Memorandum of Agreement
Among
The State of North Carolina's Division of Water Resources,
The Yadkin/Pee Dee River Basin Association Permittees,
and
The Yadkin/Pee Dee River Basin Association

DWR
Division of Water Resources

Yadkin/Pee-Dee
River Basin Association

Effective:
September 1, 2023 through August 31, 2028

Amended: Jan 2024

MEMORANDUM OF AGREEMENT

This Memorandum of Agreement (MOA) is entered into this 31st day of August 2023, by and among the NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY'S DIVISION OF WATER RESOURCES (DWR), the NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGERS in the Yadkin/Pee Dee River Basin Association who have voluntarily executed this MOA (YPDRBA PERMITTEES), and the YADKIN/PEE DEE RIVER BASIN ASSOCIATION (YPDRBA), a non-profit corporation whose members include the YPDRBA PERMITTEES (see Table 1).

WITNESSETH, THAT,

Whereas, the YPDRBA Permittees have instream (e.g., upstream and downstream) monitoring requirements in their respective NPDES permits pursuant to Federal and State law.

Whereas, the DWR has obligations to collect water quality data, which it uses for various purposes, including but not limited to enforcement, regulatory, scientific, and educational purposes.

Whereas, DWR has discretion in determining instream sampling locations in the context of NPDES permitting.

Whereas, all parties to this MOA benefit from the collection of instream water quality data in the Yadkin/Pee Dee River Basin.

NOW, THEREFORE, in consideration of mutual benefits that will accrue to each party, the parties agree as follows:

Purpose:

- The purpose of this MOA is to:
  1) facilitate the collection of instream water quality data for parameters that are of interest to all parties to this MOA;
  2) facilitate the collection of instream water quality data at preferred sampling locations (i.e., to reduce duplicative sampling locations and to sample at locations that would otherwise not be sampled);
  3) facilitate the collection of instream water quality data at frequencies that provide useful information to all parties to this MOA;
  4) leverage the resources available to the parties of this MOA for instream sampling; and
  5) provide all parties with consistent and robust instream water quality data for the Yadkin/Pee Dee River Basin.

General Provisions:

- This MOA only applies to the collection and submission of instream water quality monitoring data for the parameters, locations, and frequencies identified in Table 2.

- Nothing in this MOA precludes DWR from requesting YPDRBA Permittees or YPDRBA to take additional samples. Similarly, there is nothing in this MOA that precludes YPDRBA Permittees or YPDRBA to voluntarily conduct and submit sampling data to DWR in addition

to what is set forth in Table 2, including hardness and emerging contaminants.

- This MOA does not relieve YPDRBA Permittees from complying with other NPDES permit requirements, including influent and effluent monitoring requirements, or other Federal and State laws, including State water quality standards.

- By signing this MOA, the YPDRBA Permittees authorize the YPDRBA to act as their agent and on their behalf in collecting and submitting instream monitoring data to DWR for the parameters listed in Table 2.

- The YPDRBA PERMITTEES are exempted from instream water quality monitoring for certain parameters *as specified in their individual NPDES permits*. If there is any discrepancy or conflict between this MOA and an YPDRBA Permittee's NPDES permit, the YPDRBA Permittee's NPDES permit shall prevail.

Collection of instream water quality data:

- The YPDRBA and its agents shall perform the collection and analyses of the instream water quality monitoring data for the parameters, locations and frequencies specified in Table 2 of this MOA.

- The YPDRBA will contract for the performance of the monitoring activities with a laboratory appropriately certified by DWR for the required laboratory and field analysis.

- The YPDRBA and its agents shall comply with the requirements and protocols set forth in Tables 3 and 4 located in Appendix A.

Submission of (monthly) instream water quality data to DWR:

- The YPDRBA or its agents shall submit the monitoring results to DWR on behalf of YPDRBA PERMITTEES.

- The YPDRBA shall submit the water quality data to the DWR within 90 days of the end of the month in which the sampling was performed to coalitioncoordinator@deq.nc.gov.

- The YPDRBA shall submit the water quality data to the DWR in a format set forth in Table 5 located in Appendix B of this MOA and preferably in Microsoft® Excel.

- The YPDRBA shall archive all data for five (5) years.

- The YPDRBA PERMITTEES may provide comments to the DWR on data and work submitted by YPDRBA to DWR.

- Failure by the YPDRBA PERMITTEES or the YPDRBA or their agents to collect or analyze the water quality data as described in this MOA, or to provide data to the DWR in the required format, may result in the termination of this MOA by the DWR and the return to individual upstream and downstream monitoring requirements, as specified in the individual NPDES permits for each of the YPDRBA PERMITTEES.

- Special and/or additional data collected (i.e., hardness) at a designated monitoring station concurrently with the regularly scheduled samples, should be submitted to the Coalition Coordinator.

Annual Report:

- The YPDRBA shall submit an annual written report that summarizes the previous calendar year's sampling activities.

- The YPDRBA shall submit the annual report no later than April 30th each year that this MOA is in effect and shall comply with the requirements set forth in Appendix B.

- The YPDRBA shall submit the annual report to the DWR Coalition Coordinator at 1621 Mail Service Center, Raleigh, NC 27699-1621 or electronically at coalitioncoordinator@deq.nc.gov

Signatures for all Submissions to DWR:

- The YPDRBA Chair shall sign/certify all data and annual reports submitted to the DWR pursuant to this MOA.

Special Circumstances effecting sampling:

- Stream sampling under this MOA may be discontinued under the following circumstances:
  1) If flow conditions in the receiving waters and/or extreme weather conditions will result in a substantial risk of injury to the person(s) collecting samples; or
  2) If environmental conditions, such as a dry stream, prevent sample collection.

- If sampling is discontinued for any reason, the YPDRBA shall provide a detailed written explanation to the DWR explaining why sampling was not performed. The written explanation shall be submitted to the DWR Coalition Coordinator with YPDRBA's monthly data submittal.

- If sampling is discontinued under the provisions above, the YPDRBA shall resume stream sampling as soon as possible.

Modification:

- This MOA may be modified by the written consent of the DWR and the YPDRBA. Either DWR or the YPDRBA may determine that it is necessary to request changes in monitoring frequency, parameters, and/or sampling locations. Any changes to sampling parameters, locations, or frequencies shall be made by a written amendment to this MOA agreed to by the DWR, the YPDRBA PERMITTEES, and the YPDRBA. The amendment shall be signed by the YPDRBA Chairperson and by the DWR Director. Such amendments may be entered into at any time.

New Parties to this MOA:

- The following additional NPDES permit dischargers may enter into this MOA subsequent to the effective date hereof:
  1) Dischargers who receive a NPDES permit within the Yadkin/PeeDee River Basin, or
  2) Dischargers who have NPDES permits within the Yadkin/Pee Dee River Basin but

are not parties to this Agreement.

- The addition of such dischargers to this MOA may be made only with the consent of the DWR, the YPDRBA PERMITTEES, and the YPDRBA and shall require a written amendment to this MOA signed by the YPDRBA chairperson, by the DWR, and by an authorized representative of any such discharger who wishes to enter into the MOA. The DWR will not unreasonably withhold consent to the addition of a discharger to the MOA. The DWR will consider modification of the existing monitoring program described in this MOA for the addition of a NPDES permit discharger to the MOA. Such amendments may be made at any time that this MOA is in effect. The YPDRBA PERMITTEES included in this MOA are listed in Table 1.

Term:

- This MOA shall be effective upon the signature until August 31, 2028 unless extended by the consent of both the DWR Director and the YPDRBA.

Withdraw/Termination as between DWR and YPDRBA:

- Upon sixty (60) days written notice, the DWR or the YPDRBA may terminate this MOA for any reason. Upon termination of this MOA, the monitoring requirements contained in the individual NPDES permit for each YPDRBA PERMITTEE shall become effective immediately.

Withdraw/Termination as between DWR and individual YPDRBA PERMITTEES:

- An individual permit holder may withdraw and cancel its participation in this MOA by providing sixty (60) days written notice to the YPDRBA, and sixty (60) days written notice to the DWR Coalition Coordinator, the appropriate DWR Regional Office(s), and the DWR Water Quality Permitting Section. The monitoring requirements contained in the individual NPDES permit shall become effective upon the termination date specified in the notice.

- The withdraw of an individual YPDRBA Permittee shall require a written amendment to this MOA signed by the YPDRBA chair and by the DWR Director.

- In the event a permit holder withdraws or cancels its participation in this MOA or its membership in the YPDRBA is terminated for any reason, the YPDRBA may request that DWR review the monitoring plan described in this MOA for a possible reduction in sampling effort and/or requirements.

No limitation on use of the data:

- There are no limitations on the DWR's, the YPDRBA, or the YPDRBA Permittee's use of the data collected under this MOA.

Entire Agreement:

- This MOA constitutes the entire agreement between the parties and supersedes all previous agreements.

Incorporation:

- Appendices A and B are attached to and incorporated into this MOA.

Savings Clause:

- Should any part of this Agreement be declared invalid or unenforceable by a court of competent jurisdiction, invalidation of the affected portion shall not invalidate the remaining portions of the Agreement and they shall remain in full force and effect.

Remedies for Breach:

- The only remedy for breach of this MOA is an action for specific performance or injunction.

IN WITNESS WHEREOF, the parties have caused the execution of this instrument by authority given, to be effective as of the date executed by the DWR.

DIVISION OF WATER RESOURCES

DocuSigned by:

By: Richard Rogers

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Richard Rodgers, Director
Division of Water Resources

Date: 8/29/2023

YADKIN/PEE DEE RIVER BASIN ASSOCIATION

DocuSigned by:

By: Samuel K. Call

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Sam Call, Chair
Yadkin/Pee Dee River Basin Association

Date: 8/29/2023

Table 1 – YPDRBA Permittees

NPDES Permit Number	YPDRBA Permittees Ownership and Facility	Authorized Representative and Title	Authorized Representative Signature	Signature Date
NC0004774	Duke Energy Progress Inc. Buck CCT	Kris Eisenrieth Station Manager	DocuSigned by:	8/9/2023
NC0004944	SDC 26 WWTP LLC	Leah Weiss Member/Organizer	DocuSigned by:	8/11/2023
NC0005266	Louisiana Pacific Corporation ABT Co Mill	Matthew Holcombe Plant Manager	DocuSigned by: MATT HOLCOMBE	8/8/2023
NC0020338	Town of Yadkinville Yadkinville WWTP	Grant Trivette WWTP ORC	DocuSigned by: Grant Trivette	8/14/2023
NC0020427	City of Rockingham Rockingham WWTP	Monty R. Crump City Manager	DocuSigned by: Monty R. Crump	8/8/2023
NC0020567	Yadkin Valley Sewer Authority WWTP Elkin	Nicole Johnston Executive Director	DocuSigned by:	8/11/2023
NC0020591	City of Statesville Third Creek WWTP	Andy Smith Water Resources Operations Manager	DocuSigned by: Andy Smith	8/15/2023
NC0020761	Town of North Wilkesboro Thurman Street WWTP	Scott Perry ORC	DocuSigned by: Scott Perry	8/11/2023
NC0021105	Town of Mount Gilead Mount Gilead WWTP	Dylan Haman Town Manager	DocuSigned by: Dylan Haman	8/21/2023
NC0021121	City of Mount Airy Mount Airy WWTP	Chris Marion Plant Supervisor	DocuSigned by: Chris Marion	8/8/2023
NC0021491	Town of Mocksville Dutchman's Creek WWTP	Kenneth Gamble Town Manager	DocuSigned by: Kenneth Gamble	8/8/2023
NC0021717	Town of Wilkesboro Cub Creek WWTP	Sam Call Utility Director	DocuSigned by: Samuel K. Call	8/8/2023
NC0023884	City of Salisbury Salisbury WWTP	Jim Greene Jr. City Manager	DocuSigned by: Jim Greene Jr.	8/8/2023
NC0024112	City of Thomasville Hamby Creek WWTP	Leigh Conder Laboratory Supervisor	DocuSigned by: Leigh Conder	8/8/2023
NC0024228	City of High Point Westside WWTP	Robby Stone Public Services Director	DocuSigned by: Robby Stone	8/8/2023
NC0024333	City of Monroe Monroe WWTP	Scott Clark Director of Water Resources	DocuSigned by: Scott Clark	8/8/2023
NC0024872	Davie County Water System Cooleemee WWTP	Johnny Lambert Utilities Director	DocuSigned by: Johnny Lambert	8/8/2023
NC0026646	Town of Pilot Mountain Pilot Mountain WWTP	Kent Scott Plant Superintendent	DocuSigned by: Kent Scott	8/8/2023
NC0026689	Town of Denton Denton WWTP	Troy Branch WWTP ORC	DocuSigned by: Troy Branch	8/8/2023
NC0028916	Town of Troy Troy WWTP	Benny Dennis Public Works Director	DocuSigned by: Benny Dennis	8/22/2023
NC0031836	City of Statesville Fourth Creek WWTP	Andy Smith Water Resources Operations Manager	DocuSigned by: Andy Smith	8/15/2023

NPDES Permit Number	YPDRBA Permittees Ownership and Facility	Authorized Representative and Title	Authorized Representative Signature	Signature Date
NC0036269	Water and Sewer Authority of Cabarrus County Rocky River WWTP	Michael Wilson Executive Director	DocuSigned by: Michael Wilson 44D00B48AD824ED...	8/8/2023
NC0037834	City of Winston-Salem Archie Elledge WWTP	Courtney Driver City/County Utilities Director	DocuSigned by: Courtney Driver	8/22/2023
NC0041408	Anson County Anson County Regional WWTP	Mike Sessions Utilites Director	Mike Sessions 246502968CBC416...	8/11/2023
NC0043320	Elevate Textiles Burlington Industries LLC Richmond Plant WWTP	Ed Cox Plant Manager	DocuSigned by: Ed Cox	8/8/2023
NC0043532	Stanly County West Stanly WWTP	Duane Wingo Utilities Director	DocuSigned by: Duane Wingo	8/11/2023
NC0046728	Town of Mooresville Mooresville WWTP	Jamie Levis WWTP Manager	DocuSigned by: Jamie Levis 7113B69A349C4AC...	8/8/2023
NC0049867	Town of Cleveland Cleveland WWTP	Patrick Phifer Mayor	DocuSigned by: Patrick Phifer 558A2ECA85654FB...	8/10/2023
NC0050342	City of Winston-Salem Muddy Creek WWTP # 2	Courtney Driver City/County Utilities Director	DocuSigned by: Courtney Driver C8D5663AA48E418...	8/22/2023
NC0055786	City of Lexington Lexington Regional WWTP	Tom Johnson Water Resources Director	DocuSigned by: Tom Johnson CF14542F5AD240D...	8/8/2023
NC0069523	Union County Public Works Department Tallwood Estates WWTP	Brian Matthews County Manager	DocuSigned by: Brian W Matthews 924F58F8F5F14B9...	8/22/2023
NC0069841	Union County Public Works Department Crooked Creek WWTP #2	Brian Matthews County Manager	DocuSigned by: Brian W Matthews 924F58F8F5F14B9...	8/22/2023
NC0074756	Greater Badin Water and Sewer District Badin WWTP	Duane Wingo Utilities Director	DocuSigned by: Duane Wingo 7113B69A349C4AC...	8/11/2023
NC0081621	Water and Sewer Authority of Cabarrus County Muddy Creek WWTP	Michael Wilson Executive Director	DocuSigned by: Michael Wilson 44D00B48AD824ED...	8/8/2023
NC0085812	Union County Public Works Department Grassy Branch WWTP	Brian Matthews County Manager	DocuSigned by: Brian W Matthews	8/22/2023
NC0089290	Town of Mocksville Hugh Lagle WTP	Kenneth Gamble Town Manager	Kenneth Gamble 120CC1CE1DBE4BF...	8/8/2023

Table 2
YPDRBA Sampling Stations, Parameters, & Frequencies

Station Number	Location Description	Station Comments	Latitude	Longitude	County	Region	8 Digit HUC	Stream Class	Index	[1] Field Measurements	[2] Nutrients	Lab Turbidity	TSS	Fecal Coliform	[3]Hardness
Q0360000	Reddies River at SR 1517 at N. Wilkesboro	Significant tributary	36.1743	-81.1693	Wilkes	WSRO	03040101	WS-II HQW	12-40-(1)	M+2SM	M	M	M	M	
Q0450000	Yadkin River at Bus NC 421 Statesville Road in N. Wilkesboro	dns of Wilkesboro and N. Wilkesboro WWTPs	36.1659	-81.1344	Wilkes	WSRO	03040101	C	12-(38)	M+2SM	M	M		M	
Q0720000	Yadkin River at SR 2303 Clingman Rd nr Ronda	dns of LP, former ambient DWR station	36.2154	-80.9367	Wilkes	WSRO	03040101	WS-IV	12-(47.5)	M+2SM	M	M		M	
Q1065000	Mitchell River at SR 1001 Popular Springs Rd nr North Elkin	Significant tributary to Yadkin River	36.3114	-80.8066	Surry	WSRO	03040101	C	12-62-(12.5)	M+2SM	M	M	M	M	
Q1215000	Fisher River at NC 268 nr Fairview	dns of Wayne Poultry	36.3395	-80.6852	Surry	WSRO	03040101	C	12-63-(9)	M+2SM	M	M	M	M	
Q1350000	Yadkin River at SR 1003 nr Siloam	Mainstem, dns of Boonville, ups of Ararat River	36.2824	-80.5622	Surry	WSRO	03040101	C	12-(53)	M+2SM	M	M	M	M	
Q1500000	Ararat River at NC 52 nr Mt Airy	ups of Mt. Airy WWTP	36.4799	-80.6004	Surry	WSRO	03040101	C	12-72-(4.5)	M+2SM	M	M		M	
Q1935000	Ararat River at SR 2044 nr Pilot Mountain	dns Pilot Mtn. WWTP	36.3626	-80.5394	Surry	WSRO	03040101	C	12-72-(4.5)	M+2SM	M	M		M	
Q2135000	S Deep Ck at SR 1733 Old Stage Rd nr Shacktown	dns of proposed drinking water impoundment for Yadkinville water supply, ups of Cranberry Ck	36.1065	-80.5877	Yadkin	WSRO	03040101	WS-IV	12-84-2-(5.5)	M+2SM	M	M		M	
Q2145000	Deep Ck at SR 1711 Speer Bridge Rd nr Yadkinville	dns confluence of N and S Deep Cks	36.1140	-80.5468	Yadkin	WSRO	03040101	WS-IV		M+2SM	M	M		M	
Q2180000	Yadkin River at US 158 at Clemmons	About 8 miles ups of Muddy Creek WWTP discharge, dns of Deep Creek	36.0144	-80.4164	Davie	WSRO	03040101	WS-IV	12-(86.7)	M+2SM	M	M	M	M	Q
Q2291000	Muddy Ck at I40 nr Clemmons	above Silas and Little Creeks	36.0470	-80.3662	Forsyth	WSRO	03040101	C	12-94-(0.5)	M+2SM	M	M		M	
Q2540000	Salem Ck at SR 1120 Clemmonsville Rd at Winston Salem	ups of Archie Elledge WWTP	36.0312	-80.3137	Forsyth	WSRO	03040101	C	12-94-12-(4)	M+2SM	M	M		M	Q
Q2570000	Salem Ck at SR 2991 Fraternity Church Rd nr Winston Salem	blw Archie Elledge WWTP	36.0086	-80.3353	Forsyth	WSRO	03040101	C	12-94-12-(4)	M+2SM	M	M		M	
Q2720000	Muddy Ck at SR 1485 Hampton Rd nr Winston Salem	Muddy Ck above confluence	35.9402	-80.3580	Davidson	WSRO	03040101	C	12-94-(0.5)	M+2SM	M	M		M	

Station Number	Location Description	Station Comments	Latitude	Longitude	County	Region	8 Digit HUC	Stream Class	Index	[1] Field Measurements	[2] Nutrients	Lab Turbidity	TSS	Fecal Coliform	[3]Hardness
		with Yadkin River													
Q2810000	Yadkin River at US 64 at Yadkin College	10.5 miles dns of Muddy Ck WWTP, DWR ambient stn	35.8570	-80.3863	Davidson	WSRO	03040101	WS-IV CA	12-(97.5)	M+2SM	M	M	M	M	
Q3105000	Dutchman Ck at US 64 nr Mocksville	dns of Mocksville Dutchmans Ck WWTP	35.8811	-80.5012	Davie	WSRO	03040101	C	12-102-2	M+2SM	M	M		M	
Q3720000	Fourth Ck at SR 2316 Bell Farm Rd nr Statesville	ups of Statesville Fourth Ck WWTP	35.7761	-80.7958	Iredell	MRO	03040102	C	12-108-20	M+2SM	M	M		M	
Q3900000	Third Ck at SR 2342 Amity Hill Rd nr Statesville	ups of Third Ck WWTP	35.7492	-80.8775	Iredell	MRO	03040102	C	12-108-20-4	M+2SM	M	M		M	
Q3932000	Third Ck at SR 2359 Bethesda Rd nr Statesville	dns of Statesville Third Ck WWTP	35.7330	-80.8039	Iredell	MRO	03040102	C	12-108-20-4	M+2SM	M	M	M	M	
Q3970000	S Yadkin River at US 601 nr Cooleemee	dns of Cooleemee WWTP, significant tributary	35.7784	-80.5067	Rowan	MRO	03040102	C	12-108-(19.5)	M+2SM	M	M	M	M	
Q4030000	Second Ck at SR 1526 Sherrills Ford Rd nr Salisbury	ups of KoSa and 2nd Ck WWTP and above Beaverdam Ck	35.6970	-80.6117	Rowan	MRO	03040102	C	12-108-21	M+2SM	M	M	M	M	
Q4165000	Second Ck at US 601 nr Salisbury	dns of KoSa and 2nd Ck WWTP	35.7625	-80.5108	Rowan	MRO	03040102	C	12-108-21	M+2SM		M	M	M	
Q4660000	Yadkin River at NC 150 nr Spencer	dns of combined Grants Ck and Sowers Ferry WWTP Discharge, ups of Color Tex and Buck Steam Station, DWR ambient stn	35.7230	-80.3905	Rowan	MRO	03040103	WS-V	12-(108.5)	M+2SM	M	M		M	
Q5135000	Swearing Ck at SR 1272 Jersey Church Road nr Linwood	Swearing Ck at High Rock Lake	35.7291	-80.3057	Davidson	WSRO	03040103	C	12-113	M+2SM		M		M	
Q5210000	Town Ck at SR 1915 Andrew St. at Spencer	pre STW Phase II implementation	35.6798	-80.4155	Rowan	MRO	03040103	C	12-115-3	M+2SM	M	M		M	
Q5745000	Rich Fork Ck at SR 1757 Chestnut St. nr High Point	ups High Point Westside WWTP	35.9651	-80.0787	Davidson	WSRO	03040103	C	12-119-7	M+2SM	M	M		M	

Station Number	Location Description	Station Comments	Latitude	Longitude	County	Region	8 Digit HUC	Stream Class	Index	[1] Field Measurements	[2] Nutrients	Lab Turbidity	TSS	Fecal Coliform	[3]Hardness
Q5785000	Rich Fork Ck at SR 1792 Kanoy Rd nr High Point	ups of Hunts Fork Ck, dns of High Point West Side WWTP	35.8984	-80.1454	Davidson	WSRO	03040103	C	12-119-7	M+2SM	M	M		M	
Q5790000	Rich Fork Ck at SR 2123 Old Hwy 29 nr High Point	ps of Abbots Creek	35.8543	-80.1822	Davidson	WSRO	03040103	C	12-119-7	M+2SM	M	M		M	
Q5860000	Hamby Ck at SR 2775 Old Emanuel Church Rd nr Thomasville	ups Thomasville WWTP	35.8501	-80.1064	Davidson	WSRO	03040103	C	12-119-7-4	M+2SM	M	M		M	
Q5901000	Hamby Crk at I 85 Rest Area nr Thomasville	dns Thomasville WWTP	35.8425	-80.1321	Davidson	WSRO	03040103	C	12-119-7-4	M+2SM	M	M		M	
Q5930000	Abbotts Crk at SR 1243 Center Street at Lexington	dns Lexington WWTP, DWR ambient stn	35.8063	-80.2349	Davidson	WSRO	03040103	C	12-119-(6)	M+2SM	M	M		M	
Q6120000	Yadkin River at SR 1002 Bringle Ferry Rd at High Rock	Just dns of High Rock Lake Dam and DWR ambient stn	35.5968	-80.2313	Davidson	WSRO	03040103	WS-IV, B; CA	12-(124.5)	M+2SM	M	M	M	M	
Q6140000	Lick Ck at SR 1002 nr Healing Springs	dns Denton WWTP	35.6164	-80.1754	Davidson	WSRO	03040103	WS-IV	12-126-(3)	M+2SM		M		M	
Q6705000	Uwharrie River at NC 49 nr Farmer	Significant tributary	35.6421	-79.9650	Randolph	WSRO	03040103	C	13-2-(1.5)	M+2SM		M		M	
Q6930000	Little Mountain Ck at NC 1720 Valley Rd nr Badin	dns of Badin WWTP	35.3812	-80.1129	Stanly	MRO	03040104	WS-IV	13-5-1-(2)	M+2SM	M	M		M	
Q7030000	Pee Dee River at NC 24, 27 and 73 nr Albemarle	Pee Dee River in Lake Tillery	35.3083	-80.0797	Stanly	MRO	03040104	WS-IV, B; CA	13-(1)	M+2SM	M	M	M	M	
Q7330000	Rocky River at SR 2420 E. Rocky River Rd nr Davidson	dns Town of Mooresville WWTP, DWR ambient station	35.4749	-80.7795	Mecklenburg	MRO	03040105	C	13-17	M+2SM	M	M		M	
Q7450000	Rocky River at US 29 nr Harrisburg	blw confluence of E and W branches of Rocky River, ups of Mallard Creek	35.3590	-80.6751	Cabarrus	MRO	03040105	C	13-17	M+2SM		M		M	
Q7600000	Rocky River at SR 1304 Roberta Rd nr Harrisburg	dns of Mallard Ck, ups of Chemical Specialties	35.3345	-80.6444	Cabarrus	MRO	03040105	C	13-17	M+2SM	M	M		M	
Q7700000	Coddle Creek at SR 1304 Roberta Rd nr Roberta Mill	Significant tributary	35.3592	-80.6347	Cabarrus	MRO	03040105	C	13-17-6-(5.5)	M+2SM	M	M	M	M	
Q7780000	Rocky River at SR 1132 Flowes Store Rd nr Harrisburg	dns of Coddle Ck and Back Ck	35.3244	-80.5603	Cabarrus	MRO	03040105	C	13-17	M+2SM	M	M		M	
Q8200000	Cold Water Ck at SR 1132 Miami Church Rd nr Concord	Significant tributary	35.3624	-80.5303	Cabarrus	MRO	03040105	C	13-17-9-4-(1.5)	M+2SM		M	M	M	

Station Number	Location Description	Station Comments	Latitude	Longitude	County	Region	8 Digit HUC	Stream Class	Index	[1] Field Measurements	[2] Nutrients	Lab Turbidity	TSS	Fecal Coliform	[3]Hardness
Q8210000	Rocky River at US 601 nr Concord	dns of Cold water Ck, dns of Rocky River WWTP, DWR ambient stn	35.3245	-80.5154	Cabarrus	MRO	03040105	C	13-17	M+2SM	M	M		M	
Q8342000	Clear Ck at US 601 nr Brief	dns Tallwood Estates, significant tributary	35.1947	-80.5293	Union	MRO	03040105	C	13-17-17	M+2SM		M		M	
Q8355000	Rocky River at SR 1114 Garmon Mill Rd nr Midland	ups of Muddy Ck WWTP and Muddy Creek	35.2212	-80.4871	Cabarrus	MRO	03040105	C	13-17	M+2SM	M	M	M	M	
Q8360000	Goose Ck at SR 1524 Stevens Mill Rd nr Mint Hill	dns Hunley Ck WWTP, DWR ambient stn	35.1309	-80.6311	Union	MRO	03040105	C	13-17-18	M+2SM		M		M	
Q8385000	Rocky River at SR 1606 Sykes Mill Rd nr Monroe	dns of Goose Ck, ups Crooked Creek; nr Fairview Crossroads	35.1699	-80.4728	Union	MRO	03040105	C	13-17	M+2SM	M	M		M	
Q8386000	N Fork Crooked Ck at SR 1520 Indian Trail-Fairview Rd nr Monroe	ups Union County WWTP	35.1079	-80.6154	Union	MRO	03040105	C	13-17-20-1	M+2SM		M		M	
Q8386200	N Fork Crooked Ck at SR 1514 Rocky River Rd nr Monroe	dns of Union County WWTP	35.1024	-80.5843	Union	MRO	03040105	C	13-17-20-1	M+2SM		M		M	
Q8388000	Crooked Ck at NC 218 nr Monroe	dns Grassy Branch WWTP nr Fairview Crossroads	35.1330	-80.4896	Union	MRO	03040105	C	13-17-20	M+2SM	M	M	M	M	
Q8510000	Rocky Riv at SR 1970 Hillford Rd nr Oakboro	Large drainage area ups of W Stanly WWTP	35.1950	-80.2821	Stanly	MRO	03040105	C	13-17	M+2SM	M	M		M	
Q8748000	Rocky Riv off SR 1943 Old Davis Rd nr Cottonville	dns of W Stanly WWTP	35.1606	-80.2770	Stanly	MRO	03040105	C	13-17	M+2SM	M	M		M	
Q8800000	Richardson Ck at SR 1751 Walkup Ave. at Monroe	ups of Monroe WWTP	34.9897	-80.5097	Union	MRO	03040105	C	13-17-36-(5)	M+2SM	M	M		M	
Q8820000	Richardson Ck at SR 1006 Olie Branch Road nr Monroe	dns of Monroe WWTP	35.0322	-80.4716	Union	MRO	03040105	C	13-17-36-(5)	M+2SM	M	M		M	
Q9021300	Lanes Ck at SR 1005 Landsford Rd nr Marshville	Significant tributary to Rocky River	34.9232	-80.3422	Union	FRO	03040105	WS-V	13-17-40-(1)	M+2SM	M	M	M	M	
Q9320000	Little River at SR 1148 Grassy Island Rd nr Ellerbe	ups of Pee Dee River, significant tributary	35.1063	-79.8989	Richmond	FRO	03040104	WS-IV	13-25-(37.5)	M+2SM	M	M		M	
Q9340000	Toms Branch at SR 1310 Bennett Rd nr Ellerbe	dns of Town of Ellerbe WWTP	35.0878	-79.7894	Richmond	FRO	03040104	C	13-28-2-4	M+2SM		M		M	

Station Number	Location Description	Station Comments	Latitude	Longitude	County	Region	8 Digit HUC	Stream Class	Index	[1] Field Measurements	[2] Nutrients	Lab Turbidity	TSS	Fecal Coliform	[3]Hardness
Q9345000	Mountain Ck at SR 1150 Green Rd nr Ellerbe	Previously unmonitored tributary to Pee Dee River	35.0891	-79.8351	Richmond	FRO	03040104	WS-IV	13-28-(0.5)	M+2SM	M	M		M	
Q9400000	Pee Dee River at US 74 nr Rockingham	Pee Dee River blw Blewett Falls Lake, DWR ambient stn	34.9464	-79.8706	Richmond	FRO	03040201	C	13-(34)	M+2SM	M	M	M	M	

1. Field measurement include: Temperature, Dissolved Oxygen, pH, and Conductivity. M=Monthly, M+2SM=Monthly with twice monthly summer sampling. Summer includes the months of May, June, July August and September. ice monthly samples are to be collected at least ten days apart except when extenuating conditions arise.
2. Nutrient sampling includes: Ammonia as N (NH3), Nitrate/Nitrite as N (NO2/NO3), Total Kjeldahl Nitrogen (TKN), and Total Phosphorus as P (TP).
3. Hardness: Q=Quarterly

APPENDIX A

SAMPLE COLLECTION AND ANALYSIS

Sample Collection Procedures

Sample collection shall be performed by trained personnel employed by NC DWR-certified laboratories in accordance with the DWR Monitoring Coalition Program Field Monitoring Guidance Document (November 2017) and subsequent documents. The Field Monitoring Guidance Document can be found on the web at: http://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/ecosystems-branch/monitoring-coalition-program. Alternate collection procedures require the approval of the DWR Coalition Coordinator prior to use.

Laboratory Analysis

All laboratory analyses shall be performed at a DWR-certified laboratory using approved methods as prescribed by section 40 of the Code of Federal Regulations part 136 (40 CFR part 136) or other methods certified by the DWR Laboratory Certification Branch (http://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch) or the Director of DWR. 40 CFR Part 136 can be accessed on the web at http://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/rules-regulations.

Reporting levels will be at least as stringent as the reporting levels used by the DWR Laboratory. For guidance purposes Table 3 lists target reporting levels for each parameter based on the reporting levels of the DWR Laboratory. The lowest possible analytical limits for all the parameters should be pursued.

Table 3
DWR Laboratory Reporting Limits

DWR Laboratory Reporting Limits Parameters	Target Reporting Level	Comments
Water Temperature		Resolution to 0.1 degree Celsius
Dissolved Oxygen		Report results to the nearest 0.1 mg/L.
pH		Report results to the nearest 0.1 pH units.
Specific Conductivity		Report results to the nearest whole µmho/cm at 25 °C.
Turbidity	1.0 NTU	
TSS	6.2 mg/L	
Fecal Coliform	1 colony/100 mL	At least 3 dilutions should be used to achieve optimum colony counts per membrane filter of 20-60 colonies.
Chlorophyll *a*	1 µg/L	Report Chlorophyll *a* values free from pheophytin and other chlorophyll pigments. Analysis by HPLC is not approved by DWR.
Ammonia (NH3 as N)	0.02 mg/L	Address distillation requirement. See 40CFR136 Table II footnote.
Nitrate + Nitrite as N	0.02 mg/L	
Total Kjeldahl Nitrogen as N	0.20 mg/L	
Total Phosphorus as P	0.02 mg/L	
Hardness	1.0 mg/L	

Data Qualification Codes

When reporting data, the DWR's data qualifier codes must be used to provide additional information regarding data quality and interpretation. The current set of qualifier codes to be used is provided in Table 4. Review the data remark codes at least annually and utilize the most current set, as codes are subject to change. Contact the Coalition Coordinator for a current copy of the codes.

Table 4
Data Qualification Codes for Use with Coalition Data

Symbol	Definition
A	Value reported is the mean (average) of two or more determinations. This code is to be used if the results of two or more discrete and separate samples are averaged. These samples shall have been processed and analyzed independently (e.g. field duplicates, different dilutions of the same sample). This code is not required for BOD, coliform or acute/chronic metals reporting since averaging multiple results for these parameters is fundamental to those methods or manner of reporting. 1 The reported value is an average, where at least one result is qualified with a "U". The PQL is used for the qualified result(s) to calculate the average.
B	Results based upon colony counts outside the acceptable range and should be used with caution. This code applies to microbiological tests and specifically to **membrane filter (MF)** colony counts. It is to be used if less than 100% sample was analyzed and the colony count is generated from a plate in which the number of colonies exceeds the ideal ranges indicated by the method. These ideal ranges are defined in the method as: *Fecal coliform or Enterococcus bacteria: 20-60 colonies Total coliform bacteria: 20-80 colonies* 1 Countable membranes with less than 20 colonies. Reported value is estimated or is a total of the counts on all filters reported per 100 ml. 2 Counts from all filters were zero. The value reported is based on the number of colonies per 100 ml that would have been reported if there had been one colony on the filter representing the largest filtration volume (reported as a less than "<" value). 3 Countable membranes with more than 60 or 80 colonies. The value reported is calculated using the count from the smallest volume filtered and reported as a greater than ">" value. 4 Filters have counts of both >60 or 80 and <20. Reported value is estimated or is a total of the counts on all filters reported per 100 ml. 5 Too many colonies were present; too numerous to count (TNTC). TNTC is generally defined as >150 colonies. The numeric value represents the maximum number of counts typically accepted on a filter membrane (60 for fecal or enterococcus and 80 for total), multiplied by 100 and then divided by the smallest filtration volume analyzed. This number is reported as a greater than value. 6 Estimated Value. Blank contamination evident. 7 Many non-coliform or non-enterococcus colonies or interfering non-coliform or non-enterococcus growth present. In this competitive situation, the reported value may under- represent actual density. Note: A "B" value shall be accompanied by justification for its use denoted by the numbers listed above (e.g., B1, B2, etc.). Note: A "J2" should be used for spiking failures.
C	Total residual chlorine was present in sample upon receipt in the laboratory; value is **estimated**. Generally applies to cyanide, phenol, NH3, TKN, coliform, and organics.

Symbol	Definition
G	A single quality control failure occurred during biochemical oxygen demand (BOD) analysis. The sample results should be used with caution. 1 The dissolved oxygen (DO) depletion of the dilution water blank exceeded 0.2 mg/L. 2 The bacterial seed controls did not meet the requirement of a DO depletion of at least 2.0 mg/L and/or a DO residual of at least 1.0 mg/L. 3 No sample dilution met the requirement of a DO depletion of at least 2.0 mg/L and/or a DO residual of at least 1.0 mg/L. 4 Evidence of toxicity was present. This is generally characterized by a significant increase in the BOD value as the sample concentration decreases. The reported value is calculated from the highest dilution representing the maximum loading potential and should be considered an **estimated** value. 5 The glucose/ glutamic acid standard exceeded the range of 198 ± 30.5 mg/L. 6 The calculated seed correction exceeded the range of 0.6 to 1.0 mg/L. 7 Less than 1 mg/L DO remained for all dilutions set. The reported value is an **estimated** greater than value and is calculated for the dilution using the least amount of sample. 8 Oxygen usage is less than 2 mg/L for all dilutions set. The reported value is an **estimated** less than value and is calculated for the dilution using the most amount of sample. 9 The DO depletion of the dilution water blank produced a negative value. The cBOD value is greater than the BOD value. Note: A "G" value shall be accompanied by justification for its use denoted by the numbers listed above (e.g., G1, G2, etc.).
J	**Estimated** value; value may not be accurate. This code is to be used in the following instances: 1 Surrogate recovery limits have been exceeded. 2 The reported value failed to meet the established quality control criteria for either precision or accuracy. 3 The sample matrix interfered with the ability to make any accurate determination. 4 The data is questionable because of improper laboratory or field protocols (e.g., composite sample was collected instead of grab, plastic instead of glass container, etc.). 5 Temperature limits exceeded (samples frozen or >6°C) during transport or not verifiable (e.g., no temperature blank provided): non-reportable for NPDES compliance monitoring. 6 The laboratory analysis was from an unpreserved or improperly chemically preserved sample. The data may not be accurate. 7 This qualifier is used to identify analyte concentration exceeding the upper calibration range of the analytical instrument/method. The reported value should be considered estimated. 8 Temperature limits exceeded (samples frozen or >6°C) during storage, the data may not be accurate. 9 The reported value is determined by a one-point estimation rather than against a regression equation. The estimated concentration is less than the laboratory PQL and greater than the laboratory method detection limit. 10 Unidentified peak; estimated value. 11 The reported value is determined by a one-point estimation rather than against a regression equation. The estimated concentration is less than the laboratory PQL and greater than the instrument noise level. This code is used when an MDL has not been established for the analyte in question. 12 The calibration verification did not meet the calibration acceptance criterion for field parameters. Note: A "J" value shall be accompanied by justification for its use denoted by the numbers listed above (e.g., J1, J2, etc.). A "J" value shall not be used if another code applies (e.g., N, V, M).
M	Sample and duplicate results are "out of control". The sample is non-homogenous (e.g., VOA soil). The reported value is the lower value of duplicate analyses of a sample.

Symbol	Definition
N	Presumptive evidence of presence of material; estimated value. This code is to be used if: 1 The component has been tentatively identified based on mass spectral library search. 2 There is an indication that the analyte is present, but quality control requirements for confirmation were not met (i.e., presence of analyte was not confirmed by alternate procedures). 3 This code shall be used if the level is too low to permit accurate quantification, but the estimated concentration is less than the laboratory PQL and greater than the laboratory method detection limit. This code is not routinely used for most analyses. 4 This code shall be used if the level is too low to permit accurate quantification, but the estimated concentration is less than the laboratory practical quantitation limit and greater than the instrument noise level. This code is used when an MDL has not been established for the analyte in question. 5 The component has been tentatively identified based on a retention time standard.
Q	Holding time exceeded. These codes shall be used if the value is derived from a sample that was received, prepared and/or analyzed after the approved holding time restrictions for sample preparation and analysis. The value does not meet NPDES requirements. 1 Holding time exceeded prior to receipt by lab. 2 Holding time exceeded following receipt by lab.
P	Elevated PQL due to matrix interference and/or sample dilution.
S	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or matrix spike duplicate (MSD).
U	Indicates that the analyte was analyzed for, but not detected above the reported PQL. The number value reported with the "U" qualifier is equal to the laboratory's PQL*.
UU	Indicates that the analyte was not detected by a screen analysis. The number value reported with the "UU" qualifier is equal to the laboratory's PQL. The number value was determined by a one-point estimation at the PQL, rather than against a regression equation.
V	Indicates the analyte was detected in both the sample and the associated blank. Note: The value in the blank shall not be subtracted from the associated samples. 1 The analyte was detected in both the sample and the method blank. 2 The analyte was detected in both the sample and the field blank.
X	Sample not analyzed for this constituent. This code is to be used if: 1 Sample not screened for this compound. 2 Sampled, but analysis lost or not performed-field error. 3 Sampled, but analysis lost or not performed-lab error. Note: an "X" value shall be accompanied by justification for its use by the numbers listed.
Y	Elevated PQL due to insufficient sample size.
Z	The sample analysis/results are not reported due to: 1 Inability to analyze the sample. 2 Questions concerning data reliability. Note: The presence or absence of the analyte cannot be verified.
Supporting Definitions listed below	
MDL	A Method Detection Limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the true value is greater than zero and is determined in accordance with 40 CFR Part 136, Appendix B.
ML	Minimum Levels are used in some EPA methods. A Minimum Level (ML) is the lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that all method - specified sample weights, volumes, and cleanup procedures have been employed. The ML is calculated by multiplying the MDL by 3.18 and rounding the result to the nearest factor of 10 multiple (i.e., 1, 2, or 5). For example, MDL = 1.4 mg/L; ML = 1.4 mg/L x 3.18 = 4.45 rounded to the nearest factor of 10 multiple (i.e., 5) = 5.0 mg/L.

Supporting Definitions listed below	
PQL	The Practical Quantitation Limit (PQL) is defined as the lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. PQLs are subjectively set at some multiple of typical MDLs for reagent water (generally 3 to 10 times the MDL depending upon the parameter or analyte and based on the analyst's best professional judgement, the quality and age of the instrument and the nature of the samples) rather than explicitly determined. PQLs may be nominally chosen within these guidelines to simplify data reporting and, where applicable, are generally equal to the concentration of the lowest non-zero standard in the calibration curve. PQLs are adjusted for sample size, dilution and % moisture. For parameters that are not amenable to MDL studies, the PQL may be defined by the sample volume and buret graduations for titrations or by minimum measurement values set by the method for method-defined parameters (e.g., BOD requires a minimum DO depletion of 2.0 mg/L, fecal coliform requires a minimum plate count of 20 cfu, total suspended residue requires a minimum weight gain of 2.5 mg, etc.). Additionally, some EPA methods prescribe Minimum Levels (MLs) and the lab may set the PQL equal to this method-stated ML. Determination of PQL is fully described in the laboratory's analytical Standard Operating Procedure (SOP) document.

*PQL, The Practical Quantitation Limit (PQL), is defined as the lowest level achievable among laboratories within specified limits during routine laboratory operation. The Practical Quantitation Limit (PQL) is "about three to five times the method detection limit (MDL) and represents a practical and routinely achievable detection level with a relatively good certainty that any reported value is reliable." (APHA, AWWA, WEF. 1992. Standard Methods for the Examination of Water and Wastewater, 18th ed.)

** Data remarks are current as of May 4, 2018.

APPENDIX B

DATA FORMAT AND REPORTING REQUIREMENTS

Data Format for Monthly submittals

Table 5 provides the format of a data submittal spreadsheet format. **It is very important that the format of the headings and the number and order of the columns is consistent among all monthly submissions.** Do not use commas, tabs, or other common file delimiters anywhere in the submittal spreadsheet table. Do not add, delete, or hide any rows or columns. The first row should contain the column headings only. Column headings must include appropriate information on measurement units (e.g., mg/L, µg/L, cfu/100mL, etc.). The second row must contain the method code. The DWR station number (e.g., B6140000) must be provided as identified in the MOA. The comment column is used for describing pertinent information related to the sampling event or specific samples. Ensure that there are no missing values for station, date, time, and depth. Place all remark codes in a separate column, as demonstrated in Table 5. If there is no result for a particular parameter, leave the cell blank. Delete duplicate rows for stations that were not sampled (e.g., stations sampled twice in summer months). Screen all data for inappropriate or improbable values, such as a pH of 21.2 SU.

Annual Report

The YPDRBA will be required to submit an annual report by April 30th for each year the MOA is in effect. The annual report will formally summarize all data collection activities in the past calendar year and contain at least the following elements:

- Monitoring Station List to include station number, station description, county, accurate coordinates (in decimal degrees to 4 decimal places), stream classification, and 8-digit hydrologic unit code (HUC).
- List of all certified laboratories that conducted work for the coalition in the past year; identify time frames for all laboratories and analysis methods used during the year; and summarize any laboratory certification issues for individual parameters.
- A list of active YPDRBA members with authorized representative updates, contact names, email addresses, and phone numbers. Identify the facility name and permit number.
- A list of members whom became inactive during the year and their permit numbers.
- A summary of all quality assurance and quality control issues and any field audits conducted.
- A summary of any significant issues, special studies, or projects.
- Description of any required data collection that was missed, with an explanation.
- Suggested changes to the monitoring program and/or MOA modifications.
- The YPDRBA's website address.

Table 5
File Format for Coalition Data Reporting

				Temp (°C)	Temp_rmk	DO (mg/L)	DOrmk	pH (su)	pH_rmk	Conductivity (umhos/cm)	Conductivity_rmk	Fecal Coliform	Fecal Coliform	Suspended Residue (mg/L)	Suspended Residue_rmk	Turbidity (NTU)	Turbidity_rmk	Chlorophyll_a (ug/L)	Chlorophyll_rmk	NH3_N (mg/L)	NH3_N_rmk	TKN_N (mg/L)	TKN_N_rmk	NO2_NO3_N (mg/L)	NO2_NO3_N_rmk	TP (mg/L)	TP_rmk	Hardness (ug/L)	Hardness_rmk	
Station	Date (m/d/yyyy)	Time (hh:mm)	Depth (m)	10	10rmk	300	300rmk	400	400rmk	94	94rmk	31616	31616rmk	530	530rmk	82079	82079rmk	32209	32209rmk	610	610rmk	625	625rmk	630	630rmk	665	665rmk	900	900rmk	Comments