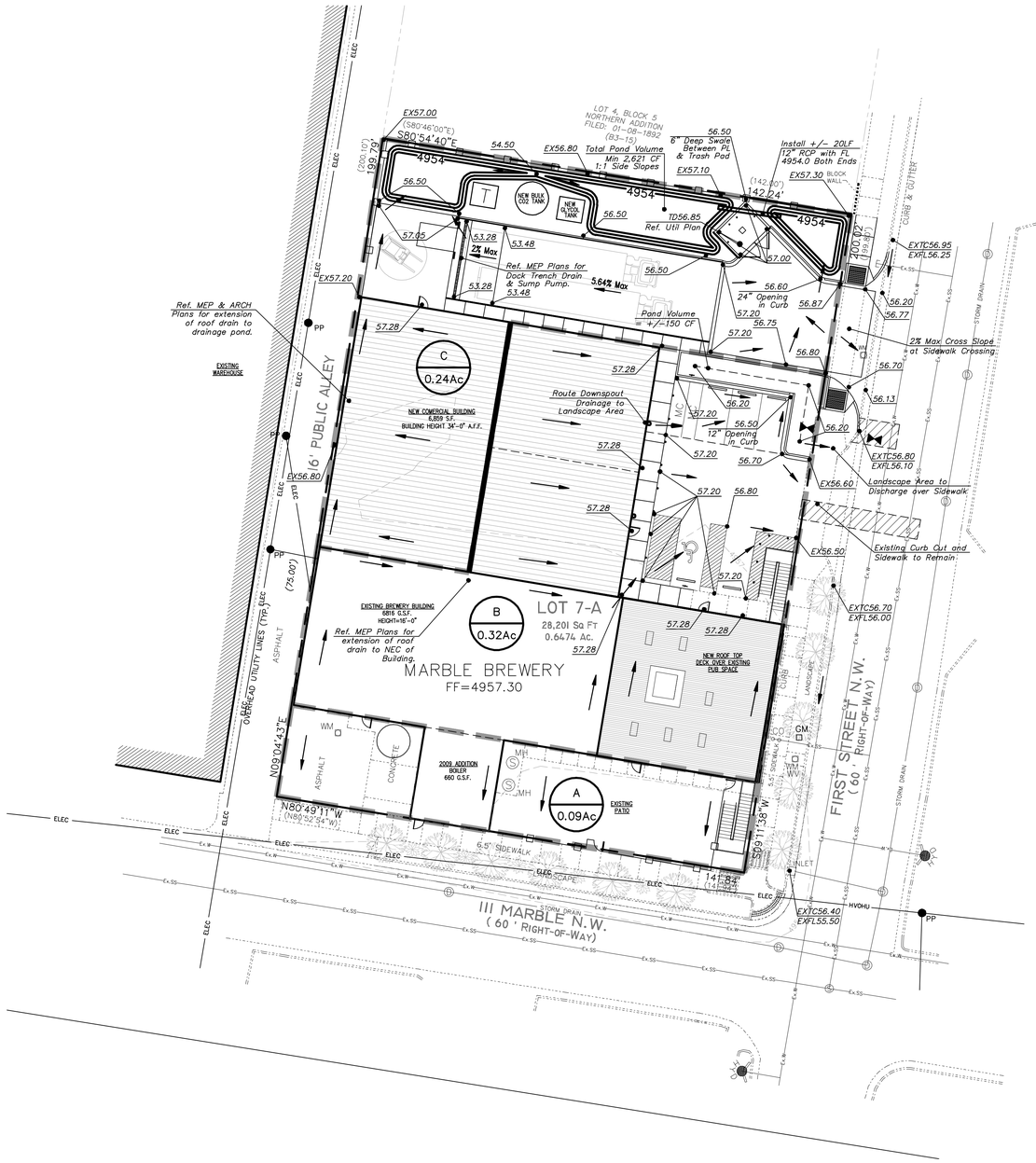


Existing Marble Brewery Drainage Calculations

This table is based on the COA DPM Section 22.2, Zone: 2

BASIN	Area	Area	Land Treatment Percentages				Q(100)	Q(100)	WTE	$V(100)_{360}$	$V(100)_{1-440}$	$V(100)_{10day}$
	(SQ. FT)	(AC.)	A	B	C	D	(cfs/ac.)	(CFS)	(inches)	(CF)	(CF)	(CF)
Ex. Bldg/Patios	10723	0.25	0.0%	0.0%	0.0%	100.0%	4.70	1.16	2.12	1894	2252	3324
Ex. Parking Lot	10481	0.24	0.0%	0.0%	90.0%	10.0%	3.30	0.79	1.23	1073	1108	1213
Ex. Residence	7105	0.16	0.0%	90.0%	0.0%	10.0%	2.52	0.41	0.91	541	565	636
TOTAL	28309	0.65						2.36		3509	3925	5173

Proposed Marble Brewery Drainage Calculations

Ultimate Development Conditions Basin Data Table

This table is based on the COA DPM Section 22.2, Zone: 2

BASIN	Area	Area	Land Treatment Percentages				Q(100)	Q(100)	WTE	$V(100)_{360}$	$V(100)_{1-440}$	$V(100)_{10day}$
	(SQ. FT)	(AC.)	A	B	C	D	(cfs/ac.)	(CFS)	(inches)	(CF)	(CF)	(CF)
A	3935	0.09	0.0%	0.0%	0.0%	100.0%	4.70	0.42	2.12	695	826	1220
B	14048	0.32	0.0%	0.0%	5.0%	95.0%	4.62	1.49	2.07	2424	2869	4203
C	10363	0.24	0.0%	0.0%	20.0%	80.0%	4.39	1.04	1.92	1660	1936	2765
TOTAL	28346	0.65						2.96		4779	5631	8188

N

W E

S

20' 10' 0 20'

SCALE: 1"=20'

CAUTION – NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

DRAINAGE MANAGEMENT PLAN

INTRODUCTION

The purpose of this submittal is to provide a conceptual and final drainage management plan for the proposed expansion of the existing Marble Brewery facility, which includes a new +/– 6,859 square foot building for brewing operations and storage, a new 2nd Floor Patio over the existing Pub Building, and associated parking, ponding, and landscaping areas. The site is located at 111 Marble Ave NW in Albuquerque, NM, which is the northwest corner of First St and Marble Ave. The site contains approximately 0.65 acres.

EXISTING HYDROLOGIC CONDITIONS

Plans were developed by Tierra West (dated 5/31/2011) for the original brewery expansion that was not built. We have prepared calculations for Pre–Developed flows for this site that match those plans. We concur with those calculations as presented previously by Tierra West.

According to the Drainage Calculations table, this sheet, the existing runoff from the site show that 2.36 cfs (3,925 CF during the 100–Yr, 24 Hr Storm) currently leaves the site to the southeast via surface flow. Analysis for these and all drainage calculations were performed using the COA DPM Section 22.2, released June 1997.

PROPOSED HYDROLOGIC CONDITIONS

Due to the potential for downstream constraints and the floodplain located adjacent to the subject site in First St, we have taken it upon ourselves to design a water harvesting retention pond that has the storage capacity to retain the additional stormwater volume created by the post–developed flows of the 100–Yr, 24–Hr storm. In the pre–developed conditions, the entire site generates a total runoff volume of 3,925 CF. Per the calculations table (this sheet), the total post–developed flow equates to 5,631 CF of volume which will require a pond that can capture at least 1,706 CF of runoff from the developed site. Both Basins 'A' and 'B' will discharge directly to Marble Ave and First St, respectively; and do not discharge to the pond. Basin 'C', with a total discharge of 1,936 CF, will discharge into the proposed water harvesting retention pond. Since the proposed pond provides a volume of 2,462 CF, it is more than adequate to capture the difference between pre–developed and post–developed conditions. The pond overflow will discharge over the sidewalk into First St. A Sidewalk Culvert is not being provided into to help keep roadway drainage from entering the pond.

FIRST FLUSH CALCULATIONS

Basin A is currently 100% impervious and not being improved with this project. Adding ponding for the first flush is not feasible and not being provided.

The southern portion of Basin B includes the existing brewery buildings and a portion of the existing gravel parking lot. In order to protect this area from the Flood Plain in First St, we are not providing ponding for the first flush.

The northern portion of Basin B includes the north half of the new brewery building and the northernmost parking spaces. We are providing a small landscape pond that is approximately 150 cubic feet. Impervious area draining into the pond is approximately 2,547 SF. The first flush volume is calculated as 2,547SF*0.44"/12 = 93.4 cubic feet. The pond provided is sized adequately to handle the first flush.

Basin C includes the west half of the new brewery building, the truck dock, and the fork lift maneuvering area. The new retention pond along the north property captures a minimum of 2,621 cubic feet per the calculations table this sheet. Impervious area draining into the pond is approximately 7,835 SF. The first flush volume is calculated as 7,835SF*0.44"/12 = 287 cubic feet. The pond provided is sized adequately to handle the first flush.

CONCLUSION

This drainage management plan provides for grading and drainage elements which are capable of safely passing (and not increasing) the 100 year storm and meets city requirements. With this submittal, we are requesting approval of the grading and drainage plan for both the Administrative Amandment to the Site Plan for Building Permit as well as Building Permit.

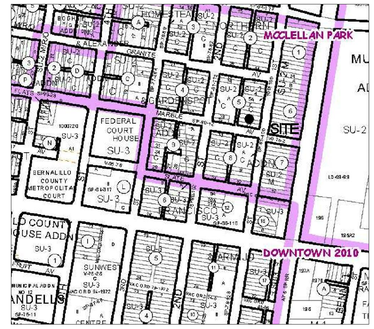
POND VOLUME CALCULATIONS

CONTOUR ELEVATION	AREA (SF)	VOLUME (CF)
4956.00	1,549 SF	
		1,388.5 CF
4955.00	1,228 SF	
		1,073.5 CF
4954.00	919 SF	
TOTAL		2,462 CF

NOTE: THE ABOVE POND VOLUMES SHALL BE VERIFIED AS PART OF THE DRAINAGE CERTIFICATION AND WILL BE REQUIRED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

LEGEND

- FLOW ARROW
- EX27.8 — EXISTING SPOT ELEVATION (TOP OF PAVEMENT)
- 27.8 — PROPOSED TOP OF GRADE/PVMT ELEVATIONS
- TC27.8 — PROPOSED TOP OF CURB ELEVATIONS
- — 515 — — EXISTING CONTOUR
- 515 — PROPOSED CONTOUR
- EXISTING STORM DRAIN
- FLOW LINE
- RIDGE LINE



VICINITY MAP – ZONE ATLAS PAGE J-14-Z

FIRM MAP FM35001C0334G

Per FIRM Map 35001C0334G, dated Sep 26, 2008, the site is located in adjacent to Zone AO Depth 1 Foot. The Floodplain is located in First St and Existing and Proposed Building are higher than the 1 Foot Depth Based on the adjacent gutter elevation in First Street.

NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT–OF–WAY.

2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 UPDATE NO. 8.

3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NM ONE CALL FOR LOCATION OF EXISTING UTILITIES. (NM ONE CALL = '811')

4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.

5. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.

6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24–HOUR BASIS.

GRADING NOTES

1. EXCEPT AS PROVIDED HEREIN, GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.

2. THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE INCIDENTAL TO THE PROJECT COST.

3. ALL WORK RELATIVE TO FOUNDATION CONSTRUCTION, SITE PREPARATION, AND PAVEMENT INSTALLATION, AS SHOWN ON THIS PLAN, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "GEOTECHNICAL INVESTIGATION," AS PROVIDED BY THE ARCHITECT OR OWNER. ALL OTHER WORK SHALL, UNLESS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT, (FIRST PRIORITY) SPECIFICATIONS, AND/OR THE CITY OF ALBUQUERQUE (COA) STANDARD SPECIFICATIONS FOR PUBLIC WORKS (SECOND PRIORITY).

4. EARTH SLOPES SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL UNLESS SHOWN OTHERWISE.

5. IT IS THE INTENT OF THESE PLANS THAT THIS CONTRACTOR SHALL NOT PERFORM ANY WORK OUTSIDE OF THE PROPERTY BOUNDARIES EXCEPT AS REQUIRED BY THIS PLAN.

6. THE CONTRACTOR IS TO ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO ADJACENT PROPERTY OR PUBLIC RIGHT–OF–WAY. THIS SHOULD BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS OR SILT FENCE AT THE PROPERTY LINES AND WETTING THE SOIL TO PROTECT IT FROM WIND EROSION.

7. A DISPOSAL SITE FOR ANY & ALL EXCESS EXCAVATION MATERIAL, AND UNSUITABLE MATERIAL AND/OR A BORROW SITE CONTAINING ACCEPTABLE FILL MATERIAL SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL REGULATIONS AND APPROVED BY THE OBSERVER. ALL COSTS INCURRED IN OBTAINING A DISPOSAL OR BORROW SITE AND HAUL TO OR FROM SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE.

8. PAVING AND ROADWAY GRADES SHALL BE +/– 0.05' FROM PLAN ELEVATIONS. PAD ELEVATION SHALL BE +/– 0.05' FROM BUILDING PLAN ELEVATION.

9. ALL PROPOSED CONTOURS AND SPOT ELEVATIONS REFLECT TOP OF PAVEMENT ELEVATIONS IN THE PARKING AREA AND MUST BE ADJUSTED FOR PAVEMENT, MEDIANS, AND ISLANDS.

10. VERIFY ALL ELEVATIONS SHOWN ON PLAN FROM BASIS OF ELEVATION CONTROL STATION (IF APPLICABLE) PRIOR TO BEGINNING CONSTRUCTION.

11. THE CONTRACTOR SHALL PROVIDE THE SWPPP DOCUMENT (IF NECESSARY) AND SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA REQUIREMENTS WITH RESPECT TO STORM WATER DISCHARGE.

ARIA

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(505) 506-2314

MARBLE BREWERY NEW BUILDING ADDITION

111 MARBLE AVENUE NW ALBUQUERQUE, NM

JEFFREY TODD WOOTEN — NEW MEXICO — 16892 — REGISTERED PROFESSIONAL ENGINEER

8/25/14

Architect/Engineer

Wooten Engineering
4700 Lincoln NE, Suite 111
Albuquerque, NM 87109
Ph: 505.980.3560

MARK	DATE	DESCRIPTION

ISSUE:	DRB AA 2014
PROJECT NO:	1407
CAD DWG FILE:	
DRAWN BY:	
CHECKED BY:	
DATE:	8/25/14

SHEET TITLE

GRADING & DRAINAGE PLAN

C1