

REQUEST FOR BOARD ACTION

CANE CREEK WATER AND SEWER DISTRICT BOARD OF DIRECTORS

MEETING DATE: September 18, 2019

SUBJECT: CANE CREEK WATER & SEWER DISTRICT MINUTES

PRESENTER: Terry Wilson

ATTACHMENTS: YES
1) September 3, 2019 draft minutes

SUMMARY OF REQUEST:

Staff request approval of minutes from a previous meeting of the Cane Creek Water & Sewer District.

BOARD ACTION REQUESTED:

Staff suggests approval of minutes.

SUGGESTED MOTION:

I motion that the Board convene as Cane Creek Water & Sewer District Board.

SUGGESTED MOTION:

I motion that the Board approves the Cane Creek Water & Sewer District minutes of September 3, 2019 minutes.

SUGGESTED MOTION:

(ONLY NECESSARY IF GOING BACK INTO SESSION AS THE BOARD OF COMMISSIONERS)

I motion to adjourn as the Cane Creek Water & Sewer District Board and reconvene as the Henderson County Board of Commissioners.

MINUTES

**STATE OF NORTH CAROLINA
COUNTY OF HENDERSON**

**CANE CREEK WATER & SEWER DISTRICT
TUESDAY, SEPTEMBER 3, 2019**

The Henderson County Board of Commissioners met for a regularly scheduled meeting at 5:30 p.m. in the Commissioners' Meeting Room of the Historic Courthouse on Main Street, Hendersonville.

Those present were: Chairman Grady Hawkins, Vice-Chairman William Lapsley, Commissioner Mike Edney, Commissioner Rebecca McCall, Commissioner Charlie Messer, County Manager Steve Wyatt, Assistant County Manager Amy Brantley, Attorney Russ Burrell and Clerk to the Board Teresa Wilson.

Also present were: Finance Director Samantha Reynolds, Assistant Finance Director Randy Cox, Director of Business and Community Development John Mitchell, Engineer Marcus Jones, Planning Director Autumn Radcliff, Budget Manager Megan Powell, Tax Administrator Darlene Burgess, Program Emergency Management/Rescue Coordinator Jimmy Brissie, Recycling Coordinator Christina Brown, IT Director Mark Seelenbacher, Budget Analyst Sonya Flynn, Project Engineer Natalie Berry & PIO Kathy Finotti – videotaping, Deputy Marquis Arterberry and Lieutenant Mike Marsteller as security.

CALL TO ORDER/WELCOME

Chairman Hawkins called the meeting to order.

Commissioner Messer made the motion for the Board to convene as Cane Creek Water & Sewer District Board. All voted in favor and the motion carried.

Cane Creek Water and Sewer District – Minutes – January 7, 2019

Staff requests approval of minutes from a previous meeting of the Cane Creek Water & Sewer District.

- 1) January 7, 2019

Motion:

I motion to approve the Cane Creek Water & Sewer District minutes of January 7, 2019. All voted in favor and the motion carried.

Draft Capital Improvement Plan (CIP) - FY2019 Master Plan Update

Marcus Jones stated as directed by the Board with the approval of the WGLA Engineering agreement to update the District Master Plan during the January 7, 2019 meeting as the firm, staff presents the Draft CIP for Board's consideration regarding the projects, their scopes and / or the priority.

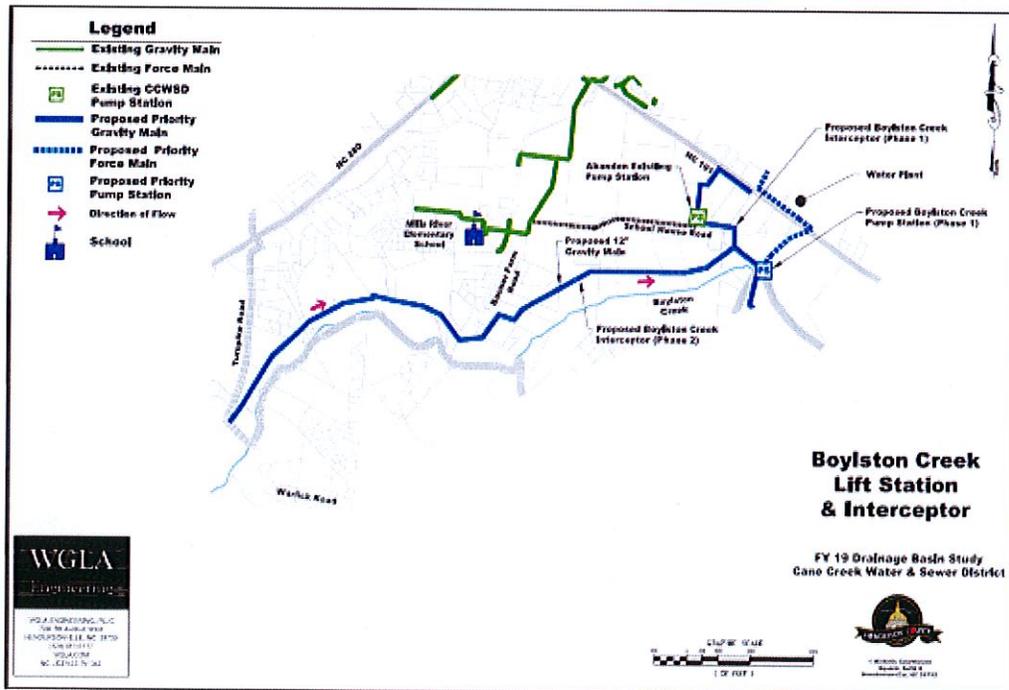
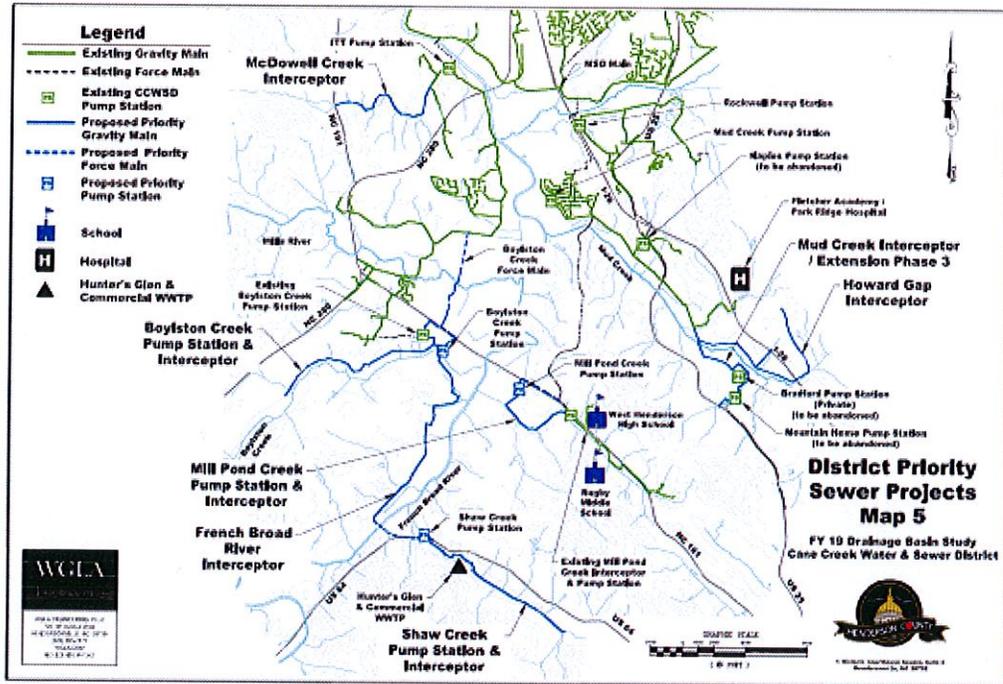
With the pending merger of the District to MSD of Buncombe County, this CIP update is important. It will be included incorporated into MSD's CIP and in turn included in MSD's report to the Environmental Management Commission as required by the governing statute.

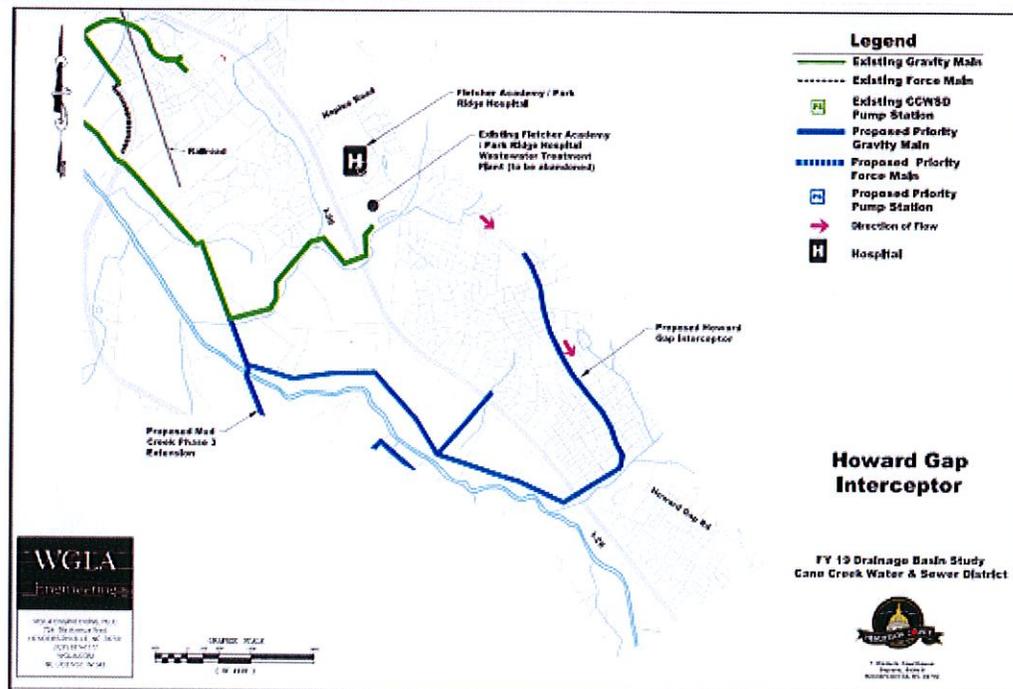
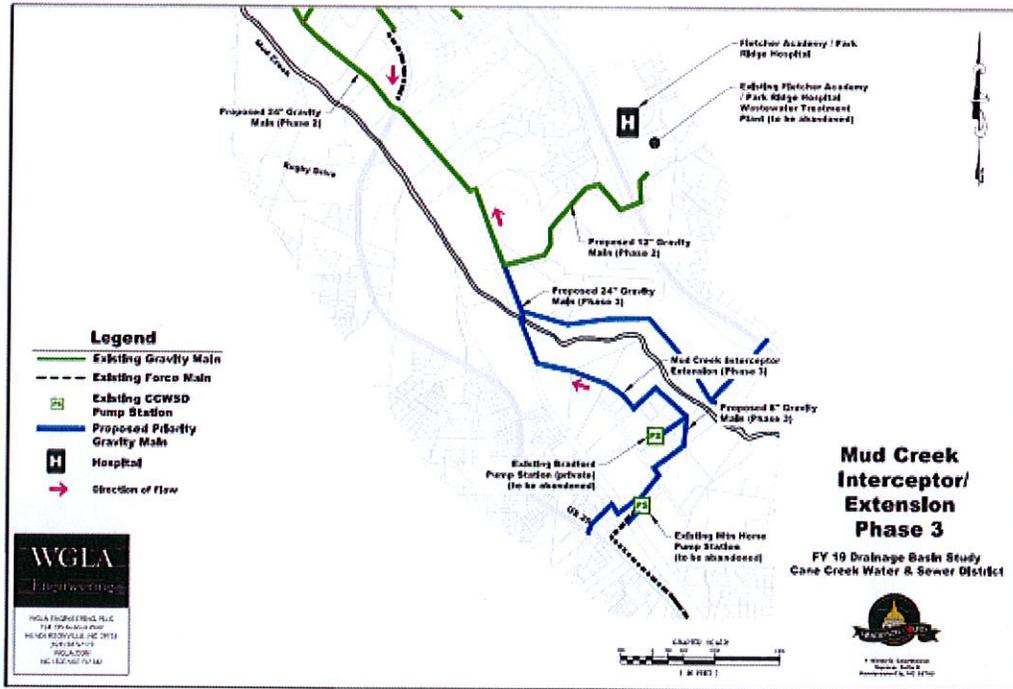
CIP Projects Completed since 2009:

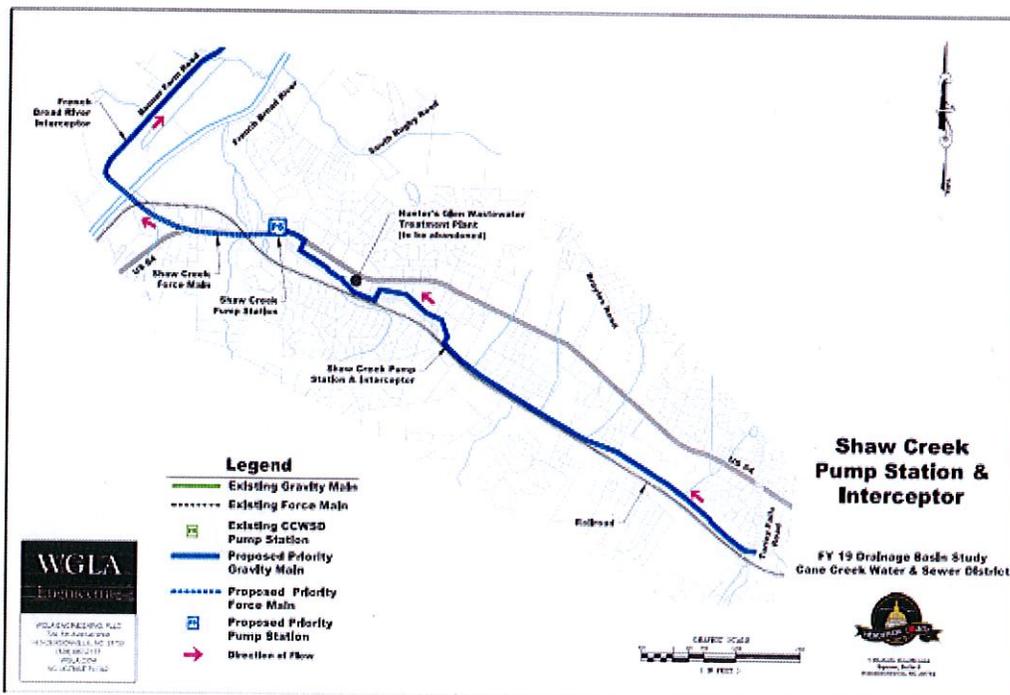
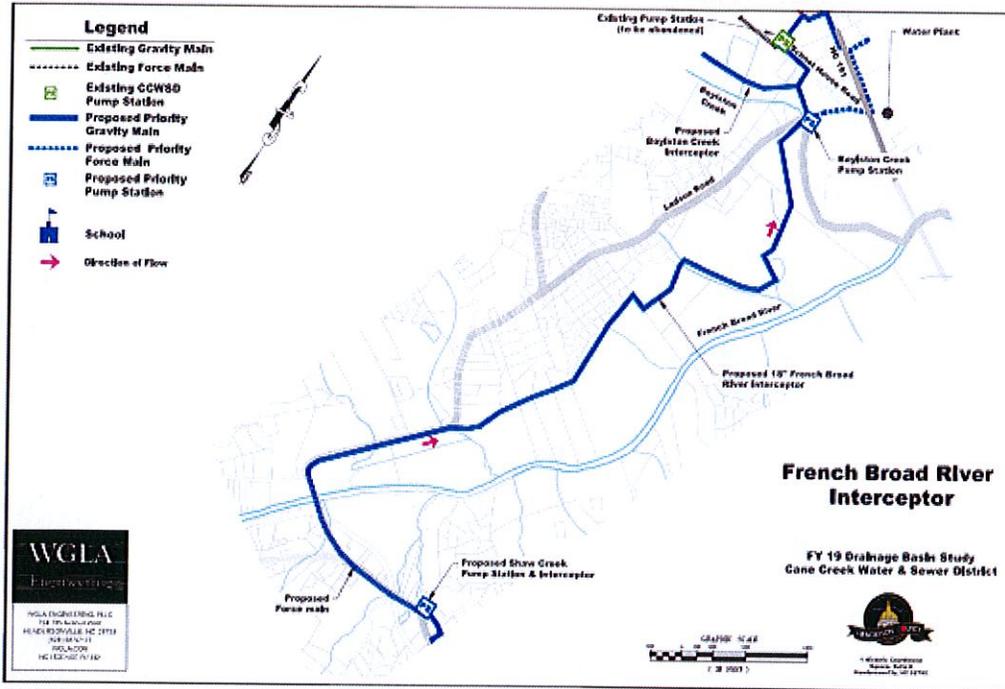
- Fletcher Warehouse Extension
- Mills River Extension
- Mill Pond Creek Extension
- Mud Creek Interceptor, Phase 2

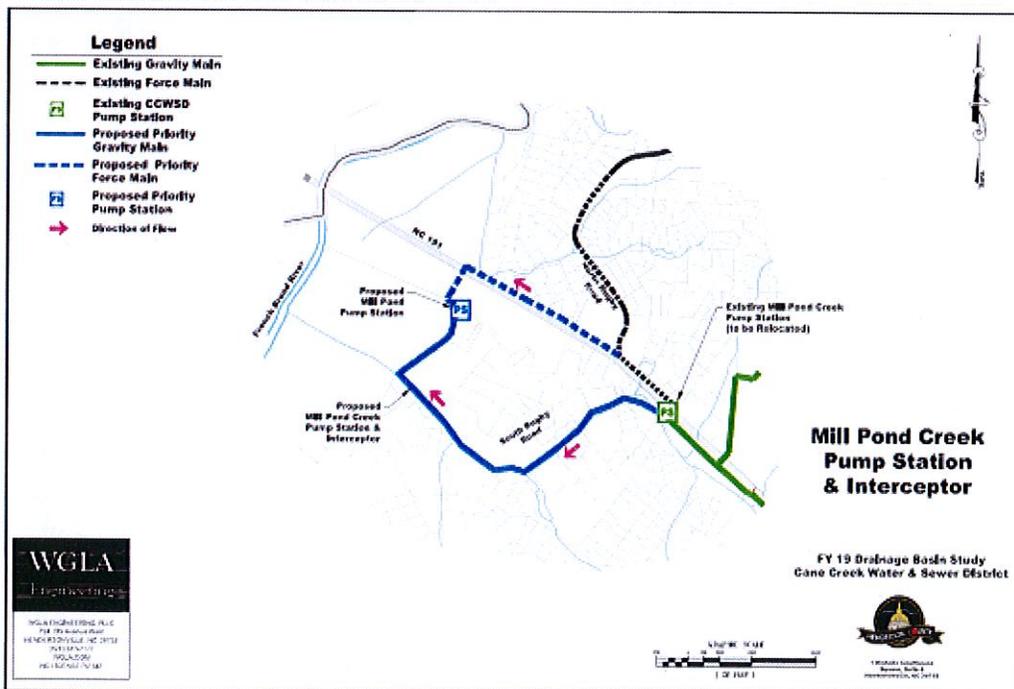
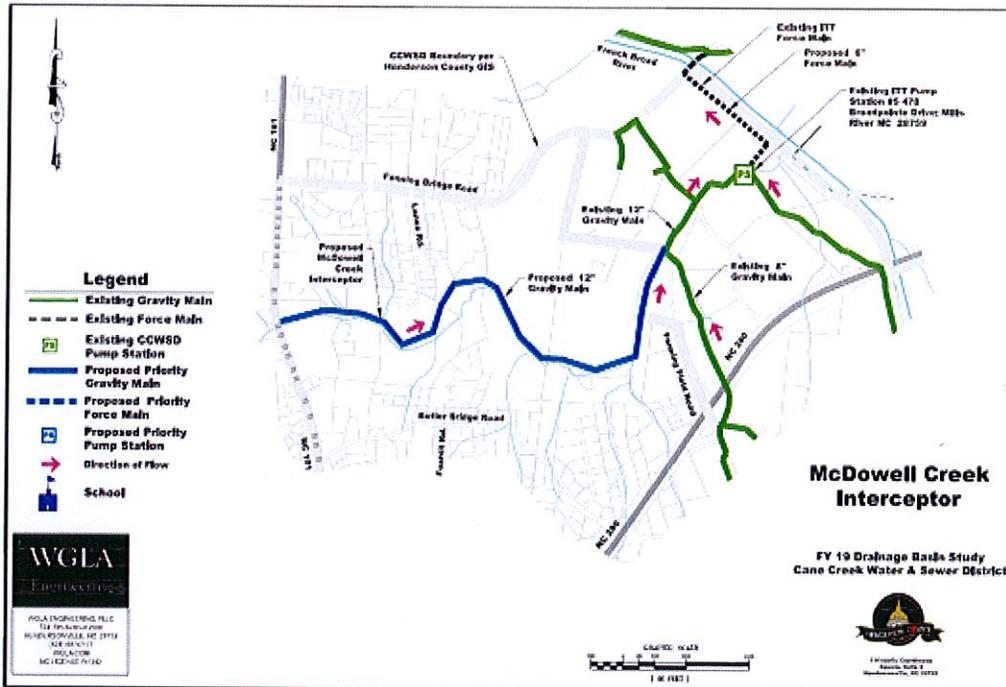
Will Buie with WGLA Engineering, PLLC, shared the Basinwide Study Update.

APPROVED:











WGLA Engineering, PLLC
724 5th Avenue West
Hendersonville, NC 28739
(828) 687-7177 wgl.com

**PRELIMINARY COST ESTIMATE - CANE CREEK WATER AND SEWER DISTRICT
Basinwide Plan FY 2019/2020 Update**

Date: 8/20/2019 Project # 19101

Priority Projects

Short Term Projects

Recommended Project Budget

Boylston Creek Pump Station & Phase 1 Interceptor	\$3,012,900.00
ITT Pump Station Upgrade	\$987,500.00

Intermediate Projects

Mud Creek Interceptor/Extension Phase 3	\$4,288,500.00
Howard Gap Interceptor	\$5,818,800.00

Long Term Projects

Boylston Creek Phase 2 Interceptor	\$4,580,500.00
French Broad River Interceptor	\$6,389,750.00
Shaws Creek Pump Station and Interceptor	\$4,801,000.00
McDowell Creek Interceptor	\$3,375,500.00
Millpond Creek Pump Station Relocation and Interceptor	\$3,485,500.00

Short term projects are between 0-5 years, intermediate Projects 5-10 years, and Long Term Projects 10+ years.

Commissioner Lapsley made the motion that the Board approves the draft 2019 Capital Improvement Plan as presented. All voted in favor and the motion carried.

Commissioner Lapsley feels it is not critical for the Board of Commissioners to point out priorities, we just need to make clear that Henderson County wants to see extension to the rest of the County in years to come. During our final negotiations we will need to provide a list of projects that will need sewer service at some point in the future. Outside perimeters will need to be defined of where we expect MSD to serve.

It was suggested that a copy of the updated map of the future service area be sent to MSD.

Chairman Hawkins made the motion to adjourn as Cane Creek Water & Sewer District Board, reconvene as the Board of Commissioners. All voted in favor and the motion carried.

Attest:

Teresa L. Wilson, Clerk to the Board

Grady Hawkins, Chairman



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MEMORANDUM

TO: Mr. Marcus Jones, P.E.; County Engineer
Henderson County

FROM: Will Buie, P.E. *WRB*
WGLA Engineering, PLLC

RE: Cane Creek Basinwide Study Update
Priority Projects
WGLA #19101

DATE: August 26, 2019

As discussed, our efforts on the Cane Creek master plan update have focused on updating the mapping and identifying/updating the list of priority projects for the District. The priority projects are identified as projects that are regional in nature would require involvement from the District. This may simply be involvement during the planning and design stages, or it could involve full implementation of the project by the District.

During the original basinwide study completed in 2009, nine priority projects were identified. Of those nine projects, three have been completed and one is under construction. The Fletcher Warehouse project was completed through a partnership with NCDOT and private landowners. The Mills River Extension was completed through a partnership between developers and private land owners. The Millpond Creek project was completed by the District to eliminate the wastewater discharges from two schools and to eliminate several pump stations. The Mud Creek project is being completed in partnership with private land owners and will eliminate a wastewater discharge. Taking advantage of these partnerships and implementing these projects would not have been possible without identifying these projects during the study process.

The identification and prioritization of these future projects will allow the District and Henderson County to again take advantage of potential partnerships to implement the projects. The priority projects are separated into short term, intermediate and long term projects. Input to this prioritization process by County Staff and the County Commissioners will help to focus efforts for funding or identifying partnerships.

Attached this this memorandum is a summary of each of the current projects identified, an initial ranking of projects, preliminary projects costs and maps for all of the proposed priority projects. We look forward to receiving feedback from you and the Commissioners. If you have any questions or need further information, don't hesitate to contact our office.

**Cane Creek Water and Sewer District
FY 19 Drainage Basin Study**

Priority Projects

Priority projects are identified as projects that are regional in nature and require involvement from the Cane Creek Water and Sewer District for planning and design at a minimum and may involve full implementation of the project by the District. The priority projects are identified as Short Term (should be implemented over the next 5 years), Intermediate (should be implemented over 5 – 10 years depending on demand, growth and development and Long Term (would be implemented beyond the 10-year planning window). Below is a description of each project identified:

Short Term Projects:

Boylston Creek Pump Station and Phase 1 Interceptor

This project involves the construction of a new regional pump station near the intersection of School House Road and Ladson Road along Boylston Creek. This station and Phase 1 of the interceptor would allow for the abandonment of the existing District pump station at the Tri-Hishtil facility along with multiple private pump stations along NC 191.

ITT Pump Station Upgrade

The ITT pump station is located in Broadpointe Industrial Park adjacent to the UPM Raflatac facility. The access to the pump station is located in a flood plain area. Additionally, this station likely needs additional wet well capacity and potentially an upgrade of the pumps. The project likely involves the negotiation of a new access route through the Raflatac property and an upgrade of the station.

Intermediate Projects:

Mud Creek Interceptor/Extension Phase 3

This project involves the extension of gravity sewer along Mud Creek to the Mountain Home Industrial Park. The extension would potentially allow for the abandonment of an existing District pump station that connections to the City of Hendersonville system along with the abandonment of several private pump stations.

Howard Gap Interceptor:

The Howard Gap Interceptor is an extension of the current Mud Creek interceptor project and would provide sewer service to the Howard Gap Road/Brookside Camp Road area of the County. The extension could provide sewer service to allow for the abandonment of multiple private wastewater treatment facilities and would provide sewer service to a high density area currently served by septic systems.

Long Term Projects:

Boylston Creek Interceptor Phase 2

This interceptor would be an extension of the work completed with the Boylston Creek Pump Station and Phase 1 Interceptor. The extension could provide sewer service to the NC 280 corridor in the western portion of the County and Mills River.

French Broad River Interceptor

The French Broad River Interceptor is also an extension from the Boylston Creek Pump Station. It would provide sewer service along the western side of the French Broad River along Banner Farm Road and into the Horse Shoe Community.

Shaws Creek Pump Station and Interceptor

The Shaws Creek Pump Station and Interceptor would connect to the French Broad River Interceptor via force main and would allow for the abandonment of a private wastewater treatment facility while also providing sewer service along the US 64 West corridor.

McDowell Creek Interceptor

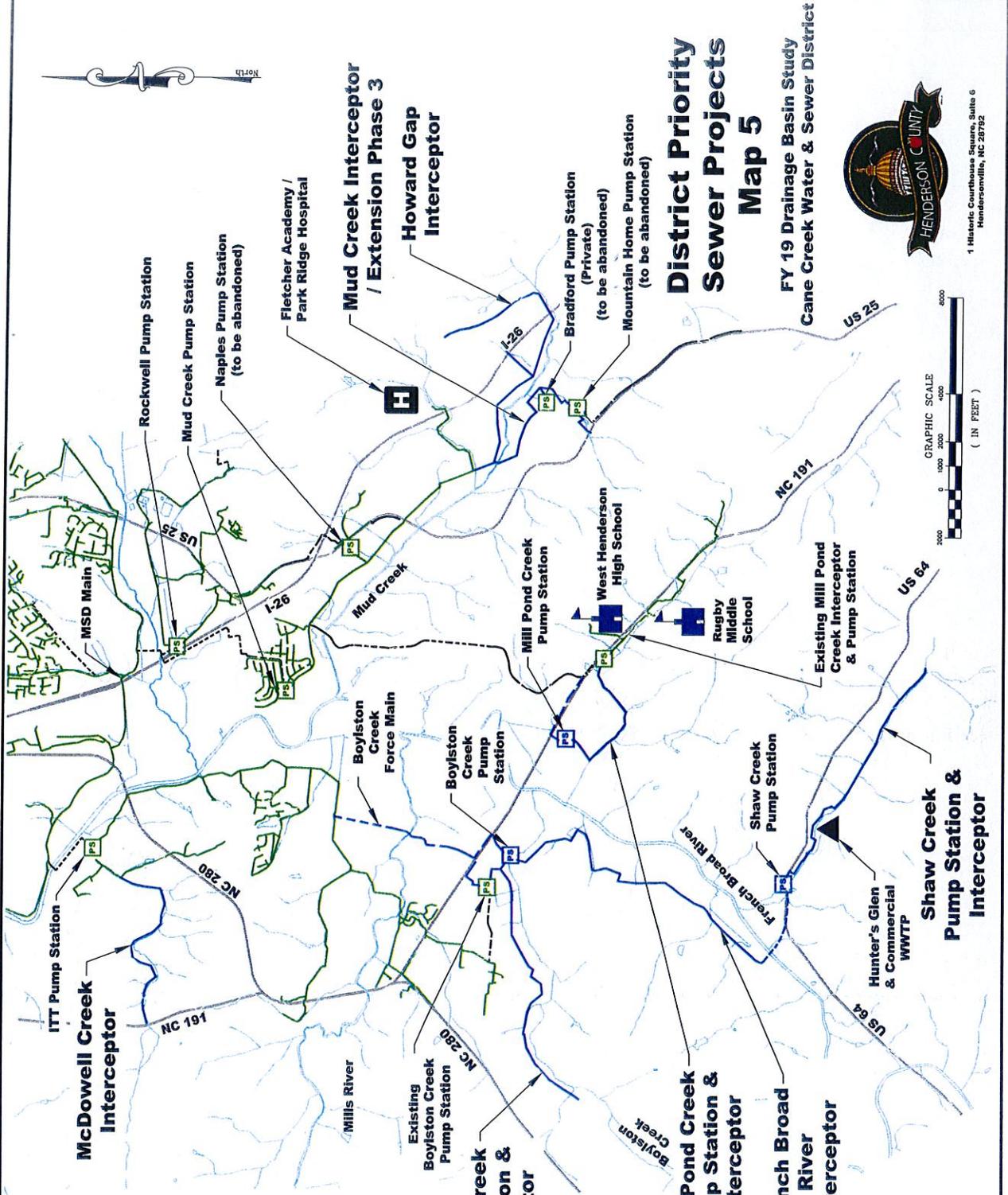
This project involves the extension of sewer along McDowell Creek to NC 191 providing sewer service to areas north of NC 280 in the Mills River Area.

Mill Pond Creek Pump Station Relocation and Interceptor

The project would involve the relocation of the existing Mill Pond Creek Pump Station further west along Mill Pond Creek to provide sewer service to a larger area.

Legend

- Existing Gravity Main
- Existing Force Main
- Existing CCWSD Pump Station
- Proposed Priority Gravity Main
- Proposed Priority Force Main
- Proposed Priority Pump Station
- School
- Hospital
- Hunter's Glen & Commercial WWTP



District Priority Sewer Projects Map 5

FY 19 Drainage Basin Study
Cane Creek Water & Sewer District



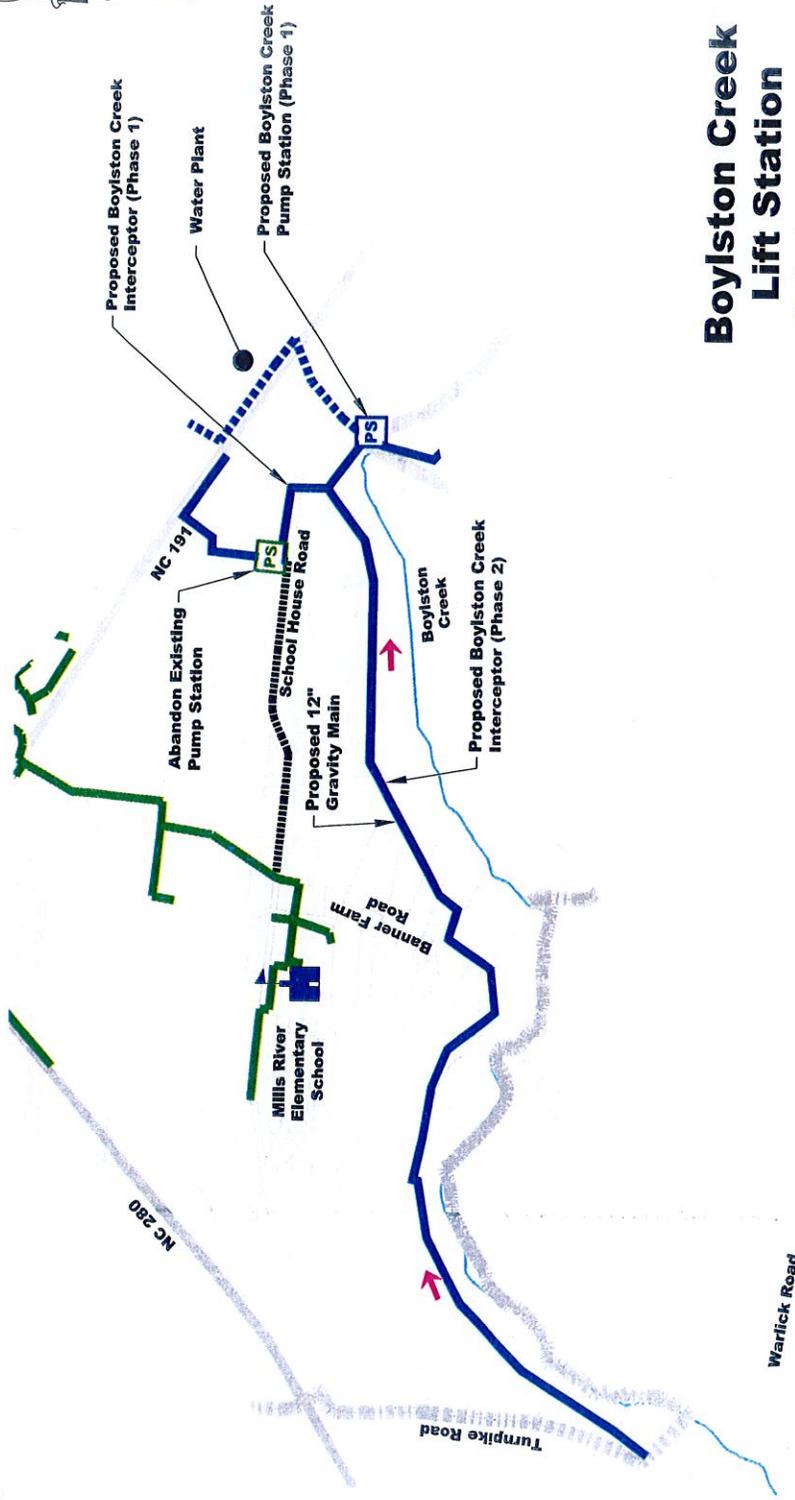
1 Historic Courthouse Square, Suite 6
Hendersonville, NC 28752



WGLA Engineering
 WGLA ENGINEERING, PLLC
 724 5th Avenue West
 Hendersonville, NC 28756
 (828) 482-7171
 WGLA.COM
 NC LICENSE P-1342

Legend

-  Existing Gravity Main
-  Existing Force Main
-  Existing CCWSD Pump Station
-  Proposed Priority Gravity Main
-  Proposed Priority Force Main
-  Proposed Priority Pump Station
-  Direction of Flow
-  School

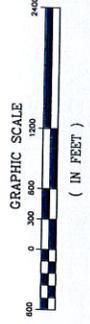


Boylston Creek Lift Station & Interceptor

FY 19 Drainage Basin Study
Cane Creek Water & Sewer District

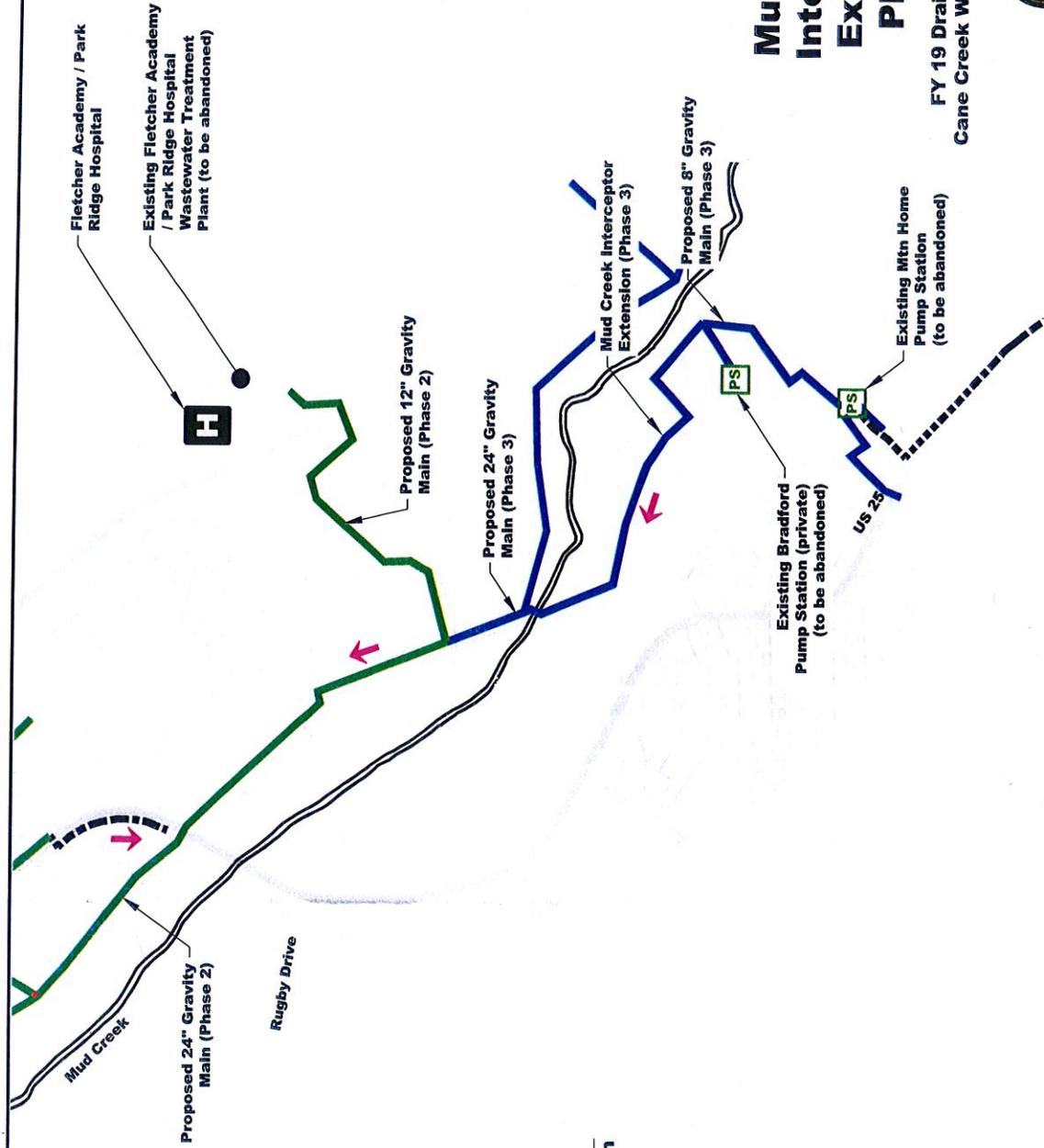


1 Historic Courthouse
Square, Suite 6
Hendersonville, NC 28792



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HENDERSONVILLE, NC 28739
(928) 687-7177
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Legend

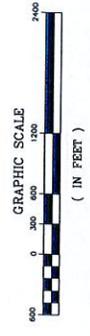
- Existing Gravity Main
- Existing Force Main
- Existing CCWSD Pump Station
- Proposed Priority Gravity Main
- Hospital
- Direction of Flow

Mud Creek Interceptor/ Extension Phase 3

FY 19 Drainage Basin Study
Cane Creek Water & Sewer District



1 Historic Courthouse
Spartanburg, NC 28792



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Legend

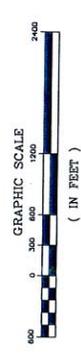
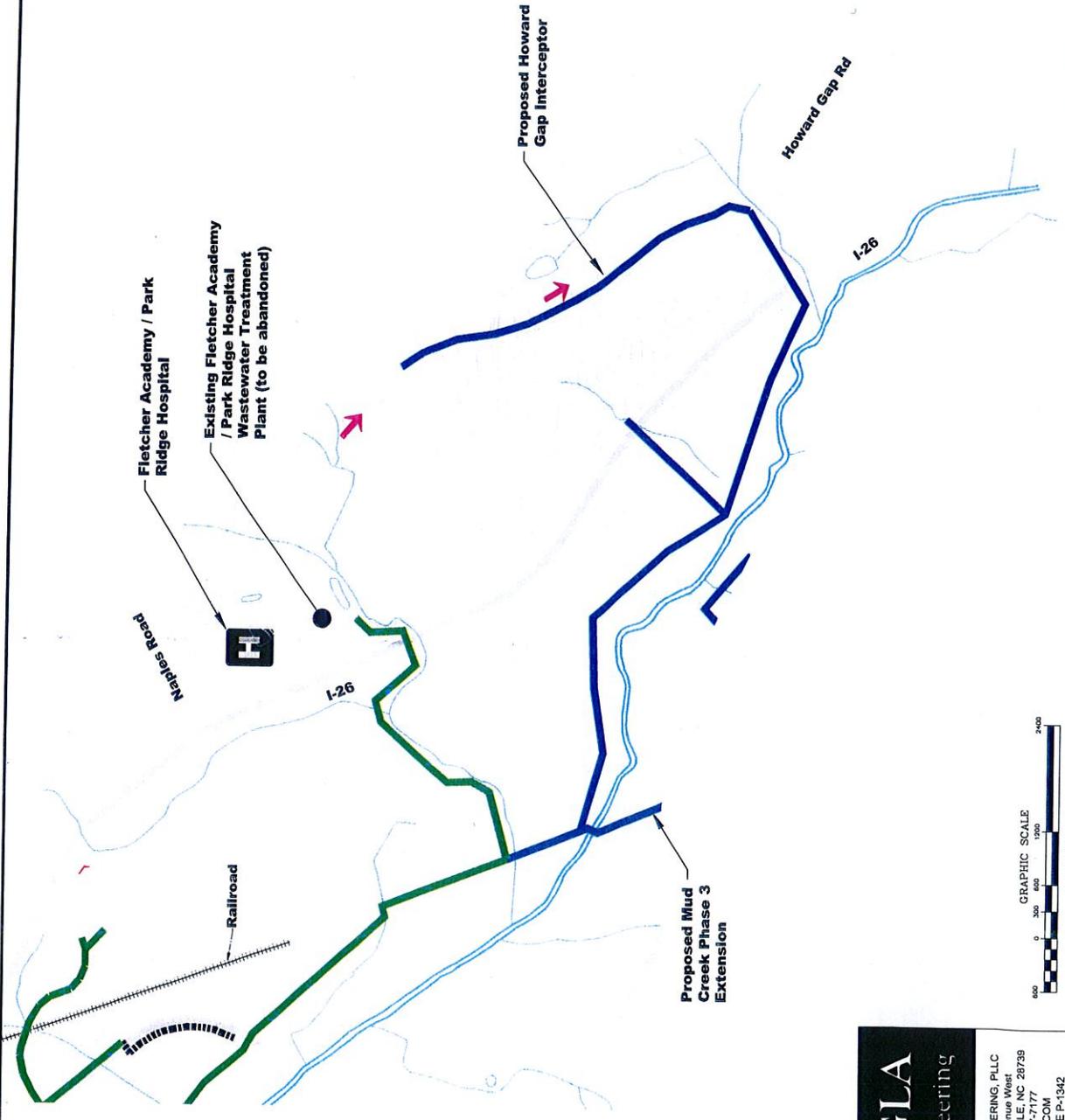
- Existing Gravity Main
- - - Existing Force Main
- PS Existing CCWSD Pump Station
- Proposed Priority Gravity Main
- Proposed Priority Force Main
- PS Proposed Priority Pump Station
- ↑ Direction of Flow
- H Hospital

Howard Gap Interceptor

FY 19 Drainage Basin Study
Cane Creek Water & Sewer District



1 Historic Courthouse
100 S. Salisbury St.
Hendersonville, NC 28792



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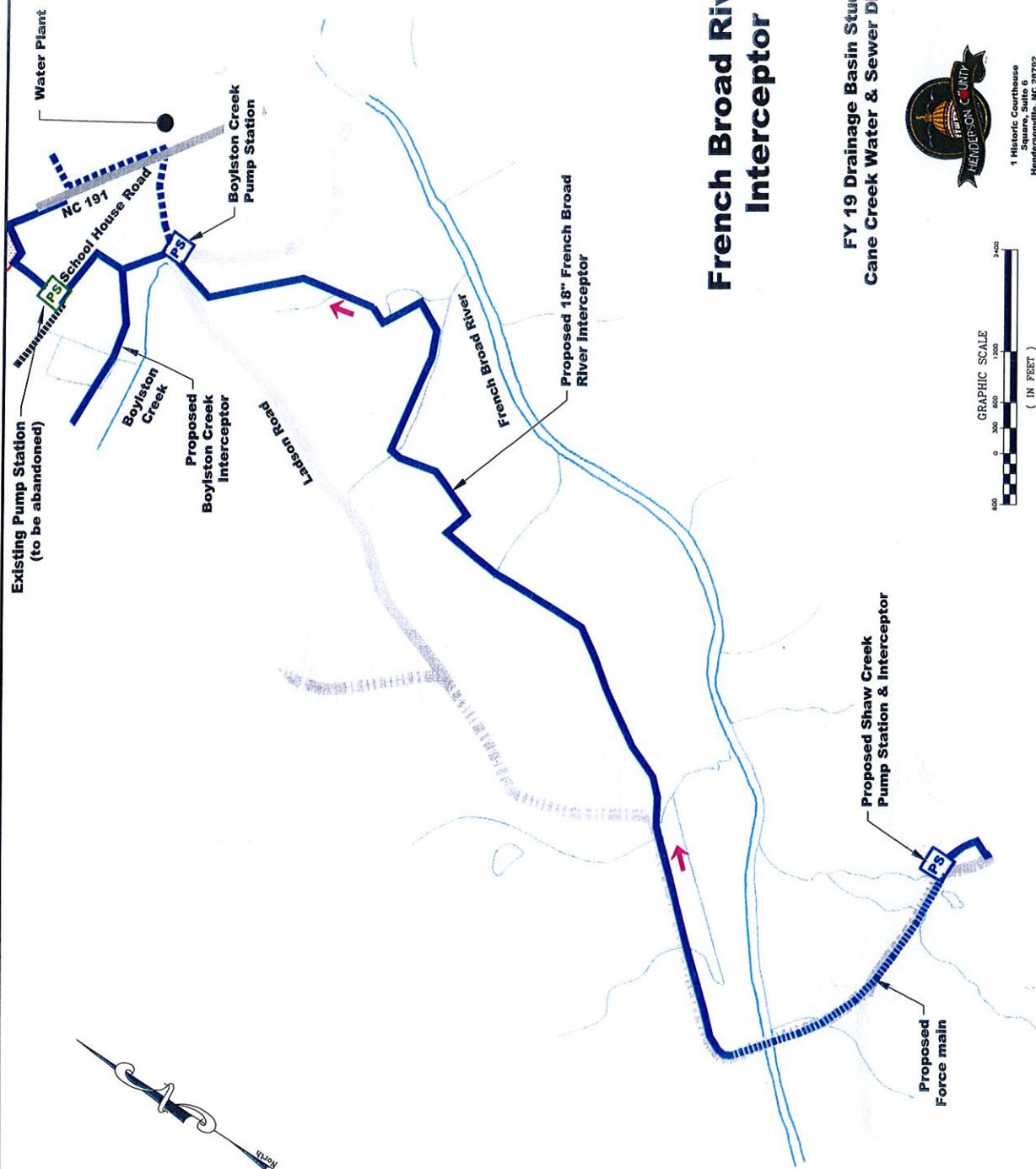
Legend

-  Existing Gravity Main
-  Existing Force Main
-  Existing CCWSD Pump Station
-  Proposed Priority Gravity Main
-  Proposed Priority Force Main
-  Proposed Priority Pump Station



School

Direction of Flow

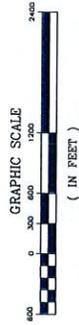


French Broad River Interceptor

FY 19 Drainage Basin Study
Cane Creek Water & Sewer District



1 Historic Courthouse
Square, Suite 6
Hendersonville, NC 28792



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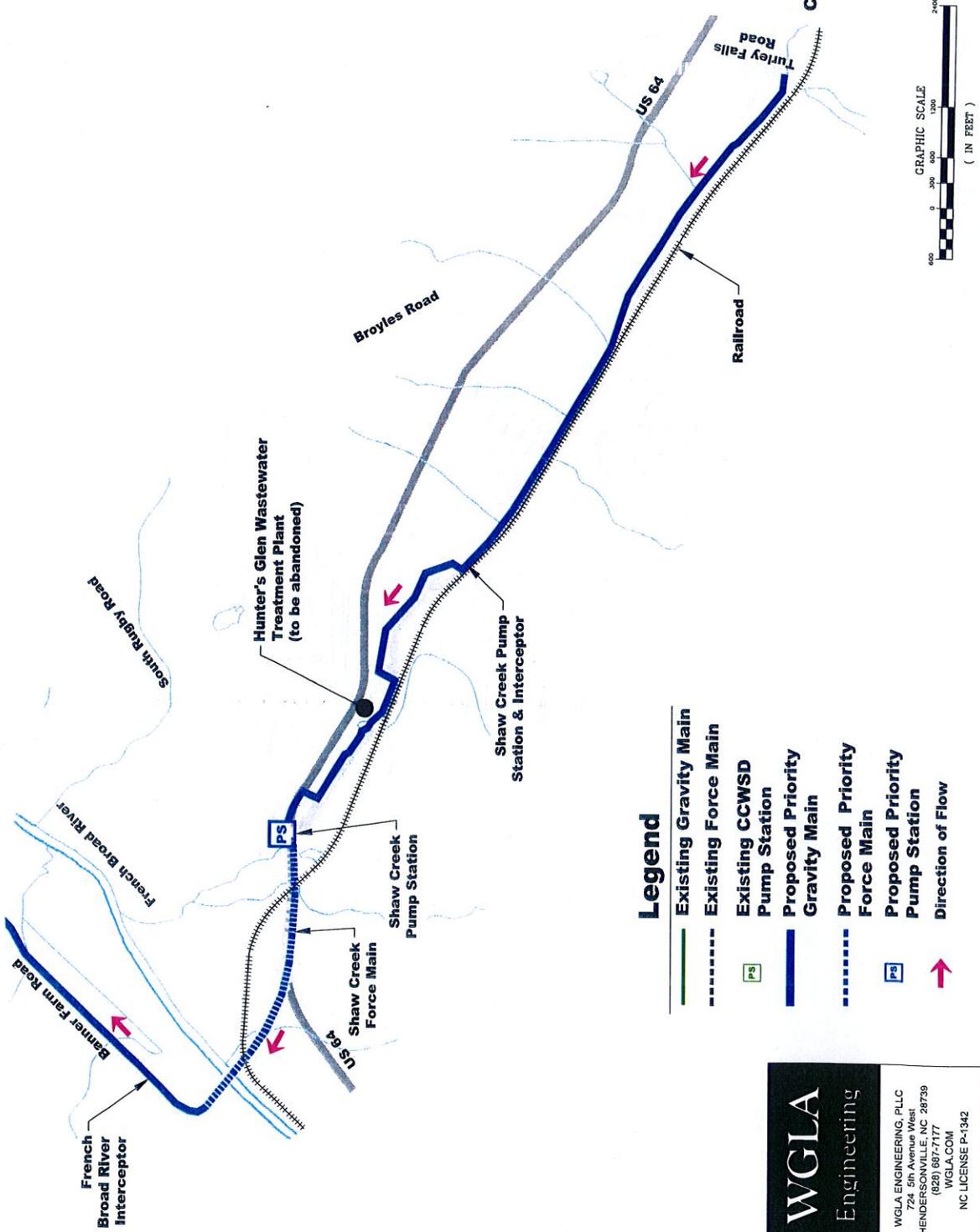


Shaw Creek & Pump Station & Interceptor

FY 19 Drainage Basin Study
Cane Creek Water & Sewer District



1 Historic Courthouse
Square, Suite 6
Hendersonville, NC 28792



Legend

- Existing Gravity Main
- - - Existing Force Main
- PS Existing CCWSD Pump Station
- Proposed Priority Gravity Main
- - - Proposed Priority Force Main
- PS Proposed Priority Pump Station
- ➔ Direction of Flow

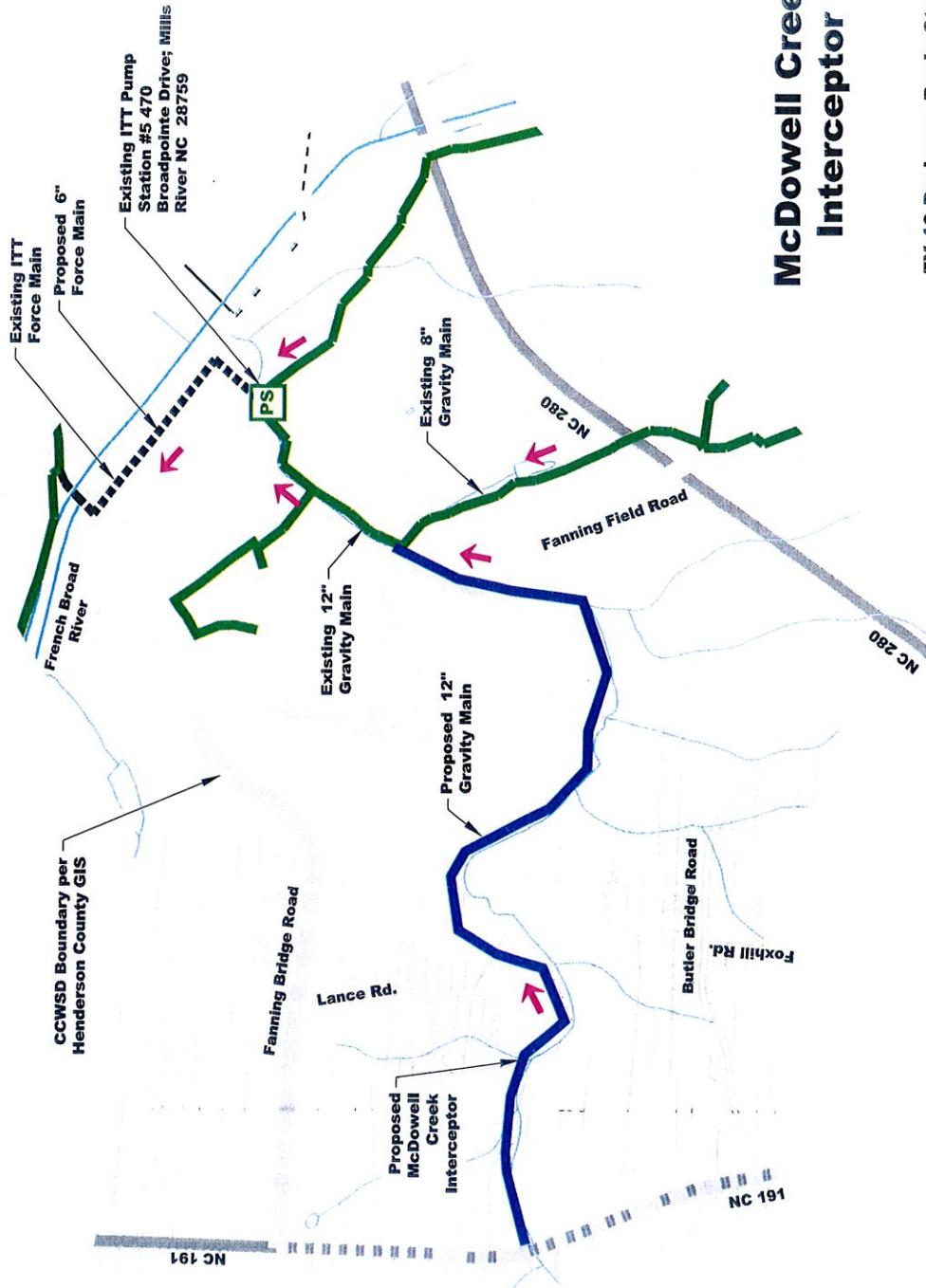
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(828) 697-7177
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Legend

- Existing Gravity Main
- Existing Force Main
- Existing CCWSD Pump Station
- Proposed Priority Gravity Main
- Proposed Priority Force Main
- Proposed Priority Pump Station
- Direction of Flow
- School



McDowell Creek Interceptor

FY 19 Drainage Basin Study
Cane Creek Water & Sewer District



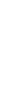
1 Mile to Courthouse
Scale
Sears Building
Hendersonville, NC 28792

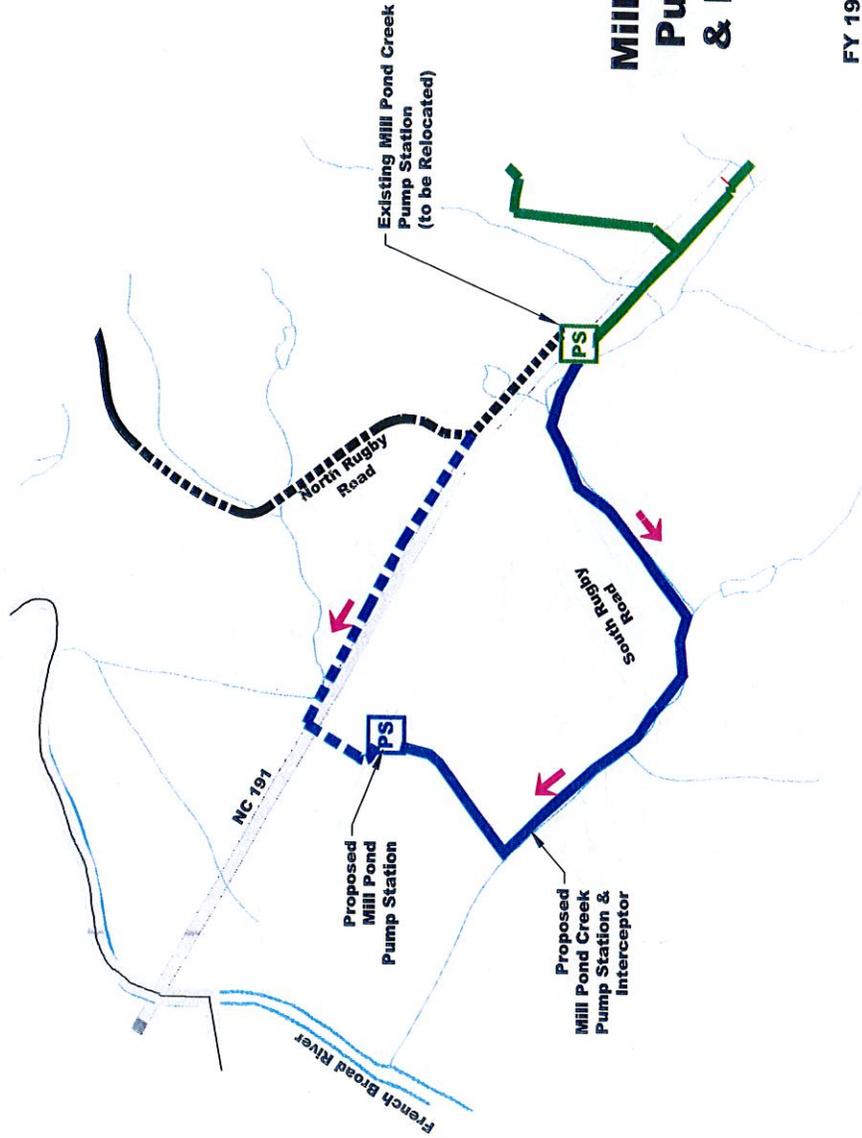


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Legend

-  Existing Gravity Main
-  Existing Force Main
-  Existing CCWSD Pump Station
-  Proposed Priority Gravity Main
-  Proposed Priority Force Main
-  Proposed Priority Pump Station
-  Direction of Flow

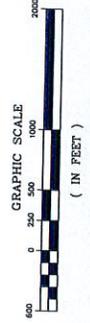


Mill Pond Creek Pump Station & Interceptor

FY 19 Drainage Basin Study
Cane Creek Water & Sewer District



1 Historic Courthouse
Square
Hendersonville, NC 28752



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**PRELIMINARY COST ESTIMATE - CANE CREEK WATER AND SEWER DISTRICT
Basinwide Plan FY 2019/2020 Update**

Date: 8/20/2019 Project # 19101

Priority Projects

Short Term Projects

Recommended Project Budget

Boylston Creek Pump Station & Phase 1 Interceptor	\$3,012,900.00
ITT Pump Station Upgrade	\$987,500.00

Intermediate Projects

Mud Creek Interceptor/Extension Phase 3	\$4,288,500.00
Howard Gap Interceptor	\$5,818,800.00

Long Term Projects

Boylston Creek Phase 2 Interceptor	\$4,580,500.00
French Broad River Interceptor	\$6,389,750.00
Shaws Creek Pump Station and Interceptor	\$4,801,000.00
McDowell Creek Interceptor	\$3,375,500.00
Millpond Creek Pump Station Relocation and Interceptor	\$3,485,500.00



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PRELIMINARY COST ESTIMATE - CANE CREEK WATER AND SEWER DISTRICT
 Basinwide Plan FY 2019/2020 Update

Date: 8/20/2019 Project # 19101

Priority Projects - Boylston Creek Pump Station & Interceptor (Phase 1)

ITEM #	ITEM	QUAN	UNIT	UNIT PRICE	PRICE
1	Mobilization	1	LS	\$50,000.00	\$50,000.00
2	Boylston Creek Pump Station	1	LS	\$550,000.00	\$550,000.00
3	12" Gravity Sewer	3,100	LF	\$250.00	\$775,000.00
4	6" Force Main	9,200	LF	\$90.00	\$828,000.00
5	Clearing	3	AC	\$10,000.00	\$30,000.00
6	Erosion Control Measures	1	LS	\$125,000.00	\$125,000.00
7	Final Stabilization	1	LS	\$50,000.00	\$50,000.00
				SUBTOTAL	\$2,408,000.00
				Contingency (10%)	\$240,800.00
				TOTAL RECOMMENDED CONSTRUCTION BUDGET	\$2,648,800.00
				Surveying (Design Surveys, Easement Plats & As-Built Drawings)	\$35,000.00
				Geotechnical Investigation	\$15,000.00
				Engineering, Design & Permitting	\$165,000.00
				Inspections and Construction Administration Assistance	\$85,000.00
				Permit Fees	\$2,500.00
				Mitigation Fees	\$18,600.00
				Easement Acquisition	\$18,000.00
				Legal	\$25,000.00
				TOTAL ESTIMATED SITE COSTS FOR PROJECT	\$3,012,900.00

Notes:

Easement acquisition is based on 50% of average tax value for land.
 Mitigation fees are based on \$6/LF.
 Engineering, Design & Permitting includes stream and wetland delineation, environmental, etc.



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PRELIMINARY COST ESTIMATE - CANE CREEK WATER AND SEWER DISTRICT
 Basinwide Plan FY 2019/2020 Update

Date: 8/20/2019 Project # 19101

Priority Projects - ITT Pump Station Upgrade

ITEM #	ITEM	QUAN	UNIT	UNIT PRICE	PRICE
1	New Access Drive	1	LS	\$250,000.00	\$250,000.00
2	New Wet Well	1	LS	\$175,000.00	\$175,000.00
3	Upgrade to Pumps and Backup Pump	1	LS	\$250,000.00	\$250,000.00
4	Site Work	1	LS	\$100,000.00	\$100,000.00
				SUBTOTAL	\$775,000.00
				Contingency (10%)	\$77,500.00
				TOTAL RECOMMENDED CONSTRUCTION BUDGET	\$852,500.00
				Surveying (Design Surveys, Easement Plats & As-Built Drawings)	\$10,000.00
				Geotechnical Investigation	\$7,500.00
				Engineering, Design & Permitting	\$45,000.00
				Inspections and Construction Administration Assistance	\$25,000.00
				Permit Fees	\$10,000.00
				Easement Acquisition	\$12,500.00
				Legal	\$25,000.00
				TOTAL ESTIMATED SITE COSTS FOR PROJECT	\$987,500.00

Notes:

Easement acquisition is based on 50% of average tax value for land.

Mitigation fees are based on \$6/LF.

Engineering, Design & Permitting includes stream and wetland delineation, environmental, etc.



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PRELIMINARY COST ESTIMATE - CANE CREEK WATER AND SEWER DISTRICT
 Basinwide Plan FY 2019/2020 Update

Date: 8/20/2019 Project # 19101

Priority Projects - Mud Creek Interceptor/Extension (Phase 3)

ITEM #	ITEM	QUAN	UNIT	UNIT PRICE	PRICE
1	Mobilization	1	LS	\$100,000.00	\$100,000.00
2	18" Gravity Sewer	3,000	LF	\$200.00	\$600,000.00
3	24" Gravity Sewer	6,200	LF	\$375.00	\$2,325,000.00
3	Abandon Ex. Pump Stations	3	EA	\$25,000.00	\$75,000.00
4	Clearing	7	AC	\$10,000.00	\$70,000.00
5	Erosion Control Measures	1	LS	\$250,000.00	\$250,000.00
6	Final Stabilization	1	LS	\$75,000.00	\$75,000.00
				SUBTOTAL	\$3,495,000.00
				Contingency (10%)	\$349,500.00
				TOTAL RECOMMENDED CONSTRUCTION BUDGET	\$3,844,500.00
				Surveying (Design Surveys, Easement Plats & As-Built Drawings)	\$40,000.00
				Geotechnical Investigation	\$20,000.00
				Engineering, Design & Permitting	\$175,000.00
				Inspections and Construction Administration Assistance	\$110,000.00
				Permit Fees	\$4,000.00
				Mitigation Fees	\$18,000.00
				Easement Acquisition	\$42,000.00
				Legal	\$35,000.00
				TOTAL ESTIMATED SITE COSTS FOR PROJECT	\$4,288,500.00

Notes:

Easement acquisition is based on 50% of average tax value for land.

Mitigation fees are based on \$6/LF.

Engineering, Design & Permitting includes stream and wetland delineation, environmental, etc.



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PRELIMINARY COST ESTIMATE - CANE CREEK WATER AND SEWER DISTRICT
 Basinwide Plan FY 2019/2020 Update1

Date: 8/20/2019 Project # 19101

Priority Projects - Howard Gap Interceptor

ITEM		QUAN	UNIT	UNIT PRICE	PRICE
#	ITEM				
1	Mobilization	1	LS	\$100,000.00	\$100,000.00
2	12" Gravity Sewer	6,500	LF	\$250.00	\$1,625,000.00
3	18" Gravity Sewer	7,800	LF	\$325.00	\$2,535,000.00
4	Clearing	12	AC	\$10,000.00	\$120,000.00
5	Erosion Control Measures	1	LS	\$250,000.00	\$250,000.00
6	Final Stabilization	1	LS	\$75,000.00	\$75,000.00
				SUBTOTAL	\$4,705,000.00
				Contingency (10%)	\$470,500.00
				TOTAL RECOMMENDED CONSTRUCTION BUDGET	\$5,175,500.00
				Surveying (Design Surveys, Easement Plats & As-Built Drawings)	\$55,000.00
				Geotechnical Investigation	\$25,000.00
				Engineering, Design & Permitting	\$215,000.00
				Inspections and Construction Administration Assistance	\$135,000.00
				Permit Fees	\$5,500.00
				Mitigation Fees	\$85,800.00
				Easement Acquisition	\$72,000.00
				Legal	\$50,000.00
				TOTAL ESTIMATED SITE COSTS FOR PROJECT	\$5,818,800.00

Notes:

Easement acquisition is based on 50% of average tax value for land.

Mitigation fees are based on \$6/LF.

Engineering, Design & Permitting includes stream and wetland delineation, environmental, etc.



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PRELIMINARY COST ESTIMATE - CANE CREEK WATER AND SEWER DISTRICT
 Basinwide Plan FY 2019/2020 Update

Date: 8/20/2019 Project # 19101

Priority Projects - Bolyston Creek Interceptor Phase 2

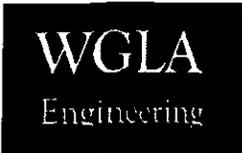
ITEM #	ITEM	QUAN	UNIT	UNIT PRICE	PRICE
1	Mobilization	1	LS	\$100,000.00	\$100,000.00
2	12" Gravity Sewer	12,500	LF	\$250.00	\$3,125,000.00
3	Clearing	9	AC	\$10,000.00	\$90,000.00
4	Erosion Control Measures	1	LS	\$250,000.00	\$250,000.00
5	Final Stabilization	1	LS	\$100,000.00	\$100,000.00
				SUBTOTAL	\$3,665,000.00
				Contingency (10%)	\$366,500.00
				TOTAL RECOMMENDED CONSTRUCTION BUDGET	\$4,031,500.00
				Surveying (Design Surveys, Easement Plats & As-Built Drawings)	\$50,000.00
				Geotechnical Investigation	\$25,000.00
				Engineering, Design & Permitting	\$195,000.00
				Inspections and Construction Administration Assistance	\$110,000.00
				Permit Fees	\$5,000.00
				Mitigation Fees	\$75,000.00
				Easement Acquisition	\$54,000.00
				Legal	\$35,000.00
				TOTAL ESTIMATED SITE COSTS FOR PROJECT	\$4,580,500.00

Notes:

Easement acquisition is based on 50% of average tax value for land.

Mitigation fees are based on \$6/LF.

Engineering, Design & Permitting includes stream and wetland delineation, environmental, etc.



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PRELIMINARY COST ESTIMATE - CANE CREEK WATER AND SEWER DISTRICT
 Basinwide Plan FY 2019/2020 Update

Date: 8/20/2019 Project # 19101

Priority Projects - French Broad River Interceptor

ITEM #	ITEM	QUAN	UNIT	PRICE	PRICE
1	Mobilization	1	LS	\$100,000.00	\$100,000.00
2	18" Gravity Sewer	14,500	LF	\$325.00	\$4,712,500.00
3	Clearing	12	AC	\$10,000.00	\$120,000.00
4	Erosion Control Measures	1	LS	\$250,000.00	\$250,000.00
5	Final Stabilization	1	LS	\$100,000.00	\$100,000.00
				SUBTOTAL	\$5,282,500.00
				Contingency (10%)	\$528,250.00
				TOTAL RECOMMENDED CONSTRUCTION BUDGET	\$5,810,750.00
				Surveying (Design Surveys, Easement Plats & As-Built Drawings)	\$50,000.00
				Geotechnical Investigation	\$25,000.00
				Engineering, Design & Permitting	\$195,000.00
				Inspections and Construction Administration Assistance	\$110,000.00
				Permit Fees	\$5,000.00
				Mitigation Fees	\$87,000.00
				Easement Acquisition	\$72,000.00
				Legal	\$35,000.00
				TOTAL ESTIMATED SITE COSTS FOR PROJECT	\$6,389,750.00

Notes:

- Easement acquisition is based on 50% of average tax value for land.
- Mitigation fees are based on \$6/LF.
- Engineering, Design & Permitting includes stream and wetland delineation, environmental, etc.



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PRELIMINARY COST ESTIMATE - CANE CREEK WATER AND SEWER DISTRICT
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Date: 8/20/2019 Project # 19101

Priority Projects - Shaws Creek Pump Station and Interceptor

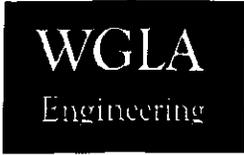
ITEM #	ITEM	QUAN	UNIT	UNIT PRICE	PRICE
1	Mobilization	1	LS	\$100,000.00	\$100,000.00
2	Shaws Creek Pump Station	1	LS	\$400,000.00	\$400,000.00
3	12" Gravity Sewer	11,500	LF	\$250.00	\$2,875,000.00
4	6" Force Main	3,500	LF	\$90.00	\$315,000.00
5	Clearing	9	AC	\$10,000.00	\$90,000.00
6	Erosion Control Measures	1	LS	\$125,000.00	\$125,000.00
7	Final Stabilization	1	LS	\$50,000.00	\$50,000.00
				SUBTOTAL	\$3,955,000.00
				Contingency (10%)	\$395,500.00
				TOTAL RECOMMENDED CONSTRUCTION BUDGET	\$4,350,500.00
				Surveying (Design Surveys, Easement Plats & As-Built Drawings)	\$35,000.00
				Geotechnical Investigation	\$15,000.00
				Engineering, Design & Permitting	\$165,000.00
				Inspections and Construction Administration Assistance	\$85,000.00
				Permit Fees	\$2,500.00
				Mitigation Fees	\$69,000.00
				Easement Acquisition	\$54,000.00
				Legal	\$25,000.00
				TOTAL ESTIMATED SITE COSTS FOR PROJECT	\$4,801,000.00

Notes:

Easement acquisition is based on 50% of average tax value for land.

Mitigation fees are based on \$6/LF.

Engineering, Design & Permitting includes stream and wetland delineation, environmental, etc.



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PRELIMINARY COST ESTIMATE - CANE CREEK WATER AND SEWER DISTRICT
 Basinwide Plan FY 2019/2020 Update

Date: 8/20/2019 Project # 19101

Priority Projects - McDowell Creek Interceptor

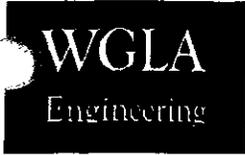
ITEM #	ITEM	QUAN	UNIT	UNIT PRICE	PRICE
1	Mobilization	1	LS	\$100,000.00	\$100,000.00
2	12" Gravity Sewer	9,000	LF	\$250.00	\$2,250,000.00
3	Clearing	7	AC	\$10,000.00	\$70,000.00
4	Erosion Control Measures	1	LS	\$175,000.00	\$175,000.00
5	Final Stabilization	1	LS	\$100,000.00	\$100,000.00
				SUBTOTAL	\$2,695,000.00
				Contingency (10%)	\$269,500.00
				TOTAL RECOMMENDED CONSTRUCTION BUDGET	\$2,964,500.00
				Surveying (Design Surveys, Easement Plats & As-Built Drawings)	\$50,000.00
				Geotechnical Investigation	\$15,000.00
				Engineering, Design & Permitting	\$135,000.00
				Inspections and Construction Administration Assistance	\$75,000.00
				Permit Fees	\$5,000.00
				Mitigation Fees	\$54,000.00
				Easement Acquisition	\$42,000.00
				Legal	\$35,000.00
				TOTAL ESTIMATED SITE COSTS FOR PROJECT	\$3,375,500.00

Notes:

Easement acquisition is based on 50% of average tax value for land.

Mitigation fees are based on \$6/LF.

Engineering, Design & Permitting includes stream and wetland delineation, environmental, etc.



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PRELIMINARY COST ESTIMATE - CANE CREEK WATER AND SEWER DISTRICT
 Basinwide Plan FY 2019/2020 Update

Date: 8/20/2019 Project # 19101

Priority Projects - Millpond Creek Pump Station and Interceptor

ITEM #	ITEM	QUAN	UNIT	UNIT PRICE	PRICE
1	Mobilization	1	LS	\$100,000.00	\$100,000.00
2	Millpond Creek Pump Station	1	LS	\$400,000.00	\$400,000.00
3	12" Gravity Sewer	7,000	LF	\$250.00	\$1,750,000.00
4	6" Force Main	3,500	LF	\$90.00	\$315,000.00
5	Clearing	6	AC	\$10,000.00	\$60,000.00
6	Erosion Control Measures	1	LS	\$125,000.00	\$125,000.00
7	Final Stabilization	1	LS	\$50,000.00	\$50,000.00
				SUBTOTAL	\$2,800,000.00
				Contingency (10%)	\$280,000.00
				TOTAL RECOMMENDED CONSTRUCTION BUDGET	\$3,080,000.00
				Surveying (Design Surveys, Easement Plats & As-Built Drawings)	\$35,000.00
				Geotechnical Investigation	\$15,000.00
				Engineering, Design & Permitting	\$165,000.00
				Inspections and Construction Administration Assistance	\$85,000.00
				Permit Fees	\$2,500.00
				Mitigation Fees	\$42,000.00
				Easement Acquisition	\$36,000.00
				Legal	\$25,000.00
				TOTAL ESTIMATED SITE COSTS FOR PROJECT	\$3,485,500.00