

# CITY OF LINCOLN

## NON-POTABLE WATER USE PLANNING AND IMPLEMENTATION

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Answers



# City of Lincoln General Plan



## CITY OF LINCOLN GENERAL PLAN

Award-Winning  
General Plan  
Document

March 2008

# CITY OF LINCOLN GENERAL PLAN

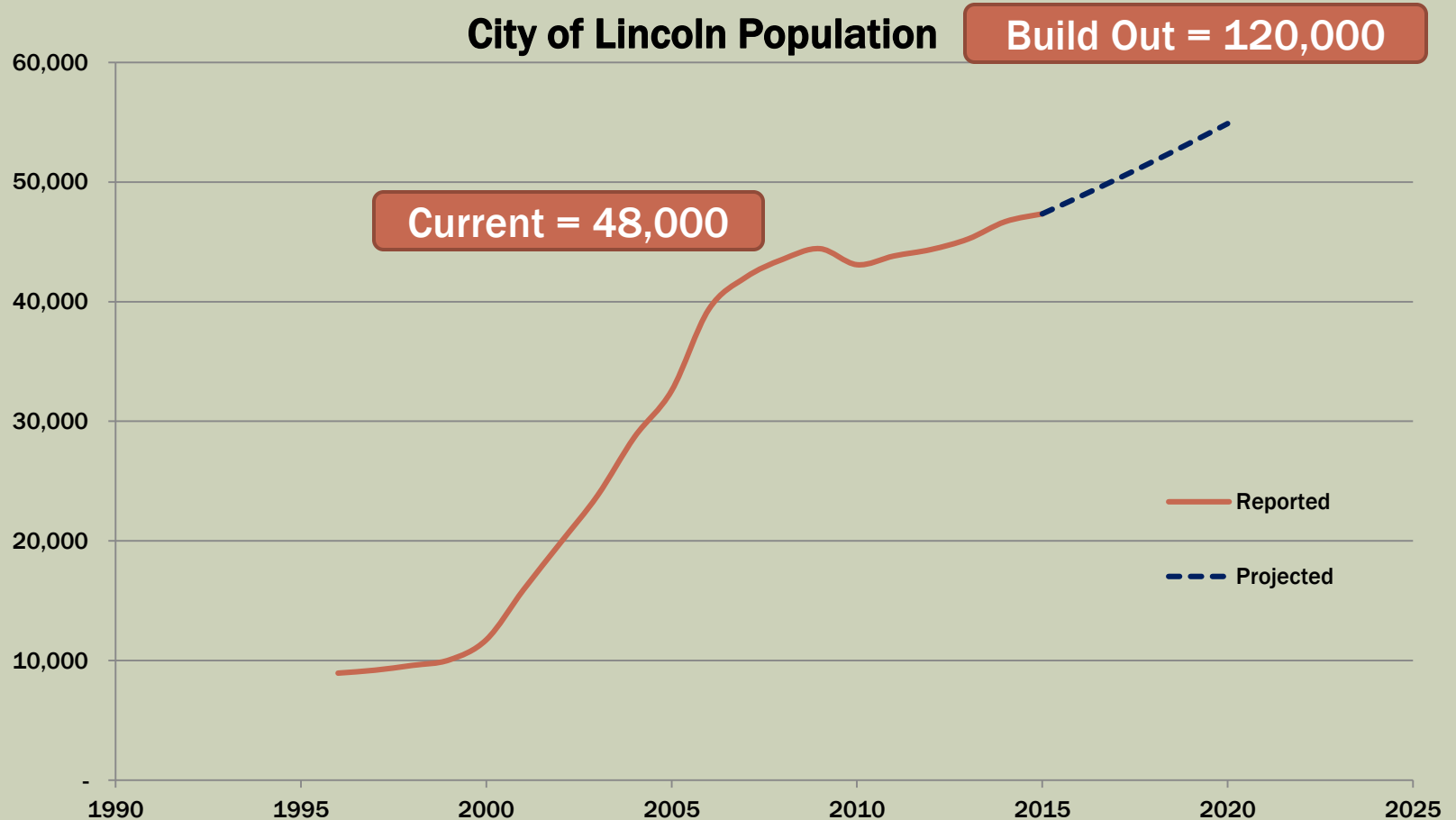
Award-Winning  
General Plan  
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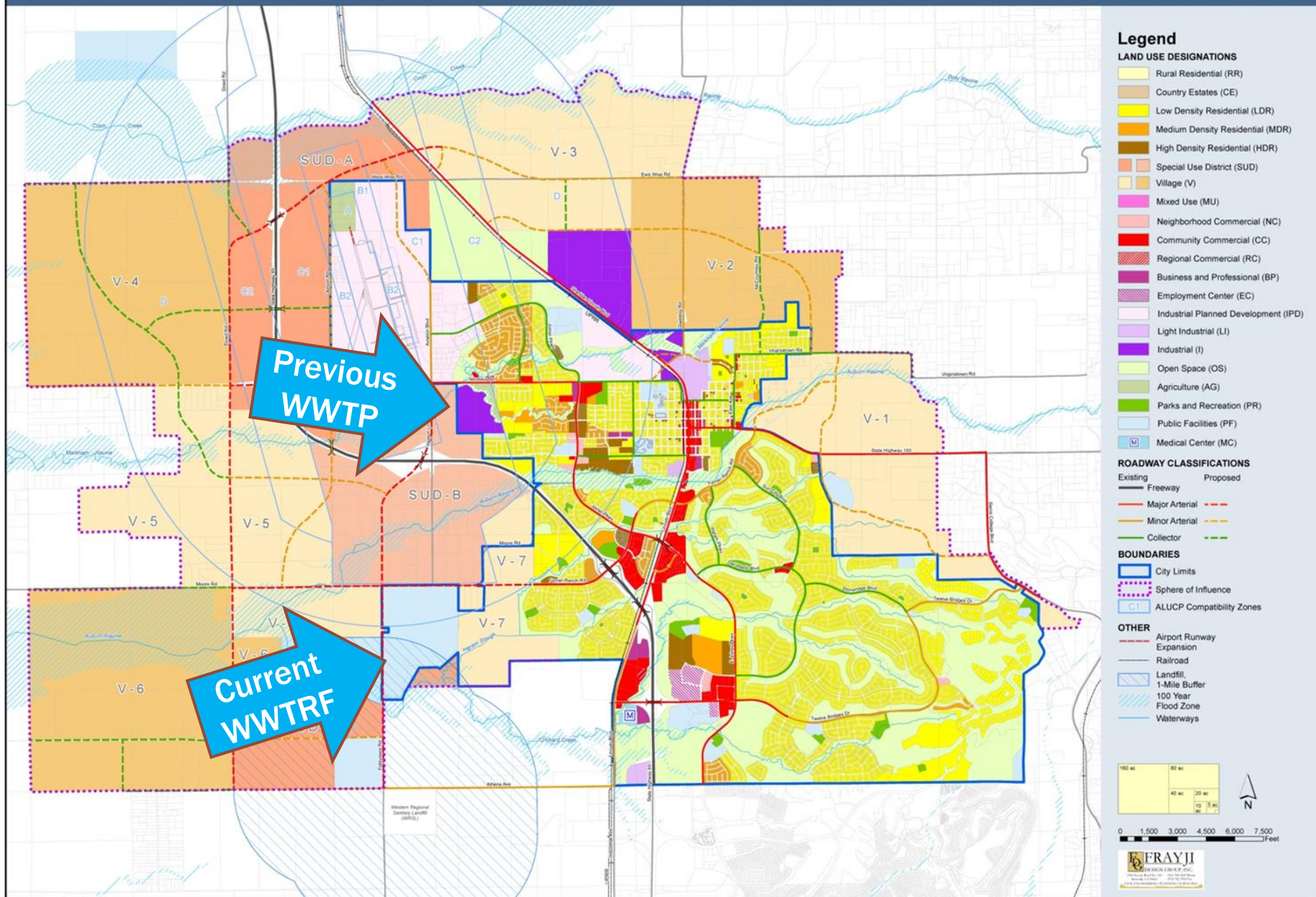
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OPEN SPACE & CONSERVATION ELEMENT

# POPULATION GROWTH TREND WITHIN CITY OF LINCOLN







# UPCOMING DEVELOPMENT PROJECTS IN LINCOLN AND SPHERE OF INFLUENCE

## Specific Plans

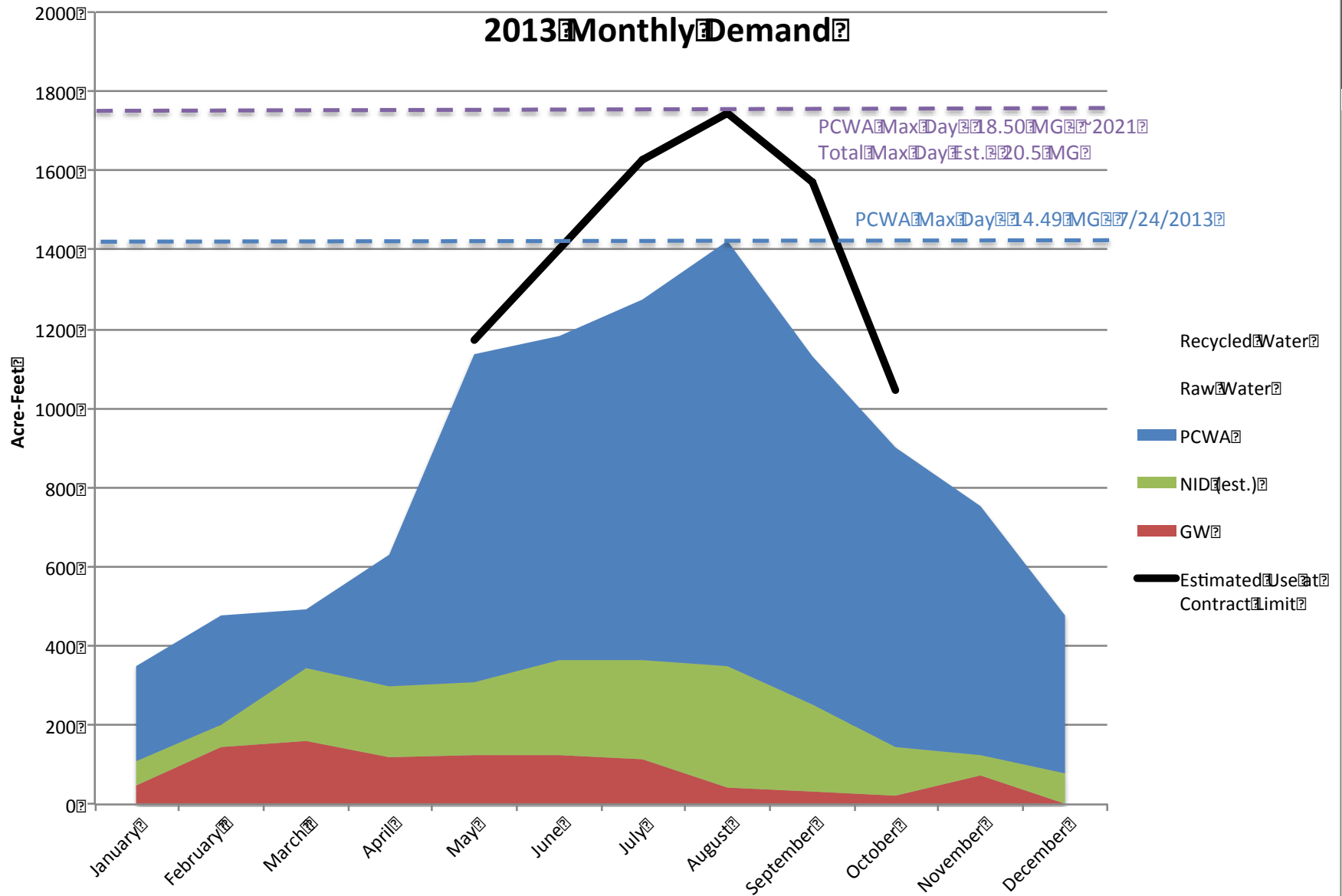
- Village 7: 703 acres; 3,285 dwelling units (DU)
  - Annexed in 2013
  - First Phase Development anticipated in 2017
  
- Village 1: 1,832 acres; 5,641 DU
  - Annexation of 1,700 acres complete in August 2016
  - First Phase Developments anticipated in 2017
  
- Village 5: 4,787 acres; 8,200 DU
  - Approx 4-million sqft Employment & Commercial
  - Specific Plan & EIR anticipated Spring 2017

# 2016 WATER MASTER PLAN INFORMATION

## Water Demand Characteristics

- Build-out Demand – 36,000 AFY
  
- Peak Day Demand (67 MGD)
  - 57 MGD Potable
  - 10 MGD Public Non-Potable

# WATER MASTER PLAN DEMAND ANALYSIS





# 2016 WATER MASTER PLAN INFORMATION

## Identified Sources to meet Non-Potable Demands

- Reclaimed Water
- Non-Potable Groundwater Wells
- Raw (Ditch) Water
  - PCWA
  - NID

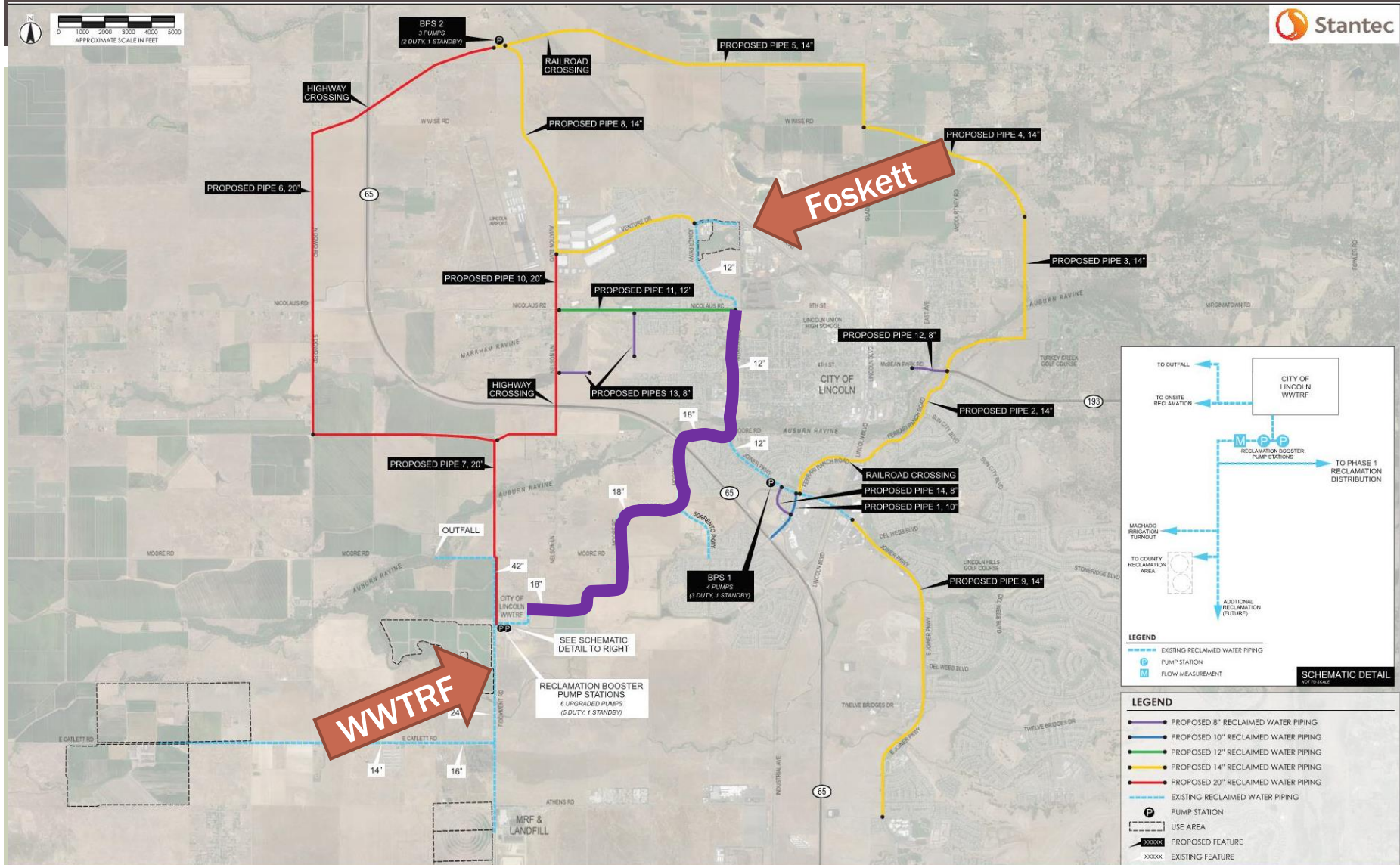
# WWTRF INFORMATION

- City's Wastewater Treatment and Reclamation Facility (WWTRF) commissioned in 2004
- Treatment to Disinfected Tertiary quality
- Master Reclamation Permit (R5-2005-0040-01) and Waste Discharge Permit R5-2014-0007 (NPDES No. CA0084476)
- City's use of recycled water governed by water right order (WR0066)
- WWTRF Build-Out Capacity = 12 MGD ADWF
- Current design capacity = 5.9 MGD ADWF

# WWTRF INFORMATION

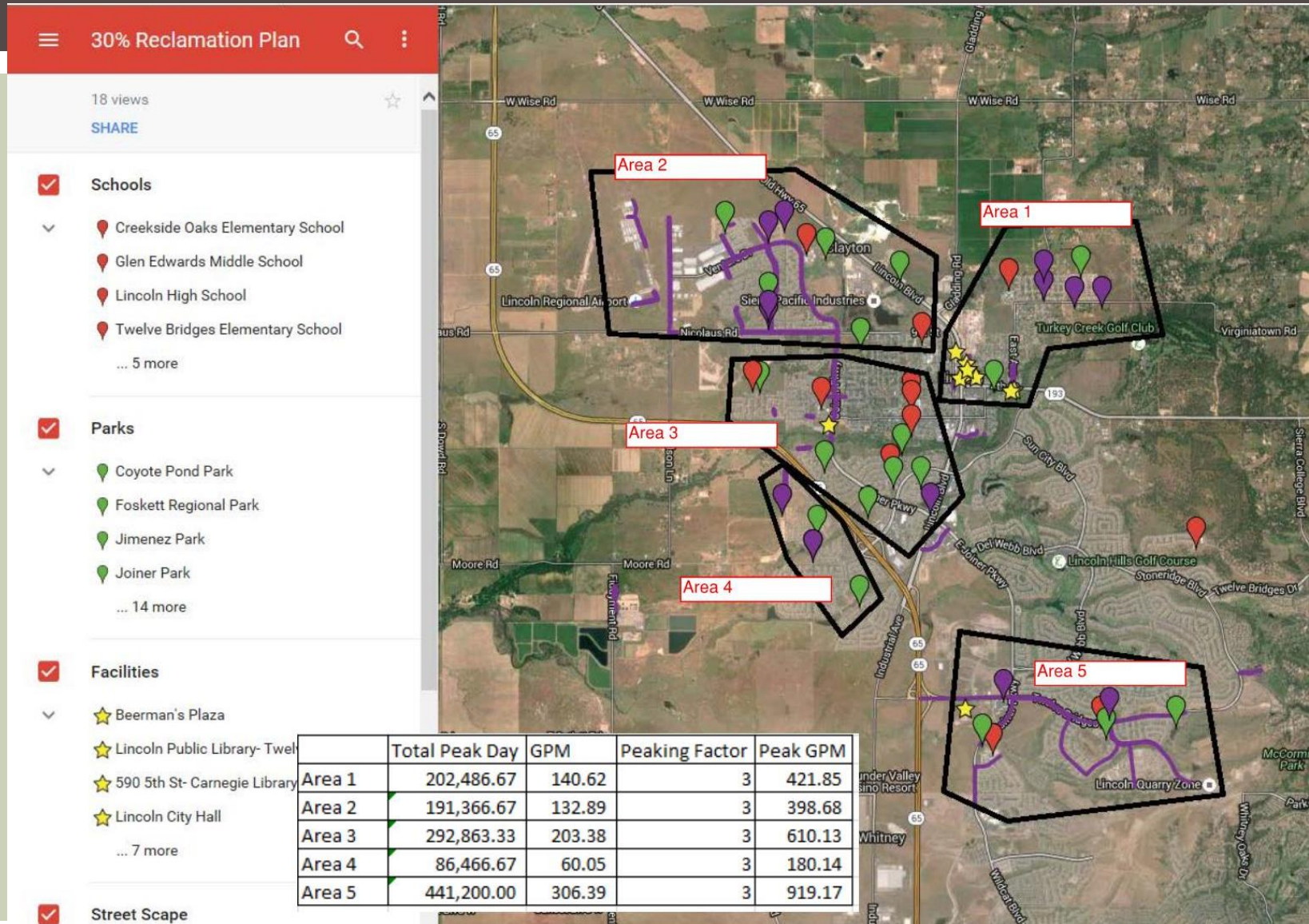
- Regional WWTRF with connection of Placer County (SMD-1) completed in 2015
- Agricultural irrigation (effluent) primary disposal method currently
- Requirement to discharge to Auburn Ravine during “shoulder months”
- Recent commission of Reclaimed Water Transmission Main in City and conversion of Foscett Park
- Negotiating agreement with Industrial User for reclaimed water use

# 30% RECYCLED WATER MASTER PLAN





# NEAR TERM USE PROJECTION MODELING





# NON- POTABLE WATER DEMANDS FOR BUILD-OUT

(FROM 30%  
RECLAIMED  
MASTER  
PLAN)

**Table 1      Demand Summary**

Location	Total Peak Day Demand (gallons)	Total Peak Day Demand (gpm)	Peaking Factor	Peak Demand (gpm)
Area 1	202,487	141	3	422
Area 2	191,367	133	3	399
Area 3	292,863	203	3	610
Area 4	86,467	60	3	180
Area 5	441,200	306	3	920
Village 1	866,070	601	1	601
Village 2	827,578	575	1	575
Village 3	846,824	588	1	588
Village 4	577,380	401	1	401
Village 5	1,635,910	1,136	1	1,136
Village 6	866,070	601	1	601
Village 7	1,010,415	702	1	702
SUDA	288,690	200	1	200
Foskett Park	1,201,729	834	1	834
Lincoln Crossing	1,500,000	1,041	1	1,041
Lincoln High	449,568	312	1	312
<b>Total Demand</b>	<b>11,284,618</b>	<b>-</b>	<b>-</b>	<b>9,522</b>

# PLANNING ASSUMPTIONS FOR BUILD-OUT

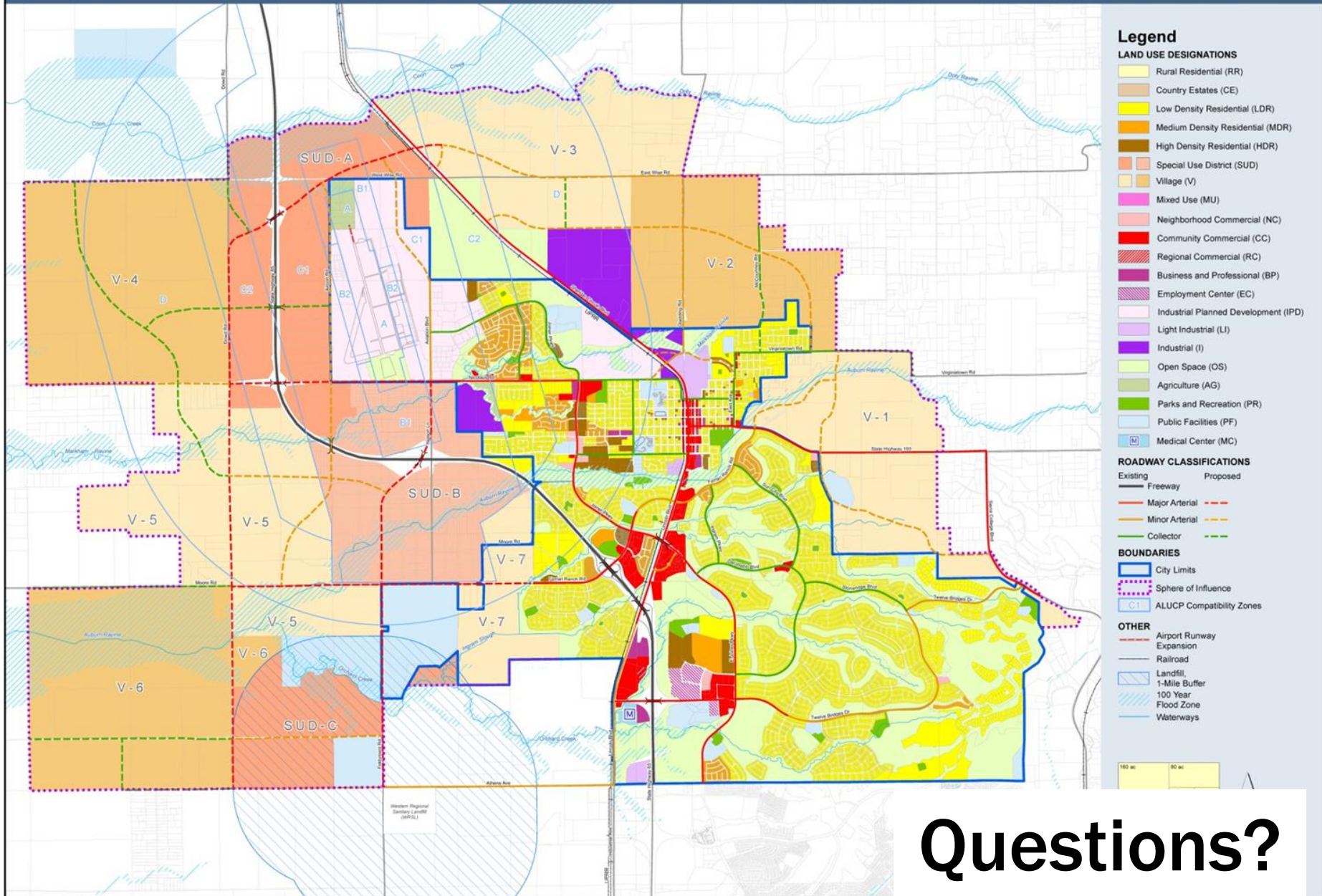
- Projected (City generated) WWTRF ADWF flow at City build-out population 120,000 = 7.63 Mgd
- Additional flows from Placer County may not be available for City of Lincoln use
- Based on Water Balance analysis, 515 MG reclaimed water storage necessary to meet peak season irrigation demands
- Current storage at WWTRF = 190 MG

# PLANNING ASSUMPTIONS FOR BUILD-OUT

- Bulk of reclaimed water storage provided at WWTRF
- Primary system booster pumps located at WWTRF
- Each Specific Plan Area will have local storage and booster systems to accommodate demand peaks
- Ability to transfer/convey different non-potable source water across distribution system
  - Reclaimed Water
  - Non-Potable Groundwater (wells)
  - Raw (Ditch) Irrigation Water from PCWA
  - Raw (Ditch) Irrigation Water from NID

# PLANNING ASSUMPTIONS FOR BUILD-OUT

- Non-Potable distribution systems designed to Reclaimed Water use standards
- Interim use of Potable Water and/or Raw Water while waiting for future backbone infrastructure



Questions?