Capital Improvement Plan

Revised 2026

Prepared by RSA Staff

Rapidan Service Authority | 2445 S. Seminole Trl, Madison, Va 22727

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Dear Rapidan Service Authority Board Members and Customers,

Capital planning is the foundation of any resilient utility. It ensures that essential services continue uninterrupted while fostering public trust in the service provider. This Capital Improvement Plan (CIP) was developed through a comprehensive assessment of RSA's infrastructure needs and reflects our mission to safeguard public health, ensure environmental compliance, and maintain public confidence throughout our service area.

I would like to begin by recognizing the dedication of the RSA staff who devoted countless hours to this effort. They are the eyes and ears of the Authority, and their firsthand knowledge of our systems forms the backbone of this plan.

Context and Financial Strategy

The priorities outlined in this document were established in 2024, prior to the completion of our comprehensive rate study. With the approval of the new five-year rate schedule in early 2025, RSA now has the revenue stability necessary to begin executing this long-term vision.

You will note that many of the initiatives within the CIP are designated as debt funded. Advancing these projects will require close coordination with our financial advisors to secure financing on terms that are fiscally responsible and protective of our ratepayers.

A Living Document

While this CIP establishes a strategic course, it must remain flexible. The timing of specific projects will be influenced by the availability of funding and evolving system needs.

Additionally, this plan is not intended to be exhaustive. It identifies major planned capital expenditures but does not account for the ongoing, reactive replacement of water and sewer infrastructure that may fail outside the planning cycle. These urgent repairs cannot be deferred and will continue to be addressed as they arise to ensure service continuity.

A Partnership for the Future

This is an ambitious plan. Successfully delivering on these commitments will require a unified effort between the Authority and our partners in Orange and Madison Counties. By working together, we can ensure that these investments result in a stronger, more reliable system for the communities we serve.

Sincerely,

Tim Clemons
General Manager
Rapidan Service Authority

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				Project Type			CIP Year		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Page	System Allocation	Project	Status	Non-Growth	Growth	Project Cost	Begin	End	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034
1	East Sewer	Clarifier Refurbishment	Design, to bid in Jan 2026	100%	-	$ 35,000	2025	2025	35,000	-	-	-	-	-	-	-	-	-
2	East Sewer	Sludge Storage	Procurement	50%	50%	$ 250,000	2025	2025	250,000	-	-	-	-	-	-	-	-	-
3	East Sewer	Station R Lagoon Liner	Procurement	100%	-	$ 250,000	2025	2025	250,000	-	-	-	-	-	-	-	-	-
4	East Sewer	Vac Stations Rehab	Pending Funding and Procurement	100%	-	$ 23,000,000	2025	2025	23,000,000	-	-	-	-	-	-	-	-	-
5	East Water	Leak Detection Equipment		100%	-	$ 15,000	2025	2025	15,000	-	-	-	-	-	-	-	-	-
6	East Water	Painting of Treatment Trains		100%	-	$ 100,000	2025	2025	100,000	-	-	-	-	-	-	-	-	-
7	East Water	Tube Settlers		100%	-	$ 35,000	2025	2025	35,000	-	-	-	-	-	-	-	-	-
8	East Water	Water Plant Building Concrete Repairs		100%	-	$ 50,000	2025	2025	50,000	-	-	-	-	-	-	-	-	-
9	East Water	Phase 2a WTP (Design)	Land Acquisition/Preliminary Design	35%	65%	$ 7,500,000	2025	2026	3,750,000	3,750,000	-	-	-	-	-	-	-	-
10	East Water	Storage Tank 1M	Land Acquisition	-	100%	$ 2,500,000	2025	2026	1,250,000	1,250,000	-	-	-	-	-	-	-	-
11	East Water	Wilderness Tank Painting		100%	-	$ 400,000	2025	2025	400,000	-	-	-	-	-	-	-	-	-
12	Gordonsville Sewer	Manhole Rehab		100%	-	$ 50,000	2025	2030	8,333	8,333	8,333	8,333	8,333	8,333	-	-	-	-
13	Gordonsville Sewer	Spray Risers	Ongoing	100%	-	$ 50,000	2025	2030	8,333	8,333	8,333	8,333	8,333	8,333	-	-	-	-
14	Gordonsville Sewer	Equalization Pond Cleaning	Design	100%	-	$ 1,000,000	2025	2025	1,000,000	-	-	-	-	-	-	-	-	-
15	Madison Sewer	Plant Replacement/Upgrade (Design)	Construction	25%	75%	$ 2,100,000	2025	2025	2,100,000	-	-	-	-	-	-	-	-	-
16	Rte 15 Water	Sedwick Tank Access Road	Procurement	100%	-	$ 50,000	2025	2025	50,000	-	-	-	-	-	-	-	-	-
17	Rte 20 Water	Service Taps	Ongoing	100%	-	$ 150,000	2025	2035	13,636	13,636	13,636	13,636	13,636	13,636	13,636	13,636	13,636	13,636
18	East Water & Sewer	East Maintenance Shop		50%	50%	$ 1,000,000	2025	2025	1,000,000	-	-	-	-	-	-	-	-	-
19	East Sewer	Drying Bed Roof	Procurement	100%	-	$ 30,000	2026	2026	-	30,000	-	-	-	-	-	-	-	-
20	East Sewer	Disinfection System/Chemical Storage	Preliminary Design	100%	-	$ 2,000,000	2026	2026	-	2,000,000	-	-	-	-	-	-	-	-
21	East Water	Pre settling Tank Drain valves		100%	-	$ 75,000	2026	2026	-	75,000	-	-	-	-	-	-	-	-
22	Gordonsville Sewer	10" Sewer Main on King St to Main St.	Planning	100%	-	$ 110,000	2026	2026	-	110,000	-	-	-	-	-	-	-	-

Page	System Allocation	Project	Status	Project Type		Project Cost	CIP Year		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
				Non-Growth	Growth		Begin	End	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034
23	Gordonsville Sewer	8" Sewer Main on Holladay Ave.	Planning	100%	-	$ 70,000	2026	2026	-	70,000	-	-	-	-	-	-	-	-
24	Gordonsville Sewer	8" Sewer Main on Linney St to Piedmont St	Planning	100%	-	$ 40,000	2026	2026	-	40,000	-	-	-	-	-	-	-	-
25	Gordonsville Sewer	8" Sewer Main on Linney Street to Baker St. .	Planning	100%	-	$ 85,000	2026	2026	-	85,000	-	-	-	-	-	-	-	-
26	Gordonsville Sewer	8" Sewer Main on Martinsburg to Stonewall	Planning	100%	-	$ 130,000	2026	2026	-	130,000	-	-	-	-	-	-	-	-
27	Gordonsville Sewer	8" Sewer Main on Weaver Street	Planning	100%	-	$ 100,000	2026	2026	-	100,000	-	-	-	-	-	-	-	-
28	Gordonsville Sewer	Charles St Pump Station Upgrade		100%	-	$ 300,000	2026	2026	-	300,000	-	-	-	-	-	-	-	-
29	Gordonsville Sewer	Reline Gravity Sewer Lines		100%	-	$ 150,000	2026	2030	-	30,000	30,000	30,000	30,000	30,000	-	-	-	-
30	Madison Sewer	Pig N Steak Sewer Pump Station	Construction	100%	-	$ 400,000	2026	2026	-	400,000	-	-	-	-	-	-	-	-
31	Madison Sewer	Plant Replacement/Upgrade (Construction)	Construction	25%	75%	$ 4,900,000	2026	2026	-	4,900,000	-	-	-	-	-	-	-	-
32	Madison Water	Elevated Tank	Land Acquisition	-	100%	$ 1,500,000	2026	2027	-	750,000	750,000	-	-	-	-	-	-	-
33	Madison Water	Schoolhouse Rd 2" Water Main	Pre-Construction, In-House	100%	-	$ 250,000	2026	2026	-	250,000	-	-	-	-	-	-	-	-
34	Madison Water	Thrift Road Water Transmission Main	Preliminary Design/Funding Search	50%	50%	$ 1,250,000	2026	2026	-	1,250,000	-	-	-	-	-	-	-	-
35	Madison Water	Main St Water Distrbution Main Extension	Easements/Preliminary Design	-	100%	$ 1,600,000	2026	2026	-	1,600,000	-	-	-	-	-	-	-	-
36	Rte 15 Water	2" Air Release Valves		100%	-	$ 100,000	2026	2026	-	100,000	-	-	-	-	-	-	-	-
37	Rte 15 Water	Preddy Tank Mixing System		100%	-	$ 100,000	2026	2026	-	100,000	-	-	-	-	-	-	-	-
38	Rte 15 Water	Sedwick Tank Painting	Procurement	100%	-	$ 400,000	2026	2026	-	400,000	-	-	-	-	-	-	-	-
39	Rte 15 Water	Willis Court 2" Water Main		100%	-	$ 100,000	2026	2026	-	100,000	-	-	-	-	-	-	-	-
40	East Sewer	Surge Basin		50%	50%	$ 750,000	2027	2027	-	-	750,000	-	-	-	-	-	-	-
41	East Water	Fairway Tank Demolition		100%	-	$ 40,000	2027	2027	-	-	40,000	-	-	-	-	-	-	-
42	East Water	Phase 2a WTP (Construction)	Land Acquisition/Preliminary Design	35%	65%	$ 17,500,000	2027	2028	-	-	8,750,000	8,750,000	-	-	-	-	-	-
43	Gordonsville Sewer	Gordonsville Baker St Pump Station Grinder		100%	-	$ 135,000	2027	2027	-	-	135,000	-	-	-	-	-	-	-
44	Madison Sewer	Robinson River Outfall	Easements/Preliminary Design	-	100%	$ 2,000,000	2027	2027	-	-	2,000,000	-	-	-	-	-	-	-

				Project Type			CIP Year		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Page	System Allocation	Project	Status	Non-Growth	Growth	Project Cost	Begin	End	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034
45	Rte 15 Water	Water Transmission Main Replacement	Pending Funding	90%	10%	$ 3,500,000	2027	2028	-	-	1,750,000	1,750,000	-	-	-	-	-	-
46	East Sewer	Digesters		50%	50%	$ 4,500,000	2028	2028	-	-	-	4,500,000	-	-	-	-	-	-
47	East Water	601 Tank 1M		50%	50%	$ 2,500,000	2028	2029	-	-	-	1,250,000	1,250,000	-	-	-	-	-
48	Gordonsville Sewer	Gordonsville Charles St Pump Station Grinder		100%	-	$ 135,000	2028	2028	-	-	-	135,000	-	-	-	-	-	-
49	Madison Water	Reservoir Intake Structure		100%	-	$ 150,000	2028	2028	-	-	-	150,000	-	-	-	-	-	-
50	East Sewer	Digester Diffusers		100%	-	$ 50,000	2029	2029	-	-	-	-	50,000	-	-	-	-	-
51	East Sewer	New WWTP Land Purchase		-	100%	$ 5,000,000	2029	2029	-	-	-	-	5,000,000	-	-	-	-	-
52	East Water	Middle School Tank Mixing		100%	-	$ 100,000	2029	2029	-	-	-	-	100,000	-	-	-	-	-
53	East Water	Phase 2b WTP (Design)	Land Acquisition/Preliminary Design	-	100%	$ 6,000,000	2029	2030	-	-	-	-	3,000,000	3,000,000	-	-	-	-
54	Gordonsville Sewer	Clarifiers		100%	-	$ 750,000	2029	2029	-	-	-	-	750,000	-	-	-	-	-
55	Gordonsville Sewer	Controls Upgrade		100%	-	$ 200,000	2029	2029	-	-	-	-	200,000	-	-	-	-	-
56	Gordonsville Sewer	Gordonsville Rt 15 Pump Station Grinder		100%	-	$ 135,000	2029	2029	-	-	-	-	135,000	-	-	-	-	-
57	Madison Water	Storage Tank Mixing		100%	-	$ 100,000	2029	2029	-	-	-	-	100,000	-	-	-	-	-
58	Madison Water	Clearwell Tank & Pumping Station	Preliminary Design/Funding Search	50%	50%	$ 750,000	2030	2030	-	-	-	-	-	750,000	-	-	-	-
59	Madison Water	Plant Expansion	Preliminary Design/Funding Search	-	100%	$ 2,000,000	2030	2030	-	-	-	-	-	2,000,000	-	-	-	-
60	East Water	Phase 2b WTP (Construction)	Land Acquisition/Preliminary Design	-	100%	$ 14,000,000	2031	2032	-	-	-	-	-	-	7,000,000	7,000,000	-	-
61	Madison Water	Pre-Settling Pond	Preliminary Design/Funding Search	-	100%	$ 350,000	2032	2033	-	-	-	-	-	-	-	175,000	175,000	-

Clarifier Refurbishment

System: East Sewer

Date Range: 2025-2025

Estimated Cost: $35,000

Status: Design, to bid in Jan 2026

Notes: The cost for this item was underestimated. We have committed $82,213 for Design, Bid, and Construction Administration and Inspections. Construction costs will be additional, and bids will be opened in March.

Description and Justification:

The Wilderness Wastewater Treatment Plant utilizes three circular clarifiers to remove solids before filtration, disinfection, and discharge. The clarifiers are composed of concete tanks with steel structures affixed within. Over time, the concrete troughs that received settled water have started to degrade and become porous, creating a risk of structural damage. The paint on the clarifiers' steel surfaces is chipping and peeling due to environmental exposure. Large pieces of flaking paint obstruct the sludge removal mechanism and impact the proper function of the treatment process. Additionally, coating failure will ultimately lead to rusting and structural failure of steel components.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	-	$0
Capital Reserve	100%	$35,000
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
35,000	-	-	-	-	-	-	-	-	-

Sludge Storage

System: East Sewer

Status: Procurement

Date Range: 2025-2025

Notes:

Estimated Cost: $250,000

Description and Justification:

Permit requirements mandate certain detention times for sludge in order to meet Class B biosolids standards. Insufficient storage space for dewatered sludge creates a bottleneck for the solids handling process.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$250,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
250,000	-	-	-	-	-	-	-	-	-

Station R Lagoon Liner

System: East Sewer

Status: Procurement

Date Range: 2025-2025

Notes:

Estimated Cost: $250,000

Description and Justification:

This lagoon acts as a surge basin for flows coming from Lake of the Woods and Rt 3 East of the RSA Office. As it holds untreated sewage, DEQ requires that the lagoon liner be uncompromised to prevent contamination of groundwater or surfacewater. This liner was last replaced in 1999 and requires replacement again.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$250,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
250,000	-	-	-	-	-	-	-	-	-

Vac Stations Rehab

System: East Sewer

Status: Pending Funding and Procurement

Date Range: 2025-2025

Notes:

Estimated Cost: $23,000,000

Description and Justification:

1. The aging infrastructure requires replacement. The condition of the building systems is deteriorating at some of the stations. Although the buildings have generally been well maintained, certain buildings are sheathed with fiberboard sheathing that does not withstand the humid pump station environment. Additionally, many of the buildings consist of CMU construction that was damaged in an earthquake approximately 10-years ago. Much of the equipment is also beyond useful life and requires replacement to maintain reliability. The electrical systems are also obsolete and require complete replacement.

2. Much of the existing vacuum system equipment is undersized for actual conditions. Although the equipment may have originally been appropriately sized for design conditions, actual field conditions in the Lake of the Woods system differ from typical modern construction standards. One effect of these differences is that more air needs to be admitted to the vacuum lines than normal to push flow towards the vacuum station, increasing the demand on the vacuum pumps. Approximately half the stations require both of the duplex vacuum pumps to operate to keep up with current flows, leaving the station with no redundant pump. Therefore, the stations do not meet code requirements for redundancy. Additionally, many of vacuum station buildings are undersized to provide adequate space for equipment maintenance and code required electrical clearances.

3. Lack of remote monitoring and controls systems limits RSA's ability to optimize the stations and proactively address issues before the vacuum systems are overwhelmed. Enhancement of the controls and monitoring systems is the next step in increasing the reliability and resiliency of the system.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$23,000,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
23,000,000	-	-	-	-	-	-	-	-	-

Leak Detection Equipment

System: East Water

Status:

Date Range: 2025-2025

Notes:

Estimated Cost: $15,000

Description and Justification:

Water loss due to leaking pipes is a significant concern as our water resources become more strained. Portable leak detection equipment will allow maintenance staff to locate leaks before they become emergency breaks that cause extended service interruptions or health/safety hazards.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	-	$0
Capital Reserve	100%	$15,000
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
15,000	-	-	-	-	-	-	-	-	-

Painting of Treatment Trains

System: East Water

Status:

Date Range: 2025-2025

Notes:

Estimated Cost: $100,000

Description and Justification:

As a routine maintenance requirement, the two existing steel treatment tanks should be sandblasted to remove failing coatings, followed by recoating with a durable expoxy coating. This will extend the useful life of the treatment units and lower costs related to downtime for corrosion and leak repair.

Funding Strategy

Funding Source	Percentage	Amount
Cash	100%	$100,000
Debt	-	$0
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
100,000	-	-	-	-	-	-	-	-	-

Tube Settlers

System: East Water

Status:

Date Range: 2025-2025

Notes:

Estimated Cost: $35,000

Description and Justification:

The existing tube settlers have exceeded their useful life and require replacement. This treatment process reduces solids loading on the gravity filters, saving chemical and energy costs associated with filtration and filter backwashing.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	-	$0
Capital Reserve	100%	$35,000
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
35,000	-	-	-	-	-	-	-	-	-

Water Plant Building Concrete Repairs

System: East Water

Status:

Date Range: 2025-2025

Notes:

Estimated Cost: $50,000

Description and Justification:

Some areas of the main plant building walls are crumbling due to exposure to moisture and corrosive chemicals. In order to avoid structural failure, concrete repairs should be made by a licensed contractor under direction from a structural engineer.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	-	$0
Capital Reserve	100%	$50,000
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
50,000	-	-	-	-	-	-	-	-	-

Phase 2a WTP (Design)

System: East Water

Date Range: 2025-2026

Estimated Cost: $7,500,000

Status: Land Acquisition/Preliminary Design

Notes:

Description and Justification:

In order to address the ongoing Disinfection Byproduct exceedences and occasional taste and odor issues, Activated Carbon treatment has been recommended. This will require land acquisition as there is insufficient space on the existing plant site. Other components of this phase include raw storage, pretreatment, PAC, GAC, disinfection contact tanks, a high service pumping station, and demolition of the existing elevated storage tank, clearwell tank, and high service pumping station. Phase 2a is a subset of that larger Phase 2 project.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$7,500,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
3,750,000	3,750,000	-	-	-	-	-	-	-	-

Storage Tank 1M

System: East Water

Status: Land Acquisition

Date Range: 2025-2026

Notes:

Estimated Cost: $2,500,000

Description and Justification:

The existing 0.25MG tank was installed in 1991 to provide disinfection contact time and finished water storage for the Wilderness Shores area. It is now undersized and stands in conflict with the Phase 2 and 3 site plan design. In order to accommodate future development and plant expansion, this new tank should be contructed on a nearby parcel.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	50%	$1,250,000
Capital Reserve	-	$0
Grants/Other	50%	$1,250,000

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1,250,000	1,250,000	-	-	-	-	-	-	-	-

Wilderness Tank Painting

System: East Water

Date Range: 2025-2025

Estimated Cost: $400,000

Status:

Notes: If the "Storage Tank 1M" project proceeds soon, this work will not be required. This tank will be demolished as part of Phase 2 Improvements.

Description and Justification:

A 2025 inspection indicated several deferred maintenance items that should be addressed to extend the useful life of this asset. Assuming that the new 1MG storage tank is slated for construction by 2028, the cost of the necessary repairs should be minimal. A full repainting is likely not necessary in that case.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$400,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
400,000	-	-	-	-	-	-	-	-	-

Manhole Rehab

System: Gordonsville Sewer

Status:

Date Range: 2025-2030

Notes:

Estimated Cost: $50,000

Description and Justification:

Inflow/Infiltration to manholes adds stress to the treatment plant and threatens the structural integrity of the manholes. An ongoing program to rehabilitate brick manholes will reduce demand on pump stations and the treatment plant and reduce maintenance costs for the manholes.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	-	$0
Capital Reserve	100%	$50,000
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8,333	8,333	8,333	8,333	8,333	8,333	-	-	-	-

Spray Risers

System: Gordonsville Sewer

Status: Ongoing

Date Range: 2025-2030

Notes:

Estimated Cost: $50,000

Description and Justification:

An ongoing program to replace spray heads and risers reduces downtime caused by blowouts of aging plastic or galvanized piping.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	-	$0
Capital Reserve	100%	$50,000
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8,333	8,333	8,333	8,333	8,333	8,333	-	-	-	-

Equalization Pond Cleaning

System: Gordonsville Sewer

Status: Design

Date Range: 2025-2025

Notes: SEH is providing design, bid, DEQ coordination, and project administration support.

Estimated Cost: $1,000,000

Description and Justification:

Excessive accumulation of solids in the primary and equalization lagoons causes damage to expensive treatment equipment, increases chemical and electrical expenses, and can cause undesirable carryover of solids to the large holding pond. Further, DEQ has requested action on this project.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$1,000,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1,000,000	-	-	-	-	-	-	-	-	-

Plant Replacement/Upgrade (Design)

System: Madison Sewer

Date Range: 2025-2025

Estimated Cost: $2,100,000

Status: Complete

Notes: The engineering, design, permitting, and inspection component of this project totals $1,231,400. The grant funding for this component is $460,005, leaving $771,395 to be financed.

Description and Justification:

The existing plant is beyond its useful life, having been in service since the 1970s. Further, all EDUs for sewer development have been sold. The new plant will be rated at 0.16MGD vs the current 0.08MGD once the Robinson outfall has been constructed.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	30%	$630,000 (actual $771,395)
Capital Reserve	-	$0
Grants/Other	70%	$1,470,000 (actual $460,005)

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2,100,000	-	-	-	-	-	-	-	-	-

Sedwick Tank Access Road

System: Rte 15 Water

Status: Procurement

Date Range: 2025-2025

Notes:

Estimated Cost: $50,000

Description and Justification:

The Sedwick Tank is accessed across a cow pasture that can become difficult to traverse in wet or icy conditions. This project would entail improving the current path into a durable road surface that could be maintained more easily.

Funding Strategy

Funding Source	Percentage	Amount
Cash	75%	$37,500
Debt	-	$0
Capital Reserve	25%	$12,500
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
50,000	-	-	-	-	-	-	-	-	-

Service Taps

System: Rte 20 Water

Status: Ongoing

Date Range: 2025-2035

Notes:

Estimated Cost: $150,000

Description and Justification:

The original service saddles are failing at an increasing rate. Each leak causes a service disruption for large portions of the entire water system. These saddles should be replaced over a five to ten year period.

Funding Strategy

Funding Source	Percentage	Amount
Cash	100%	$150,000
Debt	-	$0
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
13,636	13,636	13,636	13,636	13,636	13,636	13,636	13,636	13,636	13,636

East Maintenance Shop

System:

Status:

Date Range: 2025-2025

Notes:

Estimated Cost: $1,000,000

Description and Justification:

The East/Wilderness service area has grown significantly since RSA began operations in the area. However, the space available for maintenance operations, including storage space for equipment and materials, has not increased. A new maintenance shop structure should be designed to hold existing and expected future staff, equipment, and materials. This will reduce premature equipment damage caused by environmental exposure and also provide a safer working environment for RSA staff.

Funding Strategy

Funding Source	Percentage	Amount
Cash	100%	$1,000,000
Debt	-	$0
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1,000,000	-	-	-	-	-	-	-	-	-

Drying Bed Roof

System: East Sewer

Status: Procurement

Date Range: 2026-2026

Notes:

Estimated Cost: $30,000

Description and Justification:

The roof of this structure is due for replacement. It is recommended that this take place as part of the project to construct additional storage space.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	-	$0
Capital Reserve	100%	$30,000
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	30,000	-	-	-	-	-	-	-	-

Disinfection System/Chemical Storage

System: East Sewer

Status: Preliminary Design

Date Range: 2026-2026

Notes:

Estimated Cost: $2,000,000

Description and Justification:

Existing chemical tanks are nearing end of life and will require replacement. As part of this project, a conversion from bleach disinfection to UV disinfection should be considered. These projects have been studied by a consultant who made recommendations for replacing chemical storage and feed systems as well as converting the disinfection process.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$2,000,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	2,000,000	-	-	-	-	-	-	-	-

Pre-Settling Tank Drain Valves

System: East Water

Status:

Date Range: 2026-2026

Notes:

Estimated Cost: $75,000

Description and Justification:

Drain valves should be installed in the pre-settling tanks to enable draining the tanks and transfering solids to the backwash pond. This will allow RSA staff to perform more frequent cleaning.

Funding Strategy

Funding Source	Percentage	Amount
Cash	50%	$37,500
Debt	-	$0
Capital Reserve	50%	$37,500
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	75,000	-	-	-	-	-	-	-	-

10” Sewer Main on King St to Main St.

System: Gordonsville Sewer

Status: Planning

Date Range: 2026-2026

Notes:

Estimated Cost: $110,000

Description and Justification:

This replacement was identified via previous CCTV work and maintenance staff recommendations. A proposal to manage design, bidding, and construction oversight has been received from Hurt and Proffitt. The project is ready to proceed pending funding identifiation.

Funding Strategy

Funding Source	Percentage	Amount
Cash	100%	$110,000
Debt	-	$0
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	110,000	-	-	-	-	-	-	-	-

8” Sewer Main on Holladay Ave.

System: Gordonsville Sewer

Status: Planning

Date Range: 2026-2026

Notes:

Estimated Cost: $70,000

Description and Justification:

This replacement was identified via previous CCTV work and maintenance staff recommendations. A proposal to manage design, bidding, and construction oversight has been received from Hurt and Proffitt. The project is ready to proceed pending funding identifiation.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$70,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	70,000	-	-	-	-	-	-	-	-

8” Sewer Main on Linney St to Piedmont St

System: Gordonsville Sewer

Status: Planning

Date Range: 2026-2026

Notes:

Estimated Cost: $40,000

Description and Justification:

This replacement was identified via previous CCTV work and maintenance staff recommendations. A proposal to manage design, bidding, and construction oversight has been received from Hurt and Proffitt. The project is ready to proceed pending funding identifiation.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$40,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	40,000	-	-	-	-	-	-	-	-

8” Sewer Main on Linney Street to Baker St.

System: Gordonsville Sewer

Status: Planning

Date Range: 2026-2026

Notes:

Estimated Cost: $85,000

Description and Justification:

This replacement was identified via previous CCTV work and maintenance staff recommendations. A proposal to manage design, bidding, and construction oversight has been received from Hurt and Proffitt. The project is ready to proceed pending funding identifiation.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$85,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	85,000	-	-	-	-	-	-	-	-

8” Sewer Main on Martinsburg to Stonewall

System: Gordonsville Sewer

Status: Planning

Date Range: 2026-2026

Notes:

Estimated Cost: $130,000

Description and Justification:

This replacement was identified via previous CCTV work and maintenance staff recommendations. A proposal to manage design, bidding, and construction oversight has been received from Hurt and Proffitt. The project is ready to proceed pending funding identifiation.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$130,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	130,000	-	-	-	-	-	-	-	-

8” Sewer Main on Weaver Street

System: Gordonsville Sewer

Status: Planning

Date Range: 2026-2026

Notes:

Estimated Cost: $100,000

Description and Justification:

This replacement was identified via previous CCTV work and maintenance staff recommendations. A proposal to manage design, bidding, and construction oversight has been received from Hurt and Proffitt. The project is ready to proceed pending funding identifiation.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$100,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	100,000	-	-	-	-	-	-	-	-

Charles St Pump Station Upgrade

System: Gordonsville Sewer

Status:

Date Range: 2026-2026

Notes:

Estimated Cost: $300,000

Description and Justification:

This pump station has exceeded its useful life. The wetwell should be enlarged to store additional volume and pumps should be replaced.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$300,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	300,000	-	-	-	-	-	-	-	-

Reline Gravity Sewer Lines

System: Gordonsville Sewer

Status:

Date Range: 2026-2030

Notes:

Estimated Cost: $150,000

Description and Justification:

Where replacement is not necessary or feasible, relining should be performed to extend the lifespan of collection mains and reduce I/I.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	-	$0
Capital Reserve	100%	$150,000
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	30,000	30,000	30,000	30,000	30,000	-	-	-	-

Pig N Steak Sewer Pump Station

System: Madison Sewer

Status: Construction

Date Range: 2026-2026

Notes:

Estimated Cost: $400,000

Description and Justification:

The old pump station is hard to maintain and collects sewer from several commercial customers on Washington St. There is no backup if the station is out of service. This project will replace the existing sewer pump station with a deeper wetwell, new pumps, and new controls.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$400,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	400,000	-	-	-	-	-	-	-	-

Plant Replacement/Upgrade (Construction)

System: Madison Sewer

Date Range: 2026-2026

Estimated Cost: $4,900,000

Status: Construction

Notes: The construction component of this project totals $8,827,344. Grant funding will cover $3,082,191, leaving $5,745,153 to be financed.

Description and Justification:

The existing plant is beyond its useful life, having been in service since the 1970s. Further, all EDUs for sewer development have been sold. The new plant will be rated at 0.16MGD vs the current 0.08MGD once the Robinson outfall has been constructed.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	30%	$1,470,000 (actual $5,745,153)
Capital Reserve	-	$0
Grants/Other	70%	$3,430,000 (actual $3,082,191)

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	4,900,000	-	-	-	-	-	-	-	-

Elevated Tank

System: Madison Water

Status: Land Acquisition

Date Range: 2026-2027

Notes:

Estimated Cost: $1,500,000

Description and Justification:

A new elevated tank will be necessary on the northern end of the water system for redundancy and proper fire flow capacity.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	50%	$750,000
Capital Reserve	-	$0
Grants/Other	50%	$750,000

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	750,000	750,000	-	-	-	-	-	-	-

Schoolhouse Rd 2" Water Main

System: Madison Water

Status: Pre-Construction, In-House

Date Range: 2026-2026

Notes:

Estimated Cost: $250,000

Description and Justification:

This 1965 2" water main requires replacement as it is occluded and unstable, leading to frequent leaks and water quality complaints.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$250,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	250,000	-	-	-	-	-	-	-	-

Thrift Road Water Transmission Main

System: Madison Water

Date Range: 2026-2026

Estimated Cost: $1,250,000

Status: Preliminary Design/Funding Search

Notes:

Description and Justification:

The 6" CI main has served its lifespan and will begin to fail. There are no other lines to transport the water from the WTP to the system, so it is critical. This project with replace the aging 6" water transmission main with a 10" or 12" PVC main from the WTP to Main Street. This larger transmission main will decrease the head conditions on the High Service Pump and allow a larger capacity to be moved into the water distribution system.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$1,250,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	1,250,000	-	-	-	-	-	-	-	-

Main St Water Distrbution Main Extension

System: Madison Water

Status: Easements/Preliminary Design

Date Range: 2026-2026

Notes:

Estimated Cost: $1,600,000

Description and Justification:

Extending the 12" Main St water main will allow RSA to serve new customers North of town and also abandon an aging private water line serving several customers, including Fire and EMS.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$1,600,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	1,600,000	-	-	-	-	-	-	-	-

2" Air Release Valves

System: Rte 15 Water

Status:

Date Range: 2026-2026

Notes:

Estimated Cost: $100,000

Description and Justification:

The existing water main has no automatic air release valves in place and the air and water hammers transmit through the water main causing surges in the main and customer services. This project would entail installing five new air release valve assemblies along the Route 15 water system. These valves will reduce the main and service line surges and increase the life of these lines in the future.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$100,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	100,000	-	-	-	-	-	-	-	-

Preddy Tank Mixing System

System: Rte 15 Water

Status:

Date Range: 2026-2026

Notes:

Estimated Cost: $100,000

Description and Justification:

Mixing will keep the water in the tank homogeneous and fresher, helping to maintain consistent disinfectant residuals and reduce Trihalomethane production.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$100,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	100,000	-	-	-	-	-	-	-	-

Sedwick Tank Painting

System: Rte 15 Water

Status: Procurement

Date Range: 2026-2026

Notes:

Estimated Cost: $400,000

Description and Justification:

This tank is essential to providing water storage to the Route 15 water system and serves as the buffer for storage from the Orange WTP. To preserve the tank's steel members, interior and exterior painting is essential.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$400,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	400,000	-	-	-	-	-	-	-	-

Willis Court 2" Water Main

System: Rte 15 Water

Status:

Date Range: 2026-2026

Notes:

Estimated Cost: $100,000

Description and Justification:

The existing 2" PVC water main is failing. This project would replace the existing 2" water main along Willis Court and add a new 2" valve and 2" blowoff.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$100,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	100,000	-	-	-	-	-	-	-	-

Surge Basin

System: East Sewer

Status:

Date Range: 2027-2027

Notes:

Estimated Cost: $750,000

Description and Justification:

Rehabilitating the existing surge basin and headworks bypass/return system will allow for automatic flow equalization and will allow operators to divert flow during maintenance. As plant flows increase and redundancy decreases, this will be vital to proper operation of the facility.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$750,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	750,000	-	-	-	-	-	-	-

Fairway Tank Demolition

System: East Water

Status:

Date Range: 2027-2027

Notes:

Estimated Cost: $40,000

Description and Justification:

The decommisioned ground storage tank on Fairway Rd has been offline for several years but has not yet been demolished. New tie ins to the 12" water main on Rt 3 eliminated the need for this ground storage tank. The existing building, storage tank, and water main should be disconnected and removed from the property. This property can serve as a staging area for future projects once demolition has been completed.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	-	$0
Capital Reserve	100%	$40,000
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	40,000	-	-	-	-	-	-	-

Phase 2a WTP (Construction)

System: East Water

Date Range: 2027-2028

Estimated Cost: $17,500,000

Status: Land Acquisition/Preliminary Design

Notes:

Description and Justification:

In order to address the ongoing Disinfection Byproduct exceedences and occasional taste and odor issues, Activated Carbon treatment has been recommended. This will require land acquisition as there is insufficient space on the existing plant site. Other components of this phase include raw storage, pretreatment, PAC, GAC, disinfection contact tanks, a high service pumping station, and demolition of the existing elevated storage tank, clearwell tank, and high service pumping station. Phase 2a is a subset of that larger Phase 2 project. It involves land acquisition, construction of a new disinfection contact tank and pumping station, demolition of the elevated water tank, clearwell tank, and pumping station.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$17,500,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	8,750,000	8,750,000	-	-	-	-	-	-

Gordonsville Baker St Pump Station Grinder

System: Gordonsville Sewer

Status:

Date Range: 2027-2027

Notes:

Estimated Cost: $135,000

Description and Justification:

A grinder should be installed in front of the existing pump station to decrease the solids that clog up the sewer pumps. This will reduce backups, improve pump efficiency, and extend pump life.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$135,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	135,000	-	-	-	-	-	-	-

Robinson River Outfall

System: Madison Sewer

Status: Easements/Preliminary Design

Date Range: 2027-2027

Notes: This has been moved up the priority list to be completed alongside the plant upgrade project.

Estimated Cost: $2,000,000

Description and Justification:

This new outfall structure and force main are required in order to increase the sewer plant capacity beyond 80,000 gpd.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$2,000,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	2,000,000	-	-	-	-	-	-	-

Water Transmission Main Replacement

System: Rte 15 Water

Status: Pending Funding

Date Range: 2027-2028

Notes:

Estimated Cost: $3,500,000

Description and Justification:

RSA's Route 15 waterworks serves the Town of Gordonsville and 106 additional connections via ~ 13 miles of PVC and Asbestos-Cement pipe between the Town of Orange water treatment plant and the Town of Gordonsville. The pipeline was installed by RSA in the early 1970s and is composed mainly of 10" AC pipe. The first 12,000 feet of pipeline is located in close proximity to a stream which has migrated over the years. There is a significant risk to public health in the event of depressurization along this span of the pipeline. In 2021, RSA issued a Boil Water Advisory due to a main break and depressurization in this span. It is expected that additional failures of this type will occur due to erosion.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$3,500,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	1,750,000	1,750,000	-	-	-	-	-	-

Digesters

System: East Sewer

Status:

Date Range: 2028-2028

Notes:

Estimated Cost: $4,500,000

Description and Justification:

The existing digesters are a process bottleneck due to their size. Additionally, there is no redundant sludge thickener nor easy access for repairs. This is a significant vulnerability that should be rectified by the addition of new digester tanks and thickener equipment.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$4,500,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	4,500,000	-	-	-	-	-	-

601 Tank 1M

System: East Water

Date Range: 2028-2029

Estimated Cost: $2,500,000

Status:

Notes: This was identified in the County's water supply plan but may be deemed unnecessary based on internal modeling efforts. Necessity will be confirmed before proceeding.

Description and Justification:

This tank would replace the existing 30+ year old 500,000 gallon tank on Rt 601, per recommendations in the Orange County Water Supply Plan.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$2,500,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	1,250,000	1,250,000	-	-	-	-	-

Gordonsville Charles St Pump Station Grinder

System: Gordonsville Sewer

Status:

Date Range: 2028-2028

Notes:

Estimated Cost: $135,000

Description and Justification:

A grinder should be installed in front of the existing pump station to decrease the solids that clog up the sewer pumps. This will reduce backups, improve pump efficiency, and extend pump life.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$135,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	135,000	-	-	-	-	-	-

Reservoir Intake Structure

System: Madison Water

Status:

Date Range: 2028-2028

Notes:

Estimated Cost: $150,000

Description and Justification:

The White Oak Lake intake structure was built in the early 1960s. The valves and other steel hardware requires replacement to remain reliably functional in the event that the reservoir level needs to be lowered.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	50%	$75,000
Capital Reserve	-	$0
Grants/Other	50%	$75,000

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	150,000	-	-	-	-	-	-

Digester Diffusers

System: East Sewer

Status:

Date Range: 2029-2029

Notes:

Estimated Cost: $50,000

Description and Justification:

Replacing inefficient diffusers in sludge digester tanks will reduce down time and maintenance required when current diffusers clog/fail. It will also help with odor complaints from neighboring homes during the months that sludge has to be retained in digesters for a longer amount of time. This improvement will also reduce costs associated with labor and materials involved with maintenance/repairs of the current diffusers.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	-	$0
Capital Reserve	100%	$50,000
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	-	50,000	-	-	-	-	-

New WWTP Land Purchase

System: East Sewer

Status:

Date Range: 2029-2029

Notes:

Estimated Cost: $5,000,000

Description and Justification:

There is inadequate space on the existing site to significantly expand capacity. Land acquisition should occur as soon as possible to ensure proper site selection that will minimize future construction costs.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$5,000,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	-	5,000,000	-	-	-	-	-

Middle School Tank Mixing

System: East Water

Status:

Date Range: 2029-2029

Notes:

Estimated Cost: $100,000

Description and Justification:

This project entails installation of a tank mixer on the floor and power vent on the roof. The system will be designed to improve water quality and reduce concentrations of Total Trihalomethanes (DBPs).

Funding Strategy

Funding Source	Percentage	Amount
Cash	100%	$100,000
Debt	-	$0
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	-	100,000	-	-	-	-	-

Phase 2b WTP (Design)

System: East Water

Date Range: 2029-2030

Estimated Cost: $6,000,000

Status: Land Acquisition/Preliminary Design

Notes:

Description and Justification:

In order to address the ongoing Disinfection Byproduct exceedences and occasional taste and odor issues, Activated Carbon treatment has been recommended. This will require land acquisition as there is insufficient space on the existing plant site. Other components of this phase include raw storage, pretreatment, PAC, GAC, a new disinfection contact tank, a high service pumping station, and demolition of the existing elevated storage tank, clearwell tank, and high service pumping station. Phase 2b is a subset of that larger Phase 2 project.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$6,000,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	-	3,000,000	3,000,000	-	-	-	-

Clarifiers

System: Gordonsville Sewer

Status:

Date Range: 2029-2029

Notes:

Estimated Cost: $750,000

Description and Justification:

The clarifiers help remove solids before disinfection and transfer to the Overland Flow holding pond. Major components of the clarifiers are nearing end of life and will require replacement to ensure conditinued permit compliance.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$750,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	-	750,000	-	-	-	-	-

Controls Upgrade

System: Gordonsville Sewer

Status:

Date Range: 2029-2029

Notes:

Estimated Cost: $200,000

Description and Justification:

This treatment plant relies on controls systems from the early 1980s that have reached end of life. Communications and controls systems will be replaced with modern technology.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$200,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	-	200,000	-	-	-	-	-

Gordonsville Rt 15 Pump Station Grinder

System: Gordonsville Sewer

Status:

Date Range: 2029-2029

Notes:

Estimated Cost: $135,000

Description and Justification:

A grinder should be installed in front of the existing pump station to decrease the solids that clog up the sewer pumps. This will reduce backups, improve pump efficiency, and extend pump life.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$135,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	-	135,000	-	-	-	-	-

Storage Tank Mixing

System: Madison Water

Status:

Date Range: 2029-2029

Notes:

Estimated Cost: $100,000

Description and Justification:

Mixing will keep the water in the tank homogeneous and fresher, helping to maintain consistent disinfectant residuals and reduce Trihalomethane production.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$100,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	-	100,000	-	-	-	-	-

Clearwell Tank & Pumping Station

System: Madison Water

Date Range: 2030-2030

Estimated Cost: $750,000

Status: Preliminary Design/Funding Search

Notes:

Description and Justification:

This project is required as part of further upgrades to the Madison water plant if production capacity is to be increased above 0.25MGD. The existing clearwell is 55+ years old and is undersized for additional flow-through rates. A new pumping station would accompany the 500k gallon tank.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$750,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	-	-	750,000	-	-	-	-

Plant Expansion

System: Madison Water

Date Range: 2030-2030

Estimated Cost: $2,000,000

Status: Preliminary Design/Funding Search

Notes:

Description and Justification:

The existing plant does not meet modern regulatory requirements for redundancy as there is only one pre-treatment train and one gravity filter. The proposed plant expansion would add another pre-treatment train and filter. This modification would also allow the treatment capacity to increase.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$2,000,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	-	-	2,000,000	-	-	-	-

Phase 2b WTP (Construction)

System: East Water

Date Range: 2031-2032

Estimated Cost: $14,000,000

Status: Land Acquisition/Preliminary Design

Notes:

Description and Justification:

In order to address the ongoing Disinfection Byproduct exceedences and occasional taste and odor issues, Activated Carbon treatment has been recommended. This will require land acquisition as there is insufficient space on the existing plant site. Other components of this phase include raw storage, pretreatment, PAC, GAC, a new disinfection contact tank, a high service pumping station, and demolition of the existing elevated storage tank, clearwell tank, and high service pumping station. Phase 2b is a subset of that larger Phase 2 project. It involves construction of raw water storage, pretreatment tanks and chemical feed equipment, as well as GAC and PAC systems.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$14,000,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	-	-	-	7,000,000	7,000,000	-	-

Pre-Settling Pond

System: Madison Water

Date Range: 2032-2033

Estimated Cost: $350,000

Status: Preliminary Design/Funding Search

Notes:

Description and Justification:

In the event that water cannot be conveyed from White Oak Run, this storage pond would allow the plant to continue operating. Additionally, if RSA wished to operate the treatment plant at a higher rate than the White Oak Run pump station can deliver, this pond would provide a buffer. Significant modifications to "grandfathered" intakes can trigger a requirement to obtain a VWP Withdrawal Permit from DEQ.

Funding Strategy

Funding Source	Percentage	Amount
Cash	-	$0
Debt	100%	$350,000
Capital Reserve	-	$0
Grants/Other	-	$0

Funding Timeline

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
-	-	-	-	-	-	-	175,000	175,000	-