8/16/24 – MISSING WATER RESOURCES DEPARTMENT COMMENTS

John Berry
Berry Riddell
6750 E Camelback Rd Ste 100
Scottsdale, AZ 85251

RE: **2-ZN-2024**
Artessa
G0949 (Key Code)

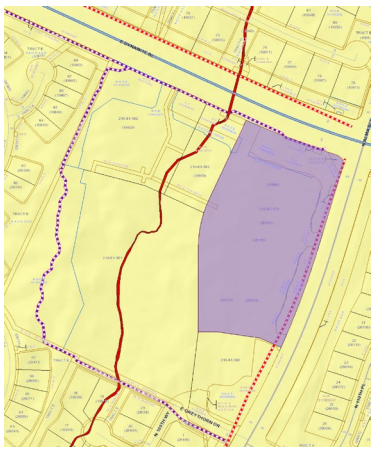
Planning & Development Services has completed review of the above referenced development application. The following comments represent issues or deficiencies identified by the review team and are intended to provide you with guidance for compliance with city codes, policies, and guidelines.

Significant Zoning Ordinance or Scottsdale Revise Code Issues

The following code and ordinance related issues have been identified and must be addressed with the resubmittal. Addressing these items is critical to determining the application for public hearing and may affect staff's recommendation. Please address the following:

Planning, Katie Posler, 480 312 2703, kposler@scottsdaleaz.gov:

1. City's trail system was updated to show the proposed trail through the internal of the site (see below).



2. Please see the attached redlined Site Plans, NAOS Plan, Open Space Plan, and Roof Over Topo Plan and address comments.
3. Development Agreement case comments, under 2-DA-2024, are forthcoming. (The DA case was submitted after the ZN resubmittal).

4. Proposed architectural canopies and parapets that are not screening mechanical equipment are not exempt from building height and need to be revised to meet building height on the roof over topography and elevations. (See roof over topography corrections.)
5. The open space plan, NAOS plan, and site plan needs to be revised to reflect what each lot is providing towards the total open space required, total frontage open space required, total NAOS required, dwellings proposed, and commercial FAR. If providing a separate "PSD/Subdivision" exhibit to show the breakdown is easier, that is acceptable as well.

   These same numbers will need to be reflected in the DA as well under the Development Area Budget table (example below).

EXHIBIT "B"
DEVELOPMENT AREA BUDGET

- Maximum Density = 274 units

LOT	FRONTAGE OPEN SPACE	OPEN SPACE OUTSIDE FRONTAGE	COMMERCIAL FLOOR AREA	HOTEL KEYS	RESIDENTIAL UNITS
Lot 1 (Main Retail)	18,740	32,834	40,091	0	0
Lot 2 (Hotel)	0	10,599	0	117	0
Lot 3 (Apts)	14,250	30,732	1,700	0	274
Lot 4 (Corner Retail)	7,392	3,676	5,825	0	0
Totals Provided	40,382	77,841	47,616	117	274
Min/Max Required for Full Property	23,964 min.	71,894 min.	46,920 min.	116 min.	274 max.

EXHIBIT B

6. There shall not be any buildings within the 80' yard setback along the west and south boundaries. Relocate the garage and carport canopies out of the 80' southern setback to comply with code**. Per Z.O.Sec.9.106.C.3.a - No covered parking shall be allowed in a required yard or building setback. Please relocate the garages and canopies out of the 80' setback. If parking spaces (without building coverage) are going to remain, please screen with a 3' tall site wall, outside easements.**
7. To accompany the slope analysis table, please provide a topography plan to demonstrate the

required NAOS in accordance with the Zoning Ordinance, with the next submittal. **The arrow exhibit is not the same as a NAOS topography plan. Please see an example attached and provide a NAOS topography plan to support the provided slope analysis numbers for the entire site.**

8. Please update the NAOS plan to list the allowed and provided NAOS reveg. Maximum allowance is 25% of the required NAOS SF and reveg counts at a half credit in HD zoning. Please update math accordingly. **The NAOS reveg ½ credit was not addressed, please see marked up NAOS plan with corrections to address.**

Design Review, Brad Carr, 480-312-7713, bcarr@scottsdaleaz.gov

9. Per Sec. 6.1070.G.1.i. of the Zoning Ordinance, plant materials that are not indigenous to the ESL area shall be limited to enclosed yard areas and non-indigenous plants that have the potential of exceeding twenty (20) feet in height are prohibited. Please revise the landscape plans to ensure all non-indigenous plant materials are located to enclosed yard areas. **Not fully addressed. Landscape plans still indicate the use of non-native species in areas that conflict ZO requirements, including use of hybrid mesquite species.**

Engineering, Eliana Hayes, 480-312-2757, ehayes@scottsdaleaz.gov

10. SRC 48: Please provide city's approval of the existing parcel lines within proposed rezoning area. **Response letter does not provide applicant's clear direction on land assemblage requirement for currently developed parcels resulting in 1 project parcel and one existing development parcel. Land assemblage is required prior to any permit issuance of this project. If this is not applicant's intent or understanding, applicant needs to provide an architect's signed and sealed analysis of appropriate minimum distance of existing buildings and property lines as part of this zoning case to demonstrate project's conformance with city code requirements, in this case, the building and land division codes, as project parcel is relying on existing developed parcel to meet their zoning requirements and hence a part of this project.**

    a. (+ SRC 31) Existing Wells Fargo eastern parcel line appears to be too close to its building canopy. Please provide an architect's signed and sealed building code analysis for existing parcel line placement else the property line should be shifted so that it is located 30' from the canopy edge. **Not addressed.**

    b. As currently presented in case materials, all parcels within the rezoning boundary provide for unified and cohesive access, vehicular and non. Currently the parcels are all owned by the same entity, but the city cannot preclude their sales to different entities. Different entities may have different intents with their parcels. Please provide a proposed deed restriction or in perpetuity access agreement providing for the protection of shared drive aisles and sidewalks and their communal maintenance and financing thereof. **Not addressed.**

    c. Platting of parcels will be a prerequisite of development permit issuance if the city did not approve the existing property lines; re response above. As a commercial project, a minor subdivision requires a case approval, which may be accomplished via the project's DR case with a submittal of proposed plat accordingly. **Not addressed.**

11. SRC 49: This projects proposed development's sewer connection to the private sewer system within adjacent commercial development will require that a property owner's association be formed to own and operate the private sewer system across multiple parcels. Project will be stipulated accordingly:

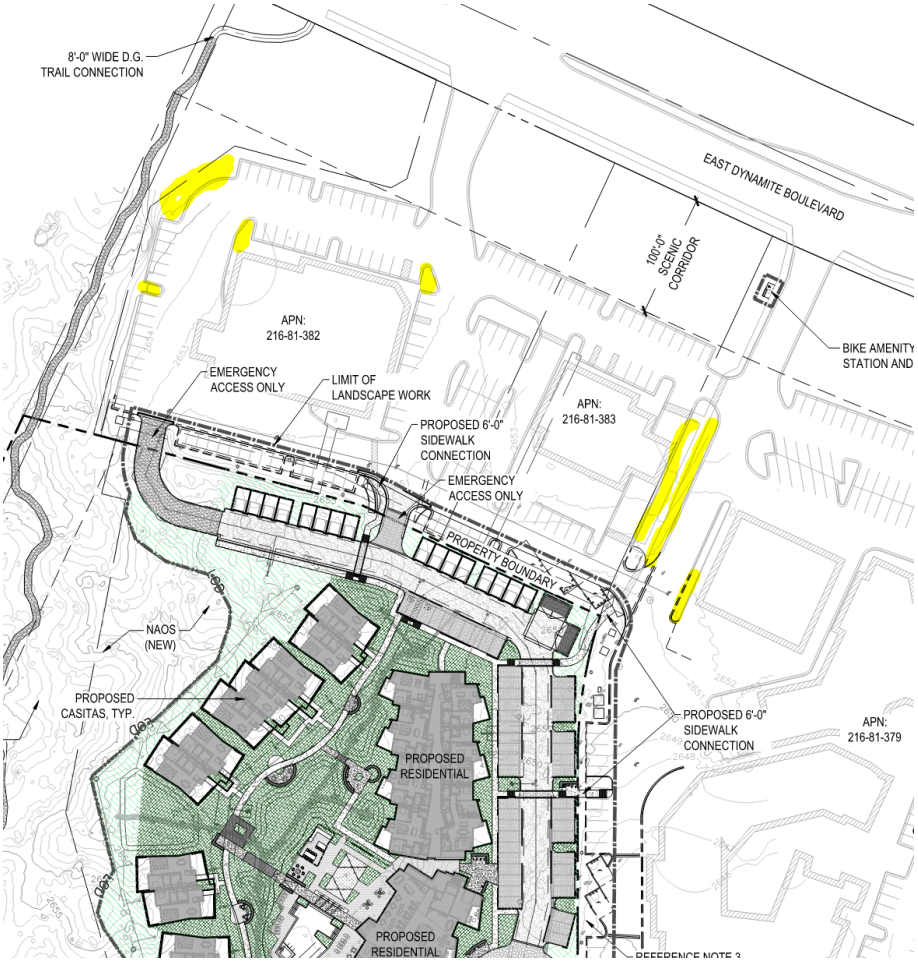
Water Resources, Rezaur Rahman, 580-312-5636, rrahman@scottsdaleaz.gov
12. Staff is still completing their review.

Significant Policy Issues

The following policy related issues have been identified. Though these issues may not be as critical to determining the application for public hearing, they may affect staff's recommendation and should be addressed with the resubmittal. Please address the following:

Design Review, Brad Carr, 480-312-7713, bcarr@scottsdaleaz.gov and Planning, Katie Posler, 480 312 2703, kposler@scottsdaleaz.gov:

13. Landscape plan shall be revised to show the entire site being rezoned and add trees/shrubs to existing landscape areas that have been diminished over time. **Not fully addressed. Please revise the landscape plan to add plants to the areas highlighted in yellow.**



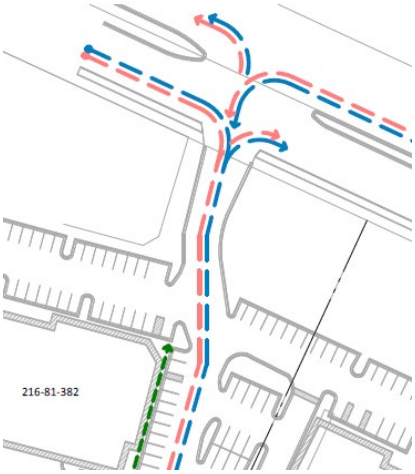
14. Please revise the building elevations to fully enclose exterior stairs. **Not addressed, please address.**
15. Please confirm that no exterior downspouts will be located on the casitas.

Transportation, Stephanie Croker, 480-312-7802, scroker@scottsdaleaz.gov

16. Improve the multi-use trail around the perimeter of the mixed-use development – Dynamite Boulevard to Alma School Road. Trail improvement shall be minimum 6-foot wide compacted decomposed granite. Dedicate additional non-motorized public access easements as necessary to complete the trail improvements to avoid vegetation, boulders, wash crossings, etc. DSPM Sec. 8-3.200 **Not Addressed, show the additional non-motorized public access easements.**
17. Dedicate minimum 15-foot wide non-motorized public access easements along the Dynamite Boulevard site frontage. Construct the multi-use trail within the trail easement. Trail improvement shall be minimum 8-foot wide compacted decomposed granite. Dedicate additional non-motorized public access easements as necessary to construct the trail improvements to avoid vegetation, boulders, wash crossings, etc. DSPM Sec. 8-3.200 **Not Addressed.**
18. Widen the multi-use path along the Alma School Road site frontage to a minimum 8-foot width. Dedicate additional non-motorized public access easements as necessary to construct the path improvements to avoid vegetation, boulders, wash crossings, etc. DSPM Sec. 8-3.200 **Not Addressed. Please widen the sidewalk to be 8 feet in width.**

19. Dedicate safety triangles at all site driveways on Dynamite Boulevard and Alma School Parkway. DSPM 5-3.123; Fig. 5-3.27 **Not Addressed. Please provide safety triangles on the site plan or other graphic.**

20. New sidewalk shall be constructed as shown on the submitted Pedestrian and Vehicular Circulation Plan dated 3-15-2024. All new sidewalks shall be a minimum width of 6 feet. A new sidewalk shall be constructed along the western side of the existing western Dynamite Boulevard driveway. **Not Addressed.**



Engineering, Eliana Hayes, 480-312-2757, ehayes@scottsdaleaz.gov

21. DSPM 2-1.309: REFUSE. Provide a refuse plan meeting all city refuse requirement given in DSPM 2-1.309. **Not addressed properly. Understood regarding 67 units but the 2 double enclosure placements to not comply with the requirement to provide a one direction pick-up route through project. As proposed, the truck would have to go in one way, exit to commercial area, turn themselves around, and go back in the way they came out to pick up the other enclosure. 1 double enclosure housing a 4 cubic yard vertical compactor and a refuse container could suffice for this development, else relocate one of the enclosures so it can be picked up from the same direction as the other.**

    a. Please note that 90 dwelling units necessitates a 6 cubic yard minimum horizontal or vertical compactor. Please make sure to accommodate in refuse plan accordingly, specifically stating the compactor to be used to assure appropriate site space has been provided for it.

    b. An emergency and services access easement along the refuse service route to and from city streets, crossing parcels boundaries, will be required. Update refuse plan accordingly. **Not addressed.**

22. DSPM 5-8.205: All non-ADA compliant pedestrian ramps abutting rezoning boundary are to be reconstructed by project. Update site plan accordingly – all existing driveway curb returns: **Not addressed. Insufficient to say to be done by others.**

23. DSPM 6-1.202 + 7-1.201: Preliminary Basis of Design Reports must be reviewed and accepted by the Water Resources Department prior to zoning approval. Update BODs accordingly. **Not addressed as of 08152024.**

24. Dedication of new PNMAE easement to accommodate new trail location will be required prior to permit issuance.

Drainage, Jennifer Lynch, 480-312-7903, jlynch@scottsdaleaz.gov

25. More information is required on how the interconnectivity of the basins will function. Address all comments in the PDF titled "2-ZN-2024_2-CORR-STORMWATER-Preliminary Drainage Report.pdf".

Technical Issues

The following technical corrections have been identified. Though these items may not be critical to scheduling the case for public hearing, they may affect a decision on the construction plan submittal and should be addressed as soon as possible. Please address the following:

Planning, Katie Posler, 480 312 2703, kposler@scottsdaleaz.gov:

26. Please revise the civil plans to clearly label the existing and proposed NAOS boundary on site (both natural and reveg). **Not addressed.**

27. Please revise the civil plans to match the individual building labels as shown on the site plan.

28. Please update the project plans to list the required and provided parking for the existing commercial buildings to verify compliance. **Not addressed.**
29. What is the roof material on the garages and apartments? Please label on the elevations and material call outs on the elevations.

Transportation, Stephanie Croker, 480-312-7802, scroker@scottsdaleaz.gov

30. Dedicate cross-access easements over the site parcels to allow vehicles from all parcels to access the existing driveways on Dynamite Boulevard and Alma School Parkway. **Not Addressed. A Cross-access easement should also be connected to Alma School Parkway.**

TIMA, Stephanie Croker, 480-312-7802, scroker@scottsdaleaz.gov

31. Provide ADT data for Alma School. The 9,400 ADT vehicles shown in the study are for the section of Alma School from Happy Valley to Jomax. Please adhere to the DSPM Initiating Impact and Mitigation Analysis Category 1 study requirements requiring current ADT's. **Not Addressed. Please provide ADT data for Alma School.**

Please submit the revised application requirements and supplemental information identified in Attachment A. Once reviewed, staff will determine if the application is ready to be determined for a hearing, or if additional information is needed.

The Zoning Administrator may consider an application withdrawn if a resubmittal has not been received within 180 days of the date of this letter (Section 1.305. of the Zoning Ordinance).

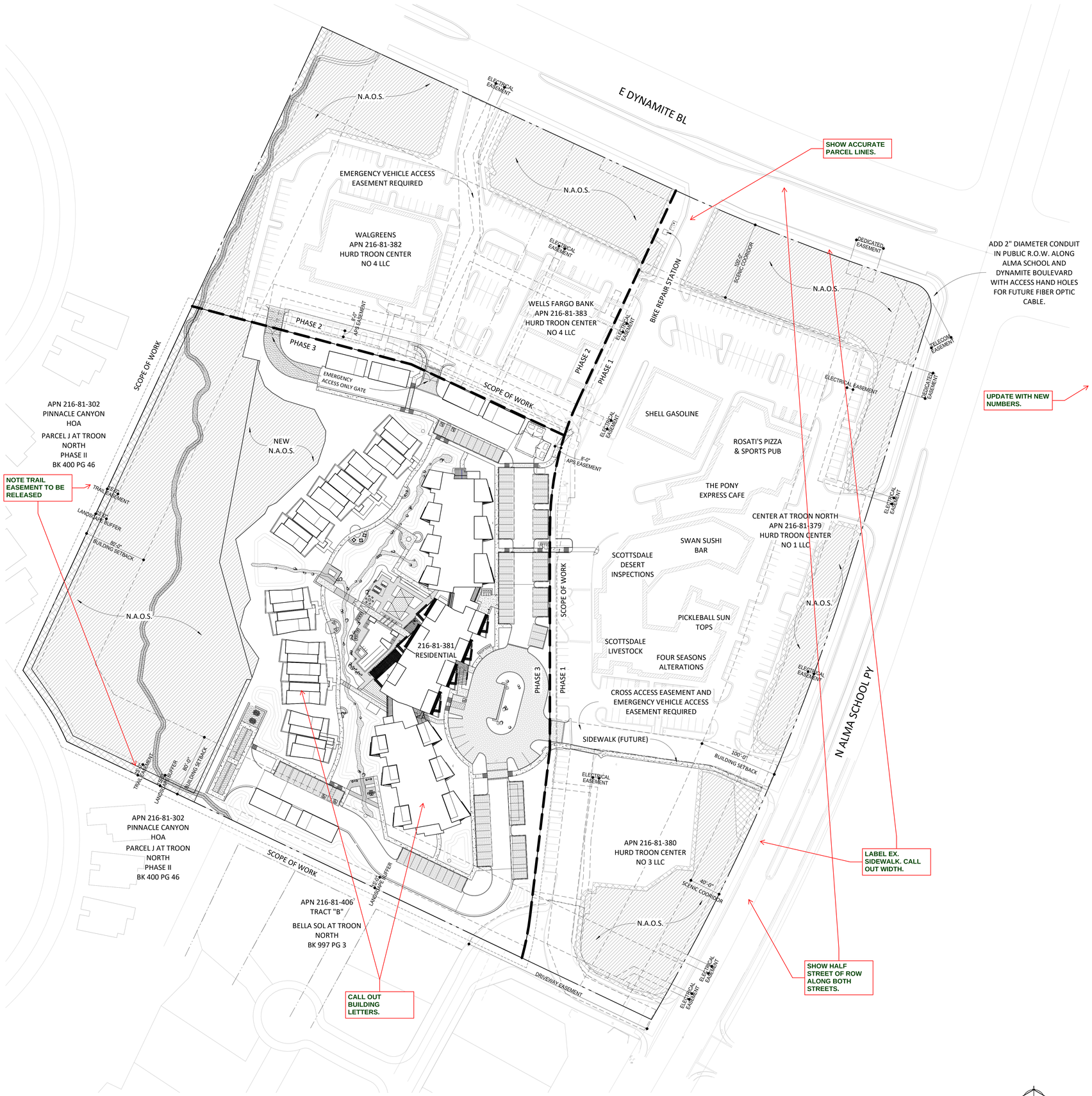
If you have any questions, or need further assistance, contact case reviewer identified below.
Regards,
Katie Posler
Senior Planner

ATTACHMENT A
Resubmittal Checklist

Submit digitally at: https://eservices.scottsdaleaz.gov/bldgresources/Cases/DigitalLogin

All files shall be uploaded in PDF format. Application forms and other written documents or reports should be formatted to 8.5 x 11, and plans should be formatted to 11 X 17.

- Comment Response Letter – Provide responses to the issues identified in this letter
- Summary of modifications made resulting from Public Input and staff comments
- Project Narrative
- Traffic Impact Mitigation Analysis (TIMA)
- Basis of Design Report (water)
- Basis of Design Report (sewer)
- Fire Flow Test
- Drainage Report
- Grading & Drainage Plan
- Site Plan Overall
- Site Plan Individual
- Site Plan Details
- NAOS Plan
- Topography plan (for NAOS)
- Open Space Plan
- Landscape Plan Overall
- Circulation Plan
- Roof Over Topography
- Color Building Elevations (for all buildings)
- Perspectives
- Lighting Site Plan
- Photometric Analysis
- Manufacturer Cut Sheets (for external light fixtures)
- Floor Plans
- Roof Plan
- Cuts & Fills Site Plan



SITE DATA

PROJECT NAME	ARTESSA PINNACLE PEAK	
PROJECT USE	RESIDENTIAL / COMMERCIAL	
PARCEL ADDRESS	N ALMA SCHOOL PY SCOTTSDALE, AZ 85262	
PARCEL ZONING	PCC ESL (HD/HC)	
SITE AREA (GROSS)		
APN 216-81-381	374,282.73 SF (8.59 AC)	
APN 216-81-379	300,557.54 SF (6.90 AC)	
APN 216-81-380	85,993.64 SF (1.97 AC)	
APN 216-81-383	58,171.23 SF (1.34 AC)	
APN 216-81-382	150,911.41 SF (3.46 AC)	
TOTAL DEVELOPMENT AREA	969,916.55 SF (22.26 AC)	
SITE AREA (NET)		
APN 216-81-381	374,195.58 SF (8.59 AC)	
APN 216-81-379	248,198.91 SF (5.7 AC)	
APN 216-81-380	70,168.65 SF (1.61 AC)	
APN 216-81-383	48,526.62 SF (1.11 AC)	
APN 216-81-382	127,193.69 SF (2.92 AC)	
TOTAL DEVELOPMENT AREA	868,283.45 SF (19.93 AC)	
BUILDING SETBACKS	**REQUIRED**	**PROVIDED**
FRONT	35% OPEN SPACE	43% OPEN SPACE
REAR	80'	97'
SIDE	80'	83'
LANDSCAPE BUFFERS		
FRONT	0'	0'
REAR	15'	15'
SIDE	15'	15'
BUILDING HEIGHT	36'-0" (40'-0" PARAPET)	
OPEN SPACE REQUIRED	**138,925.35 + 83,355.21 = 222,280.56 SF (26%)**	
OPEN SPACE PROVIDED	**376,250 SF (132,519 SF + 243,731 SF)**	
TOTAL NAOS PROVIDED	**6.74 AC**	
TOTAL NAOS REQUIRED	**6.10 AC**	

UPDATE WITH NEW NUMBERS.

NOTE: APPLICANT IS UTILIZING 2024 PCC DEVELOPMENT STANDARDS.

LIST THE ALLOWED AND PROPOSED DENSITY ON THIS SHEET.

LIST THE ALLOWED AND PROPOSED COMMERCIAL FAR ON THIS SHEET. (0.25)

FAR is for commercial buildings on the site per PCC zoning.

List the commercial sf of each existing commercial building on each parcel, the total commercial SF, and the allowed and existing FAR.

1 / A1.2 OVERALL SITE PLAN
1" = 50'-0"

0' 25 50 100

NORTH

POPE DESIGN GROUP
767 N. EUSTIS STREET, SUITE 190
ST. PAUL, MINNESOTA 55114
651.642.9200
WWW.POPEDESIGN.COM

ARCHITEKTON

lifestyle communities

Artessa Scottsdale at Pinnacle Peak
Age Restricted Lifestyle Residential
SCOTTSDALE, AZ

ARTESSA
ARIZONA

OVERALL SITE PLAN

ISSUES & REVISIONS	DATE
ZONING SUBMITTAL	2024-03-15
ZONING SUBMITTAL	2024-07-29

COMMISSION NO:	43230-22242
DRAWN BY:	Author
CHECKED BY:	Checker
ZONING REF:	21.f. Site Plan

SHEET

A1.2

TRUE SHEET SCALE
0" 1/2" 1"

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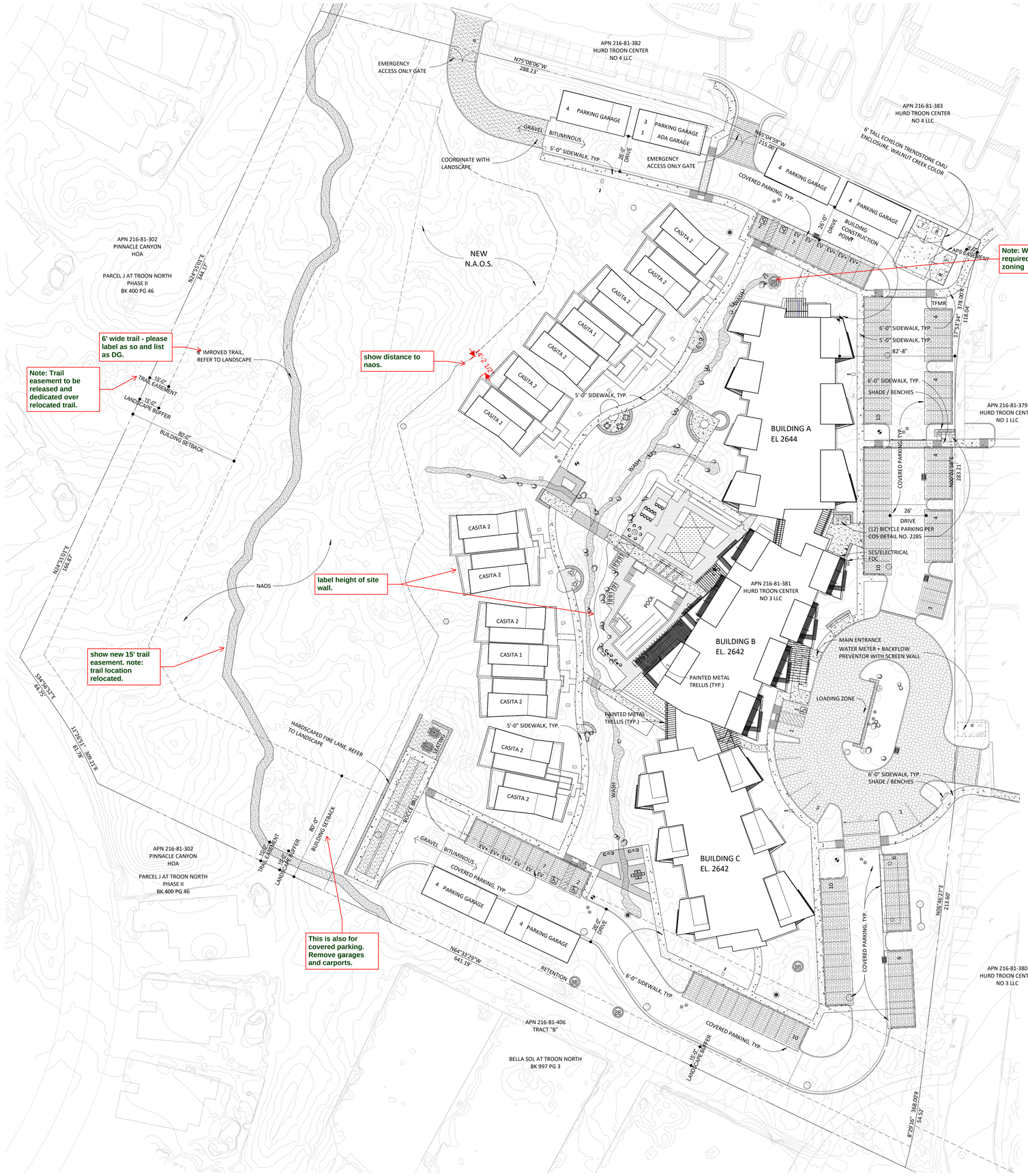

1 A1.1 ARCHITECTURAL SITE PLAN
1" = 30'-0"

Proposed is PCC PSD ESL (HD/HC)

Note: WM cases not required for HD zoning

FAR is for commercial buildings on the site per PCC zoning. Revise.

List the commercial sf of each existing commercial building on each parcel, the total commercial SF, and the allowed and existing FAR. (This information can be placed on the overall site plan)

SITE DATA

PROJECT NAME	ARTESSA PINNACLE PEAK
PROJECT USE	AGE RESTRICTED LIFESTYLE RESIDENTIAL
PARCEL ADDRESS	N ALMA SCHOOL PY SCOTTSDALE, AZ 85262
PARCEL ZONING EXISTING	PCC ESL (HD/HC)
PARCEL ZONING PROPOSED	PCC ESL (HD/HC) CONFORM TO EXISTING
SITE AREA (GROSS)	15 MINIMUM ACRES / 30 MAXIMUM ACRES
APN 216-81-381	374,282.73 SF (8.59 AC)
APN 216-81-379	300,557.54 SF (6.90 AC)
APN 216-81-380	85,993.64 SF (1.97 AC)
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APN 216-81-383	48,526.62 SF (1.11 AC)
APN 216-81-382	127,193.69 SF (2.92 AC)
TOTAL DEVELOPMENT AREA	868,283.45 SF (19.93 AC)
DENSITY	
TOTAL RESIDENCES ALLOWED	89 RESIDENCES (4/AC = 89.04)
TOTAL RESIDENCES PROVIDED	67 RESIDENCES
FLOOR AREA RATIO	
TOTAL RESIDENCES ALLOWED	0.25 (BUILDING AREA / LOT AREA)
TOTAL RESIDENCES PROVIDED	0.23 (86,796 SF / 374,282.73 SF)

BUILDING SETBACKS	**REQUIRED**	**PROVIDED**
FRONT	0'	70'
REAR	80'	211'
SIDE	80'	83'
LANDSCAPE BUFFERS	**REQUIRED**	**PROVIDED**
FRONT	0'	0'
REAR	15'	15'
SIDE	15'	15'

BUILDING AREA	
RESIDENTIAL AREA	77,796 SF
(14) CASITA	
(15) ONE BEDROOM	
(35) TWO BEDROOM	
(3) THREE BEDROOM	
AMENITY AREA	9,000 SF
TOTAL AREA	86,796 SF
TOTAL RESIDENCES	67 RESIDENCES
BUILDING HEIGHT	
BUILDING HEIGHT ALLOWED	36'-0" (40'-0" PARAPET)
BUILDING HEIGHT PROVIDED	36'-0" (40'-0" PARAPET)
OPEN SPACE REQUIRED	
MAXIMUM BUILDING HEIGHT	36'-0"
FIRST 12' OF HEIGHT	16% x NET LOT AREA .16 x 868,283.45 = 138,925.35 SF
NEXT 24' OF HEIGHT	24' x .004 x 868,283.45 = 83,355.21 SF
OPEN SPACE REQUIRED	138,925.35 + 83,355.21 = 222,280.56 SF (26%)
OPEN SPACE PROVIDED	364,891 SF (132,519 SF + 232,372 SF) (64% INCREASE ABOVE REQUIRED)
FRONTAGE OPEN SPACE REQUIRED	OPEN SPACE REQUIRED x 0.35 222,280.56 x 0.35 = 77,798.19
FRONTAGE OPEN SPACE PROVIDED	132,519 SF (70% INCREASE ABOVE REQUIRED)
PARKING LOT LANDSCAPING REQUIRED	PARKING LOT AREA x 15% 270,998 SF x .15 = 40,649 SF
PARKING LOT LANDSCAPING PROVIDED	56,786 SF (35,558 SF + 20,228 SF) (40% INCREASE ABOVE REQUIRED)
PARKING LOT INTERIOR REQUIRED	PARKING LOT LANDSCAPE x 33% 40,649 SF x 33% = 13,549 SF
PARKING LOT INTERIOR PROVIDED	20,228 SF (49% INCREASE ABOVE REQUIRED)
TOTAL OPEN SPACE	421,822 SF (132,519 SF + 232,372 SF + 56,931 SF) (24% INCREASE ABOVE REQUIRED)
COURTYARD AREA	COURTYARD AREA / LOT AREA > 1% 37,613.96 SF / 374,195.58 = 10%
PARKING SPACES REQUIRED	
RESIDENTIAL PARKING REQUIRED	
29 ONE BEDROOM (1.3 SPACES PER RESIDENCE)	37.7 SPACES
35 TWO BEDROOM (1.7 SPACES PER RESIDENCE)	59.5 SPACES
3 THREE BEDROOM (1.9 SPACES PER RESIDENCE)	5.7 SPACES
TOTAL RESIDENTIAL PARKING REQUIRED	103 SPACES
GUEST PARKING REQUIRED	
67 RESIDENCES (1 SPACE PER 6 RESIDENCES)	11.2 SPACES
TOTAL GUEST PARKING REQUIRED	12 SPACES
TOTAL PARKING REQUIRED	115 SPACES
ACCESSIBLE PARKING REQUIRED (4%)	5 SPACES
EV CHARGING REQUIRED (4%)	5 SPACES
EV CHARGING INFRASTRUCTURE REQUIRED (10%)	12 SPACES
PARKING SPACES PROVIDED	
RESIDENTIAL PARKING PROVIDED (COVERED)	76 SPACES
RESIDENTIAL PARKING PROVIDED (COVERED-EV CHARGING)	6 SPACES (6 EV + CAPABLE INFRASTRUCTURE)
RESIDENTIAL ACCESSIBLE PROVIDED (COVERED)	4 SPACES (4% OF COVERED)
RESIDENTIAL PARKING PROVIDED (GARAGE)	23 SPACES
RESIDENTIAL ACCESSIBLE PROVIDED	1 SPACE (4% OF GARAGE)
TOTAL RESIDENTIAL PARKING PROVIDED	110 SPACES
GUEST PARKING PROVIDED	11 SPACES
GUEST ACCESSIBLE PROVIDED	1 SPACE (8% OF GUEST)
TOTAL GUEST PARKING PROVIDED	12 SPACES
TOTAL PARKING PROVIDED	122 SPACES
BICYCLE SPACES REQUIRED	
115 PARKING SPACES REQUIRED (1 SPACE PER 10 PARKING)	12 SPACES
BICYCLE SPACES PROVIDED	12 SPACES
ON SITE RENEWABLE ENERGY	2 WATTS X ROOF AREA
PV REQUIRED	90,000 W/FT2 (2 WATTS X 45,000 SF)
PV PROVIDED (PARKING CANOPIES)	195,000 W/FT2 (13,000 SF X 15 WATTS) (217% INCREASE ABOVE REQUIRED)

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lifestyle communities

Artessa Scottsdale at Pinnacle Peak Age Restricted Lifestyle Residential SCOTTSDALE, AZ

ARTESSA ARIZONA

ARCHITECTURAL SITE PLAN

ISSUES & REVISIONS	DATE
ZONING SUBMITTAL	2024-03-15
ZONING SUBMITTAL	2024-07-29

COMMISSION NO:	43230-22242
DRAWN BY:	Author
CHECKED BY:	Checker
ZONING REF:	21.d. Dimension Plan 21.f. Site Plan

SHEET

A1.1

TRUE SHEET SCALE
0" 1/2" 1"

Autodesk Docs://43230-22242 Artessa Pinnacle Peak Cooperative/43230-22242_ArtessaPinnaclePeak_R23.rvt
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Small area of naos reveg on aerials. Please hatch as reveg and note in reveg calculations.

Remove trail easement as reveg.

The outer line is not quite matching what is recorded NAOS. Please adjust.

Why is this border area called out as reveg? It looks normal from an aerial view. Explain or remove reveg call outs in these locations. Reveg counts at 1/2 credit towards the total provided NAOS sf.

This new trail should be reveg for a width of 15' - per width of new required trail easement.

provide a topography plan to support this analysis.

Provide a break down per parcel. 5 parcels.

NATURAL AREA OPEN SPACE PLAN

PROJECT DATA ZONING PCC / ESL (HD/HC)

NET LOT AREA

APN 216-81-381	8.59 AC
APN 216-81-379	5.7 AC
APN 216-81-380	1.61 AC
APN 216-81-383	1.11 AC
APN 216-81-382	2.92 AC
TOTAL DEVELOPMENT AREA	19.93 AC

SLOPE ANALYSIS UPPER DESERT LANDFORM

CATEGORY	% REQ	SITE AREA	AREA REQ
0% - 2%	25%	0.62 AC	0.16 AC
2% - 5%	25%	11.55 AC	2.89 AC
5% - 10%	35%	4.67 AC	1.63 AC
OVER 10%	45%	3.15 AC	1.42 AC
TOTAL REQUIRED NAOS			6.10 AC

NAOS PROVIDED

PHASE AREA	% SITE	SITE AREA	AREA REQ	NAOS PROVIDED
PHASE 1	37%	7.31	2.3	2.34
PHASE 2	20%	4.03	1.2	1.33
PHASE 3	43%	8.59	2.6	2.86
TOTAL NAOS			6.10 AC	6.53 AC

PHASE 3

UNDISTURBED NAOS 70% REQ	UNDISTURBED PROVIDED	REVEGETATED NAOS 25% REQ	REVEGETATED NAOS PROVIDED	NAOS PROVIDED
79,279 SF	116,293 SF	28,314 SF	8,226 SF	124,519 SF

TOTAL NAOS PROVIDED PHASE 1 2.34 AC
TOTAL NAOS PROVIDED PHASE 2 1.33 AC
TOTAL NAOS PROVIDED PHASE 3 2.86 AC

TOTAL NAOS PROVIDED 6.53 AC

TOTAL NAOS REQUIRED 6.10 AC

NAOS PLAN LEGEND

UNDISTURBED NAOS

REVEGETATED NAOS

Here is how to show the NAOS math:

NAOS required: 6.10 acres (265,716 SF)

Total Undisturbed NAOS: XXX,XXX SF

Total Reveg NAOS: XX,XXX SF /2 = XX,XXX SF counts towards PROVIDED NAOS

NAOS provided: (Undisturbed NAOS SF + Reveg 1/2 credit) = Total provided NAOS SF

1 A1.11 NATURAL AREA OPEN SPACE PLAN
1" = 50'-0"

0' 25 50 100

NORTH

POPE DESIGN GROUP
767 N. EUSTIS STREET, SUITE 190
ST. PAUL, MINNESOTA 55114
651.642.9200
WWW.POPEDESIGN.COM

ARCHITEKTON

lifestyle communities

Artessa Scottsdale at Pinnacle Peak Age Restricted Lifestyle Residential SCOTTSDALE, AZ

ARTESSA ARIZONA

NATURAL AREA OPEN SPACE PLAN

ISSUES & REVISIONS	DATE
ZONING SUBMITTAL	2024-03-15
ZONING SUBMITTAL	2024-07-29

COMMISSION NO:	43230-22242
DRAWN BY:	Author
CHECKED BY:	Checker
ZONING REF:	21.k. Natural Area Open Space Plan

SHEET

A1.11

TRUE SHEET SCALE 0" 1/2" 1"

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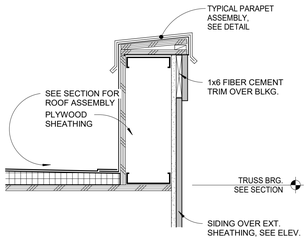
ROOF PLAN NOTES

A. GC TO COORDINATE STORMWATER OUTFLOW WITH CIVIL AND OVERALL SITE PLAN.
B. *!* Wood construction -- ICE AND WATERSHIELD TO BE INSTALLED PER MANUFACTURERS SPEC. AT ALL EXTERIOR WALLS (2 COURSES AT EAVES AND 1 COURSE MIN. AT VALLEYS)- ALLOW MINIMUM 2'-0" TO THE INSIDE OF CONSTRUCTION.
C. FLASH ALL ROOF BREAKS WEATHER TIGHT
D. *!* ROOF SADDLES TO BE MINIMUM 4:12 PITCH
E. ALL TYPICAL OVERHANGS TO BE 24" UNO
F. *!* TAPERED INSULATION: MIN. THICKNESS = 2" MAX. SLOPE = 1/4"/FT
G. VERIFY LOCATION OF MECHANICAL EQUIPMENT & WALKWAY PADS WITH MECHANICAL.

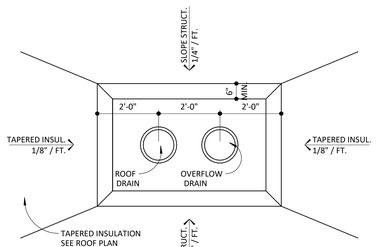
ROOF PLAN KEY

CONT ROOF VENTS

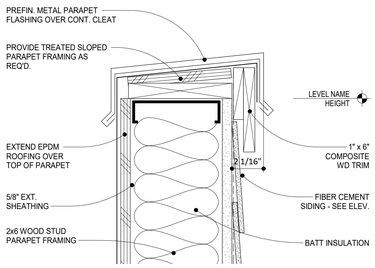
GUTTER & DOWNSPOUTS TO SPLASHBLOCK
DS



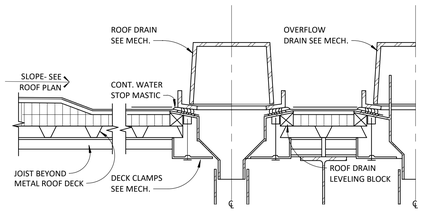
6 / A4.1 PARAPET DETAIL
1 1/2" = 1'-0"



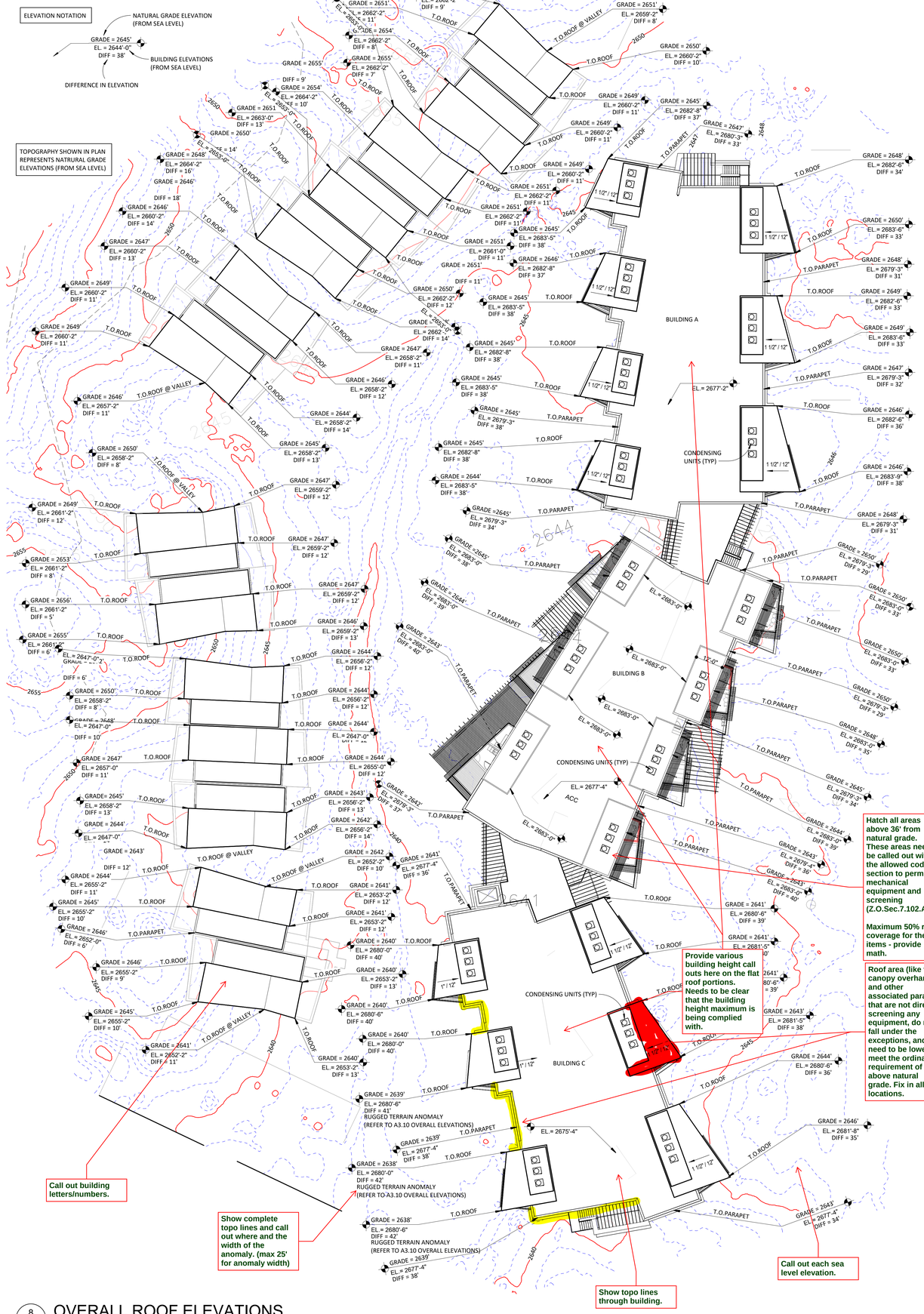
3 / A4.1 ROOF DRAIN DETAIL
1/2" = 1'-0"



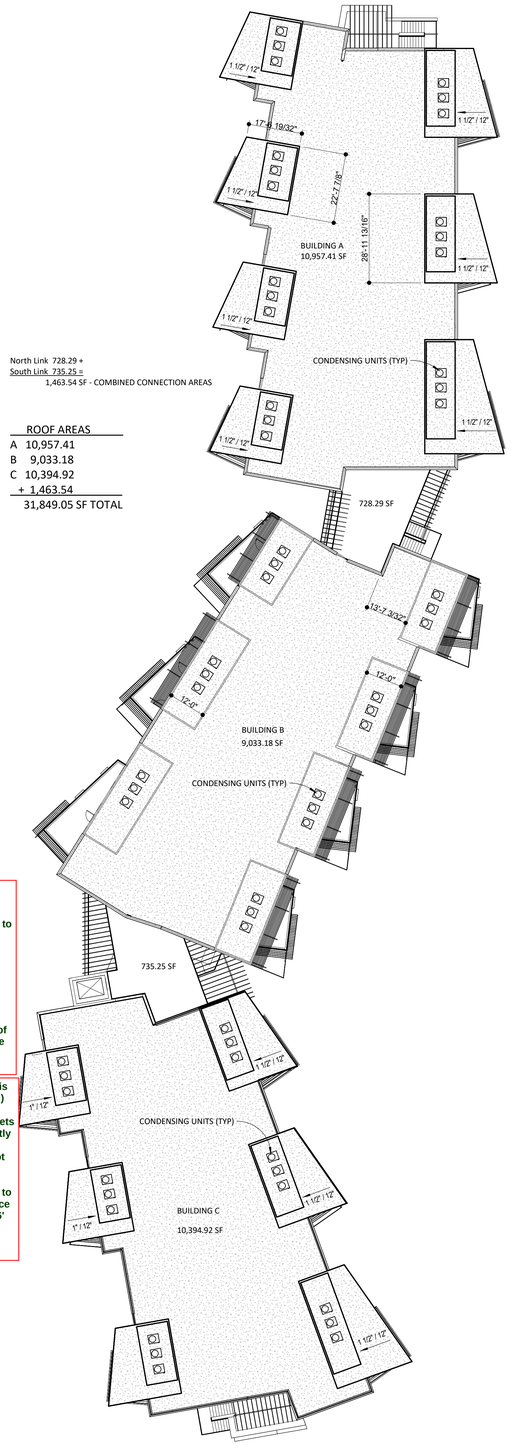
7 / A4.1 PARAPET CAP DETAIL
3" = 1'-0"



4 / A4.1 ROOF DRAIN SECTION DETAIL
1 1/2" = 1'-0"



8 / A4.1 OVERALL ROOF ELEVATIONS
1" = 20'-0"



North Link 728.29 +
South Link 735.25 =
1,463.54 SF - COMBINED CONNECTION AREAS

ROOF AREAS
A 10,957.41
B 9,033.18
C 10,394.92
+ 1,463.54
31,849.05 SF TOTAL

1 / A4.1 OVERALL ROOF PLAN
1" = 20'-0"

NORTH

POPE DESIGN GROUP
767 N. EUSTIS STREET, SUITE 190
ST. PAUL, MINNESOTA 55114
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ARCHITEKTON

lifestyle communities

Artessa Scottsdale at Pinnacle Peak
Age Restricted Lifestyle Residential
SCOTTSDALE, AZ

ARTESSA
ARIZONA

OVERALL ROOF PLAN

ISSUES & REVISIONS	DATE
ZONING SUBMITTAL	2024-03-15
ZONING SUBMITTAL	2024-07-29

COMMISSION NO:	43230-22242
DRAWN BY:	Author
CHECKED BY:	Checker
ZONING REF:	21.aa. Roof Plan

SHEET

A4.1

TRUE SHEET SCALE
0" 1/2" 1"

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PRELIMINARY DRAINAGE REPORT

ARTESSA PINNACLE PEAK

SWC Dynamite Boulevard and Alma School Road, Scottsdale, Arizona 85262

Prepared For:

Lifestyle Communities, LLC.

4938 Lincoln Drive
Edina, MN 55436

Prepared by:

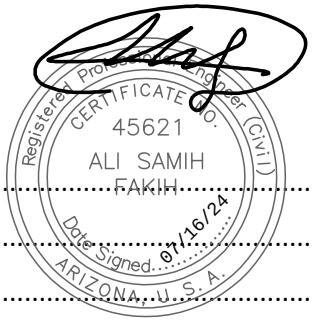
Sustainability Engineering Group International
5240 N. 16th Street, Suite 105
Phoenix, AZ 85016
480.588.7226 www.azSEG.com

Project Number: 231106

1st Submittal Date: March 28, 2024 (REZONING)
2nd Submittal Date: July 16, 2024 (REZONING)

CASE FILE #: 2-ZN-2024 **PLAN CHECK #: TBD**

Stormwater Review By:
Jennifer Lynch, PE, CFM
Please contact via email for any questions:
JLynch@ScottsdaleAZ.gov
Review Cycle 2 Date 8/5/2024



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1. INTRODUCTION

This report represents the storm water analysis for Lifestyle Communities LLC, the project includes the construction of a new housing development with three 3-story buildings, 6 casitas, a community center and the associated hardscape and utility improvements in Scottsdale, Arizona. The purpose of this report is to provide the hydrologic and hydraulic analysis, required by the City of Scottsdale, to support the proposed site plan and rezoning submittal for said development. This report includes discussions and calculations defining the storm water management concepts for collection, conveyance, and detention systems necessary to comply with the drainage requirements of the City of Scottsdale and Maricopa County. Preparation of this report has been done in accordance with the requirements of the City of Scottsdale Design Standards & Policies Manual (DS&PM) 2018 [1], and the Drainage Design Manuals for Maricopa County, Arizona, Volumes I[2] and Volume II[3].

2. LOCATION AND PROJECT DESCRIPTION

2.1 LOCATION:

The project consists of a parcel of land located in the southeast quadrant of Section 28 Township 5 North, Range 5 East, and northeast quadrant of Section 33 Township 5 North, Range 5 East, Maricopa County, Arizona.

Parcel number is APN: 216-81-381, zoning PCC ESL (HD/HC) (Commercial and Industrial). This submittal is for rezoning.

Refer to **FIGURE 1** - **Vicinity Map** for the project's location with respect to major cross streets.

2.2 EXISTING SITE DESCRIPTION:

Land ownership, as defined by ALTA by Dibble dated 02/09/23 includes a 6.15 net acre (8.59 gross acre minus the open space easement) parcel of undeveloped natural desert land designated as PCC (Commercial and Industrial).

The site generally slopes from the north to the south, with an elevation difference of approximately 16 feet across the site. The ultimate outfall of the site is located at the southern boundary of the site at an elevation of 2635.2 feet. There are currently no drainage features other than natural washes and swales per the Final Drainage Report Drainage Channel Alma School/Dynamite Commercial Center, prepared in 2001. There are offsite flows that enter the site from the north, which will need to be accounted for in the proposed condition.

Refer to **FIGURE 2** attached for an aerial of the site.

2.3 PROPOSED SITE DEVELOPMENT:

The proposed development consists of a new multi-family housing development with casitas and a community center on approximately 264,844 sf (6.08 acres).

2.4 FLOOD HAZARD ZONE:

FIRM Map Number 04013C1330, dated October 16, 2013, indicates the site is designated as Zone "X Shaded". As such, the subject areas are defined as follows:

Zone X Shaded: "Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or within drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

Refer to **FIGURE 3 – FIRM.**

3. EXISTING DRAINAGE CONDITIONS

3.1 EXISTING OFF-SITE DRAINAGE CONDITIONS :

The topographic survey provides the following information for offsite drainage:

- North: North of the site is a commercial development with associated parking. A portion of the parking lot and area to the west drains southerly into the site. This discharge to the site is 16.79 cfs and 27.83 cfs for 10-yr and 100-yr storm event, respectively, see CP-1 in the Existing Conditions Drainage Areas Map (refer to **APPENDIX II**).
- East: East of the site is E. Graythorn Drive. Flows from the east flow southerly overland into an existing curb opening southeast of the site. No flows from the east affect the site.
- West: West of the site is undeveloped. The open space (NAOS) easement is located on this side of the site. NAOS is an undisturbed land, therefore, it is being considered for this analysis as an off-site area. Also, adjacent to the west side of the site, there is a residential development. A portion of the remainder of the west side of the parcel drains easterly into the site.
- South: Southwest of the site there is an existing residential development and construction has started south. Flows from the south flow southerly overland away from the site. No flows from the south affect the site.

3.2 EXISTING ON-SITE DRAINAGE CONDITIONS :

The site is undeveloped natural desert with slopes generally ranging from the north to the south at approximately 2.5 % with an elevation difference of approximately 16 feet. The vegetation is typical of Sonoran Desert which includes Palo Verde, Mesquite and Catclaw Acacia. Table 1 below is a summary the calculated Q10 and Q100 runoff under existing conditions:

Table 1:

EXISTING SITE DISCHARGES									
	TOTAL AREA	Cwt	Intensity 10 yr	Q 10	Intensity 100 yr	Q 100	Control Point	Total flows Q10	Total flows Q100
	(ac)	(-)	(in/hr)	(cfs)	(in/hr)	(cfs)	CP#	(cfs)	(cfs)
	9.95	0.45	-	-	-	-	-	34.78	55.59
EX-OFF-1	3.31	0.95	5.34	16.79	8.85	27.83	CP-2	33.51	53.62
EX-A1	5.68	0.45	6.02	15.39	9.29	23.75			
EXOFF-2	0.31	0.45	6.02	0.84	9.29	1.30			
EXOFF-3	0.10	0.45	6.02	0.27	9.29	0.42			
EXOFF-4	0.08	0.45	6.02	0.22	9.29	0.33			
EX-B1	0.47	0.45	6.02	1.27	9.29	1.96	CP-3	1.27	1.96

On-Site and Off-site:

Overall drainage areas include **9.95 Acres.**
Overall on-site and off-site runoff = Q_{100} = **55.59 cfs**

Refer to **APPENDIX II** for **Existing Conditions Drainage Area Map**

4. PROPOSED STORM WATER MANAGEMENT

4.1 ON-SITE DESIGN INTENT:

On-site drainage will be handled within street sections via curb and gutter, catch basins, swales and open or underground retention basins. Proposed flows to off-site will be equal to or less than existing flows. Historical off-site flows coming from the north will combine with on-site drainage and ultimately discharge south of the site.

4.2 DESIGN STORM REQUIREMENTS:

In accordance with City of Scottsdale requirements, the site is in an Environmentally Sensitive Lands (ESL) designated area, so 100-yr, 2-hr storm water retention is not required for this project. Only the volume required to attenuate increases in storm water runoff created by the development is necessary per city code. Stormwater storage is based on the difference between existing conditions versus proposed conditions for 10-yr and 100-yr storm events, with the maximum developed outflow not to exceed existing condition rates as a minimum. See Section 4.4 below. The first flush volume requirement will also be evaluated.

4.3 LAND CHARACTERISTICS:

The proposed project site consists mainly of building pads for future residential developments, NAOS areas, and an access road. Based on the DS&PM, runoff coefficients for the 100-year storm event used are as follows:

- C=0.95 for paved surface in R.O.W
- C=0.45 for the landscape areas

HYDROLOGIC ANALYSIS: The hydrologic analysis is determined using the procedures in the City of Scottsdale Design Standards & Policies Manual and Maricopa County DDMSW software. Table 2 below is a summary of proposed Q10, Q100 runoff under proposed conditions:

ON- Site:

Overall drainage area includes **6.15 Acres at C_{wt} = 0.73**
Overall on-site runoff = Q_{100} = **41.57 cfs**

$$Q=C_{wt} * I * A$$

Where:

C_{wt} = The runoff coefficient relating runoff to rainfall
I = Average rainfall intensity in inches/hour, lasting for Tc
Tc = The time of concentration (minutes)
A = The contributing drainage area in acres

Table 2:

PROPOSED SITE DISCHARGES									
	TOTAL AREA	Cwt	Intensity 10 yr 5-min	Q 10	Intensity 100 yr 5-min	Q 100	Control Point	Total flows Q10	Total flows Q100
	(ac)	(-)	(in/hr)	(cfs)	(in/hr)	(cfs)	CP#	(cfs)	(cfs)
	9.95	0.73	-	-	-	-	-	44.76	70.95
DA-A	0.17	0.63	6.02	0.66	9.29	1.02	BASIN-A	0.66	1.02
DA-B	0.46	0.76	6.02	2.13	9.29	3.29	BASIN-B	2.13	3.29
DA-B1	0.29	0.73	6.02	1.29	9.29	1.99	BASIN-B1	1.29	1.99
DA-B2	0.22	0.72	6.02	0.94	9.29	1.45	BASIN-B2	0.94	1.45
DA-C	0.70	0.76	6.02	3.20	9.29	4.93	BASIN-C	3.20	4.93
DA-D	0.31	0.87	6.02	1.60	9.29	2.47	BASIN-D	4.22	6.51
DA-D1	0.11	0.88	6.02	0.60	9.29	0.93			
DA-D2	0.40	0.84	6.02	2.02	9.29	3.11			
DA-G	0.42	0.69	6.02	1.74	9.29	2.69	BASIN-G	1.74	2.69
DA-H1	0.36	0.71	6.02	1.54	9.29	2.37	BASIN-H	1.54	2.37
DA-H2	0.41	0.81	6.02	1.99	9.29	3.07	BASIN-H2	1.99	3.07
DA-L	0.20	0.76	6.02	0.91	9.29	1.41	BASIN-L	0.91	1.41
DA-N	0.13	0.71	6.02	0.58	9.29	0.89	BASIN-N	2.84	4.38
DA-N1	0.45	0.84	6.02	2.27	9.29	3.50			
DA-O	1.26	0.59	6.02	4.47	9.29	6.90	BASIN-O	4.47	6.90
DA-Q	0.06	0.59	6.02	0.20	9.29	0.31	BASIN-Q	0.20	0.31
DA-R	0.20	0.67	6.02	0.81	9.29	1.24	BASIN-R	0.81	1.24
ON-SITE =	6.15	0.73						26.94	41.57
OFF-1	3.31	0.93	5.34	16.44	8.85	27.24	BASIN-N	16.44	27.24
OFF-2	0.31	0.48	6.02	0.90	9.29	1.38	BASIN-O	0.90	1.38
OFF-3	0.10	0.45	6.02	0.27	9.29	0.42	BASIN-G	0.27	0.42
OFF-4	0.08	0.45	6.02	0.22	9.29	0.33	BASIN-G	0.22	0.33

Total existing on-site and off-site flows is **55.59 cfs**. Total proposed on-site and off-site flows is **70.95w cfs.** On-site open and underground retention basins are proposed to avoid increasing runoff to historical outfalls downstream the site (CP-2 and CP-3). Refer to **APPENDIX II** for HEC-1 Calculations. Table 3, below, shows the difference in discharge between the existing and proposed conditions for the historical outfalls.

Table 3:

	Q10 (cfs)			Q100 (cfs)		
Outfall	Existing	Proposed	Δ	Existing	Proposed	Δ
CP-1	16.79	16.44	-0.35	27.83	27.24	-0.59
CP-2	33.51	12.20	-21.31	53.62	20.30	-33.32
CP-3	1.27	0.60	-0.67	1.96	0.80	-1.16

- Runoff to historical outfall CP-1 consists of off-site runoff from the north entering the site.
- Runoff to historical outfall CP-2 consists of the sum of a portion of the on-site runoff and CP-1.
    - Decrease to CP-2 is due to the proposed retention system, which consists of Basins B, B1, B2, C, G, H, H1, H2, L, N, O, Q and R.
    - Decrease to CP-3 is due to the proposed open retention Basin A.

4.4 STORMWATER RETENTION:

A stormwater storage waiver is requested based on Section 4-1.203, item 2 of the DS&PM (Waiver Criteria No. 4). As a basis for the Request for Stormwater Storage Waiver, the following is a comparison of predevelopment versus post development stormwater storage required calculated in accordance with the COS – DS&PM. Required Retention (Acre-Feet) = (P/12) *A*ΔC
Where:

P = 100 Yr. 2 Hr. Precipitation in Inches
A= Area (Acres)
Δ C = Increase in the weighted runoff coefficient (Cwpost -Cwpre)

Table 4:

Required Storage Volume Calculations						
					Vr= A * (Cwpost-Cwpre) *D/12	
					P=100-yr,2-hr= 2.74in.	
Drainage Area ID	Area (acres)	Cpre (-)	Cpost (-)	Depth (in)	Volume Req. (acre-ft)	Volume Req. (Vpost - Vpre) (CF)
ON-SITE RETENTION - BASINS - Open Retention						
DA-A	0.17	0.45	0.63	2.74	0.007	305.65
DA-B	0.46	0.45	0.76	2.74	0.033	1,441.34
DA-B1	0.29	0.45	0.73	2.74	0.019	819.26
DA-B2	0.22	0.45	0.72	2.74	0.014	588.91
DA-C	0.70	0.45	0.76	2.74	0.050	2,162.54
DA-D	0.31	0.45	0.87	2.74	0.029	1,269.85
DA-D1	0.11	0.45	0.88	2.74	0.011	486.42
DA-D2	0.40	0.45	0.84	2.74	0.036	1,553.82
DA-G	0.42	0.45	0.69	2.74	0.023	990.94
DA-H1	0.36	0.45	0.71	2.74	0.022	942.27
DA-H2	0.41	0.45	0.81	2.74	0.034	1,464.61
DA-L	0.20	0.45	0.76	2.74	0.014	616.51
DA-N	0.13	0.45	0.71	2.74	0.008	349.71
DA-N1	0.45	0.45	0.84	2.74	0.040	1,735.47
DA-O	1.26	0.45	0.59	2.74	0.040	1,752.10
DA-Q	0.06	0.45	0.59	2.74	0.002	77.99
DA-R	0.20	0.45	0.67	2.74	0.010	434.79

Refer to the **Proposed Conditions Drainage Area Map** and **Calculations** in **Appendix II**.
Refer to the **Request for Stormwater Storage Waiver** in **Appendix IV**.

FIRST FLUSH: First Flush storage required is calculated in accordance with City of Scottsdale DSPM 4-1.201. Only the areas where runoff is affected by vehicular contact are considered in the first flush calculation. The roof drainage is considered to be free of heavy traffic pollutants, therefore, on-site driveway areas and sidewalks will be considered for the calculation. As shown in the Proposed Conditions Cwt Exhibit, first flush area is calculated as the total project area (267,826.29 sf) minus roof area (55,006.98 sf) and landscape areas (119,158.43 sf), equating to 93,660.88 sf.

$$FF_r = C\left(\frac{P}{12}\right)A$$

where:

$FF_r =$ First Flush required storage volume (cf)

$P =$ Precipitation amount =0.5 in per C.O.S. DSPM

$A =$ Area of site excluding roofs and landscape (sf)

$C =$ The weighted average runoff coefficient =0.95

$$FF_r = (0.95)\left(\frac{0.5}{12}\right)93{,}660.88 = 3{,}707.41\ cf$$

The above assessment indicates that the required First Flush storage is 3,707.41 cf.

Retention shall be provided for the greater of Pre vs Post or First Flush volumes, therefore on-site retention will be designed to store the Pre vs Post volume (16,992 cf). The provided storage volume will also fulfill the First Flush requirement.

Table 5:

Proposed Retention Basin Summary				
Basin	**Type**	**VP**	**VP TOTAL**	**VR**
(ID)	**(--)**	**(CF)**	**(CF)**	**(CF)**
BASIN A	OPEN	323	**323**	**306**
BASIN D	UNDERGROUND	3,534	**3,534**	**3,310**
BASIN B	OPEN	2,744	3,651	2,850
BASIN B1	OPEN	686		
BASIN B2	OPEN	222		
BASIN C	OPEN	2,222	2,222	2,163
BASIN G	OPEN	863	863	991
BASIN H	OPEN	2,068	2,311	942
BASIN H1	OPEN	243		
BASIN H2	OPEN	156	156	1,465
BASIN L	OPEN	531	531	617
BASIN N	OPEN	313	313	2,085
BASIN O	OPEN	2,929	2,929	1,752
BASIN Q	OPEN	164	164	78
BASIN R	OPEN	254	254	435
		Total =	**13,394**	**13,376**
		Total retention =	**17,251**	**16,992**

- Basin A will ultimately discharge to CP-3 located at the southeast corner of the property.
- Basin D (Underground system) = Proposed length of 10' Dia. CMP storage pipe, 45 LF = 3.1416*25 * 45' = **3,534 CF**
- Overflow from Basin Q will be directed to Basin N.
- Overflow from Basin N will be directed to Basin L.
- Overflow from Basin L, O and H1 will be directed to Basin H.
- Overflow from Basin H will be directed to Basin H2.
- Overflow from Basin H2 will be directed to Basin C.
- Overflow from Basin C will be directed to Basin B2.
- Overflow from Basin B1 and Basin B2 will be directed to Basi
- Basin B-1 and Basin B will be provided with bubble-up struct
- Overflow from Basin G will be directed to Basin R.
- Overflow from Basin R will be directed to Basin B.
- Basin B outfall is located at the south of the site (CP-2, 2636'). Discharge will be via a manmade weir.

Significantly more information is needed on how this network of basins will function. How will the basins be connected? What are the peak flows leaving the basins, and what will be done to ensure the outflows from the basins are controlled? Basin B appears undersized to accept the overflows from the other basins.

Refer to **Appendix II** for Detailed required volumes and **Figure 4** for Proposed Basins Exhibit to see the locations of the basins.

4.4.1 CMP UNDERGROUND RETENTION TANK DESIGN (75-YR DESIGN LIFE)

CMP underground retention tank design will be provided in the final drainage report

4.5 DISSIPATION OF STORED RUNOFF

For basins or portions of basins with no direct bleed off available, drywells are proposed in the on-site storage facilities to dispose of the stormwater within thirty-six (36) hours. The calculation is as follows:

- Minimum percolating rate of a drywell (for planning purposes) = 0. 1 cfs
- Volume to be drained in 36 hours = 0.1 cfs * 36 hours * 3600 sec/hour = 12,960 cfs
- The number of drywells will be reduced if geotechnical testing for percolation rates determines adequate infiltration is available in the native soils at lower depths. If the percolation rate of the drywells is less than 0.1 cfs the number of drywells may have to be increased.

  - **Basin D Provided Storage** = 3,534 cfs

3,534 cfs / 12,960 cf= 0.27 (1 drywell is used).

Open retention basins are designed to provide storage within one-foot depth or less and, therefore, do not require drywells. Basins N, Q, O, R, L, H, H1, H2, G, C, B1, and B2 will ultimately discharge excess runoff to Basin B south of the site. Basin B overflow will be directed southerly without increasing existing-conditions runoff (CP-2). Basin A southeast of the site will ultimately discharge southeast of the site without increasing the existing-conditions runoff (CP-3).

Refer to the **Preliminary Grading and Drainage plans** in **Appendix III**.

4.6 INLET CALCULATIONS

The inlet calculations will be provided in the final drainage report.

4.7 PIPE CAPACITY CALCULATIONS

The Pipe Capacity Calculations will be provided in the final drainage report.

4.8 ADEQ WATER QUALITY REQUIREMENTS

The total disturbed area of this site is approximately 8.86 acres. The Arizona Department of Environmental Quality requires that any site disturbance over an acre is required to submit an NOI. A NOI will be submitted to ADEQ for this site as this site disturbance is over 1 acre.

5. FLOOD SAFETY FOR DWELLINGS

5.1 FINISH FLOOR ELEVATIONS

All building finished floor elevations will be set a minimum of 14 inches above emergency overflow points, and a minimum of 12 inches above the 100-year high-water elevation of any adjacent streets and drainage paths.

6. CONCLUSIONS

6.1 OVERALL PROJECT:

1. The finish floor elevations will be designed a minimum of 12 inches above the 100-year water surface in adjacent streets and drainage paths and a minimum of 14 inches above the low top of curb of the lot.
2. Proposed ultimate outflows at historical control points (CP-2 and CP-3) do not exceed existing conditions.

6.2 PROJECT PHASING:

The Project is to be constructed in a single phase.

7. WARNING AND DISCLAIMER OF LIABILITY

RE: following page.

8. REFERENCES

1. *Design Standards & Policies Manual, City of Scottsdale – January 2018.*
2. *Drainage Design Manual for Maricopa County, Arizona, Volume I, Hydrology, Flood Control District of Maricopa County, Fourth Edition, November 18, 2009, amended through August 15, 2015.*
3. *Drainage Design Manual for Maricopa County, Arizona, Volume II, Hydraulics, Flood Control District of Maricopa County, August 15, 2015.*

GRADING & DRAINAGE LANGUAGE

WARNING AND DISCLAIMER OF LIABILITY

The City's Stormwater and Floodplain Management Ordinance is intended to minimize the occurrence of losses, hazards and conditions adversely affecting the public health, safety and general welfare which might result from flooding.

The Stormwater and Floodplain Management Ordinance identifies floodplains, floodways, flood fringes and special flood hazard areas. However, a property outside these areas could be inundated by floods. Also, much of the city is a dynamic flood area; floodways, floodplains, flood fringes and special flood hazard areas may shift from one location to another, over time, due to natural processes.

WARNING AND DISCLAIMER OF LIABILITY

The flood protection provided by the Stormwater and Floodplain Management Ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Floods larger than the base flood can and will occur on rare occasions. Floodwater heights may be increased by constructed or natural causes. The Stormwater and Floodplain Management Ordinance does not create liability on the part of the city, any officer or employee thereof, or the federal, state or county government for any flood damages that result from reliance on the Ordinance or any administrative decision lawfully made thereunder.

Compliance with the Stormwater and Floodplain Management Ordinance does not ensure complete protection from flooding. Flood-related problems such as natural erosion, streambed meander, or constructed obstructions and diversions may occur and have an adverse effect in the event of a flood. You are advised to consult your own engineer or other expert regarding these considerations.

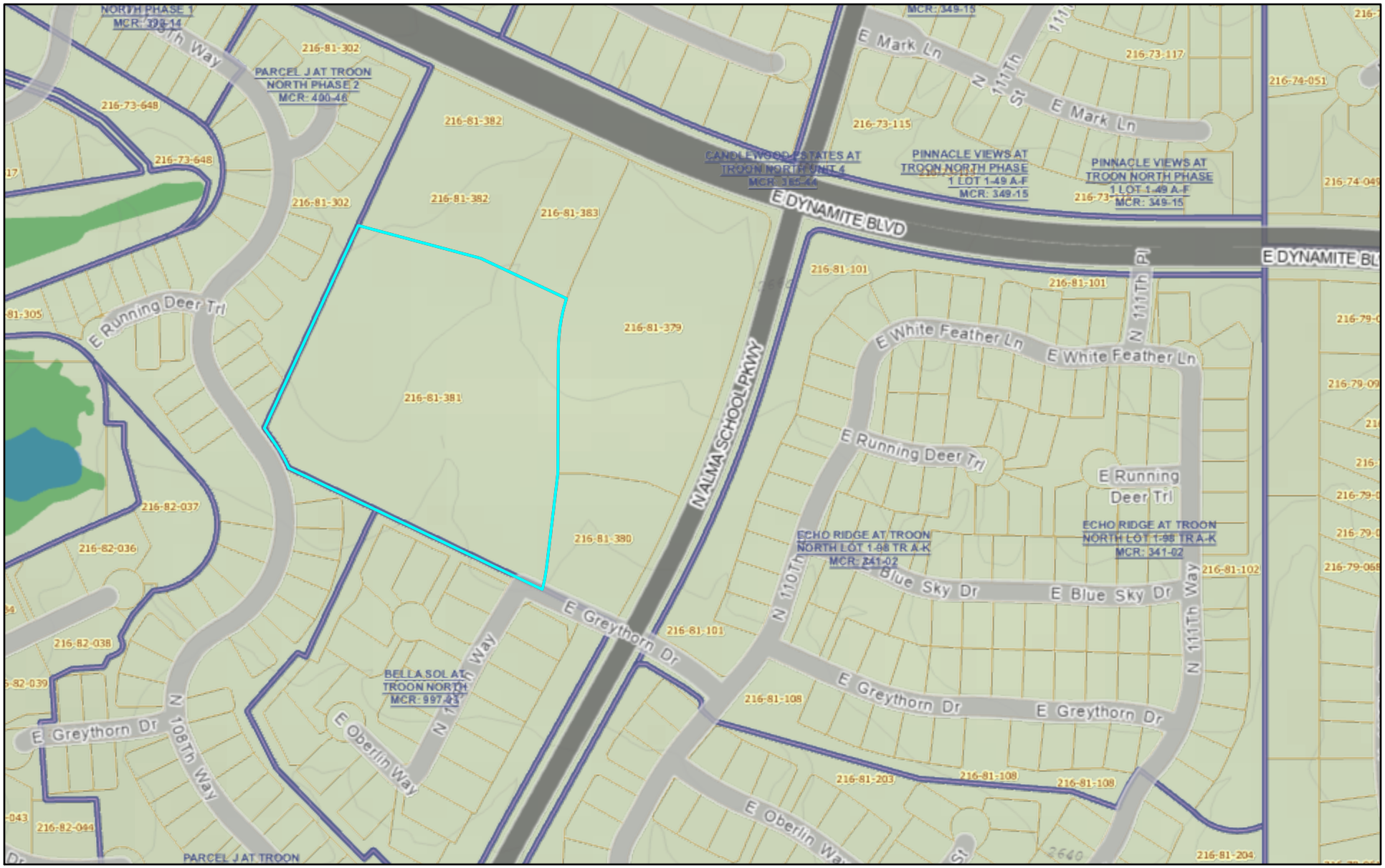
I have read and understand the above.

_____ _____ _____

Plan Check # Owner Date

FIGURES

Vicinity Map



December 11, 2023

Override 1

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Maricopa County GIO, Maricopa County Assessor's Office

Arial Map

December 11, 2023

Override 1

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Maricopa County GIO, Maricopa County Assessor's Office

2023 - Maricopa County Assessor's Office

NOTES TO USERS

This map is for use in administering the Nation Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Arizona State Plane Central zone (FIPSZONE 0202). The **horizontal datum** was NAD 83 HARN, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988 (NAVD 88). These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. Map users wishing to obtain flood elevations referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29) may use the following Maricopa County website application: http://www.fcd.maricopa.gov/Maps/gismaps/apps/gdacs/application/index.cfm

This web tool allows users to obtain point-specific datum conversion values by zooming in and hovering over a VERTCON checkbox on the layers menu on the left side of the screen. The VERTCON grid referenced in this web application was also used to convert existing flood elevations from NGVD 29 to NAVD 88.

To obtain current elevation, description, and/or location information for National Geodetic Survey bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at http://www.ngs.noaa.gov. To obtain information about Geodetic Densification and Cadastral Survey bench marks produced by the Maricopa County Department of Transportation, please visit the Flood Control District of Maricopa County website at: http://www.fcd.maricopa.gov/Maps/gismaps/apps/gdacs/application/index.cfm.

Base map information shown on this FIRM was derived from multiple sources. Aerial imagery was provided in digital format by the Maricopa County Department of Public Works, Flood Control District. The imagery is dated October 2009 to November 2009. Additional National Agricultural Imagery Program (NAIP) imagery was provided by the Arizona State Land Department (ALRIS) and is dated 2007. The coordinate system used for the production of the digital FIRM is State Plane Arizona Central NAD83 HARN, International Feet.

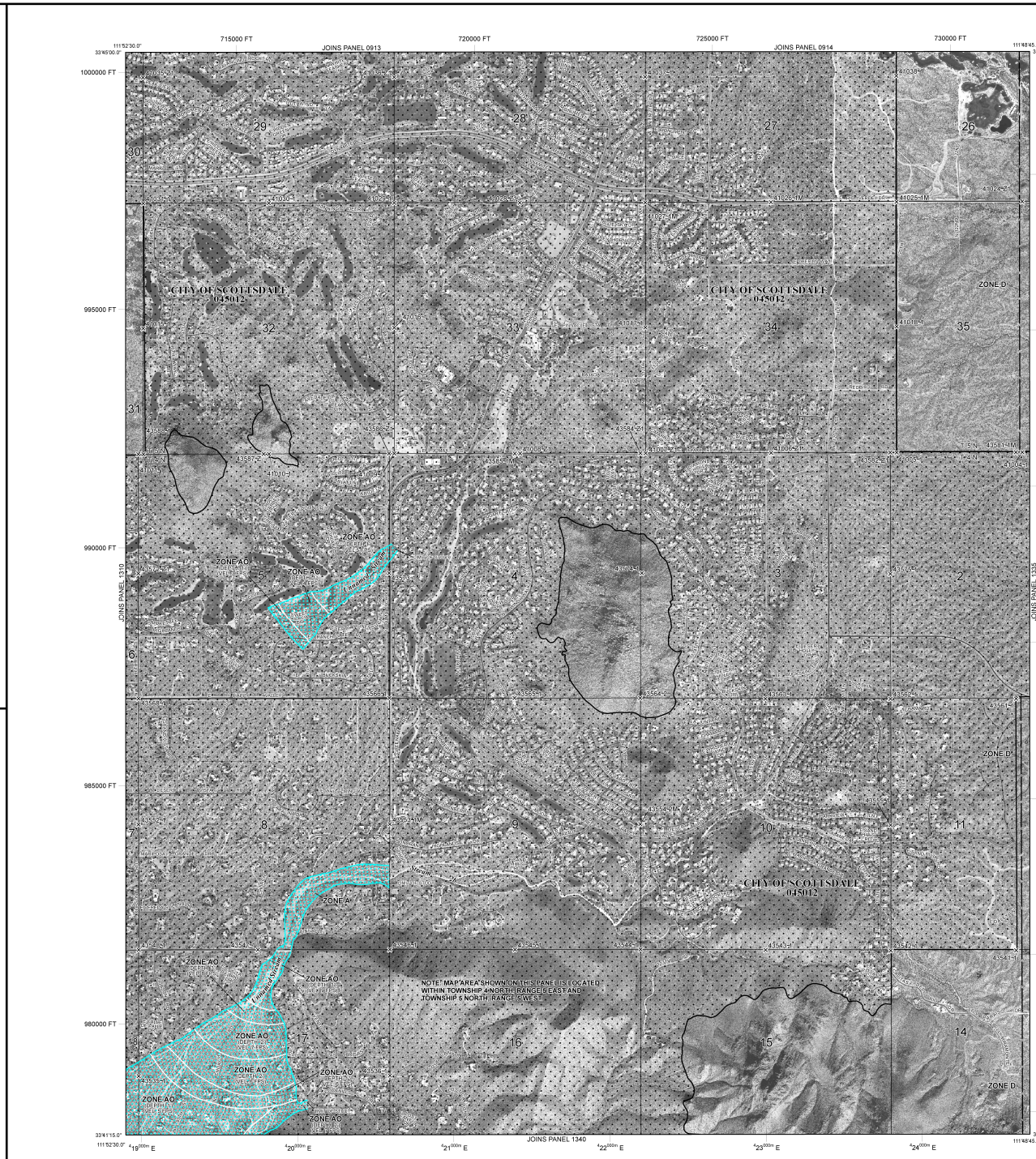
The **profile base line** depicted on this map represents the hydraulic modeling baselines that match flood profiles in the FIS report. As a result of improved topographic data, the profile base line, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community, as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM, visit the **FEMA Map Service Center (MSC)** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map,** how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX)** at **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A — No Base Flood Elevations determined.
- ZONE AE — Base Flood Elevations determined.
- ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99 — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

- A — A — Cross section line
- 23 — 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4275000mN — 1000-meter Universal Transverse Mercator grid ticks, zone 12
- 6000000 M — 5000-foot grid ticks: Arizona State Plane coordinate system, central zone (FIPSZONE 0202), Transverse Mercator
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
April 15, 1988

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
December 3, 1993 July 19, 2001 September 30, 2005
October 16, 2013–to advance suffix, to add roads and road names, to add special flood hazard areas, to add floodway, to change base flood elevations, to incorporate previously issued letters of map revision, to add base flood elevation, to change floodway, and to update corporate limits.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NFIP

PANEL 1330L

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

PANEL 1330 OF 4425
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

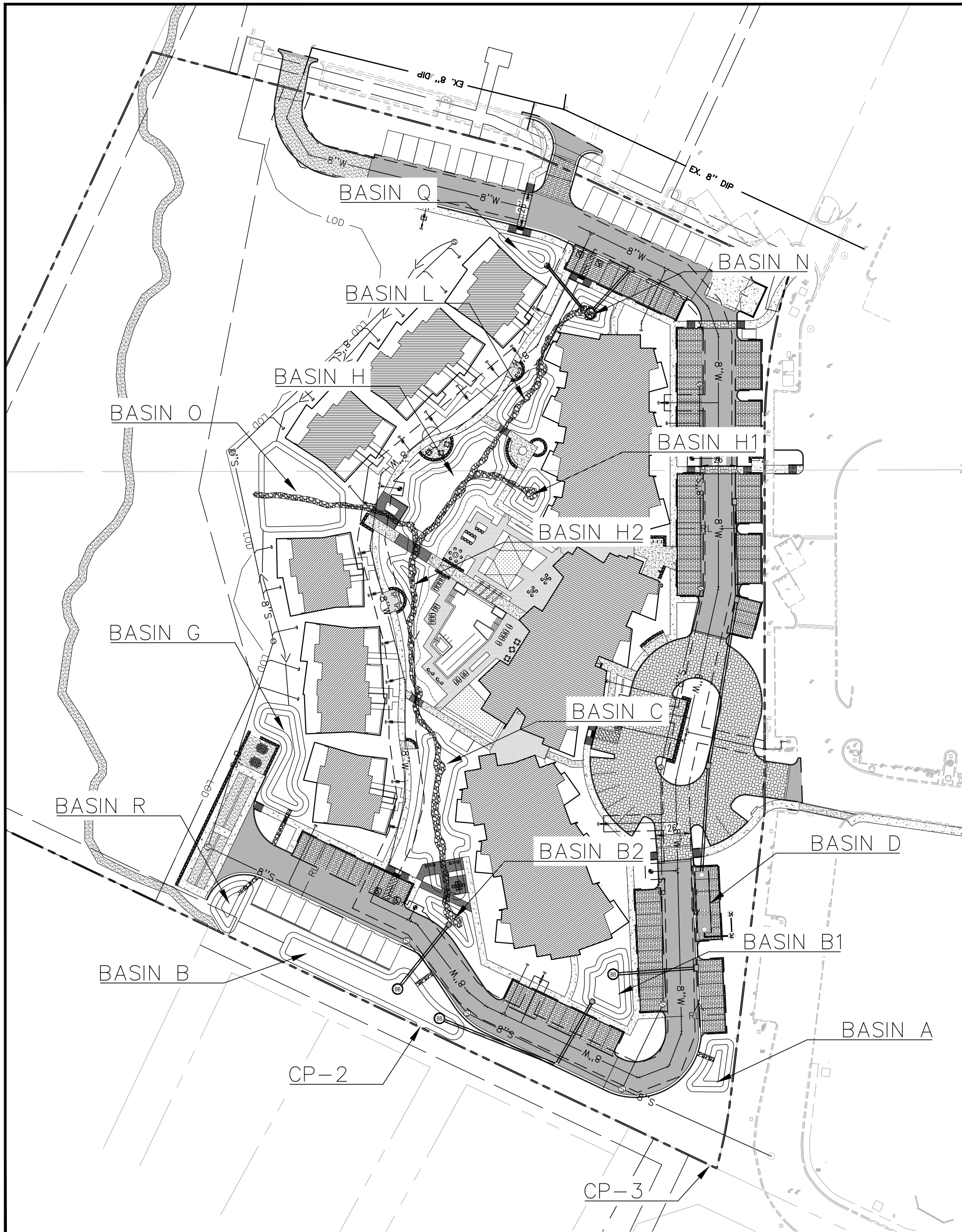
COMMUNITY	NUMBER	PANEL	SUFFIX
SCOTTSDALE, CITY OF	045012	1330	L

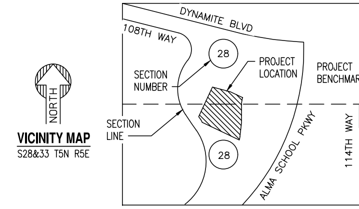
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
04013C1330L

MAP REVISED
OCTOBER 16, 2013

Federal Emergency Management Agency





Proposed Retention Basin Summary				
Basin	**Type**	**VP**	**VP TOTAL**	**VR**
(ID)	**(--)**	**(CF)**	**(CF)**	**(CF)**
BASIN A	OPEN	323	**323**	**306**
BASIN D	UNDERGROUND	3,534	**3,534**	**3,310**
BASIN B	OPEN	2,744	3,651	2,850
BASIN B1	OPEN	686		
BASIN B2	OPEN	222		
BASIN C	OPEN	2,222	2,222	2,163
BASIN G	OPEN	863	863	991
BASIN H	OPEN	2,068	2,311	942
BASIN H1	OPEN	243		
BASIN H2	OPEN	156	156	1,465
BASIN L	OPEN	531	531	617
BASIN N	OPEN	313	313	2,085
BASIN O	OPEN	2,929	2,929	1,752
BASIN Q	OPEN	164	164	78
BASIN R	OPEN	254	254	435
		Total =	**13,394**	**13,376**
		Total retention =	**17,251**	**16,992**

- BASIN A will ultimately discharge to CP-3 located at the southeast corner of the property.
- BASIN D (Underground system) = Proposed length of 10' Dia. CMP storage pipe, 45 LF = 3.1416*25 * 45' = **3,534 CF**
- Overflow from BASIN Q will be directed to BASIN N.
- Overflow from BASIN N will be directed to BASIN L.
- Overflow from BASIN L, BASIN O and BASIN H1 will be directed to BASIN H.
- Overflow from BASIN H will be directed to BASIN H2.
- Overflow from BASIN H2 will be directed to BASIN C.
- Overflow from BASIN C will be directed to BASIN B2.
- Overflow from BASIN B1 and BASIN B2 will be directed to BASIN B.
- BASIN B-1 and BASIN B will be provided with bubble-up structures to be filled.
- Overflow from BASIN G will be directed to BASIN R.
- Overflow from BASIN R will be directed to BASIN B.
- BASIN B outfall is located at the south of the site (CP-2, 2636'). Discharge will be via a manmade weir.

NOT FOR CONSTRUCTION

SUSTAINABILITY ENGINEERING GROUP

SEG

5240 N. 16TH STREET SUITE 105, PHOENIX, ARIZONA 85016
WWW. AZSEG.COM TEL. 480.588.7226 FAX 480.259.3534

lifestyle communities

PROJECT: ARTESSA PINNACLE PEAK

LOCATION: SWC DYNAMITE BOULEVARD AND ALMA SCHOOL ROAD, SCOTTSDALE, AZ

DRAWN	JC	07/10/2024
DESIGNED	JC	07/10/2024
CHECKED		
FINAL QC		
PROJ. MGR.	AF	07/10/2024

DATE: 07/10/2024

ISSUED FOR: REZONING

REVISION NO.: DATE:

JOB NO.: 231106

SHEET TITLE: PROPOSED RETENTION BASINS

PAGE NO.: 1 OF 1

SHEET NO.:

CASE #: 2-ZN-2024

APPENDIX I
RAINFALL DATA

NOAA Atlas 14, Volume 1, Version 5
Location name: Scottsdale, Arizona, USA*
Latitude: 33.741°, Longitude: -111.8455°
Elevation: 2654 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**2.87** (2.39-3.53)	**3.74** (3.13-4.60)	**5.04** (4.18-6.18)	**6.02** (4.94-7.34)	**7.32** (5.94-8.89)	**8.30** (6.65-10.0)	**9.29** (7.33-11.2)	**10.3** (8.00-12.4)	**11.6** (8.82-14.0)	**12.7** (9.42-15.3)
10-min	**2.18** (1.82-2.68)	**2.84** (2.38-3.50)	**3.83** (3.17-4.70)	**4.58** (3.77-5.59)	**5.57** (4.52-6.77)	**6.32** (5.06-7.64)	**7.07** (5.57-8.52)	**7.83** (6.09-9.43)	**8.84** (6.71-10.7)	**9.64** (7.17-11.7)
15-min	**1.80** (1.50-2.22)	**2.35** (1.97-2.89)	**3.17** (2.62-3.88)	**3.79** (3.11-4.62)	**4.60** (3.73-5.60)	**5.22** (4.18-6.31)	**5.84** (4.61-7.04)	**6.47** (5.04-7.79)	**7.30** (5.55-8.81)	**7.96** (5.92-9.65)
30-min	**1.22** (1.01-1.49)	**1.58** (1.32-1.95)	**2.14** (1.77-2.62)	**2.55** (2.10-3.11)	**3.10** (2.51-3.77)	**3.52** (2.82-4.25)	**3.93** (3.10-4.74)	**4.36** (3.39-5.25)	**4.92** (3.74-5.93)	**5.36** (3.99-6.50)
60-min	**0.752** (0.626-0.924)	**0.980** (0.819-1.20)	**1.32** (1.09-1.62)	**1.58** (1.30-1.93)	**1.92** (1.56-2.33)	**2.18** (1.74-2.63)	**2.43** (1.92-2.93)	**2.70** (2.10-3.25)	**3.04** (2.31-3.67)	**3.32** (2.47-4.02)
2-hr	**0.434** (0.366-0.521)	**0.561** (0.473-0.675)	**0.744** (0.624-0.893)	**0.885** (0.735-1.06)	**1.08** (0.883-1.28)	**1.22** (0.990-1.45)	**1.37** (1.09-1.62)	**1.52** (1.20-1.80)	**1.72** (1.32-2.04)	**1.87** (1.42-2.24)
3-hr	**0.311** (0.262-0.378)	**0.397** (0.336-0.485)	**0.517** (0.434-0.630)	**0.612** (0.510-0.742)	**0.745** (0.612-0.897)	**0.850** (0.689-1.02)	**0.959** (0.765-1.15)	**1.07** (0.843-1.28)	**1.23** (0.939-1.47)	**1.35** (1.01-1.62)
6-hr	**0.186** (0.161-0.220)	**0.235** (0.203-0.277)	**0.298** (0.256-0.350)	**0.349** (0.297-0.408)	**0.418** (0.351-0.488)	**0.473** (0.392-0.549)	**0.529** (0.433-0.614)	**0.586** (0.471-0.682)	**0.662** (0.520-0.770)	**0.722** (0.554-0.840)
12-hr	**0.111** (0.097-0.130)	**0.140** (0.122-0.163)	**0.176** (0.152-0.204)	**0.204** (0.175-0.237)	**0.243** (0.206-0.281)	**0.272** (0.229-0.315)	**0.303** (0.251-0.350)	**0.334** (0.274-0.385)	**0.374** (0.300-0.434)	**0.405** (0.319-0.473)
24-hr	**0.067** (0.059-0.077)	**0.085** (0.075-0.098)	**0.111** (0.098-0.128)	**0.132** (0.116-0.152)	**0.162** (0.140-0.187)	**0.187** (0.159-0.215)	**0.212** (0.178-0.246)	**0.240** (0.198-0.280)	**0.278** (0.224-0.328)	**0.310** (0.244-0.369)
2-day	**0.038** (0.033-0.044)	**0.049** (0.043-0.056)	**0.065** (0.056-0.074)	**0.078** (0.067-0.089)	**0.096** (0.082-0.110)	**0.111** (0.093-0.127)	**0.126** (0.105-0.146)	**0.143** (0.118-0.167)	**0.166** (0.134-0.197)	**0.185** (0.146-0.222)
3-day	**0.027** (0.024-0.031)	**0.035** (0.030-0.040)	**0.047** (0.041-0.053)	**0.056** (0.049-0.064)	**0.070** (0.060-0.080)	**0.081** (0.069-0.093)	**0.093** (0.078-0.108)	**0.106** (0.088-0.124)	**0.125** (0.101-0.148)	**0.141** (0.111-0.168)
4-day	**0.022** (0.019-0.025)	**0.028** (0.024-0.032)	**0.037** (0.033-0.043)	**0.045** (0.040-0.052)	**0.057** (0.049-0.065)	**0.067** (0.057-0.076)	**0.077** (0.065-0.089)	**0.088** (0.073-0.103)	**0.105** (0.085-0.123)	**0.118** (0.094-0.141)
7-day	**0.014** (0.012-0.016)	**0.018** (0.016-0.021)	**0.025** (0.021-0.028)	**0.030** (0.026-0.034)	**0.038** (0.032-0.043)	**0.044** (0.037-0.051)	**0.051** (0.043-0.060)	**0.059** (0.048-0.070)	**0.070** (0.056-0.084)	**0.080** (0.063-0.097)
10-day	**0.011** (0.009-0.012)	**0.014** (0.012-0.016)	**0.019** (0.016-0.021)	**0.023** (0.020-0.026)	**0.029** (0.024-0.033)	**0.033** (0.028-0.038)	**0.039** (0.032-0.045)	**0.044** (0.036-0.052)	**0.053** (0.042-0.062)	**0.059** (0.047-0.071)
20-day	**0.007** (0.006-0.008)	**0.009** (0.008-0.010)	**0.012** (0.010-0.013)	**0.014** (0.012-0.016)	**0.017** (0.015-0.020)	**0.020** (0.017-0.023)	**0.023** (0.019-0.026)	**0.026** (0.021-0.030)	**0.030** (0.024-0.035)	**0.033** (0.027-0.040)
30-day	**0.005** (0.004-0.006)	**0.007** (0.006-0.008)	**0.009** (0.008-0.010)	**0.011** (0.010-0.013)	**0.014** (0.012-0.016)	**0.016** (0.013-0.018)	**0.018** (0.015-0.020)	**0.020** (0.017-0.023)	**0.023** (0.019-0.027)	**0.025** (0.021-0.030)
45-day	**0.004** (0.003-0.005)	**0.005** (0.005-0.006)	**0.007** (0.006-0.008)	**0.009** (0.008-0.010)	**0.011** (0.009-0.012)	**0.012** (0.011-0.014)	**0.014** (0.012-0.016)	**0.016** (0.013-0.018)	**0.018** (0.015-0.021)	**0.020** (0.016-0.024)
60-day	**0.003** (0.003-0.004)	**0.004** (0.004-0.005)	**0.006** (0.005-0.007)	**0.007** (0.006-0.008)	**0.009** (0.008-0.010)	**0.010** (0.009-0.012)	**0.011** (0.010-0.013)	**0.013** (0.011-0.015)	**0.014** (0.012-0.017)	**0.016** (0.013-0.019)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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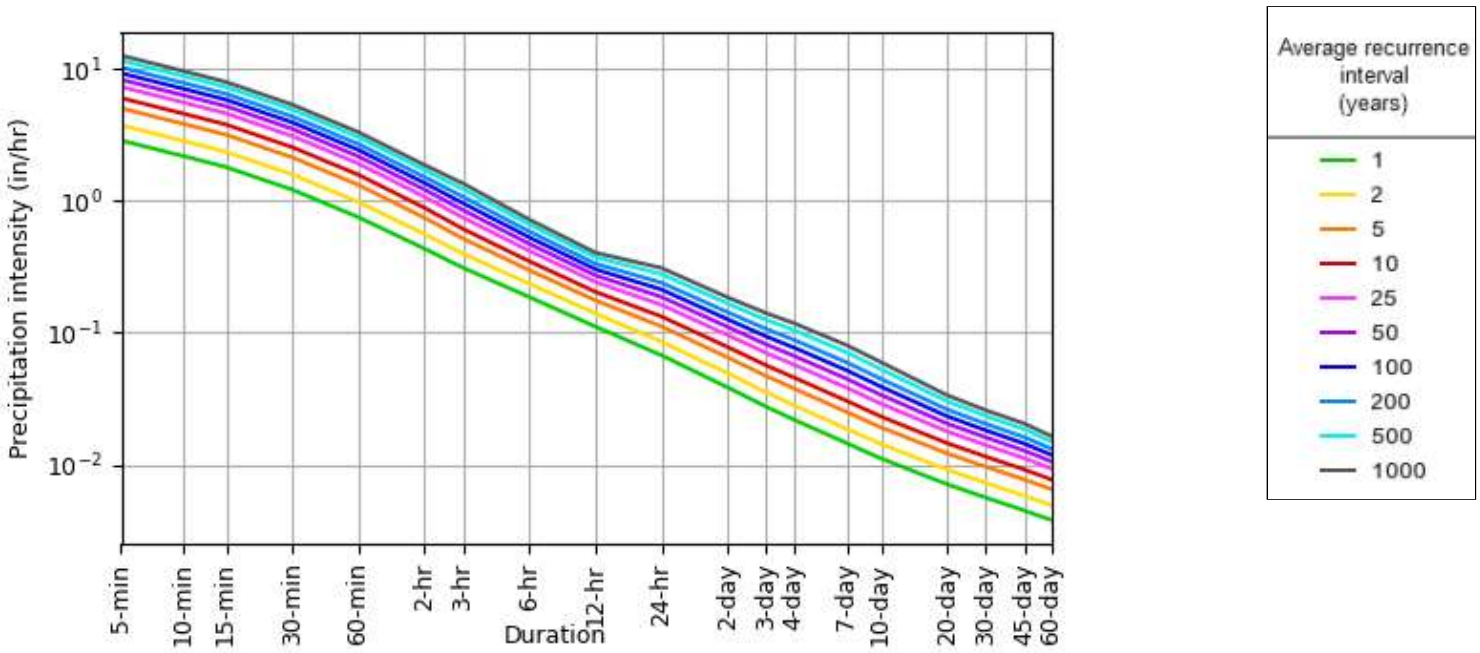
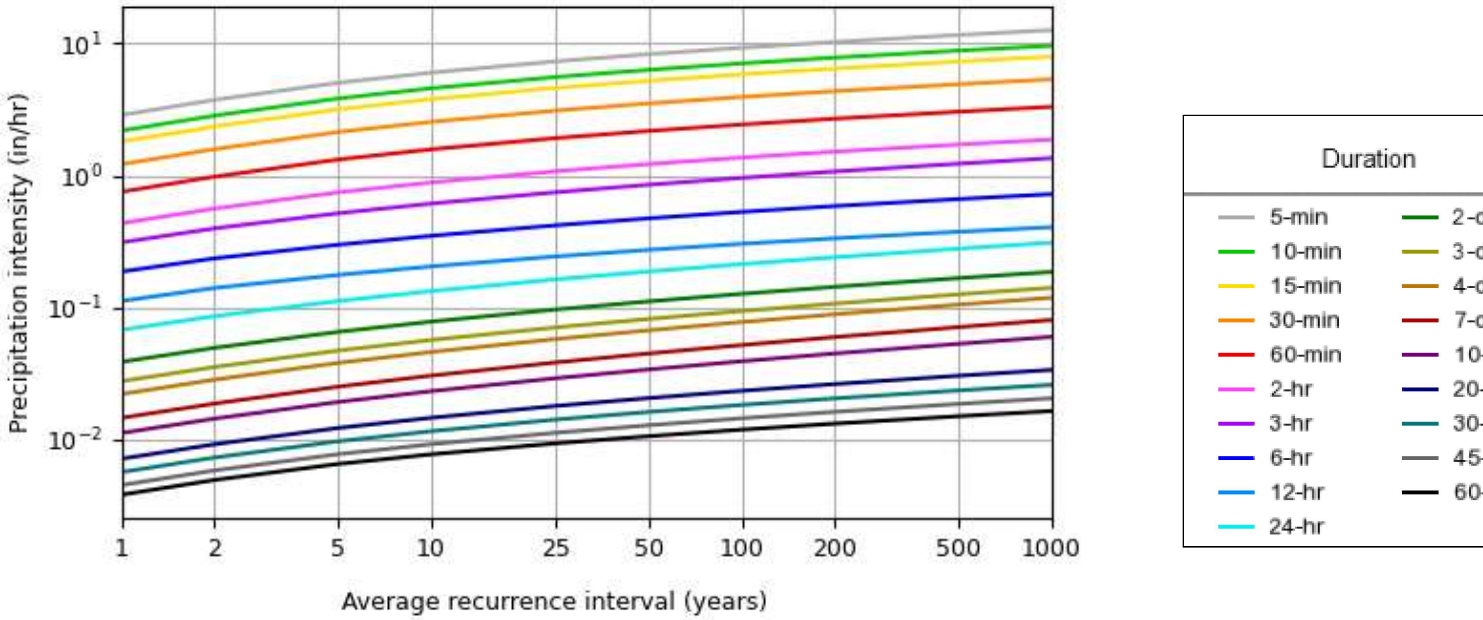
PF graphical

PDS-based intensity-duration-frequency (IDF) curves
Latitude: 33.7410°, Longitude: -111.8455°





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Maps & aerials

Small scale terrain

NOAA Atlas 14, Volume 1, Version 5
Location name: Scottsdale, Arizona, USA*
Latitude: 33.741°, Longitude: -111.8455°
Elevation: 2654 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.239** (0.199-0.294)	**0.312** (0.261-0.383)	**0.420** (0.348-0.515)	**0.502** (0.412-0.612)	**0.610** (0.495-0.741)	**0.692** (0.554-0.836)	**0.774** (0.611-0.933)	**0.857** (0.667-1.03)	**0.967** (0.735-1.17)	**1.06** (0.785-1.28)
10-min	**0.364** (0.303-0.447)	**0.474** (0.396-0.583)	**0.639** (0.529-0.783)	**0.764** (0.628-0.932)	**0.928** (0.753-1.13)	**1.05** (0.844-1.27)	**1.18** (0.929-1.42)	**1.30** (1.02-1.57)	**1.47** (1.12-1.78)	**1.61** (1.20-1.95)
15-min	**0.451** (0.376-0.554)	**0.588** (0.492-0.723)	**0.793** (0.655-0.971)	**0.947** (0.778-1.16)	**1.15** (0.933-1.40)	**1.30** (1.05-1.58)	**1.46** (1.15-1.76)	**1.62** (1.26-1.95)	**1.83** (1.39-2.20)	**1.99** (1.48-2.41)
30-min	**0.608** (0.506-0.746)	**0.792** (0.662-0.974)	**1.07** (0.883-1.31)	**1.28** (1.05-1.56)	**1.55** (1.26-1.88)	**1.76** (1.41-2.12)	**1.97** (1.55-2.37)	**2.18** (1.69-2.62)	**2.46** (1.87-2.97)	**2.68** (2.00-3.25)
60-min	**0.752** (0.626-0.924)	**0.980** (0.819-1.20)	**1.32** (1.09-1.62)	**1.58** (1.30-1.93)	**1.92** (1.56-2.33)	**2.18** (1.74-2.63)	**2.43** (1.92-2.93)	**2.70** (2.10-3.25)	**3.04** (2.31-3.67)	**3.32** (2.47-4.02)
2-hr	**0.869** (0.733-1.04)	**1.12** (0.947-1.35)	**1.49** (1.25-1.79)	**1.77** (1.47-2.12)	**2.15** (1.77-2.56)	**2.44** (1.98-2.90)	**2.74** (2.19-3.25)	**3.03** (2.39-3.60)	**3.43** (2.65-4.07)	**3.74** (2.84-4.47)
3-hr	**0.934** (0.787-1.14)	**1.19** (1.01-1.46)	**1.55** (1.30-1.89)	**1.84** (1.53-2.23)	**2.24** (1.84-2.70)	**2.55** (2.07-3.06)	**2.88** (2.30-3.46)	**3.22** (2.53-3.86)	**3.69** (2.82-4.42)	**4.07** (3.04-4.88)
6-hr	**1.12** (0.966-1.32)	**1.41** (1.22-1.66)	**1.79** (1.54-2.10)	**2.09** (1.78-2.45)	**2.51** (2.11-2.92)	**2.83** (2.35-3.29)	**3.17** (2.59-3.68)	**3.51** (2.82-4.09)	**3.97** (3.12-4.61)	**4.33** (3.32-5.03)
12-hr	**1.35** (1.17-1.57)	**1.69** (1.47-1.97)	**2.12** (1.84-2.47)	**2.47** (2.12-2.86)	**2.93** (2.49-3.39)	**3.29** (2.76-3.80)	**3.66** (3.03-4.22)	**4.02** (3.30-4.65)	**4.51** (3.62-5.24)	**4.89** (3.85-5.71)
24-hr	**1.62** (1.43-1.86)	**2.06** (1.82-2.37)	**2.68** (2.36-3.09)	**3.19** (2.78-3.67)	**3.91** (3.37-4.50)	**4.49** (3.82-5.17)	**5.11** (4.29-5.92)	**5.76** (4.76-6.72)	**6.69** (5.38-7.89)	**7.44** (5.87-8.88)
2-day	**1.86** (1.62-2.14)	**2.37** (2.07-2.73)	**3.13** (2.72-3.60)	**3.75** (3.25-4.30)	**4.62** (3.96-5.31)	**5.33** (4.51-6.14)	**6.08** (5.08-7.06)	**6.88** (5.66-8.05)	**8.01** (6.44-9.48)	**8.92** (7.04-10.7)
3-day	**1.98** (1.74-2.28)	**2.55** (2.23-2.92)	**3.39** (2.96-3.88)	**4.08** (3.54-4.66)	**5.07** (4.36-5.80)	**5.88** (5.00-6.76)	**6.76** (5.67-7.82)	**7.70** (6.36-8.99)	**9.04** (7.30-10.7)	**10.2** (8.04-12.1)
4-day	**2.12** (1.86-2.42)	**2.72** (2.39-3.11)	**3.64** (3.19-4.16)	**4.41** (3.84-5.02)	**5.52** (4.76-6.30)	**6.44** (5.49-7.38)	**7.44** (6.26-8.58)	**8.52** (7.06-9.93)	**10.1** (8.16-11.9)	**11.4** (9.04-13.6)
7-day	**2.44** (2.13-2.82)	**3.14** (2.74-3.61)	**4.21** (3.67-4.85)	**5.11** (4.42-5.87)	**6.42** (5.49-7.39)	**7.51** (6.36-8.68)	**8.71** (7.27-10.1)	**10.0** (8.23-11.8)	**11.9** (9.57-14.2)	**13.5** (10.6-16.3)
10-day	**2.68** (2.35-3.07)	**3.44** (3.02-3.94)	**4.61** (4.02-5.27)	**5.57** (4.83-6.36)	**6.96** (5.98-7.97)	**8.12** (6.90-9.33)	**9.38** (7.86-10.9)	**10.7** (8.87-12.6)	**12.7** (10.3-15.1)	**14.4** (11.4-17.3)
20-day	**3.42** (3.00-3.90)	**4.41** (3.87-5.03)	**5.85** (5.12-6.67)	**7.00** (6.09-7.96)	**8.59** (7.42-9.81)	**9.86** (8.44-11.3)	**11.2** (9.49-12.9)	**12.6** (10.5-14.7)	**14.6** (12.0-17.2)	**16.2** (13.1-19.3)
30-day	**4.06** (3.57-4.64)	**5.24** (4.61-5.98)	**6.96** (6.11-7.92)	**8.31** (7.26-9.43)	**10.2** (8.81-11.6)	**11.6** (10.0-13.3)	**13.1** (11.2-15.1)	**14.7** (12.4-17.0)	**16.9** (14.0-19.8)	**18.7** (15.3-22.1)
45-day	**4.86** (4.28-5.53)	**6.28** (5.53-7.14)	**8.34** (7.32-9.47)	**9.93** (8.68-11.3)	**12.1** (10.5-13.8)	**13.8** (11.9-15.8)	**15.6** (13.3-17.9)	**17.5** (14.7-20.3)	**20.1** (16.6-23.6)	**22.1** (18.0-26.3)
60-day	**5.47** (4.83-6.21)	**7.09** (6.25-8.03)	**9.37** (8.25-10.6)	**11.1** (9.73-12.6)	**13.4** (11.7-15.3)	**15.2** (13.1-17.4)	**17.1** (14.6-19.6)	**19.0** (16.1-21.9)	**21.6** (18.0-25.3)	**23.6** (19.4-28.0)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

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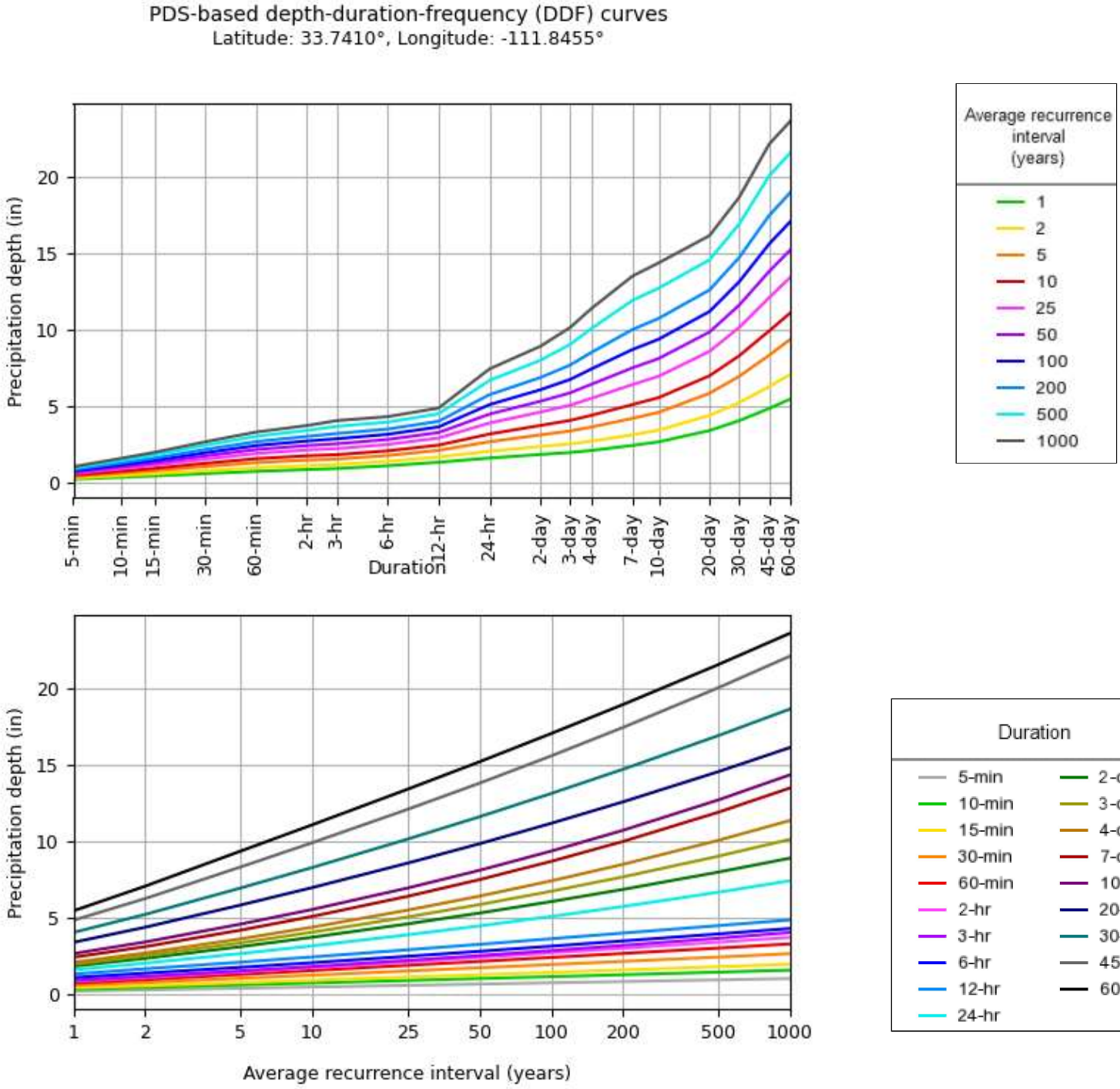
PF graphical



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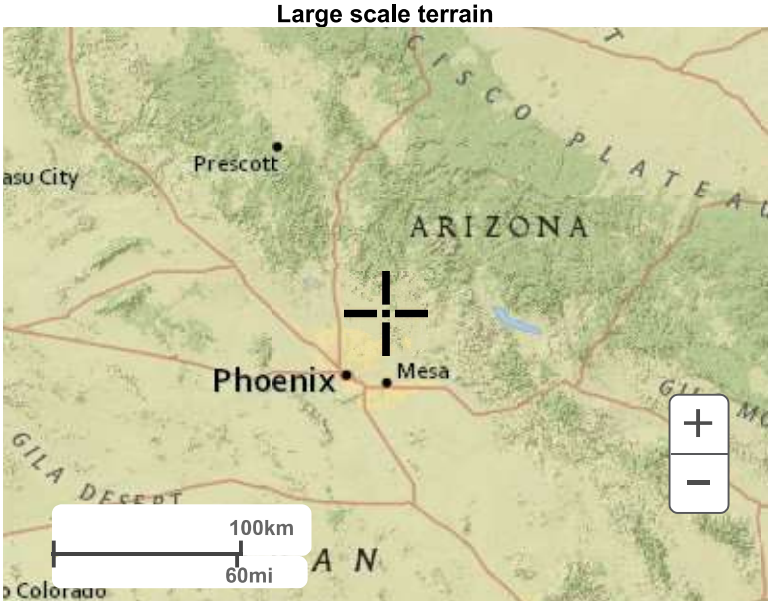
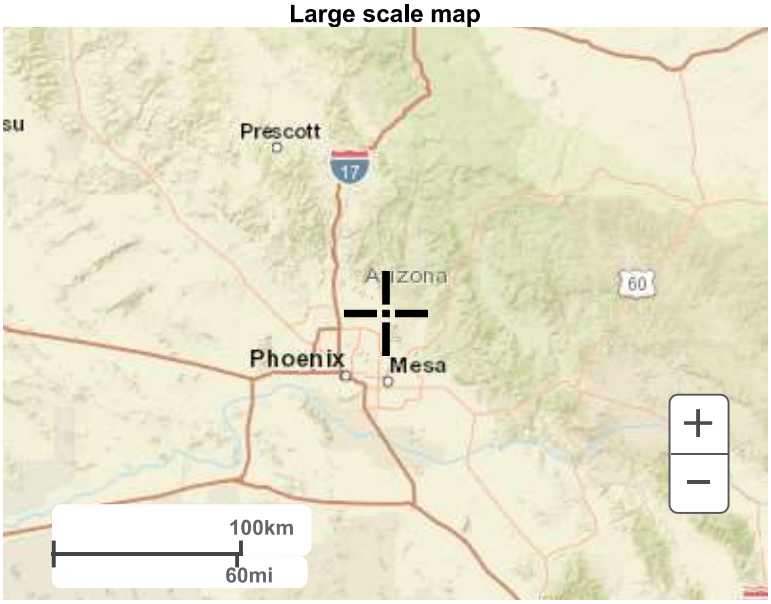
Maps & aerials

Small scale terrain

Large scale terrain



Large scale map



Large scale aerial

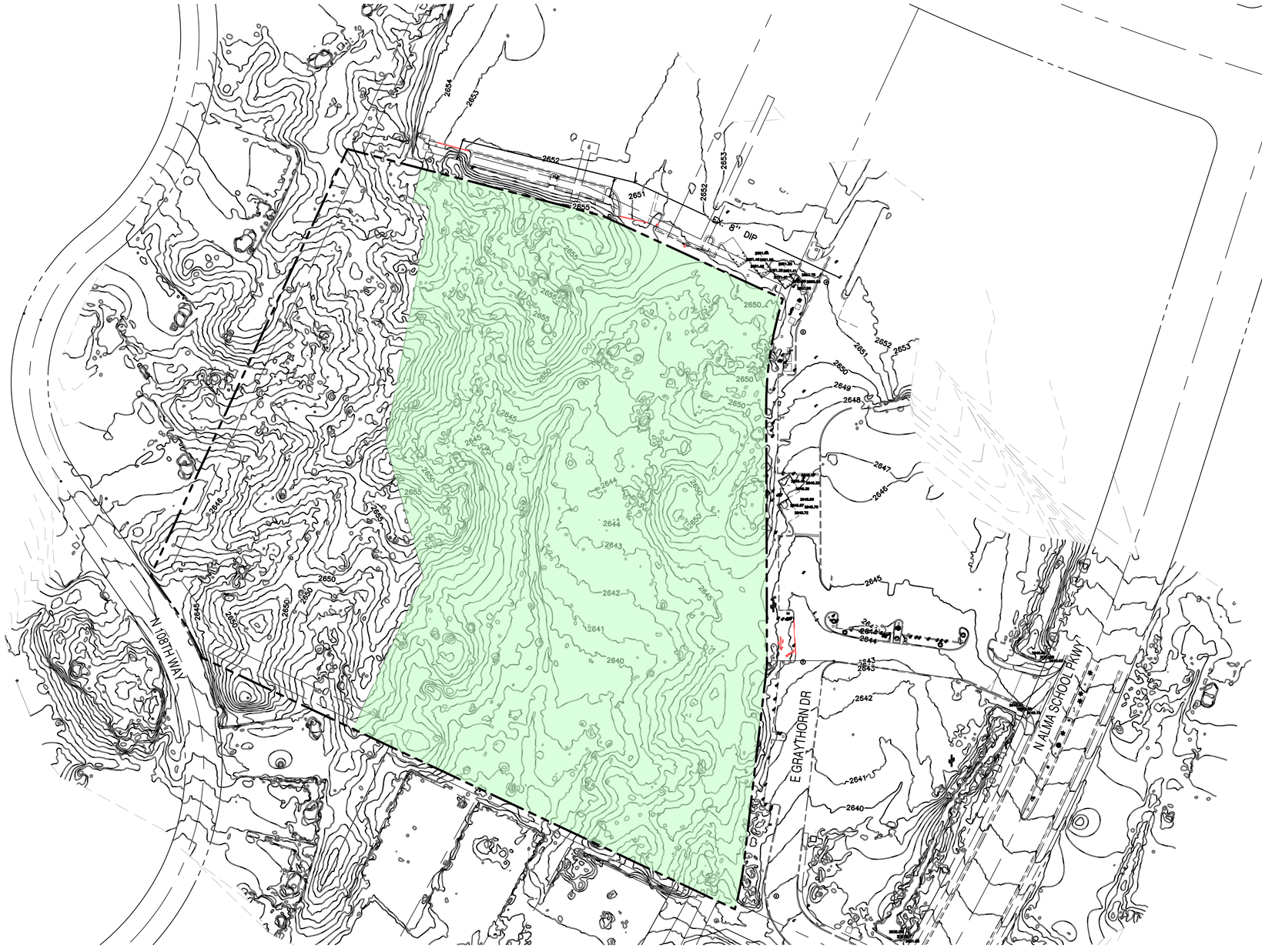
APPENDIX II

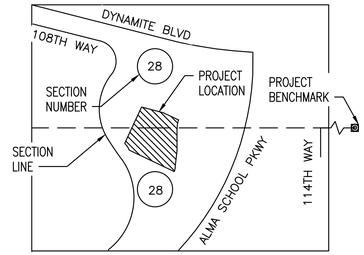
CALCULATIONS

ARTESSA PINNACLE PEAK

EXISTING CONDITIONS C_{WT} EXHIBIT

SW CORNER OF DYNAMITE BOULEVARD AND ALMA SCHOOL ROAD, ARIZONA, 85296
A PORTION OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 5 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA.





VICINITY MAP
S16 T5N R5E
N.T.S.

NORTH

PROPERTY LINE

NATURAL DESERT/LANDSCAPE = 267,832 SF (6.15 AC) @ CWT=0.45

TOTAL ON-SITE CWT = 267,832 SF (6.15 AC) @ CWT=0.45

NOTE: OFFSITE AREA NORTH (DEVELOPED) ASSUMED AS CWT=0.95

NORTH

0' 60' 120' 180'

SCALE: 1" = 60'

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SUSTAINABILITY ENGINEERING GROUP
SEG
5240 N. 16TH STREET SUITE 105, PHOENIX, ARIZONA 85016
WWW.AZSEG.COM TEL. 480.588.7226 FAX. 480.258.3534

lifestyle communities

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or visit Arizona811.com

PROJECT: ARTESSA PINNACLE PEAK
LOCATION: SWC DYNAMITE BOULEVARD AND ALMA SCHOOL ROAD, SCOTTSDALE, AZ

DRAWN	JC	07/10/2024
DESIGNED	JC	07/10/2024
CHECKED		
FINAL QC		
PROJ. MGR.	AF	07/10/2024

DATE: 07/10/2024

ISSUED FOR: REZONING

REVISION NO.:	DATE:
1	
2	
3	
4	

JOB NO.: 231106

SHEET TITLE: **EXISTING CONDITIONS C_{WT} EXHIBIT**

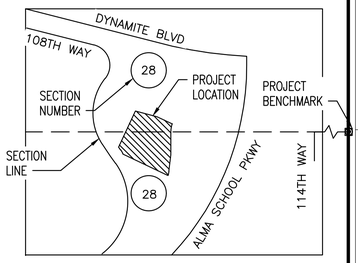
PAGE NO.: 1 OF 1

SHEET NO.: **EX-Cwt**

ARTESSA PINNACLE PEAK

PROPOSED CONDITIONS C_{WT} EXHIBIT

SW CORNER OF DYNAMITE BOULEVARD AND ALMA SCHOOL ROAD, ARIZONA, 85296
A PORTION OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 5 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA.



VICINITY MAP
S33 T5N R5E
N.T.S.

NORTH

LEGEND

PROPERTY LINE

ON-SITE

BUILDING/PAVED SURFACE =	148,836 SF (3.42 AC)	@ CWT=0.95
NATURAL DESERT/LANDSCAPE =	118,991 SF (2.73 AC)	@ CWT=0.45
TOTAL ON-SITE CWT =	267,827 SF (6.15 AC)	@ CWT=0.73

OFF-SITE

BUILDING/PAVED SURFACE =	140,711 SF (3.23 AC)	@ CWT=0.95
NATURAL DESERT/LANDSCAPE =	24,648 SF (0.57 AC)	@ CWT=0.45
TOTAL OFF-SITE CWT =	165,359 SF (3.80 AC)	@ CWT=0.88

NORTH

0' 50' 100' 150'
SCALE: 1" = 50'

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ARIZONA811
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PROJECT: ARTESSA PINNACLE PEAK
LOCATION: SWC DYNAMITE BOULEVARD AND ALMA SCHOOL ROAD, SCOTTSDALE, AZ

DRAWN	JC	07/16/2024
DESIGNED	JC	07/16/2024
CHECKED		
FINAL QC		
PROJ. MGR.	AF	07/16/2024

DATE: 07/16/2024
ISSUED FOR: REZONING

REVISION NO.:	DATE:
1	
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4	

JOB NO.: 231106

SHEET TITLE: **PROPOSED CONDITIONS C_{WT} EXHIBIT**

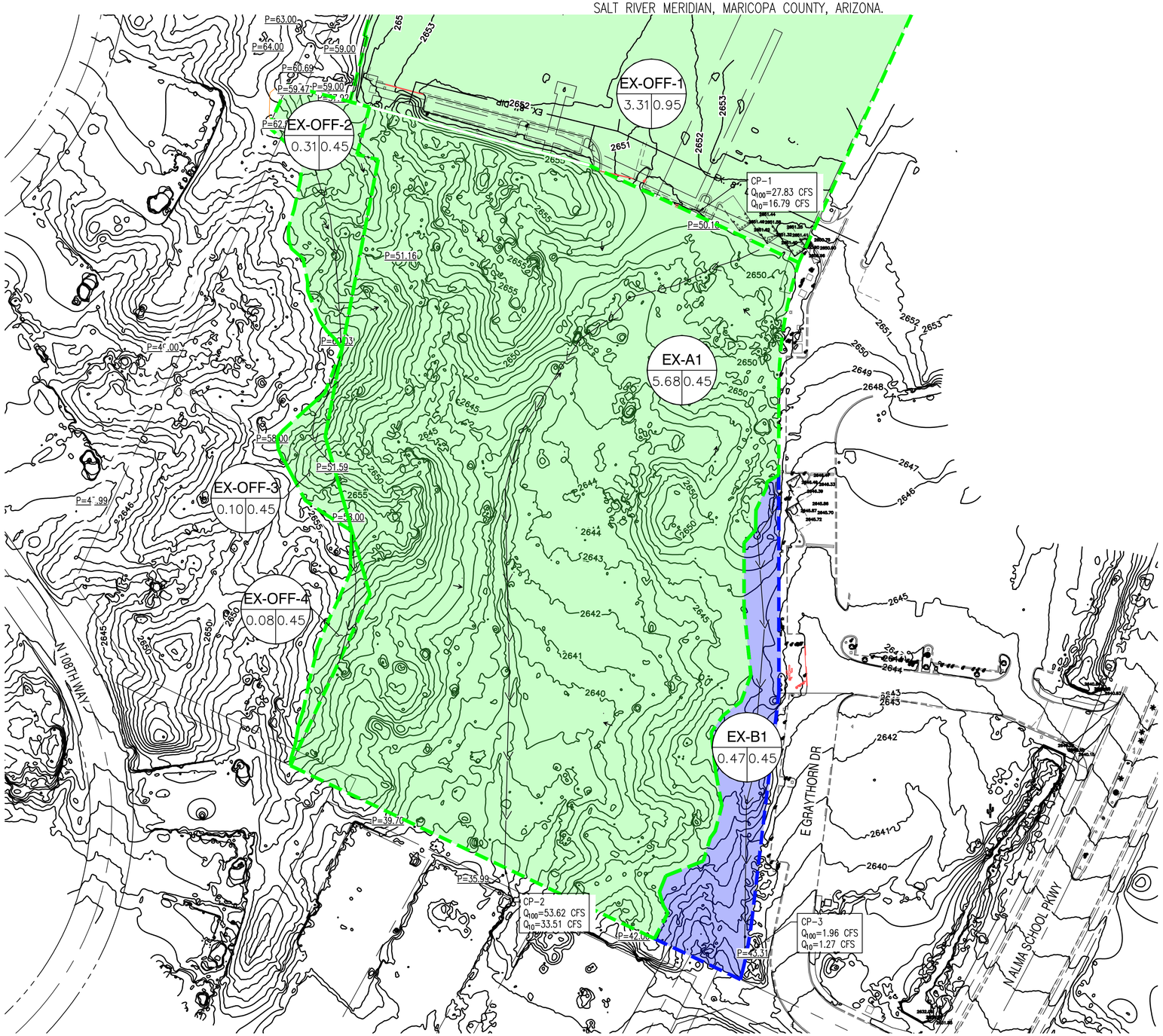
PAGE NO.: 1 OF 1
SHEET NO.: **P-Cwt**

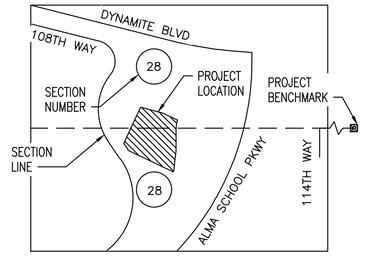
CASE #: 2-ZN-2024

ARTESSA PINNACLE PEAK

EXISTING CONDITIONS DRAINAGE AREA MAP

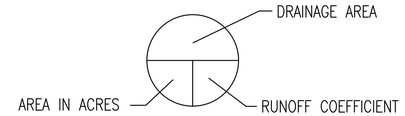
SW CORNER OF DYNAMITE BOULEVARD AND ALMA SCHOOL ROAD, ARIZONA, 85296
A PORTION OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 5 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA.





VICINITY MAP
S16 T5N R5E
N.T.S.

NORTH



DRAINAGE AREA KEY

EXSITING LEGEND

- DRAINAGE AREAS DISCHARGING TO CP-1
- DRAINAGE AREAS DISCHARGING TO CP-2
- FLOW ARROW
- FLOW LINE

EXISTING SITE DISCHARGES

	TOTAL AREA	Cwt	Intensity 10 yr	Q 10	Intensity 100 yr	Q 100	Control Point	Total flows Q10	Total flows Q100
	(ac)	(-)	(in/hr)	(cfs)	(in/hr)	(cfs)	CP#	(cfs)	(cfs)
	9.95	0.45	-	-	-	-	-	34.78	55.59
EX-OFF-1	3.31	0.95	5.34	16.79	8.85	27.83			
EX-A1	5.68	0.45	6.02	15.39	9.29	23.75			
EXOFF-2	0.31	0.45	6.02	0.84	9.29	1.30	CP-2	33.51	53.62
EXOFF-3	0.10	0.45	6.02	0.27	9.29	0.42			
EXOFF-4	0.08	0.45	6.02	0.22	9.29	0.33			
EX-B1	0.47	0.45	6.02	1.27	9.29	1.96	CP-3	1.27	1.96

NORTH

0' 50' 100' 150'
SCALE: 1" = 50'

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PROJECT: ARTESSA PINNACLE PEAK
LOCATION: SWC DYNAMITE BOULEVARD AND ALMA SCHOOL ROAD, SCOTTSDALE, AZ

DRAWN	JC	07/10/2024
DESIGNED	JC	07/10/2024
CHECKED		
FINAL QC		
PROJ. MGR.	AF	07/10/2024

DATE: 07/10/2024
ISSUED FOR: REZONING

REVISION NO.:	DATE:
1	
2	
3	
4	

JOB NO.: 231106

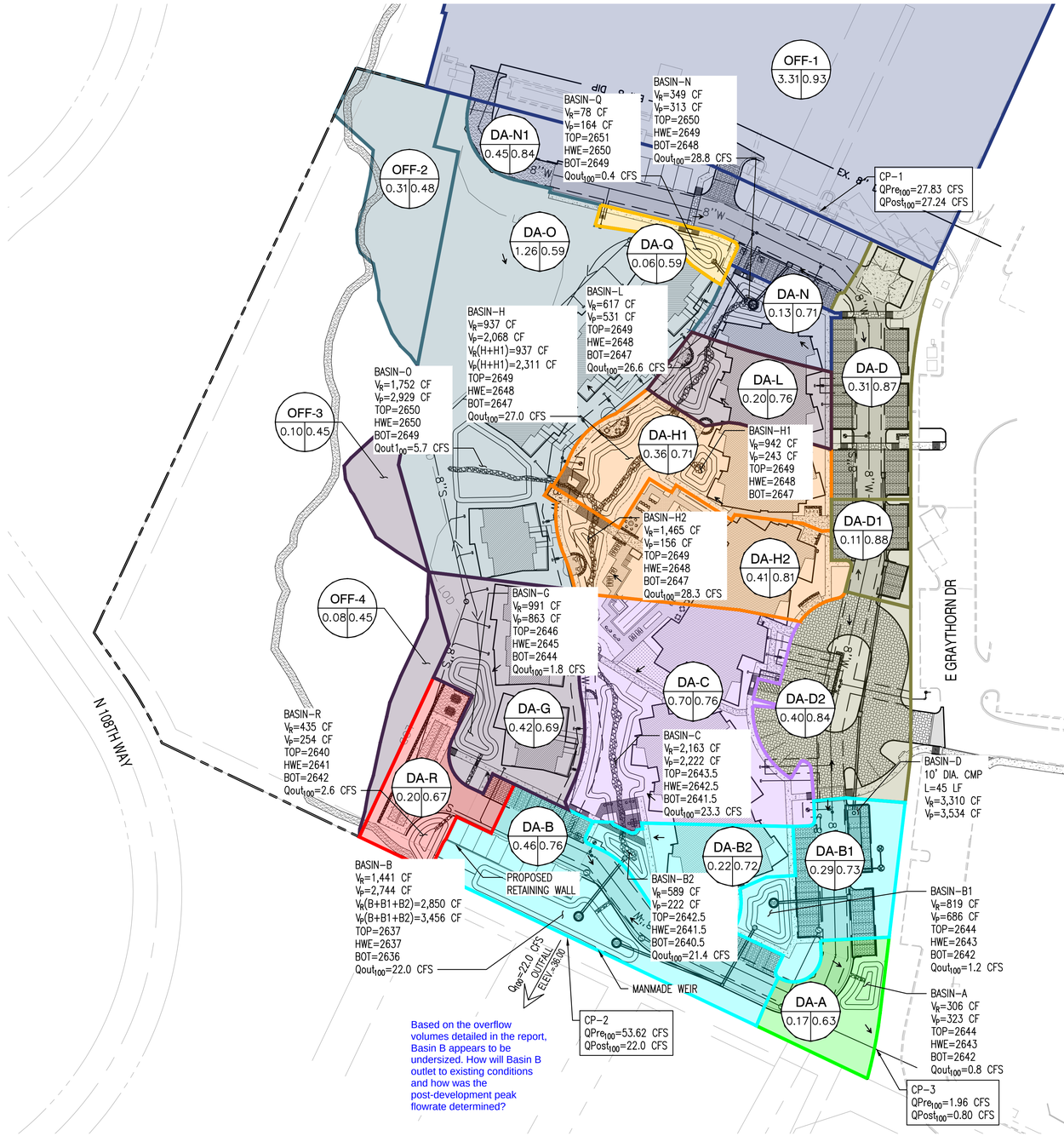
SHEET TITLE: **EXISTING CONDITIONS DRAINAGE AREA MAP**

PAGE NO.: 1 OF 1
SHEET NO.: **EX-DAM**

ARTESSA PINNACLE PEAK

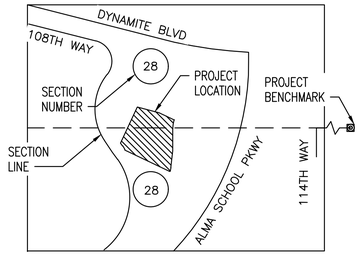
PROPOSED CONDITIONS DRAINAGE AREA MAP

SW CORNER OF DYNAMITE BOULEVARD AND ALMA SCHOOL ROAD, ARIZONA, 85296
A PORTION OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 5 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA.



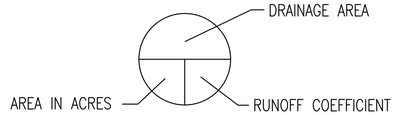
Include information regarding the outlets of these basins and show how they will be interconnected. Include the capacity of the connections between basins. Be consistent about showing which basins will receive overflow from upstream basins and what the total Vr vs Vp for each basin is. Are the high water elevations listed for each basin including the overflow volume from upstream basins? All basins that will be deeper than 6" (accounting for any additional volume coming from upstream basins) must include percolation testing to determine the drain time.

Based on the overflow volumes detailed in the report, Basin B appears to be undersized. How will Basin B outlet to existing conditions and how was the post-development peak flowrate determined?



VICINITY MAP
S33 T5N R5E
N.T.S.

NORTH



DRAINAGE AREA KEY

PROPOSED LEGEND

- DRAINAGE AREAS DISCHARGING TO BASIN-A
- DRAINAGE AREAS DISCHARGING TO BASIN-B
- DRAINAGE AREAS DISCHARGING TO BASIN-C
- DRAINAGE AREAS DISCHARGING TO BASIN-D
- DRAINAGE AREAS DISCHARGING TO BASIN-G
- DRAINAGE AREAS DISCHARGING TO BASIN-H
- DRAINAGE AREAS DISCHARGING TO BASIN-L
- DRAINAGE AREAS DISCHARGING TO BASIN-Q
- DRAINAGE AREAS DISCHARGING TO BASIN-N
- DRAINAGE AREAS DISCHARGING TO BASIN-O
- DRAINAGE AREAS DISCHARGING TO BASIN-R
- FLOW ARROW

NOTES: OVERFLOW FROM BASINS C, G,H,L,Q,N,O AND R WILL ULTIMATELY DISCHARGE TO BASIN B.

$Qout_{100}$ OBTAINED FROM HEC-1 CALCULATIONS.

NORTH

0' 50' 100' 150'
SCALE: 1" = 50'

NOT FOR CONSTRUCTION

SEG SUSTAINABILITY ENGINEERING GROUP
5240 N. 16TH STREET SUITE 105, PHOENIX, ARIZONA 85016
WWW.AZSEG.COM TEL. 480.588.7226 FAX. 480.256.3534

lifestyle communities

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811 Call 811 or click Arizona811.com

PROJECT: ARTESSA PINNACLE PEAK
LOCATION: SWC DYNAMITE BOULEVARD AND ALMA SCHOOL ROAD, SCOTTSDALE, AZ

DRAWN	JC	07/16/2024
DESIGNED	JC	07/16/2024
CHECKED		
FINAL QC		
PROJ. MGR.	AF	07/16/2024

DATE: 07/16/2024
ISSUED FOR: REZONING

REVISION NO.:	DATE:
1	
2	
3	
4	

JOB NO.: 231106

SHEET TITLE: **PROPOSED CONDITIONS DRAINAGE AREA MAP**

PAGE NO.: 1 OF 1
SHEET NO.: **P-DAM**

CASE #: Z-ZN-2024

EXISTING OVERALL SITE C_w				
	Pavement	DESERT LANDSCAPE	TOTAL AREA	Cwt
C-VALUE	0.95	0.45		
AREA (ac)	0.00	6.15	**6.15**	**0.45**
EX-A1	0.00	5.68	5.68	0.45
EX-B1	0.00	0.47	0.47	0.45

EXISTING OFFSITE SITE C_w				
	Pavement	DESERT LANDSCAPE	TOTAL AREA	Cwt
C-VALUE	0.95	0.45		
AREA (ac)	3.37	0.00	**3.37**	**0.95**
EX-OFF-1	3.37	0.00	3.37	0.95
EX-OFF-2	0.00	0.31	0.31	0.45
EX-OFF-3	0.00	0.10	0.10	0.45
EX-OFF-4	0.00	0.08	0.08	0.45

Weighted Runoff Coefficient-Calculations (Cw)

PROPOSED OVERALL SITE C_w				
	Building/ Pavement	DESERT LANDSCAPE	TOTAL AREA	Cwt
C-VALUE	0.95	0.45		
AREA (ac)	3.42	2.73	**6.15**	**0.73**
DA-A	0.06	0.11	0.17	0.63
DA-B	0.29	0.17	0.46	0.76
DA-B1	0.16	0.13	0.29	0.73
DA-B2	0.12	0.10	0.22	0.72
DA-C	0.43	0.26	0.70	0.76
DA-D	0.26	0.05	0.31	0.87
DA-D1	0.10	0.02	0.11	0.88
DA-D2	0.31	0.08	0.40	0.84
DA-G	0.20	0.22	0.42	0.69
DA-H1	0.19	0.17	0.36	0.71
DA-H2	0.29	0.11	0.41	0.81
DA-L	0.12	0.07	0.20	0.76
DA-N	0.07	0.06	0.13	0.71
DA-N1	0.35	0.10	0.45	0.84
DA-O	0.35	0.91	1.26	0.59
DA-Q	0.02	0.04	0.06	0.59
DA-R	0.09	0.11	0.20	0.67

PROPOSED OFFSITE SITE C_w				
	Pavement	DESERT LANDSCAPE	TOTAL AREA	Cwt
C-VALUE	0.95	0.45		
AREA (ac)	3.23	0.57	**3.80**	**0.88**
OFF-1	3.21	0.10	3.31	0.93
OFF-2	0.02	0.29	0.31	0.48
OFF-3	0.00	0.10	0.10	0.45
OFF-4	0.00	0.08	0.08	0.45

STORMWATER STORAGE

BASIN A

ELEV. (FT)	AREA (SF)	DEPTH (FT)	AVG VOLUME (CF)	SUM VOLUME (CF)	COMMENT
2642.0	155			0	**Bottom**
		1.00	323		
2643.0	490			**323**	**Volume Provided (HWE)**
		1.00	716		
2644.0	941			1,038	**Top**

BASIN B

ELEV. (FT)	AREA (SF)	DEPTH (FT)	AVG VOLUME (CF)	SUM VOLUME (CF)	COMMENT
2636.0	2,101			0	**Bottom**
		1.00	2,744		
2637.0	3,387			**2,744**	**Volume Provided (HWE) (TOP)**

BASIN B1

ELEV. (FT)	AREA (SF)	DEPTH (FT)	AVG VOLUME (CF)	SUM VOLUME (CF)	COMMENT
2642.0	467			0	**Bottom**
		1.00	686		
2643.0	905			**686**	**Volume Provided (HWE)**
		1.00	1,177		
2644.0	1,449			1,863	**Top**

BASIN B2

ELEV. (FT)	AREA (SF)	DEPTH (FT)	AVG VOLUME (CF)	SUM VOLUME (CF)	COMMENT
2641.0	55			0	**Bottom**
		1.00	222		
2642.0	389			**222**	**Volume Provided (HWE)**
		1.00	607		
2643.0	824			828	**Top**

BASIN C

ELEV. (FT)	AREA (SF)	DEPTH (FT)	AVG VOLUME (CF)	SUM VOLUME (CF)	COMMENT
2641.5	1,636			0	**Bottom**
		1.00	2,222		
2642.5	2,807			**2,222**	**Volume Provided (HWE)**
		1.00	3,455		
2643.5	4,103			5,677	**Top**

BASIN G					
ELEV.	AREA	DEPTH	AVG VOLUME	SUM VOLUME	COMMENT
(FT)	(SF)	(FT)	(CF)	(CF)	
2644.0	474			0	Bottom
		1.00	863		
2645.0	1,252			**863**	Volume Provided (HWE)
		1.00	1,691		
2646.0	2,130			2,554	Top

BASIN H					
ELEV.	AREA	DEPTH	AVG VOLUME	SUM VOLUME	COMMENT
(FT)	(SF)	(FT)	(CF)	(CF)	
2647.0	1,613			0	Bottom
		1.00	2,068		
2648.0	2,523			**2,068**	Volume Provided (HWE)
		1.00	3,034		
2649.0	3,545			5,102	Top

BASIN H1					
ELEV.	AREA	DEPTH	AVG VOLUME	SUM VOLUME	COMMENT
(FT)	(SF)	(FT)	(CF)	(CF)	
2647.0	123			0	Bottom
		1.00	243		
2648.0	362			**243**	Volume Provided (HWE)
		1.00	548		
2649.0	733			791	Top

BASIN H2					
ELEV.	AREA	DEPTH	AVG VOLUME	SUM VOLUME	COMMENT
(FT)	(SF)	(FT)	(CF)	(CF)	
2647.0	44			0	Bottom
		1.00	156		
2648.0	267			**156**	Volume Provided (HWE)
		1.00	454		
2649.0	641			610	Top

BASIN L					
ELEV.	AREA	DEPTH	AVG VOLUME	SUM VOLUME	COMMENT
(FT)	(SF)	(FT)	(CF)	(CF)	
2647.0	330			0	Bottom
		1.00	531		
2648.0	733			**531**	Volume Provided (HWE)
		1.00	990		
2649.0	1,247			1,521	Top

BASIN N					
ELEV.	AREA	DEPTH	AVG VOLUME	SUM VOLUME	COMMENT
(FT)	(SF)	(FT)	(CF)	(CF)	
2648.0	171			0	Bottom
		1.00	313		
2649.0	455			313	Volume Provided (HWE)
		1.00	669		
2650.0	882			982	Top

BASIN O					
ELEV.	AREA	DEPTH	AVG VOLUME	SUM VOLUME	COMMENT
(FT)	(SF)	(FT)	(CF)	(CF)	
2649.0	2,507			0	Bottom
		1.00	2,929		
2650.0	3,352			2,929	Volume Provided (HWE) (TOP)

BASIN Q					
ELEV.	AREA	DEPTH	AVG VOLUME	SUM VOLUME	COMMENT
(FT)	(SF)	(FT)	(CF)	(CF)	
2649.0	49			0	Bottom
		1.00	164		
2650.0	279			164	Volume Provided (HWE)
		1.00	474		
2651.0	668			638	Top

BASIN R					
ELEV.	AREA	DEPTH	AVG VOLUME	SUM VOLUME	COMMENT
(FT)	(SF)	(FT)	(CF)	(CF)	
2640.0	116			0	Bottom
		1.00	254		
2641.0	392			254	Volume Provided (HWE)
		1.00	583		
2642.0	773			837	Top

Type / ID	Length (ft)	Velocity (ft/sec)	Tpipe (min)	Combine		Return Period (Years) 2	5	10	25	50	100
cFirstPipe											
Maior Basin ID: 01											
Sub Basin	-	-	-	-	Q (cfs)	2.8	3.7	4.5	5.4	6.1	6.9
DA-O					CA (ac)	0.74	0.74	0.74	0.74	0.74	0.74
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0691	0.0919	0.1092	0.1326	0.1505	0.1690
Sub Basin	-	-	-	-	Q (cfs)	0.6	0.8	0.9	1.1	1.2	1.4
OFF-2					CA (ac)	0.15	0.15	0.15	0.15	0.15	0.15
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0140	0.0186	0.0221	0.0269	0.0305	0.0343
Sub Basin	-	-	-	-	Q (cfs)	0.2	0.3	0.3	0.4	0.4	0.5
OFF-3					CA (ac)	0.05	0.05	0.05	0.05	0.05	0.05
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0047	0.0062	0.0074	0.0090	0.0102	0.0114
Combine	-	-	-	3	Q (cfs)	3.6	4.8	5.7	6.9	7.7	8.8
OFF-3					CA (ac)	0.94	0.94	0.94	0.94	0.94	0.94
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0878	0.1167	0.1387	0.1685	0.1912	0.2147
Storage	-	-	-	-	Q (cfs)	2.2	3.0	3.6	4.4	5.0	5.7
BAS_O					CA (ac)	0.94	0.94	0.94	0.94	0.94	0.94
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0878	0.1167	0.1387	0.1685	0.1912	0.2147
Hold	-	-	-	-	Q (cfs)	2.2	3.0	3.6	4.4	5.0	5.7
SUO-BH					CA (ac)	0.94	0.94	0.94	0.94	0.94	0.94
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0878	0.1167	0.1387	0.1685	0.1912	0.2147
Sub Basin	-	-	-	-	Q (cfs)	0.1	0.2	0.2	0.3	0.3	0.4
DA-Q					CA (ac)	0.04	0.04	0.04	0.04	0.04	0.04
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0037	0.0050	0.0059	0.0072	0.0081	0.0091
Storage	-	-	-	-	Q (cfs)	-	0.1	0.1	0.1	0.2	0.2
BAS_Q					CA (ac)	0.04	0.04	0.04	0.04	0.04	0.04
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0037	0.0050	0.0059	0.0072	0.0081	0.0091
Hold	-	-	-	-	Q (cfs)	-	0.1	0.1	0.1	0.2	0.2
C_Q					CA (ac)	0.04	0.04	0.04	0.04	0.04	0.04
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0037	0.0050	0.0059	0.0072	0.0081	0.0091
Sub Basin	-	-	-	-	Q (cfs)	9.4	13.4	16.6	20.9	24.2	27.5
OFF-1					CA (ac)	3.11	3.11	3.11	3.11	3.11	3.11
					Tc (min)	8.9	7.8	7.2	6.6	6.2	5.9
					i (in/hr)	3.02	4.32	5.34	6.71	7.77	8.85
					Volume (ac-ft)	0.2903	0.3862	0.4587	0.5572	0.6324	0.7101

* First Pipe

Type / ID	Length (ft)	Velocity (ft/sec)	Tpipe (min)	Combine		Return Period (Years) 2	5	10	25	50	100
cFirstPipe											
Maior Basin ID: 01											
Sub Basin	-	-	-	-	Q (cfs)	1.4	1.9	2.3	2.8	3.2	3.5
DA-N1					CA (ac)	0.38	0.38	0.38	0.38	0.38	0.38
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0355	0.0472	0.0561	0.0681	0.0773	0.0868
Combine	-	-	-	2	Q (cfs)	10.6	15.0	18.3	23.2	26.6	30.8
DA-N1					CA (ac)	3.49	3.49	3.49	3.49	3.49	3.49
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.3258	0.4334	0.5148	0.6253	0.7097	0.7969
Hold	-	-	-	-	Q (cfs)	10.6	15.0	18.3	23.2	26.6	30.8
C_N1					CA (ac)	3.49	3.49	3.49	3.49	3.49	3.49
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.3258	0.4334	0.5148	0.6253	0.7097	0.7969
Sub Basin	-	-	-	-	Q (cfs)	0.3	0.5	0.5	0.7	0.7	0.8
DA-N					CA (ac)	0.09	0.09	0.09	0.09	0.09	0.09
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0084	0.0112	0.0133	0.0161	0.0183	0.0206
Receive	-	-	-	-	Q (cfs)	10.6	15.0	18.3	23.2	26.6	30.8
C_N1					CA (ac)	3.49	3.49	3.49	3.49	3.49	3.49
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.3258	0.4334	0.5148	0.6253	0.7097	0.7969
Receive	-	-	-	-	Q (cfs)	-	0.1	0.1	0.1	0.2	0.2
C_Q					CA (ac)	0.04	0.04	0.04	0.04	0.04	0.04
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0037	0.0050	0.0059	0.0072	0.0081	0.0091
Combine	-	-	-	3	Q (cfs)	10.9	15.4	18.8	23.9	27.3	31.6
C_Q					CA (ac)	3.62	3.62	3.62	3.62	3.62	3.62
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.3379	0.4496	0.5340	0.6486	0.7361	0.8266
Storage	-	-	-	-	Q (cfs)	9.9	14.0	17.1	21.4	24.7	27.9
BAS_N					CA (ac)	3.62	3.62	3.62	3.62	3.62	3.62
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.3379	0.4496	0.5340	0.6486	0.7361	0.8266
Sub Basin	-	-	-	-	Q (cfs)	0.6	0.8	0.9	1.1	1.2	1.4
DA-L					CA (ac)	0.15	0.15	0.15	0.15	0.15	0.15
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0140	0.0186	0.0221	0.0269	0.0305	0.0343
Combine	-	-	-	2	Q (cfs)	10.4	14.6	17.9	22.3	25.7	29.1
DA-L					CA (ac)	3.77	3.77	3.77	3.77	3.77	3.77
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.3519	0.4682	0.5561	0.6755	0.7666	0.8609

* First Pipe

Type / ID	Length (ft)	Velocity (ft/sec)	Tpipe (min)	Combine		Return Period (Years) 2	5	10	25	50	100
cFirstPipe											
Maior Basin ID: 01											
Storage	-	-	-	-	Q (cfs)	9.5	13.3	16.3	20.3	23.3	26.4
BAS_L					CA (ac)	3.77	3.77	3.77	3.77	3.77	3.77
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.3519	0.4682	0.5561	0.6755	0.7666	0.8609
Receive	-	-	-	-	Q (cfs)	2.2	3.0	3.6	4.4	5.0	5.7
SUO-BH					CA (ac)	0.94	0.94	0.94	0.94	0.94	0.94
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0878	0.1167	0.1387	0.1685	0.1912	0.2147
Sub Basin	-	-	-	-	Q (cfs)	1.0	1.3	1.6	1.9	2.2	2.4
DA-H1					CA (ac)	0.26	0.26	0.26	0.26	0.26	0.26
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0243	0.0323	0.0384	0.0466	0.0529	0.0594
Combine	-	-	-	3	Q (cfs)	12.3	17.1	21.0	26.0	29.7	33.7
DA-H1					CA (ac)	4.97	4.97	4.97	4.97	4.97	4.97
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.4640	0.6172	0.7332	0.8906	1.0107	1.1350
Storage	-	-	-	-	Q (cfs)	9.6	13.5	16.5	20.6	23.6	26.9
BAS_H					CA (ac)	4.97	4.97	4.97	4.97	4.97	4.97
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.4640	0.6172	0.7332	0.8906	1.0107	1.1350
Sub Basin	-	-	-	-	Q (cfs)	1.2	1.7	2.0	2.4	2.7	3.1
DA-H2					CA (ac)	0.33	0.33	0.33	0.33	0.33	0.33
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0308	0.0410	0.0487	0.0591	0.0671	0.0754
Combine	-	-	-	2	Q (cfs)	10.1	14.1	17.3	21.6	24.8	28.2
DA-H2					CA (ac)	5.30	5.30	5.30	5.30	5.30	5.30
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.4948	0.6582	0.7819	0.9497	1.0778	1.2104
Storage	-	-	-	-	Q (cfs)	10.0	14.1	17.2	21.5	24.7	28.1
BAS_H2					CA (ac)	5.30	5.30	5.30	5.30	5.30	5.30
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.4948	0.6582	0.7819	0.9497	1.0778	1.2104
Sub Basin	-	-	-	-	Q (cfs)	2.0	2.7	3.2	3.9	4.4	4.9
DA-C					CA (ac)	0.53	0.53	0.53	0.53	0.53	0.53
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0495	0.0658	0.0782	0.0950	0.1078	0.1210
Combine	-	-	-	2	Q (cfs)	10.7	15.0	18.5	23.1	26.6	30.2
DA-C					CA (ac)	5.83	5.83	5.83	5.83	5.83	5.83
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.5443	0.7240	0.8601	1.0447	1.1856	1.3314

* First Pipe

Type / ID	Length (ft)	Velocity (ft/sec)	Tpipe (min)	Combine		Return Period (Years) 2	5	10	25	50	100
cFirstPipe											
Maior Basin ID: 01											
Storage	-	-	-	-	Q (cfs)	7.9	11.3	14.1	17.7	20.4	23.2
BAS_C					CA (ac)	5.83	5.83	5.83	5.83	5.83	5.83
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.5443	0.7240	0.8601	1.0447	1.1856	1.3314
Hold	-	-	-	-	Q (cfs)	7.9	11.3	14.1	17.7	20.4	23.2
C-B2					CA (ac)	5.83	5.83	5.83	5.83	5.83	5.83
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.5443	0.7240	0.8601	1.0447	1.1856	1.3314
Sub Basin	-	-	-	-	Q (cfs)	0.8	1.1	1.3	1.5	1.7	2.0
DA-B1					CA (ac)	0.21	0.21	0.21	0.21	0.21	0.21
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0196	0.0261	0.0310	0.0376	0.0427	0.0480
Storage	-	-	-	-	Q (cfs)	0.5	0.7	0.8	0.9	1.1	1.2
BAS_B1					CA (ac)	0.21	0.21	0.21	0.21	0.21	0.21
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0196	0.0261	0.0310	0.0376	0.0427	0.0480
Hold	-	-	-	-	Q (cfs)	0.5	0.7	0.8	0.9	1.1	1.2
C_BQ					CA (ac)	0.21	0.21	0.21	0.21	0.21	0.21
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0196	0.0261	0.0310	0.0376	0.0427	0.0480
Sub Basin	-	-	-	-	Q (cfs)	0.6	0.8	1.0	1.2	1.3	1.5
DA-B2					CA (ac)	0.16	0.16	0.16	0.16	0.16	0.16
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0149	0.0199	0.0236	0.0287	0.0325	0.0365
Receive	-	-	-	-	Q (cfs)	7.9	11.3	14.1	17.7	20.4	23.2
C-B2					CA (ac)	5.83	5.83	5.83	5.83	5.83	5.83
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.5443	0.7240	0.8601	1.0447	1.1856	1.3314
Combine	-	-	-	2	Q (cfs)	7.9	11.4	14.1	17.8	20.6	23.4
C-B2					CA (ac)	5.99	5.99	5.99	5.99	5.99	5.99
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.5592	0.7439	0.8837	1.0734	1.2181	1.3679
Storage	-	-	-	-	Q (cfs)	7.2	10.4	12.9	16.2	18.7	21.4
BAS_B2					CA (ac)	5.99	5.99	5.99	5.99	5.99	5.99
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.5592	0.7439	0.8837	1.0734	1.2181	1.3679
Hold	-	-	-	-	Q (cfs)	7.2	10.4	12.9	16.2	18.7	21.4
C_B2					CA (ac)	5.99	5.99	5.99	5.99	5.99	5.99
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.5592	0.7439	0.8837	1.0734	1.2181	1.3679

* First Pipe

Type / ID	Length (ft)	Velocity (ft/sec)	Tpipe (min)	Combine		Return Period (Years) 2	5	10	25	50	100
cFirstPipe											
Maior Basin ID: 01											
Sub Basin	-	-	-	-	Q (cfs)	1.1	1.5	1.7	2.1	2.4	2.7
DA-G					CA (ac)	0.29	0.29	0.29	0.29	0.29	0.29
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0271	0.0360	0.0428	0.0520	0.0590	0.0662
Sub Basin	-	-	-	-	Q (cfs)	0.1	0.2	0.2	0.3	0.3	0.4
OFF-4					CA (ac)	0.04	0.04	0.04	0.04	0.04	0.04
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0037	0.0050	0.0059	0.0072	0.0081	0.0091
Combine	-	-	-	2	Q (cfs)	1.2	1.7	1.9	2.4	2.7	3.1
OFF-4					CA (ac)	0.33	0.33	0.33	0.33	0.33	0.33
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0308	0.0410	0.0487	0.0592	0.0671	0.0753
Storage	-	-	-	-	Q (cfs)	0.4	0.7	0.9	1.3	1.5	1.8
BAS_G					CA (ac)	0.33	0.33	0.33	0.33	0.33	0.33
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0308	0.0410	0.0487	0.0592	0.0671	0.0753
Sub Basin	-	-	-	-	Q (cfs)	0.5	0.7	0.8	1.0	1.2	1.3
DA-R					CA (ac)	0.14	0.14	0.14	0.14	0.14	0.14
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0131	0.0174	0.0207	0.0251	0.0285	0.0320
Combine	-	-	-	2	Q (cfs)	0.6	1.0	1.3	1.9	2.2	2.6
DA-R					CA (ac)	0.47	0.47	0.47	0.47	0.47	0.47
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0439	0.0584	0.0694	0.0843	0.0956	0.1073
Storage	-	-	-	-	Q (cfs)	0.6	1.0	1.3	1.9	2.2	2.6
BAS_R					CA (ac)	0.47	0.47	0.47	0.47	0.47	0.47
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0439	0.0584	0.0694	0.0843	0.0956	0.1073
Sub Basin	-	-	-	-	Q (cfs)	1.3	1.8	2.1	2.6	2.9	3.3
DA-B					CA (ac)	0.35	0.35	0.35	0.35	0.35	0.35
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0327	0.0435	0.0516	0.0627	0.0712	0.0799
Receive	-	-	-	-	Q (cfs)	7.2	10.4	12.9	16.2	18.7	21.4
C_B2					CA (ac)	5.99	5.99	5.99	5.99	5.99	5.99
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.5592	0.7439	0.8837	1.0734	1.2181	1.3679
Receive	-	-	-	-	Q (cfs)	0.5	0.7	0.8	0.9	1.1	1.2
C_BQ					CA (ac)	0.21	0.21	0.21	0.21	0.21	0.21
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0196	0.0261	0.0310	0.0376	0.0427	0.0480

* First Pipe

Type / ID	Length (ft)	Velocity (ft/sec)	Tpipe (min)	Combine		Return Period (Years) 2	5	10	25	50	100
cFirstPipe											
Maior Basin ID: 01											
Combine	-	-	-	4	Q (cfs)	7.4	10.6	13.3	16.8	19.5	22.2
C_BQ					CA (ac)	7.02	7.02	7.02	7.02	7.02	7.02
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.6554	0.8719	1.0357	1.2580	1.4276	1.6031
Storage	-	-	-	-	Q (cfs)	7.4	10.5	13.2	16.7	19.3	22.0
BAS_B					CA (ac)	7.02	7.02	7.02	7.02	7.02	7.02
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.6554	0.8719	1.0357	1.2580	1.4276	1.6031
Sub Basin	-	-	-	-	Q (cfs)	0.4	0.6	0.7	0.8	0.9	1.0
DA-A					CA (ac)	0.11	0.11	0.11	0.11	0.11	0.11
					Tc (min)	5.0	5.0	5.0	5.0	5.0	5.0
					i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
					Volume (ac-ft)	0.0103	0.0137	0.0162	0.0197	0.0224	0.0251
Storage	-	-	-	-	Q (cfs)	0.2	0.4	0.5	0.6	0.7	0.8
BAS_A					CA (ac)	0.11	0.11	0.11	0.11	0.11	0.11
					Tc (min)	-	-	-	-	-	-
					i (in/hr)	-	-	-	-	-	-
					Volume (ac-ft)	0.0103	0.0137	0.0162	0.0197	0.0224	0.0251

* First Pipe

Flood Control District of Maricopa County
Drainage Design Management System
SUB BASINS
Project Reference: 231106 ARTESSA 0702

ID	Sub Basin Data							Sub Basin Hydrology Summary					
	Area (acres)	Length (ft)	USGE	DSGE	Slope (ft/mi)	Kb		2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Major Basin ID: 01													
DA-A	0.2	52	46.00	42.30	375.7	0.045	Q (cfs)	0.4	0.6	0.7	0.8	0.9	1.0
							C	0.63	0.63	0.63	0.63	0.63	0.63
							CA (ac)	0.11	0.11	0.11	0.11	0.11	0.11
							Volume (ac-ft)	0.0103	0.0137	0.0162	0.0197	0.0224	0.0251
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
DA-B	0.5	149	44.30	36.00	294.1	0.042	Q (cfs)	1.3	1.8	2.1	2.6	2.9	3.3
							C	0.77	0.77	0.77	0.77	0.77	0.77
							CA (ac)	0.35	0.35	0.35	0.35	0.35	0.35
							Volume (ac-ft)	0.0327	0.0435	0.0516	0.0627	0.0712	0.0799
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
OFF-1	3.3	353	53.00	52.00	15.0	0.037	Q (cfs)	9.4	13.4	16.6	20.9	24.2	27.5
							C	0.94	0.94	0.94	0.94	0.94	0.94
							CA (ac)	3.11	3.11	3.11	3.11	3.11	3.11
							Volume (ac-ft)	0.2903	0.3862	0.4587	0.5572	0.6324	0.7101
							Tc (min)	9	8	7	7	6	6
							i (in/hr)	3.02	4.32	5.34	6.71	7.77	8.85
DA-B1	0.3	118	49.00	42.00	313.2	0.043	Q (cfs)	0.8	1.1	1.3	1.5	1.7	2.0
							C	0.73	0.73	0.73	0.73	0.73	0.73
							CA (ac)	0.21	0.21	0.21	0.21	0.21	0.21
							Volume (ac-ft)	0.0196	0.0261	0.0310	0.0376	0.0427	0.0480
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
OFF-2	0.3	126	63.00	53.30	406.5	0.043	Q (cfs)	0.6	0.8	0.9	1.1	1.2	1.4
							C	0.48	0.48	0.48	0.48	0.48	0.48

* Non default value

Flood Control District of Maricopa County
Drainage Design Management System
SUB BASINS
Project Reference: 231106 ARTESSA 0702

ID	Sub Basin Data							Sub Basin Hydrology Summary					
	Area (acres)	Length (ft)	USGE	DSGE	Slope (ft/mi)	Kb		2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Major Basin ID: 01													
							CA (ac)	0.15	0.15	0.15	0.15	0.15	0.15
							Volume (ac-ft)	0.0140	0.0186	0.0221	0.0269	0.0305	0.0343
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
DA-B2	0.2	133	45.70	38.00	305.7	0.044	Q (cfs)	0.6	0.8	1.0	1.2	1.3	1.5
							C	0.72	0.72	0.72	0.72	0.72	0.72
							CA (ac)	0.16	0.16	0.16	0.16	0.16	0.16
							Volume (ac-ft)	0.0149	0.0199	0.0236	0.0287	0.0325	0.0365
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
OFF-3	0.1	52	58.00	51.00	710.8	0.046	Q (cfs)	0.2	0.3	0.3	0.4	0.4	0.5
							C	0.45	0.45	0.45	0.45	0.45	0.45
							CA (ac)	0.05	0.05	0.05	0.05	0.05	0.05
							Volume (ac-ft)	0.0047	0.0062	0.0074	0.0090	0.0102	0.0114
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
DA-C	0.7	161	49.00	42.00	229.6	0.041	Q (cfs)	2.0	2.7	3.2	3.9	4.4	4.9
							C	0.76	0.76	0.76	0.76	0.76	0.76
							CA (ac)	0.53	0.53	0.53	0.53	0.53	0.53
							Volume (ac-ft)	0.0495	0.0658	0.0782	0.0950	0.1078	0.1210
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
OFF-4	0.1	61	56.00	47.00	779.0	0.047	Q (cfs)	0.1	0.2	0.2	0.3	0.3	0.4
							C	0.45	0.45	0.45	0.45	0.45	0.45
							CA (ac)	0.04	0.04	0.04	0.04	0.04	0.04
							Volume (ac-ft)	0.0037	0.0050	0.0059	0.0072	0.0081	0.0091
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29

* Non default value

Flood Control District of Maricopa County
Drainage Design Management System
SUB BASINS
Project Reference: 231106 ARTESSA 0702

ID	Sub Basin Data						Sub Basin Hydrology Summary					
	Area (acres)	Length (ft)	USGE	DSGE	Slope (ft/mi)	Kb		2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Major Basin ID: 01													
DA-D	0.3	189	51.60	48.20	95.0	0.043	Q (cfs)	1.0	1.4	1.6	2.0	2.2	2.5
							C	0.87	0.87	0.87	0.87	0.87	0.87
							CA (ac)	0.27	0.27	0.27	0.27	0.27	0.27
							Volume (ac-ft)	0.0252	0.0335	0.0398	0.0484	0.0549	0.0617
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
DA-D1	0.1	56	48.60	47.70	84.9	0.046	Q (cfs)	0.4	0.5	0.6	0.7	0.8	0.9
							C	0.87	0.87	0.87	0.87	0.87	0.87
							CA (ac)	0.10	0.10	0.10	0.10	0.10	0.10
							Volume (ac-ft)	0.0093	0.0124	0.0148	0.0179	0.0203	0.0228
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
DA-D2	0.4	65	57.70	47.00	869.2	0.042	Q (cfs)	1.3	1.7	2.0	2.5	2.8	3.2
							C	0.85	0.85	0.85	0.85	0.85	0.85
							CA (ac)	0.34	0.34	0.34	0.34	0.34	0.34
							Volume (ac-ft)	0.0317	0.0422	0.0502	0.0609	0.0691	0.0776
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
DA-G	0.4	65	57.70	47.00	869.2	0.042	Q (cfs)	1.1	1.5	1.7	2.1	2.4	2.7
							C	0.69	0.69	0.69	0.69	0.69	0.69
							CA (ac)	0.29	0.29	0.29	0.29	0.29	0.29
							Volume (ac-ft)	0.0271	0.0360	0.0428	0.0520	0.0590	0.0662
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
DA-H1	0.4	60	44.90	41.00	343.2	0.043	Q (cfs)	1.0	1.3	1.6	1.9	2.2	2.4
							C	0.71	0.71	0.71	0.71	0.71	0.71

* Non default value

Flood Control District of Maricopa County
Drainage Design Management System
SUB BASINS
Project Reference: 231106 ARTESSA 0702

ID	Sub Basin Data							Sub Basin Hydrology Summary					
	Area (acres)	Length (ft)	USGE	DSGE	Slope (ft/mi)	Kb		2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Major Basin ID: 01													
							CA (ac)	0.26	0.26	0.26	0.26	0.26	0.26
							Volume (ac-ft)	0.0243	0.0323	0.0384	0.0466	0.0529	0.0594
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
DA-H2	0.4	188	49.00	42.00	196.6	0.042	Q (cfs)	1.2	1.7	2.0	2.4	2.7	3.1
							C	0.81	0.81	0.81	0.81	0.81	0.81
							CA (ac)	0.33	0.33	0.33	0.33	0.33	0.33
							Volume (ac-ft)	0.0308	0.0410	0.0487	0.0591	0.0671	0.0754
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
DA-L	0.2	114	50.00	47.00	138.9	0.044	Q (cfs)	0.6	0.8	0.9	1.1	1.2	1.4
							C	0.77	0.77	0.77	0.77	0.77	0.77
							CA (ac)	0.15	0.15	0.15	0.15	0.15	0.15
							Volume (ac-ft)	0.0140	0.0186	0.0221	0.0269	0.0305	0.0343
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
DA-N	0.1	91	49.00	48.00	58.0	0.046	Q (cfs)	0.3	0.5	0.5	0.7	0.7	0.8
							C	0.72	0.72	0.72	0.72	0.72	0.72
							CA (ac)	0.09	0.09	0.09	0.09	0.09	0.09
							Volume (ac-ft)	0.0084	0.0112	0.0133	0.0161	0.0183	0.0206
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
DA-N1	0.5	310	56.00	48.00	136.3	0.042	Q (cfs)	1.4	1.9	2.3	2.8	3.2	3.5
							C	0.84	0.84	0.84	0.84	0.84	0.84
							CA (ac)	0.38	0.38	0.38	0.38	0.38	0.38
							Volume (ac-ft)	0.0355	0.0472	0.0561	0.0681	0.0773	0.0868
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29

* Non default value

Flood Control District of Maricopa County
Drainage Design Management System
SUB BASINS
Project Reference: 231106 ARTESSA 0702

ID	Sub Basin Data							Sub Basin Hydrology Summary					
	Area (acres)	Length (ft)	USGE	DSGE	Slope (ft/mi)	Kb		2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Major Basin ID: 01													
DA-O	1.3	205	51.80	49.00	72.1	0.039	Q (cfs)	2.8	3.7	4.5	5.4	6.1	6.9
							C	0.59	0.59	0.59	0.59	0.59	0.59
							CA (ac)	0.74	0.74	0.74	0.74	0.74	0.74
							Volume (ac-ft)	0.0691	0.0919	0.1092	0.1326	0.1505	0.1690
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
DA-Q	0.1	97	55.00	49.00	326.6	0.048	Q (cfs)	0.1	0.2	0.2	0.3	0.3	0.4
							C	0.62	0.62	0.62	0.62	0.62	0.62
							CA (ac)	0.04	0.04	0.04	0.04	0.04	0.04
							Volume (ac-ft)	0.0037	0.0050	0.0059	0.0072	0.0081	0.0091
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29
DA-R	0.2	156	47.00	40.00	236.9	0.044	Q (cfs)	0.5	0.7	0.8	1.0	1.2	1.3
							C	0.68	0.68	0.68	0.68	0.68	0.68
							CA (ac)	0.14	0.14	0.14	0.14	0.14	0.14
							Volume (ac-ft)	0.0131	0.0174	0.0207	0.0251	0.0285	0.0320
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.74	5.04	6.02	7.32	8.30	9.29

* Non default value

Flood Control District of Maricopa County
Drainage Design Management System
RATIONAL METHOD STORAGE SUMMARY
Project Reference: 231106 ARTESSA 0702

Storage Basin ID: BAS_A

	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Peak Volume (ac-ft)	0.007	0.008	0.008	0.008	0.009	0.009
Peak Stage (ft)	43.03	43.06	43.07	43.08	43.10	43.11
Peak Discharge (cfs)	0.20	0.38	0.48	0.57	0.67	0.75

Storage Basin ID: BAS_B

	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Peak Volume (ac-ft)	0.009	0.013	0.022	0.034	0.043	0.052
Peak Stage (ft)	35.86	36.02	36.16	36.35	36.49	36.63
Peak Discharge (cfs)	7.40	10.54	13.19	16.65	19.30	21.97

Storage Basin ID: BAS_B1

	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Peak Volume (ac-ft)	0.008	0.010	0.012	0.013	0.015	0.017
Peak Stage (ft)	42.34	42.48	42.57	42.68	42.78	42.90
Peak Discharge (cfs)	0.47	0.66	0.79	0.94	1.07	1.24

Storage Basin ID: BAS_B2

	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Peak Volume (ac-ft)	0.073	0.103	0.126	0.157	0.181	0.206
Peak Stage (ft)	47.20	49.51	51.32	53.73	55.57	57.47
Peak Discharge (cfs)	7.17	10.37	12.86	16.19	18.73	21.35

Storage Basin ID: BAS_C

	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Peak Volume (ac-ft)	0.182	0.235	0.278	0.333	0.375	0.420
Peak Stage (ft)	44.54	45.22	45.75	46.46	46.99	47.55
Peak Discharge (cfs)	7.85	11.33	14.05	17.66	20.36	23.22

Storage Basin ID: BAS_G

	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Peak Volume (ac-ft)	0.027	0.029	0.031	0.034	0.035	0.037
Peak Stage (ft)	45.06	45.12	45.16	45.24	45.28	45.32
Peak Discharge (cfs)	0.35	0.67	0.88	1.27	1.49	1.75

Flood Control District of Maricopa County
Drainage Design Management System
RATIONAL METHOD STORAGE SUMMARY
Project Reference: 231106 ARTESSA 0702

Storage Basin ID: BAS__H

	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Peak Volume (ac-ft)	0.144	0.184	0.215	0.256	0.287	0.320
Peak Stage (ft)	49.41	49.98	50.43	51.03	51.47	51.95
Peak Discharge (cfs)	9.56	13.49	16.54	20.62	23.61	26.86

Storage Basin ID: BAS__H2

	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Peak Volume (ac-ft)	0.019	0.025	0.029	0.036	0.040	0.045
Peak Stage (ft)	49.47	50.07	50.53	51.17	51.63	52.14
Peak Discharge (cfs)	10.01	14.08	17.22	21.54	24.69	28.12

Storage Basin ID: BAS__L

	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Peak Volume (ac-ft)	0.054	0.070	0.083	0.101	0.114	0.127
Peak Stage (ft)	49.86	50.61	51.19	51.98	52.57	53.17
Peak Discharge (cfs)	9.48	13.30	16.27	20.28	23.30	26.39

Storage Basin ID: BAS__N

	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Peak Volume (ac-ft)	0.036	0.048	0.057	0.070	0.080	0.089
Peak Stage (ft)	50.94	51.74	52.36	53.20	53.84	54.46
Peak Discharge (cfs)	9.91	13.98	17.12	21.43	24.70	27.87

Storage Basin ID: BAS__O

	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Peak Volume (ac-ft)	0.035	0.043	0.049	0.057	0.063	0.070
Peak Stage (ft)	49.32	49.44	49.53	49.65	49.73	49.83
Peak Discharge (cfs)	2.17	2.97	3.60	4.39	4.96	5.66

Storage Basin ID: BAS__Q

	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Peak Volume (ac-ft)	0.004	0.005	0.005	0.005	0.005	0.005
Peak Stage (ft)	49.99	50.05	50.07	50.10	50.12	50.14

Flood Control District of Maricopa County
Drainage Design Management System
RATIONAL METHOD STORAGE SUMMARY
Project Reference: 231106 ARTESSA 0702

Peak Discharge (cfs)	0.07	0.09	0.13	0.16	0.20	

Storage Basin ID: BAS_R

	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Peak Volume (ac-ft)	0.002	0.002	0.003	0.003	0.004	0.004
Peak Stage (ft)	40.11	40.20	40.26	40.36	40.42	40.50
Peak Discharge (cfs)	0.55	1.00	1.30	1.85	2.15	2.55

Flood Control District of Maricopa County
Drainage Design Management System
LAND USE
Project Reference: 231106 ARTESSA 0702

Sub Basin	Land Use Code	Area (acres)	Area (%)	Kb	Runoff Coefficient C						Description
					2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	
Major Basin ID: 01											
DA-A	2001	0.11	64.7	0.045	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.06	35.3	0.045	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.170	**100.0**								
DA-B	2001	0.17	37.0	0.042	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.29	63.0	0.042	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.460	**100.0**								
DA-B1	2001	0.13	44.8	0.043	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.16	55.2	0.043	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.290	**100.0**								
DA-B2	2001	0.10	45.5	0.044	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.12	54.5	0.044	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.220	**100.0**								
DA-C	2001	0.26	37.7	0.041	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.43	62.3	0.041	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.690	**100.0**								
DA-D	2001	0.05	16.1	0.043	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.26	83.9	0.043	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.310	**100.0**								
DA-D1	2001	0.02	16.7	0.046	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment

* Non default value

Flood Control District of Maricopa County
Drainage Design Management System
LAND USE
Project Reference: 231106 ARTESSA 0702

Sub Basin	Land Use Code	Area (acres)	Area (%)	Kb	Runoff Coefficient C						Description
					2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	
Major Basin ID: 01											
DA-D1	2002	0.10	83.3	0.046	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.120	**100.0**								
DA-D2	2001	0.08	20.5	0.042	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.31	79.5	0.042	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.390	**100.0**								
DA-G	2001	0.22	52.4	0.042	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.20	47.6	0.042	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.420	**100.0**								
DA-H1	2001	0.17	47.2	0.043	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.19	52.8	0.043	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.360	**100.0**								
DA-H2	2001	0.11	27.5	0.042	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.29	72.5	0.042	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.400	**100.0**								
DA-L	2001	0.07	36.8	0.044	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.12	63.2	0.044	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.190	**100.0**								
DA-N	2001	0.06	46.2	0.046	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.07	53.8	0.046	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops

* Non default value

Flood Control District of Maricopa County
Drainage Design Management System
LAND USE
Project Reference: 231106 ARTESSA 0702

Sub Basin	Land Use Code	Area (acres)	Area (%)	Kb	Runoff Coefficient C						Description
					2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	
Major Basin ID: 01											
		0.130	**100.0**								
DA-N1	2001	0.10	22.2	0.042	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.35	77.8	0.042	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.450	**100.0**								
DA-O	2001	0.91	72.2	0.039	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.35	27.8	0.039	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		1.260	**100.0**								
DA-Q	2001	0.04	66.7	0.048	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.02	33.3	0.048	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.060	**100.0**								
DA-R	2001	0.11	55.0	0.044	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.09	45.0	0.044	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.200	**100.0**								
OFF-1	2001	0.10	3.0	0.037	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	3.21	97.0	0.037	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		3.310	**100.0**								
OFF-2	2001	0.29	93.5	0.043	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
	2002	0.02	6.5	0.043	0.95	0.95	0.95	0.95	0.95	0.95	Pavement and Rooftops
		0.310	**100.0**								

* Non default value

Flood Control District of Maricopa County
Drainage Design Management System
LAND USE
Project Reference: 231106 ARTESSA 0702

Sub Basin	Land Use Code	Area (acres)	Area (%)	Kb	Runoff Coefficient C						Description
					2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	
Major Basin ID: 01											
OFF-3	2001	0.10	100.0	0.046	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
		0.100	**100.0**								
OFF-4	2001	0.08	100.0	0.047	0.45*	0.45*	0.45*	0.45*	0.45*	0.45*	Landscaping w/o impervious under treatment
		0.080	**100.0**								

* Non default value

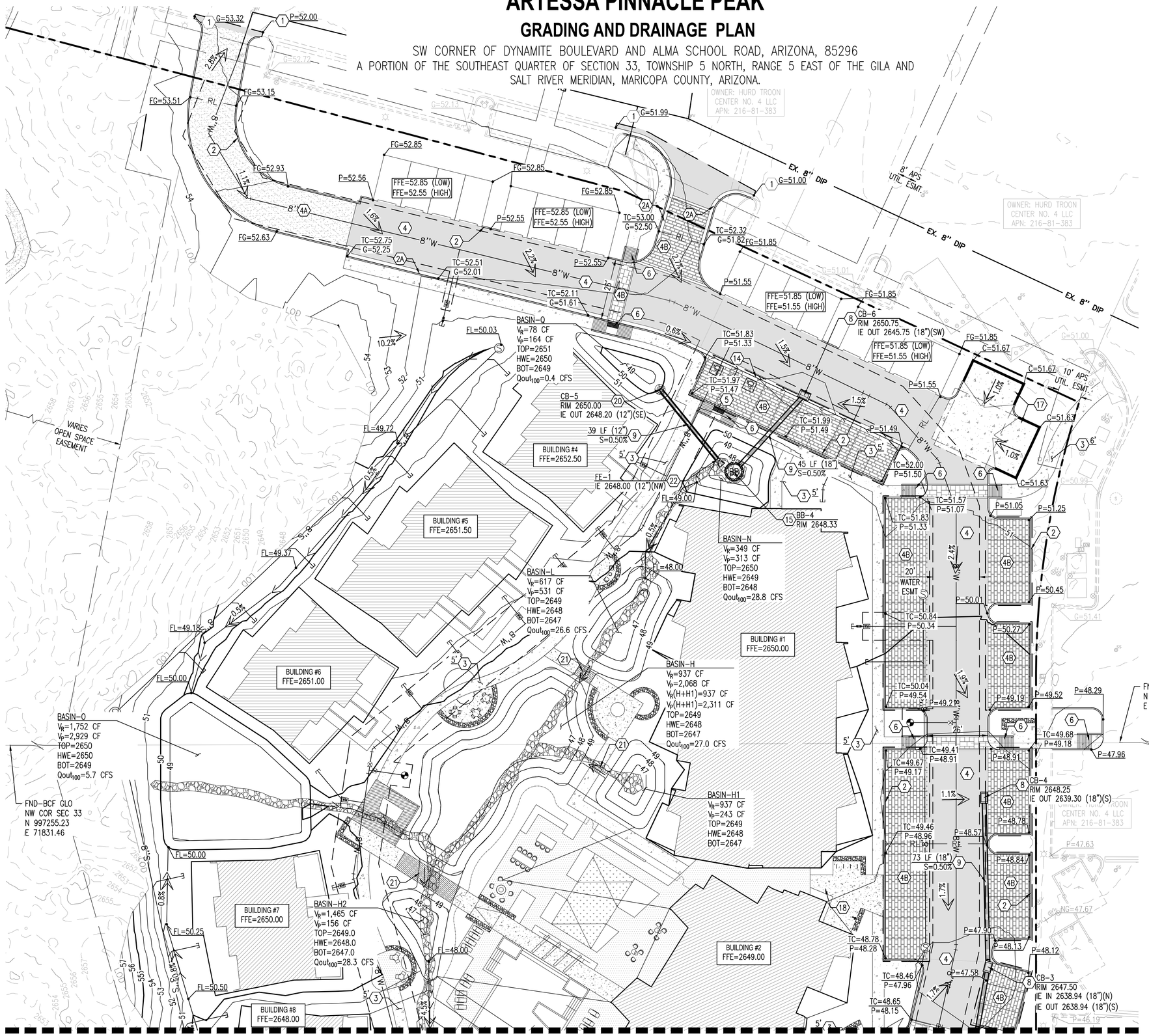
APPENDIX III

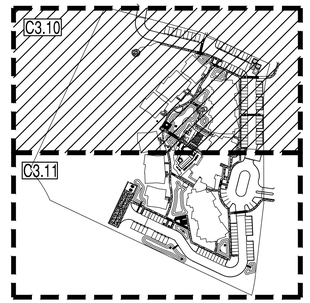
GRADING & DRAINAGE PLANS

ARTESSA PINNACLE PEAK

GRADING AND DRAINAGE PLAN

SW CORNER OF DYNAMITE BOULEVARD AND ALMA SCHOOL ROAD, ARIZONA, 85296
A PORTION OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 5 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA.





KEY MAP
NTS

NORTH

PRELIMINARY GRADING KEY NOTES

1. MATCH EXISTING GRADE.
2. 6" VERTICAL CURB.
2A. 6" CONCRETE CURB AND GUTTER.
3. PROPOSED CONCRETE SIDEWALK. WIDTH PER PLAN.
4. HEAVY DUTY PAVEMENT.
4A. STABILIZED DECOMPOSED GRANITE.
4B. PAVERS FOR TRAFFIC AREAS.
5. PAVEMENT WITH 2% MAXIMUM SLOPE IN ANY DIRECTION AT ACCESSIBLE PARKING STALLS AND 2% MAXIMUM CROSS SLOPE AT ADA ACCESSIBLE ROUTE.
6. PROPOSED ACCESIBLE RAMP.
8. PROPOSED NYLOPLAST DRAIN BASIN WITH 30" RISER AND 2'X3' STEEL GRATE.
9. PROPOSED HDPE DOUBLE WALL PIPE, CLASS 100; PIPE MATERIAL PER MAG SPECIFICATION 738. LENGTH PER PLAN.
14. PROPOSED CONCRETE VALLEY GUTTER
17. PROPOSED TRASH ENCLOSURE.
18. PROPOSED PATIO.
20. PROPOSED 30" RAISED RIM NYLOPLAST DRAIN BASIN WITH STANDARD H-20 GRATE, INCLUDING CONCRETE COLLAR.
21. PROPOSED DIAMOND PLATE SIDEWALK SCUPPER.
22. PROPOSED END SECTION.

NOTES:

1. FIRE LANE SURFACE SHALL SUPPORT 83,000 LBS. GVW.

NORTH

0' 20' 40' 60'
SCALE: 1" = 20'

NOT FOR CONSTRUCTION

SEG SUSTAINABILITY ENGINEERING GROUP
5240 N. 16TH STREET SUITE 105, PHOENIX, ARIZONA 85016
WWW.AZSEG.COM TEL. 480.588.7226 FAX. 480.258.3534

lifestyle communities

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811 Call 811 or click Arizona811.com

PROJECT: ARTESSA PINNACLE PEAK
LOCATION: SWC DYNAMITE BOULEVARD AND ALMA SCHOOL ROAD, SCOTTSDALE, AZ

DRAWN	JC	07/16/2024
DESIGNED	JC	07/16/2024
CHECKED		
FINAL QC		
PROJ. MGR.	AF	07/16/2024

DATE: 07/16/2024
ISSUED FOR: REZONING

REVISION NO.:	DATE:
1	
2	
3	
4	

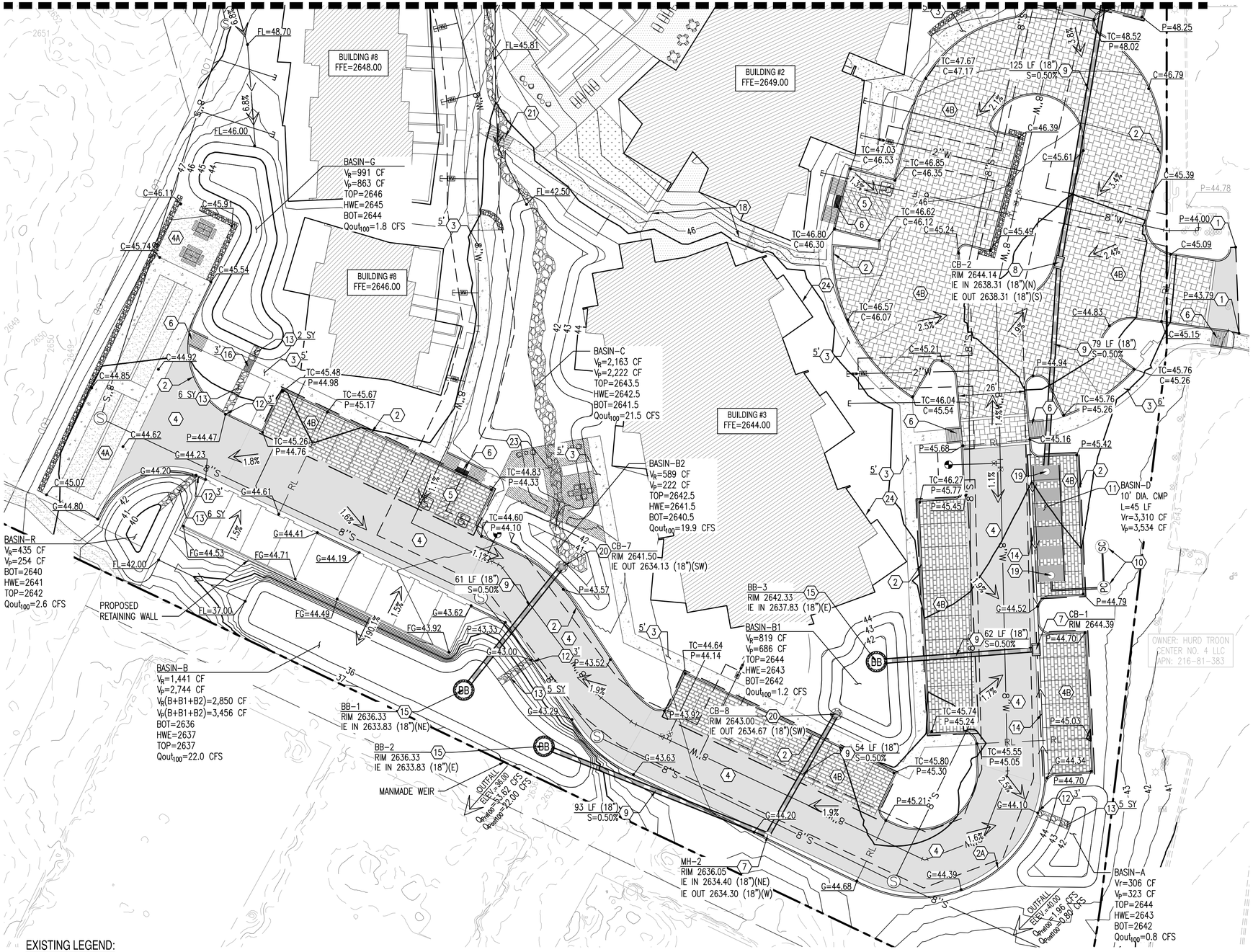
JOB NO.: 231106

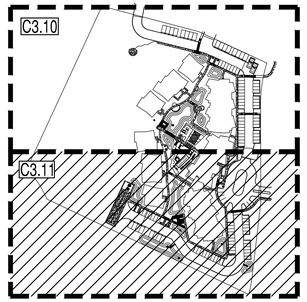
SHEET TITLE: **PRELIMINARY GRADING AND DRAINAGE PLAN**

PAGE NO.: 1 OF 3
SHEET NO.: **C3.10**

CASE #: 2-ZN-2024

MATCHLINE - REFER TO SHEET C3.10





PRELIMINARY GRADING KEY NOTES

1. MATCH EXISTING GRADE.
2. 6" VERTICAL CURB.
2A. 6" CONCRETE CURB AND GUTTER.
3. PROPOSED CONCRETE SIDEWALK. WIDTH PER PLAN.
4. HEAVY DUTY PAVEMENT.
4A. STABILIZED DECOMPOSED GRANITE.
4B. PAVERS FOR TRAFFIC AREAS.
5. PAVEMENT WITH 2% MAXIMUM SLOPE IN ANY DIRECTION AT ACCESSIBLE PARKING STALLS AND 2% MAXIMUM CROSS SLOPE AT ADA ACCESSIBLE ROUTE.
6. PROPOSED ACCESIBLE RAMP.
7. PROPOSED 30" NYLOPLAST DRAIN BASIN WITH STANDARD SOLID LID, INCLUDING CONCRETE COLLAR.
8. PROPOSED NYLOPLAST DRAIN BASIN WITH 30" RISER AND 2'X3' STEEL GRATE.
9. PROPOSED HDPE DOUBLE WALL PIPE, CLASS 100; PIPE MATERIAL PER MAG SPECIFICATION 738. LENGTH PER PLAN.
10. PROPOSED MAXWELL PLUS DRYWELL.
NOTE: CONTRACTOR TO HAVE A PERCOLATION TEST DONE ON FIRST CONSTRUCTED DRYWELL AND PROVIDE RESULTS TO ENGINEER FOR DETERMINATION OF ULTIMATE NUMBER OF REQUIRED DRYWELLS.
11. PROPOSED UNDERGROUND STORMWATER STORAGE SYSTEM.
12. PROPOSED CURB OPENING WITH RIP-RAP. LENGTH PER PLAN.
13. PROPOSED RIP-RAP; D50=6", 12" DEPTH. DIMENSIONS PER PLAN.
14. PROPOSED CONCRETE VALLEY GUTTER
15. PROPOSED BUBBLER BOX. PROVIDE INLET PROTECTION.
16. PROPOSED SIDEWALK SCUPPER. WIDTH PER PLAN.
18. PROPOSED PATIO.
19. PROPOSED 30" CMP RISER WITH VENTED SOLID LID, INCLUDING CONCRETE COLLAR.
20. PROPOSED 30" RAISED RIM NYLOPLAST DRAIN BASIN WITH STANDARD H-20 GRATE, INCLUDING CONCRETE COLLAR.
21. PROPOSED DIAMOND PLATE SIDEWALK SCUPPER.
23. PROPOSED ELEVATED PLATFORM. REFER TO LANDSCAPE PLANS.
24. PROPOSED STEM WALL

NOTES:

1. FIRE LANE SURFACE SHALL SUPPORT 83,000 LBS. GVW.

EXISTING LEGEND:

EX. MAJOR CONTOURS; EX. MINOR CONTOURS; EX. SPOT ELEVATION (TC: XX.XX, GE: XX.XX); EASEMENT LINE AS NOTED
EX. S — SEWER LINE; SEWER MANHOLE; EX. W — WATER LINE; WATER VALVE; FIRE HYDRANT
STORM DRAIN LINE; CB — STORM CATCH BASIN; STORM MANHOLE; GAS — GAS LINE; X X — FENCE
SIGN; STREET LIGHT; TREE; ROAD CENTERLINE

PROPOSED GRADING LEGEND:

G=XX.XX — GUTTER ELEVATION, TC = G+0.5'
P=XX.XX — PAVEMENT ELEVATION TC = P+0.5'
C=XX.XX — CONCRETE ELEVATION
PROPERTY LINE; RIGHT OF WAY; CURB AND GUTTER; RL — RIDGELINE
SETBACK; FLOW ARROW; CATCH BASIN; STORM PIPE
END SECTION; STORM MANHOLE; DRYWELL (PC—SC); NYLOPLAST BASIN
WATER METER; GATE VALVE; FIRE HYDRANT; SEWER MANHOLE
RIP-RAP; CONCRETE PAVEMENT; HEAVY DUTY PAVEMENT; STABILIZED DECOMPOSED GRANITE
PAVERS

FEMA

MAP NUMBER	COMMUNITY NUMBER	PANEL # PANEL DATE	SUFFIX	DATE OF FIRM (INDEX DATE)	FIRM ZONE	BASE FLOOD ELEVATION (IN AO ZONE USE DEPTH)
04013C1330L	045012	1330 10/16/2013	L	08/02/2024	X-SHADED	~~513~~ N/A

Include information on the infrastructure connecting all of the basin (sizing, material, etc) as well as any drywells required for the basins that will be over 6" deep.

NOT FOR CONSTRUCTION

SEG SUSTAINABILITY ENGINEERING GROUP
5240 N. 16TH STREET SUITE 105, PHOENIX, ARIZONA 85016
WWW.AZSEG.COM TEL. 480.588.7226 FAX. 480.256.3534

lifestyle communities

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811 Call 811 or click Arizona811.com

PROJECT: ARTESSA PINNACLE PEAK
LOCATION: SWC DYNAMITE BOULEVARD AND ALMA SCHOOL ROAD, SCOTTSDALE, AZ

DRAWN	JC	07/16/2024
DESIGNED	JC	07/16/2024
CHECKED		
FINAL QC		
PROJ. MGR.	AF	07/16/2024

DATE: 07/16/2024
ISSUED FOR: REZONING

REVISION NO.:	DATE:
1	
2	
3	
4	

JOB NO.: 231106

SHEET TITLE: **PRELIMINARY GRADING AND DRAINAGE PLAN**

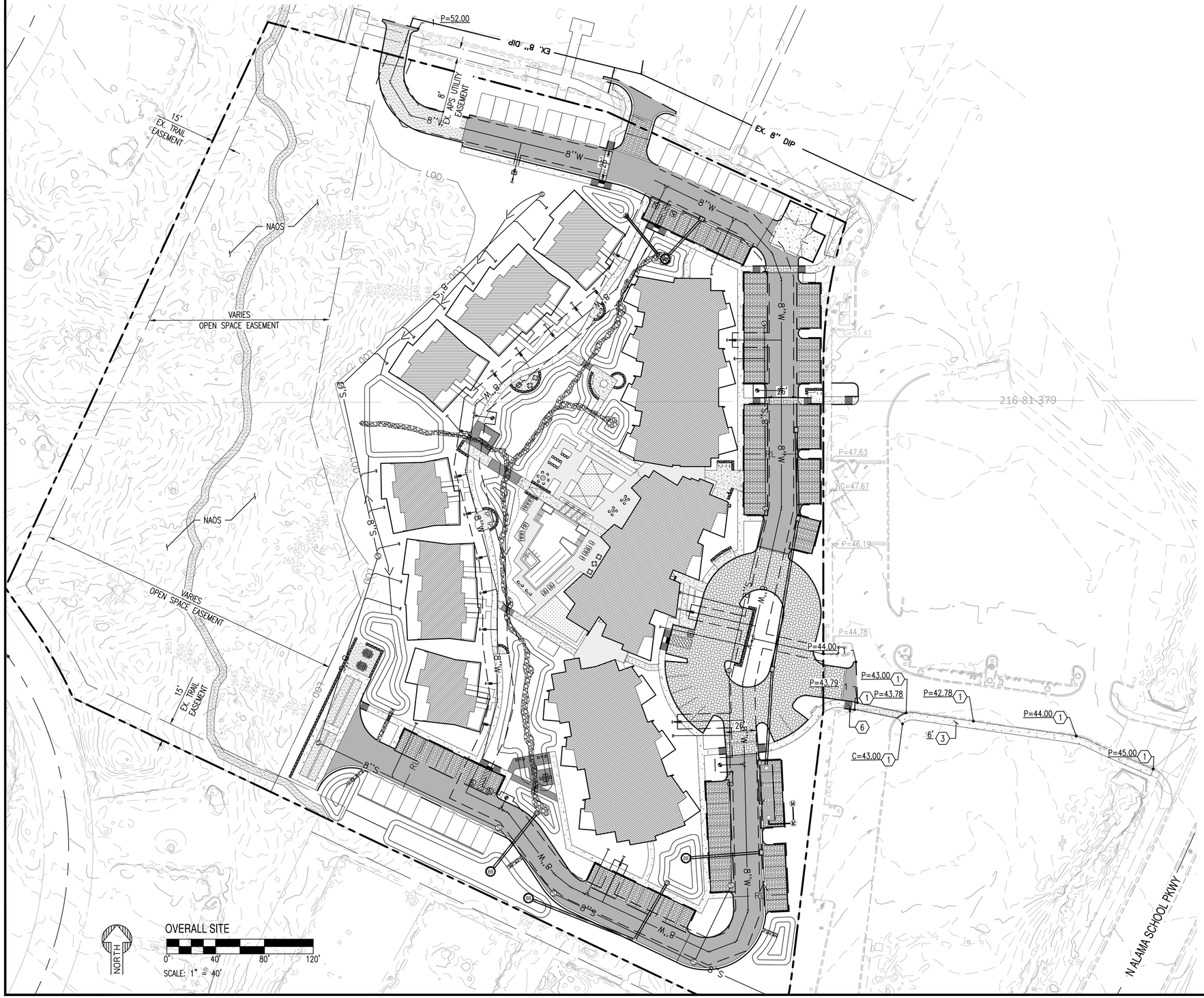
PAGE NO.: 2 OF 3
SHEET NO.: **C3.11**

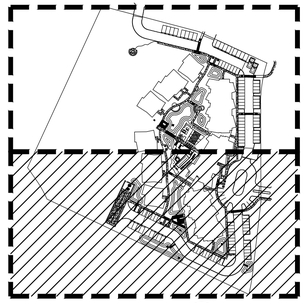
CASE #: Z-ZN-2024

ARTESSA PINNACLE PEAK

GRADING AND DRAINAGE OVERALL SITE

SW CORNER OF DYNAMITE BOULEVARD AND ALMA SCHOOL ROAD, ARIZONA, 85296
A PORTION OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 5 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA.





PRELIMINARY GRADING KEY NOTES

1. MATCH EXISTING GRADE.
3. PROPOSED CONCRETE SIDEWALK. WIDTH PER PLAN.
6. PROPOSED ACCESIBLE RAMP.

NOT FOR CONSTRUCTION

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Call 811 or visit Arizona811.com

PROJECT: ARTESSA PINNACLE PEAK
LOCATION: SWC DYNAMITE BOULEVARD AND ALMA SCHOOL ROAD, SCOTTSDALE, AZ

DRAWN	JC	07/16/2024
DESIGNED	JC	07/16/2024
CHECKED		
FINAL QC		
PROJ. MGR.	AF	07/16/2024

DATE: 07/16/2024
ISSUED FOR: REZONING

REVISION NO.:	DATE:
1	
2	
3	
4	

JOB NO.: 231106

SHEET TITLE: **PRELIMINARY GRADING AND DRAINAGE OVERALL PLAN**

PAGE NO.: 3 OF 3
SHEET NO.: **C3.12**

CASE #: 2-ZN-2024

APPENDIX IV

REQUEST FOR STORMWATER STORAGE WAIVER

Request for Stormwater Storage Waiver

City of Scottsdale Plan/Case Numbers:

____ - DR - ___ ____ - PP - ____ PC#_____

Requests for stormwater storage waivers are reviewed as part of case submittals for the associated project. This form should be included in the preliminary drainage report with the applicant's portion completed. The preliminary drainage report shall include supporting documentation and analysis as needed to support the requested wavier.

Date 06/07/2024 Project Name Artessa Pinnacle Peak

Project Location SWC Dynamite Boulevard and Alma School Road, Scottsdale, Arizona 85262

Applicant Contact Ali Fakih Company Name Sustainability Engineering Group LLC

Phone 480-588-7226 E-mail ali@seg.com

Address N/A

Waiver Criteria

A project must meet at least one of three criteria listed below for the city to consider waiving some or all required stormwater storage. **However, regardless of the criteria, a waiver will only be granted if the applicant can demonstrate that the effect of a waiver will not increase the potential for flooding on any property.** Check the applicable box and provide a signed and sealed engineering report and supporting engineering analysis that demonstrate the project meets the criteria and that the effect of a waiver will not increase the potential for flooding on any property.

If the runoff for the project has been included in a storage facility at another location, the applicant must demonstrate that the stormwater storage facility was specifically designed to accommodate runoff from the subject property and that the runoff will be conveyed to this location through an adequately designed conveyance facility.

It should be noted that reductions in stormwater storage relating to

☐ 1. The development is adjacent to a conveyance facility that an engineering analysis shows is designed and constructed to handle the additional runoff from the site as a result of development.

☐ 2. The development is on a parcel less than one-half acre in size.

☑ 3. Stormwater storage requirements conflict with requirements of the Environmentally Sensitive Lands Ordinance (ESLO).

For a full storage waiver, a conflict with ESLO is limited to:

- Property located in the hillside landform as defined in the city Zoning Ordinance
- Property in the upper desert landform that has a land slope steeper than 5% as defined in the city Zoning Ordinance
- Property within the ESL zoning overlay district where the only viable location for a stormwater storage basin requires blasting

This full waiver only applies to those portions of property meeting one of these three requirements.

100-year/2-hour storage is allowed, but not required for redevelopment projects and development within the ESL zoning overlay. Rather, these projects must store enough stormwater to attenuate post-development flows to predevelopment levels, considering the 10- and 100-year storm events (S.R.C. Sections 37-50 and 37-51).

By signing below, I certify that the stated project meets the waiver criteria selected above as demonstrated by the attached documentation.

_____ _____

Stormwater Management Department

7447 E Indian School Road, Suite 125, Scottsdale, AZ 85251 ◆ Phone: 480-312-2500

Request for Stormwater Storage Waiver

City of Scottsdale Plan/Case Numbers:

____ - DR - ___ ____ - PP - ____ PC#_____

CITY STAFF TO COMPLETE THIS PAGE

Project Name Artessa Pinnacle Peak

Check Appropriate Boxes:

☐ Meets waiver criteria (specify): ☐ 1 ☐ 2 ☐ 3

Recommended Conditions of Waiver:

☐ All storage requirements waived.

☐ Post-development peak discharge rates do not exceed pre-development conditions.

☐ Other:

Explain: _____

_____

☐ **Waiver approved per above conditions.**

_____ _____

Floodplain Administrator or Designee Date

Stormwater Management Department

7447 E Indian School Road, Suite 125, Scottsdale, AZ 85251 ◆ Phone: 480-312-2500

Request for Stormwater Storage Waiver

City of Scottsdale Plan/Case Numbers:

____ - DR - ___ ____ - PP - ____ PC#_____

In-Lieu Fee and In-Kind Contributions

In-lieu fees are only applicable to projects where post-development peak discharge rates exceed pre-development levels, based on the 10- and 100-year storm events. If the city grants a waiver, the developer is required to calculate and contribute an in-lieu fee based on what it would cost the city to provide a storage basin, sized as described below, including costs such as land acquisition, construction, landscaping, design, construction management, and maintenance over a 75-year design life. The fee for this cost is $3.00 per cubic foot of stormwater storage for a virtual storage basin designed to mitigate the increase in runoff associated with the 100-year/2-hour storm event. The applicant may submit site-specific in-lieu fee calculations subject to the Floodplain Administrator's approval.

The Floodplain Administrator considers in-kind contributions on a case-by-case basis. An in-kind contribution can serve as part of or instead of the calculated in-lieu fee. In-kind contributions must be stormwater-related and must constitute a public benefit. In-lieu fees and in-kind contributions are subject to the approval of the Floodplain Administrator or designee.

Project Name Artessa Pinnacle Peak

The waived stormwater storage volume is calculated using a simplified approach as follows:

$V = \Delta CRA$; where

V = stormwater storage volume required, in cubic feet,
ΔC = increase in weighted average runoff coefficient over disturbed area ($C_{post} - C_{pre}$),
R = 100-year/2-hour precipitation depth, in feet (DSPM, Appendix 4-1D, page 11), and
A = area of disturbed ground, in square feet

Furthermore,

$V_w = V - V_p$; where
V_w = volume waived,
V = volume required, and
V_p = volume provided

R = 2.74
ΔC= 0.28
A = 267,826
V = 16,973
V_p= 17,054
V_w= -81

☐ An in-lieu fee will be paid, based on the following calculations and supporting documentation:
In-lieu fee ($) = V_w (cu. ft.) x $3.00 per cubic foot = _____

☐ An in-kind contribution will be made, as follows:

_____
_____
_____

☑ No in-lieu fee is required. Reason:

From the pre vs post analysis, Volume required is 16,550 CF, and volume proposed is 16,661 CF. Therefore, Volume waived is negative.

Approved by:

_____ _____
Floodplain Administrator or Designee Date

Stormwater Management Department

7447 E Indian School Road, Suite 125, Scottsdale, AZ 85251 ◆ Phone: 480-312-2500