CHARLESTOWN STATE PARK

72 MGD POTABLE WATER SYSTEM

CHARLESTOWN STATE PARK
Why does a state park need 72 million gallons per day potable water?
IINDIANA ARMY AMMUNITION PLANT (INAAP)

Built-1941
10,600 acres (later 15,000)
1,700 buildings
27,500 people employed at max. level

Closed-1992
5,100 acres transferred to Indiana DNR
6,000 acres became River Ridge Commerce Center
INDIANA ARMY AMMUNITION PLANT DURING WORLD WAR II
Location of base and water system
To understand the natural and cultural history of an area, you have to understand the geology.
Extent of Illinoian Ice Age
Glacial Outwash
40’-100’ Thick, 0’-1,000’ Wide
4 Miles ± Long
Location of base and water system
Because of the geology, the aquifer is there.

Because the aquifer is there, the base was built.

Because the base was there, we now have a state park and industrial park.
WATER SYSTEM

7 Ranney collector wells
2 Tubular wells
2 5 MG Ground storage reservoirs
5-8 Elevated water towers
8 Miles 8", 12", 36" Transmission lines
23 miles 6"-12" Distribution system lines

Owned by private water company
Charlestown Ranney Well
Ranney Well Pump

3,500 GPM

400 HP
Ranney Well Piping
Tubular Well
PROBLEMS

Oversized for current use-125,000 GPD
53 Industrial customers & City of Charlestown
Many miles of 65 year old water lines
Two wells working
Roof collapsed on one ground storage reservoir
Designed for 3 distribution systems-1 in use
Water towers old, many unusable
Lost water-73% (Not counting transmission lines)
Potential maintenance & repair costs huge
HOW DID DNR GET THIS?
WHY DID DNR WANT THIS?

Aquifer came with land
“Rights” to water system owned by private company
Ownership vague
Hindrance to economic development
INAAP transferred rights for water system to private entity, including

- Responsibility to operate and maintain
- Rights to all revenue generated
- Right to use any part of system needed
- Easement over anywhere they needed
- Right to dispose of any unneeded portion of system or equipment

INAAP retained “ownership”
Location of base and water system.
WHY DID DNR WANT THIS?

DNR executive office wanted water system
Assist with local economic development
Consolidate “ownership”

DNR engineers had significant reservations
Water leaks
Questionable water quality
  Ground water?
Treatment
  Chlorination/fluoridation
  Phosphate for iron/manganese sequestration
Storage facilities questionable
Had never been inspected by state regulators
Concerns verified by outside consultant
  Robert E. Curry & Associates
Concrete storage reservoir—Untreated water
Previously not part of potable system
Wood roof with unpainted wood ceiling inside
Large weave wire mesh opening around top
Rotted wood frame for wire mesh
Possible leak in roof
Air release “hole” in 36” pipe from well
Unsure if they had jurisdiction
Federally owned?

Property where system located mostly transferred to DNR and River Ridge

Sold water to City of Charlestown

Finished water was being tested

Passed bacteria tests
Offer to buy contingent on IDEM inspection and meeting all regulatory requirements

- Major repairs to concrete storage reservoir
- Clean up of pump house interiors
- Numerous safety issues corrected
- Chlorine systems updated
- Elevated towers inspected
- Piping systems labeled
- Replace hole in pipe with air release valve
February, 2007 - DNR became proud owner of 72 MGD water system

Now what?

No staff to run it
No budget for improvements
INTERIM SOLUTION

Hire private company to operate system
Net cost about $10,000 per month
Major repairs DNR responsibility
No end in site
No money for needed upgrades
Water quality complaints from users
HELP ARRIVES

American Recovery and Reinvestment Act-2009
“Shovel ready”? 
Change order to existing design contract 
Robert E. Curry & Associates 
Work bid-Dec. 15, 2009 
Notice to Proceed-Dec. 18, 2009
NEW 2 MGD WATER SYSTEM

3-750 GPM tubular wells
Iron & manganese removal
Chlorination and fluoridation
16” Transmission line
750,000 gal. fiberglass coated standpipe
3,000 GPM booster station
Variable speed pumps
Location of New Water System
NEW WELL FIELD, 3-750 GPM WELLS
NEW 2 MGD WATER TREATMENT PLANT
NEW
750,000 GALLON WATER TANK
NEW 3,000 GPM BOOSTER STATION
PROJECT COSTS

Construction completed July, 2011

Water treatment-$3,060,000
Water transmission lines-$1,560,000
Water standpipe-$550,000
Aquifer study-$500,000
Wellhead protection plan-$5,000
GAME CHANGER

System small and efficient
Easily expandable to 4 MGD
Potential is tremendous

River Ridge Commerce System
Local communities
Central Indiana communities
Louisville
RFP FOR UTILITY TO OPERATE SYSTEM

Goals

**No net cost to DNR**
Maintain system
Bill customers and collect revenue
Keep rates low
Work with new customers
DNR keep control over long term expansion
Revenue for DNR
1. Vendor to collect and keep all revenue from water sales
2. Vendor responsible for all operation, maintenance, regulatory compliance, etc.
3. Vendor responsible for all new customers within River Ridge Commerce Center
4. DNR to pay $0 to vendor
5. What rates are needed to accomplish this?
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Points</th>
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<tbody>
<tr>
<td>1. Adherence to Mandatory Requirements</td>
<td>Pass/Fail</td>
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<tr>
<td>2. Management Assessment/Quality (Business and Technical Proposal)</td>
<td>25 points</td>
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<tr>
<td>3. Cost (Cost Proposal)</td>
<td>-30 to +30</td>
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<td>4. Indiana Economic Impact</td>
<td>15</td>
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<td>5. Buy Indiana</td>
<td>10</td>
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<tr>
<td>6. Minority (10) and Women Business (10) Subcontractor Commitment</td>
<td>20</td>
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<tr>
<td>Total</td>
<td>100 (105 if bonus awarded)</td>
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Lots of interest
One bidder
River Ridge Commerce Center
Sub-Louisville Water Co.
Contract finalized-April 2011
Contract term-4 years + 4
WHERE DO WE GO FROM HERE?

Become wholesale supplier
Local water systems
Indianapolis
Louisville
Revenue for DNR
QUESTIONS?