COLUMBIA WATER LIGHT

Pre-Council & Public Hearing Sites for Wells 16, 17 & 18

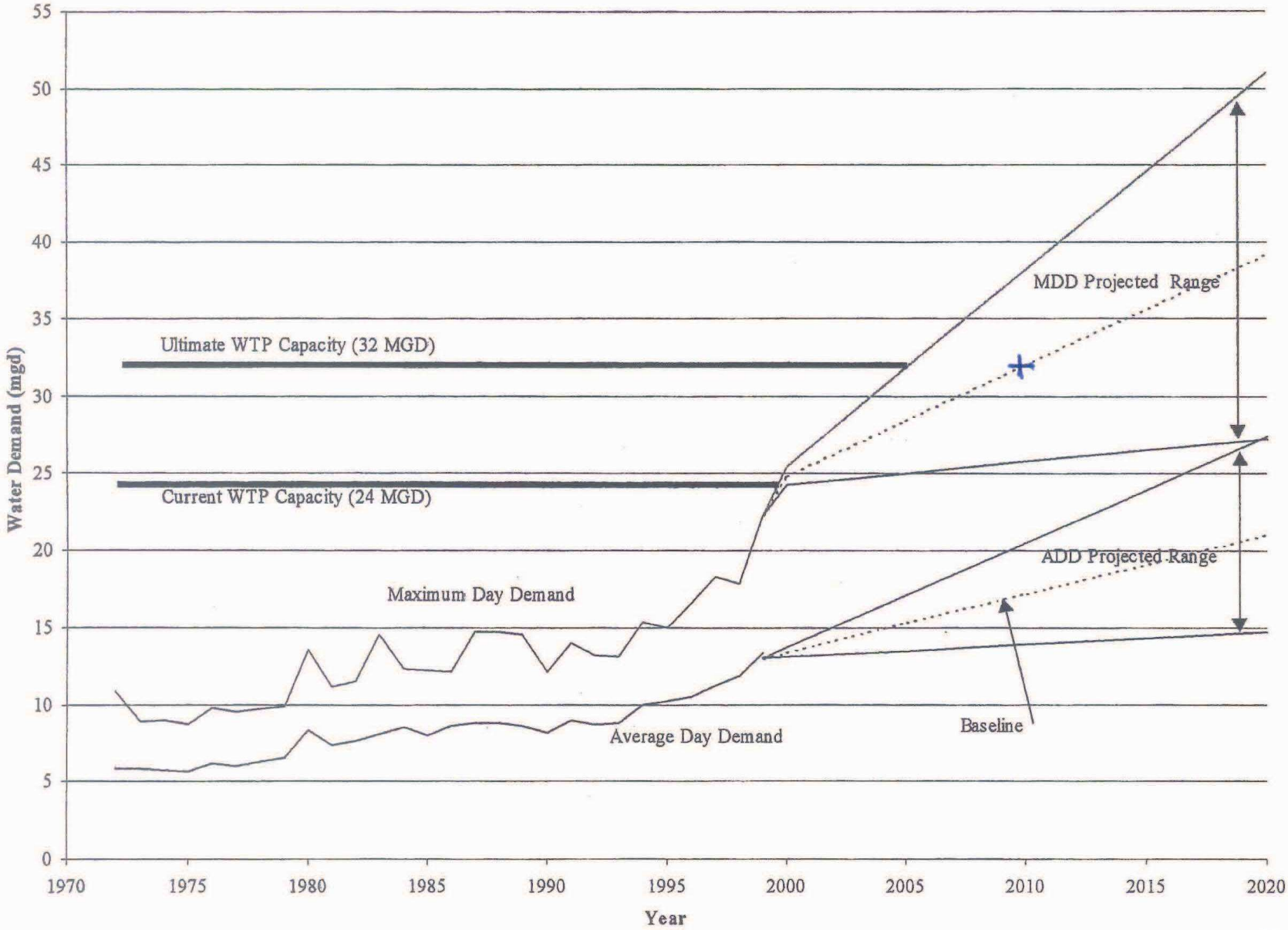
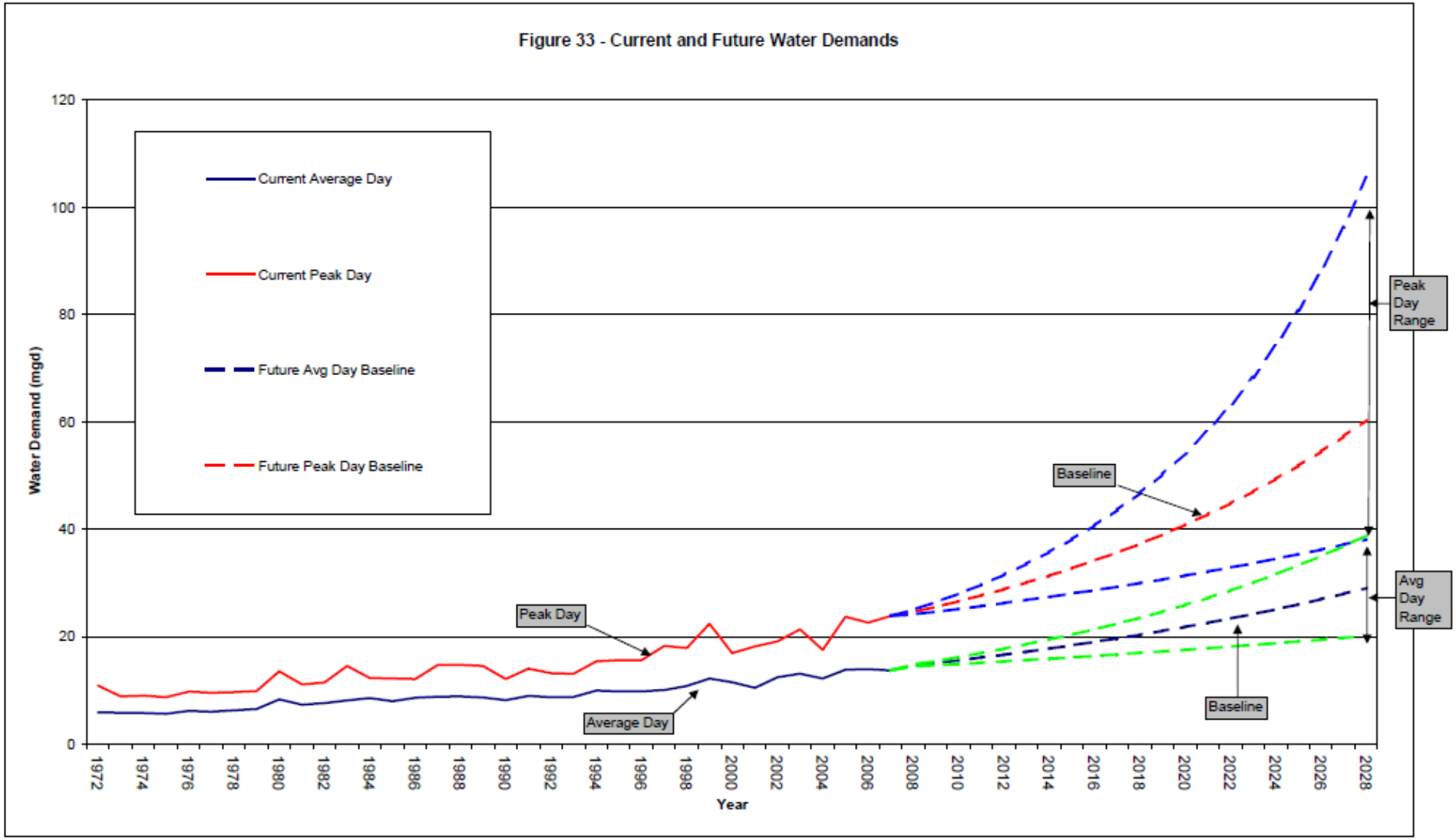
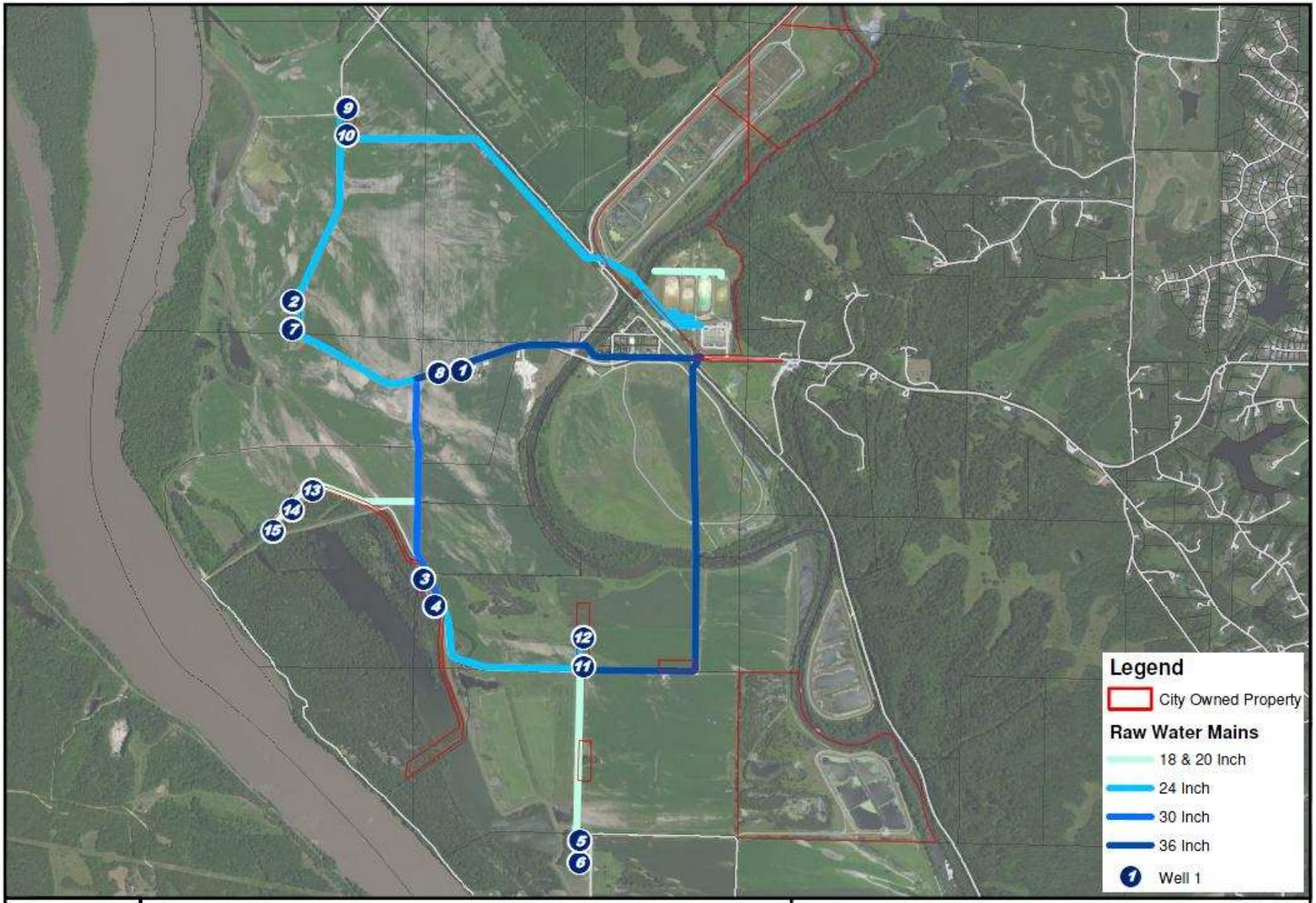


Figure 3
Water Demand Projections
Columbia Water and Light Department

CH2MHILL

Figure 33 - Current and Future Water Demands





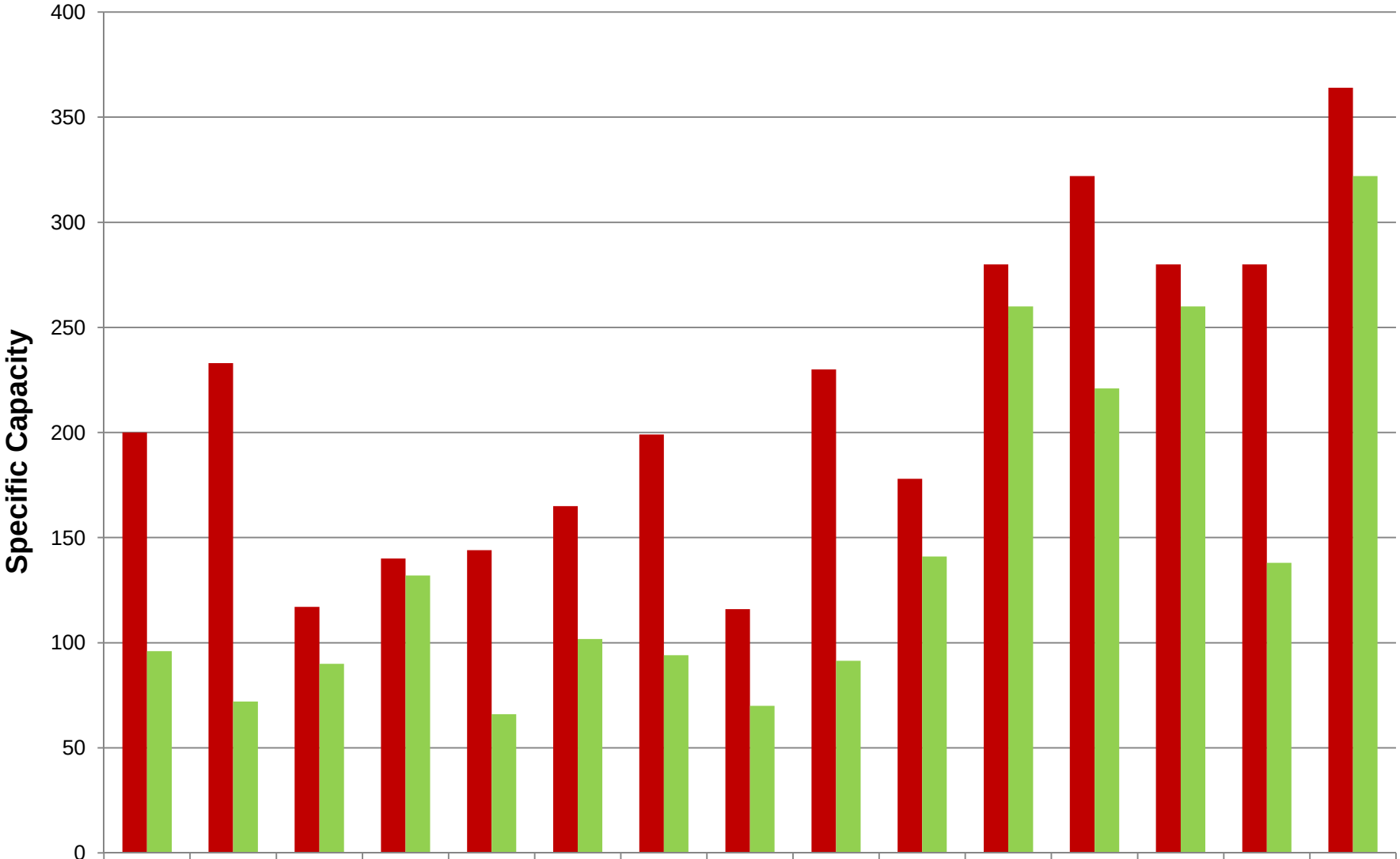
McBaine Wellfield Configuration

1 inch = 2,000 feet

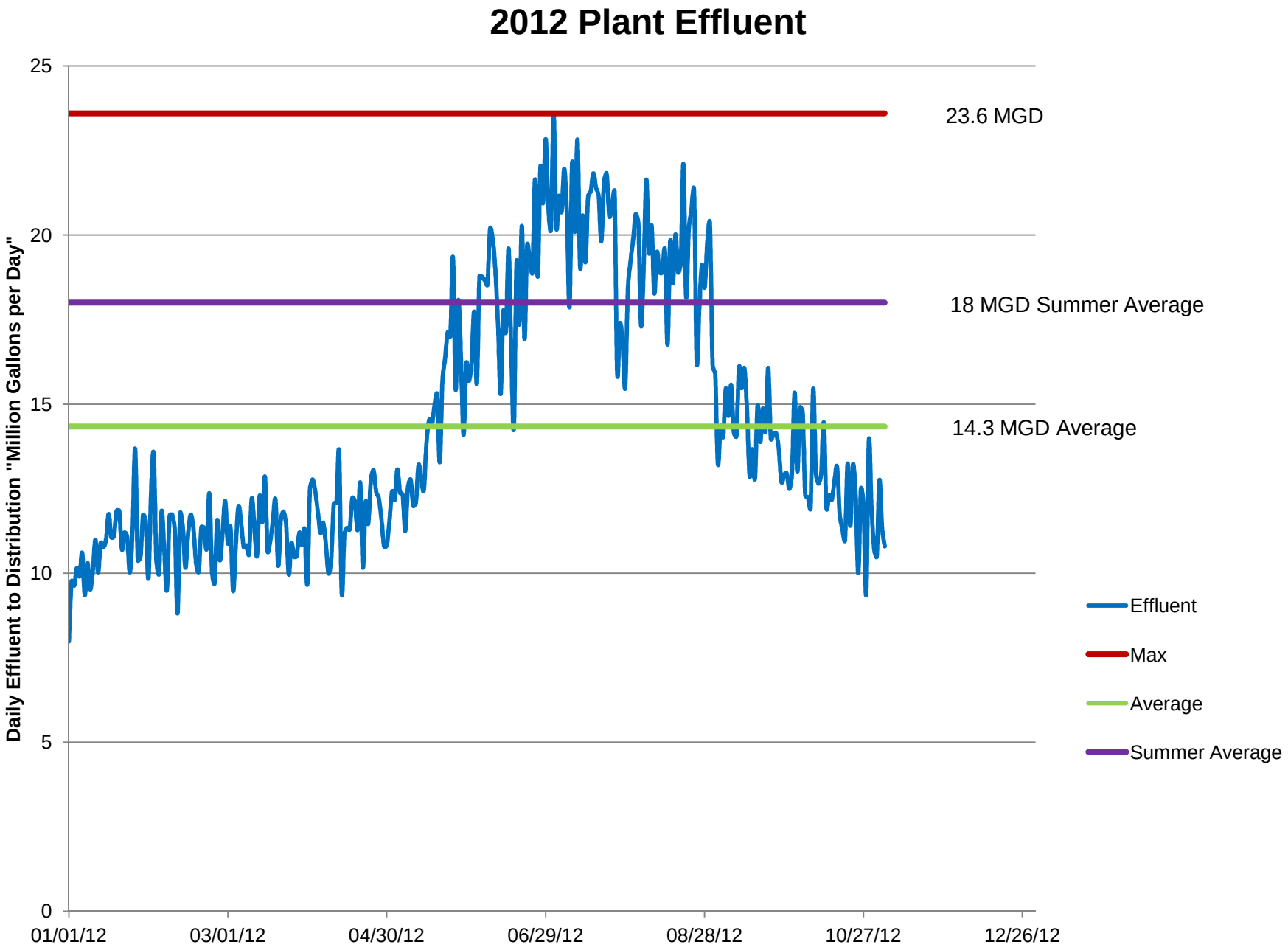
Sheet 1 of 1

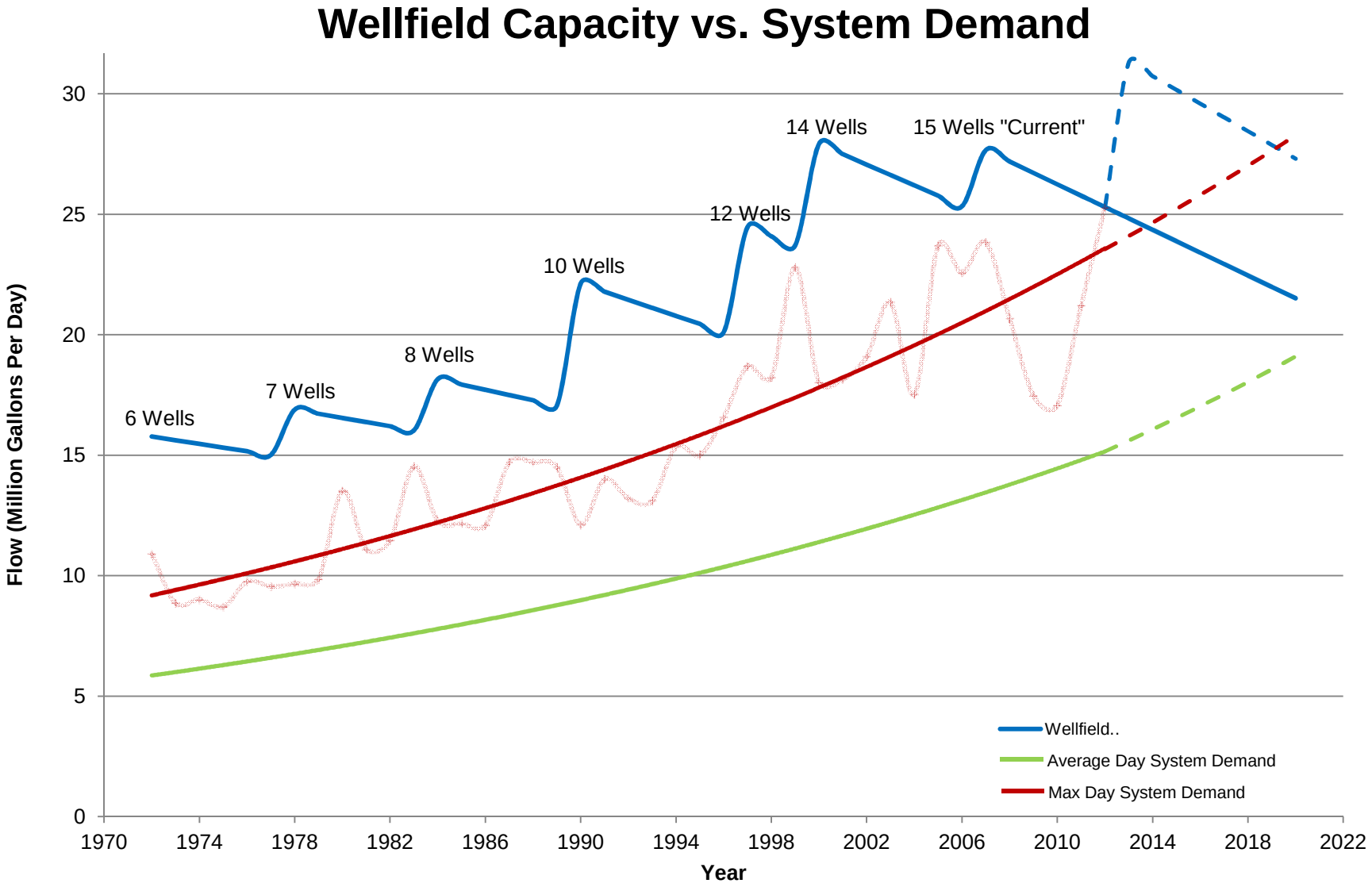
0 0.125 0.25 0.5 0.75 1 Miles

Well Specific Capacities- New vs. Current



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
First	200	233	117	140	144	165	199	116	230	178	280	322	280	280	364
Latest	96	72	90	132	66	101.7	94	70	91.4	141	260	221	260	138	322

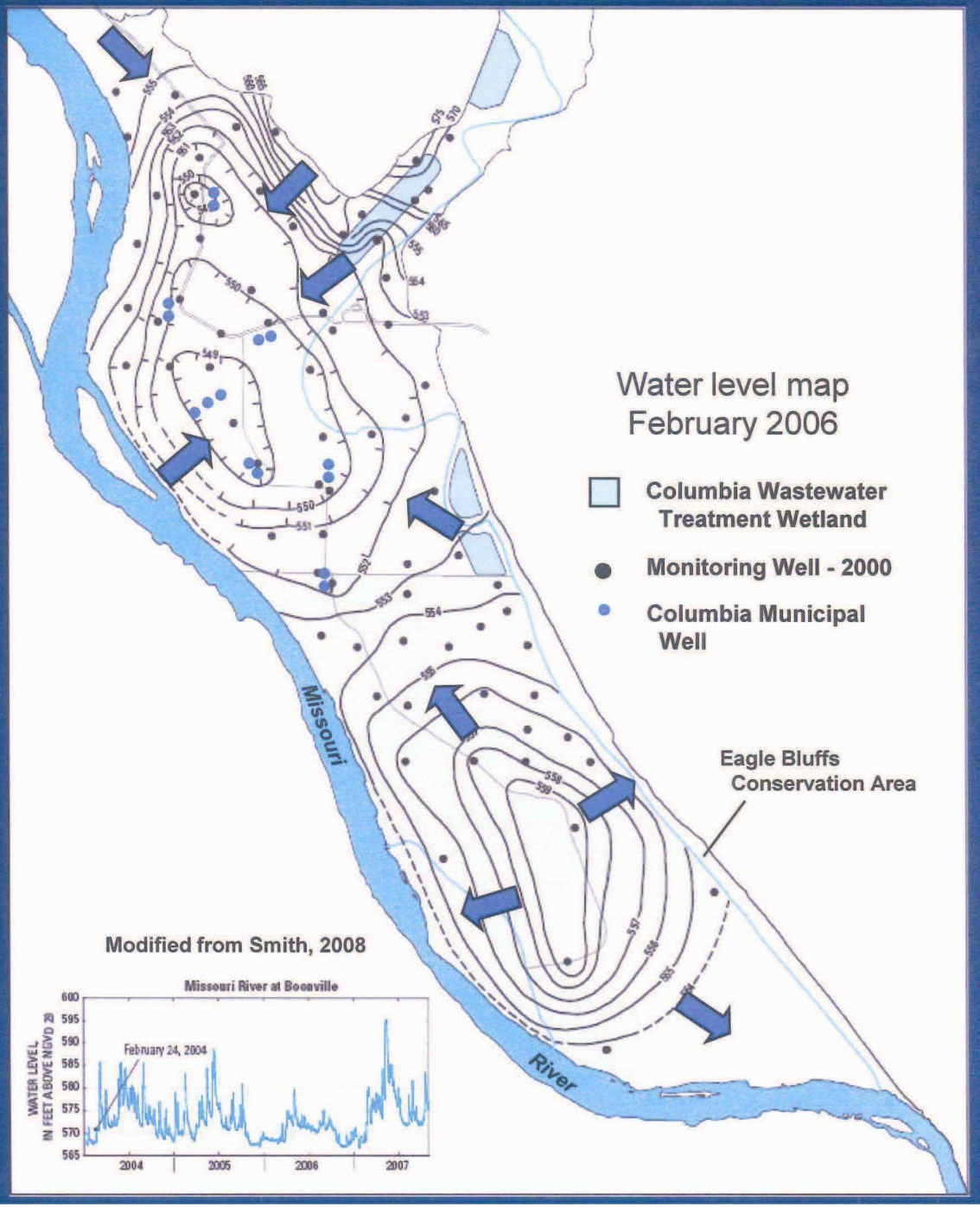

2012 Plant Effluent
Daily Effluent to Distribution "Million Gallons per Day"
25
20
15
10
5
0
01/01/12
03/01/12
04/30/12
06/29/12
08/28/12
10/27/12
12/26/12
23.6 MGD
18 MGD Summer Average
14.3 MGD Average
Effluent
Max
Average
Summer Average


Wellfield Capacity vs. System Demand
Flow (Million Gallons Per Day)
Year
6 Wells
7 Wells
8 Wells
10 Wells
12 Wells
14 Wells
15 Wells "Current"
Wellfield..
Average Day System Demand
Max Day System Demand
0
5
10
15
20
25
30
1970
1974
1978
1982
1986
1990
1994
1998
2002
2006
2010
2014
2018
2022

Water Level Map Persistent Features

- Groundwater high in Eagle Bluffs CA
- Groundwater depression in the municipal well field
- Groundwater high beneath treatment wetland unit 1

USGS



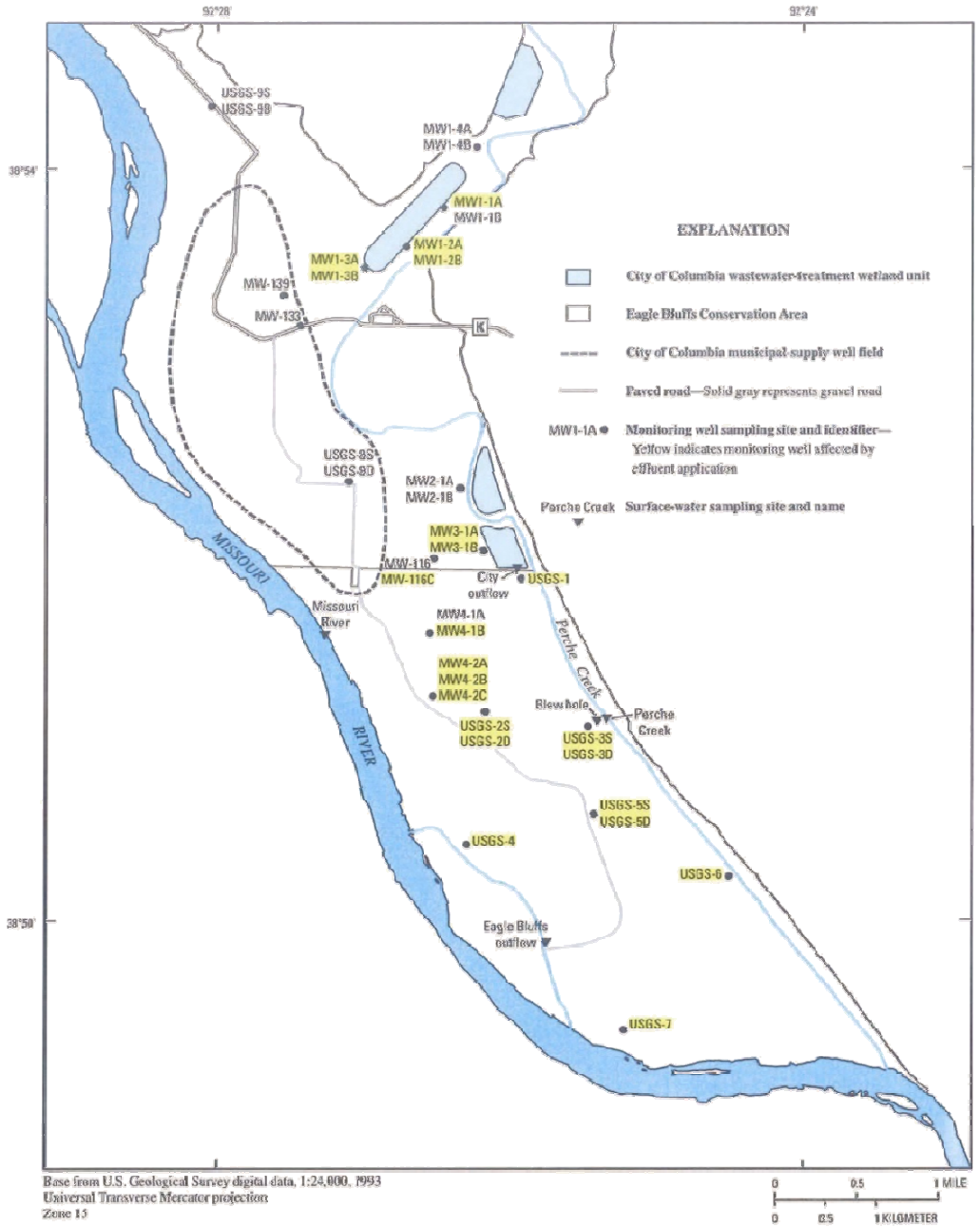
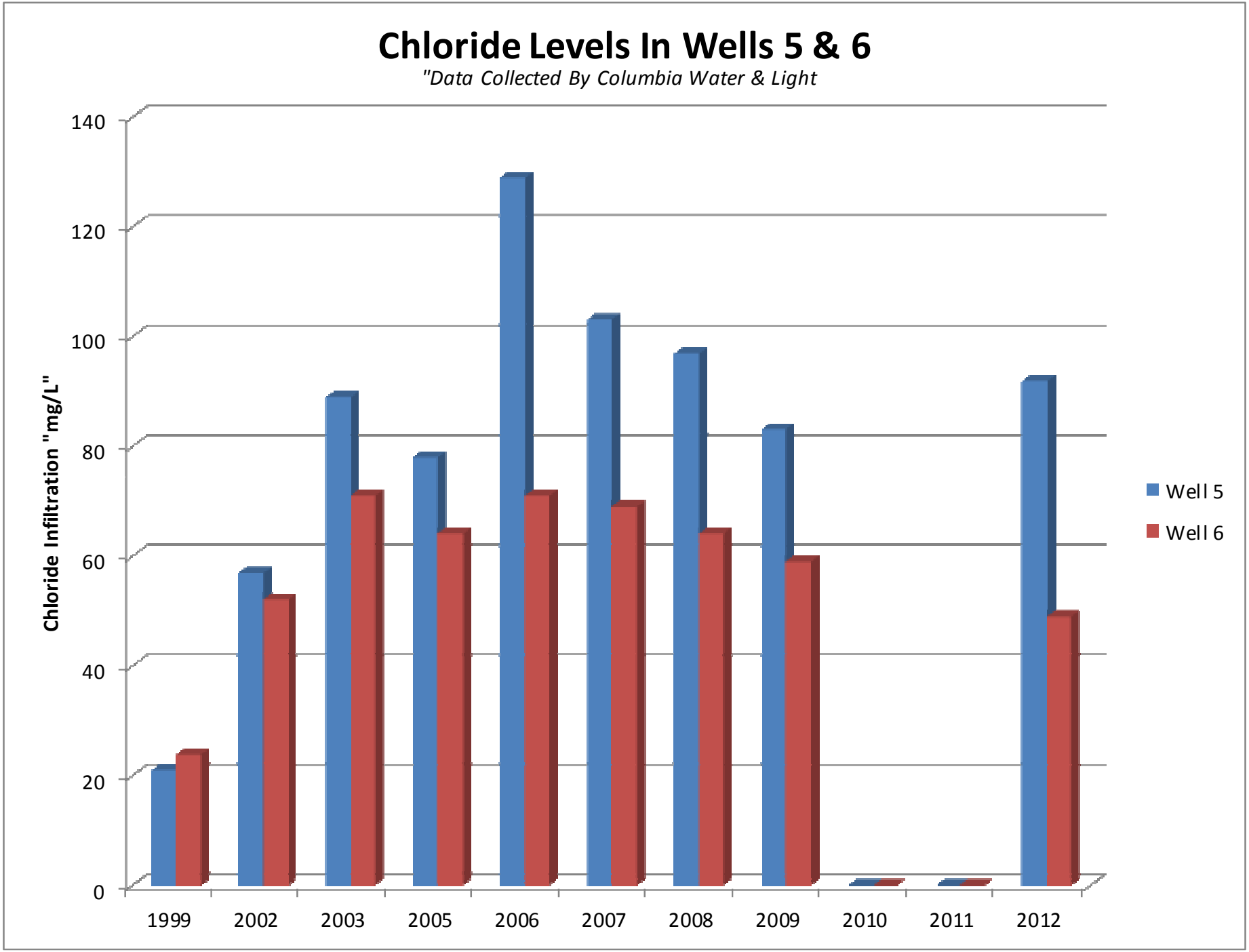
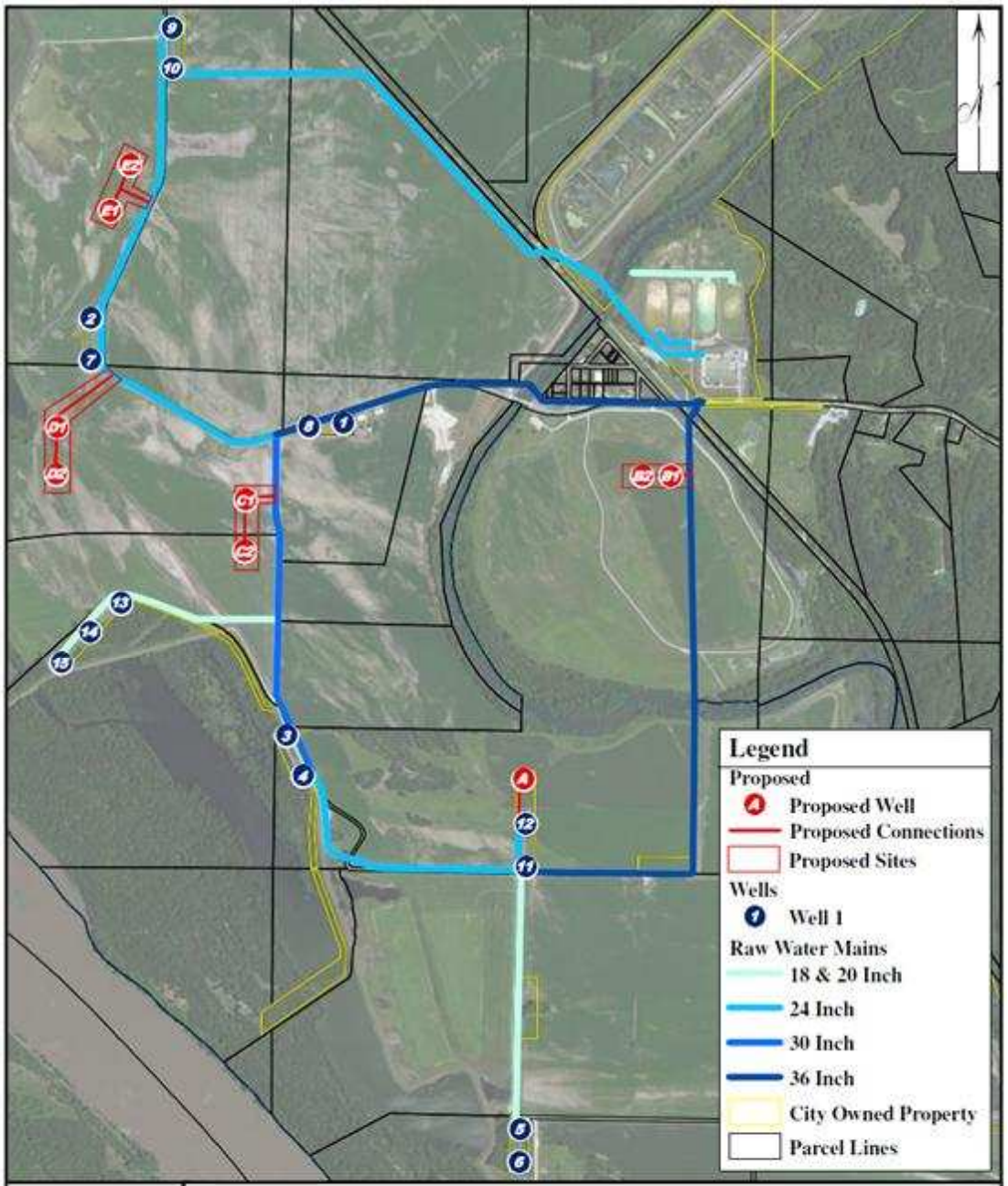


Figure 25. Location of monitoring wells that have been affected by effluent application.


Chloride Levels In Wells 5 & 6
"Data Collected By Columbia Water & Light
Chloride Infiltration "mg/L"
140
120
100
80
60
40
20
0
1999
2002
2003
2005
2006
2007
2008
2009
2010
2011
2012
Well 5
Well 6

Well Siting

- Placement Goals
  - Use Existing Infrastructure
  - Keep Future Options Open
  - Avoid Deepest Water Depression Areas
  - Reduce Surface Water Influences
  - Land Access to Well



COLUMBIA WATER & LIGHT

McBaine Proposed Wellfield Sites

1 in = 0.25 miles

Sheet 1 of 1

Recommended Well Sites A and C

- Reason for Recommendation
  - Need additional pumping capacity
  - Best use of existing infrastructure
  - Keeps more options for future wells
  - Manageable influence from surface water
  - Best land access to wells

Future Steps

- Water Treatment Plant Studies
  - Expansion
  - Condition Assessment
- Water Modeling for McBaine Aquifer
- Long Range Water Planning Study
  - Transmission and Distribution Infrastructure Planning
  - Demand Forecast
- Water Management Planning
  - W&L Advisory Board Subcommittee
- Water Integrated Resource Plan
  - Current Goal of Water & Light Strategic Plan