

Comprehensive Stormwater Management Plan

TABLE OF CONTENTS

		Page
1.	STORM SEWER SYSTEM INFORMATION	
	1.1 Population Served	4
	1.2 Growth Rate	4
	1.3 Jurisdictional and MS4 Service Areas	4
	1.4 MS4 Conveyance System	4
	1.5 Land Use Composition Estimates	4
	1.6 Estimate Methodology	4
	1.7 TMDL Identification	4
2.	RECEIVING STREAMS	
	2.1 Yadkin-Pee Dee River Basin	5
3.	EXISTING WATER QUALITY PROGRAMS	
	3.1 Local Programs	12
	3.2 State Programs	12
4.	PERMITTING INFORMATION	
	4.1 Responsible Party Contact List	13
	4.2 Organizational Chart	13
	4.3 Signing Official	14
	4.4 Duly Authorized Representative	14
5.	CO-PERMITTING INFORMATION	
	5.1 Co-Permittees	14
<u></u>	DELIANCE ON OTHER COMPANIATATE ENTREMY	
6.	RELIANCE ON OTHER GOVERNMENT ENTITY	1.5
	6.1 Name of Entity6.2 Measure Implemented	15 15
	6.3 Contact Information	15
	6.4 Legal Agreements	15
	0.4 Logar regreements	13
7.	STORMWATER MANAGEMENT PROGRAM	••
	7.1 Public Education and Outreach on Stormwater Impacts	16
	7.2 Public Involvement and Participation	18
	7.3 Illicit Discharge Detection and Elimination	19
	7.4 Construction Site Stormwater Runoff Control	22
	7.5 Post-Construction Stormwater Management in New Development	
	and Redevelopment	23
	7.6. Pollution Prevention/Good Housekeeping for Municipal Operations	25

- APPENDIX A: Ordinance Referencing Forsyth County Ordinances applicable to the Town of Lewisville
- APPENDIX B: Memorandum of Agreement Between Winston Salem/Forsyth County Inspections
 Division and the Town of Lewisville
- APPENDIX C: Affidavit of Publication for Public Hearing Notice of Public Hearing

1. Storm Sewer System Information

- 1.1 Population Served: The Town of Lewisville's (Town's) population is approximately 12,500.
- 1.2 Growth Rate: The annual growth rate for the Town based upon the 1990 and 2000 US Census is 4.51%.
- 1.3 <u>Jurisdictional and MS4 Service Areas:</u> The Town's jurisdictional and MS4 service area is approximately 14 square miles.
- 1.4 MS4 Conveyance System: The Town's conveyance system is made up of eight individual basins. All of these basins consist of a combination of piping; open vegetated conveyance, and sheet flow. There is approximately 24% of the 55 miles of Town maintained streets is curb and gutter. The Town's Unified Development Ordinance requires all new streets constructed by private developers must have curb and gutter stormwater systems, and structural BMP's to handle stormwater runoff for developments over 20,000 square feet of impervious area are required. The system is maintained by the Stormwater Department under the direction of the Public Works Department.
- 1.5 <u>Land Use Composition Estimates</u>: The estimated percentage of land use activities for the Town's jurisdictional area is as follows:

Residential: 77 % Commercial: 2 % Industrial: 1 % Open Space: 20 %

- 1.6 <u>Estimate Methodology:</u> Land use percentages for the Town were estimated by visual inspection of recent aerial photographs and by review of land use plans.
- 1.7 <u>TMDL Identification:</u> MS4's within the Town are not discharged into a controlled body of water or receiving stream.

2. Receiving Streams

2.1 Yadkin-Pee Dee River Basin: Refer to page 6 for Table 1. Yadkin-Pee Dee River Basin.

2.1 Table 1. Yadkin-Pee Dee River Basin

Name Segment Classification ned Tributary Stream Unknown Unknown Unknown Unknown Unknown Unknown Unknown Wille Road to Bashavia ned Tributary Stream Unknown		Receiving Stream	Stream	Water Quality	Use Support	Water Quality
ned Tributary Stream Wille Road to Bashavia ned Tributary Stream Wille Road and Conrad Tetrsection of Ributary Stream Will Road and Conrad Tetrsection of Stream Will Road and Conrad Tetrsection of Stream Will Road and Conrad Tetrsection of Stream Will Road to Bashavia Will Creek from source 12-81 C Unknown Was-1V Recreation	Unnan from a Road t	Name ned Tributary Stream I point N of Skylark O Bashavia Creek	Segment Unknown	Classification Unknown	Rating Unknown	Issues None are known
ned Tributary Stream Intersection of wille Road and noord Road to Bashavia Nood Road and Corek from source I 12-81 C Unknown	Unnan from p Yadkin Creek	ned Tributary Stream boint NE of Vienna on aville Road to Bashavia	Unknown	Unknown .	Unknown	None are known
kin River red Tributary Stream Unknown Unknown at Tributary Stream Unknown Unknown Unknown Unknown at Tributary Stream Unknown	Unnan from I Yadkin Robinh Creek	ned Tributary Stream Intersection of nville Road and hood Road to Bashavia	Unknown	Unknown	Unknown	None are known
red Tributary Stream red Tributary Stream red Tributary Stream resection of nood Road and Conrad iil Road to Mill Creek red Tributary Stream red Tributary S	Basha to Yau	ivia Creek from source Jkin River	12-81	U	Unknown	None are known
am Unknown Unknown Unknown Unknown am Unknown Unknown Unknown	Unnan from S River)	med Tributary Stream SR 1442 to Yadkin)	Unknown	Unknown	Unknown	None are known
am Unknown Unknown am WS-IV Recreation	Unna from	med Tributary Stream BM 868 to Yadkin River	Unknown	Unknown	Unknown	None are known
am Onknown Unknown Unknown bad Unknown am Unknown Unknown 12-82-1 WS-IV	Unna from Robir Sawn	med Tributary Stream Intersection of inbood Road and Conrad nill Road to Mill Creek	Unknown	Unknown	Unknown	None are known
unknown Unknown Unknown 12-82-1 WS-IV Recreation	Unna from	med Tributary Stream Lewisville-Vienna Road	Unknown	Unknown	Unknown	None are known
12-82-1 WS-IV Recreation	Unna from	med Tributary Stream Shallowford Lakes	Unknown	Unknown	Unknown	None are known
	Shallo Lakes	owford Lakes entire	12-82-1	AI-SM	Recreation	None are known

	Receiving Stream Name	Stream Segment	Water Quality Classification	Use Support Rating	Water Quality Issues
T .	Unnamed Tributary Stream from Intersection of Robinhood Road and Yadkinville Road to Mill Creek	Unknown	Unknown	Unknown	None are known
2	Unnamed Tributary Stream from SR 1307 to Mill Creek	Unknown	Unknown	Unknown	None are known
೮	Unnamed Tributary Stream from Benwicke Court to Mill Creek	Unknown	Unknown	Unknown	None are known
4	Unnamed Tributary Stream from SR 1001 and Lewisville Road to Mill Creek	Unknown	Unknown	Unknown	None are known
2	Unnamed Tributary Stream from Yadkinville Road near BM 868 to Mill Creek	Unknown	Unknown	Unknown	None are known
9	Mill Creek from a point W of Vienna to Yadkin River	12-82	WS-IV	Unknown	None are known
7	Unnamed Tributary Stream from a point NW of SR 1305 to Yadkin River	Unknown	Unknown	Unknown	None are known
8	Unnamed Tributary Stream from Shallowford Road to Unnamed Tributary	Unknown	Unknown	Unknown	None are known
6	Unnamed Tributary Stream from a point E of SR 1303 to Unnamed Tributary	Unknown	Unknown	Unknown	None are known
10	Unnamed Tributary Stream from Intersection of Shallowford and Conrad Road to Yadkin River	Unknown	Unknown	Unknown	None are known

Re	Receiving Stream Name	Stream Segment	Water Quality Classification	Use Support Rating	Water Quality Issues
Panther (to a poin upstream SR 1173	Panther Creek from source to a point 1.4 miles upstream of Forsyth County SR 1173	12-87-(0.4)	Ü	Unknown	None are known
Double C a point 1 to Forsyt	Double Creek from source to a point 1.1 miles upstream to Forsyth County SR 1173	12-87-1-(0.4)	U	Unknown	None are known
Double Creek f 1.1 miles upstr Forsyth County Panther Creek	Double Creek from a point 1.1 miles upstream of Forsyth County SR 1173 to Panther Creek	12-87 ² 1-(0.7)	VI-SW	Unknown	None are known
Unname from SR Creek	Unnamed Tributary Stream from SR 1173 to Blacks Creek	Unknown	Unknown	Unknown	None are known
Unname from a l Road to	Unnamed Tributary Stream from a point S of Williams Road to Blacks Creek	Unknown	Unknown	Unknown	None are known
Unname from BN	Unnamed Tributary Stream from BM 840 to Blacks Creek	Unknown	Unknown	Unknown	None are known
Blacks (to Doub	Blacks Creek from SR 1171 to Double Creek	12-87-1-(0.7)	NI-SM	Unknown	None are known
Unnamed Trit from a point I Ellison Creek	Unnamed Tributary Stream from a point E of SR 1171 to Ellison Creek	Unknown	Unknown	Unknown	None are known
Unnamed Tril from a point I Ellison Creek	Unnamed Tributary Stream from a point E of SR 1161 to Ellison Creek	Unknown	Unknown	Unknown	None are known
Ellison (Forsyth	Ellison Creek from source to Forsyth County SR 1170	12-88-(0.4)	C	Unknown	None are known

	Receiving Stream Name	Stream Segment	Water Quality Classification	Use Support Rating	Water Quality Issues
Unnamed Tril from Lake Ric Ellison Creek	Unnamed Tributary Stream from Lake Ridge Drive to Ellison Creek	Unknown	Unknown	Unknown	None are known
Unnan from th 1100 a Creek	Unnamed Tributary Stream from the Intersection of SR 1100 and SR 1166 to Ellison Creek	Unknown	Unknown	Unknown	None are known
Double 1.1 m Forsyt Panth	Double Creek from a point 1.1 miles upstream of Forsyth County SR 1173 to Panther Creek	Unknown	Unknown	Unknown	None are known
Unnal from Ellisor	Unnamed Tributary Stream from Witherbee Court to Ellison Greek	Unknown	Unknown	Unknown	None are known
Unna from Drive	Unnamed Tributary Stream from a point N of Falmouth Drive to Ellison Creek	Unknown	Unknown	Unknown	None are known
Ellisor Count River	Ellison Creek from Forsyth County SR 1170 to Yadkin River	12-88-(0.7)	N3-5W	Unknown	None are known
Blank to a j of SR	Blanket Creek from source to a point 0.3 mile upstream of SR 1100	12-90-(1)	J	Unknown	None are known
Unna from Reyn 421 t	Unnamed Tributary Stream from Intersection of Reynolds Road and HWY 421 to Blanket Creek	Unknown	Unknown	Unknown	None are known
Unna from Blank	Unnamed Tributary Stream from LaCrosse Court to Blanket Creek	Unknown	Unknown	Unknown	None are known
Unna from Road	Unnamed Tributary Stream from BM 885 and Tucker Road to Blanket Creek	Unknown	Unknown	Unknown	None are known

	Receiving Stream Name	Stream Segment	Water Quality Classification	Use Support Rating	Water Quality Issues
1	Unnamed Tributary Stream from Charisma Lane to Reynolds Creek	Unknown	Unknown	Unknown	None are known
2	Unnamed Tributary Stream from a point E of Bebb Willow Lane to Reynolds Creek	Unknown	Unknown	Unknown	None are known
3	Unnamed Tributary Stream from Shady Brook Lane to Reynolds Creek	Unknown	Unknown	Unknown	None are known
4	Unnamed Tributary Stream from a point N of Lewisville- Clemmons Road to Reynolds Creek	Unknown	Unknown	Unknown	None are known
2	Unnamed Tributary Stream from a point E of Applewood Drive to Reynolds Creek	Unknown	Unknown	Unknown	None are known
9	Reynolds Creek from Conrad Circle to Muddy Creek	12-94-9	C	Unknown	None are known
7	Tomahawk Creek	Unknown	Unknown	Unknown	None are known
8	Muddy Creek	Unknown	Unknown	Unknown	None are known
6	Unnamed Tributary Stream from Larkwood Drive in Vienna to Tomahawk Creek	Unknown	Unknown	Unknown	None are known
10	Unnamed Tributary Stream from Eden Rock Road to Tomahawk Creek	Unknown	Unknown	Unknown	None are known

	Receiving Stream	Stream	Water Quality	Use Support	Water Quality
	Name	Segment	Classification	Rating	Issues
	Unnamed Tributary Stream	Unknown	Unknown	Unknown	None are known
	from a point N of Robinhood				
	Road to Tomahawk Creek				
7	Unnamed Tributary Stream	Unknown	Unknown	Unknown	None are known
	from SR 1308 to Tomahawk				
	Creek				
٣	Tomahawk Creek from	12-94-9-1	U	Unknown	None are known
	Vienna down to Muddy	•••			
	Creek				

3. Existing Water Quality Programs

- 3.1 <u>Local Programs</u>: When the Town incorporated in 1991, an ordinance was passed by the Town Council whereby certain Forsyth County ordinances would be applicable to the Town as they are applicable to Forsyth County. These ordinances address the Sedimentation and Erosion Control provisions of the plan. A copy of the ordinance is attached as Appendix A. Also a Memorandum of Agreement between Forsyth County Inspections Division and the Town of Lewisville is attached as Appendix B.
- 3.2 State Programs: Currently, no State water quality programs exist within the Town.

4. Permitting Information

4.1 Responsible Party Contact List:

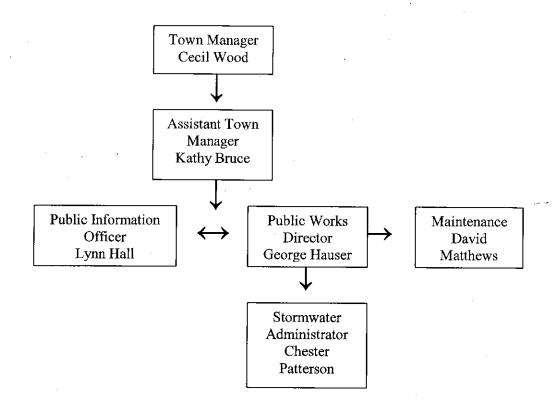
Contact	Position	Phone	Fax	e-mail	Responsibility
Cecil Wood	Town Manager	(336) 945-5558	(336) 945-5531	townmanager@lewisvillenc.net	1,2
Lynn Hall	Public Information Officer	(336) 945-5558	(336) 945-5531	publicinformation@lewisvillenc.net	1
George Hauser	Public Works Director	(336) 945-5558	(336) 945-5531	publicworks@lewisvillenc.net	1,2,3,5,6
Chester Patterson	Stormwater Administrator	(336) 945-5558	(336) 945-5531	cpatterson@lewisvillenc.net	1,2,3,5,6
Jeff Kopf	Erosion Control Supervisor	(336) 727-2388	(336) 727-2792	jeffk@cityofws.org	4

Notes:

Minimum Control Measures

- 1-Public Education and Outreach
- 2-Public Involvement and Participation
- 3-Illicit Discharge Detection and Elimination
- 4-Construction Site Runoff Controls
- 5-Post-Construction Site Runoff Controls
- 6-Pollution Prevention/Good Housekeeping for Municipal Operations

4.2 Organizational Chart:



- 4.3 <u>Signing Official</u>: The Town Mayor is the Town's signing official because the Office of Mayor currently signs all ordinances and resolutions passed by the Town Council as well as some Town contracts and/or agreements.
- 4.4 <u>Duly Authorized Representative</u>: The Town of Lewisville's Stormwater Administrator is named the authorized representative for program implementation by resolution of the Town Council.

5. Co-Permitting Information

The Town will not be co-permitting with another agency.

7 Stormwater Management Program Plan

7.1 Public Education and Outreach on Stormwater Impacts

Program Requirements: Implement a public education program to distribute educational materials to the community and/or conduct public outreach activities about the causes and impacts of stormwater pollution. And to inform the public on steps to take to reduce or prevent stormwater pollution.

7.1.1 BMP's for Public Education and Outreach

	BMP	Measurable Goals	YR 1	YR 2	YR 3	YR 4	YR 5	Responsible Position/Party
-1	Public Education and Outreach Program	Lewisville will develop and implement public education program in compliance with State requirements. Using the bimonthly newsletter, Town website, and channel 6. Presentations will be given to various committees, businesses, homeowners, and school children.	Х	Х	X	Х	Х	Stormwater Administrator
2	Informational Web Site	Maintain a stormwater informational page on Lewisville website. Posting the Town's Stormwater Management Program, Phase II Stormwater Ordinance, Administrative Manual, annual reports, newsletter articles on stormwater, information on water quality, upcoming stormwater projects and activities, and contact information for stormwater management staff.			Х	X	Х	Public Information Officer
3	Public Education materials for Schools, Homeowners, and/or Businesses	Educational material will be developed and also the use of materials supplied by the State for Public Education and Outreach will be made available to target groups with significant stormwater impact. Also use the Piedmont Triad Water Quality Partnership for outreach to children and homeowners.		X	X	X	X	Stormwater Administrator/ Public Information Officer
4	Public Education material dissemination	Educational material specific to target audiences will be distributed through brochures, flyers and/or door hangers.			×	×	X	Stormwater Administrator/ Public Information Officer

- 7.1.2 Target Audience: The target audiences for the Town's Public Education and Outreach on stormwater impacts are households, school children, businesses, town committees, and town employees. The Town recognizes an ongoing educational effort is necessary to build public support for the changes required in the stormwater program. The households in Town are targeted for mass mailings of brochures to inform all of Lewisville's citizens on the stormwater quality issues. Schoolchildren are eager to learn and share their knowledge with other family members, which in turn have long-term benefits on the habits and understanding of the stormwater quality and quantity issues. Local businesses are targeted because of the potential impact that commercial and industrial properties might have on stormwater quality. Town committees are targeted because of the volunteer citizen involvement in Town events and as an outreach tool. The Town also realizes that in order to have the community respond favorably to stormwater our employees must set an example.
- 7.1.3 <u>Target Pollutant Sources</u>: Trash, floatables, disposal of household chemicals and used oil, deicing products, lawn care products, and sediment/erosion are pollutant sources being addressed within the community. The elimination of trash would prevent drain clogging. Household chemicals, used oil, deicing products, and lawn care products could be sources of pollution to our stormwater.
- 7.1.4 Outreach Program: There will be a variety of ways that the Town will distribute information on the stormwater quality issues. Brochures will be designed and printed to explain the stormwater quality issues and the impacts that homeowners have on them. These brochures will be distributed to all households in the Town and at various Town functions. Presentations will be made to various committees, businesses, homeowners, and school children using materials that show good and bad stormwater quality management practices, and also an enviroscape model will be used for the purpose of descriptive examples of the effects of stormwater runoff. Stream basin signage will be constructed and placed throughout town to inform the public of the streams in their area. The Town's stormwater management section of the website will be updated constantly to inform the citizens of the program, ways to reduce stormwater problems, and also links to other resources. The Town's Government Access TV channel (Channel 6) will be used to distribute education and informational material regarding stormwater management. The Bi-monthly newsletter will periodically contain education and information on the stormwater program. The Town is a member of the Piedmont Triad Water Quality Partnership that is fifteen local governments in collaboration to educate the public on stormwater quality issues. As part of the Phase II permit we will establish a stormwater advisory committee to allow the public to participate as a part of our overall stormwater program.
- 7.1.5 Decision Process: The Town decided to use the methods described in the Table 7.1.1 because these present the best balance between cost and effective education. The four BMPs chosen are all existing, well proven, methods by which the Town communicates with its citizens. The measurable goals are directly related to the target audiences the Town would like to reach. The responsible party's for carrying out the BMPs are the Stormwater Administrator and the Public Informational Officer due to the combination of both individuals working together to complete the program requirements.

7.1.6 Evaluation: Annually, the implementation progress of an education plan will be reviewed by the Town Manager, Public Works Director, Stormwater Administrator, and the Public Information Officer to determine if they are being met effectively. Also Lewisville will have regular dialogue with other local governments regarding the successes and problems with similar efforts for this minimum measure. Any changes will be proposed in the annual report to DWQ.

7.2 Public Involvement and Participation

Program Requirements: Provide opportunities for the public, including major economic and ethnic groups, to participate in program development and implementation, and to comply with applicable state and local public notice requirements.

7.2.1 BMP's for Public Involvement and Participation

	BMP	Measurable Goals	YR 1	YR 2	YR 3	YR 4	YR 5	Responsible Position/Party
1	Public Involvement Program	Develop and implement a Public Involvement and Participation program.	Х	Х	Х	Х	Х	Town Manager/ Stormwater Administrator
2	Public Review and Comment	Conduct a public meeting to allow public an opportunity to review and comment on the Stormwater Management Program.	X					Town Council
3	Volunteer Community Involvement Program	Organize and implement a volunteer stormwater related program designed to promote ongoing citizen participation.		Х	Х	X	Х	Town Manager/ Stormwater Administrator

- 7.2.2 <u>Target Audience:</u> The Target audience for the Public Involvement and Participation measure are all citizens of Lewisville, local business and business owner/operators, and local students in the elementary and middle school grades. These groups are targeted to increase public involvement in various public activities intended to increase awareness of stormwater pollution issues and to improve stormwater quality by removing various sources of pollution through periodic cleanup events, storm drain marker placement events, and identifying possible illicit discharges.
- 7.2.3 Participation Program: The public has been involved through citizen involvement in the Stormwater Advisory Committee that was established prior to the submittal of the Stormwater Permit Application for the investigation and determination as to what the Town's responsibilities would be to meet the requirements of the stormwater mandates. The committee was disbanded upon completion of the application with the intent of the Town forming a new committee after program was established. The Town has held meetings with the development groups to present the Phase II Stormwater Ordinance and the permitting process. A public hearing was set for November 8, 2007 for the adoption of the ordinance. It was adopted with an effective date of January 1, 2008. The other public participation and involvement activities will include neighborhood storm drain stenciling events, and periodic stormwater system cleanup events.
- 7.2.4 <u>Decision Process:</u> The Town Manager and the Stormwater Administrator will create a Stormwater Advisory Committee, which will hold routine meetings open to the public, to allow citizen participation and involvement in the program to meet the requirements of this measure. The Town Council will hold public hearings for any ordinances or regulator mechanisms pertaining the program. The Stormwater Administrator will contact the various neighborhoods and homeowners associations for participation in the events specific for their areas.

7.2.5 Evaluation: Annually, the implementation progress of the Stormwater Advisory Committee will be reviewed by the Town Council, Town Manager, and the Stormwater Administrator to determine effectiveness of the program. Also Lewisville will have regular dialogue with other local governments regarding the successes and problems with similar efforts for this minimum measure. Any changes will be proposed in the annual report to DWQ.

7.3 Illicit Discharge Detection and Elimination

Program Requirements: Must develop, implement, and enforce a program to detect and eliminate illicit discharges, including spills and illegal dumping. Develop a storm sewer map showing all outfalls and waters receiving discharges. Inform employees, businesses, and general public of hazards associated with illegal discharges and improper disposal of waste.

7.3.1 BMP's for Illicit Discharge Detection and Elimination

	BMP	Measurable Goals	YR	YR	YR	YR	YR	Responsible
1	Illicit Discharge Detection and Elimination	Develop and implement an Illicit Discharge Detection and Elimination program. Include provisions for	1 X	2 X	3 X	4 X	5 X	Position/Party Stormwater Administrator
2	Program Appropriate Legal Authorities	program assessment and evaluation. The Phase II Stormwater Ordinance will be used for adequate legal authority to prohibit illicit discharges and enforce the approved Illicit Discharge Detection and Elimination Program.		X	Х	х	X	Stormwater Administrator
3	Storm Sewer System Base Map	The Town will develop and maintain an electronic stormwater map of all outfalls from the MS4 and their associated receiving waters. The locations will be surveyed using GPS and will be completed in sections over years 2-5. As the Town's program develops, more of the system will be mapped in more detail. Report annually scope and progress.	X	X	X	X	X	Stormwater Administrator
4	Illicit Discharge Detection Procedures	Implement an inspection program to detect dry weather flows at system outfalls mapped in previous years. Establish procedures for tracing the sources of illicit discharges and for removing the sources. Develop procedures for identification of priority areas likely to have illicit discharges. Continue to identify, locate, and update map of drainage system components on a priority basis per approved Illicit Discharge Program.			X	X	X	Stormwater Administrator
5	Employee Cross- Training	Conduct training for municipal staff on detecting and reporting illicit discharges, using presentations on good housekeeping and other specific training. Staff will be trained to recognize illicit discharges and connections and the appropriate measures to take upon discovery. Records will be maintained on number of employees trained and the training frequency.	115		X	X	Х	Stormwater Administrator
6	Public Education	Inform Public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.			Х	Х	X	Stormwater Administrator
7	Public Reporting Mechanism	Establish and publicize a reporting mechanism for the public to report illicit discharges.	Х	Х	Х	Х	Х	Stormwater Administrator

- 7.3.2 Storm Sewer System Map: The Town will utilize existing paper maps showing streams to begin the process of marking outfall locations. A visual dry weather inspection of Town streams and lakes will be done initially by walking the streams and floating the perimeter of the lakes thus noting illicit discharges. These discharges will be marked utilizing a Global Positioning System (GPS) indicator. A Stormwater Map will be developed and maintained electronically. Annual reviews of the map and streams will be required. The map will be kept at Town Hall for public inspection.
- 7.3.3 Regulatory Mechanism: The Phase II Stormwater Management Ordinance will be the mechanism to regulate illicit discharges and connections. The ordinance is the appropriate mechanism because of the need to have legal authority to prohibit illegal discharges and connections and to have legal authority to pursue whatever actions are necessary to eliminate such activities. The ordinance will make non-stormwater discharges (with appropriate exemptions) illegal, will give authorized Town personnel right of entry onto private property to investigate and eliminate illegal discharges, will set forth penalties for non-compliance, and will establish procedures for administrations of the ordinance.
- 7.3.4 Enforcement: The Phase II Stormwater Management Ordinance will charge the Stormwater Administrator with implementing the Illicit Discharge Detection and Elimination program. The Stormwater Administrator may designate other contracted agencies to perform inspections, investigations, education, and elimination functions. The ordinance will specify legal penalties to be implemented in cases of non-compliance.
- 7.3.5 <u>Detection and Elimination</u>: Dry weather visual inspections will be done to find illicit connections. If illicit connections are found, they will be first tested for potential pollution chemical containments and then traced upstream in an attempt to determine the source. The ordinance will include right-of-entry, addressing of spills and elimination of illicit discharge or connection. The Town will review the program's success in eliminating any discharges that may be detected. All procedures will be evaluated to determine if any changes are needed.

7.3.5.1 Procedures for Locating Priority Areas

System wide, dry weather evaluations of storm sewer outfalls will be conducted to identify potential problem areas.

7.3.5.2 Procedures for Tracing the Source

Training of Town employees on illegal dumping, illicit discharge and ways to identify illicit connections. Upon discovery of dry weather flow, the survey will document the location, test the flow for potential pollution chemical containments, and attempt to follow the flow upstream through the system to its source.

7.3.5.3 Procedures for Removing the Source

Discovered sources will be documented and the property owner will be notified of the necessary remedial measures and timeframe in which to complete them. A follow-up inspection will be performed to ensure the appropriate removal of the source.

7.3.6 Non-Stormwater Discharges:

Allowable:

- Water line flushing;
- Landscape irrigation;
- Diverted stream flows;
- Rising ground waters;
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20));
- Uncontaminated pumped ground water;
- Discharges from potable water sources;
- Foundation drains;
- Air conditioning condensation;
- Irrigation water;
- Springs;
- Water from crawl space pumps;
- Footing drains;
- Lawn watering;
- Individual residential car washing;
- Flows from riparian habitats and wetlands;
- Dechlorinated swimming pool discharges;
- Street wash water; and
- Other non-stormwater discharges for which a valid NPDES discharge
 permit has been approved and issued by the State of North Carolina, and
 provided that any such discharges to the municipal separate storm sewer
 system shall be authorized by the Town of Lewisville.
- 7.3.7 <u>Incidental Non-Stormwater Discharges:</u> Occasional, non-commercial car washing (e.g. charity events, churches, etc.) will be allowed. Limitations on the frequency and the location may be instituted.
- 7.3.8 Outreach: Employees will be informed of the hazards of illicit discharges and the appropriate actions to be taken through periodic training. The brochures to be mass mailed will be on this subject in order to inform homeowners on the issues associated with illicit discharges and connections. The public will also be reached via the Town website, bi-monthly newsletter, and on the Government Access TV channel (Channel 6).
- 7.3.9 <u>Decision Process:</u> The Town Council, with the help of the Town Staff and the Stormwater Advisory committee, will make decisions on policies and procedures implementing the Comprehensive Stormwater Management Plan. Town Staff may enforce policies and procedures set forth by the Town Council. The Stormwater Advisory Committee will be a resource tool for Town Council to use in the development processes and for public education and outreach.
- 7.3.10 Evaluation: Annually, the implementation progress of the Illicit Discharge Detection and Elimination program will be reviewed by the Town Manager, Public Works Director, Stormwater Administrator, and the Public Information Officer to determine if they are being met effectively. Also Lewisville will have regular dialogue with other local governments regarding the successes and problems with similar efforts for this minimum measure. Any changes will be proposed in the annual report to DWQ.

7.4 Construction Site Stormwater Runoff Control

Program Requirements: Reduce pollutants in stormwater runoff from construction activities disturbing one or more acres of land surface and those activities less than one acre that are part of a larger common plan of development. Provide procedures for public input, sanctions to ensure compliance, requirements for construction site operators to implement appropriate erosion and sediment control practices, review of site plans which incorporates consideration of potential water quality impacts, and procedures for site inspection and enforcement of control measures. Establish requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality.

A program has been adopted and is in effect for Forsyth County, the City of Winston Salem, and the Town of Lewisville. The purpose of the procedures established by this program is to control accelerated erosion and sedimentation from land disturbing activities in order to prevent the pollution of water and other damage to lakes, watercourses, and other public and other private property. The Forsyth County Erosion Control Ordinance satisfies this requirement. The ordinance states than an erosion control plan be prepared and approved for any land disturbing activity that:

- Exceeds twenty thousand (20,000) square feet in surface area on one tract for construction of a single family dwelling, or
- Exceeds ten thousand (10,000) square feet in surface area on one tract for any other purpose than a single family dwelling.

7.4.1 BMP's for Construction Site Stormwater Runoff Control

200		ВМР	Measurable Goals	YR 1	YR 2	YR 3	YR 4	YR 5	Responsible Position/Party
	1	Erosion and Sediment Control Program and Regulatory Mechanism	Lewisville will rely on Forsyth County to comply with this minimum measure. Lewisville will monitor the Forsyth County program for effectiveness in Lewisville's town limits.	X·	х	X	Х	X	Forsyth County Inspections Division
	2	Construction Site Erosion Control Plans	Contractors will be required to comply with the Forsyth County Erosion Control Ordinance by preparing and submitting, at a minimum of 30 days prior to the land disturbing activity, Erosion Control Plans to the Superintendent of Inspections. The Forsyth County Superintendent of Inspections shall review all submitted plans for compliance with the ordinance and will coordinate this review with Forsyth Soil and Water Conservation. Upon approval, the contractor is responsible for obtaining a permit for the land disturbing activities.	X	X	X	X	X	Forsyth County Inspections Division
	3	Educational and Training Materials for Construction Site Operators	Lewisville will rely on Forsyth County to distribute materials to contractors to comply with this minimum measure.	×	Х	X	Х	X	Forsyth County Inspections Division
	4	Public Information Procedures	Forsyth County will maintain the public awareness of the program and its requirements.	X	X	×	X	X	Forsyth County Inspections Division
	5	Inspection Procedures	Land disturbing sites shall be inspected for compliance with the Forsyth County Erosion Control Ordinance. The Superintendent of Inspections is responsible for these inspections having the authority to enter private and public propertied to conduct the inspections, as he deems necessary to carry out his duties. If it is determined that the permitted erosion control plan is inadequate to meet the Erosion Control Ordinance requirements, the Superintendent of Inspections may require revisions to the plan necessary for compliance. Lewisville shall conduct random inspections of sites that have been permitted to see if the site is in	X	X	X	X	X	Forsyth County Inspections Division
L			compliance. Sites not in compliance will be reported to Forsyth County.						
	5	Public Reporting Mechanism	Citizens will be informed by means of the Bi-Monthly newsletter, Channel 6 cable access, and the Lewisville website of the appropriate contacts to report observed erosion and sedimentation problems.	X	X .	X	X	X	Public Information Officer

- 7.4.2 Regulatory Mechanism: The Town has decided to use the Forsyth County Erosion Control Ordinance, which has been adopted as part of the Unified Development Ordinances for Lewisville, the appropriate regulatory mechanism for this measure. This ordinance was chosen because of the need to have legal authority to require sediment and erosion controls during construction activities and to have legal authority to pursue whatever actions are necessary to enforce the proper implementation of erosion control plans to reduce pollutants at construction sites during storm water events. A copy of this ordinance is included as Appendix A. Also a Memorandum of Agreement between Forsyth County Inspections Division and the Town of Lewisville is attached as Appendix B.
 - 7.4.2.1 This ordinance establishes the requirements and procedures for construction site operators to implement appropriate erosion and sediment control best management practices. The responsibility for administration of this ordinance is that of the Forsyth County Superintendent of Inspections. The ordinance requires:
 - Development of erosion control plans that address the following control objectives:
 - a) Identify and address on-site critical areas especially vulnerable to damage from erosion and/or sedimentation,
 - Plan and conduct all land disturbing activity to minimize the time of exposure,
 - c) Plan and conduct all land disturbing activity to minimize the size of the area exposed at one time,
 - d) Control surface water runoff originating upgrade of exposed area to reduce erosion and sediment loss,
 - e) Plan and conduct all land disturbing activities to prevent off-site sedimentation damage.
 - f) Manage stormwater runoff velocity to minimize accelerated erosion of the site and increased sedimentation of receiving watercourse, and
 - g) Plan and conduct all land disturbing activity so as to protect floodway and flood fringe areas.

The land disturbing activities shall incorporate the use of mandatory standards including buffer zones, properly graded slopes, ground cover and vegetation of slopes, encroachment limits in floodway and floodway fringe areas.

- Review and approval of erosion control plans,
- Purchase of a permit for approved land disturbing activities,
- Plan and conduct land disturbing activity so that post construction ten year storm runoff satisfies stated velocity criteria,
- Plan and conduct land disturbing activities so as to minimize the
 extent and duration of disturbance of the stream channel, except
 when justification for significant alteration to flow characteristics is
 provided,
- Maintenance of temporary and permanent erosion and sedimentation controls during construction and post construction,
- Improvement security in the form of an escrow account with the Town Finance Officer may be required of permit applications where grading or vegetation removal impacts an area in excess of five acres,

- Inspections of land disturbing activities by the Superintendent of Inspections,
- Penalties for civil and/or criminal violations of provisions in ordinance.
- 7.4.3 Plan Reviews: Persons conducting a land disturbing activity meeting the requirements for permitting shall file three (3) copies of the erosion control plan with the Superintendent of Inspections at least thirty (30) days prior to beginning the activity. One copy of the erosion control plan will be retained by the Superintendent of Inspections, one copy will be forwarded to the Forsyth Soil and Water Conservation District, and one copy shall be kept at the job site. The Forsyth Soil and Water Conservation District, within twenty (20) days of receipt of any plan, or within such additional time as prescribed by the Superintendent of Inspections, shall review the plan and submit its comments and recommendations to the Superintendent of Inspections. The Superintendent of Inspections will review each complete plan submitted to him/her and within thirty (30) days of receipt will notify the person submitting the plan that it has been approved. approved with modifications, approved with performance reservations, or disapproved. Denial of a plan must specifically state in writing the reasons for denial. The Superintendent of Inspections must approve or deny a revised plan within fifteen (15) days of receipt, or is deemed to be approved.

Approval of the Erosion Control Plan is conditioned on the applicant's compliance with Federal and State water quality laws, regulations, and rules. A copy of the Erosion Control Plan for any land disturbing activity that involves the utilization of ditches for the purpose of de-watering or lowering the water table must be forwarded to the Director of the Division of Water Quality. Any plan submitted for a land disturbing activity for which an environmental document is required by the North Carolina Environmental Policy Act (North Carolina General Statute 113A-1) shall be deemed incomplete until a complete environmental document is available for review.

A process for appealing plan disapproval or approval with modifications is provided for in the Erosion Control Ordinance. Additionally, following commencement of a land disturbing activity pursuant to an approved plan, if the Superintendent of Inspections determines that the plan is inadequate to meet the Erosion Control Ordinance requirements, the Superintendent of Inspections may require revisions to the plan as necessary for ordinance compliance.

- 7.4.4 <u>Enforcement:</u> Violation of the Erosion Control Ordinance by failing to conduct land disturbing activities in accordance with an approved plan where one is required will result in various sanctions as documented in the Ordinance. These sanctions take the following forms:
 - a) Building Permit/Certificate Of Occupancy Withheld
 - No building permit shall be issued until the required temporary erosion control measures are installed in accordance with the approved plan.
 - No certificate of occupancy shall be issued or granted where required under applicable subdivision or zoning regulations or other laws and ordinances until the required erosion control measures have been completed in accordance with a valid permit.

b) Civil Penalties

No penalty shall be assessed until the person has been notified of the violation by registered or certified mail, return receipt requested, or other means to give actual notice. The notice shall describe the violation, and warn that failure to correct the violation within the specified time period will result in the assessment of a civil penalty or other enforcement action.

- Any person who commences grading activities without a permit where required shall be subject to a penalty equal to double the normal permit fee, not to exceed one thousand dollars (\$1,000).
- Any person violating any of the Erosion Control Ordinance provisions except that of not submitting an erosion control plan shall be subject to a civil penalty of not more than five thousand dollars (\$5,000). The Superintendent of Inspections shall determine the amount of the civil penalty to be assessed by taking into consideration the degree and extent of harm caused by the violation and cost of rectifying the damage.

Notice of assessment shall be by the registered or certified mail or other means reasonably calculated to give actual notice. If the payment is not received or equitable settlement not reached within thirty (30) days after demand for payment is made, the matter will be referred to the Town Attorney for institution of a civil action in the name of the Town of Lewisville.

c) Criminal Penalties

Any person who knowingly or willingly violates the provisions in the Erosion Control Ordinance, or rule or order adopted or issued pursuant to the Ordinance, or knowingly or willfully initiates or continues a land disturbing activity for which an erosion control plan is required but does not have an approved plan and permit, shall be guilty of a Class 2 misdemeanor which may include a fine not to exceed five thousand dollars (\$5,000).

7.4.5 <u>Inspections:</u> The Superintendent of Inspections shall have the power to conduct investigations, as he may reasonably deem necessary to carry out his duties. This includes entering at reasonable times upon the property, public or private, for the purpose of investigating and inspecting the sites of any land disturbing activity. The Town of Lewisville may also conduct random inspections to verify that the site is in compliance, and to verify effectiveness of the Forsyth County program. No person shall refuse entry or access to any authorized representative or agent of the county or town who requests entry for purposes of inspection, and who presents appropriate credentials.

- 7.4.6 <u>Public Information:</u> Forsyth County has administered this program since its inception and maintains public awareness of the program and its requirements.
- 7.4.7 <u>Decision Process:</u> The Town Council, with the help of the Town Staff and the Stormwater Advisory committee, will make decisions on policies and procedures implementing the Comprehensive Stormwater Management Plan. Town Staff may enforce policies and procedures set forth by the Town Council. The Stormwater Advisory Committee will be a resource tool for Town Council to use in the development processes and for public education and outreach.
- 7.4.8 Evaluation: Annually, the implementation progress of the Forsyth County Erosion and Sediment Control Program will be reviewed by the Town Manager, Public Works Director, Stormwater Administrator, and the Public Information Officer to determine if it is being met effectively. Also Lewisville will have regular dialogue with other local governments regarding the successes and problems with similar efforts for this minimum measure. Any changes will be proposed in the annual report to DWQ.

7.5.1 BMP's for Post Construction Stormwater Management in New Development and Redevelopment

100 mm / 100	ВМР	Measurable Goals	YR 1	YR 2	YR 3	YR 4	YR 5	Responsible Position/Party
1	Post-Construction Stormwater Management	Develop, adopt an ordinance, implement, and enforce a program to address stormwater runoff from new development and redevelopment. The ordinance will be reviewed by DWQ prior to implementation. Controls will be put in place to prevent or minimize water quality impacts by ways of a permitting program.			X	X	X	Stormwater Administrator
2	Post-Construction Stormwater Management Strategies	Develop and implement strategies that include a combination of structural and/or non-structural BMP's. Provide a mechanism to require long-term operation and maintenance of structural BMP's. Require annual inspection reports of permitted structural BMP's performed by a qualified professional. The Town will use the State Stormwater BMP manual for requirements for each Individual BMP design and size.			X	X	X	Stormwater Administrator
3	Fecal Coliform Control	In coordination with Forsyth County Health Department develop and implement an oversight program to ensure proper operation and maintenance of on-site wastewater treatment systems.			Х	Х	Х	Forsyth County Health Department

- 7.5.2 BMP Operations and Maintenance: BMP usefulness to achieve the purpose of reducing pollutants in surface waters is dependent on proper operation and maintenance of the BMP. The program and ordinance will require proper operation and ongoing maintenance for the life of the BMP. Operation and maintenance agreements will be a prerequisite for site and project approvals and other means to assure adequate maintenance, such as bonding, may be used if needed. Suitable BMP operations and maintenance will be enforceable through civil and criminal penalties to be included in the Phase II Stormwater Ordinance. The program shall include a requirement that the owner of a permitted structural BMP, submit annually to the local program, a maintenance inspection report on each structural BMP. A qualified professional must conduct the inspection. The Stormwater Administrator or their designee shall conduct random inspections of the structural BMPs and after the annual inspection report to verify that they are being maintained appropriately and operating properly.
- 7.5.3 Fecal Coliform Control: Town employees will be trained to identify surface water pollution from leaking on-site treatment systems for domestic wastewater (septic tanks and nitrification fields). Where incidents of fecal coliform contamination are discovered, the Forsyth County Health Department will be notified to remedy the problem. Lewisville will follow-up with the Forsyth County Health Department to determine and document the resolution of these incidents.

- 7.5.4 SA Waters: The Town of Lewisville does not contain or drain to SA (high quality salt waters) waters.
- 7.5.5 TR Waters: The Town of Lewisville does not contain or drain to TR (public mountain trout waters) waters.
- 7.5.6 NS Waters: The Town of Lewisville does not contain or drain to NS (designated nutrient sensitive waters) waters.
- 7.5.7 Structural BMPs: The Town will adopt the standards of the State BMP Design Manual for retention of the difference in pre- and post-construction runoff volume from the one-year, 24-hour storm and removal of 85% of total suspended solids.
- 7.5.8 Non-Structural BMPs: The Town operates under a Unified Development Ordinance that includes provisions such as a Watershed Protection section that will be combined with the Phase II Stormwater Ordinance in order to incorporate all requirements to reduce confusion. The Watershed Protection section has requirements and standards that are stricter than the Stormwater Ordinance.
- 7.5.9 Regulatory Mechanism: The Town will adopt an ordinance to implement the Post Construction Stormwater Management program. An ordinance was chosen as the appropriate regulatory mechanism because of the need to have legal authority to require compliance with the program and to have legal authority to pursue whatever actions are necessary to achieve compliance. We will report annually on progress made, addressing plan review process, number of sites impacted, inspection practices, and any follow up procedures implemented.
- 7.5.10 <u>Decision Process:</u> The Town Council, with the help of the Town Staff and the Stormwater Advisory committee, will make decisions on policies and procedures implementing the Comprehensive Stormwater Management Plan. Town Staff may enforce policies and procedures set forth by the Town Council. The Stormwater Advisory Committee will be a resource tool for Town Council to use in the development processes and for public education and outreach.
- 7.5.11 Evaluation: Annually, the implementation progress of the Post Construction Stormwater Management Plan will be reviewed by the Town Manager, Public Works Director, Stormwater Administrator, and the Public Information Officer to determine if it is being met effectively. Also Lewisville will have regular dialogue with other local governments regarding the successes and problems with similar efforts for this minimum measure. Any changes will be proposed in the annual report to DWQ.

.

7.6 Pollution Preventions/Good Housekeeping for Municipal Operations

Program Requirements: Prevent or reduce stormwater pollution from municipal operations.

7.6.1 BMP's for Pollution Prevention and Good Housekeeping for Municipal

Operations

	ВМР	Measurable Goals	YR	YR	YR	YR	YR	Responsible
			1	2	3	4	5	Position/Party
1	Operation and Maintenance Program	Develop and maintain an operation and maintenance program that has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.	X	X	X	X	X	Stormwater Administrator
2	Inspection and Evaluation of Facilities, Operations, and the MS4 System and Associated Structural BMP's	Develop and maintain an inventory of Town owned facilities, and operations that have the potential for generating polluted stormwater runoff, including the MS4 system and associated structural BMP's. Inspect potential sources of polluted runoff, the stormwater controls, and conveyance systems. Evaluate the sources, document deficiencies, plan corrective actions, and document the accomplishment of corrective actions.	X	X	X.	X	X	Stormwater Administrator
3	Training for Employees	Provide training for employees on specific pollution prevention and good housekeeping procedures. Maintain annual record of training and number of employees trained and subjects covered.			X	X	X	Stormwater Administrator
4	Review of Municipality owned or operated regulated industrial activities.	The Town currently does not own any industrial facilities that require a Phase I permit.						Stormwater Administrator

- 7.6.2 Affected Operations: The Town operates and maintains a community center, parks and recreation areas, public works storage facility, and a town hall. The Public Works Department maintains approximate 55 miles of Town owned streets and right-of-ways within the Town. Approximately 24% of these streets are curb and gutter. The town currently sweeps a portion of the streets in the downtown core. However, none of these activities or facilities will require Industrial NPDES permits.
- 7.6.3 Training: The Town will develop training materials on pollution prevention for Town owned facilities and streets, using existing materials gathered from other organizations or creating new tools as needed. All employees will be trained annually on the need for controls to protect stormwater from exposure to potential pollutants. All employees who manage chemicals and drainage systems will also be trained annually on matters that specifically relate to their job.

- Procedures for its facilities that cover the correct method of conducting individual operations at the facility. To reduce pollutants in the MS4, the Public Works Department contracts street sweeping for parking lots and streets associated with Town facilities. Street sweeping is scheduled for once a month for streets and on an as needed basis for parking lots. In an attempt to keep the entire MS4 system clean the street sweeping will be expanded to include all streets maintained by the Town with curb and gutter. The Town cleans the storm sewer piping on an as needed basis, at present. Also, as the Town undergoes the mapping process areas of deficiencies will be documented and an analysis will be done to prioritize the areas and the cost associated with those restorations or construction activities.
- 7.6.5 <u>Vehicular Operations:</u> Maintenance procedures and responsibilities will be developed end implemented to manage pollutants from municipal parking lots. Pollutants to be addressed will include trash and debris, petroleum products, and vehicular consumable byproducts (antifreeze, brake linings, tire wear, etc.).
- 7.6.6 <u>Waste Disposal:</u> Waste removed from the Town's drainage system is disposed of in an approved manner at appropriate facilities.
- 7.6.7 <u>Flood Management Projects:</u> Currently, the Town is not a part of a flood management project. If the Town should become involved in a future project, the Town will review its impact on water quality.
- 7.6.8 <u>Existing Ordinances</u>: The Town's Unified Development Ordinance addresses stormwater in Chapter C, Article IV.
- 7.6.9 Other Evaluations: Same as above.
- 7.6.10 <u>Decision Process:</u> The Town Council, with the help of the Town Staff and the Stormwater Advisory committee, will make decisions on policies and procedures implementing the Comprehensive Stormwater Management Plan. Town Staff may enforce policies and procedures set forth by the Town Council. The Stormwater Advisory Committee will be a resource tool for Town Council to use in the development processes and for public education and outreach
- 7.6.11 Evaluation: Annually, the implementation progress of the Pollution Prevention and Good Housekeeping for Municipal Operations Plan will be reviewed by the Town Manager, Public Works Director, Stormwater Administrator, and the Public Information Officer to determine if it is being met effectively. Also Lewisville will have regular dialogue with other local governments regarding the successes and problems with similar efforts for this minimum measure. Any changes will be proposed in the annual report to DWQ.

Appendix A:

Ordinance Referencing Forsyth County Ordinances Applicable to the Town of Lewisville

Chapter C - Environmental Ordinance Article IV - Erosion Control

4-1 GENERAL

This section is adopted for the purposes of:

- (A) Regulating certain land disturbing activities to control accelerated erosion and sedimentation in order to prevent the pollution of water and other damage to lakes, watercourses, and other public and private property by sedimentation; and,
- (B) Establishing procedures through which these purposes can be fulfilled.

4-2 DEFINITIONS

As used in this chapter, unless the context clearly indicates otherwise, the following definitions apply:

ACCELERATED EROSION

Any increase over the rate of natural erosion as a result of land disturbing activity.

ACT

The North Carolina Sedimentation Pollution Control Act of 1973 and all rules and orders adopted pursuant to it and amendments.

ADEQUATE EROSION CONTROL MEASURE, STRUCTURE OR DEVICE

One which controls the soil material within the land area under responsible control of the person conducting the land disturbing activity.

AFFILIATE

A person that directly, or indirectly through one or more intermediaries, controls, is controlled by or is under common control of another person.

AGRICULTURAL LAND

Any parcel of land which is used in the raising of agricultural, dairy, or forest products, livestock, poultry, or fur-bearing animals.

BEING CONDUCTED

A land disturbing activity has been initiated and permanent stabilization of the site has not been completed.

BORROW

Fill material which is required for on-site construction and is obtained from other locations.

BUFFER ZONE

The strip of land adjacent to a lake or natural watercourse.

COMMISSION

The North Carolina Sedimentation Control Commission.

COMPLETION OF CONSTRUCTION OR DEVELOPMENT

Completion of construction or development means that no further land disturbing activity is required on a phase of a project except that which is necessary for establishing a permanent ground cover.

DEPARTMENT

The North Carolina Department of Environment and Natural Resources (DENR).

DIRECTOR

The Director of the Division of Land Resources of the Department of Environment and Natural Resources (DENR).

DISCHARGE POINT

That point at which storm water runoff leaves a tract of land.

DISTRICT

The Forsyth Soil and Water Conservation District created pursuant to Chapter 139, North Carolina General Statutes.

ENERGY DISSIPATOR

A structure or a shaped channel section with mechanical armoring placed at the outlet of pipes or conduits to receive and break down the energy from high velocity flow.

EROSION

The wearing away of land surface by the action of wind, water, gravity, or any combination thereof.

EXISTING GRADE

The elevation among the ground surface of a site as recorded in topographic mapping at two (2) foot or four (4) foot contour intervals, on file in the office of the Planning Board, or as surveyed and mapped at a contour interval of not more than four (4) feet, by a licensed surveyor or a registered professional engineer.

GROUND COVER

Any natural vegetative growth or other material which renders the soil surface stable against accelerated erosion.

HIGH QUALITY WATERS

Those classified as such in 15A NCAC 2B.0101(e)(5) - General Procedures, which is incorporated herein by reference to include further amendments pursuant to General Statutes 150B-14(e).

HIGH QUALITY WATER (HQW) ZONES

Areas that are within one mile of high quality waters and drain to high quality waters.

LAKE OR NATURAL WATERCOURSE

Any stream, river, brook, swamp, sound, bay, creek, run, branch, canal, waterway, estuary, and any reservoir, lake or pond, natural or impounded, in which sediment may be moved or carried in suspension, and which could be damaged by accumulation of sediment.

LAND DISTURBING ACTIVITY

Any use of the land by any person in residential, industrial, educational, institutional, or commercial development, highway and road construction and maintenance that results in a change in the natural cover or topography and that may cause or contribute to sedimentation.

LOCAL GOVERNMENT

Any county, incorporated village, town, or city, or any combination of counties, incorporated villages, towns, and cities, acting through a joint program pursuant to the provisions of the Act.

NATURAL EROSION

The wearing away of the earth's surface by water, wind, or other natural agents under natural environmental conditions undisturbed by man.

PARENT

An affiliate that directly, or indirectly through one or more intermediaries, controls another person.

PERSON

Any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, interstate body, or other legal entity.

PERSON CONDUCTING LAND DISTURBING ACTIVITY

Any person who may be held responsible for a violation unless expressly provided otherwise by this Chapter, the Act, or any order adopted pursuant to this Chapter or the Act.

PERSON RESPONSIBLE FOR THE VIOLATION

Person responsible for the violation, as used in this Chapter, and General Statute 113A-64, means:

- (A) The developer or other person who has or holds himself/herself out as having financial or operational control over the land disturbing activity; and/or,
- (B) The landowner or person in possession or control of the land when he/she has directly or indirectly allowed the land disturbing activity or has benefited from it or he/she has failed to comply with any provision of this Ordinance, the Act, or any order adopted pursuant to this Ordinance or the Act as it imposes a duty upon him.

PHASE OF GRADING

One of two (2) types of grading, rough or fine.

PLAN

An erosion and sedimentation control plan.

SEDIMENT

Solid particulate matter, both mineral and organic, that has been or is being transported by water, air, gravity, or ice from its site of origin.

SEDIMENTATION

The process by which sediment resulting from accelerated erosion has been or is being transported off the site of the land disturbing activity or into a lake or natural watercourse.

SILTATION

Sediment resulting from accelerated erosion which is settleable or removable by properly designed, constructed, and maintained control measures; and which has been transported from its point of origin within the site of a land disturbing activity; and which has been deposited, or is in suspension in water.

STORM DRAINAGE FACILITIES

The system of inlets, conduits, channels, ditches and appurtenances which serve to collect and convey stormwater through and from a given drainage area.

STORMWATER RUNOFF

The surface flow of water resulting from precipitation in any form and occurring immediately after rainfall or melting.

SUBSIDIARY

An affiliate that is directly, or indirectly through one or more intermediaries, controlled by another person.

TEN-YEAR STORM

The storm water runoff resulting from precipitation of an intensity expected to be equaled or exceeded, on the average, once in ten (10) years, and of a duration which will produce the maximum peak rate of runoff, for the watershed of interest under average antecedent wetness conditions.

TRACT

All contiguous land and bodies of water being disturbed or to be disturbed as a unit, regardless of ownership.

TWENTY-FIVE-YEAR STORM

The storm water runoff resulting from a precipitation of an intensity expected to be equaled or exceeded, on the average, once in twenty-five (25) years, and of a duration which will produce the maximum peak rate of runoff, from the watershed of interest under average antecedent wetness conditions.

UNCOVERED

The removal of ground cover from, on, or above the soil surface.

UNDERTAKEN

The initiating of any activity, or phase of activity, which results or will result in a change in the ground cover or topography of a tract of land.

VELOCITY

The average velocity of flow through the cross section of the main channel at the peak flow of the storm of interest. The cross section of the main channel shall be that area defined by the geometry of the channel plus the area of flow below the flood height defined by vertical lines at the main channel banks. Overload flows are not included for the purpose of computing velocity of flow.

WASTE

Surplus materials resulting from on-site land disturbing activities and being disposed of at other locations.

WORKING DAYS

Days exclusive of Saturday and Sunday during which weather conditions or soil conditions permit land disturbing activity to be undertaken.

4-3 ADMINISTRATION AND INTERPRETATION OF THIS SECTION OF THE ORDINANCE

4-3.1 ADMINISTRATION

The Director of Inspections shall be responsible for the administration of this section of the Ordinance.

4-3.2 MINIMUM REQUIREMENTS; EXCEPTION

In their interpretation and application, the provisions of this section of the Ordinance shall be held to be minimum requirements, except where they are expressly stated to be maximum requirements.

4-3.3 CONFLICTS WITH OTHER ORDINANCES AND LAWS

Whenever any provisions of this section of the Ordinance and any other ordinance or law impose overlapping or contradictory regulations, the provision which is more restrictive or imposes higher standards or requirements shall govern.

4-3.4 CIVIL REMEDIES

It is not intended that any provision of this section of the Ordinance shall restrict or impair the right of any private or public person to bring any legal or equitable action for redress against nuisances, hazards, or injuries to persons or property.

4-3.5 LIABILITY FOR DAMAGES

Failure of the Director of Inspections to observe or recognize conditions which violate the intent and purpose of this section of the Ordinance or to deny a development permit applied for under this section of the Ordinance shall not relieve the property owner from responsibility for the condition or damages resulting therefrom and shall not result in the city/county or its officers or agents being responsible for conditions or damages resulting therefrom.

4-3.6 REMOVAL OF COVER AND CHANGE OF ELEVATIONS

The holder of a development permit may remove existing cover or change existing elevations of the land only in accordance with the purposes of this section of the Ordinance and within the time schedules and methods for such changes set forth in this section of the Ordinance.

4-4 SCOPE AND EXCLUSIONS

This section of the Ordinance shall apply to land disturbing activity undertaken by any person, with the following exclusions:

(A) AGRICULTURAL ACTIVITIES

Those undertaken on agricultural land for the production of plants and animals useful to humans, including but not limited to: forage and sod crops, grain and feed crops, tobacco, cotton and peanuts; dairy animals and dairy products; poultry and poultry products; livestock, including beef cattle, sheep, swine, horses, ponies, mules or goats, including the breeding and grazing of all such animals; bees and apiary products; and, fur producing animals;

(B) FORESTRY ACTIVITIES

Those undertaken on forest land for the production and harvesting of timber and timber products and which are conducted in accordance with *Forest Practice Guidelines Related to Water Quality* (best management practices) as adopted by the North Carolina Department of Environment and Natural Resources (DENR). If land disturbing activity undertaken on forest land for the production and harvesting of timber and timber products is not conducted in accordance with *Forest Practice Guidelines Related to Water Quality*, the provisions of this chapter shall apply to such activity and any related land disturbing activity on the tract;

(C) MINING

Activity undertaken by persons as defined in General Statute 113A-52(8) who are otherwise regulated by the provisions of the *Mining Act of 1971*, General Statute 74-46 through General Statute 74-68;

(D) STATE OF NORTH CAROLINA JURISDICTION

Land disturbing activity over which the State has exclusive regulatory jurisdiction as provided in General Statute 113A-56; and,

(F) EMERGENCIES

Any activity which is essential to protect human life during an emergency.

4-5 GENERAL REQUIREMENTS

4-5.1 PLAN AND PERMIT REQUIRED

No person shall initiate any land disturbing activity upon a tract which requires a permit under Section C.4-16 without having an erosion control plan approved by the Director of Inspections and without having purchased the applicable permit through the Inspections Division office.

4-5.2 PROTECTION OF PROPERTY

Persons conducting land disturbing activity shall take all reasonable measures to protect all public and private property from damage caused by such activity, including protected floodway fringe areas specified in Section C.2-3.1(B)(3)(b).

4-5.3 CONFLICTING PROVISIONS

Whenever conflicts exist between federal, State or local laws, ordinances or rules, the more restrictive provision shall apply.

4-6 BASIC CONTROL OBJECTIVES

An erosion and sedimentation control plan may be disapproved pursuant to Section C.4-18 if the plan fails to address the following control objectives:

(A) IDENTIFY CRITICAL AREAS

On-site areas which are subject to severe erosion and off-site areas which are especially vulnerable to damage from erosion and/or sedimentation are to be identified and receive special attention;

(B) LIMIT TIME OF EXPOSURE

All land disturbing activity is to be planned and conducted to limit exposure to the shortest feasible time;

(C) LIMIT EXPOSED AREA

All land disturbing activity is to be planned and conducted to minimize the size of the area to be exposed at any one time;

(D) CONTROL SURFACE WATER

Surface water runoff originating upgrade of exposed areas should be controlled to reduce erosion and sediment loss during the period of exposure;

(E) CONTROL SEDIMENTATION

All land disturbing activity is to be planned and conducted so as to prevent off-site sedimentation damage;

(F) MANAGE STORMWATER RUNOFF

When the increase in the velocity of stormwater runoff resulting from a land disturbing activity is sufficient to cause accelerated erosion of the receiving watercourse, plans are to include measures to control the velocity at the point of discharge so as to minimize accelerated erosion of the site and increased sedimentation of the stream; and,

(G) PROTECTION OF FLOODWAY AND FLOODWAY FRINGE AREAS

All land disturbing activity is to be planned and conducted so as to protect floodway and floodway fringe areas in accordance with Section C.2-3.

4-7 MANDATORY STANDARDS FOR LAND DISTURBING ACTIVITY

No land disturbing activity subject to the control of this section of the Ordinance shall be undertaken except in accordance with the following mandatory standards:

(A) BUFFER ZONE

- (1) Lake or Natural Watercourse. No land disturbing activity during periods of construction or improvement to land shall be permitted in proximity to a lake or natural watercourse unless a buffer zone is provided along the margin of the watercourse of sufficient width to confine visible siltation within the twenty-five percent (25%) of the buffer zone nearest the land disturbing activity. This subdivision shall not apply to a land disturbing activity in connection with the construction of facilities to be located on, over or under a lake or natural watercourse.
- (2) Width of Buffer Zone. Unless otherwise provided, the width of a buffer zone is measured from the edge of the water to the nearest edge of the disturbed area, with the twenty-five percent (25%) of the strip nearer the land disturbing activity containing natural or artificial means of confining visible siltation.

(B) GRADED SLOPES, MECHANICALLY STABILIZED SLOPES AND FILLS

- (1) Slope Specifications. No cut or fill greater than ten (10) vertical feet shall be made which creates a slope steeper than one and one-half (1.5) to one (1.5:1) unless approval is granted during plan review by the Director of Inspections. The angle for graded slopes and fills shall be no greater than the angle which can be retained by vegetative cover or other adequate erosion control devices or structures. The angle for graded slopes and fills must be demonstrated to be stable. Stable is the condition where the soil remains in its original configuration, with or without mechanical constraints. Mechanically stabilized slopes, including but not limited to riprap, cribs, timber or masonry retaining walls, shall not exceed ten (10) feet in height without intervening terraces ten (10) feet in width with a maximum slope of three to one (3:1). In any event, slopes left exposed and such terraces will, within twenty-one (21) calendar days of completion of any phase of grading, be planted or otherwise provided with ground cover, devices, or structures sufficient to restrain erosion.
- (2) Exceptions. With prior approval of the Director of Inspections, the ten (10) foot height limit for mechanically stabilized slopes may be increased for:
 - (a) Wing Walls and Earth Retaining Devices. Wing walls allowing subgrade access and other earth retaining devices required for the structural support of buildings, bridges, dams, culverts, or similar structures; or,
 - (b) Stormwater Channels. Mechanical stabilization required for engineered stormwater channels.

(C) FILL MATERIAL

Unless a permit from the Department's Division of Waste Management to operate a landfill is on file for the official site, acceptable fill material shall be free of organic or other degradable materials, masonry, concrete and brick in sizes exceeding twelve (12) inches, and any materials which would cause the site to be regulated as a landfill by the State of North Carolina.

(D) GROUND COVER AND REVEGETATION OF SLOPES

(1) Deadlines for Establishing Ground Cover. Whenever land disturbing activity is undertaken on a tract requiring a permit under Section 5-16, the person conducting the land disturbing activity shall install such sedimentation and erosion control devices and practices as are sufficient to retain the sediment generated by the land disturbing activity within the boundaries of the tract during construction upon and development of said tract, and shall plant or otherwise provide a permanent ground cover and slope revegetation sufficient to restrain erosion after completion of construction or development. Except as provided in Section C.4-8.2(E), provisions for a ground cover sufficient to restrain erosion must be accomplished within twenty-one (21) calendar days of completion of any phase of grading.

Revegetation of Slopes. All cut and fill slopes in excess of three (3) to one (3:1) slope and greater than ten (10) feet in height and intervening terraces required in Section C.4-7.2(B)(1) shall be revegetated to provide plant cover over the entire area. Said revegetation shall include a minimum of one tree per two hundred (200) square feet of surface area. The trunk of any required tree shall be no closer than ten (10) feet from any other required tree. Said trees may be a mixture of evergreen and deciduous, a minimum of twelve (12) inches high at planting with a minimum height at maturity of twenty-five (25) feet.

(E) FLOODWAY AND FLOODWAY FRINGE AREAS

- (1) Limits of Encroachment. Cut or fill or other activities shall meet the limits of encroachment specified in Section C.2-3.
- (2) Designation in the Field. The limit of grading and encroachment according to Section C.2-3.1(B)(3)(b)(i), consisting of a line delineating one-half the distance of this Ordinance, consisting of a line delineating one-half the distance between the outer edge of the floodway fringe and the outer edge of the floodway for the zoning lot in question, or other line provided by a certified engineering study in accordance with Section C.2-3.1(B)(3)(b)(i), shall be designated in the field by the applicant or property owner by means of highly visible and durable plastic material or other means acceptable to the Erosion Control Officer, prior to the issuance of the grading permit.
- (3) Subdivisions. For subdivisions, the designation of limits of grading or encroachment into the floodway fringe area required in Section C.2-3.1(B)(3)(b)(i) shall be provided by the property owner or developer for the entire zoning lot being subdivided prior to the issuance of grading permits and construction of streets or other improvements. The Erosion Control Officer shall review the proposed encroachment prior to the issuance of permits for the development of individual lots created through the subdivision process.

(F) TOP OF SLOPE

The top or toe of any slope steeper than a ratio of one and one-half (1.5) horizontal units to one vertical unit (1.5:1) shall be no less than two (2) feet from any neighboring property line or from any public right-of-way, parking lot, drive, or walk intended for public use, unless a retaining wall is built.

(G) PRIOR PLAN APPROVAL

No person shall initiate any land disturbing activity upon a tract requiring a permit under Section C.4-16 unless, thirty (30) or more days prior to initiating the activity, an erosion and sedimentation control plan for such activity is filed with and approved by the Director of Inspections, the associated fees are paid, and the permit is issued by the Director of Inspections.

(H) PRIOR TO LAND DISTURBING ACTIVITIES

- (1) Notification. No person may initiate a land-disturbing activity before notifying the agency that issued the plan approval of the date that the land-disturbing activity will begin.
- (2) Preconstruction Conference. When deemed necessary by the approving authority a preconstruction conference may be required.

4-8 DESIGN AND PERFORMANCE STANDARDS

4-8.1 DESIGN STANDARDS

Except as provided in this Ordinance, erosion and sedimentation control measures, structures and devices, shall be so planned, designed and constructed as to provide protection from the calculated maximum peak of runoff from the ten-year storm. Runoff rates shall be calculated using the procedures in the USDA, Soil Conservation Service's *National Engineering Field Manual for Conservation Practices*, or other acceptable calculation procedures.

4-8.2 HIGH QUALITY WATER ZONES

In high quality water zones, the following design standards shall apply:

(A) Uncovered Areas

Uncovered areas in high quality water zones shall be limited at any time to a maximum total area within the boundaries of the tract of twenty (20) acres. Only the portion of the land disturbing activity within a high quality water zone shall be governed by this section. Larger areas may be uncovered within the boundaries of the tract with the written approval of the Director.

(B) Erosion and Sedimentation Control Measures, Structures, and Devices

Erosion and sedimentation control measures, structures and devices within high quality water zones shall be so planned, designed and constructed to provide protection from the runoff of the twenty-five-year storm which produces the maximum peak rate of runoff as calculated according to the procedures in the United States Department of Agriculture Soil Conservation Service's *National Engineering Field Manual for Conservation Practices* or according to procedures adopted by any other agency of this State or the United States or any generally recognized organization or association.

(C) Sediment Basins

Sediment basins within high quality water zones shall be designed and constructed such that the basin will have a settling efficiency of at least seventy percent (70%) for the forty (40) micron (0.04mm) size soil particle transported into the basin by the runoff of that five-year storm which produces the maximum peak rate of runoff as calculated according to procedures in the United States Department of Agriculture Soil Conservation Service's National Engineering Field Manual for Conservation Practices or according to the procedures adopted by any other agency of this State or the United States or any generally recognized organization or association.

(D) Open Channels

Newly constructed open channels in high quality water zones shall be designed and constructed with side slopes no steeper than two (2) horizontal to one vertical (2:1) if a vegetative cover is used for stabilization, unless soil conditions permit a steeper slope or where the slopes are stabilized by using mechanical devices, structural devices or other acceptable ditch liners. In any event, the angle for side slopes shall be sufficient to restrain accelerated erosion.

(E) Ground Cover

Ground cover sufficient to restrain erosion must be provided for any portion of a land disturbing activity in a high quality water zone within fifteen (15) working days or sixty (60) calendar days following completion of construction or development, whichever period is shorter.

4-9 STORMWATER OUTLET PROTECTION

4-9.1 POST CONSTRUCTION VELOCITY

Stream banks and channels downstream from any land disturbing activity shall be protected from increased degradation by accelerated erosion caused by increased velocity of runoff from the land disturbing activity. Persons shall conduct land disturbing activity so that the post construction velocity of the ten-year storm runoff in the receiving watercourse to the discharge point does not exceed the greater of:

(A) Maximum Permissible Velocities

The velocity established by Table 5.1; or,

(B) Velocity Prior to Development

The velocity of the ten-year storm runoff in the receiving watercourse prior to development.

If conditions in Sections C.4-9.1(A) and (B) cannot be met, then the receiving watercourse to and including the discharge point shall be designed and constructed to withstand the expected velocity anywhere the velocity exceeds the *prior to development* velocity by ten percent (10%).

4-9.2 ACCEPTABLE MANAGEMENT MEASURES

Measures applied alone or in combination to satisfy the intent of this section are acceptable if there are no objectionable secondary consequences. It is recognized that the management of stormwater runoff to minimize or control downstream channel and bank erosion is a developing technology. Innovative techniques and ideas will be considered and may be used when shown to have the potential to produce successful results. Some alternatives are to:

(A) Infiltration

Avoid increases in surface runoff volume and velocity by including measures to promote infiltration to compensate for increased runoff from areas rendered impervious.

(B) Vegetated or Roughened Swales and Waterways

Avoid increases in stormwater discharge velocities by using vegetated or roughened swales and waterways in lieu of closed drains and high velocity paved sections.

(C) Energy Dissipators

Section 2

Provide energy dissipators at outlets of storm drainage facilities to reduce flow velocities to the point of discharge. These may range from simple riprapped sections to complex structures.

(D) Cross Sections; Erosion Resistant Lining

Protect watercourses subject to accelerated erosion by improving cross sections and/or providing erosion-resistant lining.

(E) Improvement of Receiving Devices or Watercourse

Upgrade or replace the receiving device structure, or watercourse such that it will receive and conduct the flow to a point where it is no longer subject to degradation from the increased rate of flow or increased velocity.

4-9.3 EXCEPTIONS

This rule shall not apply where it can be demonstrated that stormwater discharge velocities will not create an erosion problem in the receiving watercourse.

4-9.4 MAXIMUM PERMISSIBLE VELOCITIES

The following is a table for maximum permissible velocities for stormwater discharges:

Table C.4.1

Maximum Permissible Velocities for Stormwater Discharges

Material	Maximum Permissible Velocities	
	F.P.S.	M.P.S.
Fine sand (noncolloidal)	2,5	0.8
Sandy loam (noncolloidal)	2.5	0.8
Silt loam (noncolloidal)	3.0	0.9
Ordinary firm loam	3.5	1.1
Fine gravel	5.0	1.5
Stiff clay (very colloidal)	5.0	1.5
Graded, loam to cobbles (noncolloidal)	5.0	1.5
Graded, silt to cobbles (colloidal)	5.5	1.7
Alluvial silts (noncolloidal)	3.5	1.1
Alluvial silts (colloidal)	5.0	1.5
Coarse gravel (noncolloidal)	6.0	1.8
Cobbles and shingles	5.5	1.7
Shales and hard pans	6.0	1.8

Source - Adopted from recommendation by Special Committee on Irrigation Research, American Society of Civil Engineers, 1926, for channels with straight alignment. For sinuous channels, multiply velocity by 0.95 for slightly sinuous, by 0.9 for moderately sinuous channels, and by 0.8 for highly sinuous channels.

4-10 BORROW AND WASTE AREAS

When the person conducting the land disturbing activity is also the person conducting the borrow or waste disposal activity, areas from which borrow is obtained and which are not regulated by the provisions of the *Mining Act of 1971*; and waste areas for surplus materials other than landfills regulated by the Department's Division of Waste Management, shall be considered as part of the land disturbing activity where the borrow material is being used or from which the waste material originated. When the person conducting the land disturbing activity is not the person obtaining the borrow and/or disposing of waste, these areas shall be considered a separate land disturbing activity.

4-11 ACCESS AND HAUL ROADS

Temporary access and haul roads, other than public roads, constructed or used in connection with any land disturbing activity shall be considered a part of such activity.

4-12 OPERATIONS IN LAKES OR NATURAL WATERCOURSES

Land disturbing activity in connection with construction in, on, over, or under a lake or natural watercourse shall be planned and conducted in such a manner as to minimize the extent and duration of disturbance of the stream channel. The relocation of a stream, where relocation is an essential part of the proposed activity, shall be planned and executed so as to minimize changes in the stream flow characteristics.

Advisory Note: The United States Army Corps of Engineers should be notified of any planned operation in lakes or natural watercourses, including their adjacent wetlands, for possible issuance of Section 404 or other permits.

4-13 RESPONSIBILITY FOR MAINTENANCE

During the development of a site, the person conducting the land disturbing activity shall install and maintain all temporary and permanent erosion and sedimentation control measures as required by the approved plan or any provision of this section of the Ordinance, the Act, or any order adopted pursuant to this section of the Ordinance or the Act. After site development, the landowner or person in possession or control of the land shall install and/or maintain all necessary permanent erosion and sediment control measures, except those measures installed within a road or street right-of-way or easement accepted for maintenance by a governmental agency.

4-14 ADDITIONAL PROTECTIVE MEASURES

Whenever the Director of Inspections determines that significant erosion and sedimentation is occurring as a result of land disturbing activity, despite application and maintenance of protective practices, the person conducting the land disturbing activity shall be required to and shall take additional protective action.

4-15 EXISTING UNCOVERED AREAS

4-15.1 SITES SUBJECT TO CONTINUED ACCELERATED EROSION

All uncovered areas which exist on the effective date of this section of the Ordinance as a result of land disturbing activity on a tract requiring a permit under this Article, which are subject to continued accelerated erosion, and which are causing off-site damage from sedimentation, shall be provided with a groundcover or other protective measures, structures, or devices sufficient to restrain accelerated erosion and control off-site sedimentation.

4-15.2 NOTICE OF VIOLATION

The Director of Inspections will serve upon the land owner or other person in possession or control of the land a written notice of violation by registered or certified mail, return receipt requested, or other means reasonably calculated to give actual notice. The notice will set forth the measures needed to comply with the Act, this ordinance or a rule or order adopted or issued pursuant to the Act by the Commission or Local Government and will state the time within which such measures must be completed. In determining the measures required and the time allowed for compliance, the authority serving notice shall take into consideration the economic feasibility, technology, and quantity of work required, and shall set reasonable and attainable time limits of compliance.

4-15.3 EROSION CONTROL PLAN

The Director of Inspections reserves the right to require preparation and approval of an erosion control plan in any instance where extensive control measures are required.

4-15.4 PLANNED RESERVOIR

This rule shall not require groundcover on cleared land forming the future basin of a planned reservoir.

4-16 PERMITS

4-16.1 REQUIRED; EXCEPTIONS

No person shall undertake any land disturbing activity subject to this Ordinance without first obtaining a permit therefore from the Director of Inspections, except that no permit shall be required for any land disturbing activity:

- (A) Located outside Salem Lake Watershed and not exceeding twenty thousand (20,000) square feet in surface area on one tract for construction of a single family dwelling or ten thousand (10,000) square feet on one tract for any other purpose. In determining the area, lands under one or diverse ownership being developed as a unit, will be aggregated; or,
- (B) Located within Salem Lake Watershed and not exceeding ten thousand (10,000) square feet on one site for any purpose, or not exceeding twenty thousand (20,000) square feet for construction of a single family dwelling which is located on a lot existing prior to October 10, 1985, or a lot of a minor subdivision as defined in the Subdivision Regulations. In determining the area, land under one ownership, or land in diverse ownership being developed as a unit, will be aggregated.

4-16.2 FEE

The fee for permits required by this section shall be as the governing bodies of Local Government from time to time prescribed and establish by ordinance or resolution. When permits are requested for incremental grading in sections, the fee established by this section shall apply to each permit. The fee for sites where grading begins before a permit is obtained shall be equal to double the normal permit fee.

4-16.3 DISPLAY OF PERMIT

A development permit issued under this section of the Ordinance shall be prominently displayed on the property until a protected area has been established.

4-16.4 LAPSING AND REINSTATEMENT OF PERMIT

- (A) Approved grading plans shall become void thirty (30) days after the applicant has been notified. Any future action on expired grading plans requires new plans to be submitted and approved.
- (B) A development permit shall lapse at the end of six (6) months, unless it is reissued by the Director of Inspections. When the development permit lapses and the corrective action, as set forth in the development plan, has not been completed, the developer or owner shall be in violation of this section of the Ordinance.
- (C) The Director of Inspections may, upon written request, reissue a lapsed permit, to be effective for a period not to exceed sixty (60) working days from the date of re-issuance after review of the original development plan and on-site inspection of the state of the work. The request for re-issuance shall include the reasons for incompletion of the work.

4-16.5 RECORDATION

Developer shall meet the requirements of State regulations for recordation and file in the office of the Register of Deeds a record of use of any site for a landfill and a rehabilitation/reuse plan for the site, prior to the issuance of a zoning or grading permit.

4-17 IMPROVEMENT SECURITY REQUIRED OF CERTAIN PERMIT APPLICANTS

4-17.1 OUTSIDE SALEM LAKE WATERSHED

In areas outside Salem Lake Watershed, where the Director of Inspections deems it necessary to require security in order to assure performance of the conditions of the permit, the applicant for a permit to grade or remove vegetation or other protections from an area in excess of five (5) acres shall be required to file with the Finance Director for the appropriate jurisdiction an improvement security in the form of an escrow account or other instruments satisfactory to the attorney for the appropriate jurisdiction, in an amount deemed sufficient by the Director of Inspections to cover all costs of protection or other improvements required to establish protective cover on the site in conformity with standards specified in this section of the Ordinance. Such security shall be valid until the work is completed in accordance with the permit and until the same is released by the Director of Inspections. In case of a subdivision, the security required herein may be included with the security required for streets and other subdivision improvements, if any, and the instrument shall clearly specify the portion of the security applicable to the requirements of this section of the Ordinance. The applicable security shall be forfeited upon violation of this section of the Ordinance and shall be used to establish protective cover on the site. Any monies in excess of the cost of establishing protective cover shall be refunded to the developer. The security shall be released when the Director of Inspections has certified that the requirements of this section of the Ordinance have been met.

4-17.2 WITHIN SALEM LAKE WATERSHED

For areas located within the Salem Lake Watershed, the applicant for a permit to grade or remove vegetation or other protection from an area in excess of three (3) acres shall be required to file with the finance director for the appropriate jurisdiction an improvement security in the form of an escrow account or other instrument satisfactory to the attorney for the appropriate jurisdiction, in an amount deemed sufficient by the Director of Inspections to cover all costs of protection or other improvements required to establish protective cover on the site in conformity with the standards specified in this section of the Ordinance. Such security shall be valid until the work is completed in accordance with the permit and until the same is released by the Director of Inspections. In case of a subdivision, the security required herein may be included with the security required for streets and other subdivision improvements, if any, and the instrument shall clearly specify the portion of the security applicable to the requirements of this section of the Ordinance. The applicable security shall be forfeited upon violation of this section of the Ordinance and it shall be used to establish protective cover on the site. Any moneys in excess of the cost of establishing protective cover shall be refunded to the developer. The security shall be released when the Director of Inspections has certified that the requirements of this section of the Ordinance have been met.

4-18 EROSION AND SEDIMENTATION CONTROL PLANS

4-18.1 PREPARATION

An erosion control plan shall be prepared for all land disturbing activities on a tract requiring a permit under this Article.

4-18.2 COPIES; REVISED PLANS

Persons conducting a land disturbing activity shall file three (3) copies of the erosion control plan with the Director of Inspections at least thirty (30) days prior to beginning such activity. One copy of the erosion control plan will be retained by the Director of Inspections, one copy will be forwarded to the Forsyth Soil and Water Conservation District, and one copy shall be kept at the job site until all construction is complete, all permanent sedimentation and erosion control measures are installed and the site has been stabilized. After approving the plan, if the Director of Inspections, either upon review of such plan or on inspection of the job site, determines that a significant risk of accelerated erosion or off-site sedimentation exists, he/she will require a revised plan. Pending the preparation of the revised plan, work shall cease or shall continue under conditions outlined by the Director of Inspections. If following commencement of a land-disturbing activity pursuant to an approved plan, it is determined that the plan is inadequate to meet the requirements of this Ordinance, the Director of Inspections may require any revision of the plan that is necessary to comply with this Ordinance.

4-18.3 STATEMENT OF FINANCIAL RESPONSIBILITY

Erosion control plans may be disapproved unless accompanied by an authorized statement of financial responsibility and ownership. This statement shall be signed by the person financially responsible for the land disturbing activity or his/her attorney-in-fact. The statement shall include the mailing and street addresses of the principal place of business of the person financially responsible and of the owner of the land or his/her registered agents. If the person financially responsible is not a resident of North Carolina, a North Carolina agent must be designated in the statement for the purpose of receiving notice of compliance or noncompliance with the plan, this Ordinance, or rules or orders adopted or issued pursuant to this Ordinance.

4-18.4 REVIEW AND RECOMMENDATIONS

The Forsyth Soil and Water Conservation District, within twenty (20) days of receipt of any plan, or within such additional time as may be prescribed by the Director of Inspections, shall review such plan and submit its comments and recommendations to the Director of Inspections. Failure of the soil and water conservation district to submit its comments and recommendations within twenty (20) days or within the prescribed additional time will not delay final action on the plan.

4-18.5 NOTICE OF APPROVAL, REJECTION, ETC.

The Director of Inspections will review each complete plan submitted to him/her and within thirty (30) days of receipt thereof will notify the person submitting the plan that it has been approved, approved with modifications, approved with performance reservations, or disapproved. Failure to approve or disapprove a complete erosion and sedimentation control plan within thirty (30) days of receipt shall be deemed approval. Denial of a plan must specifically state in writing the reasons for denial. The Director of Inspections must approve or deny a revised plan within fifteen (15) days of receipt, or it is deemed to be approved. If, following commencement of a land disturbing activity pursuant to an approved plan, the Director of Inspections determines that the plan is inadequate to meet the requirements of this section of the Ordinance, the Director of Inspections may require such revisions as are necessary to comply with this section of the Ordinance. The approval of an Erosion Control Plan is conditioned on the applicant's compliance with Federal and State water quality laws, regulations, and rules. A copy of the Erosion Control Plan for any land disturbing activity that involves the utilization of ditches for the purpose of de-watering or lowering the water table must be forwarded to the Director of the Division of Water Quality.

4-18.6 ENVIRONMENTAL DOCUMENT

Any plan submitted for a land disturbing activity for which an environmental document is required by the North Carolina Environmental Policy Act (General Statute 113A-1, et seq.) shall be deemed incomplete until a complete environmental document is available for review. The Director of Inspections shall promptly notify the person submitting the plan that the thirty (30) day time limit for review of the plan pursuant to Section C.4-18.5 shall not begin until a complete environmental document is available for review.

4-18.7 PREPARATION, FILING AND CONTENTS OF PLAN

It shall be the responsibility of the property owner or developer or his/her agent to apply to the Director of Inspections, on a form furnished by the Director of Inspections, for any development permit required by this section of the Ordinance. No application for a development permit shall be accepted unless accompanied by a development plan including the information specified in this section. Unless the Director of Inspections deems such seal and signature to be unnecessary due to the simplicity of the site situation and the limited nature of the erosion control measures required in the development plan, the development plan shall be prepared by, and shall bear the seal and signature of, a registered professional engineer, architect, landscape architect or a registered surveyor to the extent permitted by State law, and shall include maps of the site, at a scale not smaller than one inch represents one hundred (100) feet (1" to 100'), showing:

(A) Standard Documentation

Standard documentation, available in part from the offices of the Tax Assessor or the Register of Deeds, which shall include the outer boundaries of the site, any interior property lines or easements, the relation of the site to the nearest or abutting street intersections, scale and north arrow, total acreage, ownership, address, and tax block and lot numbers of the property;

(B) Existing Conditions

Existing conditions, available in part from the Planning Board, which shall include: structures, roads, driveways and contours at intervals of not more than four (4) feet, with elevations referred to mean sea level; wooded areas, any intermittent or permanent springs; any streams or other bodies of surface water; and, the location, dimensions and type of any existing constructed drainageway to, from or within the site;

(C) Proposed Development Plans

The proposed development plan shall contain architectural and engineering drawings, maps, assumptions, calculations, and narrative statements as needed to adequately describe the proposed development of the tract and the measures planned to comply with the requirements of this Ordinance. Plan content may vary to meet the needs of specific site requirements. The plan shall also include any structures to be established or removed, any streets, roadways, driveways, parking or loading areas, easements or rights-of-way to be added or changed; any changes of ditches, catch basins, terraces or other devices; any nonvegetative protection or support, including paving, riprap, walls or other structures or surfaces; areas of vegetation to be removed, location of trees to be retained and proposed vegetative cover; and, excepting applications for subdivision approval only, location of sewage treatment facilities, including septic tank and drain field, if public or community sewerage is not available; and,

(D) Other

A statement, referenced to the map(s) if appropriate, as to whether the site will be developed in sections and any profiles, earth movement computations, drainage calculations, grading specifications, temporary and permanent protective measures, including planting, or other explanatory data necessary for the interpretation of the site preparation, protection and development plan.

4-18.8 DISAPPROVAL

An erosion control plan, or draft plans if implementation of the plan would result in a violation of the rules adopted by the Environmental Management Commission to protect riparian buffers along surface waters, may be disapproved upon a finding that an applicant, or a parent, subsidiary, or other affiliate of the applicant:

(A) Without An Approved Plan; Violation

Is conducting or has conducted land disturbing activity without an approved plan, or has received notice of violation of a plan previously approved by the Commission or a local government pursuant to the Act and has not complied with the notice within the time specified in the notice;

(B) Civil Penalty

Has failed to pay a civil penalty assessed pursuant to the Act or a local ordinance adopted pursuant to the Act which is due and for which no appeal is pending;

(C) Misdemeanor or Criminal Provision

Has been convicted of a misdemeanor pursuant to General Statute 113A-64(b) or any criminal provision of a local ordinance adopted pursuant to the Act; or,

(D) Failed to Comply

Has failed to substantially comply with State rules or local ordinances or regulations adopted pursuant to the Act.

For purposes of this section, an applicant's record may be considered for only two (2) years prior to the application date.

4-18.9 AMENDMENT OF PLAN

Application for amendment of an erosion control plan in written and/or graphic form may be made at any time under the same conditions as the original application. Until such time as said amendment is approved by the Director of Inspections, the land disturbing activities shall not proceed except in accordance with the erosion control plan as originally approved.

4-19 APPEALS BY PERMIT APPLICANT OR HOLDER

4-19.1 GENERAL

Except as provided in Section C.4-19.2, the appeal of a disapproval or approval with modifications of a plan shall be governed by the following provisions:

(A) Appeal to Board of Adjustment

Appeal from any decision of the Director of Inspections by the applicant for, or holder of, a development permit shall be to the Board of Adjustment. The applicant or holder of a development permit shall have fifteen (15) calendar days from the date of written denial or revocation of a permit, or from denial of an extension of or an amendment to a permit, within which to appeal. An appeal shall be perfected by filing written notice, with reasons therefore, with the Director of Inspections within the time period prescribed.

(B) Board of Adjustment Action

The Board of Adjustment may affirm, reverse or modify the decision of the Director of Inspections, based upon a finding or determination as to whether the applicant or permit holder has met the requirements and conditions for the issuance of a development permit, extension thereof or an amendment thereto, as specified in this section of the Ordinance. The Board of Adjustment may impose further requirements or conditions upon the issuance, extension or amendment of a permit as may reasonably be deemed necessary to accomplish the purposes declared in this section of the Ordinance. Pending appeal, grading at the site shall proceed only in accordance with a currently effective development permit and plan issued and approved by the Director of Inspections.

(C) Appeal from Board of Adjustment

Appeal from the Board of Adjustment shall be to the North Carolina Sedimentation Control Commission as provided in General Statute 113A-61(c) and 15 NCAC 4B .0081(b), with notice of appeal filed within fifteen (15) days following issuance of the decision.

4-19.2 NOTIFICATION AND APPEAL TO THE COMMISSION

In the event that an erosion control plan is disapproved pursuant to Section C.4-18.8, the Director of Inspections shall notify the Director of the Division of Land Resources of such disapproval within ten (10) days. The Director of Inspections shall advise the applicant and the Director in writing as to the specific reasons that the plan was disapproved. The applicant may appeal the Director of Inspections' disapproval of the plan pursuant to Section C.4-18.8 directly to the Commission.

4-20 COMPLIANCE WITH PLAN REQUIREMENTS

4-20.1 VIOLATION

Any person engaged in land disturbing activities who fails to file a plan in accordance with this Ordinance, or who conducts a land disturbing activity except in accordance with provisions of an approved development plan shall be deemed in violation of this Ordinance.

4-20.2 NO BUILDING PERMITS

No building permits shall be issued until the required temporary erosion control measures are installed in accordance with the approved development plan.

4-20.3 NO CERTIFICATE OF OCCUPANCY

No certificate of occupancy shall be issued or granted where required under applicable subdivision or zoning regulations or other laws and ordinances unless and until the required erosion control measures at the site have been completed in accordance with a valid permit.

4-21 INSPECTIONS AND INVESTIGATIONS

4-21.1 PERIODIC INSPECTION

Agents, officials or other qualified persons authorized by the Director of Inspections will periodically inspect sites of land disturbing activity to determine compliance with the Act, this chapter, or rules or orders adopted or issued pursuant to this chapter, and to determine whether the activity is being conducted in accordance with an approved plan, and whether the measures required in the plan are effectively controlling the erosion and sediment resulting from the land disturbing activity. Notice of the right to inspect shall be included in the notification of plan approval.

4-21.2 NOTICE OF VIOLATION

If, through inspection, it is determined that a person engaged in land disturbing activity has failed to comply with the Act, this chapter, or rules or orders adopted or issued pursuant to this chapter, or has failed to comply with an approved plan, a notice of violation shall be served upon that person by registered or certified mail or other means reasonably calculated to give actual notice. The notice shall specify a date by which the person must comply with the Act, or this Ordinance, or rules or orders adopted pursuant to this Ordinance, and inform the person of the actions that need to be taken to comply with the Act, this Ordinance or rules or orders adopted pursuant to this Ordinance. The notice will set forth the measures needed to comply and will state the time within which such measures must be completed. In determining the measures required and the time allowed for compliance, the Local Government serving notice shall take into consideration the economic feasibility, technology, and quantity of work required, and shall set reasonable and attainable time limits of compliance. Any person who fails to comply within the time specified is subject to additional civil and criminal penalties for a continuing violation as provided in G.S. 113A-64 and this Ordinance.

4-21.3 CONDUCTING INVESTIGATIONS

The Director of Inspections shall have the power to conduct such investigations as he may reasonably deem necessary to carry out his duties as described in this section of the Ordinance, and for this purpose to enter at reasonable times upon any property, public or private, for the purpose of investigating and inspecting the sites of any land disturbing activity. No person shall refuse entry or access to any authorized representative or agent of the city who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such representative while in the process of carrying out his official duties. An administrative search warrant may be obtained as provided in Section C.1-10 of the Forsyth County Code and other applicable laws.

4-21.4 WRITTEN STATEMENTS OR REPORTS UNDER OATH

The Director of Inspections shall also have the power to require written statements, or the filing of reports under oath, with respect to pertinent questions relating to land disturbing activity.

4-21.5 OBSTRUCTING AGENT OR LOCAL GOVERNMENT

No person shall willfully resist, delay, or obstruct an authorized representative, employee, or agent of the Director of Inspections while that person is inspecting or attempting to inspect a land disturbing activity under this section.

4-21.6 NOTIFICATION TO DIRECTOR OF INSPECTIONS

The holder of a development permit shall notify the Director of Inspections when grading is to begin and again when the graded area has been protected.

4-22 PENALTIES

4-22.1 CIVIL PENALTIES

(A) Procedure

Any person who violates any of the provisions of this section of the Ordinance, or rules, or orders adopted or issued pursuant to this section of the Ordinance, or who initiates or continues a land disturbing activity for which an erosion control plan in required, except in accordance with the terms, conditions, and provisions of an approved plan, shall be subject to a civil penalty of not more than five thousand dollars (\$5,000) except that the penalty for failure to submit an erosion control plan shall be as provided in Section C.4-16.2. No penalty shall be assessed until the person alleged to be in violation has been notified of the violation by registered or certified mail, return receipt requested, or other means reasonably calculated to give actual notice. The notice shall describe the violation with reasonable particularity, specify a reasonable time period within which the violation must be corrected, and warn that failure to correct the violation within the time period will result in the assessment of a civil penalty or other enforcement action. If after the allotted time period has expired, the violator has not completed corrective action, a civil penalty may be assessed from the day the violation is first detected. However, no time period for compliance need be given for failure to submit an erosion control plan for approval or for obstructing, hampering, or interfering with an authorized representative while in the process of carrying out his official duties. Each day of continuing violation shall constitute a separate violation. A person may be assessed a one-time civil penalty of up to five thousand dollars (\$5,000) for the day the violation is first detected.

(B) Amount and Enforcement

The Director of Inspections shall determine the amount of the civil penalty to be assessed under this section and shall provide notice to the person in violation directing the violator to either pay the assessment or contest the assessment by a written demand for a hearing within 30 days after receipt of the notice of assessment. The notice shall set forth in detail the civil penalty amount, a description of the violation for which the penalty has been imposed and the basis for assessment. In determining the amount of the penalty, the Director of Inspections shall consider the degree and extent of harm caused by the violation, the cost of rectifying the damage, the amount of money the violator saved by noncompliance, whether the violation was committed willfully, and the prior record of the violator in complying or failing to comply with this ordinance. Notice of the assessment shall be by registered or certified mail or other means reasonably calculated to give actual notice. If payment or demand for hearing to contest the assessment is not received or equitable settlement reached within thirty (30) days after demand for payment is made, the matter shall be referred to the Lewisville Attorney for institution of a civil action in the name of the City of Winston-Salem/Forsyth County in the appropriate division of the general courts of justice for recovery of the penalty. Any sums recovered shall be used to carry out the purposes and requirements of this chapter. Such actions must be filed within three (3) years of the date the final decision was served on the violator.

(C) Contest of Assessment

A hearing on a civil penalty shall be conducted by the Director of Inspections within thirty (30) days after the date of receipt of the written demand for hearing. The Director of Inspections shall render his decision on the civil penalty at the conclusion of the hearing. Appeal from the final decision of the Director of Inspections shall be to the Superior Court of Forsyth County where the violation occurred.

(D) Disbursal of Penalties

Civil penalties collected pursuant to this Ordinance shall be used or disbursed as directed by General Statute 113A-64(a)(5).

4-22.2 CRIMINAL PENALTIES

Any person who knowingly or willfully violates any provision of this section of the Ordinance, or rule or order adopted or issued pursuant to this section of the Ordinance, or who knowingly or willfully initiates or continues a land disturbing activity for which an erosion control plan is required except in accordance with the terms, conditions, and provisions of an approved plan, shall be guilty of a Class 2 misdemeanor which may include a fine not to exceed five thousand dollars (\$5,000).

4-23 INJUNCTIVE RELIEF

4-23.1 VIOLATION OF THE ORDINANCE

Whenever the Director of Inspections has reasonable cause to believe that any person is violating or threatening to violate this Ordinance, or any rule or order adopted or issued pursuant to this Ordinance, or any term, condition, or provision of an approved erosion control plan, he/she may, either before or after the institution of any other action or proceeding authorized by this Ordinance, institute a civil action in the name of the City of Winston-Salem/Forsyth County for injunctive relief to restrain the violation or threatened violation. The action shall be brought in the Superior Court of Forsyth County.

4-23.2 ORDER TO ABATE VIOLATION

Upon determination by a court that an alleged violation is occurring or is threatened, it shall enter such orders or judgments as are necessary to abate the violation or to prevent the threatened violation. The institution of an action for injunctive relief under this section shall not relieve any party to such proceedings from any civil or criminal penalty prescribed for violations of this section of the Ordinance.

4-24 PERMITS AND DEVELOPMENT PLANS PRESENTLY IN EFFECT TO REMAIN IN EFFECT

All permits and development plans approved by the Director of Inspections and other corrective measures required pursuant to the previous erosion control ordinance shall remain in full force and effect as if they had been approved pursuant to this section of the Ordinance; provided, however, any renewals or amendments of the permits and development plans previously approved shall be controlled by this section of the Ordinance.

4-25 RESTORATION AFTER NON-COMPLIANCE

The Director of Inspections may require a person who engaged in a land disturbing activity and failed to retain sediment generated by the activity, as required by G.S. 113A-57(3), to restore the waters and land affected by the failure so as to minimize the detrimental effects of the resulting pollution by sedimentation. The authority is in addition to any other civil or criminal penalty or injunctive relief authorized under this ordinance.

4-26 SEVERABILITY

If any section or sections of this Ordinance is/are held to be invalid or unenforceable, all other sections shall nevertheless continue in full force and effect.

4-27 EFFECTIVE DATE

This Ordinance shall become effective upon adoption.

Appendix B:

Memorandum of Agreement Between Winston Salem/Forsyth County Inspections Division and the Town of Lewisville

AFFIDAVIT OF PUBLICATION

Before the undersigned, a Notary Public of said County and State, duly commissioned, qualified, and authorized by law to administer oaths, personally appeared D.H. Stanfield, who being duly sworn, deposes and says: that he is Controller of the Winston-Salem Journal, engaged in the publishing of a newspaper known as Winston-Salem Journal, published, issued and entered as second class mail in the City of Winston-Salem, in said County and State: that he is authorized to make this affidavit and sworn statement: that the notice or other legal advertisement, a true copy of which is attached hereto, was published in Winston-Salem Journal on the following dates:

October 25, 28, 2007

and that the said newspaper in which such notice, paper document, or legal advertisement was published was, at the time of each and every such publication, a newspaper meeting all the requirements and qualifications of Section 1-597 of the General Statutes of North Carolina and was a qualified newspaper within the meaning of Section 1-597 of the General Statutes of North Carolina.

This 29th day of October, 2007

(signature of person making affidavit)

Sworn to and subscribed before me, this 29th day of October, 2007

Notary Public

My Commission expires: September 28, 2010

KIMALEY JOHNSON
NOTARY PUBLIC
FORSYTH COUNTY
STATE OF NOTTH CAPCUNA
MY COMMISSION EXPERSES A 740

