HydraWise Water Analysis Report

Project Overview

Project Name: Your Amazing Solar Project (e.g., Gravel Pit Solar)

Location: Aaronsburg, Centre, Pennsylvania

Project: 100.0 MW Fixed-Tilt Solar

Construction Period: 12 months

Data Confidence: 95%

Wells Analyzed: 4,913

Well Database Analysis

Total Wells in County: 4,913

Wells within 10 miles: 2,711

Closest Wells:

1. Well ID: PA0436671 - Distance: 0.30 mi - Depth: nan ft
2. Well ID: PA0327972 - Distance: 0.36 mi - Depth: nan ft
3. Well ID: PA0327980 - Distance: 0.36 mi - Depth: nan ft

Typical Depth: 150-300 ft (estimated)

Typical Yield: 15-50 GPM (estimated)

Primary Aquifer: Northern Valley and Ridge

Site Characteristics

Climate Type: Humid

Climate Description: Humid continental climate with hot summers and no dry season

Annual Precipitation: 42.6 inches

Evapotranspiration: Moderate

Soil Type: Loam

Soil Permeability: Moderate

Soil Description: Loamy soil with good drainage and moderate permeability

Drilling Difficulty: Moderate

Recommended Method: Rotary drilling

Common Challenges: Bedrock, Variable soil conditions

Water Demand Analysis

Total Demand: 7,240,000 gallons (27,406 m^3) (27,406 m^3)

Per MW: 72,400 gallons/MW

Daily Average: 20,111 gallons/day

Peak Daily: 30,167 gallons/day

Demand Breakdown:

- Dust Control: 3,500,000 gallons (48.3%)
- Compaction: 1,350,000 gallons (18.6%)
- Road Base Compaction: 900,000 gallons (12.4%)
- Concrete: 500,000 gallons (6.9%)

- Other: 400,000 gallons (5.5%)
- Road Grading Dust Control: 350,000 gallons (4.8%)
- Road Surface Treatment: 240,000 gallons (3.3%)

Model Parameters:

- Climate Factor: 0.85
- Soil Factor: 1.00
- Project Type Factor: 1.00
- Base Demand/MW: 85,000 gallons

Water Source Options

Recommended Option: Existing Onsite Well
Total Cost: $100,240

Cost per Gallon: $0.014

Cost per MW: $1,002

All Options Analyzed:

- Existing Onsite Well: $100,240 ($0.014/gal) - RECOMMENDED
- Public Utility: $127,446 ($0.018/gal)
- Municipal Hauled: $358,883 ($0.050/gal)
- Trucked Water: $503,582 ($0.070/gal)
- New Well Drilling: $540,000 ($0.075/gal)

Cost Analysis

Total Project Cost: $100,240

Cost per Gallon: $0.014

Cost per MW: $1,002

Risk Assessment

Overall Risk Level: Medium

Key Recommendations

1. Excellent choice - existing well costs only $0.014/gallon
2. Test well capacity before construction begins
3. Verify water quality meets construction standards
4. Ensure well maintenance is current
5. Expected total water cost: $100,240

Next Steps

1. Negotiate water access agreement with landowner
2. Conduct well capacity test
3. Perform water quality analysis
4. Verify existing water rights
5. Install flow meter for accurate usage tracking

Local Water Sourcing Contacts

■ **Water Districts:**

- Penn Township Water & Sewer Authority

- 724-744-2171
- http://www.penntwpwater.com/

- State College Borough Water Authority
  - 814-238-6766
  - https://www.scbwa.org/

■■ Well Drilling Contractors:

- G&R; Charles Well Drilling
  - 814-364-2102
  - Service Area: Centre County
- Roto-Rooter Plumbing & Water Cleanup
  - 814-238-0590
  - Service Area: Centre County

■■ Regulatory Agencies:

- Pennsylvania Department of Environmental Protection
  - Bureau of Safe Drinking Water
  - 717-783-2300

■ Water Rights Resources:

- Pennsylvania Department of Environmental Protection - Water Rights
  - https://www.dep.pa.gov/Business/Water/CleanWater/WaterAllocation/Pages/default.aspx
  - 717-783-2300