LID) strategies are included in the Road B Extension project. First, a swale between the sidewalk and curb will be installed on the north side of the roadway to collect roadway runoff. This swale connects to a detention facility that will manage the first flush volume of a storm and then convey stormwater into the storm drain system. Finally, a larger detention pond will be built at the east end of Road B Extension with a future construction phase. This pond will serve as a dual use stormwater quality management and flood control device. With the installation of these LID strategies, the stormwater released within the Road B Extension project limits will be effectively treated.

CONCLUSION

This report provides a conceptual design and analysis of proposed improvements to safely manage stormwater generated along the Road B Extension project. In addition to stormwater management, this project will integrate techniques to improve stormwater quality. For a detailed design, please refer to the construction plans that were completed in conjunction with this drainage report.

National Flood Hazard Layer FIRMette

FEMA



0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

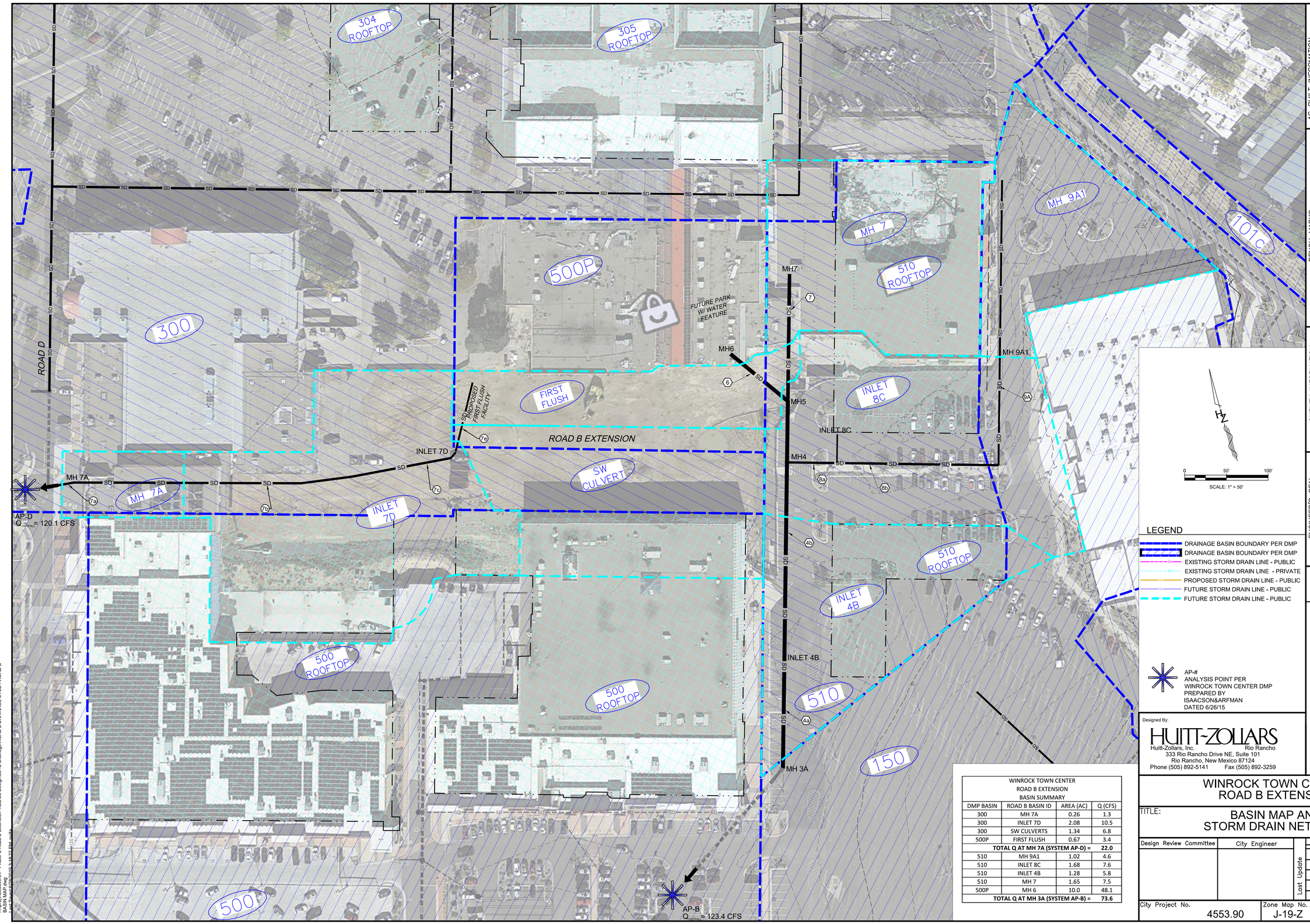
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/20/2019 at 6:31:42 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



LEGEND

- DRAINAGE BASIN BOUNDARY PER DMP
- DRAINAGE BASIN BOUNDARY PER DMP
- EXISTING STORM DRAIN LINE - PUBLIC
- EXISTING STORM DRAIN LINE - PRIVATE
- PROPOSED STORM DRAIN LINE - PUBLIC
- FUTURE STORM DRAIN LINE - PUBLIC
- FUTURE STORM DRAIN LINE - PUBLIC

AP-#
ANALYSIS POINT PER
WINROCK TOWN CENTER DMP
PREPARED BY
ISAACSON&ARFMAN
DATED 6/26/15

WINROCK TOWN CENTER ROAD B EXTENSION BASIN SUMMARY			
DMP BASIN	ROAD B BASIN ID	AREA (AC)	Q (CFS)
300	MH 7A	0.26	1.3
300	INLET 7D	2.08	10.5
300	SW CULVERTS	1.34	6.8
500P	FIRST FLUSH	0.67	3.4
TOTAL Q AT MH 7A (SYSTEM AP-D) =			**22.0**
510	MH 9A1	1.02	4.6
510	INLET 8C	1.68	7.6
510	INLET 4B	1.28	5.8
510	MH 7	1.65	7.5
500P	MH 6	10.0	48.1
TOTAL Q AT MH 3A (SYSTEM AP-B) =			**73.6**

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

AS BUILT INFORMATION
CONTRACTOR DATE
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FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL
A. EDDINGS SCOTT NEW MEXICO 12856 REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

DESIGNED BY: NV DATE: MAY 15, 2019
DRAWN BY: SAE DATE: APR. 18, 2019
DWG NAME: ROAD B BASIN MAP.dwg PROJ #: R303699.04
CHECKED BY: SAE DATE: MAY 23, 2019

WINROCK TOWN CENTER ROAD B EXTENSION

TITLE: BASIN MAP AND STORM DRAIN NETWORK

Design Review Committee	City Engineer	Last Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No. 4553.90 | Zone Map No. J-19-Z | Sheet EXHIBIT 1 Of

Plotted: 6/28/2019 5:19:58 PM By: Villa, Nina
Last Saved: 6/28/2019 5:19:27 PM By: Villa, Nina
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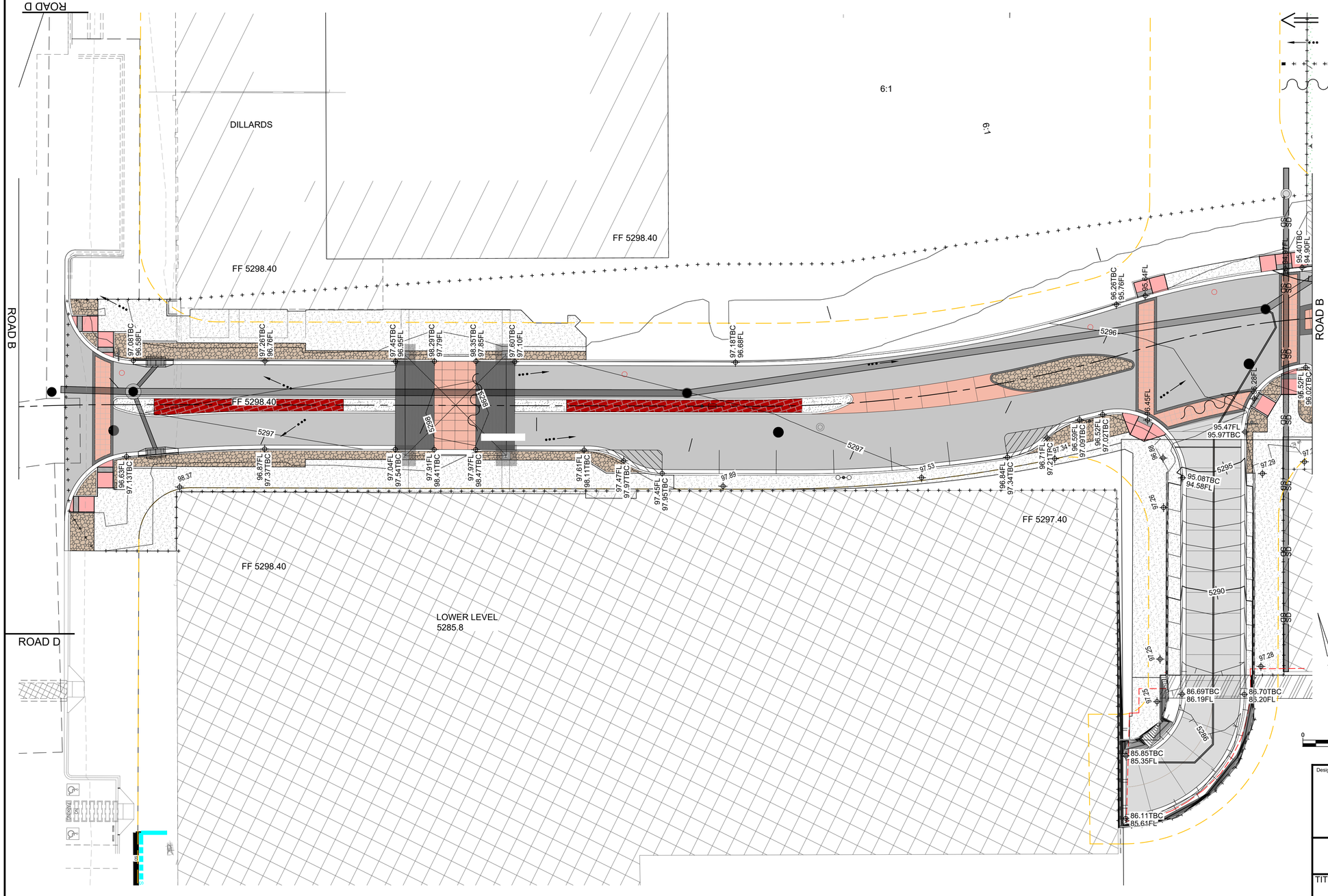

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FOUND MONUMENT "20, H18"
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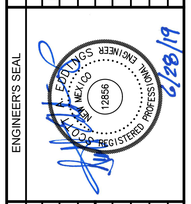
NEW MEXICO STATE PLANE COORDINATES (CENTRAL ZONE-N.A.D. 1983)
N=1,493,154.978
E=1,545,648.210
PUBLISHED EL=6283.22 (NAVD 1988)
GROUND TO GRID FACTOR=0.999661580
DELTA ALPHA ANGLE=-0°11'00.11"

MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL



NO.	REMARKS	DATE
	REVISIONS	
	DESIGN	
DESIGNED BY: SAE	DATE: June 28, 2019	
DRAWN BY: LRT	DATE: June 28, 2019	
DWG NAME: 20-22_GRADING PLAN.dwg	PROJ #: R3036899.04	
CHECKED BY: SAE	DATE: June 28, 2019	

nm811 Know what's below. Call before you dig.
TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Albuquerque
6501 Americas Pkwy NE, Suite 550
Albuquerque, New Mexico 87110
Phone (505) 883-8114 Fax (505) 883-5022

WINROCK PARTNERS, LLC.
WINROCK TOWN CENTER
PHASE B ROAD B EXTENSION

TITLE:
GRADING PLAN

Design Review Committee	City Engineer	Last Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
4553.90	J-19-Z	20	53

ROAD B

Plotted: 6/28/2019 2:40:07 PM, By: Eidenze, Scott
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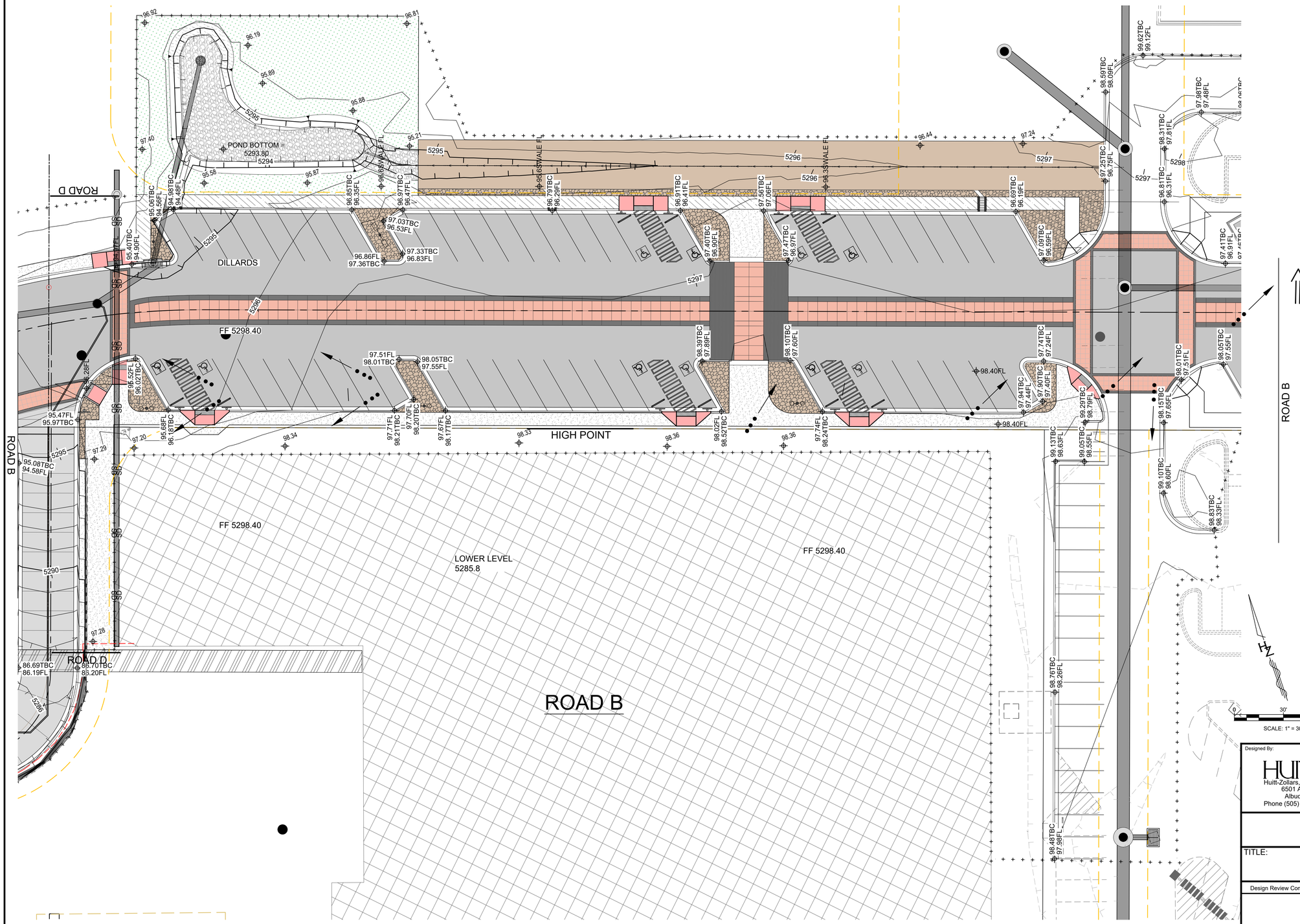

SURVEY INFORMATION		
FIELD NOTES		
NO.	BY	DATE

BENCH MARKS	
FOUND MONUMENT "20, H18"	
STANDARD 3 1/4" ALUMINUM DISC (FOUND IN PLACE)	
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GROUND TO GRID FACTOR=0.999661580	
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AS BUILT INFORMATION	
CONTRACTOR	DATE
WORK STAKED BY	DATE
RECORD CHANGES	
ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE
MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

ENGINEER'S SEAL

STEVEN A. SORDING — NEW MEXICO — 12856 — REGISTERED PROFESSIONAL ENGINEER — 6/28/19

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
DESIGNED BY: SAE		DATE: June 28, 2019	
DRAWN BY: LRT		DATE: June 28, 2019	
DWG NAME: 20-22_GRADING PLAN.dwg		PROJ #: R303699.04	
CHECKED BY: SAE		DATE: June 28, 2019	

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Albuquerque, New Mexico 87110
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WINROCK PARTNERS, LLC.
WINROCK TOWN CENTER
PHASE B ROAD B EXTENSION

TITLE:
GRADING PLAN

Design Review Committee	City Engineer	Last Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
4553.90	J-19-Z	21	53

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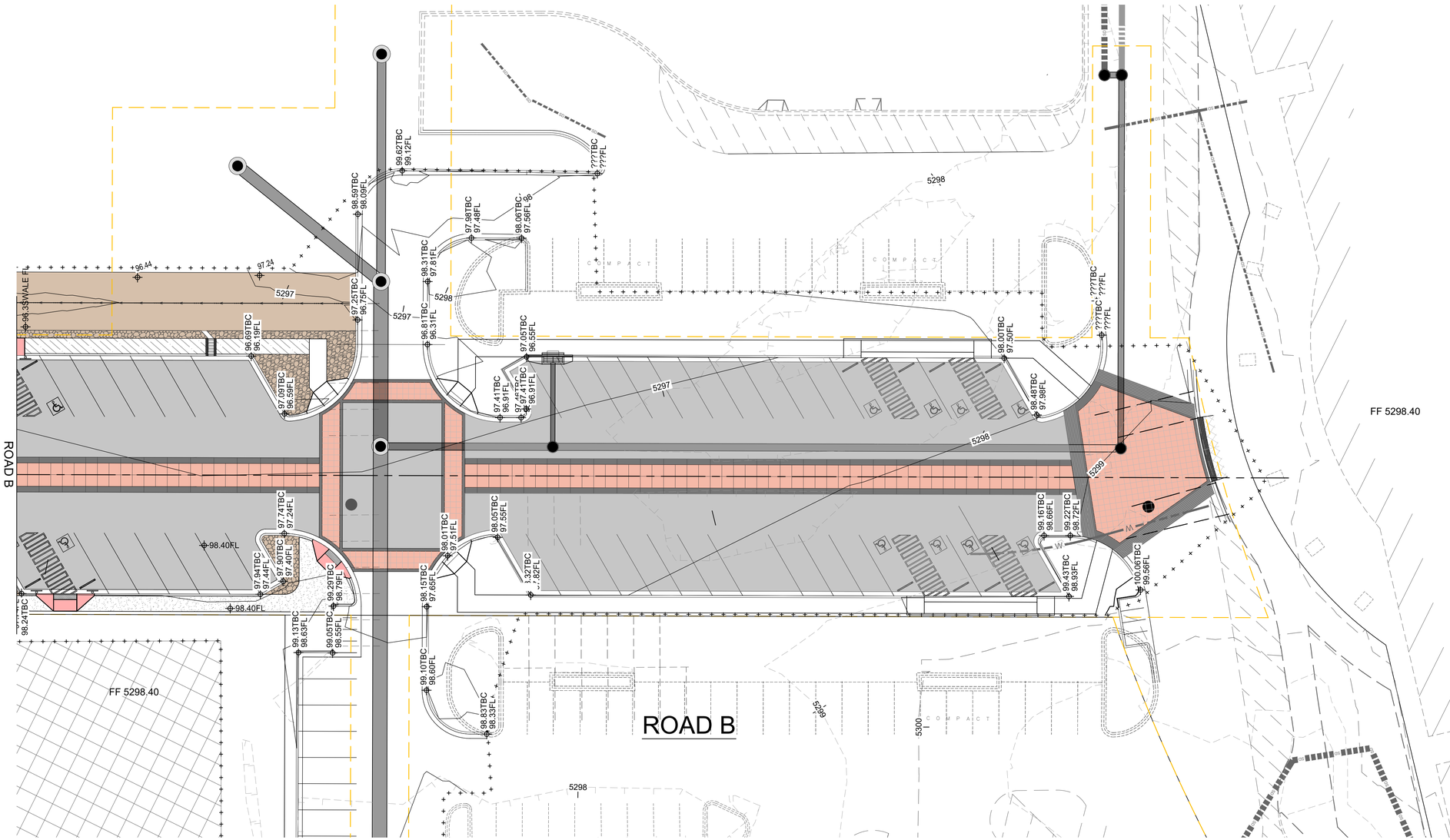

SURVEY INFORMATION		
FIELD NOTES		
NO.	BY	DATE

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FOUND MONUMENT "20, H18"	
STANDARD 3 1/4" ALUMINUM DISC (FOUND IN PLACE)	
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CONTRACTOR	DATE
WORK STAKED BY	
AS-BUILTS BY	DATE
ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	
CONSTRUCTION OBSERVATION BY	DATE

MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

ENGINEER'S SEAL

STATE OF NEW MEXICO
12858
REGISTERED PROFESSIONAL ENGINEER
SCOTT A. ELLIOTT
6/28/19

NO.	DATE	REMARKS	BY
REVISIONS			
DESIGN			
DESIGNED BY: SAE	DATE: June 28, 2019		
DRAWN BY: LRT	DATE: June 28, 2019		
DWG NAME: 20-22_GRADING PLAN.dwg	PROJ #: R3038699.04		
CHECKED BY: SAE	DATE: June 28, 2019		

0 50 100'
1" = 50'

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Albuquerque, New Mexico 87110
Phone (505) 883-8114 Fax (505) 883-5022

WINROCK PARTNERS, LLC.
WINROCK TOWN CENTER
PHASE B ROAD B EXTENSION

TITLE:
GRADING PLAN

Design Review Committee	City Engineer	Last Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
4553.90	J-19-Z	22	53

Plotted: 6/28/2019 2:49:23 PM, By:Eddings, Scott
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Last Saved:6/28/2019 2:44:11 PM, seddings

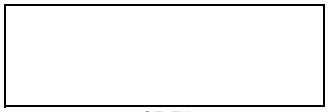
Huitt~Zollars, Inc.

Inlet Worksheet (Sump Condition) for Road B Extension

Objective : Design a Type C Inlet in Sump Condition for a 100-year flow

1 Inlet to collect peak flow amount before overtopping headwall.

2 Grate Dimensions



18.5

**Net dimensions of open area of a single grate. (Total Area less Area of Bars)

Weir Perimeter =	9.0	ft
Area of Orifice =	4.6	sf

3 Calculate Orifice and Weir Flow into Grate at Design Depth (1.87 ft)

Orifice Equation			Weir Equation		
Q = 0.6 x A x (2 x g x h)^1/2			Q=2.65 x P x H^1/2		
Where			Where		
A =	4.6	sq. ft.	P=	9.0	ft
g =	32.2	ft ^2/sec	H=	1.9	ft
h =	1.9	ft			
Therefore			Therefore		
Q =	30.0	cfs	Q =	32.6	cfs

Orifice Equation controls

Grate Capacity = 30 cfs

4 Apply 25% Clogging Factor to determine allowable design flow into inlet

30 x 0.75 **23 cfs**

Therefore Capacity of Single C Inlet in Sump Condition = 23 cfs

Worksheet for Sidewalk Culvert

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.013	
Channel Slope	1.0	%
Normal Depth	0.50	ft
Bottom Width	2.00	ft

Results

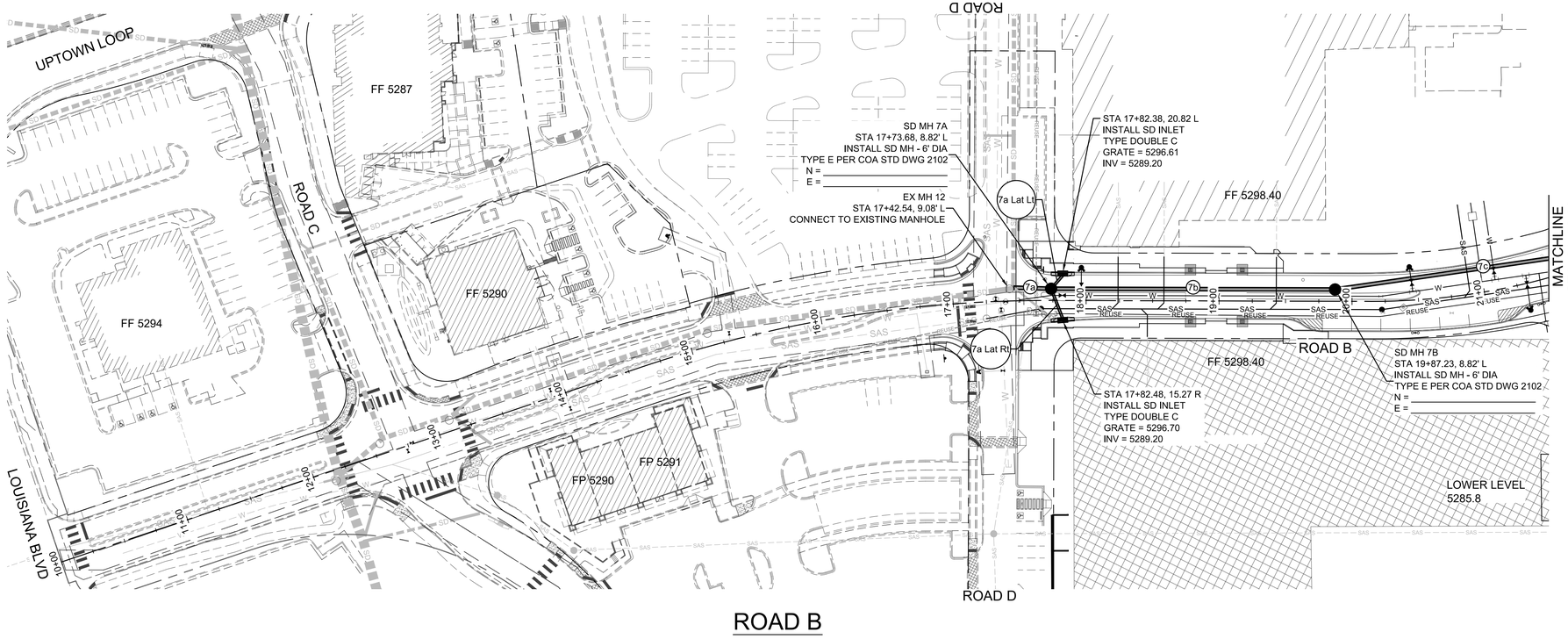
Discharge	5.50	ft^3/s
Flow Area	1.00	ft^2
Wetted Perimeter	3.00	ft
Hydraulic Radius	0.33	ft
Top Width	2.00	ft
Critical Depth	0.62	ft
Critical Slope	0.00549	ft/ft
Velocity	5.50	ft/s
Velocity Head	0.47	ft
Specific Energy	0.97	ft
Froude Number	1.37	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

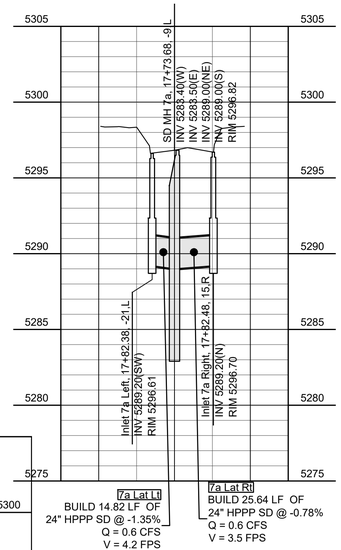
GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.50	ft
Critical Depth	0.62	ft
Channel Slope	1.0	%
Critical Slope	0.00549	ft/ft



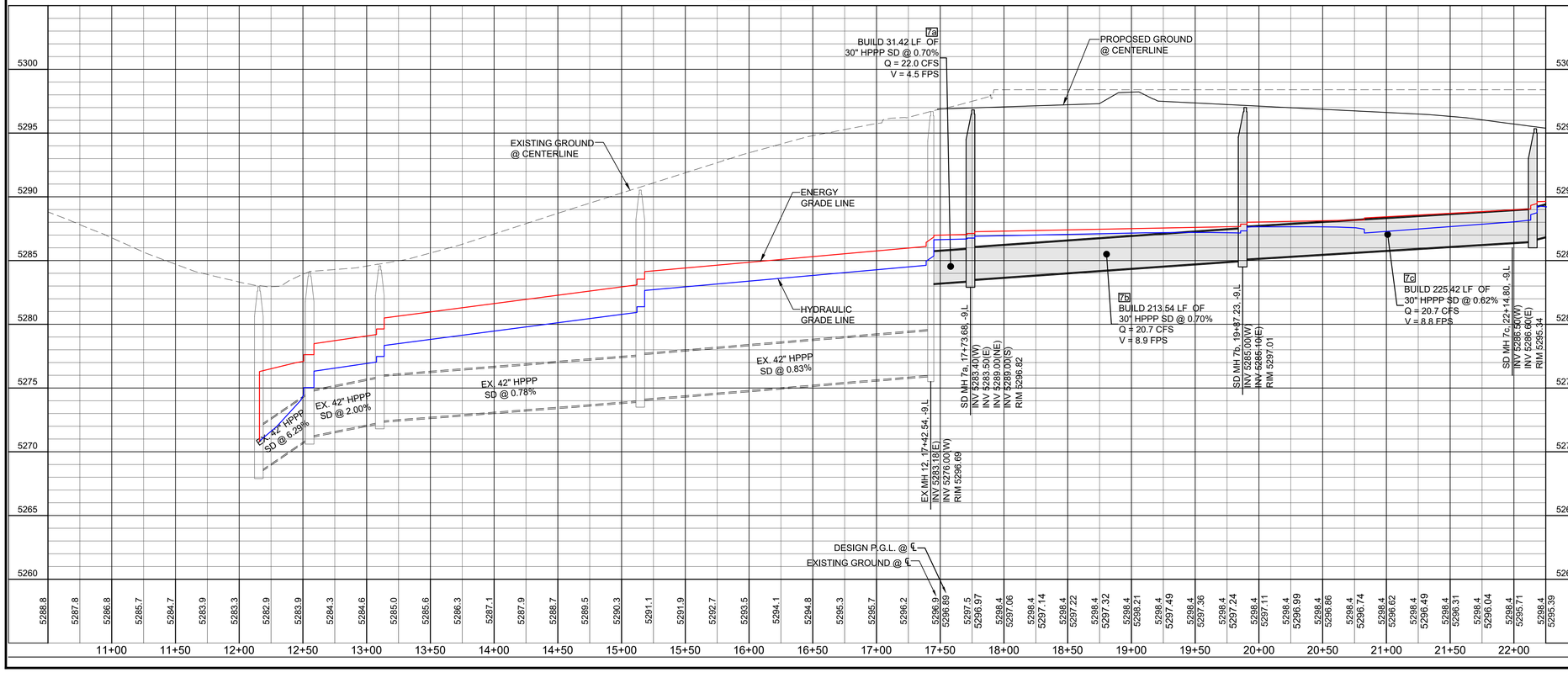
STORM DRAIN DATA				
PIPE	PIPE SIZE	BEARING	LENGTH	SLOPE
7a	30"	S71° 39' 58"E	31.42'	0.70%
7a Lat Lt	24"	N54° 39' 39"E	14.82'	-1.35%
7a Lat Rt	24"	S01° 20' 04"E	25.64'	-0.78%
7b	30"	S71° 16' 29"E	213.54'	0.70%
7c	30"	S79° 40' 45"E	225.42'	0.62%
7d	30"	N72° 11' 24"E	28.23'	2.13%
7e	30"	N31° 49' 40"E	84.53'	2.13%

SD INLETS



7a Lat Lt
BUILD 14.82 LF OF
24" HPPP SD @ -1.35%
Q = 0.6 CFS
V = 4.2 FPS

7a Lat Rt
BUILD 25.64 LF OF
24" HPPP SD @ -0.78%
Q = 0.6 CFS
V = 3.5 FPS



ROAD B

0 50' 100'
SCALES: HORZ. 1" = 50'
VERT. 1" = 10'

nm811 Know what's below. Call before you dig.
TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

DRAINAGE REPORT

Designed By:

HUITT-ZOLLARS
Huitt-Zollars, Inc. Albuquerque
6501 Americas Pkwy NE, Suite 550
Albuquerque, New Mexico 87110
Phone (505) 883-8114 Fax (505) 883-5022

WINROCK PARTNERS, LLC.
WINROCK TOWN CENTER
PHASE B ROAD B EXTENSION

TITLE:
ROAD B
ROAD B STORM DRAIN PLAN & PROFILE
STA. 10+00.00 TO STA. 21+50.00

Design Review Committee	City Engineer	Last Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No. 4553.90 | Zone Map No. J-19-Z | Sheet 38 Of 53

AS BUILT INFORMATION DATE
CONTRACTOR
WORK STAKED BY
CONSTRUCTED BY
ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
FOUND MONUMENT "20, H18"
STANDARD 3 1/4" ALUMINUM DISC (FOUND IN PLACE)
NEW MEXICO STATE PLANE COORDINATES (CENTRAL ZONE-NA.D. 1983)
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E=1,545,048.210
PUBLISHED EL=5280.22 (NAVD 1988)
GROUND TO GRID FACTOR=0.999661580
DELTA ALPHA ANGLE=-0°11'00.11"

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE	REMARKS
			REVISIONS
			DESIGN

DESIGNED BY: SAE DATE: June 28, 2019
DRAWN BY: LRT DATE: June 28, 2019
DWG NAME: 38-40 SD PP.dwg PROJ #: R303699.04
CHECKED BY: SAE DATE: June 28, 2019

ENGINEER'S SEAL
SCOTT A. EDDINGS NEW MEXICO 12856 REGISTERED PROFESSIONAL ENGINEER

Plotted: 6/28/2019 1:16:28 PM, By Eddings, Scott
H:\proj\R303699.04 - Phase C Road B Extension TIDD\10 CAD & BIM\10.1 AutoCAD\Sheet Set\38-40 SD PP.dwg
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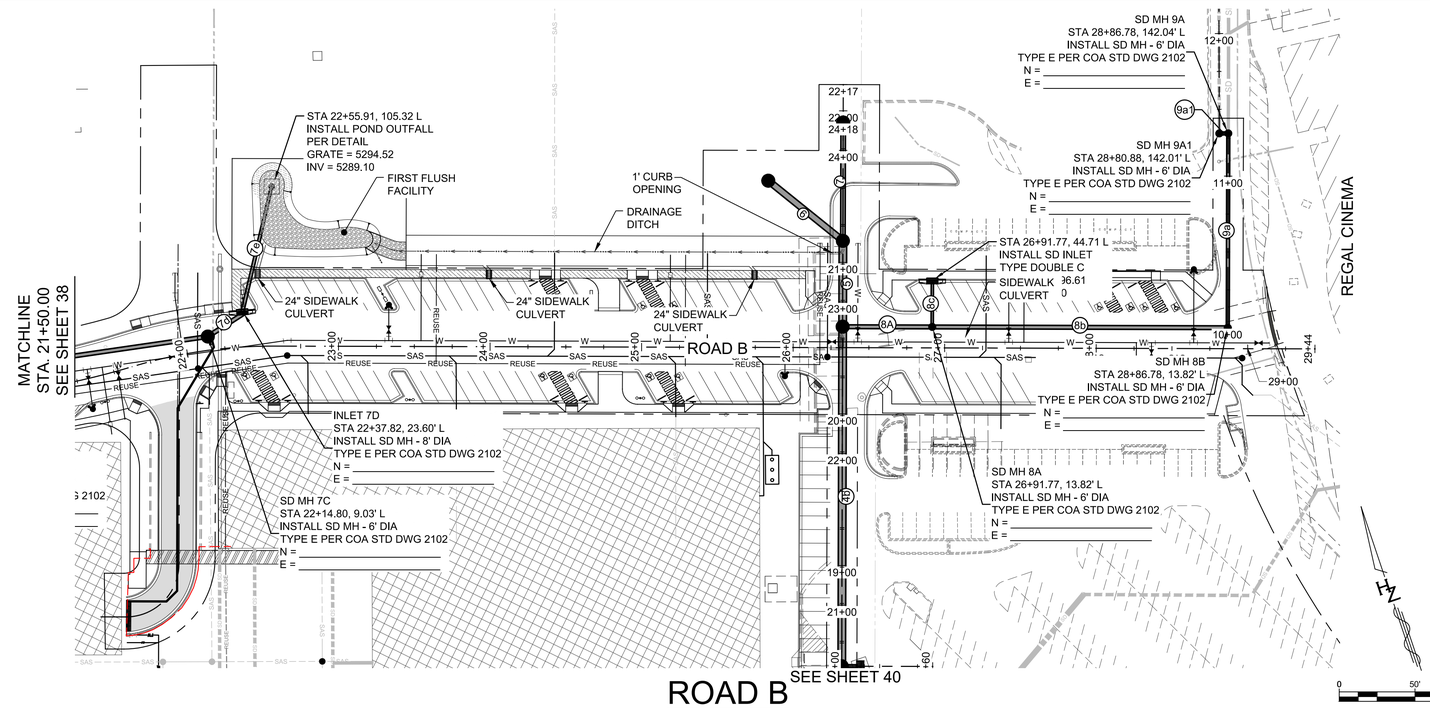
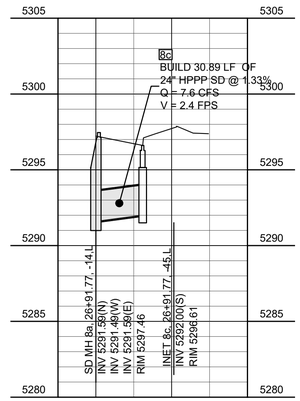


ROAD B

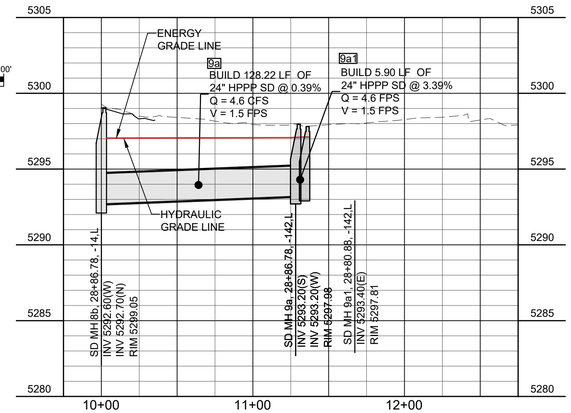
SCALES: HORZ. 1" = 50'
VERT. 1" = 10'

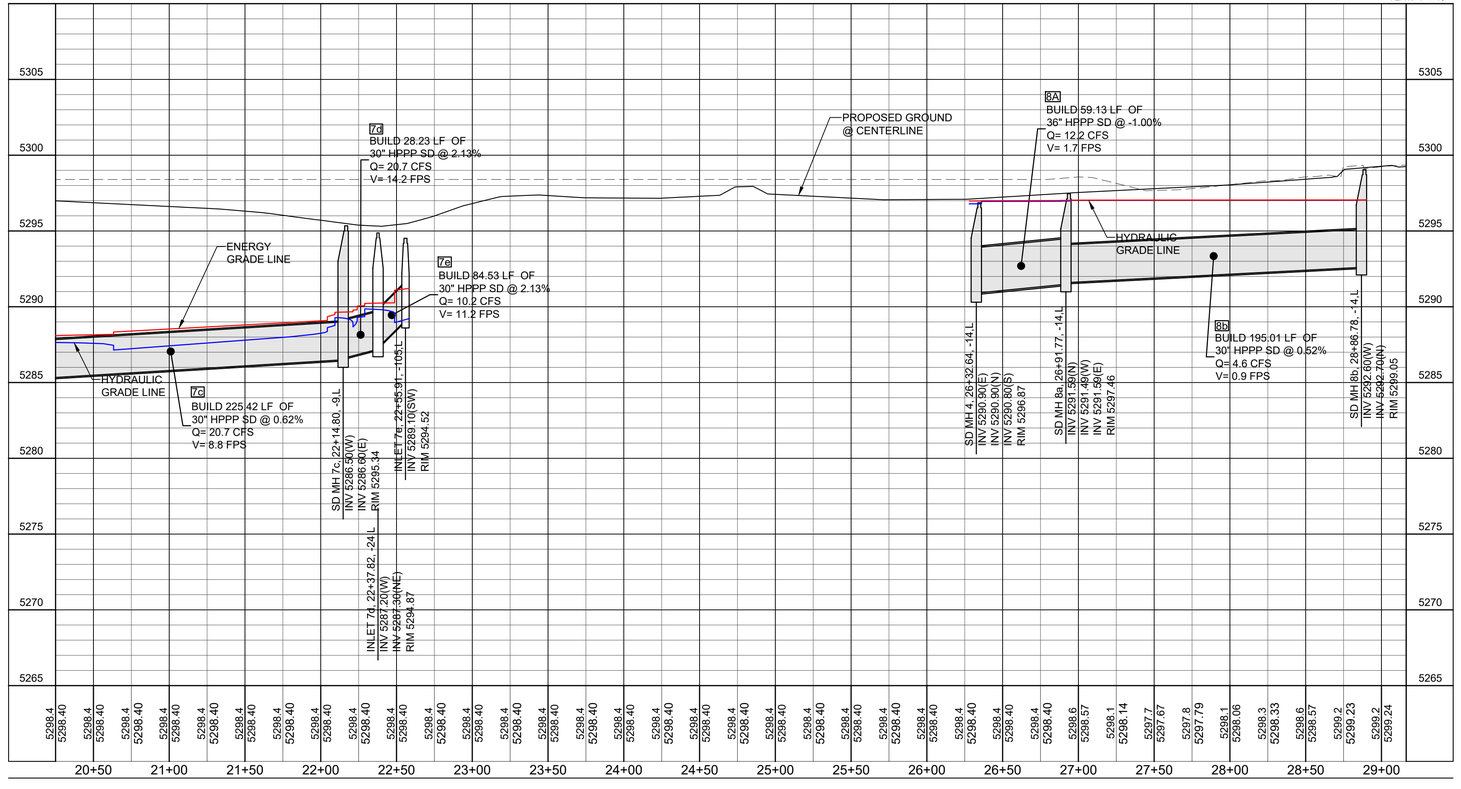
SD INLET



STORM DRAIN DATA				
PIPE	PIPE SIZE	BEARING	LENGTH	SLOPE
7c	30"	S79° 40' 45"E	225.42'	0.62%
7d	30"	N72° 11' 24"E	28.23'	2.13%
7e	30"	N31° 49' 40"E	84.53'	2.13%
8A	36"	S71° 16' 29"E	59.13'	-1.00%
8b	30"	S71° 16' 29"E	195.01'	0.52%
8c	24"	N18° 43' 31"E	30.89'	1.33%
9a	24"	N18° 43' 31"E	128.22'	0.39%
9a1	24"	S71° 37' 35"E	5.90'	3.39%

STORM DRAIN 9a & 9b





Designed By:

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Albuquerque, New Mexico 87110
Phone (505) 883-8114 Fax (505) 883-5022

DRAINAGE REPORT

WINROCK PARTNERS, LLC.
WINROCK TOWN CENTER
PHASE B ROAD B EXTENSION

TITLE:
ROAD B
ROAD B STORM DRAIN PLAN & PROFILE
STA. 21+50.00 TO STA. 29+16.00

Design Review Committee	City Engineer	Last Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
4553.90	J-19-Z	39	53

SURVEY INFORMATION
FIELD NOTES

NO.	DATE	BY

BENCH MARKS

FOUND MONUMENT "20, H18"
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NEW MEXICO STATE PLANE COORDINATES (CENTRAL ZONE-NA.D. 1983)
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E=1,545,048.210
PUBLISHED ELEV.=5283.22 (NAVD 1988)
GROUND TO GRID FACTOR=0.999661580
DELTA ALPHA ANGLE=-0°11'00.11"

AS BUILT INFORMATION

CONTRACTOR DATE
WORK STARTED BY DATE
WORK ACCEPTED BY DATE
ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE

MICRO-FILM INFORMATION

RECORDED BY DATE
NO.

ENGINEER'S SEAL

SCOTT A. EDDINGS
NEW MEXICO
12856
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY
		REVISIONS	

DESIGN
DESIGNED BY: SAE DATE: June 28, 2019
DRAWN BY: LRT DATE: June 28, 2019
DWG NAME: 38-40 SD PP.dwg PROJ #: R3038699.04
CHECKED BY: SAE DATE: June 28, 2019

Plotted: 6/28/2019 1:16:40 PM, By:Eddings, Scott
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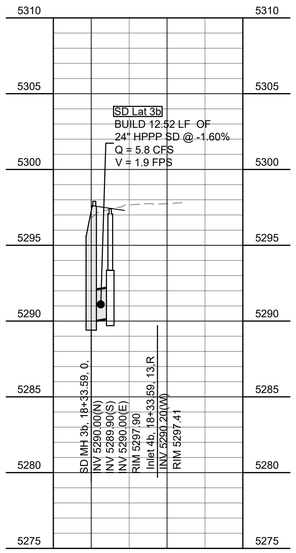
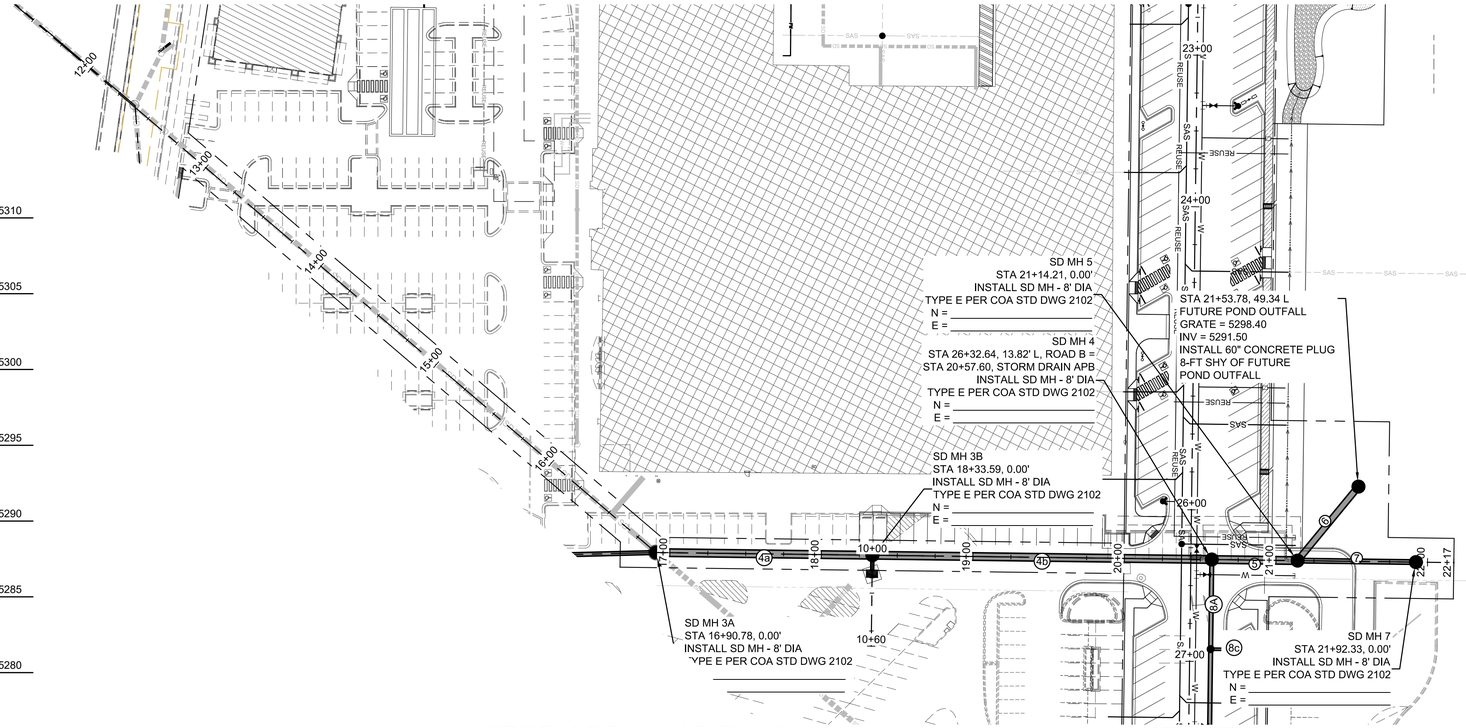
SD INLET 4b



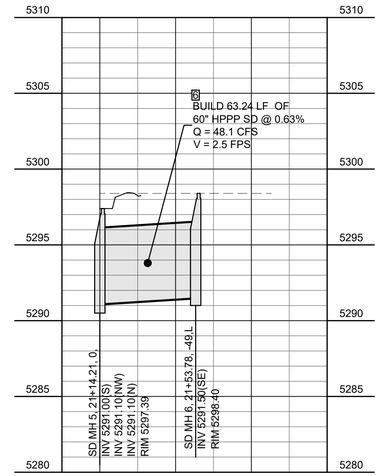


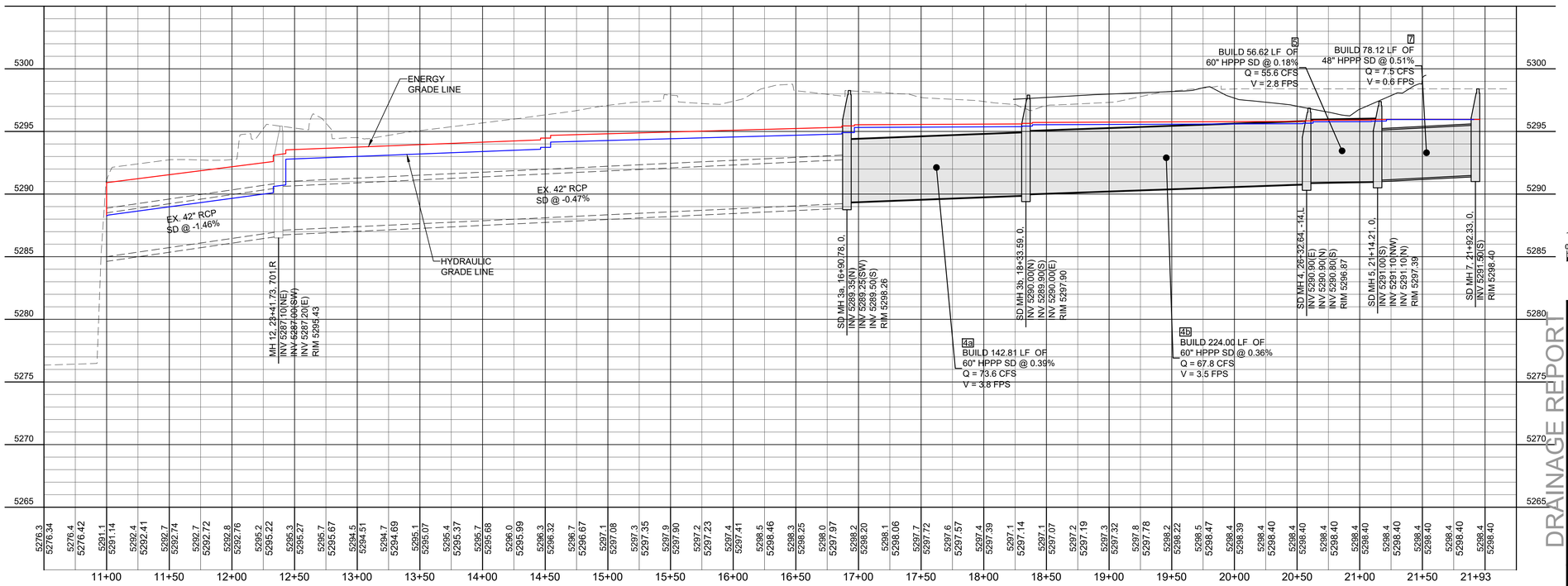
STORM DRAIN AP-B-100

SEE SHEET 39

STORM DRAIN DATA				
PIPE	PIPE SIZE	BEARING	LENGTH	SLOPE
SD Lat 3b	24"	S71° 16' 29"E	12.52'	-1.60%
4a	60"	S18° 43' 31"W	142.81'	0.39%
4b	60"	S18° 43' 31"W	224.00'	0.36%
5	60"	S18° 43' 31"W	56.62'	0.18%
6	60"	N32° 32' 55"W	63.24'	0.63%
7	48"	N18° 43' 31"E	78.12'	0.51%

STORM DRAIN 6





SCALES: HORZ. 1" = 50'
VERT. 1" = 10'

TWO WORKING DAYS
BEFORE YOU DIG CALL
811 OR 260-1990

DRAINAGE REPORT

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Albuquerque, New Mexico 87110
Phone (505) 883-8114 Fax (505) 883-5022

AS BUILT INFORMATION
CONTRACTOR DATE
WORK STAKED BY DATE
STAKING CHECKED BY DATE
ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWINGS CONVERTED TO AS-BUILT BY DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
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FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
A. EDDINGS, SCOTT
NEW MEXICO
12856
REGISTERED PROFESSIONAL ENGINEER

NO.	REMARKS	BY	DATE
	REVISIONS		
	DESIGN		
	DESIGNED BY: SAE		DATE: June 28, 2019
	DRAWN BY: LRT		DATE: June 28, 2019
	DWG NAME: 38-40 SD PP.dwg		PROJ #: R303699.04
	CHECKED BY: SAE		DATE: June 28, 2019

WINROCK PARTNERS, LLC.
WINROCK TOWN CENTER
PHASE B ROAD B EXTENSION

TITLE: ROAD B
STORM DRAIN PLAN & PROFILE
STA. 10+00.00 TO STA. 21+50.00

Design Review Committee	City Engineer	Last Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No. 4553.90 | Zone Map No. J-19-Z | Sheet 40 Of 53

Plotted: 6/28/2019 1:16:50 PM, By:Eddings, Scott
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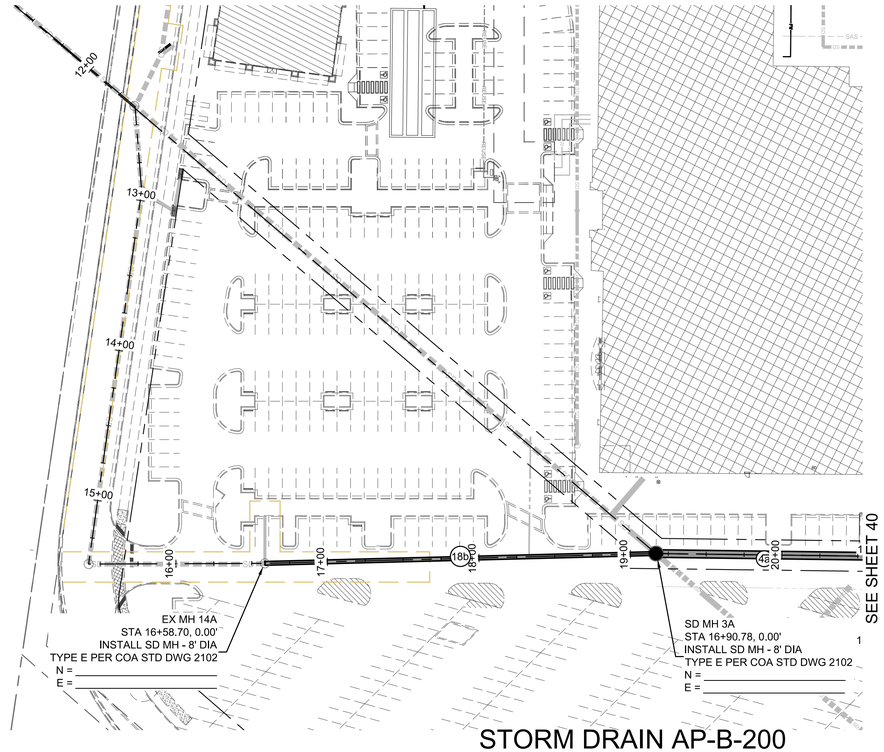
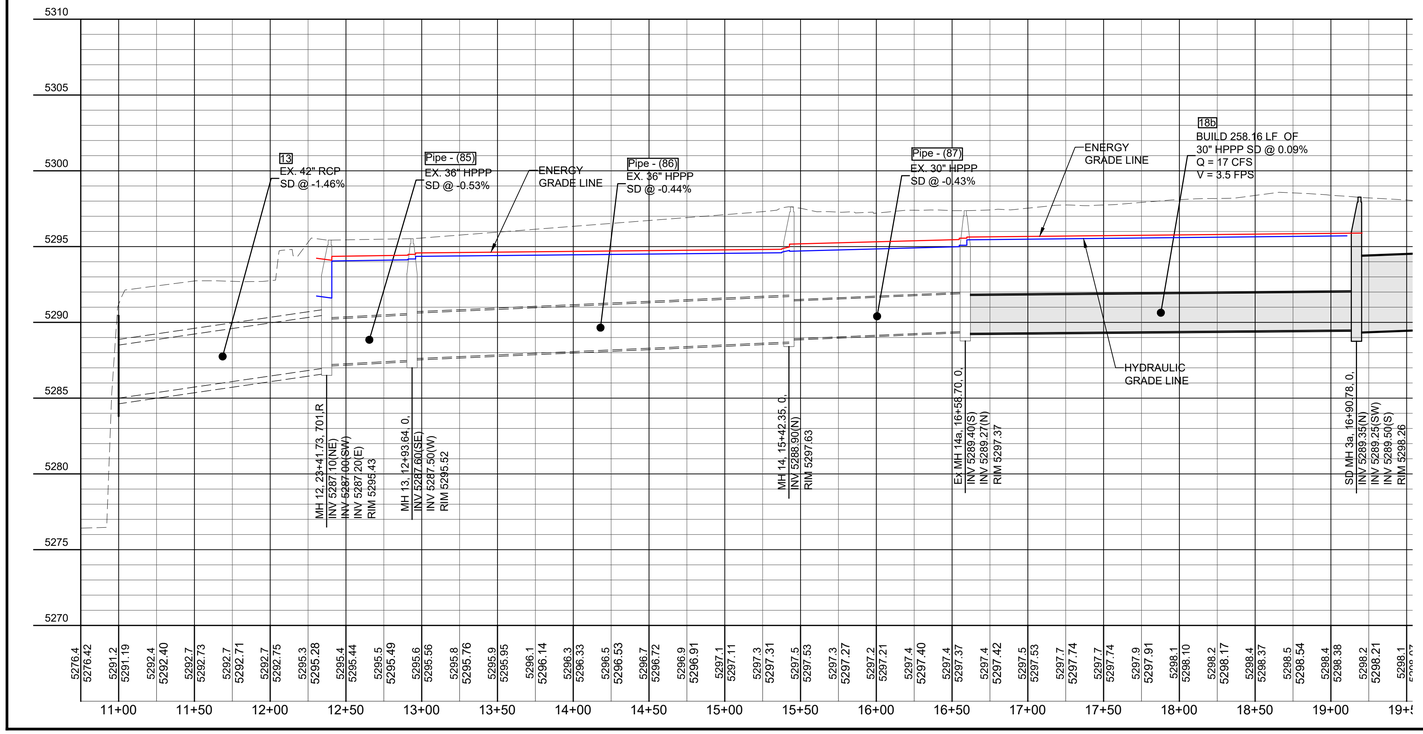
Last Saved:6/27/2019 7:30:20 PM, seddings



STORM DRAIN AP-B-200

STORM DRAIN DATA				
PIPE	PIPE SIZE	BEARING	LENGTH	SLOPE
Pipe - (87)	30"	N17° 46' 54"E	116.36'	-0.43%
Pipe - (86)	36"	S63° 54' 18"E	248.70'	-0.44%
Pipe - (85)	36"	S76° 54' 50"E	56.22'	-0.53%
13	42"	S58° 08' 25"W	137.25'	-1.46%
18b	30"	N16° 33' 24"E	258.16'	0.09%

STORM DRAIN AP-B-200



AS BUILT INFORMATION

CONTRACTOR — DATE
WORK STAKED BY — DATE
INSPECTED BY — DATE
ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS
FOUND MONUMENT "20, H18"
STANDARD 3 1/4" ALUMINUM DISC (FOUND IN PLACE)
NEW MEXICO STATE PLANE COORDINATES (CENTRAL ZONE-N.A.D. 1983)
N=1,493,154.978
E=1,545,048.210
PUBLISHED EL=5283.22 (NAVD 1988)
GROUND TO GRID FACTOR=0.999661580
DELTA ALPHA ANGLE=-0°11'00.11"

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

A. EDDINGS
NEW MEXICO
12856
REGISTERED PROFESSIONAL ENGINEER
SCOTT

NO.	BY	REMARKS	DATE
DESIGN			DATE: June 28, 2019
DRAWN BY: LRT			DATE: June 28, 2019
DWG NAME: 38-40 SD PP.dwg			PROJ #: R3036990.04
CHECKED BY: SAE			DATE: June 28, 2019

REVISIONS

SCALES: HORZ. 1" = 50'
VERT. 1" = 10'

0 50' 100'

nm811 Know what's below. Call before you dig.
TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

DRAINAGE REPORT

Designed By:

HUITT-ZOLLARS
Huitt-Zollars, Inc. Albuquerque
6501 Americas Pkwy NE, Suite 550
Albuquerque, New Mexico 87110
Phone (505) 883-8114 Fax (505) 883-5022

WINROCK PARTNERS, LLC.
WINROCK TOWN CENTER
PHASE B ROAD B EXTENSION

TITLE:
ROAD B
STORM DRAIN
STA. 10+00.00 TO STA. 21+50.00

Design Review Committee	City Engineer	Last Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No. 4553.90
Zone Map No. J-19-Z
Sheet 41 Of 53

Storm Drain System: AP-B

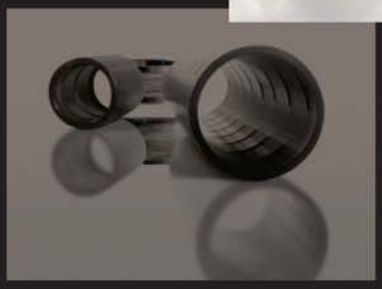
Conduit FlexTable: Combined Pipe/Node Report

Label	Start Node	Stop Node	Diameter (in)	Length (ft)	Flow (cfs)	Velocity (ft/s)	Invert (Start) (ft)	Invert (Stop) (ft)	Elevation Ground (Start) (ft)	Elevation Ground (Stop) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Energy Grade Line (In) (ft)	Energy Grade Line (Out) (ft)
LINE 15	INLET	MH 17	36.0	44.2	22.0	3.11	5,289.13	5,288.93	5,295.50	5,295.17	5,295.18	5,295.15	5,295.33	5,295.30
LINE 14	MH 17	MH 16	36.0	215.3	22.0	3.11	5,288.93	5,288.29	5,295.17	5,297.58	5,295.00	5,294.86	5,295.15	5,295.01
LINE 13	MH 16	MH 22	36.0	162.0	22.0	3.11	5,288.29	5,287.90	5,297.58	5,294.70	5,294.77	5,294.67	5,294.92	5,294.82
LINE 12	MH 22	MH 10	24.0	40.0	22.0	3.50	5,287.90	5,287.68	5,294.70	5,294.68	5,294.53	5,294.47	5,294.72	5,294.66
LINE 11	MH 10	MH 11	36.0	106.0	22.0	3.11	5,287.68	5,287.40	5,294.68	5,295.02	5,294.35	5,294.28	5,294.50	5,294.43
LINE 10	MH 11	MH 12	36.0	39.3	24.0	3.40	5,287.40	5,287.22	5,295.02	5,295.73	5,294.15	5,294.12	5,294.33	5,294.30
CO-42	CB-41	MH 2	24.0	156.1	5.0	1.59	5,290.00	5,288.18	5,297.66	5,296.20	5,295.49	5,295.45	5,295.53	5,295.49
CO-41	CB-40	MH 2	24.0	153.8	5.0	1.59	5,290.00	5,288.18	5,297.30	5,296.20	5,295.49	5,295.45	5,295.53	5,295.49
CO-61	INLET 4B	MH 3B	24.0	12.5	5.8	1.85	5,290.00	5,289.90	5,297.41	5,297.90	5,296.62	5,296.61	5,296.67	5,296.66
LINE 8C	INLET 8C	MH 8A	24.0	31.0	7.6	2.42	5,292.00	5,291.49	5,296.60	5,297.46	5,296.86	5,296.84	5,296.95	5,296.93
LINE 9B	MH 9A1	MH 9A	24.0	5.9	4.6	1.46	5,293.40	5,293.20	5,297.81	5,297.80	5,296.97	5,296.97	5,297.00	5,297.00
LINE 9A	MH 9A	MH 8B	24.0	128.2	4.6	1.46	5,293.20	5,292.60	5,297.80	5,299.05	5,296.93	5,296.90	5,296.97	5,296.94
LINE 8B	MH 8B	MH 8A	30.0	196.0	4.6	0.94	5,292.60	5,291.49	5,299.05	5,297.46	5,296.90	5,296.89	5,296.91	5,296.90
LINE 8A	MH 8A	MH 4	36.0	59.1	12.2	1.73	5,291.49	5,290.80	5,297.46	5,296.87	5,296.83	5,296.82	5,296.87	5,296.86
LINE 7	MH 7	MH 5	48.0	78.1	7.5	0.60	5,291.50	5,291.00	5,298.40	5,297.40	5,296.95	5,296.95	5,296.96	5,296.95
LINE 6	MH 6	MH 5	60.0	63.2	48.1	2.45	5,291.50	5,291.00	5,298.40	5,297.40	5,296.91	5,296.90	5,297.00	5,296.99
LINE 5	MH 5	MH 4	60.0	56.6	55.6	2.83	5,291.00	5,290.80	5,297.40	5,296.87	5,296.78	5,296.77	5,296.91	5,296.89
LINE 4B	MH 4	MH 3B	60.0	224.0	67.8	3.45	5,290.80	5,289.90	5,296.87	5,297.90	5,296.62	5,296.53	5,296.81	5,296.72
LINE 4A	MH 3B	MH-3A	60.0	143.0	73.6	3.75	5,289.90	5,289.50	5,297.90	5,298.26	5,296.38	5,296.31	5,296.60	5,296.53
LINE 17	MH 14	MH 13	36.0	246.7	27.0	3.82	5,288.80	5,287.50	5,297.81	5,295.78	5,294.59	5,294.35	5,294.82	5,294.58
LINE 18	MH 19	MH 14	30.0	117.0	27.0	5.50	5,289.26	5,288.80	5,297.92	5,297.81	5,294.99	5,294.69	5,295.46	5,295.16
LINE 18B	MH-3A	MH 19	30.0	258.2	17.0	0.00	5,289.50	5,289.26	5,298.26	5,297.92	5,295.71	5,295.44	5,295.89	5,295.63
LINE 3	MH-3A	MH 2	42.0	241.4	56.6	5.88	5,289.50	5,288.18	5,298.26	5,296.20	5,295.80	5,295.15	5,296.34	5,295.69
LINE 2	MH 2	MH 12	42.0	212.3	66.6	6.92	5,288.18	5,287.22	5,296.20	5,295.73	5,294.58	5,293.78	5,295.32	5,294.53
LINE 1	MH 12	AP-B	42.0	138.0	121.9	12.67	5,287.22	5,286.00	5,295.73	5,286.00	5,291.10	5,289.26	5,293.60	5,291.91
LINE 16	MH 13	MH 12	36.0	57.8	31.3	4.43	5,287.50	5,287.22	5,295.78	5,295.73	5,294.12	5,294.05	5,294.43	5,294.35

Storm Drain System: AP-D

Conduit FlexTable: Combined Pipe/Node Report

Label	Start Node	Stop Node	Diameter (in)	Length (ft)	Flow (cfs)	Velocity (ft/s)	Invert (Start) (ft)	Invert (Stop) (ft)	Elevation Ground (Start) (ft)	Elevation Ground (Stop) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Energy Grade Line (In) (ft)	Energy Grade Line (Out) (ft)
CO-56	INLET 7A RIGHT	MH 7A	24.0	25.6	0.6	3.50	5,289.20	5,289.00	5,296.70	5,296.91	5,289.48	5,289.22	5,289.57	5,289.41
LINE 7E	INLET	INLET 7D	30.0	85.0	10.2	11.16	5,289.10	5,287.20	5,294.52	5,294.87	5,290.17	5,289.57	5,290.57	5,289.64
LINE 7D	INLET 7D	MH 7C	30.0	28.2	20.7	14.17	5,287.20	5,286.50	5,294.87	5,295.30	5,288.75	5,288.87	5,289.40	5,289.15
LINE 7C	MH 7C	MH 7B	30.0	225.4	20.7	8.75	5,286.50	5,285.00	5,295.30	5,297.26	5,288.05	5,287.24	5,288.70	5,287.53
LINE 7B	MH 7B	MH 7A	30.0	213.5	20.7	8.93	5,285.00	5,283.50	5,297.26	5,296.91	5,286.55	5,286.37	5,287.20	5,286.65
CO-55	INLET 7A LEFT	MH 7A	24.0	14.8	0.6	4.24	5,289.20	5,289.00	5,296.61	5,296.91	5,289.48	5,289.20	5,289.57	5,289.45
LINE 7A	MH 7A	EX MH 12	30.0	31.4	22.0	4.48	5,283.40	5,283.18	5,296.91	5,296.69	5,286.16	5,286.11	5,286.48	5,286.42
LINE 11	MH 11	MH 6	24.0	425.2	14.0	9.38	5,296.92	5,292.50	5,303.80	5,298.40	5,298.27	5,294.39	5,298.87	5,294.70
LINE 6	MH 6	MH 5	30.0	417.5	14.0	9.25	5,292.50	5,288.20	5,298.40	5,298.00	5,293.76	5,292.15	5,294.26	5,292.28
LINE 9	MH 9	MH 5	24.0	361.4	14.0	11.02	5,294.00	5,288.20	5,303.00	5,298.00	5,295.35	5,292.04	5,295.95	5,292.35
LINE 5	MH 5	MH 4	30.0	447.6	28.0	5.70	5,288.20	5,283.00	5,298.00	5,294.74	5,291.54	5,290.31	5,292.05	5,290.82
LINE 10	MH 10	MH 8	24.0	121.8	18.0	5.73	5,287.82	5,286.00	5,297.00	5,296.00	5,292.89	5,292.43	5,293.40	5,292.94
LINE 8	MH 8	MH 4	30.0	227.2	42.3	8.62	5,286.00	5,283.00	5,296.00	5,294.74	5,291.35	5,289.92	5,292.50	5,291.07
LINE 4B	MH 4	MH 4A	36.0	242.0	70.3	9.95	5,283.00	5,278.25	5,294.74	5,296.06	5,288.64	5,287.05	5,290.18	5,288.59
LINE 4A	MH 4A	EX MH 12	36.0	115.0	70.3	9.95	5,278.25	5,276.00	5,296.06	5,296.69	5,286.13	5,285.37	5,287.67	5,286.91
LINE 3	EX MH 12	MH 2	42.0	228.2	92.3	9.59	5,276.00	5,274.00	5,296.69	5,290.53	5,284.17	5,282.25	5,285.60	5,283.68
LINE 2B	MH 2	MH 2A	42.0	204.4	111.9	11.63	5,274.00	5,272.30	5,290.53	5,284.59	5,280.59	5,278.06	5,282.69	5,280.16
LINE 2A	MH 2A	MH 1	42.0	55.4	111.9	11.63	5,272.30	5,271.10	5,284.59	5,284.10	5,276.80	5,276.11	5,278.90	5,278.22
CO-52	MH 18	MH 1	24.0	153.0	6.7	2.13	5,272.70	5,271.10	5,284.15	5,284.10	5,277.41	5,277.33	5,277.48	5,277.40
LINE 1	MH 1	AP-D	42.0	43.0	118.6	25.79	5,271.10	5,268.40	5,284.10	5,282.94	5,274.34	5,270.60	5,276.87	5,276.00



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HUITT-ZOLLARS