CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director

Mayor Timothy M. Keller

January 14, 2020

Jesus Lopez
Respec
5971 Jefferson St. NE
Albuquerque, NM 87109

RE: Guardian Storage- Juan Tabo
4909 Juan Tabo NE
Revised Conceptual Grading Plan Stamp Date: 1/9/20
Drainage Plan Stamp Date: 12/20/19
Hydrology File: F21D081

Dear Mr. Lopez:

Based on the submittal received on 1/13/20, the Conceptual Grading and Drainage Plan is re-approved for Site Plan for Building Permit.

Prior to Building Permit (For Information):

1. Remove all "Conceptual" markings.
2. 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.
3. Provide hydraulic calculations for the proposed storm drain outfall, calculated along the Energy Grade Line; include both the HGL and EGLs. The 10-yr water surface in Bear Canyon Arroyo may be used as the control surface for the storm drain HGL calculations.
4. Additional comments may be provided at Building Permit, based on the outcome of the above remarks and level of detail shown on plans.

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

Sincerely,

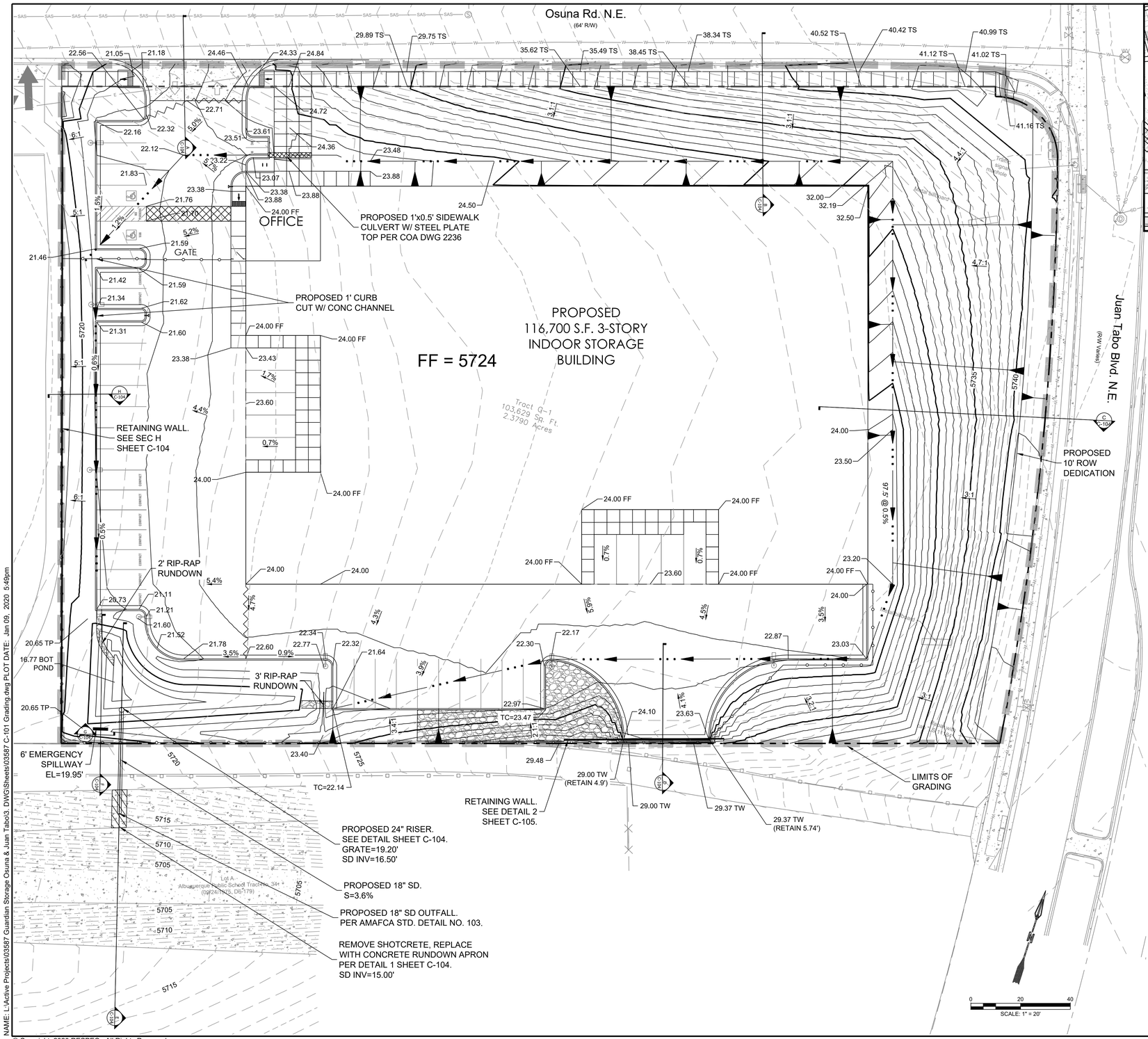
Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services

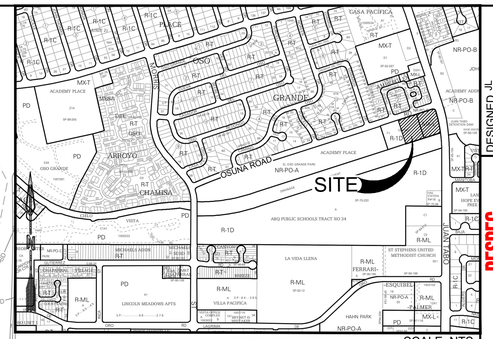
PO Box 1293

Albuquerque

NM 87103

www.cabq.gov





LOCATION MAP

ZONE ATLAS MAP F-21-Z

SCALE: NTS

GRADING NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF ALL EXISTING DRY AND WET UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY ISSUES. UTILITY RELOCATION MAY BE REQUIRED.
2. PARKING LOT STRIPING HAS BEEN SCREENED BACK FOR VISUAL CLARITY
3. GRADES SHOWN ARE FINAL SURFACE GRADES AFTER COMPLETION OF SURFACE IMPROVEMENTS.
4. GRADE AREAS AT SITE PERIMETER TO MATCH GRADES OF ADJACENT PARCELS.
5. REMOVE EXCESS SOIL FROM SITE AND DISPOSE OF PROPERLY IN ACCORDANCE WITH APPLICABLE REGULATIONS.
6. PROVIDE TEMPORARY GRADING FEATURES SUCH AS BERMS, SWALES, SUMPS AND BASINS TO MANAGE INTERIM STORM WATER RUNOFF DURING CONSTRUCTION PROCESS. STORM WATER RUNOFF LEAVING THE SITE SHALL MEET ALL FEDERAL, STATE AND LOCAL QUALITY REQUIREMENTS.
7. ALL DISTURBED AREAS TO BE RE-SEEDED PER LANDSCAPE PLAN PROVIDED BY OTHERS.
8. ALL AREAS WITH SLOPES GREATER THAN 3:1 SHALL BE LANDSCAPED WITH 3/4" MINUS ALL FACED FRACTURED GRAVEL AND SEPARATION FABRIC.

LEGEND

- EXISTING PROPERTY LINE
- 5730 EXISTING MAJOR CONTOUR
- 5728 EXISTING MINOR CONTOUR
- 5730 PROPOSED MAJOR CONTOUR
- 5728 PROPOSED MINOR CONTOUR
- LIMITS OF GRADING
- PROPOSED WATER BLOCK
- PROPOSED SWALE
- 3.8% SLOPE ARROW
- PROPOSED 3/4" FRACTURED ALL-FACE GRAVEL

RIP RAP SPECIFICATIONS / NOTES

RIP RAP SHALL BE OVER FILTER MATERIAL AND CONSIST OF RIP RAP AND CRUSHED ROCK MEETING THE FOLLOWING GRADATION OR ENGINEER-APPROVED EQUAL:

MAX DIMENSION	% SMALLER
12"	100
9"	50-60
6"	35-45
3"	10

FILTER MATERIAL SHALL CONSIST OF CRUSHED ROCK MEETING THE FOLLOWING GRADATION OR ENGINEER-APPROVED EQUAL:

U.S. STANDARD SIEVE SIZE	% PASS BY WT
1"	100
3/4"	45-65
#4	25-45
#40	0-20
#200	0-5

FILTER MATERIAL SHALL BE PLACED UNDER THE RIP RAP CHANNEL AND COMPACTED INTO SURFACE VOIDS OF THE RIP RAP. THE SUBGRADE SHALL BE PROCESSED TO A 12" MIN. DEPTH AND COMPACTED TO 95% MIN. RELATIVE DENSITY PER ASTM D 1557. THE FILTER MATERIAL SHALL BE TAMPED AND SHAPED TO FORM A SMOOTH, EVEN, AND FIRM FOUNDATION FOR THE OVERLAYING RIP RAP. THE CONTRACTOR'S OPERATIONS AND METHODS OF PLACING SHALL PREVENT SEGREGATION OF THE MATERIALS. THE FILTER MATERIAL SHALL BE PLACED AND TAMPED IN THE VOIDS OF THE RIP RAP.

REVISION			

DESIGNED JL
DRAWN JMT
CHECKED SEG
DATE 1.09.2020

RESPEC
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Albuquerque, New Mexico 87109
Water and Natural Resources
respec.com 505.253.9718

STAMP

SHELDON E. GREER NEW MEXICO 17154 LICENSED PROFESSIONAL ENGINEER 01/09/2019

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nm811 Know what's below. Call before you dig.

PROJECT NAME: GUARDIAN STORAGE

SHEET TITLE: CONCEPTUAL GRADING PLAN

SUBMITTED FOR: DRB REVIEW

SHEET NUMBER: C-101

NAME: L:\Active Projects\03587 Guardian Storage Osuna & Juan Tabo\3 DWG\Sheets\03587 C-101 Grading.dwg PLOT DATE: Jan 09, 2020 5:49pm

DRAINAGE SUMMARY

Background
Tract G-1 contains approximately 2.38 acres. The site is located on the south west corner of Osuna Rd- and Juan Tabo Blvd in Albuquerque, New Mexico. The site does not receive any offsite runoff from developed areas and, in general, surface drains from east to west. The existing site is currently an undeveloped lot. A 120,000 SF self-storage facility is proposed to be installed with an asphalt paved parking lot. The site is proposed to free discharge into the Bear Canyon Arroyo.

Methodology
The development assumptions and criteria including land treatment types and impervious areas, as well as the hydrologic analyses for the site were performed in accordance with the City of Albuquerque Development Process Manual (DPM). AHYMO-S4 (April 2018) was used to develop peak flow rates for the 100-year 24-hour design storm in accordance with Section 22.2 of the DPM. Hydraulic calculations were performed using Section 22.3 of the DPM.

Existing Conditions
The existing site is currently undeveloped with moderate vegetation and no impervious area. The site has mild to steep slopes from east to west. The eastern side of the property has 3:1 down slopes setting the property approximately 12 feet lower than Juan Tabo Blvd. The remainder of the property contains east-west slopes ranging from 3% to 7%. The site appears to surface sheet flow to its western property line and discharges to the adjacent property to the west. The site does not appear to receive any offsite flows. There is a concrete arroyo to the south called Bear Canyon. The 100-year 24-hour peak runoff discharge is 4.54 cfs.

Proposed Conditions
The site is located immediately downstream of John Robert Dam which protects the site from, at a minimum, the upstream flows in the 100-year design storm. It is not impacted by the primary spillway, however, in a storm event substantial enough to result in flow over the emergency spillway the site would certainly be impacted by this flow. The magnitude of this impact is dependent upon the magnitude of the storm event. In the event of dam failure the site almost certainly would be substantially impacted and inundated.

The proposed site development will consist of asphalt and concrete paving for parking and driving surfaces and an indoor self-storage building. The site will contain approximately 62% impervious area with the remaining portion to be landscaped. The site drainage will include surface sheet flows and swales concentrating flows to a low point south west of the storage facility that will discharge into a water quality pond located at the south west corner of the property.

Subbasin A is 2.291 acres and generates 10.02 cfs. This subbasin consists of the majority of the site including the proposed building and asphalt parking lot. The site drainage will include surface sheet flow and swales concentrating flows to low spots on the southwest side of the parking lot. A water quality pond will be installed at the southwest side of the site, where two (2) curb openings will allow the surface flows from Subbasin A to enter the water quality pond. An 18" overflow storm drain will convey any additional flow above the water quality pond volume and discharge into the Black Canyon Arroyo to the south.

Subbasin B is 0.089 acres and generates 0.29 cfs. This subbasin consists primarily of landscaping. The drainage from this subbasin will flow west in the direction of the neighboring property as it has historically. The existing site discharged 4.54 cfs into the neighboring property, so we will reduce the existing drainage impacting the neighboring property by 4.25 cfs.

Subbasin C is 0.243 acres and generates 1.24 cfs. This subbasin consists primarily of existing asphalt on Osuna Rd NE as well as proposed sidewalk. The drainage from this subbasin will flow southwest in the direction of the existing curb and gutter as it has historically. The Manning Formula table and graph summarizes the water surface elevation in the existing gutter and street during the 100-yr 24-hr design storm.

Hydrology calculations are shown on this sheet to the right of this summary. The water quality ponding table summarizes the water quality volumes required and provided. Sufficient ponding has been provided.

HYDROLOGY CALCULATIONS

AHYMO INPUT: EXISTING CONDITIONS

Subbasin	Area (ac)	Treatment Type Area (ac)				Treatment Type Area (%)			
		A	B	C	D	A	B	C	D
Existing	2.380	2.38	0	0	0	100.00%	0.00%	0.00%	0.00%

AHYMO INPUT: PROPOSED CONDITIONS

Subbasin	Area (ac)	Treatment Type Area (ac)				Treatment Type Area (%)			
		A	B	C	D	A	B	C	D
Subbasin A	2.291	0.000	0.405	0.405	1.481	0.0%	17.7%	17.7%	64.6%
Subbasin B	0.089	0.000	0.045	0.045	0.000	0.0%	50.0%	50.0%	0.0%
Subbasin C	0.243	0.000	0.000	0.000	0.243	0.0%	0.0%	0.0%	100.0%

AHYMO OUTPUT: EXISTING CONDITIONS

Subbasin	A (ac)	Q (cfs)	V (acft)	Q/A (cfs/ac)
Existing	2.38	4.54	0.13	1.9

AHYMO OUTPUT: PROPOSED CONDITIONS

Subbasin	A (ac)	Q (cfs)	V (acft)	Q/A (cfs/ac)
Subbasin A	2.291	10.02	2.23	4.4
Subbasin B	0.089	0.29	0.01	3.3
Subbasin C	0.243	1.24	0.06	5.1

WATER QUALITY PONDING

Area (ac)	% Imp.	Imp. Area (ac)	WQ Depth (in)	Required WQ Vol (cu ft)	Provided WQ Vol (cu ft)
2.381	62.2%	1.481	0.34	1828	2516

Weir Flow Calcs: Emergency Overflow
$Q_w = 3.3P(h)^{1.5}$

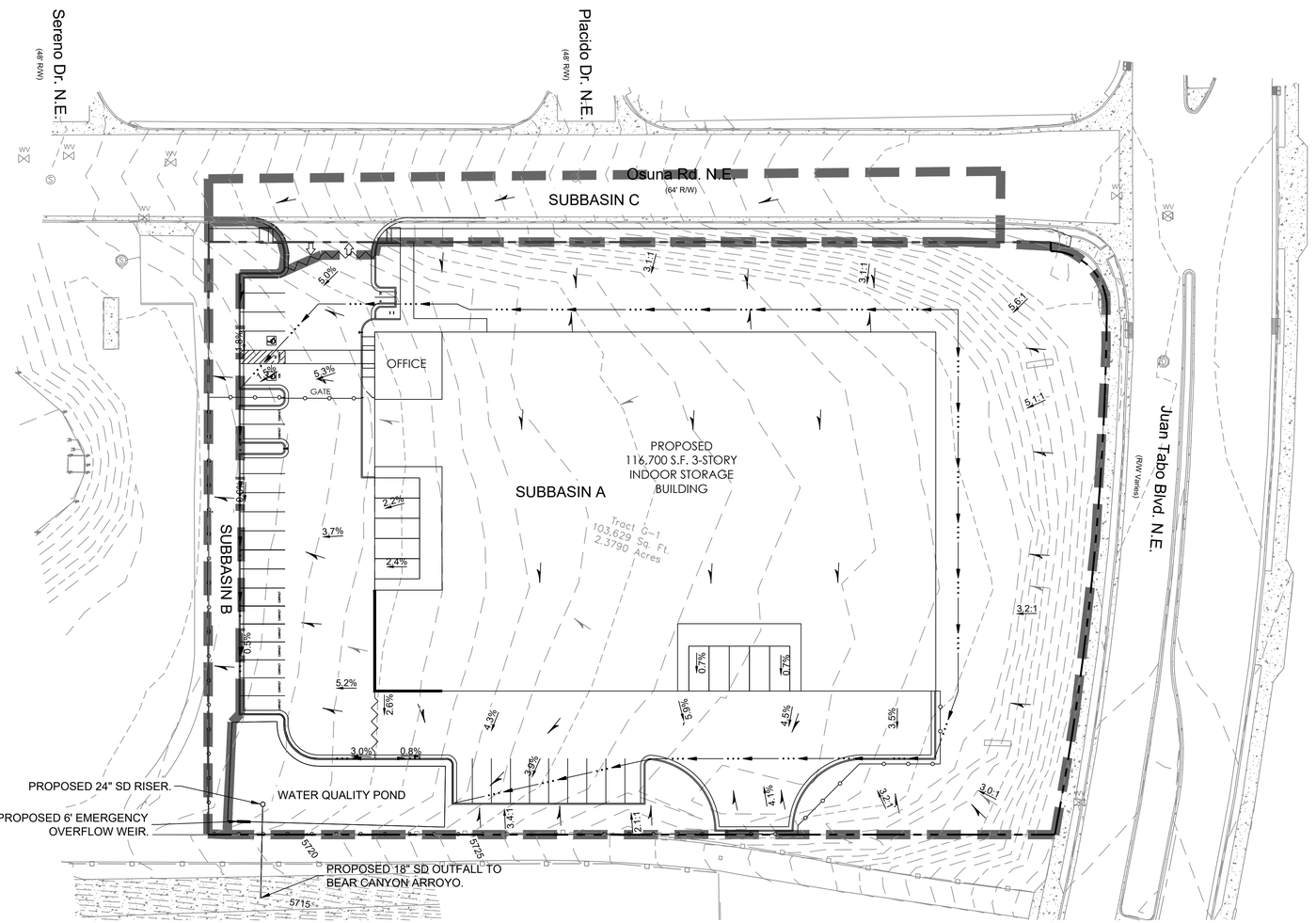
P = Perimeter (ft)	6
h = Head (ft)	0.7
3.3 = coefficient of discharge	
Q_w = Capacity (cfs)	11.6

Orifice Flow Calcs: 24" SD w/ Grate
$Q_o = .6A\sqrt{2gh}$

A = Open area of grate (sq. ft)	2.1
g = 32.2 (ft/s2)	
h = Head (ft)	1.5
Q_o = Capacity (cfs)	12.4

LEGEND

- SUBBASIN BOUNDARY
- EXISTING FLOW ARROW
- PROPOSED FLOW ARROW
- PROPOSED WATER BLOCK
- PROPOSED SWALE



Manning Formula: Osuna Road NE Driveway Section

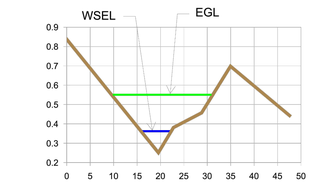
Irregular Section
Input

Flow	1.24 cfs
Slope	0.075 ft/ft

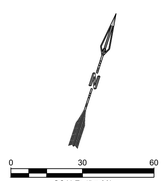
Sta	Elev	n	Sta	Elev	n	Sta	Elev	n	Sta	Elev	n
0	0.837	0.017	19.56	0.251	0.017	22.78	0.381	0.017	28.79	0.457	0.017
34.96	0.698	0.017	47.56	.443	0.017						

Output

WSElev	0.362 ft
Flow Area	0.357 sf
Velocity	3.48 fps
Velocity Head	0.188 ft
Top Width	6.44 ft
Froude Number	2.60
Critical WSElev	0.415 ft
Critical Slope	ft/ft



Driveway Analysis.msd 12/19/2019
ManningSolver v1.019
Copyright (c) 2000 Current Applications



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DESIGNED JL
DRAWN JMT
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DATE 12.20.2019

REVISION

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SHELDON E. GREER
NEW MEXICO
17154
LICENSED PROFESSIONAL ENGINEER
12/20/2019

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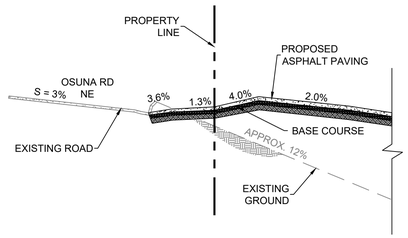
PROJECT NAME: GUARDIAN STORAGE

SHEET TITLE: CONCEPTUAL DRAINAGE PLAN

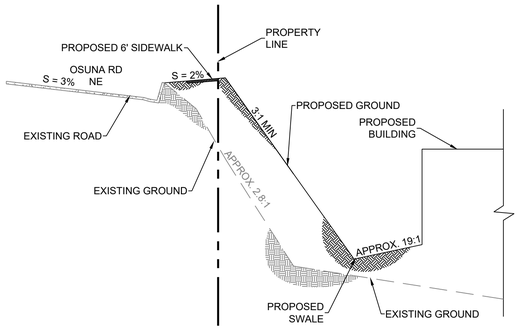
SUBMITTED FOR: DRB REVIEW

SHEET NUMBER: C-102

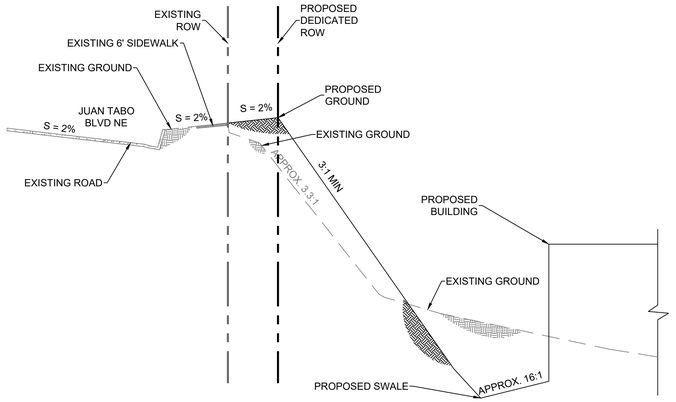
NAME: L:\Active Projects\03587 Guardian Storage Osuna & Juan Tabo\3. DWG\Sheets\03587 C-102 Drainage.dwg PLOT DATE: Dec 20, 2019 2:46pm



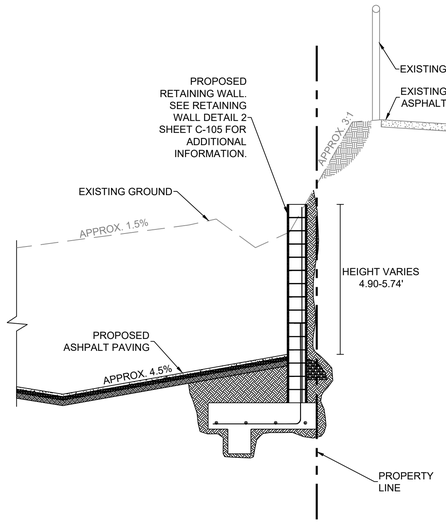
A DRIVEWAY
SCALE: NTS



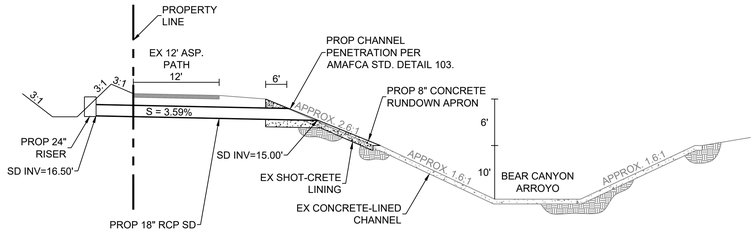
B NORTH PROPERTY LINE SECTION
SCALE: NTS



C EAST PROPERTY LINE SECTION
SCALE: NTS



D SOUTH PROPERTY LINE SECTION
SCALE: NTS



E OUTFALL DETAIL
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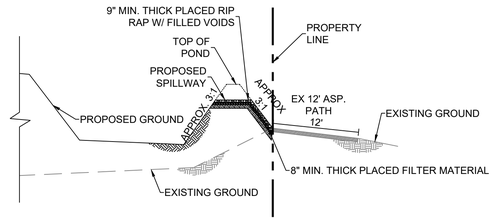
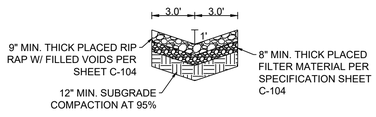
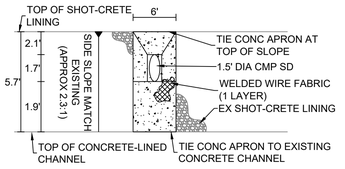


F SPILLWAY DETAIL
SCALE: NTS



G SPILLWAY RIP RAP RUNDOWN
SCALE: NTS



1 PIPE PENETRATION
SCALE: NTS

NOTES:
1. RUNDOWN APRON TO BE 8" THICK 3000 PSI CONCRETE
2. CONTRACTOR TO CUT ANY CHANNEL REINFORCING BARS AT PIPE PENETRATION. FIELD BEND CUT BARS INTO PROPOSED CONCRETE ENCASEMENT AND MAINTAIN 3" CLEAR AT ALL SIDES
3. WELDED WIRE FABRIC TO BE 6x6 W2.9x2.9. FABRIC TO BE CENTERED IN 8" THICK CONCRETE RUNDOWN APRON.

RIP RAP NOTES

RIP RAP SHALL BE OVER FILTER MATERIAL AND CONSIST OF RIP RAP AND CRUSHED ROCK MEETING THE FOLLOWING GRADATION OR ENGINEER-APPROVED EQUAL:

MAX DIMENSION	% SMALLER
12"	100
9"	50-60
6"	35-45
3"	10

FILTER MATERIAL SHALL CONSIST OF CRUSHED ROCK MEETING THE FOLLOWING GRADATION OR ENGINEER-APPROVED EQUAL:

U.S. STANDARD SIEVE SIZE	% PASS BY WT
1"	100
3/4"	45-65
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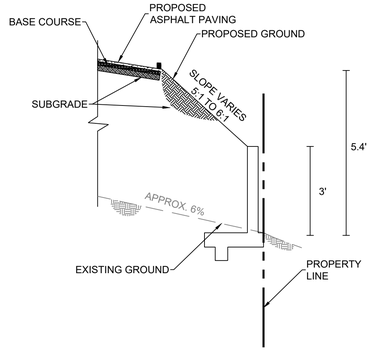
FILTER MATERIAL SHALL BE PLACED UNDER THE RIP RAP CHANNEL AND COMPACTED INTO SURFACE VOIDS OF THE RIP RAP. THE SUBGRADE SHALL BE PROCESSED TO A 12" MIN. DEPTH AND COMPACTED TO 95% MIN. RELATIVE DENSITY PER ASTM D 1557. THE FILTER MATERIAL SHALL BE TAMPED AND SHAPED TO FORM A SMOOTH, EVEN, AND FIRM FOUNDATION FOR THE OVERLAYING RIP RAP. THE CONTRACTOR'S OPERATIONS AND METHODS OF PLACING SHALL PREVENT SEGREGATION OF THE MATERIALS. THE FILTER MATERIAL SHALL BE PLACED AND TAMPED IN THE VOIDS OF THE RIP RAP.



H WEST PROPERTY LINE SECTION
SCALE: NTS

DESIGNED JL
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DATE 1.09.2020

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01/09/2020

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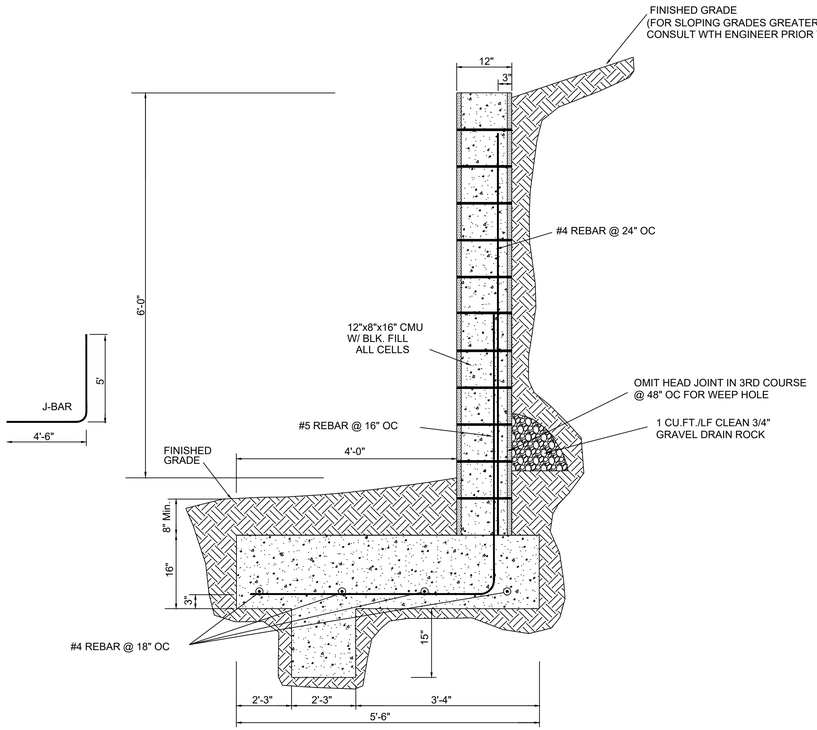
PROJECT NAME: GUARDIAN STORAGE

SHEET TITLE: DETAILS

SUBMITTED FOR: DRB REVIEW

SHEET NUMBER: C-104



2 RETAINING WALL
SCALE: NTS

RETAINING WALL NOTES

1. COMPACT SUBGRADE TO 95% MIN. RELATIVE DENSITY (12" MIN. DEPTH) PER ASTM D1557. IF CLAY OR LOOSE SAND IS ENCOUNTERED, CONTACT THE ENGINEER BEFORE PROCEEDING.
2. COMPACT BACKFILL TO 90% MIN. RELATIVE DENSITY PER ASTM D1557.
3. MAINTAIN 2" MINIMUM CLEARANCE BETWEEN ALL REINFORCING BARS AND OUTSIDE SURFACE OF FORMED CONCRETE, 3" BETWEEN BARS AND OUTSIDE SURFACE OF CONCRETE POURED AGAINST EARTH.
4. ALL BLOCK AND PILASTER CELLS ARE TO BE GROUTED SOLID WITH CONCRETE BLOCK FILL.
5. CONCRETE FOR FOOTINGS AND FILLING OF CELLS SHALL MEET OR EXCEED 3,000 P.S.I. AT 28 DAYS, WITH 3/4" MAXIMUM SIZE AGGREGATE, AND A MAXIMUM SLUMP OF 5".
6. MASONRY MORTAR SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM C 270, TYPE M.
7. WALL BLOCKS ARE TO BE STANDARD MASONRY UNITS (8"X8"X16" OR AS OTHERWISE INDICATED), AND PILASTER BLOCKS ARE TO BE SIZED APPROPRIATELY FOR THE INTENDED APPLICATION. COLOR - DESERT TAN OR AS DIRECTED BY OWNER.
8. INSTALL 9 GA., GALV. DUR-O-WAL (OR APPROVED EQUAL) EVERY OTHER COURSE (16" OC), OR BOND BEAM WITH 2-#4 REBAR EVERY THIRD COURSE (24" OC, MAX.).
9. REINFORCING STEEL SPLICES SHALL HAVE 15" MIN. LAPS.
10. CONSTRUCT PILASTERS AT 16' ON CENTERS (MAXIMUM), AND AS APPROPRIATE FOR CORNERS, JUNCTIONS, ANGLE POINTS AND ENDS.
11. DRAINAGE FOR RETAINED EARTH SHALL BE PROVIDED WITH CLEAN GRAVEL BACKFILL AND UN-MORTARED HEAD JOINTS.
12. THE TOP COURSE OF BLOCK SHALL USE 2" SOLID MASONRY UNITS AS CAPS, UNLESS A 6" PARTY WALL IS TO BE INSTALLED ON TOP OF A RETAINING WALL.
13. THE TOP OF PILASTERS SHALL HAVE 2" SOLID MASONRY UNITS OF APPROPRIATE SIZES.

DESIGNED JL
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DATE 12.20.2019

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PROJECT NAME: GUARDIAN STORAGE

SHEET TITLE: DETAILS

SUBMITTED FOR: DRB REVIEW

SHEET NUMBER: C-105

NAME: L:\Active Projects\03587 Guardian Storage Osuna & Juan Tabo\3. DWG\Sheets\03587 C-104 Details.dwg PLOT DATE: Dec 20, 2019 3:02pm