



COUNCIL MINUTES

March 27, 2014

The City Council of the City of Mesa met in a Study Session in the lower level meeting room of the Council Chambers, 57 East 1st Street, on March 27, 2014 at 7:32 a.m.

COUNCIL PRESENT

Scott Smith
Alex Finter
Christopher Glover
Dennis Kavanaugh
David Luna
Scott Somers*

COUNCIL ABSENT

Dave Richins

OFFICERS PRESENT

Christopher Brady
Debbie Spinner
Dee Ann Mickelsen

(*Councilmember Somers participated in the meeting through the use of telephonic equipment.)

Mayor Smith excused Councilmember Richins from the entire meeting.

(Items were discussed out of order, but for purposes of clarity, will remain as listed on the agenda.)

1a. Hear a presentation, discuss and provide direction on the FY 2014/15 Capital Improvement Program Overview and Water and Energy Capital Improvement Programs.

(See Agenda Item 6.)

(The Council adjourned the Executive Session and reconvened the Study Session at 8:34 a.m.)

Vice Mayor Finter excused Mayor Smith from the remainder of the Study Session.

Budget Director Candace Cannistraro introduced Deputy Budget Director Ryan Wimmer, who was prepared to assist with the presentation.

Mr. Wimmer displayed a PowerPoint presentation (**See Attachment 1**) and reported that in recent years, the City's Capital Improvement Program (CIP) has focused on Parks, Public Safety and Streets projects. He explained that this year, the emphasis has shifted to Mesa's utility systems. He stated that although the Council formally adopts a Five-Year CIP, staff forecasts the CIP over an eight-year period of time.

Mr. Wimmer offered a brief overview of the three types of CIP projects, which include funded, planned and future. (See Page 3 of Attachment 1) He also discussed examples of funded

projects that have been completed in the past few years. (See Pages 4 through 6 of Attachment 1) He cited, for instance, that the 2012 Parks Bond Program funded the construction of Riverview Park, the Mesa High Regional Aquatics Center and Monterey Park.

Mr. Wimmer referenced a document titled “Funded Projects Summary – Five-Year CIP” (See Page 7 of Attachment 1) and highlighted pie charts which illustrate the funding sources for FY 14/15 CIP projects as compared to the Five-Year Total. He pointed out that in the Five-Year Total, the Utility Revenue Bonds’ “wedge” is much smaller and reflects that those specific bond authorizations would be depleted in the next year or two. He also reviewed a diagram that shows the actual amounts associated with the various funding sources. (See Page 8 of Attachment 1)

Mr. Wimmer offered a short synopsis of a series of planned projects (See Page 9 of Attachment 1) and pointed out that the Signal Butte Water Treatment Plant and the Greenfield Water Reclamation Plant expansion projects have been in the planning stage for many years and will be discussed later in the presentation.

Mr. Wimmer indicated that the Council was provided information detailing the 2014-2019 CIP Program Summaries.

Mr. Wimmer also discussed examples of future projects, which are included in the eight-year forecast, but not the Five-Year CIP Program. (See Page 10 of Attachment 1)

Water Resources Department Director Dan Cleavenger introduced Water Resources Assistant Director Carlos Padilla and Deputy Director of Water Resources and Collections Jake West, who were prepared to respond to any questions the Council might have.

Mr. Cleavenger displayed a PowerPoint presentation (**See Attachment 2**) and stated that he would review the Water Resources Department’s CIP for 2014-2018, including water and wastewater needs.

Mr. Cleavenger reported that with respect to the City’s Water CIP, he was prepared to review three categories of projects that include life cycle replacement/reliability; growth/economic development related to residential and manufacturing; and contractual obligations. He also highlighted a graph titled “Water Infrastructure Replacement/Reliability CIP Investments (2009-2014),” which illustrates the millions of dollars that the City has spent on such investments during that period of time. (See Page 5 of Attachment 2) He stated that continued investments in such infrastructure are imperative in order to prevent catastrophic failures in the water and wastewater systems, to continue to attract major employers to the community and have the capacity to handle their water and wastewater needs.

Mr. Cleavenger highlighted a list of the City’s major water replacement/reliability projects that have been completed in the last five years. (See Page 6 of Attachment 2) He noted that the projects include, for instance, upgrades to three pump stations, waterline replacements and utility replacements on Main Street in conjunction with the light rail project. He also displayed photographs illustrating the scale and scope of various projects throughout the City. (See Pages 7 through 10 of Attachment 2)

Mr. Cleavenger spoke with regard to the proposed life-cycle replacement/reliability projects that the City must move forward on in the next funding cycle. (See Page 11 of Attachment 2) He commented that staff has estimated pipeline replacements in ten quarter sections throughout the City and stated that many of the existing cast iron pipes are more than 60 years old.

Mr. Cleavenger, in addition, displayed a map titled "Proposed Water Rehabilitation Projects (2014-2018)," as well as several photographs illustrating the impact of broken water pipes throughout the community. (See Pages 12 and 13 respectively of Attachment 2) He noted that the impacts include, but are not limited to, damage to utilities, street flooding and traffic congestion.

Mr. Cleavenger remarked that over the next 70 to 75 years, more than 2,300 miles of waterlines in Mesa must be replaced. He explained that in addition to the previously-mentioned 60 miles of old cast iron pipe, 1,400 miles of asbestos cement pipe are also in need of replacement.

Mr. Cleavenger indicated that staff has developed two options for the Council's consideration with respect to waterline replacements as follows:

- Option 1 – The proposed 2014-2018 CIP for waterline replacement in the range of \$35 million to \$50 million.
- Option 2 – A reduced 2014-2018 CIP for waterline replacement in the amount of \$20 million (i.e., \$5 million/year).

Responding to a question from Councilmember Kavanaugh, Mr. Cleavenger clarified that if staff moved forward with Option 2, it would increase the risk for additional waterline failures by deferring necessary repairs. He stated that the more waterlines the City can replace, the better it will be for Mesa's water distribution system.

Mr. West addressed the Council and explained that in conjunction with the 2010 Bond authorization, the City performed several quarter section waterline replacement projects. He explained that Mesa's main breaks have been significantly reduced since the replacement program began and added that valve maintenance is also being performed in a more efficient manner. He acknowledged that waterline breaks will continue to occur, but stated that Option 2 would equate to twice the amount of funding that staff is working with today with respect to waterline replacements.

In response to a question from Councilmember Luna, City Engineer Beth Huning assured the Council that when a major infrastructure project is performed, multiple City departments work together to coordinate as many components of the project as possible (i.e., water, sewer, electric, gas).

Mr. Cleavenger commented that staff also proposes an additional \$8 million for waterline replacement projects that would be performed in conjunction with the Transportation Department.

City Manager Christopher Brady remarked that he asked staff to develop different funding options for the Council's consideration. He explained that staff will highlight some other significant projects during today's presentation and stated that he wanted to "balance out" the

overall waterline replacement project. He added that staff also wanted to have some flexibility with respect to these projects due to the proposed construction of several large facilities.

Mr. Cleavenger continued with the presentation and displayed a map titled "Mesa's Water Supply Sources." (See Page 17 of Attachment 2) He advised that much of the water in southeast Mesa is supplied by wells, which necessitates the development of the proposed Signal Butte Water Treatment Plant (SBWTP).

Mr. Cleavenger also reviewed a graph comparing Mesa's water treatment plant capacity and demands at the Val Vista Water Treatment Plant (VWVWTP), the Brown Road Water Treatment Plant (BRWTP) and the proposed SBWTP. (See Page 18 of Attachment 2) He stated that at the BRWTP, of the 66 million gallons per day (mgd) of water that are produced, up to 10 mgd can be "forced down" to southeast Mesa by over-pressurizing the lines.

Mr. Cleavenger offered a short synopsis of the current water production sources for southeast Mesa (See Page 19 of Attachment 2), which is primarily derived from wells, although not sustainable over time. He explained that construction of the SBWTP would utilize surface water; provide greater reliability than wells; provide redundancy for the BRWTP; and conserve groundwater for drought.

Mr. Cleavenger briefly discussed a graph illustrating how City staff projects the community's needs for a drinking water plant in Mesa. (See Page 21 of Attachment 2)

Extensive discussion ensued relative to an analysis of Option 1 (24 mgd at SBWTP) and Option 2 (16 mgd at SBWTP) as it relates to maximum day demand versus production in southeast Mesa (See Pages 22 and 23 respectively of Attachment 2); that staff would propose that the SBWTP come online in 2018; that due to the time-intensive nature of the project, it would take between now and then to complete the process; that construction of the plant would not only meet the future economic needs of industrial users, but also the residents and existing businesses in the area; that the 16 mgd option will not meet the long-term needs of the area; that staff would recommend the construction of a 24 mgd SBWTP in order to ensure a reliable water supply for southeast Mesa; that the 2014 Bond Election would be the preferred time to seek voter approval of such a project; that it would cost approximately \$123 million to construct the 24 mgd SBWTP; that \$66 million in additional infrastructure would be necessary in order to support the plant; that water infrastructure replacement and rehabilitation would cost approximately \$50 million in the 2014-2015 Water CIP; and that such costs would include \$5 million per year in pipeline replacement in the short-term.

Vice Mayor Finter restated that west Mesa has aging infrastructure and southeast Mesa has new economic growth potential, which necessitates the need for the SBWTP. He noted that staff's recommendation would be for the City to conduct a 2014 Bond Election in an effort to seek voter approval of these various projects.

Mr. Cleavenger confirmed Vice Mayor Finter's comment, in addition to the City's contractual obligation.

Mr. Brady commented that during the last six or seven years, per the Council's direction, staff has been very aggressive in addressing the replacement of Mesa's aging water line infrastructure. He noted that southeast Mesa is the area of the community that has the most

opportunities for growth and the potential to attract high-tech industrial users. He stated that it has been to the City's advantage to have the infrastructure in place, but also remarked that it has been a challenge "to stay ahead of it."

Mr. Brady further remarked that due to the economic recession, staff delayed moving forward with the SBWTP for the last two bond elections. He pointed out that the City can currently meet the needs of the Eastmark development and Apple, but added that staff is planning for the next large subdivision or manufacturing plant to come to Mesa.

Additional discussion ensued relative to the fact that it will take three to four years for the SBWTP to be completed, which requires a significant amount of lead time; that the plant would position the City well in order to meet the needs of the expanding area, as well as to allow for the BRWTP to anticipate growth in northeast Mesa; and that the City will continue its commitment to replace aging waterlines in other areas of the community.

Mr. Cleavenger discussed the Wastewater CIP, which includes the same three categories as the Water CIP. (See Page 28 of Attachment 2) He reported that Mesa has three wastewater plants, including the Northwest Water Reclamation Plant (NWWRP), the Southeast Water Reclamation Plant (SEWRP) and the Greenfield Water Reclamation Plant (GWRP), which is shared with Queen Creek and Gilbert.

Mr. Cleavenger, in addition, reviewed the Wastewater CIP replacement and rehabilitation investments between 2009 and 2014, as well as some of the major wastewater projects that have been completed during the same period of time. (See Pages 30 and 31 respectively of Attachment 2)

Mr. Cleavenger offered a short synopsis of the proposed wastewater replacement/rehabilitation projects (2014-2018) and also reviewed a map illustrating the location of those projects. (See Pages 32 and 33 respectively of Attachment 2) He also displayed photographs of various projects, such as sewer rehabilitation, manhole rehabilitation and an SEWRP disinfection process. (See Pages 34 through 36 of Attachment 2)

Mr. Cleavenger further discussed a map illustrating the location of Mesa's three wastewater treatment facilities, as well as the 91st Avenue Wastewater Treatment Plant. (See Page 38 of Attachment 2) He also reviewed a chart demonstrating the capacity and flows at the above-mentioned plants. (See Page 39 of Attachment 2) He pointed out that the GWRP is a 16 mgd site, with Mesa's current share being only 4 mgd. He added that the City has met its capacity and is "on borrowed time," thereby prompting the need to increase capacity.

Mr. Cleavenger also reviewed the GWRP capacity projections for the City. (See Page 40 of Attachment 2) He stated that staff would recommend expanding the GWRP's capacity to 10 mgd, at a cost of \$104 million. He explained that \$9 million remains in 2010 Bond funds, which would result in a project cost of \$95 million. He added that the City's wastewater infrastructure replacement and rehabilitation needs would equate to an estimated \$30 million in the 2014-2018 Wastewater CIP.

Vice Mayor Finter thanked staff for the presentation. He stated that the FY14/15 Energy Capital Improvement Program presentation would be continued to a future Study Session.

1b. Hear a presentation, discuss and provide direction on the proposed Railroad Quiet Zone.

Interim Transportation Department Director Lenny Hulme introduced Senior Transportation Engineer Al Zubi, who was prepared to assist with the presentation.

Mr. Hulme displayed a PowerPoint presentation (**See Attachment 3**) and reported that several months ago, staff made a presentation to the Sustainability and Transportation Committee based on requests from residents residing near railroad zones. He explained that the Committee requested additional research and recommendations with respect to how to establish a Railroad Quiet Zone.

Mr. Hulme advised that a Railroad Quiet Zone is a rail corridor in which train horns are not sounded during the day or night except in the case of emergencies or for safety-related reasons. He said that a Quiet Zone allows for local agencies to work with the Federal Railroad Administration (FRA) and the Union Pacific Railroad in establishing rules on all active railroad locations.

Mr. Hulme pointed out that the sound level of a railroad horn creates a noise similar to that of a lawn mower or chainsaw and can impact a citizen's quality of life. He also noted that in 1994, the U.S. Congress directed the Secretary of Transportation to issue regulations that would require the sounding of horns at all public highway/rail crossings and added that in 2005, the final regulations went into effect.

Mr. Hulme briefly outlined the different types of Quiet Zones (See Page 3 of Attachment 3), which include the following:

- Pre-Rule Quiet Zones – Established before the issuance of the FRA rule and follows pre-rule criteria
- Partial Quiet Zones – Temporary closure of the roadway, typically at night from 10:00 p.m. to 7:00 a.m.
- Full Quiet Zones – (Recommended by staff) A zone with permanent treatments installed.

Mr. Hulme detailed the FRA process in establishing a Quiet Zone. (See Page 4 of Attachment 3) He noted, for instance, that a Quiet Zone calculator is used to evaluate each railroad crossing, after which time a benchmark risk index is established. He stated that the risk index monitors the total horn sound that will potentially improve and sets safety measures by adding gates, directional warning horns, and non-traversable medians.

Mr. Hulme displayed a map of the proposed Quiet Zone, which extends from Dobson Road to Baseline Road (See Page 5 of Attachment 3) and also highlighted the types of safety improvements that are needed for each public crossing. (See Pages 6 through 9 of Attachment 3) He pointed out that the Baseline Road medians would require minor modifications in order to meet the Quiet Zone requirements. He added that before any medians on Dobson Road are installed, it would be necessary for the City to conduct public hearings in an effort to solicit citizen input in this regard.

Mr. Hulme further reported that staff would recommend establishing the full Quiet Zone at all public railroad crossings in Mesa. He noted that it would cost approximately \$250,000 to

institute a Quiet Zone, including the design, construction and overhead. He added that funds for the project will be included in the CIP forecast for FY14/15.

Mr. Hulme highlighted the next steps in this process as follows: Seek the Council's direction; Contact all agencies involved in the process; Implement safety measures; and File the FRA application.

Councilmember Kavanaugh recounted that for the last three or four years, he has been looking at this issue and has heard "horror stories" from other communities in terms of the amount of money that it cost them to establish Quiet Zones. He thanked staff for their research in identifying a Quiet Zone project at a lower than normal cost and added that he was supportive of staff's recommendations.

Councilmember Glover expressed appreciation to Mr. Hulme and City staff for their thorough research and hard work. He noted that many of the citizen concerns were brought to his attention by residents in his district. He also voiced support for staff's recommendations.

Councilmember Somers expressed support for staff's recommendation.

City Manager Christopher Brady clarified that the Council's direction is for staff to move forward with the submittal of the FRA application for Full Quiet Zones and also to allocate funds in the upcoming FY14/15 budget to address railroad improvements.

Vice Mayor Finter thanked staff for their presentation.

2. Information pertaining to the current Job Order Contracting projects.

(This item was not discussed by the Council.)

3. Acknowledge receipt of minutes of various boards and committees.

3a. Library Advisory Board meeting held September 17, 2013.

3b. Transportation Advisory Board meeting held January 21, 2014.

It was moved by Councilmember Glover, seconded by Councilmember Luna, that receipt of the above-listed minutes be acknowledged.

Vice Mayor Finter declared the motion carried unanimously by those present.

4. Hear reports on meetings and/or conferences attended.

There were no reports on meetings and/or conferences attended.

5. Scheduling of meetings and general information.

City Manager Christopher Brady stated that the meeting schedule is as follows:

Saturday, March 29, 2014, 9:00 a.m. – Falcon Field Airport Open House

Thursday, April 3, 2014, 7:30 a.m. – Study Session

6. Convene an Executive Session.

It was moved by Councilmember Glover, seconded by Vice Mayor Finter, that the Council adjourn the Study Session at 7:34 a.m. and enter into Executive Session.

Mayor Smith declared the motion carried unanimously by those present.

6a. Discussion or consultation for legal advice with the City Attorney. (A.R.S. §38-431.03A (3)) Discussion or consultation with designated representatives of the City in order to consider the City's position and instruct the City's representatives regarding negotiations for the purchase, sale, or lease of real property. (A.R.S. §38-431.03A (7)) Discussion or consultation with the City Attorney in order to consider the City's position and instruct the City Attorney regarding the City's position regarding contracts that are the subject of negotiations, in pending or contemplated litigation, or in settlement discussions conducted in order to avoid or resolve litigation. (A.R.S. §38-431.03A(4))

1. Land acquisition for Buckhorn Baths

Discussion or consultation with the designated representatives of the City in order to consider the City's position and instruct the City's representative regarding negotiations with employee organizations regarding the salaries, salary schedules or compensation paid in the form of fringe benefits of employees of the City. (A.R.S. §38-431.03A(5))

2. Meet and Confer – Mesa Fire and Medical Memorandum of Understanding
3. Meet and Confer – Mesa Police Memorandum of Understanding

7. Adjournment.

Without objection, the Study Session adjourned at 9:24 a.m.

ALEX FINTER, MAYOR

ATTEST:

DEE ANN MICKELSEN, CITY CLERK

I hereby certify that the foregoing minutes are a true and correct copy of the minutes of the Study Session of the City Council of Mesa, Arizona, held on the 27th day of March, 2014. I further certify that the meeting was duly called and held and that a quorum was present.

DEE ANN MICKELSEN, CITY CLERK

pag/abg
(attachments – 3)

2014 - 2019 Capital Improvement Program

City Council Study Session

March 27, 2014

Presented by the Office of Management and Budget

Capital Improvement Program (CIP) Overview

Project Types

Projects fall into one of three types.

1. *Funded:* These projects have funding sources identified and have been programmed within the five years.
2. *Planned:* These projects do not have funding authorized, but they are identified as projects that should be completed within the next five years.
3. *Future:* These projects do not have funding authorized. The programming of these projects is dependent on growth/service demand, financial resources available and the sustainability of related operations.

Funded Project Examples - Parks

2012 Parks Bond Program

- Riverview Park
- Mesa High Regional Aquatics Center
- Monterey Park

Funded Project Examples - Streets

2008 Streets Bond Program

- Fiesta District Improvements – Phase I
- Power Road Improvements

2013 Streets Bond Program

- Mesa Drive Improvements – Phase II
- Fiesta District Improvements – Phase II

unded Project Examples - Public Safety

2008 Public Safety Bond Program

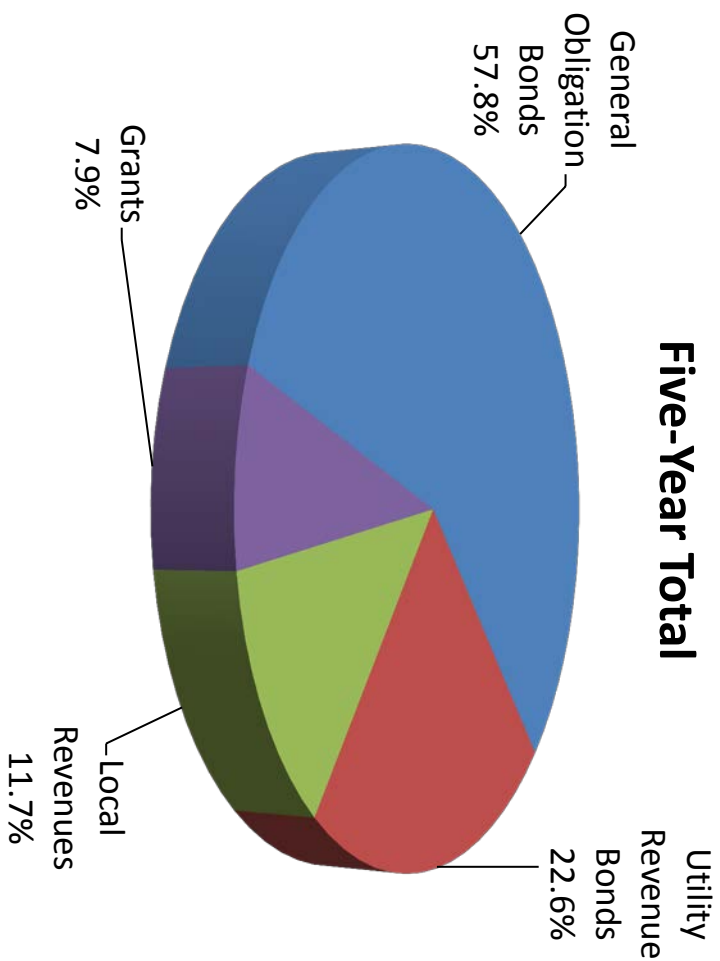
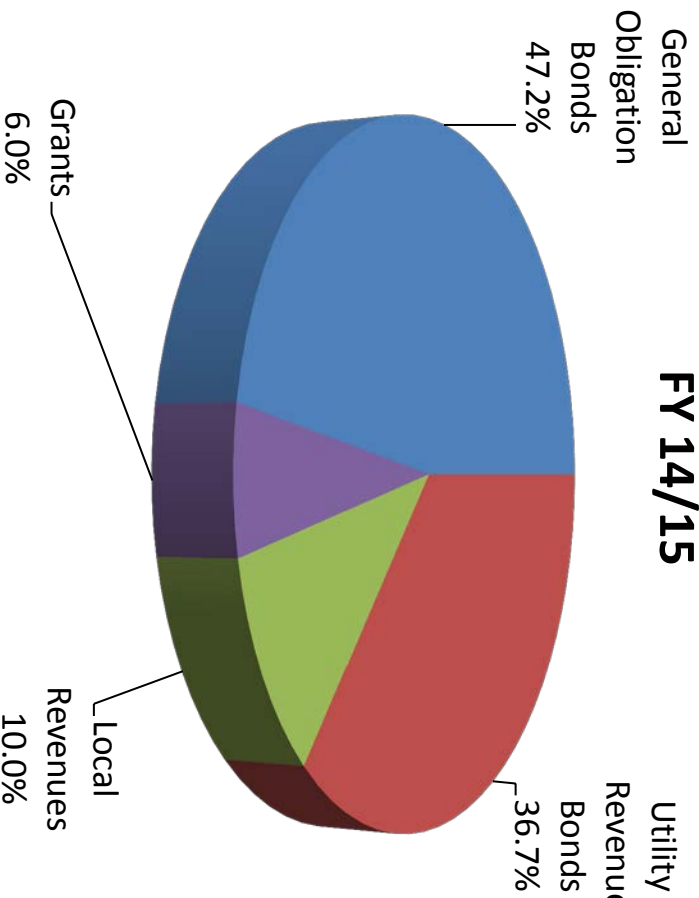
- Fiesta District Police Station
- Fire Station 203 Replacement – Land Acquisition

2013 Public Safety Bond Program

- Fire Station 203 Replacement - Construction
- Fire Apparatus
- Police Helicopter

Funded Project Summary

Five-Year CIP



Funded Project Summary

Five-Year CIP

Funding Source	FY 14/15	Five-Year
General Obligation Bonds	72.0M	162.9M
Utility Revenue Bonds	56.0M	63.7M
Local Revenues	15.2M	33.0M
Grants	9.2M	22.2M

*FY 13/14 Carryover amounts not included

Planned Project Examples

Signal Butte Water Treatment Plant

- Eligible for future Utility Revenue Bond Election

Greenfield Water Reclamation Plant Expansion

- Eligible for future Utility Revenue Bond Election

Lifecycle Replacement Program for Water and Wastewater

- Eligible for future Utility Revenue Bond Election

Future Project Examples

- Fire Stations: Remodel, Growth Areas
- Police Stations: Growth Areas
- Street Improvements: Growth Areas, Economic Development

2014-2019 Capital Improvement Program

Utility Program Overview



Capital Improvement Program (2014 - 2018)

March 27, 2014

Water Resources Department

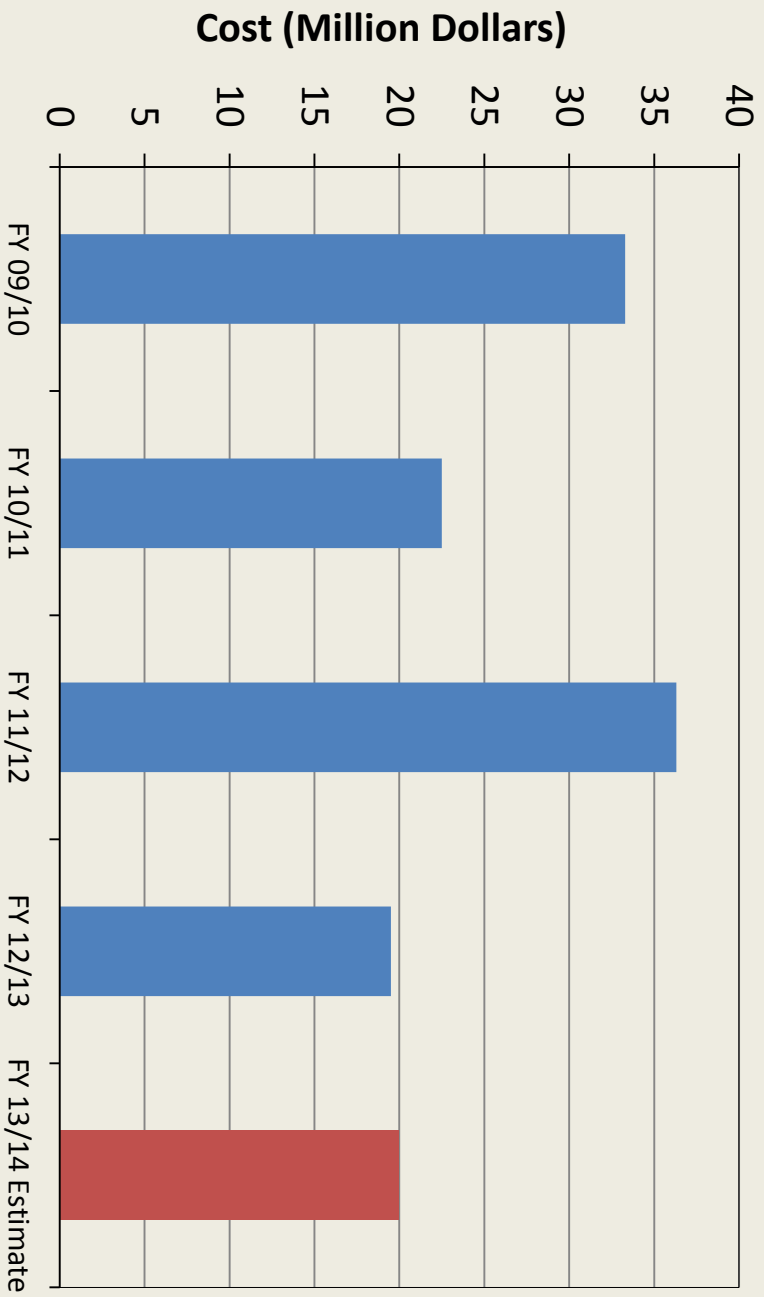
Water CIP

Water CIP

- Life-Cycle Replacements/Reliability
 - Brown Road Water Treatment Plant, Pump Stations, Wells
 - Pipes
- Growth/Economic Development-Residential/Manufacturing
 - Signal Butte WTP: 24 mgd or 16 mgd
 - Wells
 - Pipes: Identified to support growth
- Contractual Obligations
 - Water Rights, Val Vista Water Treatment Plant and Transmission Main

Life-Cycle Replacements/ Reliability

Water Infrastructure Replacement/Reliability CIP Investments (2009-2014)



Major Water Replacement/Reliability Projects Completed (2009-2014)

- Upgrade of three pump stations in City Zone
- Sixteen well upgrades (re-equipping and/or re-drill)
- Quarter section waterline replacements
- Waterline replacement projects joint with Transportation
- Brown Rd Water Treatment Plant (BRWTP) belt filter press
- Utility replacements on Main St with Light Rail project
- Reservoir aeration projects for water quality
- Generator installations for upper zone reliability
- Other pump station rehabilitation projects

Pasadena Pump Station Upgrade



BRW/TP Belt Filter Press



Waterline Replacements



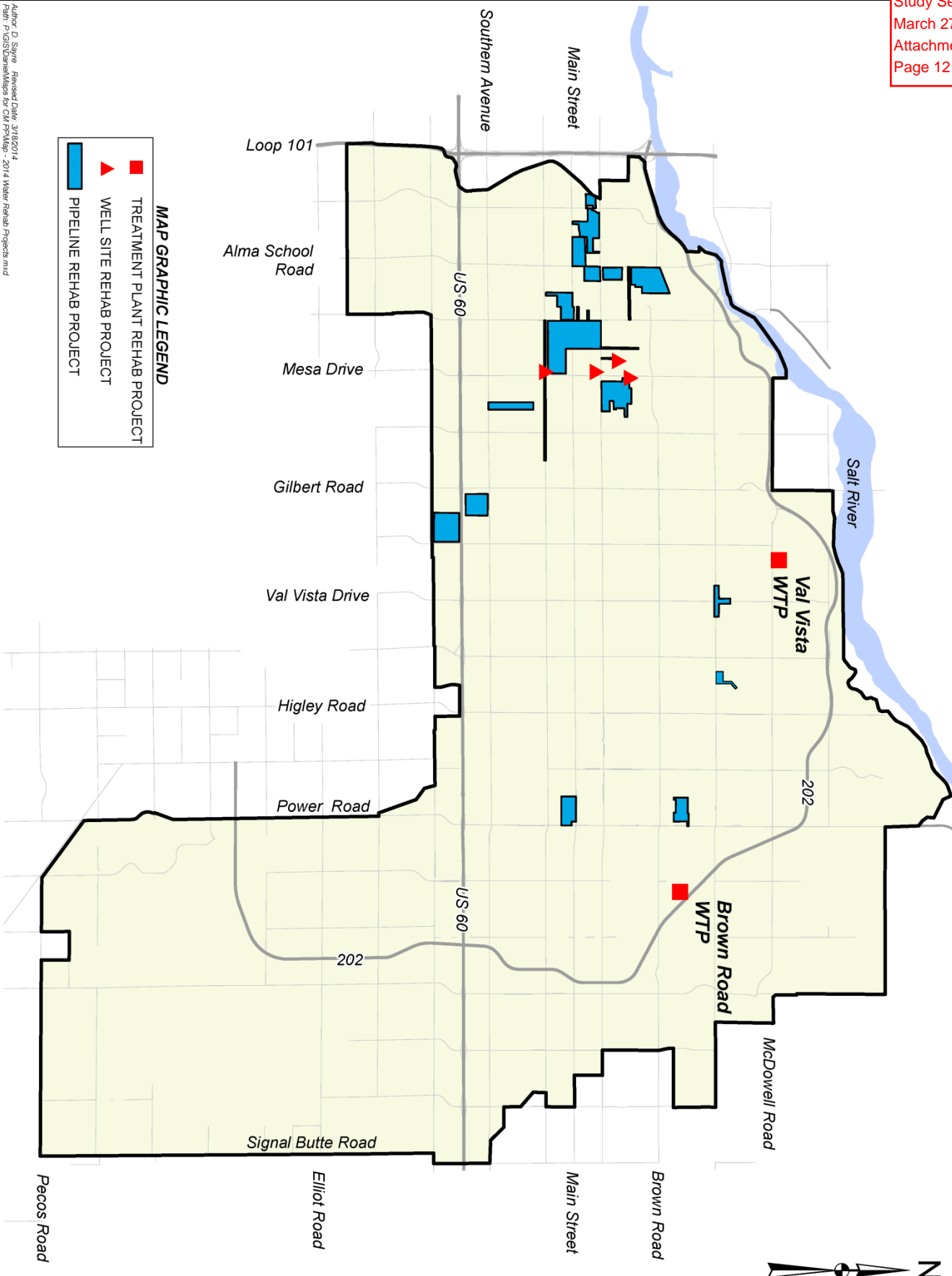
Well Rehab/Re-drill



Proposed Life-Cycle Replacement/ Reliability Projects (2014-2018)

- Pipeline replacements - 10 quarter sections
- Replacement of existing cast iron pipes (typical age > 60 years) in City Zone
- Pipe replacement joint with Transportation on major arterial streets
- Replacement of 44 miles of existing pipe
- Upgrades to existing pump stations, wells and reservoirs
- Upgrades to Brown Rd WTP

PROPOSED WATER REHABILITATION PROJECTS (2014-2018)



MAP GRAPHIC LEGEND

- TREATMENT PLANT REHAB PROJECT
- ▲ WELL SITE REHAB PROJECT
- ▭ PIPELINE REHAB PROJECT



Impact of Pipe Breaks



Sinkholes



Street
Flooding
& Traffic
Impact

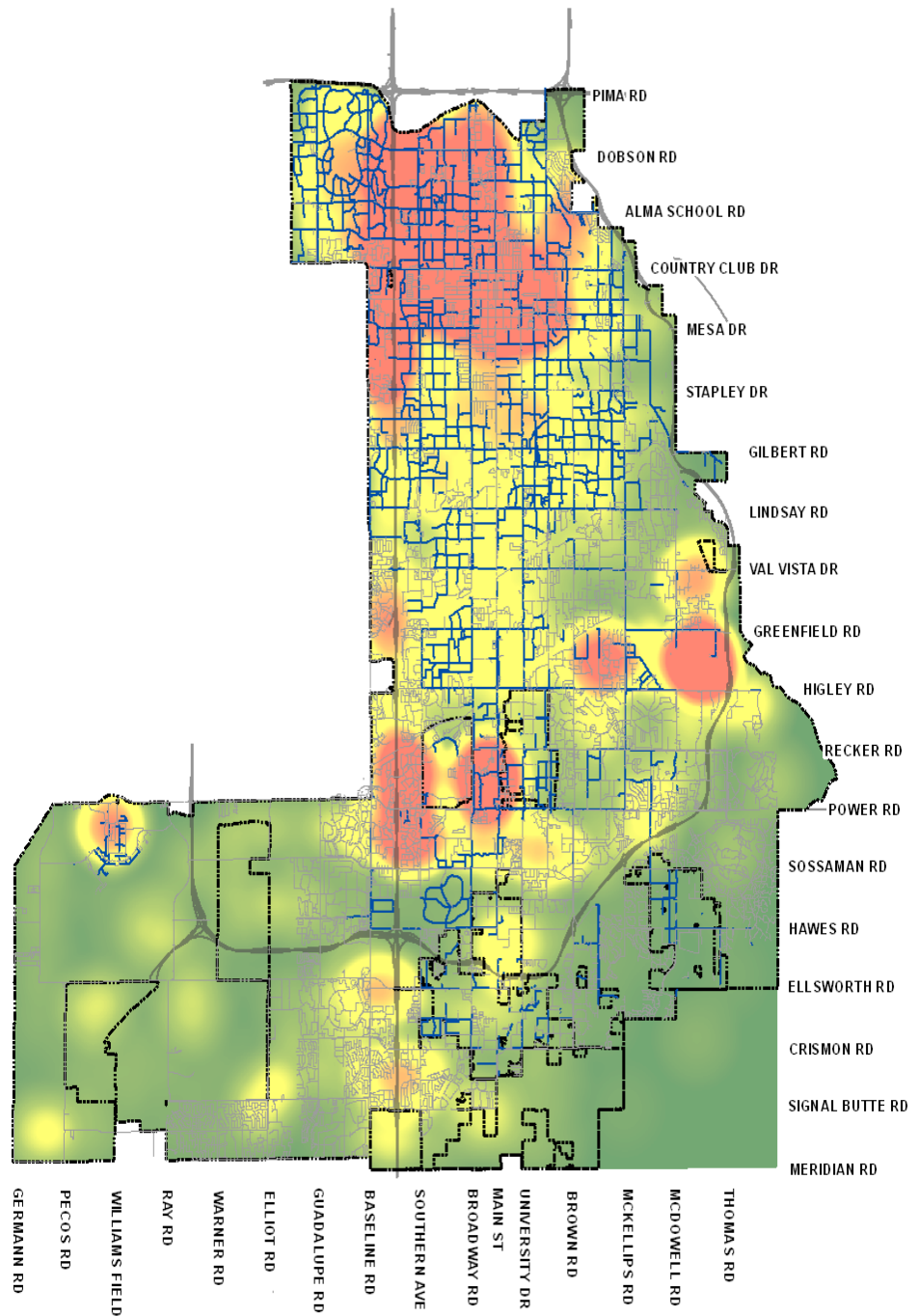


Utilities
Damage

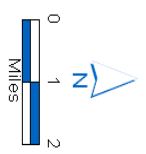
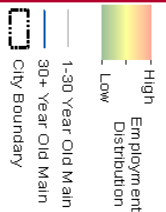


Property
Damage

Pipes Older Than 30 Years



2020
 Employment
 With
 Water Main



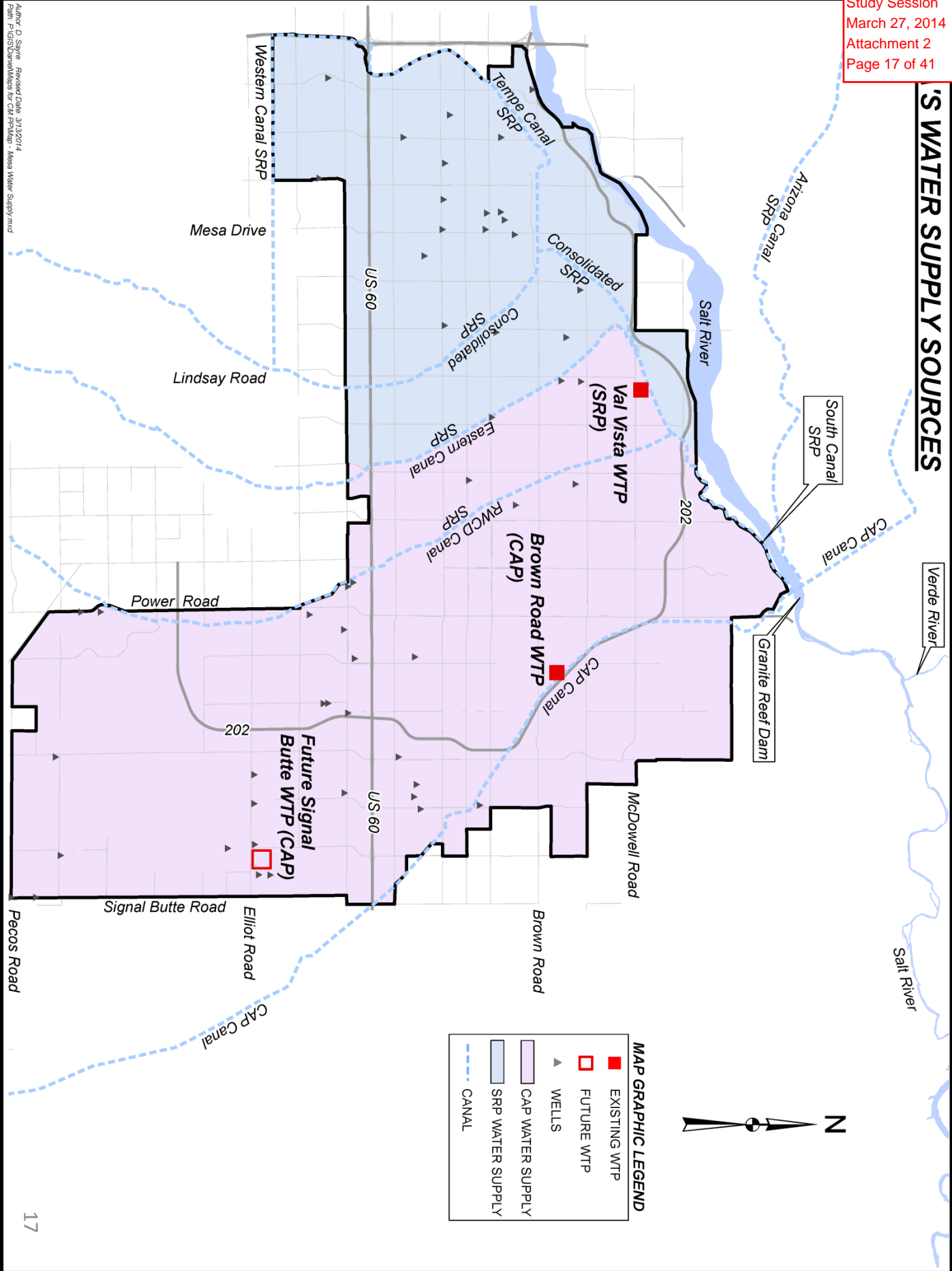
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Waterline Replacement Options

- 2,300 miles of waterline need to be replaced over 70 to 75 years
 - 60 miles of old cast iron pipe need replacement within next 10 years
 - 1,400 miles of asbestos cement pipe need replacement over next 40 years
- Option 1: Proposed 2014-2018 CIP for waterline replacement is \$35M to \$50M
- Option 2: A reduced 2014-2018 waterline replacement CIP program - \$20M
- Additional \$8M waterline replacement projects joint with Transportation

SE Mesa Growth – Residential and Manufacturing

IS WATER SUPPLY SOURCES



MAP GRAPHIC LEGEND

- EXISTING WTP
- FUTURE WTP
- ▲ WELLS
- CAP WATER SUPPLY
- SRP WATER SUPPLY
- - - CANAL



MESA'S WATER TREATMENT PLANT CAPACITY AND DEMANDS

Capacity = 90 MGD*
Current Demand = 70 MGD
Buildout Demand = 83 MGD

WWTP

*City of Mesa Allocation

Capacity = 72 MGD
Current Demand = 66 MGD
Buildout Demand = 72 MGD

BRWTP

Capacity = 24 MGD**
Current Demand = 14 MGD***
Buildout Demand = 48 MGD

SBWTP

**Phase 1 Capacity Effective 2018

***Current Demand Met by Wells

Current Water Production Sources for SE Mesa

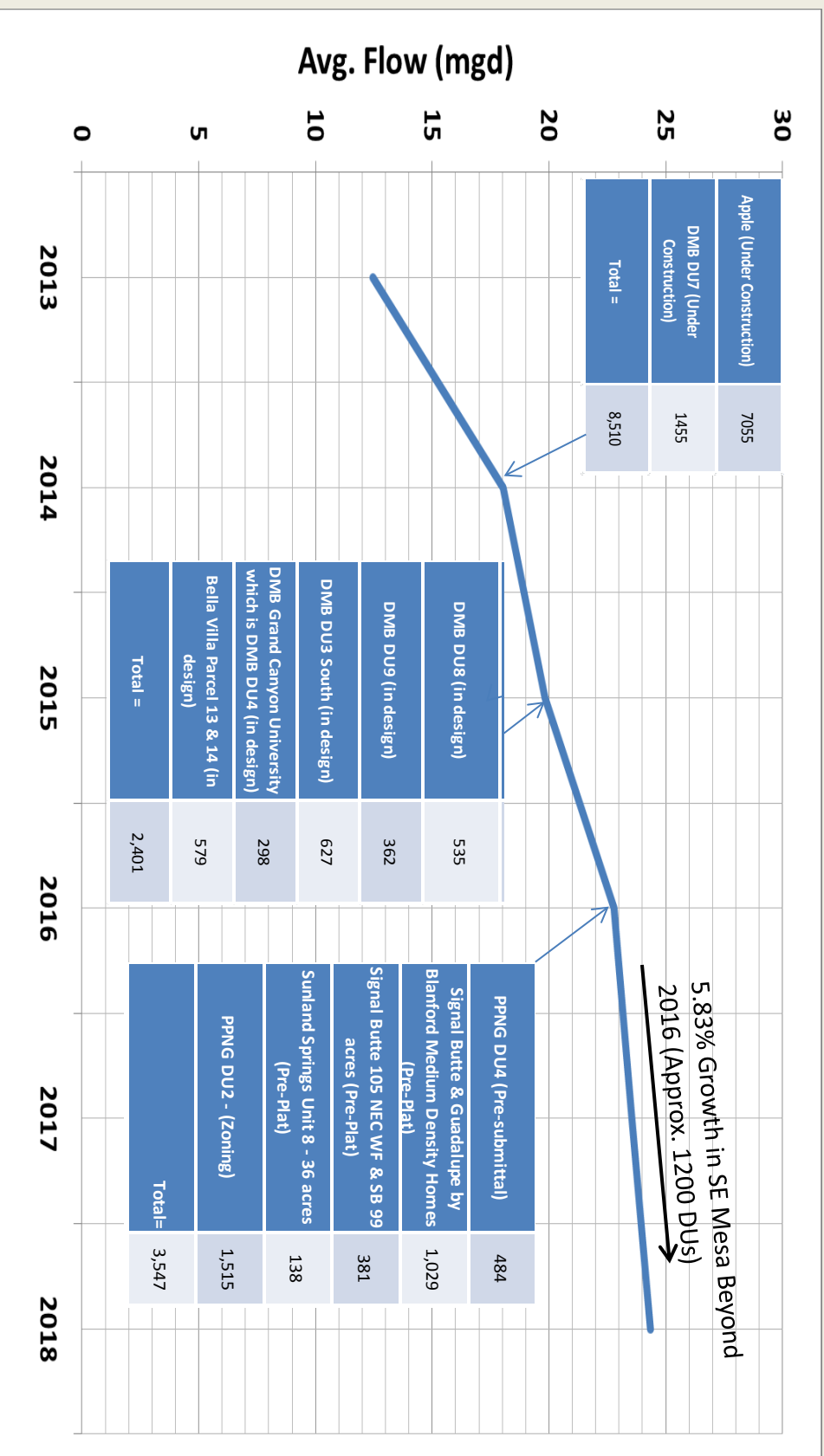
- Existing Sources: Wells & Brown Road WTP (BRWTP)
- Wells
 - Depletes future ground water resources
 - May cause subsidence
 - Impractical to meet total demand
 - Unpredictable - arsenic levels can rise over time
 - Unsustainable mode of operation
 - Practical limits of drilling new wells
 - Complicated operation to balance supply and demand
- BRWTP
 - Currently provides up to 10 mgd
 - Pressure mounding necessary to move water south
 - Available supply for SE Mesa will decline due to increased demand in BRWTP Service Area

Proposed Water Production Sources for SE Mesa (cont'd)

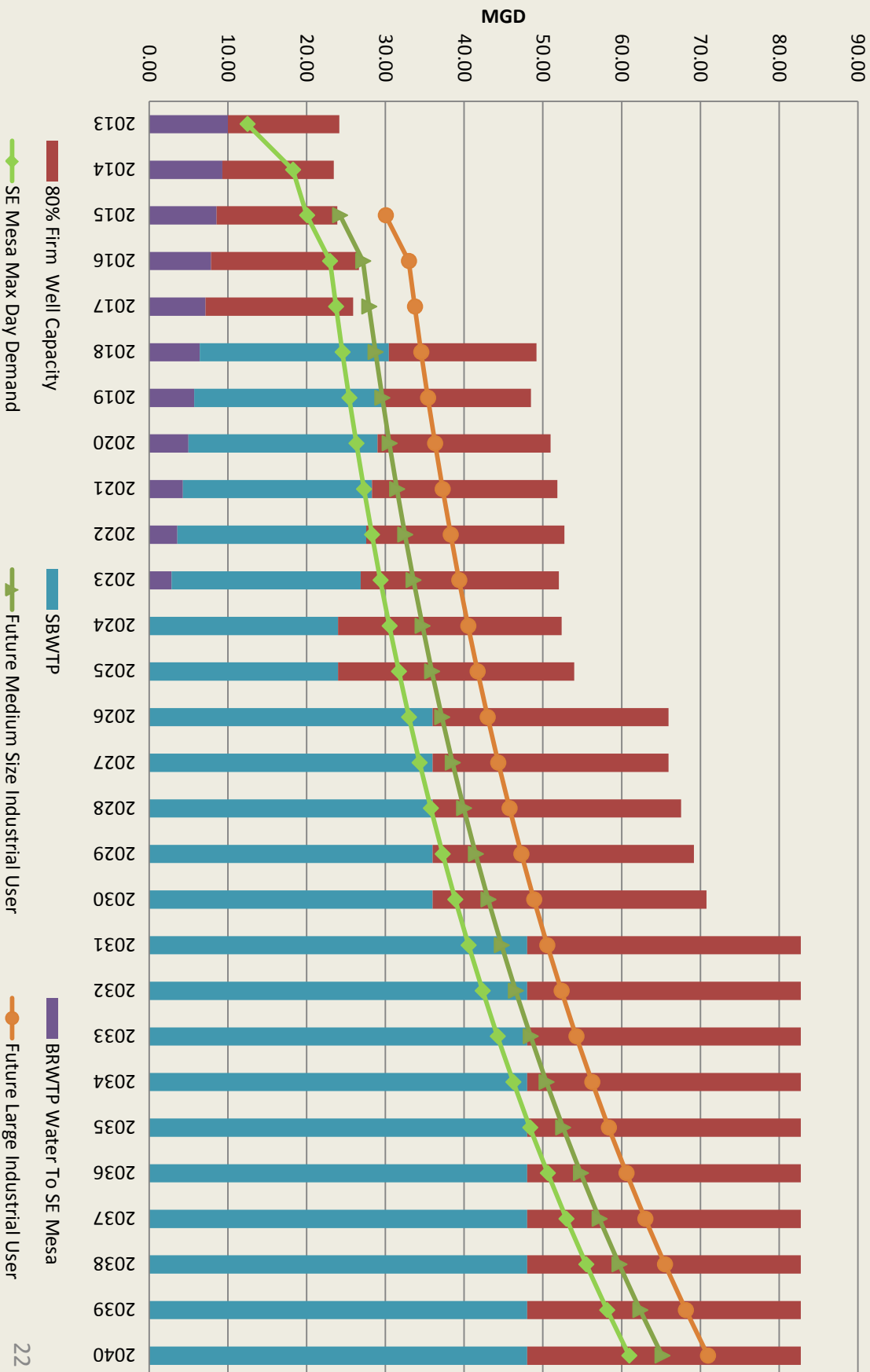
- Signal Butte WTP
 - Utilizes surface water
 - More reliable than wells
 - Simpler system operation
 - Provides redundancy for BRWTP
 - Conserves groundwater for drought

Growth Projection in SE Mesa

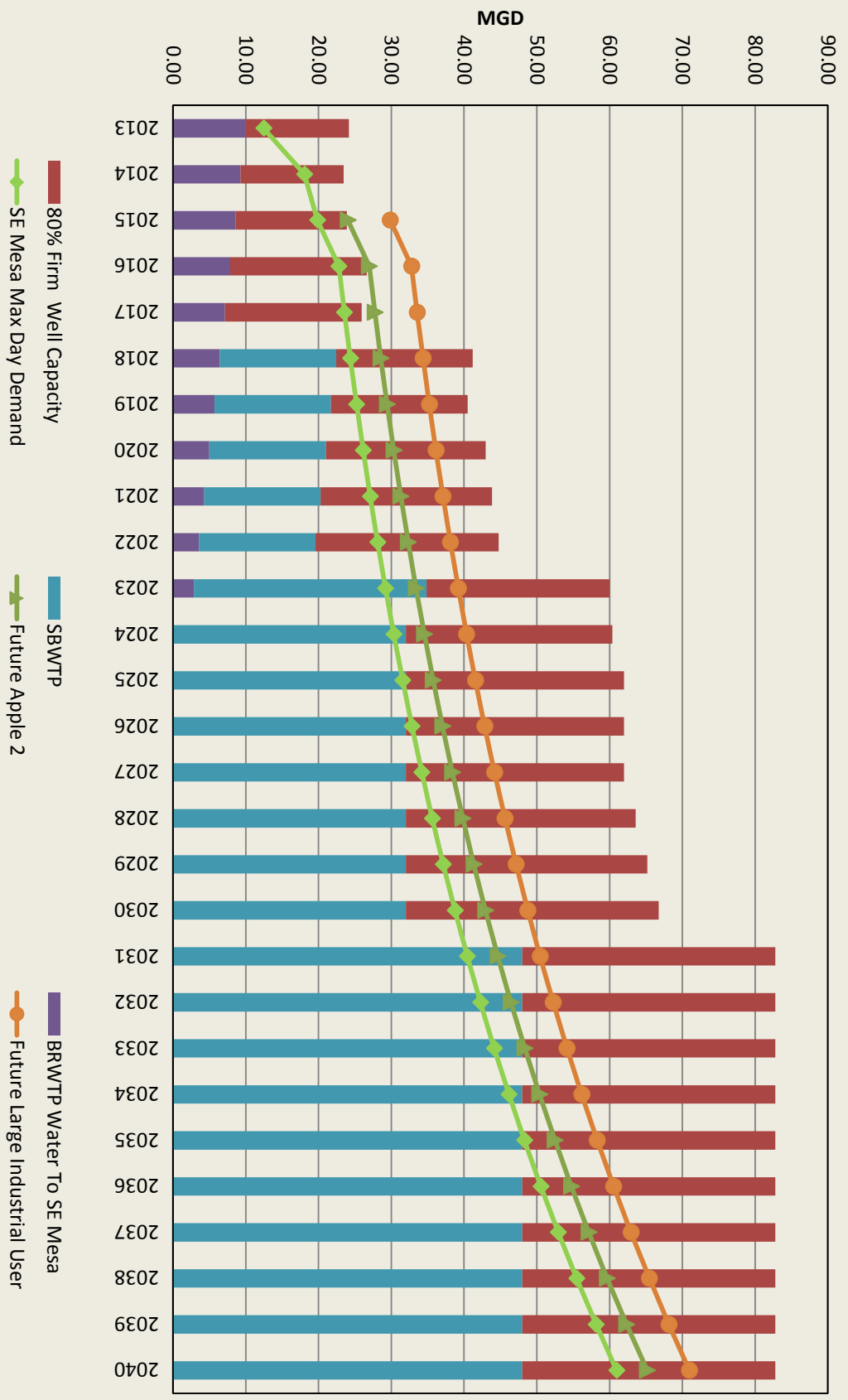
Note: Numbers Shown are in Equivalent Dwelling Units (EDU)



Option 1 (24 mgd SBWTP) - Max Day Demand vs Production at SE Mesa



Option 2 (16 mgd SBWTP) - Max Day Demand vs Production at SE Mesa



Signal Butte WTP Options

- Capacity needs:
 - 16 mgd plant falls short of the supply needed
 - Cost savings minimal with 16 mgd (~\$ 7M)
 - 16 mgd is not ideal size for redundancy
 - 24 mgd recommended for reliable water supply
- Preferred time for Bond Election
 - 2016 Bond Election would relieve the financial pressure slightly but would require two-year bond cycle (2014, 2016, 2018)
 - 2014 Bond Election is ideal
- 24 mgd WTP in 2014 Bond Election is recommended

Mesa Growth – Residential/Manufacturing

Proposed CIP Investments (2014-2018)

- 24 mgd SBWTP (\$123M)
- Additional infrastructure to support plant (\$66M)
 - 3 mile long, 48” raw waterline to SBWTP
 - A network of new transmission mains
 - New wells for redundancy/reliability
 - Other improvements include upgrades to existing Signal Butte pump station and Gateway Airport utilities

Water CIP Recommendations

- 24 mgd SBWTP in 2014-2018 CIP
- Water infrastructure replacement and rehabilitation
 - \$50M in 2014-2018 CIP
 - Includes \$5M/year pipeline replacement in short-term

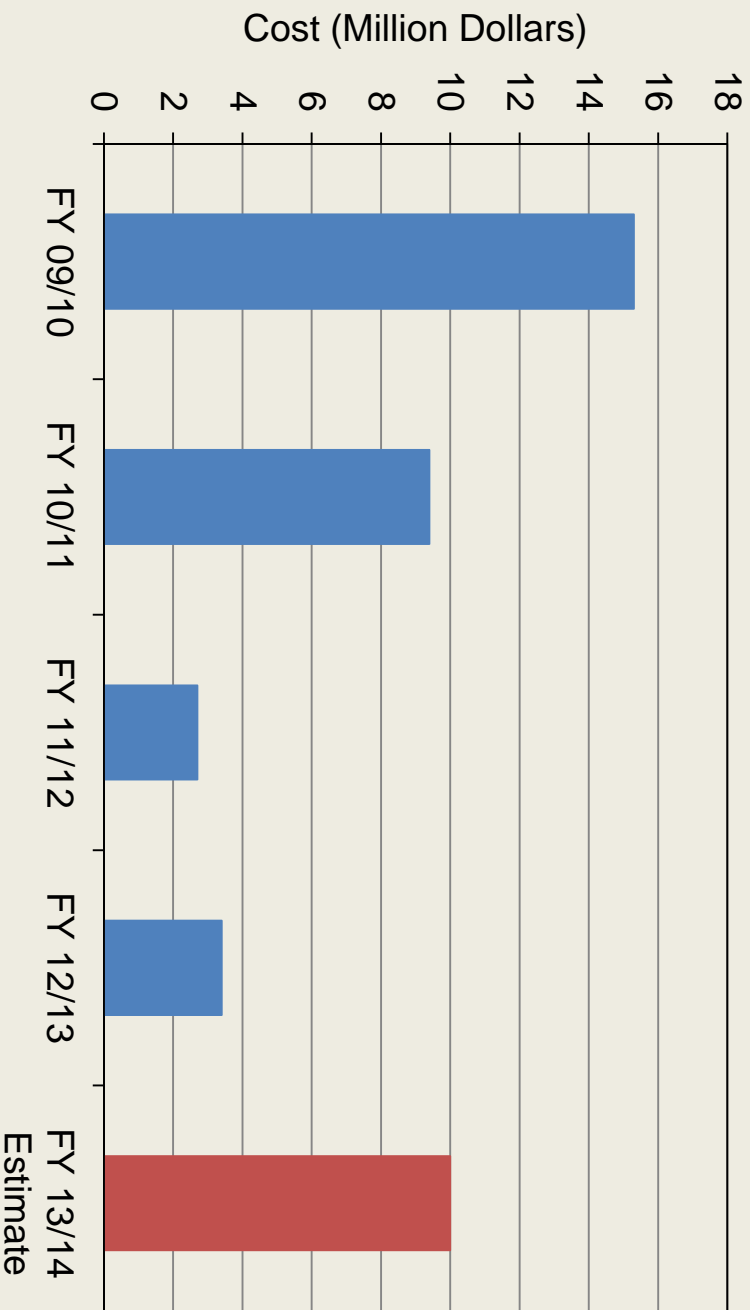
Wastewater CIP

Wastewater CIP

- Life-Cycle Replacements/Rehabilitation:
 - Northwest Water Reclamation Plant (NWWWRP)
 - Southeast Water Reclamation Plant (SEWRP)
 - Greenfield Water Reclamation Plant (GWRP)
 - Sewer lines, Lift Stations, Odor Control Stations and Manholes
- Growth/Economic Development – Residential & Manufacturing
 - **GWRP Expansion: 10 or 8 mgd**
 - Conveyance lines to support growth
- Contractual Obligations
 - Sub-Regional Operating Group (SROG), 91st Ave. Wastewater Treatment Plant
 - SROG, Salt River Outfall (SRO) and Southern Avenue Interceptor (SAI)

Life-Cycle Replacements/ Rehabilitation

Wastewater CIP – Replacements and Rehabilitation Investments (2009-2014)



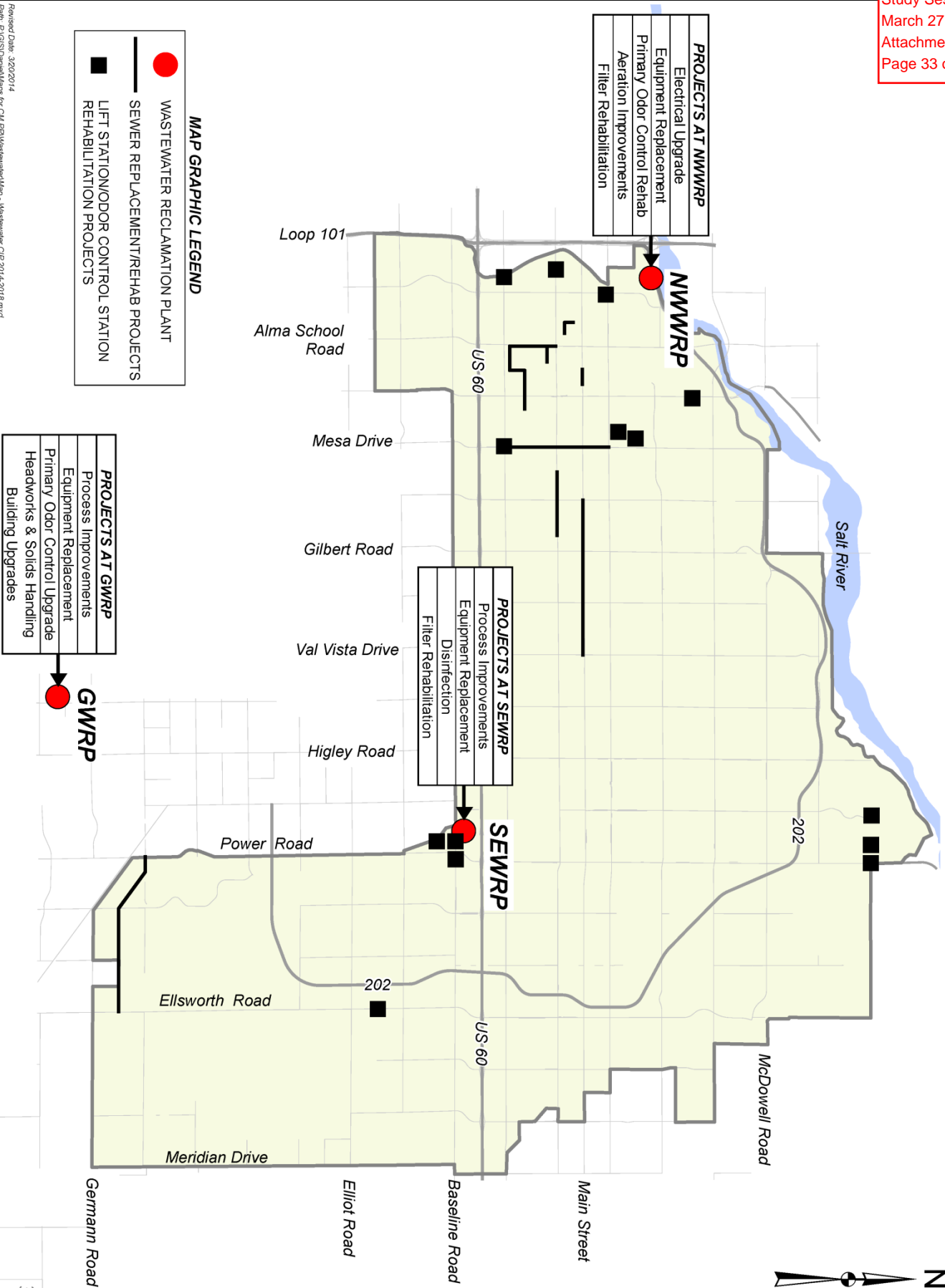
Major Wastewater Replacement/ Rehab Projects Completed (2009-2014)

- Southern Avenue Interceptor rehabilitation
- NWWRP headworks and clarifier rehabilitation
- Citywide sewer manhole rehabilitation
- Citywide sewer rehabilitation
- Southeast WRP disinfection improvements
- Rehabilitation of sewer crossing under US60
- Rehabilitation of existing lift stations and odor control stations

Proposed Replacement/Rehabilitation Projects (2014-2018)

- NWWRP improvements
 - Primary odor control upgrade
 - Aeration improvements
 - Filter improvements
 - Improvements to Service Entrance Section (SES) and breakers
- SEWRP improvements
 - Process improvements
 - Filter improvements
 - Grit removal
- Greenfield WRP improvements
 - Primary odor control upgrade
 - Headworks and solids handling upgrades
- Equipment replacements at all plants
- Citywide manhole rehabilitation
- Citywide sewer rehabilitation
- Lift station and odor control station rehabilitation

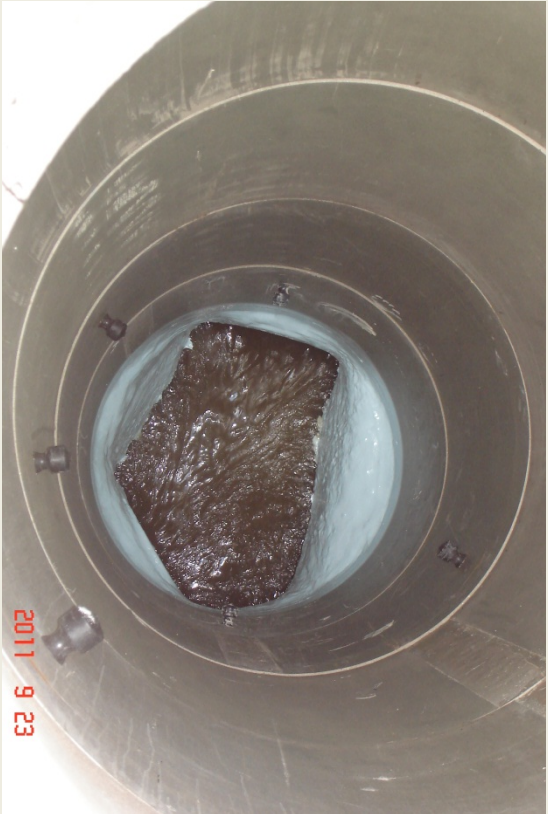
TEWATER REPLACEMENT/REHABILITATION CIP PROJECTS 2014-2018



Sewer Rehabilitation/Replacement Projects



Manhole Rehabilitation Projects

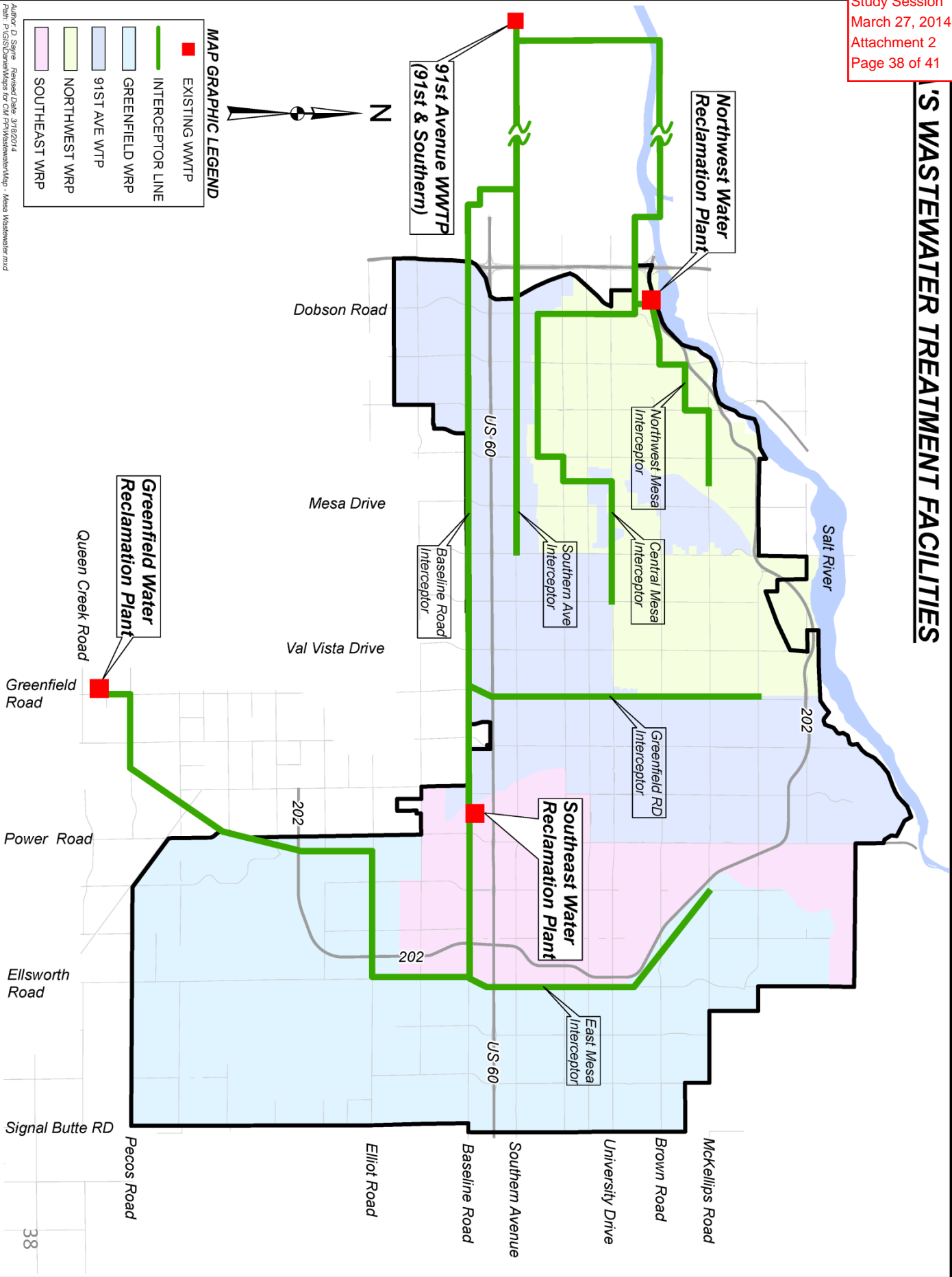


SEWRRP Disinfection Project



SE Growth – GWRP Expansion

'S WASTEWATER TREATMENT FACILITIES



MAP GRAPHIC LEGEND

- EXISTING WWTP
- INTERCEPTOR LINE
- GREENFIELD WRP
- 91ST AVE WTP
- NORTHWEST WRP
- SOUTHEAST WRP



MESA'S WATER RECLAMATION PLANT CAPACITY AND FLOWS

Capacity = 18 MGD
Current Flow = 9 MGD
Buildout Flow = 14 MGD

NWWRP

Capacity = 8 MGD
Current Flow = 5 MGD
Buildout Flow = 8 MGD

SEWRP

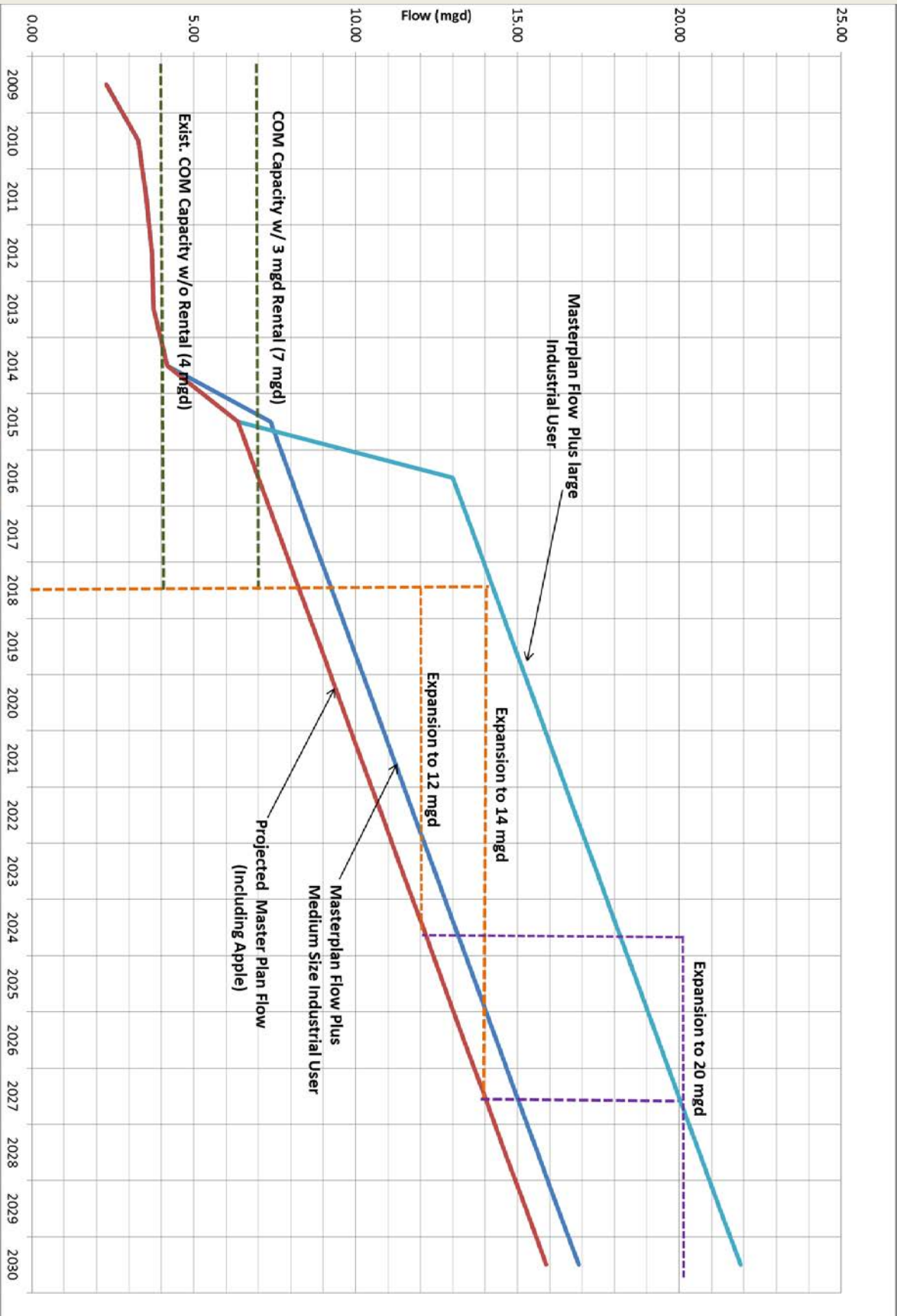
Capacity = 24 MGD
Current Flow = 17 MGD
Buildout Flow = 24 MGD

**91ST AVENUE
 WWTP**

	Flow	Capacity
Current	4 MGD	4 MGD
Phase III (2018-2027)	8 MGD	14 MGD
Buildout	20 MGD	20 MGD

GWRRP

GWRRP Capacity Projections (Mesa Only)



Wastewater CIP Recommendations

- 10 mgd GWRP – \$104M
 - \$9M in 2010 Bond
 - \$95M in 2014-2018 CIP
- Wastewater infrastructure replacement and rehabilitation
 - \$30M in 2014-2018 CIP

Railroad Quiet Zones

City of Mesa Council Meeting
March 27, 2014



What is a Quiet Zone

- Rail corridor where train horns are not sounded
- Exceptions related to safety



Different Types of Quiet Zones

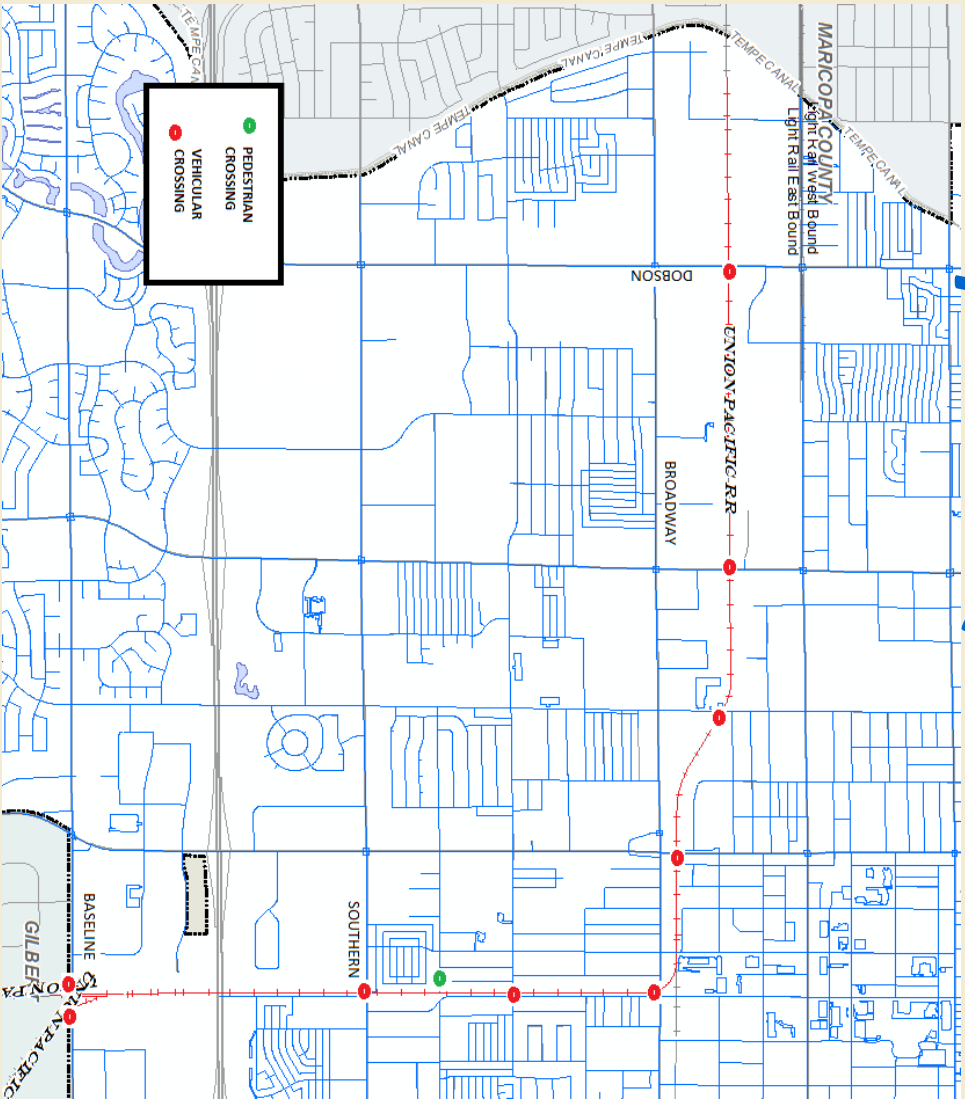
- **Pre-Rule Quiet Zones**
- **Partial Quiet Zones**
- **Full Quiet Zones**



How to Establish Quiet Zone

- **Follow Federal Railroad Administration (FRA) Rules**
- **Utilize Quiet Zone Calculator**
 - **Set Benchmark Risk Index**
- **Evaluate/Implement Supplementary Safety Measures (SSM)**
- **File Application with FRA**

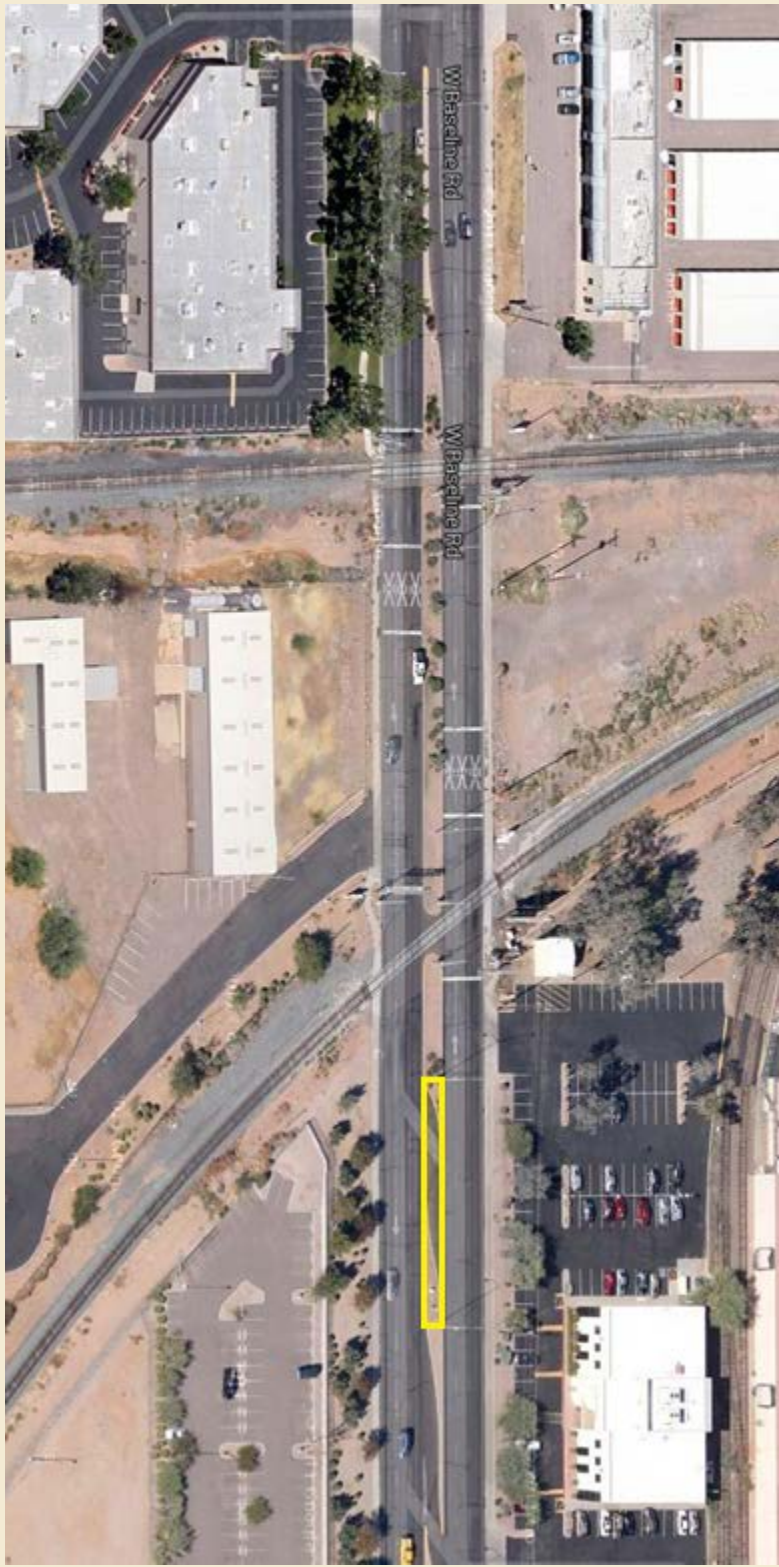
Proposed Quiet Zone



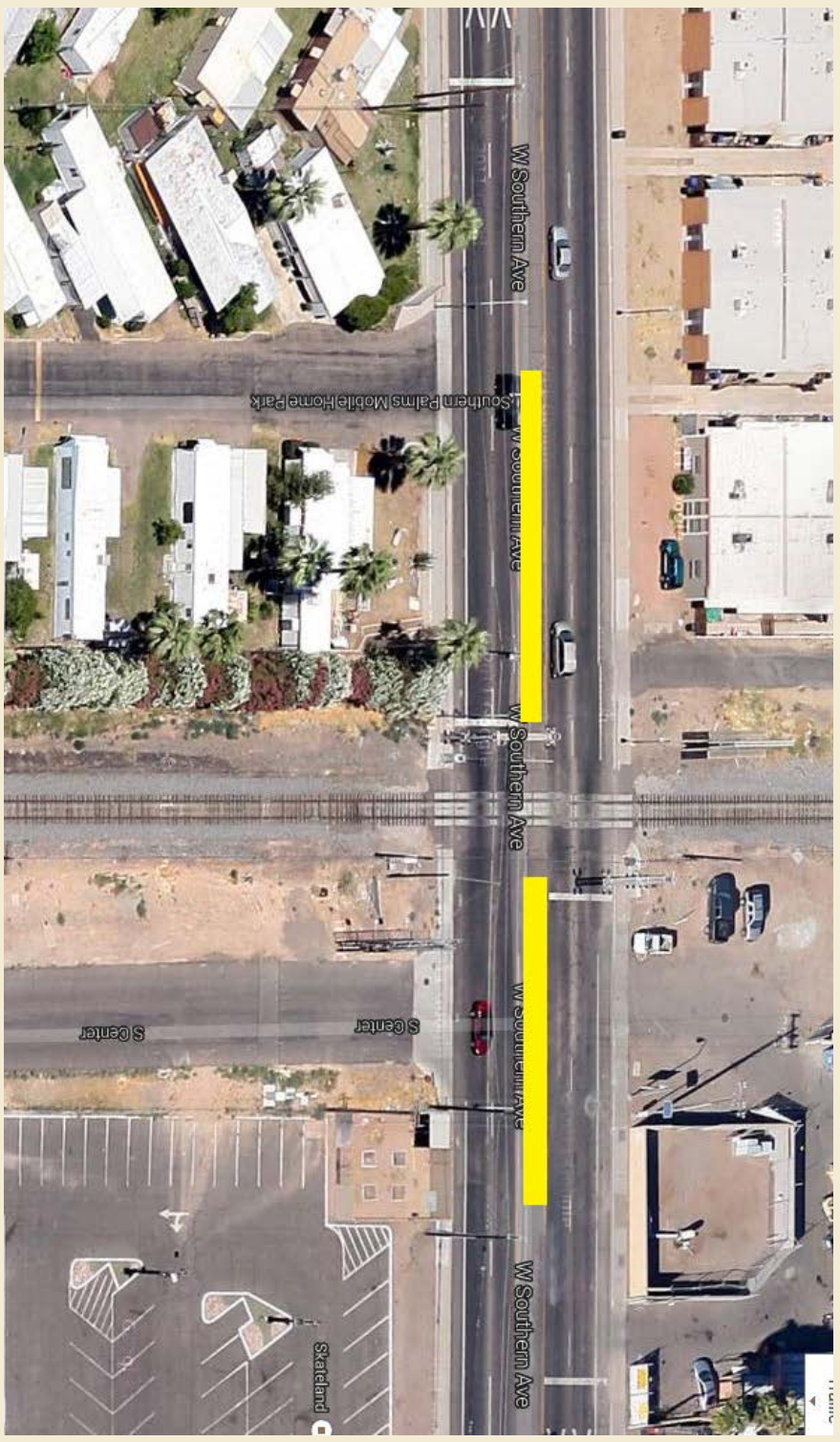
Baseline Road



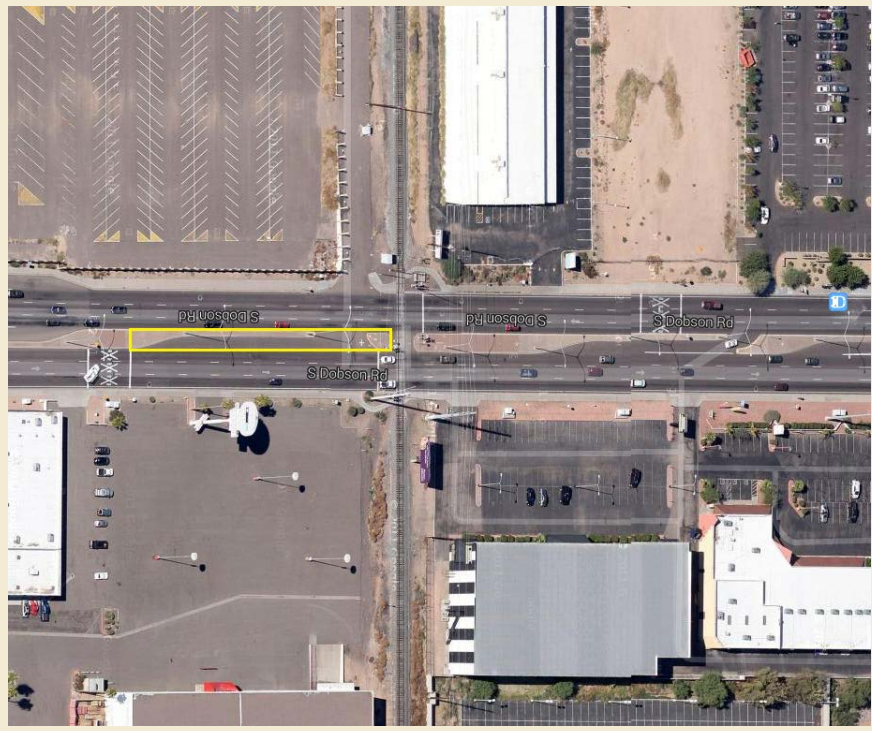
Baseline Road



Southern Avenue



Dobson Road



Recommendations

- **Full Quiet Zone includes all public railroad crossings in Mesa**
- **Approximately \$250,000 to install medians**



Next Steps

- **Council Direction**
- **Contact All Agencies Involved**
- **Implement Safety Measures**
- **File FRA Application**



Questions?

