WHY DO DEVELOPERS PREFER PRIVATE WELLS?

- REGULATORY REQUIREMENTS AND PERMITTING TO DEVELOP PUBLIC WATER SYSTEMS ARE EXCESSIVELY TIME CONSUMING
- IT IS VERY DIFFICULT TO DEVELOP LARGER CAPACITY PUBLIC WELLS
- SMALLER PRIVATE WELLS WILL HAVE A LESSEER IMPACT UPON WATER RESOURCES AND OFF-SITE PRIVATE WELLS
- THE COST TO DEVELOP PUBLIC WATER SYSTEMS IS SUBSTANTIALLY GREATER THAN TO DEVELOP PRIVATE WELLS
REGULATORY REQUIREMENTS - PUBLIC WATER SUPPLY SYSTEMS

• RIDOH APPLICATION FOR APPROVAL – WATER SUPPLY WELLS & TREATMENT (IF NEEDED)

• RIDEM GROUNDWATER WITHDRAWALS IF >10,000 GPD

• ALL OTHER APPROVALS (MASTER PLAN, FINAL PLAN, RIDEM WETLANDS, ZONING, ETC.) WILL BE SIMILAR REGARDLESS OF THE WATER SUPPLY SYSTEM

• LOCAL AUTHORITIES TEND TO PREFER STATE LEVEL REVIEW AND OVERSIGHT OF WATER SYSTEMS SERVING LARGE DEVELOPMENTS
RIDEM AND RIDOH REQUIREMENTS AND CRITERIA ARE COMPREHENSIVE AND ESTABLISHED – YOU GO THROUGH THE PROCESS ONCE AND ARE DONE!!
• RIDEM – OWTS & PRIVATE WELL APPROVALS
• RIDOH – PRIVATE WELL APPROVAL PROGRAM
• PLANNING BOARD MAY REQUIRE IMPACT STUDY OF MULTIPLE WELL WITHDRAWALS (FULL BUILDCOUT) UPON LOCAL/REGIONAL WATER RESOURCES
• PLANNING BOARD MAY REQUIRE EVALUATION OF BRINGING EXISTING PUBLIC WATER SERVICE TO DEVELOPMENT SITE
• PLANNING BOARD OR ZONING BOARD MAY REQUIRE AQUIFER PROTECTION PLAN
THE LOCAL REVIEW AND APPROVAL PROCESS CAN BE HIGHLY VARIABLE, MODIFIED BY LOCAL NEEDS AND PERCEPTIONS, CAN REQUIRE MONTHS OR YEARS
DEVELOPING PUBLIC WATER SUPPLY SYSTEMS

- BASIS OF DESIGN – QUANTITY, FLOWRATE, SOILS, DRAINAGE, ETC.
- PRELIMINARY SITE WATER BALANCE
- GEOPHYSICAL SURVEY OF SITE OR TARGET WELL AREAS (OPTIONAL)
- EXPLORATORY WELL INSTALLATION
• PUMP TEST & WATER QUALITY EVALUATION PROGRAM

• DESIGN OF WATER SUPPLY, STORAGE, TREATMENT & DISTRIBUTION SYSTEM

• RIDOH APPLICATION FOR APPROVAL

• RIDEM WETLANDS/GROUNDWATER WITHDRAWAL APPROVAL
PUBLIC WELL IMPACT UPON OFF-SITE WATER RESOURCES

- Properly designed, there should be NO IMPACT upon off-site water resources or private wells.

- Public well systems should be designed with storage and equalization capacity to moderate the rate of withdrawal and drawdown impacts.

- Pump test programs are designed to assess and validate operating requirements and capacity, to prevent off-site impacts.
LARGE NUMBERS OF PRIVATE WELLS DENSELY CLUSTERED CAN STRESS GROUNDWATER AQUIFERS DUE TO DIURNAL PEAKING. TYPICALLY NO DEMAND EQUALIZATION PROVIDED.

PRIVATE WELL SYSTEMS TYPICALLY REQUIRE NO EVALUATION OF IMPACT UPON ON-SITE OR OFF-SITE WATER RESOURCES.

PUMP TEST PROGRAMS TO ASSESS IMPACT OF MANY PRIVATE WELLS UPON AQUIFER ARE TYPICALLY MORE COMPLEX AND COSTLY THAN PROGRAMS TO ASSESS A PUBLIC WELL SYSTEM.
PRIVATE WELLS TEND TO BE DRILLED THE MINIMUM DEPTH TO ACHIEVE THE MINIMUM DESIRED FLOWRATE (TYPICALLY 2 TO 3 GPM). THIS RESULTS IN MULTIPLE WELLS DRAWING FROM SHALLOW FRACTURES, INCREASING THE LIKELIHOOD OF IMPACTS UPON NEARBY WATER RESOURCES.

PRIVATE WELLS ARE OFTEN LOCATED CLOSER TO PROPERTY BOUNDARIES DUE TO LESSER SETBACK REQUIREMENTS.
EXAMPLE: 72-LOT SUBDIVISION USING PRIVATE WELLS AND OWTS
PUBLIC VS PRIVATE WELL SYSTEM COST

- Public System: $538,200
- Private - Alt #1: $547,500
- Private - Alt #2: $1,080,500

No. of Wells:
- Public System: 2
- Private - Alt #1: 70
- Private - Alt #2: 138

Total Cost:
<table>
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<tr>
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<th>Public System</th>
<th>Private - Alt #1</th>
<th>Private - Alt #2</th>
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<tbody>
<tr>
<td>No. of Residential Units</td>
<td>138</td>
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<tr>
<td>Avg, Daily Demand</td>
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<tr>
<td>No. of Wells</td>
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<tr>
<td>Effective Well Capacity</td>
<td>&gt;25 gpm, ea.</td>
<td>2-6 gpm/well</td>
<td>2-3 gpm/well</td>
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<td>Implementation Cost:</td>
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<tr>
<td>Aquifer Investigations</td>
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<td>Pump Test Program</td>
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<td>Design Eng. &amp; Approvals</td>
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<td>Well Installation</td>
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<td>Capital Equipment</td>
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<td>TOTAL COST</td>
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