CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director

Mayor Timothy M. Keller

October 3, 2019

Vincent Carrica, P.E.
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, NM 87109

RE: BEK Distribution Facility
601 Gallatin Place NW
Grading and Drainage Plan & Drainage Report
Engineer's Stamp Date: 09/06/19
Hydrology File: J10D002G1

Dear Mr. Carrica:

Based upon the information provided in your resubmittal received 09/06/2019, the Grading & Drainage Plan and Drainage Report are approved for Building Permit, Grading Permit, and for action by the DRB on Site Plan for Building Permit.

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 (Dough Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

Also as a reminder, please provide a Drainage Covenant for the proposed retention ponds per Chapter 17 of the DPM prior to Permanent Release of Occupancy. 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

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: BEK Distribution Facility Building Permit #: _____ Hydrology File #: FJ10D002G1

DRB#: PR-2018-001361 EPC#: _____ Work Order#: _____

Legal Description: LT 1-A AD LOT 8-A UNSER TOWNE CROSSING

City Address: 601 GALLATIN PL NW ALBUQUERQUE NM 87121

Applicant: TIERRA WEST LLC Contact: VINCE CARRICA

Address: 5571 MIDWAY PARK PLACE NE ALBUQUERQUE NM 87109

Phone#: 505-858-3100 Fax#: 505-858-1118 E-mail: vcarrica@tierrawestllc.com

Other Contact: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

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
__X__ 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
__X__ SITE PLAN FOR BLDG. PERMIT APPROVAL
____ FINAL PLAT APPROVAL

____ SIA/ RELEASE OF FINANCIAL GUARANTEE
____ FOUNDATION PERMIT APPROVAL
__X__ GRADING PERMIT APPROVAL
____ SO-19 APPROVAL
____ PAVING PERMIT APPROVAL
____ GRADING/ PAD CERTIFICATION
____ WORK ORDER APPROVAL
____ CLOMR/LOMR
____ FLOODPLAIN DEVELOPMENT PERMIT
____ OTHER (SPECIFY) _____

DATE SUBMITTED: 9/16/2019 By: Vince Carrica

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

TIERRA WEST, LLC

5571 Midway Park Pl. NE Albuquerque, NM 87109
(505) 858-3100 fax (505) 858-1118 1-800-245-3102
tierrawestllc.com

September 16, 2019

Mr. Dana Peterson, P.E
City of Albuquerque
PO BOX 1293
Albuquerque, NM 87103

RE: **BEK DISTRIBUTION FACILITY – 601 GALLATIN PL. NW**
D&D PLAN AND DRAINAGE REPORT ENGINEERS
STAMP DATE 07/19/2019, HYDROLOGY FILE: FJ10D002G1

Dear Mr. Peterson:

Please find the following responses addressing grading and drainage comments listed below:

1. Some reconstruction of the existing Coca-Cola Pond will be required by this project.
   a. Provide written and signed permission for the adjoining property owner for work on their property. Some reconstruction of the sidewalk culvert and dam will likely be required
   Response: See attached letter from Swire- Coca Cola granting permission to reconstruct their pond overflow structure. The existing capacity of the pond will be maintained as will the existing dam/ berm along the BEK west property line.

   b. Better survey information must be added to the G&D Plan including detailed survey of the dam, the headwall and pipe outfall, and the emergency overflow spillway. A detail of the emergency overflow spillway connection to the new sidewalk culvert must be provided
   Response: Additional survey information was attained and included in the drawings showing the existing outfall culver and headwall, the existing overflow structure and the dam / berm(s). A detail of the existing and proposed revised overflow structure has been added to Sheet 203.

   c. The existing Dam may encroach on this site. A minimum 6' wide top of dam must be maintained. Section A-A on sheet C203 may need to be updated with the results of the revised survey and hopefully get the dam off of the BEK property and back onto the Coca-Cola property.
   Response: The additional survey information attained shows the existing dam / berm with a minimum 10' berm, which is maintained under the proposed BEK improvements.

2. Remove the word Conceptual from the sheet Title and the label NOT FOR CONSTRUCTION. Also identify how the future building pads will be graded to drain especially where future roof drains are planned to direct that drainage away from the adjacent public streets and into the ponds.
   Response: The "Conceptual" and "Not for Construction" labels have been removed from the sheet title. Interim grading plans for Future building and parking areas were added to the set, see Sheets 203 & 205. The interim grading

will direct flows to the onsite retention ponds. The future pad areas and future parking fields will be stabilized under Phase one construction with gravel surfacing.

3. Key note 25 on the Site Plan calls for a 6" temporary header curb that is not shown on the G&D Plan. Please revise on or the other so they agree, and provide a copy of the revised Site Plan when resubmitting to hydrology. If the temporary curb is to remain please add details of the curb on the G&D Plan with spot elevation that show how the parking lot will drain thru the curb.
   Response: The 6" temporary header curb (per COA Std Details) is now called out on Sheet 205 of the grading plans to agree with what was approved on the Site Plan. The existing and future auto parking fields drain via surface flows generally from south to north. Curb cuts will be provided in the proposed temporary header curb as noted on Sheet 205 to allow the runoff from the first phase parking field to continue flowing north where it will be captured in a swale and enter a rundown into the north retention pond.

4. How will drainage get out of the sump in the C&G on the east side of the Staging area?
   Response: A 2ft curb cut and erosion pad were added to the proposed curb in the staging area will allow the drainage to continue east to the proposed swale and concrete rundown into the north retention pond, see Sheet C202.

5. Surface drainage in the future staging area and the future parking lot next to the pond appears to enter the pond in two places but only one has a rundown. Lined conveyance systems should be added to the plan to convey drainage from the paving proposed with this building permit through the future paving area and into the pond. Please revise the G&D Plan adding lined swales and typical sections through the future north parking area and into the north pond.
   Response: The G&D plan Sheets C201 & C202 were revised to reflect a single swale and concrete rundown into the north retention pond. All future parking and staging areas will be stabilized under interim conditions with gravel surfacing.

6. Please label the contours in the north east corner of the parking lot and verify that the spot elevations agree with the contours. If they are not 5141 and 5142 then please revise the grading to decisively contain the parking lot drainage and convey it into the north pond.
   Response: The noted contours (5141 & 5142) are now labeled and the parking lot drainage is conveyed into the north retention pond on Sheets C201 & C202.

7. The contours indicate erratic slopes varying from 1% to 10% with abrupt grade changes in the northwesterly 250' of the staging/parking lot. Please revise the grading.
   Response: The contours were corrected to reflect proposed, non-erratic slopes in the noted staging/parking lot on Sheets C201 & C202.

8. Additional right of way may be needed for the hammerhead turnaround at the west end of Fortuna Rd. Please coordinate with transportation and if additional ROW is required then show the right of way dedication on the G&D plan.

Response: Per approvals from DRB during Site Plan approval process, a public access easement was granted.

9. Please show the PNM easement adjacent to and on this tract in the west corner. Either revise the plan to eliminate the grading within the easement or provide written permission from PNM for grading inside of their easement.
   Response: The PNM easement in the west corner of the site, adjacent to Unser Blvd right of way is now shown on Sheet C203. The proposed grading does not encroach on the existing PNM easement.

10. The finish contours are missing between the retaining wall and the street in Los Volcanes Road. Please show proposed contours all of the way to the existing street to indicate the proposed grade of the sidewalk. Also please add a few typical sections showing the grade on both sides of the retaining wall, the new sidewalk, the ROW line, the fence, and the slope.
    Response: The finish contours were added in the noted area on Sheet C203. Typical sections of this area are shown on Sheet C213, Section G.

11. HGL calculations are required for the storm drain in the north east corner of the site where failure of the storm drain could result in excessive storm water runoff to public streets. Also please add a profile and HGL calculations for the storm drain on the south and east side of the building.
    Response: HGL profile and calculations were added to the plan Sheets C206, C210 & C211 and report for the storm drains in the northeast corner of the site and the southeast side of the building.

12. Please add the Book and Page (B 2019C P 0040) of the plat to note 1 on sheet C201.
    Response: The book and page number of the plat was added to Note 1 on Sheet C201.

13. The south pond must have a non-erosive spillway. Please add a build note and a detail on the G&D Plan. Please check the weir coefficient, 1.6 is for metric units, 2.7 is SI for broad crest, and 3.3 SI for sharp crest.
    Response: A concrete emergency overflow structure and detail were added to the south pond on Sheets C203 & C204. Calculation of broad crested weir is Q=1.6LH^3/2, where Q is in cfs, L is in ft and H is in feet.

14. Please revise the pond volume calculations to use the Conic approximation method (the volume of a frustum) = h/3 x [b1 + b2 + sqrt (b1 x b2)] where h is the height between the two areas and b1 and b2 are the areas of the contours. The equations presented in the report do not make any sense, but the volumes seem to have been calculated by the average end area method. The method used for volume calculations needs to be better documented in the report. Also please provide the excel file.
    Response: The pond volumes were recalculated using the conic approximation method as requested. The calculations are provided in the report. The provided ponding capacities are greater than the required 10-day volumes.

15. Please revise the Drainage Basin map to include a graphic scale, north arrow, flow arrows indicating the discharge point of each basin and roof drainage patterns. The paper copy must be scalable.

Response: The drainage basin map (Sheet 1) was revised with a graphic scale, north arrow and flow arrows and is to scale.

16. It appears that curb opening details and design calculations may be missing. Please identify how the drainage from Basins 8 and 9 gets into Inlet #3. Also please identify how the drainage from basin 24 gets into the south pond by including details on the G&D Plan and calculations in the report. The engineering design analysis must demonstrate that the peak 100 year flow rates are intercepted by onsite drainage structures and prevented from entering the public right of way.
Response: Design calculations have been added to the G&D report. The runoff from the building areas in Basins 8 & 9 are proposed to at the roof drains and conveyed to Inlet #3 in a storm drain. Profiles for the storm drains are now included on Sheets C206 & C210. Under interim conditions, the future building area in Basin 8 will sheet flow to Inlet #3 as is shown on interim grading Sheet C205.

17. Please revise the grading of the south pond so a flood wall is not expected to hold back drainage
Response: The grading of the south pond was revised to eliminate the proposed flood / retain wall, eliminating the condition where a flood wall was expected to hold back drainage.

If you have any questions or need additional information regarding this matter, please do not hesitate to contact me.

Sincerely,

Ronald R. Bohannan, P.E.

JN: 2018014
RRB/vc/ye

DRAINAGE REPORT

For

601Gallatin Pl. NW
ALBUQUERQUE, NEW MEXICO

Prepared by

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

Prepared for

Ben E. Keith
Albuquerque, NM

September 06, 2019

Ronald R. Bohannan, PE #7868

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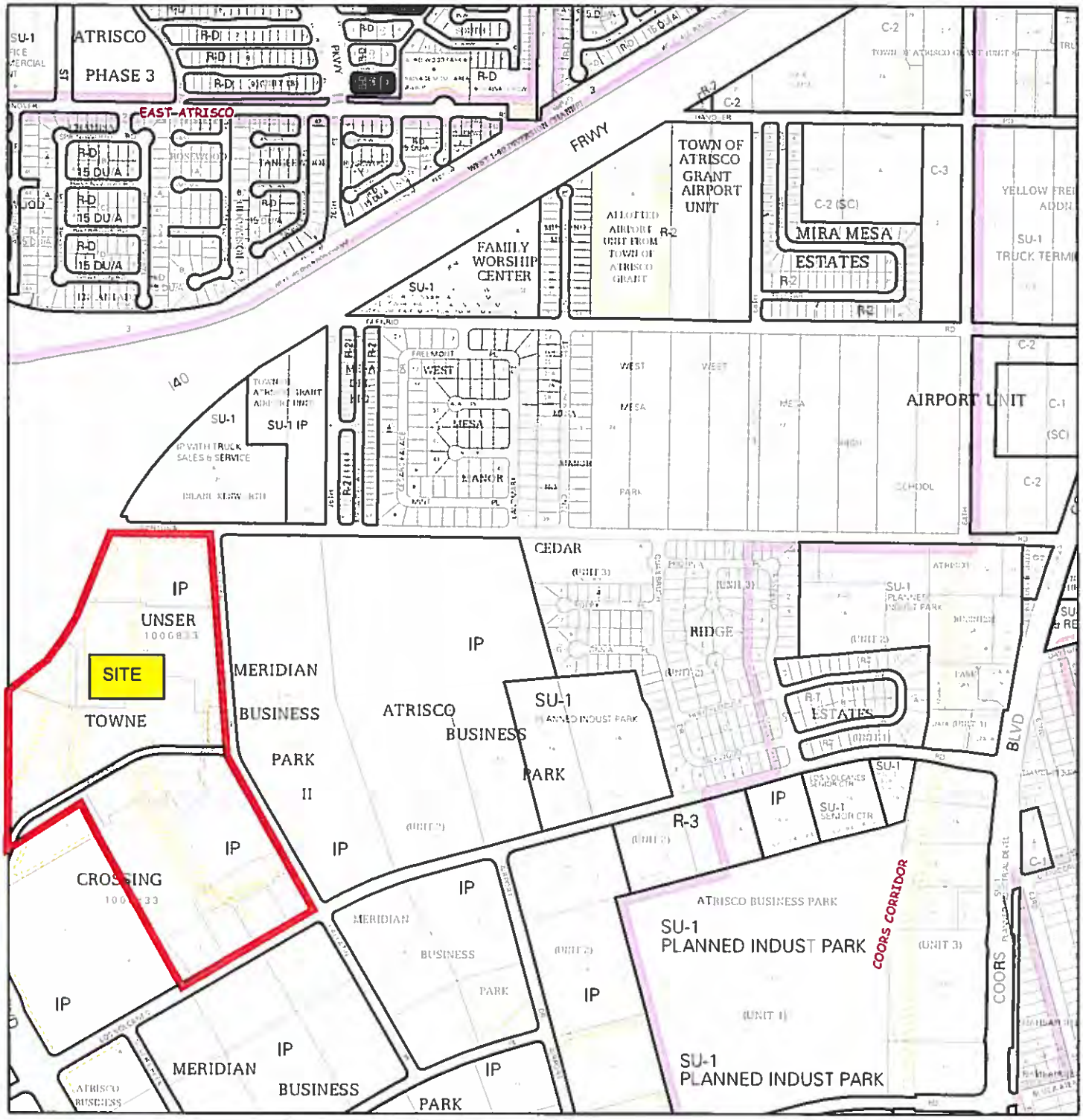
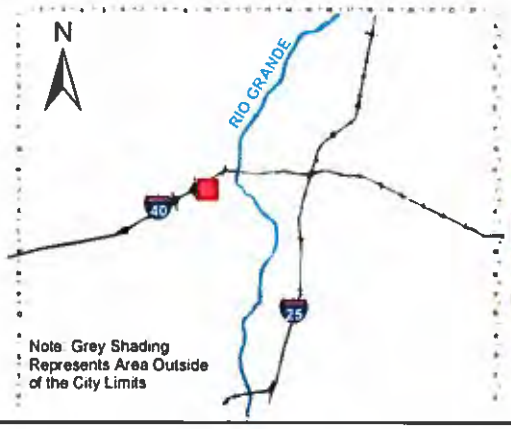


For more current information and details visit http://www.cabq.gov/gis

Albuquerque Geographic Information System

Map amended through 1/28/2016



Note: Grey Shading Represents Area Outside of the City Limits

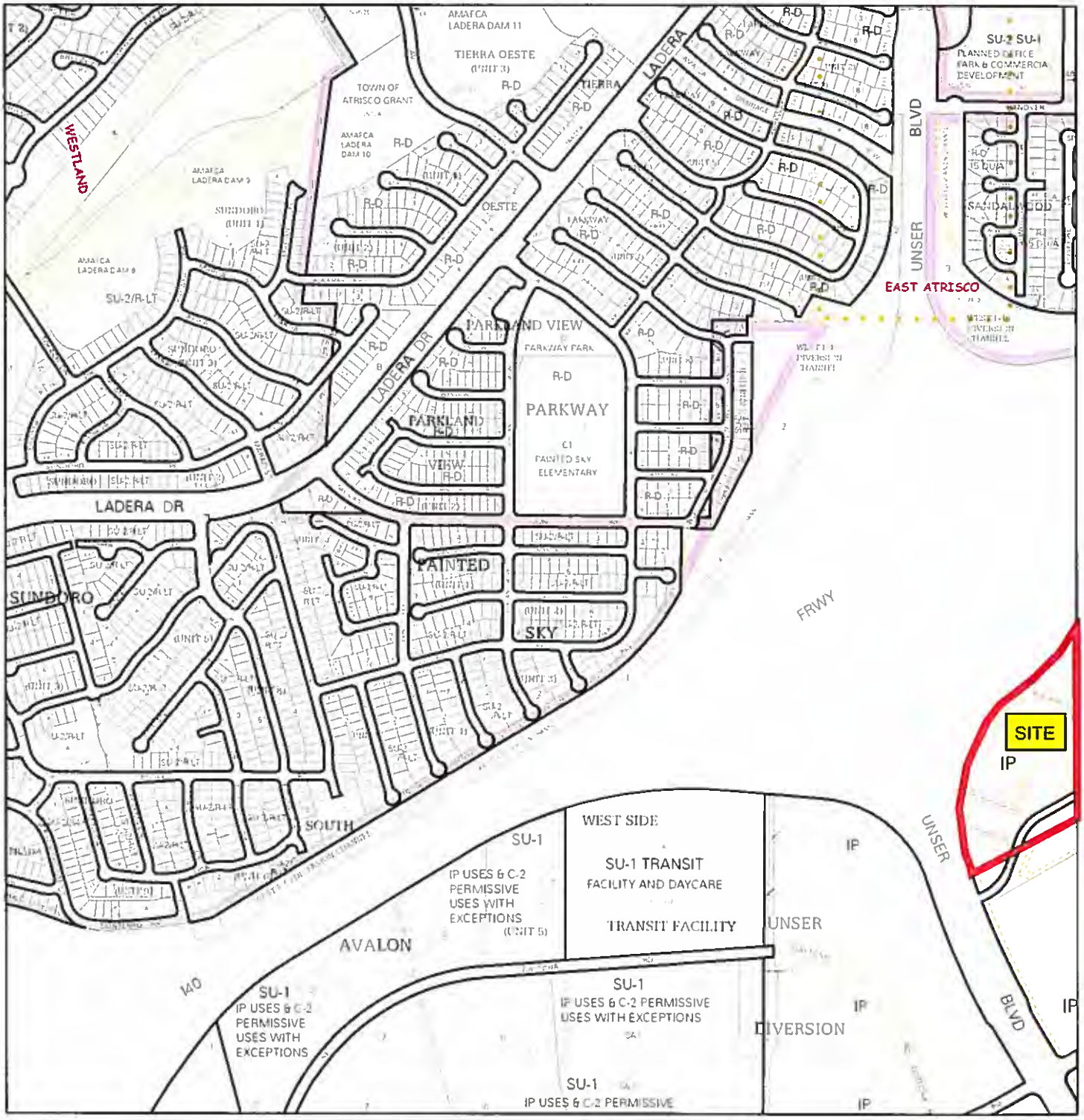
Zone Atlas Page:

J-10-Z

Selected Symbols

- SECTOR PLANS
- Design Overlay Zones
- City Historic Zones
- H-1 Buffer Zone
- Petroglyph Mon.
- Escarpment
- 2 Mile Airport Zone
- Airport Noise Contours
- Wall Overlay Zone

0 750 1,500 Feet



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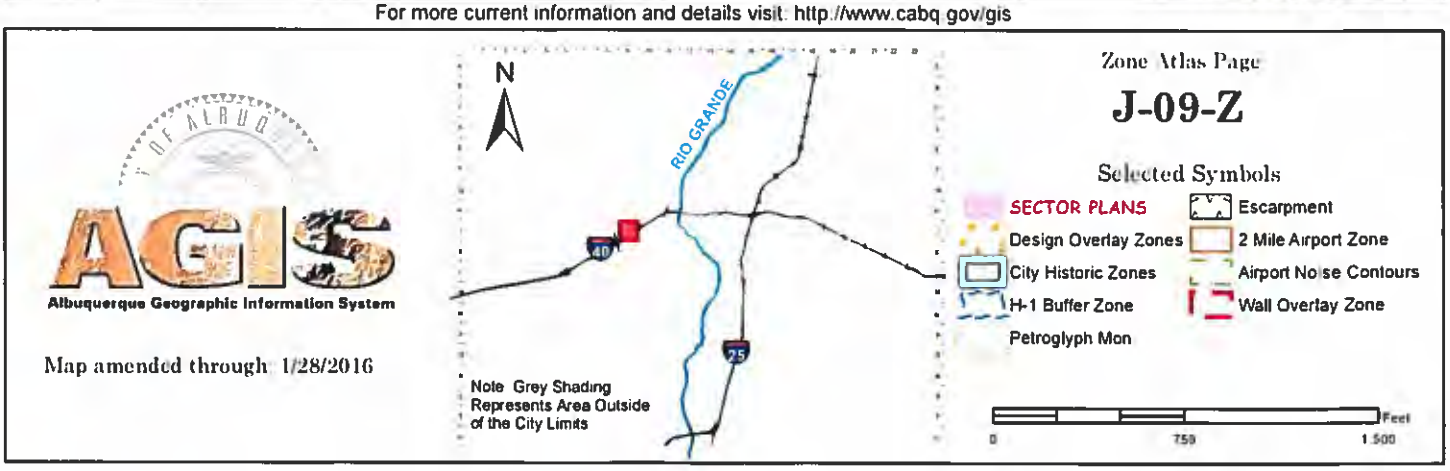


LOCATION

The proposed commercial development is located off Gallatin Place south of Interstate 40, east of Unser Blvd at the corner of Los Volcanes and Gallatin Pl in southwest Albuquerque. It is comprised of approximately 50.35 acres zoned NR-BP. This report represents a drainage management and grading plan for approval by the City of Albuquerque, for Site Plan, 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 34 onsite drainage basins and one upland offsite basin to the west within the Coca Cola Lot 16 parcel.

EXISTING DRAINGE CONDITIONS

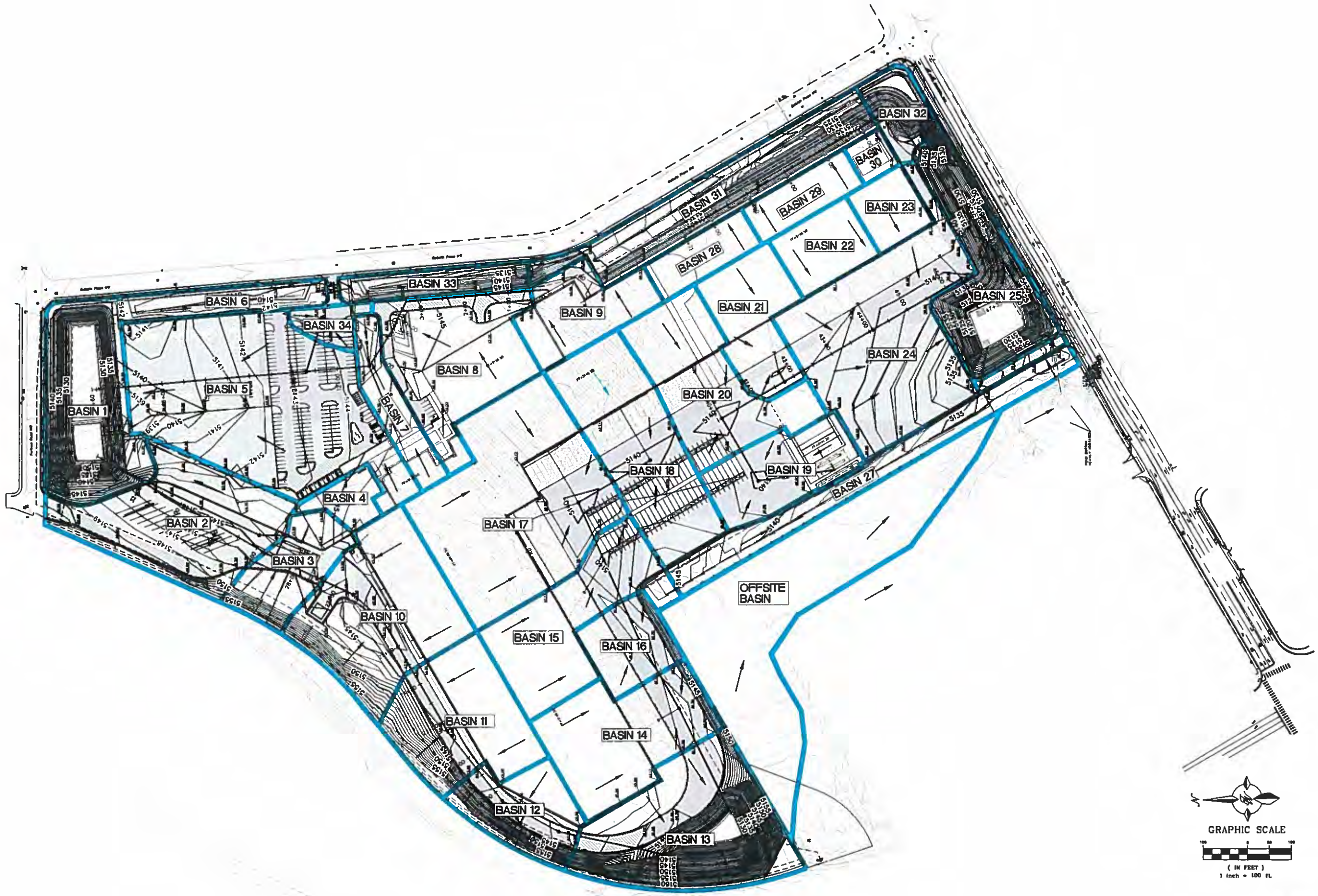
The site is currently vacant with several earthen detention ponds constructed onsite. It drains predominantly northwest to southeast. Runoff from an upland undeveloped basin that is within the Coca Cola Lot 16 drains onto the site. This runoff is combined with the onsite runoff and routed through existing detention ponds before being released to Los Volcanes Rd, which then drains to the east per the Atrisco Business Park Master Drainage Plan for fully developed conditions, dated February of 1992.

FIRM MAP

The site is not located in a flood plain as is shown on designated 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 the Development Process Manual DPM. The hydrological analysis is based on the 100-year frequency, 6-hour duration storm. The plan will also include retention of the first flush in on-site drainage ponds. See attached Weighted E Table for excess precipitation values calculated for this site.



GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft

TIERRA WEST, LLC
5571 MIDWAY PARK PL NE
ALBUQUERQUE, NEW MEXICO 87109
(505) 858-3100
www.tierrawestllc.com

ESI DESIGN SERVICES
905 Market Place Drive Hartford, WI 53027

ENGINEER'S SEAL

RONALD R. BOHANNAN
P.E. #7868

NEW DISTRIBUTION CENTER
BEN E KEITH
601 GALLATIN PL NW
ALBUQUERQUE, NM 87121

Revision No.
△
△
△
△
△

Job No.
2018014

CAD/CHK'D By:
pm / vc

Date
9-26-19

Sheet Title
DEVELOPED DRAINGAGE BASINS

Sheet No.
1

CIVIL

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, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- 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 D

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

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

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 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 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 1/31/2019 at 6:29:47 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.

DEVELOPED-DRAINAGE CONDITIONS

The site is proposed to be developed with a single user, Ben E Keith food distribution facility that will be constructed in phases. No offsite flows will enter the site with the exception of the upland basin in the Coca Cola Lot 16 undeveloped portion (approximately 4.2 acres), which will continue to be routed through the subject site until it is developed in the future. Runoff from the site will be routed to four onsite drainage ponds. Discharge from the overall site will be equal to or less than the allowable 0.1 cfs per acre. The total onsite acreage is 50.35 acres. The offsite upland acreage is 4.2 acres. The allowable discharge at 0.1 cfs per acre for the total 54.55 acres is 5.45 cfs. This is in compliance with the Atrisco Business Park Master Drainage Plan for fully developed conditions dated February of 1992. The drainage ponds will retain the first flush retention volumes as required by the drainage ordinance.

Refer to enclosed Weighted E computation spreadsheet for developed runoff conditions. Storm drain capacities are listed in a table in the appendix along with ponding capacities.

SUMMARY

The proposed grading and drainage plan for the proposed development of the existing undeveloped property includes surface flows and an onsite storm drain to convey runoff to retention ponds. The drainage management plan for this site is in accordance with the 2007 Meridian Business Park II Plan. The allowable discharge is 0.1 cfs/acre so the maximum allowable discharge for this 50.35 acre site plus the 4.2 acres offsite area is 5.45 cfs. The entire site, with the exception of the landscape areas on the east side of the site will drain into onsite retention ponds sized for the storm water runoff from the 100 year – 10 day storm. Storm water quality volumes (first flush) are retained within the onsite retention ponds

TIERRA WEST, LLC

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September 12, 2019

Jeff Edwards
Swire Coca-Cola, USA
12364 South 265 West
Draper, UT 84020

RE: BEN E. KEITH OFFSITE IMPROVEMENTS

Dear Mr. Edwards

As part of the Ben E Keith roadway improvements to Los Volcanes east of Unser Blvd, reconstruction of the existing drainage pond concrete emergency overflow structure will be required. The existing overflow structure is located in the southwest corner of the drainage pond on the Swire Coca-Cola property. It will be rebuilt at the same location and will maintain the existing pond volume capacity as well as provide for the overflow capacity. If you are in agreement with allowing the improvements to take place with the construction of the roadway improvements, please sign your concurrence below.

If you have any questions or need additional information regarding this matter, please do not hesitate to contact me.

Swire Concurrence 9/12/19 Date

Vice President

Sincerely,

Ronald R. Bohannan, P E
cc: Eric Alexander, BEK
Shahab Biazar, City Engineer

JN 2018014

BEK Ultimate Buildout

Weighted E Method

Zone #1

Developed Basins

												100-Year			10-Year			2-Year		
Basin	Area (sf)	Area (acres)	Area (sq miles)	Treatment A %	Treatment A (acres)	Treatment B %	Treatment B (acres)	Treatment C %	Treatment C (acres)	Treatment D %	Treatment D (acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
1	88,955	2.042	0.00319	0%	0	50%	1.021	50%	1.02106	0%	0.000	0.830	0.141	5.00	0.330	0.056	2.30	0.065	0.011	0.51
2	104,765	2.405	0.00376	0%	0	0%	0.000	35%	0.84178	65%	1.563	1.627	0.326	9.25	0.960	0.192	5.77	0.510	0.102	3.04
3	41,508	0.953	0.00149	0%	0	20%	0.191	40%	0.38116	40%	0.381	1.318	0.105	3.15	0.716	0.057	1.81	0.338	0.027	0.83
4	15,458	0.355	0.00055	0%	0	75%	0.266	25%	0.08872	0%	0.000	0.750	0.022	0.79	0.275	0.008	0.33	0.038	0.001	0.05
5	195,280	4.483	0.00700	0%	0	10%	0.448	0%	0	90%	4.035	1.840	0.687	18.54	1.138	0.425	12.00	0.649	0.242	6.83
6	28,217	0.648	0.00101	0%	0	100%	0.648	0%	0	0%	0.000	0.670	0.036	1.31	0.220	0.012	0.49	0.010	0.001	0.02
7	29,072	0.667	0.00104	0%	0	40%	0.267	40%	0.26696	20%	0.133	1.058	0.059	1.89	0.512	0.028	0.99	0.196	0.011	0.36
8	92,495	2.123	0.00332	0%	0	40%	0.849	0%	0	60%	1.274	1.450	0.257	7.29	0.832	0.147	4.33	0.436	0.077	2.18
9	46,069	1.058	0.00165	0%	0	0%	0.000	0%	0	100%	1.058	1.970	0.174	4.62	1.240	0.109	3.06	0.720	0.063	1.79
10	108,502	2.491	0.00389	0%	0	30%	0.747	12%	0.2989	58%	1.445	1.462	0.304	8.69	0.838	0.174	5.19	0.435	0.090	2.60
11	82,142	1.886	0.00295	0%	0	6%	0.113	30%	0.56572	64%	1.207	1.598	0.251	7.13	0.939	0.148	4.42	0.497	0.078	2.31
12	46,504	1.068	0.00167	0%	0	4%	0.043	25%	0.2669	71%	0.758	1.673	0.149	4.17	0.999	0.089	2.62	0.542	0.048	1.41
13	118,308	2.716	0.00424	0%	0	23%	0.625	50%	1.35799	27%	0.733	1.181	0.267	8.37	0.605	0.137	4.62	0.257	0.058	1.90
14	85,002	1.951	0.00305	0%	0	0%	0.000	5%	0.09757	95%	1.854	1.921	0.312	8.38	1.200	0.195	5.50	0.690	0.112	3.18
15	82,626	1.897	0.00296	0%	0	2%	0.038	3%	0.0569	95%	1.802	1.915	0.303	8.12	1.196	0.189	5.32	0.688	0.109	3.07
16	34,431	0.790	0.00124	0%	0	0%	0.000	7%	0.05533	93%	0.735	1.901	0.125	3.37	1.184	0.078	2.21	0.678	0.045	1.27
17	163,508	3.754	0.00587	0%	0	0%	0.000	0%	0	100%	3.754	1.970	0.616	16.40	1.240	0.388	10.85	0.720	0.225	6.34
18	97,763	2.244	0.00351	0%	0	0%	0.000	0%	0	100%	2.244	1.970	0.368	9.81	1.240	0.232	6.49	0.720	0.135	3.79
19	53,031	1.217	0.00190	0%	0	0%	0.000	0%	0	100%	1.217	1.970	0.200	5.32	1.240	0.126	3.52	0.720	0.073	2.06
20	85,009	1.952	0.00305	0%	0	0%	0.000	0%	0	100%	1.952	1.970	0.320	8.53	1.240	0.202	5.64	0.720	0.117	3.30
21	50,827	1.167	0.00182	0%	0	0%	0.000	0%	0	100%	1.167	1.970	0.192	5.10	1.240	0.121	3.37	0.720	0.070	1.97
22	31,395	0.721	0.00113	0%	0	0%	0.000	0%	0	100%	0.721	1.970	0.118	3.15	1.240	0.074	2.08	0.720	0.043	1.22
23	22,198	0.510	0.00080	0%	0	0%	0.000	0%	0	100%	0.510	1.970	0.084	2.23	1.240	0.053	1.47	0.720	0.031	0.86
24	147,654	3.390	0.00530	0%	0	0%	0.000	0%	0	100%	3.390	1.970	0.556	14.81	1.240	0.350	9.80	0.720	0.203	5.73
25	77,984	1.790	0.00280	0%	0	28%	0.501	72%	1.28899	0%	0.000	0.900	0.134	4.72	0.378	0.056	2.30	0.089	0.013	0.62
26	6,339	0.146	0.00023	0%	0	0%	0.000	0%	0	100%	0.146	1.970	0.024	0.64	1.240	0.015	0.42	0.720	0.009	0.25
27	62,581	1.437	0.00224	0%	0	95%	1.365	5%	0.07183	0%	0.000	0.686	0.082	2.98	0.231	0.028	1.14	0.016	0.002	0.07
28	24,636	0.566	0.00088	0%	0	0%	0.000	0%	0	100%	0.566	1.970	0.093	2.47	1.240	0.058	1.63	0.720	0.034	0.96
29	25,739	0.591	0.00092	0%	0	0%	0.000	0%	0	100%	0.591	1.970	0.097	2.58	1.240	0.061	1.71	0.720	0.035	1.00
30	9,002	0.207	0.00032	0%	0	0%	0.000	0%	0	100%	0.207	1.970	0.034	0.90	1.240	0.021	0.60	0.720	0.012	0.35
31	81,636	1.874	0.00293	0%	0	45%	0.843	55%	1.03076	0%	0.000	0.846	0.132	4.67	0.341	0.053	2.18	0.071	0.011	0.51
32	23,372	0.537	0.00084	0%	0	58%	0.311	30%	0.16096	12%	0.064	0.922	0.041	1.38	0.408	0.018	0.66	0.128	0.006	0.19
33	25,847	0.593	0.00093	0%	0	95%	0.564	5%	0.02967	0%	0.000	0.686	0.034	1.23	0.231	0.011	0.47	0.016	0.001	0.03
34	12,809	0.294	0.00046	0%	0	0%	0.000	0%	0	100%	0.294	1.970	0.048	1.29	1.240	0.030	0.85	0.720	0.018	0.50
Total	2,200,664	50.520	0.06029				1.710				4.983		6.692	188.266		3.944	116.140		2.114	61.089
OFFSITE	182,772	4.196	0.00656	100%	4.195868	0%	0.000	0%	0	0%	0.000	0.440	0.154	5.41	0.080	0.028	1.01	0.000	0.000	0.00

REQUIRED VOLUME	100YR,6HR MAX Q		PROVIDED VOLUME		IMPERV. AREA (D)		10-DAY VOLUME	MAX WSE	TOP OF POND	OVERFLOW WEIR	Impervious ACRES	SWQV CU FT
2.522	71.804	NORTH POND	9.725		13.14		4.132	5132.26	5139		12.148	14,993
0.034	1.229	DIRECT DISCHARGE	--		0.06		0.042				0	0
1.992	54.449	WEST POND	3.447		11.12		3.355	5138.24	5140.7		11.122	13,727
2.088	53.423	SOUTH POND	4.144		12.32		3.597	5127.21	5130	H=2.79', L=17.3', CAPACITY=129 CFS	10.464	12,915
0.173	6.045	EAST POND	0.216		0.06		0.181	5121.73	5122		0.064	79

V 10-DAY=V6HR+AD(P10DAYS-P6HR)/12 IN/FT
P10DAYS = 3.67 IN
P6HR = 2.20 IN
Q weir = 1.6LH3/2

BEK Ultimate Buildout

HYDRAULIC GRADES

Culvert Run No.	FROM	RIM ELEV	TO	RIM ELEV	Length (ft)	CONTRIBUTING BASINS	Q (CFS)	Inv In	Inv Out	Slope	D (in)	DEPTH (IN)	DEPTH (FT)	DIA. (IN)	SLOPE (FT/FT)	Q (CFS)	v
1	D4	42.8	M3	44.3	55	3	3.15	37	36	0.0182	18	18.00	1.50	18	0.01	10.53	5.96
2	M3	44.3	NP		445	3,10,11,12	23.14	29.77	25.32	0.01	36	36.00	3.00	36	0.01	66.88	9.46
2A	M4	42.69	M3	44.3	190	10,11,12	19.99	31.67	29.77	0.01	36	36.00	3.00	36	0.01	66.88	9.46
2B	D5	42.1	M4	42.69	90	10,11,12	19.99	32.57	31.67	0.01	36	36.00	3.00	36	0.01	66.88	9.46
3	D3	42	M2	42	113	8,9	11.91	33.85	33.17	0.006	24	24.00	2.00	24	0.006	17.57	5.59
4	D2	42	M2	42	50	7	1.89	38	33.17	0.0966	12	12.00	1.00	12	0.01	3.57	4.55
5	M2	42	M1	43.33	144	7,8,9	13.8	33.17	31.73	0.01	24	24.00	2.00	24	0.01	22.68	7.22
6	D1	42	M1	43.33	126	34	1.29	38	31.73	0.0498	12	12.00	1.00	12	0.01	3.57	4.55
7	M1	43.33	NP		473	7,8,9,34	15.09	31.73	27	0.01	24	24.00	2.00	24	0.01	22.68	7.22
8	D6	42.1	D5	42.1	280	11,12	11.3	35.37	32.57	0.01	24	24.00	2.00	24	0.01	22.68	7.22
9	D7	42	D6	42.1	263	12	4.17	38	35.37	0.01	18	18.00	1.50	18	0.01	10.53	5.96
15	D8	40.2	WP		268	14 THRU18	45.9	28.29	25.61	0.01	36	36.00	3.00	36	0.01	66.88	9.46
16	D9	40.2	D8	40.2	180	15 THRU 18	37.6	30.09	28.29	0.01	30	30.00	2.50	30	0.01	41.13	8.38
17	D10	39.6	D9	40.2	198	15,17,18	34.28	32.07	30.09	0.01	30	30.00	2.50	30	0.01	41.13	8.38
18	D11	39.4	D10	39.6	143	17,18	26.21	33.5	32.07	0.01	30	30.00	2.50	30	0.01	41.13	8.38
19	D12	39.4	D11	39.4	190	18	9.81	35.4	33.5	0.01	24	24.00	2.00	24	0.01	22.68	7.22
21	D14	39.7	D13	39.4	164	19	5.32	35.7	34.06	0.01	18	18.00	1.50	18	0.01	10.53	5.96
22	D13	39.4	M8	40.62	164	19,20	13.85	34.06	32.42	0.01	24	24.00	2.00	24	0.01	22.68	7.22
23	D15	39.9	M8	40.62	24	21	5.1	35.9	35	0.0375	18	18.00	1.50	18	0.01	10.53	5.96
24	M8	40.62	M9	40.11	233	19 THRU 21	18.95	32.42	30.09	0.01	24	24.00	2.00	24	0.01	22.68	7.22
25	M9	40.11	M10	39.81	233	19 THRU 22	22.1	30.09	27.76	0.01	30	30.00	2.50	30	0.01	41.13	8.38
26	M10	39.81	SP		77	19 THRU 23	24.33	27.76	20	0.1008	30	30.00	2.50	30	0.01	41.13	8.38

TIERRA WEST, LLC

Project BEK Date 9-1-19

Project No. DRAINAGE REPORT

Meeting Purpose CALCS Sheet No 1 of 3

Attendees

SOUTH POND WEIR:

$L = 17.3$ ft

TOP ELEV = 5130.00

BOTTOM ELEV = 5127.21 $h = 2.79$ ft

$Q = 1.6LH^{3/2} = 1.6(17.3)(2.79)^{3/2} = 129\text{cfs} \geq Q_{100} = 61.55\text{cfs}$ ✓

SOUTH POND RUNDOWN, 4ft (CONCRETE)

WIDTH = 4ft, HEIGHT = 1.5ft

TOP ELEV = 5134.20, BOTTOM ELEV = 5117.00, $L = 52$ft, SLOPE = 33%

$Q_{CAPACITY} = \frac{1.49}{n} A R^{2/3} S^{1/2} = \frac{1.49}{0.013}(6)(0.86)^{2/3}(0.33)^{1/2} = 357\text{cfs}$

$A = 4(1.5) = 6$

$WP = 7$, $R = \frac{A}{WP} = \frac{6}{7} = 0.86$

$n = 0.013$

$Q_{CAPACITY} \geq Q_{REQ} = 14.81\text{cfs}$ ✓

NORTH POND RUNDOWN 4ft (CONCRETE)

WIDTH = 4ft, HEIGHT = 1.5ft

TOP ELEV = 5138.50, BOTTOM ELEV = 5125.00, $L = 54$ ft, SLOPE = 25%

$Q_{CAPACITY} = \frac{1.49}{0.013}(6)(0.86)^{2/3}(0.25)^{1/2} = 311\text{cfs}$

$A = 4(1.5) = 6$

$WP = 7$, $R = \frac{A}{WP} = \frac{6}{7} = 0.86$

$n = 0.013$

$Q_{CAPACITY} \geq Q_{REQ} = 33.58\text{cfs}$ ✓

TIERRA WEST, LLC

Project BEK Date 9-1-19

Project No. DRAINAGE RPT

Meeting Purpose POND CALCS Sheet No 2 of 3

Attendees

SOUTH POND:

POND BOTTOM ELEV = 5117.0 , AREA = 9,578 ft²

POND TOP ELEV = 5127.21 , AREA = 27,297 ft² h = 10.21 ft

* POND VOLUME = $h/3 \left(b1 + b2 + [(b1)(b2)]^{1/2}\right)$

$= \left[\frac{10.21}{3}\left(9{,}578 + 27{,}297 + (9{,}578(27{,}297))^{1/2}\right)\right] / 43{,}560 \frac{ft^2}{ACRE}$

POND VOLUME = 4.144 Ac-ft ≥ 10-DAY VOLUME REQ = 3.903 Ac-ft ✓

WEST POND:

POND BOTTOM ELEV = 5126.0 , AREA = 3,363 ft² h = 13.4 ft

POND TOP ELEV = 5139.4 , AREA = 21,711 ft²

*POND VOLUME = $h/3 \left(B1 + B2 + [(b1)(b2)]^{1/2}\right)$

$= \left[\frac{13.4}{3}\left(3{,}363 + 21{,}711 + (3363(21{,}711))^{1/2}\right)\right] / 43{,}560 \text{ ft}^2/\text{ACRE}$

POND VOLUME = 3.447 Ac-ft ≥ 10-DAY VOLUME REQ = 3.355 Ac-ft ✓

* CALCS BASED ON CONIC APPROXIMATION METHOD (VOLUME OF A FRUSTUM)

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TIERRA WEST, LLC

Project BEK Date 9-1-19

Project No. DRAINAGE RPT

Meeting Purpose POND CALCS (CONT.) Sheet No 3 of 3

Attendees

EAST POND:

POND BOTTOM ELEV = 5119.50, AREA = 2,531 ft²

POND TOP ELEV = 5122.0, AREA = 5,154 ft² h = 2.5ft

*POND VOLUME = $h/3\ (b_1+b_2+[(b_1)(b_2)]^{1/2})$

$= \left[\frac{2.5}{3}\ (2{,}531+5{,}154+(2{,}531(5{,}154))^{1/2})\right] / 43{,}560\ ft^2/ACRE$

POND VOLUME = 0.216 Ac.ft ≥ 10-DAY VOLUME REQ = 0.181 Ac.ft ✓

NORTH POND:

LOWER POND BOTTOM ELEV = 5125.0, AREA = 5,325 ft²

UPPER POND BOTTOM ELEV = 5127.0, AREA = 21,162 ft² h = 2ft

POND TOP ELEV = 5138.0, AREA = 53,864 ft² h = 11ft

*POND VOLUME = LOWER VOLUME + UPPER VOLUME

$= h/3\ (b_1+b_2+[(b_1)(b_2)+[(b_1)(b_2)]^{1/2}) + h/3\ (b_2+b_3+[(b_2)(b_3)+[(b_2)(b_3)]^{1/2})$

$= \left[\frac{2}{3}\ (5{,}325+21{,}162+(5{,}325\ (21{,}162))^{1/2}) + \frac{11}{3}\ (21{,}162+53{,}864+(21{,}162(53{,}864))^{1/2})\right] / 43{,}560\ \frac{ft^2}{ACRE}$

POND VOLUME = (24,735 + 398,889) / 43,560 = 9.725 Acft ≥ 10DAY VOLUME REQ = 4.132 Ac.ft ✓

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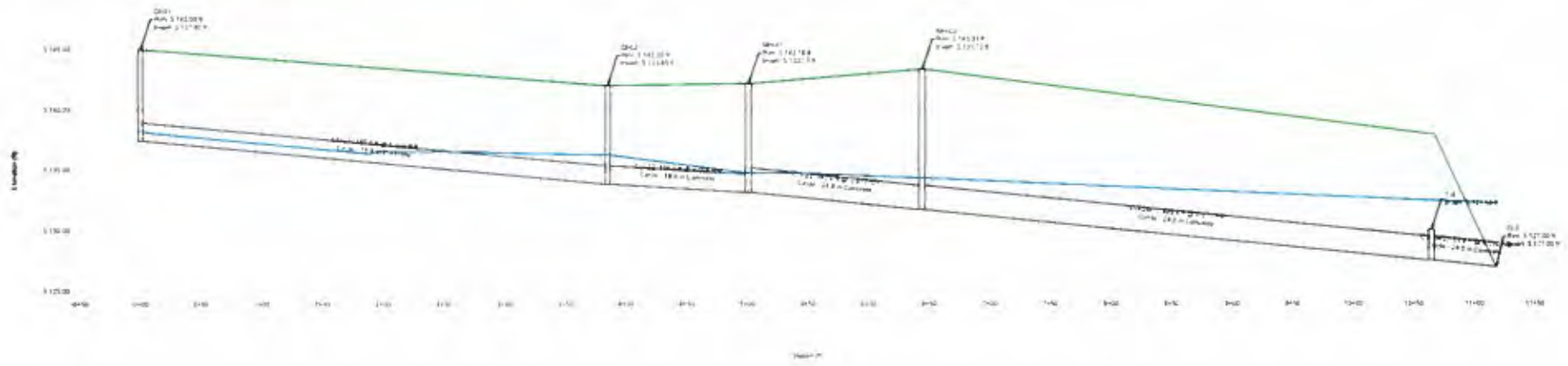
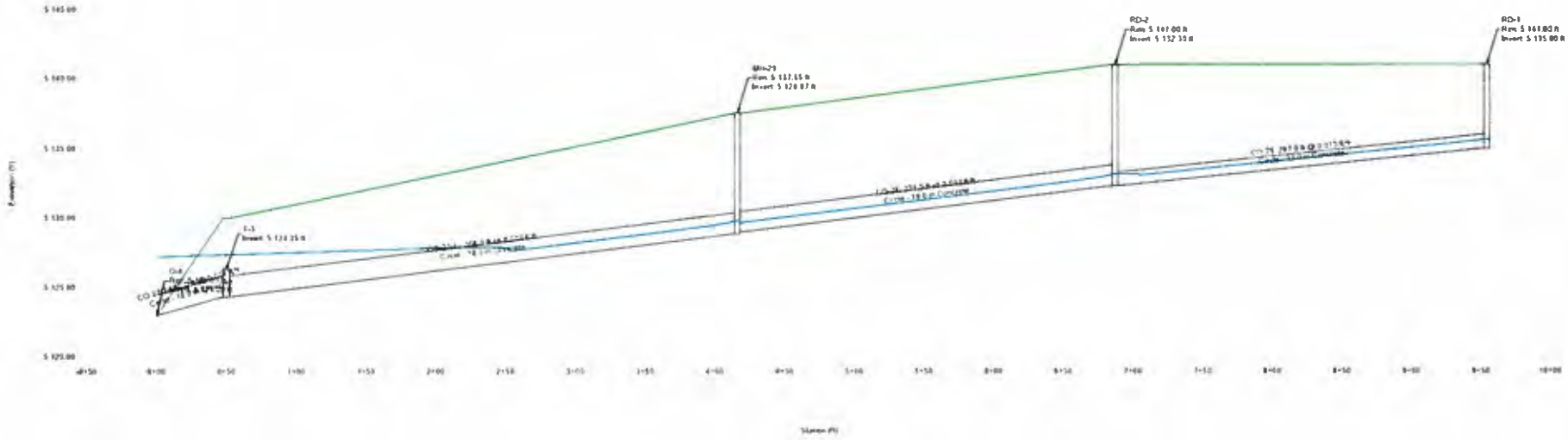
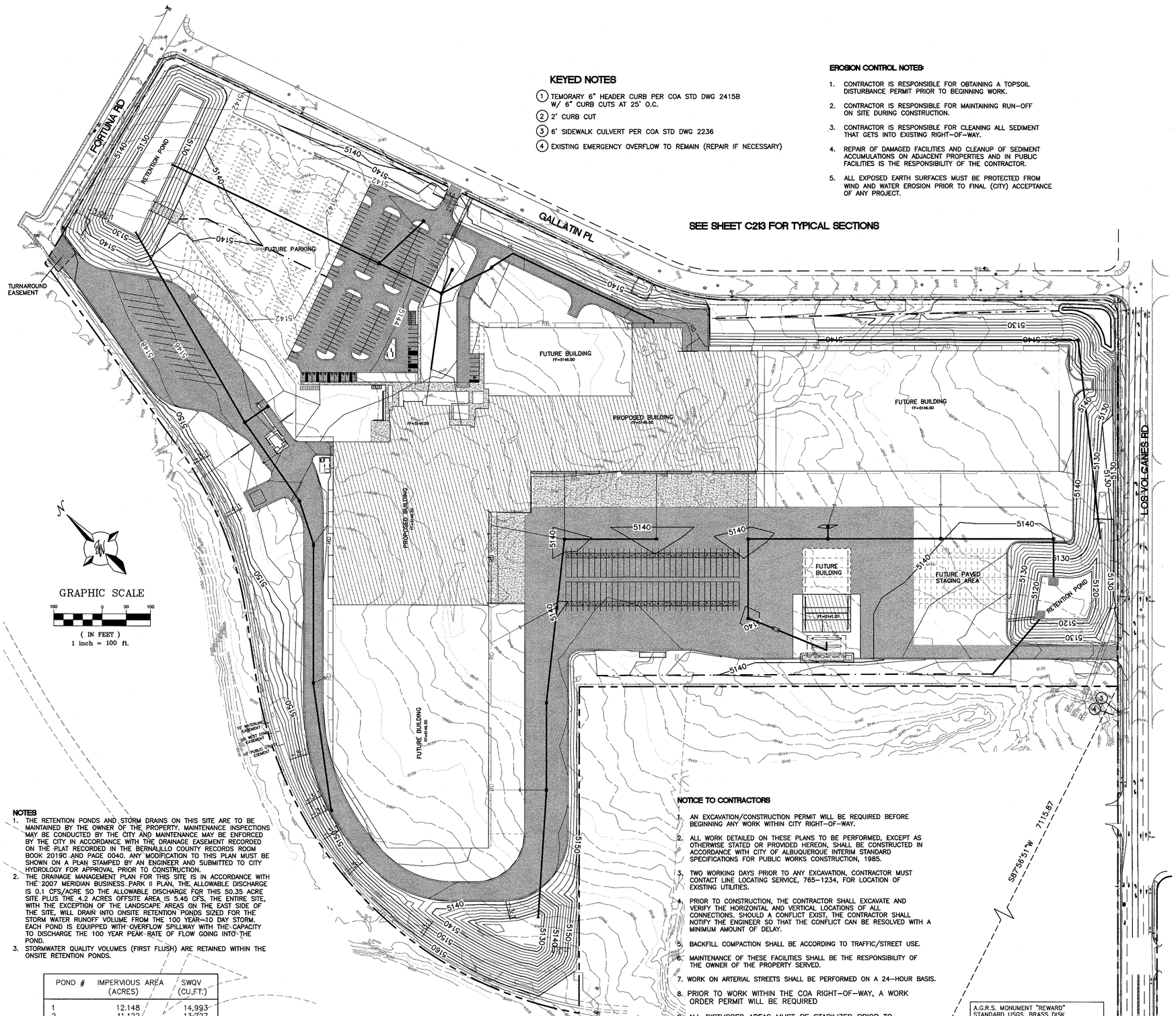
Profile Report
Engineering Profile - North Pond S (North Pond.stsw)



Profile Report
Engineering Profile - South Pond (North Pond.stsw)



Bentley Systems, Inc. Haestad Methods Solution Center
27 Siemon Company Drive Suite 200 W Watertown CT 06795 USA +1-203-755-1666



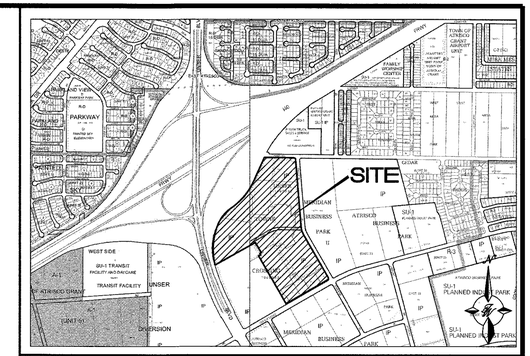
KEYED NOTES

1. TEMORARY 6" HEADER CURB PER COA STD DWG 2415B W/ 6" CURB CUTS AT 25' O.C.
2. 2' CURB CUT
3. 6' SIDEWALK CULVERT PER COA STD DWG 2236
4. EXISTING EMERGENCY OVERFLOW TO REMAIN (REPAIR IF NECESSARY)

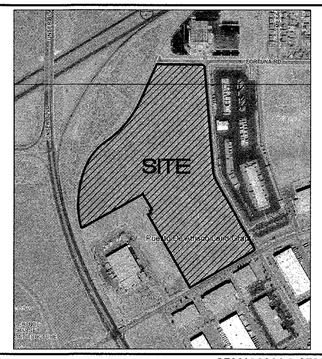
EROSION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.

SEE SHEET C213 FOR TYPICAL SECTIONS



VICINITY MAP J-29-Z,J-30-Z



FLOOD MAP 35001C0326J, 35001C0328J

LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
- RIGHT-OF-WAY
- BUILDING
- SIDEWALK
- RETAINING WALL
- 5010 CONTOUR MAJOR
- 5011 CONTOUR MINOR
- x 5048.25 SPOT ELEVATION (FLOWLINE)
- FLOW ARROW
- EXISTING CURB & GUTTER
- EXISTING BOUNDARY LINE
- EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- ASPHALT PAVING
- PROPOSED BUILDING
- x PROPOSED FENCE

GRAPHIC SCALE

100 0 50 100

(IN FEET)
1 inch = 100 ft.

NOTES

1. THE RETENTION PONDS AND STORM DRAINS ON THIS SITE ARE TO BE MAINTAINED BY THE OWNER OF THE PROPERTY. MAINTENANCE INSPECTIONS MAY BE CONDUCTED BY THE CITY AND MAINTENANCE MAY BE ENFORCED BY THE CITY IN ACCORDANCE WITH THE DRAINAGE EASEMENT RECORDED ON THE PLAT RECORDED IN THE BERNALILLO COUNTY RECORDS ROOM BOOK 2019C AND PAGE 0040. ANY MODIFICATION TO THIS PLAN MUST BE SHOWN ON A PLAN STAMPED BY AN ENGINEER AND SUBMITTED TO CITY HYDROLOGY FOR APPROVAL PRIOR TO CONSTRUCTION.
2. THE DRAINAGE MANAGEMENT PLAN FOR THIS SITE IS IN ACCORDANCE WITH THE 2007 MERIDIAN BUSINESS PARK II PLAN. THE ALLOWABLE DISCHARGE IS 0.1 CFS/ACRE SO THE ALLOWABLE DISCHARGE FOR THIS 50.35 ACRE SITE PLUS THE 4.2 ACRES OFFSITE AREA IS 5.45 CFS. THE ENTIRE SITE, WITH THE EXCEPTION OF THE LANDSCAPE AREAS ON THE EAST SIDE OF THE SITE, WILL DRAIN INTO ONSITE RETENTION PONDS SIZED FOR THE STORM WATER RUNOFF VOLUME FROM THE 100 YEAR-10 DAY STORM. EACH POND IS EQUIPPED WITH OVERFLOW SPILLWAY WITH THE CAPACITY TO DISCHARGE THE 100 YEAR PEAK RATE OF FLOW GOING INTO THE POND.
3. STORMWATER QUALITY VOLUMES (FIRST FLUSH) ARE RETAINED WITHIN THE ONSITE RETENTION PONDS.

POND #	IMPERVIOUS AREA (ACRES)	SWQV (CU.FT.)
1	12.148	14,993
2	11.122	13,727
3	12.324	15,211
4	0.064	79

STORM WATER QUALITY VOLUME, SWQV =
IMPERVIOUS AREA (ACRES) X43,560 X 0.34"/12

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, 1985.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. 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.
8. PRIOR TO WORK WITHIN THE COA RIGHT-OF-WAY, A WORK ORDER PERMIT WILL BE REQUIRED
9. ALL DISTURBED AREAS MUST BE STABILIZED PRIOR TO ENGINEERS CERTIFICATION FOR CERTIFICATE OF OCCUPANCY
10. FUTURE BUILDING AND PAVEMENT AREAS ARE TO BA GRADED IN PHASE 1 TO SUBGRADE ELEVATIONS. THESE AREAS SHALL BE STABILIZED IN PHASE 1 WITH GRAVEL MULCH AS NOTED ON THE LANDSCAPE PLAN. SEE SHEET C-208 FOR ULTIMATE BUILD OUT CONPEPTUAL GRADING AND DRAINAGE PLAN

CAUTION:

ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, 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.

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ALBUQUERQUE, NM 87121

Revision No.

Job No.
2018014

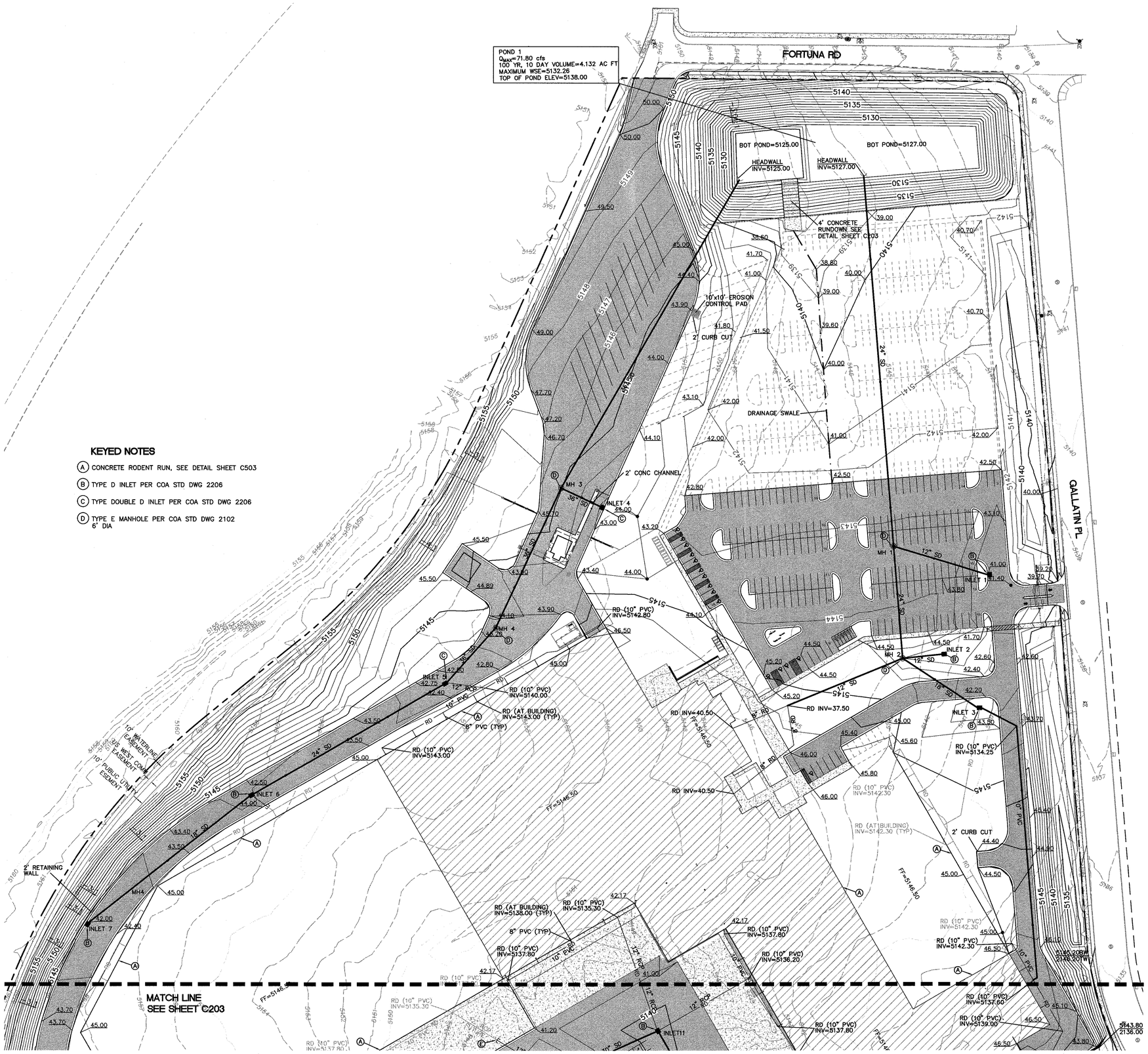
CAD/CHK'D By:
pm / vc

Date
8-16-19

Sheet Title
OVERALL GRADING PLAN

Sheet No.
C201

CIVIL



KEYED NOTES

(A) CONCRETE RODENT RUN, SEE DETAIL SHEET C503

(B) TYPE D INLET PER COA STD DWG 2206

(C) TYPE DOUBLE D INLET PER COA STD DWG 2206

(D) TYPE E MANHOLE PER COA STD DWG 2102
6' DIA

LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
- RIGHT-OF-WAY
- BUILDING
- SIDEWALK
- RETAINING WALL
- 5010 CONTOUR MAJOR
- 5011 CONTOUR MINOR
- x 5048.25 SPOT ELEVATION (FLOWLINE)
- FLOW ARROW
- EXISTING CURB & GUTTER
- EXISTING BOUNDARY LINE
- EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- ASPHALT PAVING
- PROPOSED BUILDING
- RD ROOF DRAIN
- X PROPOSED FENCE

STRUCTURE TABLE

STRUCTURE	SIZE/TYPE	RIM	INVERT
MH 1	6' DIA	5143.33	5131.73
MH 2	6' DIA	5142.00	5133.17
MH 3	6' DIA	5144.30	5129.77
MH 4	6' DIA	5142.69	5131.67
INLET 1	TYPE D	5142.00	5138.00
INLET 2	TYPE D	5142.00	5138.00
INLET 3	TYPE D	5142.00	5133.85
INLET 4	TYPE DOUBLE D	5142.80	5137.00
INLET 5	TYPE DOUBLE D	5142.10	5132.57
INLET 6	TYPE D	5142.10	5135.37
INLET 7	TYPE D	5142.00	5138.00

GRAPHIC SCALE

60 0 30 60

(IN FEET)
1 inch = 60 ft.

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ENGINEER'S SEAL

RONALD R. BOHANNAN NEW MEXICO 7868 REGISTERED PROFESSIONAL ENGINEER

RONALD R. BOHANNAN
P.E. #7868

NEW DISTRIBUTION CENTER
BEN E KEITH
601 GALLATIN PL NW
ALBUQUERQUE, NM 87121

Revision No.

Job No.
2018014

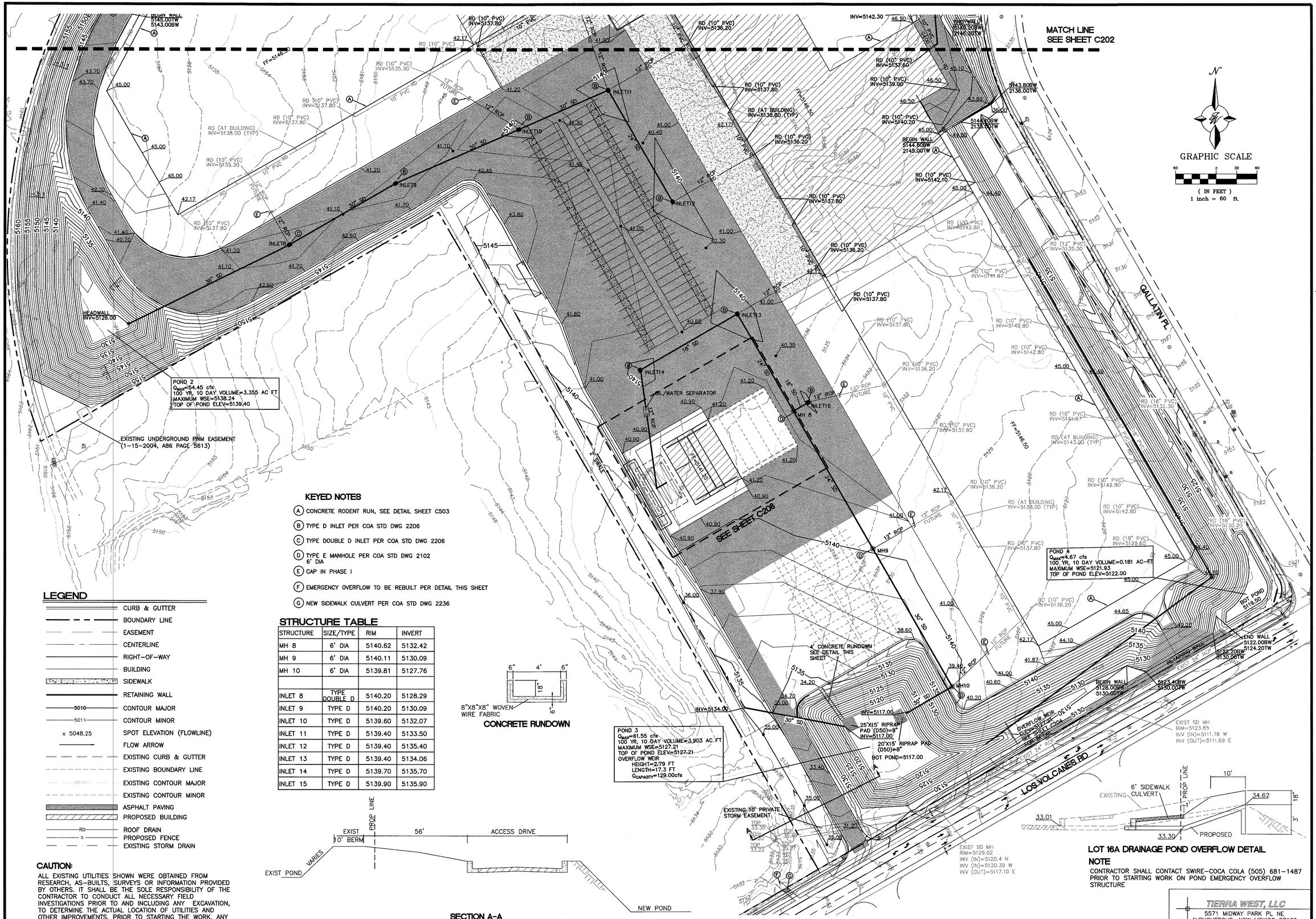
CAD/CHK'D By:
pm / vc

Date
8-16-19

Sheet Title
GRADING AND DRAINAGE PLAN

Sheet No.
C202

CIVIL



KEYED NOTES

(A) CONCRETE RODENT RUN, SEE DETAIL SHEET C503

(B) TYPE D INLET PER COA STD DWG 2206

(C) TYPE DOUBLE D INLET PER COA STD DWG 2206

(D) TYPE E MANHOLE PER COA STD DWG 2102
6' DIA

(E) CAP IN PHASE I

(F) EMERGENCY OVERFLOW TO BE REBUILT PER DETAIL THIS SHEET

(G) NEW SIDEWALK CULVERT PER COA STD DWG 2236

STRUCTURE TABLE

STRUCTURE	SIZE/TYPE	RIM	INVERT
MH 8	6' DIA	5140.62	5132.42
MH 9	6' DIA	5140.11	5130.09
MH 10	6' DIA	5139.81	5127.76
INLET 8	TYPE DOUBLE D	5140.20	5128.29
INLET 9	TYPE D	5140.20	5130.09
INLET 10	TYPE D	5139.60	5132.07
INLET 11	TYPE D	5139.40	5133.50
INLET 12	TYPE D	5139.40	5135.40
INLET 13	TYPE D	5139.40	5134.06
INLET 14	TYPE D	5139.70	5135.70
INLET 15	TYPE D	5139.90	5135.90

LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
- RIGHT-OF-WAY
- BUILDING
- SIDEWALK
- RETAINING WALL
- 5010 CONTOUR MAJOR
- 5011 CONTOUR MINOR
- x 5048.25 SPOT ELEVATION (FLOWLINE)
- FLOW ARROW
- EXISTING CURB & GUTTER
- EXISTING BOUNDARY LINE
- 5010 EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- ASPHALT PAVING
- PROPOSED BUILDING
- RD ROOF DRAIN
- X PROPOSED FENCE
- EXISTING STORM DRAIN

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CONCRETE RUNDOWN

SECTION A-A

LOT 16A DRAINAGE POND OVERFLOW DETAIL

NOTE

CONTRACTOR SHALL CONTACT SWIRE-COCA COLA (505) 681-1487 PRIOR TO STARTING WORK ON POND EMERGENCY OVERFLOW STRUCTURE

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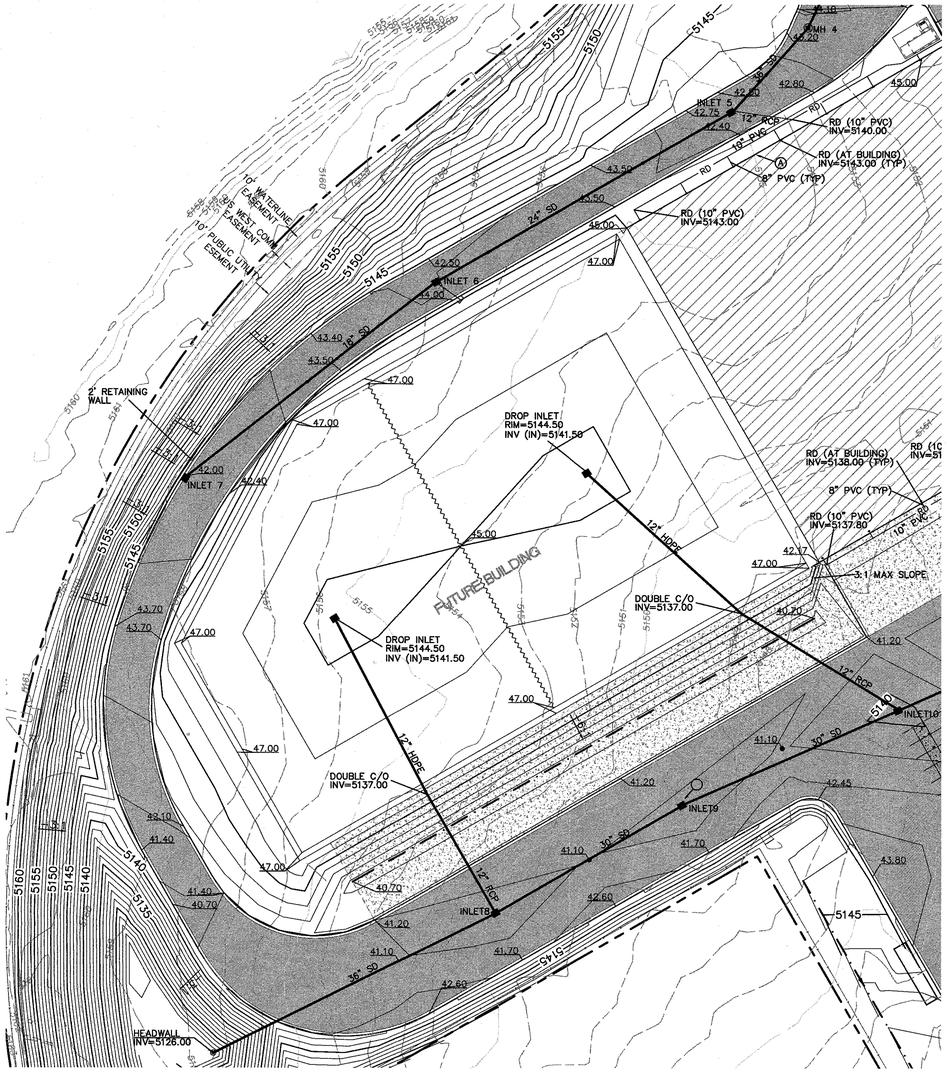
8-16-19

Sheet Title
GRADING AND DRAINAGE PLAN

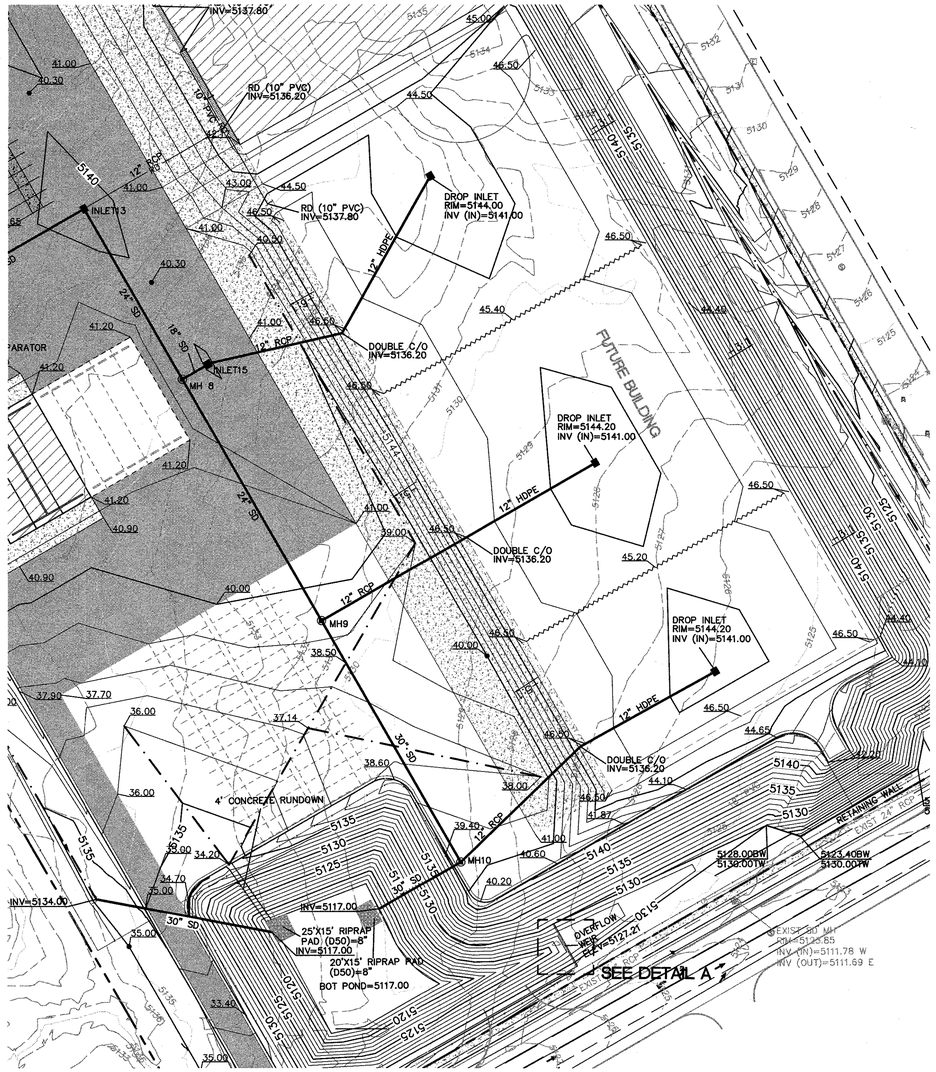
Sheet No.
C203

CIVIL

FUTURE BUILDING EXPANSION AREA



FUTURE BUILDING EXPANSION AREA



LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
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- RIGHT-OF-WAY
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- RETAINING WALL
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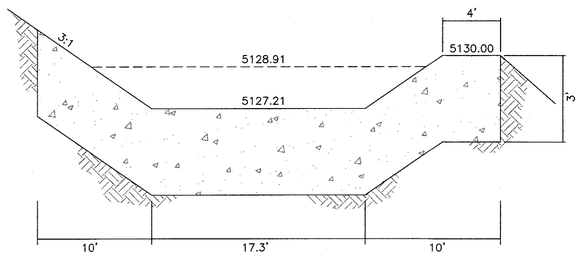
- FLOW ARROW
- EXISTING CURB & GUTTER
- EXISTING BOUNDARY LINE
- 5010 EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- ASPHALT PAVING
- PROPOSED BUILDING
- RD ROOF DRAIN
- X PROPOSED FENCE
- SWALE
- FUTURE BUILDING

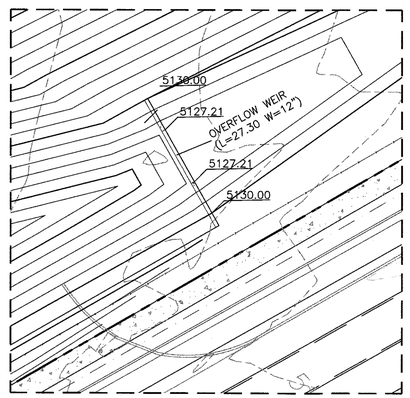
GRAPHIC SCALE

60 0 30 60

(IN FEET)
1 inch = 60 ft.



CONCRETE EMERGENCY OVERFLOW WEIR (12" THICK)
(SOUTH POND)



DETAIL A

CAUTION:

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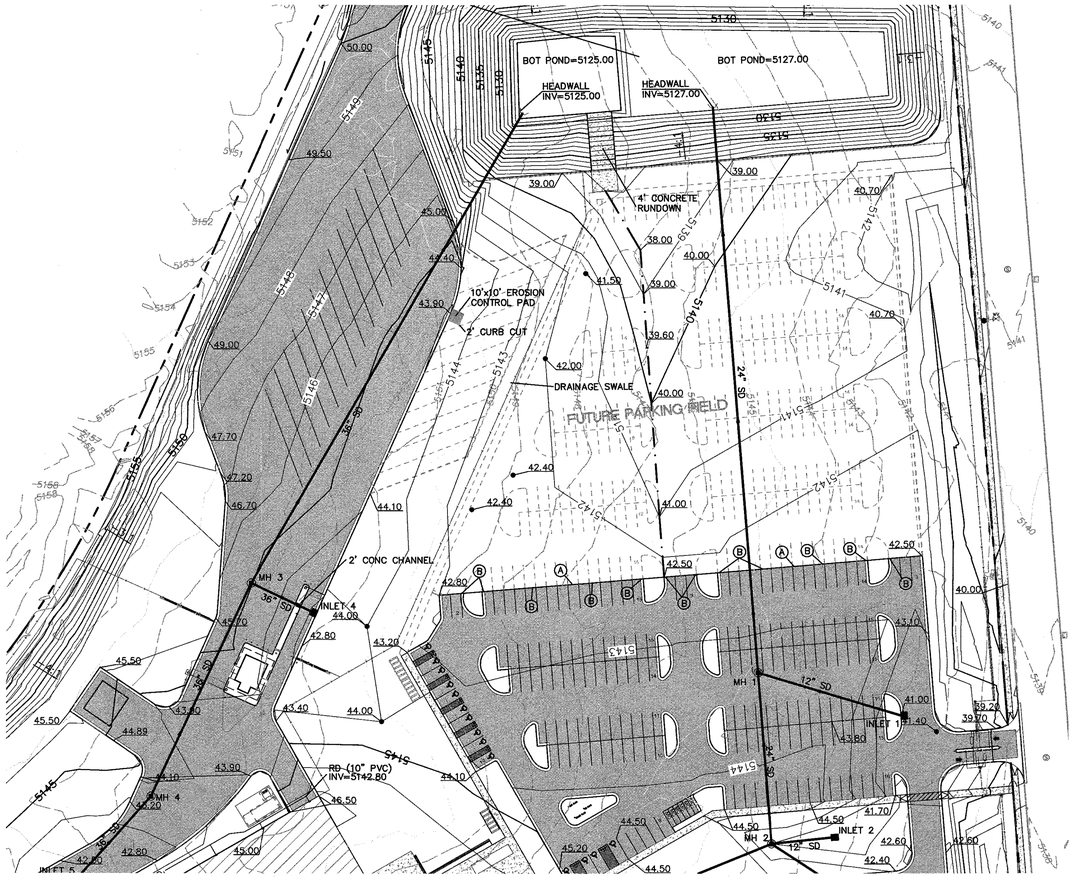
8-16-19

Sheet Title
INTERIM GRADING AND DRAINAGE PLAN

Sheet No.
C204

CIVIL

FUTURE PARKING FIELD EXPANSION AREA



GRAPHIC SCALE

60 0 30 60

(IN FEET)
1 inch = 60 ft.

LEGEND

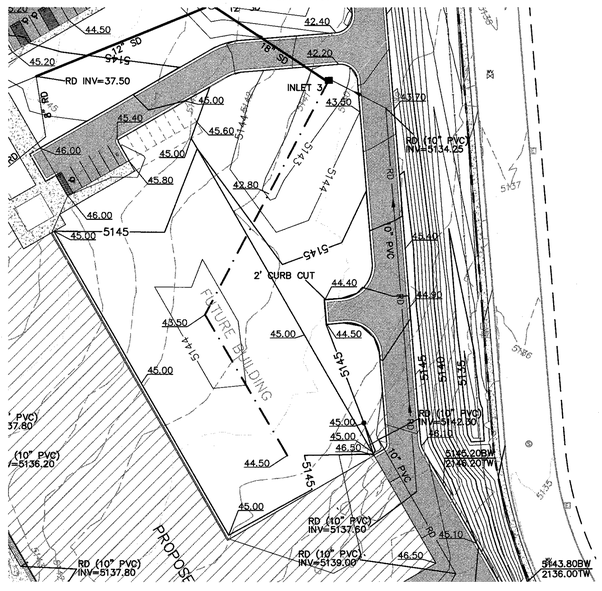
- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
- RIGHT-OF-WAY
- BUILDING
- SIDEWALK
- RETAINING WALL
- 5010 CONTOUR MAJOR
- 5011 CONTOUR MINOR
- x 5048.25 SPOT ELEVATION (FLOWLINE)
- FLOW ARROW
- EXISTING CURB & GUTTER
- EXISTING BOUNDARY LINE
- EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- ASPHALT PAVING
- PROPOSED BUILDING
- RD ROOF DRAIN
- X PROPOSED FENCE
- SWALE
- FUTURE BUILDING

KEYED NOTES

(A) TEMPORARY 6" CONCRETE HEADER CURB PER COA STD DWG 2415B W/ 6" CURB CUT AT 25' OC AND AS SHOWN

(B) 6" CURB CUT

FUTURE BUILDING EXPANSION AREA



GRAPHIC SCALE

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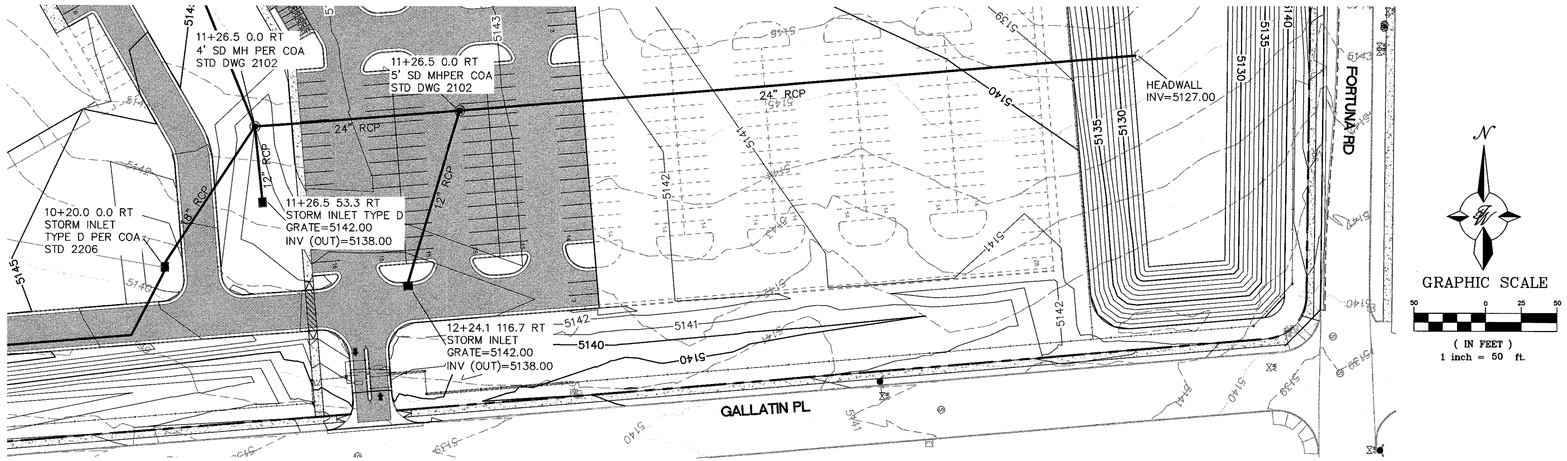
Sheet Title
INTERIM GRADING AND

Sheet No.
C205

CIVIL



GRAPHIC SCALE

50 0 25 50

(IN FEET)
1 inch = 50 ft.

LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
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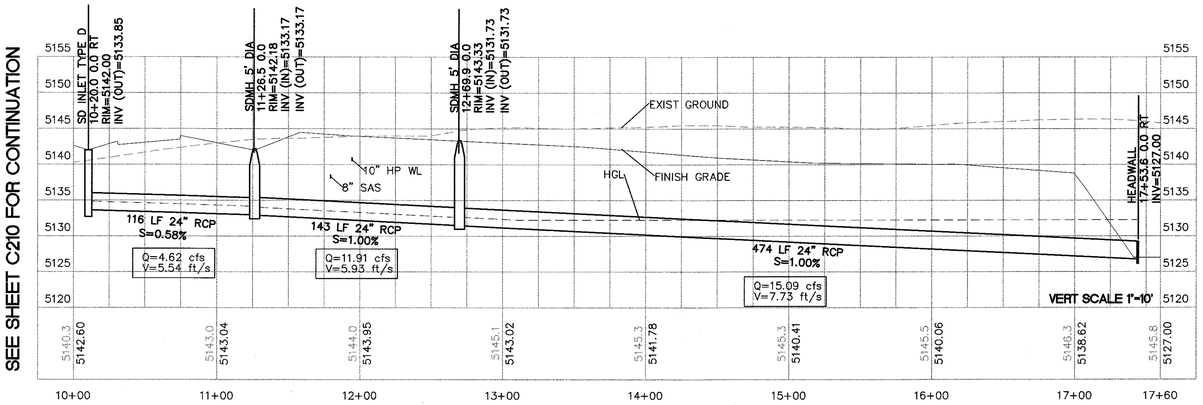
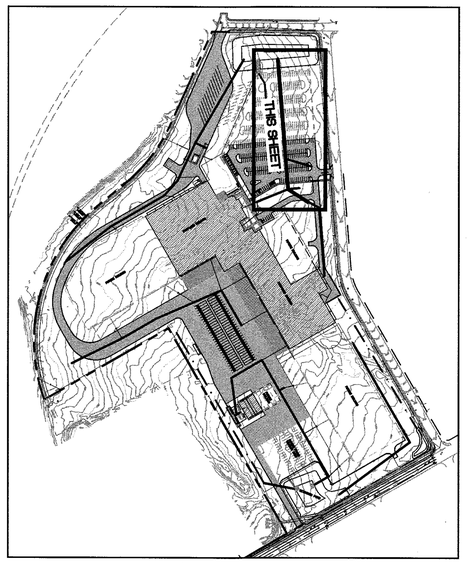
- EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- ASPHALT PAVING
- PROPOSED BUILDING
- RD ROOF DRAIN
- HGL





KEY MAP

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Job No.
2018014

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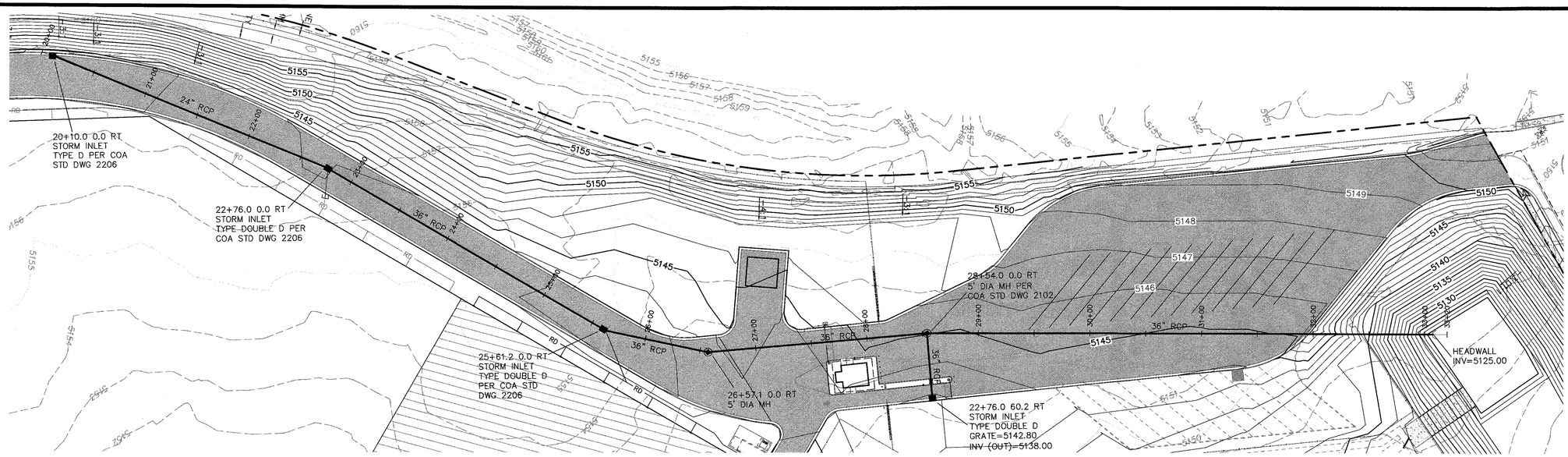
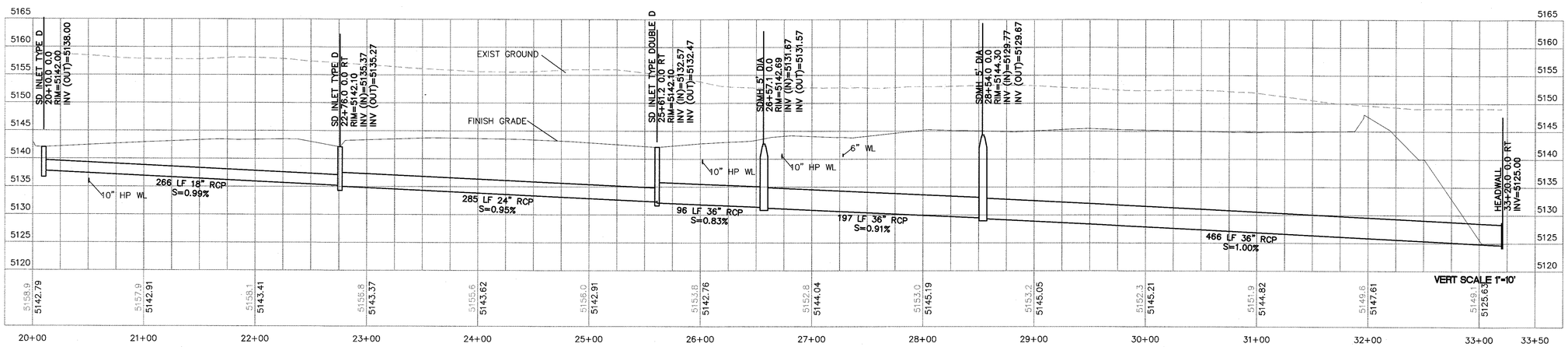
Date
8-16-19

Sheet Title
STORM SEWER PLAN AND PROFILE

Sheet No.
C206

CIVIL





LEGEND

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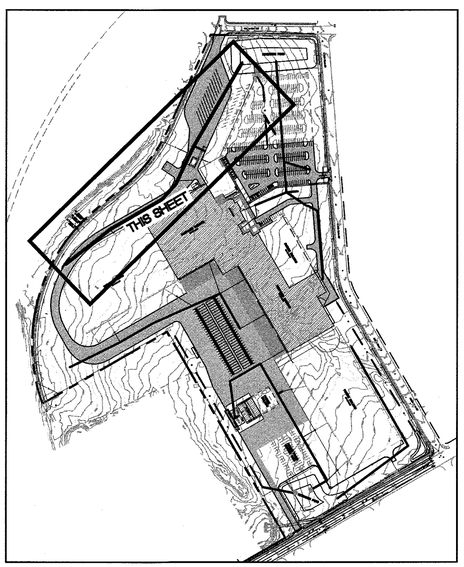
- ASPHALT PAVING
- PROPOSED BUILDING
- RD ROOF DRAIN



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2018014

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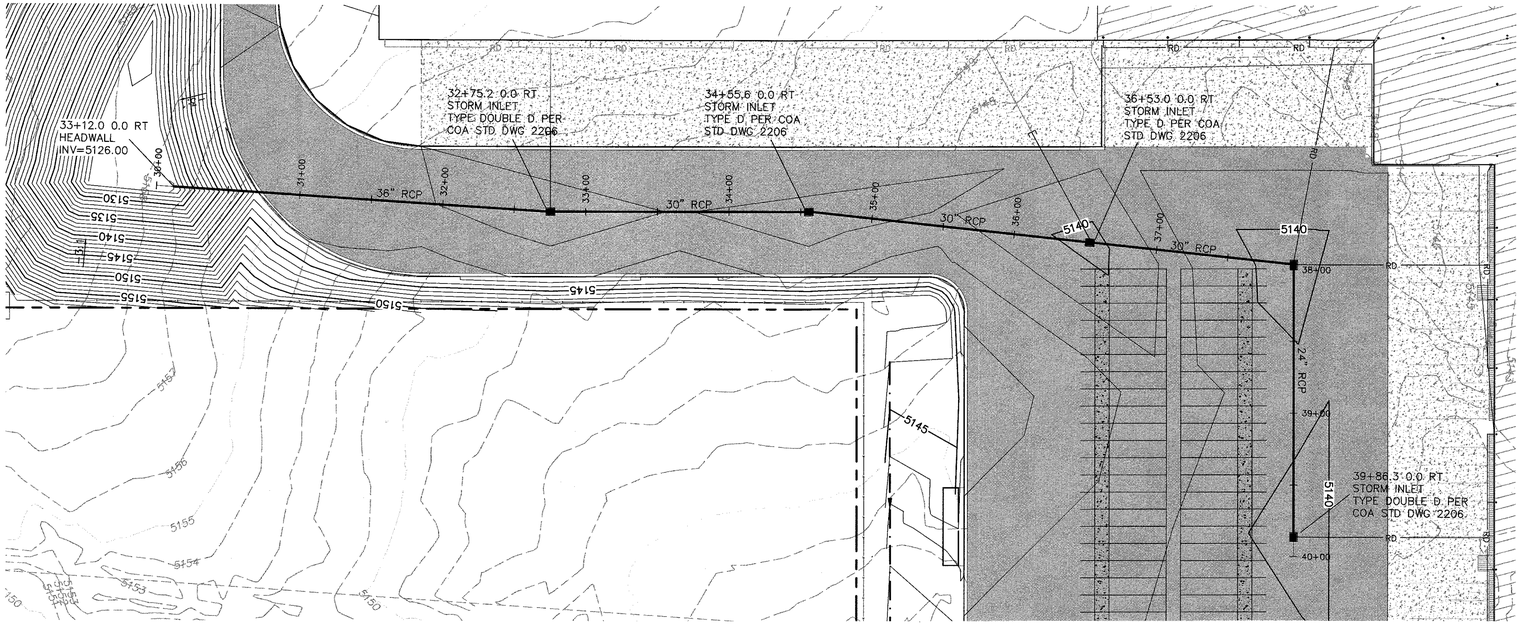
Date
8-16-19

Sheet Title
STORM SEWER
PLAN AND PROFILE

Sheet No.
C207

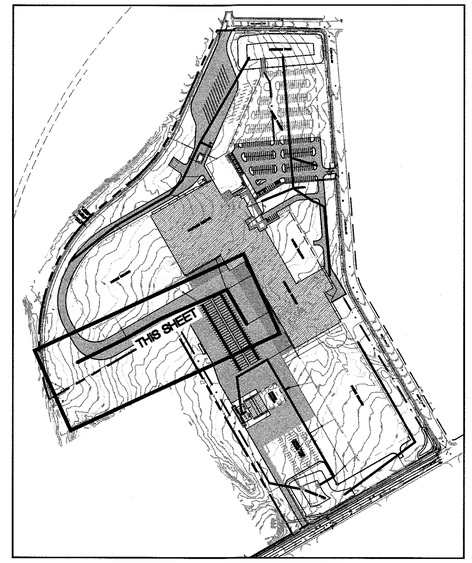
CIVIL



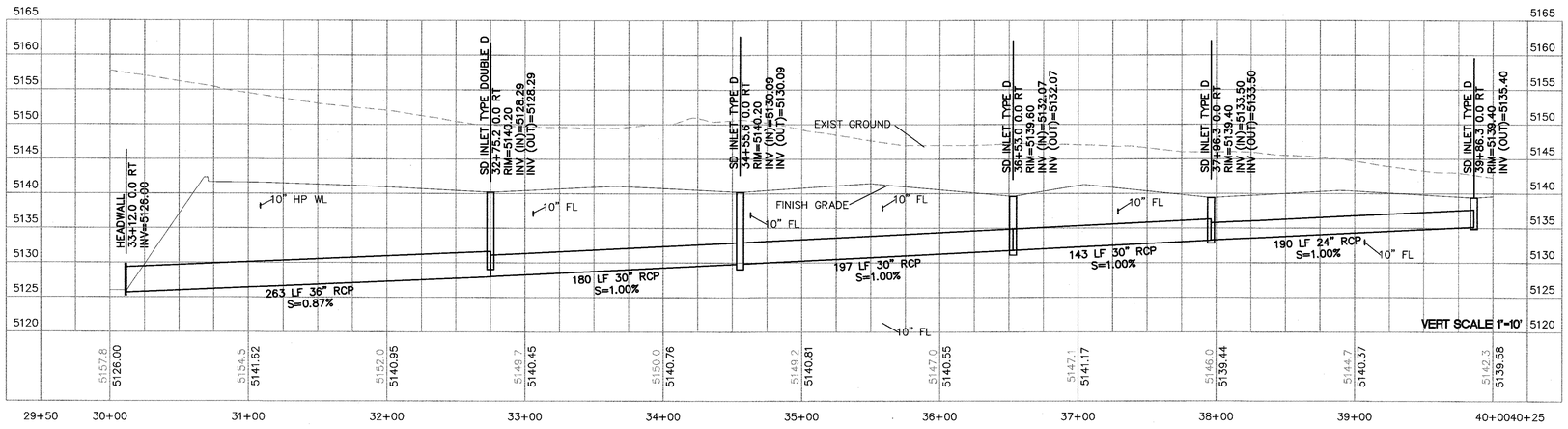
GRAPHIC SCALE

50 0 25 50

(IN FEET)
1 inch = 50 ft.



KEY MAP



LEGEND

- CURB & GUTTER
- BOUNDARY LINE
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Revision No.

Job No.
2018014

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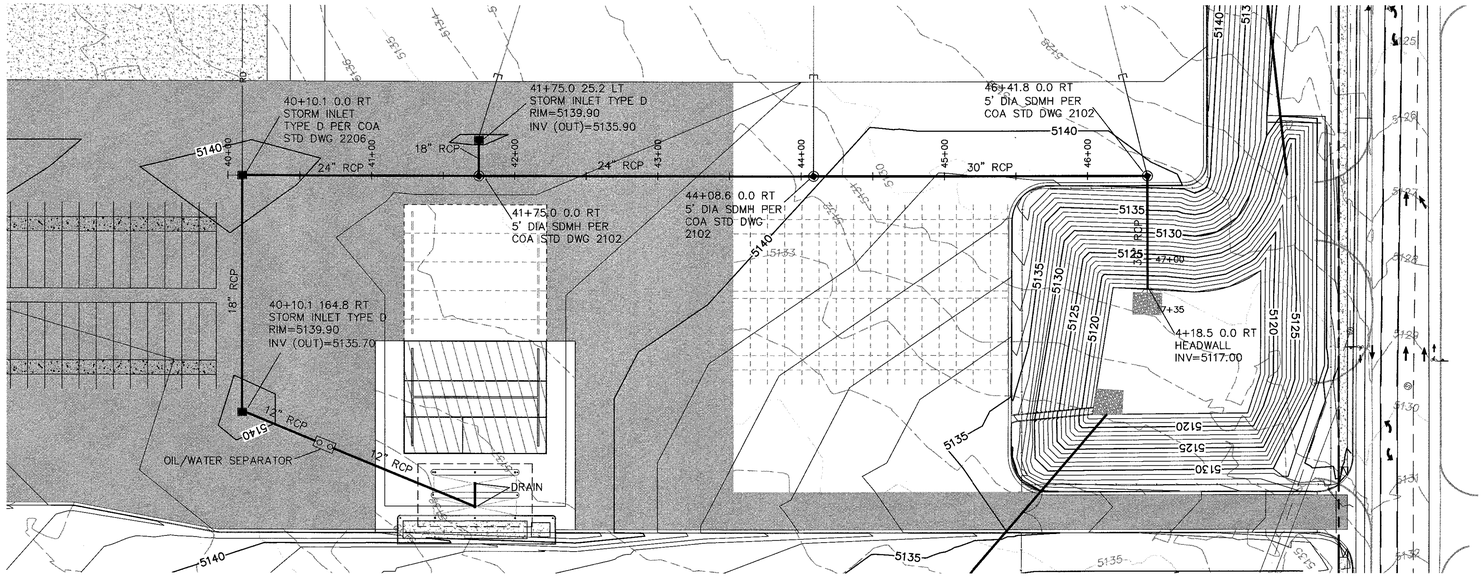
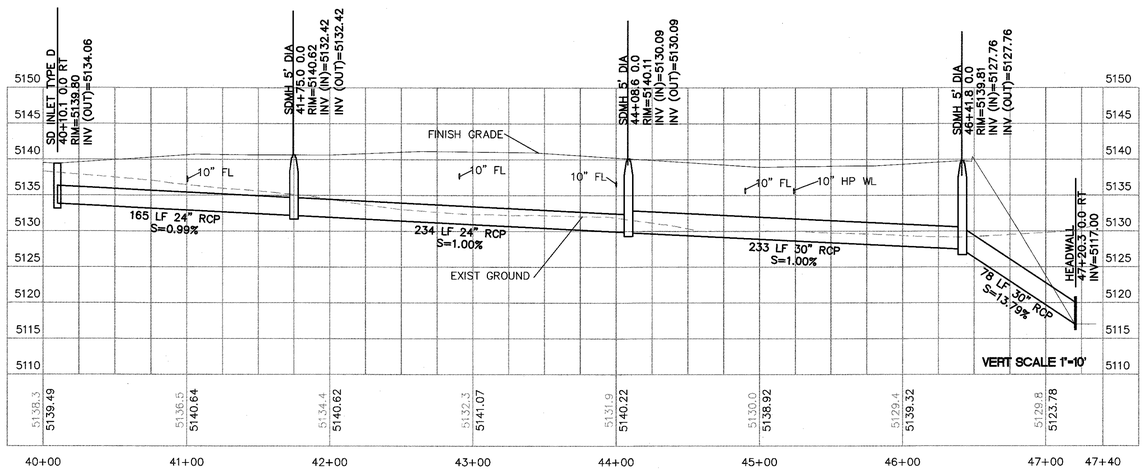
Date
8-16-19

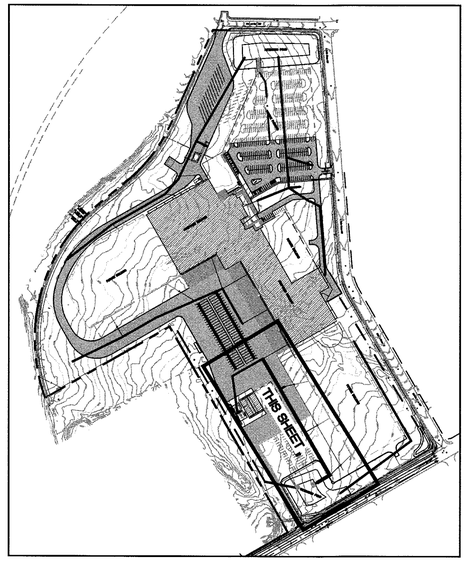
Sheet Title
STORM SEWER
PLAN AND PROFILE

Sheet No.
C208

CIVIL







KEY MAP

GRAPHIC SCALE

50 0 25 50

(IN FEET)
1 inch = 50 ft.

LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
- RIGHT-OF-WAY
- BUILDING
- SIDEWALK
- RETAINING WALL
- 5010 — CONTOUR MAJOR
- 5011 — CONTOUR MINOR
- x 5048.25 — SPOT ELEVATION (FLOWLINE)
- FLOW ARROW
- EXISTING CURB & GUTTER
- EXISTING BOUNDARY LINE
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REGISTERED

RONALD R. BOHANNAN
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ALBUQUERQUE, NM 87121

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Job No.
2018014

CAD/CHK'D By:
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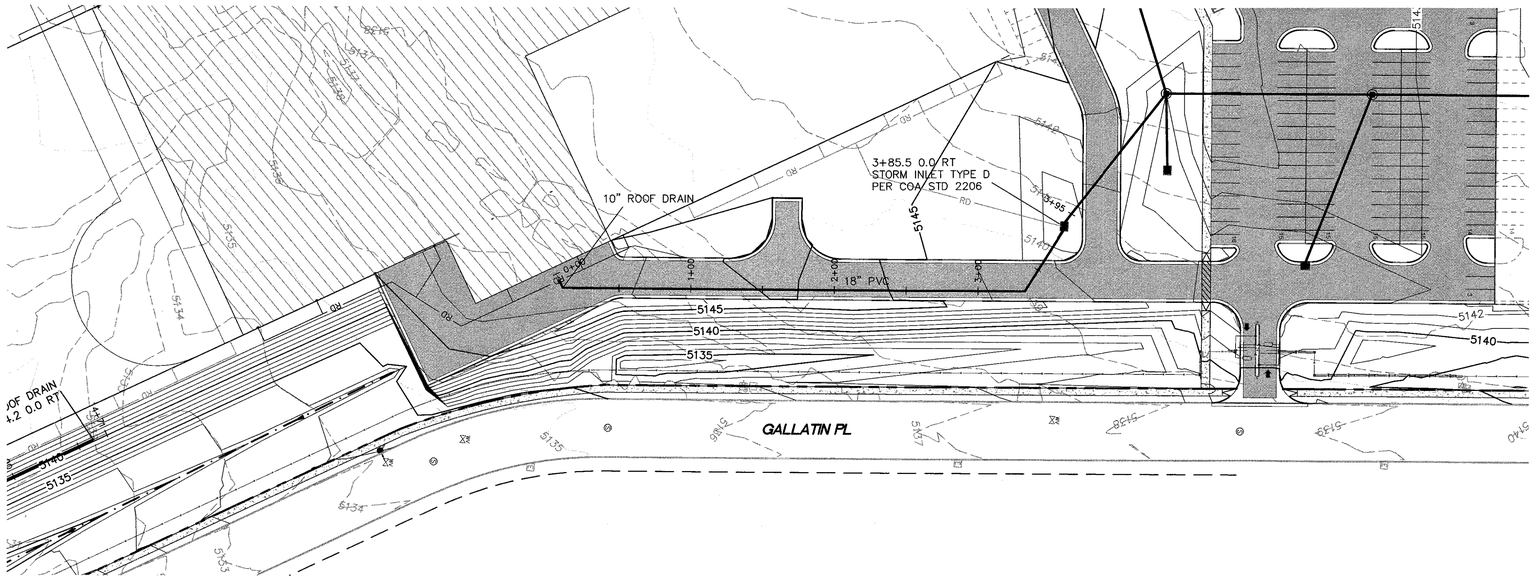
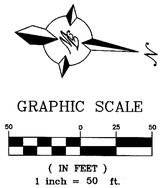
Date
8-16-19

Sheet Title
STORM SEWER
PLAN AND PROFILE

Sheet No.
C209

CIVIL





LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
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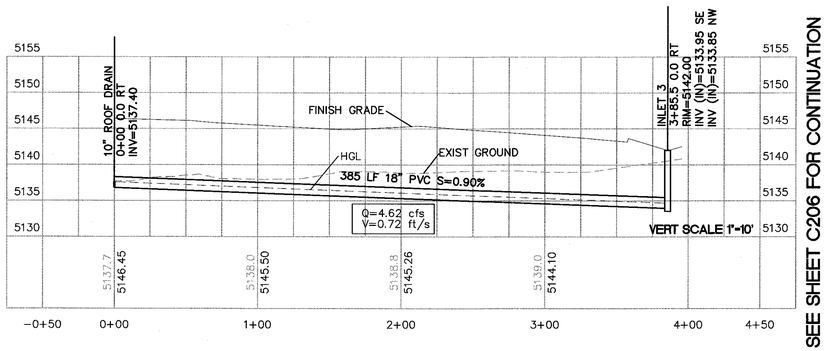
- BUILDING
- SIDEWALK
- RETAINING WALL
- 5010 CONTOUR MAJOR
- 5011 CONTOUR MINOR
- x 5048.25 SPOT ELEVATION (FLOWLINE)
- FLOW ARROW
- EXISTING CURB & GUTTER
- EXISTING BOUNDARY LINE
- EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- ASPHALT PAVING
- PROPOSED BUILDING
- RD ROOF DRAIN
- HGL



SEE SHEET C206 FOR CONTINUATION

CAUTION:

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NEW MEXICO
10868
PROFESSIONAL ENGINEER

RONALD R. BOHANNAN
P.E. #7868

NEW DISTRIBUTION CENTER
BEN E KEITH
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Revision No.

Job No.
2018014

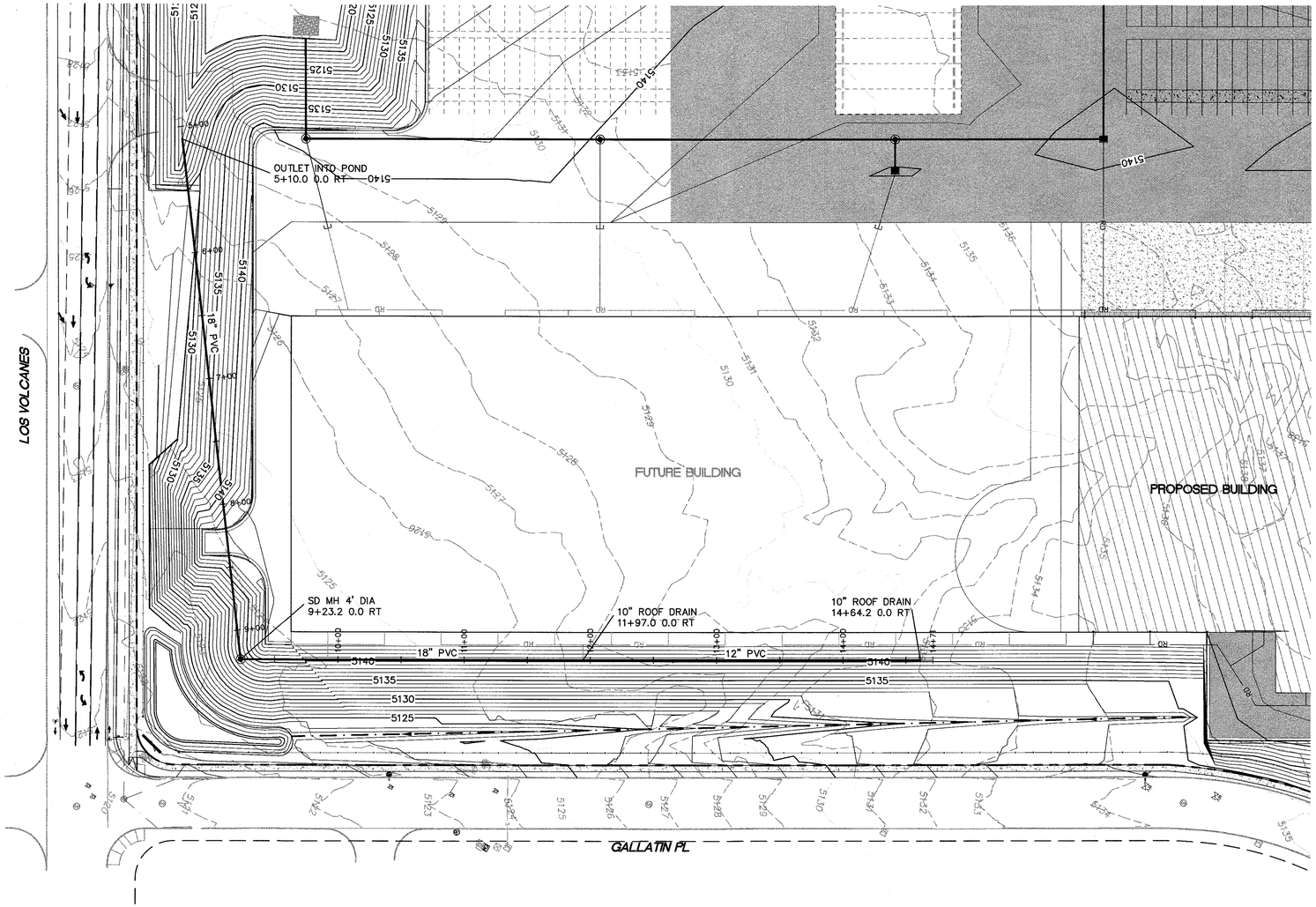
CAD/CHK'D By:
pm / vc

Date
8-16-19

Sheet Title
ROOF DRAIN
PLAN AND PROFILE

Sheet No.
C210

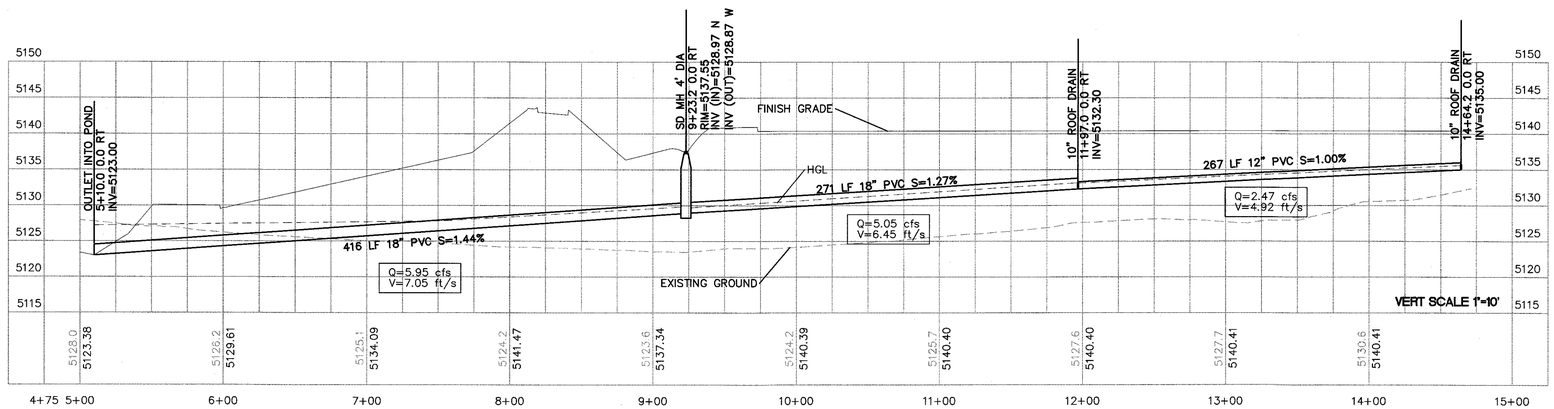
CIVIL



GRAPHIC SCALE

50 0 25 50

(IN FEET)
1 inch = 50 ft.



LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
- RIGHT–OF–WAY
- BUILDING
- SIDEWALK
- RETAINING WALL
- 5010 CONTOUR MAJOR
- 5011 CONTOUR MINOR
- x 5048.25 SPOT ELEVATION (FLOWLINE)
- FLOW ARROW
- EXISTING CURB & GUTTER
- EXISTING BOUNDARY LINE
- EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- ASPHALT PAVING
- PROPOSED BUILDING
- RD ROOF DRAIN
- HGL

CAUTION:
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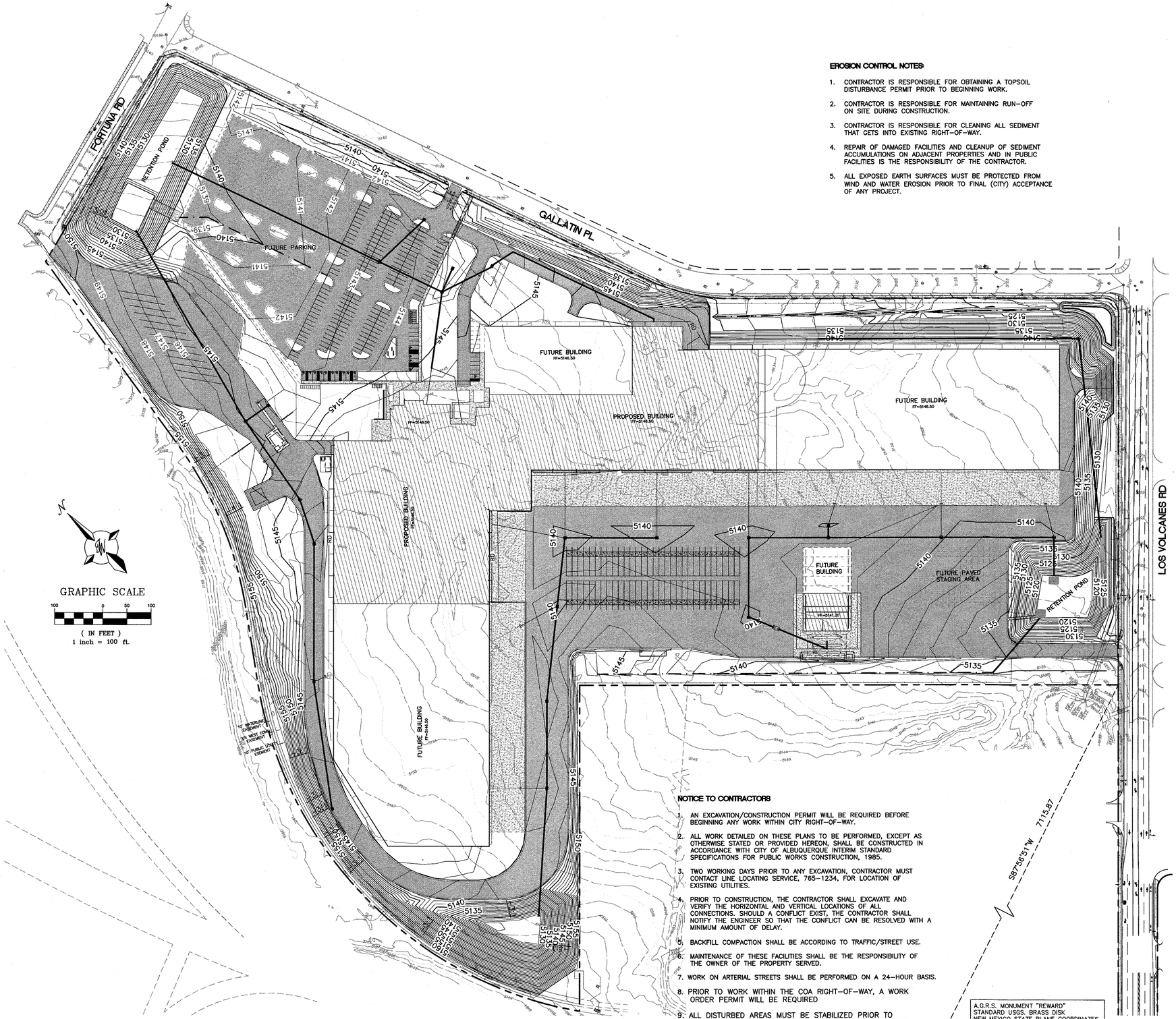
8-16-19

Sheet Title
ROOF DRAIN
PLAN AND PROFILE

Sheet No.
C211

CIVIL



N

GRAPHIC SCALE

100 0 50 100

(IN FEET)

1 inch = 100 ft.

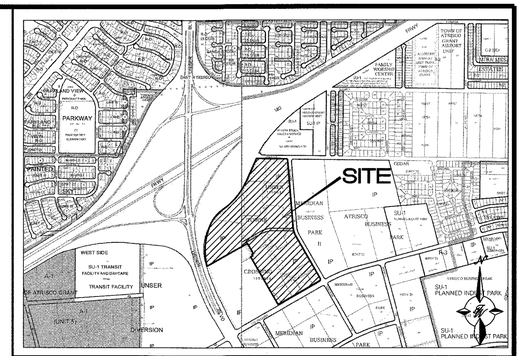
EROSION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.

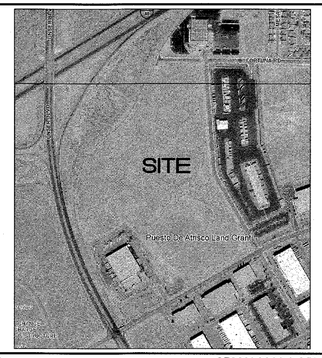
NOTICE TO CONTRACTORS

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, 1985.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. 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.
8. PRIOR TO WORK WITHIN THE COA RIGHT-OF-WAY, A WORK ORDER PERMIT WILL BE REQUIRED
9. ALL DISTURBED AREAS MUST BE STABILIZED PRIOR TO ENGINEERS CERTIFICATION FOR CERTIFICATE OF OCCUPANCY

A.G.R.S. MONUMENT "REWARD"
STANDARD USGS. BRASS DISK
NEW MEXICO STATE PLANE COORDINATES
(CENTRAL ZONE-N.A.D. 1983)
N=1,487,364.063
E=1,491,190.819
PUBLISHED EL=5319.688 (NAVD 1988)
GROUND TO GRID FACTOR=0.999675005
DELTA ALPHA ANGLE=-0°17'12.26"



VICINITY MAP J-29-Z,J-30-Z



FLOOD MAP 35001C0326J, 35001C0328J

LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
- RIGHT-OF-WAY
- BUILDING
- SIDEWALK
- RETAINING WALL
- 5010 CONTOUR MAJOR
- 5011 CONTOUR MINOR
- x 5048.25 SPOT ELEVATION (FLOWLINE)
- FLOW ARROW
- EXISTING CURB & GUTTER
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- EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- ASPHALT PAVING
- PROPOSED BUILDING
- x PROPOSED FENCE

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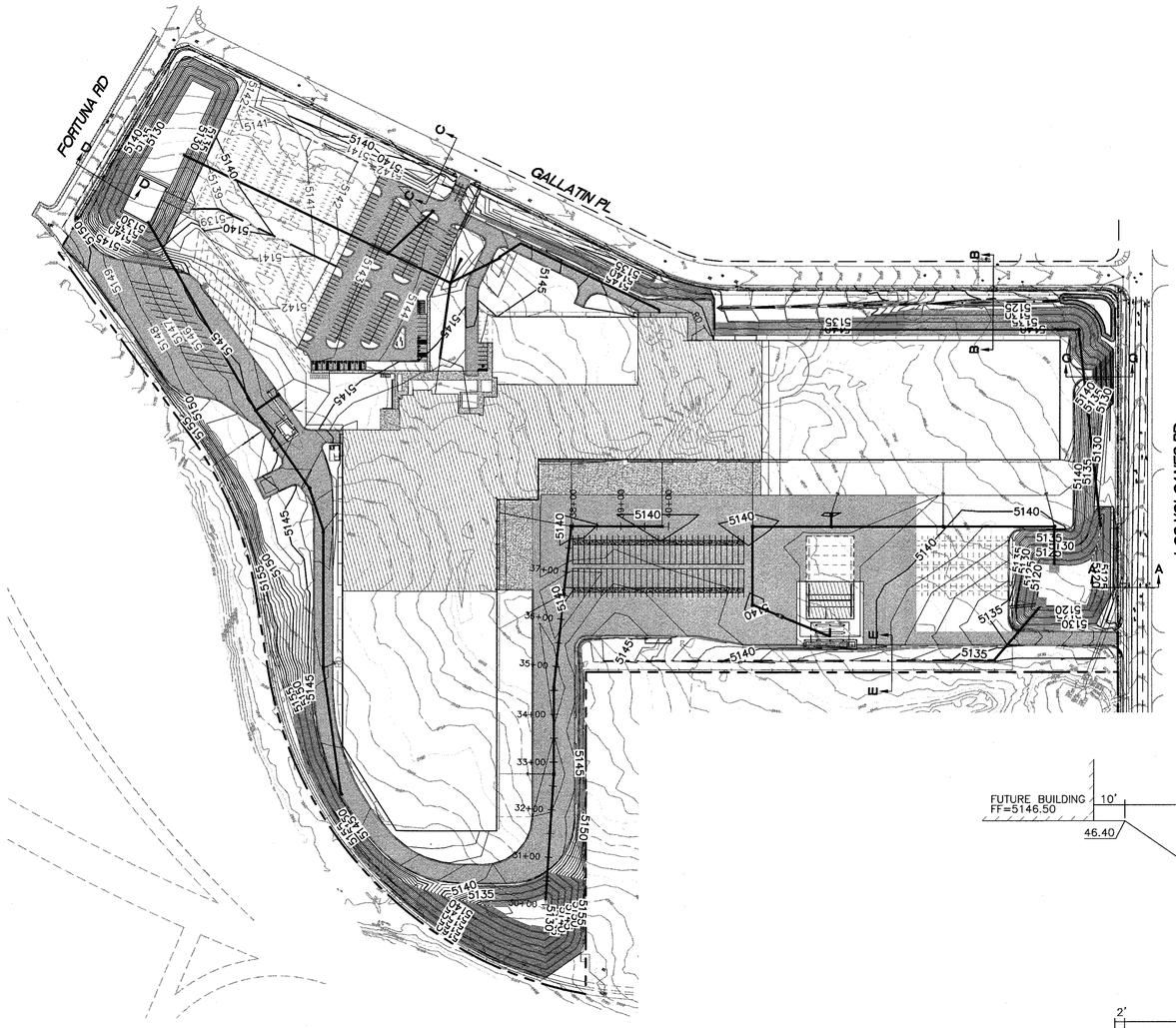
8-16-19

Sheet Title
ULTIMATE BUILD OUT GRADING AND DRAINAGE PLAN

Sheet No.
C212

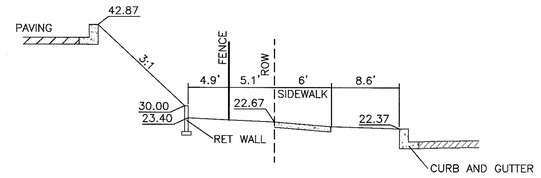
CIVIL



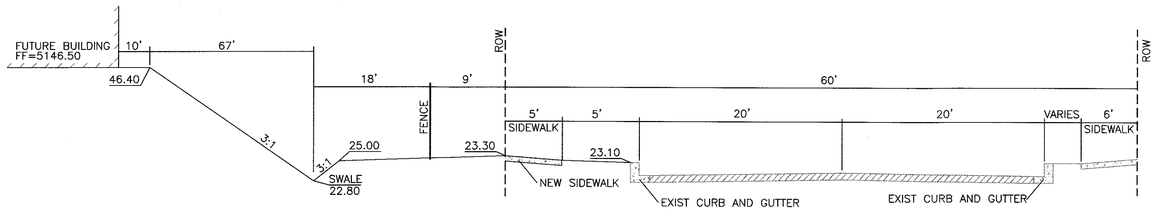
GRAPHIC SCALE

150 0 75 150

(IN FEET)
1 inch = 150 ft.



SECTION G-G



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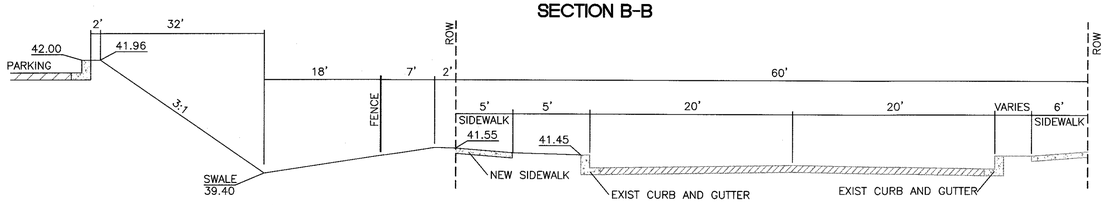
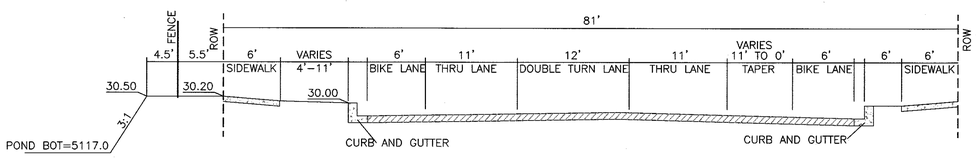
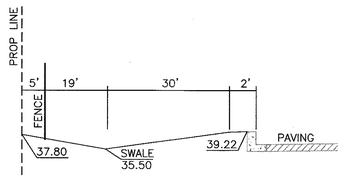


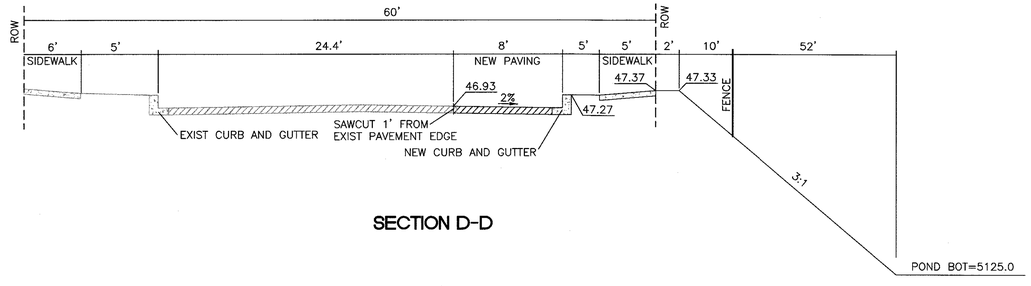
SECTION C-C



SECTION A-A



SECTION E-E



SECTION D-D

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Date
8-16-19

Sheet Title
TYPICAL SECTIONS

Sheet No.
C213

CIVIL

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9-26-19

Sheet Title
DEVELOPED DRAINGAGE BASINS

Sheet No.
1

CIVIL