4/12/23

Kurt Waldier
Beus Gilbert McGroder (Paul Gilbert)
701 N 44th St
Phoenix, AZ 85008

RE: **1-ZN-2023 and 1-GP-2023**
6C692 (Key Code) and 98T77 (Keycode)
Pinnacle Peak Doggy Daycare

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:

Current Planning, Katie Posler, 380 312-2703, kposler@scottsdaleaz.gov:

1. Per pre application comments and the ESL Overlay, the 223 CFS wash should be left undisturbed and protected by the existing 50' drainage easement and proposed NAOS easement. The intent of ESL to is to protect, maintain, and keep large washes (over 50 cfs) in place wherever possible. NAOS easements should preserve significant environmental features on the property, which is the wash.

   Please revise the site plan accordingly to move all improvements and construction (site walls, ret. walls, building footprint, grading) outside the existing 50' drainage easements along both street frontages. Along the west portion of E. Pinnacle Peak Road, the 50' drainage easement is maintained. This site should continue that corridor and public benefit. Wash preservation is a key item in staff's reports.

   Additionally, modifying a wash 50 cfs or larger requires a separate case submittal and review, called a wash modification (WM) case.

2. Why is the LF so high on this site? Looks like a decent amount of fill (around 5'). Is this due to the flood zone designation? The intent of the ESL Overlay is to fill as little as possible and only what is necessary for drainage purposes. Please reduce the fill proposed.

3. Drainage structures, facilities, and rip rap (buried or otherwise) are not permitted in NAOS easements. Revise plans accordingly.

4. The NAOS slope analysis is not an average value. Provide a slope analysis that breaks the entire lot into the various categories that are appliable. Please see the attached example and revise plans.
5. Grading in NAOS and PUEs are considered NAOS reveg or disturbed NAOS. Only 30% of the total required NAOS SF can be reveg NAOS. Revise the NAOS slope plan, site plan, and G&D to show reveg (disturbed) NAOS and undisturbed NAOS with different hatching. On the NAOS plan, list the NAOS required NAOS SF, NAOS provided SF, reveg NAOS SF allowed, reveg NAOS SF proposed, and undisturbed NAOS SF proposed.
6. Revise the landscape plan to show grading and reveg NAOS. Reveg NAOS areas need to be replanted with indigenous plants to bring those areas back to a natural state.
7. Open space located behind a site wall/fence taller than 3' cannot be considered frontage open space, it would just be common open space, please revise the open space plan accordingly.
8. If a parking lot contains more than twenty (20) parking spaces, then a minimum of one-third (⅓) of the required parking lot landscape area shall be in landscape islands distributed within the parking lot area, rather than on the perimeter of the parking lot. These landscape areas shall have a minimum width of seven (7) feet and a minimum area of one hundred twenty (120) square feet. All landscape areas shall be planted, irrigated, and maintained as prescribed herein. Please address this calculation on the open space plan.
9. Please revise the site plan to park the entire building SF (office and kennel) under the Veterinary services land use (One (1) space per three hundred (300) square feet gross floor area.)
10. Please provide a roof over topography showing building height above natural grade per the ESL Overlay requirements, here is an example: Roof Height Analysis Example.pdf (scottsdaleaz.gov). Maximum building height allowance is 36 feet above existing natural grade.

Long Range Planning, Ben Moriarity, 480-312-2636, bmoriarity@scottsdaleaz.gov:

General Plan 2035

11. The existing and proposed General Plan Land Use graphic provided with the 1st Submittal depicts the Conceptual Land Use Map within the 2001 General Plan. With a resubmittal, remove and replace the graphic with one that depicts the existing and proposed General Plan Land Use designations specific to the Future Land Use Map on page 60 of the General Plan 2035 document that was ratified in November of 2021. The existing land use should be depicted in light gray as "Employment: Office". Please clearly label the "Site" on both the existing and proposed General Plan Land Use Map graphics 1 and 2 as well.
12. Please include the Scottsdale General Plan 2035 definition of Commercial within the narrative as well as a discussion as to how the proposal implements the definition.
13. The first submittal shows encroachments into the 50' wide drainage easement along Pinnacle Peak Road, the 50' easement should be upheld, and a Scenic Corridor Easement added on top of the drainage easement along Pinnacle Peak. As per the Scottsdale General Plan 2035 Open Space Element (Policy OS 4.3), Pinnacle Peak is a Desert Scenic Roadway. With a resubmittal, please update the narrative as well as the site plan to notate the Desert Scenic Roadway 50' buffer.

14. The Scottsdale General Plan 2035 Sustainability & Environment Element (Goal CONSV 5) emphasizes the preservation of flood plains and washes. The proposed site plan appears to greater restrict the wash protected within the existing drainage easement along the East Pinnacle Peak Road and North Los Portones Drive frontages. Please revise the narrative and site plan in response to this goal.
15. If further outreach has been conducted since the original submittal, and as a response to Goal CI 1 of the Community Involvement Element as well as Policy LU 3.5 of the Land Use Element, with a resubmittal, please provide an updated Citizen Involvement Report that describes the key issues that have been identified through the public involvement process.

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

16. Please provide an NAOS open space plan that delineated all the required NAOS calculations, and provide disturbed and undisturbed NAOS square footages on the revised plan.
17. Please note that all plants utilized shall be selected from the ESLO plant list.
18. All exterior luminaires in the ESL area shall have an integral lighting shield and shall be directed downward, including landscape lighting. (Table 7.602.A.2. of the Zoning Ordinance.)
19. No lighting shall be permitted in dedicated NAOS easements. (City of Scottsdale Exterior Lighting Policy, and DSPM)

Fire, Scott Stanek, 480-312-7061, sstanek@scottsdaleaz.gov:

20. Demonstrate Hydrant spacing, existing and proposed (Fire Ord. 4283, 507.5.1.2)
21. See Fire Department Connection locations (I's & A's 8.17.2.4.6.1)
22. See Interior fire riser locations (I's & A's 8.16.1.1.7.2)
23. See Backflow prevention location (I's & A's 8.17.4.5.1)

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:

Current Planning, Katie Posler, 380 312-2703, kposler@scottsdaleaz.gov:

24. Per pre application comments and DS&PM, extend the existing sidewalk along N. Los Portones Drive to the building entrance.
25. Per pre application comments, please remove the interior planter island from the site plan, it causes issues with circulation.
26. The proposed retaining wall should match the location, materials, and colors of the retaining wall on the properties to the west. Any new fencing/site walls on top of the retained dirt should be terraced or pushed further into the site to not create a tall wall face per DSPM. The project elevations and perspectives should account for retaining walls, site walls, and topography along the street frontages.

Transportation, Phil Kercher, 480-312-7645, pkercher@scottsdaleaz.gov:

27. Provide a sidewalk connection, 6 feet wide, from the site building to Los Portones Drive. DSPM 2.1-310

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

28. DSPM 2-1.309 REFUSE COLLECTION: Due to the use of non-perpendicular angles to existing drive aisle, please rotate proposed refuse enclosure 5 degrees clockwise.
29. DSPM 2-1.310: Update site plan with a 6' width accessible pedestrian route from the main entry of the development to each abutting public/private street, to Los Portones Dr.
30. 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.

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

31. Please revise the site plan to provide a parking screen wall for new parking area along E. Pinnacle Peak Road and E. Los Portones Drive.
32. Please note that NAOS that is to be dedicated adjacent to a site wall shall be considered as revegetated NAOS for the length of the wall, with a width of five feet. (DSPM Section 2-2.501.D.3)
33. NAOS within PUE or over proposed utilities must be shown as revegetated NAOS.
34. No fixture shall be mounted higher than sixteen (16) feet. Please revise any details related to mounting height and revise the intensity of proposed fixtures to ensure overall footcandle measurements do not exceed requirements. (City of Scottsdale Exterior Lighting Policy and DSPM)
35. All exterior lighting shall have a Kelvin temperature of 3000 or less. (City of Scottsdale Exterior Lighting Policy)

Storm Water, Nerijus Baronas, 480-312-7072, nbaronas@scottsdaleaz.gov:

36. Significant 1st review comments. See the following pdf documents and address redlines:
    - ***1-ZN-2023_CORR-DRN-1-25 PPPR - Preliminary Grading and Drainage 2022 11.pdf***
    - ***1-ZN-2023_1-CORR-24 PPPR - Preliminary Drainage Report 2022 11***

Water Resources, Anita Pritchard, 480-312-5676, apritchard@scottsdaleaz.gov:

37. Please see the attached redlined water and sewer BOD and address comments accordingly.
38. Provide first and second floor building square foot quantities and sewer demand calculations in a Basis of Design report per DSPM 7-1.200, 7-1.202 7-1.403 and Figure 7-1.2
39. The sewer tap identified in the Sewer Exhibit is a part of a private sewer system. Provide design drawings of the private sewer system this development is connecting to, demonstrating how the tap ultimately connects to the City of Scottsdale Sewer system. Show any sewer ejectors or private lift stations associated with the private system, as applicable. DSPM 7-1.414.
40. Identify the responsibility for operating and maintaining the private sewer system that this lateral will connect to per DSPM 7-1.501. Provide documentation demonstrating this development has permission from the Pinnacle Peak Office Park to discharge wastewater through its private sewer to the City Sewer.

41. Provide water Basis of Design information, including but not limited to, domestic and fire flow demands per DSPM 6-1.200, 6-1.20, Figure 6-1.2, 6-1.402, 6-1.404, 6-1.405, 6-1.406, 6-1.413, 6-1.414, 6-1.415, 6-1.416, 6-1.419, 6-1.501, 6-1.502, 6-1.507. Demonstrate there is adequate flow and pressures for all four model scenarios described in DSPM 6-1.202 for this project. Use square footages of combined first and second floor in calculating fire demand per DSPM 6-1.501.

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:

Current Planning, Katie Posler, 380 312-2703, kposler@scottsdaleaz.gov:

42. Please list the correct building height on the site plan (31'-6").

43. Please revise the site plan to demonstrate compliance with this land use limitation:

    The outdoor areas are set back at least 100 feet from any lot line abutting a residential district shown on Table 4.100.A., or the residential portion of a Planned Community P-C, or any portion of a Planned Residential Development PRD with an underlying zoning district comparable to the residential districts shown on Table 4.100.A., measured from the property boundary to the zoning district line all within the City limits.

44. Please list the allowed (0.8) and proposed (0.23) FAR on the site plan under site data.

45. Staff would not be able to stipulate no drive through restaurants since the proposed zoning allows for it by right. But the applicant could impose private deed restrictions.

46. What does the bold line weight along the west and south building elevation represent? Not addressed on legend. Please address.

47. Please update the color elevations with color and material call outs. Identify manufacture name and LRV. LRV cannot exceed 35 per ESL Overlay.

48. Please update the plan sets to identify the bike rack location.

Transportation, Phil Kercher, 480-312-7645, pkercher@scottsdaleaz.gov:

49. There does not appear to be enough room for a passenger vehicle turning radius (25 feet) in the main parking area. Remove the center island or reduce the size.

Traffic Impact & Mitigation Analysis (TIMA), Parker Murphy, 480-312-7802, pmurphy@scottsdaleaz.gov:

50. Trip generation comparison should be limited to previously approved 15-DR-2004 (6,552 sq bank with two drive through lanes).

51. Staff would prefer the trip generation for the proposed site is based on other existing sites within the City of Scottsdale. Please conduct traffic counts at an existing site to estimate the trips for this site.

Fire, Scott Stanek, 480-312-7061, sstanek@scottsdaleaz.gov:

52. The location of the fire riser room on the floor plan is not coordinated with the location of the fire riser on the utility plan.

53. A remote FDC may be required if the fire riser is located on the NE corner of the building.

Archeology, Jesus Murillo, 480-312-7849, jmurillo@scottsdaleaz.gov:

54. As of the date of this letter, archeology staff has not completed their review. Please do not resubmit until all comments have been received and addressed.

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

Case Number: 1-ZN-2023 and 1-GP-2023
Key Code: 6C692 (Key Code) and 98T77 (Keycode)

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
- Project Narrative
- Site Plan
- NAOS Plan & Slope Analysis Plan
- Open Space Plan
- Landscape Plan
- Building Elevations (color and B&W)
- Perspectives
- Lighting Site Plan
- Photometric Analysis
- Manufacturer Cut Sheets (for external light fixtures)
- Floor Plans
- Traffic Impact Mitigation Analysis (TIMA)
- Basis of Design Report (water)
- Basis of Design Report (sewer)
- Drainage Report
- Grading & Drainage Plan

PRELIMINARY Basis of Design Report
☐ ACCEPTED
☐ ACCEPTED AS NOTED
☑ REVISE AND RESUBMIT

CITY OF SCOTTSDALE
SCOTTSDALE WATER
9379 E San Salvador Dr.
Scottsdale, AZ 85258

Disclaimer: If accepted; the preliminary approval is granted under the condition that a final basis of design report will also be submitted for city review and approval (typically during the DR or PP case). The final report shall incorporate further water or sewer design and analysis requirements as defined in the city design standards and policy manual and address those items noted in the preliminary review comments (both separate and included herein). The final report shall be submitted and approved prior to the plan review submission.
For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.

BY apritchard DATE 3/31/2023

WATER STATEMENT

FOR A DOMESTIC WATER and FIRE LINE

SERVING

7474 E.PINNACLE PEAK ROAD

SCOTTSDALE, AZ 85260

APN #212-05-531

PINNACLE PEAK

"PET RESORT"

Plan Check #

QS #45-45

Provide Basis of Design information, including but not limited to, domestic and fire flow demands per DSPM 6-1.200, 6-1.20, Figure 6-1.2, 6-1.402, 6-1.404, 6-1.405, 6-1.406, 6-1.413, 6-1.414, 6-1.415, 6-1.416, 6-1.419, 6-1.501, 6-1.502, 6-1.507.

Registered Professional Engineer (Civil)
CERTIFICATE NO.
11305
DENNIS FRANK
KEOGH
DATE SIGNED 2/10/23
ARIZONA U.S.A.
EXPIRES 6-30-2024

Prepared By

KEOGH ENGINEERING. INC.

650 N. 137TH Avenue Suite 110

Goodyear, Arizona 85338

Job No. 22270

February 2023

Basis of Design Report

The purpose of this report is to provide justification for the connection of domestic water and fire line service serving the Pinnacle Peak Pet Resort. The City of Scottsdale Building Department requires that "Pinnacle Peak Pet Resort" domestic and fire line tie into the existing 2" Dom. And 4" Fire line located at the north property line of this site (see the Water Exhibit).

The subject site is located at the northwest corner of the intersection of Los Portones Drive and Pinnacle Peal Road and a part of the "Pinnacle Peak Office Park" in the City of Scottsdale.

Water QS #45-45 was analyzed for existing sewer facilities in the area (see Water Exhibit).

All new construction will cor Different owners. Scottsdale and M

Demonstrate there is adequate flow and pressures for all four model scenarios described in DSPM 6-1.202 for this project. Use square footages of combined first and second floor in calculating fire demand per DSPM 6-1.501.

Design Statement:

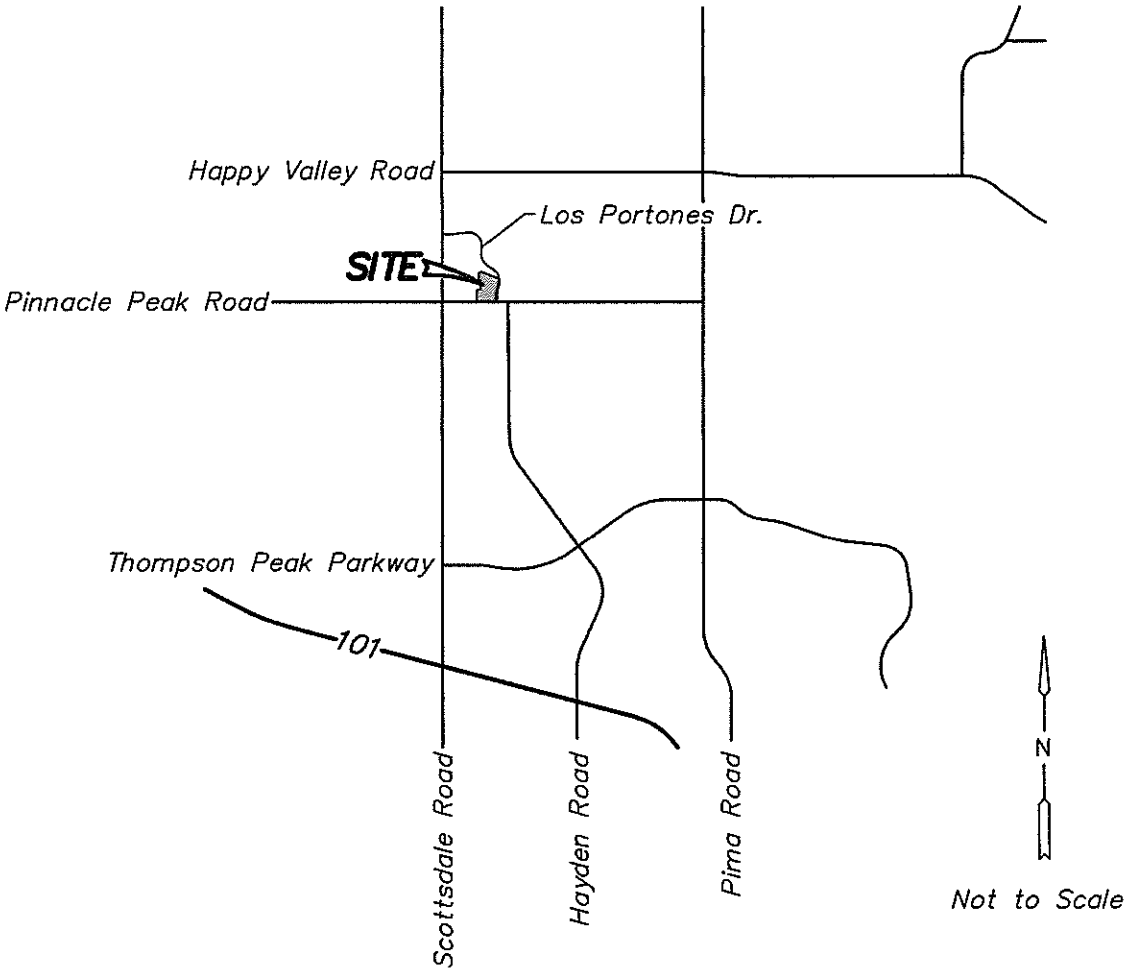
The site is included and a part of the overall existing water syste "Pinnacle Peak Office Park". It is assumed that "Pinnacle Peak Office Park" has provided adequate pressure to include the "Pinnacle Peak Pet Resort" site.

This project will connect to an existing 2"domestic and 4" fire line located at the north property line of this site. The site will also provide 2" domestic and 4" fire line back flow preventers (see the Water Exhibit).

Per the Fire Flow Test there is a static pressure of 72 p.s.i. See Fire Flow Test dated 2-16-23

ESTIMATED QUATITIES:

100 L.F. - 2" Domestic Water Service
1 Ea. - 2" Back Flow Preventer
100 L.F. - 4" Fire line
1 Ea. – 4" Back Flow Preventer



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Keogh Engineering, Inc.

650 N. 137TH AVENUE #110 • GOODYEAR, ARIZONA 85338
PHONE: (623) 535-7260 FAX: (623) 535-7262
EMAIL: keogh@keoghengineering.com

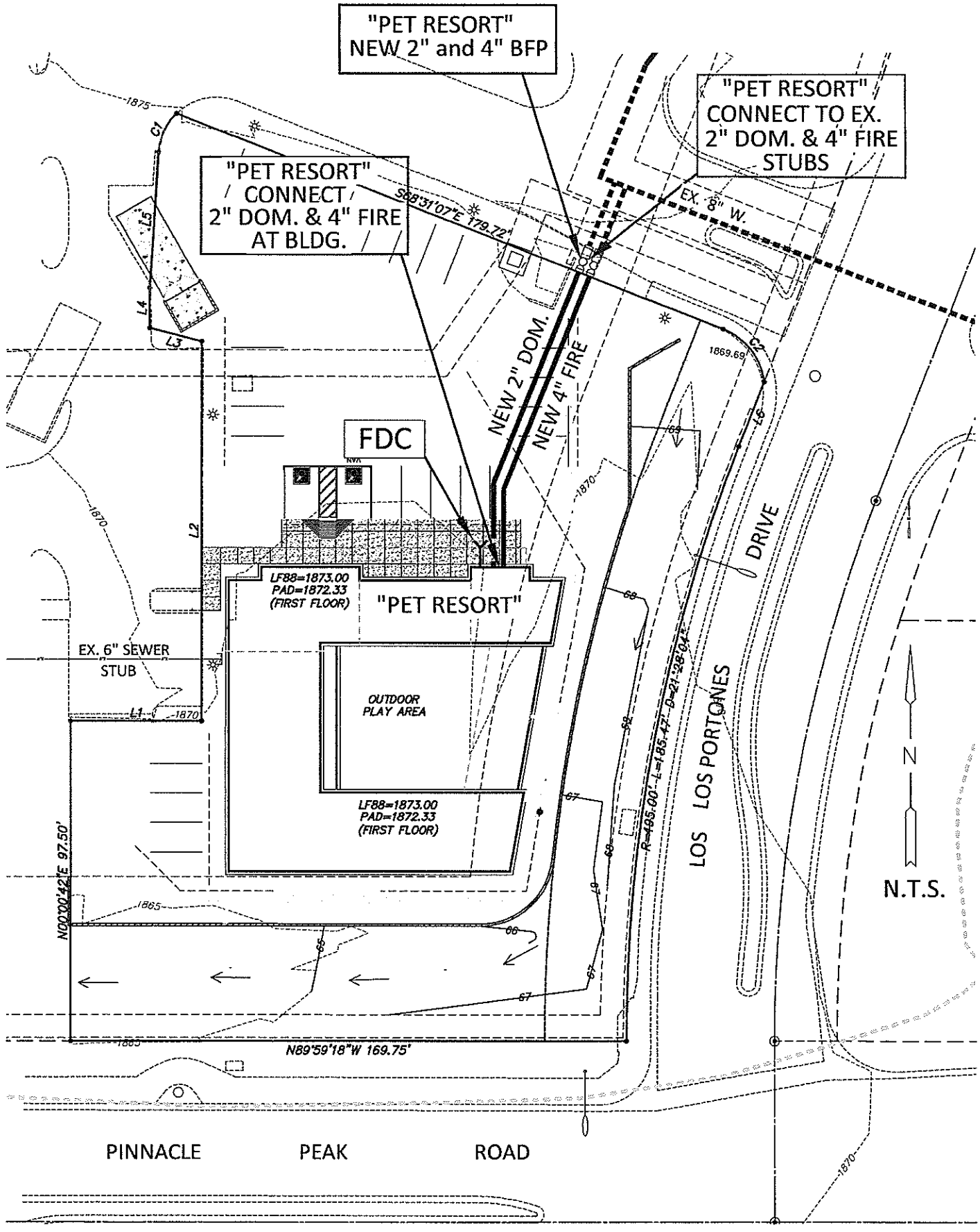
DESIGNED	DATE	JOB NO.
DFK/RMV	2-17-23	22270

BASIS OF DESIGN

PINNACLE PEAK PET RESORT

"VICINITY MAP"

7474 E. PINNACLE PEAK ROAD
SCOTTSDALE, ARIZONA 85255



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Keogh Engineering, Inc.

650 N. 137TH AVENUE #110 •GOODYEAR, ARIZONA 85338
PHONE: (623) 535-7260 FAX: (623) 535-7262
EMAIL: keogh@keoghengineering.com

DESIGNED	DATE	JOB NO.
DFK/RMV	2-16-23	22270

WATER MEMO

"PINNACLE PEAK PET RESORT"

WATER EXHIBIT

7474 E. PINNACLE PEAK ROAD
SCOTTSDALE, ARIZONA 85255

Arizona Flow Testing LLC

HYDRANT FLOW TEST REPORT

Project Name:	Not Provided
Project Address:	7474 East Pinnacle Peak Road, Scottsdale, Arizona, 85255
Client Project No.:	Not Provided
Arizona Flow Testing Project No.:	23092
Flow Test Permit No.:	C71323
Date and time flow test conducted:	February 6, 2023 at 7:00 AM
Data is current and reliable until:	August 6, 2023
Conducted by:	Floyd Vaughan-Az Flow Testing, LLC (480-250-8154)
Witnessed by:	Sonny Schreiner – City of Scottsdale-Inspector (602-819-7718)

Raw Test Data

Static Pressure: **92.0 PSI**
(Measured in pounds per square inch)

Residual Pressure: **40.0 PSI**
(Measured in pounds per square inch)

Pitot Pressure: **17.0 PSI**
(Measured in pounds per square inch)

+

Diffuser Orifice Diameter: One 4-inch Pollard Diffuser
(Measured in inches)

Coefficient of Diffuser: 0.9

Flowing GPM: **1,772 GPM**
(Measured in gallons per minute)

GPM @ 20 PSI: **2,112 GPM**

Data with 20 PSI Safety Factor

Static Pressure: **72.0 PSI**
(Measured in pounds per square inch)

Scottsdale requires a maximum Static Pressure of 72 PSI for AFES Design.

Residual Pressure: **20.0 PSI**
(Measured in pounds per square inch)

Approx. distance between hydrants: 340 Feet

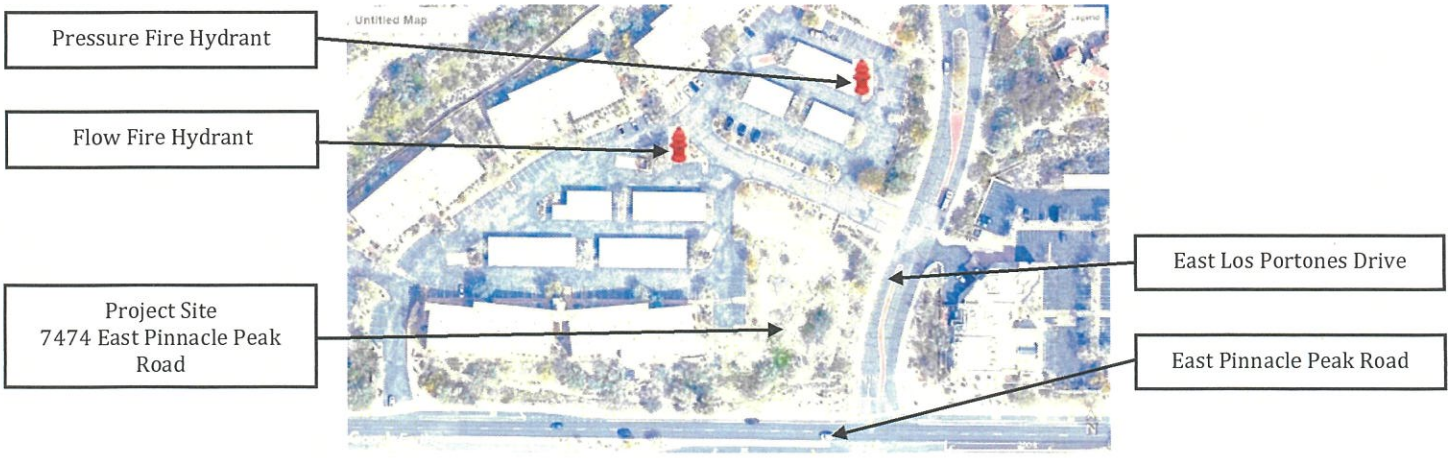
Main size: Not Provided

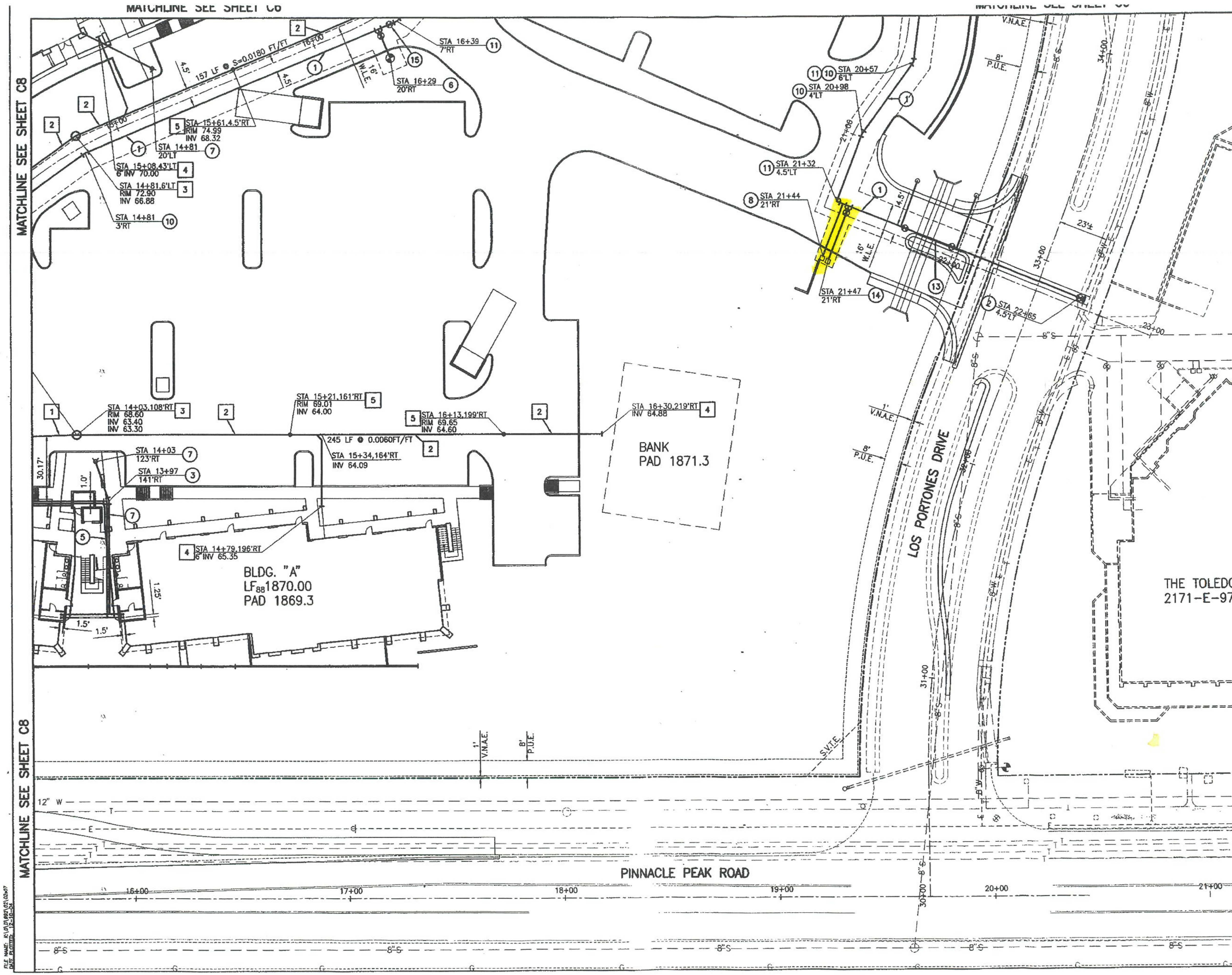
Flowing GPM: **1,772 GPM**

GPM @ 20 PSI: **1,772 GPM**

Flow Test Location

North





CONSTRUCTION NOTES

WATER

1. INSTALL 8" D.I.P. CLASS 350, WATERLINE WITH POLYWRAP. (3' MIN. COVER)
2. INSTALL 8"x8" T.S.V.B.&C., TYPE 'C', PER M.A.G. STD. DETAIL 340 & 391-1-C. WITH RESTRAINED JOINTS PER M.A.G. STD DETAIL 303-1 & 303-2.
3. INSTALL 11¼° BEND WITH ELECTRONIC MARKER PER C.O.S. SPEC. 610.4 AND RESTRAINED JOINTS PER M.A.G. STD. DETAIL 303-1 & 303-2.
4. INSTALL 2" WATER SERVICE PER C.O.S. STD. DETAIL 2330 FOR LANDSCAPE. SEE LANDSCAPE PLANS FOR METER SIZE.
5. INSTALL 6" D.I.P. CLASS 350 FIRELINE TO FLANGE 6" ABOVE FINISH FLOOR, SEE FIRE SPRINKLER PLANS. (3' MIN. COVER)
6. INSTALL 8"X6" REDUCER, 6" V.B.&C., TYPE 'C', 6" FIRE HYDRANT WITH 6" D.I.P. WATER LINE PER M.A.G. STD. DETAIL 360 WITH RESTRAINED JOINTS PER M.A.G. STD. DETAIL 303-1 & 303-2.
7. INSTALL FIRE DEPARTMENT CONNECTION PER DETAIL ON SHEET C17 WITH 4" D.I.P. CLASS 350 FIRELINE, FOR F.D.C.,TO FLANGE 6" ABOVE FINISH FLOOR, SEE FIRE SPRINKLER PLANS.
8. INSTALL 2" WATER SERVICE PER C.O.S. STD. DETAIL 2330. SEE PLUMBING PLANS FOR METER SIZE.
9. INSTALL 8"x6" TEE WITH 6" V.B.&C. PER M.A.G. STD. DETAIL 391-1, TYPE 'C' WITH RESTRAINED JOINTS PER M.A.G. STD. DETAIL 303-1 & 303-2.
10. INSTALL 11¼° BEND WITH ELECTRONIC MARKER PER C.O.S. SPEC. 610.4 AND RESTRAINED JOINTS PER M.A.G. STD. DETAIL 303-1 & 303-2.
11. INSTALL 22½° BEND WITH ELECTRONIC MARKER PER C.O.S. SPEC. 610.4 AND RESTRAINED JOINTS PER M.A.G. STD. DETAIL 303-1 & 303-2.
12. INSTALL 90° BEND WITH ELECTRONIC MARKER PER C.O.S. SPEC. 610.4 AND RESTRAINED JOINTS PER M.A.G. STD. DETAIL 303-1 & 303-2.
13. INSTALL VERTICAL RELIGNMENT OF WATER LINE PER C.O.S. STD. DETAIL 2370 & MODIFIED WITH ONE VALVE AND AIR RELEASE VALVES SHOWN, PER C.O.S. STD. DETAIL 2348 & MEGALUG JOINTS PER M.A.G. STD. DETAIL 303-1 & 303-2.
14. INSTALL 8"x4" TEE WITH 4" D.I.P. FIRELINE CLASS 350 WITH 2" CURB STOP AND FLUSHING PIPE PER M.A.G. STD. DETAIL 390-B, FOR FUTURE BANK PAD FIRE SPRINKLERS. (3' MIN. COVER)
15. INSTALL 8" G.V.B. & C. PER MAG STD DETAIL 391-1 AND RESTRAINED JOINTS PER MAG STD DETAIL 303-1 & 303-2.

SEWER

1. INSTALL 8" P.V.C. SEWER LINE.
2. INSTALL 6" P.V.C. SEWER LINE.
3. CONSTRUCT MANHOLE PER M.A.G. STD. DETAIL 420 & 424.
4. INSTALL 6" P.V.C. SEWER LINE TO 5' FROM BUILDING. SEE PLUMBING PLANS.
5. INSTALL CLEANOUT PER U.P.C..

GILBERTSON ASSOCIATES Inc.
consulting civil engineers & land surveyors
8502 East Princess Drive . Scottsdale, Arizona 85255-5485 480\607\2244

PINNACLE PEAK OFFICE PARK

UTILITY PLAN

Designed by TAE | Drawn by RAB / CLM
Date DECEMBER 10, 2004 | Job No. 98202 | Sheet C7 of 17

QS 45-45 774-04 15-DR-2004 101-NP-2004

SEWER STATEMENT

FOR A PRIVATE SEWER SERVICE CONNECTION

SERVING

7474 E.PINNACLE PEAK ROAD

SCOTTSDALE, AZ 85260

APN #212-05-531

Provide first and second floor building square foot quantities and sewer demand calculations in a Basis of Design report per DSPM 7-1.200, 7-1.202 7-1.403 and Figure 7-1.2

PINNACLE PEAK

"PET RESORT"

Plan Check #

QS #45-45

The sewer tap identified in the Sewer Exhibit is a part of a private sewer system. Provide design drawings of the private sewer system this development is connecting to, demonstrating how the tap ultimately connects to the City of Scottsdale Sewer system. Show any sewer ejectors or private lift stations associated with the private system, as applicable. DSPM 7-1.414.

Identify the responsibility for operating and maintaining the private sewer system that this lateral will connect to per DSPM 7-1.501. Provide documentation demonstrating this development has permission from the Pinnacle Peak Office Park to discharge wastewater through its private sewer to the City Sewer.

PRELIMINARY Basis of Design Report

- ☐ ACCEPTED
- ☐ ACCEPTED AS NOTED
- ☑ REVISE AND RESUBMIT

CITY OF SCOTTSDALE
SCOTTSDALE WATER
9379 E San Salvador Dr.
Scottsdale, AZ 85258

Disclaimer: If accepted; the preliminary approval is granted under the condition that a final basis of design report will also be submitted for city review and approval (typically during the DR or PP case). The final report shall incorporate further water or sewer design and analysis requirements as defined in the city design standards and policy manual and address those items noted in the preliminary review comments (both separate and included herein). The final report shall be submitted and approved prior to the plan review submission.
For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.

BY apritchard **DATE** 3/31/2023

Registered Professional Engineer (Civil) CERTIFICATE NO. 11305 DENNIS FRANK KEOGH DATE SIGNED 2/16/23 ARIZONA U.S.A. EXPIRES 6-30-2024

Prepared By

EOGH ENGINEERING. INC.

650 N. 137TH Avenue Suite 110

Goodyear, Arizona 85338

Job No. 22270

February 2023

Basis of Design Report

The purpose of this report is to provide justification for the connection to a existing 6" sewer service within the Pinnacle Peak Office Park. The project has the ability to tie-in to an existing 6" sewer stub located at the west property line (see the Sewer Exhibit).

The subject site is located at the northwest corner of the intersection of Los Portones Drive and Pinnacle Peak Road and is a part of the "Pinnacle Peak Office Park" in the City of Scottsdale.

Sewer and water QS #45-45 was analyzed for existing sewer facilities in the area (see Sewer Exhibit).

All new construction will conform to the City of Scottsdale and MCESD requirements.

Design Statement:

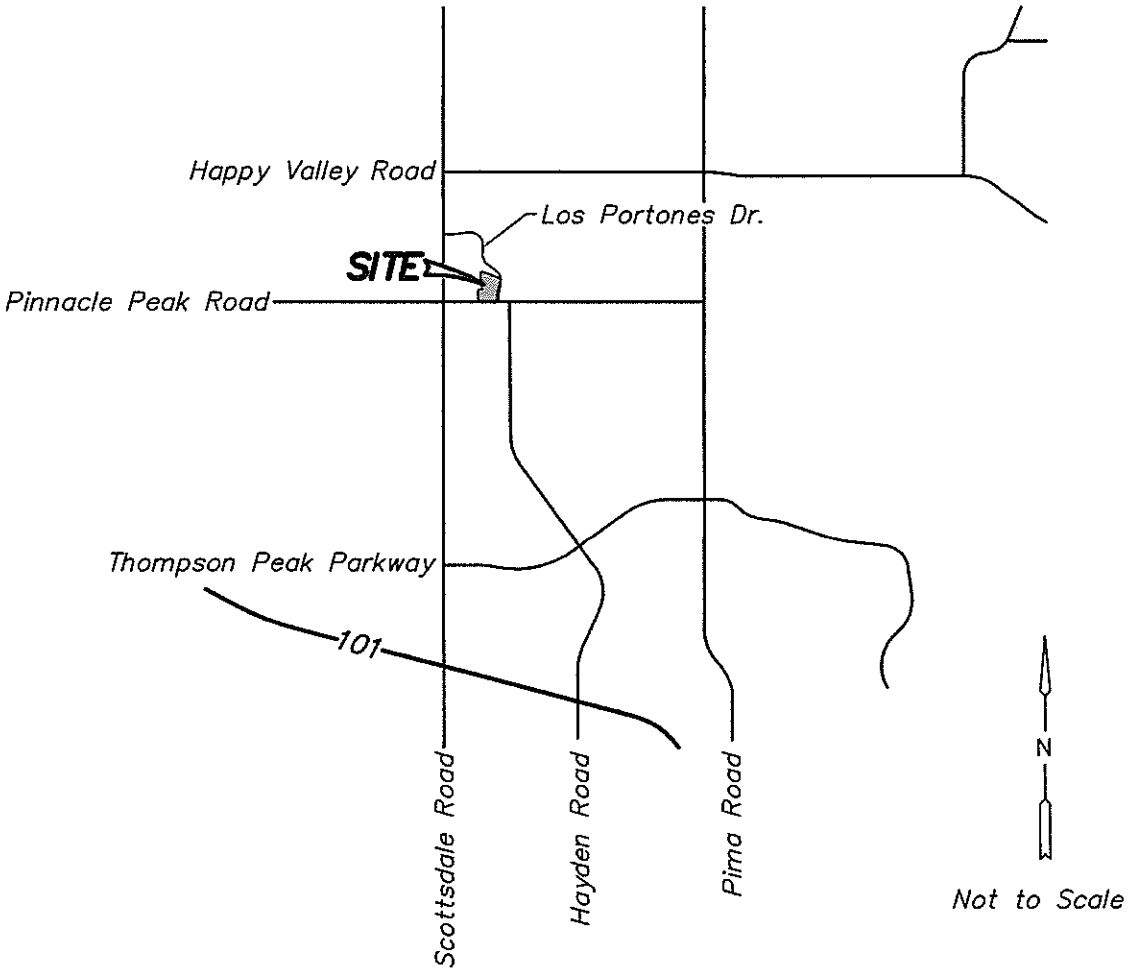
The site is included and a part of the overall existing sewer system design of the "Pinnacle Peak Office Park". It is assumed that "Pinnacle Peak Office Park" has provided adequate capacity to include the "Pinnacle Peak Pet Resort" site.

This project will connect to an existing 6" stub located at the west property line

ESTIMATED QUATITIES:

1 ea - Remove 6" stub

1 ea.- Connect to existing 6" stub.



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Keogh Engineering, Inc.

650 N. 137TH AVENUE #110 • GOODYEAR, ARIZONA 85338
PHONE: (623) 535-7260 FAX: (623) 535-7262
EMAIL: keogh@keoghengineering.com

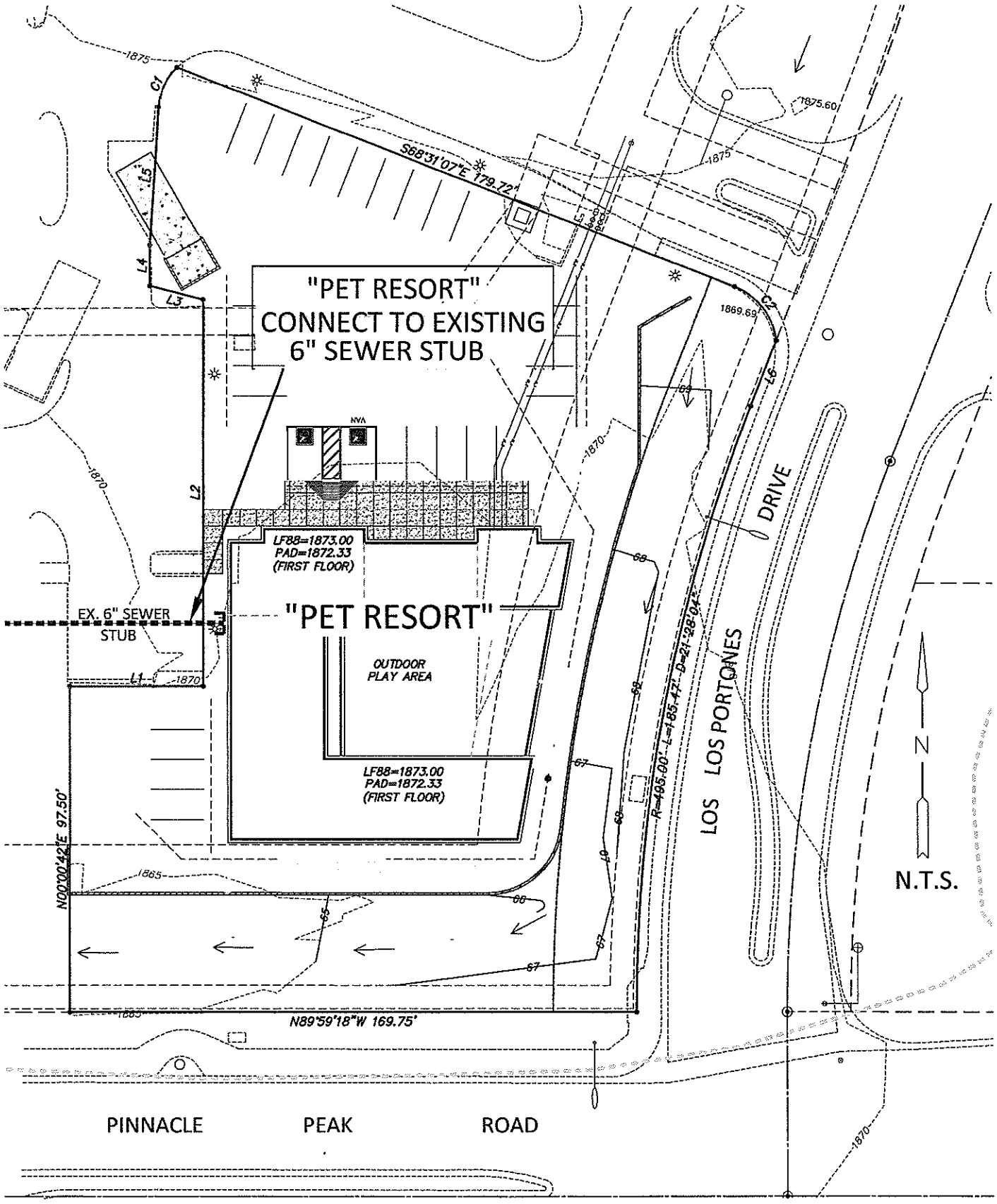
DESIGNED	DATE	JOB NO.
DFK/RMV	2-17-23	22270

BASIS OF DESIGN

PINNACLE PEAK PET RESORT

"VICINITY MAP"

7474 E. PINNACLE PEAK ROAD
SCOTTSDALE, ARIZONA 85255



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Keogh Engineering, Inc.

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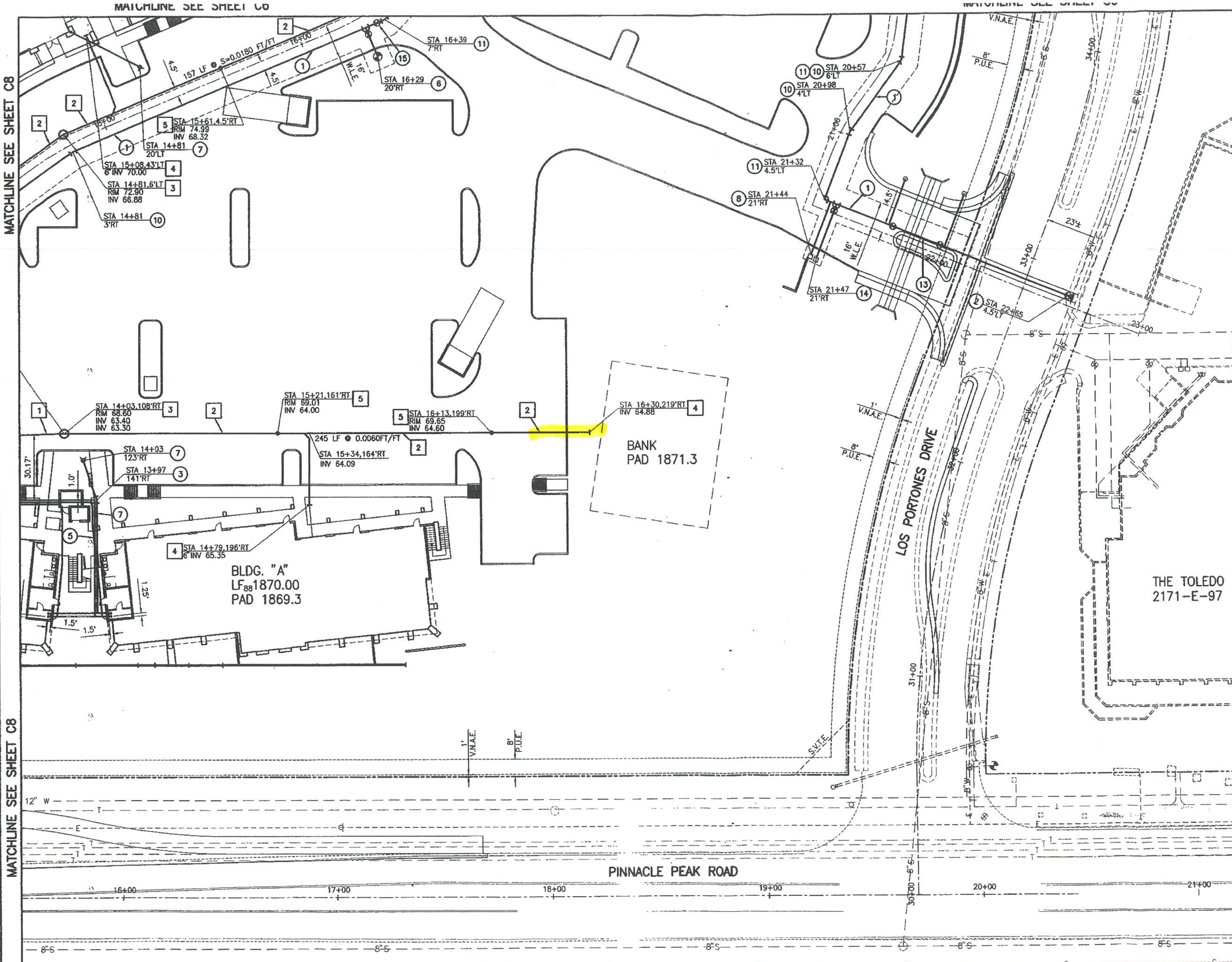
DFK/RMV	2-16-23	22270

BASIS OF DESIGN

"PINNACLE PEAK PET RESORT"

SEWER EXHIBIT

7474 E. PINNACLE PEAK ROAD
SCOTTSDALE, ARIZONA 85255



WATER

1. INSTALL 8" D.I.P. CLASS 350, WATERLINE WITH POLYWRAP. (3' MIN. COVER)
2. INSTALL 8"x8" T.S.V.B.&C., TYPE 'C', PER M.A.G. STD. DETAIL 340 & 391-1-C. WITH RESTRAINED JOINTS PER M.A.G. STD DETAIL 303-1 & 303-2.
3. INSTALL 11¼" BEND WITH ELECTRONIC MARKER PER C.O.S. SPEC. 610.4 AND RESTRAINED JOINTS PER M.A.G. STD. DETAIL 303-1 & 303-2.
4. INSTALL 2" WATER SERVICE PER C.O.S. STD. DETAIL 2330 FOR LANDSCAPE. SEE LANDSCAPE PLANS FOR METER SIZE.
5. INSTALL 6" D.I.P. CLASS 350 FIRELINE TO FLANGE 6" ABOVE FINISH FLOOR, SEE FIRE SPRINKLER PLANS. (3' MIN. COVER)
6. INSTALL 8"X6" REDUCER, 6" V.B.&C., TYPE 'C', 6" FIRE HYDRANT WITH 6" D.I.P. WATER LINE PER M.A.G. STD. DETAIL 360 WITH RESTRAINED JOINTS PER M.A.G. STD. DETAIL 303-1 & 303-2.
7. INSTALL FIRE DEPARTMENT CONNECTION PER DETAIL ON SHEET C17 WITH 4" D.I.P. CLASS 350 FIRELINE, FOR F.D.C.,TO FLANGE 6" ABOVE FINISH FLOOR, SEE FIRE SPRINKLER PLANS.
8. INSTALL 2" WATER SERVICE PER C.O.S. STD. DETAIL 2330. SEE PLUMBING PLANS FOR METER SIZE.
9. INSTALL 8"x6" TEE WITH 6" V.B.&C. PER M.A.G. STD. DETAIL 391-1, TYPE 'C' WITH RESTRAINED JOINTS PER M.A.G. STD. DETAIL 303-1 & 303-2.
10. INSTALL 11¼" BEND WITH ELECTRONIC MARKER PER C.O.S. SPEC. 610.4 AND RESTRAINED JOINTS PER M.A.G. STD. DETAIL 303-1 & 303-2.
11. INSTALL 22½" BEND WITH ELECTRONIC MARKER PER C.O.S. SPEC. 610.4 AND RESTRAINED JOINTS PER M.A.G. STD. DETAIL 303-1 & 303-2.
12. INSTALL 90° BEND WITH ELECTRONIC MARKER PER C.O.S. SPEC. 610.4 AND RESTRAINED JOINTS PER M.A.G. STD. DETAIL 303-1 & 303-2.
13. INSTALL VERTICAL RELIGNMENT OF WATER LINE PER C.O.S. STD. DETAIL 2370 & MODIFIED WITH ONE VALVE AND AIR RELEASE VALVES SHOWN, PER C.O.S. STD. DETAIL 2348 & MEGALUG JOINTS PER M.A.G. STD. DETAIL 303-1 & 303-2.
14. INSTALL 8"x4" TEE WITH 4" D.I.P. FIRELINE CLASS 350 WITH 2" CURB STOP AND FLUSHING PIPE PER M.A.G. STD. DETAIL 390-B, FOR FUTURE BANK PAD FIRE SPRINKLERS. (3' MIN. COVER)
15. INSTALL 8" G.V.B. & C. PER MAG STD DETAIL 391-1 AND RESTRAINED JOINTS PER MAG STD DETAIL 303-1 & 303-2.

SEWER

1. INSTALL 8" P.V.C. SEWER LINE.
2. INSTALL 6" P.V.C. SEWER LINE.
3. CONSTRUCT MANHOLE PER M.A.G. STD. DETAIL 420 & 424.
4. INSTALL 6" P.V.C. SEWER LINE TO 5' FROM BUILDING. SEE PLUMBING PLANS.
5. INSTALL CLEANOUT PER U.P.C..

GILBERTSON ASSOCIATES Inc.
consulting civil engineers & land surveyors
8502 East Princess Drive . Scottsdale, Arizona 85255-5485 480/607/2244

PINNACLE PEAK OFFICE PARK

UTILITY PLAN

Designed by TAE	Drawn by RMB / CLM	
Date DECEMBER 10, 2004	Job No. 98202	Sheet C7 of 17

QS 45-45 774-04 15-DR-2004 101-NP-2004

Monday, November 28, 2022

CONCEPTUAL
DRAINAGE REPORT
For
PINNACLE PEAK
"PET RESORT"

7474 E. Pinnacle Peak Road
Scottsdale, Arizona
Maricopa County

APN #212-05-531

Stormwater Review By:
Nerijus Baronas, PE
Phone 480-312-7072 Fax 480-312-9187
E-mail: nbaronas@ScottsdaleAZ.gov
Review Cycle 1 Date 4/6/23

Prepared By
Keogh Engineering, Inc.
650 N. 137TH Avenue #110
Goodyear, Arizona 85338

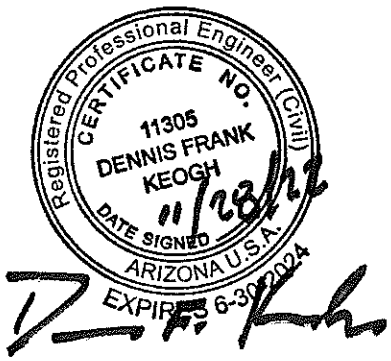
Job No. 22270

November, 2022

TABLE OF CONTENTS

FIGURES

EXHIBITS



APPENDICES

1. INTRODUCTION

1.1 Location and Site Description

The project is located at 7474 E. Pinnacle Peak Road in Scottsdale, Arizona, Maricopa County, as shown on the Vicinity Map. The 0.95 ac. site is a commercial lot located in FEMA Zone AE.

1.2 Existing Conditions

The proposed site as of today consists of a barren dirt commercial lot with water and sewer stubouts.

1.3 Proposed Project

This site consists of a new commercial building on a compacted pad, The site will also connect to existing onsite water and sewer stubouts.

2. HYDROLOGIC ANALYSIS

Update per latest HEC-RAS WSL results

2.1 Discussion

The grading and drainage plan shows the passing of historical drainage flows entering the site from the north property line and traversing as concentrated flows in drainage easements located along the east and south property lines (see the Onsite Drainage Exhibit).

Shall be based on limits of inundation using HEC-RAS 1 or 2 D model

- The site is also affected by FEMA LOMR 1509-1857P enacted in 6/1[illegible] building pad will require 2'-3' of compacted fill to be imported to the si[illegible]
- To create more site developable area the 50' drainage easement is being proposed to reduce by 25' along the east side of the parcel and reduced by 15' along the south side of the parcel.
- The reduction of the drainage easements will require the installation of retaining flood scour walls of approximately 9' in height along the new edges of the drainage easement. The total length of retaining flood scour walls is 335 L.F. more or less.
- The sites on site drainage will be collected by a storm drain system of 200 L.F. of 18" pipe And 80 L.F. of 24" pipe including a Vortech style manhole prior to rel[illegible] drainage easement at the south west corner of the site.
- This drainage report and grading and drainage plan is being prepared to support the drainage and FEMA required designs.

Subject to change per latest HEC-RAS results

This is not a valid design flow data. Review FIS and latest FLO-2D results to establish governing design flow. Please schedule a meeting with the City Floodplain Administrator to go over regulatory technical modeling requirements for FEMA Zone AE.

Develop HEC-RAS model

2.2 Offsite Hydrology

There are offsite flows entering the site. The only offsite runoff that apply to this project is the runoff that enter the existing drainage easements located along the east and south property lines (see the "Onsite Drainage Exhibit). Qs were taken from plans prepared by Gilbertson Associates for the design of Pinnacle Peak Office Park.

This report calculates and shows in Appendix B typical Cross-Sections with water surface elevation and spreads that indicate that the Q100=223 c.f.s. and q100= 234 C.F.S. will not d outside the proposed, reduced in width, drainage easement. .

Add FIS and latest design flow based on actual hydrology or FLO-2D results.

eport also shows that the construction of the new commercial building is free from ation from the offsite 100-yr. storm event and that the integrity of the structure is not undermined.

Peak Discharge From the "PINNACLE PEAK OFFICE PARK" Grading and Drainage Plans By "Gilberson Associates"

The 223 c.f.s. from the *From the "PINNACLE PEAK OFFICE PARK" Grading and Drainage Plans By "Gilberson Associates"* that enters the reduced, 50' to 25', drainage easement from the north flows south and west. Hydraulic capacity calculations for the proposed 25' wide drainage easement are provided in Appendix D.

Outdated hydrology. Use latest based on NOAA14 maps.

Existing Drainage Easement REDUCED In Wide from 50' to 25'

The reduction of the drainage easement will required the installation of retaining flood scour walls of approximately 9' in height along the new edges of the drainage easement.

Hydraulic water surface elevations and spread calculations for the 25' drainage easement are provided in Appendix D. The spread from the 223 cfs and 234 cfs are Contained in the drainage easement as indicated in the cross section in Appendix B

2.3 Onsite Hydrology / Retention Statement
See "Onsite Drainage Exhibit"

2.3.1 Discussion

Attach approved document for reference.

The sites onsite drainage will be collected b[illegible]200 L.F. of 18" pipe and 80 L.F. of 24" pipe including a Vortech style manhole prior to releasing runoff into the drainage easement at the south west corner of the site (see "Onsite Drainage Exhibit").

No onsite retention is required per:

Ordinance: (Case 15-DR-2004#2)

E. On May 4, 2004, the City's Stormwater management Devision approved a Stormwater Storage Waiver for the Pinnacle Peak Office Park. The proposed development is located within the boundaries of the Office Park and is included in the approved waiver. The approval was based on the following conditions:

(1) All storage requirements were waived.

F. With the final improvement plans submittal to the Planning and Development Services Department, the developer shall submit a final drainage report and plan, subject to City staff approval.

G. Underground Stormwater Storage:

(1) Underground stormwater storage is prohibited unless approval is obtained from the City's Floodplain Administrator.

(a) Drywells are not permitted.

To what depth?

2.3.2 Erosion Protection-per Appendix D

The calculated erosion setback for the new 15.3' and falls inside the 20' minimum. Because the velocity in 8.28 f.p.s. at Cross-Section B-B, erosion protection is provided by the retaining flood/scour wall.

2.3.3 FEMA Note:

FEMA Q100 = ____ CFS

This site is located within Zone AE as delineated on Ins[illegible] Boundary Map Panel No. 04013C1310M dated July 20, 2021 and published by the Federal Emergency Management Agency.

The site is also affected by LOMR 1509-1857P enacted in 6/10/2016.

The BFE calculated at the leading edge of the structure by interpolating between BFE shown on the Firmette of BFE 1869.5 and BFE 1876.7 is BFE=1872.00. The RFE=1873.00.

Use FIS profile. Submit back up analysis.

2.3.4 Site Ultimate Outfall

The site ultimate outfall is at the southwest property corner at elevation 1862.96.

2.3.5 Typical Cross-Sections Description

Post-Development Cross-Sections in Appendix C are provided that indicate that the building is free from inundation from the 100-yr storm event and that the spreads from the 223 c.f.s. and 223 c.f.s. are contained in the 25' and 3

Hydraulics shall be based on HEC-RAS 1D or 2D model.

2.3.6 Hydraulic Analysis of Pre vs Post Development

Pre-Development and Post-Development sections are provided in Appendix B and C with the following results:

PRE-DEV. – Cross-Section B-B (On report equals Section A-A on plans)
Q100=223 c.f.s.
Vel. = 5.20 f.p.s.
WSE = 1869.53 ft.

POST-DEV. – Cross-Section B-B (On report equals Section A-A on plans)
Q100=223 c.f.s.
Vel. = 8.28 f.p.s.
WSE = 1869.16 ft.

PRE-DEV. – Cross-Section E-E (On report equals Section B-B on plans)
Q100=234 c.f.s.
Vel. = 5.41 f.p.s.
WSE = 1865.88 ft.

Update per HEC-RAS results

POST-DEV. – Cross-Section E-E (On report equals Section B-B on plans)
Q100=234 c.f.s.
Vel. = 5.31 f.p.s.
WSE = 1865.45 ft.

The pre vs post Q100s at Cross-Section B-B are the same, the velocities are different by 3.08 f.p.s., and the water surface elevation increased by 0.37'.

The pre vs post Q100s at Cross-Section E-E are the same, the velocities are different by 0.10 f.p.s. and the water surface elevations increased by 0.43'.

No special erosion protection is required.

3. CONCLUSION

- Offsite runoff flows entering the site of Q100 of 223 and 234 c.f.s. are contained in the 25' (east) and 35' (south) drainage easement.

  Release of drainage easements will be applied for respectively.

- The Finish floor elevation of 1873.00 for the n free from inundation from the 100-year storm event and set at RFE=1873.00, one foot above the BFE of 1872.00 making it free from inundation from the FEMA 100-yr event.

- The construction of the project will not cause adverse condition to adjacent properties.

- Erosion protection is provided by the installation of the retaining flood/scour wall.

- No onsite retention is required.

Need HEC-RAS water surface analysis

Use FIS profile, submit back up data

to what depth?

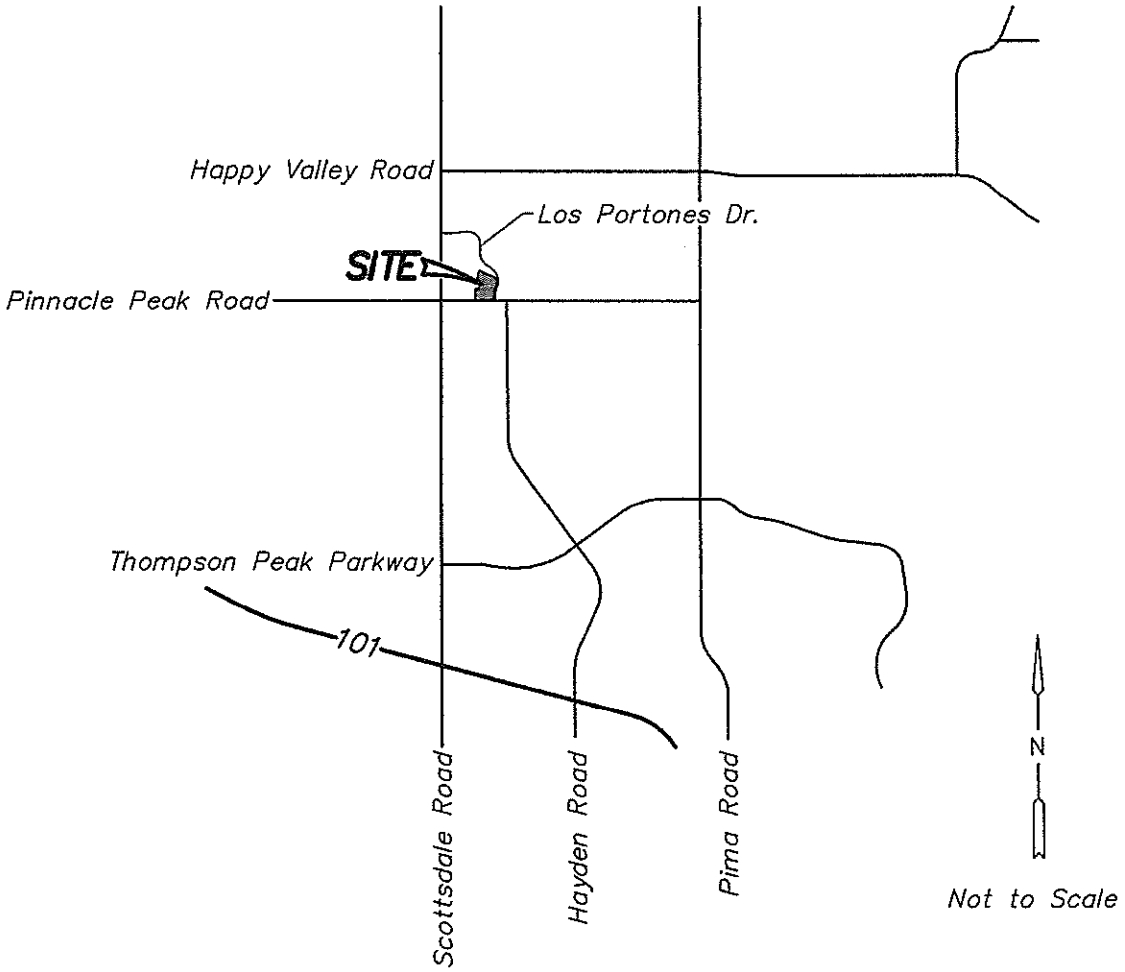
Need HEC-RAS water surface analysis

Attach approved waiver.

FIGURES

Figure 1 - VICINITY MAP

Figure 2 - FEMA FLOOD INSURANCE RATE MAP



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DESIGNED	DATE	JOB NO.
DFK/RMV	11-13-22	22270

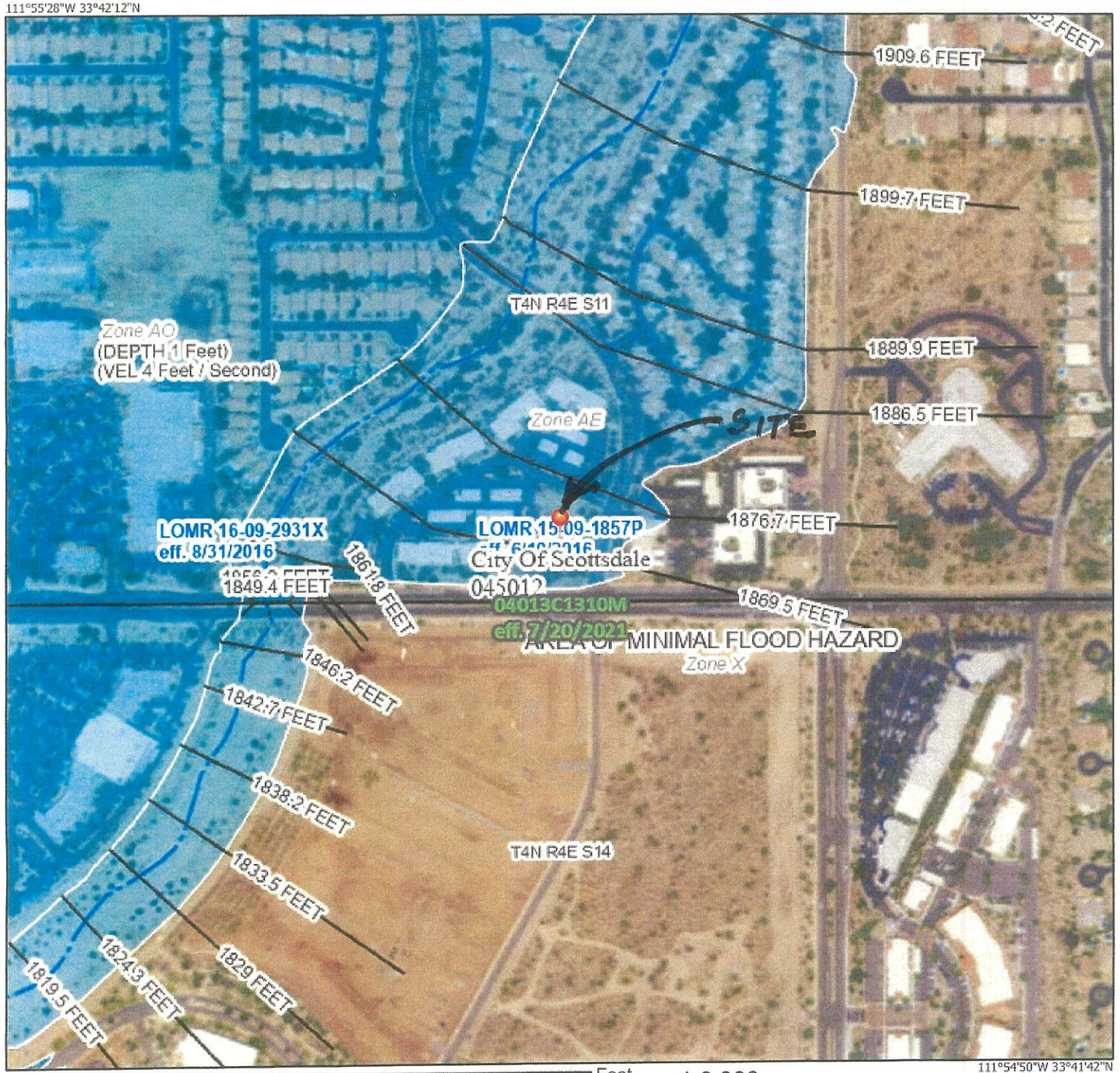
DRAINAGE REPORT
"PET"
~~ATLANTIC DEVELOPMENT~~

"VICINITY MAP"

7474 E. PINNACLE PEAK ROAD
SCOTTSDALE, ARIZONA 85255

National Flood Hazard Layer FIRMette

FEMA



Legend

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

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

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

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

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

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

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

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

#22170

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/27/2022 at 6:14 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

EXHIBITS

Pinnacle Peak

"PET RESORT"

ONSITE DRAINAGE EXHIBITS

•

Pinnacle Peak

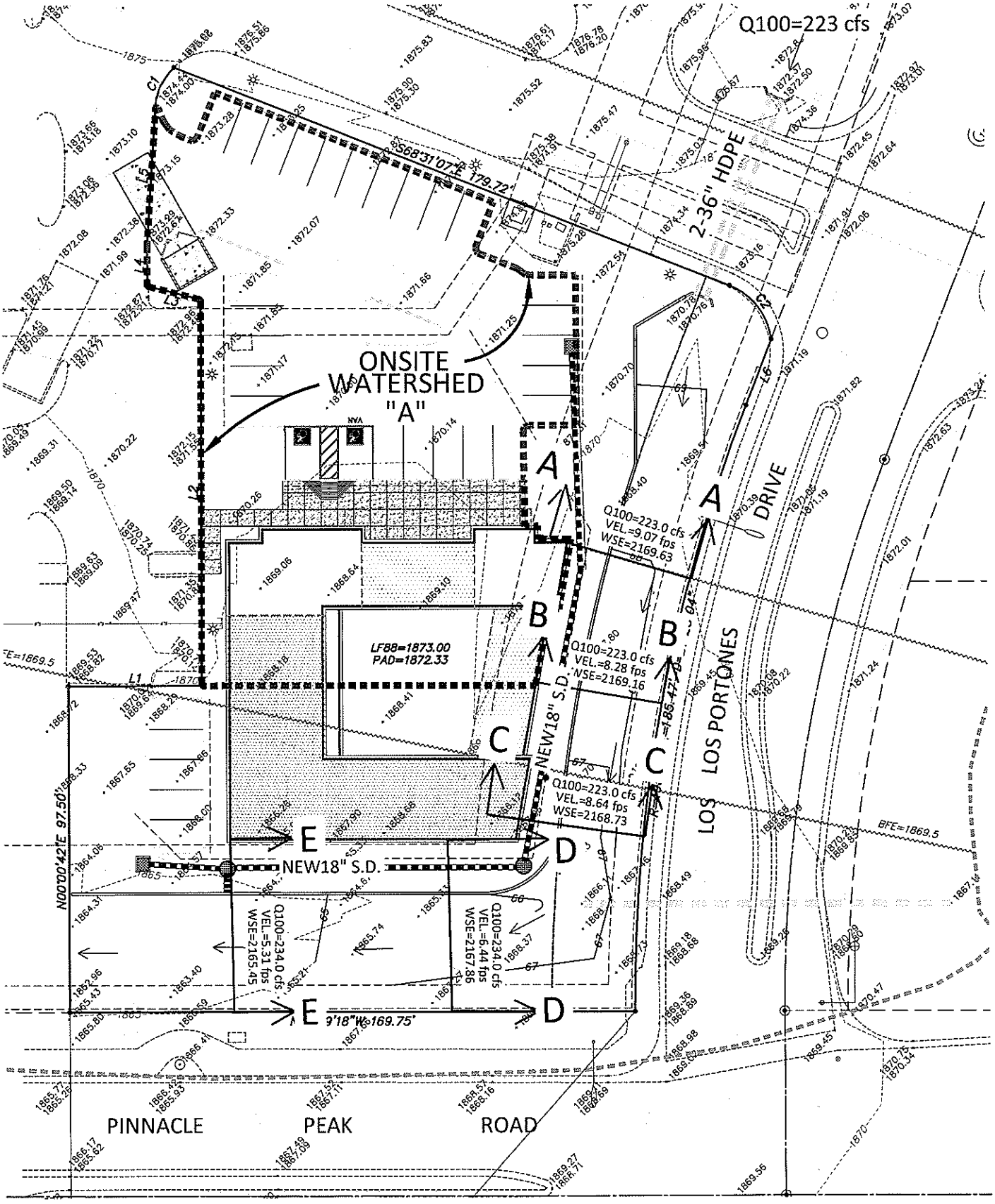
"OFFICE PARK"

OFFSITE DRAINAGE EXHIBIT

Excerpt from the "Pinnacle Peak Office Park"

By

Gilbertson Associates



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DESIGNED	DATE	JOB NO.
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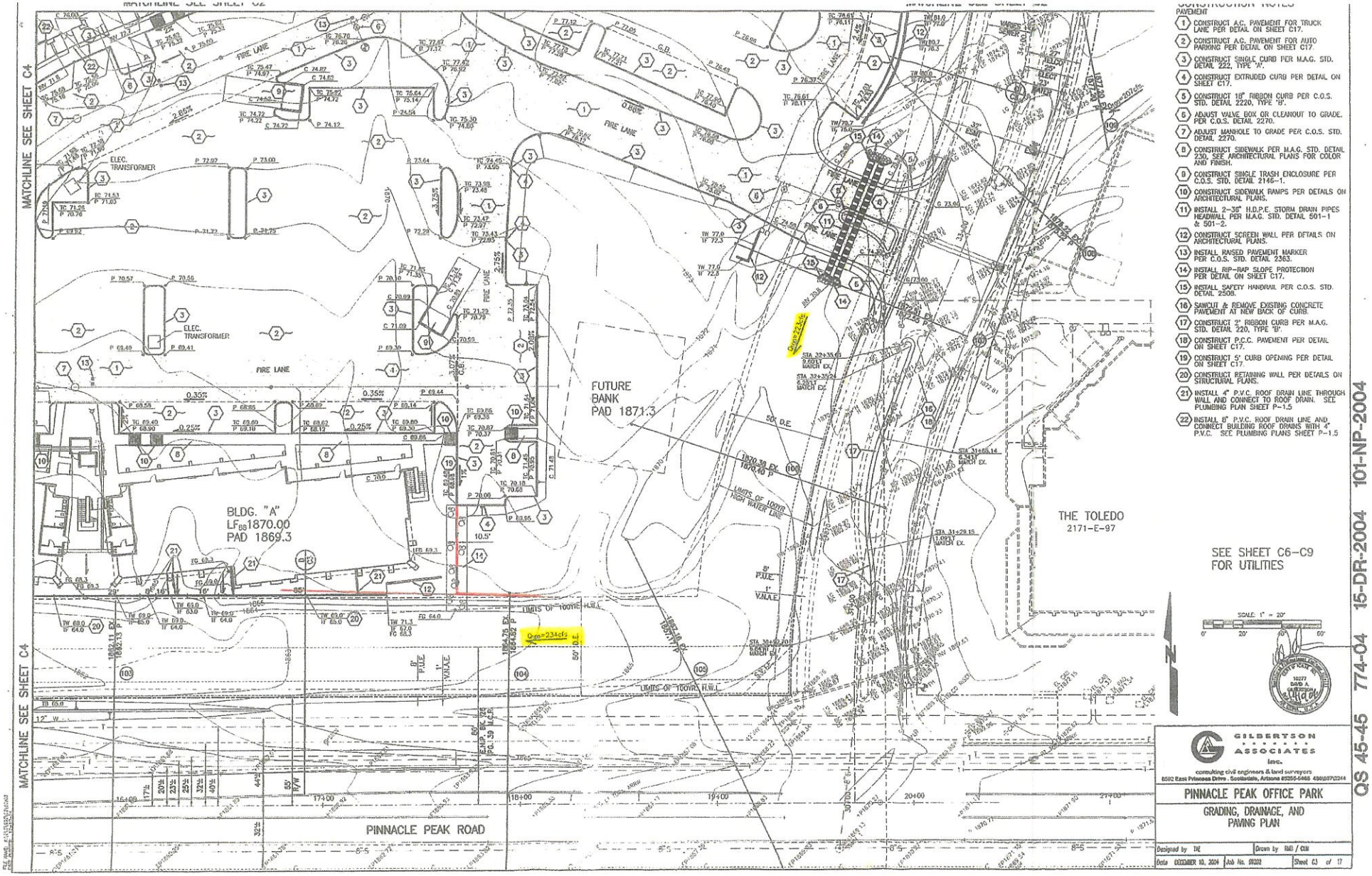
DRAINAGE REPORT

"PINNACLE PEAK PET RESORT"

ONSITE DRAINAGE EXHIBIT

7474 E. PINNACLE PEAK ROAD
SCOTTSDALE, ARIZONA 85255



Q100's FROM
GILBERTSON ASSOCIATES
G&D PLANS

APPENDIX A

Peak Discharge
per
Drainage Design Management System for Windows
Program
(DDMSW)

Flood Control District of Maricopa County
Drainage Design Management System
SUB BASINS
Project Reference: 22270-ATLANTIC DEV.

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													
A	0.4	142	1,874.40	1,871.90	93.0	0.042	Q (cfs)	1.1	1.5	1.8	2.5	2.9	3.2
							C	0.85	0.85	0.85	0.94	0.95	0.95
							CA (ac)	0.34	0.34	0.34	0.38	0.38	0.38
							Volume (ac-ft)	0.0101	0.0138	0.0165	0.0230	0.0267	0.0294
							Tc (min)	5	5	5	5	5	5
							i (in/hr)	3.32	4.52	5.42	6.62	7.55	8.48

* Non default value

Flood Control District of Maricopa County
Drainage Design Management System
LAND USE
Project Reference: 22270-ATLANTIC DEV.

11/14/2022

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											
A	240	0.40	100.0	0.042	0.85	0.85	0.85	0.94	0.95	0.95	Regional Commercial (500,000 to 1,000,000 sq. ft.)
		0.400	**100.0**								

Flood Control District of Maricopa County
Drainage Design Management System
RAINFALL DATA
Project Reference: 22270-ATLANTIC DEV.

11/14/2022

ID	Method	Duration	2 Yr	5 Yr	10 Yr	25 Yr	50 Yr	100 Yr
DEFAULT	NOAA14	5 MIN	0.258	0.348	0.418	0.511	0.582	0.655
	NOAA14	10 MIN	0.393	0.529	0.635	0.777	0.886	0.998
	NOAA14	15 MIN	0.487	0.656	0.788	0.964	1.098	1.237
	NOAA14	30 MIN	0.655	0.884	1.061	1.298	1.479	1.665
	NOAA14	1 HOUR	0.811	1.094	1.313	1.606	1.830	2.061
	NOAA14	2 HOUR	0.939	1.250	1.489	1.813	2.059	2.314
	NOAA14	3 HOUR	1.022	1.336	1.585	1.932	2.208	2.494
	NOAA14	6 HOUR	1.209	1.544	1.811	2.174	2.457	2.752
	NOAA14	12 HOUR	1.366	1.724	2.006	2.386	2.677	2.978
	NOAA14	24 HOUR	1.610	2.083	2.459	2.985	3.403	3.841

APPENDIX B

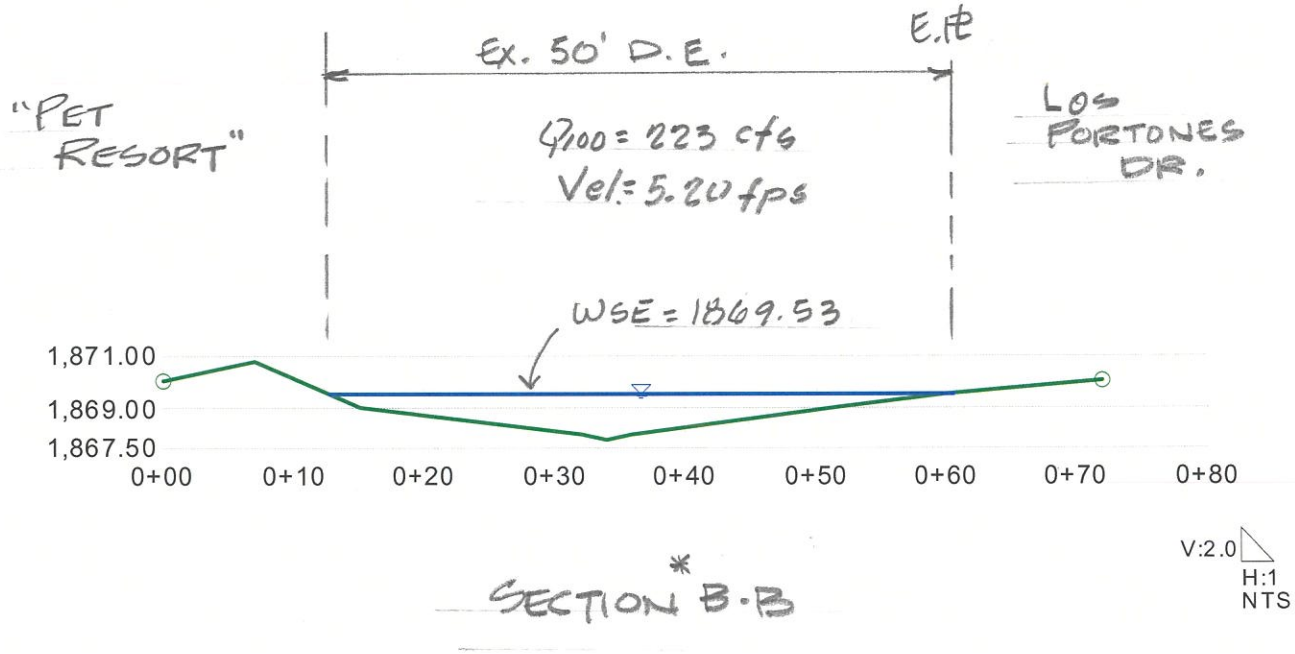
Pre-Development
Typical Cross-Sections

(see "Onsite Drainage Exhibit)

22270 - Atlantic Dev. - CROSS-SECTION B-B (PRE-CONDITION)
Cross Section for Irregular Channel

Project Description	
Worksheet	22270 - Atlantic Dev. - CROSS-SECTION B-B
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coefficie	0.035	
Slope	0.017500	ft/ft
Water Surface Elev	1,869.53	ft
Elevation Range	67.80 to 1,870.80	
Discharge	223.00	cfs



SECTION B-B *

* EQUALS SECTION A-A ON G & D PLANS

Keogh Engineering, Inc.
37 Brookside Road Waterbury, CT 06708 USA (203) 755-1666

22270 - Atlantic Dev. - CROSS-SECTION B-B (PRE-CONDITION)
Worksheet for Irregular Channel

Project Description	
Worksheet	22270 - Atlantic Dev. - CROSS-SECTION B-B
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Slope	017500	ft/ft
Discharg	223.00	cfs

Options	
Current Roughness Metho	ved Lotter's Method
Open Channel Weighting	ved Lotter's Method
Closed Channel Weightin	Horton's Method

Results		
Mannings Coefficie	0.035	
Water Surface Elev	1,869.53	ft
Elevation Range	37.80 to 1,870.80	
Flow Area	42.9	ft²
Wetted Perimeter	48.16	ft
Top Width	48.01	ft
Actual Depth	1.73	ft
Critical Elevation	1,869.51	ft
Critical Slope	0.018686	ft/ft
Velocity	5.20	ft/s
Velocity Head	0.42	ft
Specific Energy	1,869.95	ft
Froude Number	0.97	
Flow Type	Subcritical	

Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00	0+72	0.035

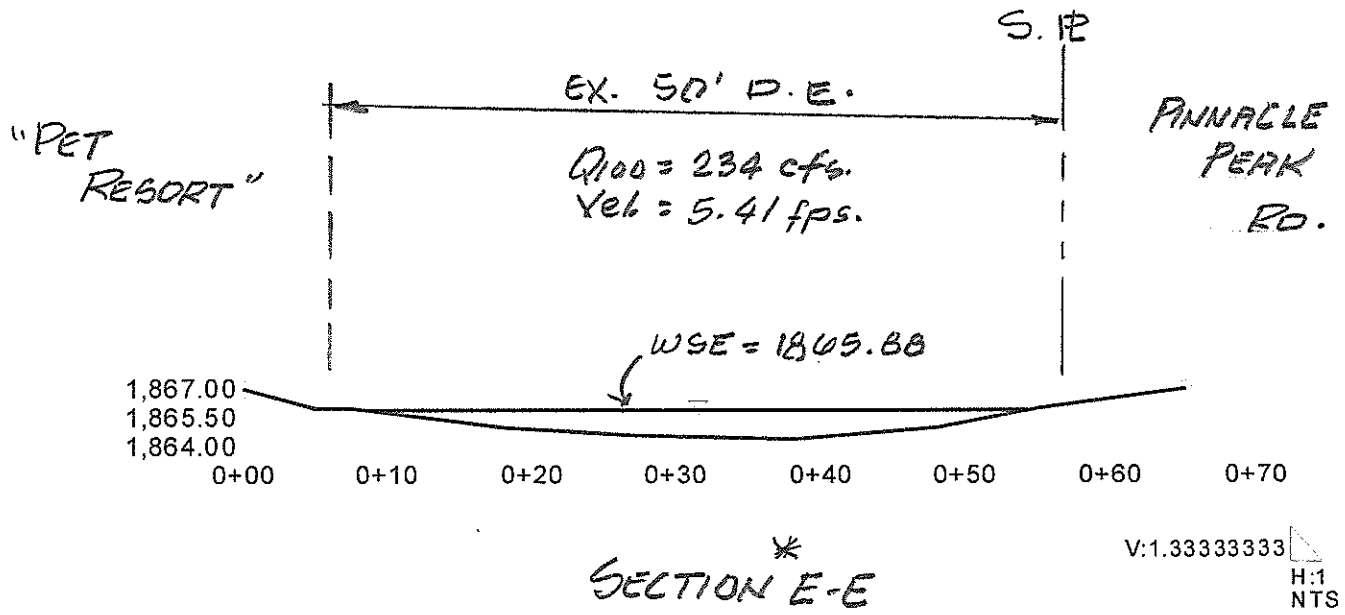
Natural Channel Points	
Station (ft)	Elevation (ft)
0+00	1,870.00
0+07	1,870.80
0+15	1,869.00
0+32	1,868.00
0+34	1,867.80
0+36	1,868.00
0+52	1,869.00
0+60	1,869.50
0+72	1,870.00

Keogh Enginerring, Inc.
37 Brookside Road Waterbury, CT 06708 USA (203) 755-1666

22270 - Atlantic Dev. - CROSS-SECTION E-E (PRE-DEVELOPMENT)
Cross Section for Irregular Channel

Project Description	
Worksheet	22270 - Atlantic Dev. - CROSS-SECTION E-E
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coefficie	0.035	
Slope	0.017300	ft/ft
Water Surface Elev	1,865.88	ft
Elevation Range	34.40 to 1,867.00	
Discharge	234.00	cfs



* SECTION E-E

* EQUALS SECTION B-B ON G&D PLANS

22270 - Atlantic Dev. - CROSS-SECTION E-E (PRE-DEVELOPMENT)
Worksheet for Irregular Channel

Project Description	
Worksheet	22270 - Atlantic Dev. - CROSS-SECTION E-E
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Slope	017300	ft/ft
Discharg	234.00	cfs

Options	
Current Roughness Metho	ved Lotter's Method
Open Channel Weighting	ved Lotter's Method
Closed Channel Weightin	Horton's Method

Results		
Mannings Coefficie	0.035	
Water Surface Elev	1,865.88	ft
Elevation Range	34.40 to 1,867.00	
Flow Area	43.3	ft²
Wetted Perimeter	45.46	ft
Top Width	45.33	ft
Actual Depth	1.48	ft
Critical Elevation	1,865.86	ft
Critical Slope	0.018270	ft/ft
Velocity	5.41	ft/s
Velocity Head	0.45	ft
Specific Energy	1,866.33	ft
Froude Number	0.98	
Flow Type	Subcritical	

Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00	0+65	0.035

Natural Channel Points	
Station (ft)	Elevation (ft)
0+00	1,867.00
0+05	1,866.00
0+08	1,866.00
0+18	1,865.00
0+27	1,864.60
0+38	1,864.40
0+48	1,865.00
0+55	1,866.00
0+65	1,867.00

APPENDIX C

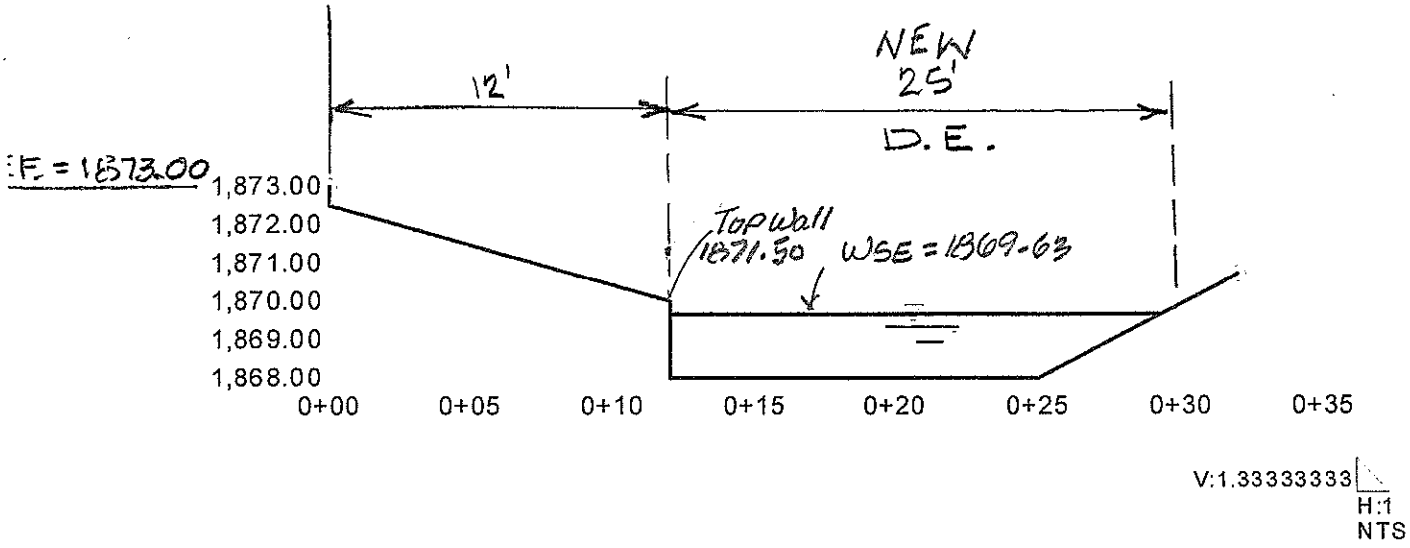
Post-Development
Typical Cross-Sections

(see "Onsite Drainage Exhibit)

22270 - Atlantic Dev. - CROSS-SECTION A-A (WSE)
Cross Section for Irregular Channel

Project Description	
Worksheet	22270 - Atlantic Dev. - CROSS-SECTIC
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coefficier	0.025	
Slope	0.016700	ft/ft
Water Surface Elev	1,869.63	ft
Elevation Range	38.00 to 1,873.00	
Discharge	223.00	cfs



Keogh Enginerring, Inc.
37 Brookside Road Waterbury, CT 06708 USA (203) 755-1666

22270 - Atlantic Dev. - CROSS-SECTION A-A (WSE)
Worksheet for Irregular Channel

Project Description	
Worksheet	22270 - Atlantic Dev. - CROSS-SECTIC
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Slope	016700	ft/ft
Discharg	223.00	cfs

Options	
Current Roughness Meth	ved Lotter's Method
Open Channel Weighting	ved Lotter's Method
Closed Channel Weightin	Horton's Method

Results		
Mannings Coefficie	0.025	
Water Surface Elev	1,869.63	ft
Elevation Range	38.00 to 1,873.00	
Flow Area	24.6	ft²
Wetted Perimeter	19.15	ft
Top Width	17.22	ft
Actual Depth	1.63	ft
Critical Elevation	1,869.95	ft
Critical Slope	0.009000	ft/ft
Velocity	9.07	ft/s
Velocity Head	1.28	ft
Specific Energy	1,870.91	ft
Froude Number	1.34	
Flow Type	Supercritical	

Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00	0+32	0.025

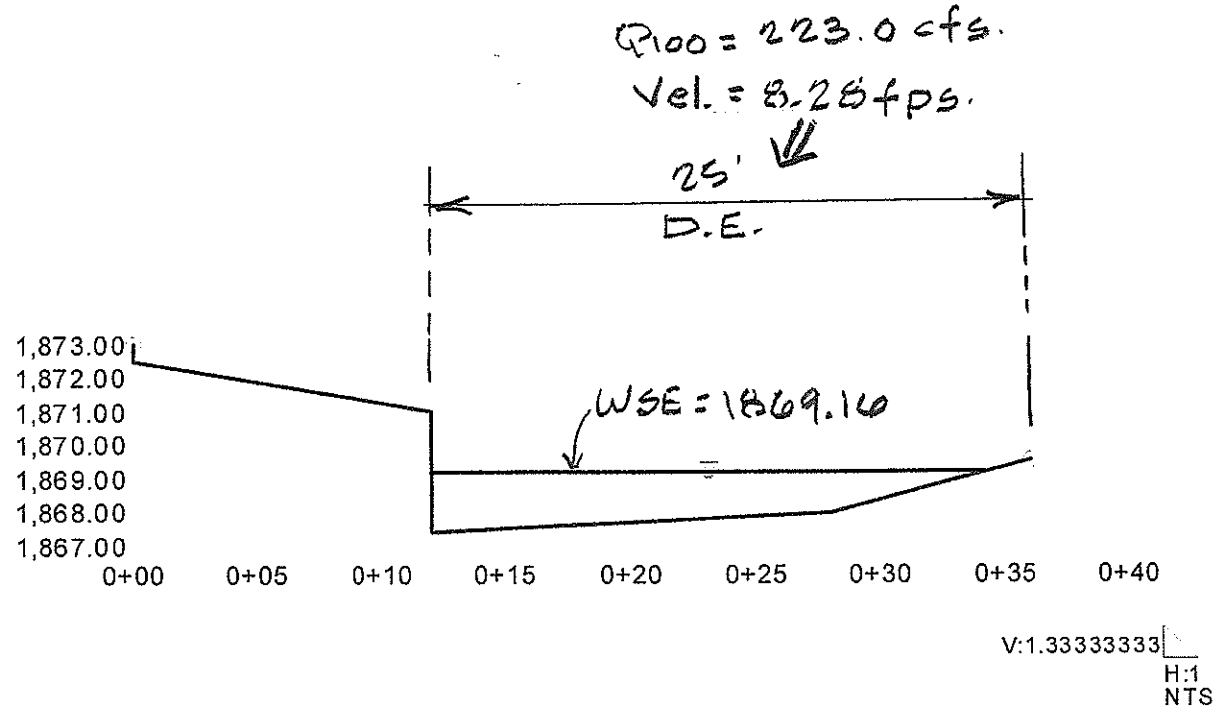
Natural Channel Points	
Station (ft)	Elevation (ft)
0+00	1,873.00
0+00	1,872.50
0+12	1,870.00
0+12	1,868.00
0+25	1,868.00
0+32	1,870.70

Keogh Enginerring, Inc.
37 Brookside Road Waterbury, CT 06708 USA (203) 755-1666

22270 - Atlantic Dev. - CROSS-SECTION B-B (WSE)
Cross Section for Irregular Channel

Project Description	
Worksheet	22270 - Atlantic Dev. - CROSS-SECTIC
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coefficier	0.025	
Slope	0.016700	ft/ft
Water Surface Elev	1,869.16	ft
Elevation Range	37.40 to 1,873.00	
Discharge	223.00	cfs



Keogh Enginerring, Inc.
37 Brookside Road Waterbury, CT 06708 USA (203) 755-1666

22270 - Atlantic Dev. - CROSS-SECTION B-B (WSE)
Worksheet for Irregular Channel

Project Description	
Worksheet	22270 - Atlantic Dev. - CROSS-SECTIC
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Slope	016700	ft/ft
Discharg	223.00	cfs

Options	
Current Roughness Meth	ved Lotter's Method
Open Channel Weighting	ved Lotter's Method
Closed Channel Weightin	Horton's Method

Results		
Mannings Coefficie	0.025	
Water Surface Elev	1,869.16	ft
Elevation Range	37.40 to 1,873.00	
Flow Area	26.9	ft²
Wetted Perimeter	24.06	ft
Top Width	22.18	ft
Actual Depth	1.76	ft
Critical Elevation	1,869.43	ft
Critical Slope	0.009147	ft/ft
Velocity	8.28	ft/s
Velocity Head	1.07	ft
Specific Energy	1,870.22	ft
Froude Number	1.32	
Flow Type	Supercritical	

Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00	0+36	0.025

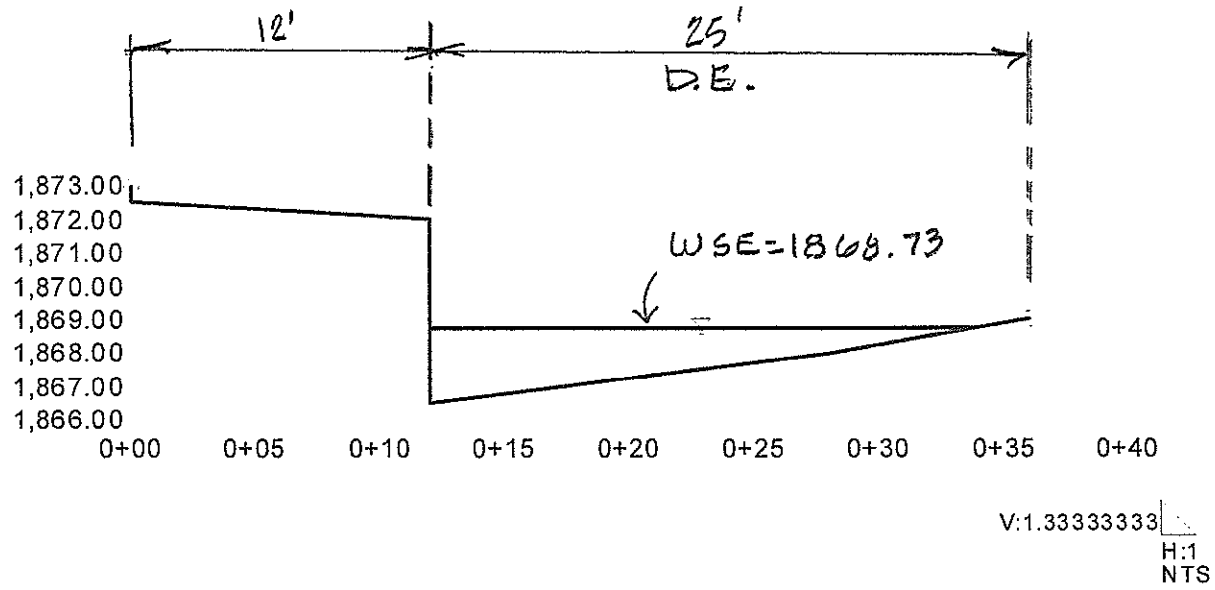
Natural Channel Points	
Station (ft)	Elevation (ft)
0+00	1,873.00
0+00	1,872.50
0+12	1,871.00
0+12	1,867.40
0+28	1,868.00
0+36	1,869.50

Keogh Enginerring, Inc.
37 Brookside Road Waterbury, CT 06708 USA (203) 755-1666

22270 - Atlantic Dev. - CROSS-SECTION C-C (WSE)
Cross Section for Irregular Channel

Project Description	
Worksheet	22270 - Atlantic Dev. - CROSS-SECTIC
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coefficie	0.025	
Slope	0.019400	ft/ft
Water Surface Elev	1,868.73	ft
Elevation Range	36.50 to 1,873.00	
Discharge	223.00	cfs



22270 - Atlantic Dev. - CROSS-SECTION C-C (WSE)
Worksheet for Irregular Channel

Project Description	
Worksheet	22270 - Atlantic Dev. - CROSS-SECTIC
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Slope	019400	ft/ft
Discharg	223.00	cfs

Options	
Current Roughness Metho	ved Lotter's Method
Open Channel Weighting	ved Lotter's Method
Closed Channel Weightin	Horton's Method

Results		
Mannings Coefficie	0.025	
Water Surface Elev	1,868.73	ft
Elevation Range	36.50 to 1,873.00	
Flow Area	25.8	ft²
Wetted Perimeter	24.18	ft
Top Width	21.84	ft
Actual Depth	2.23	ft
Critical Elevation	1,869.06	ft
Critical Slope	0.009429	ft/ft
Velocity	8.64	ft/s
Velocity Head	1.16	ft
Specific Energy	1,869.89	ft
Froude Number	1.40	
Flow Type	Supercritical	

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00	0+36	0.025

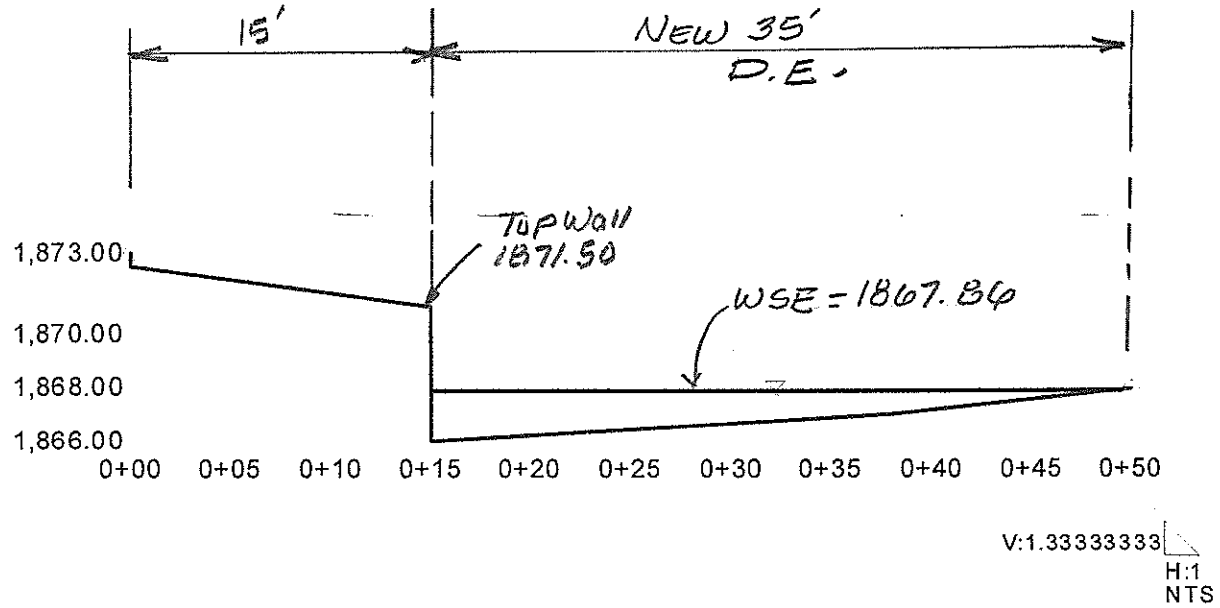
Natural Channel Points

Station (ft)	Elevation (ft)
0+00	1,873.00
0+00	1,872.50
0+12	1,872.00
0+12	1,866.50
0+28	1,868.00
0+36	1,869.00

22270 - Atlantic Dev. - CROSS-SECTION D-D (WSE)
Cross Section for Irregular Channel

Project Description	
Worksheet	22270 - Atlantic Dev. - CROSS-SECTIC
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coefficie	0.025	
Slope	0.011800	ft/ft
Water Surface Elev	1,867.86	ft
Elevation Range	36.00 to 1,873.00	
Discharge	234.00	cfs



22270 - Atlantic Dev. - CROSS-SECTION D-D (WSE)
Worksheet for Irregular Channel

Project Description	
Worksheet	22270 - Atlantic Dev. - CROSS-SECTIC
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Slope	011800	ft/ft
Discharg	234.00	cfs

Options	
Current Roughness Metho	ved Lotter's Method
Open Channel Weighting	ved Lotter's Method
Closed Channel Weightin	Horton's Method

Results		
Mannings Coefficie	0.025	
Water Surface Elev	1,867.86	ft
Elevation Range	36.00 to 1,873.00	
Flow Area	36.3	ft²
Wetted Perimeter	36.42	ft
Top Width	34.51	ft
Actual Depth	1.86	ft
Critical Elevation	1,867.94	ft
Critical Slope	0.009469	ft/ft
Velocity	6.44	ft/s
Velocity Head	0.65	ft
Specific Energy	1,868.51	ft
Froude Number	1.11	
Flow Type	Supercritical	

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00	0+50	0.025

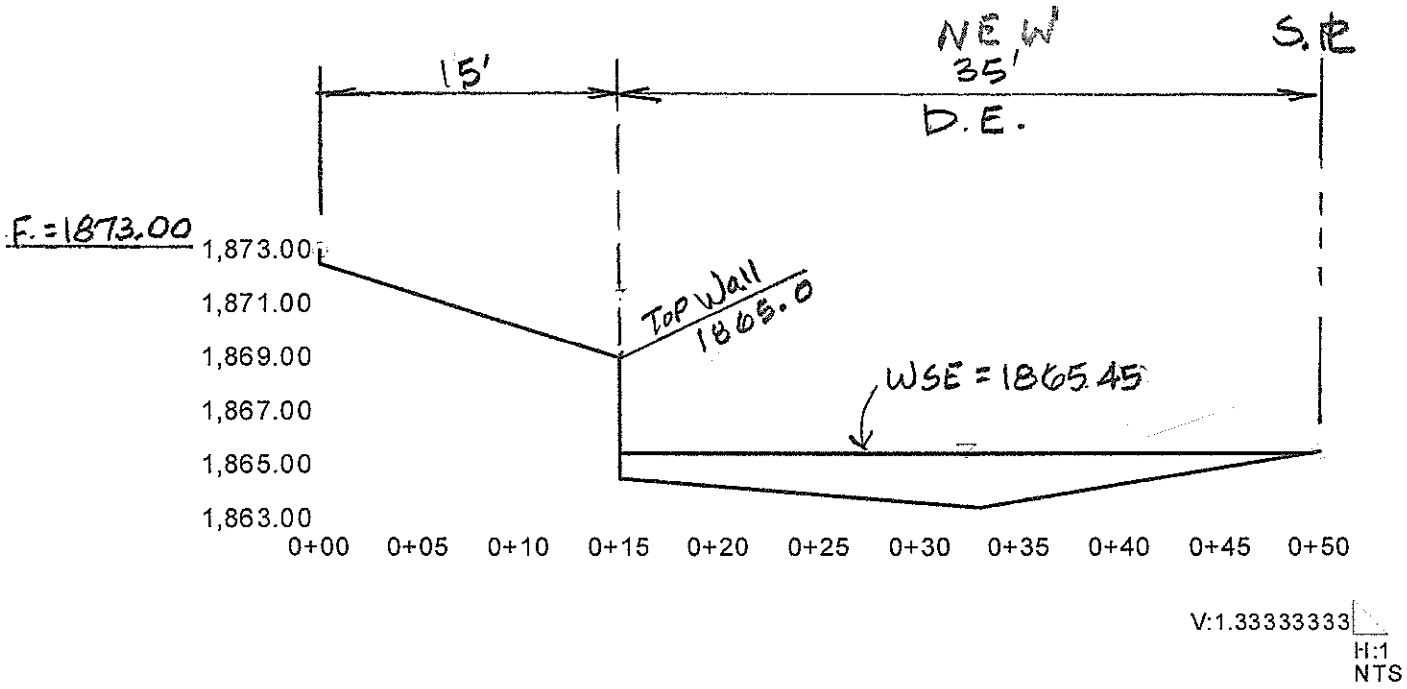
Natural Channel Points

Station (ft)	Elevation (ft)
0+00	1,873.00
0+00	1,872.50
0+15	1,871.00
0+15	1,866.00
0+38	1,867.00
0+50	1,867.90

22270 - Atlantic Dev. - CROSS-SECTION E-E (WSE)
Cross Section for Irregular Channel

Project Description	
Worksheet	22270 - Atlantic Dev. - CROSS-SECTIC
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coefficie	0.035	
Slope	0.011800	ft/ft
Water Surface Elev	1,865.45	ft
Elevation Range	33.40 to 1,873.00	
Discharge	234.00	cfs



22270 - Atlantic Dev. - CROSS-SECTION E-E (WSE)
Worksheet for Irregular Channel

Project Description	
Worksheet	22270 - Atlantic Dev. - CROSS-SECTIC
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Slope	011800	ft/ft
Dischargı	234.00	cfs

Options	
Current Roughness Methc	ved Lotter's Method
Open Channel Weighting	ved Lotter's Method
Closed Channel Weightin(	Horton's Method

Results		
Mannings Coefficiel	0.035	
Water Surface Elev	1,865.45	ft
Elevation Range	33.40 to 1,873.00	
Flow Area	44.1	ft²
Wetted Perimeter	35.73	ft
Top Width	34.62	ft
Actual Depth	2.05	ft
Critical Elevation	1,865.28	ft
Critical Slope	0.017656	ft/ft
Velocity	5.31	ft/s
Velocity Head	0.44	ft
Specific Energy	1,865.89	ft
Froude Number	0.83	
Flow Type	Subcritical	

Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00	0+50	0.035

Natural Channel Points	
Station (ft)	Elevation (ft)
0+00	1,873.00
0+00	1,872.50
0+15	1,869.00
0+15	1,864.50
0+33	1,863.40
0+50	1,865.50

APPENDIX D

Erosion Setback Line
Calculations
per

Arizona Department of Water Resources

SSA 5-96

"PINNACLE PEAK PET RESORT"
#22270

ARIZONA DEPARTMENT OF WATER RESOURCES
FLOOD WARNING AND DAM SAFETY SECTION

Watercourse System Sediment Balance

500 North Third Street
Phoenix, Arizona 85004

(602) 417-2445

STATE STANDARD ATTACHMENT
SSA 5-96

SEPTEMBER 1996

"PINNACLE PEAK PET RESORT"
#22270

For watercourses which have drainage areas of less than 30 square miles, the recommended setback allowances are as follows:

for straight channel reaches or reaches with minor curvature:	setback = $1.0(Q_{100})^{0.5}$
for channels with obvious curvature or channel bend:	setback = $2.5(Q_{100})^{0.5}$

where setback is in feet and Q_{100} is in cubic feet per second.

S.B. $= 1.0(Q_{100})^{0.5}$

$= 1.0(234\ cfs)^{0.5}$

$= 15.3'$ (20 min.)

APPENDIX E

Scour Depth Calculations
per
Arizona Department of Water Resources
SSA 5-96

FOR STRAIGHT CHANNEL REACHES OR REACHES WITH MINOR CURVATURE

ARIZONA DEPARTMENT OF WATER RESOURCES
SSA 5-96

LEVEL I

THIS LEVEL OF ANALYSIS REQUIRES THE FOLLOWING INFORMATION;

Q_{100} = 223.00 C.F.S.

(1)

THE TOTAL SCOUR DEPTH, d_s , IS THE COMINATION OF GENERAL DEGRADATION AND LONG TERN DEGRADATION AND CAN BE COMPUTED AS FOLLOWS::

$$d_s = d_{gs} + d_{its}$$

d_s = TOTAL SCOUR, IN FEET

d_{gs} = GENERAL DEGRADATION IN FEET

d_{its} = LONG TERM DEGRADATION, IN FEET

(2)

GENERAL DEGRADATION IS COMPUTED AS FOLOOWS:

USE THIS FORMULA

d_{gs} = GENERAL DEGRADATION IN FEET

$$d_{gs} = 0.157(Q_{100})^{0.4}$$

$$d_{gs} = 0.157(223.0)^{0.4} = 1.37'$$

(3)

LONG TERM DEGRADATION IS COMPUTED AS FOLLOWS:

USE THIS FORMULA

d_{its} = LONG TERM DEGRADATION

$$d_{its} = 0.02(Q_{100})^{0.6}$$

$$d_{its} = 0.02(223.0)^{0.6} = 0.51'$$

(4)

THE TOTAL SCOUR DEPTH SHOULD BE APPLIED TO THE LOWEST POINT IN THE LOCAL CROSS SECTION FOR DETERMINATION OF THE ELEVATION TO WHICH SCOUR WILL OCCUR;

d_s = 1.37 $_{gs}$ + 0.51 $_{its}$ = 1.88'

3.0 Min.

Keogh Engineering, Inc.
650 N. 137TH AVENUE #110 • GOODYEAR, ARIZONA 85338
PHONE: (623) 535-7260 FAX: (623) 535-7262
EMAIL: keogh@keoghengineering.com

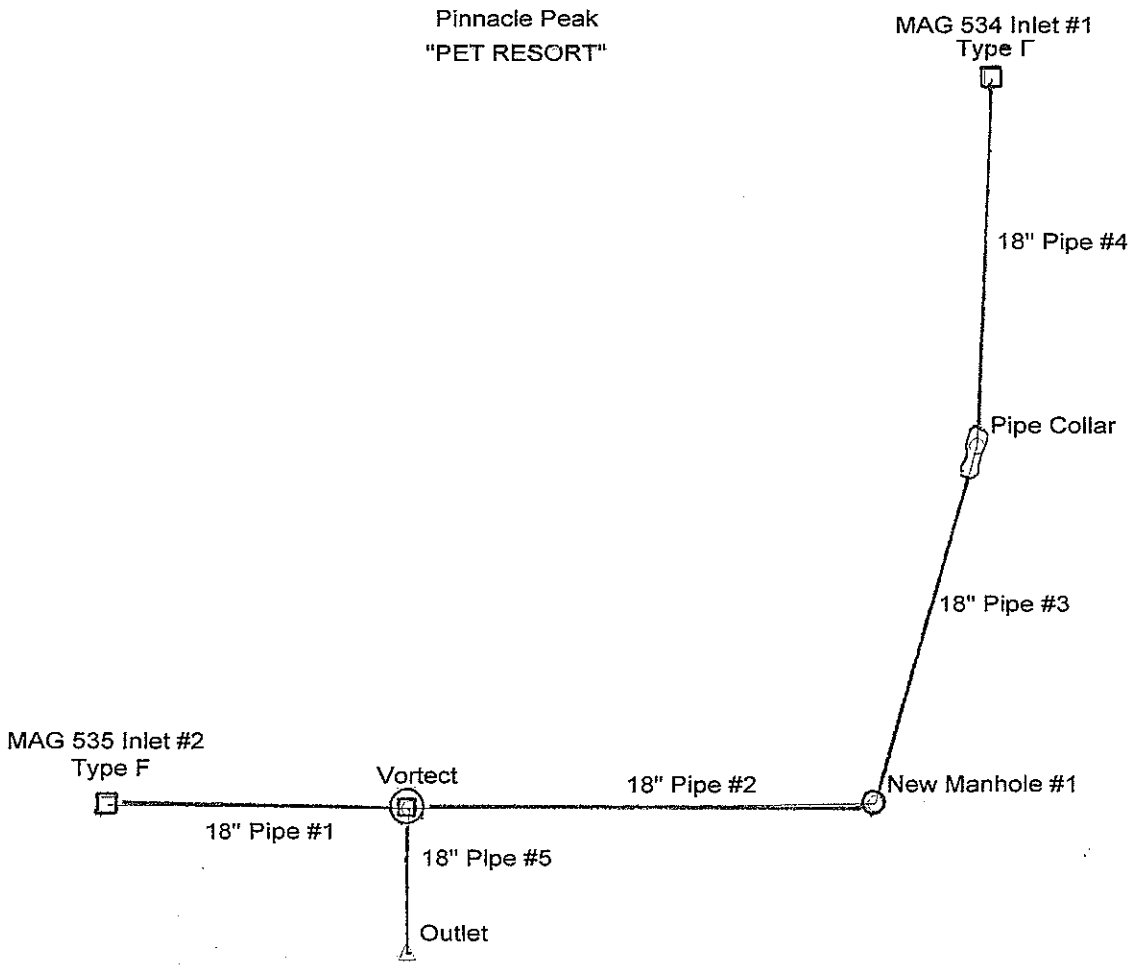
DESIGNED	DATE	JOB NO.
RMV/DFK		

PINNACLE PEAK "PET RESORT"

SCOUR DEPTH CALCULATIONS

APPENDIX F

New 18" Storm Drain Pipe and Inlet Design


Pinnacle Peak
"PET RESORT"
MAG 534 Inlet #1
Type Γ
18" Pipe #4
Pipe Collar
18" Pipe #3
MAG 535 Inlet #2
Type F
Vortect
18" Pipe #2
New Manhole #1
18" Pipe #1
18" Pipe #5
Outlet

Detailed Report for Pipe 18" Pipe #1

Section Material: PVC
Section Shape: Circular
Section Size: 18 inch
Number Sections: 1

Description		Description	
Discharge	2.00 cfs	Capacity	13.02 cfs
Mannings Coefficient	0.010	Hydraulic Drop	0.47e-2 ft
Length	22.00 ft	Energy Slope	0.000215 ft/ft
Constructed Slope	0.009091 ft/ft	Upstream Velocity	1.13 ft/s
Upstream Flow Time	0.00 min	Average Velocity	1.13 ft/s
Pipe Flow Time	0.32 min	Downstream Velocity	1.13 ft/s
System Flow Time	0.32 min		

Grade Elevations

Location	Invert (ft)	Ground (ft)	Crown (ft)	Cover (ft)	Depth (ft)	HGL (ft)	EGL (ft)
Upstream	1,866.45	1,869.00	1,867.95	1.05	1.67	1,868.12	1,868.14
Downstream	1,866.25	1,869.00	1,867.75	1.25	1.87	1,868.12	1,868.14

Messages:
Profile: Pressure profile.
Information: Surcharged condition

Detailed Report for Pipe 18" Pipe #2

Section Material: PVC
Section Shape: Circular
Section Size: 18 inch
Number Sections: 1

Description			Description		
Discharge	3.20	cfs	Capacity	15.67	cfs
Mannings Coefficient	0.010		Hydraulic Drop	-0.07	ft
Length	85.00	ft	Energy Slope	0.001674	ft/ft
Constructed Slope	0.013176	ft/ft	Upstream Velocity	4.10	ft/s
Upstream Flow Time	1.03	min	Average Velocity	2.96	ft/s
Pipe Flow Time	0.48	min	Downstream Velocity	1.81	ft/s
System Flow Time	1.51	min			

Grade Elevations

Location	Invert (ft)	Ground (ft)	Crown (ft)	Cover (ft)	Depth (ft)	HGL (ft)	EGL (ft)
Upstream	1,867.37	1,871.00	1,868.87	2.13	0.68	1,868.05	1,868.31
Downstream	1,866.25	1,869.00	1,867.75	1.25	1.87	1,868.12	1,868.17

Messages:
Profile: Steep subcritical backwater profile (S1).
Profile: Composite profile.
Profile: Critical depth assumed upstream.
Profile: Pressure profile.
Profile: Hydraulic jump formed.

Detailed Report for Pipe 18" Pipe #3

Section Material: PVC
Section Shape: Circular
Section Size: 18 inch
Number Sections: 1

Description		Description	
Discharge	3.20 cfs	Capacity	15.70 cfs
Mannings Coefficient	0.010	Hydraulic Drop	0.36 ft
Length	87.00 ft	Energy Slope	0.006509 ft/ft
Constructed Slope	0.013218 ft/ft	Upstream Velocity	4.10 ft/s
Upstream Flow Time	0.54 min	Average Velocity	2.96 ft/s
Pipe Flow Time	0.49 min	Downstream Velocity	1.82 ft/s
System Flow Time	1.03 min		

Grade Elevations

Location	Invert (ft)	Ground (ft)	Crown (ft)	Cover (ft)	Depth (ft)	HGL (ft)	EGL (ft)
Upstream	1,868.51	1,872.50	1,870.01	2.49	0.68	1,869.19	1,869.45
Downstream	1,867.36	1,871.00	1,868.86	2.14	1.47	1,868.83	1,868.89

Messages:
Profile: Steep subcritical backwater profile (S1).
Profile: Critical depth assumed upstream.
Profile: Hydraulic jump formed.

Detailed Report for Pipe 18" Pipe #4

Section Material: Concrete
Section Shape: Circular
Section Size: 18 inch
Number Sections: 1

Description		Description	
Discharge	3.20 cfs	Capacity	7.71 cfs
Mannings Coefficient	0.013	Hydraulic Drop	0.03 ft
Length	65.00 ft	Energy Slope	0.000892 ft/ft
Constructed Slope	0.005385 ft/ft	Upstream Velocity	2.20 ft/s
Upstream Flow Time	0.00 min	Average Velocity	2.01 ft/s
Pipe Flow Time	0.54 min	Downstream Velocity	1.82 ft/s
System Flow Time	0.54 min		

Grade Elevations

Location	Invert (ft)	Ground (ft)	Crown (ft)	Cover (ft)	Depth (ft)	HGL (ft)	EGL (ft)
Upstream	1,868.86	1,871.86	1,870.36	1.50	1.15	1,870.01	1,870.08
Downstream	1,868.51	1,872.50	1,870.01	2.49	1.46	1,869.97	1,870.03

Messages:
Profile: Steep subcritical backwater profile (S1).
Profile: Hydraulic grade increases in downstream direction.

Detailed Report for Pipe 18" Pipe #5

Section Material: Aluminum
Section Shape: Circular
Section Size: 18 inch
Number Sections: 1

Description		Description	
Discharge	5.20 cfs	Capacity	20.51 cfs
Mannings Coefficient	0.024	Hydraulic Drop	0.65 ft
Length	5.00 ft	Energy Slope	0.130000 ft/ft
Constructed Slope	0.130000 ft/ft	Upstream Velocity	4.84 ft/s
Upstream Flow Time	1.51 min	Average Velocity	4.84 ft/s
Pipe Flow Time	0.02 min	Downstream Velocity	4.84 ft/s
System Flow Time	1.52 min		

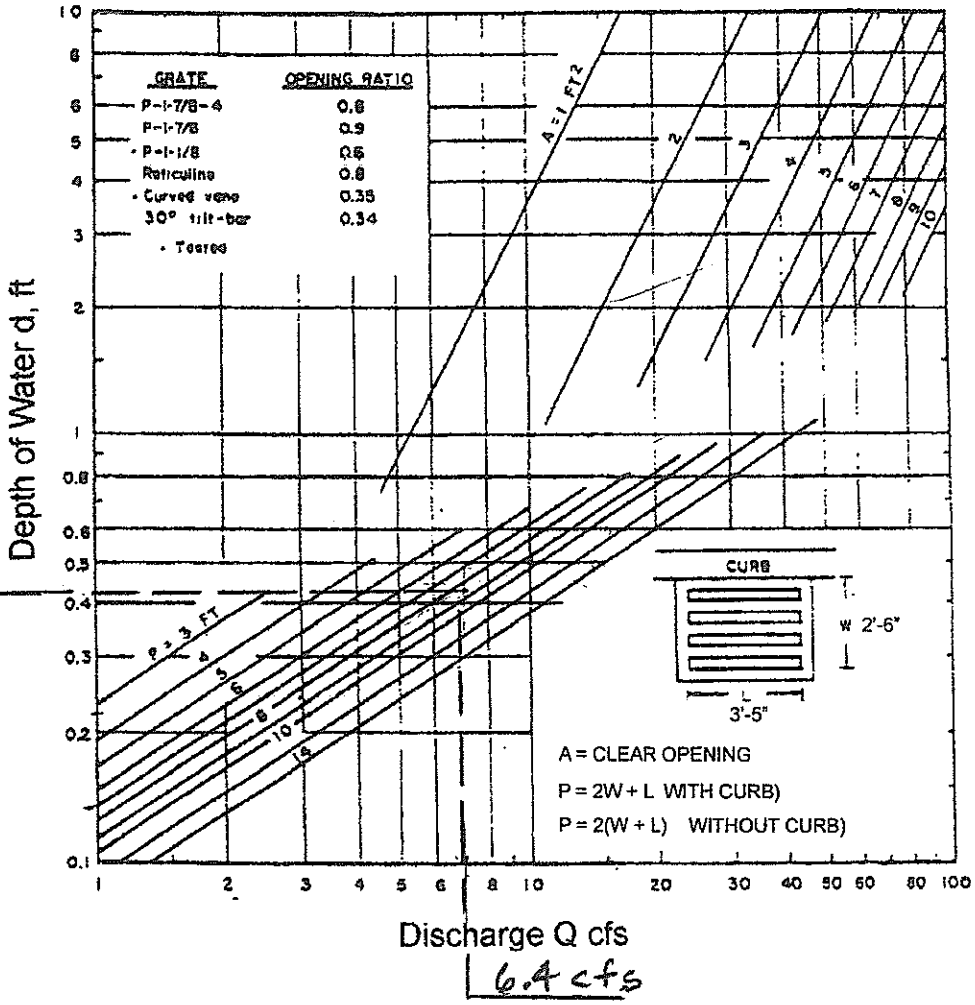
Grade Elevations

Location	Invert (ft)	Ground (ft)	Crown (ft)	Cover (ft)	Depth (ft)	HGL (ft)	EGL (ft)
Upstream	1,866.15	1,869.00	1,867.65	1.35	0.88	1,867.03	1,867.39
Downstream	1,865.50	1,869.00	1,867.00	2.00	0.88	1,866.38	1,866.74

Messages:
Profile: Steep subcritical backwater profile (S1).
Profile: Critical depth assumed upstream.
Profile: Hydraulic jump formed.

Job No. 22270
Job Name ATLANTIC DEV.

FIGURE 3.16
GRATE INLET CAPACITY IN SUMP CONDITIONS
(USDOT, FHWA, 1984, HEC-12, Chart 11)



0.41'

6.4 cfs

$Q_{100} = 3.2 \times 2 \text{ c.f.} = 6.4 \text{ cfs}$

$P = 2W + L$

$= 2(2.5") + 3.42"$

$= 8.4$

DEPTH = 0.42' < 0.50' OK

APPENDIX H

Riprap Sizing
Per
Arizona Department of Water Resources
SSA 7-98
Figure 1

ARIZONA DEPARTMENT OF WATER RESOURCES
FLOOD MITIGATION SECTION

Watercourse Bank Stabilization

500 North Third Street
Phoenix, Arizona 85004

(602) 417-2445

STATE STANDARD ATTACHMENT **MAY 1998**
SSA 7-98

PROJEC NAME "PET" ATLANTIC DEV.

PROJEC NO. 22270

ARIZONA DEPARTMENT OF WATER RESOURCES

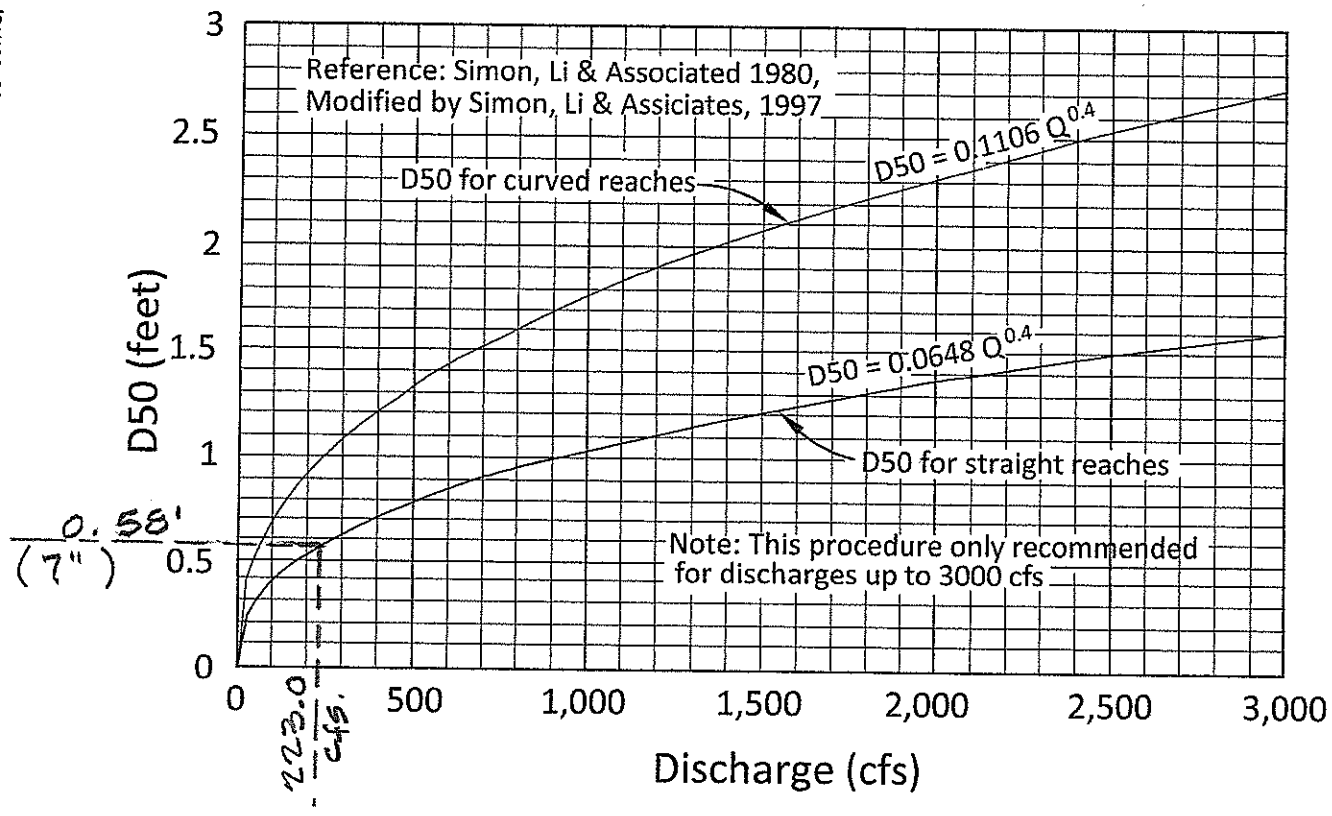
SSA 7-98

WATERCOURSE BANK STABILIZATION

RIPRAP SIZING

FIGURE 1

LEVEL 1 MEDIAN RIPRAP STONE SIZE (D50)



SSA 5-96 LMSA-3 September 1996

Q100 = 223.0 cfs.

D50 = 7"

T = 14"

"RIPRAP SIZING"
SSA 7-98

C:\ENGINEERING DESIGN\DRAINAGE DESIGN--CCCCCCCCCCCCCCCCCCCCLONE\RIPRAP CALCS\FIGUF RIPRAP SIZING ADWR SSA 7-98 OCT.13, 2022.DWG NODE

CONCEPTUAL GRADING & DRAINAGE AND UTILITY PLAN
FOR
PINNACLE PEAK PET RESORT
APN 212-05-531
7474 EAST PINNACLE PEAK ROAD
SCOTTSDALE, ARIZONA 85255

CITY OF SCOTTSDALE GENERAL NOTES FOR PUBLIC WORKS CONSTRUCTION

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF SCOTTSDALE SUPPLEMENTAL STANDARD SPECIFICATIONS AND SUPPLEMENTAL STANDARD DETAILS. IF THERE IS A CONFLICT, THE CITY'S SUPPLEMENTAL STANDARD DETAILS WILL GOVERN.
2. THE CITY ONLY APPROVES THE SCOPE, NOT THE DETAIL, OF ENGINEERING DESIGNS; THEREFORE, IF CONSTRUCTION QUANTITIES ARE SHOWN ON THESE PLANS, THEY ARE NOT VERIFIED BY THE CITY.
3. THE APPROVAL OF PLANS IS VALID FOR SIX (6) MONTHS. IF ASSOCIATED PERMIT HAS NOT BEEN ISSED FOR THIS TIME FRAME, THE PLANS MUST BE RESUBMITTED TO THE CITY FOR REAPPROVAL.
4. A CITY INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF SCOTTSDALE. NOTIFY INSPECTION SERVICES 72 HOURS PRIOR TO BEGINNING OF WORK.
5. WHENEVER EXCAVATION IS NECESSARY, CALL THE BLUE STAKE CENTER 811, TWO WORKING DAYS BEFORE EXCAVATION BEGINS.
6. PERMISSION TO WORK IN THE RIGHT-OF-WAY (PWR) PERMIT ARE REQUIRED FOR ALL WORK IN THE RIGHT-OF-WAY AND EASEMENTS GRANTED FOR PUBLIC PERPOSED. COPIES OF ALL PERMITS MUST BE RETAINED ON-SITE AND BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS WILL RESULT IN IIMMEDAITE SUSPENSION OF ALL WORK UNTIL THE PROPER PERMIT DOCUMENTATION IS OBTAINED.

FLOOD INSURANCE RATE MAP INFORMATION

COMMUNITY NUMBER	PANEL # PANEL DATE	SUFFIX	DATE OF FIRM (Inbox Date)	FIRM ZONE	BASE FLOOD ELEVATION (In AO Zone, Use Depth)
045012	1310 7/20/21	M	7/20/21	AE	1872.00

Add:
LFF =
BFE FEMA =
BFE Existing Conditions =
RFE =

OWNER/DEVELOPER

ATLANTIC DVELOPMENT & INVESTMENTS, INC
DBA/DOGGY STYLE RESORT & DAYCARE, LLC
15957 N. 81st STREET #101
SCOTTSDALE, AZ 85260
C/O MADISON BREEN
480-299-5228
MADISON.BREEN@GMAIL.COM

ARCHITECT

CAWLEY ARCHITECTS
730 N. 52nd STREET
SUITE 203
PHOENIX, AZ 85008
(602) 393-5060
CAWLEYARCHITECTS.COM

CIVIL ENGINEER

KEOGH ENGINEERING, INC.
650 NORTH 137TH AVENUE #110
GOODYEAR, ARIZONA 85308
PHONE: 623-535-7260
EMAIL: KEOGH@KEOGHENGINEERING.COM
CONTACT: DENNIS F. KEOGH

ESTIMATED QUANTITIES

CUT = 110 C.Y.
FILL = 1,820 C.Y

NOTE: QUANTITIES ARE FOR ESTIMATING PURPOSES ONLY. CONTRACTOR SHOULD VERIFY ALL QUANTITIES BEFORE SUBMITTING BIDS. NO SHRINKAGE, EXPANSION, GROUND LOSS OR EXCAVATION IS ASSUMED.

ASSESSOR'S PARCEL NO.

APN 212-05-531

SITE AREA

41,388 S.F.
=0.950 Acres

ZONING

C-O

ENGINEERS CERTIFICATION

THE LOWEST FLOOR ELEVATION(S) AND/OR FLOOD PROOFING ELEVATION(S) ON THIS PLANS ARE SUFFICIENTLY HIGH TO PROVIDE PROTECTION FROM FLOODING CAUSED BY A ONE-HUNDRED YEAR STORM, AND ARE IN ACCORDANCE WITH CITY OF SCOTTSDALE REVISED CODE. CHAPTER 37-FLOODWAYS & FLOODPLAINS ORDINANCE.

BENCHMARK

MARICOPA COUNTY ENGINEERING DEPARTMENT BRASS CAP IN HANDHOLE AT THE SOUTH QUARTER CORNER OF SECTION 11, TOWNSHIP 4 NORTH, RANGE 4 EAST, G&SRB&M, MARICOPA COUNTY, ARIZONA
ELEVATION=1878.317
(NAVD88 DATUM)

I HEREBY CERTIFY THAT ALL ELEVATIONS REPRESENTED ON THIS PLAN ARE BASED ON THE ELEVATION DATUM FOR THE CITY OF SCOTTSDALE BENCHMARK PROVIDED ABOVE.

UTILITIES

WATER: CITY OF SCOTTSDALE
SEWER: CITY OF SCOTTSDALE
ELECTRIC: ARIZONA PUBLIC SERVICE
GAS: SOUTHWEST GAS
TELEPHONE: COX COMMUNICATIONS
CABLE TV: CENTURY LINK

UTILITY NOTE

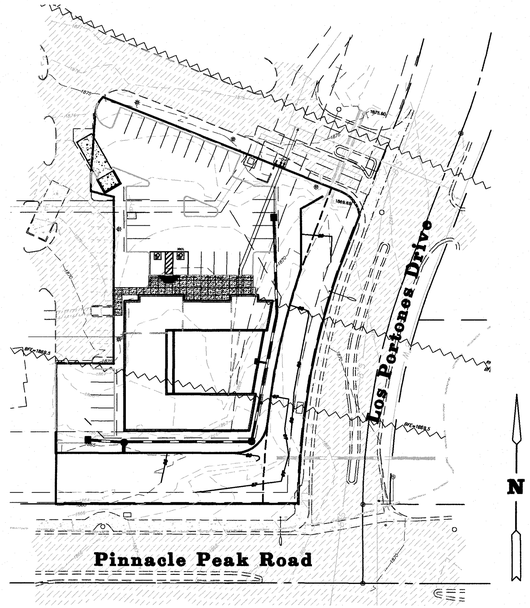
LOCATION OF ALL UTILITIES SHOWN ON THESE PLANS ARE BASED ON INFORMATION SUPPLIED TO THE SURVEYOR BY THE APPROPRIATE UTILITY COMPANIES. THE SURVEYOR DOES NOT GUARANTEE THAT ALL UTILITIES ARE SHOWN OR THEIR LOCATIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR OR OWNER TO CONTACT BLUE STAKE AND ANY OTHER INVOLVED AGENCIES TO LOCATE ALL UTILITIES.

DISTURBANCE AREA

37,500 S.F.= 0.86 ACRES

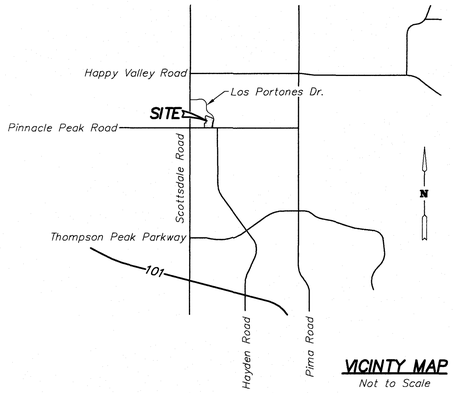
LOT COVERAGE

OFFICE	5,160 SF
KENNEL	4,440 SF
TOTAL	9,600 SF
9,600 S.F.=	23.1%
41,388 S.F.	



KEY MAP

Scale: 1"=80'



VICINTY MAP

Not to Scale

LEGEND

APN	ASSESSOR'S PARCEL NUMBER
DE	DRAINAGE EASEMENT
MCR	MARICOPA COUNTY RECORDER
MUPPE	MULTI-USE PEDESTRIAN PATH EASEMENT
PUE	PUBLIC UTILITY EASEMENT
R/W	RIGHT OF WAY
TSE	TRAFFIC SIGNAL EASEMENT
WE	WATER EASEMENT
⊙	SURVEY MONUMENT
•	PROPERTY BOUNDARY CORNER
◯	EXISTING SEWER MANHOLE
⊕	EXISTING FIRE HYDRANT
⊗	EXISTING WATER VALVE
×1869.69	EXISTING SPOT ELEVATION
———	PROPERTY LINE
— — — —	EASEMENT LINE
——— - ———	STREET CENTERLINE
—— —— ——	ADJACENT LOT OR R/W
---8"S---	EXISTING 8" SEWER LINE
---8"W---	EXISTING 8" WATER LINE
--1730--	EXISTING CONTOUR
	EXISTING CONCRETE HATCH
	EXISTING PAVEMENT HATCH

NO CONFLICT SIGNATURE BLOCK

UTILITY	UTILITY COMPANY	NAME OF COMPANY REPRESENTATIVE	TELEPHONE NUMBER	DATE SIGNED
ELECTRIC	APS			
TELEPHONE	CENT. LINK			
NATURAL GAS	SW GAS			
CABLE TV	COX			
OTHER	SRP			
OTHER	WATER RES.			

ENGINEER'S CERTIFICATION

I, DENNIS F. KEOGH, AS THE ENGINEER OF RECORD FOR THIS DEVELOPMENT, HEREBY CERTIFY THAT ALL UTILITY COMPANIES LISTED ABOVE HAVE BEEN PROVIDED FINAL IMPROVEMENT PLANS FOR REVIEW, AND THAT ALL CONFLICTS IDENTIFIED BY THE UTILITIES HAVE BEEN RESOLVED. IN ADDITION, "NO CONFLICT" FORMS HAVE BEEN OBTAINED FROM EACH UTILITY COMPANY AND ARE INCLUDED IN THIS SUBMITTAL.

SIGNATURE _____ DATE _____

CIVIL APPROVAL

Review & Recommended Approval by:

Paving		Traffic	
G&D		Planning	
W&S		Fire	
Ret. Walls			

Engineering Coordination Mgr. (or designee) _____ Date _____

CERTIFICATION

I HEREBY CERTIFY THAT "RECORD DRAWING" MEASUREMENTS, AS SHOWN, WERE MADE UNDER MY SUPERVISION OR, AS NOTED, AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DENNIS F. KEOGH _____ DATE
LAND SURVEYOR REGISTRATION #10846

Stormwater Review By:
Nerijus Baronas, PE
Phone 480-312-7072 Fax 480-312-9187
E-mail: nbaronas@ScottsdaleAZ.gov
Review Cycle 1 Date 4/6/23

SHEET INDEX

PLAN #

CASE #

SHEET 1 OF 3

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 11305 DENNIS FRANK KEOGH ARIZONA, U.S.A. Expires 9/30/24

PREPARED FOR
ATLANTIC DEVELOPMENT & INVESTMENTS, INC.

CONCEPTUAL GRADING & DRAINAGE AND UTILITY PLAN
FOR
PINNACLE PEAK PET RESORT
APN 212-05-531
7474 EAST PINNACLE PEAK ROAD
SCOTTSDALE, ARIZONA 85255

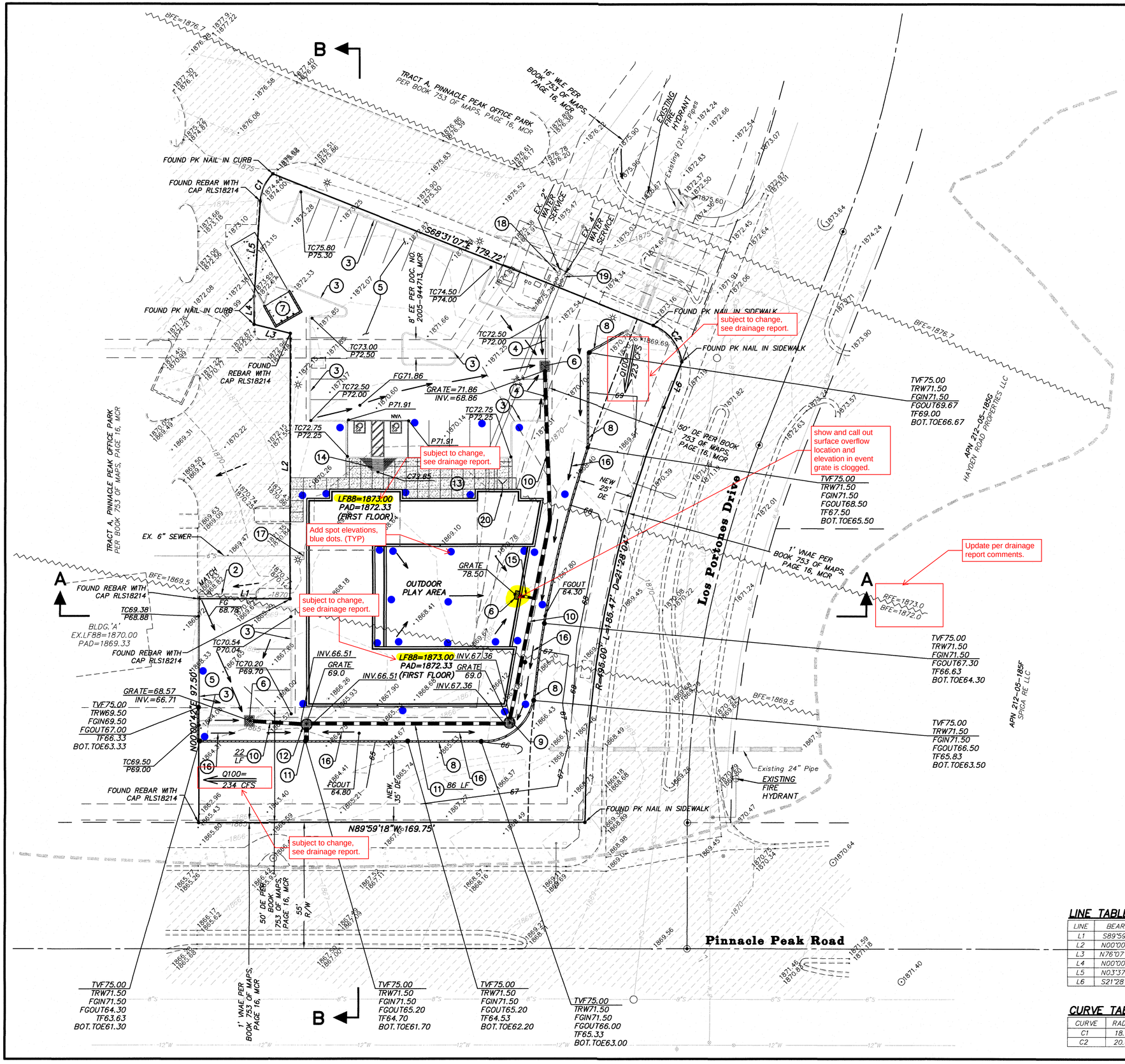
DRAWN BY	SPK/MDK/RMV
CHECKED BY	DFK
FIELD WORK BY	DJK
DATE	NOV., 2022

Keogh Engineering, Inc.
650 N. 137TH AVENUE #110 • GOODYEAR, ARIZONA 85338
PHONE (623) 535-7260
EMAIL: keogh@keoghengineering.com

JOB NO. 22270 MAP NO. P-22270

Call at least two full working days before you begin excavation.
ARIZONA 811 Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

L:\22270\GD\GD-22270.dwg, 11/29/2022 4:02:23 PM



CONSTRUCTION NOTES

1. STRUCTURE ON COMPACTED PAD
2. SAWCUT AND MATCH EXISTING PAVEMENT
3. 6" SINGLE CURB, MAG DET. 222–A
4. 6" VERTICAL CURB, AND GUTTER MAG DET. 220–A
5. 2–1/2" AC OVER 6" ABC ASPHALT PAVEMENT
6. CATCH BASIN MAG DET. 535–F
7. TRASH BIN, SCOTTSDALE DET.
8. RETAINING FLOOD/ SCOUR WALL WITH VIEW FENCE ABOVE SEE DETAIL, SHEET 3
9. STORM DRAIN MANHOLE MAG DET. 520 WITH GRATED RIM
10. 18" STORM DRAIN HDPE PIPE
11. 24" STORM DRAIN HDPE PIPE
12. CONTECH CASCADE SEPARATOR SYSTEM MANHOLE BY 'CONTECH'
13. CONCRETE SIDEWALK SEE ARCHITECTS PLANS
14. HANDICAP RAMP
15. 12" STORM DRAIN HDPE PIPE
16. FORM SWALE
17. CONNECT TO EXISTING 6" SEWER STUB FOR SEWER SERVICE
18. ACTIVATE EXISTING 2" WATER SERVICE STUB W/ 2" METER. RUN 2" WATER SERVICE TO STRUCTURE. COORDINATE WITH SCOTTSDALE WATER DEPARTMENT. REQUIRES 2" BACK FLOW PREVENTOR.
19. CONNECT TO EXISTING 4" FIRE SERVICE STUB. RUN 4" FIRE LINE TO STRUCTURE. COORDINATE WITH SCOTTSDALE FIRE MARSHALL. REQUIRES 4" BACK FLOW PREVENTOR.
20. FIRE DEPARTMENT CONNECTION

LINE TABLE

LINE	BEARING	LENGTH
L1	S89°59'18"E	40.00'
L2	N00°00'42"E	115.69'
L3	N76°07'37"W	16.48'
L4	N00°00'42"E	12.28'
L5	N03°37'59"E	41.56'
L6	S21°28'53"W	21.22'

CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA
C1	18.00'	13.34'	42°27'47"
C2	20.00'	21.34'	61°08'40"

SHEET 2 OF 3

REGISTERED PROFESSIONAL ENGINEER — CERTIFICATE NO. 11305 — DENNIS FRANK KEOGH — 11/28/22 — ARIZONA, U.S.A. — Expires 6/30/23

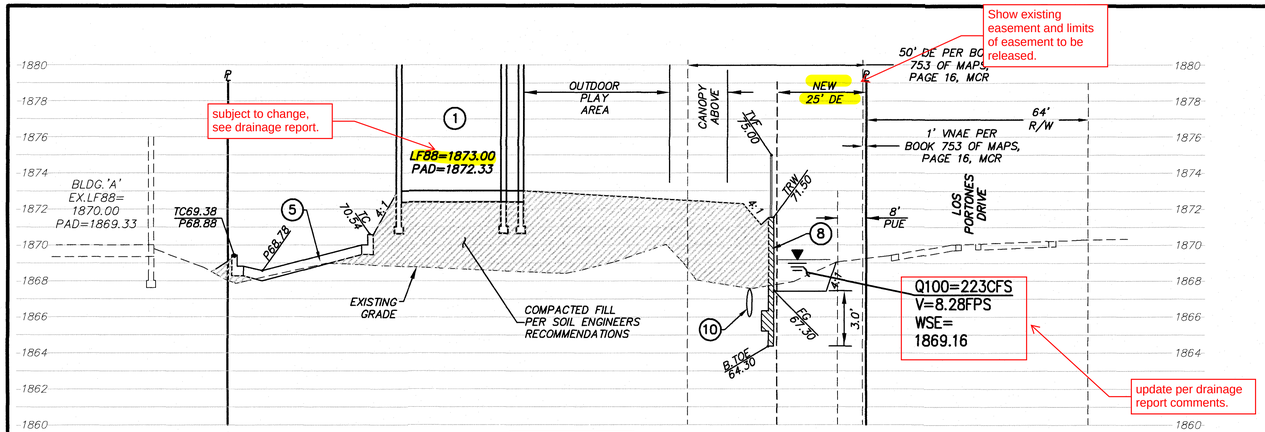
DRAWN BY	SPK/MDK/RMV
CHECKED BY	DFK
FIELD WORK BY	DJK
DATE	NOV., 2022

PREPARED FOR
ATLANTIC DEVELOPMENT & INVESTMENTS, INC.

CONCEPTUAL GRADING & DRAINAGE AND UTILITY PLAN
FOR
PINNACLE PEAK PET RESORT
APN 212-05-531
7474 EAST PINNACLE PEAK ROAD
SCOTTSDALE, ARIZONA 85255

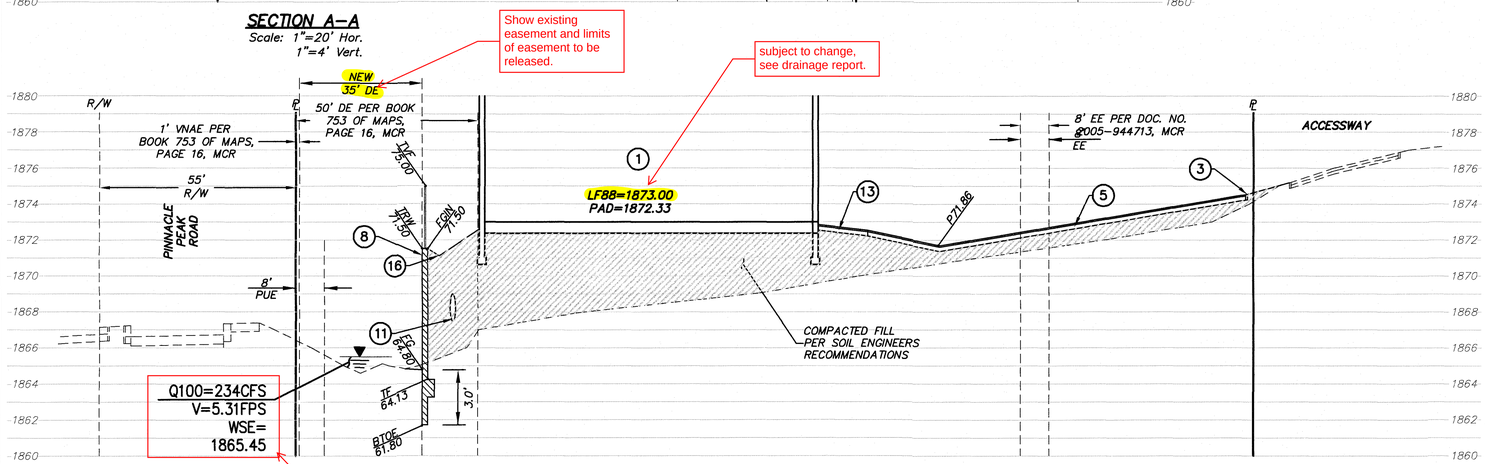
Keogh Engineering, Inc.
650 N. 137TH AVENUE #110 • GOODYEAR, ARIZONA 85338
PHONE: (623) 535-7260
EMAIL: keogh@keoghengineering.com

JOB NO. 22270 MAP NO. P–22270



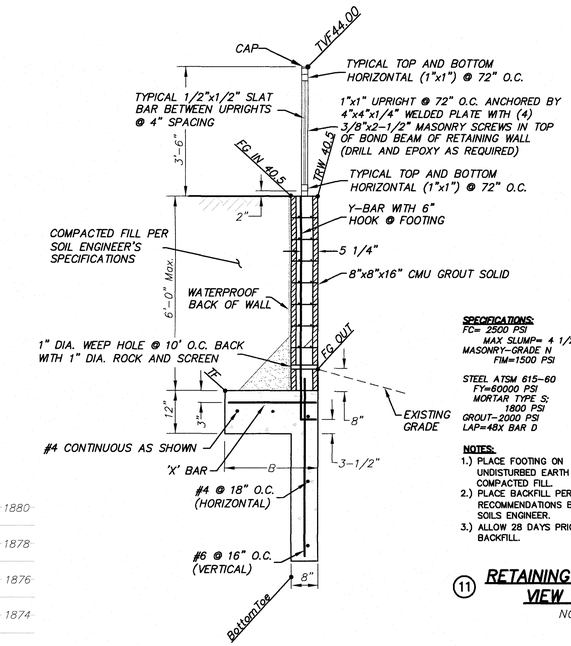
SECTION A–A

Scale: 1"=20' Hor.
1"=4' Vert.



SECTION B–B

Scale: 1"=20' Hor.
1"=4' Vert.



SPECIFICATIONS:
f'c= 2500 PSI
MAX SLUMP= 4 1/2"
MASONRY–GRADE N
f'm=1500 PSI

STEEL ATSM 615–60
Fy=60000 PSI
MORTAR TYPE S:
1800 PSI
GROUT–2000 PSI
LAP=48X BAR D

NOTES:
1.) PLACE FOOTING ON UNDISTURBED EARTH OR COMPACTED FILL.
2.) PLACE BACKFILL PER RECOMMENDATIONS BY SOILS ENGINEER.
3.) ALLOW 28 DAYS PRIOR BACKFILL.

WALL DIMENSION AND STEEL NOTE

IF THE ACTUAL HEIGHT OF WALL FALLS BETWEEN THE EVEN HEIGHT CATEGORIES IN THE TABLE, USE THE HIGHER CATEGORY STEEL SIZE AND BASE DIMENSION HEIGHT = TRW–TF

HEIGHT/STEEL TABLE			
'H'	'B'	'Y' BAR	'X' BAR
6.0'	3.42'	#6@16"	#6@16"
4.0'	2.42'	#4@16"	#4@16"
2.0'	1.67'	#4@24"	#4@24"

(11) RETAINING FLOOD WALL with VIEW FENCE ABOVE

NOT TO SCALE

CONSTRUCTION NOTES

1. STRUCTURE ON COMPACTED PAD
2. SAWCUT AND MATCH EXISTING PAVEMENT
3. 6" SINGLE CURB, MAG DET. 222–A
4. 6" VERTICAL CURB, AND GUTTER MAG DET. 220–A
5. 2–1/2" AC OVER 6" ABC ASPHALT PAVEMENT
6. CATCH BASIN MAG DET. 535–F
7. TRASH BIN, SCOTTSDALE DET.
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20. FIRE DEPARTMENT CONNECTION

SHEET 3 OF 3

REGISTERED PROFESSIONAL ENGINEER — CERTIFICATE NO. 11305 — DENNIS FRANK KEOGH — ARIZONA, U.S.A. — Expires 6/30/24

PREPARED FOR
ATLANTIC DEVELOPMENT & INVESTMENTS, INC.

CONCEPTUAL GRADING & DRAINAGE AND UTILITY PLAN
FOR
PINNACLE PEAK PET RESORT
APN 212–05–531
7474 EAST PINNACLE PEAK ROAD
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DRAWN BY	SPK/MDK/RMV
CHECKED BY	DFK
FIELD WORK BY	DJK
DATE	NOV., 2022

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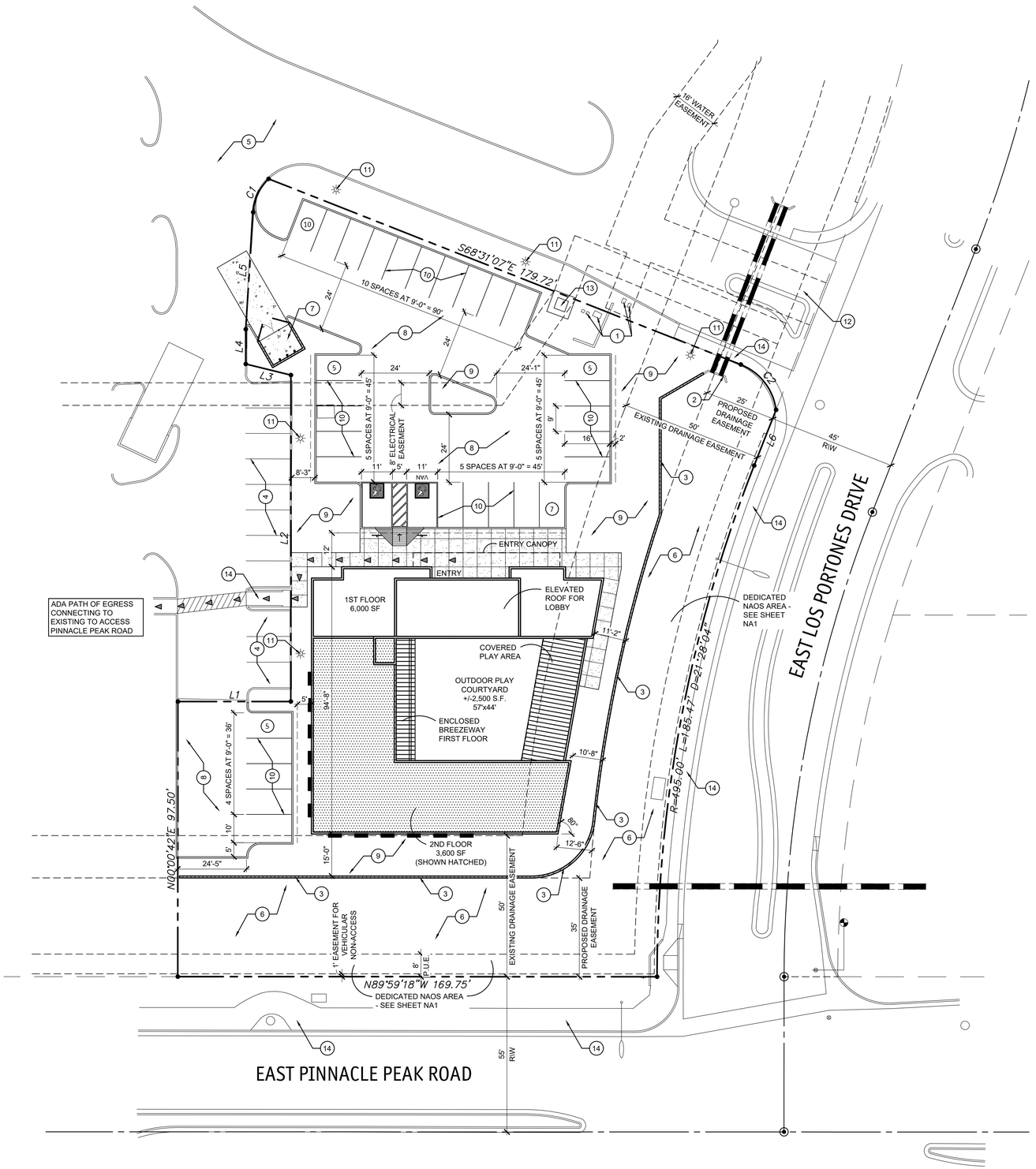
JOB NO. 22270 MAP NO. P–22270



SHEET KEYNOTES

1. EXISTING UTILITY JUNCTION BOX
2. EXISTING CONCRETE HEADWALL TO REMAIN
3. RETAINING WALL - SEE CIVIL DRAWINGS
4. EXISTING PARKING TO REMAIN, TYP.
5. EXISTING INTERIOR DRIVE TO REMAIN, TYP.
6. EXISTING LANDSCAPE TO REMAIN, SALVAGE AND REPLANT AS NEEDED - SEE LANDSCAPE DRAWINGS
7. REFUSE ENCLOSURE PER CITY STANDARDS - SEE SITE DETAILS
8. ASPHALT OVER ABC - SEE CIVIL DRAWINGS AND GEO TECHNICAL REPORT
9. LANDSCAPING, TYP. - SEE LANDSCAPE DRAWINGS
10. PROVIDE PAINTED PARKING STRIPING, ADA SIGNAGE, AND WALKWAY STRIPING PER CITY STANDARDS
11. EXISTING LIGHT POLE TO REMAIN - PROTECT DURING DEMOLITION AND CONSTRUCTION PHASES
12. EXISTING DRIVEWAY TO REMAIN - SEE CIVIL DRAWINGS
13. EXISTING TRANSFORMER TO REMAIN - SEE CIVIL AND ELECTRICAL DRAWINGS
14. EXISTING SIDEWALK TO REMAIN

Demonstrate Hydrant spacing, existing and proposed (Fire Ord. 4283, 507.5.1.2)

Demonstrate the location of the Fire Department Connection (Fire Ord. 4283, 912)

Demonstrate the location of the Fire Riser room (DS&PM 6-1.504(1))

SITE DATA

PROJECT:	PINNACLE PEAK PET RESORT
ADDRESS:	7474 EAST PINNACLE PEAK ROAD SCOTTSDALE, AZ 85255
OWNER:	DOGGY STYLE RESORT & DAYCARE 15957 NORTH 81ST STREET, SUITE 101 SCOTTSDALE, AZ
SCOPE:	A NEW COMMERCIAL BUILDING
LEGAL DESCRIPTION:	SEE CIVIL
ASSESSOR PARCEL NO.:	212-05-531
CURRENT ZONING:	C-O ESL
PROPOSED ZONING:	C-1 ESL
SITE AREA:	+/- 41,378 S.F. +/- 0.95 ACRES
BUILDING AREA:	9,600 S.F. GROSS
STORIES:	TWO STORY
LOT COVERAGE:	14.5%
LANDSCAPE AREA:	7,607 S.F.
LANDSCAPE COVERAGE:	18.4%
OCCUPANCY:	B
CONSTRUCTION TYPE:	V-B w/ A.F.E.S.
ALLOWABLE AREA:	33,102 S.F. (0.80 FAR)
CLEAR HEIGHT:	14'-0"
STRUCTURAL DEPTH:	3'-0"
BUILDING HEIGHT:	28'-0"
ALLOWED HEIGHT:	36'-0" (PER C-1 ZONING)

PARKING CALCULATIONS

BUILDING AREA CALCULATIONS

OCCUPANCY	1ST FLOOR	TOTALS
OFFICE	5,160 S.F.	5,160 S.F.
KENNEL	4,440 S.F.	4,440 S.F.
TOTAL:	9,600 S.F.	9,600 S.F.

REQUIRED PARKING CALCULATIONS

OCCUPANCY	S.F.	FACTOR	TOTAL
OFFICE	5,160 S.F.	1/300	17.2
KENNEL	4,440 S.F.	-	-
TOTAL:			17.2 = 18

PARKING PROVIDED

TOTAL REGULAR SPACES	30
TOTAL ACCESSIBLE SPACES	2
TOTAL SPACES ON SITE	32

BICYCLE PARKING CALCULATIONS

RATIO	REQUIRED	PROVIDED
1/25 PARKING SPACES	2	2

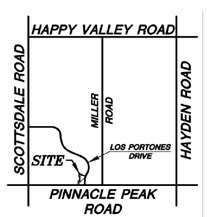
LEGEND

- PROPERTY LINE
- EASEMENT / SETBACK LINE
- CAR OVERHANG, MEASURED FROM FACE OF CURB AS DIMENSIONED ON SITE PLAN
- 6" CURB
- SITE WALL
- SALT FINISH CONCRETE SIDEWALK
- PAINT STRIPING ON PAVEMENT
- NEW FIRE HYDRANT
- EXISTING FIRE HYDRANT
- FDC — FIRE DEPARTMENT CONNECTION
- ACCESSIBLE ROUT / PATH OF TRAVEL
- FIRE RISER
- A — SITE WALL, SEE SHEET A1.5 FOR SITE WALL SCHEDULE

C.O.S. APPROVAL STAMPS

VICINITY MAP

N.T.S.



SITE PLAN

1" = 20'-0"

0 5 10 20 40

N

CAWLEY ARCHITECTS
730 N. 52nd St. Ste. 203
Phoenix, Arizona 85008
P 602.393.5060
CawleyArchitects.com

REGISTERED ARCHITECT — 26784 — PAUL F. DEVERS, JR. — Date Signed 02/21/2023 — ARIZONA, U.S.A. — EXPIRES 03/31/2023

PINNACLE PEAK PET RESORT

7474 EAST PINNACLE PEAK ROAD SCOTTSDALE ARIZONA 85255

DATE

RE-ZONING SUBMITTAL
2/21/2023

DRAWN BY: CF

SITE PLAN

Project: 22095

A1.1