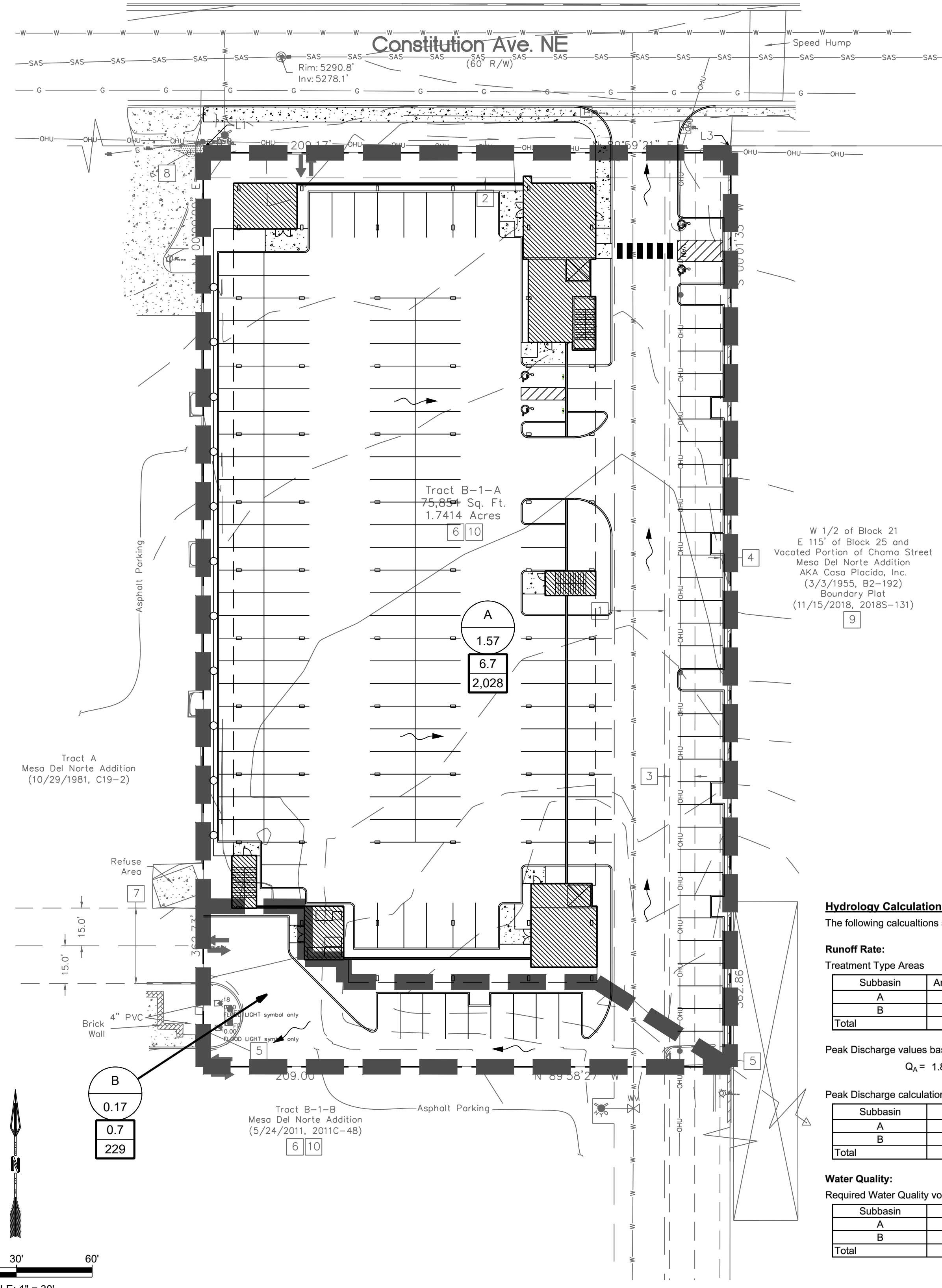


NAME: N:\Projects\04-266-04\_Legacy Constitution Apartments\3\_DWG\Sheets\04-266-04\_Drainage.dwg PLOT DATE: Aug 27, 2021 8:43am



City of Albuquerque  
Planning Department  
Development Review Services  
**HYDROLOGY SECTION**  
**PRELIMINARY APPROVED**  
DATE: 09/14/21  
BY: *Randy C. Brantlett*  
HydroTrans # J19D047A

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

**Hydrology Calculations**

The following calculations are based on Albuquerque's Development Process Manual, Article 6-2

**Runoff Rate:**

Treatment Type Areas

Subbasin	Area <sub>1</sub> (ac)	Area <sub>2</sub> (ac)	Area <sub>3</sub> (ac)	Area <sub>4</sub> (ac)	Total (ac)
A	0.00	0.12	0.12	1.33	1.57
B	0.00	0.01	0.01	0.15	0.17
Total	0.00	0.13	0.13	1.48	1.74

Peak Discharge values based on Zone 3 from Table 6.2.14

$Q_A = 1.84 \text{ cfs/ac}$     $Q_B = 2.49 \text{ cfs/ac}$     $Q_C = 3.17 \text{ cfs/ac}$     $Q_D = 4.49 \text{ cfs/ac}$

Peak Discharge calculation for a 100-yr, 24-hr storm event from equation 6.6

Subbasin	Discharge (cfs)
A	6.7
B	0.7
Total	7.4

**Water Quality:**

Required Water Quality volume for first flush of 0.42"

Subbasin	Req Volume (cu. ft.)	Provided Volume (cu. ft.)	Net Volume (cu. ft.)
A	2,028	0	2,028
B	229	0	229
Total	2,256	0	2,256

**LEGEND:**

- XX BASIN DESIGNATION
- XX BASIN NAME AND AREA
- XX BASIN AREA, ACRES
- XX 100 YEAR STORM, CFS
- XX BASIN HYDROLOGIC RESULTS
- XX REQUIRED WATER QUALITY VOLUME
- SUB-BASIN BOUNDARY
- FLOW ARROW

**BACKGROUND**

TRACT B-1-A, MESA DEL NORTE ADDITION IS APPROXIMATELY 1.7 ACRES IN THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO. THE PROPERTY IS LOCATED SOUTH OF CONSTITUTION AVENUE BETWEEN LOUISIANA BOULEVARD AND MESILLA STREET. TRACT B-1-A IS CURRENTLY UNDEVELOPED. THERE IS AN EXISTING POWER LINE AND WATER LINE THAT CROSS THE EAST SIDE OF THE SITE. THE PROPOSED PROJECT IS AN APARTMENT COMPLEX. THE FIRST LEVEL WILL BE A PARKING GARAGE AND THE FOUR LEVELS ABOVE WILL BE THE DWELLING UNITS AND VARIOUS AMENITIES. THE GRADING & DRAINAGE PLAN FOR LOUISIANA PLACE BY HUITT-ZOLLARS 2006 AS WELL AS THE GRADING & DRAINAGE PLAN FOR LOUISIANA PLACE DATED DECEMBER 1987 SHOULD BE REFERENCED FOR BACKGROUND RELATED TO THIS PROPOSED DEVELOPMENT. THE SITE IS ALLOWED FREE DISCHARGE. THERE IS NO DESIGNATED 100-YEAR FLOODPLAIN SHOWN ON THE SITE.

**METHODOLOGY**

HYDROLOGY CALCULATIONS FOR THE SITE ARE PERFORMED IN ACCORDANCE WITH THE ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM) ARTICLE 6.2 USING THE RATIONAL METHOD TO CALCULATE PEAK FLOW RATES TO ENSURE ALL FLOW PATHS ARE SUFFICIENT TO CARRY FLOWS. THE REQUIRED WATER QUALITY VOLUME WAS CALCULATED BY MULTIPLYING THE IMPERVIOUS AREA BY THE FIRST FLUSH RUNOFF VALUE OF 0.42". ALL HYDROLOGIC AND HYDRAULIC CALCULATIONS CAN BE FOUND ON THIS SHEET.

**EXISTING CONDITIONS**

THE SITE, IN GENERAL, SLOPES FROM SOUTH TO NORTH AT A SLOPE OF APPROXIMATELY 2%. STORM WATER RUNOFF GENERATED BY THE SITE DRAINS NORTH AND DISCHARGES TO CONSTITUTION AVENUE.

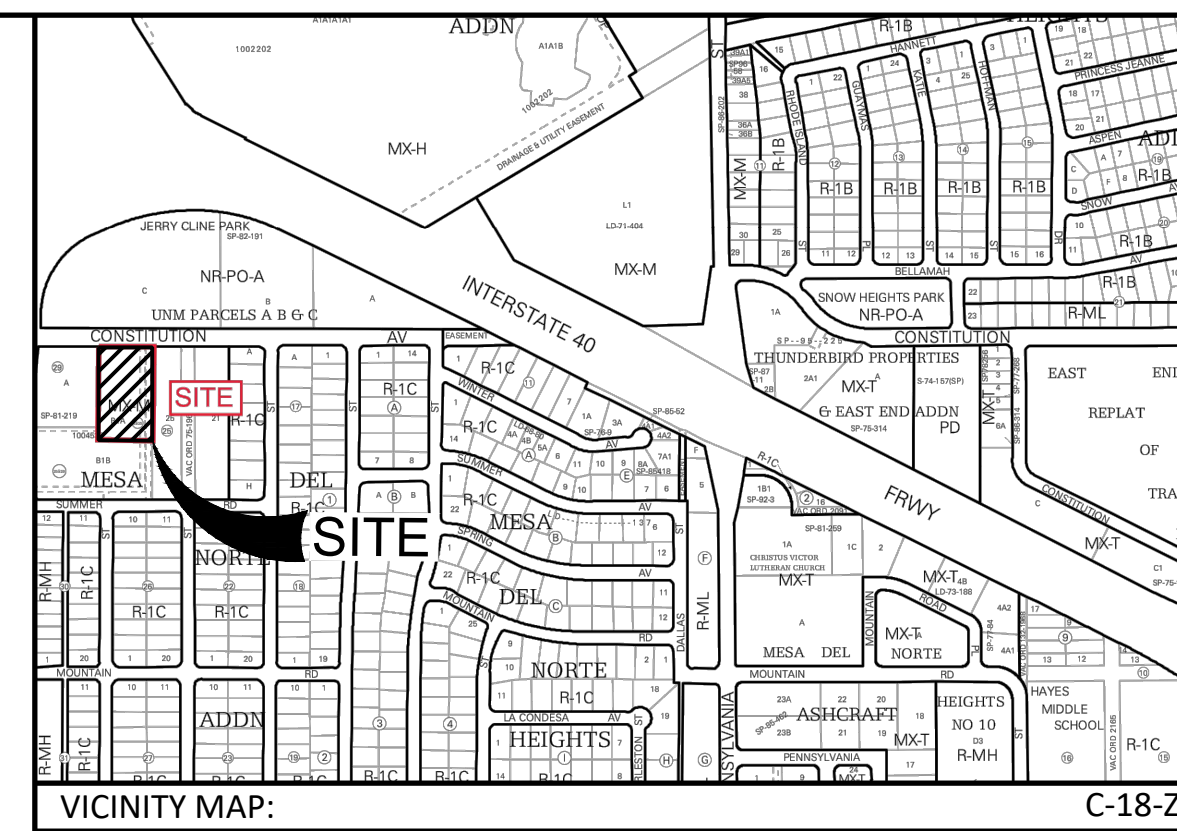
**DEVELOPED CONDITIONS**

THE DRAINAGE INTENTION OF THE DEVELOPED CONDITIONS IS TO MATCH THE EXISTING DRAINAGE PATTERN.

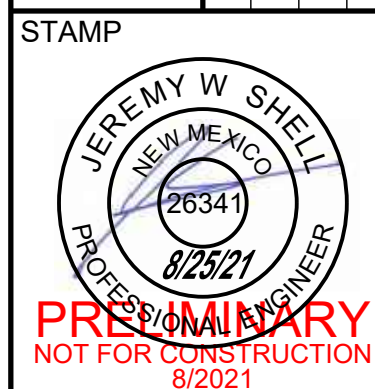
SUB-BASIN A IS A MAJORITY OF THE NEW APARTMENT DEVELOPMENT. IT CONTAINS 1.57 ACRES AND GENERATES 6.7 CFS. SIMILAR TO EXISTING CONDITIONS, THIS SUB-BASIN DISCHARGES NORTH INTO CONSTITUTION AVENUE.

SUB-BASIN B IS A SMALL PORTION OF THE SOUTH SIDE OF THE DEVELOPMENT. IT IS 0.17 ACRES AND GENERATES 0.7 CFS. THIS SUB-BASIN DISCHARGES TO THE ADJACENT PROPERTIES TO THE WEST AT THE SOUTHWEST CORNER OF THE SITE.

THE WATER QUALITY TABLE ON THIS SHEET UNDER "HYDROLOGY CALCULATIONS" SUMMARIZES THE WATER QUALITY VOLUMES REQUIRED FOR DEVELOPED CONDITIONS. THE OWNER HAS ELECTED TO PAY THE FEE-IN-LIEU OF STORM WATER QUALITY PONDING REQUIREMENTS. THE TOTAL VOLUME REQUIRED IS 2,256 CUBIC FEET. THEREFORE, THE PAYMENT AMOUNT IS 2,256 CF X \$8/CF = \$18,048.



DESIGNED JS	REVISION
DRAWN MR	
CHECKED JS	
DATE 8.27.2021	



**PRELIMINARY**  
NOT FOR CONSTRUCTION  
8/2021



PROJECT NAME: MARKANA FLATS APARTMENTS

SHEET TITLE: CONCEPT DRAINAGE PLAN

SUBMITTED FOR: DRB SITE PLAN

SHEET NUMBER: C-100