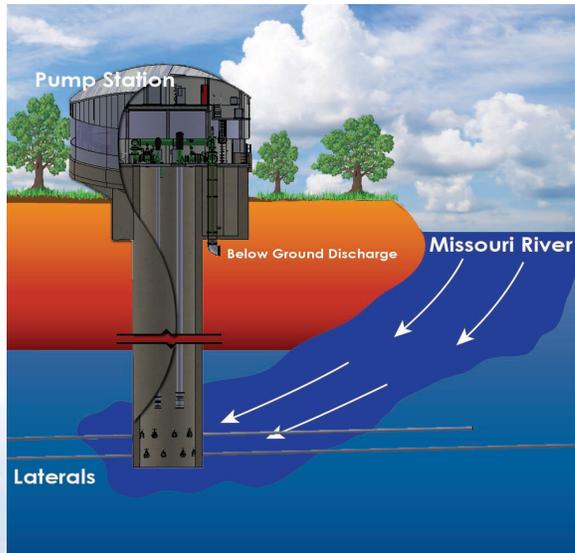


HORIZONTAL COLLECTOR WELL

Existing Intake - Four (4) open ended 20-inch pipes in river.
Multiple pumps ranging from 4 MGD to 34 MGD.



PRELIMINARY

2002-2003: Desktop Study, Pilot Borings, Confirmation Testing

- **BWTF ultimate capacity of 50 MGD**
 - HCW can provide 6 to 30 MGD
 - Maintain existing conventional intake
- **Anticipate water quality 90/10 blend**

2005: Permitting, Easements, and Architectural Review Committee

- Note coordination with new Memorial Bridge.

2006: TM Addressing Siting, Permitting, and Related Issues



DESIGN AND CONSTRUCTION

2009-2010: Phase I Construction (Caisson, Service Road, and Mitigation)

Contractor: Ranney Collector Wells International

Cost: \$6,450,000

Well Structure: Concrete Caisson (96' total length)

Diameter: 20-foot inside diameter.

Laterals: 14 - 12" diameter radial laterals varying in length from 140 ft to 220 ft

Screens: 2,520 linear feet of 12" diameter stainless steel well screen

Depth of Well: 85' below ground surface

Well Capacity: 6 - 30 MGD, Average 24 MGD

Peak Well Capacity: 34 MGD

Service Road: Articulated concrete mats, 24" stabilized base

DESIGN AND CONSTRUCTION (CONTINUED)

2011: Flood

Highest Elevation July 1, 2011

- Peak Flow = 146,000 cfs
- Peak Gauge Reading = 19.25 ft or 1638.87 ft
- Gauge Height (1988 datum) = 1619.62 ft

Elevations

- Operations Level = 1647.00 feet
- 500-Year Flood = 1645.00 (preflood)
- Flood 2011 = 1638.87 feet
- 100-Year Flood = 1634.00 (preflood)
- Ground surface = 1630.00 feet
- Normal River Elevation = 1622.00 to 1625.00



2012-2013: Phase II (Transmission Main)

Contractors:

General: SJ Louis

Electrical: Edling Electric

Cost: \$4,040,000

Pipeline

- 2,320 lf 36" Ductile Iron Pipe
- 2,140 lf 36" Fused PVC

Peak Flow = 23,600 gpm

Peak Velocity = 7 fps

Detention Time = 12 minutes at peak flow



2012-2013: Phase III (Pump Station)

Contractors:

General: PKG

Mechanical: Cofell's

Electrical: Edling

Pump Supplier: Weir Floway

Cost: \$5,600,000

Pumps

- Two 250 hp, 10,750 gpm pumps
- Two 600 hp, 18,500 gpm pumps

Power Supply

- Supplied from WTP and tied to standby generator.
- Primary and secondary 12.5 kV feed lines. Transformer on electrical level.
480V, 3phase at Facility.
- Control fiber from WTP w/ backup radio

Exterior is Rheinzink metal (zinc coated)

Access: Winding drum lift with remote

