CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director

Mayor Timothy M. Keller

December 13, 2023

Diego A. Gomez, P.E.
Greenbox Architecture
502 Seventh Street, Suite 203
Oregon City, OR 97045

RE: Kairos Power Expansion – Mechanical Room Addition
5201 Hawking Drive SE
Grading Plan
Engineer's Stamp Date: 11/23/23
Hydrology File: Q16DA5000A

Dear Mr. Gomez:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based upon the information provided in your submittal received 11/29/2023, the Grading Plan is approved for Building Permit and Grading Permit. Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter.

PRIOR TO CERTIFICATE OF OCCUPANCY:

1. Engineer's Certification, per the DPM Part 6-14 (F): *Engineer's Certification Checklist For Non-Subdivision* is required.

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 (Doug Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

Renée C. Brissette

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: Kairos Power Expansion Building Permit #: BP-2023-35129 & BP-2023-07920 Hydrology File #: Q16DA5000A

DRB#: PR-2020-004448 EPC#: Work Order#:

Legal Description: TR D-1 PLAT OF TRACTS D-1 THRU D-7 MESA DEL SOL INNOVATIONPARK II (A SUBDIVISION OF TRACT D MESA DEL SOL INNOVATIONPARK II) CONT 16.4161 AC

City Address: 5201 Hawking Drive SE, Albuquerque, NM 87106

Applicant: Greenbox Architecture Contact: Derek Metson

Address: 502 Seventh St. Suite 203, Oregon City, OR 97045

Phone#: 503.207.5537 Fax#: E-mail: permits@greenboxpdx.com

Other Contact: Kairos Power Contact: Lara Gutierrez

Address: 5201 Hawking Drive SE, Albuquerque, NM 87106

Phone#: 505.702.1128 Fax#: E-mail: gutierrez@kairospower.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:

__X__ BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY

____ PRELIMINARY PLAT APPROVAL
____ SITE PLAN FOR SUB'D APPROVAL
____ 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: 11/27/2023 By: Derek Metson

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED:

FEE PAID:

RPM TEAM

Date: 11.02.2023
Site Address: Kairos Power, 5201 Hawking Dr SE, Albuquerque, NM 87106
Subject: - 24in Drainage Culvert Capacity Analysis

To whom this may concern:

I am writing to present the results of our recent engineering analysis, which focused on determining the demand and capacity of the existing 24" drainage culvert situated on the northern portion of the subject property.

Project Objective:
The primary objective of our project was to assess the capability of the 24" drainage culvert, responsible for transferring drainage from the developed sections of the subject property. Specifically, our goal was to evaluate its performance under extreme weather conditions and ascertain the impact of potential modifications, such as the addition of foundation drainage for a new 6000 square foot building.

Methodology:
We initiated our analysis by utilizing Geographic Information System (GIS) tools to calculate the drainage area, which was determined to be 11.86 acres. In our calculations, we adopted a conservative runoff coefficient of 1, effectively modeling the entire area as perfectly impervious. Additionally, we referenced NOAA rain map data to establish the 100-year 24-hour rainfall frequency, employing the Rational Method to compute the maximum flow within the culvert under these extreme conditions.

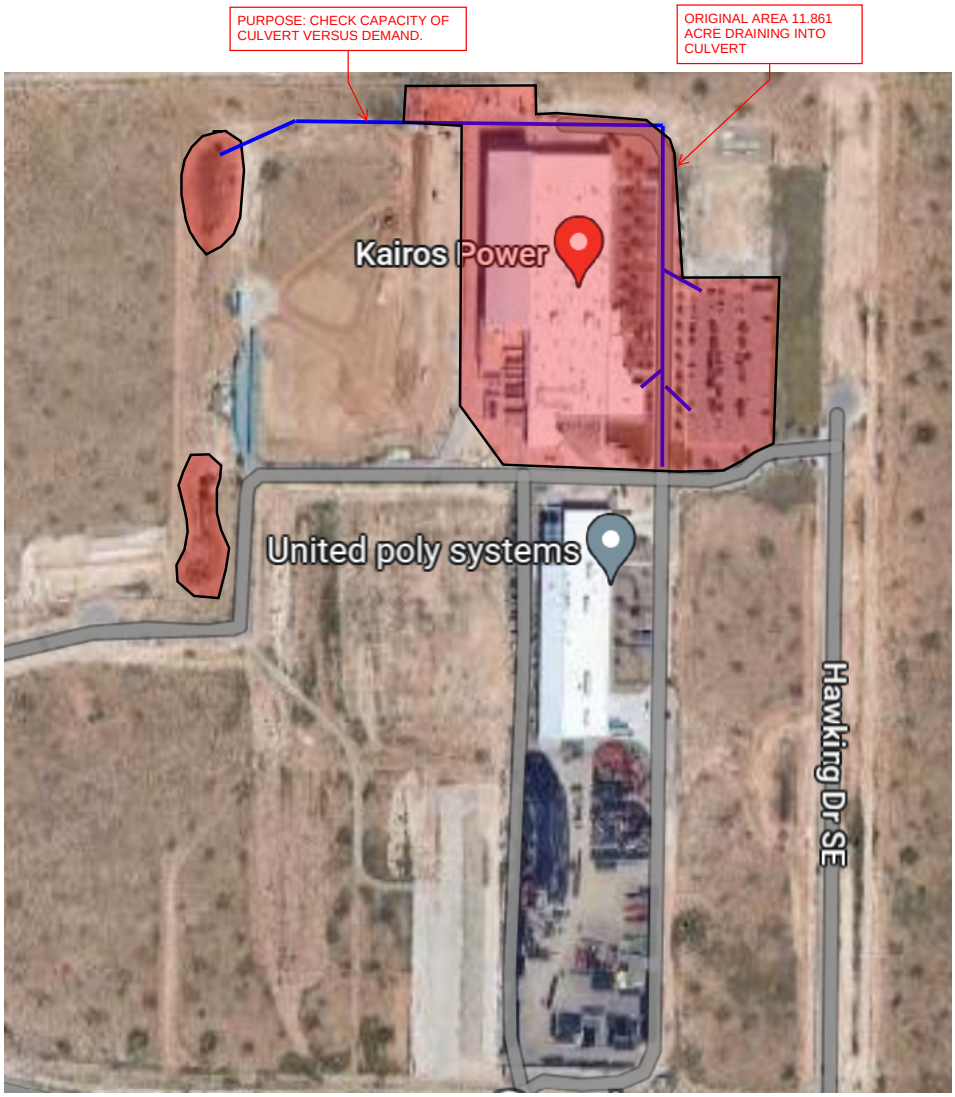
Findings:
Our findings indicate that, even under the extreme conditions of a 100-year 24-hour rain event, the subject culvert will only be 20% full, demonstrating efficient flow performance. Consequently, the inclusion of foundation drainage for the proposed 6000 square foot building is anticipated to have a negligible impact on the culvert's capacity. Importantly, as the new lateral will solely handle foundation drainage and not roof drainage, we can confidently assert that the overall capacity of the culvert will not be adversely affected.

Integration with Existing Infrastructure:
It is noteworthy that the subject culvert outfalls into an existing drainage basin, the capacity of which has been previously verified in accordance with the City of Albuquerque Development Process Manual. This further strengthens our confidence in the capacity of the entire drainage system.

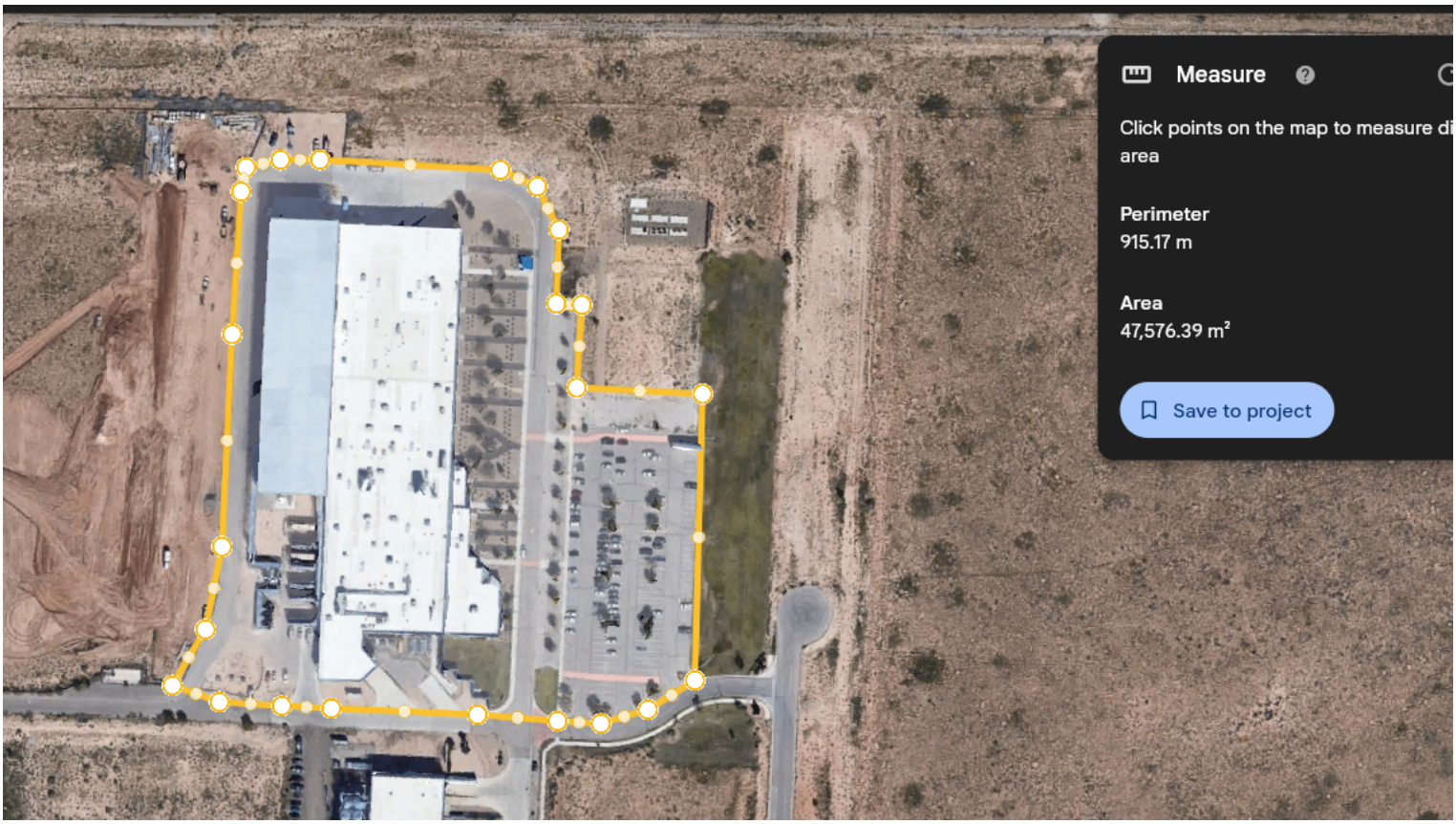
Sincerely,

Dmitriy Lashkevich PE
CTO – RPM Team
415-227-2880

Img 1: Terrain is largely barren and undeveloped. We analyzed the drainage patterns using available GIS and topographic survey to identify the tributary area to the culvert in question.



Img 2: The image shows the original site conditions and location of the subject culvert (in blue). We identified the southern developed portion drains into a separate retention basin and does not contribute to the subject culvert. Only the developed areas highlighted in red drain into the culvert we are analyzing.



Img 3: We calculated the developed area contributing to the culvert in question.

$A_{drainage} := 11.861\ acre$ Drainage area - GIS

$C := 1$ Conservative runoff - coefficient

$i_{24hr\_100yr} := 0.109\ \frac{in}{hr}$ 100 year 24 hour storm event

$Q := C \cdot i_{24hr\_100yr} \cdot A_{drainage} = 1.304\ \frac{ft^3}{s}$ Rational Method

$Q = 585.106\ gpm$ Maximum Flow in Pipe

Manning Formula Uniform Pipe Flow at Given Slope and Depth

Can you help me improve translations, program, or host these calculators? [Hide this line]

Check out the spreadsheet version of this calculator [Hide this line]

Printable Title

Printable Subtitle

Set units: m | mm | ft | in [Hide this line]

Inputs

Pipe diameter, d_0	24	in	X
Manning roughness, n	0.015		X
Pressure slope (possibly ? equal to pipe slope), S_0	0.0058	rise/run	X
Relative flow depth, y/d_0	0.2	fraction	X

Results

Flow depth, y	4.8000	in	X
Flow area, a	64.4106	sq. in.	X
Pipe area, a0	452.3902	sq. in.	X
Relative area, a/a0	0.1424	fraction	X
Wetted perimeter, P_w	22.2551	in	X
Hydraulic radius, R_h	2.8942	in	X
Top width, T	19.2000	in	X
Velocity, v	2.9231	ft/sec	X
Velocity head, h_v	1.5936	in H2O	X
Froude number, F	0.97		X
Average shear stress (tractive force), tau	4.1810	N/m^2	X
Flow, Q (See notes)	586.8024	gpm	X
Full flow, Q0	6700.8520	gpm	X
Ratio to full flow, Q/Q0	0.0876	fraction	X

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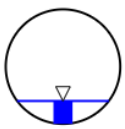

We demonstrate that the maximum runoff for 100 year 24 hour storm will result in 20% of pipe capacity being utilized.

In accordance with the soils report ground water was not encountered during testing. If we conservatively assume that 50% of runoff from the roof will contribute to the foundation drainage we show below that the addition is negligible.

$A_{roof} := 6000\ ft^2$

$i_{24hr\_100yr} = 0.109\ \frac{in}{hr}$

$C := 1$

$Q_{additional} := 0.5 \cdot C \cdot i_{24hr\_100yr} \cdot A_{roof} = 3.397\ gpm$

We demonstrate that 3.4gpm is added to the culvert and are still at 20% capacity.

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Inputs

Pipe diameter, d_0	24	in	X
Manning roughness, n	0.015		X
Pressure slope (possibly ? equal to pipe slope), S_0	0.0058	rise/run	X
Relative flow depth, y/d_0	0.2005	fraction	X

Results

Flow depth, y	4.8120	in	X
Flow area, a	64.6411	sq. in.	X
Pipe area, a0	452.3902	sq. in.	X
Relative area, a/a0	0.1429	fraction	X
Wetted perimeter, P_w	22.2851	in	X
Hydraulic radius, R_h	2.9006	in	X
Top width, T	19.2180	in	X
Velocity, v	2.9274	ft/sec	X
Velocity head, h_v	1.5983	in H2O	X
Froude number, F	0.97		X
Average shear stress (tractive force), tau	4.1903	N/m^2	X
Flow, Q (See notes)	589.7770	gpm	X
Full flow, Q0	6700.8520	gpm	X
Ratio to full flow, Q/Q0	0.0880	fraction	X

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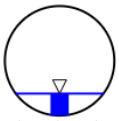

NOAA Atlas 14, Volume 1, Version 5
Location name: Albuquerque, New Mexico, USA*
Latitude: 35.0051°, Longitude: -106.6109°
Elevation: 5294 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**2.15** (1.87-2.47)	**2.78** (2.41-3.20)	**3.71** (3.20-4.26)	**4.43** (3.82-5.06)	**5.41** (4.66-6.19)	**6.17** (5.27-7.06)	**6.96** (5.92-7.97)	**7.79** (6.58-8.90)	**8.92** (7.44-10.2)	**9.79** (8.12-11.2)
10-min	**1.63** (1.42-1.88)	**2.11** (1.84-2.44)	**2.82** (2.44-3.25)	**3.37** (2.90-3.86)	**4.12** (3.54-4.71)	**4.69** (4.01-5.37)	**5.30** (4.50-6.06)	**5.93** (5.00-6.77)	**6.78** (5.66-7.77)	**7.45** (6.18-8.54)
15-min	**1.35** (1.18-1.55)	**1.75** (1.52-2.01)	**2.33** (2.02-2.68)	**2.78** (2.40-3.19)	**3.40** (2.92-3.89)	**3.88** (3.31-4.44)	**4.38** (3.72-5.01)	**4.90** (4.13-5.60)	**5.60** (4.68-6.42)	**6.16** (5.11-7.06)
30-min	**0.910** (0.792-1.04)	**1.18** (1.02-1.35)	**1.57** (1.36-1.81)	**1.87** (1.62-2.15)	**2.29** (1.97-2.62)	**2.61** (2.23-2.99)	**2.95** (2.50-3.37)	**3.30** (2.78-3.77)	**3.77** (3.15-4.32)	**4.15** (3.44-4.75)
60-min	**0.563** (0.490-0.647)	**0.728** (0.633-0.838)	**0.971** (0.841-1.12)	**1.16** (1.00-1.33)	**1.42** (1.22-1.62)	**1.62** (1.38-1.85)	**1.82** (1.55-2.09)	**2.04** (1.72-2.33)	**2.34** (1.95-2.68)	**2.57** (2.13-2.94)
2-hr	**0.320** (0.278-0.373)	**0.409** (0.354-0.478)	**0.539** (0.468-0.630)	**0.644** (0.555-0.747)	**0.788** (0.675-0.912)	**0.904** (0.769-1.04)	**1.03** (0.865-1.18)	**1.15** (0.964-1.33)	**1.33** (1.10-1.53)	**1.47** (1.21-1.70)
3-hr	**0.225** (0.197-0.262)	**0.286** (0.250-0.333)	**0.375** (0.327-0.435)	**0.444** (0.385-0.513)	**0.542** (0.466-0.625)	**0.619** (0.530-0.712)	**0.701** (0.597-0.807)	**0.788** (0.664-0.907)	**0.908** (0.757-1.04)	**1.00** (0.829-1.16)
6-hr	**0.131** (0.115-0.151)	**0.165** (0.145-0.191)	**0.212** (0.186-0.244)	**0.249** (0.218-0.286)	**0.299** (0.260-0.343)	**0.339** (0.292-0.388)	**0.380** (0.326-0.435)	**0.423** (0.361-0.484)	**0.482** (0.407-0.552)	**0.530** (0.443-0.608)
12-hr	**0.072** (0.064-0.082)	**0.091** (0.081-0.103)	**0.115** (0.101-0.130)	**0.134** (0.118-0.151)	**0.159** (0.140-0.179)	**0.179** (0.156-0.201)	**0.199** (0.173-0.224)	**0.220** (0.190-0.248)	**0.248** (0.212-0.280)	**0.271** (0.229-0.307)
24-hr	**0.041** (0.036-0.046)	**0.051** (0.046-0.057)	**0.064** (0.057-0.072)	**0.074** (0.066-0.083)	**0.088** (0.078-0.098)	**0.098** (0.087-0.110)	**0.109** (0.097-0.122)	**0.120** (0.106-0.134)	**0.135** (0.118-0.151)	**0.147** (0.128-0.164)
2-day	**0.021** (0.019-0.024)	**0.027** (0.024-0.030)	**0.034** (0.030-0.037)	**0.039** (0.035-0.043)	**0.046** (0.041-0.051)	**0.051** (0.046-0.057)	**0.057** (0.051-0.063)	**0.063** (0.056-0.070)	**0.070** (0.062-0.078)	**0.076** (0.067-0.085)
3-day	**0.015** (0.014-0.017)	**0.019** (0.017-0.021)	**0.024** (0.022-0.026)	**0.027** (0.025-0.030)	**0.032** (0.029-0.035)	**0.036** (0.033-0.039)	**0.040** (0.036-0.044)	**0.044** (0.039-0.048)	**0.049** (0.044-0.053)	**0.053** (0.047-0.058)
4-day	**0.012** (0.011-0.013)	**0.015** (0.014-0.017)	**0.019** (0.017-0.020)	**0.022** (0.020-0.023)	**0.025** (0.023-0.028)	**0.028** (0.026-0.031)	**0.031** (0.029-0.034)	**0.034** (0.031-0.037)	**0.038** (0.035-0.041)	**0.041** (0.037-0.044)
7-day	**0.008** (0.007-0.009)	**0.010** (0.009-0.011)	**0.012** (0.011-0.013)	**0.014** (0.013-0.015)	**0.016** (0.015-0.018)	**0.018** (0.017-0.019)	**0.020** (0.018-0.021)	**0.021** (0.020-0.023)	**0.024** (0.022-0.025)	**0.025** (0.023-0.027)
10-day	**0.006** (0.006-0.006)	**0.008** (0.007-0.008)	**0.009** (0.009-0.010)	**0.011** (0.010-0.012)	**0.013** (0.012-0.014)	**0.014** (0.013-0.015)	**0.015** (0.014-0.017)	**0.017** (0.015-0.018)	**0.019** (0.017-0.020)	**0.020** (0.018-0.021)
20-day	**0.004** (0.003-0.004)	**0.005** (0.004-0.005)	**0.006** (0.005-0.006)	**0.007** (0.006-0.007)	**0.008** (0.007-0.008)	**0.008** (0.008-0.009)	**0.009** (0.008-0.010)	**0.010** (0.009-0.011)	**0.011** (0.010-0.012)	**0.011** (0.010-0.012)
30-day	**0.003** (0.003-0.003)	**0.004** (0.003-0.004)	**0.004** (0.004-0.005)	**0.005** (0.005-0.005)	**0.006** (0.005-0.006)	**0.006** (0.006-0.007)	**0.007** (0.006-0.007)	**0.007** (0.007-0.008)	**0.008** (0.007-0.009)	**0.008** (0.008-0.009)
45-day	**0.002** (0.002-0.002)	**0.003** (0.003-0.003)	**0.003** (0.003-0.004)	**0.004** (0.004-0.004)	**0.004** (0.004-0.005)	**0.005** (0.004-0.005)	**0.005** (0.005-0.006)	**0.005** (0.005-0.006)	**0.006** (0.005-0.006)	**0.006** (0.006-0.006)
60-day	**0.002** (0.002-0.002)	**0.002** (0.002-0.003)	**0.003** (0.003-0.003)	**0.003** (0.003-0.004)	**0.004** (0.003-0.004)	**0.004** (0.004-0.004)	**0.004** (0.004-0.005)	**0.005** (0.004-0.005)	**0.005** (0.005-0.005)	**0.005** (0.005-0.006)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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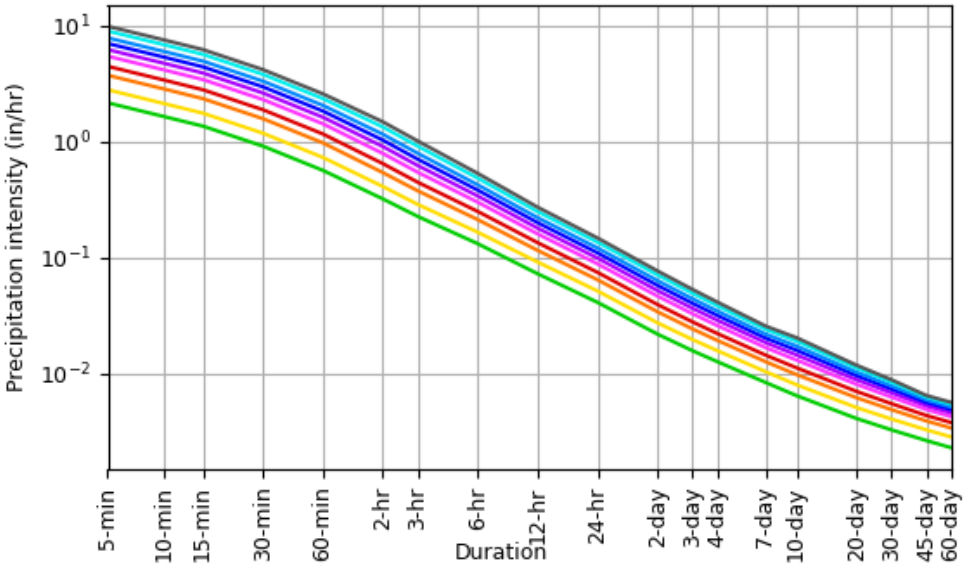
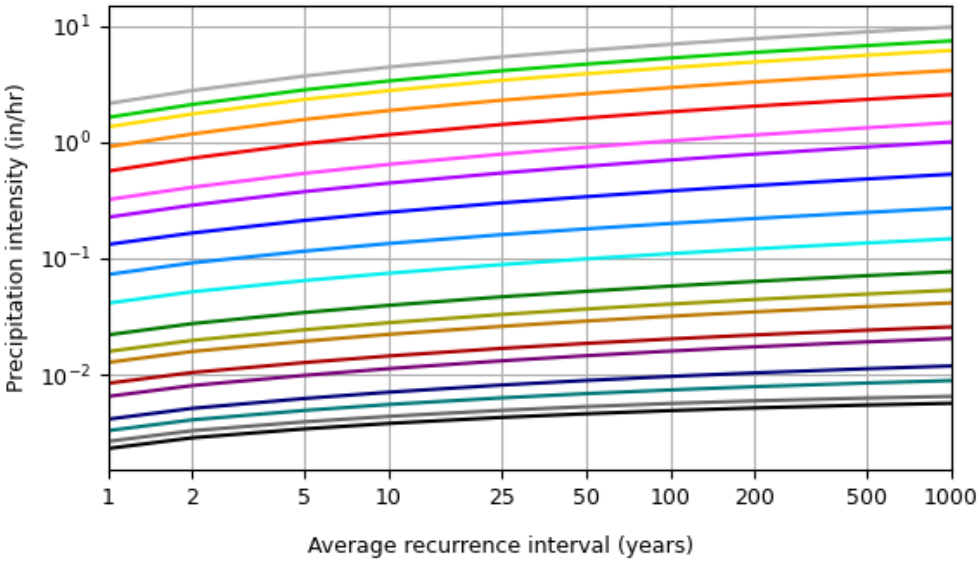
PF graphical

PDS-based intensity-duration-frequency (IDF) curves
Latitude: 35.0051°, Longitude: -106.6109°





NOAA Atlas 14, Volume 1, Version 5

Created (GMT): Thu Nov 16 14:13:56 2023

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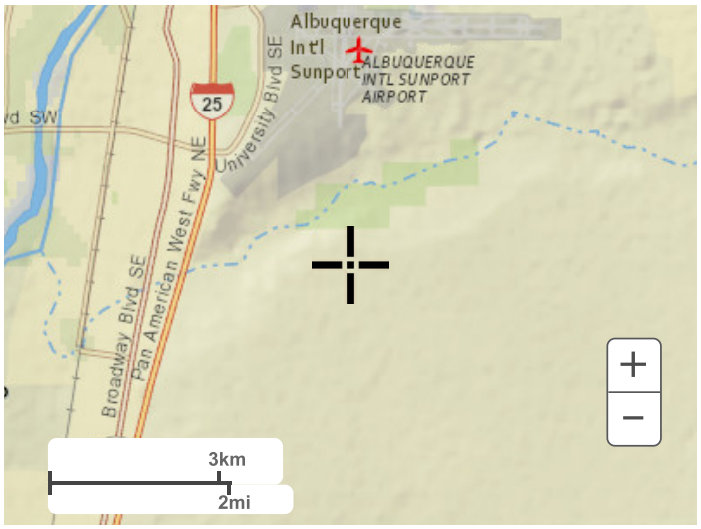
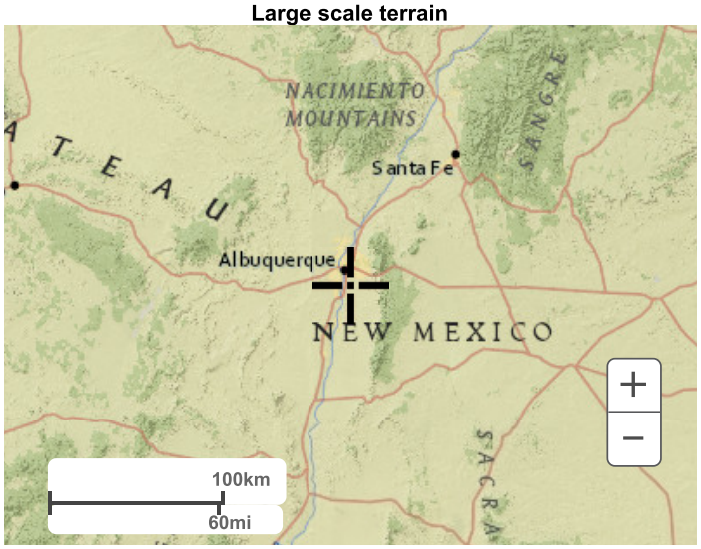
Maps & aerials

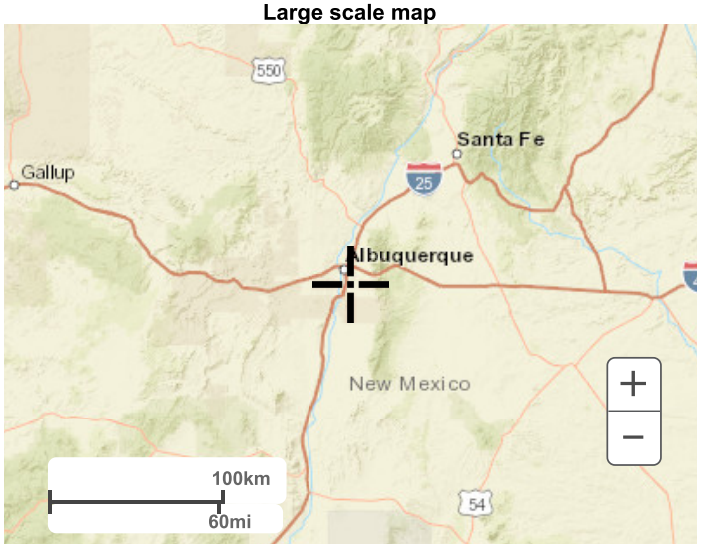
Small scale terrain



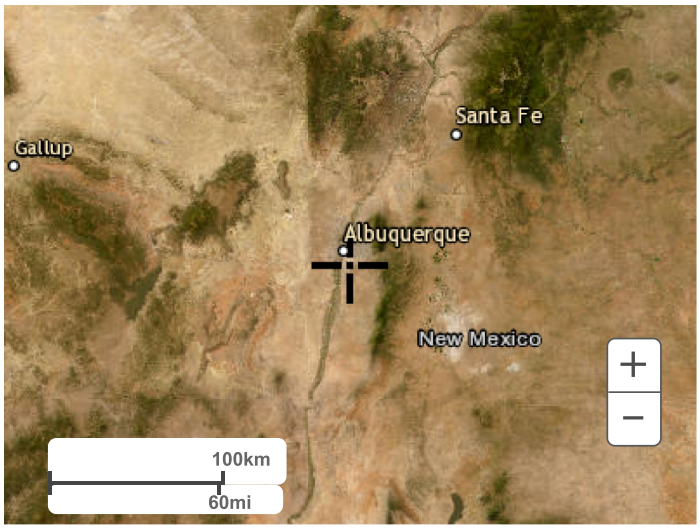
Large scale terrain



Large scale map



Large scale aerial



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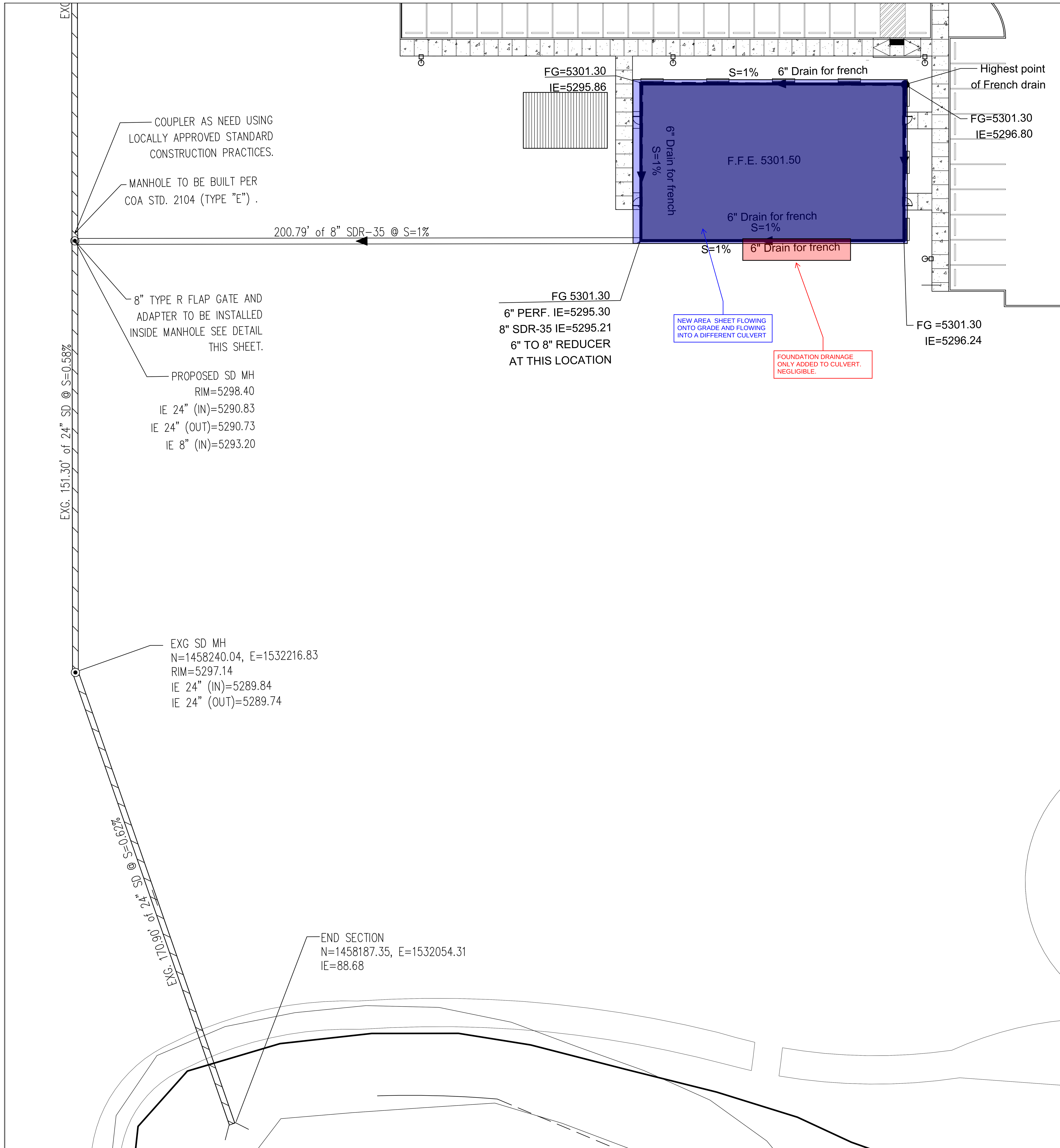
US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov



SITE LAYOUT PLAN

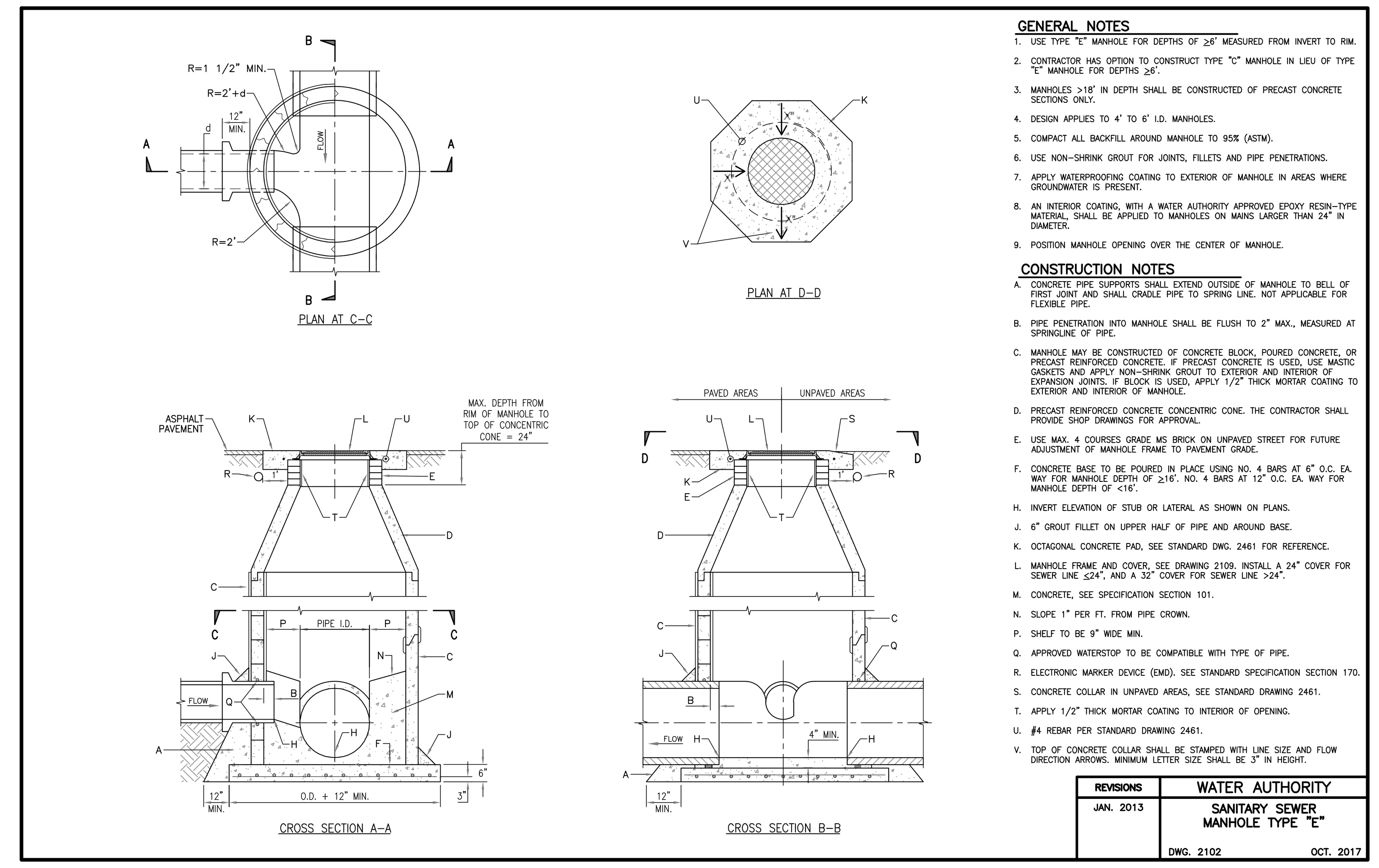
SCALE: 1" = 20'

0 10 20 40

NORTH

LEGEND	
PROPOSED PIPE	
EXISTING PIPE	
F.F.E	FINISH FLOOR ELEVATION
FG	FINISH GRADE
IE	INVERT ELEVATION
SDR	STORM DRAIN RIGID

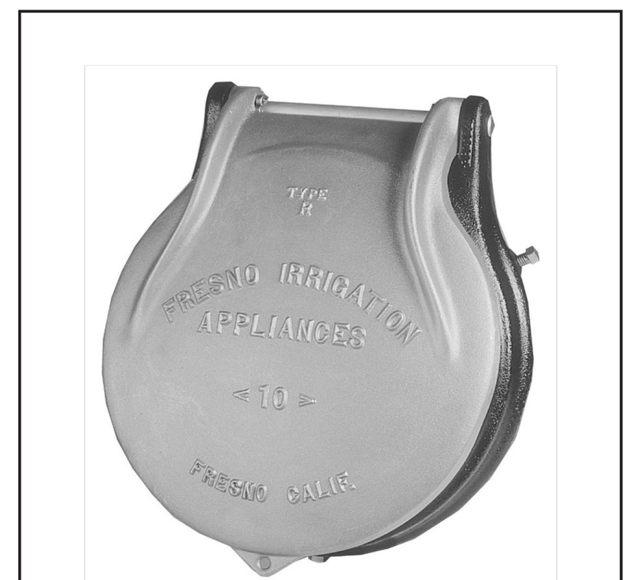
THIS PLAN SHOWS THE PROPOSED 8" DRAINAGE LATERAL THAT WILL TRANSFER FOUNDATION DRAINAGE TO THE 24" CULVERT IN QUESTION. ITS IMPORTANT TO NOTE THAT THE AREA HIGHLIGHTED IN BLUE WILL SHEET FLOW TO A SEPARATE DRAINAGE CULVERT AND WILL NOT CONTRIBUTE TO THE 24" CULVERT IN QUESTION.



SANITARY SEWER DETAIL
N.T.S.

FRESNO

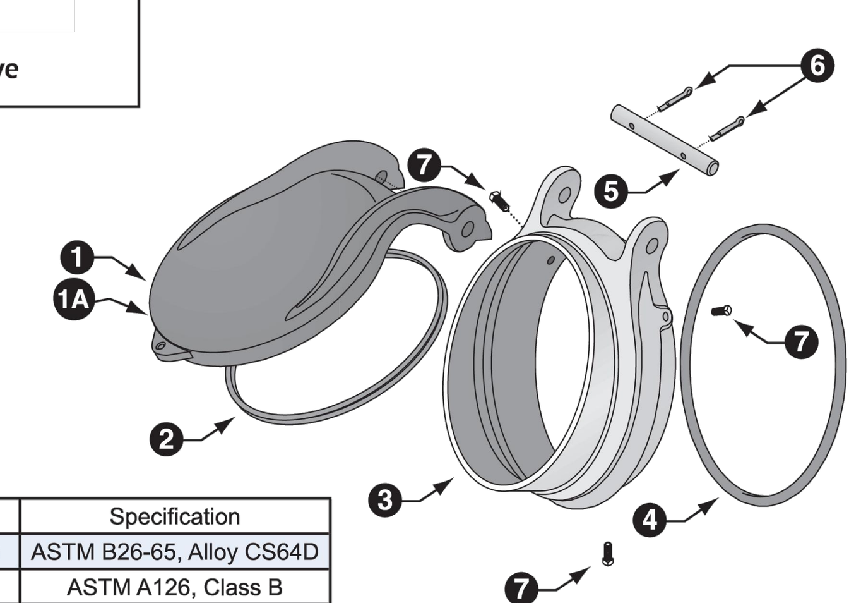
SERIES 3800 TYPE R FLAP VALVE



Series 3800 Type R Flap Valve

Features

- Self-aligning resilient seat cover design for reliable performance.
- Flow responsive Cast Aluminum cover is standard.
- Brass hinge pin provides corrosion resistance and smooth operation.
- Slip-on mounting with O-ring seal for easy installation.
- Heavy-duty Cast Iron seat.



Material Specifications

Item	Desciption	Material	Specification
1	Cover	Cast Aluminum	ASTM B26-65, Alloy CS64D
1A *	Cover	Cast Iron	ASTM A126, Class B
2	Cover Gasket	SBR	ASTM D2000
3	Seat	Cast Iron	ASTM A126, Class B
4	O-Ring	SBR	ASTM D2000
5	Hinge Pin	Brass	ASTM B16
6	Cotter Pin	Brass	ASTM B16
7	Set Screw	Steel, Plated	ASTM A307, A164

* not shown

Applications

The Series 3800 Type R Flap Valve is designed for use on the discharge end of pipes to prevent the backflow or intrusion of water into the pipe. Typical applications include discharges to reservoirs, ponding basins and standpipes.

TYPE R FLAP GATE DETAIL

THIS DRAWING IS PRELIMINARY UNTIL SIGNED AND SEALED BY THE LICENSED PROFESSIONAL NOTED BELOW.

PROFESSIONAL SEAL

ILDEFONSO GONZALEZ NEW MEXICO 20635 PROFESSIONAL ENGINEER

10/26/2023

Dr. Al Gonzalez P.E.
DOTec Engineering
424 Jefferson Street
St. Charles, MO 63301
Ph 636-724-9872
Fx 636-724-9032
WWW.DOTECENGINEERING.COM
ALG@DOTECENGINEERING.COM

#	REVISION DATE	DESCRIPTION
01	10/10/2023	REVISED FRENCH DRAIN/STORM DRAIN LAYOUT

SHEET NAME: SITE LAYOUT

DATE: 10/26/2023

PROJECT: 5201 HAWKING DRIVE S.E. ALBUQUERQUE, NM -KAIROS POWER

CLIENT: SUSTAINABLE MODULAR MANAGEMENT INC.

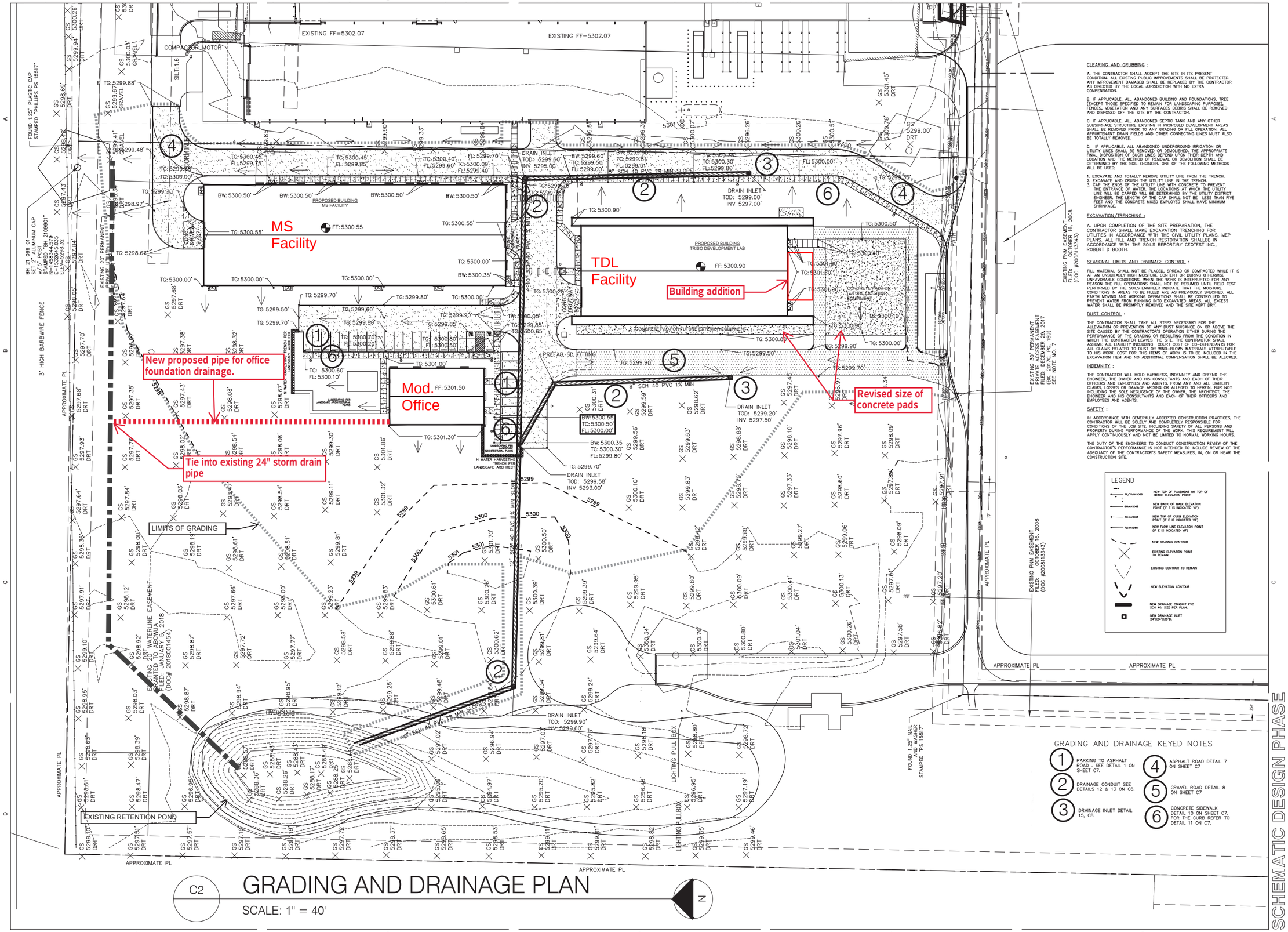
SHEET NUMBER: ----

PROJECT NUMBER: 2309077

DRAWN BY: TS

CHECKED BY: MAD

PRELIMINARY DRAWING



CLEARING AND GRUBBING :

A. THE CONTRACTOR SHALL ACCEPT THE SITE IN ITS PRESENT CONDITION. ALL EXISTING PUBLIC IMPROVEMENTS SHALL BE PROTECTED. ANY IMPROVEMENT DAMAGED SHALL BE REPLACED BY THE CONTRACTOR AS DIRECTED BY THE LOCAL JURISDICTION WITH NO EXTRA COMPENSATION.

B. IF APPLICABLE, ALL ABANDONED BUILDING AND FOUNDATIONS, TREE (EXCEPT THOSE SPECIFIED TO REMAIN FOR LANDSCAPING PURPOSE), FENCES, VEGETATION AND ANY SURFACES DEBRIS SHALL BE REMOVED AND DISPOSED OFF THE SITE BY THE CONTRACTOR.

C. IF APPLICABLE, ALL ABANDONED SEPTIC TANK AND ANY OTHER SUBSURFACE STRUCTURE EXISTING IN PROPOSED DEVELOPMENT AREAS SHALL BE REMOVED PRIOR TO ANY GRADING OR FILL OPERATION. ALL APPURTENANT DRAIN FIELDS AND OTHER CONNECTING LINES MUST ALSO BE TOTALLY REMOVED.

D. IF APPLICABLE, ALL ABANDONED UNDERGROUND IRRIGATION OR UTILITY LINES SHALL BE REMOVED OR DEMOLISHED. THE APPROPRIATE FINAL DISPOSITION OF SUCH LINES DEPEND UPON THEIR DEPTH AND LOCATION AND THE METHOD OF REMOVAL OR DEMOLITION SHALL BE DETERMINED BY THE SOIL ENGINEER. ONE OF THE FOLLOWING METHODS WILL BE USED:

1. EXCAVATE AND TOTALLY REMOVE UTILITY LINE FROM THE TRENCH.
2. EXCAVATE AND CRUSH THE UTILITY LINE IN THE TRENCH.
3. CAP THE ENDS OF THE UTILITY LINE WITH CONCRETE TO PREVENT THE ENTRANCE OF WATER. THE LOCATIONS AT WHICH THE UTILITY LINE WILL BE CAPPED WILL BE DETERMINED BY THE UTILITY DISTRICT ENGINEER. THE LENGTH OF THE CAP SHALL NOT BE LESS THAN FIVE FEET AND THE CONCRETE MIXED EMPLOYED SHALL HAVE MINIMUM SHRINKAGE.

EXCAVATION/TRENCHING :

A. UPON COMPLETION OF THE SITE PREPARATION, THE CONTRACTOR SHALL MAKE EXCAVATION TRENCHING FOR UTILITIES IN ACCORDANCE WITH THE CIVIL UTILITY PLANS, MEP PLANS. ALL FILL AND TRENCH RESTORATION SHALLBE IN ACCORDANCE WITH THE SOILS REPORT.BY GEOTEST INC., ROBERT D BOOTH.

SEASONAL LIMITS AND DRAINAGE CONTROL :

FILL MATERIAL SHALL NOT BE PLACED, SPREAD OR COMPACTED WHILE IT IS AT AN UNSUITABLY HIGH MOISTURE CONTENT OR DURING OTHERWISE UNFAVORABLE CONDITIONS. WHEN THE WORK IS INTERRUPTED FOR ANY REASON THE FILL OPERATIONS SHALL NOT BE RESUMED UNTIL FIELD TEST PERFORMED BY THE SOILS ENGINEER INDICATE THAT THE MOISTURE CONDITIONS IN AREAS TO BE FILLED ARE AS PREVIOUSLY SPECIFIED. ALL EARTH MOVING AND WORKING OPERATIONS SHALL BE CONTROLLED TO PREVENT WATER FROM RUNNING INTO EXCAVATED AREAS. ALL EXCESS WATER SHALL BE PROMPTLY REMOVED AND THE SITE KEPT DRY.

DUST CONTROL :

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SAFETY :

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THE DUTY OF THE ENGINEERS TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.

GRADING AND DRAINAGE PLAN

C2

SCALE: 1" = 40'

N

SCHEMATIC DESIGN PHASE

Greenbox Architecture
505 SEVENTH STREET, SUITE 300
OREGON CITY, OREGON 97045

RPM TEAM

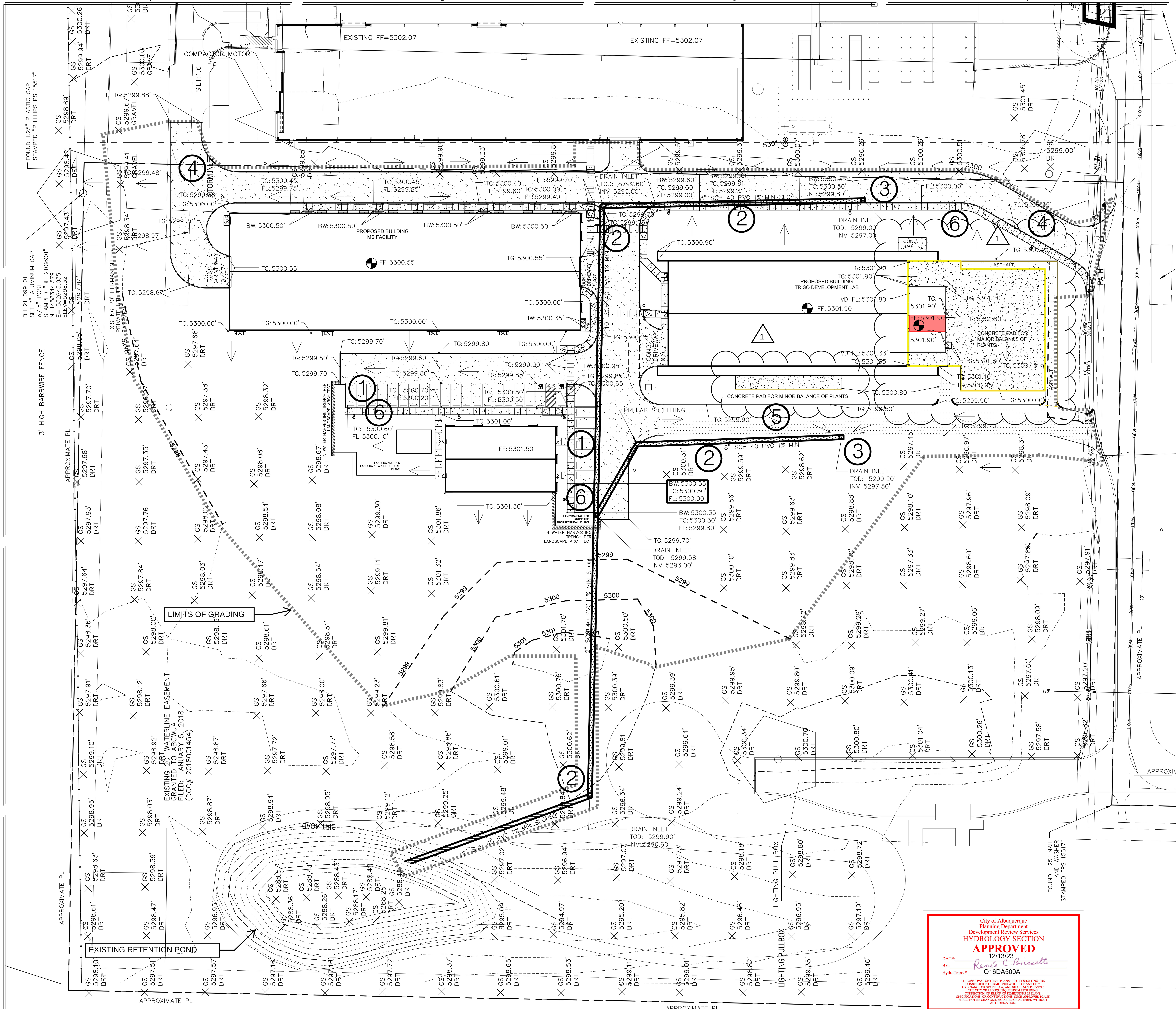
KAIROS POWER FACILITY EXPANSION

TR D-1 PLAT OF TRACTS D-1 THRU D-7 MESA DEL SOL INNOVATIONPARK II (A SUBDIVISION OF TRACT D MESA DEL SOL INNOVATIONPARK II CONT 19.4161 AC

GRADING & DRAINAGE PLAN

PROJECT NO.: 8800-22
DRAWN BY:
DATE: 7.2.2022

C2



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LEGEND

- TP/TG: NAVD88 — NEW TOP OF PAVEMENT OR TOP OF GRADE ELEVATION POINT
- BW: NAVD88 — NEW BACK OF WALK ELEVATION POINT (IF E IS INDICATED VIF)
- TC: NAVD88 — NEW TOP OF CURB ELEVATION POINT (IF E IS INDICATED VIF)
- FL: NAVD88 — NEW FLOW LINE ELEVATION POINT (IF E IS INDICATED VIF)
- NEW GRADNIG CONTOUR
- EXISTING ELEVATION POINT TO REMAIN
- EXISTING CONTOUR TO REMAIN
- NEW ELEVATION CONTOUR
- NEW DRAINAGE CONDUIT PVC SCH 40. SIZE PER PLAN.
- NEW DRAINAGE INLET 24"X24"X36"D.

GRADING AND DRAINAGE KEYED NOTES

1. PARKING TO ASPHALT ROAD . SEE DETAIL 1 ON SHEET C7.
2. DRAINAGE CONDUIT SEE DETAILS 12 & 13 ON C8.
3. DRAINAGE INLET DETAIL 15, C8.
4. ASPHALT ROAD DETAIL 7 ON SHEET C7
5. GRAVEL ROAD DETAIL 8 ON SHEET C7
6. CONCRETE SIDEWALK DETAIL 10 ON SHEET C7. FOR THE CURB REFER TO DETAIL 11 ON C7.

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 12/13/23
BY: Renée C. Brissette
HydroTrans # Q16DA500A

THE APPROVAL OF THESE PLANS/REPORT SHALL NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT THE CITY OF ALBUQUERQUE FROM REQUIRING CORRECTION, OR ERROR OR DIMENSIONS IN PLANS, SPECIFICATIONS, OR CONSTRUCTIONS. SUCH APPROVED PLANS SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION.

APPROVAL OF GRADING & DRAINAGE PLAN(S) SHALL EXPIRE TWO (2) YEARS AFTER THE APPROAL DATE BY THE CITY IF NO BUILDING PERMIT HAS BEEN PULLED ON THE DEVELOPMENT.

C2

GRADING AND DRAINAGE PLAN

SCALE: 1" = 40'

PROFESSIONAL ENGINEER STATE OF NEVADA
DMITRIY LASHKEVICH
Exp : 12.31.2023
CIVIL
No. 028082

Greenbox Architecture
502 SEVENTH STREET, SUITE 203
OREGON CITY, OREGON 97045

RPM TEAM

DIEGO A. GOMEZ
NEW MEXICO
19357
11/23/23
PROFESSIONAL ENGINEER

1 11.23.2023

KAIROS POWER FACILITY EXPANSION

TR D-1 PLAT OF TRACTS D-1 THRU D-7 MESA DEL SOL INNOVATIONPARK II (A SUBDIVISION OF TRACT D MESA DEL SOL INNOVATIONPARK II) CONT 16.4161 AC

SCHEMATIC DESIGN PHASE

GRADING & DRAINAGE PLAN

PROJECT NO.: 8800-22
DRAWN BY:
DATE: 10/4/2023

C2