CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director

Mayor Timothy M. Keller

May 16, 2019

Mike Walla, P.E.
Walla Engineering
6501 Americas Pwky NE, Suite 301
Albuquerque, NM, 87110

RE: Tin Can Alley
6100 Alameda NE
Grading & Drainage Plan and Drainage Report
Engineer's Stamp Date: 05/15/19
Hydrology File: C18D086

Dear Mr. Walla:

Based upon the information provided in your resubmittal received 05/15/2019, the Grading & Drainage Plan and Drainage Report are approved for Building Permit and Grading Permit.

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

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 approval in support of Permanent Release of Occupancy by Hydrology, Engineer Certification per the DPM checklist will be 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 (Curtis Cherne, PE, ccherne@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

Also as a reminder, please provide a Drainage Covenant for the proposed retention pond, stormwater quality ponds, and private storm pipes per Chapter 17 of the DPM. Also a separate Drainage Covenant for the proposed temporary retention pond. **Both** covenants must be submitted prior to Certificate of Occupancy approval. Please submit this on the 4th floor of Plaza de Sol. A $25 fee will be required.

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: TIN CAN ALLEY Building Permit #: _____ Hydrology File #: _____

DRB#: 1000682 EPC#: _____ Work Order#: _____

Legal Description: REMAINING PORTIONS OF LOTS 1, 2 AND 3 AND ALL OF LOTS 4, 5, 6 AND 29 IN BLOCK 29, TRACT A, UNIT B, NORTH ALBUQUERQUE ACRES, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, JUNE 2018

City Address: 6100 ALAMEDA NE, ALBUQUERQUE, NEW MEXICO 87113

Applicant: WALLA ENGINEERING Contact: MIKE WALLA

Address: 6501 AMERICAS PARKWAY NE, SUITE 301, ALBUQUERQUE, NM 87110

Phone#: 505-881-3008 Fax#: 505-881-4025 E-mail: mikew@wallaenginering.com

Other Contact: JOE SLAGLE ARCHITECT Contact: JOE SLAGLE

Address: 413 2ND ST. SW, ALBUQUERQUE, NM 87102

Phone#: 505-246-0870 Fax#: _____ E-mail: joe@slaglearchitect.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
____ 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: 5-15-19 By: MIKE WALLA

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

Drainage Report
For

Alameda & San Pedro Mixed Use

Tin Can Alley

Prepared by:

Walla Engineering, Ltd.
6501 Americas Parkway NE
Suite 301
Albuquerque, New Mexico 87110

Prepared for:
Joe Slagle Architects
413 2nd St. SW
Albuquerque, New Mexico 87109

May 15, 2019

I certify that this report was prepared under my supervision, and I am a registered professional engineer in the state of New Mexico in good standing.

Mike J. Walla
PE No. 11030

Project # S48-0218

TABLE OF CONTENTS

6501 Americas Parkway NE • Suite 301
Albuquerque • New Mexico • 87110
(505) 881-3008 • Facsimile (505) 881-4025
Mike J. Walla P.E. • Larry E. Kennedy

SECTION I

REPORT

6501 Americas Parkway NE • Suite 301
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Mike J. Walla P.E. • Larry E. Kennedy

Introduction

The subject site is located in North Albuquerque Acres at the southeast corner of the intersection of San Pedro Blvd. and Alameda Blvd. NE. The site is currently unimproved but is planned for development into a light commercial center. The site is made up of 7 original lots that total approximately 5.26 acres that will be replatted into 4 lots. The project will require public works improvements on Alameda to widen the road and add sidewalk and a bike lane. San Pedro will be widened as well as part of this work. The site is accessed from San Pedro Blvd. on the west, Signal Avenue on the south and there will be two north entrances off of Alameda Blvd. The attached City of Albuquerque Zone Atlas Map, C-18-Z indicates the site location. The purpose of this report is to describe existing and proposed onsite drainage conditions and how the new development will handle developed storm runoff flows. The Tin Can Alley project will occupy the Lot 2-A portion of the site but the site improvements associated with this project will extend into the west adjacent lot (Lot 1-A) in order to construct parking, drive access from San Pedro Blvd. NE and a permanent Retention Pond located on the Lot 1-A section of the development. A Temporary Retention Pond will also be constructed on the east end of the development to hold runoff for the undeveloped portion of the site.

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Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: TIN CAN ALLEY Building Permit #: _____ Hydrology File #: _____

DRB#: 1000682 EPC#: _____ Work Order#: _____

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City Address: 6100 ALAMEDA NE, ALBUQUERQUE, NEW MEXICO 87113

Applicant: WALLA ENGINEERING Contact: MIKE WALLA

Address: 6501 AMERICAS PARKWAY NE, SUITE 301, ALBUQUERQUE, NM 87110

Phone#: 505-881-3008 Fax#: 505-881-4025 E-mail: mikew@wallaengineering.com

Other Contact: JOE SLAGLE ARCHITECT Contact: JOE SLAGLE

Address: 413 2ND ST. SW, ALBUQUERQUE, NM 87102

Phone#: 505-246-0870 Fax#: _____ E-mail: joe@slaglearchitect.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
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____ TRAFFIC IMPACT STUDY (TIS)
____ STREET LIGHT LAYOUT
____ OTHER (SPECIFY) _____
____ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

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____ WORK ORDER APPROVAL
____ CLOMR/LOMR
____ FLOODPLAIN DEVELOPMENT PERMIT
____ OTHER (SPECIFY) _____

DATE SUBMITTED: 5-15-19 By: MIKE WALLA

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

National Flood Hazard Layer FIRMette

FEMA

Legend

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Are
- of 1% annual chance flood with averag
- depth less than one foot or with drainag
- areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zo*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

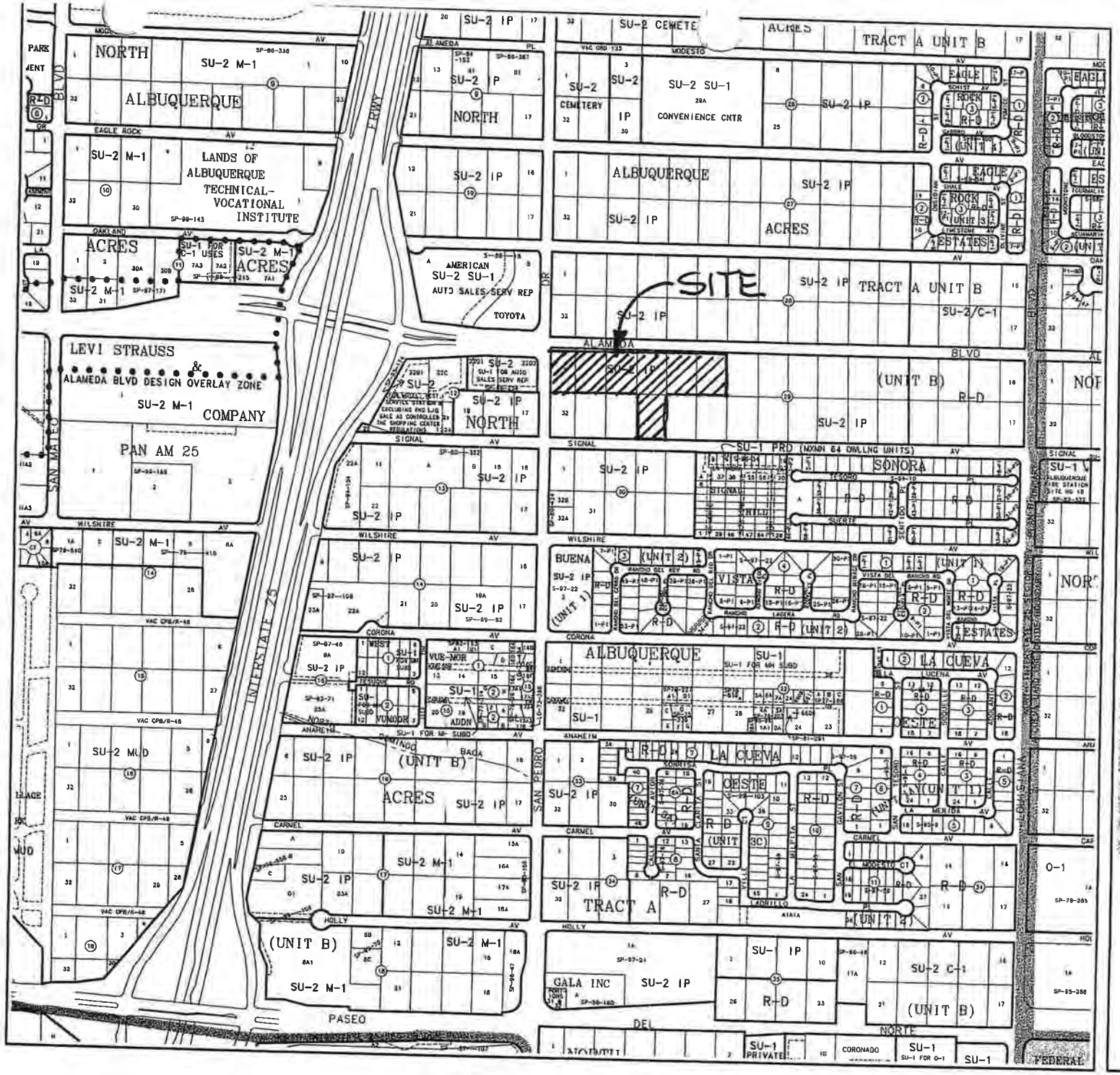
N

The pin displayed on the map is an approximat
point selected by the user and does not repres
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 9/11/2018 at 10:27:43 AM 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.



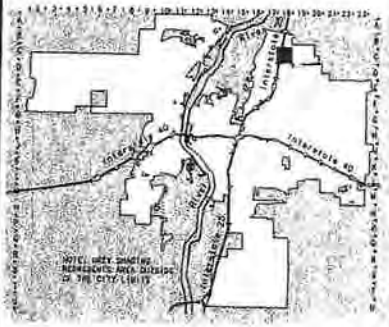
CITY OF Albuquerque

AGIS Albuquerque Geographic Information System

PLANNING DEPARTMENT

GRAPHIC SCALE IN FEET

250 0 500 1000



Zone Atlas Page
C-18-Z

Map Amended through
December 20, 1999

LEGAL DESCRIPTION

The current legal description of the subject property is:

Lots 1-A, 2-A, 4-A & 6-A, Block 29, Tract A, Unit B North Albuquerque Acres within Projected Section 13, T.11N.,R.3E., NMPM Within the Elena Gallegos Grant, City of Albuquerque, Bernalillo County, New Mexico, August 2018.

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(505) 881-3008 • Facsimile (505) 881-4025

Mike J. Walla P.E. • Larry E. Kennedy

Existing Drainage Conditions & Offsite Flows

The existing overall site is an unimproved property with a prevailing slope from east to west that varies from 2 to 5% (3.1% average). Any runoff currently developed on this site is conveyed to Alameda and San Pedro Blvd. NE. The site is bordered on the east by a residential development currently under construction with similar slopes. The adjacent properties to the south of the subject site are developed but do not appear to impact the subject site drainage. The portion of the subject site that borders Signal Blvd. also has an existing east to west slope with some small portion of storm runoff historically flowing into Signal Ave. or adjacent property west of this section of the site. No significant storm runoff developed offsite appears to be conveyed through the subject site.

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Proposed Drainage Management

The proposed on-site drainage management plan will be based on the North Albuquerque Acres Master Drainage Plan as outlined in the design analysis report titled "Alameda Blvd. – San Pedro to Wyoming" Project #7663.91, by Thompson Engineering, dated January 2012. In this report the allowable storm runoff discharge to Alameda Blvd. is limited to 3.82 CFS per acre and runoff to San Pedro Blvd. is prohibited. The developed conditions on the subject site will create an increase in developed runoff discharge and a Retention Pond will be used to permanently store runoff developed at the west end of the site(Basin IV). Runoff developed from Basins II and III will be collected in an onsite storm drain system and released to Alameda meeting the requirements of the Master Drainage Plan limiting that released volume. Developed storm water from the southern end of the site (Basin I) will be directed to downstream facilities except under high flow rates where it will temporarily pond in the parking area on the west side of paved lot. The first flush volume will be retained prior to outlet to Signal Ave. from an onsite catch basin to a new city drop inlet in the new curb and gutter on Signal Ave. which will be constructed per COA Work Order. This will be tied into an existing manhole and 30" storm drain in Signal and the subsequent downstream facilities. Some first flush runoff will be directly released to public facilities and through shrouded inlets and this volume will be accounted for in a Fee-in-Lieu arrangement with the City of Albuquerque in order to allow direct discharge to downstream facilities.

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Calculations

The weighted E method from the "City of Albuquerque Development Process Manual Volume 11 – Design Criteria, 1997 Revision" was used to calculate runoff volumes from the project site. The 6-hr, 100-yr developed storm runoff for the portion of the site fronting Alameda Blvd. was calculated to be a total of 20.36 CFS (Basins II, III and IV). The allowable discharge of storm runoff to Alameda Blvd. as defined by the NAA Master Drainage Plan, Project #7663.91, by Thompson engineering dated January 2012 is 3.82 CFS/acre and the area of the site affected by this limitation totals 4.342 acres. Therefore, the total allowable discharge to the Alameda storm drain facilities is 16.59 CFS from the developed site. Calculations for that runoff and controlled outlet are included in the Appendix of this report. The overall site was modelled using AHYMO software. The portion of the site that fronts on Signal Ave. (Basin I) will also be sloped to drain towards Signal but will be collected onsite and piped directly to the storm drain in Signal through a shrouded inlet with an orifice plate to restrict flow. The site will be required to hold a small amount of runoff in the parking area and this design will further detailed in the Phase II drainage plan for this portion of the project.

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Summary

The site will be developed to comply with requirements of the NAA Master Drainage Plan by not exceeding runoff limits to Alameda Blvd. and all but eliminating any runoff to San Pedro Blvd. from the developed site. As indicated on the Conceptual Grading & Drainage Plan approved by DRB, a series of catch basins will be constructed to collect storm runoff and direct it to a Retention Pond located on Lot 1-A of the development or directly to the public storm drain system in Alameda Blvd. per the restrictions of the Master Plan. As much as possible, the developed first flush storm volumes will be either retained in the pond or captured in smaller BMP facilities in the parking lot. Where runoff is released directly to downstream facilities it will be released through a shrouded orifice in an onsite catch basin.

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Mike J. Walla P.E. • Larry E. Kennedy

CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director

Mayor Timothy M. Keller

April 26, 2019

Mike Walla, P.E.
Walla Engineering
6501 Americas Pwky NE, Suite 301
Albuquerque, NM, 87110

RE: Tin Can Alley
6100 Alameda NE
Grading & Drainage Plan and Drainage Report
Engineer's Stamp Date: 04/22/19
Hydrology File: C18D086

Dear Mr. Walla:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based upon the information provided in your resubmittal received 04/22/2019, the Grading & Drainage Plan and Drainage Report **is not** approved for Building Permit. The following comments are based on a meeting with Larry Kennedy from your office on 04/25/2019 and markups which I provided to him:

1. The HGL in the manhole in Alameda is 5231.1. Starting here and traveling through the proposed storm system, the HGL at the inlet (note 15) is 35.37 and rim of 35.75. This means that the proposed underground detention and all downstream storm sewer will not be able to discharge into the storm system and will easily go over the waterblock of 32.50 at San Pedro. Therefore, we propose two solutions.

    a. Do a complete study for the installation of inlet(s) on San Pedro along with the upsizing of the existing 48-inch pipe to probably a 60-inch and a manhole. This infrastructure will have to go back to the DRB for a revised Infrastructure List approval. This option seems to be costly and more time consuming so I suggest the second option.

    b. This option eliminates the underground detention facility and installs instead a retention pond along San Pedro for the ultimate development. The total allowable discharge to Alameda is 3.82 cfs/ac * 4.345 ac = 16.59 cfs. Basin II is free discharge of 4.37 cfs and a remainder allowable discharge of 12.22 cfs. Basin III & IV have a 100 yr – 6 hr runoff of 15.9 cfs. 15.9 minus 12.2 leaves 3.7cfs for retention. We will allow for the 100 yr – 6 hr volume to be used instead of the 10 day. So using the DPM, the area for retention is 3.7 cfs / 4.49 cfs/ac = 0.82 ac. The volume of retention is therefore 2.58" (excess type D) * 0.82 ac = 7,717 cf. Therefore a pond 20' x 80' x 5'(depth) will provide a volume of 8,000 cf. This

pond will be walled with a security fence around it so no one falls in. A waterblock will need to be created at the curb return just to the east of the proposed underground detention. (Location provided on plans) Basin III will stop at this waterblock and Basin IV will extend to the south. Not only does the underground detention facility be eliminated, but two additional inlets and pipes are eliminated as well. (Marked on the plans) The inlet just to the east of the new waterblock, needs to be lowered a bit. This maybe lowered to say TG 37.50. (Please check to ensure that this is enough so that the runoff does not just go over the new waterblock) From this inlet, the outflow pipe can then connect to the most easterly of the existing three inlets. This pipe should be able to discharge the allowable 12.22 cfs. The only other new pipe is from the inlet by the San Pedro entrance and goes to the retention pond. This option also has the benefit of lowering the elected Payment-in-Lieu amount. Please verify the correct amount. By my calculation, for 0.82 ac @ 90% impervious will need a stormwater quality volume of 910 cf. Since this will be handled within the required retention pond volume it can be subtracted from the site's deficit volume amount. The total site stormwater quality volume is 3655 cf – 1155 cf (provided) – 910 cf (retention pond) = 1,590 cf. The Payment-in-Lieu amount is 1590 cf * $8/cf = $12,720. This is a savings of $7,280. Along with the savings of the revised storm sewer system, this is a better option than the first one.

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

2. Please reflect the Grading and Drainage Plans for whichever option that you chose.
3. Please reflect the Drainage Report for whichever option that you chose.
4. Please add the calculations for the temporary retention pond to the Drainage Report.

Please provide a Drainage Covenant for the proposed retention pond, stormwater quality ponds, and private storm pipes per Chapter 17 of the DPM. Also a separate Drainage Covenant for the proposed temporary retention pond. Both covenants must be submitted prior to Certificate of Occupancy approval. Please submit this on the 4th floor of Plaza de Sol. A $25 fee will be required.

Standard review fee of $300 will be required at the time of resubmittal.

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

Walla ENGINEERING LTD
Structural Engineering • Civil Engineering

May 15, 2019

Renee C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

Project: **Alameda & San Pedro Mixed Use Development**
6100 Alameda NE
Albuquerque, New Mexico

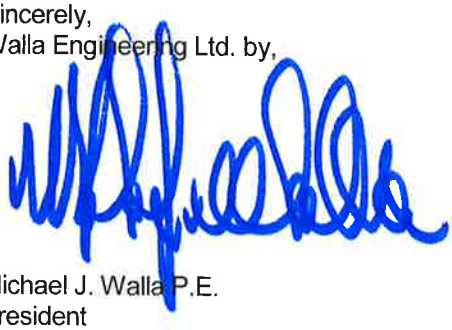
Ms. Brissette,

Walla Engineering has received your comments and incorporated them into our revised Tin Can Alley Grading & Drainage Plan. Our response to each comment is listed below:

1. Following your recommendations we have eliminated the underground storage facility for storm water runoff and have designed a Retention Pond that will hold runoff from the western end of the Alameda Mixed Use project. The drainage basins have been revised to account for this change as have the runoff calculations for the affected basins.
2. Grading and Drainage Plans for project have been modified to reflect the recommended changes.
3. The Drainage Report has been revised to reflect the design changes recommended.
4. Temporary pond volume calculations have been added to the Drainage Report and slight modifications to this pond are reflected on the drawing.

Separate Drainage Covenants will be provided for both the Temporary Pond and the permanent onsite drainage improvements. These are in process now and will be recorded prior to submittal for a Certificate of Occupancy on the project. The Fee-in-lieu calculation in included on the plan and was adjusted based on revised discharge quantities.

Sincerely,
Walla Engineering Ltd. by,



Michael J. Walla P.E.
President

MJW/Hs

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SECTION II

Runoff Calculations

AHYMO Model Input

AHYMO Model Output

Orifice Calculations

Pipe Calculations

Weir Calculation

Pond Calculations

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Mike J. Walla P.E. • Larry E. Kennedy

Walla ENGINEERING LTD
Structural Engineering • Civil Engineering

RUNOFF CALCULATIONS

OVERALL SITE

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Mike J. Walla P.E. • Larry E. Kennedy

OVERALL SITE

PRECIPITATION ZONE 3

DESIGN STORM: (IN)	1hr	6hr	24hr	4day	10day
	2.14	2.60	3.10	3.95	4.90

EXISTING CONDITIONS - ALAMEDA LOTS

LAND TRTMNT	AREA (ACRE)	AREA %	P6	Q (CFS/AC)	Q (CFS)	V6 (CF)	V24 (CF)	V4day (CF)	V10day (CF)
A	0.000	0%	0.66	1.87	0.00	0	0	0	0
B	4.342	100%	0.92	2.60	11.29	14,501	14,501	14,501	14,501
C	0.000	0%	1.29	3.45	0.00	0	0	0	0
D	0.000	0%	2.36	5.02	0.00	0	0	0	0
TOTALS	4.342	100%			11.29	14,501	14,501	14,501	14,501

EXISTING CONDITIONS - SIGNAL AVE. PORTION

LAND TRTMNT	AREA (ACRE)	AREA %	P6	Q (CFS/AC)	Q (CFS)	V6 (CF)	V24 (CF)	V4day (CF)	V10day (CF)
A	0.000	0%	0.66	1.87	0.00	0	0	0	0
B	0.915	100%	0.92	2.60	2.38	3,056	3,056	3,056	3,056
C	0.000	0%	1.29	3.45	0.00	0	0	0	0
D	0.000	0%	2.36	5.02	0.00	0	0	0	0
TOTALS	0.915	100%			2.38	3,056	3,056	3,056	3,056

PROPOSED CONDITIONS - BASIN I

LAND TRTMNT	AREA (ACRE)	AREA %	P6	Q (CFS/AC)	Q (CFS)	V6 (CF)	V24 (CF)	V4day (CF)	V10day (CF)
A	0.000	0%	0.66	1.87	0.00	0	0	0	0
B	0.238	26%	0.92	2.60	0.62	795	795	795	795
C	0.000	0%	1.29	3.45	0.00	0	0	0	0
D	0.677	74%	2.36	5.02	3.40	5,800	7,028	7,889	8,134
TOTALS	0.915	100%			4.02	6,595	7,823	8,683	8,929

PROPOSED CONDITIONS - BASIN II

LAND TRTMNT	AREA (ACRE)	AREA %	P6	Q (CFS/AC)	Q (CFS)	V6 (CF)	V24 (CF)	V4day (CF)	V10day (CF)
A	0.000	0%	0.66	1.87	0.00	0	0	0	0
B	0.185	19%	0.92	2.60	0.48	618	618	618	618
C	0.000	0%	1.29	3.45	0.00	0	0	0	0
D	0.770	81%	2.36	5.02	3.87	6,596	7,994	8,972	9,252
TOTALS	0.955	100%			4.35	7,214	8,612	9,590	9,870

PROPOSED CONDITIONS - BASIN III

LAND TRTMNT	AREA (ACRE)	AREA %	P6	Q (CFS/AC)	Q (CFS)	V6 (CF)	V24 (CF)	V4day (CF)	V10day (CF)
A	0.000	0%	0.66	1.87	0.00	0	0	0	0
B	0.094	4%	0.92	2.60	0.24	314	314	314	314
C	0.000	0%	1.29	3.45	0.00	0	0	0	0
D	2.421	96%	2.36	5.02	12.15	20,740	25,134	28,210	29,089
TOTALS	2.515	100%			12.40	21,054	25,448	28,524	29,403

PROPOSED CONDITIONS - BASIN IV

LAND TRTMNT	AREA (ACRE)	AREA %	P6	Q (CFS/AC)	Q (CFS)	V6 (CF)	V24 (CF)	V4day (CF)	V10day (CF)
A	0.000	0%	0.66	1.87	0.00	0	0	0	0
B	0.316	36%	0.92	2.60	0.82	1,055	1,055	1,055	1,055
C	0.000	0%	1.29	3.45	0.00	0	0	0	0
D	0.556	64%	2.36	5.02	2.79	4,763	5,772	6,479	6,681
TOTALS	0.872	100%			3.61	5,818	6,828	7,534	7,736

Allowable discharge to Alameda: 4.342 Acres X 3.82 CFS/AC = 16.59 CFS
Calculated direct discharge to Alameda: Basin II + Basin III = 4.35 CFS + 12.40 CFS = 16.75 CFS

Use 18" dia PVC discharge pipe installed at 1.2% slope - Capacity = 16.09 CFS

First Flush Calculations:
Basin I First Flush Pond Required: Trtmnt D Area = 0.677 AC x 0.34in = 835 CF

Total First Flush Required = 835 CF
No retention ponding provided - Fee-in-lieu

Basin II First Flush Pond Required: Trtmnt D Area = 0.770 AC x 0.34in = 950 CF

No ponding available - catch basin outlet is shrouded requires Fee-in-Lieu

Basin III First Flush Pond Required: Trtmnt D Area = 2.421 AC x 0.34in = 2988 CF

Ponding provided in parking islands:
3 each @ 210 SF x 1'-0" deep = 630 CF
3 each @ 63 SF x 1'-0" deep = 189 CF
Total ponding provided = 819 CF
Remaining required First Flush ponding (2169 CF) Discharged to downstream facilities via Fee-in-Lieu

Basin IV First Flush Pond Required: Trtmnt D Area = 0.566 AC x 0.34in = 699 CF

All First Flush volume directed to Retention Pond

Allowable Discharge per Basin to Alameda: Rate = 3.82 CFS per Acre

Basin I	To Signal Ave. - N/A	
Basin II	0.955 AC x 3.82 CFS/AC	= 3.65 CFS
Basin III	2.515 AC x 3.82 CFS/AC	= 9.61 CFS
Basin IV	0.872 AC x 3.82 CFS/AC	= 3.33 CFS
	Total	= 16.59 CFS

RUNOFF CALCULATIONS

PHASE I

6501 Americas Parkway NE • Suite 301
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PHASE I CALCULATIONS — PRECIPITATION ZONE 3

DESIGN STORM: (IN)	1hr	6hr	24hr	4day	10day
	2.14	2.60	3.10	3.95	4.90

EXISTING CONDITIONS - ALAMEDA LOTS

LAND TRTMNT	AREA (ACRE)	AREA %	P6	Q (CFS/AC)	Q (CFS)	V6 (CF)	V24 (CF)	V4day (CF)	V10day (CF)
A	0.000	0%	0.66	1.87	0.00	0	0	0	0
B	4.342	100%	0.92	2.60	11.29	14,501	14,501	14,501	14,501
C	0.000	0%	1.29	3.45	0.00	0	0	0	0
D	0.000	0%	2.36	5.02	0.00	0	0	0	0
TOTALS	4.342	100%			11.29	14,501	14,501	14,501	14,501

EXISTING CONDITIONS - SIGNAL AVE. PORTION

LAND TRTMNT	AREA (ACRE)	AREA %	P6	Q (CFS/AC)	Q (CFS)	V6 (CF)	V24 (CF)	V4day (CF)	V10day (CF)
A	0.000	0%	0.66	1.87	0.00	0	0	0	0
B	0.915	100%	0.92	2.60	2.38	3,056	3,056	3,056	3,056
C	0.000	0%	1.29	3.45	0.00	0	0	0	0
D	0.000	0%	2.36	5.02	0.00	0	0	0	0
TOTALS	0.915	100%			2.38	3,056	3,056	3,056	3,056

PHASE I CONDITIONS - BASIN I

LAND TRTMNT	AREA (ACRE)	AREA %	P6	Q (CFS/AC)	Q (CFS)	V6 (CF)	V24 (CF)	V4day (CF)	V10day (CF)
A	0.000	0%	0.66	1.87	0.00	0	0	0	0
B	0.915	26%	0.92	2.60	2.38	3,056	3,056	3,056	3,056
C	0.000	0%	1.29	3.45	0.00	0	0	0	0
D	0.000	74%	2.36	5.02	0.00	0	0	0	0
TOTALS	0.915	100%			2.38	3,056	3,056	3,056	3,056

PROPOSED CONDITIONS - BASIN II (DEVELOPED AREA)

LAND TRTMNT	AREA (ACRE)	AREA %	P6	Q (CFS/AC)	Q (CFS)	V6 (CF)	V24 (CF)	V4day (CF)	V10day (CF)
A	0.000	0%	0.66	1.87	0.00	0	0	0	0
B	0.045	10%	0.92	2.60	0.12	150	150	150	150
C	0.000	0%	1.29	3.45	0.00	0	0	0	0
D	0.420	90%	2.36	5.02	2.11	3,598	4,360	4,894	5,046
TOTALS	0.465	100%			2.23	3,748	4,511	5,044	5,197

PROPOSED CONDITIONS - BASIN II (TEMPORARY POND)

LAND TRTMNT	AREA (ACRE)	AREA %	P6	Q (CFS/AC)	Q (CFS)	V6 (CF)	V24 (CF)	V4day (CF)	V10day (CF)

A	0.000	0%	0.66	1.87	0.00	0	0	0	0
B	0.000	0%	0.92	2.60	0.00	0	0	0	0
C	0.490	100%	1.29	3.45	1.69	2,295	2,295	2,295	2,295
D	0.000	0%	2.36	5.02	0.00	0	0	0	0
TOTALS	0.490	100%			1.69	2,295	2,295	2,295	2,295

PROPOSED CONDITIONS - BASIN III (DEVELOPED AREA)

LAND TRTMNT	AREA (ACRE)	AREA %	P6	Q (CFS/AC)	Q (CFS)	V6 (CF)	V24 (CF)	V4day (CF)	V10day (CF)
A	0.000	0%	0.66	1.87	0.00	0	0	0	0
B	0.075	6%	0.92	2.60	0.20	250	250	250	250
C	0.000	0%	1.29	3.45	0.00	0	0	0	0
D	1.122	94%	2.36	5.02	5.63	9,612	11,648	13,074	13,481
TOTALS	1.197	100%			5.83	9,862	11,899	13,324	13,732

PROPOSED CONDITIONS - BASIN III (TEMPORARY POND)

LAND TRTMNT	AREA (ACRE)	AREA %	P6	Q (CFS/AC)	Q (CFS)	V6 (CF)	V24 (CF)	V4day (CF)	V10day (CF)
A	0.000	0%	0.66	1.87	0.00	0	0	0	0
B	0.000	0%	0.92	2.60	0.00	0	0	0	0
C	1.318	100%	1.29	3.45	4.55	6,172	6,172	6,172	6,172
D	0.000	0%	2.36	5.02	0.00	0	0	0	0
TOTALS	1.318	100%			4.55	6,172	6,172	6,172	6,172

PROPOSED CONDITIONS - BASIN IV

LAND TRTMNT	AREA (ACRE)	AREA %	P6	Q (CFS/AC)	Q (CFS)	V6 (CF)	V24 (CF)	V4day (CF)	V10day (CF)
A	0.000	0%	0.66	1.87	0.00	0	0	0	0
B	0.316	36%	0.92	2.60	0.82	1,055	1,055	1,055	1,055
C	0.069	8%	1.29	3.45	0.24	323	323	323	323
D	0.487	56%	2.36	5.02	2.44	4,172	5,056	5,675	5,851
TOTALS	0.872	100%			3.50	5,550	6,434	7,053	7,230

PHASE I

Allowable discharge to Alameda: 4.342 Acres X 3.82 CFS/AC = 16.59 CFS

Discharge to Alameda (Developed): Basin II + Basin III = 2.23 CFS + 5.83 CFS = 8.06 CFS

Use 18" dia PVC discharge pipe Capacity = 16.09 CFS

First Flush Calculations: Phase I

Basin II First Flush Pond Required: Trtmnt D Area = 0.42 AC x 0.34in = 518 CF

No ponding available - catch basin outlet is shrouded

Basin III First Flush Pond Required: Trtmnt D Area = 1.122 AC x 0.34in = 1385 CF

Ponding provided in parking islands:
2 each @ 210 SF x 1'-0" deep = 420 CF
3 each @ 63 SF x 1'-0" deep = 189 CF
Total ponding provided = 609 CF

Remaining required First Flush ponding (Phase I): 518+1385-609 = 1294 CF

Fee-in-lieu (Phase I): 1294 CF x $8.00/CF = **$10,352.00**

Ponding Requirements for Basin II and Basin III - Temporary Pond
Basin II: 2,295 CF
Basin III: 6,172 CF
Total Temporary Ponding Required = 8,467 CF

AHYMO MODEL

INPUT FILE

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```
*S*      PROJECT NAME: MIXED USE DEVELOPMENT AT ALAMEDA AND SAN PEDRO
*S*      DATE: MARCH 22, 2019
*S*
*S*      INPUT FILE NAME: TCA190322.hym
*S*      OUTPUT FILE NAME: TCA190322.out
*S*
*******************************************************************************
*
*
*S*
*****************************************************
*       24-hr, 100 year storm event
RAINFALL              TYPE=13  RAIN QUARTER=0.0  RAIN ONE=2.14
                      RAIN SIX=2.60   RAIN DAY=3.10   DT=0.05 HRS
*
*S**** COMPUTE ALLOWABLE FLOW RATE
*S**** BASIN 117.32
COMPUTE NM HYD        ID=1 HYD NO=117.32 DA=0.00678 SQ MI
                      PER A=0 PER B=34 PER C=16 PER D=50
                        TP=0.1333 HR MASS RAIN=-1
PRINT HYD             ID=1 CODE=20
*
*
*S**** BASIN 117.31
COMPUTE NM HYD        ID=2 HYD NO=117.31 DA=0.00143 SQ MI
                      PER A=0 PER B=34 PER C=16 PER D=50
                        TP=0.1333 HR MASS RAIN=-1
PRINT HYD             ID=2 CODE=20
*


*
*S****PROPOSED CONDITIONS
*S****SUBBASIN I
COMPUTE NM HYD        ID=3 HYD NO=I DA=0.00143 SQ MI
                      PER A=0 PER B=13 PER C=13 PER D=74
                        TP=0.1333 HR MASS RAIN=-1
PRINT HYD             ID=3 CODE=20
*
*
*
*
*S**** SUBBASIN II
COMPUTE NM HYD        ID=4 HYD NO=II DA=0.00149 SQ MI
                      PER A=0 PER B=9.5 PER C=9.5 PER D=81
                        TP=0.1333 HR MASS RAIN=-1
PRINT HYD             ID=4 CODE=20
*
*
*
*
*S**** SUBBASIN III
COMPUTE NM HYD        ID=5 HYD NO=III DA=0.00477 SQ MI
                      PER A=0 PER B=3 PER C=3 PER D=94
                        TP=0.1333 HR MASS RAIN=-1
PRINT HYD             ID=5 CODE=20
*
*
*
*
*S**** SUBBASIN IV
COMPUTE NM HYD        ID=6 HYD NO=IV DA=0.00052 SQ MI
                      PER A=0 PER B=35 PER C=35 PER D=30
                        TP=0.1333 HR MASS RAIN=-1
PRINT HYD             ID=6 CODE=20
*
```

```
*
*
*
*S SUBBASIN III UNDERGROUND STORAGE
ROUTE RESERVOIR          ID=9  HYD=STRG.III  INFLOW ID=5  CODE=1
                         OUTFLOW(CFS)     STORAGE(AC FT)  ELEV(FT)

                         0.01                    0                    0.0
                         1.13                    0                    0.5
                         3.73                    0                    1.0
                         5.30                    0                    1.5
                         6.50                    0                    2.0
                         7.52                    0                    2.5
                         8.41                    0                    3.0
                         9.22                    0                    3.5
                         9.96                    0.0001               4.0
                         10.65                   0.0315               4.5
                         11.29                   0.0350               5.0
*
*
PRINT HYD             ID=9 CODE=20
*
*
*
*
*S SUBBASIN I STORAGE
ROUTE RESERVOIR          ID=10  HYD=STRG.I  INFLOW ID=3  CODE=1
                         OUTFLOW(CFS)     STORAGE(AC FT)  ELEV(FT)

                         0.00                    0              0
                         0.83                    0.00010        0.5
                         1.59                    0.00020        1.0
                         2.08                    0.00030        1.5
                         2.47                    0.00040        2.0
                         2.81                    0.00050        2.5
                         3.11                    0.00060        3.0
                         3.28                    0.00066        3.3
                         3.39                    0.00088        3.5
                         3.54                    0.00198        3.8
*
*
PRINT HYD             ID=10 CODE=20
```

AHYMO OUTPUT

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AHYMO PROGRAM SUMMARY TABLE (AHYMO-S4) - Ver. S4.02a, Rel: 02a RUN DATE (MON/DAY/YR) =03/22/2019
INPUT FILE = ojects\03579 Solomon Alameda & San Pedro\4. ENG\Modeling\AHYMO\TCA190322.txt USER NO.= AHYMO-S4TempUser05901704

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	NOTATION	
											PAGE = 1
S	PROJECT NAME: MIXED USE DEVELOPMENT AT ALAMEDA AND SAN PEDRO										
S	DATE: MARCH 22, 2019										
S											
S	INPUT FILE NAME: TCA190322.hym										
S	OUTPUT FILE NAME: TCA190322.out										
S											
s											
RAINFALL TYPE=13											RAIN24= 3.100
*S**** COMPUTE ALLOWABLE FLOW RATE											
*S**** BASIN 117.32											
COMPUTE NM HYD	117.32	-	1	0.00678	16.88	0.702	1.94076	1.500	3.890	PER IMP=	50.00
*S**** BASIN 117.31											
COMPUTE NM HYD	117.31	-	2	0.00143	3.58	0.148	1.94076	1.500	3.906	PER IMP=	50.00
*S****PROPOSED CONDITIONS											
*S****SUBBASIN I											
COMPUTE NM HYD	I	-	3	0.00143	4.07	0.183	2.39737	1.500	4.447	PER IMP=	74.00
*S**** SUBBASIN II											
COMPUTE NM HYD	II	-	4	0.00149	4.37	0.200	2.52117	1.500	4.582	PER IMP=	81.00
*S**** SUBBASIN III											
COMPUTE NM HYD	III	-	5	0.00477	14.72	0.700	2.75109	1.500	4.823	PER IMP=	94.00
*S**** SUBBASIN IV											
COMPUTE NM HYD	IV	-	6	0.00052	1.21	0.045	1.61919	1.500	3.622	PER IMP=	30.00
*S SUBBASIN III UNDERGROUND STORAGE											
ROUTE RESERVOIR	STRG.III	5	9	0.00477	11.24	0.851	3.34507	1.600	3.683	AC-FT=	0.035
*S SUBBASIN I STORAGE											
ROUTE RESERVOIR	STRG.I	3	10	0.00143	3.38	0.183	2.39719	1.550	3.690	AC-FT=	0.014

ORIFICE CALCULATIONS

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Orifice Calculations

Q = 0.6*A*(2*g*h)^(0.5)

Q: Flow Capacity (cfs)
A: Open Area (sq. ft.)
g: Gravity (ft / s2)
h: Head (ft) to Centroid of Orifice

Rating Curve for Subbasin III Storage

A = 1.1071 sq. ft.

N/A

Depth (ft)	Head (ft)	Q (cfs)
0.0	0	0
0.5	0.21	1.13
1.0	0.49	3.73
1.5	0.99	5.30
2.0	1.49	6.50
2.5	1.99	7.52
3.0	2.49	8.41
3.5	2.99	9.22
4.0	3.49	9.96
4.5	3.99	10.65
5.0	4.49	11.29

Rating Curve for Subbasin I Storage

A = 0.3927 sq. ft.

Depth (ft)	Head (ft)	Q (cfs)
0.0	0	0
0.5	0.26	0.83
1.0	0.71	1.59
1.5	1.21	2.08
2.0	1.71	2.47
2.5	2.21	2.81
3.0	2.71	3.11
3.3	3.01	3.28
3.5	3.21	3.39
3.8	3.51	3.54

PIPE CALCULATIONS

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Walla ENGINEERING LTD
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881-3008 • Facsimile 881-4025

SHEET NO. _____ OF _____
JOB ALAMEDA MIXED USE
SUBJECT TIN CAN ALLEY
CLIENT SYLOE JOB NO _____
BY MTB DATE _____
CHECKED BY _____ DATE _____

Tin Can Alley

Pipe at Main outlet to Alameda

Set units: m | mm | ft | in

Pipe diameter, d_0	18 in
Manning roughness, n ? (http://www.engineeringtoolbox.com/mannings-roughness-d_799.html)	.01
Pressure slope (possibly ? (../pressureslope.php) equal to pipe slope), S_0	1.2 % rise/run
Percent of (or ratio to) full depth (100% or 1 if flowing full)	94 %

Results

Flow, Q	16.0895	cfs
Velocity, v	9.3337	ft/sec
Velocity head, h_v	16.2478	in
Flow area	248.2360	sq. in.
Wetted perimeter	47.6399	in
Hydraulic radius	5.2107	in
Top width, T	8.5495	in
Froude number, F	1.06	
Shear stress (tractive force), tau	15.5740	N/m^2

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SHEET NO. _____ OF _____
JOB ALAMEDA & SAN PEDRO
SUBJECT OUTLET @ BASIN I
CLIENT SIAGLE JOB NO _____
BY MJW DATE 12/18
CHECKED BY _____ DATE _____

BASIN I OUTLET PIPE
AND BASIN IV OUTLET PIPE

Alameda & San Pedro Mixed Use

Outlet Pipe - Basin I

Set units: m | mm | ft | in

Pipe diameter, d_0	8 in
Manning roughness, n ? (http://www.engineeringtoolbox.com/mannings-roughness-d_799.html)	.01
Pressure slope (possibly ? (../pressureslope.php) equal to pipe slope), S_0	3 % rise/run
Percent of (or ratio to) full depth (100% or 1 if flowing full)	94 %

Results

Flow, Q	2.9266	cfs
Velocity, v	8.5948	ft/sec
Velocity head, h_v	1.1481	ft
Flow area	49.0343	sq. in.
Wetted perimeter	21.1733	in
Hydraulic radius	2.3159	in
Top width, T	3.7998	in
Froude number, F	1.46	
Shear stress (tractive force), tau	1.1738	psf

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SHEET NO. ____ OF ____
JOB ALAMEDA & SAN PEDRO MIXED USE
SUBJECT BASIN II OUTLET
CLIENT SAGLE JOB NO ____
BY MJW DATE 12/18
CHECKED BY ____ DATE ____

BASIN II OUTLET PIPE

Alameda & San Pedro Mixed Use

Outlet Pipe - Basin II

Set units: m | mm | ft | in

Pipe diameter, d_0	12 in
Manning roughness, n ? (http://www.engineeringtoolbox.com/mannings-roughness-d_799.html)	.01
Pressure slope (possibly ? (../pressureslope.php) equal to pipe slope), S_0	1.0 % rise/run
Percent of (or ratio to) full depth (100% or 1 if flowing full)	94 %

Results

Flow, Q	4.9817	cfs
Velocity, v	6.5024	ft/sec
Velocity head, h_v	0.6571	ft
Flow area	110.3271	sq. in.
Wetted perimeter	31.7599	in
Hydraulic radius	3.4738	in
Top width, T	5.6997	in
Froude number, F	0.90	
Shear stress (tractive force), tau	0.5869	psf

WIER CALCULATION

6501 Americas Parkway NE • Suite 301
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(505) 881-3008 • Facsimile (505) 881-4025

Mike J. Walla P.E. • Larry E. Kennedy

Walla ENGINEERING LTD
6501 Americas Parkway NE • Suite 301
Albuquerque • New Mexico • 87110
881-3008 • Facsimile 881-4025

SHEET NO. _____ OF _____
JOB TIN CAN ALLEY
SUBJECT _____
CLIENT SAGOLE JOB NO _____
BY MEW DATE _____
CHECKED BY _____ DATE _____

WEIR CALCULATION @ DMP

Rectangular Contracted Weir

This calculator finds the water flow rate for a rectangular contracted weir. A rectangular contracted weir has a rectangular opening where the sides are straight up and down. A contracted weir means that the ditch leading up to the weir is wider than the weir opening itself.

The length is found by measuring the bottom width of the weir and the height is determined from measuring the water height above the bottom of the weir.

Learn more about the units used on this page.

Length:

2 ft

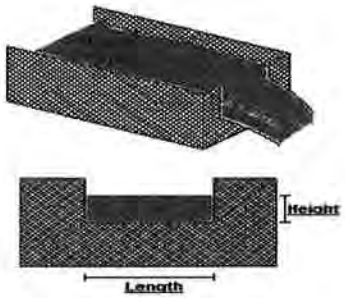
Height:

.5 ft

Calculate

Flow Rate:

2.26 cfs



* Note: 1 point = 1/100 ft.

The Equation

The Equation used to determine the flow rate (Q) of a Rectangular Contracted Weir is:

$$Q = \frac{3.247 \cdot L \cdot H^{1.48} - 0.566 \cdot L^{1.9}}{1 + 2L^{1.87}} \cdot H^{1.9}$$

Where:

Q = Flow Rate in cfs.

L = Bottom width of the weir in feet.

H = Height of the upstream water above the weir crest in feet.

2'-0" WIDE CURB OPENING IS CAPABLE OF HANDLING ANTICIPATED FLOW AT ALL LOCATIONS

POND CALCULATIONS

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Mike J. Walla P.E. • Larry E. Kennedy

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SHEET NO. _____ OF _____
JOB ALAMEDA MIXED USE
SUBJECT _____
CLIENT EAGLE JOB NO _____
BY _____ DATE _____
CHECKED BY _____ DATE _____

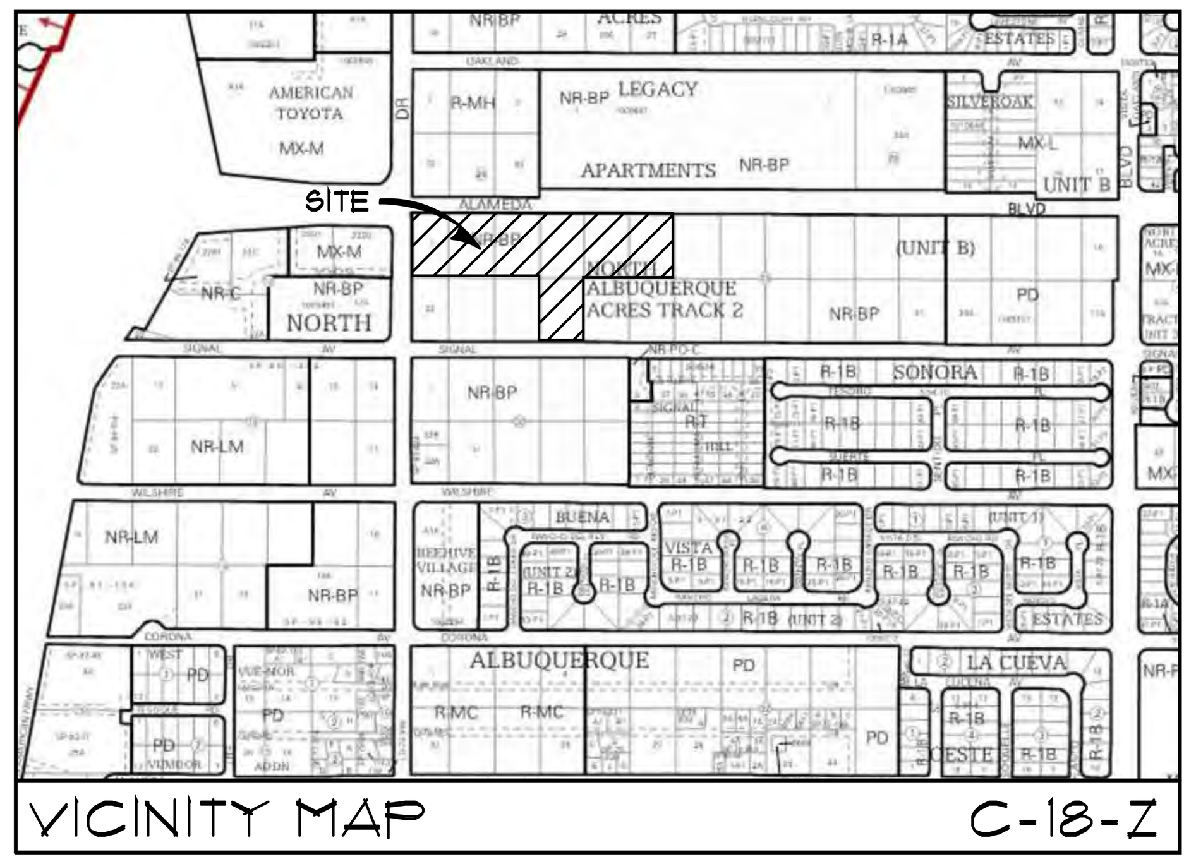
RETENTION POND (BASIN II)

CONTOUR	SURFACE AREA	VOLUME
32	3440 SF	
		2998 CF
31	2555 SF	
		2202 CF
30	1848 SF	
		1565 CF
29	1281 SF	
		1012 CF
28	742 SF	
	TOTAL	7775 CF

REQ'D ($V_{10\,DAY}$) = 7736 CF < 7775 CF (OK)

TEMPORARY POND (BASINS II + III)

CONTOUR	SURFACE AREA	VOLUME
51.50	10400 SF	
		4538 CF
51.0	7750 SF	
		5375 CF
50.0	5000 SF	
	TOTAL	9913 CF



DRAINAGE NOTES

1 FLOOD PLAIN DESIGNATION ZONE X PER FIRM MAP 350002, OCTOBER 2017

2 SUBJECT SITE IS WITHIN THE NORTH ALBUQUERQUE ACRES MASTER DRAINAGE PLAN - DESIGN ANALYSIS REPORT " ALAMEDA BLVD. - SAN PEDRO TO WYOMING, PROJECT #7663.91" BY THOMPSON ENGINEERING DATED JANUARY, 2012 - THE ALLOWABLE DISCHARGE FOR THIS SITE IS 3.82 CFS/AC

DRAINAGE POINTS

A 4.37 CFS

B 12.22 CFS

C 3.38 CFS

LEGAL DESCRIPTION

REMAINING PORTIONS OF LOTS 1, 2 AND 3 AND ALL OF LOTS 4, 5, 6 AND 29 IN BLOCK 29 TRACT A UNIT B NORTH ALBUQUERQUE ACRES CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO JUNE, 2018

BASIS OF ELEVATIONS

ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE STATION No. "9-C18 1985", HAVING AN ELEVATION OF 5232.47 , NAVD 1988

GENERAL NOTES

A THE HATCHED AREAS OF THIS PLAN INDICATE FUTURE WORK ON THIS SITE NOT TO BE CONSTRUCTED THIS PERMIT

B ALL WORK INDICATED IN THE PUBLIC RIGHT-OF-WAY WILL BE CONSTRUCTED UNDER CPN #766382

C A DRAINAGE COVENANT REGARDING PROPOSED RETENTION POND, STORMWATER QUALITY PONDS AND PRIVATE STORM PIPES IS IN PROGRESS AND WILL BE RECORDED PRIOR TO CERTIFICATE OF OCCUPANCY APPROVAL. SIMILARLY, A SEPARATE DRAINAGE COVENANT FOR THE TEMPORARY RETENTION POND WILL BE RECORDED PRIOR TO CERTIFICATE OF OCCUPANCY PER CHAPTER 17 OF THE DPM

MAINTENANCE OF THE ONSITE DRAINAGE FACILITIES IS THE RESPONSIBILITY OF THE PROPERTY OWNER. THESE FACILITIES INCLUDE DRAINAGE POND(S), FIRST FLUSH PONDS, CATCH BASINS (INLETS), STORM DRAIN LINES, AND UNDERGROUND STORAGE TANKS. THE EXECUTED COVENANT FOR THIS PROPERTY DEFINES THESE RESPONSIBLE PARTIES.

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KEYED NOTES

1 ASPHALT PAVED PARKING AND DRIVE

2 NEW C.O.A. CURB AND GUTTER PER WORK ORDER

3 NEW CATCH BASIN AND CONNECTION TO EXISTING STORM DRAIN MANHOLE PER C.O.A. WORK ORDER

4 NEW C.O.A. 6'-0" SIDEWALK PER WORK ORDER

5 EXISTING ASPHALT CURB TO BE REMOVED C.O.A. WORK ORDER

6 ARTERIAL STREET PAVING SECTION BY WORK ORDER

7 SITE RETAINING WALL

8 RETAINING FOUNDATION STEMWALL

9 2'-0" WIDE CURB BREAK FOR DRAINAGE

10 CONCRETE STEPS

11 CONCRETE CATCH BASIN

12 NEW CONCRETE DRIVE PAD

13 ROOF DRAIN LINE

14 CONCRETE CATCH BASIN WITH SHROUD - SEE 5/C201

15 12"ϕ PVC OUTLET PIPE AT 1% SLOPE

16 BMP FACILITY - 1'-0" DEEP

17 AREA DRAIN WITH OUTLET PIPE TO SANITARY SEWER PER SITE UTILITY PLAN

18 REFUSE ENCLOSURE

19 AREA DRAIN WITH 6"ϕ PVC OUTLET PIPE TO CATCH BASIN

20 8"ϕ PVC OUTLET PIPE AT 0.57% SLOPE (CONSTRUCT WITH THIS PHASE)

FIRST FLUSH VOLUME CALCULATION FOR FEE-IN-LIEU PAYMENT (OWNER HAS APPROVED PAYMENT)
DEVELOPED TREATMENT D AREA = 0.770 AC + 2.421 AC = 3.191 AC
V=3.191 (43560 SF/AC) X 0.34 IN X 1 FT/12 IN = 3938 CF
LESS PONDING PROVIDED = 1155 CF
LESS BASIN IV PONDED = 0.566 (43560 SF/AC) X 0.34 X 1 FT/12 IN = 699 CF
NET DISCHARGED VOLUME = 3938 CF - 1155 CF - 699 CF = 2084CF
FEE-IN-LIEU = 2084 CF X $8.00/CF = $16,672.00

LEGEND

— - - —	PROPERTY LINE
———	NEW BUILDING LINE
— — 5245 — —	EXISTING CONTOUR
———	PROPOSED CONTOUR
55.48	PROPOSED SPOT ELEVATION
× G=5249.84	EXISTING SPOT ELEVATION
═ ═ ═	BASIN LINE
→	FLOW DIRECTION ARROW
➝➝	SWALE
FF	FINISH FLOOR
TC	TOP OF CONCRETE
TA	TOP OF ASPHALT
FL	FLOWLINE
INV	INVERT
▨	NEW CONCRETE PAVING/SIDEWALK

0 15' 30' 60' 90'

N

1 | overall grading plan
3 | 1"=30'

revisions:

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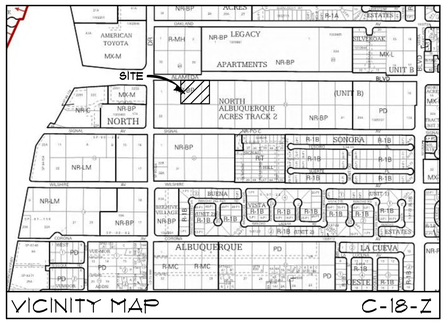
TIN CANALLEY
A CONTAINER DEVELOPMENT
6110 ALAMEDA BLVD NE
ALBUQUERQUE, NM

Overall Grading Plan
date:
5-15-19
sheet:
c100



VICINITY MAP C-18-Z

DRAINAGE NOTES

1 FLOOD PLAIN DESIGNATION ZONE X PER FIRM MAP 35000Z, OCTOBER 2017

2 SUBJECT SITE IS WITHIN THE NORTH ALBUQUERQUE ACRES MASTER DRAINAGE PLAN - DESIGN ANALYSIS REPORT " ALAMEDA BLVD. - SAN PEDRO TO WYOMING, PROJECT #1663.91" BY THOMPSON ENGINEERING DATED JANUARY, 2012 - THE ALLOWABLE DISCHARGE FOR THIS SITE IS 3.82 CFS/AC

3 THIS PLAN IS ONE PORTION OF THE OVERALL SITE GRADING AND DRAINAGE PLAN APPROVED BY C.O.A. HYDROLOGY AND DRB PREPARED BY WALLA ENGINEERING DATED 12/6/18

DRAINAGE POINTS

A 4.37 CFS

B 12.22 CFS

C 3.38 CFS

LEGAL DESCRIPTION

REMAINING PORTIONS OF LOTS 1, 2 AND 3 AND ALL OF LOTS 4, 5, 6 AND 28 IN BLOCK 29 TRACT A UNIT B NORTH ALBUQUERQUE ACRES CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO JUNE, 2018

BASIS OF ELEVATIONS

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GENERAL NOTES

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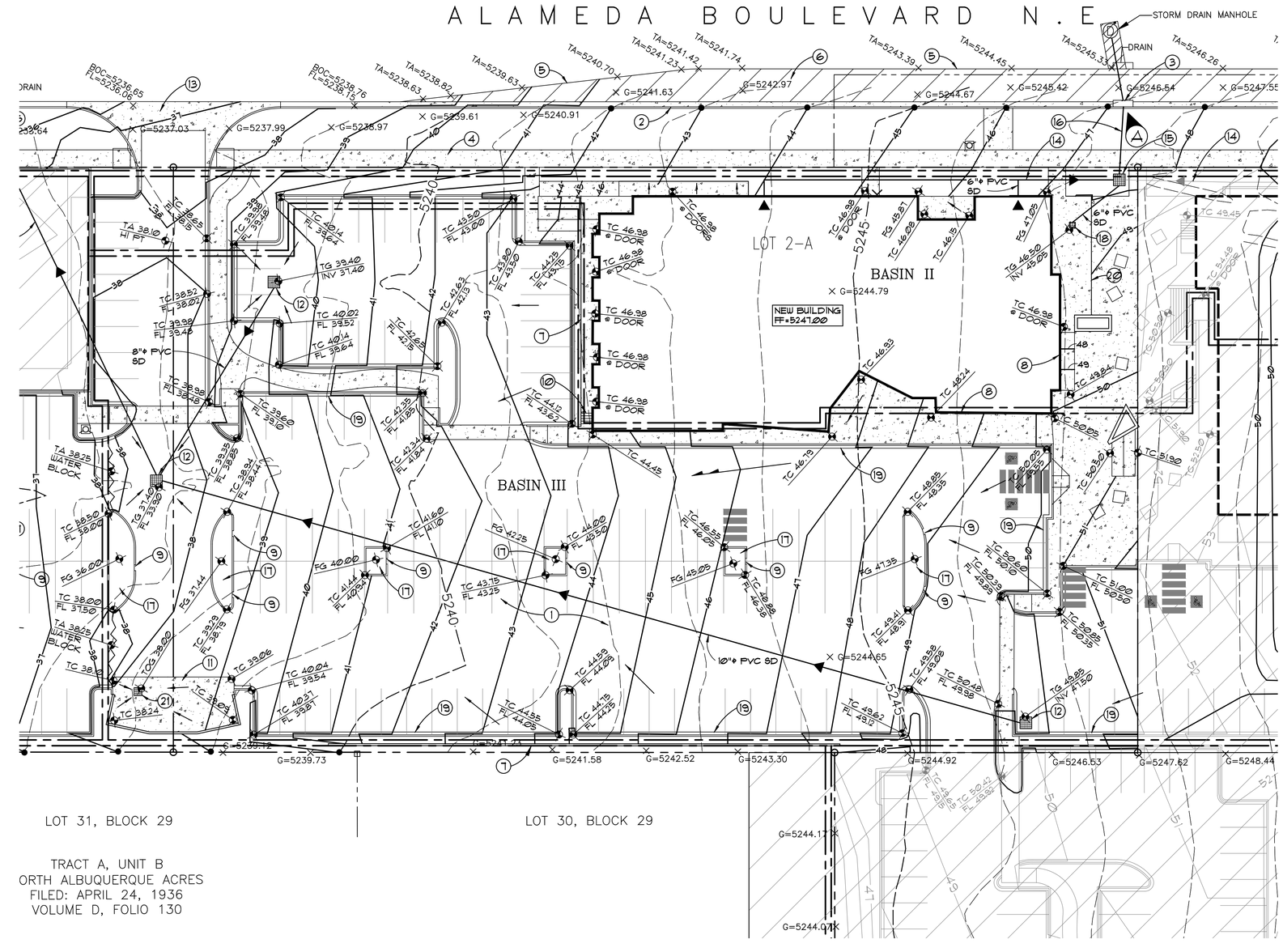
B ALL WORK INDICATED IN THE PUBLIC RIGHT-OF-WAY WILL BE CONSTRUCTED UNDER CPN #166382

C A DRAINAGE COVENANT REGARDING PROPOSED RETENTION POND, STORMWATER QUALITY PONDS AND PRIVATE STORM PIPES IS IN PROGRESS AND WILL BE RECORDED PRIOR TO CERTIFICATE OF OCCUPANCY APPROVAL. SIMILARLY, A SEPARATE DRAINAGE COVENANT FOR THE TEMPORARY RETENTION POND WILL BE RECORDED PRIOR TO CERTIFICATE OF OCCUPANCY PER CHAPTER 17 OF THE DPM



0 10' 20' 40' 60'

N

1 | grading and drainage plan
c101 | 1"=20'

KEYED NOTES

1 ASPHALT PAVED PARKING AND DRIVE PER DETAIL 1/C301

2 NEW C.O.A. CURB AND GUTTER PER WORK ORDER

3 NEW CATCH BASIN AND CONNECTION TO EXISTING STORM DRAIN MANHOLE PER C.O.A. WORK ORDER

4 NEW C.O.A. 6'-0" SIDEWALK BY WORK ORDER

5 EXISTING ASPHALT CURB TO BE REMOVED BY WORK ORDER

6 ARTERIAL STREET PAVING SECTION BY WORK ORDER

7 SITE RETAINING WALL PER DETAIL 2/C301

8 RETAINING FOUNDATION STEMWALL

9 2'-0" WIDE CURB BREAK FOR DRAINAGE

10 CONCRETE STEPS PER DETAIL 3/C301

11 REFUSE ENCLOSURE

12 CONCRETE CATCH BASIN PER DETAIL 4/C301

13 NEW CONCRETE DRIVE PAD PER C.O.A. STD. DRAWING 2426 AND 2420

14 ROOF DRAIN LINE

15 CONCRETE CATCH BASIN WITH SHROUD PER DETAIL 5/C301 TG = 47.35 INV IN = 44.85 INV OUT = 44.80

16 12"ø PVC OUTLET PIPE AT 1% SLOPE CONNECT TO BACK OF CURB INLET BY WORK ORDER

17 BMP FACILITY - 1'-0" DEEP - SEE DETAIL 6/C301 FOR HEADER CURB

18 AREA DRAIN WITH 6"ø PVC OUTLET TO CATCH BASIN

19 TYPICAL SITE CONCRETE CURB AND GUTTER PER DETAIL 8/C301

20 SITE RETAINING WALL PER 9/C301

21 AREA DRAIN WITH OUTLET PIPE TO SANITARY SEWER PER SITE UTILITY PLAN

LEGEND

- PROPERTY LINE
- NEW BUILDING LINE
- 5245 EXISTING CONTOUR
- PROPOSED CONTOUR
- 5548 PROPOSED SPOT ELEVATION
- × G=5249.84 EXISTING SPOT ELEVATION
- BASIN LINE
- FLOW DIRECTION ARROW
- SWALE
- FF FINISH FLOOR
- TC TOP OF CONCRETE
- TA TOP OF ASPHALT
- FL FLOWLINE
- INV INVERT
- SD STORM DRAIN
- TOG TOP OF GRATE
- FG FINISH GRADE
- NEW CONCRETE PAVING/SIDEWALK 4" THICK, 4000 PSI, AIR-ENTRAINED

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revisions:

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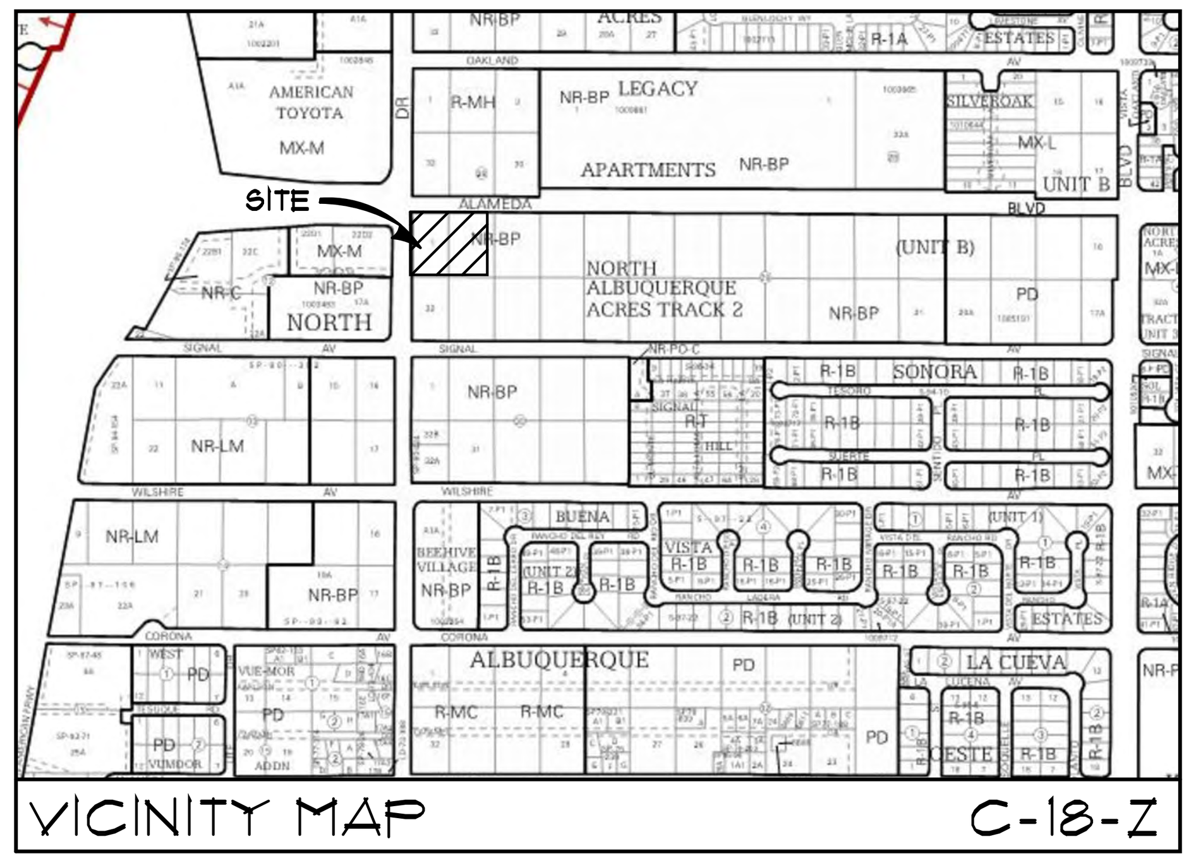
TIN CANALLEY
A CONTAINER DEVELOPMENT
6110 ALAMEDA BLVD NE
ALBUQUERQUE, NM

Grading and Drainage Plan
date:
5-15-19
sheet:
c101



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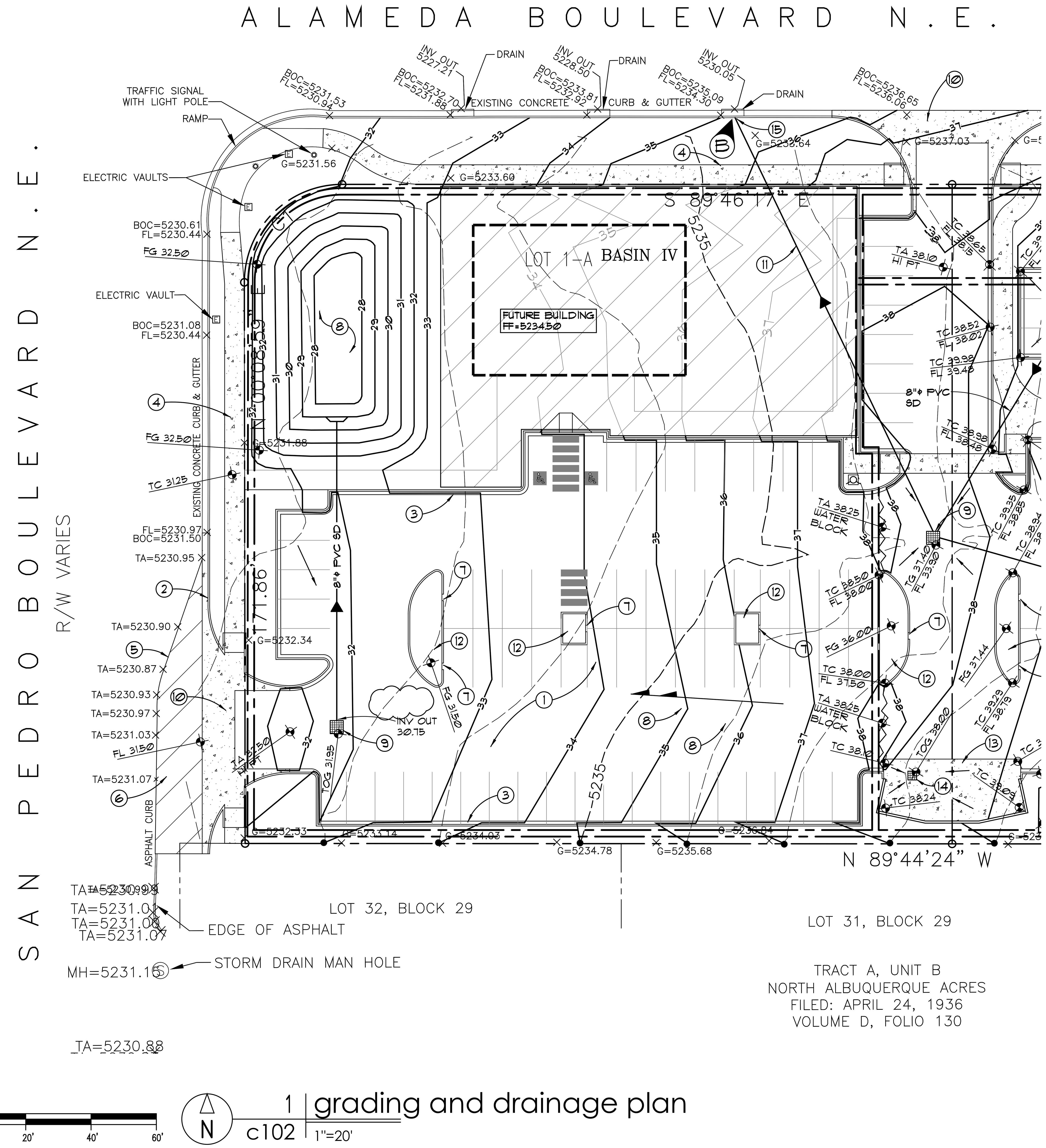

1 | grading and drainage plan
c102 | 1"=20'

KEYED NOTES

1 ASPHALT PAVED PARKING AND DRIVE PER DETAIL 1/C301

2 NEW C.O.A. CURB AND GUTTER PER WORK ORDER

3 TYPICAL SITE CONCRETE CURB AND GUTTER PER DETAIL 8/C301

4 NEW C.O.A. 6'-0" SIDEWALK BY WORK ORDER

5 EXISTING ASPHALT CURB TO BE REMOVED BY WORK ORDER

6 ARTERIAL STREET PAVING SECTION BY WORK ORDER

7 2'-0" WIDE CURB BREAK FOR DRAINAGE

8 RETENTION POND - STORAGE CAPACITY = 7900 CF

9 CONCRETE CATCH BASIN PER DETAIL 4/C301

10 NEW CONCRETE DRIVE PAD PER C.O.A. STD. DRAWING 2426 AND 2420

11 18"Φ PVC OUTLET PIPE AT 0.57% SLOPE (CONSTRUCT WITH THIS PHASE)

12 BMP FACILITY - 1'-0" DEEP - SEE DETAIL 6/C301 FOR HEADER CURB

13 REFUSE ENCLOSURE

14 AREA DRAIN WITH OUTLET PIPE TO SANITARY SEWER PER SITE UTILITY PLAN

15 CONNECT ONSITE STORM DRAIN TO BACK OF EXISTING CURB INLET BY WORK ORDER

revisions:

LEGEND

	PROPERTY LINE
	NEW BUILDING LINE
5245	EXISTING CONTOUR
	PROPOSED CONTOUR
55.48	PROPOSED SPOT ELEVATION
× G=5249.84	EXISTING SPOT ELEVATION
	BASIN LINE
	FLOW DIRECTION ARROW
	SWALE
FF	FINISH FLOOR
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Grading and Drainage Plan
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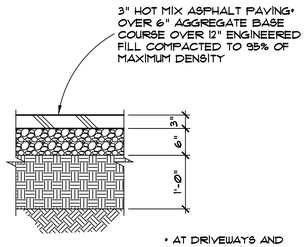
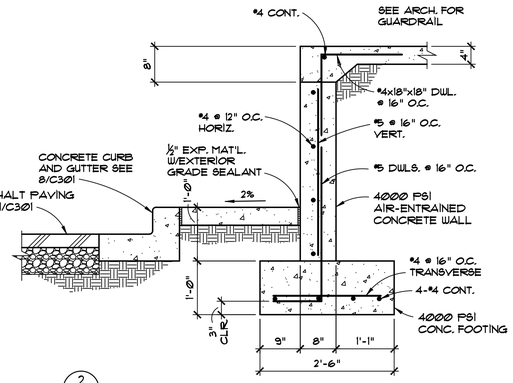
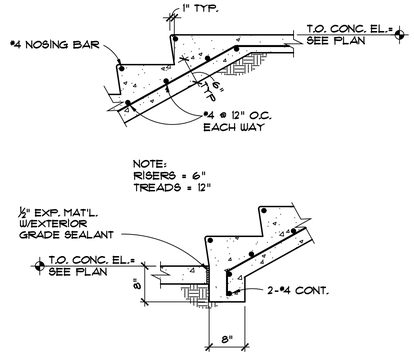
sheet:
c102



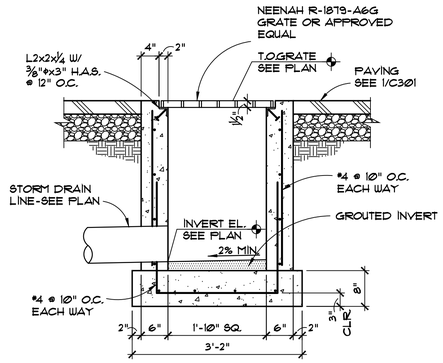
1 C301 ASPHALT PAVING SECTION
3/4"=1'-Ø"



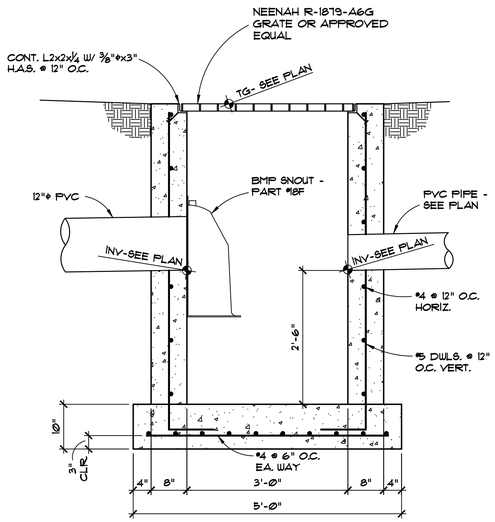
2 C301 3/4"=1'-Ø"



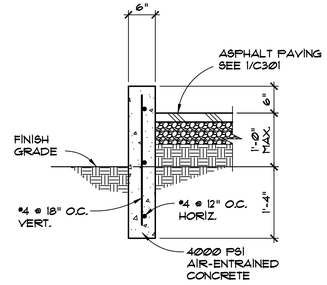
3 C301 TYPICAL CONCRETE STEP SECTION
3/4"=1'-Ø"



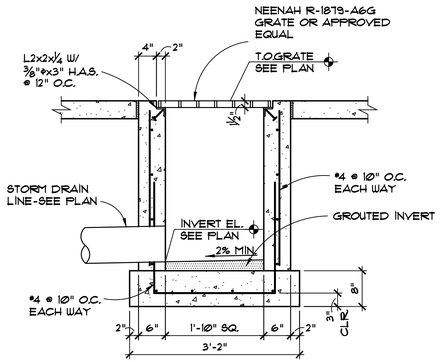
4 C301 CATCH BASIN
3/4"=1'-Ø"



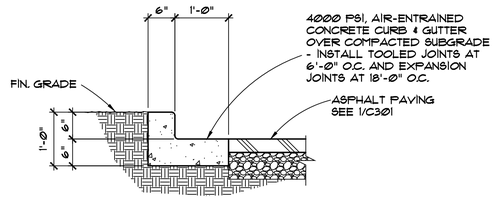
5 C301 OIL/WATER SEPARATION CATCH BASIN
3/4"=1'-Ø"



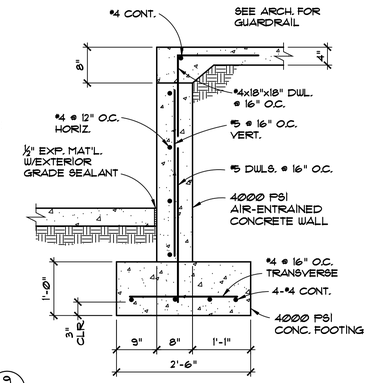
6 C301 HEADER CURB AT BMP FACILITY
3/4"=1'-Ø"



7 C301 CATCH BASIN
3/4"=1'-Ø"



8 C301 TYPICAL SITE CURB AND GUTTER SECTION
3/4"=1'-Ø"



9 C301 3/4"=1'-Ø"

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