APPENDIX A

Catoosa Interconnection and Emergency Scenario Tables

System Summary

Catoosa County - Catoosa Utility District Authority (CUDA), City of Ringgold, Fort Oglethorpe

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	3.3	7.2	3.9	2.5	-	4.6	1.3	3.3	8.3	5.0	2.9	-	5.4	2.1
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	3.3	7.2	3.9	2.5	-	4.6	1.3	3.3	8.3	5.0	2.9	-	5.4	2.1
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	3.3	7.2	3.9	2.5	-	4.6	1.3	3.3	8.3	5.0	2.9	-	5.4	2.1
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	10.3	7.2	-	2.5	-	4.6	-	10.3	8.3	-	2.9	-	5.4	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	3.3	7.2	3.9	2.5	-	4.6	1.3	3.3	8.3	5.0	2.9	-	5.4	2.1
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	3.3	7.2	3.9	2.5	-	4.6	1.3	3.3	8.3	5.0	2.9	-	5.4	2.1
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	1.3 MGD
Long Range Deficit	2.1 MGD

*65% Demand Deficit

Catoosa County - Catoosa Utility District Authority (CUDA), City of Ringgold, Fort Oglethorpe

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)						Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	CUDA WTP	Ringgold WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	7.0	1.5	8.5	7.0	1.5	1.8	3.3	7.2	46%	3.85
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	7.0	1.5	8.5	7.0	1.5	1.8	3.3	7.2	46%	3.85

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Purchase from Tennessee as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 4.
[2]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)						Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	CUDA WTP	Ringgold WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	7.0	1.5	8.5	7.0	1.5	1.8	3.3	8.3	40%	4.95
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	7.0	1.5	8.5	7.0	1.5	1.8	3.3	8.3	40%	4.95

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Purchase from Tennessee as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 4.
[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Catoosa County - Catoosa Utility District Authority (CUDA), City of Ringgold, Fort Oglethorpe

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Immediate Demand (AAD-MGD)[4]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	8.5	7.0	1.5	1.8	3.3	7.2	46%	3.9

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Purchase from Tennessee as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 4.
[4]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Long Range Demand (AAD-MGD)[4]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	8.5	7.0	1.5	1.8	3.3	8.3	40%	5.0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Purchase from Tennessee as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 4.
4Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Catoosa County - Catoosa Utility District Authority (CUDA), City of Ringgold, Fort Oglethorpe

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Immediate Demand (AAD-MGD)[4]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	8.5	0.0	8.5	1.8	10.3	7.2	144%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Purchase from Tennessee as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 4.

4Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Long Range Demand (AAD-MGD)[4]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	8.5	0.0	8.5	1.8	10.3	8.3	125%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2050

[2]Non-potable water will be delivered.

[3]Purchase from Tennessee as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 4.

4Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Catoosa County - Catoosa Utility District Authority (CUDA), City of Ringgold, Fort Oglethorpe

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)							Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	CUDA Yates Spring	City of Ringgold South Chickamauga Creek	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d	**Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	7.0	1.5	8.5	7.0	1.5	1.8	3.3	7.2	46%	3.85
		chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	7.0	1.5	8.5	7.0	1.5	1.8	3.3	7.2	46%	3.85

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Purchase from Tennessee as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 4.

2Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)						Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Yates Spring	South Chickamauga Creek	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d	**Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	7.0	1.5	8.5	7.0	1.5	1.8	3.3	8.3	40%	4.95
		chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	7.0	1.5	8.5	7.0	1.5	1.8	3.3	8.3	40%	4.95

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Purchase from Tennessee as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 4.

2Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Interconnection Summary

Catoosa County - Catoosa Utility District Authority (CUDA), City of Ringgold, Fort Oglethorpe

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)								Long Range Demand Impact (2050)							
				Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	3.3	15.0	7.15	-	2.5	-	4.6	-	3.3	15.0	8.3	-	2.9	-	5.4	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	3.3	15.0	7.15	-	2.5	-	4.6	-	3.3	15.0	8.3	-	2.9	-	5.4	-
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	3.3	15.0	7.15	-	2.5	-	4.6	-	3.3	15.0	8.3	-	2.9	-	5.4	-
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	10.3	15.0	7.15	-	2.5	-	4.6	-	10.3	15.0	8.3	-	2.9	-	5.4	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	3.3	15.0	7.15	-	2.5	-	4.6	-	3.3	15.0	8.3	-	2.9	-	5.4	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	3.3	15.0	7.15	-	2.5	-	4.6	-	3.3	15.0	8.3	-	2.9	-	5.4	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Catoosa County - Catoosa Utility District Authority (CUDA), City of Ringgold, Fort Oglethorpe

Existing Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)[2]	Additional Water Supply Available (MGD)
30	**Tennessee**	Under Construction - CUDA connection with Eastside Utility District	24	3.0	9.4	6.1	0.00	6.1
31	**Tennessee**	CUDA connection with Eastside Utility District	6	5.0	1.0	0.6	0.50	0.1
29	**Tennessee**	CUDA connection with Tennessee American Water Company	20	3.0	6.5	4.2	0.50	3.7
26	**Whitfield**	CUDA connection with Dalton Utilities on Hwy 41	6	5.0	1.0	0.6	0.00	0.6
27	**Whitfield**	CUDA connection with Dalton Utilities on Houston Valley Rd	12	5.0	3.9	2.5	0.00	2.5
44	**Walker**	CUDA connection with City of Lafayette on Alabama Hwy	6	5.0	1.0	0.6	0.00	0.6
43	**Walker**	CUDA connection with City of Lafayette on Peavine Rd	6	5.0	1.0	0.6	0.00	0.6
32	**Tennessee**	Fort Oglethorpe connection with Tennessee American Water Company	6	6.0	1.2	0.8	0.80	0.0
33	**Walker**	Fort Oglethorpe connection with Walker County WSA	6	5.0	1.0	0.6	0.00	0.6
							TOTAL	15.0

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 3 fps for pipe diameters greater than or equal to 16 inches and 5 fps for pipe diameters less than or equal to 12 inches.

[2]Total purchase from Tennessee is 1.8 MGD as presented in Coosa-North Georgia RWP Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 4. With no further information, the purchase was allocated to interconnections 29, 31 and 32.

Proposed Interconnections

Interconnection Information		Interconnection Capacity (MGD)					
Interconnection	Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Total New Water Supply Available (MGD)
No proposed internconnections							
						TOTAL	0.0

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX B

Chattooga Interconnection and Emergency Scenario Tables

System Summary

Chattooga County - Chattooga County Water District, City of Summerville and Town of Lyerly

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	2.2	2.7	0.5	1.0	-	1.8	-	2.2	2.3	0.1	0.8	-	1.5	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	2.2	2.7	0.5	1.0	-	1.8	-	2.2	2.3	0.1	0.8	-	1.5	-
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	2.2	2.7	0.5	1.0	-	1.8	-	2.2	2.3	0.1	0.8	-	1.5	-
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	5.2	2.7	-	1.0	-	1.8	-	5.2	2.3	-	0.8	-	1.5	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	2.2	2.7	0.5	1.0	-	1.8	-	2.2	2.3	0.1	0.8	-	1.5	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	2.2	2.7	0.5	1.0	-	1.8	-	2.2	2.3	0.1	0.8	-	1.5	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Chattooga County - Chattooga County Water District, City of Summerville and Town of Lyerly

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)									Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	City of Summerville Raccoon Creek WTP[1]	City of Summerville Lowe Springs Plant	Chattooga County Water District GW	Town of Lyerly GW	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply[2]	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a **Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	3.0	0.8	1.2	0.3	5.2	3.0	2.2	0	2.2	2.7	82%	0.495
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	3.0	0.8	1.2	0.3	5.2	3.0	2.2	0	2.2	2.7	82%	0.495

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Raccoon Creek WTP can treat 5.5 MGD; however, the withdrawal permit is limited to 3.0 MGD.
[2]Chattoooga County Water District purchases from Fort Payne Water Works, City of Summerville purchases from Mount Vernon Mills, and Town of Lyerly purchases from Northeast Alabama Water District were not included because quantities are unknown.
[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)									Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	City of Summerville Raccoon Creek WTP[1]	City of Summerville Lowe Springs Plant	Chattooga County Water District GW	Town of Lyerly GW	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply[2]	Total Water Supply Available	Long Range Demand (AAD-MGD)[1]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a **Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	3.0	0.8	1.2	0.3	5.2	3.0	2.2	0	2.2	2.3	96%	0.095
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	3.0	0.8	1.2	0.3	5.2	3.0	2.2	0	2.2	2.3	96%	0.095

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Raccoon Creek WTP can treat 5.5 MGD; however, the withdrawal permit is limited to 3.0 MGD.
[2]Chattoooga County Water District purchases from Fort Payne Water Works, City of Summerville purchases from Mount Vernon Mills, and Town of Lyerly purchases from Northeast Alabama Water District were not included because quantities are unknown.
[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Chattooga County - Chattooga County Water District, City of Summerville and Town of Lyerly

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Immediate Demand (AAD-MGD)[4]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	5.2	3.0	2.2	0	2.2	2.7	82%	0.495

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Chattoooga County Water District purchases from Fort Payne Water Works, City of Summerville purchases from Mount Vernon Mills, and Town of Lyerly purchases from Northeast Alabama Water District were not included because quantities are unknown.
[4]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Long Range Demand (AAD-MGD)[4]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	5.2	3.0	2.2	0	2.2	2.3	96%	0.095

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Chattoooga County Water District purchases from Fort Payne Water Works, City of Summerville purchases from Mount Vernon Mills, and Town of Lyerly purchaes from Northeast Alabama Water District were not included because quantities are unknown.
[4]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Chattooga County - Chattooga County Water District, City of Summerville and Town of Lyerly

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Immediate Demand (AAD-MGD)[4]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	5.2	0	5.2	0	5.2	2.7	192%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Chattoooga County Water District purchases from Fort Payne Water Works, City of Summerville purchases from Mount Vernon Mills, and Town of Lyerly purchases from Northeast Alabama Water District were not included because quantities are unknown.

[4]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Long Range Demand (AAD-MGD)[4]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	5.2	0	5.2	0	5.2	2.3	225%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2035

[2]Non-potable water will be delivered

[3]Chattoooga County Water District purchases from Fort Payne Water Works, City of Summerville purchases from Mount Vernon Mills, and Town of Lyerly purchases from Northeast Alabama Water District were not included because quantities are unknown.

[4]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Chattooga County - Chattooga County Water District, City of Summerville and Town of Lyerly

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)									Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Summerville Raccoon Creek	Summerville Lowe Spring	Chattooga County Water District GW	Town of Lyerly GW	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	3.0	0.8	1.2	0.3	5.2	3.0	2.2	0	2.2	2.7	82%	0.495
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	3.0	0.8	1.2	0.3	5.2	3.0	2.2	0	2.2	2.7	82%	0.495

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Chattoooga County Water District purchases from Fort Payne Water Works, City of Summerville purchases from Mount Vernon Mills, and Town of Lyerly purchases from Northeast Alabama Water District were not included because quantities are unknown.

[2]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)									Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Summerville Raccoon Creek	Summerville Lowe Spring	Chattooga County Water District GW	Town of Lyerly GW	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	3.0	0.8	1.2	0.3	5.2	3.0	2.2	0	2.2	2.3	96%	0.095
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	3.0	0.8	1.2	0.3	5.2	3.0	2.2	0	2.2	2.3	96%	0.095

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Chattoooga County Water District purchases from Fort Payne Water Works, City of Summerville purchases from Mount Vernon Mills, and Town of Lyerly purchases from Northeast Alabama Water District were not included because quantities are unknown.

[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Interconnection Summary

Chattooga County - Chattooga County Water District, City of Summerville and Town of Lyerly

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)							
				Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	2.2	1.3	2.7	-	1.0	-	1.8	-	2.2	1.3	2.3	-	0.8	-	1.5	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	2.2	1.3	2.7	-	1.0	-	1.8	-	2.2	1.3	2.3	-	0.8	-	1.5	-
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	2.2	1.3	2.7	-	1.0	-	1.8	-	2.2	1.3	2.3	-	0.8	-	1.5	-
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	5.2	1.3	2.7	-	1.0	-	1.8	-	5.2	1.3	2.3	-	0.8	-	1.5	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	2.2	1.3	2.7	-	1.0	-	1.8	-	2.2	1.3	2.3	-	0.8	-	1.5	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	2.2	1.3	2.7	-	1.0	-	1.8	-	2.2	1.3	2.3	-	0.8	-	1.5	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Chattooga County - Chattooga County Water District, City of Summerville and Town of Lyerly

Existing Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Additional Water Supply Available (MGD)
34	**Alabama**	Chattooga County Water District purchase from Fort Payne Water Works	6	5.0	1.0	0.6	0	0.6
35	**Alabama**	Town of Lyerly purchase from Northeast Alabama Water Authority	6	5.0	1.0	0.6	0	0.6
							TOTAL	1.3

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Total New Water Supply Available (MGD)
23	**Floyd**	Install connection on US-27 / Martha Berry Hwy from Chattooga County Water District to Floyd County Water	6	5.0	1.0	0.6	0	0.6
							TOTAL	0.6

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX C

Dade Interconnection and Emergency Scenario Tables

System Summary

Dade County - Dade County Water & Sewer Authority

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015): Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Long Range Demand Impact (2050): Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	0.0	1.9	1.9	0.7	0.7	1.2	1.2	0.0	1.7	1.7	0.6	0.6	1.1	1.1
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	0.0	1.9	1.9	0.7	0.7	1.2	1.2	0.0	1.7	1.7	0.6	0.6	1.1	1.1
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	0.0	1.9	1.9	0.7	0.7	1.2	1.2	0.0	1.7	1.7	0.6	0.6	1.1	1.1
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	3.8	1.9	-	0.7	-	1.2	-	3.8	1.7	-	0.6	-	1.1	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	0.4	1.9	1.5	0.7	0.2	1.2	0.8	0.4	1.7	1.3	0.6	0.2	1.1	0.7
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	0.4	1.9	1.5	0.7	0.2	1.2	0.8	0.4	1.7	1.3	0.6	0.2	1.1	0.7
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	1.2 MGD
Long Range Deficit	1.1 MGD

*65% Demand Deficit

Dade County - Dade County Water & Sewer Authority

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)						Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Dade County WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[1]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	3.8	3.8	3.8	0.0	0.0	0.0	1.9	0%	1.91
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	3.8	3.8	3.8	0.0	0.0	0.0	1.9	0%	1.91

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Immediate Demand value based on total 2010 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)						Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Dade County WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[1]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	3.8	3.8	3.8	0.0	0.0	0.0	1.7	0%	1.71
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	3.8	3.8	3.8	0.0	0.0	0.0	1.7	0%	1.71

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Dade County - Dade County Water & Sewer Authority

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	3.8	3.8	0	0	0	1.9	0%	1.91

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
3Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	3.8	3.8	0	0	0	1.7	0%	1.71

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
3Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Dade County - Dade County Water & Sewer Authority

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	3.8	0	3.8	0	3.8	1.9	199%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

3Immediate Demand value based on total 2010 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	3.8	0	3.8	0	3.8	1.7	222%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2035

[2]Non-potable water will be delivered

3Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Dade County - Dade County Water & Sewer Authority

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)							Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Dade County WSA Lookout Creek	Dade County WSA GW	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[1]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	3.8	0.4	4.2	3.8	0.4	0	0.4	1.9	23%	1.48
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	3.8	0.4	4.2	3.8	0.4	0	0.4	1.9	23%	1.48

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

1Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)							Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Dade County WSA Lookout Creek	Dade County WSA GW	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[1]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	3.8	0.4	4.2	3.8	0.4	0	0.4	1.7	25%	1.28
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	3.8	0.4	4.2	3.8	0.4	0	0.4	1.7	25%	1.28

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

1Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Interconnection Summary

Dade County - Dade County Water & Sewer Authority

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2010): Total Water Supply Available (MGD)	Immediate Demand Impact (2010): Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand Impact (2010): Immediate Demand (AAD-MGD)	Immediate Demand Impact (2010): 100% Immediate Demand Deficit (AAD-MGD)	Immediate Demand Impact (2010): 35% of Immediate Demand (AAD-MGD)	Immediate Demand Impact (2010): 35% Immediate Demand Deficit (AAD-MGD)	Immediate Demand Impact (2010): 65% of Immediate Demand (AAD-MGD)	Immediate Demand Impact (2010): 65% IRT Deficit (AAD-MGD)	Long Range Demand Impact (2050): Total Water Supply Available (MGD)	Long Range Demand Impact (2050): Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand Impact (2050): Long Range Demand (AAD-MGD)	Long Range Demand Impact (2050): 100% LRRT Deficit (AAD-MGD)	Long Range Demand Impact (2050): 35% of Long Range Demand (AAD-MGD)	Long Range Demand Impact (2050): 35% LRRT Deficit (AAD-MGD)	Long Range Demand Impact (2050): 65% of Long Range Demand (AAD-MGD)	Long Range Demand Impact (2050): 65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	0.0	1.1	1.9	0.8	0.7	-	1.2	0.1	0.0	1.1	1.7	0.6	0.6	-	1.1	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	0.0	1.1	1.9	0.8	0.7	-	1.2	0.1	0.0	1.1	1.7	0.6	0.6	-	1.1	-
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	0.0	1.1	1.9	0.8	0.7	-	1.2	0.1	0.0	1.1	1.7	0.6	0.6	-	1.1	-
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	3.8	1.1	1.9	-	0.7	-	1.2	-	3.8	1.1	1.7	-	0.6	-	1.1	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	0.4	1.1	1.9	0.4	0.7	-	1.2	-	0.4	1.1	1.7	0.2	0.6	-	1.1	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	0.4	1.1	1.9	0.4	0.7	-	1.2	-	0.4	1.1	1.7	0.2	0.6	-	1.1	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	0.1 MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Dade County - Dade County Water & Sewer Authority

Existing Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Additional Water Supply Available (MGD)
36	**Tennesee**	Dade County WSA to Tennessee American Water Company on Birmingham Hwy / GA-58	8	5.0	1.7	1.1	0	1.1
							TOTAL	1.1

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day
[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Total New Water Supply Available (MGD)
72	**Dade**	Install 8.3 miles of 12" main from Walker County WSA to Dade County Water Authority along Hwy 136	12	5.0	3.9	2.5	0.0	2.5
							TOTAL	2.5

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day
[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX D

Dawson Interconnection and Emergency Scenario Tables

System Summary

Dawson County - Etowah Water & Sewer Authority (EWSA)

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015): Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Long Range Demand Impact (2050): Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	0.0	1.5	1.5	0.5	0.5	1.0	1.0	0.0	11.5	11.5	4.0	4.0	7.5	7.5
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	0.0	1.5	1.5	0.5	0.5	1.0	1.0	0.0	11.5	11.5	4.0	4.0	7.5	7.5
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	0.0	1.5	1.5	0.5	0.5	1.0	1.0	0.0	11.5	11.5	4.0	4.0	7.5	7.5
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	5.5	1.5	-	0.5	-	1.0	-	17.5	11.5	-	4.0	-	7.5	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	0.0	1.5	1.5	0.5	0.5	1.0	1.0	5.5	11.5	6.0	4.0	-	7.5	2.0
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	0.0	1.5	1.5	0.5	0.5	1.0	1.0	5.5	11.5	6.0	4.0	-	7.5	2.0
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	1.0 MGD
Long Range Deficit	7.5 MGD

*65% Demand Deficit

Dawson County - Etowah Water & Sewer Authority (EWSA)

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)						Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	EWSA Hightower WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a **Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	5.5	5.5	5.5	0	0.0	0.0	1.5	0%	1.498
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	5.5	5.5	5.5	0	0.0	0.0	1.5	0%	1.498

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Purchase of 0.002 MGD from Cherokee County as stated by Brooke Anderson, General Manager of EWSA.
[2]Immediate Demand value based on actual system data for 2015.

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2057)						Long Range Demand Impact (2057)		
Risk	Scenario	Relative Likelihood	Duration (days)	EWSA Hightower WTP[1]	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a **Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	17.5	17.5	17.5	0.0	0.0	0.0	11.5	0%	11.498
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	17.5	17.5	17.5	0.0	0.0	0.0	11.5	0%	11.498

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]It is assumed that the existing EWSA Hightower WTP will be expanded to meet long range demand.
[2]Long Range Demand value based on Russell Creek Reservoir 404 Permit.

Dawson County - Etowah Water & Sewer Authority (EWSA)

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Immediate Demand (AAD-MGD)[4]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	5.5	5.5	0.0	0.0	0.0	1.5	0%	1.498

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Purchase of 0.002 MGD from Cherokee County as stated by Brooke Anderson, General Manager of EWSA.
[4]Immediate Demand value based on actual system data for 2015.

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2057)					Long Range Demand Impact (2057)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	17.5	17.5	0.0	0.0	0.0	11.5	0%	11.498

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[2]Long Range Demand value based on Russell Creek Reservoir 404 Permit.

Dawson County - Etowah Water & Sewer Authority (EWSA)

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Immediate Demand (AAD-MGD)[4]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	5.5	0.0	5.5	0.0	5.5	1.5	367%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Purchase of 0.002 MGD from Cherokee County as stated by Brooke Anderson, General Manager of EWSA.

[4]Immediate Demand value based on actual system data for 2015.

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2057)					Long Range Demand Impact (2057)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	17.5	0.0	17.5	0.0	17.5	11.5	152%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2057

[2]Non-potable water will be delivered

[3]Long Range Demand value based on Russell Creek Reservoir 404 Permit.

Dawson County - Etowah Water & Sewer Authority (EWSA)

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)							Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	EWSA Etowah River	EWSA Russell Creek Reservoir	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	5.5	0.0	5.5	5.5	0.0	0.0	0.0	1.5	0%	1.498
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	5.5	0.0	5.5	5.5	0.0	0.0	0.0	1.5	0%	1.498

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Purchase of 0.002 MGD from Cherokee County as stated by Brooke Anderson, General Manager of EWSA.

[2]Immediate Demand value based on actual system data for 2015.

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2057)							Long Range Demand Impact (2057)		
Risk	Scenario	Relative Likelihood	Duration (days)	EWSA Etowah River	EWSA Russell Creek Reservoir[1]	Total Water Source Capacity	Capacity Loss[2]	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[1]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	5.5	11.5	17.0	11.5	5.5	0.0	5.5	11.5	48%	5.998
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	5.5	11.5	17.0	11.5	5.5	0.0	5.5	11.5	48%	5.998

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Russell Creek Reservoir is currently permitted and will be completed by 2023.

[2]It is assumed that contamination of Russell Creek Reservoir does not cause contamination at the Etowah River intake.

[3]Long Range Demand value based on Russell Creek Reservoir 404 Permit.

Interconnection Summary

Dawson County - Etowah Water & Sewer Authority (EWSA)

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015): Total Water Supply Available (MGD)	Immediate Demand Impact (2015): Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand Impact (2015): Immediate Demand (AAD-MGD)	Immediate Demand Impact (2015): 100% Immediate Demand Deficit (AAD-MGD)	Immediate Demand Impact (2015): 35% of Immediate Demand (AAD-MGD)	Immediate Demand Impact (2015): 35% Immediate Demand Deficit (AAD-MGD)	Immediate Demand Impact (2015): 65% of Immediate Demand (AAD-MGD)	Immediate Demand Impact (2015): 65% IRT Deficit (AAD-MGD)	Long Range Demand Impact (2057): Total Water Supply Available (MGD)	Long Range Demand Impact (2057): Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand Impact (2057): Long Range Demand (AAD-MGD)	Long Range Demand Impact (2057): 100% LRRT Deficit (AAD-MGD)	Long Range Demand Impact (2057): 35% of Long Range Demand (AAD-MGD)	Long Range Demand Impact (2057): 35% LRRT Deficit (AAD-MGD)	Long Range Demand Impact (2057): 65% of Long Range Demand (AAD-MGD)	Long Range Demand Impact (2057): 65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	0.0	1.1	1.5	0.4	0.5	-	1.0	-	0.0	1.1	11.5	10.4	4.0	2.9	7.5	6.3
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	0.0	1.1	1.5	0.4	0.5	-	1.0	-	0.0	1.1	11.5	10.4	4.0	2.9	7.5	6.3
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	0.0	1.1	1.5	0.4	0.5	-	1.0	-	0.0	1.1	11.5	10.4	4.0	2.9	7.5	6.3
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	5.5	1.1	1.5	-	0.5	-	1.0	-	17.5	1.1	11.5	-	4.0	-	7.5	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	0.0	1.1	1.5	0.4	0.5	-	1.0	-	5.5	1.1	11.5	4.9	4.0	-	7.5	0.8
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	0.0	1.1	1.5	0.4	0.5	-	1.0	-	5.5	1.1	11.5	4.9	4.0	-	7.5	0.8
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	6.3 MGD

*65% Demand Deficit

Dawson County - Etowah Water & Sewer Authority (EWSA)

Existing Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)[2]	Additional Water Supply Available (MGD)[3]
54	**Cherokee**	Main from Cherokee County WSA to EWSA on Cowart Rd	16	5.0	7.0	4.5	0.002	0.0
55	**Forsyth**[4]	Main from Forsyth County to EWSA on Blue Ridge Overlook	2	5.0	0.1	0.1	0	0.0
56	**Forsyth**	Main from Forsyth County to EWSA on Blue Ridge Overlook	8	5.0	1.7	1.1	0	1.1
68	**Pickens**	Main from Pickens County Water Authority to City of Dawsonville - Abandoned	8	5.0	1.7	1.1	0	0.0
							TOTAL	1.1

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

[2]Purchase from Pickens County, Forsyth County and Cherokee County as stated by Brooke Anderson, General Manager of EWSA.

[3]Pipe configurations prevent EWSA from receiving water from Cherokee County WSA and Pickens County Water Authority per Brooke Anderson, General Manager of EWSA.

[4]Existing interconnection 55 is assumed and identified; however, the interconnection is not considered to be a source of additionaly supply because the pipe diameter < 6".

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Total New Water Supply Available (MGD)[2]
58	**Lumpkin**	Install 4.6 miles of 8" pipe on Castleberry Bridge Rd from City of Dahlonega to EWSA	8	5.0	1.7	1.1	0	0.0
59	**Lumpkin**	Install 1.4 miles of 6" pipe on GA-400 from Lumpkin Co. - 400 Water System to EWSA	6	5.0	1.0	0.6	0	0.0
57	**Hall**	Install 1.4 miles of 8" pipe on Thomas Rd. and Price Rd. from City of Gainesville to EWSA	8	5.0	1.7	1.1	0	1.1
							TOTAL	1.1

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

[2]Pipe configurations prevent EWSA from receiving water from systems in Lumpkin County per Brooke Anderson, General Manager of EWSA.

APPENDIX E

Fannin Interconnection and Emergency Scenario Tables

System Summary

Fannin County - City of Blue Ridge Water & Sewer, City of Morganton and City of McCaysville

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	1.2	1.8	0.5	0.6	-	1.2	-	1.2	1.5	0.3	0.5	-	1.0	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	1.2	1.8	0.5	0.6	-	1.2	-	1.2	1.5	0.3	0.5	-	1.0	-
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	1.2	1.8	0.5	0.6	-	1.2	-	1.2	1.5	0.3	0.5	-	1.0	-
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	2.7	1.8	-	0.6	-	1.2	-	2.7	1.5	-	0.5	-	1.0	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	0.2	1.8	1.5	0.6	0.4	1.2	0.9	0.2	1.5	1.3	0.5	0.3	1.0	0.7
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	0.2	1.8	1.5	0.6	0.4	1.2	0.9	0.2	1.5	1.3	0.5	0.3	1.0	0.7
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	0.9 MGD
Long Range Deficit	0.7 MGD

*65% Demand Deficit

Fannin County - City of Blue Ridge Water & Sewer, City of Morganton and City of McCaysville

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)								Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Blue Ridge WTP	McCaysville WTP[1]	Morganton WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	1.5	1.0	0.2	2.7	1.5	1.2	0	1.2	1.8	69%	0.545
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	1.5	1.0	0.2	2.7	1.5	1.2	0	1.2	1.8	69%	0.545

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]The capacity of McCaysville WTP is 1.4 MGD; however, the permitted withdrawal by McCaysville from Tocco River is 1.0 MGD.
[2]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)								Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Blue Ridge WTP	McCaysville WTP	Morganton WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[1]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	1.5	1.0	0.2	2.7	1.5	1.2	0	1.2	1.5	82%	0.265
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	1.5	1.0	0.2	2.7	1.5	1.2	0	1.2	1.5	82%	0.265

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Fannin County - City of Blue Ridge Water & Sewer, City of Morganton and City of McCaysville

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	2.7	1.5	1.2	0	1.2	1.8	69%	0.545

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	2.7	1.5	1.2	0	1.2	1.5	82%	0.265

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Fannin County - City of Blue Ridge Water & Sewer, City of Morganton and City of McCaysville

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	2.7	0	2.7	0	2.7	1.8	154%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	2.7	0	2.7	0	2.7	1.5	183%	0.0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2035

[2]Non-potable water will be delivered

[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Fannin County - City of Blue Ridge Water & Sewer, City of Morganton and City of McCaysville

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)								Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Blue Ridge Toccoa River	McCaysville Toccoa River	Morganton GW	Total Water Source Capacity	Capacity Loss[1]	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d	**Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	1.5	1.0	0.2	2.7	2.5	0.2	0	0.2	1.8	13%	1.5
		chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	1.5	1.0	0.2	2.7	2.5	0.2	0	0.2	1.8	13%	1.5

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]It is assumed that a contamination of the Toccoa River at Blue Ridge results in a contamination of the Toccoa River at McCaysville.

[2]Immediate Demand value based on total 2010 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)								Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Blue Ridge Toccoa River	McCaysville Toccoa River	Morganton GW	Total Water Source Capacity	Capacity Loss[1]	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d	**Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	1.5	1.0	0.2	2.7	2.5	0.2	0	0.2	1.5	15%	1.3
		chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	1.5	1.0	0.2	2.7	2.5	0.2	0	0.2	1.5	15%	1.3

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]It is assumed that a contamination in the Toccoa River at Blue Ridge does not imply a contamination in the Toccoa River at McCaysville.

[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Interconnection Summary

Fannin County - City of Blue Ridge Water & Sewer, City of Morganton and City of McCaysville

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)								Long Range Demand Impact (2050)							
				Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	1.2	0.0	1.8	0.5	0.6	-	1.2	-	1.2	0.0	1.5	0.3	0.5	-	1.0	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	1.2	0.0	1.8	0.5	0.6	-	1.2	-	1.2	0.0	1.5	0.3	0.5	-	1.0	-
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	1.2	0.0	1.8	0.5	0.6	-	1.2	-	1.2	0.0	1.5	0.3	0.5	-	1.0	-
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	2.7	0.0	1.8	-	0.6	-	1.2	-	2.7	0.0	1.5	-	0.5	-	1.0	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	0.2	0.0	1.8	1.5	0.6	0.4	1.2	0.9	0.2	0.0	1.5	1.3	0.5	0.3	1.0	0.7
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	0.2	0.0	1.8	1.5	0.6	0.4	1.2	0.9	0.2	0.0	1.5	1.3	0.5	0.3	1.0	0.7
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	0.9 MGD
Long Range Deficit	0.7 MGD

*65% Demand Deficit

Fannin County - City of Blue Ridge Water & Sewer, City of Morganton and City of McCaysville

Existing Interconnections

Interconnection Information		Interconnection Capacity (MGD)					
Interconnection	Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Additional Water Supply Available (MGD)
No known existing interconnections							
						TOTAL	0.0

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Total New Water Supply Available (MGD)
50	**Gilmer**	Install 14.2 miles of 8" pipe on GA-5-N from Blue Ridge to EGCWSA	8	5.0	1.7	1.1	0	1.1
69	**Union**	Install 15.2 miles of 12" pipe on Appalachian Hwy from Blue Ridge to Notla Water Authority	12	5.0	3.9	2.5	0	2.5
							TOTAL	3.7

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX F

Floyd Interconnection and Emergency Scenario Tables

System Summary

Floyd County - City of Rome and Floyd County

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	6.8	11.3	4.6	4.0	-	7.4	0.6	6.8	11.3	4.6	4.0	-	7.4	0.6
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	6.8	11.3	4.6	4.0	-	7.4	0.6	6.8	11.3	4.6	4.0	-	7.4	0.6
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	6.8	11.3	4.6	4.0	-	7.4	0.6	6.8	11.3	4.6	4.0	-	7.4	0.6
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	24.8	11.3	-	4.0	-	7.4	-	24.8	11.3	-	4.0	-	7.4	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	20.8	11.3	-	4.0	-	7.4	-	20.8	11.3	-	4.0	-	7.4	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	20.8	11.3	-	4.0	-	7.4	-	20.8	11.3	-	4.0	-	7.4	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	0.6 MGD
Long Range Deficit	0.6 MGD

*65% Demand Deficit

Floyd County - City of Rome and Floyd County

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)								Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Rome Hamler WTP	Floyd County Old Mill Spring Plant	Floyd County Brighton Plant	Floyd County Wells	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	18	4	0.8	1.3	24.1	18	6.1	0.65	6.75	11.3	60%	4.58
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	18	4	0.8	1.3	24.1	18	6.1	0.65	6.75	11.3	60%	4.58

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Floyd County Purchase from Adairsville. Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 17.
[2]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)								Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Rome Hamler WTP	Floyd County Old Mill Spring Plant	Floyd County Brighton Plant	Floyd County Wells	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	18	4	0.8	1.3	24.1	18	6.1	0.65	6.75	11.3	60%	4.58
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	18	4	0.8	1.3	24.1	18	6.1	0.65	6.75	11.3	60%	4.58

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Floyd County Purchase from Adairsville. Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 17.
[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Floyd County - City of Rome and Floyd County

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[4]	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	24.1	18	6.1	0.65	6.75	11.3	60%	4.6

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)
[4]Floyd County Purchase from Adairsville. Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 17.

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[4]	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	24.1	18	6.1	0.65	6.75	11.3	60%	4.6

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)
[4]Floyd County Purchase from Adairsville. Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 17.

Floyd County - City of Rome and Floyd County

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[4]	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	24.1	0	24.1	0.65	24.75	11.3	218%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

[4]Floyd County Purchase from Adairsville. Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 17.

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[4]	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	24.1	0	24.1	0.65	24.75	11.3	218%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2035

[2]Non-potable water will be delivered

[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

[4]Floyd County Purchase from Adairsville. Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 17.

Floyd County - City of Rome and Floyd County

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)									Immediate Demand Impact (201)		
Risk	Scenario	Relative Likelihood	Duration (days)	Rome Oostanaula & Etowah R.	Floyd County Old Mill Spring	Floyd County Woodward Creek	Floyd County Wells	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	18	4	0.8	1.3	24.1	4	20.1	0.65	20.75	11.3	183%	0
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	18	4	0.8	1.3	24.1	4	20.1	0.65	20.75	11.3	183%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]The Rome Hammler WTP has separate redundant intakes on the Etowah and Oostanaula Rivers so capacity loss is for Floyd County's Mill Spring source.

[2]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

[3]Floyd County Purchase from Adairsville. Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 17.

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)									Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Rome Oostanaula & Etowah R.	Floyd County Old Mill Spring	Floyd County Woodward Creek	Floyd County Wells	Total Water Source Capacity	Capacity Loss[1]	System Treatment Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	18	4	0.8	1.3	24.1	4	20.1	0.65	20.75	11.3	183%	0
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	18	4	0.8	1.3	24.1	4	20.1	0.65	20.75	11.3	183%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]The Rome Hammler WTP has separate redundant intakes on the Etowah and Oostanaula Rivers so capacity loss is for Floyd County's Mill Spring source.

[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

[3]Floyd County Purchase from Adairsville. Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 17.

Interconnection Summary

Floyd County - City of Rome and Floyd County

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2010)								Long Range Demand Impact (2050)							
				Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	6.8	1.1	11.3	3.5	4.0	-	7.4	-	6.8	1.1	11.3	3.5	4.0	-	7.4	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	6.8	1.1	11.3	3.5	4.0	-	7.4	-	6.8	1.1	11.3	3.5	4.0	-	7.4	-
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	6.8	1.1	11.3	3.5	4.0	-	7.4	-	6.8	1.1	11.3	3.5	4.0	-	7.4	-
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	24.8	1.1	11.3	-	4.0	-	7.4	-	24.8	1.1	11.3	-	4.0	-	7.4	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	20.8	1.1	11.3	-	4.0	-	7.4	-	20.8	1.1	11.3	-	4.0	-	7.4	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	20.8	1.1	11.3	-	4.0	-	7.4	-	20.8	1.1	11.3	-	4.0	-	7.4	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Floyd County - City of Rome and Floyd County

Existing Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Additional Water Supply Available (MGD)
4	**Gordon**	Roland Hayes Pkwy NW / City of Calhoun	8	5.0	1.7	1.13	0	1.1
17	**Bartow**	GA-140 / City of Adairsville	6	5.0	1.0	0.65	0.65	0.0
							TOTAL	1.1

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Total New Water Supply Available (MGD)
6	**Gordon**	GA 53 / New Calhoun Hwy NE	6	5.0	1.0	0.63	0	0.6
17	**Bartow**	GA-140 / City of Adairsville - Upgrade connection size from 6" to 12"	12	5.0	3.9	2.54	0.65	1.9
18	**Bartow**	GA-293 / Kingston Hwy	6	5.0	1.0	0.63	0	0.6
19	**Bartow**	Taylorsville Rd	6	5.0	1.0	0.63	0	0.6
20	**Polk**	Old Wax Rd	6	5.0	1.0	0.63	0	0.6
21	**Polk**	Reeceburg Rd	6	5.0	1.0	0.63	0	0.6
22	**Polk**	US-27 / Cedartown Hwy	6	5.0	1.0	0.63	0	0.6
23	**Chattooga**	US-27 / Martha Berry Hwy	6	5.0	1.0	0.63	0	0.6
							TOTAL	6.3

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX G

Gilmer Interconnection and Emergency Scenario Tables

System Summary

Gilmer County - Ellijay-Gilmer County Water Sewer Authority (EGCWSA)

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	0.0	1.7	1.7	0.6	0.6	1.1	1.1	0.0	1.9	1.9	0.7	0.7	1.3	1.3
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	0.0	1.7	1.7	0.6	0.6	1.1	1.1	0.0	1.9	1.9	0.7	0.7	1.3	1.3
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	0.0	1.7	1.7	0.6	0.6	1.1	1.1	0.0	1.9	1.9	0.7	0.7	1.3	1.3
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	4.6	1.7	-	0.6	-	1.1	-	4.6	1.9	-	0.7	-	1.3	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	0.6	1.7	1.1	0.6	0.0	1.1	0.5	0.6	1.9	1.4	0.7	0.1	1.3	0.7
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	0.6	1.7	1.1	0.6	0.0	1.1	0.5	0.6	1.9	1.4	0.7	0.1	1.3	0.7
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	1.1 MGD
Long Range Deficit	1.3 MGD

*65% Demand Deficit

Gilmer County - Ellijay-Gilmer County Water Sewer Authority (EGCWSA)

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Cartecay WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	5.5	4.6	4.6	0	0	0	1.7	0%	1.7
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	5.5	4.6	4.6	0	0	0	1.7	0%	1.7

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]The Cartecay WTP can treat 5.5 MGD; however, EGCWSA can only withdraw a total of 4.55 MGD from Cartecay River and Ellijay River.
2Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Cartecay WTP[1]	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	5.5	4.6	4.6	0	0	0	1.9	0%	1.9
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	5.5	4.6	4.6	0	0	0	1.9	0%	1.9

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]The EGCWSA website states that the Cartecay WTP can easily be expanded up to 8.0 MGD to meet future demand.
[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Interconnection Summary

Gilmer County - Ellijay-Gilmer County Water Sewer Authority (EGCWSA)

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	4.6	4.6	0	0	0	1.7	0%	1.7

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	4.6	4.6	0	0	0	1.9	0%	1.9

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Gilmer County - Ellijay-Gilmer County Water Sewer Authority (EGCWSA)

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	4.6	0	4.6	0	4.6	1.7	272%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

3Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	4.6	0	4.6	0	4.6	1.9	235%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2035

[2]Non-potable water will be delivered

[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Gilmer County - Ellijay-Gilmer County Water Sewer Authority (EGCWSA)

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)							Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	EGCWSA Cartecay River	EGCWSA Ellijay River	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[1]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	4.0	0.6	4.6	4.0	0.6	0	0.6	1.7	33%	1.1
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	4.0	0.6	4.6	4.0	0.6	0	0.6	1.7	33%	1.1

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)							Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	EGCWSA Cartecay River	EGCWSA Ellijay River	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[1]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	4.0	0.6	4.6	4.0	0.6	0	0.6	1.9	28%	1.4
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	4.0	0.6	4.6	4.0	0.6	0	0.6	1.9	28%	1.4

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Interconnection Summary

Gilmer County - Ellijay-Gilmer County Water Sewer Authority (EGCWSA)

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2010)								Long Range Demand Impact (2050)							
				Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	0.0	0.0	1.67	1.7	0.6	0.6	1.1	1.1	0.0	0.0	1.94	1.9	0.7	0.7	1.3	1.3
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	0.0	0.0	1.67	1.7	0.6	0.6	1.1	1.1	0.0	0.0	1.94	1.9	0.7	0.7	1.3	1.3
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	0.0	0.0	1.67	1.7	0.6	0.6	1.1	1.1	0.0	0.0	1.94	1.9	0.7	0.7	1.3	1.3
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	4.6	0.0	1.67	-	0.6	-	1.1	-	4.6	0.0	1.94	-	0.7	-	1.3	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	0.6	0.0	1.67	1.1	0.6	0.0	1.1	0.5	0.6	0.0	1.94	1.4	0.7	0.1	1.3	0.7
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	0.6	0.0	1.67	1.1	0.6	0.0	1.1	0.5	0.6	0.0	1.94	1.4	0.7	0.1	1.3	0.7
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	1.1 MGD
Long Range Deficit	1.3 MGD

*65% Demand Deficit

Gilmer County - Ellijay-Gilmer County Water Sewer Authority (EGCWSA)

Existing Interconnections

Interconnection Information		Interconnection Capacity (MGD)					
Interconnection	**Description**	**Diameter**	**Maximum Velocity (fps)[1]**	**Maximum Flow (cfs)**	**Maximum Flow (MGD)**	**Currently Purchasing through Existing Interconnection (MGD)**	**Additional Water Supply Available (MGD)**
No known existing interconnections							
						TOTAL	0.0

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		**Description**	**Diameter**	**Maximum Velocity (fps)[1]**	**Maximum Flow (cfs)**	**Maximum Flow (MGD)**	**Currently Purchasing through Existing Interconnection (MGD)**	**Total New Water Supply Available (MGD)**
37	**Murray**	Install 8 miles of 6" pipe on GA-282 / Tails Creek Road from City of Chatsworth to EGCWSA	6	5.0	1.0	0.6	0	0.6
45	**Pickens**	Install 5 miles of 6" pipe on Mt. Pisgah Road and Leeches Rd from Pickens County to EGCWSA	6	5.0	1.0	0.6	0	0.6
50	**Fannin**	Install 14 miles of 8" pipe on GA-5-S from Blue Ridge to EGCWSA	8	5.0	1.7	1.1	0	1.1
70	**Gordon**	Install 6 miles of 8" pipe on Hwy 136 from City of Calhoun to EGCWSA	8	5.0	1.7	1.1	0	1.1
							TOTAL	3.5

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX H

Gordon Interconnection and Emergency Scenario Tables

System Summary

Gordon County - City of Calhoun

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	5.8	7.1	1.3	2.5	-	4.6	-	5.8	8.3	2.5	2.9	-	5.4	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	5.8	7.1	1.3	2.5	-	4.6	-	5.8	8.3	2.5	2.9	-	5.4	-
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	5.8	7.1	1.3	2.5	-	4.6	-	5.8	8.3	2.5	2.9	-	5.4	-
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	23.8	7.1	-	2.5	-	4.6	-	23.8	8.3	-	2.9	-	5.4	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	12.0	7.1	-	2.5	-	4.6	-	12.0	8.3	-	2.9	-	5.4	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	12.0	7.1	-	2.5	-	4.6	-	12.0	8.3	-	2.9	-	5.4	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Gordon County - City of Calhoun

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)							Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Mauldin Rd WTP	Brittany Dr WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[1]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	18	5.8	23.8	18	5.8	0	5.8	7.1	81%	1.33
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	18	5.8	23.8	18	5.8	0	5.8	7.1	81%	1.33

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes the City of Calhoun and Talking Rock

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)							Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Mauldin Rd WTP	Brittany Dr WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[1]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	18	5.8	23.8	18	5.8	0	5.8	8.3	70%	2.53
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	18	5.8	23.8	18	5.8	0	5.8	8.3	70%	2.53

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes the City of Calhoun and Talking Rock

Gordon County - City of Calhoun

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	23.8	18	5.8	0	5.8	7.1	81%	1.33

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes the City of Calhoun and Talking Rock

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	23.8	18	5.8	0	5.8	8.3	70%	2.53

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes the City of Calhoun and Talking Rock

Gordon County - City of Calhoun

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	23.8	0	23.8	0	23.8	7.1	334%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes the City of Calhoun and Talking Rock

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	23.8	0	23.8	0	23.8	8.3	286%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2035

[2]Non-potable water will be delivered

[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes the City of Calhoun and Talking Rock

Gordon County - City of Calhoun

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)										Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Coosawatee River	Oostanaula River	Big Spring	City of Calhoun Spring	Calhoun Wells	Total Water Source Capacity	Capacity Loss[1]	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	18	6.2	7	0.64	5.8	37.64	25.64	12	0	12	7.13	168%	0
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	18	6.2	7	0.64	5.8	37.64	25.64	12	0	12	7.13	168%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]If Coosawatee source is lost Mauldin Rd WTP can draw 6.2 MGD from Oostanaula, Brittany Dr WTP can only treat 5.8 MGD from remaining sources (12 MGD total can be supplied)

[2]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes the City of Calhoun and Talking Rock

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)										Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Coosawatee River	Oostanaula River	Big Spring	City of Calhoun Spring	Calhoun Wells	Total Water Source Capacity	Capacity Loss[1]	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	18	6.2	7	0.64	5.8	37.64	25.64	12	0	12	8.33	144%	0
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	18	6.2	7	0.64	5.8	37.64	25.64	12	0	12	8.33	144%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]If Coosawatee source is lost Mauldin Rd WTP can draw 6.2 MGD from Oostanaula, Brittany Dr WTP can only treat 5.8 MGD from remaining sources (12 MGD total can be supplied)

[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes the City of Calhoun and Talking Rock

Interconnection Summary

Gordon County - City of Calhoun

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)								Long Range Demand Impact (2050)							
				Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	5.8	8.0	7.1	-	2.5	-	4.6	-	5.8	8.0	8.3	-	2.9	-	5.4	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	5.8	8.0	7.1	-	2.5	-	4.6	-	5.8	8.0	8.3	-	2.9	-	5.4	-
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	5.8	8.0	7.1	-	2.5	-	4.6	-	5.8	8.0	8.3	-	2.9	-	5.4	-
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	23.8	8.0	7.1	-	2.5	-	4.6	-	23.8	8.0	8.3	-	2.9	-	5.4	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	12.0	8.0	7.1	-	2.5	-	4.6	-	12.0	8.0	8.3	-	2.9	-	5.4	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	12.0	8.0	7.1	-	2.5	-	4.6	-	12.0	8.0	8.3	-	2.9	-	5.4	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Gordon County - City of Calhoun

Existing Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Additional Water Supply Available (MGD)
1	Chatsworth	CWWC takepoint on GA Hwy 225	8	5.0	1.7	1.1	0	1.1
2	Pickens	Assumed - Main on Orr Mill Rd SE	12	5.0	3.9	2.5	0	2.5
3	Adairsville	Assumed - Main on US HWY 41 / Joe Frank Harris Pkwy NW	12	5.0	3.9	2.5	0	2.5
4	Floyd	Main on Roland Hayes Pkwy NW	8	5.0	1.7	1.1	0	1.1
5	Dalton	Main on US HWY 41	6	5.0	1.0	0.6	0	0.6
							TOTAL	8.0

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Total New Water Supply Available (MGD)
6	Floyd	Main on GA Hwy 53	6	5.0	1.0	0.6	0	0.6
13	Chatsworth	Install 1500 ft 6" pipe on Maple Grove Church Rd	6	5.0	1.0	0.6	0	0.6
							TOTAL	1.3

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX I

Habersham Interconnection and Emergency Scenario Tables

System Summary

Habersham County - City of Demorest, City of Cornelia, City of Clarkesville, City of Baldwin, Town of Alto, Town of Mount Airy

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	7.1	4.6	-	1.6	-	3.0	-	7.8	8.56	0.8	3.0	-	5.6	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	7.1	4.6	-	1.6	-	3.0	-	7.8	8.56	0.8	3.0	-	5.6	-
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	7.4	4.6	-	1.6	-	3.0	-	7.8	8.56	0.8	3.0	-	5.6	-
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	11.4	4.6	-	1.6	-	3.0	-	11.8	8.56	-	3.0	-	5.6	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	7.8	4.6	-	1.6	-	3.0	-	7.8	8.56	0.8	3.0	-	5.6	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	7.8	4.6	-	1.6	-	3.0	-	7.8	8.56	0.8	3.0	-	5.6	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Habersham County - City of Demorest, City of Cornelia, City of Clarkesville, City of Baldwin, Town of Alto, Town of Mount Airy

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)									Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Baldwin WTP	Cornelia WTP[1]	Clarksville WTP	GW WTP[2]	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	4.0	3.4	1.5	2.3	11.1	4.0	7.1	0	7.1	4.6	155%	0
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	4.0	3.4	1.5	2.3	11.1	4.0	7.1	0	7.1	4.6	155%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Cornelia WTP has a permitted capacity of 4.0 MGD; however, the actual plant capacity is approximately 3.4 MGD because of the aging facility equipment.
[2]Groundwater treatment based on the sum of groundwater withdrawals by Town of Demorest for 1.203 MGD, Town of Alto for 0.9 MGD and Town of Mount Airy for 0.15 MGD.
[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)									Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Baldwin WTP	Cornelia WTP[1]	Clarksville WTP	GW WTP[2]	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	4.0	4.0	1.5	2.3	11.8	4.0	7.8	0	7.8	8.6	91%	0.807
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	4.0	4.0	1.5	2.3	11.8	4.0	7.8	0	7.8	8.6	91%	0.807

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Cornelia has awarded a contract for construction of a new 4.0 MGD water plant.
[2]Groundwater treatment based on the sum of groundwater withdrawals by Town of Demorest for 1.203 MGD, Town of Alto for 0.9 MGD and Town of Mount Airy for 0.15 MGD.
[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Habersham County - City of Demorest, City of Cornelia, City of Clarkesville, City of Baldwin, Town of Alto, Town of Mount Airy

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	11.4	4.0	7.4	0	7.4	4.6	160%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	11.8	4.0	7.8	0	7.8	8.56	91%	0.807

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Habersham County - City of Demorest, City of Cornelia, City of Clarkesville, City of Baldwin, Town of Alto, Town of Mount Airy

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	11.4	0	11.4	0	11.4	4.6	247%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	11.8	0	11.8	0	11.8	8.56	137%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2035

[2]Non-potable water will be delivered

[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Habersham County - City of Demorest, City of Cornelia, City of Clarkesville, City of Baldwin, Town of Alto, Town of Mount Airy

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)									Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	City of Baldwin Chattahoochee River	City of Clarksville Soque River	City of Cornelia Hazel Creek Camp Creek	Town of Alto City of Demorest Town of Mount Airy GW[1]	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	4.0	1.5	4.0	2.3	11.8	4.0	7.8	0	7.8	4.6	169%	0
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	4.0	1.5	4.0	2.3	11.8	4.0	7.8	0	7.8	4.6	169%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Groundwater withdrawals by Town of Demorest for 1.203 MGD, Town of Alto for 0.9 MGD and Town of Mount Airy for 0.15 MGD.

[2]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)									Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	City of Baldwin Chattahoochee River	City of Clarksville Soque River	City of Cornelia Hazel Creek Camp Creek	Town of Alto City of Demorest Town of Mount Airy GW[1]	Total Water Source Capacity	Capacity Loss[1]	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	4.0	1.5	4.0	2.3	11.8	4.0	7.8	0	7.8	8.56	91%	0.807
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	4.0	1.5	4.0	2.3	11.8	4.0	7.8	0	7.8	8.56	91%	0.807

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Groundwater withdrawals by Town of Demorest for 1.203 MGD, Town of Alto for 0.9 MGD and Town of Mount Airy for 0.15 MGD.

[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Interconnection Summary

Habersham County - City of Demorest, City of Cornelia, City of Clarkesville, City of Baldwin, Town of Alto, Town of Mount Airy

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)								Long Range Demand Impact (2050)							
				Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	7.1	1.9	4.6	-	1.6	-	3.0	-	7.8	1.9	8.56	-	3.0	-	5.6	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	7.1	1.9	4.6	-	1.6	-	3.0	-	7.8	1.9	8.56	-	3.0	-	5.6	-
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	7.4	1.9	4.6	-	1.6	-	3.0	-	7.8	1.9	8.56	-	3.0	-	5.6	-
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	11.4	1.9	4.6	-	1.6	-	3.0	-	11.8	1.9	8.56	-	3.0	-	5.6	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	7.8	1.9	4.6	-	1.6	-	3.0	-	7.8	1.9	8.56	-	3.0	-	5.6	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	7.8	1.9	4.6	-	1.6	-	3.0	-	7.8	1.9	8.56	-	3.0	-	5.6	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Habersham County - City of Demorest, City of Cornelia, City of Clarkesville, City of Baldwin, Town of Alto, Town of Mount Airy

Existing Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Additional Water Supply Available (MGD)[2]
62	**Banks**	Town of Alto purchases water from Banks County	6	5.0	1.0	0.6	0	0.6
63	**Banks**	City of Cornelia has an emergency connection with Banks County	6	5.0	1.0	0.6	0	0.6
64	**Stephens**	City of Demorest purchases water from City of Toccoa	6	5.0	1.0	0.6	0	0.6
							TOTAL	1.9

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

[2]Additional water supply available is estimated. Required data (diameter of connecting pipes, water currently purchasing through existing interconnection) is unavailable.

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Total New Water Supply Available (MGD)
67	**White**	Install 6.7 miles of 10" pipe on GA-5-N from White County WSA to City of Cornelia on Cannonbridge Rd	10	5.0	2.7	1.8	0	1.8
							TOTAL	1.8

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX J

Lumpkin Interconnection and Emergency Scenario Tables

System Summary

Lumpkin County - City of Dahlonega and Lumpkin County - 400 Water System

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	0.0	1.0	1.0	0.4	0.4	0.7	0.7	0.0	2.1	2.1	0.7	0.7	1.3	1.3
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	0.0	1.0	1.0	0.4	0.4	0.7	0.7	0.0	2.1	2.1	0.7	0.7	1.3	1.3
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	0.0	1.0	1.0	0.4	0.4	0.7	0.7	0.0	2.1	2.1	0.7	0.7	1.3	1.3
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	4.0	1.0	-	0.4	-	0.7	-	4.0	2.1	-	0.7	-	1.3	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	0.0	1.0	1.0	0.4	0.4	0.7	0.7	0.0	2.1	2.1	0.7	0.7	1.3	1.3
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	0.0	1.0	1.0	0.4	0.4	0.7	0.7	0.0	2.1	2.1	0.7	0.7	1.3	1.3
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	0.7 MGD
Long Range Deficit	1.3 MGD

*65% Demand Deficit

Lumpkin County - City of Dahlonega and Lumpkin County - 400 Water System

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)						Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Dahlonega WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[1]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a **Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	4.0	4.0	4.0	0.0	0.0	0.0	1.0	0%	1
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	4.0	4.0	4.0	0.0	0.0	0.0	1.0	0%	1

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes demand for City of Dahlonega and Lumpkin Co. - 400 Water System.

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)						Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Dahlonega WTP[1]	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a **Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	4.0	4.0	4.0	0.0	0.0	0.0	2.1	0%	2.05
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	4.0	4.0	4.0	0.0	0.0	0.0	2.1	0%	2.05

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]The Dahlonega WTP has an expansion footprint of 10 MGD; however, it is assumed that no expansion will occur since long range demand is met with existing capacity.
[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes demand for City of Dahlonega and Lumpkin Co. - 400 Water System.

Lumpkin County - City of Dahlonega and Lumpkin County - 400 Water System

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	4.0	4.0	0.0	0.0	0.0	1.0	0%	1

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes demand for City of Dahlonega and Lumpkin Co. - 400 Water System.

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	4.0	4.0	0.0	0.0	0.0	2.1	0%	2.05

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes demand for City of Dahlonega and Lumpkin Co. - 400 Water System.

Lumpkin County - City of Dahlonega and Lumpkin County - 400 Water System

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	4.0	0.0	4.0	0.0	4.0	1.0	400%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes demand for City of Dahlonega and Lumpkin Co. - 400 Water System.

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	4.0	0.0	4.0	0.0	4.0	2.1	195%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes demand for City of Dahlonega and Lumpkin Co. - 400 Water System.

Lumpkin County - City of Dahlonega and Lumpkin County - 400 Water System

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)						Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Yahoola Creek Reservoir	Total Water Source Capacity[1]	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	9.1	9.1	9.1	0.0	0.0	0.0	1.0	0%	1.0
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	9.1	9.1	9.1	0.0	0.0	0.0	1.0	0%	1.0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]The Lumpkin County – 400 Water System groundwater supply was not included in the Total Water Source Capacity because the withdrawal limit is unknown and assumed to be relatively small.

[2]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes demand for City of Dahlonega and Lumpkin Co. - 400 Water System.

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)						Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Yahoola Creek Reservoir	Total Water Source Capacity	Capacity Loss[1]	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	9.1	9.1	9.1	0.0	0.0	0.0	2.1	0%	2.1
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	9.1	9.1	9.1	0.0	0.0	0.0	2.1	0%	2.1

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]The Lumpkin County – 400 Water System groundwater supply was not included in the Total Water Source Capacity because the withdrawal limit is unknown and assumed to be relatively small.

[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017) and includes demand for City of Dahlonega and Lumpkin Co. - 400 Water System.

Interconnection Summary

Lumpkin County - City of Dahlonega and Lumpkin County - 400 Water System

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)								Long Range Demand Impact (2050)							
				Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	0.0	0.0	1	1.0	0.4	0.4	0.7	0.7	0.0	0.0	2.05	2.1	0.7	0.7	1.3	1.3
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	0.0	0.0	1	1.0	0.4	0.4	0.7	0.7	0.0	0.0	2.05	2.1	0.7	0.7	1.3	1.3
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	0.0	0.0	1	1.0	0.4	0.4	0.7	0.7	0.0	0.0	2.05	2.1	0.7	0.7	1.3	1.3
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	4.0	0.0	1	-	0.4	-	0.7	-	4.0	0.0	2.05	-	0.7	-	1.3	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	0.0	0.0	1	1.0	0.4	0.4	0.7	0.7	0.0	0.0	2.05	2.1	0.7	0.7	1.3	1.3
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	0.0	0.0	1	1.0	0.4	0.4	0.7	0.7	0.0	0.0	2.05	2.1	0.7	0.7	1.3	1.3
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	0.7 MGD
Long Range Deficit	1.3 MGD

*65% Demand Deficit

Lumpkin County - City of Dahlonega and Lumpkin County - 400 Water System

Existing Interconnections

Interconnection Information		Interconnection Capacity (MGD)					
Interconnection	Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Additional Water Supply Available (MGD)
No known existing interconnections							
						TOTAL	0.0

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Total New Water Supply Available (MGD)
58	**Dawson**	Install 4.5 miles of 8" pipe on Castleberry Bridge Rd from Dahlonega to Etowah WSA	8	5.0	1.7	1.1	0	1.1
59	**Dawson**	Install 1.4 miles of 6" pipe on GA-400 from Lumpkin Co. - 400 Water System to Etowah WSA	6	5.0	1.0	0.6	0	0.6
60	**Hall**	Install 2 miles of 12" pipe on S Chestatee St from Lumpkin Co. - 400 Water System to City of Gainesville	12	5.0	3.9	2.5	0	2.5
							TOTAL	4.3

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX K

Murray Interconnection and Emergency Scenario Tables

System Summary

Murray County - Chatsworth Water Works Commission

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2040)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	3.3	3.79	0.5	1.3	-	2.5	-	3.3	3.1	-	1.1	-	2.0	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	3.3	3.79	0.5	1.3	-	2.5	-	3.3	3.1	-	1.1	-	2.0	-
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	3.3	3.79	0.5	1.3	-	2.5	-	3.3	3.1	-	1.1	-	2.0	-
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	5.3	3.79	-	1.3	-	2.5	-	5.3	3.1	-	1.1	-	2.0	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	6.3	3.79	-	1.3	-	2.5	-	6.3	3.1	-	1.1	-	2.0	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	6.3	3.79	-	1.3	-	2.5	-	6.3	3.1	-	1.1	-	2.0	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Murray County - Chatsworth Water Works Commission

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)								Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Carter's Lake WTP	Eton Spring Plant	Sumach Springs[3]	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	2	2	0	4	2	2	1.28	3.28	3.8	87%	0.51
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	2	2	0	4	2	2	1.28	3.28	3.8	87%	0.51

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Chatsworth purchases from Calhoun, Ocoee Utilities, and Dalton Utilities. Average total purchase for 2013 as presented in 2013 Annual Water Quality Report.
[2]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)
[3]Sumach Springs has a capacity of 0.5 MGD, but has been decommissioned.

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)								Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Carter's Lake WTP	Eton Spring Plant	Sumach Springs[3]	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	2	2	0	4	2	2	1.28	3.28	3.1	106%	0
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	2	2	0	4	2	2	1.28	3.28	3.1	106%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]It is assumed that Chatsworth will continue to purchase water from surrounding systems.
[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)
[3]Sumach Springs has a capacity of 0.5 MGD, but has been decommissioned.

Murray County - Chatsworth Water Works Commission

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[4]	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	4	2	2	1.28	3.28	3.8	87%	0.51

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)
[4]Chatsworth purchases from Calhoun, Ocoee Utilities, and Dalton Utilities. Average total purchase for 2013 as presented in 2013 Annual Water Quality Report.

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[4]	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	4	2	2	1.28	3.28	3.1	106%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)
[4]It is assumed that Chatsworth will continue to purchase water from surrounding systems.

Murray County - Chatsworth Water Works Commission

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[4]	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	4	0	4	1.28	5.28	3.8	139%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

[4]Chatsworth purchases from Calhoun, Ocoee Utilities, and Dalton Utilities. Average total purchase for 2013 as presented in 2013 Annual Water Quality Report.

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[4]	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	4	0	4	1.28	5.28	3.1	170%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2035

[2]Non-potable water will be delivered.

[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

[4]It is assumed that Chatsworth will continue to purchase water from surrounding systems.

Murray County - Chatsworth Water Works Commission

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)									Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Carters Lake	Eton Spring	Holly Creek	Coosawattee River	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply[2]	Total Water Supply Available	Immediate Demand (AAD-MGD)[1]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	2.3	1.8	1	2.2	7.3	2.3	5	1.28	6.28	3.8	166%	0
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	2.3	1.8	1	2.2	7.3	2.3	5	1.28	6.28	3.8	166%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

[2]Chatsworth purchases from Calhoun, Ocoee Utilities, and Dalton Utilities. Average total purchase for 2013 as presented in 2013 Annual Water Quality Report.

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)									Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Carters Lake	Eton Spring	Holly Creek	Coosawattee River	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply[2]	Total Water Supply Available	Long Range Demand (AAD-MGD)[1]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	2.3	1.8	1	2.2	7.3	2.3	5	1.28	6.28	3.1	203%	0
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	2.3	1.8	1	2.2	7.3	2.3	5	1.28	6.28	3.1	203%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

[2]It is assumed that Chatsworth will continue to purchase water from surrounding systems.

Interconnection Summary

Murray County - Chatsworth Water Works Commission

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)								Long Range Demand Impact (2050)							
				Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	1.3	1.7	3.79	0.8	1.3	-	2.5	-	3.3	1.7	3.1	-	1.1	-	2.0	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	1.3	1.7	3.79	0.8	1.3	-	2.5	-	3.3	1.7	3.1	-	1.1	-	2.0	-
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	3.3	1.7	3.79	-	1.3	-	2.5	-	3.3	1.7	3.1	-	1.1	-	2.0	-
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	5.3	1.7	3.79	-	1.3	-	2.5	-	5.3	1.7	3.1	-	1.1	-	2.0	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	1.7	1.7	3.79	0.4	1.3	-	2.5	-	6.3	1.7	3.1	-	1.1	-	2.0	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	1.7	1.7	3.79	0.4	1.3	-	2.5	-	6.3	1.7	3.1	-	1.1	-	2.0	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Murray County - Chatsworth Water Works Commission

Existing Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)[2]	Additional Water Supply Available (MGD)
1	Calhoun	CWWC takepoint on Hwy 225 S	8	5.0	1.7	1.1	0.68	0.4
7	Ocoee	CWWC takepoint on Pine St, Tennga	4	5.0	0.4	0.3	0.04	0.2
8	Ocoee	CWWC takepoint on Sugar Creek Rd, Gap Springs	4	5.0	0.4	0.3	0.04	0.2
9	Dalton	Dalton takepoint on GA Hwy 225 N	6	6.0	1.2	0.8	0.00	0.8
10	Dalton	CWWC takepoint on Mitchell Bridge	4	5.0	0.4	0.3	0.25	0.0
11	Dalton	CWWC takepoint on GA Hwy 225	4	5.0	0.4	0.3	0.25	0.0
							TOTAL	1.7

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

[2]Data presented is from Chatsworth Water Works Commission Annual Water Quality Report January 2013-December 2013.

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Total New Water Supply Available (MGD)
12	Dalton	Install 1400 ft 8" on Sugar Creek Rd	8	5.0	1.7	1.1	0	1.1
13	Calhoun	Install 1500 ft 6" on Maple Grove Church Rd	6	5.0	1.0	0.6	0	0.6
							TOTAL	1.8

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX L

Pickens Interconnection and Emergency Scenario Tables

System Summary

Pickens County - Pickens County Water Authority, City of Jasper, Big Canoe (Private)

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	3.8	3.0	-	1.0	-	1.9	-	3.8	4.0	0.2	1.4	-	2.6	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	3.8	3.0	-	1.0	-	1.9	-	3.8	4.0	0.2	1.4	-	2.6	-
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	3.8	3.0	-	1.0	-	1.9	-	3.8	4.0	0.2	1.4	-	2.6	-
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	5.8	3.0	-	1.0	-	1.9	-	5.8	4.0	-	1.4	-	2.6	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	3.4	3.0	-	1.0	-	1.9	-	3.4	4.0	0.6	1.4	-	2.6	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	3.4	3.0	-	1.0	-	1.9	-	3.4	4.0	0.6	1.4	-	2.6	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Pickens County - Pickens County Water Authority, City of Jasper, Big Canoe (Private)

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)								Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Jasper WTP	Big Canoe Blackwell Creek WTP	Big Canoe Lake Petit WTP	Pickens County Water Authority GW	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	2	1.0	1.7	0.4	5.1	2.0	3.1	0.71	3.76	3.0	126%	0
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	2	1.0	1.7	0.4	5.1	2.0	3.1	0.71	3.76	3.0	126%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Purchase from Gordon County and Cherokee County as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 32.
[2]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)								Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Jasper WTP	Big Canoe Blackwell Creek WTP	Big Canoe Lake Petit WTP	Pickens County Water Authority GW	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	2	1.0	1.7	0.4	5.1	2.0	3.1	0.71	3.76	4.0	95%	0.19
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	2	1.0	1.7	0.4	5.1	2.0	3.1	0.71	3.76	4.0	95%	0.19

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Purchase from Gordon County and Cherokee County as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 32.
[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Pickens County - Pickens County Water Authority, City of Jasper, Big Canoe (Private)

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Immediate Demand (AAD-MGD)[4]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	5.1	2.0	3.1	0.7	3.8	3.0	126%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Purchase from Gordon County and Cherokee County as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 32.
[4]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Long Range Demand (AAD-MGD)[4]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	5.1	2.0	3.1	0.7	3.8	4.0	95%	0.19

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Purchase from Gordon County and Cherokee County as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 32.
[4]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Pickens County - Pickens County Water Authority, City of Jasper, Big Canoe (Private)

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Immediate Demand (AAD-MGD)[4]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	5.1	0	5.1	0.7	5.8	3.0	193%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Purchase from Gordon County and Cherokee County as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 32.

[4]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Long Range Demand (AAD-MGD)[4]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	5.1	0	5.1	0.7	5.8	4.0	146%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2035

[2]Non-potable water will be delivered

[3]Purchase from Gordon County and Cherokee County as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 32.

[4]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Pickens County - Pickens County Water Authority, City of Jasper, Big Canoe (Private)

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)									Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Jasper Long Swamp Creek	Jasper GW	Big Canoe Blackwell Creek	Big Canoe GW	Pickens County Water Authority GW	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	1.0	1.0	2.7	0.3	0.4	5.3	2.7	2.7	0.7	3.4	3.0	113%	0
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	1.0	1.0	2.7	0.3	0.4	5.3	2.7	2.7	0.7	3.4	3.0	113%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Purchase from Gordon County and Cherokee County as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 32.

[2]Immediate Demand value based on total 2010 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)									Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Jasper Long Swamp Creek	Jasper GW	Big Canoe Blackwell Creek	Big Canoe GW	Pickens County Water Authority GW	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	1.0	1.0	2.7	0.3	0.4	5.3	2.7	2.7	0.7	3.4	4.0	85%	0.59
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	1.0	1.0	2.7	0.3	0.4	5.3	2.7	2.7	0.7	3.4	4.0	85%	0.59

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Purchase from Gordon County and Cherokee County as presented in Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 32.

[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Interconnection Summary

Pickens County - Pickens County Water Authority, City of Jasper, Big Canoe (Private)

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015): Total Water Supply Available (MGD)	Immediate Demand Impact (2015): Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand Impact (2015): Immediate Demand (AAD-MGD)	Immediate Demand Impact (2015): 100% Immediate Demand Deficit (AAD-MGD)	Immediate Demand Impact (2015): 35% of Immediate Demand (AAD-MGD)	Immediate Demand Impact (2015): 35% Immediate Demand Deficit (AAD-MGD)	Immediate Demand Impact (2015): 65% of Immediate Demand (AAD-MGD)	Immediate Demand Impact (2015): 65% IRT Deficit (AAD-MGD)	Long Range Demand Impact (2050): Total Water Supply Available (MGD)	Long Range Demand Impact (2050): Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand Impact (2050): Long Range Demand (AAD-MGD)	Long Range Demand Impact (2050): 100% LRRT Deficit (AAD-MGD)	Long Range Demand Impact (2050): 35% of Long Range Demand (AAD-MGD)	Long Range Demand Impact (2050): 35% LRRT Deficit (AAD-MGD)	Long Range Demand Impact (2050): 65% of Long Range Demand (AAD-MGD)	Long Range Demand Impact (2050): 65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	3.8	5.4	2.98	-	1.0	-	1.9	-	3.8	5.4	3.95	-	1.4	-	2.6	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	3.8	5.4	2.98	-	1.0	-	1.9	-	3.8	5.4	3.95	-	1.4	-	2.6	-
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	3.8	5.4	2.98	-	1.0	-	1.9	-	3.8	5.4	3.95	-	1.4	-	2.6	-
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	5.8	5.4	2.98	-	1.0	-	1.9	-	5.8	5.4	3.95	-	1.4	-	2.6	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	3.4	5.4	2.98	-	1.0	-	1.9	-	3.4	5.4	3.95	-	1.4	-	2.6	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	3.4	5.4	2.98	-	1.0	-	1.9	-	3.4	5.4	3.95	-	1.4	-	2.6	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Pickens County - Pickens County Water Authority, City of Jasper, Big Canoe (Private)

Existing Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Additional Water Supply Available (MGD)
68	**Dawson**	Pickens County WSA connection with City of Dawsonville - Abandoned	6	5.0	1.0	0.6	0	0.0
2	**Gordon**	Pickens County WSA connection with City of Calhoun at Orr Mill Rd SE	12	5.0	3.9	2.5	0	2.5
51	**Cherokee**	Pickens County WSA connection with CCWSA at Canton Rd.	8	5.0	1.7	1.1	0	1.1
52	**Cherokee**	Pickens County WSA connection with CCWSA at Pickens St.	6	5.0	1.0	0.6	0	0.6
53	**Cherokee**	Pickens County WSA connection with CCWSA at Yellow Creek Rd.	8	5.0	1.7	1.1	0	1.1
							TOTAL	5.4

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Total New Water Supply Available (MGD)
45	**Gilmer**	Install 5 miles of 8" pipe on Mt. Pisgah Road and Leeches Rd from Pickens County to EGCWSA	8	5.0	1.7	1.1	0	1.1
38	**Gordon**	Install 2.5 miles of 8" pipe on Fairmount Hwy SE from Pickens County WSA to City of Calhoun	8	5.0	1.7	1.1	0	1.1
							TOTAL	2.3

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX M

Polk Interconnection and Emergency Scenario Tables

System Summary

Polk County - Polk County Water Authority, City of Cedartown, City of Rockmart

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	7.2	6.4	-	2.2	-	4.2	-	7.2	6.7	-	2.3	-	4.4	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	7.2	6.4	-	2.2	-	4.2	-	7.2	6.7	-	2.3	-	4.4	-
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	7.2	6.4	-	2.2	-	4.2	-	7.2	6.7	-	2.3	-	4.4	-
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	11.2	6.4	-	2.2	-	4.2	-	11.2	6.7	-	2.3	-	4.4	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	7.2	6.4	-	2.2	-	4.2	-	7.2	6.7	-	2.3	-	4.4	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	7.2	6.4	-	2.2	-	4.2	-	7.2	6.7	-	2.3	-	4.4	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Polk County - Polk County Water Authority, City of Cedartown, City of Rockmart

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)									Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Polk County Deaton Spring WTP	Polk County Aragon, Ammons and Mulco Springs WTP	Cedartown WTP	Rockmart WTP[1]	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a **Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	4.0	1.6	3.0	2.6	11.2	4.0	7.2	0	7.2	6.4	112%	0
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	4.0	1.6	3.0	2.6	11.2	4.0	7.2	0	7.2	6.4	112%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]The Rockmart WTP has the capacity to treat 4.0 MGD; however, the permitted withdrawal is 2.6 MGD.
[2]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)									Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Polk County Deaton Spring	Polk County Aragon, Ammons and Mulco Springs	Cedartown Big Spring	Rockmart WTP[1]	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a **Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	4.0	1.6	3.0	2.6	11.2	4.0	7.2	0	7.2	6.7	107%	0
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	4.0	1.6	3.0	2.6	11.2	4.0	7.2	0	7.2	6.7	107%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]The Rockmart WTP has the capacity to treat 4.0 MGD; however, they can only withdraw 2.6 MGD of raw water.
[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Polk County - Polk County Water Authority, City of Cedartown, City of Rockmart

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	11.2	4.0	7.2	0	7.2	6.4	112%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	11.2	4.0	7.2	0	7.2	6.7	107%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Polk County - Polk County Water Authority, City of Cedartown, City of Rockmart

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	11.2	0	11.2	0	11.2	6.4	175%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	11.2	0	11.2	0	11.2	6.7	167%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2035

[2]Non-potable water will be delivered

[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Polk County - Polk County Water Authority, City of Cedartown, City of Rockmart

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)									Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Polk County Deaton Spring	Polk County Aragon, Ammons and Mulco Springs	Cedartown Big Spring	Rockmart GW	Rockmart Euharlee Creek[1]	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
Short-term contamination of a raw water source	biological contamination (E. coli, etc) of largest raw water source	0.5	1	4.0	1.6	3.0	2.6	0	11.2	4.0	7.2	0	7.2	6.4	112%	0.0
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	4.0	1.6	3.0	2.6	0	11.2	4.0	7.2	0	7.2	6.4	112%	0.0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]The City of Rockmart holds a withdrawal permit for maximum daily withdrawal of 2.0 MGD from Euharlee Creek; however the pump station is in disrepair and there are no plans to repair it.

[2]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)									Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Polk County Deaton Spring	Polk County Aragon, Ammons and Mulco Springs	Cedartown Big Spring	Rockmart GW	Rockmart Euharlee Creek[1]	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
Short-term contamination of a raw water source	biological contamination (E. coli, etc) of largest raw water source	0.5	1	4.0	1.6	3.0	2.6	0	11.2	4.0	7.2	0	7.2	6.7	107%	0.0
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	4.0	1.6	3.0	2.6	0	11.2	4.0	7.2	0	7.2	6.7	107%	0.0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]The City of Rockmart holds a withdrawal permit for maximum daily withdrawal of 2.0 MGD from Euharlee Creek; however the pump station is in disrepair and there are no plans to replace it.

[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Interconnection Summary

Polk County - Polk County Water Authority, City of Cedartown, City of Rockmart

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)								Long Range Demand Impact (2050)							
				Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	7.2	1.9	6.41	-	2.2	-	4.2	-	7.2	1.9	6.71	-	2.3	-	4.4	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	7.2	1.9	6.41	-	2.2	-	4.2	-	7.2	1.9	6.71	-	2.3	-	4.4	-
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	7.2	1.9	6.41	-	2.2	-	4.2	-	7.2	1.9	6.71	-	2.3	-	4.4	-
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	11.2	1.9	6.41	-	2.2	-	4.2	-	11.2	1.9	6.71	-	2.3	-	4.4	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	7.2	1.9	6.41	-	2.2	-	4.2	-	7.2	1.9	6.71	-	2.3	-	4.4	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	7.2	1.9	6.41	-	2.2	-	4.2	-	7.2	1.9	6.71	-	2.3	-	4.4	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Polk County - Polk County Water Authority, City of Cedartown, City of Rockmart

Existing Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		**Description**	**Diameter**	**Maximum Velocity (fps)[1]**	**Maximum Flow (cfs)**	**Maximum Flow (MGD)**	**Currently Purchasing through Existing Interconnection (MGD)**	**Additional Water Supply Available (MGD)**
39	**Haralson**	Assumed - Polk County Water Authority connection with Haralson County Water Authority on GA 1-N	6	5.0	1.0	0.6	0	0.6
75	**Haralson**	Assumed - Polk County Water Authority connection with Haralson County Water Authority on Tallapoosa Hwy	6	5.0	1.0	0.6	0	0.6
41	**Bartow**	Assumed - Polk County Water Authority connection with Bartow County Department on Sewell Rd	6	5.0	1.0	0.6	0	0.6
							TOTAL	1.9

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		**Description**	**Diameter**	**Maximum Velocity (fps)[1]**	**Maximum Flow (cfs)**	**Maximum Flow (MGD)**	**Currently Purchasing through Existing Interconnection (MGD)**	**Total New Water Supply Available (MGD)**
20	**Floyd**	Polk County Water Authority connection with Floyd County on Old Wax Rd	6	5.0	1.0	0.6	0	0.6
22	**Floyd**	Polk County Water Authority connection with Floyd County on US-27 / Cedartown Hwy	6	5.0	1.0	0.6	0	0.6
73	**Alabama**	Polk County Water Authority connection with Cherokee County WSA of Alabama on Prior Station Rd	6	5.0	1.0	0.6	0	0.6
							TOTAL	1.9

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX N

Towns Interconnection and Emergency Scenario Tables

System Summary

Towns County - Towns County Water and Sewerage Authority and City of Hiawassee

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	0.0	1.27	1.3	0.4	0.4	0.8	0.8	0.0	1.97	2.0	0.7	0.7	1.3	1.3
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	0.0	1.27	1.3	0.4	0.4	0.8	0.8	0.0	1.97	2.0	0.7	0.7	1.3	1.3
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	0.0	1.27	1.3	0.4	0.4	0.8	0.8	0.0	1.97	2.0	0.7	0.7	1.3	1.3
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	2.0	1.27	-	0.4	-	0.8	-	2.0	1.97	-	0.7	-	1.3	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	0.0	1.27	1.3	0.4	0.4	0.8	0.8	0.0	1.97	2.0	0.7	0.7	1.3	1.3
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	0.0	1.27	1.3	0.4	0.4	0.8	0.8	0.0	1.97	2.0	0.7	0.7	1.3	1.3
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	0.8 MGD
Long Range Deficit	1.3 MGD

*65% Demand Deficit

Towns County - Towns County Water and Sewerage Authority and City of Hiawassee

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Rowe Canupp WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[1]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	2.0	2.0	2.0	0	0	0	1.3	0%	1.27
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	2.0	2.0	2.0	0	0	0	1.3	0%	1.27

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Rowe Canupp WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[1]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	2.0	2.0	2.0	0	0	0	2.0	0%	1.97
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	2.0	2.0	2.0	0	0	0	2.0	0%	1.97

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Towns County - Towns County Water and Sewerage Authority and City of Hiawassee

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	2.0	2.0	0	0	0	1.3	0%	1.27

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	2.0	2.0	0	0	0	2.0	0%	1.97

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Towns County - Towns County Water and Sewerage Authority and City of Hiawassee

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	2.0	0	2.0	0	2.0	1.3	157%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	2.0	0	2.0	0	2.0	2.0	102%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2035

[2]Non-potable water will be delivered

[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Towns County - Towns County Water and Sewerage Authority and City of Hiawassee

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)						Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Hiawassee Lake Chatuge	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[1]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	2.0	2.0	2.0	0	0	0	1.3	0%	1.27
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	2.0	2.0	2.0	0	0	0	1.3	0%	1.27

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)						Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Hiawassee Lake Chatuge	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[1]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	2.0	2.0	2.0	0	0	0	2.0	0%	1.97
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	2.0	2.0	2.0	0	0	0	2.0	0%	1.97

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Interconnection Summary

Towns County - Towns County Water and Sewerage Authority and City of Hiawassee

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2010): Total Water Supply Available (MGD)	Immediate Demand Impact (2010): Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand Impact (2010): Immediate Demand (AAD-MGD)	Immediate Demand Impact (2010): 100% Immediate Demand Deficit (AAD-MGD)	Immediate Demand Impact (2010): 35% of Immediate Demand (AAD-MGD)	Immediate Demand Impact (2010): 35% Immediate Demand Deficit (AAD-MGD)	Immediate Demand Impact (2010): 65% of Immediate Demand (AAD-MGD)	Immediate Demand Impact (2010): 65% IRT Deficit (AAD-MGD)	Long Range Demand Impact (2050): Total Water Supply Available (MGD)	Long Range Demand Impact (2050): Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand Impact (2050): Long Range Demand (AAD-MGD)	Long Range Demand Impact (2050): 100% LRRT Deficit (AAD-MGD)	Long Range Demand Impact (2050): 35% of Long Range Demand (AAD-MGD)	Long Range Demand Impact (2050): 35% LRRT Deficit (AAD-MGD)	Long Range Demand Impact (2050): 65% of Long Range Demand (AAD-MGD)	Long Range Demand Impact (2050): 65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	0.0	0.2	1.27	1.1	0.4	0.2	0.8	0.6	0.0	0.2	1.97	1.8	0.7	0.5	1.3	1.1
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	0.0	0.2	1.27	1.1	0.4	0.2	0.8	0.6	0.0	0.2	1.97	1.8	0.7	0.5	1.3	1.1
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	0.0	0.2	1.27	1.1	0.4	0.2	0.8	0.6	0.0	0.2	1.97	1.8	0.7	0.5	1.3	1.1
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	2.0	0.2	1.27	-	0.4	-	0.8	-	2.0	0.2	1.97	-	0.7	-	1.3	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	0.0	0.2	1.27	1.1	0.4	0.2	0.8	0.6	0.0	0.2	1.97	1.8	0.7	0.5	1.3	1.1
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	0.0	0.2	1.27	1.1	0.4	0.2	0.8	0.6	0.0	0.2	1.97	1.8	0.7	0.5	1.3	1.1
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	0.6 MGD
Long Range Deficit	1.1 MGD

*65% Demand Deficit

Towns County - Towns County Water and Sewerage Authority and City of Hiawassee

Existing Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Additional Water Supply Available (MGD)[2]
65	**North Carolina**	Main from Towns County WSA to Clay County WSA on McDonald Rd	12	5.0	3.9	2.5	0	0.2
							TOTAL	0.2

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

[2]The capacity of the Clay County filter plant is 0.4 MGD, therefore it is assumed that 0.2 MGD is the maximum water supply available. The maximum flow calculations were not applied for this interconnection.

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Total New Water Supply Available (MGD)
76	**Union**	Install 7.2 miles of 8" pipe from City of Young Harris to Notla Water Authority on GA-2	8	5.0	1.7	1.1	0	1.1
77	**Union**	Install 3.0 miles of 8" pipe from City of Young Harris to Towns County WSA on GA-2	8	5.0	1.7	1.1	0	1.1
							TOTAL	1.1

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX O

Union Interconnection and Emergency Scenario Tables

System Summary

Union County - Notla Water Authority, Coosa Water Authority and City of Blairsville

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	2.8	2.21	-	0.8	-	1.4	-	2.8	2.4	-	0.8	-	1.6	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	2.8	2.21	-	0.8	-	1.4	-	2.8	2.4	-	0.8	-	1.6	-
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	2.8	2.21	-	0.8	-	1.4	-	2.8	2.4	-	0.8	-	1.6	-
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	4.8	2.21	-	0.8	-	1.4	-	4.8	2.4	-	0.8	-	1.6	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	1.6	2.21	0.6	0.8	-	1.4	-	1.6	2.4	0.8	0.8	-	1.6	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	1.6	2.21	0.6	0.8	-	1.4	-	1.6	2.4	0.8	0.8	-	1.6	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Union County - Notla Water Authority, Coosa Water Authority and City of Blairsville

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)										Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	NOTLA WTP	NOTLA GW	Blairsville Nottley River	Blairsville GW	Coosa Water Authority GW	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available[1]	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	2.0	0.8	1.2	0.4	0.4	4.8	2.0	2.8	0	2.8	2.2	128%	0
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	2.0	0.8	1.2	0.4	0.4	4.8	2.0	2.8	0	2.8	2.2	128%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]There is a known emergency connection between Blairsville and NOTLA. It is assumed that there is also an emergency connection between Coosa Water Authority and NOTLA.
[2]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)										Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	NOTLA Lake Nottley[1]	NOTLA GW	Blairsville Nottley River	Blairsville GW	Coosa Water Authority GW	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available[1]	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	2.0	0.8	1.2	0.4	0.4	4.8	2.0	2.8	0	2.8	2.4	118%	0
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	2.0	0.8	1.2	0.4	0.4	4.8	2.0	2.8	0	2.8	2.4	118%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]There is a known emergency connection between Blairsville and NOTLA. It is assumed that there is also an emergency connection between Coosa Water Authority and NOTLA.
[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan, September, 2017)

Union County - Notla Water Authority, Coosa Water Authority and City of Blairsville

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available[3]	Immediate Demand (AAD-MGD)[4]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	4.8	2.0	2.8	0	2.8	2.21	127%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]There is a known emergency connection between Blairsville and NOTLA. It is assumed that there is also an emergency connection between Coosa Water Authority and NOTLA.
[4]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available[3]	Long Range Demand (AAD-MGD)[4]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	4.8	2.0	2.8	0	2.8	2.4	117%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]There is a known emergency connection between Blairsville and NOTLA. It is assumed that there is also an emergency connection between Coosa Water Authority and NOTLA.
[4]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan, September, 2017)

Union County - Notla Water Authority, Coosa Water Authority and City of Blairsville

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available[3]	Immediate Demand (AAD-MGD)[4]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	4.8	0	4.8	0	4.8	2.21	217%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]There is a known emergency connection between Blairsville and NOTLA. It is assumed that there is also an emergency connection between Coosa Water Authority and NOTLA.

[4]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available[3]	Long Range Demand (AAD-MGD)[4]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	4.8	0	4.8	0	4.8	2.4	200%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2035

[2]Non-potable water will be delivered

[3]There is a known emergency connection between Blairsville and NOTLA. It is assumed that there is also an emergency connection between Coosa Water Authority and NOTLA.

[4]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan, September, 2017)

Union County - Notla Water Authority, Coosa Water Authority and City of Blairsville

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)									Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	NOTLA Lake Nottley	NOTLA GW	Blairsville Nottley River	Blairsville GW	Coosa Water Authority GW	Total Water Source Capacity	Capacity Loss[1]	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available[2]	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	2.0	0.8	1.23	0.4	0.39	4.8	3.2	1.6	0	1.6	2.2	72%	0.62
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	2.0	0.8	1.23	0.4	0.39	4.8	3.2	1.6	0	1.6	2.2	72%	0.62

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]It is assumed that if Lake Nottely is contaminated, Nottely River at Blairsville will also be contaminated.

[2]There is a known emergency connection between Blairsville and Notla Water Authority. It is assumed that there is also an emergency connection between Coosa Water Authority and Notla Water Authority.

[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)									Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	NOTLA Lake Nottley	NOTLA GW	Blairsville Nottley River	Blairsville GW	Coosa Water Authority GW	Total Water Source Capacity	Capacity Loss[1]	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available[2]	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d **Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	2.0	0.8	1.23	0.4	0.39	4.8	3.2	1.6	0	1.6	2.4	66%	0.81
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	2.0	0.8	1.23	0.4	0.39	4.8	3.2	1.6	0	1.6	2.4	66%	0.81

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]It is assumed that if Lake Nottely is contaminated, Nottely River at Blairsville will also be contaminated.

[2]There is a known emergency connection between Blairsville and NOTLA. It is assumed that there is also an emergency connection between Coosa Water Authority and NOTLA.

[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan, September, 2017)

Interconnection Summary

Union County - Notla Water Authority, Coosa Water Authority and City of Blairsville

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)								Long Range Demand Impact (2050)							
				Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	2.8	0.0	2.21	-	0.8	-	1.4	-	2.8	0.0	2.4	-	0.8	-	1.6	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	2.8	0.0	2.21	-	0.8	-	1.4	-	2.8	0.0	2.4	-	0.8	-	1.6	-
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	2.8	0.0	2.21	-	0.8	-	1.4	-	2.8	0.0	2.4	-	0.8	-	1.6	-
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	4.8	0.0	2.21	-	0.8	-	1.4	-	4.8	0.0	2.4	-	0.8	-	1.6	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	1.6	0.0	2.21	0.6	0.8	-	1.4	-	1.6	0.0	2.4	0.8	0.8	-	1.6	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	1.6	0.0	2.21	0.6	0.8	-	1.4	-	1.6	0.0	2.4	0.8	0.8	-	1.6	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Union County - Notla Water Authority, Coosa Water Authority and City of Blairsville

Existing Interconnections

Interconnection Information		Interconnection Capacity (MGD)					
Interconnection	**Description**	**Diameter**	**Maximum Velocity (fps)[1]**	**Maximum Flow (cfs)**	**Maximum Flow (MGD)**	**Currently Purchasing through Existing Interconnection (MGD)**	**Additional Water Supply Available (MGD)**
No known existing interconnections							
						TOTAL	0.0

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		**Description**	**Diameter**	**Maximum Velocity (fps)[1]**	**Maximum Flow (cfs)**	**Maximum Flow (MGD)**	**Currently Purchasing through Existing Interconnection (MGD)**	**Total New Water Supply Available (MGD)**
69	**Fannin**	Install 15.2 miles of 12" pipe from Blue Ridge WS to Notla Water Authority on Appalachian Hwy	12	5.0	3.9	2.5	0	2.5
76	**Towns**	Install 12.4 miles of 12" pipe from Towns County WSA to Notla Water Authority on GA-2	12	5.0	3.9	2.5	0	2.5
							TOTAL	5.1

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX P

Walker Interconnection and Emergency Scenario Tables

System Summary

Walker County - Walker County WSA and City of Lafayette

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	8.4	8.3	-	2.9	-	5.4	-	8.4	7.8	-	2.7	-	5.1	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	8.4	8.3	-	2.9	-	5.4	-	8.4	7.8	-	2.7	-	5.1	-
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	8.4	8.3	-	2.9	-	5.4	-	8.4	7.8	-	2.7	-	5.1	-
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	12.9	8.3	-	2.9	-	5.4	-	12.9	7.8	-	2.7	-	5.1	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	8.4	8.3	-	2.9	-	5.4	-	8.4	7.8	-	2.7	-	5.1	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	8.4	8.3	-	2.9	-	5.4	-	8.4	7.8	-	2.7	-	5.1	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Walker County - Walker County WSA and City of Lafayette

Immediate Risk

	Scenario Information												Immediate Demand Impact (2015)		
	Risk	**Scenario**	**Relative Likelihood**	**Duration (days)**	**WCWSA WTP[3]**	**WCWSA GW[2]**	**Lafayette Dry Creek WTP**	**Lafayette Big Spring WTP**	**Lafayette GW**	**Total water treatment capacity**	**Capacity Loss**	**System Capacity Remaining**	**Purchased Water Supply**	**Total Water Supply Available**	**Immediate Demand (AAD-MGD)[1]**	**% Immediate Demand Available**	**Immediate Demand Deficit (AAD-MGD)**
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	4.5	3.8	1.0	1.7	2.0	12.9	4.5	8.4	0.0	8.4	8.3	101%	0
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	4.5	3.8	1.0	1.7	2.0	12.9	4.5	8.4	0.0	8.4	8.3	101%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)
[2]The permitted monthly average withdrawal from Coke Oven Wells is 2.8 MGD and from Kensington Wells is 1.0 MGD.
[3]WCWSA is currently unable to treat 4.5 MGD due to plant constraints.

Long Range Risk

	Scenario Information												Long Range Demand Impact (2050)		
	Risk	**Scenario**	**Relative Likelihood**	**Duration (days)**	**WCWSA WTP**	**WCWSA GW[2]**	**Lafayette Dry Creek WTP**	**Lafayette Big Spring WTP**	**Lafayette GW**	**Total water treatment capacity**	**Capacity Loss**	**System Capacity Remaining**	**Purchased Water Supply**	**Total Water Supply Available**	**Long Range Demand (AAD-MGD)[1]**	**% Long Range Demand Available**	**Long Range Demand Deficit (AAD-MGD)**
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	4.5	3.8	1.0	1.7	2.0	12.9	4.5	8.4	0.0	8.4	7.8	108%	0
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	4.5	3.8	1.0	1.7	2.0	12.9	4.5	8.4	0.0	8.4	7.8	108%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)
[2]The permitted monthly average withdrawal from Coke Oven Wells is 2.8 MGD and from Kensington Wells is 1.0 MGD.

Walker County - Walker County WSA and City of Lafayette

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	12.9	4.5	8.4	0.0	8.4	8.3	101%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	12.9	4.5	8.4	0.0	8.4	7.8	108%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Walker County - Walker County WSA and City of Lafayette

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Immediate Demand (AAD-MGD)[4]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	12.9	0	12.9	0.0	12.9	8.3	156%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Long Range Demand (AAD-MGD)[4]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	12.9	0	12.9	0.0	12.9	7.8	166%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2050

[2]Non-potable water will be delivered

[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Walker County - Walker County WSA and City of Lafayette

Immediate Risk

	Scenario Information													Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	WCWSA WTP GW[4,5]	WCWSA GW[1]	Lafayette Dry Creek	Lafayette Big Spring	Lafayette GW[2]	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d	**Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	4.5	3.8	1.0	1.7	2.0	12.9	4.5	8.4	0	8.4	8.3	101%	0
		chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	4.5	3.8	1.0	1.7	2.0	12.9	4.5	8.4	0	8.4	8.3	101%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]The permitted monthly average withdrawal from Coke Oven Wells is 2.8 MGD and from Kensington Wells is 1.0 MGD.

[2]The permitted monthly average withdrawal from Wells 3 & 5 is 1.1 MGD and from Dixon Springs is 0.85 MGD.

[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

[4]All of the existing wells at the treatment plant are groundwater under the influence of surface water.

[5]WCWSA currently cannot withdraw 4.5 MGD due to a well failure in June of 2017. These numbers should be updated once WCWSA determines the permanent solution for the well failure.

Long Range Risk

	Scenario Information													Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	WCWSA WTP GW	WCWSA GW[1]	Lafayette Dry Creek	Lafayette Big Spring	Lafayette GW[2]	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d	**Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	4.5	3.8	1.0	1.7	2.0	12.9	4.5	8.4	0	8.4	7.8	108%	0
		chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	4.5	3.8	1.0	1.7	2.0	12.9	4.5	8.4	0	8.4	7.8	108%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]The permitted monthly average from Coke Oven Wells is 2.8 MGD and from Kensington Wells is 1.0 MGD.

[2]The permitted monthly average from Wells 3 & 5 is 1.1 MGD and from Dixon Springs is 0.85 MGD.

[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Interconnection Summary

Walker County - Walker County WSA and City of Lafayette

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)								Long Range Demand Impact (2050)							
				Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	8.4	1.8	8.3	-	2.9	-	5.4	-	8.4	1.8	7.8	-	2.7	-	5.1	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	8.4	1.8	8.3	-	2.9	-	5.4	-	8.4	1.8	7.8	-	2.7	-	5.1	-
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	8.4	1.8	8.3	-	2.9	-	5.4	-	8.4	1.8	7.8	-	2.7	-	5.1	-
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	12.9	1.8	8.3	-	2.9	-	5.4	-	12.9	1.8	7.8	-	2.7	-	5.1	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	8.4	1.8	8.3	-	2.9	-	5.4	-	8.4	1.8	7.8	-	2.7	-	5.1	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	8.4	1.8	8.3	-	2.9	-	5.4	-	8.4	1.8	7.8	-	2.7	-	5.1	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Walker County - Walker County WSA and City of Lafayette

Existing Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Additional Water Supply Available (MGD)
43	**Catoosa**	City of Lafayette connection with CUDA at Peavine Rd	6	5.0	1.0	0.6	0.0	0.0
44	**Catoosa**	City of Lafayette connection with CUDA at Alabama Hwy	6	5.0	1.0	0.6	0.0	0.0
33	**Catoosa**	Walker County WSA connection with Fort Oglethorpe	6	5.0	1.0	0.6	0.0	0.0
42	**Tennessee**	Walker County WSA connection with Tennessee American Water Company	10	5.0	2.7	1.8	0.0	1.8
							TOTAL	1.8

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

[2]System hydraulics prevent Walker County WSA from receiving water through existing interconnections 43, 44 and 33 according to Brandon Whitley, Interim General Manager of Walker County WSA.

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Total New Water Supply Available (MGD)
72	**Dade**	Install 8.3 miles of 12" main from Walker County WSA to Dade County Water Authority along Hwy 136	12	5.0	3.9	2.5	0.0	2.5
71	**Chattooga**	City of Lafayette connection with Chattooga County Water District at Center Post Rd.	6	5.0	1.0	0.6	0.0	0.6
74	**Walker[2]**	City of Lafayette connection with Dalton Utilities at Old Villanow Rd.	6	5.0	1.0	0.6	0.0	0.6
							TOTAL	3.8

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

[2]Connects City of Lafayette to the part of Walker County currently served by Dalton Utilities.

APPENDIX Q

White Interconnection and Emergency Scenario Tables

System Summary

White County - White County Water & Sewerage Authority, City of Cleveland and City of Helen

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	0.8	1.7	0.9	0.6	-	1.1	0.3	0.8	2.3	1.4	0.8	-	1.5	0.6
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	0.8	1.7	0.9	0.6	-	1.1	0.3	0.8	2.3	1.4	0.8	-	1.5	0.6
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	0.8	1.7	0.9	0.6	-	1.1	0.3	0.8	2.3	1.5	0.8	0.0	1.5	0.7
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	2.0	1.7	-	0.6	-	1.1	-	2.0	2.3	0.3	0.8	-	1.5	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	1.2	1.7	0.5	0.6	-	1.1	-	1.2	2.3	1.0	0.8	-	1.5	0.2
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	1.2	1.7	0.5	0.6	-	1.1	-	1.2	2.3	1.0	0.8	-	1.5	0.2
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	0.3 MGD
Long Range Deficit	0.6 MGD

*65% Demand Deficit

White County - White County Water & Sewerage Authority, City of Cleveland and City of Helen

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)							Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	White County WSA Turner Creek	Cleveland GW	Helen GW	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[1]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	2.0	0.8	0.4	2.8	2.0	0.8	0	0.8	1.7	48%	0.899
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	2.0	0.8	0.4	2.8	2.0	0.8	0	0.8	1.7	48%	0.899

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)							Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	White County WSA Turner Creek	Cleveland GW	Helen GW	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[1]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	2.0	0.8	0.4	2.8	2.0	0.8	0	0.8	2.3	37%	1.449
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	2.0	0.8	0.4	2.8	2.0	0.8	0	0.8	2.3	37%	1.449

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

White County - White County Water & Sewerage Authority, City of Cleveland and City of Helen

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	2.8	2.0	0.8	0	0.8	1.7	46%	0.94

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	2.8	2.0	0.8	0	0.8	2.3	35%	1.49

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

White County - White County Water & Sewerage Authority, City of Cleveland and City of Helen

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	2.0	0	2.0	0	2.0	1.7	115%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c **Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	2.0	0	2.0	0	2.0	2.3	87%	0.29

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2035

[2]Non-potable water will be delivered

[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

White County - White County Water & Sewerage Authority, City of Cleveland and City of Helen

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)							Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	White County WSA Turner Creek	Cleveland GW	Helen GW	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Immediate Demand (AAD-MGD)[1]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
d	**Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	2.0	0.8	0.4	3.2	2.0	1.2	0	1.2	1.7	71%	0.499
		chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	2.0	0.8	0.4	3.2	2.0	1.2	0	1.2	1.7	71%	0.499

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Immediate Demand value based on total 2015 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)							Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	White County WSA Turner Creek	Cleveland GW	Helen GW	Total Water Source Capacity	Capacity Loss	System Treatment Capacity Remaining	Purchased Water Supply	Total Water Supply Available	Long Range Demand (AAD-MGD)[1]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
d	**Short-term contamination of a raw water source**	biological contamination (E. coli, etc) of largest raw water source	0.5	1	2.0	0.8	0.4	3.2	2.0	1.2	0	1.2	2.3	54%	1.049
		chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	2.0	0.8	0.4	3.2	2.0	1.2	0	1.2	2.3	54%	1.049

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Interconnection Summary

White County - White County Water & Sewerage Authority, City of Cleveland and City of Helen

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2050)							
				Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	0.8	3.5	1.7	-	0.6	-	1.1	-	0.8	3.5	2.3	-	0.8	-	1.5	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	0.8	3.5	1.7	-	0.6	-	1.1	-	0.8	3.5	2.3	-	0.8	-	1.5	-
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	0.8	3.5	1.7	-	0.6	-	1.1	-	0.8	3.5	2.3	-	0.8	-	1.5	-
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	2.0	3.5	1.7	-	0.6	-	1.1	-	2.0	3.5	2.3	-	0.8	-	1.5	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	1.2	3.5	1.7	-	0.6	-	1.1	-	1.2	3.5	2.3	-	0.8	-	1.5	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	1.2	3.5	1.7	-	0.6	-	1.1	-	1.2	3.5	2.3	-	0.8	-	1.5	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

White County - White County Water & Sewerage Authority, City of Cleveland and City of Helen

Existing Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Additional Water Supply Available (MGD)
61	**Hall**	Assumed - White County WSA connection with City of Gainesville at GA Hwy 284 / Shoal Creek Rd	10	5.0	2.7	1.8	0	1.8
46	**Hall**	Assumed - White County WSA connection with City of Gainesville at US Hwy 129 / Cleveland Hwy	10	5.0	2.7	1.8	0	1.8
							TOTAL	3.5

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

Proposed Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)	Total New Water Supply Available (MGD)
67	**Habersham**	Install 6.7 miles of 10" pipe on GA-5-N from White County WSA to City of Cornelia on Cannonbridge Rd	10	5.0	2.7	1.8	0	1.8
							TOTAL	1.8

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

APPENDIX R

Whitfield Interconnection and Emergency Scenario Tables

System Summary

Whitfield County - Dalton Utilities

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)							Long Range Demand Impact (2040)						
				Total Water Supply Available (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																
	power supply failure of largest WTP	0.5	1	17.2	23.5	6.3	8.2	-	15.3	-	17.2	25.8	8.6	9.0	-	16.8	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	17.2	23.5	6.3	8.2	-	15.3	-	17.2	25.8	8.6	9.0	-	16.8	-
b	**Short-term catastrophic failure of a water distribution system**																
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	17.2	23.5	6.3	8.2	-	15.3	-	17.2	25.8	8.6	9.0	-	16.8	-
c	**Short-term contamination of a water supply system**																
	low pressure contamination of distribution system - issuance of boil water notice	1	3	65.5	23.5	-	8.2	-	15.3	-	65.5	25.8	-	9.0	-	16.8	-
d	**Short-term contamination of a raw water source**																
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	58.2	23.5	-	8.2	-	15.3	-	58.2	25.8	-	9.0	-	16.8	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	58.2	23.5	-	8.2	-	15.3	-	58.2	25.8	-	9.0	-	16.8	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																
	raw water sources unavailable due to legal injunction								Scenario not applicable								
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																
	raw water sources limited availability due to permit restrictions								Scenario not applicable								
g	**Failure of an existing dam of a raw water supply**																
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)								Scenario not applicable								

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Whitfield County - Dalton Utilities

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)							Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	V.D. Parrott WTP	Mill Creek WTP	Freeman Springs WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	50.3	13.2	2	65.5	50.3	15.2	2	17.2	23.5	73%	6.29
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	50.3	13.2	2	65.5	50.3	15.2	2	17.2	23.5	73%	6.29

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Dalton purchase from Eastside Utility District (Tennessee). Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 50.
[2]Immediate Demand value based on total 2010 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)							Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	V.D. Parrott WTP	Mill Creek WTP	Freeman Springs WTP	Total water treatment capacity	Capacity Loss	System Capacity Remaining	Purchased Water Supply[1]	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**	power supply failure of largest WTP	0.5	1	50.3	13.2	2	65.5	50.3	15.2	2	17.2	25.8	67%	8.59
		critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	50.3	13.2	2	65.5	50.3	15.2	2	17.2	25.8	67%	8.59

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Dalton purchase from Eastside Utility District (Tennessee). Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 50.
[2]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

Whitfield County - Dalton Utilities

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[4]	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	65.5	50.3	15.2	2	17.2	23.49	73%	6.29

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Immediate Demand value based on total 2010 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)
[4]Dalton purchase from Eastside Utility District (Tennessee). Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 50.

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[4]	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
b	**Short-term catastrophic failure of a water distribution system**	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	65.5	50.3	15.2	2	17.2	25.79	67%	8.59

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day
Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05
[1]Distribution System Capacity equivalent to total water treatment capacity
[2]Capacity Loss is equivalent to loss of largest WTP
[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)
[4]Dalton purchase from Eastside Utility District (Tennessee). Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 50.

Whitfield County - Dalton Utilities

Immediate Risk

	Scenario Information				Peak Day Water Supply (MGD)					Immediate Demand Impact (2015)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[4]	Total Water Supply Available	Immediate Demand (AAD-MGD)[3]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	65.5	0	65.5	0	65.5	23.5	279%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity

[2]Non-potable water will be delivered

[3]Immediate Demand value based on total 2010 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

[4]Dalton purchase from Eastside Utility District (Tennessee). Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 50.

Long Range Risk

	Scenario Information				Peak Day Water Supply (MGD) (2050)					Long Range Demand Impact (2050)		
	Risk	Scenario	Relative Likelihood	Duration (days)	Total Distribution System Capacity[1]	Capacity Loss[2]	System Capacity Remaining	Purchased Water Supply[4]	Total Water Supply Available	Long Range Demand (AAD-MGD)[3]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
c	**Short-term contamination of a water supply system**	low pressure contamination of distribution system - issuance of boil water notice	1	3	65.5	0	65.5	0	65.5	25.8	254%	0

Acronyms: MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Distribution System Capacity equivalent to total water treatment capacity for 2035

[2]Non-potable water will be delivered

[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

[4]Dalton purchase from Eastside Utility District (Tennessee). Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 50.

Whitfield County - Dalton Utilities

Immediate Risk

Scenario Information				Peak Day Water Supply (MGD)										Immediate Demand Impact (2015)		
Risk	Scenario	Relative Likelihood	Duration (days)	Conasauga River 1	Conasauga River 2	Mill Creek	Coahulla Creek	Freeman Springs	Total Water Source Capacity	Capacity Loss[1]	System Treatment Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Immediate Demand (AAD-MGD)[2]	% Immediate Demand Available	Immediate Demand Deficit (AAD-MGD)
Short-term contamination of a raw water source	biological contamination (E. coli, etc) of largest raw water source	0.5	1	49.4	35	13.2	6	2	105.6	49.4	56.2	2	58.2	23.5	248%	0
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	49.4	35	13.2	6	2	105.6	49.4	56.2	2	58.2	23.5	248%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]If Conasauga River 1 source is lost V.D. Parrott WTP can draw 41 MGD from Conasauga River 2 and Coahulla Creek, Mill Creek WTP can treat 13.2 MGD and Freeman Springs WTP can treat 2 MGD (56.2 MGD total can be supplied)

[3]Immediate Demand value based on total 2010 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

[3]Dalton purchase from Eastside Utility District (Tennessee). Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 50.

Long Range Risk

Scenario Information				Peak Day Water Supply (MGD) (2050)										Long Range Demand Impact (2050)		
Risk	Scenario	Relative Likelihood	Duration (days)	Conasauga River 1	Conasauga River 2	Mill Creek	Coahulla Creek	Freeman Springs	Total Water Source Capacity	Capacity Loss[1]	System Treatment Capacity Remaining	Purchased Water Supply[3]	Total Water Supply Available	Long Range Demand (AAD-MGD)[2]	% Long Range Demand Available	Long Range Demand Deficit (AAD-MGD)
Short-term contamination of a raw water source	biological contamination (E. coli, etc) of largest raw water source	0.5	1	49.4	35	13.2	6	2	105.6	49.4	56.2	2	58.2	25.8	226%	0
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	49.4	35	13.2	6	2	105.6	49.4	56.2	2	58.2	25.8	226%	0

Acronyms: WTP = water treatment plant; MGD = million gallons per day; AAD = annual average day

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]If Conasauga River 1 source is lost V.D. Parrott WTP can draw 41 MGD from Conasauga River 2 and Coahulla Creek, Mill Creek WTP can treat 13.2 MGD and Freeman Springs WTP can treat 2 MGD (56.2 MGD total can be supplied)

[3]Long Range Demand value based on total 2050 demand for system (Coosa-North Georgia Regional Water Plan Update, January, 2017)

[3]Dalton purchase from Eastside Utility District (Tennessee). Data presented is from Coosa-North Georgia Regional Water Plan Supplemental Document: Comparison of Water and Wastewater Forecasts to Existing Permits and Planned Projects page 50.

Interconnection Summary

Whitfield County - Dalton Utilities

	Risk Scenarios	Relative Likelihood[1]	Duration (days)	Immediate Demand Impact (2015)								Long Range Demand Impact (2050)							
				Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Immediate Demand (AAD-MGD)	100% Immediate Demand Deficit (AAD-MGD)	35% of Immediate Demand (AAD-MGD)	35% Immediate Demand Deficit (AAD-MGD)	65% of Immediate Demand (AAD-MGD)	65% IRT Deficit (AAD-MGD)	Total Water Supply Available (MGD)	Additional Water Supply Available through Existing Interconnections (MGD)	Long Range Demand (AAD-MGD)	100% LRRT Deficit (AAD-MGD)	35% of Long Range Demand (AAD-MGD)	35% LRRT Deficit (AAD-MGD)	65% of Long Range Demand (AAD-MGD)	65% LRRT Deficit (AAD-MGD)
a	**Failure of largest water treatment facility**																		
	power supply failure of largest WTP	0.5	1	17.2	6.5	23.5	-	8.2	-	15.3	-	17.2	6.5	25.8	2.1	9.0	-	16.8	-
	critical asset failure at largest WTP (loss of splitter, filter gallery, or clearwell)	0.1	30	17.2	6.5	23.5	-	8.2	-	15.3	-	17.2	6.5	25.8	2.1	9.0	-	16.8	-
b	**Short-term catastrophic failure of a water distribution system**																		
	critical asset failure [loss of transmission main(s) from largest WTP]	0.1	1	17.2	6.5	23.5	-	8.2	-	15.3	-	17.2	6.5	25.8	2.1	9.0	-	16.8	-
c	**Short-term contamination of a water supply system**																		
	low pressure contamination of distribution system - issuance of boil water notice	1	3	65.5	6.5	23.5	-	8.2	-	15.3	-	65.5	6.5	25.8	-	9.0	-	16.8	-
d	**Short-term contamination of a raw water source**																		
	biological contamination (E. coli, etc) of largest raw water source	0.5	1	58.2	6.5	23.5	-	8.2	-	15.3	-	58.2	6.5	25.8	-	9.0	-	16.8	-
	chemical contamination (fuel, industrial wastewater, etc.) of largest raw water source	0.1	1	58.2	6.5	23.5	-	8.2	-	15.3	-	58.2	6.5	25.8	-	9.0	-	16.8	-
e	**Full unavailability of major raw water sources due to federal or state government actions**																		
	raw water sources unavailable due to legal injunction									Scenario not applicable									
f	**Limited or reduced availability of major raw water sources due to federal or state government actions**																		
	raw water sources limited availability due to permit restrictions									Scenario not applicable									
g	**Failure of an existing dam of a raw water supply**																		
	dam failure for largest impoundment (temporary pump station would be required and dam repair required)									Scenario not applicable									

Acronyms: MGD = million gallons per day; AAD = annual average day; WTP = water treatment plant; IRT = Immediate Reliability Target; LRRT = Long Range Reliability Target

Scenario Likelihood Scale: High - 1.0; Medium - 0.5; Low - 0.1; Negligible - 0.05

[1]Relative likelihood relates the potential likelihood of an emergency scenario occurring

Maximum Deficits Projected*

Immediate Deficit	- MGD
Long Range Deficit	- MGD

*65% Demand Deficit

Whitfield County - Dalton Utilities

Existing Interconnections

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Existing Interconnection (MGD)[2]	Additional Water Supply Available (MGD)
14	**Tennessee**	Assumed - GA Hwy 71 / Cleveland Hwy	12	5.0	3.9	2.5	2	0.5
11	**Chatsworth**	CWWC takepoint on GA Hwy 225	4	5.0	0.4	0.3	0	0.3
10	**Chatsworth**	CWWC takepoint on Mitchell Bridge	4	5.0	0.4	0.3	0	0.3
9	**Chatsworth**	Dalton takepoint on GA Hwy 225 N	6	5.0	1.0	0.6	0	0.6
5	**Calhoun**	Main on US HWY 41	6	5.0	1.0	0.6	0	0.6
16	**Walker**	Villanow-Mill Creek Rd	6	5.0	1.0	0.6	0	0.6
25	**Walker**	GA Hwy 201	4	5.0	0.4	0.3	0	0.3
26	**Catoosa**	Hwy 41	6	5.0	1.0	0.6	0	0.6
27	**Catoosa**	Houston Valley Rd	12	5.0	3.9	2.5	0	2.5
							TOTAL	6.5

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

[2]Dalton purchases from Eastside Utility District (Tennessee). The exact connection used for purchasing is unknown, and assumed to be Cleveland Hwy until further information is available.

Proposed Interconnections and Projects

Interconnection Information			Interconnection Capacity (MGD)					
Interconnection		Description	Diameter	Maximum Velocity (fps)[1]	Maximum Flow (cfs)	Maximum Flow (MGD)	Currently Purchasing through Interconnection (MGD)	Total New Water Supply Available (MGD)
12	**Chatsworth**	Install 1400 ft 8" pipe on Sugar Creek Rd	8	5.0	1.7	1.1	0	1.1
15	**Tennessee**	Dry Valley Rd	12	5.0	3.9	2.5	0	2.5
24	**Catoosa[2]**	Reservoir on Dry Creek, see Preliminary Water Supply Study TM Site 3				6.0	0	6.0
							TOTAL	9.7

Acronyms: fps = feet per second; cfs = cubic feet per second; MGD = million gallons per day

[1]Maximum velocity criteria is 5 fps for pipe diameters less than or equal to 12 inches

[2]Data presented is based on Preliminary Water Supply Study Technical Memorandum, January 2008. Total estimated yield for Reservoir Site 3 is 12.23 MGD.