Summer Water Use

Todd Hubmer, PE
Vice President, Water Resource Group Manager
WSB & Associates, Inc.
Winter Water Demand

Per Capita Water Usage - City One

<table>
<thead>
<tr>
<th>Month</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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<tbody>
<tr>
<td>December</td>
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<td>54</td>
<td>52</td>
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<tr>
<td>January</td>
<td>54</td>
<td>52</td>
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<td>February</td>
<td>52</td>
<td>50</td>
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</tbody>
</table>
Summer Water Demand

Per Capita Water Usage - City One

GALLONS PER CAPITA PER DAY

December/June  January/July  February/August

Per Capita Water Usage - City One

- City One
Winter Water Demand

Per Capita Water Usage - City Two

GALLONS PER CAPITA PER DAY

December January February
Summer Water Demand

Per Capita Water Usage - City Two

GALLONS PER CAPITA PER DAY

December/June | January/July | February/August
Reasons for increased water demand

- Irrigation
  - Residential
  - Commercial
  - Agricultural

https://www.google.com/search?q=chs+field+rainwater+harvesting&source=lnms&tbm=isch&sa=X&ved=0ahUKEwiu5Kb10fTUAhVKzIMKHb6DMwQ_AUICigB&biw=1536&bih=736&dpr=1.25#tbm=isch&q=residential+irrigation+systems&imgrc=qn8DbpqL31ztxM:
Reasons for increased water demand

- Splash Pad / Pools
- Seasonal Industry

http://chicagopolicyreview.org/2014/03/03/should-crop-price-matter-when-determining-irrigationacreage/

Regulatory Efforts to Reduce Summer Demand

Local Water Restrictions

• Time of day watering ban
• Odd/even watering restrictions
  • Reduces peak day, not total volume used
• Potable water irrigation restrictions
  • Medina
• Monthly billing
  • More immediate feedback
• Higher rates based on customer type

Regulatory Efforts to Reduce Summer Demand

• MDNR – Water Rates
  • Conservation neutral: Uniform Rates
  • Conservation positive: Tiered Rates

• Met Council Study:
  • Many cities have tiers at an ineffective volume
  • Tier 1 should be at 8,000 gallons per month
Semi-Regulatory Efforts: St. Anthony Water Reuse

- Uses stormwater and filter backwash water from water treatment plant
- Irrigates 20 acre Central Park
- Reusing nearly 6 Million Gallons a year
Semi-Regulatory Efforts: Hugo Water’s Edge Stormwater Reuse

- Irrigate 275 townhomes with stormwater
- City owns “purple pipe”: irrigation main
- HOA owns irrigation system
- Estimated 15 MG/summer in potable water savings
Semi-Regulatory Efforts: Hugo Water Reuse
Semi-Regulatory Efforts: Hugo Water Reuse
Rainwater Harvesting: CHS Field

• Rainwater from Metropolitan Council Operations and Maintenance facility roof to 27,000 gallon system treated with UV light on-site.

• Water then used for Ballpark irrigation and toilet flushing

Challenges of Reusing Water

• Health Concerns
  • Interagency Work Group working towards regulations/recommendations for reuse
    • MDH, DNR, MCES, U of M, MDA, DLI

• Cost
  • Water is cheap!

• Public Perception
  • The “ick” factor

http://nas-sites.org/waterreuse/what-is-water-reuse/types-of-water-reuse/
Future Efforts

• Development of Low Effort Turf Grass
  • Low grow
  • Low water
  • Low mow

https://www.extension.umn.edu/garden/landscaping/maint/ts-selecting-cool-season.htm
Future Efforts

- Development of Low Effort Turf Grass
  - Low grow
  - Low water
  - Low mow
- Drought Tolerant Landscaping

http://www.takepart.com/article/2015/07/10/california-lawn-removal-program
Future Efforts

• Development of Low Effort Turf Grass
  • Low grow
  • Low water
  • Low mow

• Drought Tolerant Landscaping

• Smart Irrigation
  • Soil moisture sensors

Questions?