

# CITY OF ALBUQUERQUE

Planning Department  
Alan Varela, Interim Director



Mayor Timothy M. Keller

December 22, 2021

Ronald Bohannon, P.E.  
Tierra West, LLC  
5571 Midway Park Place NE  
Albuquerque, NM 87109

**RE: Blue Sky Distributing  
Conceptual Grading and Drainage Plans  
Engineer's Stamp Date: 12/06/21  
Hydrology File: K09D050**

Dear Mr. Bohannon:

Based upon the information provided in your submittal received 11/04/2021, the Conceptual Grading & Drainage Plans are approved for action by the DRB for Site Plan for Building Permit.

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](mailto: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](mailto:rbrissette@cabq.gov).

Sincerely,

*Renée C. Brissette*

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

PO Box 1293

Albuquerque

NM 87103

[www.cabq.gov](http://www.cabq.gov)



# City of Albuquerque

Planning Department  
Development & Building Services Division

## DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

**Project Title:** Bluesky **Building Permit #:** \_\_\_\_\_ **Hydrology File #:** \_\_\_\_\_  
**DRB#:** \_\_\_\_\_ **EPC#:** \_\_\_\_\_ **Work Order#:** \_\_\_\_\_  
**Legal Description:** TR 9 Plat of TRS 1 Thru 12 Avalon  
**City Address:** Bluewater Rd NW Albuquerque, NM 87121

**Applicant:** Tierra West, LLC **Contact:** \_\_\_\_\_  
**Address:** 5571 Midway Park Place NE Albuquerque NM 87109  
**Phone#:** 505-858-3100 **Fax#:** 505-858-1118 **E-mail:** \_\_\_\_\_

**Other Contact:** \_\_\_\_\_ **Contact:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Phone#:** \_\_\_\_\_ **Fax#:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**TYPE OF DEVELOPMENT:** \_\_\_\_\_ PLAT (# of lots) \_\_\_\_\_ RESIDENCE ☒ DRB SITE \_\_\_\_\_ ADMIN SITE

IS THIS A RESUBMITTAL? \_\_\_\_\_ Yes \_\_\_\_\_ No

**DEPARTMENT** \_\_\_\_\_ TRANSPORTATION ☒ HYDROLOGY/DRAINAGE

Check all that Apply:

### TYPE OF SUBMITTAL:

☐ ENGINEER/ARCHITECT CERTIFICATION  
☐ PAD CERTIFICATION  
☒ CONCEPTUAL G & D PLAN  
☐ GRADING PLAN  
☐ 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  
☐ 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:** 11/4/2021 **By:** Vince Carrica

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: \_\_\_\_\_

FEE PAID: \_\_\_\_\_







MASTER DRAINAGE REPORT

For

**TRACT 9A & 9B AVALON SUBDIVISION UNIT 5  
ALBUQUERQUE, NEW MEXICO**

Prepared by

Tierra West, LLC  
5571 Midway Park Place NE  
Albuquerque, New Mexico 87109

Prepared for

Westpointe 40 Develop  
Albuquerque, NM

November 19, 2021



*R. Bohannan*

11/23/2021

RONALD R BOHANNAN, PE #7868

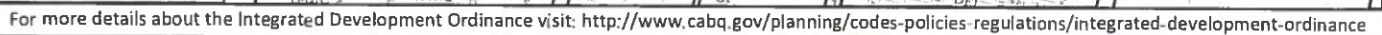
City of Albuquerque  
Planning Department  
Development Review Services  
HYDROLOGY SECTION  
**PRELIMINARY APPROVED**  
DATE: 12/22/21  
BY: *Renee C. Brissette*  
HydroTrans # K09D050 & K09D051

THESE PLANS AND/OR REPORT ARE  
CONCEPTUAL ONLY. MORE INFORMATION MAY  
BE NEEDED IN THEM AND SUBMITTED TO  
HYDROLOGY FOR BUILDING PERMIT APPROVAL.



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Gray Shading Represents Area Outside of the City Limits



## **LOCATION**

The proposed commercial development is located off Daytona Rd south of Interstate 40, east of 98<sup>th</sup> St., north of Bluewater Rd and west of Unser Blvd in southwest Albuquerque. It is comprised of approximately 16.1021 acres zoned NRBP. This report represents a mini-master drainage management and grading plan for approval by the City of Albuquerque, for grading and Building Permit submittal.

## **DRAINAGE BASIN DESIGNATION**

The drainage basins for proposed conditions are as indicated on the BASIN MAP included in this report. The site is broken into two onsite drainage basins.

## **EXISTING DRAINAGE CONDITIONS**

The site is currently vacant with the exception of a temporary drainage pond in the southeast corner of the site. It is a part of Master Drainage Report for Westpointe 40 (Avalon Subdivision Unit 5) by BHI dated July 2019 (K09D041). The site drains predominantly northwest to southeast. Runoff from the existing site is conveyed to the existing temporary drainage pond in the southeast corner of the site via surface flow. The pond overflows to Blue Water Rd. and into an existing storm drain.

## **FIRM MAP**

The site is not located in a designated flood plain as shown on the attached Flood Hazard Zone Map No. 35001C0328J dated 11/4/2016.

## **DESIGN-CRITERIA**

The drainage plan presented in this report was prepared in accordance with the City of Albuquerque Drainage Ordinances and Chapter 6 of the Development Process Manual DPM. The hydrological analysis is based on the 100-year frequency, 24-hour duration storm, as Represented in Article 6-2(A), Hydrology, of the Development Process Manual. The plan will also include retention of the storm water quality in

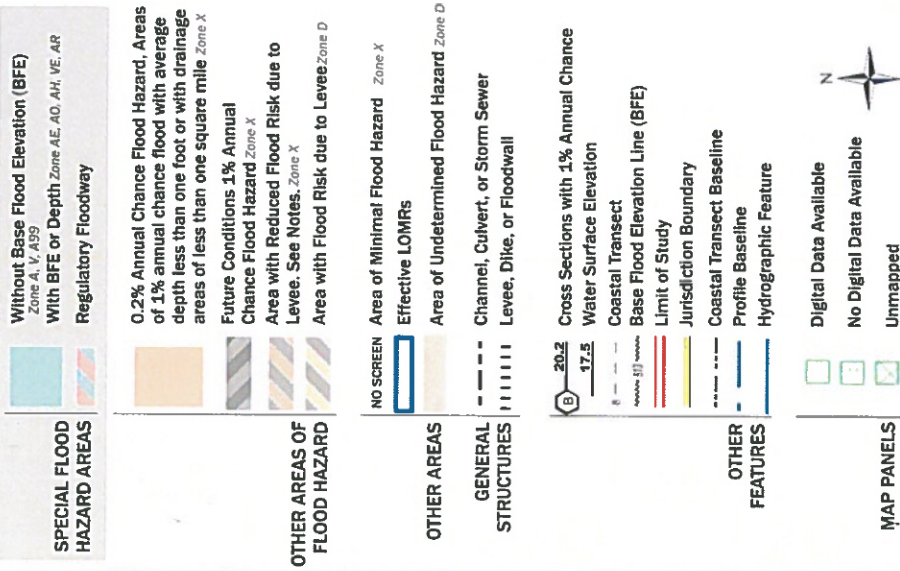
# National Flood Hazard Layer FIRMette

106°44'42"W 35°5'11"N



## Legend

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



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 11/23/2021 at 12:01 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.



106°44'42"W 35°5'42"N

0 250 500 1,000 1,500 2,000 Feet 1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020



landscaped areas and a storm water detention pond. See attached Weighted E Table for excess precipitation values calculated for this site.

### **DEVELOPED-DRAINAGE CONDITIONS**

The site is proposed to be developed with two users, Blue Sky Development and a 150K spec building. The overall 16.1021 acre Tract 9 parcel will be platted into two parcels. Tract 9A will be a 9.6888 acre parcel and will contain the 150K spec building. Tract 9B will be a 6.4133 acre parcel and will contain the Blue Sky Development. Both tracts will drain to a proposed detention pond in the southeast corner of Tract 9B via surface flows and onsite storm drains. The proposed adjacent Daytona Rd. will be constructed with a storm drain to capture runoff from the roadway and from future development of properties to the west of Daytona.

The proposed outfall for both the onsite storm drain pond and the Daytona Rd. storm drain will be to an existing storm drain in Bluewater Rd. The onsite storm drain pond will retain the required first flush volumes from both Tract 9A & 9B under developed conditions. The outfall from the pond will discharge to the existing Bluewater Rd. storm drain at or below the allowable discharge rate of 1.5 CFS per acre (23.4 CFS) as noted in Table 2-Allowable Discharge Summary, pg. 12 of the Master Drainage Report For Westpointe 40 (Avalon Subdivision Unit 5) prepared by BHI dated July 25, 2019 (K09D041). See attached excerpt. Refer to enclosed Weighted E computation spreadsheet for undeveloped and developed conditions.

### **SUMMARY**

The proposed grading and drainage plan for the proposed development of the existing undeveloped Tracts 9A & 9B properties includes surface flows and an onsite storm drain to convey runoff to a water quality and storm water detention pond. The pond will retain first flush volumes for both tracts and the pond will exit the site to the existing storm drain in the Bluewater Rd. right of way. The storm drain capacity downstream of the site is sufficient to carry the ultimate developed runoff as outlined in the I-40 South and Unser Diversion Mini DMP.

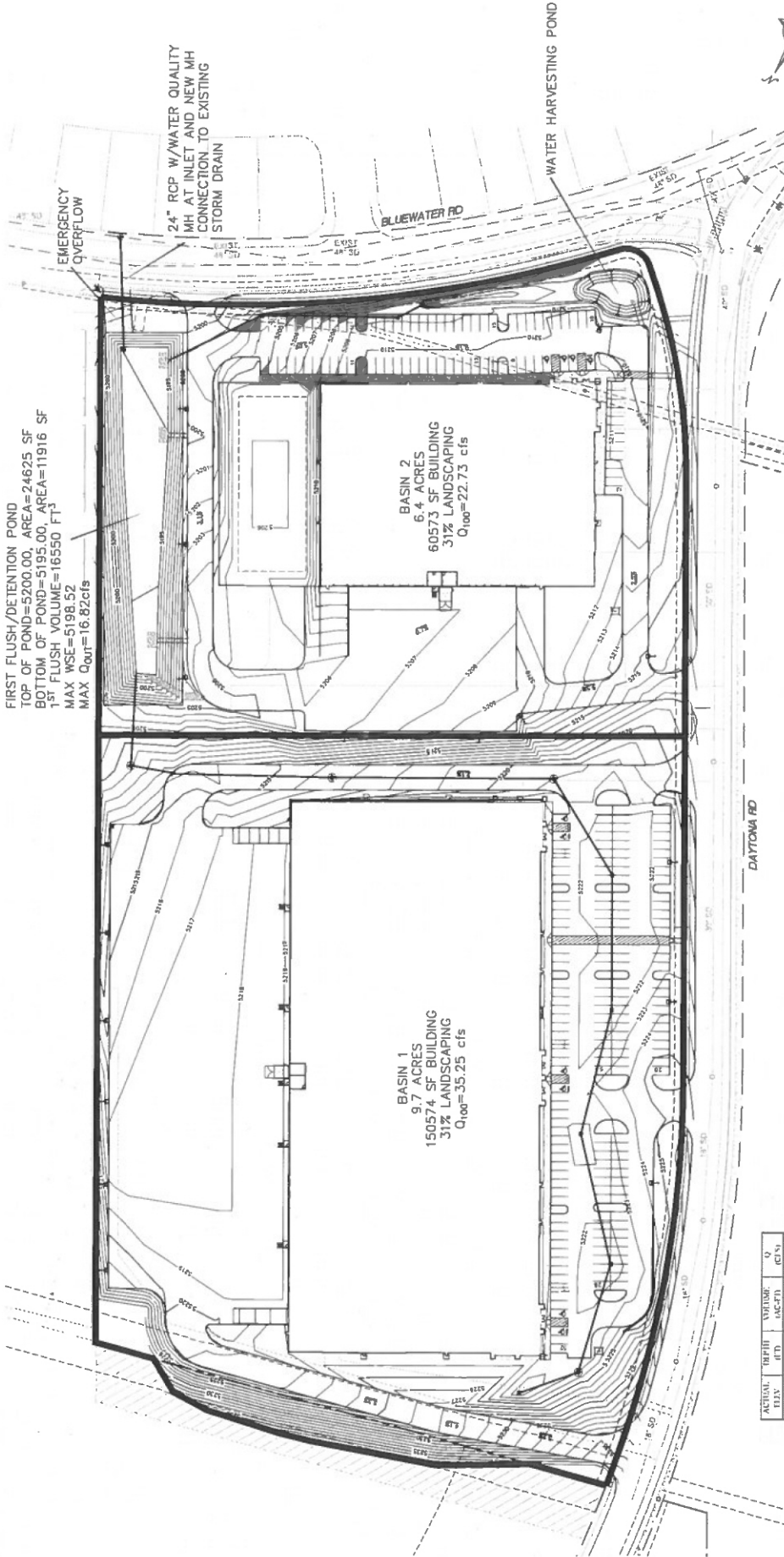
FIRST FLUSH/DETENTION POND  
 TOP OF POND=5200.00, AREA=24625 SF  
 BOTTOM OF POND=5195.00, AREA=11916 SF  
 1ST FLUSH VOLUME=16550 FT<sup>3</sup>  
 MAX WSE=5198.52  
 MAX Q<sub>out</sub>=16.82 cfs

BASIN 1  
 9.7 ACRES  
 150574 SF BUILDING  
 31% LANDSCAPING  
 Q<sub>100</sub>=35.25 cfs

BASIN 2  
 6.4 ACRES  
 60573 SF BUILDING  
 31% LANDSCAPING  
 Q<sub>100</sub>=22.73 cfs

24" RCP W/WATER QUALITY  
 MH AT INLET AND NEW MH  
 CONNECTION TO EXISTING  
 STORM DRAIN

WATER HARVESTING POND



ACTUAL	TRFPH	VOLUME	Q
(CFS)	(FT)	(AC-FT)	(CFS)
150574	1.00	0.0000	0.0000
150574	1.00	0.0000	0.0000
150574	1.00	0.0000	0.0000
150574	1.00	0.0000	0.0000
150574	1.00	0.0000	0.0000
150574	1.00	0.0000	0.0000
150574	1.00	0.0000	0.0000
150574	1.00	0.0000	0.0000
150574	1.00	0.0000	0.0000
150574	1.00	0.0000	0.0000

Index Location  
 Q = CFS/FT/24hr  
 C =  
 Number of  
 Area (ft<sup>2</sup>)  
 B =  
 Depth of water above center of outlet  
 Q (CFS) = 150

Daviesport Basins										
Basin	Area (sq ft)	Area (acres)	Area (acres)	Treatment A % (acres)	Treatment B % (acres)	Treatment C % (acres)	Treatment D % (acres)	Weighted E (ft <sup>2</sup> )	Weighted E (acres)	Flow Rate (cfs)
1	42552.00	0.9700	0.01516	0%	31%	3.007	0%	0.000	1.507	35.25
2	21874.00	0.5000	0.00758	0%	29%	2.240	0%	0.000	1.120	22.73
Total	64426.00	1.4700	0.02274					0.000	2.627	58.00

FIRST FLUSH VOLUME = 18,548 CU FT

Equations:  
 Weighted E = E<sub>1</sub>A<sub>1</sub> + E<sub>2</sub>A<sub>2</sub> + E<sub>3</sub>A<sub>3</sub> + E<sub>4</sub>A<sub>4</sub> / (Total Area)  
 Volume = Weighted E \* Total Area  
 Flow = Q<sub>1</sub>A<sub>1</sub> + Q<sub>2</sub>A<sub>2</sub> + Q<sub>3</sub>A<sub>3</sub> + Q<sub>4</sub>A<sub>4</sub>

DATE: 11-10-21

PROJECT: 20200000-100-0000

SHEET: 1

DATE: 11-10-21

PROJECT: 20200000-100-0000

SHEET: 1

WESTPOINT 40

ALBUQUERQUE, NM

BASIN MAP/DRAINAGE EXHIBIT

TEPPER ENGINEERING, LLC

5075 CENTRAL PARK DRIVE, N.E.

ALBUQUERQUE, NM 87109

TEL: (505) 255-3100

WWW.TEPPERENGINEERING.COM

DESIGNED BY: RONALD R. BOWMAN, P.E.

CHECKED BY: P.T. FINE



## Weighted E Method

Zone #1

Undeveloped Basins

Basin	Area (sf)	Area (acres)	Area (sq miles)	Treatment A		Treatment B		Treatment C		Treatment D		100-Year		
				%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
1	422532.00	9.700	0.01516	100%	9.7	0%	0.000	0%	0	0%	0.000	0.440	0.356	12.51
2	278784.00	6.400	0.01000	100%	6.4	0%	0.000	0%	0	0%	0.000	0.440	0.235	8.26
Total	701316.00	16.100	0.02516								0.000		0.590	20.77

Developed Basins

Basin	Area (sf)	Area (acres)	Area (sq miles)	Treatment A		Treatment B		Treatment C		Treatment D		100-Year		
				%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
1	422532.00	9.700	0.01516	0%	0	31%	3.007	0%	0	69%	6.693	1.567	1.267	35.35
2	278784.00	6.400	0.01000	0%	0	35%	2.240	0%	0	65%	4.160	1.515	0.808	22.73
Total	701316.00	16.100	0.02516								10.853		2.075	58.08

### Equations:

Weighted E =  $Ea \cdot Aa + Eb \cdot Ab + Ec \cdot Ac + Ed \cdot Ad$  / (Total Area)

Volume = Weighted D \* Total Area

Flow =  $Qa \cdot Aa + Qb \cdot Ab + Qc \cdot Ac + Qd \cdot Ad$

FIRST FLUSH VOLUME = 16,546 CU.FT.

# VOLUME CALCULATIONS

## WESTPOINTE 40 TRACTS 9a & 9B

Ab - Bottom Of The Pond Surface Area  
 At - Top Of The Pond Surface Area  
 D - Water Depth  
 Dt - Total Pond Depth  
 C - Change In Surface Area / Water Depth

$$\text{Volume} = \text{Ab} * \text{D} + 0.5 * \text{C} * \text{D}^2$$

$$\text{C} = (\text{At} - \text{Ab}) / \text{Dt}$$

$$\text{Ab} = 11,916.00 \text{ B.O.P.} = 5195.00$$

$$\text{At} = 24,652.00 \text{ T.O.P.} = 5200.00$$

$$\text{Dt} = 5.00$$

$$\text{C} = 2547.20$$

$$\text{B Elev.} = 5,195.00$$

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
5195.00	0	0	0.000
5196.00	1.00	0.3028	0.000
5196.23	1.23	0.3807	0.000
5197.00	2.00	0.6641	7.130
5198.00	3.00	1.0838	13.274
5199.00	4.00	1.5620	20.125
5200.00	5.00	2.0987	25.176

### Orifice Equation

$$Q = \text{CA} \text{ SQRT}(2gH)$$

$$\text{C} = 0.6$$

$$\text{Diameter (in)} = 24$$

$$\text{Area (ft}^2\text{)} = 3.141592654$$

$$g = 32.2$$

$$\text{H (Ft)} = \text{Depth of water above center of orifice}$$

$$\text{Q (CFS)} = \text{Flow}$$



Table 2 – Allowable Discharge Summary

Tract	Allowable Unit Discharge <sup>1</sup> (cfs/ac)	Drainage Area (ac)	Allowable Discharge (cfs)
Tract 1	1.5	32.7	47.6
Tract 2 – (North portion, drains to Daytona Road storm drain)	2.3	9.5	22.0
Tract 2 – (South portion, drains to Bluewater Road storm drain)	1.5	4.3	6.2
Tract 3 <sup>2</sup>	2.3	5.7	13.2
Tract 6	3.2	14.6	46.7
Tract 7	3.2	14.6	46.3
Tract 9	1.5	16.1	23.4
Tract 10	1.5	7.3	10.6
Tract 11	1.5	16.7	24.2

<sup>1</sup> Refer to Appendix C for Allowable Unit Discharge calculations, based on downstream capacity, free discharge from ROW, and accommodation of offsite flows.

<sup>2</sup> Tract 3 is not a part of this Master Drainage Report, but a developed condition allowable discharge is provided based on the assumption that all tracts draining to Daytona Road will be held to the same detention requirements.

## 2. BLUEWATER ROAD DRAINAGE AREAS

The proposed drainage concept for the portion of the project site draining to Bluewater Road consists of a detention pond along the western boundary of Tract 1 to capture and attenuate offsite flows from I-40 ROW. This pond would allow sediment to drop out and be drained by an 18-inch storm drain (with an associated peak outflow of approximately 10 cfs) that passes through Tract 1 within a new drainage easement and connects to the proposed storm drain in 94<sup>th</sup> Street, which will connect to the existing storm drain in Bluewater Road. Other detention ponds will be provided to accommodate onsite flows only, will discharge to the existing or proposed storm drains in the adjacent public roadways, and ensure downstream capacities are not exceeded. The conceptual size and design parameters for proposed ponds based on the HEC-HMS modeling are provided in Table 3.

## INPUT

```
*****
*                               TRACTS 9A & 9B - WESTPOINTE 40                               *
*****
* 100-YEAR, 24-HR STORM (UNDER PROPOSED CONDITIONS) W/ routing *
*****
START                               TIME=0.0
*
*
RAINFALL                           TYPE=2 RAIN QUARTER=0.0 IN
                                   RAIN ONE=1.87 IN RAIN SIX=2.20 IN
                                   RAIN DAY=2.66 IN DT=0.05 HR
*
*
*BASIN 1
*
COMPUTE NM HYD                     ID=1 HYD NO=100.1 AREA=0.01516 SQ MI
                                   PER A=0.00 PER B=31.00 PER C=0.00 PER D=69.00
                                   TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=1 CODE=1
*
*
*BASIN 2
*
COMPUTE NM HYD                     ID=2 HYD NO=100.2 AREA=0.01000 SQ MI
                                   PER A=0.00 PER B=35.00 PER C=0.00 PER D=65.00
                                   TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD                          ID=2 CODE=1
*
*
ADD HYD                            ID=20 HYD NO=100.20 ID=1 ID=2
*
*
*ROUTE BASIN 1 & 2 THROUGH WATER QUALITY DETENTION POND
*
*
ROUTE RESERVOIR                    ID=55 HYD NO=200.1 INFLOW ID=20 CODE=24
                                   OUTFLOW (CFS) STORAGE(AC-FT) ELEVATION(FT)
                                   0.000          0.0000          95.00
                                   0.010          0.3028          96.00
                                   0.020          0.3807          96.23
                                   7.130          0.6641          97.00
                                   13.274         1.0838          98.00
                                   20.125         1.5620          99.00
                                   25.176         2.0987          100.00
*
PRINT HYD                          ID=55 CODE=1
*
*
FINISH
```

## OUTPUT

AHYMO PROGRAM (AHYMO-S4) - Version: S4.01a - Rel: 01a  
RUN DATE (MON/DAY/YR) = 11/23/2021  
START TIME (HR:MIN:SEC) = 11:26:28 USER NO.=  
AHYMO\_Temp\_User:20122010  
INPUT FILE = C:\Users\Vince\Desktop\HYMO Westpoint\_40.txt

\*\*\*\*\*  
\* TRACTS 9A & 9B - WESTPOINTE 40 \*  
\*\*\*\*\*  
\* 100-YEAR, 24-HR STORM (UNDER PROPOSED CONDITIONS) W/ routing \*  
\*\*\*\*\*

START TIME=0.0

\*

\*

RAINFALL TYPE=2 RAIN QUARTER=0.0 IN  
RAIN ONE=1.87 IN RAIN SIX=2.20 IN  
RAIN DAY=2.66 IN DT=0.05 HR

24-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE  
AREAS (NM & AZ) - D1

DT =	0.050000 HOURS	END TIME =	24.000002 HOURS
0.0000	0.0022	0.0045	0.0069
0.0096	0.0123	0.0154	0.0197
0.0264	0.0336	0.0412	0.0494
0.0578	0.0664	0.0753	0.0844
0.0946	0.1052	0.1168	0.1387
0.1657	0.2020	0.2430	0.2937
0.3614	0.4375	0.5689	0.7733
1.1234	1.3695	1.5635	1.6610
1.7465	1.8079	1.8568	1.8994
1.9306	1.9592	1.9828	1.9979
2.0087	2.0183	2.0273	2.0352
2.0426	2.0499	2.0568	2.0625
2.0659	2.0692	2.0724	2.0754
2.0784	2.0813	2.0842	2.0870
2.0896	2.0923	2.0949	2.0974
2.0999	2.1023	2.1046	2.1069
2.1092	2.1115	2.1136	2.1158
2.1179	2.1199	2.1220	2.1240
2.1260	2.1280	2.1299	2.1318
2.1337	2.1356	2.1374	2.1392
2.1411	2.1428	2.1446	2.1463
2.1481	2.1498	2.1514	2.1531
2.1548	2.1564	2.1580	2.1596
2.1612	2.1628	2.1643	2.1658
2.1674	2.1689	2.1704	2.1718
2.1733	2.1747	2.1762	2.1776
2.1790	2.1804	2.1818	2.1832
2.1845	2.1859	2.1872	2.1885
2.1899	2.1912	2.1924	2.1937
2.1950	2.1963	2.1975	2.1988
2.2000	2.2013	2.2026	2.2038
2.2051	2.2064	2.2077	2.2089
2.2102	2.2115	2.2128	2.2141
2.2153	2.2166	2.2179	2.2192
2.2204	2.2217	2.2230	2.2243
2.2256	2.2268	2.2281	2.2294
2.2307	2.2319	2.2332	2.2345
2.2358	2.2371	2.2383	2.2396
2.2409	2.2422	2.2434	2.2447
2.2460	2.2473	2.2486	2.2498
2.2511	2.2524	2.2537	2.2549
2.2562	2.2575	2.2588	2.2601
2.2613	2.2626	2.2639	2.2652
2.2664	2.2677	2.2690	2.2703
2.2716	2.2728	2.2741	2.2754
2.2767	2.2779	2.2792	2.2805
2.2818	2.2831	2.2843	2.2856
2.2869			



2.2882	2.2894	2.2907	2.2920	2.2933	2.2946	2.2958
2.2971	2.2984	2.2997	2.3009	2.3022	2.3035	2.3048
2.3061	2.3073	2.3086	2.3099	2.3112	2.3124	2.3137
2.3150	2.3163	2.3176	2.3188	2.3201	2.3214	2.3227
2.3239	2.3252	2.3265	2.3278	2.3291	2.3303	2.3316
2.3329	2.3342	2.3354	2.3367	2.3380	2.3393	2.3406
2.3418	2.3431	2.3444	2.3457	2.3469	2.3482	2.3495
2.3508	2.3521	2.3533	2.3546	2.3559	2.3572	2.3584
2.3597	2.3610	2.3623	2.3636	2.3648	2.3661	2.3674
2.3687	2.3699	2.3712	2.3725	2.3738	2.3750	2.3763
2.3776	2.3789	2.3802	2.3814	2.3827	2.3840	2.3853
2.3865	2.3878	2.3891	2.3904	2.3917	2.3929	2.3942
2.3955	2.3968	2.3980	2.3993	2.4006	2.4019	2.4032
2.4044	2.4057	2.4070	2.4083	2.4095	2.4108	2.4121
2.4134	2.4147	2.4159	2.4172	2.4185	2.4198	2.4210
2.4223	2.4236	2.4249	2.4262	2.4274	2.4287	2.4300
2.4313	2.4325	2.4338	2.4351	2.4364	2.4377	2.4389
2.4402	2.4415	2.4428	2.4440	2.4453	2.4466	2.4479
2.4492	2.4504	2.4517	2.4530	2.4543	2.4555	2.4568
2.4581	2.4594	2.4607	2.4619	2.4632	2.4645	2.4658
2.4670	2.4683	2.4696	2.4709	2.4722	2.4734	2.4747
2.4760	2.4773	2.4785	2.4798	2.4811	2.4824	2.4837
2.4849	2.4862	2.4875	2.4888	2.4900	2.4913	2.4926
2.4939	2.4952	2.4964	2.4977	2.4990	2.5003	2.5015
2.5028	2.5041	2.5054	2.5067	2.5079	2.5092	2.5105
2.5118	2.5130	2.5143	2.5156	2.5169	2.5182	2.5194
2.5207	2.5220	2.5233	2.5245	2.5258	2.5271	2.5284
2.5297	2.5309	2.5322	2.5335	2.5348	2.5360	2.5373
2.5386	2.5399	2.5412	2.5424	2.5437	2.5450	2.5463
2.5475	2.5488	2.5501	2.5514	2.5527	2.5539	2.5552
2.5565	2.5578	2.5590	2.5603	2.5616	2.5629	2.5642
2.5654	2.5667	2.5680	2.5693	2.5705	2.5718	2.5731
2.5744	2.5757	2.5769	2.5782	2.5795	2.5808	2.5820
2.5833	2.5846	2.5859	2.5872	2.5884	2.5897	2.5910
2.5923	2.5935	2.5948	2.5961	2.5974	2.5987	2.5999
2.6012	2.6025	2.6038	2.6050	2.6063	2.6076	2.6089
2.6102	2.6114	2.6127	2.6140	2.6153	2.6165	2.6178
2.6191	2.6204	2.6217	2.6229	2.6242	2.6255	2.6268
2.6280	2.6293	2.6306	2.6319	2.6332	2.6344	2.6357
2.6370	2.6383	2.6395	2.6408	2.6421	2.6434	2.6447
2.6459	2.6472	2.6485	2.6498	2.6510	2.6523	2.6536
2.6549	2.6562	2.6574	2.6587	2.6600		

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\*BASIN 1

\*

COMPUTE NM HYD

ID=1 HYD NO=100.1 AREA=0.01516 SQ MI  
 PER A=0.00 PER B=31.00 PER C=0.00 PER D=69.00  
 TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE  
 CONSTANT, N = 7.106428  
 UNIT PEAK = 41.298 CFS UNIT VOLUME = 0.9989 B = 526.28  
 P60 = 1.8700  
 AREA = 0.010460 SQ MI IA = 0.10000 INCHES INF = 0.04000  
 INCHES PER HOUR  
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
 0.050000

K = 0.130992HR TP = 0.133300HR K/TP RATIO = 0.982685 SHAPE  
 CONSTANT, N = 3.593298  
 UNIT PEAK = 11.532 CFS UNIT VOLUME = 1.000 B = 327.08  
 P60 = 1.8700  
 AREA = 0.004700 SQ MI IA = 0.50000 INCHES INF = 1.25000  
 INCHES PER HOUR  
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
 0.050000

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 100.10

RUNOFF VOLUME = 1.92681 INCHES = 1.5579 ACRE-FEET  
 PEAK DISCHARGE RATE = 37.23 CFS AT 1.500 HOURS BASIN AREA =  
 0.0152 SQ. MI.

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\*BASIN 2

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COMPUTE NM HYD ID=2 HYD NO=100.2 AREA=0.01000 SQ MI  
 PER A=0.00 PER B=35.00 PER C=0.00 PER D=65.00  
 TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE  
 CONSTANT, N = 7.106428  
 UNIT PEAK = 25.662 CFS UNIT VOLUME = 0.9987 B = 526.28  
 P60 = 1.8700  
 AREA = 0.006500 SQ MI IA = 0.10000 INCHES INF = 0.04000  
 INCHES PER HOUR  
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
 0.050000

K = 0.130992HR TP = 0.133300HR K/TP RATIO = 0.982685 SHAPE

CONSTANT, N = 3.593298  
 UNIT PEAK = 8.5881 CFS UNIT VOLUME = 0.9997 B = 327.08  
 P60 = 1.8700  
 AREA = 0.003500 SQ MI IA = 0.50000 INCHES INF = 1.25000  
 INCHES PER HOUR  
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
 0.050000

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 100.20

RUNOFF VOLUME = 1.86373 INCHES = 0.9940 ACRE-FEET  
 PEAK DISCHARGE RATE = 24.04 CFS AT 1.500 HOURS BASIN AREA =  
 0.0100 SQ. MI.

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ADD HYD ID=20 HYD NO=100.20 ID=1 ID=2

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\*ROUTE BASIN 1 & 2 THROUGH WATER QUALITY DETENTION POND

ROUTE RESERVOIR	ID=55 HYD NO=200.1 INFLOW ID=20 CODE=24	OUTFLOW (CFS)	STORAGE(AC-FT)	ELEVATION(FT)
		0.000	0.0000	95.00
		0.010	0.3028	96.00
		0.020	0.3807	96.23
		7.130	0.6641	97.00
		13.274	1.0838	98.00
		20.125	1.5620	99.00
		25.176	2.0987	100.00

\* \* \* \* \*

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
---------------	-----------------	----------------	-------------------	------------------



0.00	0.00	95.00	0.000	0.00
1.20	7.63	95.29	0.088	0.00
2.40	2.08	97.68	0.949	11.31
3.60	0.11	96.40	0.443	1.57
4.80	0.15	96.25	0.390	0.25
6.00	0.26	96.25	0.389	0.23
7.20	0.28	96.26	0.391	0.27
8.40	0.28	96.26	0.391	0.28
9.60	0.28	96.26	0.391	0.28
10.80	0.28	96.26	0.391	0.28
12.00	0.28	96.26	0.391	0.28
13.20	0.28	96.26	0.391	0.28
14.40	0.28	96.26	0.391	0.28
15.60	0.28	96.26	0.391	0.28
16.80	0.28	96.26	0.391	0.28
18.00	0.28	96.26	0.391	0.28
19.20	0.28	96.26	0.391	0.28
20.40	0.28	96.26	0.391	0.28
21.60	0.28	96.26	0.391	0.28
22.80	0.28	96.26	0.391	0.28
24.00	0.28	96.26	0.391	0.28
25.20	0.00	96.23	0.381	0.04
26.40	0.00	96.23	0.379	0.02
27.60	0.00	96.22	0.377	0.02
28.80	0.00	96.21	0.375	0.02
30.00	0.00	96.21	0.373	0.02
31.20	0.00	96.20	0.372	0.02
32.40	0.00	96.20	0.370	0.02
33.60	0.00	96.19	0.368	0.02
34.80	0.00	96.19	0.366	0.02
36.00	0.00	96.18	0.364	0.02
37.20	0.00	96.18	0.362	0.02
38.40	0.00	96.17	0.361	0.02
39.60	0.00	96.17	0.359	0.02
40.80	0.00	96.16	0.357	0.02
42.00	0.00	96.16	0.356	0.02
43.20	0.00	96.15	0.354	0.02
44.40	0.00	96.15	0.352	0.02
45.60	0.00	96.14	0.351	0.02
46.80	0.00	96.14	0.349	0.02
48.00	0.00	96.13	0.348	0.02
49.20	0.00	96.13	0.346	0.02
50.40	0.00	96.12	0.345	0.02
51.60	0.00	96.12	0.343	0.02
52.80	0.00	96.11	0.342	0.01
54.00	0.00	96.11	0.340	0.01
55.20	0.00	96.11	0.339	0.01
56.40	0.00	96.10	0.337	0.01
57.60	0.00	96.10	0.336	0.01
58.80	0.00	96.09	0.334	0.01

60.00	0.00	96.09	0.333	0.01
61.20	0.00	96.08	0.332	0.01
62.40	0.00	96.08	0.330	0.01
63.60	0.00	96.08	0.329	0.01
64.80	0.00	96.07	0.328	0.01
66.00	0.00	96.07	0.326	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
67.20	0.00	96.07	0.325	0.01
68.40	0.00	96.06	0.324	0.01
69.60	0.00	96.06	0.322	0.01
70.80	0.00	96.05	0.321	0.01
72.00	0.00	96.05	0.320	0.01
73.20	0.00	96.05	0.319	0.01
74.40	0.00	96.04	0.318	0.01
75.60	0.00	96.04	0.316	0.01
76.80	0.00	96.04	0.315	0.01
78.00	0.00	96.03	0.314	0.01
79.20	0.00	96.03	0.313	0.01
80.40	0.00	96.03	0.312	0.01
81.60	0.00	96.02	0.311	0.01
82.80	0.00	96.02	0.310	0.01
84.00	0.00	96.02	0.309	0.01
85.20	0.00	96.01	0.308	0.01
86.40	0.00	96.01	0.307	0.01
87.60	0.00	96.01	0.306	0.01
88.80	0.00	96.00	0.304	0.01
90.00	0.00	96.00	0.303	0.01
91.20	0.00	96.00	0.302	0.01
92.40	0.00	96.00	0.301	0.01
93.60	0.00	95.99	0.301	0.01
94.80	0.00	95.99	0.300	0.01
96.00	0.00	95.99	0.299	0.01
97.20	0.00	95.98	0.298	0.01
98.40	0.00	95.98	0.297	0.01
99.60	0.00	95.98	0.296	0.01
100.80	0.00	95.97	0.295	0.01
102.00	0.00	95.97	0.294	0.01
103.20	0.00	95.97	0.293	0.01
104.40	0.00	95.96	0.292	0.01
105.60	0.00	95.96	0.291	0.01
106.80	0.00	95.96	0.290	0.01
108.00	0.00	95.95	0.289	0.01
109.20	0.00	95.95	0.288	0.01
110.40	0.00	95.95	0.287	0.01
111.60	0.00	95.94	0.286	0.01
112.80	0.00	95.94	0.285	0.01
114.00	0.00	95.94	0.284	0.01

115.20	0.00	95.94	0.283	0.01
116.40	0.00	95.93	0.282	0.01
117.60	0.00	95.93	0.281	0.01
118.80	0.00	95.93	0.281	0.01
120.00	0.00	95.92	0.280	0.01
121.20	0.00	95.92	0.279	0.01
122.40	0.00	95.92	0.278	0.01
123.60	0.00	95.91	0.277	0.01
124.80	0.00	95.91	0.276	0.01
126.00	0.00	95.91	0.275	0.01
127.20	0.00	95.91	0.274	0.01
128.40	0.00	95.90	0.273	0.01
129.60	0.00	95.90	0.272	0.01
130.80	0.00	95.90	0.271	0.01
132.00	0.00	95.89	0.271	0.01
133.20	0.00	95.89	0.270	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
134.40	0.00	95.89	0.269	0.01
135.60	0.00	95.88	0.268	0.01
136.80	0.00	95.88	0.267	0.01
138.00	0.00	95.88	0.266	0.01
139.20	0.00	95.88	0.265	0.01
140.40	0.00	95.87	0.264	0.01
141.60	0.00	95.87	0.264	0.01
142.80	0.00	95.87	0.263	0.01
144.00	0.00	95.86	0.262	0.01
145.20	0.00	95.86	0.261	0.01
146.40	0.00	95.86	0.260	0.01
147.60	0.00	95.86	0.259	0.01
148.80	0.00	95.85	0.258	0.01
150.00	0.00	95.85	0.258	0.01
151.20	0.00	95.85	0.257	0.01
152.40	0.00	95.85	0.256	0.01
153.60	0.00	95.84	0.255	0.01
154.80	0.00	95.84	0.254	0.01
156.00	0.00	95.84	0.253	0.01
157.20	0.00	95.83	0.253	0.01
158.40	0.00	95.83	0.252	0.01
159.60	0.00	95.83	0.251	0.01
160.80	0.00	95.83	0.250	0.01
162.00	0.00	95.82	0.249	0.01
163.20	0.00	95.82	0.249	0.01
164.40	0.00	95.82	0.248	0.01
165.60	0.00	95.82	0.247	0.01
166.80	0.00	95.81	0.246	0.01
168.00	0.00	95.81	0.245	0.01
169.20	0.00	95.81	0.244	0.01



170.40	0.00	95.80	0.244	0.01
171.60	0.00	95.80	0.243	0.01
172.80	0.00	95.80	0.242	0.01
174.00	0.00	95.80	0.241	0.01
175.20	0.00	95.79	0.241	0.01
176.40	0.00	95.79	0.240	0.01
177.60	0.00	95.79	0.239	0.01
178.80	0.00	95.79	0.238	0.01
180.00	0.00	95.78	0.237	0.01
181.20	0.00	95.78	0.237	0.01
182.40	0.00	95.78	0.236	0.01
183.60	0.00	95.78	0.235	0.01
184.80	0.00	95.77	0.234	0.01
186.00	0.00	95.77	0.234	0.01
187.20	0.00	95.77	0.233	0.01
188.40	0.00	95.77	0.232	0.01
189.60	0.00	95.76	0.231	0.01
190.80	0.00	95.76	0.230	0.01
192.00	0.00	95.76	0.230	0.01
193.20	0.00	95.76	0.229	0.01
194.40	0.00	95.75	0.228	0.01
195.60	0.00	95.75	0.227	0.01
196.80	0.00	95.75	0.227	0.01
198.00	0.00	95.75	0.226	0.01
199.20	0.00	95.74	0.225	0.01
PEAK DISCHARGE = 16.821 CFS - PEAK OCCURS AT HOUR 1.80				
MAXIMUM WATER SURFACE ELEVATION = 98.518				
MAXIMUM STORAGE = 1.3313 AC-FT INCREMENTAL TIME= 0.050000HRS				

\*

PRINT HYD ID=55 CODE=1

PARTIAL HYDROGRAPH 200.10

RUNOFF VOLUME = 1.73420 INCHES = 2.3271 ACRE-FEET  
 PEAK DISCHARGE RATE = 16.82 CFS AT 1.800 HOURS BASIN AREA =  
 0.0252 SQ. MI.

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FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 11:26:28



THE SITE WILL DRAIN TO THE SOUTHEAST CORNER OF THE SITE INTO A PROPOSED STORM DRAIN WHICH WILL ROUTE THE FLOWS TO A PROPOSED DETENTION POND. THE POND WILL DISCHARGE AT THE CONTROLLED RATE OF 1.5 CFS PER ACRE TO THE EXISTING STORM DRAIN IN BLUEWATER ROAD. THIS POND WILL ALSO RETAIN THE WATER QUALITY VOLUME FOR THIS PARCEL.

ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-MAINT. SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

STRUCTURE TABLE			INVERT
STRUCTURE	SIZE/TYPE	RM	
PAVLET 1	TYPE 'C'	5221.50	5134.70
PAVLET 2	TYPE 'C'	5221.40	5130.09
PAVLET 3	TYPE 'C'	5221.60	5127.76
PAVLET 4	TYPE 'C'	5221.40	5134.00 IN
PAVLET 5	TYPE 'C'	5221.40	5131.42 OUT
PAVLET 6	TYPE 'D'	5213.60	5131.52 OUT
PAVLET 8	TYPE 'D'	5213.60	5126.29

OWNER'S SEAL 	TITAN 150K SPEC BUILDING ALBUQUERQUE, NM CONCEPTUAL GRADING AND DRAINAGE PLAN	DRAWING BY DATE 11-4-21	DRAWING NUMBER-150K-06-001	SHEET # GR-1	JOB # 70700088
		TAPER REST LLC 10000 UNIVERSITY NEW MEXICO 87109 (505) 885-3100 TAPERREST.COM			

