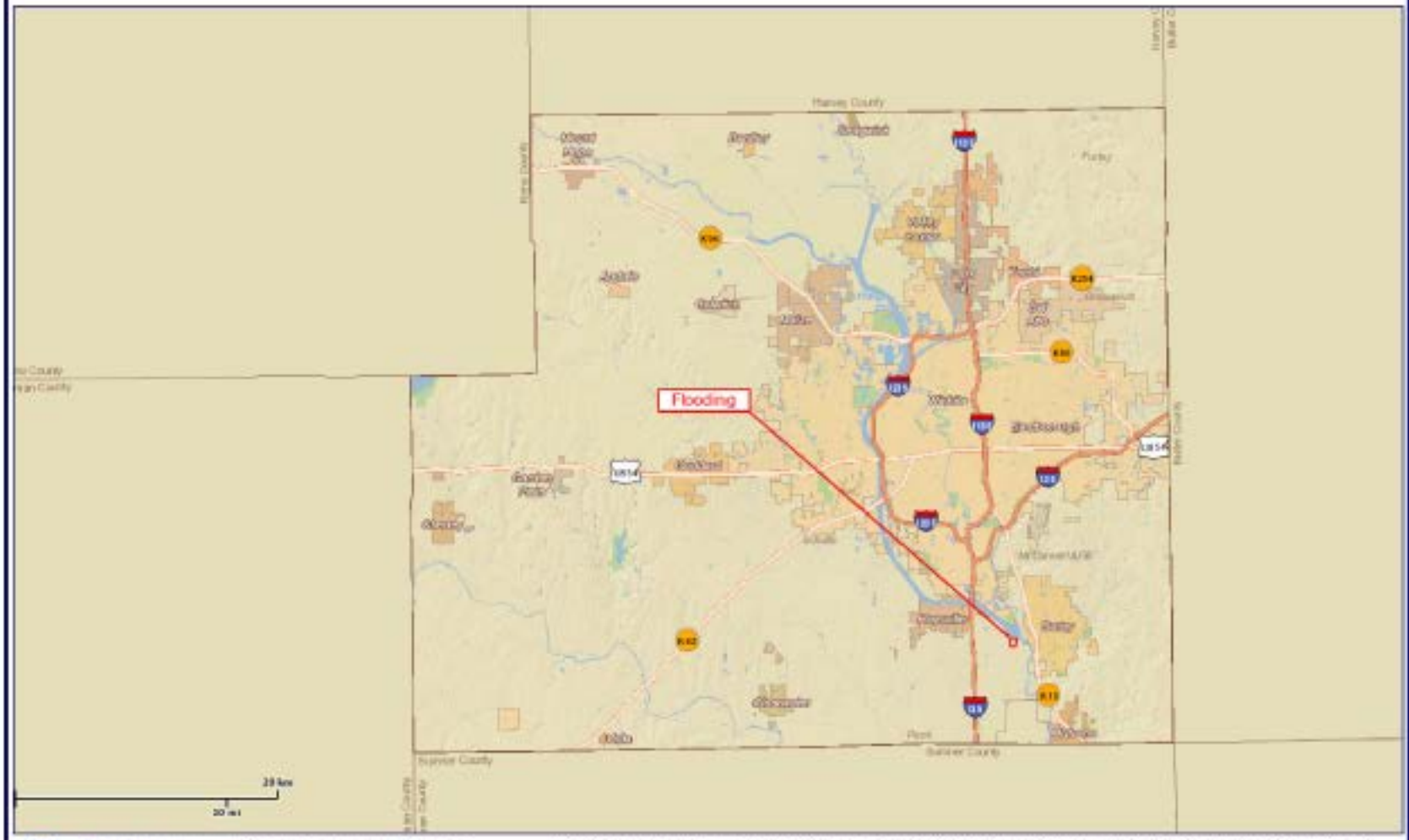
GROUNDWATER FLOODING ISSUES

Sedgwick County, Kansas

Hancock Acres



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Geographic Information Services
Division of Information & Operations
www.sedgwickcounty.org/gis
525 N. Main, Suite 212, Wichita, KS 67203
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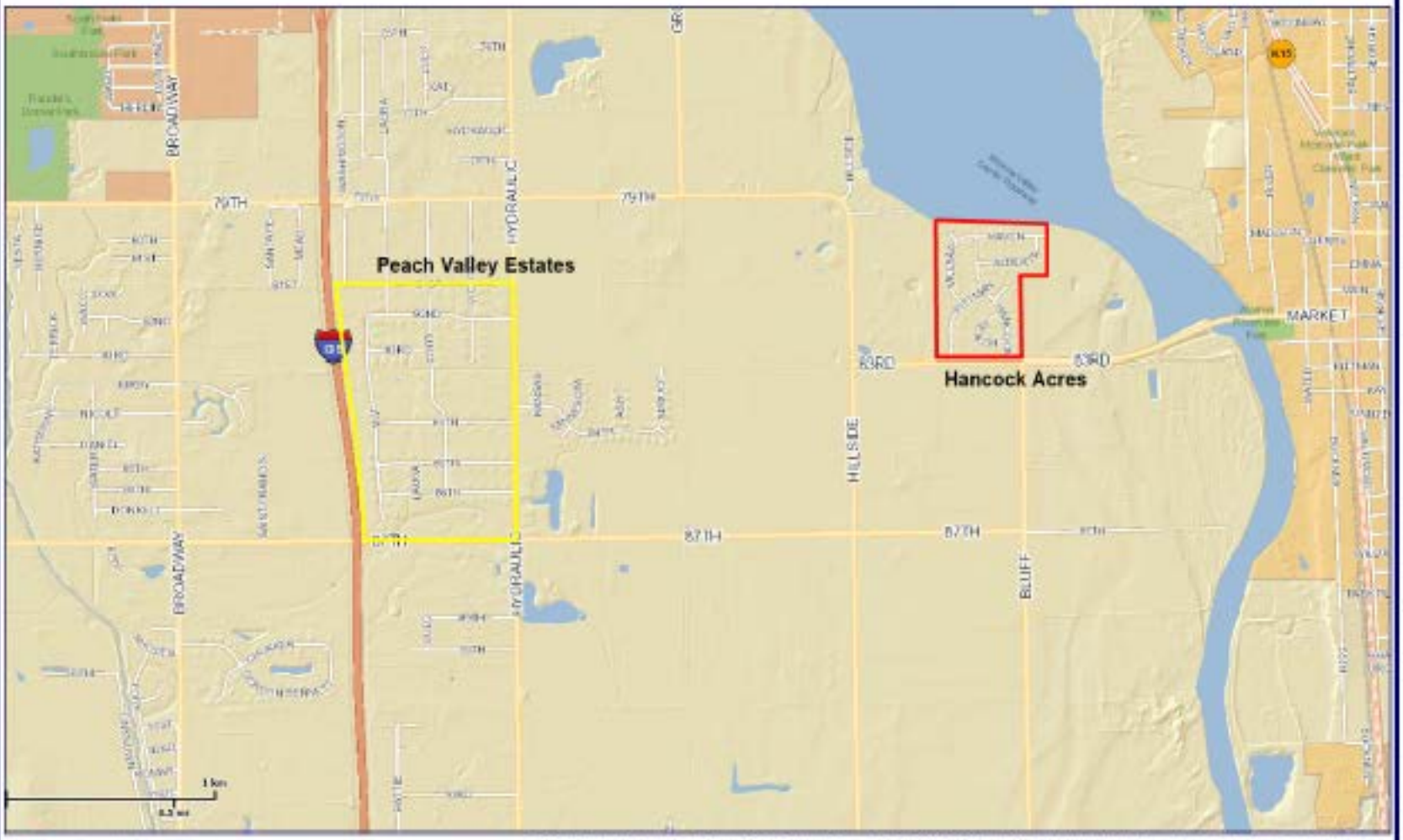
Map No: 16-09-25-42-GAT-0000-2016

Properties Flagged for Groundwater



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Hancock Acres 2019

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Map Information provided by Bob Buller

Surface and Subsurface Elevations

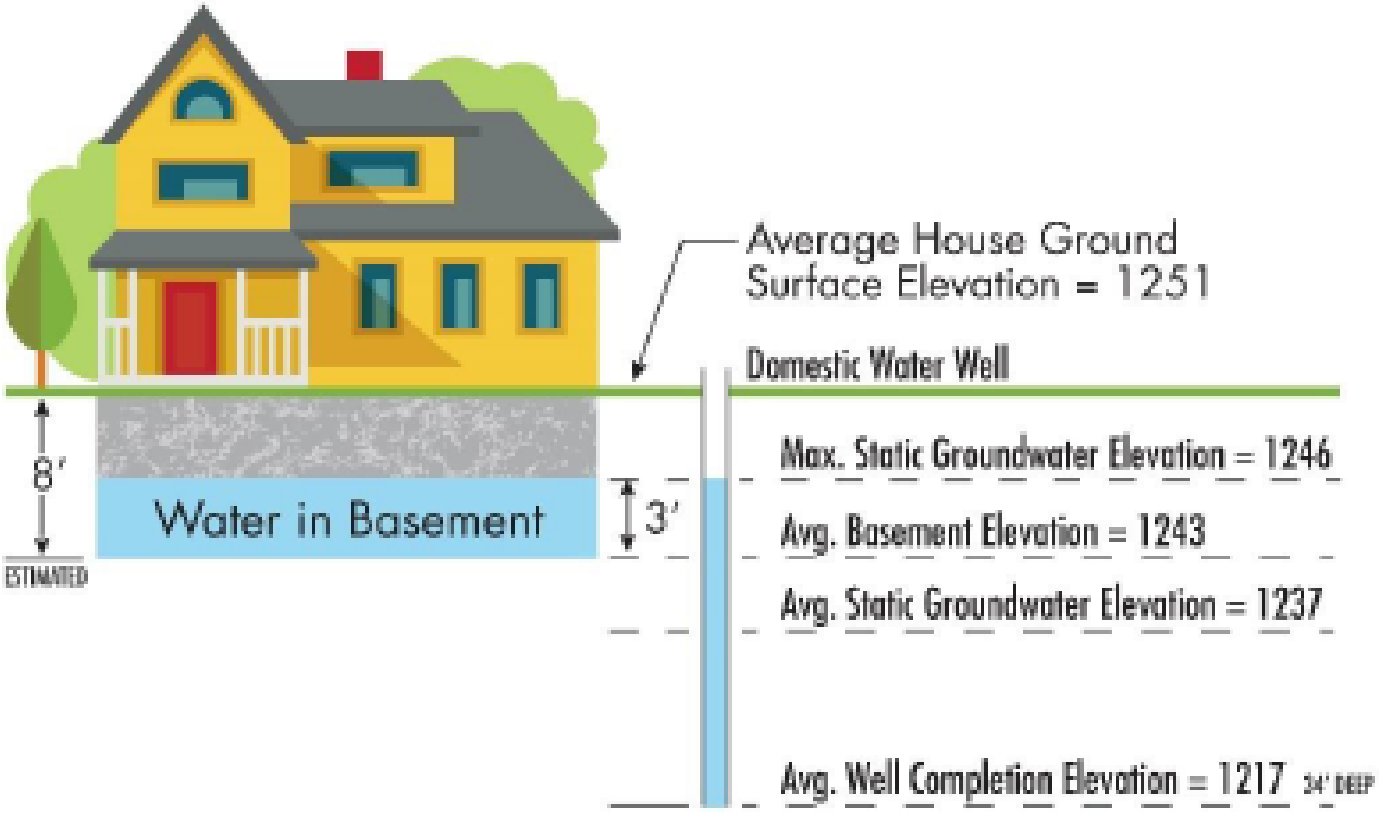
	Average	Maximum	Minimum
House Elevation	1251	1253	1248
Basement Elevation[1]	1243	1245	1240
Bottom of Well Elev.	1217	1235	1190
Static Water Elev.[2]	1237	1246	1225

(1) Assumes a basement depth of 8 feet
(2) Static water levels at time of construction. Wells were constructed between 1975 and 2015.

Water Well Information

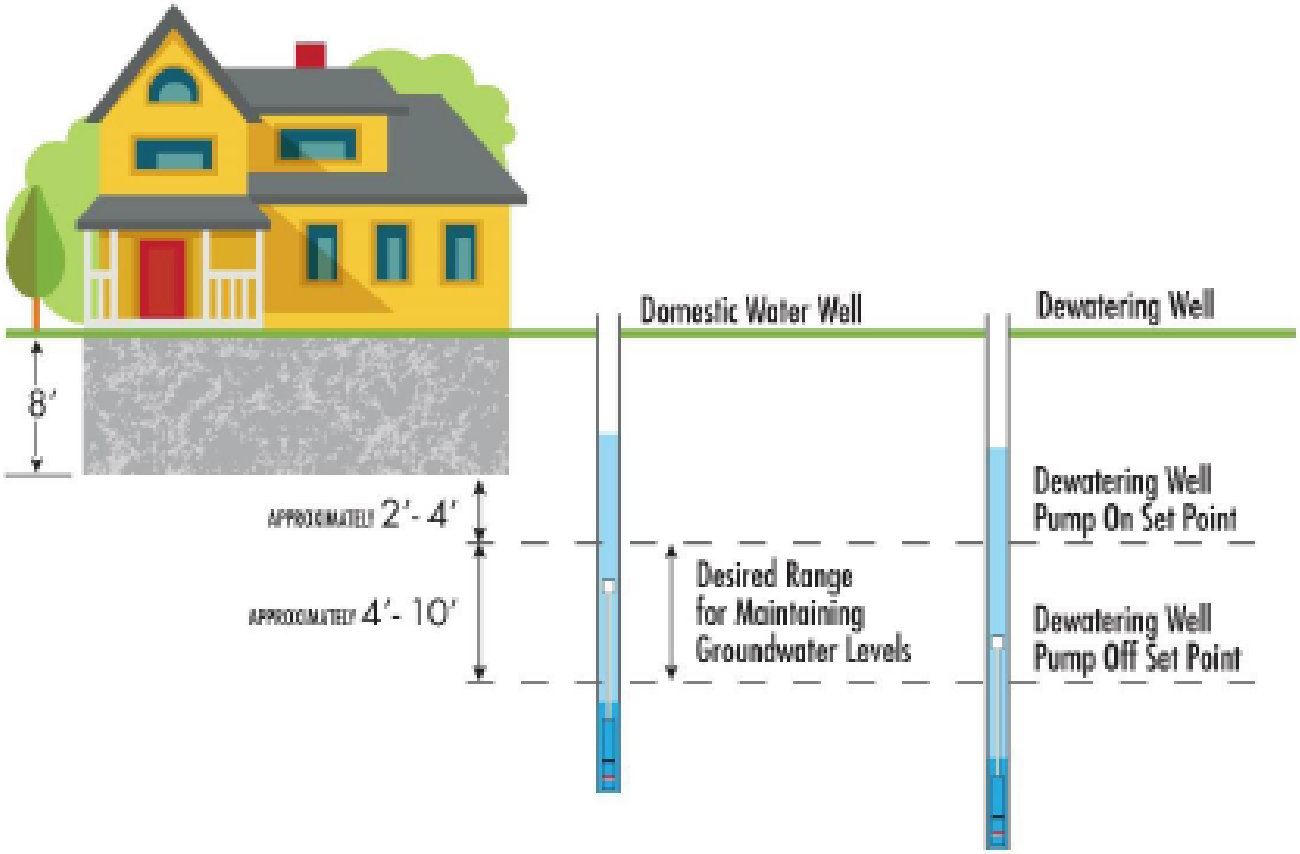
- Water well data obtained from KGS
  - Some well logs were never turned in to KGS
  - Rely on the descriptions of well driller
- Some wells were only drilled to a depth of 14 feet below ground surface
- Top of Shale layer (bedrock) average depth is 26 feet below ground surface
  - Results in a short vertical distance for dewatering

Surface and Subsurface Elevations Schematic



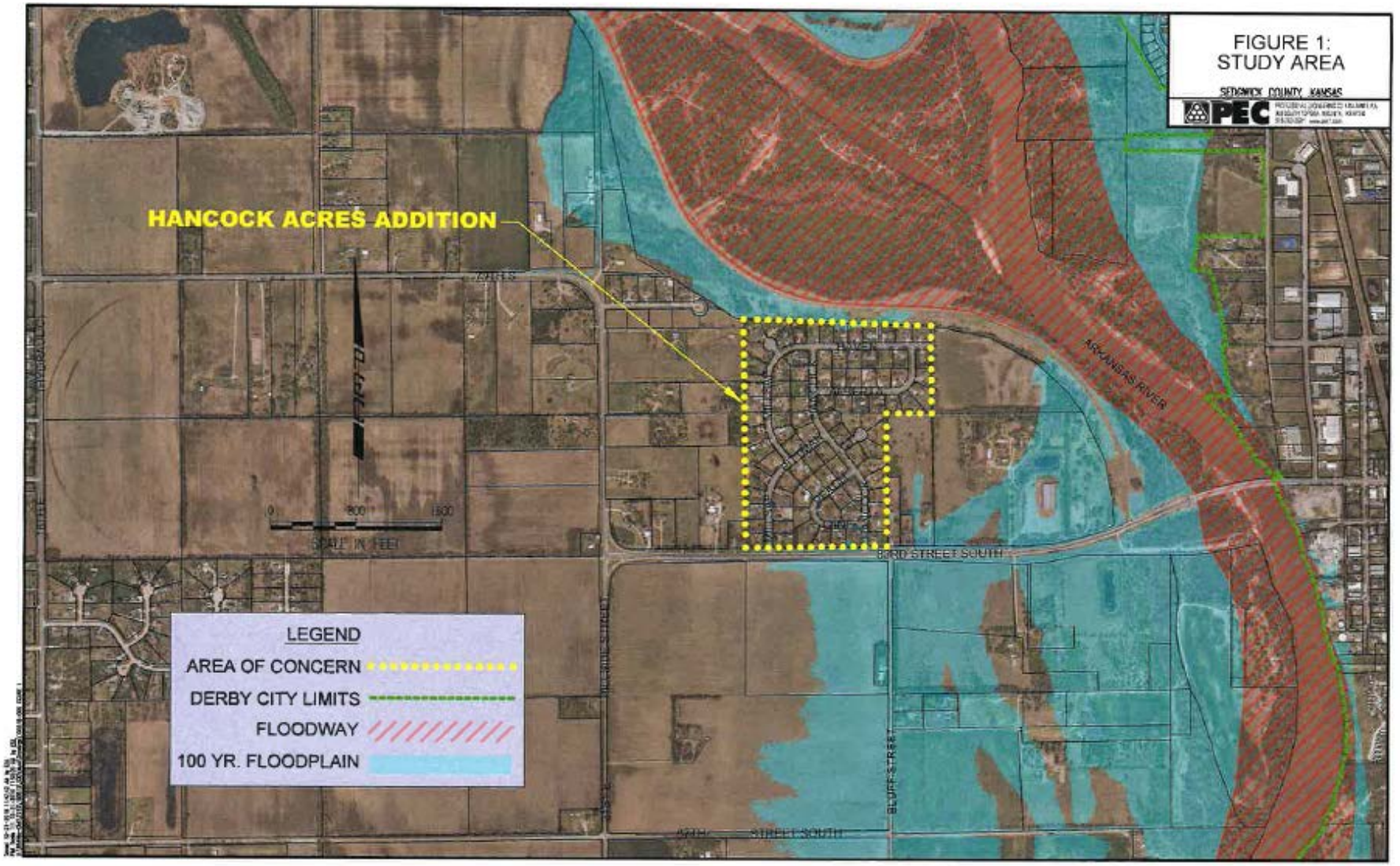
Note: The elevations shown are approximate. Basements were assumed to be eight feet below ground surface.

Proposed Dewatering Well Pump Controls



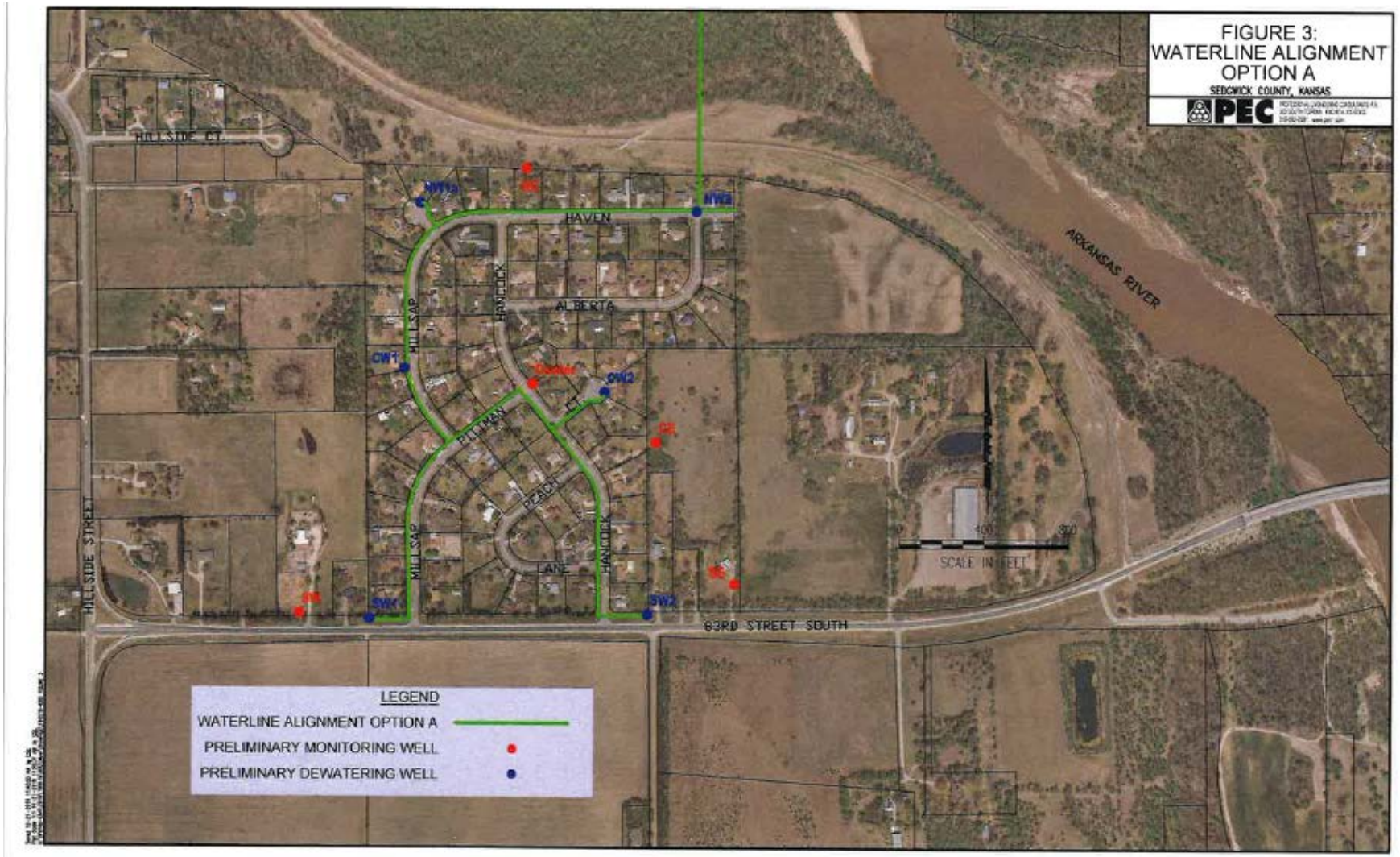
Note: Proposed ranges and groundwater elevations are approximate. Exact elevations and depths will vary based on existing house and basement elevations. The desired range for maintaining groundwater levels will be determined and refined during well test pumping and final design. Schematic 2 is intended to provide a visual representation of the purpose for the controls and is not to be interpreted as final design conditions.

Hancock Acres



Proposed Well Locations

Waterline Alignment - A



Waterline Alignment - B

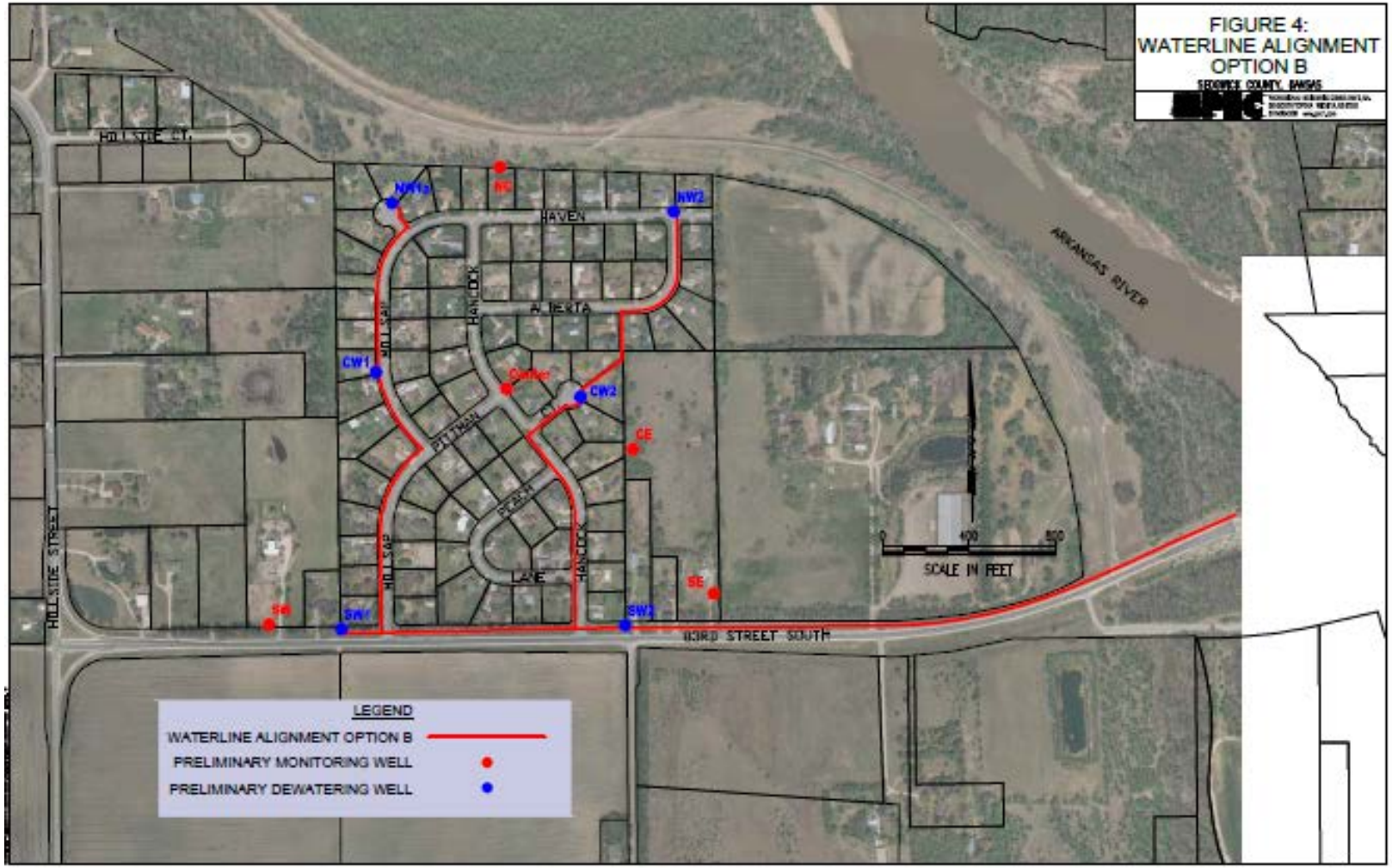


Table 5: Preliminary Project Cost Estimate [1]

Item Description	Option A	Option B
Capital Costs		
Permitting, Test Pumping, and Construction Oversight	$80,000	$80,000
Waterline Construction	$223,500	$420,600
Dewatering Well and Well Pump (5 hp)[1]	$195,000	$180,000
Dewatering Well and Well Pump (10 hp)[1]	$225,000	$250,000
Monitoring Wells	$50,000	$50,000
Meter Vault	$15,000	$15,000
Electrical and Control Systems	$108,000	$108,000
Permanent Onsite Generators	$180,000	$180,000
Valve Assemblies	$6,300	$7,100
Erosion Control/Site Clearing	$65,000	$65,000
Project Costs (Survey, Design, Admin, Inspection, etc.)	$320,340	$421,100
Contingency (20%)	$213,560	$280,740
Total Estimated Capital Cost	$1,681,700	$2,115,550
Annual O&M Cost		
Well Pump and Control System Power (annual)	$11,000	
DWR Reporting (annual)	$1,000	
Well Pump Replacement (every 10 years)	$20,000	
Well Rehabilitation (every 5 years)	$10,000	
Maintenance/Repairs (annual)	$5,000	
Range of Annual Costs	$17,000-$47,000	
Present Value Cost (20 Years)	$2,802,970	$3,236,820

[1] Well and pump costs assume three 5-hp pumps and three 10-hp pumps for option A and two 5-hp pumps for four 10-hp pumps for option B.

[2] Estimated costs do not include costs for easement or right of way acquisition.

Cost Estimates

- Option A is the lowest present value option
- The capital costs for Option A were evaluated to determine per lot costs to homeowners

Assessments

- 91 Properties
- Estimated Cost = $ 1,631,700
- Costs spread equally per lot/parcel
- Per lot cost = $18,480
- Annual assessment annual (interest rate of 4%) per lot:
  - 20 Years = $ 112.00/month

Estimated Operating Costs

- Maintaining pumps and equipment and electricity per Year
  - $17,000 - $47,000
- Estimated O&M Cost per month per lot
  - $42.00

Final Estimated Cost

- The total estimated loan payment for the capital costs and the annualized estimated O&M costs over a 20-year period is $154 per month per lot

- Option B would be $183.00 per month per lot

Other Considerations

- Required to obtain a permit from the Kansas Department of Agriculture, Division of Water Resources
- Purchase of property and easements as necessary
- Possible action related to zoning of the property
- Potential risks
- Timing—would be likely to take 1 year or more to become operational

Next Steps

- Create Districts
  - Citizen driven model requires creation of two legal entities
  - Benefit District – allows the county to design, build, and finance project construction. Costs then assessed to the neighborhood for up to 20 years
  - Improvement District – allows the neighborhood to create a governmental entity to operate and maintain the system

Next Steps

- Create Districts
  - A majority of ownerships must sign the petition asking the BoCC to create the benefit district
  - Both districts would have to be approved by BoCC before moving forward
  - Improvement district would set up board of directors, budgets, tax rates for O&M, etc. in accordance with state law

Next Steps

- Design
  - Design would fall into the benefit district duties
  - County would hire a consultant to prepare detailed project plans, permit applications, easement documents, etc. for the project
  - Costs would be included in the total project cost for assessment after completion

Next Steps

- Construction
  - County would acquire needed easements
  - County would work with any utilities that would need to be relocated
  - County would use standard bidding processes to obtain best price for construction
  - County would monitor construction
  - Above costs would be included in final assessments

Next Steps

- Assessments
  - Final assessment notices are sent to owners
  - Owners have 30 day to pay off part or all of assessment
  - Any unpaid portion included in the next county bond sale for permanent financing
  - After the bonds are sold annual payments are calculated and added to the tax rolls
  - If taxes paid through escrow – payments will show up there

Next Steps

- Normal Operation
  - The benefit district and county have completed their participation
  - Improvement district manages the operation and maintenance of the system, sets mill levy rates to support the system, operates through a publicly elected board of directors
  - Improvement district is permanent

QUESTIONS

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