

Document 3, Matrix
Alternatives for Further Study in a Preliminary Engineering Report
 (rev. August 15, 2012)

Option #	Current EDUs Served	Service Area Leg to be Addressed by Option	New EDUs that Could be Served by this Option	Pros	Cons	Affect on Ranson	Affect on Charles Town	Very Rough Cost Range	Description of Option
1	1000±	NRT9 and FSB	2304	Eliminates 5 existing p/s, at least 2 proposed p/s, relieves capacity issues within the existing Breckenridge collection system & creates a fairly trouble free gravity system with capacity for foreseeable future. Many easements already attained.	Long forcemain through Charles Town neighborhoods. Future completely tied to Charles Town WWTP Plans, CIFs and rate increases.	Decreases flows through town & eliminates flows from the District to Ranson's Flowing Springs Pump Station	Delivery of Districts flows to requested location in Evitts Run Interceptor and reduces flows to Samuel Street Pump Station. Assures long term income from District to Charles Town.	\$15,000,000 to \$18,000,000	Construct the collection system considered in the Flowing Springs project and construct a pump station at the site of the proposed Flowing Springs WWTP with a force main to terminate near the proposed Charles Town to Tusawilla Pump Station on Evitts Run.
2	1000±	NRT9 and FSB	2304	Eliminates 5 existing p/s, at least 2 proposed p/s, relieves capacity issues within the existing Breckenridge collection system & creates a fairly trouble free gravity system with capacity for foreseeable future. Many easements already attained.	The District would be dependant upon Ranson & have to pay Ranson CIF for pump station & share in their pump station upgrades sooner than in other options. Future completely tied to Charles Town WWTP Plans, CIFs and rate increases.	Decreases flows through town & increases flows to Ranson's Flowing Springs Pump Station	Delivery of Districts flows to requested location in Evitts Run Interceptor and reduces flows to Samuel Street Pump Station. Assures long term income from District to Charles Town.	\$10,000,000 to \$12,000,000	Construct the collection system considered in the Flowing Springs project and construct a pump station at the site of the proposed Flowing Springs WWTP with a force main to terminate at the Ranson Flowing Springs Pump Station.
3A	400±	NRT9	836	Eliminates overloading of Ranson's Gravity collection system	Does not eliminate any District Pump Stations; does not relieve Breckenridge Pump Station; does not provide capacity for development in Flowing Springs Basin & ties District to Charles Town WWTP Plans, CIFs and rate increases.	Greater capacity through town	Delivery of Districts flows to Evitts Run Interceptor. Assures long term income from District to Charles Town.	\$9,700,000 to \$11,600,000	Consider upgrading the District's existing Northern Rt. 9 Collection System along with the gravity collection system through Ranson to the Charles Town Evitts Run gravity interceptor.
3B	600±	FSB	836	Eliminates backups into houses in the Breckenridge Development	Does not address sewer service in lower Flowing Springs Basin and ties District to the Ranson Flowing Springs Pump Station and future CIFs and upgrades of that system. Also ties the District's future to Charles Town WWTP Plans, CIFs and rate increases.	Uses up capacity in the Ranson Flowing Springs Pump Station and does not address the problems with the Northern Route 9 System	Delivery of Districts flows Evitts Run Interceptor via Ranson's Pump Station and reduces flows to Samuel Street Pump Station. Assures long term income from District to Charles Town.	\$1,100,000 to 1,400,000	Consider upgrades to the existing Breckenridge Pump Station to convey flows to the Ranson Flowing Springs Pump Station.
3C	600±	FSB	836	May Eliminate backups into house in the Breckenridge Development & increases capacity in our existing path to the Samuel Street Pump Station	Does not address sewer service in lower Flowing Springs Basin or through Ranson, and Relies on Charles Town WWTP Plans, CIFs and rate increases for future.	Eliminates District flows from the Ranson Flowing Springs Pump Station and does not address the problems with the Northern Route 9 System & through Ranson's Mildred St. system	Increases flows to Samuel Street Pump Station which will require the needs to contribute to upgrades to that pump station.	\$4,900,000 to \$5,900,000	Consider upgrades to the conveyancing system from the existing Breckenridge Pump Station to Pump Station 3-6 near the race track, than on to the pump station behind Wendy's and then down to Charles Town's Samuel Street Pump Station.
4	400±	NRT9	492	Eliminates overloading of existing Ranson's Gravity collection system and keeps construction out of Downtown Ranson	Does not eliminate any District Pump Stations; does not relieve Breckenridge Pump Station; does not provide capacity for development in Flowing Springs Basin, Long Force Main & Keeps District ties to Charles Town Plans, CIFs and rate increases.	Greater capacity through town	Delivery of Districts flows to requested location	\$5,800,000 to \$7,000,000	Consider an alternative to upgrading the existing Rt.9 system and the gravity system through Ranson by constructing a force main to bypass the Ranson gravity system and pump the Northern Rt. 9 flows directly to the Evitts Run gravity interceptor from the Lloyds Flat Pump Station.

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5	400±	NRT9	492	Eliminates overloading of existing Ranson's Gravity collection system	Does not eliminate any District Pump Stations; does not relieve Breckenridge Pump Station; does not provide capacity for development in Flowing Springs Basin & keeps the District tied to Charles Town for future WWTP plans, CIFs and rate increases.	Greater capacity through town	Delivery of Districts flows to requested location	\$4,200,000 to \$5,400,000	Consider upgrading the existing North Rt. 9 to Lloyds Flat and then constructing a gravity sewer through Fairfax Crossing, to Ranson Flowing Springs Pump Station.
6	300±	SRT9	very small amount	Restores buffer capacity to existing system	Only provides modest capacity improvement and does not address future growth	None	A modest increase in the flows to Samuel Street Pump Station	\$900,000 to \$1,200,000	Upgrade PS 4-5 and new FM to Samuel Street Gravity System for the Southern Rt. 9 collection system.
7	0	FSB	976 from Breckenridge East & possibly more	Could provide capacity for growth in Lower Flowing Springs Basin	This alternative does not provide a collection system for Lower Flowing Springs Basin and would rely on Breckenridge East collection system and does not address Route 9 issues.	None	Could eliminate future flows from the Flowing Springs Basin to Charles Town WWTP	\$7,000,000 to \$9,000,000	Cooperate with Pleasants to construct a Breckenridge East WWTP and increase capacity by an additional 0.25 MGD.
8	1000±	NRT9 and FSB	2304	eliminates 5 existing p/s, at least 2 proposed p/s, relieves capacity issues within the existing Breckenridge collection system & creates a fairly trouble free gravity system with capacity for foreseeable future and allows maximum flexibility in directing District flows for treatment. 80% of easements already attained.	Upgrades to Old Standard WWTP would have to be completed to fully utilize option.	Greater capacity through town and would allow Ranson to send flows to Old Standard WWTP	Could eliminate future flows from the Flowing Springs Basin to Charles Town WWTP	\$18,000,000 to \$21,000,000	Consider constructing the collection system proposed in the Flowing Springs Project and constructing a pump station at the site of the proposed Flowing Springs WWTP and providing the capacity to pump to either the Old Standard plant, the Ranson Flowing Springs pump station or through the existing collection system to the Charles Town WWTP.
9A	55	OS	694	Prepares the Old Standard WWTP for District flows, Provides capacity for future Route 340 growth	This alternative does not provide a collection system for Lower Flowing Springs Basin and would rely on Old Standard collection system .	None	With future collection addition could reduce flows to Charles Town WWTPs	\$230,000 to \$330,000	Upgrade Old Standard (Add Membranes for up to 0.25 MGD) to handle flows generated in the Flowing Springs Basin. Does not include collection system from the existing Flowing Springs neighborhoods.
9B	55	OS	1389	Prepares the Old Standard WWTP for District flows, Provides capacity for future Route 340 growth	This alternative does not provide a collection system for Lower Flowing Springs Basin and would rely on Old Standard collection system.	None	With future collection addition could reduce flows to Charles Town WWTPs	\$7,000,000 to \$9,000,000	Upgrade Old Standard to 0.50 MGD (After already upgrading to 0.25 MGD, as above.). Requires a duplicate plant be constructed next to existing plant.
9C	55	OS	2083	Provide transmission capacity to Old Standard WWTP	Does not address the Northern Route 9 issues	Could eliminate flows to the Ranson Flowing Springs Pump Station	Could eliminate future flows from the Flowing Springs Basin to Charles Town WWTP	varies	Consider what upgrades would be necessary at the Breckenridge Pump Station to complement the previous 2 options.