CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Interim Director

Mayor Timothy M. Keller

July 31, 2018

Jeremy Shell
Respec
5971 Jefferson St. NE
Albuquerque, NM 87109

RE: Adagio Apartments
Tr A, Cantata at the Trails Unit 2
Conceptual Grading Plan Stamp Date: none (7/19)
Drainage Report Stamp Date: none (7/19)
Hydrology File: C09D014

Dear Mr. Shell:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based on the submittal received on 7/19/19, the Conceptual Grading and Drainage Plan cannot be approved until the following corrections are made:

1. Please provide an engineer's stamp with a signature and date on the plan and use the current DTIS version (11/2018) when resubmitting.
2. Identify all existing drainage easements on the plan, as well as any proposed easements, vacations, and lot line adjustments.
3. Identify all drainage infrastructure as private vs. public.
4. Include project benchmark and datum.
5. Provide a copy of the Grading and Drainage plan to AMAFCA; AMAFCA approval may be required.
6. Please provide a vicinity map showing the location of the site. Typically this is the Zone Atlas. This can be downloaded in pdf format from the City of Albuquerque's website.
7. A separate bound Drainage Report is recommended, due to the breadth of this project.
8. Provide one (or several large) central facility for Stormwater Quality volume (SWQV) retention; individual ponds for each apartment unit will not be accepted.
9. Please provide the SWQV calculations for each basin draining to each pond. The stormwater quality ponds need to be sized for the areas draining to them.

10. Please show and label the pond(s) and include a label on each with the SWQV and elevation, the 100-year volume and elevation, the peak 100 year inflow and outflow, the spillway crest elevation, and the spillway flow depth.

11. The site must demonstrate adequate downstream capacity per § 14-5-2-12(G) of the Albuquerque Code of Ordinances. 10 cfs discharge to the storm drain is identified, but how will runoff be controlled?…. pond, orifice plate, detention in the drive aisles? The controlling feature needs to be identified and designed.

12. This site must also comply with the approved drainage master plan (Thompson, 2015) for the Trails. The proposed plan seems to be generally consistent, but this needs to be investigated and discussed.

13. Drainage conveyance for basins 2-4 is questionable. Will these basins actually make it to the drive aisles? If so how? Can you add low points or drain lines for the sidewalks, along with swales? You could also treat these areas as contiguous self-ponding areas, coupled with drainage covenants. This would also enable basin 1 to free discharge.

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14. Hydraulic calculations are missing, to include:
    a. Provide street capacity analysis demonstrating that the 100-year HGL remains at/below top of curb.
    b. Provide inlet calculations, including 2x capacity (50% clogging factor) for inlets in a sump. For orifice calculations, the open area (or void space) for the new bike-friendly Albuquerque grate (Dwg 2220) is 3.72sf. Please ensure you orifice calculations are updated to reflect this.
    c. Provide hydraulic calculations for this proposed storm drain system, calculated along the Energy Grade Line; include both the HGL and EGLs in the table.
    d. Pond routing as necessary.

15. A waterblock, 0.87’ high, per COA Paving Detail No. 2426, is required at the driveway entrance.

If you have any questions, please contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Hydrology Calculations

The following calcualtions are based on Albuquerque's Development Process Manual, Seciton 22.2

Runoff Rate:

Treatment Type Areas

Subbasin	$Area_A$ (ac)	$Area_B$ (ac)	$Area_C$ (ac)	$Area_D$ (ac)	Total (ac)
Subbasin 1	0.00	0.12	0.12	1.74	1.99
Subbasin 2	0.00	0.12	0.12	0.23	0.46
Subbasin 3	0.00	0.19	0.19	0.38	0.76
Subbasin 4	0.00	0.24	0.24	0.49	0.97
Total	0.00	0.67	0.67	2.84	4.18

Peak Discharge values based on Zone 1 from Table A-9

Q_A = 1.29 cfs/ac Q_B = 2.03 cfs/ac Q_C = 2.87 cfs/ac Q_D = 4.37 cfs/ac

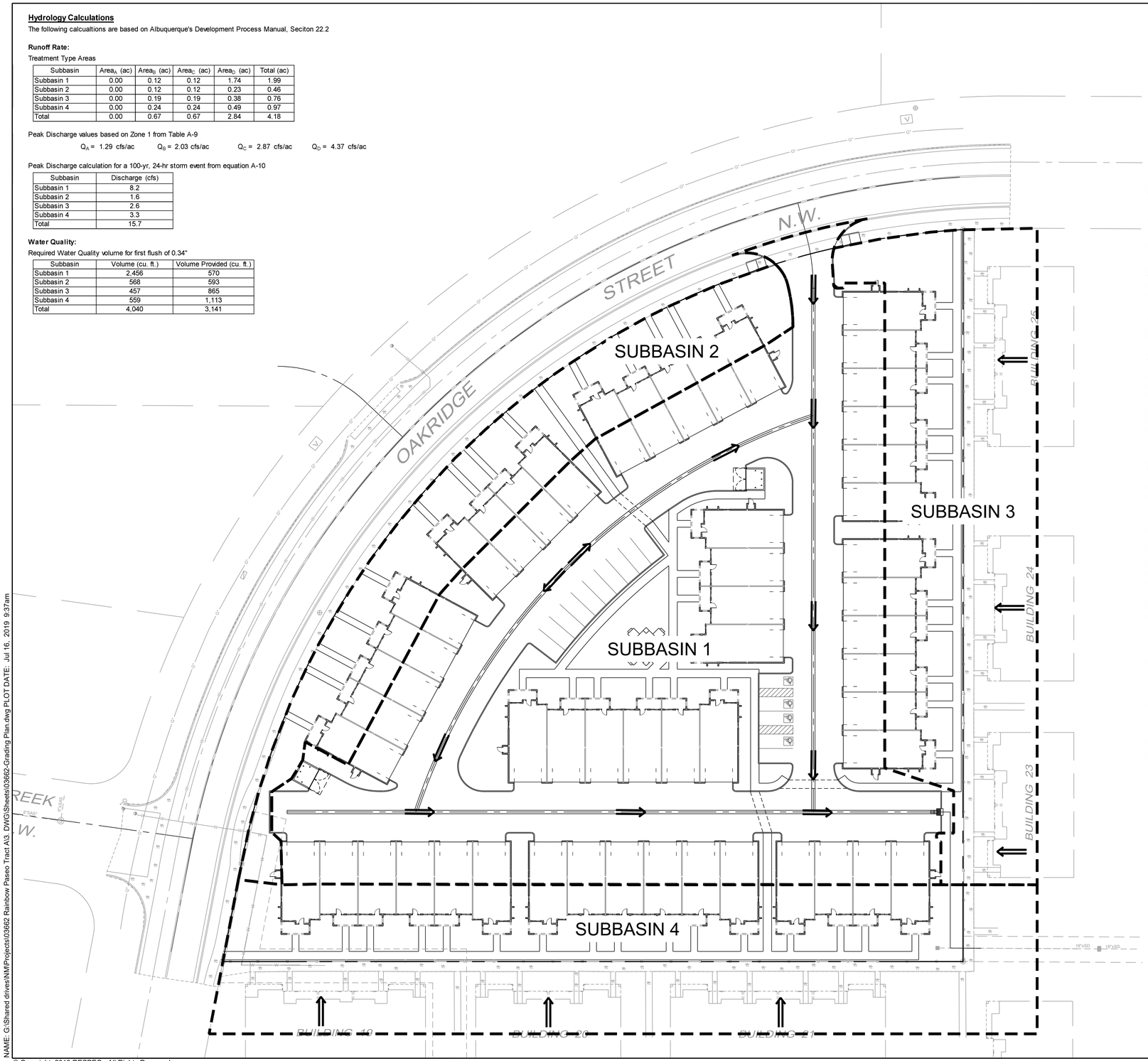
Peak Discharge calculation for a 100-yr, 24-hr storm event from equation A-10

Subbasin	Discharge (cfs)
Subbasin 1	8.2
Subbasin 2	1.6
Subbasin 3	2.6
Subbasin 4	3.3
Total	15.7

Water Quality:

Required Water Quality volume for first flush of 0.34"

Subbasin	Volume (cu. ft.)	Volume Provided (cu. ft.)
Subbasin 1	2,456	570
Subbasin 2	568	593
Subbasin 3	457	865
Subbasin 4	559	1,113
Total	4,040	3,141



FEMA MAP: 35001C0111G

BACKGROUND

TRACT A OF THE CANTANA AT THE TRAILS UNIT 2 IS APPROXIMATELY 3.26 ACRES IN THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO. THE PROPERTY IS LOCATED JUST WEST OF UNIVERSE BOULEVARD BETWEEN TREELINE AVENUE AND OAKRIDGE STREET. THE SITE CURRENTLY IS AN UNDEVELOPED LOT. THE PROPOSED PROJECT IS AN APARTMENT COMPLEX. THERE IS IS NO DESIGNATED 100-YEAR FLOODPLAIN SHOWN ON THE SITE. THE SITE RECEIVES SOME OFFSITE FLOWS FROM NEIGHBORING PROPERTY.

METHODOLOGY

HYDROLOGY CALCULATIONS FOR THE SITE ARE PERFORMED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE TECHNICAL STANDARDS. THE RATIONAL METHOD WAS USED, BASED ON THE 100-YR, 24-HR STORM EVENT, TO CALCULATE PEAK FLOW RATES IN ORDER TO ENSURE ALL FLOW PATHS ARE SUFFICIENT TO CARRY FLOWS. THE REQUIRED DETENTION POND VOLUME WAS CALCULATED BASED ON THE DIFFERENCE BETWEEN AND PRE AND POST DEVELOPMENT PEAK DISCHARGES. ALL HYDROLOGIC AND HYDRAULIC CALCULATIONS CAN BE FOUND ON THIS SHEET.

EXISTING CONDITIONS

THE AREA, IN GENERAL, SLOPES TOWARDS LOW POINT AT CENTER OF PROPERTY AND EVENTUALLY DRAINS TO THE SOUTHEAST AT AN APPROXIMATE SLOPE OF 2% - 4% TO A LOW RETENTION BASIN APPROXIMATELY FOUR FEET DEEP. STORM WATER RUNOFF GENERATED BY TRACT A SHEET DRAINS INTO RETENTION BASIN LOCATED ON THE PROPERTY. THE LOT TO THE EAST, TRACT B, CURRENTLY DRAINS TO THE EAST TO A DETENTION BASIN ON THE EAST SIDE OF UNIVERSE BOULEVARD. THERE IS AN EXISTING STORM DRAIN CONNECTION NEAR THE SOUTH-EAST CORNER OF THE TRACT A PROPERTY BOUNDARY WITHIN A DRAINAGE EASEMENT AND IS AVAILABLE TO CONNECT TO. THE TRACT A STORMWATER DISCHARGE INTO THE EXISTING STORM DRAIN PIPING IS LIMITED TO 10 CFS PER THE STORM DRAIN HYDRAULIC ANALYSIS BY BHI ON OCTOBER 2, 2012 FOR CANTATA AT THE TRAILS (C-09/D001B).

PROPOSED CONDITIONS

THE PROPOSED DEVELOPMENT WILL CONSIST OF ASPHALT AND CONCRETE PAVING FOR PARKING AND DRIVING SURFACES AND 52 INDIVIDUAL APARTMENT BUILDINGS. THE BASIN HAS BEEN SPLIT INTO 4 SUBBASINS.

SUBBASIN 1 IS 1.99 ACRES AND GENERATES 8.2 CFS. THIS SUBBASIN CONSISTS PRIMARILY OF THE RUNOFF GENERATED BY ASHPALT ROAD SURFACE, PARKING LOT, APARTMENT BUILDINGS, AND OPEN SPACE. THE ROADWAY GENERALLY SLOPES SOUTH AND EAST FROM THE PROPOSED ENTRY OFF OF OAKRIDGE STREET NW TO CATCH BASINS AT THE ULTIMATE LOW POINT AT THE SOUTH-EAST END OF THE PROPERTY. RUNOFF EXITS THE CATCH BASINS AND IS CONVEYED VIA 18" STORM DRAIN PIPING TO THE SOUTH-EAST AND CONNECTS TO AN EXISTING 18" STORM DRAIN LOCATED WITHIN THE 15' PRIVATE DRAINAGE EASEMENT. THE FLOW FROM THIS SUB-BASIN WILL BE REDUCED FROM 8.2 CFS TO 5.6 CFS TO SATISFY THE 10 CFS LIMITATION DISCHARING TO THE CANTATA STORM DRAIN.

SUBBASIN 2 IS 0.46 ACRES AND GENERATES 1.6 CFS. THIS SUBBASIN CONSISTS OF HALF THE ROOF AREA OF THE PROPOSED APARTMENT BUILDINGS, LANDSCAPING, AND RETENTION BASINS. THIS AREA WILL FLOW NORTH-WEST INTO MULTIPLE RETENTION BASINS.

SUBBASIN 3 IS 0.76 ACRES AND GENERATES 2.6 CFS. OF THE 0.76 ACRES, 0.39 ACRES IS OFF-SITE. THIS SUBBASIN CONSISTS OF HALF THE ROOF AREA OF THE PROPOSED APARTMENT BUILDINGS, LANDSCAPING, AND RETENTION BASINS. THIS AREA WILL FLOW NORTH-WEST INTO MULTIPLE RETENTION BASINS.

SUBBASIN 4 IS 0.97 ACRES AND GENERATES 3.3 CFS. OF THE 0.97 ACRES, 0.52 ACRES IS OFF-SITE. THIS SUBBASIN CONSISTS OF HALF THE ROOF AREA OF THE PROPOSED APARTMENT BUILDINGS, LANDSCAPING, AND RETENTION BASINS. THIS AREA WILL FLOW NORTH-WEST INTO MULTIPLE RETENTION BASINS.

THE WATER QUALITY TABLE AT THE TOP LEFT OF THIS SHEET SUMMARIZES THE WATER QUALITY VOLUMES REQUIRED AND PROVIDED. SUFFICIENT PONDING HAS BEEN PROVIDED FOR SUBBASINS 2 - 4 IN THE FRONT YARDS OF EACH UNIT. THE PONDING REQUIREMENTS FOR SUBBASINS 3 & 4 ONLY INCLUDE THE ON-SITE STORMWATER VOLUME. THE OWNER HAS ELECTED TO PAY THE PAYMENT IN LIEU FOR THE STORMWATER QUALITY VOLUME OF 1,888 CF. THIS PAYMENT AMOUNT = 1,888 CF x $8/CF = $15,088.00.

LEGEND

- PROPERTY BOUNDARY
- 5430 EXISTING MAJOR CONTOUR
- 5430 EXISTING MINOR CONTOUR
- Ⓢ EXISTING SANITARY SEWER MANHOLE
- Ⓓ PROPOSED STORM DRAIN MANHOLE
- PROPOSED INLET GRATE
- SUBBASIN BOUNDARY

0 30' 60'

SCALE: 1" = 30'

DESIGNED RPE
DRAWN RPE
CHECKED JS
DATE 7.16.2019

REVISION

RESPEC
5971 JEFFERSON STREET SUITE 101
ALBUQUERQUE, NEW MEXICO 87109
WATER & NATURAL RESOURCES
WWW.RESPEC.COM 505.293.3718

STAMP

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7/2019

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811 Know what's below. Call before you dig.

PROJECT NAME: ADAGIO APARTMENTS

SHEET TITLE: CONCEPT DRAINAGE PLAN

SUBMITTED FOR: DRB SITE PLAN

SHEET NUMBER: C-102

NAME: G:\Shared drives\NM Projects\03662 Rainbow Paseo Tract A\3. DWG\Sheets\03662-Grading Plan.dwg PLOT DATE: Jul 16, 2019 9:37am

GENERAL NOTE:

1. SEE ARCHITECTURAL SITE PLAN FOR ADDITIONAL SITE DETAILS.
2. ALL PROPOSED ELEVATIONS ARE AT FLOWLINE UNLESS OTHERWISE SPECIFIED.

LEGEND

- PROPERTY BOUNDARY
- 5430 EXISTING MAJOR CONTOUR
- 5430 EXISTING MINOR CONTOUR
- 5430 PROPOSED MAJOR CONTOUR
- 5430 PROPOSED MINOR CONTOUR
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- xx.xx PROPOSED SPOT GRADE
- Ⓢ EXISTING SANITARY SEWER MANHOLE
- Ⓓ PROPOSED STORM DRAIN MANHOLE
- PROPOSED INLET GRADE

0 30' 60'

SCALE: 1" = 30'

DESIGNED BJE
DRAWN BJE
CHECKED JS
DATE 7.15.2019

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811 Know what's below. Call before you dig.

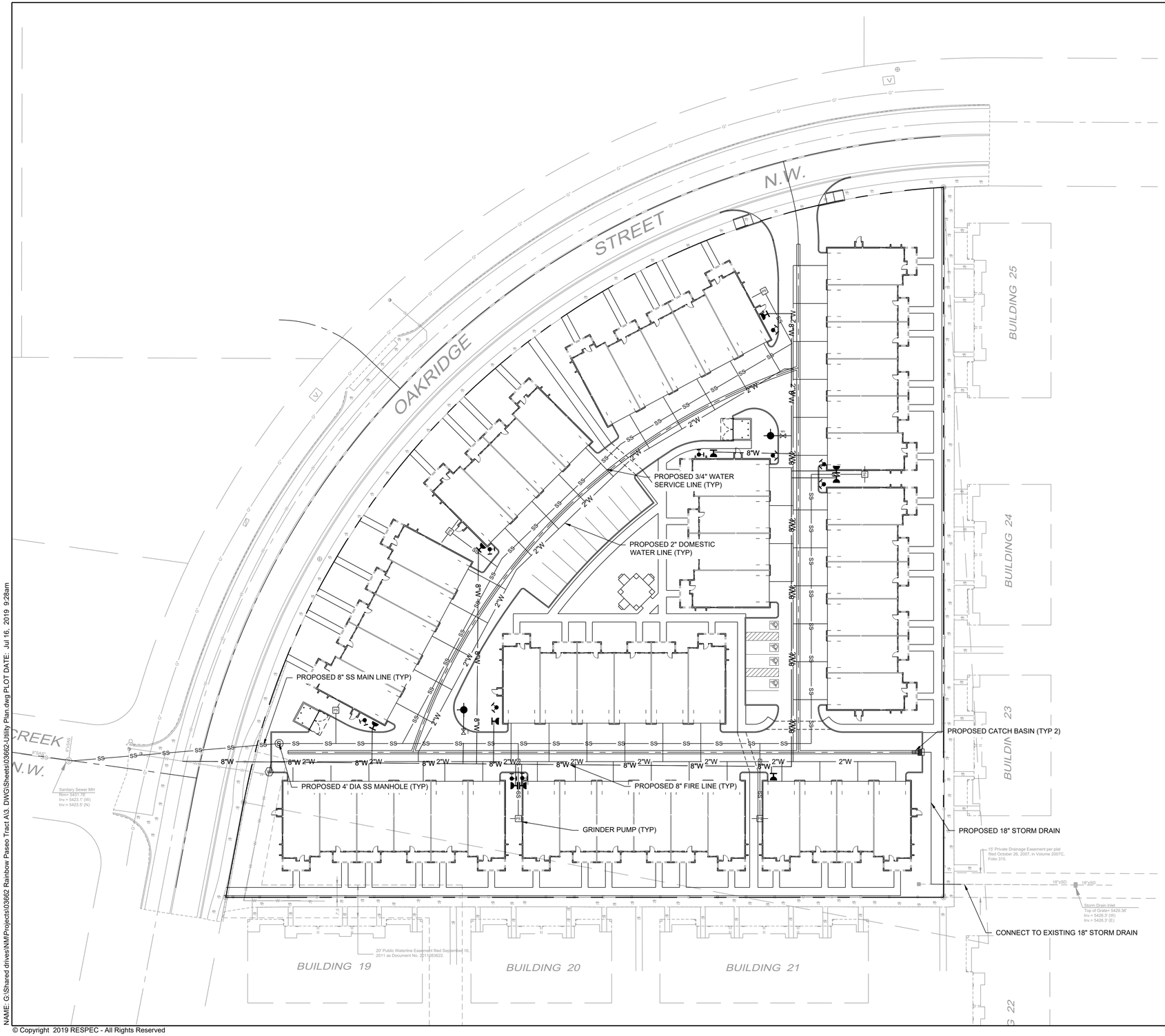
PROJECT NAME: ADAGIO APARTMENTS

SHEET TITLE: CONCEPT GRADING PLAN

SUBMITTED FOR: DRB SITE PLAN

SHEET NUMBER: C-101

NAME: G:\Shared drives\NM\Projects\03662 Rainbow Paseo Tract A\3. DWG\Sheets\03662-Grading Plan.dwg PLOT DATE: Jul 15, 2019 3:02pm



GENERAL NOTES:

1. TYPE RBPA BACKFLOW PREVENTERS FOR ALL PROPOSED PRIVATE WATER LINES WILL BE PROVIDED INTERNAL TO EACH PROPOSED BUILDING PER COA STD. DWG. 2385. THE BACKFLOW PREVENTERS WILL BE THE SAME SIZE AS THE TAP/CONNECTION AT THE MAIN LINE.
2. THE PRIVATE SANITARY SEWER WILL BE A PRESSURE SYSTEM WITH A GRINDER PUMP FOR EACH BUILDING. THE PRESSURE SYSTEM WILL DISCHARGE TO MH#1 AT THE SOUTHWEST CORNER OF THE PROPERTY AND GRAVITY FLOW ACROSS OAKRIDGE STREET AND CONNECT TO THE EXISTING MANHOLE IN TIJERAS CREEK ROAD.

LEGEND

- PROPERTY BOUNDARY
- EXISTING WATER LINE
- PROPOSED WATER LINE
- 8" FIRE LINE
- EXISTING SANITARY SEWER LINE
- PROPOSED SANITARY SEWER LINE
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED INLET GRATE
- PROPOSED GATE VALVE
- PROPOSED WALL INDICATOR VALVE
- PROPOSED FDC
- PROPOSED 6" GATE VALVE
- PROPOSED GRINDER PUMP

0 30' 60'
SCALE: 1" = 30'

DESIGNED	RPE
DRAWN	RPE
CHECKED	JS
DATE	7.16.2019

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811 Know what's below. Call before you dig.

PROJECT NAME: ADAGIO APARTMENTS

SHEET TITLE: CONCEPTUAL UTILITY PLAN

SUBMITTED FOR: DRB SITE PLAN

SHEET NUMBER: C-103

NAME: G:\Shared drives\NM\Projects\03662 Rainbow Paseo Tract A\3. DWG\Sheets\03662-Utility Plan.dwg PLOT DATE: Jul 16, 2019 9:28am