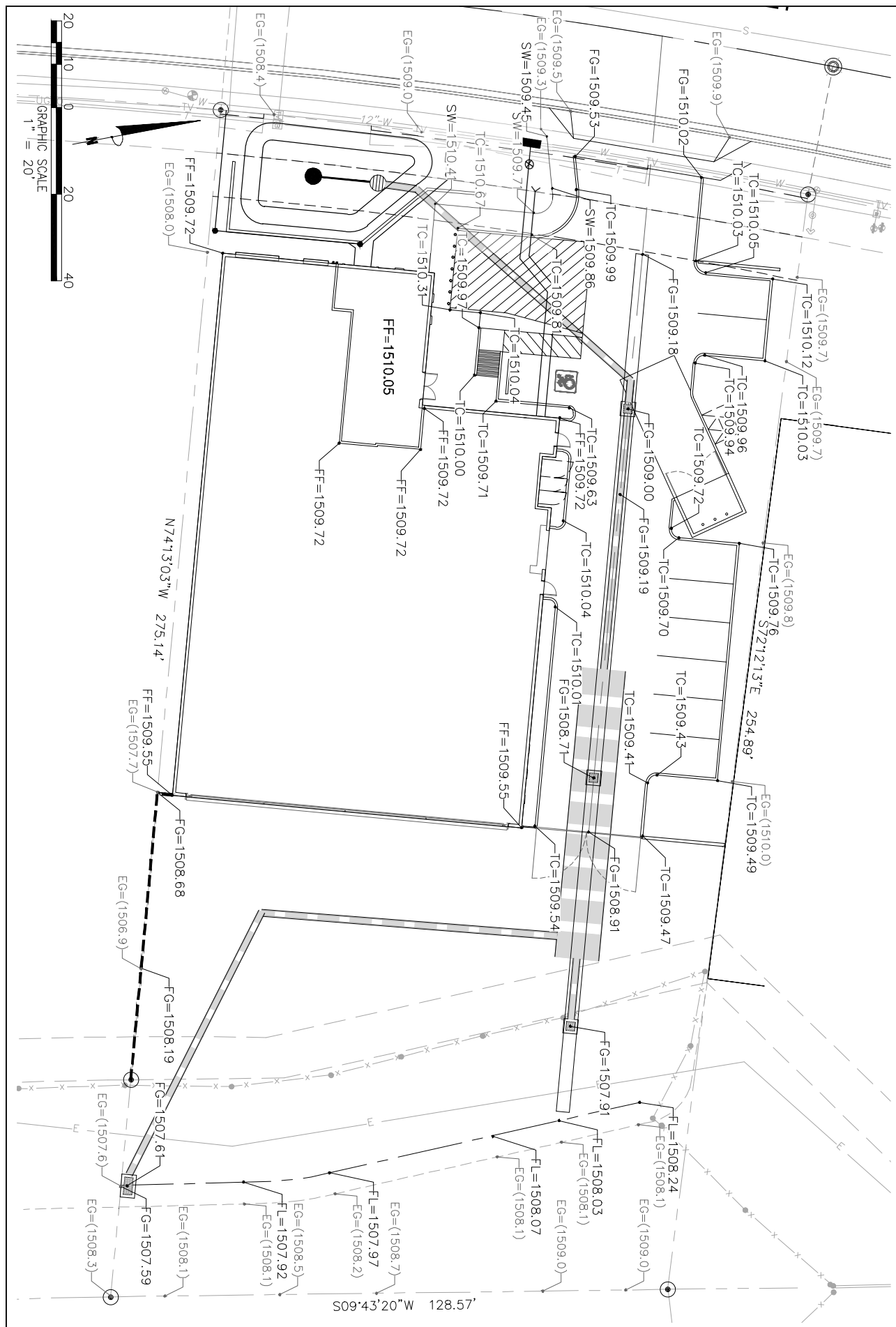




Water and Wastewater Study
Combined



		NORTH SCOTTSDALE AIRPARK			
		SCOTTSDALE, AZ			
		PRELIMINARY DRAINAGE EXHIBIT			
		1295 West Washington Ste 108 Tempe, Arizona 85281 Phone: (480) 629-8830 www.bowmanconsulting.com			
JOB # 050941	DATE FEB 2021	SCALE AS NOTED	DRAWN HMT	SHIT 2 OF 2	



March 16, 2021

Re: 16115 North 81st Street
North Scottsdale Airpark, Lot 35
Water and Wastewater Infrastructure Analysis
BCG Project #: 050941

FINAL Basis of Design Report

☒ APPROVED

☐ APPROVED AS NOTED

☐ REVISE AND RESUBMIT



Disclaimer: If approved; the approval is granted under the condition that the final construction documents submitted for city review will match the information herein. Any subsequent changes in the water or sewer design that materially impact design criteria or standards will require re-analysis, re-submittal, and approval of a revised basis of design report prior to the plan review submission.; this approval is not a guarantee of construction document acceptance. For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.

BY rsacks

DATE 3/16/2021

The Project is a proposed air hangar designated as a commercial development located within the North Scottsdale Airpark on lot 35. The building will have a low water and wastewater demand and will only be occupied around times of arrivals and departures. The proposed development will have minimal landscaping, a small break room, a shower, and a restroom.

PROPOSED DOMESTIC WATER DEMAND

Proposed domestic demand is calculated as shown using projected water demands from the City of Scottsdale DS & PM.

Average Day Demand = $9,166 \text{ sq ft} \times 0.8 \text{ gpd/sq ft} = 7,333 \text{ gpd}$ (5.09 gpm)

Max Day Demand = $2.0 \times 7,333 \text{ gpd} = 14,666 \text{ gpd}$ (10.18 gpm)

Peak Hour Demand = $3.5 \times 7,333 \text{ gpd} = 25,665 \text{ gpd}$ (17.82 gpm)

Potable water is provided to the property by the City of Scottsdale in 81st Street. Connection to the existing water line will be made utilizing a 1" service and meter.

Based on the City of Scottsdale DS & PM, the minimum fire flow requirement for the property is 1,500 gpm. The entire building, including the hangar will be fully sprinkled. In the case that more fire flow is needed, a recent hydrant flow test shows that 3,722 gpm is available at 20 psi. The hydrant flow test is attached.

PROPOSED WASTEWATER DISCHARGES

Proposed wastewater demand is calculated as shown using projected demands from the City of Scottsdale DS & PM.

Average Demand = $9,166 \text{ sq ft} \times 0.5 \text{ gpd/sq ft} = 4,583 \text{ gpd}$ (3.18 gpm)

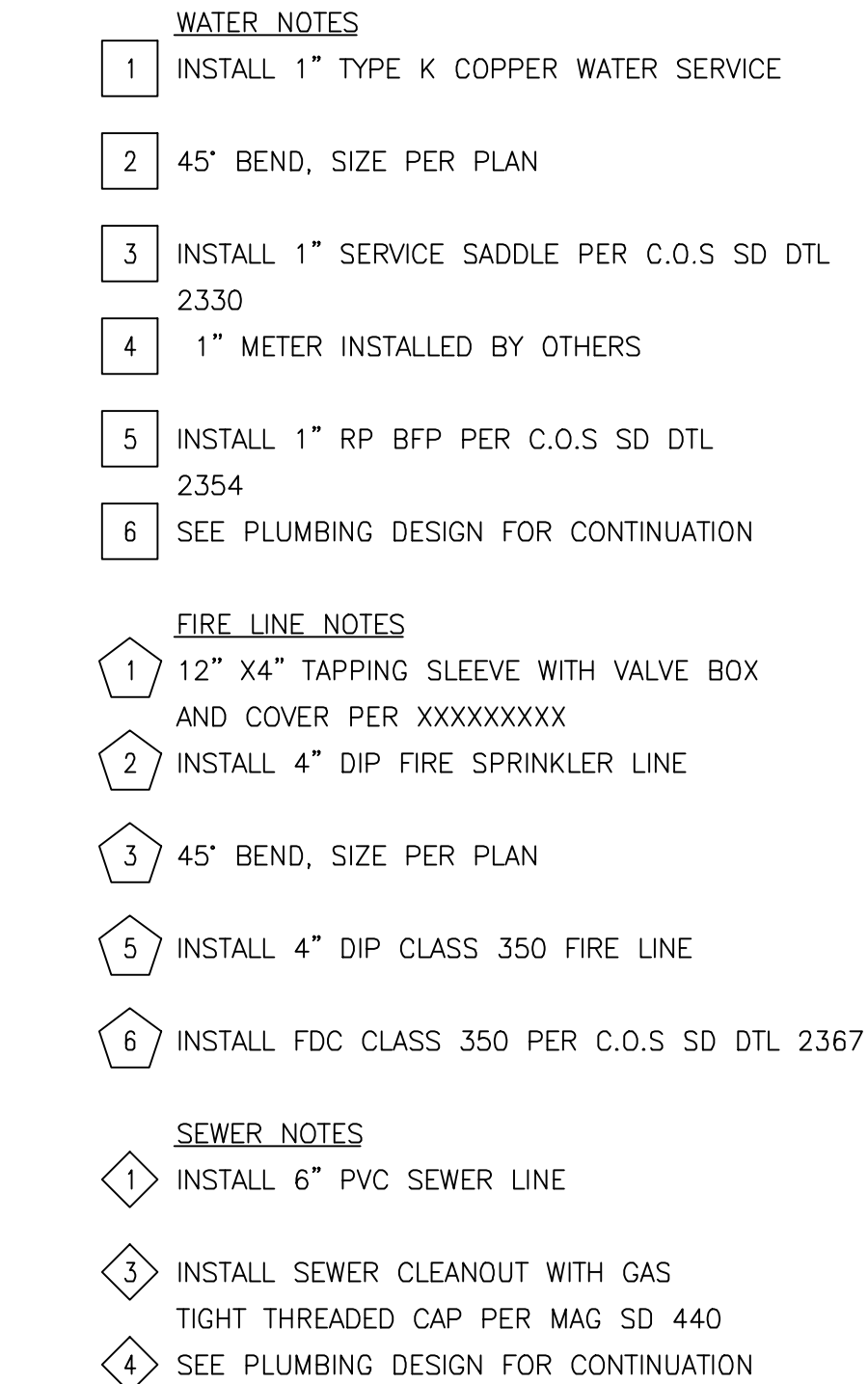
Peak Demand = $3.0 \times 4,583 \text{ gpd} = 13,749 \text{ gpd}$ (9.55 gpm)

Based on the tables in the City of Scottsdale DS & PM, a 6" service is required to facilitate the peak demand.

Sewer is provided to the property by the City of Scottsdale in 81st Street.

If there will be a washdown area, a sand and grease interceptor will be installed to ensure that sediment and grease do not enter the city system.

The proposed water and wastewater system improvements will be designed and developed in accordance with MAG Specifications and Details as amended by the City of Scottsdale and with Maricopa County's Environmental Services Department requirements.



Bowman
CONSULTING

Bowman Consulting Group, Ltd.
1295 West Washington Ste 108
Tempe, Arizona 85281

Phone: (480) 629-8830

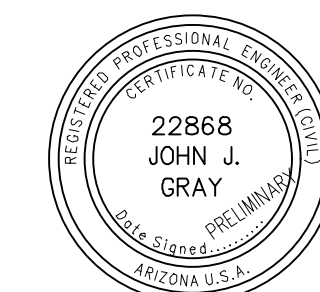
www.bowmanconsulting.com

Bowman Consulting Group, Ltd.

WATER SEWER AND FIRE LINE PLANS

NORTH SCOTTSDALE AIRPARK, LOT 35
16115 NORTH 81ST STREET SCOTTSDALE, AZ 85260
SCOTTSDALE, AZ MARICOPA COUNTY

PROJECT NUMBER



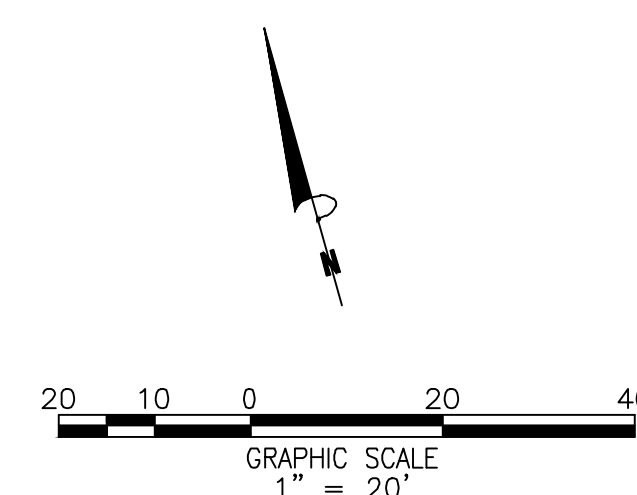
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DATE : ---

C04

SHEET 04 OF 05





Flow Test Summary

Project Name: EJFT 21082 - North Scottsdale Airpark
Project Address: N 81st St & E Paradise Ln, Scottsdale, AZ 85260
Date of Flow Test: 2021-03-09
Time of Flow Test: 7:00 AM
Data Reliable Until: 2021-09-09
Conducted By: Steven Saethre & Eder Cueva (EJ Flow Tests) 602.999.7637
Witnessed By: Christopher Mendez (City of Scottsdale) 602.908.9046
City Forces Contacted: City of Scottsdale (602.908.9046)
Permit Number: C64627

Note Simon Lotero (EJ Flow Tests) 602.999.7637 also conducted the test.

Raw Flow Test Data

Static Pressure: 66.0 PSI
Residual Pressure: 55.0 PSI
Flowing GPM: 1,869
GPM @ 20 PSI: 4,047

Data with a 10 % Safety Factor


Static Pressure: 59.4 PSI
Residual Pressure: 48.4 PSI
Flowing GPM: 1,869
GPM @ 20 PSI: 3,722

Hydrant F₁

Pitot Pressure (1): 30 PSI
Coefficient of Discharge (1): 0.9
Hydrant Orifice Diameter (1): 2.5 inches
Pitot Pressure (2): 32 PSI
Coefficient of Discharge (2): 0.9
Hydrant Orifice Diameter (2): 2.5 inches



 Project Site

 Static-Residual Hydrant

 Flow Hydrant

Distance Between F₁ and R
326 ft (measured linearly)

Static-Residual Elevation
1514 ft (above sea level)

Flow Hydrant (F₁) Elevation
1509 ft (above sea level)

Elevation & distance values are approximate

EJ Flow Tests, LLC

21505 North 78th Ave. | Suite 130 | Peoria, Arizona 85382 | (602) 999-7637 | www.ejengineering.com
John L. Echeverri | NICET Level IV 78493 SME | C-16 FP Contractor ROC 271705 AZ | NFPA CFPS 1915
www.flowtestsummary.com

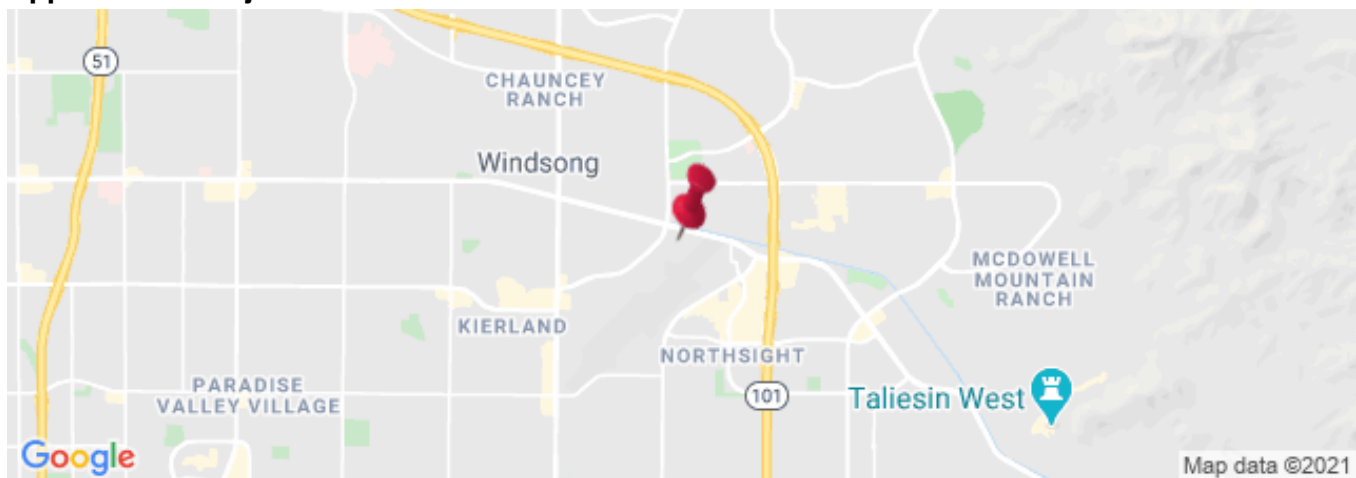
Static-Residual Hydrant



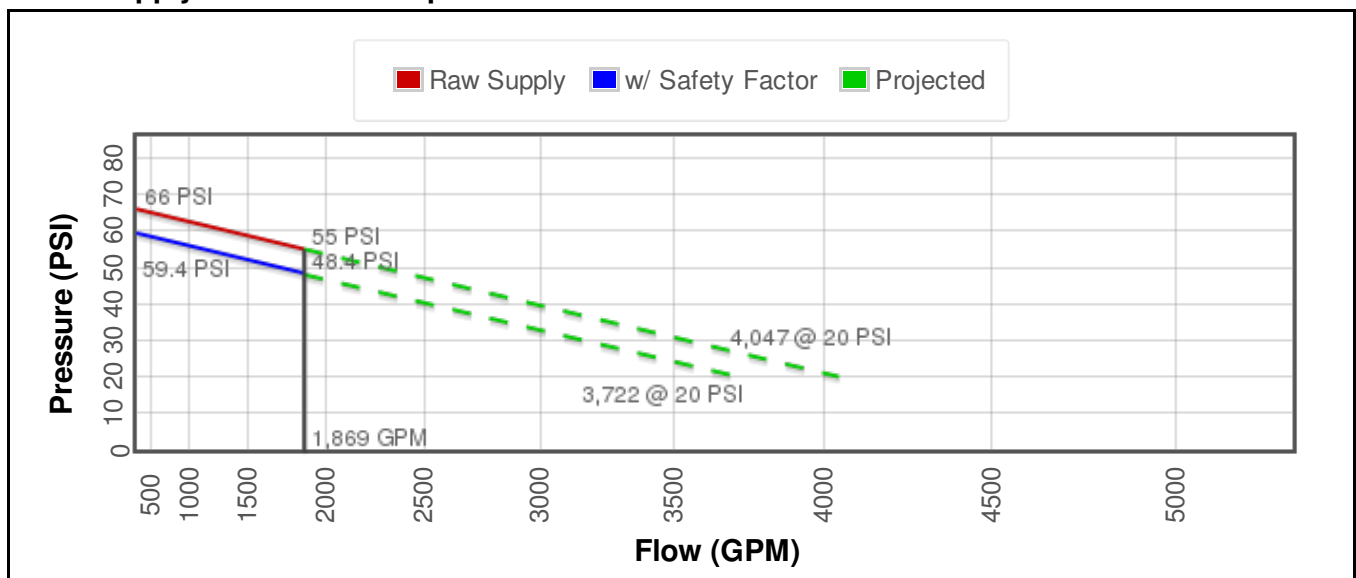
Flow Hydrant (only hydrant F1 shown for clarity)



Approximate Project Site



Water Supply Curve N^{1.85} Graph



Holly Tanaka

From: Sacks, Richard <RSacks@ScottsdaleAz.Gov>
Sent: Thursday, February 25, 2021 2:56 PM
To: Holly Tanaka
Subject: [EXTERNAL] RE: Scottsdale Airpark Project - 16115 N. 81st Street

THX for reaching out on this project Holly.

An abbreviated BOD will work. The domestic usage is minimal. Most important is to include a fire flow test and if there are sprinkler requirements for the building (booster pump?).

If there is a wash down area, plz include a sand-oil separator.

Richard Sacks, P.E.
Senior Water Resources Engineer
City of Scottsdale
9379 E. San Salvador
Scottsdale, AZ 85258
480-312-5673
rsacks@scottsdaleaz.gov

Sending me an attachment over 5MB? Please use the link below:
<https://securemail.scottsdaleaz.gov/filedrop/rsacks@scottsdaleaz.gov>



"Water Sustainability through Stewardship, Innovation and People"

From: Holly Tanaka <htanaka@bowmanconsulting.com>
Sent: Thursday, February 25, 2021 1:57 PM
To: Sacks, Richard <RSacks@ScottsdaleAz.Gov>
Subject: Scottsdale Airpark Project - 16115 N. 81st Street

⚠ External Email: Please use caution if opening links or attachments!

Hi Richard,

We are working on civil engineering plans for a new hangar building that will be constructed at the airpark. Attached is a preliminary utility plan.

We are preparing to make the DRB submittal to the city for this project and in the list of requirements they ask for water and sewer basis of design reports, unless those reports are not required by the Water Resources Department.

The proposed building will have a low water and wastewater demand. It will only be occupied around times of arrivals and departures and will have minimal landscaping, a small break room, a shower and a restroom.
Are water and sewer basis of design reports necessary?

Thank you!

HOLLY TANAKA

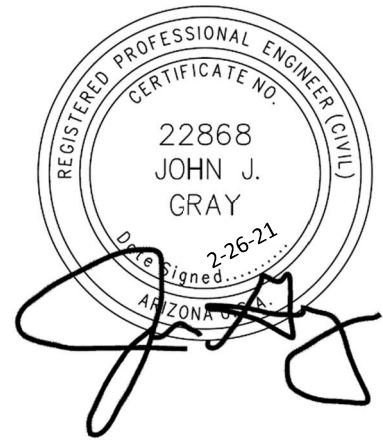
Project Engineer | **BOWMAN**

1295 W. Washington Street, Suite 108, Tempe, AZ 85281

O: (480) 629-8830 | D: (480) 559-8354

htanaka@bowmanconsulting.com | bowmanconsulting.com





February 26, 2021

Re: North Scottsdale Airpark
Water and Wastewater Infrastructure Analysis
BCG Project #: 050941

North Scottsdale Airpark is a proposed air hangar designated as a commercial development. The building will have a low water and wastewater demand and will only be occupied around times of arrivals and departures. The proposed development will have minimal landscaping, a small break room, a shower, and a restroom.

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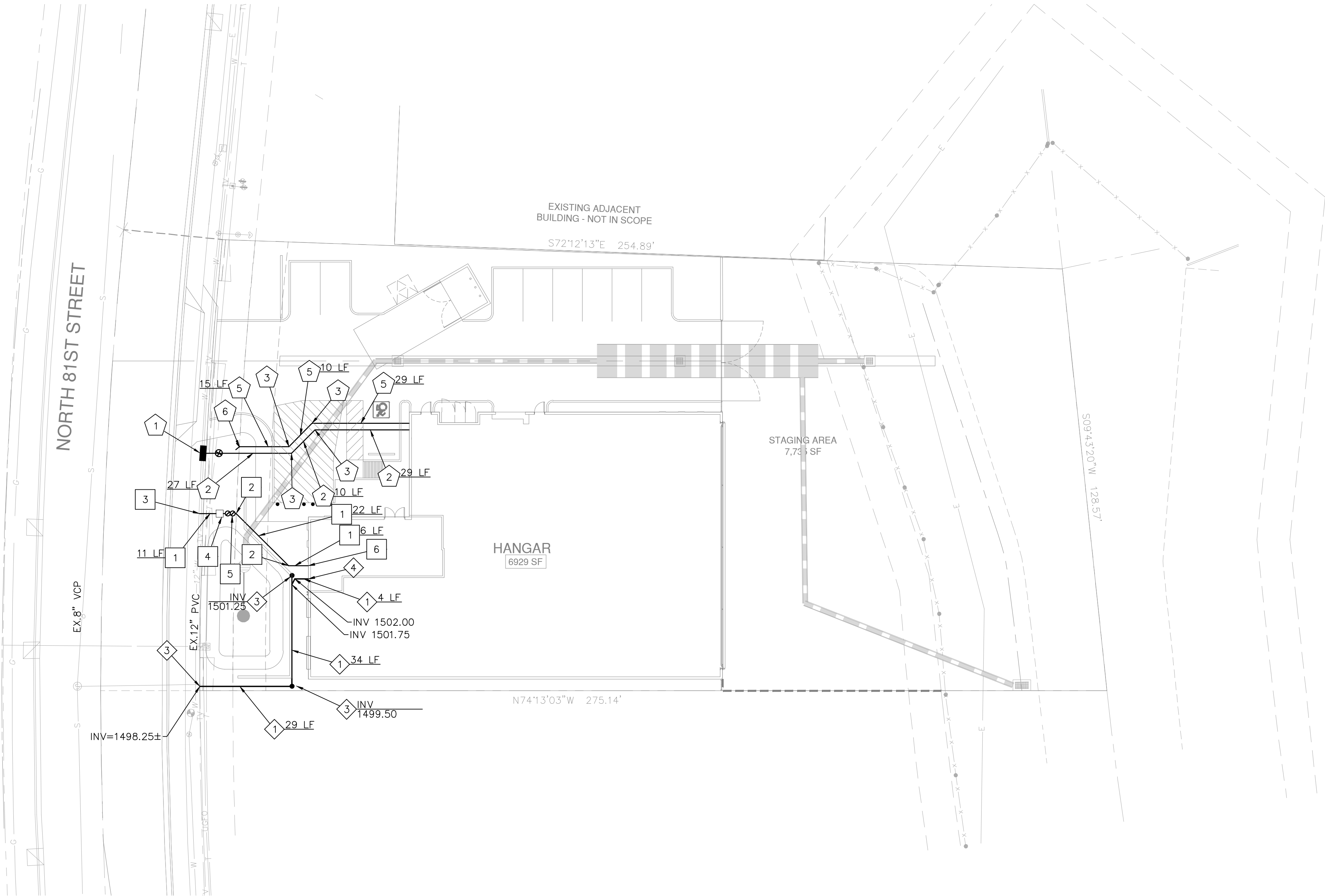
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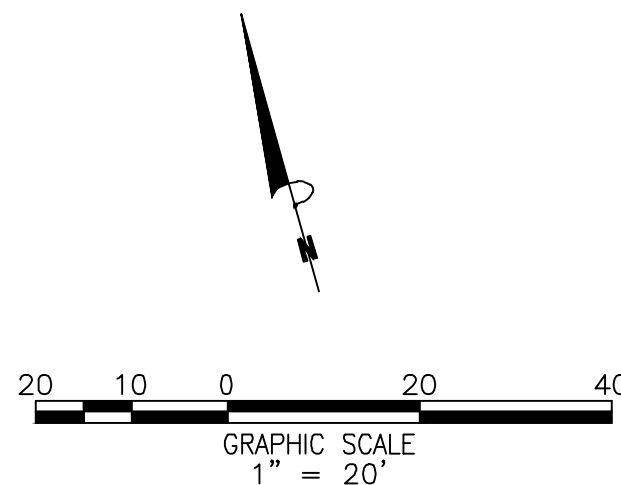
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- WATER NOTES**
- 1 INSTALL 1" TYPE K COPPER WATER SERVICE
 - 2 45' BEND, SIZE PER PLAN
 - 3 INSTALL 1" SERVICE SADDLE PER C.O.S SD DTL 2330
 - 4 1" METER INSTALLED BY OTHERS
 - 5 INSTALL 1" RP BFP PER C.O.S SD DTL 2354
 - 6 SEE PLUMBING DESIGN FOR CONTINUATION

- FIRE LINE NOTES**
- 1 12" X4" TAPPING SLEEVE WITH VALVE BOX AND COVER PER XXXXXXXX
 - 2 INSTALL 4" DIP FIRE SPRINKLER LINE
 - 3 45' BEND, SIZE PER PLAN
 - 5 INSTALL 4" DIP CLASS 350 FIRE LINE
 - 6 INSTALL FDC CLASS 350 PER C.O.S SD DTL 2367

- SEWER NOTES**
- 1 INSTALL 6"ABS SEWER LINE
 - 3 INSTALL SEWER CLEANOUT WITH GAS TIGHT THREADED CAP PER MAG SD 440
 - 4 SEE PLUMBING DESIGN FOR CONTINUATION



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 (762-5348)
In Maricopa County: (602) 263-1100



Bowman Consulting Group, Ltd.
1285 West Washington Ste 108
Tempe, Arizona 85281
Phone: (480) 629-8830
www.bowmanconsulting.com
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WATER SEWER AND FIRE LINE PLANS
NORTH SCOTTSDALE AIRPARK
SCOTTSDALE, AZ
MARICOPA COUNTY

PROJECT NUMBER		
PLAN STATUS		
DATE	DESCRIPTION	
JJ DESIGN	JJ DRAWN	JG CHKD
SCALE	H:	V:
JOB No. 050941-01-001		
DATE : ---		
C04		
SHEET	04	OF 05



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Hydrant

 Flow Hydrant

Distance Between F₁ and R
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Flow Hydrant (F₁) Elevation
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Page 1

10-DR-2021
3/15/2021

Static-Residual Hydrant



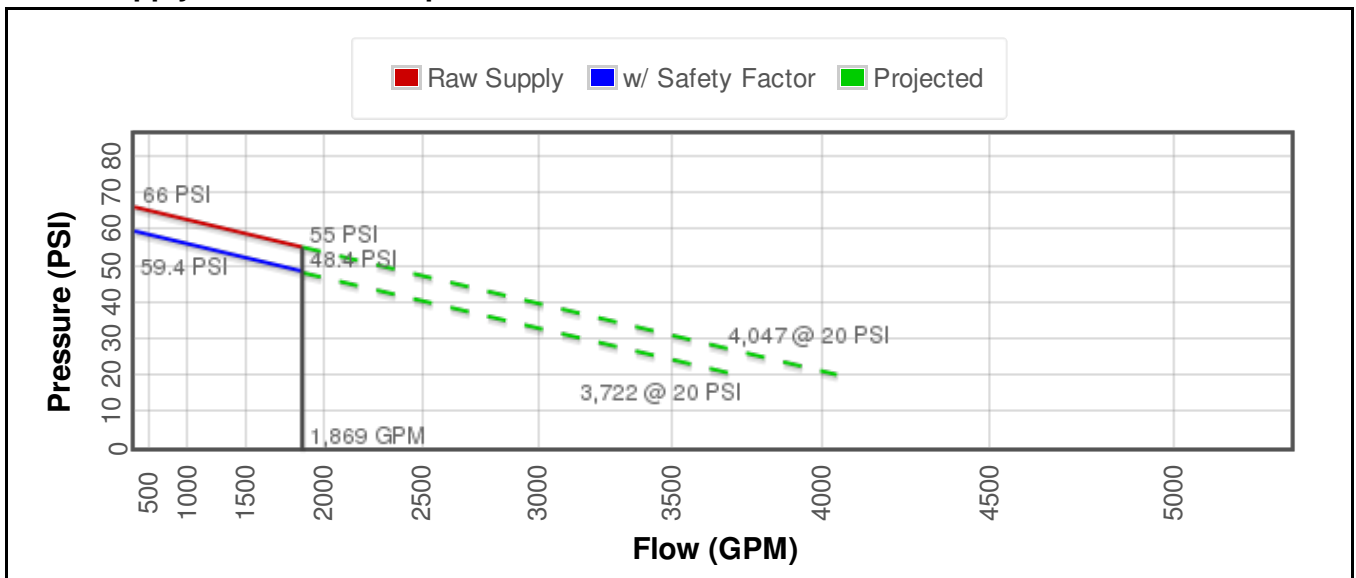
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Project Engineer | **BOWMAN**

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