Inflow & Infiltration – I&I

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- Rates – How we're billed by the Metropolitan Council
- Risk and sensitivity
- Annualized Cost of I/I
- Sewershed Risk Analysis
- I&I Analysis Update
- Applying Rehab Prioritization

MCES Sewer Rates

- MCES Assigns service fee based on total METRO WIDE cost
- METRO WIDE is proportioned to contributors based on % of total flow
- 2016 rates based on:
  - 2015 Flows
  - 2016 Projected Total Operating Budget of $201mil (O&M, Capitol Improvements, Repairs, Staff, Debt Service)

MCES Sewer Rates

- Mound 2015 Flow: 284.5 million gallons
- Total Metro Area Flow: 85,600 million gallons
- Mound = 0.33% of the Total Metro Area Flow
  - Based on this % Mound's 2016 bill is ~$670,000
- Checks and Balances >
  - Mound's ~10k is about 0.3% of total area population
  - This passes the smell test

2015 Rates in Contrast

- 2015 MCES Total Operating Cost: $190mil (O&M, Capitol Improvements, Repairs, Staff, Debt Service)
- Mound's 2014 Flow: 370 million gallons
- Total Metro Area Flow: 91,500 million gallons
- Mound = 0.40% of the Total Metro Area Flow
  - Based on this % Mound's 2015 bill is/was $770,000
- Checks and Balances
  - Mound is (still) 0.3% of total area population
  - Something is different between 2015 and 2016
  - $100,000 Difference

Sensitivity Analysis

- Total Flows: Mound experienced a 40% increase over normalized annual flows
- The Metro Area experienced a 7% increase over normalized annual flows
- Local Comparators:

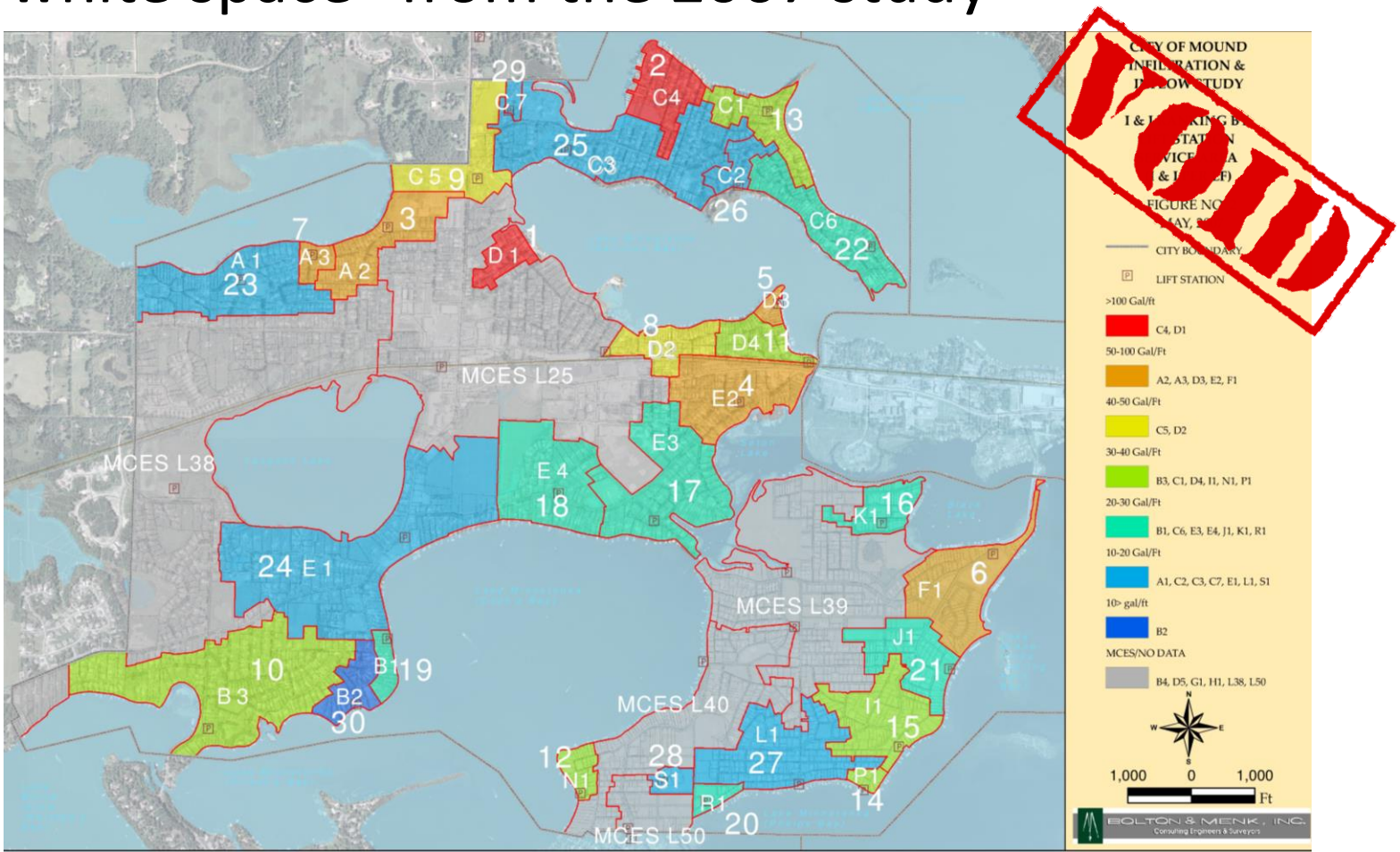
	2014 Flow (milgal)	% Total Metro Area	2015 Flow (mil gal)	% Total Metro Area	% Change	Tariff Change
Mound	370	0.40%	285	0.33%	30%	+0.07%
Deephaven	157	0.17%	171	0.20%	-8%	-0.03%
Excelsior	76.6	0.08%	68.8	0.08%	11%	0.00%
Greenwood	11	0.01%	16.4	0.02%	-32%	-0.01%
Long Lake	97.77	0.10%	87	0.10%	11%	0.00%
Mtka Beach	22.2	0.02%	19	0.02%	16%	0.00%
Minnetrista	137.4	0.15%	107	0.12%	28%	+0.03%
Shorewood	292.3	0.31%	250	0.29%	17%	+0.02%
Spring Park	91.6	0.10%	84.8	0.10%	8%	0.00%
Tonka Bay	88.8	0.10%	80.4	0.09%	10%	+0.01%
Wayzata	212.3	0.23%	192	0.22%	10%	+0.01%

Total Annualized Cost of I&I

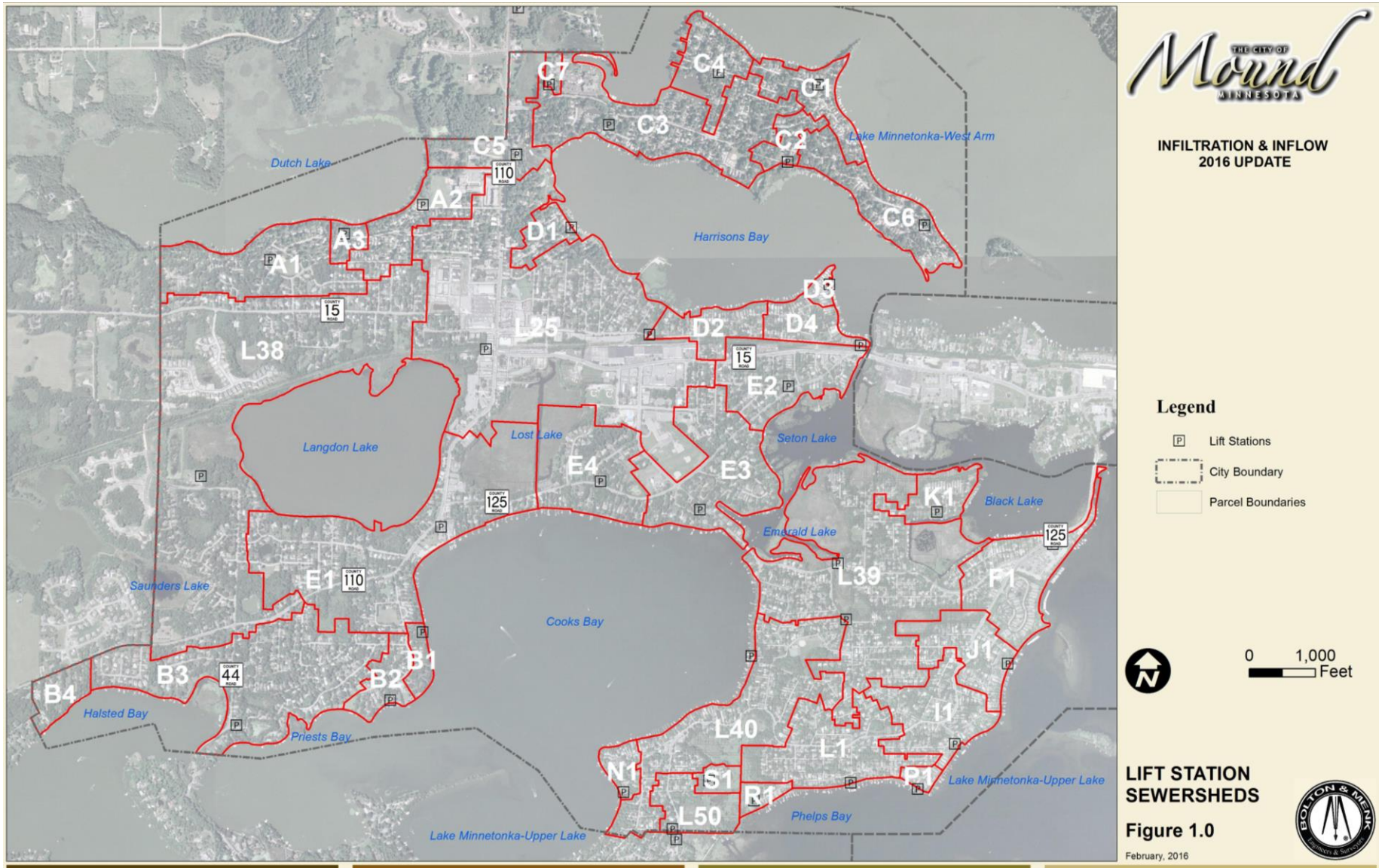
- Absolute Fixed Cost – Real Dollars
  - Fiscal Years 2015-2018: I&I Surcharge = $250,000
  - 2015 hit compared to 285 mil gal normal flow = $175k
  - 2015 hit compared to 0.33% total flow = $150k
  - 2015 actual rate hit = $100k
- Softer Dollars – what if we completely eliminate I&I?
  - Sewer flow = potable water sold = 200 million gallons
  - 200 mil gal = 0.23% of Total Metro Area Flows
  - 0.23% = $469,000 sewer rate for 2015
- The Cost of I&I is ~$200,000 per year
- Over the period of 2015-2018 I&I cost = $2,000,000

Inflow and Infiltration Analysis Update

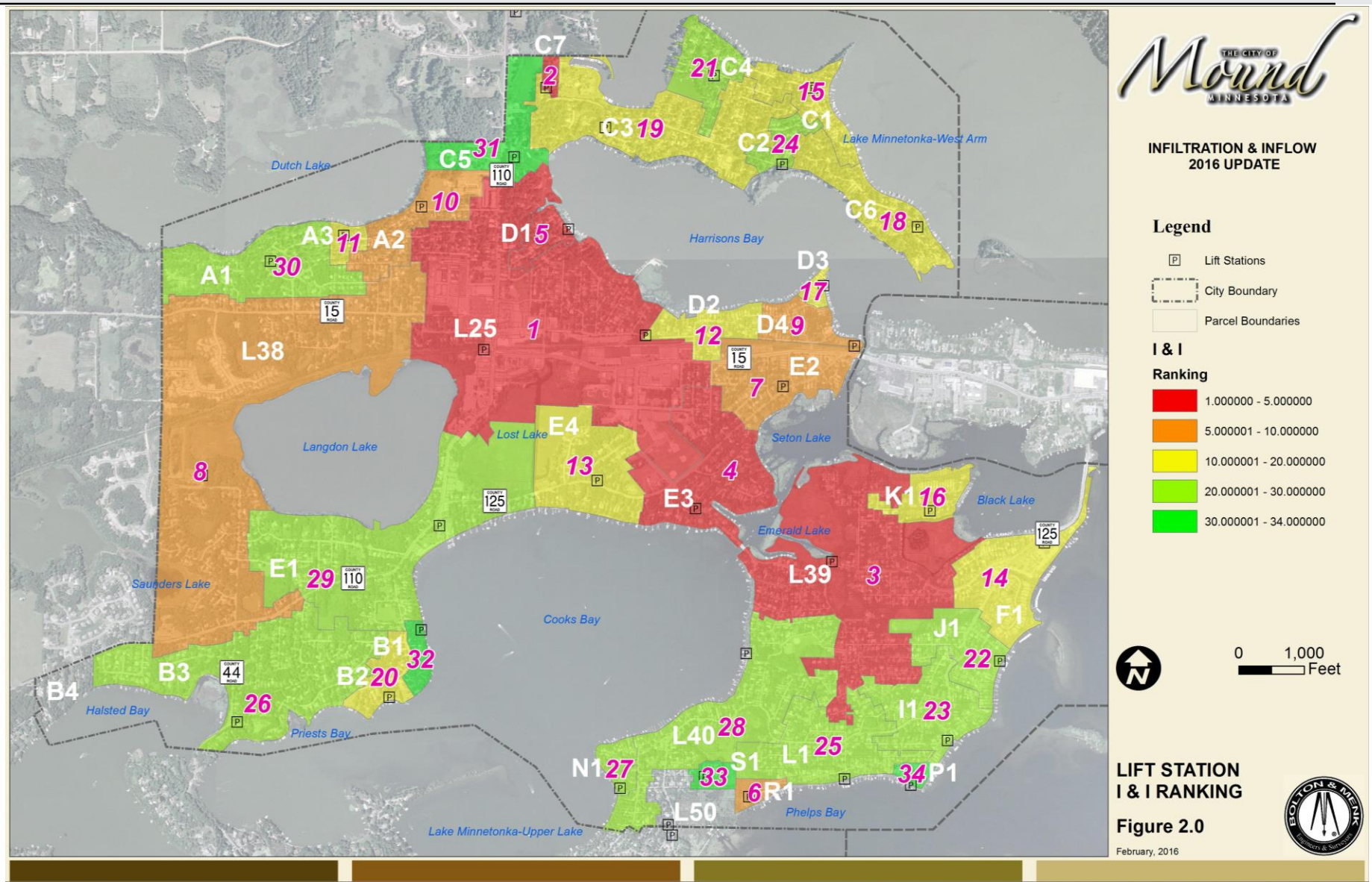
- Major need is to “fill in the gaps” and eliminate the “white space” from the 2007 study



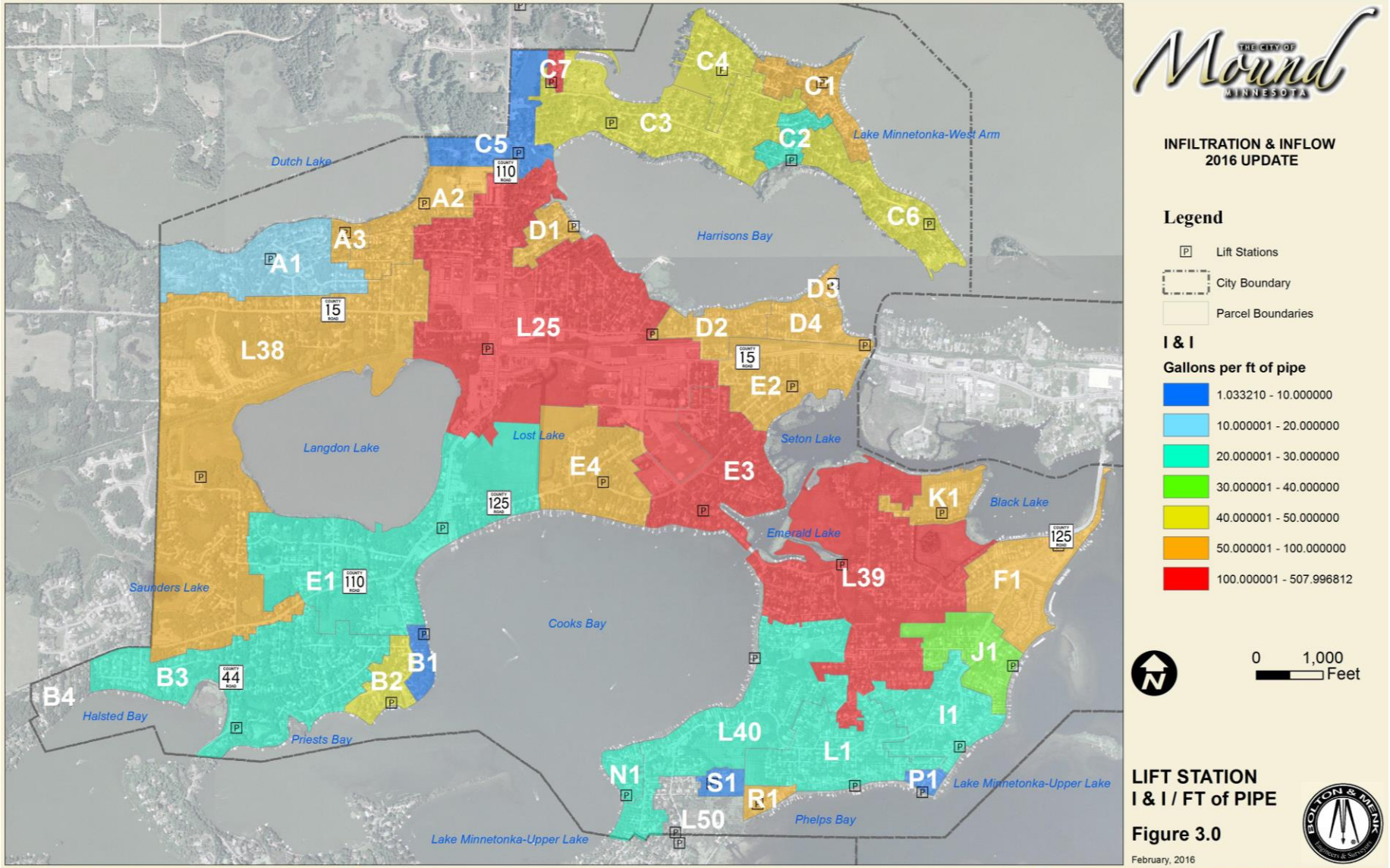
Inflow and Infiltration Analysis Update



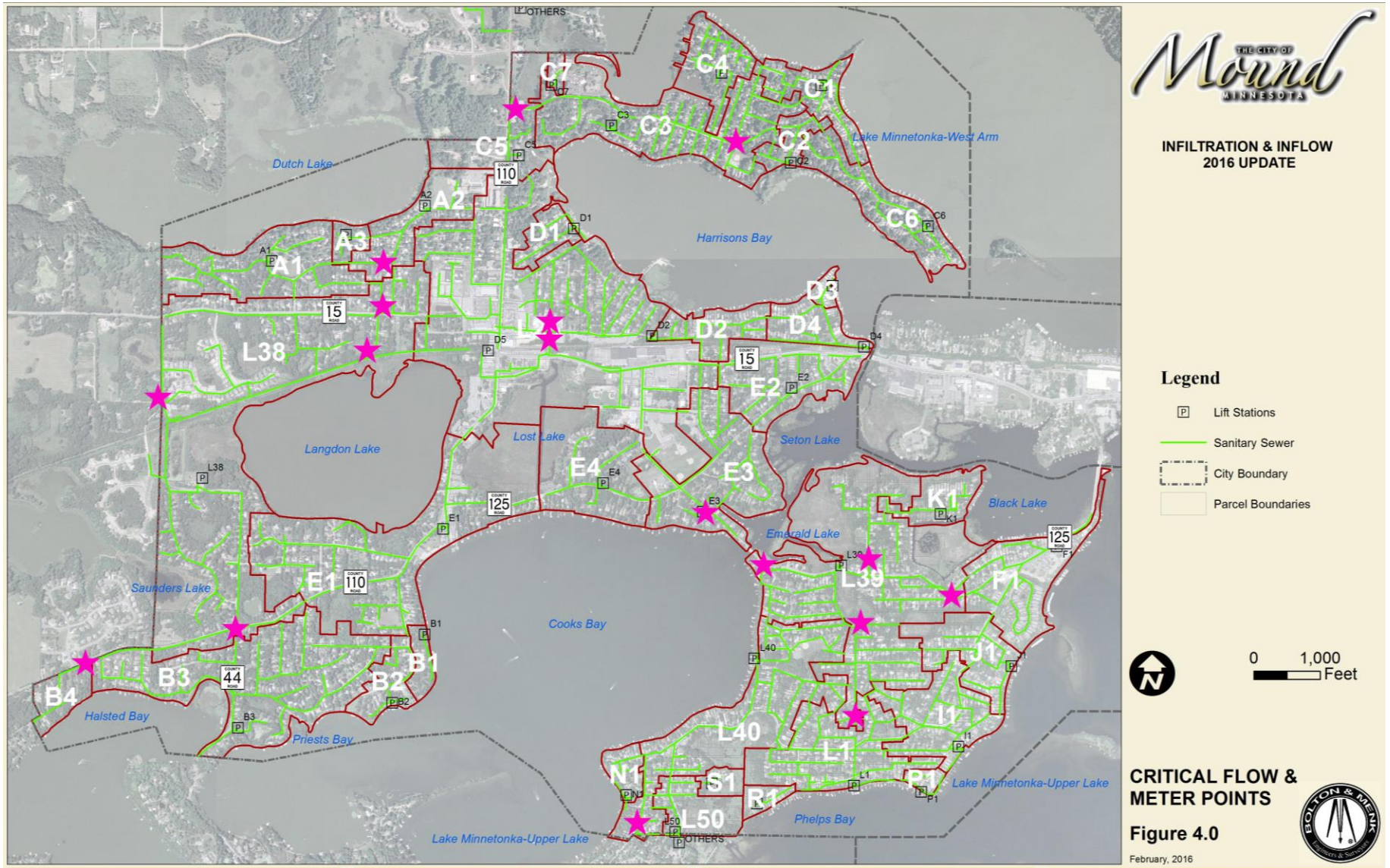
Inflow and Infiltration Analysis Update – I & I Rankings by Sewershed



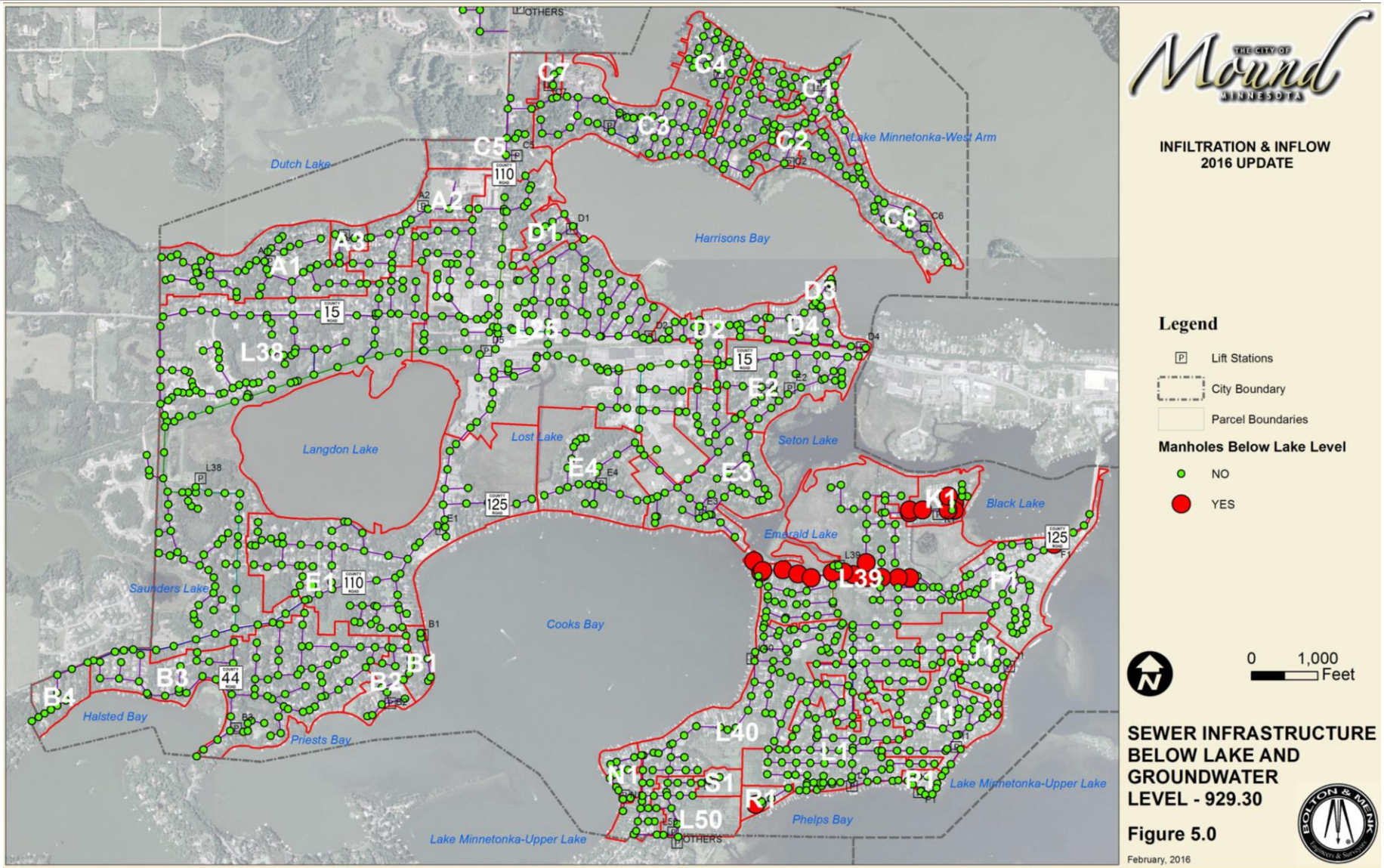
Inflow and Infiltration Analysis Update – I & I in gallons per foot of pipe by Sewershed



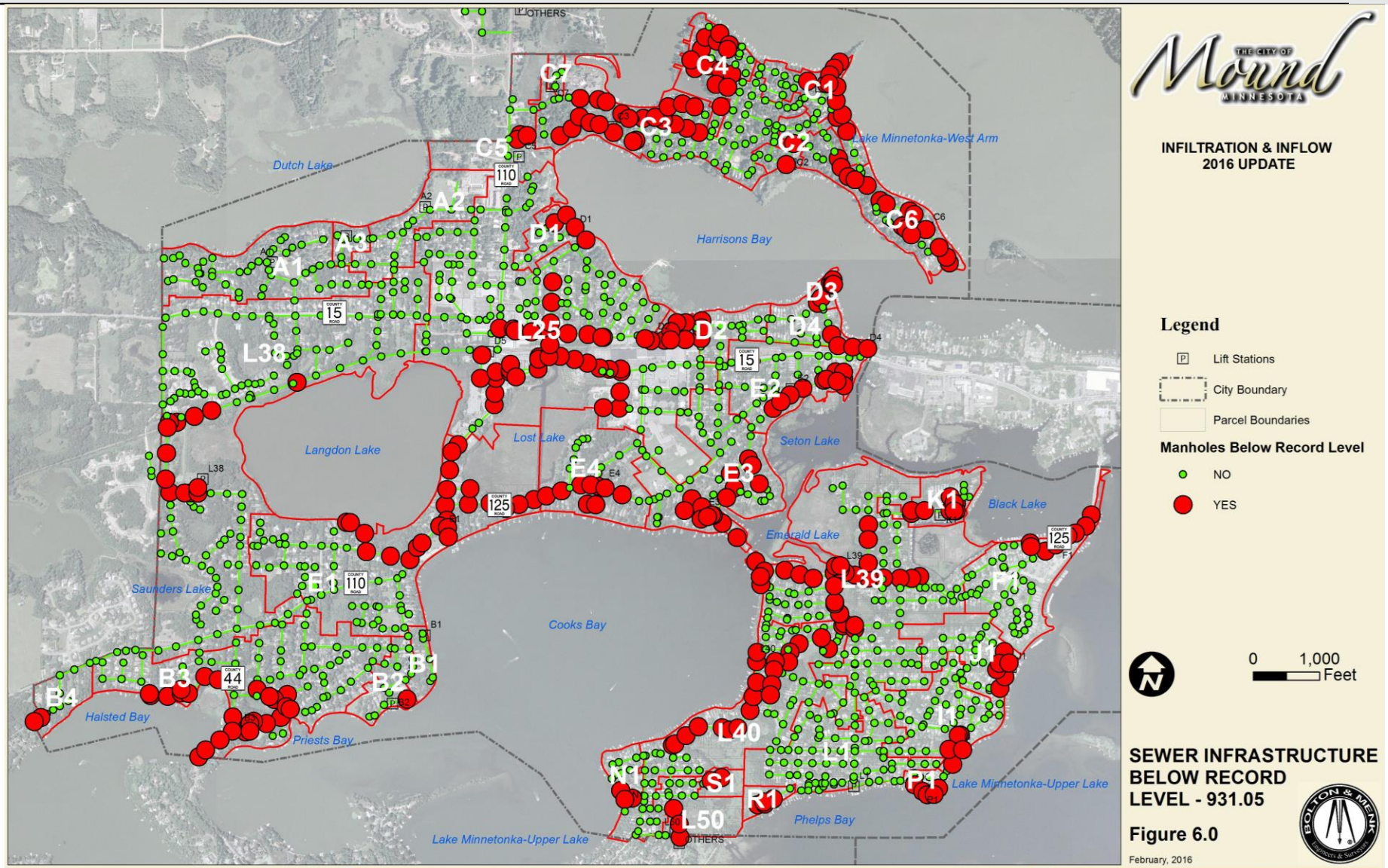
Inflow and Infiltration Analysis Update – Critical Flow and Meter Points



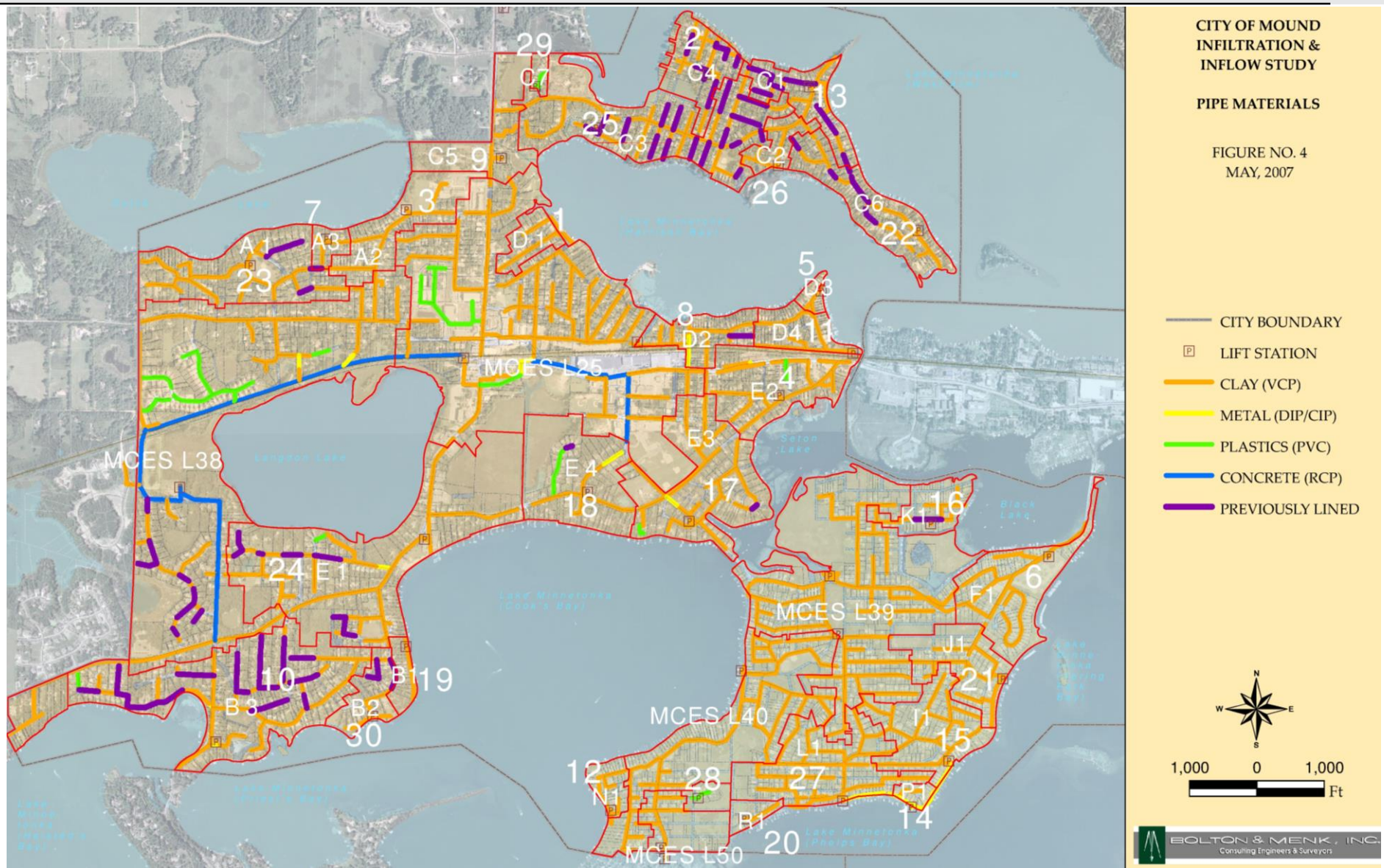
Inflow and Infiltration Analysis Update – Sewer at/below lake/groundwater level



Inflow and Infiltration Analysis Update – Sewer at/below RECORD lake/groundwater level



Sensitivity - Again



Updates Analysis Indicates:

- We DO have an I & I problem in areas that gravity flow directly to MCES Lift Stations (white areas)
- We need to continue efforts to identify lake level/groundwater conflicts
- Meters installed at lift stations are providing much needed information and flow data
- Additional flow metering is needed to pinpoint efforts for rehabilitation
- Progress is evident, CIPP dollars are well spent
- We still have a long ways to go to solve our problem

Next Steps

- Use revised I & I analysis to drive additional study and flow metering – address the problems in the previous gaps in data
- Evaluate Success of municipal work
- Expand Public Outreach and Awareness – We share the problem and all residents pay for it
- Continue discussing I & I and what the solution looks like for Mound
- Continue private sewer lateral ordinance work

  Return to Council with DRAFT proposed private sewer lateral ordinance – April/May