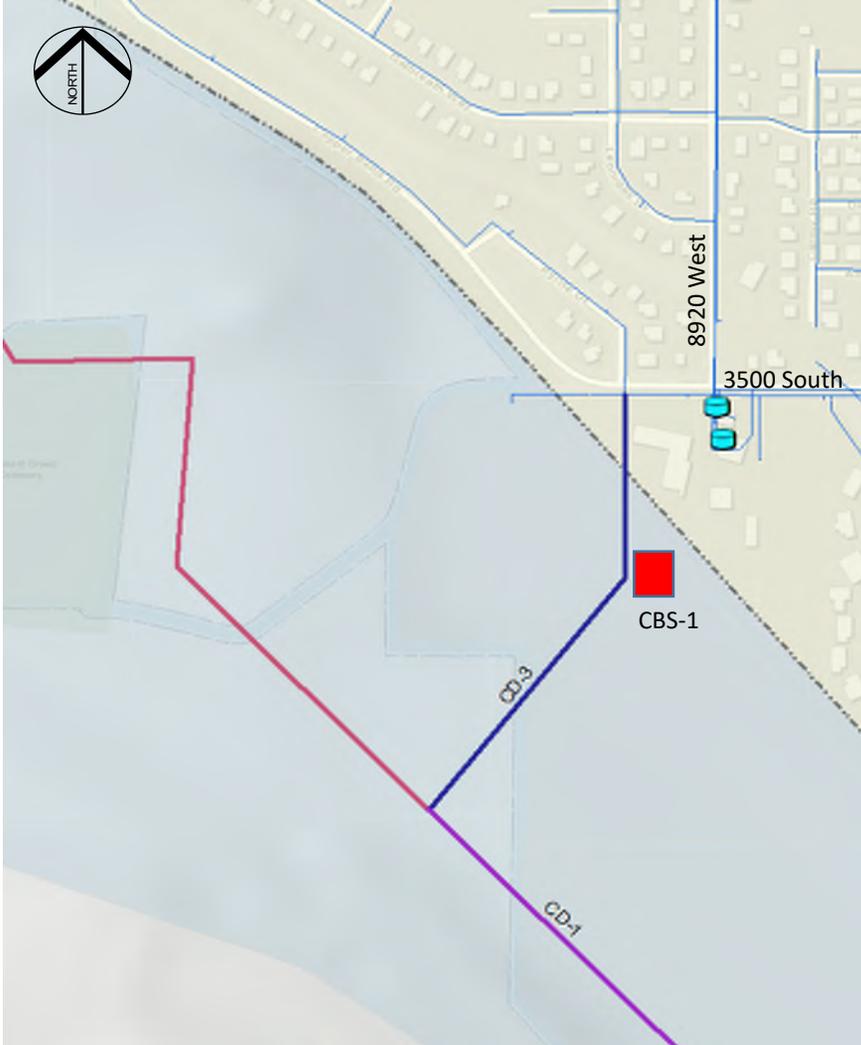


APPENDIX 2-A

IMPROVEMENT PROJECT SUMMARY





Project Map

Project ID: CBS-1 and CD-3

Project Name:
Zone 3 II Culinary Booster Station and Connection

Description:
Project CBS-1 is a new Zone 3 culinary booster station, which is assumed to boost from Zone 2 pipes near the 3500 South culinary tanks. This booster station could also be designed to lift from the Zone 1 tanks which would potentially reduce the boosting requirements for the 8000 W booster station. Project CD-3 is the 12-inch piping that will connect to project CBS-1.

Project Components		
Quantity	Size	
1,393 LF	12-inch	-
205 TDH	43 HP	600 GPM

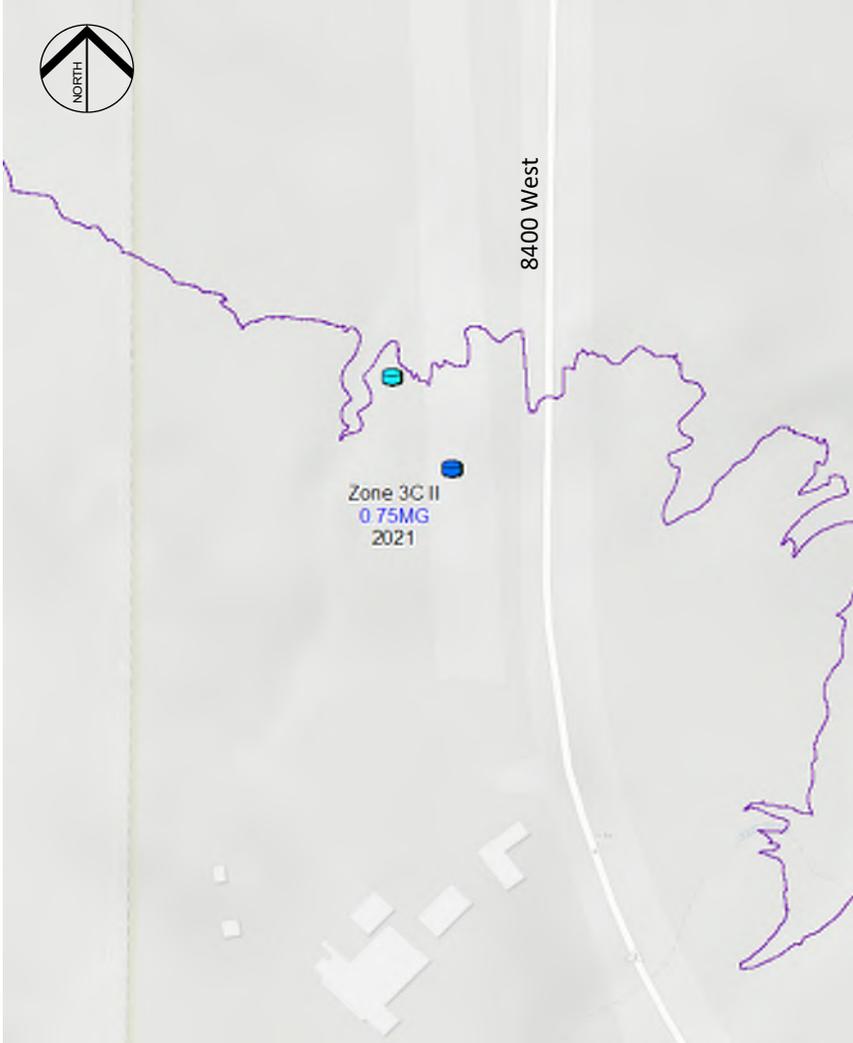
Cost Estimate (2019 \$s):
CBS-1: \$775,000 CD-3: \$347,000

Project Need:
Capacity for Future Growth. Additional pumping capacity is needed for Zone 3 to accommodate future growth.

Potential Consequences of Failing to Complete Project:
The existing culinary distribution system will not be able to serve the areas in Zone 3 with the required supply pressures without installing projects CBS-1 and CD-3.

Project Triggers:
The project needs to be constructed before the existing Zone 3 booster runs out of capacity. The existing zone 3 culinary booster station has a capacity of 340 gpm, with 233 gpm of remaining capacity (1,100 ERCs remaining).

Current Estimated Project Completion Year: 2021

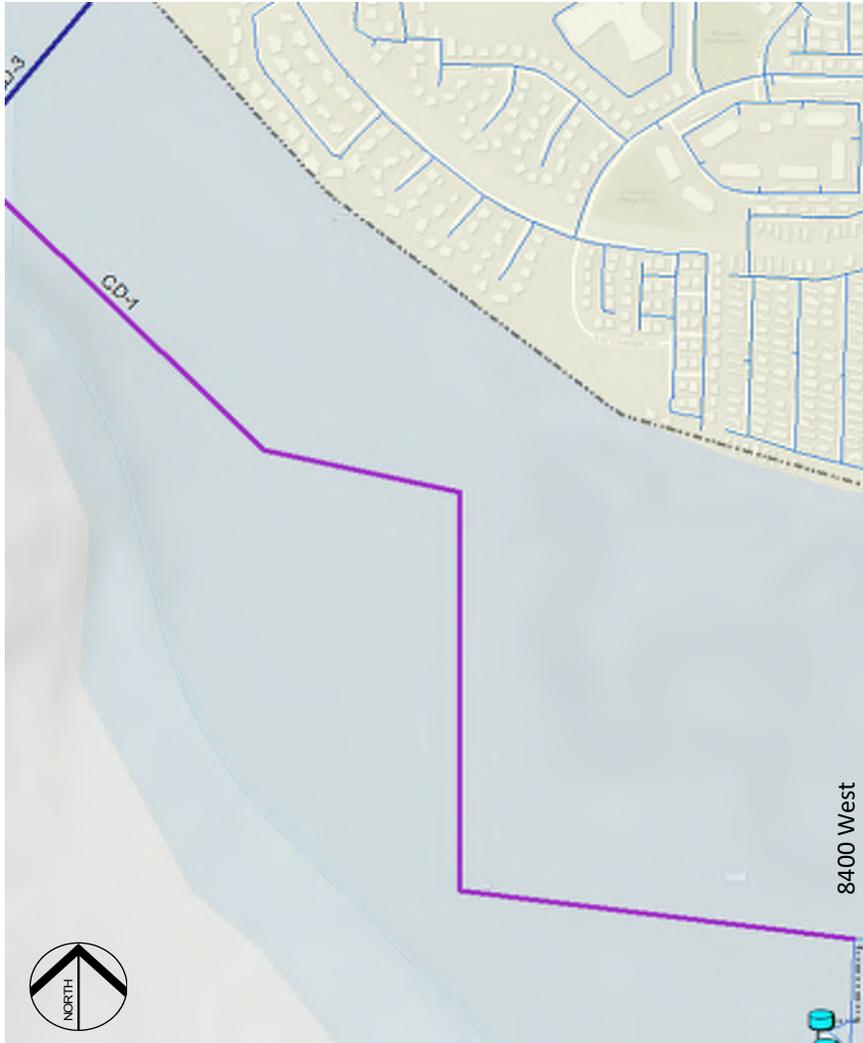


Project Map

Project ID:		CS-1
Project Name: Zone 3 II Culinary Tank		
Description: Construction of a new culinary water storage tank to serve new growth in Zone 3.		
Project Components		
<i>Quantity</i>	<i>Size</i>	
	0.75 MG	
Cost Estimate (2019 \$s):		\$1,210,000

<p>Project Need: <i>Capacity for Future Growth.</i> The existing Zone 3 storage tank is too small to accommodate all of the potential Zone 3 growth. The new high school's fire flow requirements by themselves may increase storage requirements beyond the capacity of the existing storage reservoir.</p>
<p>Potential Consequences of Failing to Complete Project: There will not be sufficient capacity for storage in Zone 3 of the service area.</p>
<p>Project Triggers: This storage tank will be a crucial component to the supply for the Zone 3 users. Additional storage should be constructed before the new high school is completed.</p>
<p>Current Estimated Project Completion Year: 2021</p>

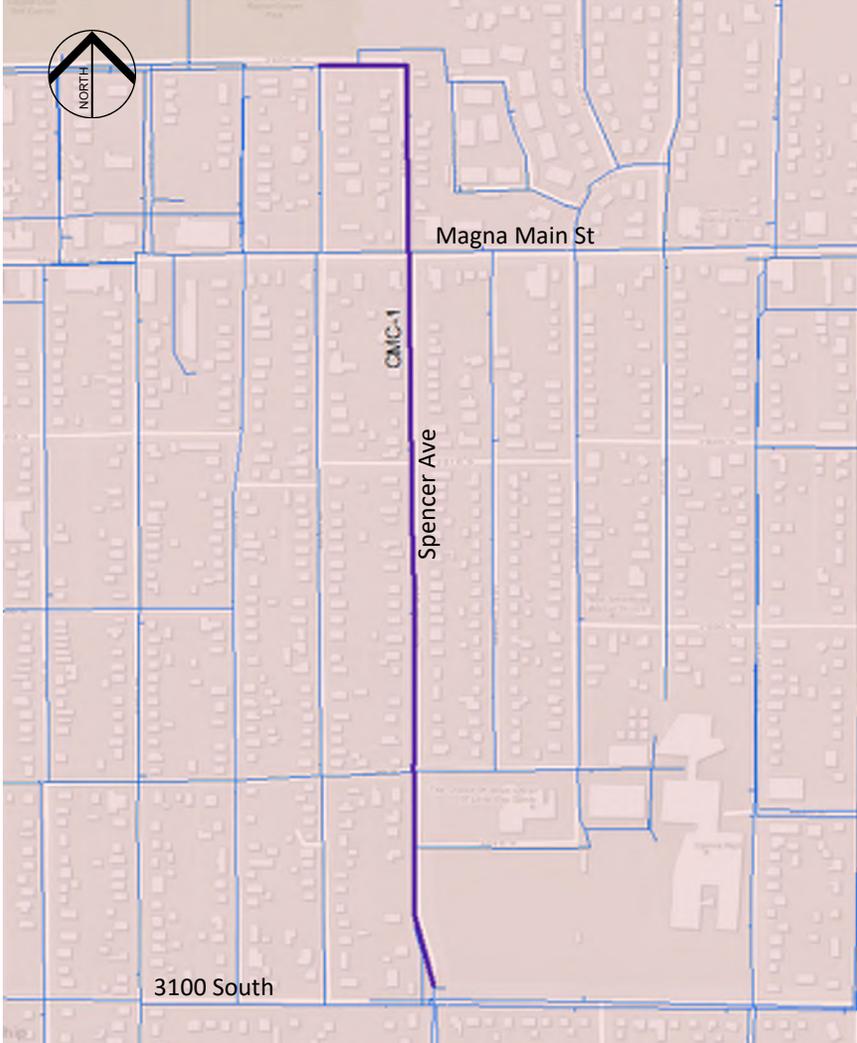
Improvement Project Summary
Magna Water District



Project Map

Project ID:		CD-1
Project Name:		Zone 3 Conveyance
Description:		This project will provide conveyance within Zone 3 between 8400 West and the connecting pipes to the Zone 3 II Culinary Booster Station.
Project Components		
<i>Quantity</i>	<i>Size</i>	
4,824 LF	16-inch	-
Cost Estimate (2019 \$s):		\$1,339,000

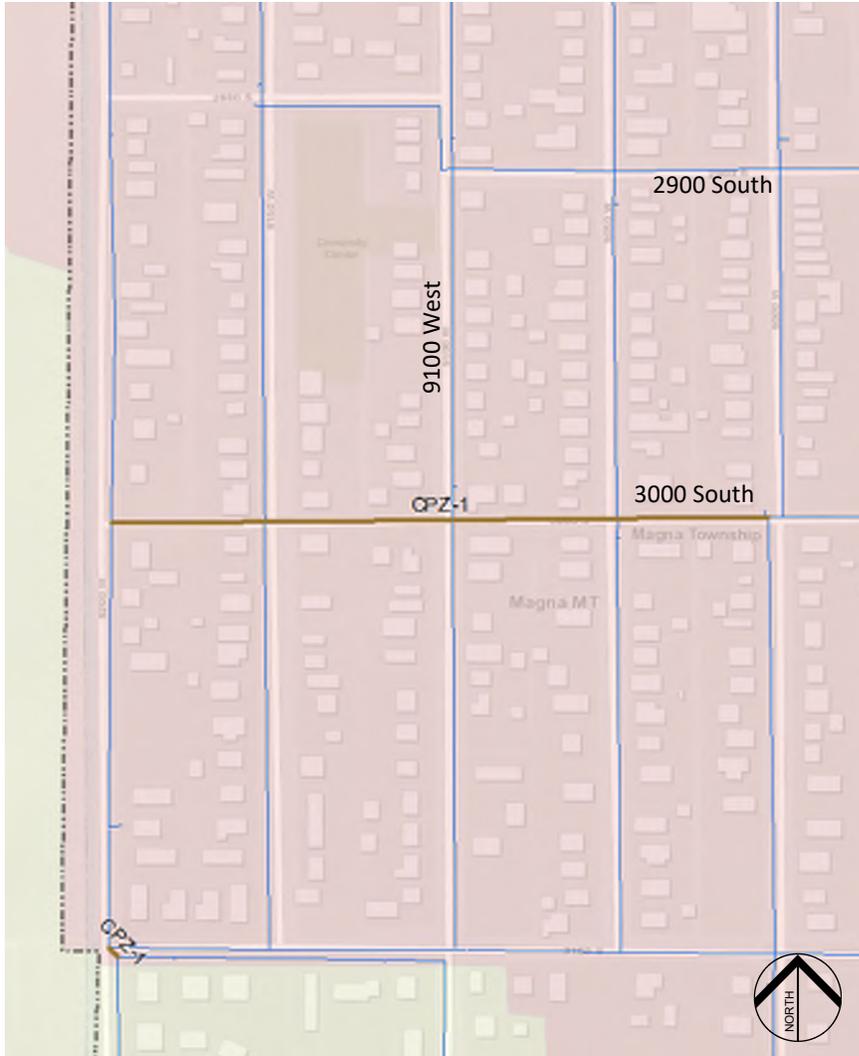
Project Need: <i>Capacity for Future Growth.</i> Future growth within Zone 3 will require a major conveyance pipe from south to north.
Potential Consequences of Failing to Complete Project: Without adequate major conveyance, the District will not be able to support peak hour or fire demands at the north end of Zone 3.
Project Triggers: The project should be constructed concurrently with development in the area.
Current Estimated Project Completion Year: 2021



Project Map

Project ID:		CMC-1
Project Name: 8800 W, 3100 S to 3300 S		
Description: This project is a culinary major conveyance distribution system project along Spencer Avenue. This will replace an existing 6-inch pipe.		
Project Components		
<i>Quantity</i>	<i>Size</i>	
3,603 LF	12-inch	
Cost Estimate (2019 \$s):		\$897,000

Project Need: <i>Capacity for Future Growth.</i> Many of the pipes at the northwest end of the City are smaller diameter pipes. This improvement will increase capacity to meet fire flow and peak instantaneous demands.	
Potential Consequences of Failing to Complete Project: Fire flows and peak instantaneous pressure that are low today will continue to remain low until this project is completed.	
Project Triggers: This project should be completed as funding becomes available to eliminate the existing deficiency. If funding priorities are focused elsewhere, at a minimum, this project should be completed before development west of 9200 West within Zone 1 is permitted.	
Current Estimated Project Completion Year:	2024

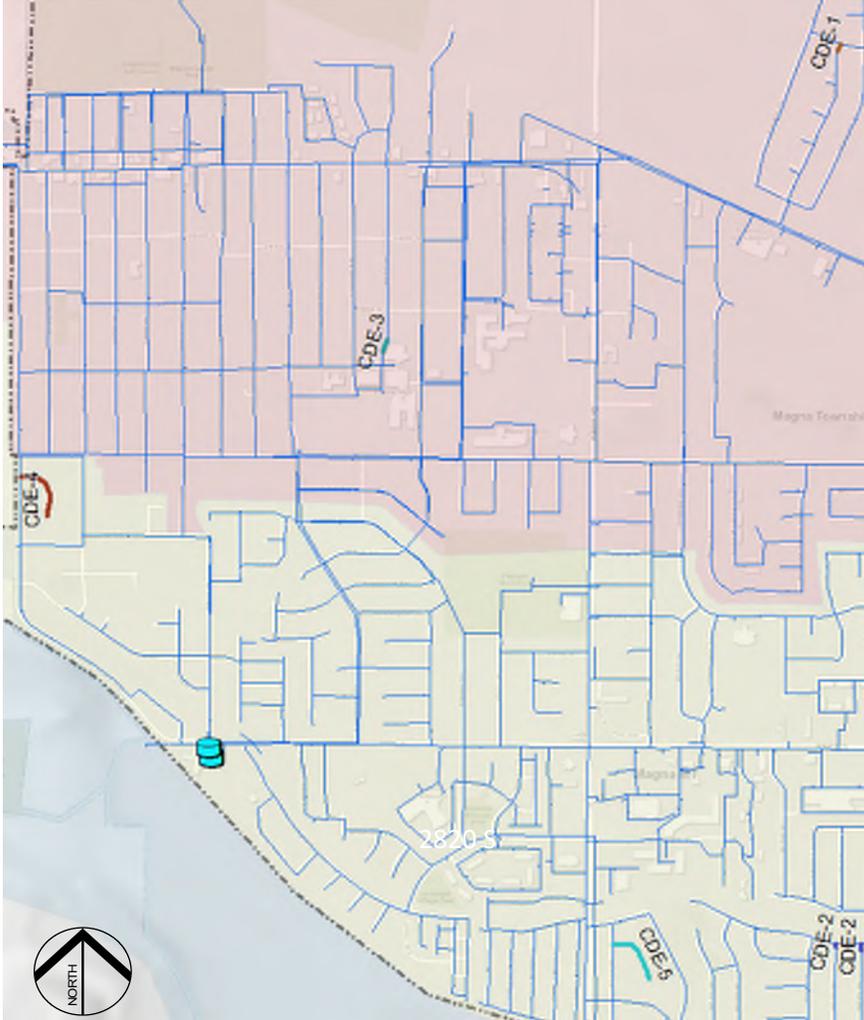


Project Map

Project ID:		CPZ-1
Project Name: 3000 S, 9200 W to 9000 W Zone Change		
Description: This project is a pressure zone improvement project along 3000 South, which will install a new 8-inch pipeline.		
Project Components		
<i>Quantity</i>	<i>Size</i>	
1,549 LF	8-inch	
Cost Estimate (2019 \$s):		\$353,000

Project Need: <i>Resolve Existing Deficiency.</i> Some of the homes at the southwest corner of Zone 1 experience pressures below the District's design criteria during peak instantaneous demands. This project boosts pressures to within the District's design
Potential Consequences of Failing to Complete Project: Pressures that are below the District's design criteria today will continue to be below the District's design criteria.
Project Triggers: Project should be completed as revenue is available or potentially complete the project concurrent with any other road or utility projects.
Current Estimated Project Completion Year: 2029

Improvement Project Summary
Magna Water District



Project Map

Project ID: CDE-1 to CDE-5

Project Name:
Twain Dr & Thoreau Dr Dead-End
Westbury Dr, 8070 W & 8035 W
8950 W 3100 S 10 Valves
Copper Cove Circle
Sage Brook Circle

Description:
The CDE projects are dead end projects that need to be completed in the District to improve available fire flow, system reliability, and water quality. There are five of these projects that are recommended in the 10-year window.

Project Components		
<i>Project</i>	<i>Length</i>	<i>Diameter</i>
CDE-1	71 LF	8-inch
CDE-2	109 LF	8-inch
CDE-3	129 LF	8-inch
CDE-4	551 LF	8-inch
CDE-5	527 LF	8-inch

Cost Estimate (2019 \$s): \$329,000

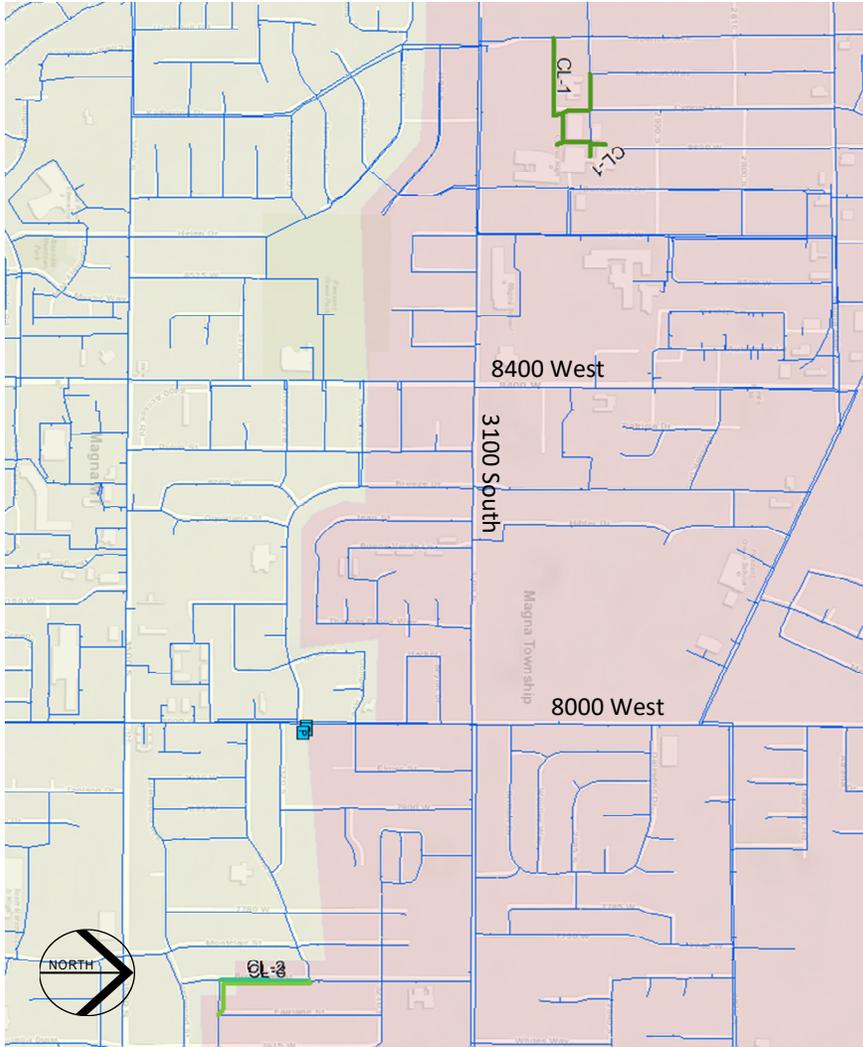
Project Need:
Resolve Existing Deficiency. Dead end pipes generally have low fire flow capacity, result in less reliability when a pipe break or other shut down occurs, and can sometime have lower water quality due to age.

Potential Consequences of Failing to Complete Project:
Continue to have lower than desirable fire flows, reliability, and water quality.

Project Triggers:
Projects should be completed as revenue is available or potentially complete the projects concurrent with any other road or utility projects.

Current Estimated Project Completion Year: 2022/2026

Improvement Project Summary
Magna Water District

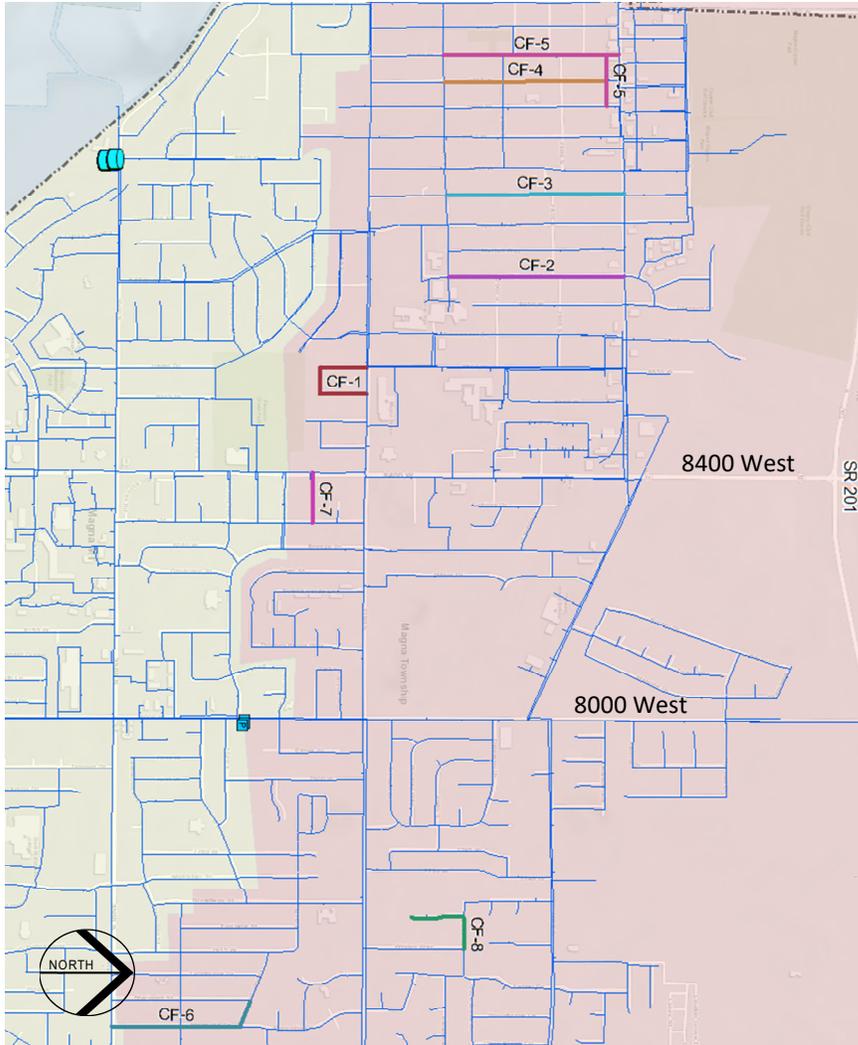


Project Map

Project ID:		CL-1 to CL-3
Project Name:		2900 S 8700 W Loop 7700 W to Broadway, 3100 S to 3500 S Broadway St, 3240 S Loop
Description:		The CL projects are looping projects that need to happen in the District to improve fireflows and reliability. There are three looping projects that are recommended to be completed in the 10-year window.
Project Components		
<i>Project</i>	<i>Length</i>	<i>Diameter</i>
CL-1	1,895 LF	8-inch
CL-2	687 LF	8-inch
CL-3	942 LF	8-inch
Cost Estimate (2019 \$s):		\$802,000

Project Need: <i>Resolve Existing Deficiency.</i> Looping projects are intended to boost fire flow and improve reliability and water quality associated with dead-ends (sometimes related to pressure zone boundaries).	
Potential Consequences of Failing to Complete Project: Reduced fire flow, reliability, and/or lower quality associated with dead-ends.	
Project Triggers: Projects should be completed as revenue is available or potentially complete the projects concurrent with any other road or utility projects.	
Current Estimated Project Completion Year:	2022

Improvement Project Summary
Magna Water District



Project Map

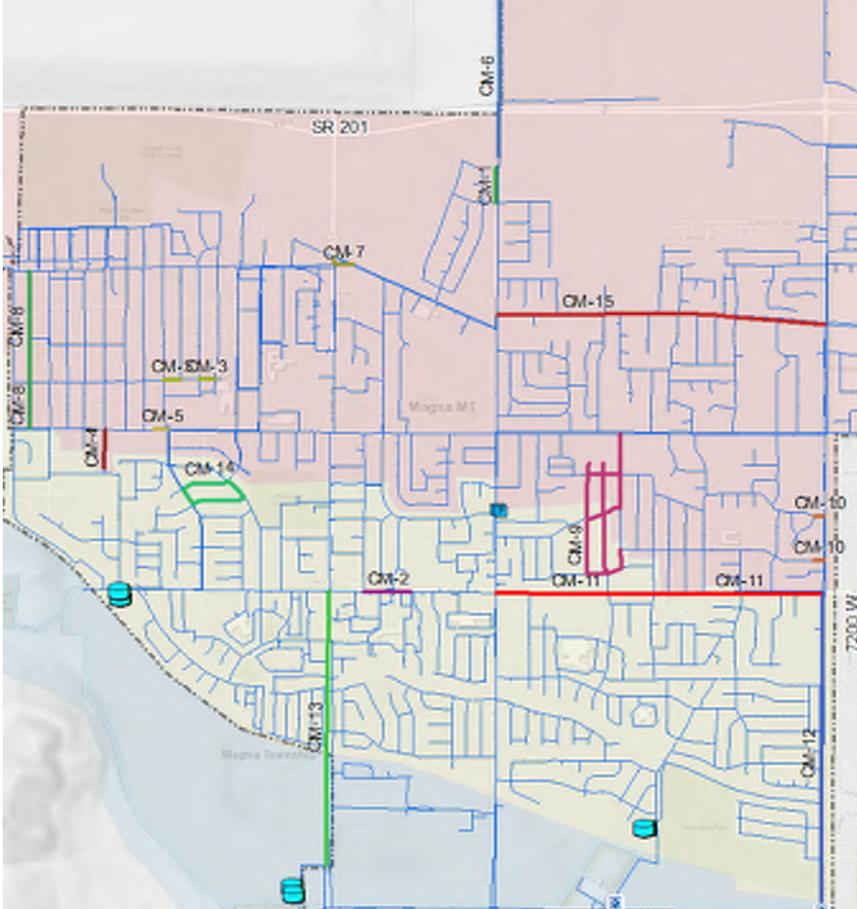
Project ID:		CF-1 to CF-8
Project Name:		Four Inch Projects
Description:		
The CF projects are 4-inch pipes that need to be replaced with 8-inch pipes to improve fire flow and meet current construction standards. There are seven 4-inch projects that are recommended to be completed in the 10-year window.		
Project Components		
Project	Length	Diameter
CF-1	1,271 LF	8-inch
CF-2	1,859 LF	8-inch
CF-3	1,874 LF	8-inch
CF-4	1,718 LF	8-inch
CF-6	1,665 LF	8-inch
CF-7	551 LF	8-inch
CF-8	916 LF	8-inch
Cost Estimate (2019 \$s):		\$2,249,000

Project Need:
Resolve Existing Deficiency. 4-inch pipes have very little fire flow capacity and usually represent the older pipes in the system.

Potential Consequences of Failing to Complete Project:
Fire flows below desired levels. Potential water leaks from the old 4-inch pipes.

Project Triggers:
Projects should be completed as revenue is available or potentially complete the projects concurrent with any other road or utility projects.

Current Estimated Project Completion Year: 2026-2029



Project Map

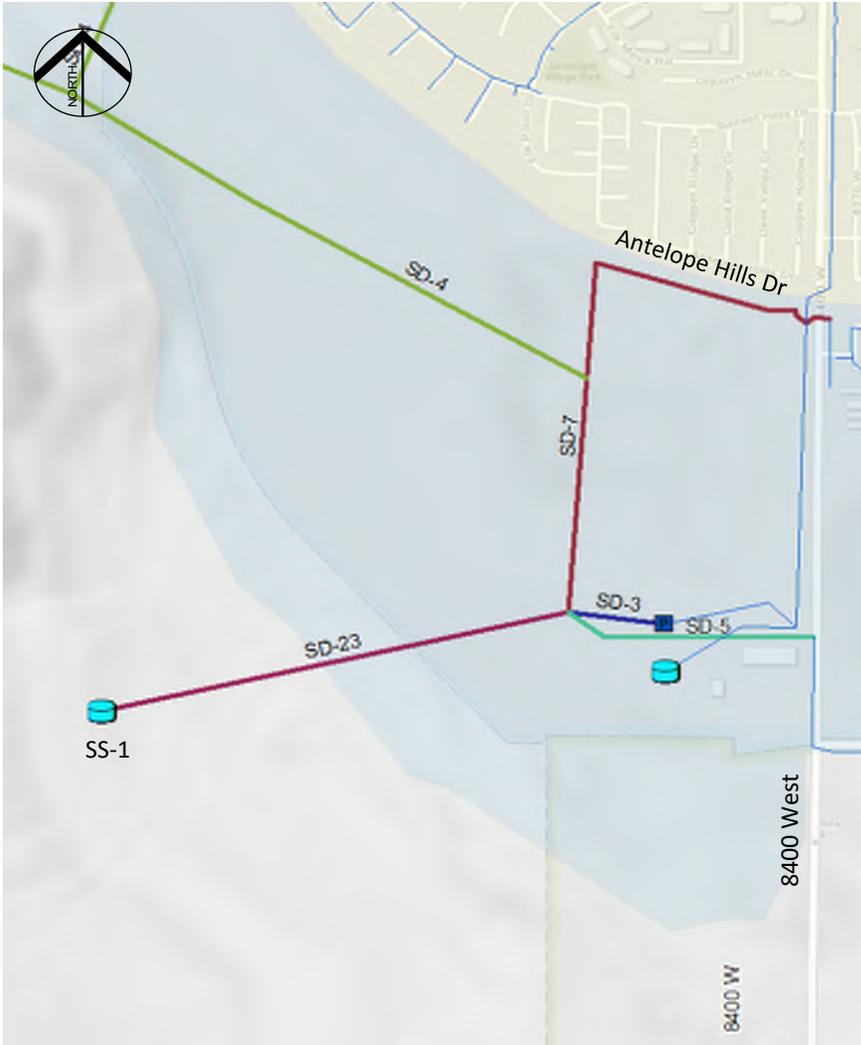
Project ID:		CM-1 to CM-15
Project Name:		Maintenance and Age-Related Projects
Description:		The CM projects are maintenance or age-related projects that need to happen in the District. There are twelve maintenance or age-related projects that are recommended to be completed in the 10-year window.
Project Components		
<i>Project</i>	<i>Length</i>	<i>Diameter</i>
CM-1	586 LF	8-inch
CM-2	775 LF	8-inch
CM-3	539 LF	8-inch
CM-4	650 LF	8 to 12-inch
CM-5	224 LF	8-inch
CM-6	3,408 LF	16-inch
CM-7	452 LF	8-inch
CM-8	2,604 LF	8-inch
CM-10	330 LF	8-inch
CM-11	5,275 LF	8 to 12-inch
CM-14	2,306 LF	8-inch
CM-15	5,291 LF	8-inch
Cost Estimate (2019 \$s):		\$6,196,000

Project Need:
Resolve Existing Deficiency. Age related projects are necessary to avoid water leaks and water service interruptions associated with water repairs. Water leaks have the potential to cause significant damage to roadways and/or adjacent properties.

Potential Consequences of Failing to Complete Project:
These pipelines have a much higher likelihood of failure than most other pipelines in the system. Failure of the pipelines can lead to service interruption, damage to property, risk to health and safety, and high repair costs. The consequence of failure may vary depending on the size of pipelines, the overlying roadway type/corridor, or adjacent properties. The District should evaluate the consequence of failure for each project and prioritize maintenance projects based on the consequence of failure.

Project Triggers:
Projects should be completed as revenue is available or potentially complete the projects concurrent with any other road or utility projects.

Current Estimated Project Completion Year:	2021-2029
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Project Map

Project ID: SS-1 and SD-23

Project Name:
Zone 3 Secondary Storage and Connection

Description:
Project SS-1 is a secondary storage facility for zone 3 and project SD-23 is a new 16-inch secondary pipeline connecting the storage facility to the secondary system.

Project Components		
Quantity	Size	
2,641 LF	16-inch	-
3.0 MG		

Cost Estimate (2019 \$s):
SS-1: \$4,150,000 SD-23: \$438,000

Project Need:
Capacity for Future Growth. Projected growth associated with Kennecott Foothills and Little Valley will require a storage reservoir to meet fluctuating demands.

Potential Consequences of Failing to Complete Project:
Phasing for Zone 3 Secondary includes first constructing a new Zone 3 secondary booster station. Once instantaneous or peak hour demands began to exceed the pump capacity, pressures will decline until the secondary storage reservoir is available to meet peak hour demands.

Project Triggers:
The facility should be constructed before the Zone 3 pump station(s) runs out of capacity to meet peak instantaneous demands. If peak instantaneous demands begin exceeding 80 percent of pump station capacity, the facility should be constructed the following year. There are 47 irrigated acres left of remaining capacity.

Current Estimated Project Completion Year: 2024



Project Map

Project ID: SBS-1 and SD-3

Project Name:
Zone 3 I Secondary Booster Station and Connection

Description:
Project SBS-1 is a secondary booster station for Zone 3 of the District's secondary water system and project SD-3 is a new 16-inch secondary pipeine connecting the secondary system to the booster station.

Project Components		
Quantity	Size	Design Flow*
543 LF	16-inch	-
210 TDH	59 HP	800 GPM

**Design Flow is ususally intended to keep pipe velocities below 5 ft/sec during peak hour demands.*

Cost Estimate (2019 \$s):
SBS-1: \$575,000 SD-3: \$143,000

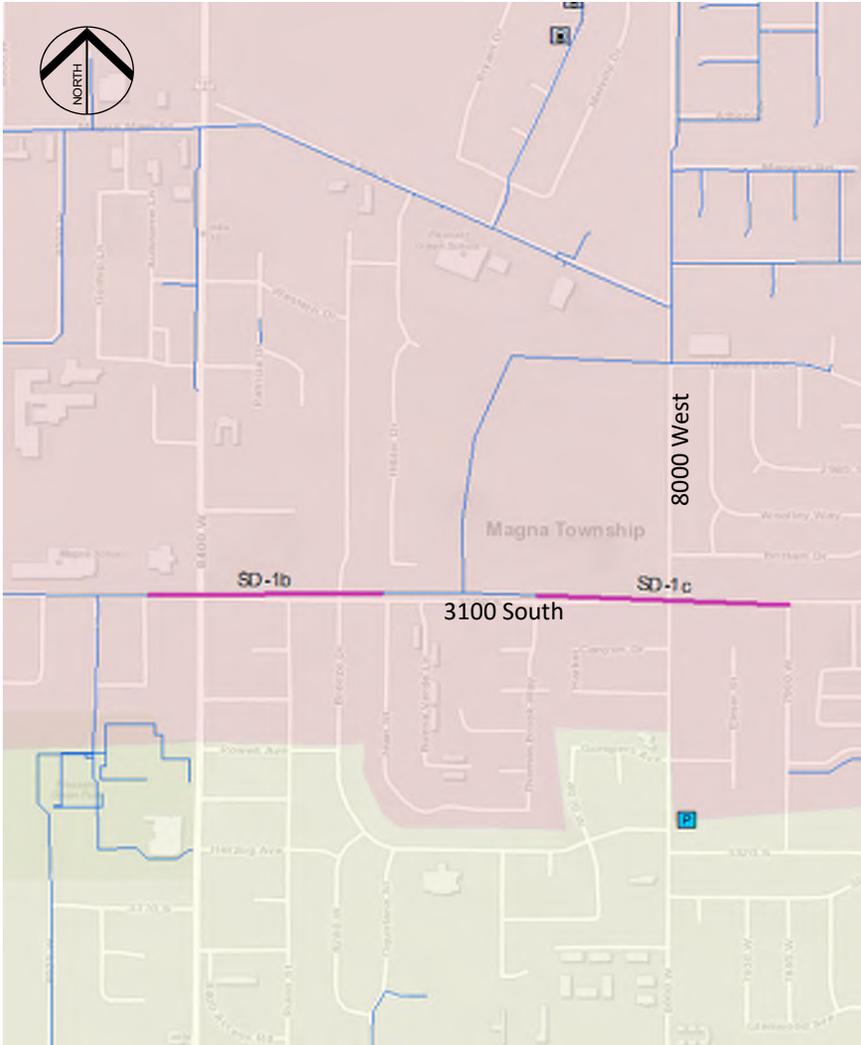
Project Need:
Capacity for Future Growth. Projected growth associated with Kennecott Foothills and Little Valley will require a booster station to meet demands.

Potential Consequences of Failing to Complete Project:
The area will end up relying on culinary water for irrigation needs, and will quickly exceed culinary facility capacities.

Project Triggers:
Zone 3 secondary can't be expanded until this booster station is built. Zone 3 secondary is currently being fed by zone 3 culinary, which is running out of capacity. The existing zone 3 culinary booster station has a capacity of 340 gpm, with 233 gpm of remaining capacity for culinary and secondary use (33 irrigated acres of remaining capacity).

Current Estimated Project Completion Year: 2021

Improvement Project Summary
Magna Water District



Project Map

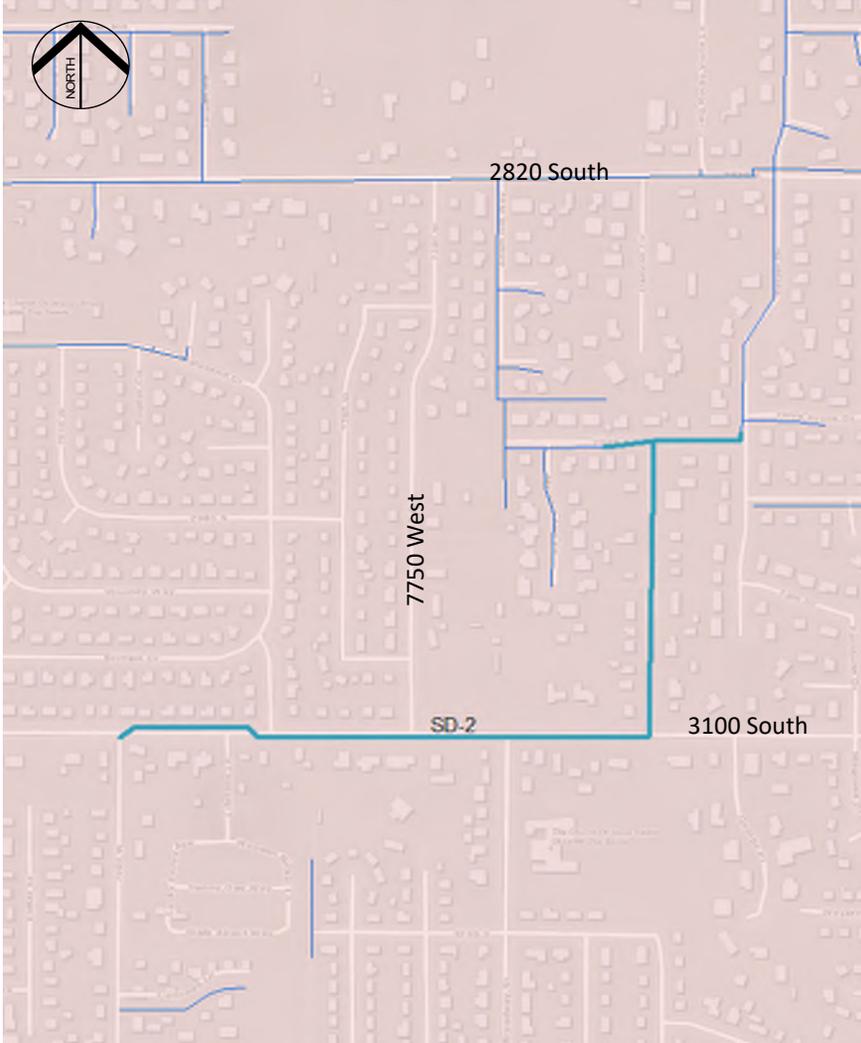
Project ID:		SD-1
Project Name:		3100 South, Dayton St to 7900 W
Description:		This project is a new 12- to 20-inch pipeline that will help develop the District's secondary water system.
Project Components		
<i>Quantity</i>	<i>Size</i>	
2,728 LF	12 to 20-inch	
Cost Estimate (2019 \$s):		\$717,000

Project Need:
Capacity for Future Growth. As new sources come on line in Zone 1, they need to be able to deliver flow up to the Zone 1 reservoir. Existing pipes connections are too small and lead to significant pressure losses. This pipe will help reduce pressure losses associated with major conveyance.

Potential Consequences of Failing to Complete Project:
Lower than desirable pressures and potentially reduced source delivery capacity to the Zone 1 Reservoir.

Project Triggers:
Project should be constructed as soon as possible.

Current Estimated Project Completion Year:	2025
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Project Map

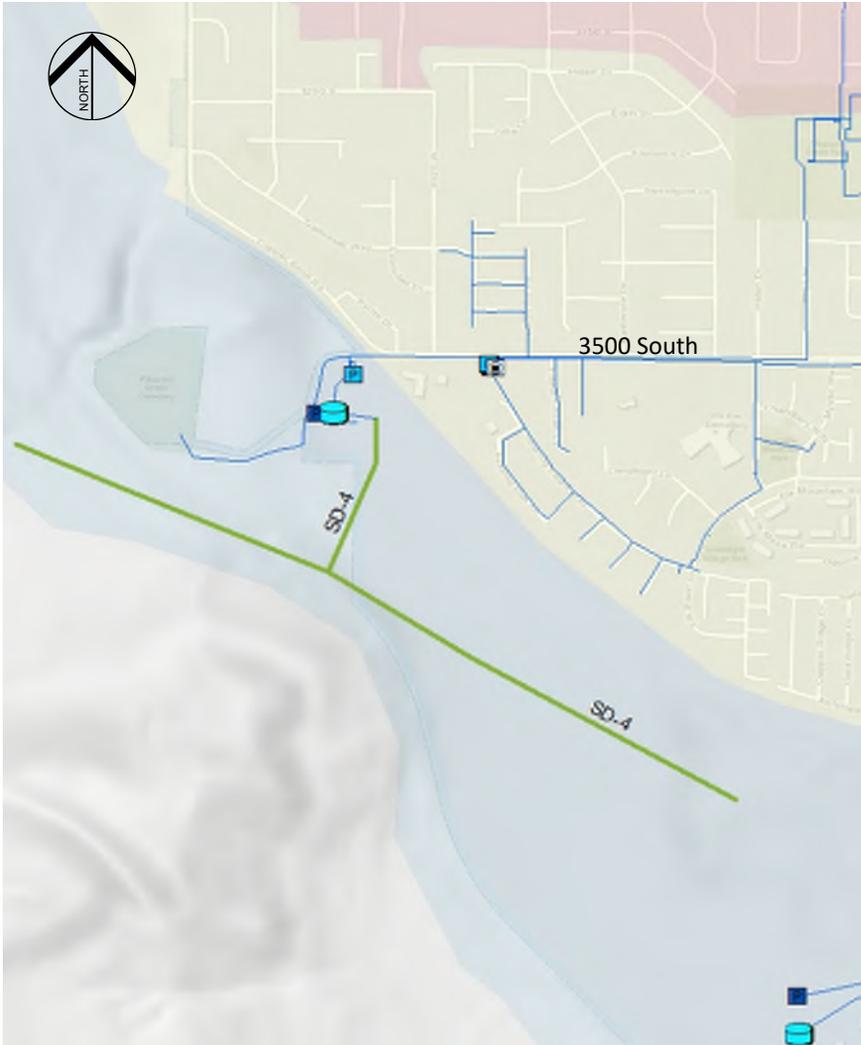
Project ID:		SD-2
Project Name:		3100 South, 7900 W to 7600 W
Description:		This project is new 6-inch to 20-inch secondary water pipelines to help develop the District's secondary water system.
Project Components		
<i>Quantity</i>	<i>Size</i>	
3,384 LF	6 to 20-inch	
Cost Estimate (2019 \$s):		\$931,000

Project Need:
Capacity for Future Growth. As new sources come on line in Zone 1, they need to be able to deliver flow up to the Zone 1 Reservoir. Existing pipes connections are too small and lead to significant pressure losses. This pipe will help reduce pressure losses associated with major conveyance.

Potential Consequences of Failing to Complete Project:
Lower than desirable pressures and potentially reduced source delivery capacity to the Zone 1 Reservoir.

Project Triggers:
This project should be constructed as soon as financially possible to improve existing system performance, but could be postponed until increased source capacity from the District's planned reuse project comes online.

Current Estimated Project Completion Year:	2026
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Project Map

Project ID:		SD-4
Project Name:		Zone 3 Gateway Piping
Description:		This project is a new 20-inch secondary water pipeline to help distribute water to Gateway to Little Valley.
Project Components		
<i>Quantity</i>	<i>Size</i>	
7,627 LF	20-inch	
Cost Estimate (2019 \$s):		\$1,265,000

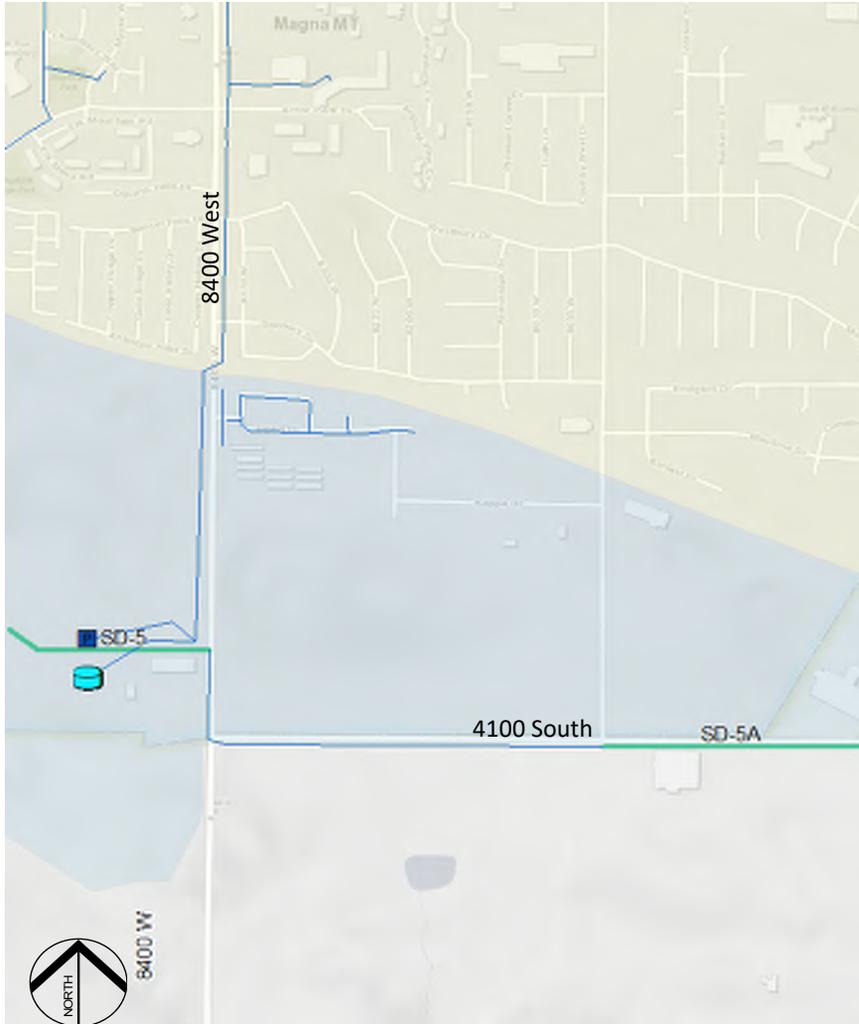
Project Need:
Capacity for Future Growth. Piping is needed for the major conveyance of future growth in Zone 3.

Potential Consequences of Failing to Complete Project:
Inability to serve future growth.

Project Triggers:
Project should be constructed concurrent with new development.

Current Estimated Project Completion Year:	2021
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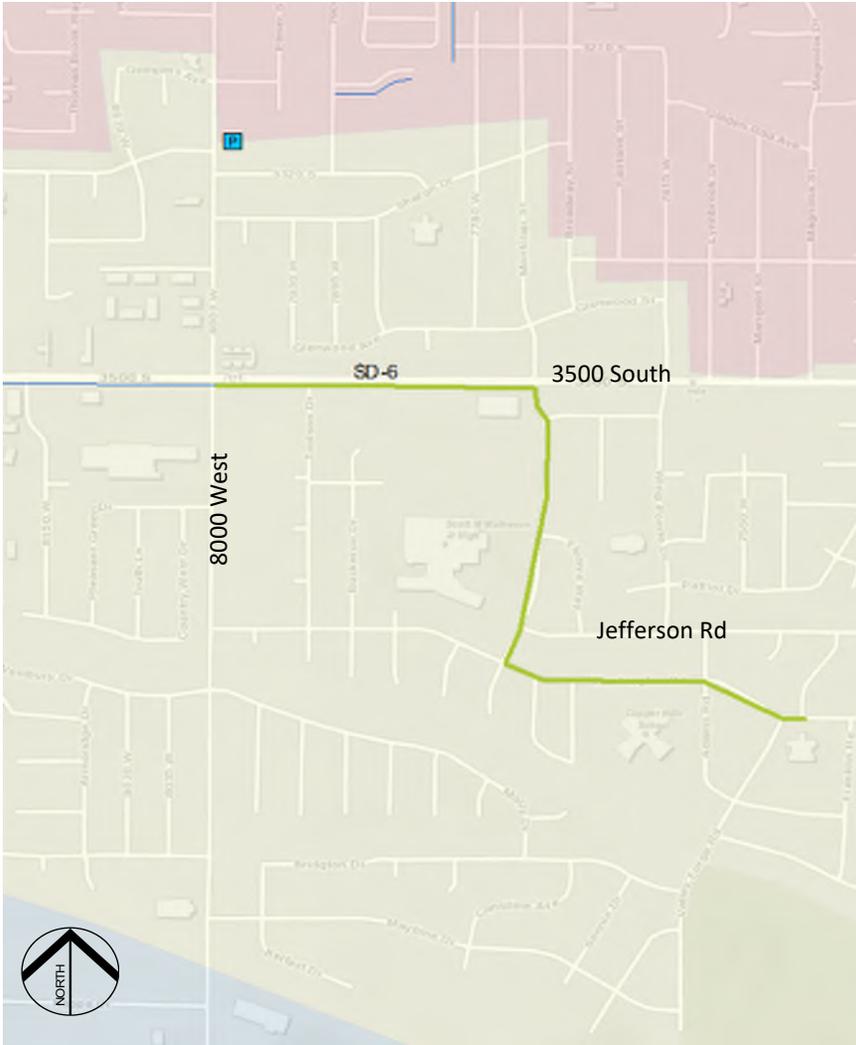
Improvement Project Summary
Magna Water District



Project Map

Project ID:		SD-5
Project Name: Zone 3 Magna Regional Park		
Description: This project is an 8 to 16-inch secondary pipeline to develop the District's secondary water system to Magna Regional Park.		
Project Components		
<i>Quantity</i>	<i>Size</i>	
3,232 LF	8 to 16-inch	
Cost Estimate (2019 \$s):		\$340,000

Project Need: Capacity for Future Growth. Projected growth in secondary demands, especially for Magna Regional Park	
Potential Consequences of Failing to Complete Project: Magna Regional Park may need to continue using culinary water, or pressure in Zone 3 secondary will be below desired levels.	
Project Triggers: Magna Regional Park is currently being serviced by culinary water for their irrigation. If this area wants to be serviced by secondary water, this project needs to be in place for that to happen. The existing zone 3 culinary booster station has a capacity of 340 gpm, with 233 gpm of remaining capacity for culinary and secondary use (33 irrigated acres of remaining capacity).	
Current Estimated Project Completion Year:	2029



Project Map

Project ID:		SD-6
Project Name: Scott Matheson Jr & Copper Hills Elementary		
Description: This project is an 8 to 16-inch secondary water that intended to extend secondary water to existing users, specifically large irrigated areas associated with schools within the District.		
Project Components		
<i>Quantity</i>	<i>Size</i>	
5,177 LF	8 to 16-inch	
Cost Estimate (2019 \$s):		\$1,214,000

Project Need:
Convert Culinary to Secondary. Converting more culinary water demands to secondary will free up finite culinary water sources for future District users.

Potential Consequences of Failing to Complete Project:
If the District does not free up more culinary water through conversion, the District will run out of capacity and may need to purchase more expensive capacity from JVVCD.

Project Triggers:
Expansion of culinary water in Zone 3 or other developing areas. There is about 1,500 gpm of remaining capacity in the District's culinary water system, which is about 215 irrigated acres of remaining capacity.

Current Estimated Project Completion Year:	2023
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Project Map

Project ID:		SD-7
Project Name:		Gateway to Little Valley Piping
Description:		This project is an 8-inch secondary water pipeline to help connect a new secondary booster station to existing secondary water pipelines and future development secondary water pipelines.
Project Components		
<i>Quantity</i>	<i>Size</i>	
3,404 LF	8-inch	
Cost Estimate (2019 \$s):		\$454,000

Project Need: <i>Capacity for Future Growth.</i> Projected growth associated with Kennecott Foothills and Gateway to Little Valley.
Potential Consequences of Failing to Complete Project: Inability to serve future users.
Project Triggers: Development of area.
Current Estimated Project Completion Year: 2021



Project Map

Project ID:		SD-9
Project Name:		7600 West Connections
Description:		This project is a 12-inch secondary water pipeline to connect existing secondary water pipelines within the District's system.
Project Components		
<i>Quantity</i>	<i>Size</i>	
340 LF	12-inch	
Cost Estimate (2019 \$s):		\$85,000

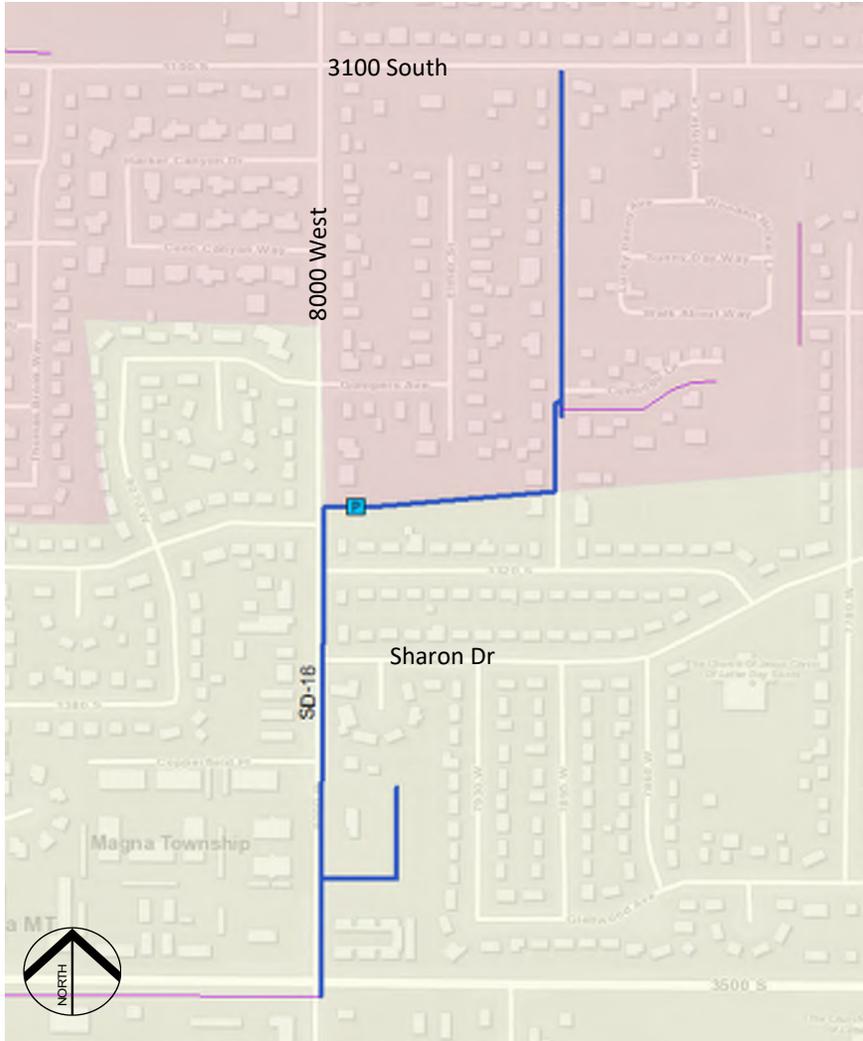
Project Need: <i>Converting Culinary Water Users to Secondary.</i> These connections are relatively short sections to expand secondary water and improve service pressures.	
Potential Consequences of Failing to Complete Project: The District needs to actively convert culinary water to secondary to make culinary source capacity available for future users.	
Project Triggers: Expansion of culinary water in Zone 3 or other developing areas. There is about 1,500 gpm of remaining capacity in the District's culinary water system, which is about 215 irrigated acres of remaining capacity.	
Current Estimated Project Completion Year:	2027



Project Map

Project ID:		SD-12
Project Name: SR 201 Crossing Transmission		
Description: This project is a new 20-inch secondary water pipeline to connect existing secondary water pipelines along Craig Rocky Vince Drive in the District' system.		
Project Components		
<i>Quantity</i>	<i>Size</i>	
3,603 LF	20-inch	
Cost Estimate (2019 \$s):		\$1,059,000

Project Need: <i>Capacity for Future Growth.</i> This project is one of the primary backbones of future conveyance of reuse water from the District's wastewater treatment plant.	
Potential Consequences of Failing to Complete Project: Inadequate source capacity and pressures in the secondary system.	
Project Triggers: Development in area (construct ahead of or in conjunction with development to take advantage of green field construction costs) OR reuse water implementation (whichever comes first).	
Current Estimated Project Completion Year:	2021



Project Map

Project ID:		SD-16
Project Name:		8000 West Booster Piping
Description:		This project is a 6- to 20-inch pipeline to connect the 8000 West booster station to the existing system.
Project Components		
<i>Quantity</i>	<i>Size</i>	
3,775 LF	6 to 20-inch	
Cost Estimate (2019 \$s):		\$1,021,000

Project Need: <i>Capacity for Future Growth.</i> This project expands source capacity from Zone 1 to Zone 2.
Potential Consequences of Failing to Complete Project: Inadequate pressures in Zone 2 due to inadequate source capacity.
Project Triggers: Inadequate pressures in Zone 2 OR increasing development in Zone 3 (that draws from Zone 2). There is about 1,500 gpm of remaining capacity in the District's culinary water system, which is about 215 irrigated acres of remaining capacity.
Current Estimated Project Completion Year: 2029



Project Map

Project ID:		SD-19
Project Name:		2600 South, 7600 W to 7200 W
Description:		This project is an 8 to 16-inch secondary water pipeline to connect to the District's existing system.
Project Components		
<i>Quantity</i>	<i>Size</i>	
4,875 LF	8 to 16-inch	
Cost Estimate (2019 \$s):		\$955,000

Project Need: <i>Capacity for Future Growth.</i> Increasing source capacity within Zone 1
Potential Consequences of Failing to Complete Project: Inadequate source capacity.
Project Triggers: Development within area associated with new development, or increased source capacity from new shallow groundwater sources (which depends on where shallow groundwater is developed).
Current Estimated Project Completion Year: 2021



Project Map

Project ID:		SD-22
Project Name: Zone 3, 8200 W Pipe		
Description: This project is a new 8-inch secondary water pipeline to connect existing pipes in the District's secondary water system.		
Project Components		
<i>Quantity</i>	<i>Size</i>	
3,611 LF	8-inch	
Cost Estimate (2019 \$s):		\$704,000

Project Need: <i>Capacity for Future Growth.</i> Projected growth within Zone 3.	
Potential Consequences of Failing to Complete Project: Inability to serve newly developing areas, and/or pressures below design criteria during peak hour demand.	
Project Triggers: Development within area OR peak hour pressures below design criteria associated with Magna Regional Park demands. There is about 1,500 gpm of remaining capacity in the District's culinary water system, which is about 215 irrigated acres of remaining capacity.	
Current Estimated Project Completion Year:	2026