

Town of Arlington

P.O. Box 507 • 5854 Airline Road • Arlington, TN 38002-0507
(901) 867-2620 • Fax: (901) 867-2638 • www.townofarlington.org



September 24, 2015

State of Tennessee
Department of Environment and Conservation
Division of Water Resources
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, TN 37243

RE: Arlington MS4 Annual Report

Please find attached the 2015 Annual Report for the Arlington MS4. A public meeting was held on September 21, 2015 at Arlington Town Hall to discuss the report.

Should you have any questions, please feel free to contact me at 901-867-3449.

Sincerely,

Heather P. Sparkes, AICP
Town Planner

"Taking Pride in Arlington"

Mayor Mike Wissman, Vice Mayor Harry McKee
Aldermen Glen Bascom, Jr., Gerald McGee, Jeff McKee, Oscar Brooks and Brian Thompson



Tennessee Department of Environment and Conservation

Division of Water Resources

William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243

1-888-891-8332 (TDEC)

Municipal Separate Storm Sewer System (MS4) Annual Report

1. MS4 INFORMATION

Town of Arlington TNS088323

Name of MS4 MS4 Permit Number

Heather Sparkes hsparkes@townofarlington.org

Name of Contact Person Email Address

901-867-3449

Telephone (including area code)

P.O. Box 507, 5854 Airline Road

Mailing Address

Arlington Tennessee 38002-0507

City State ZIP code

What is the current population of your MS4? 12,090 (2013 special census)

What is the reporting period for this annual report? From July 1, 2014 to June 30, 2015

2. WATER QUALITY PRIORITIES (SECTION 3.1)

- A. Does your MS4 discharge into waters listed as impaired on TN's most current 303(d) list and/or according to the on-line GIS mapping tool? ☒ Yes ☐ No
- B. If yes, please attach a list all impaired waters within your jurisdictional area.
- C. Does your MS4's jurisdictional area contain any waterbodies where a TMDL has been approved for parameters other than pathogens, siltation and habitat alterations? If yes, please attach a list. ☐ Yes ☒ No
- D. Does your MS4 discharge to any Exceptional TN Waters (ETWs) or Outstanding National Resource Waters (ONRWs)? If yes, please attach a list. ☐ Yes ☒ No
- E. Are you implementing additional specific provisions to ensure the continued integrity of ETWs or ONRWs located within your jurisdiction? ☐ Yes ☒ No

3. PROTECTION OF STATE OR FEDERALLY LISTED SPECIES (SECTION 3.2.1 General Permit for Phase II MS4s)

- A. Are there any state or federally listed species within the MS4's jurisdiction? ☒ Yes ☐ No
- B. Are any of the MS4 discharges or discharge-related activities likely to jeopardize any state or federally listed species? ☐ Yes ☒ No
- C. Please attach any authorizations or determinations by U.S. Fish & Wildlife Service on the effect of the MS4 discharges on state or federally listed species.

4. PUBLIC EDUCATION AND PUBLIC PARTICIPATION (SECTION 4.2.1 AND 4.2.2)

- A. Have you developed a Public Information and Education plan (PIE)? ☒ Yes ☐ No
- B. Is your public education program targeting specific pollutants and sources of those pollutants, such as Hot Spots? ☐ Yes ☒ No

Municipal Separate Storm Sewer System (MS4) Annual Report

C. If yes, what are the specific causes, sources and/or pollutants addressed by your public education program?

Household discharges including yard waste, pet waste, paints and solvents. Construction site runoff.

D. Note specific successful outcome(s) (NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period. Citizens have become more aware of stormwater issues

E. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your stormwater program? ☐ Yes ☒ No

F. How do you facilitate, advertise, and publicize public involvement and participation opportunities? Town of Arlington website and work and relationships with community groups

G. Do you have a webpage dedicated to your stormwater program? ☒ Yes ☐ No
If so, what is the link/URL: http://townofarlington.org/index.aspx?nid=214

H. Are you tracking and maintaining records of public education, outreach, involvement and participation activities? Please attach a summary of these activities. ☒ Yes ☐ No

5. ILLICIT DISCHARGE DETECTION AND ELIMINATION (SECTION 4.2.3)

A. Have you completed a map of all outfalls and receiving waters of your storm sewer system? ☒ Yes ☐ No

B. Have you completed a map of all storm drain pipes of storm sewer system? ☒ Yes ☐ No

C. How many outfalls have you identified in your system? _____

D. Have any of these outfalls been screened for dry weather discharges? ☐ Yes ☒ No

F. What is your frequency for screening outfalls for illicit discharges? N/A

G. Do you have an ordinance that effectively prohibits illicit discharges? ☐ Yes ☒ No

Implemented 2015/16 reporting period, Per permit.
H. During this reporting period, how many illicit discharges/illegal connections have you discovered (or been reported to you)? N/A

I. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? N/A

6. CONSTRUCTION SITE STORMWATER RUNOFF (SECTION 4.2.4)

A. Do you have an ordinance or adopted policies stipulating: Implemented 2015/16 reporting period, per permit.
Erosion and sediment control requirements? ☐ Yes ☒ No

Other construction waste control requirements? ☐ Yes ☒ No

Requirement to submit construction plans for review? ☐ Yes ☒ No

MS4 enforcement authority? ☐ Yes ☒ No

B. How many active construction sites disturbing at least one acre were there in your jurisdiction this reporting period? 94

C. How many of these active sites did you inspect this reporting period? 94

D. On average, how many times each, or with what frequency, were these sites inspected (e.g., weekly, monthly, etc.)? monthly

E. Do you prioritize certain construction sites for more frequent inspections? ☒ Yes ☐ No

If Yes, based on what criteria? degree of activity on and stabilization of site

Municipal Separate Storm Sewer System (MS4) Annual Report

7. PERMANENT STORMWATER CONTROLS (SECTION 4.2.5)

A. Do you have an ordinance or other mechanism to require:

Site plan reviews of all new and re-development projects? ☒ Yes ☐ No

Maintenance of stormwater management controls? ☐ Yes ☒ No

Retrofitting of existing BMPs with green infrastructure BMPs? ☐ Yes ☒ No

B. What is the threshold for new/redevelopment stormwater plan review? (e.g., all projects, projects disturbing greater than one acre, etc.) sites disturbing greater than 1 acre or a site that is part of a larger development

C. Have you implemented and enforced performance standards for permanent stormwater controls? ☐ Yes ☒ No

D. Do these performance standards go beyond the requirements found in Section 4.2.5.2 and require that pre-development hydrology be met for: N/A

Flow volumes ☐ Yes ☒ No

Peak discharge rates ☐ Yes ☒ No

Discharge frequency ☐ Yes ☒ No

Flow duration ☐ Yes ☒ No

E. Please provide the URL/reference where all permanent stormwater management standards can be found.

N/A

F. How many development and redevelopment project plans were reviewed for this reporting period? 11

G. How many development and redevelopment project plans were approved? 11

H. How many permanent stormwater management practices/facilities were inspected? N/A

I. How many were found to have inadequate maintenance? N/A

J. Of those, how many were notified and remedied within 30 days? (If window is different than 30 days, please specify) N/A

K. How many enforcement actions were taken that address inadequate maintenance? N/A

L. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? ☒ Yes ☐ No

M. Do all municipal departments and/or staff (as relevant) have access to this tracking system? ☒ Yes ☐ No

N. Has the MS4 developed a program to allow for incentive standards for redeveloped sites? ☐ Yes ☒ No

O. How many maintenance agreements has the MS4 approved during the reporting period? N/A

8. CODES AND ORDINANCES REVIEW AND UPDATE (SECTION 4.2.5.3)

A. Is a completed copy of the EPA Water Quality Scorecard submitted with this report? ☒ Yes ☐ No

B. Include status of implementation of code, ordinance and/or policy revisions associated with permanent stormwater management. 2015/16 reporting period.

9. STORMWATER MANAGEMENT FOR MUNICIPAL OPERATIONS (SECTION 4.2.6)

A. Have stormwater pollution prevention plans (or an equivalent plan) been developed for: Not yet required, per permit.

Municipal Separate Storm Sewer System (MS4) Annual Report

All parks, ball fields and other recreational facilities ☐ Yes ☒ No

All municipal turf grass/landscape management activities ☐ Yes ☒ No

All municipal vehicle fueling, operation and maintenance activities ☐ Yes ☒ No

All municipal maintenance yards ☐ Yes ☒ No

All municipal waste handling and disposal areas ☐ Yes ☒ No

B. Are stormwater inspections conducted at these facilities? ☐ Yes ☒ No

1. If Yes, at what frequency are inspections conducted? N/A

C. Have standard operating procedures or BMPs been developed for all MS4 field activities? (e.g., road repairs, catch basin cleaning, landscape management, etc.) ☐ Yes ☒ No

D. Do you have a prioritization system for storm sewer system and permanent BMP inspections? ☒ Yes ☐ No

E. On average, how frequently are catch basins and other inline treatment systems inspected? Not Frequently

F. On average, how frequently are catch basins and other inline treatment systems cleaned out/maintained? Not Frequently

G. Do municipal employees in all relevant positions and departments receive comprehensive training on stormwater management? ☐ Yes ☒ No

H. If yes, do you also provide regular updates and refreshers? ☐ Yes ☐ No

If so, how frequently and/or under what circumstances? N/A

10. STORMWATER MANAGEMENT PROGRAM UPDATE (SECTION 4.4)

A. Describe any changes to the MS4 program during the reporting period including but not limited to:

Changes adding (but not subtracting or replacing) components, controls or other requirements (Section 4.4.2.a). N/A

Changes to replace an ineffective or unfeasible BMP (Section 4.4.2.b). N/A

Information (e.g. additional acreage, outfalls, BMPs) on program area expansion based on annexation or newly urbanized areas. N/A

Changes to the program as required by the division (Section 4.4.3). N/A

11. EVALUATING/MEASURING PROGRESS

A. What indicators do you use to evaluate the overall effectiveness of your Stormwater Management Program, how long have you been tracking them, and at what frequency? Note that these are not measurable goals for individual BMPs or tasks, but large-scale or long-term metrics for the overall program, such as in-stream macroinvertebrate community indices, measures of effective impervious cover in the watershed, indicators of in-stream hydrologic stability, etc.

Indicator	Began Tracking (year)	Frequency	Number of Locations
Example: <i>E. coli</i>	2003	Weekly April–September	20

Municipal Separate Storm Sewer System (MS4) Annual Report

B. Provide a summary of data (e.g., water quality information, performance data, modeling) collected in order to evaluate the performance of permanent stormwater controls installed throughout the system. This evaluation may include a comparison of current and past permanent stormwater control practices. N/A

12. ENFORCEMENT (SECTION 4.5)

A. Identify which of the following types of enforcement actions you used during the reporting period, indicate the number of actions, the minimum measure (e.g., construction, illicit discharge, permanent stormwater control) or note those for which you do not have authority: Implemented 2015/16 reporting period.

Action	Construction	Permanent Stormwater Controls	Illicit Discharge	Authority?	
Notice of violation	# _____	# _____	# _____	☐ Yes	☐ No
Administrative fines	# _____	# _____	# _____	☐ Yes	☐ No
Stop Work Orders	# _____	# _____	# _____	☐ Yes	☐ No
Civil penalties	# _____	# _____	# _____	☐ Yes	☐ No
Criminal actions	# _____	# _____	# _____	☐ Yes	☐ No
Administrative orders	# _____	# _____	# _____	☐ Yes	☐ No
Other _____	# _____	# _____	# _____		

B. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results, and enforcement actions in your jurisdiction? ☐ Yes ☒ No

C. What are the 3 most common types of violations documented during this reporting period? N/A

13. PROGRAM RESOURCES (OPTIONAL)

A. What was your annual expenditure to implement the requirements of your MS4 NPDES permit and SWMP this past reporting period? \$17,085

B. What is next year's budget for implementing the requirements of your MS4 NPDES permit and SWMP? \$12,100

C. Do you have an independent financing mechanism for your stormwater program? ☐ Yes ☒ No

D. If so, what is it/are they (e.g., stormwater fees), and what is the annual revenue derived from this mechanism?

Source: _____ Amount \$ _____

Source: _____ Amount \$ _____

E. How many full time employees does your municipality devote to the stormwater program (specifically for implementing the stormwater program vs. municipal employees with other primary responsibilities that dovetail with stormwater issues)? 0 (Staff has other responsibilities)

F. Do you share program implementation responsibilities with any other entities? ☐ Yes ☒ No

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
--------	------------------------------	---

Municipal Separate Storm Sewer System (MS4) Annual Report

G. Please attach a copy of your Organizational Chart

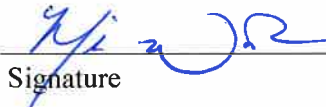
14. CERTIFICATION

This report must be signed by a ranking elected official or by a duly authorized representative of that person. See signatory requirements in sub-part 6.7.2 of the permit.

"I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury."

Mike Wissman, Mayor

Printed Name and Title


Signature

9-23-14

Date

Annual reports must be submitted in accordance with the requirements of Section 5.4. (Reporting) of the permit. Annual reports must be submitted to the appropriate Environmental Field Office (EFO) by September 30 of each calendar year, as shown in the table below:

EFO	Street Address	City	Zip Code	Telephone
Chattanooga	540 McCallie Avenue STE 550	Chattanooga	37402	(423) 634-5745
Columbia	1421 Hampshire Pike	Columbia	38401	(931) 380-3371
Cookeville	1221 South Willow Ave.	Cookeville	38506	(931) 432-4015
Jackson	1625 Hollywood Drive	Jackson	38305	(731) 512-1300
Johnson City	2305 Silverdale Road	Johnson City	37601	(423) 854-5400
Knoxville	3711 Middlebrook Pike	Knoxville	37921	(865) 594-6035
Memphis	8383 Wolf Lake Drive	Bartlett	38133	(901) 371-3000
Nashville	711 R S Gass Boulevard	Nashville	37216	(615) 687-7000



Town of Arlington

MS4 Annual Report 2014-2015

Impaired Waters

Impaired Waters within Jurisdictional Area

Loosahatchie River Basin

Waterbody ID	Impacted Waterbody	County	Miles/Acres
TN08010209003_0200	Cypress Creek	Shelby/Fayette	13.67
TN08010209003_1000	Clear Creek	Shelby	2.67
TN08010209004_1000	Loosahatchie River	Shelby/Fayette	10

Obtained from Proposed Final Version 2014 303(d) List, Tennessee Department of Environment and Conservation



Town of Arlington

MS4 Annual Report 2014-2015

Public Education, Outreach, Involvement and
Participation Activity Summary

Town of Arlington
MS4 Annual Report - 2015

Public Education, Outreach, Involvement and Participation Activity Summary

Stormwater Management Training

1 hour session, trained 12 individuals for a total of 12 training hours

Community Service Projects

Date	Group	Project	Duration	# of People	Total hours worked
October 2014	Gerdau Industry	Trash collection aong Jetway Road	1 hour	15	15
November 2014	Girl Scout Group	Trash collection at Sports Complex and Nature Trail	1.5 hours	30	45
April 11, 2015	Boy Scout Troop	Clean up around library, plant trees and flowers	2 hours	25	50
TOTAL HOURS WORKED					110

Pamphlet and Information Distribution

Understanding What Happens When it Rains pamphlet

190 pamphlets distributed

Stormwater and the Construction Industry pamphlet

6 total pamphlets distributed at pre-construction meetings

TAB Public Service Announcements

Participated in TAB program - In West TN, a total of 9,647 units and a value of \$217,137.52

Hosted table at Arlington in April

Staff hosted a table at Arlington in April, our annual spring festival. Stormwater pamphlets were distributed and stormwater practices were dicussed with about 20 residents.

Dog Waste Cans

The Arlington Parks Department placed two (2) dog waste bins at parks, College Hill Park and Sports Complex Nature trail, in order to encourage citizens to not leave waste on the ground.

Annual Report Public Meeting and Notice

An public meeting was held on September 21, 2015 to review the current annual report and answer any questions. Notice was published in the Commercial Appeal and on the Town of Arlington website.



Town of Arlington

MS4 Annual Report 2014-2015

Water Quality Scorecard

1 PROTECT NATURAL RESOURCES (INCLUDING TREES) AND OPEN SPACE

Sensitive Natural Lands/Critical Area Protection

QUESTION: Are development policies, regulations, and incentives in place to protect natural resource areas and critical habitat?

GOAL: Protect natural resource areas (e.g., forests, prairies) and critical habitat (e.g., conservation corridors, buffer zones, wildlife preserves) from future development.

WHY: Protection of significant tracts of critical lands and wildlife habitat will aid in protecting and improving water quality by increasing infiltration and groundwater recharge, preventing erosion and contamination of ground water and surface water resources, and protecting sources of drinking water.

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
ADOPT PLANS/EDUCATE:				
Identify and map critical natural resource areas (e.g., steep slopes, wildlife habitat, forests, <u>drinking water source areas</u>).	1	1	1	floodway + floodplain maps
The local comprehensive plan contains a natural resource protection element with goals calling for preservation of identified critical natural resource areas.	1	1	1	natural areas (floodway + floodplain)
Identify key natural resource areas for protection in jurisdiction's parks and open space plan.	1			no plan
Assist landowners in identifying sensitive natural areas and laying out developments to avoid such areas.	1	1	1	drain easements, preservation areas
Local plans establish and enforce areas which are available for development and which lands are a priority for preservation.	1	1	1	
REMOVE BARRIERS:				
Protection of sensitive natural areas and wildlife habitat qualifies for credit towards local open space dedication and set-aside requirements.	1			minimum standard, no "credit"
ADOPT INCENTIVES:				
Provide financial support to or collaborate with land trusts to acquire critical natural areas.	1			
Establish a dedicated source of funding for open space acquisition and management (e.g., bond proceeds, sales tax).	2			
Adopt a transferable developments rights program to provide an incentive for landowners to preserve sensitive natural lands and wildlife habitat.	1			
			4	
			PAGE TOTAL	
				◀ CARRY THIS SUBTOTAL TO NEXT PAGE =

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
Land use regulations provide for the creation of cluster and conservation subdivision on the periphery of urban growth areas to encourage preservation of intact blocks of sensitive natural areas.	1	1		cluster = 10 - Urban Growth Boundary "Estate Rd/Cog" and Rural Reserve
ENACT REGULATIONS:				
Adopt regulations to protect steep slope, hillsides, and other sensitive natural lands (e.g., by limiting development on slopes > 30% or requiring larger lot sizes in sensitive areas).	2	2		See Subd. Regs, p. 35
Adopt wildlife habitat protection regulations aimed at preserving large contiguous blocks of habitat areas.	2			
Create agriculture/natural resource zoning districts (e.g., minimum lot size of 80 acres and larger) to preserve agricultural areas and forests.	2			
		3		
		PAGE TOTAL		
		SUBTOTAL FROM PREVIOUS PAGE		
		▼ CARRY THIS SUBTOTAL TO NEXT PAGE		
		+ 4 = 7		

1.A.2a	Protection Of Water Bodies/Aquifers QUESTION: Are no-development buffer zones and other protective tools in place around wetlands, riparian areas, and floodplains that improve/protect water quality? GOAL: Protect critical areas such as wetlands, floodplains, lakes, rivers, and estuaries with a mandatory no-development buffer. WHY: The use of these practices will reduce pollutant loads and hydrologic alterations to water bodies.				
ADOPT PLANS/EDUCATE:		Implementation Tools and Policies Pts. Avail. Rec. or N/A Notes and Local References			
Identify and map critical water resource areas.	1	1	1	floodplains + floodways	
The local comprehensive plan contains a water quality protection element with goals calling for protection of identified water bodies and other water resource areas such as wetlands.	1	1	1	floodplains, floodways	
Identify key critical water resource areas for protection in jurisdiction's parks and open space plan.	1	0	0	no plan	
Cooperate in developing regional approaches to watershed protection and stormwater management.	1	1	1	MS4 working w/ other MS4's - also regional definition pending.	
REMOVE BARRIERS:					
Wetlands and other water bodies and buffer areas qualify for credit against local open space dedication/set-aside regulations.	1	1	1	qualifies for on-site open space requirements	
ADOPT INCENTIVES:					
Protected water bodies and buffer areas qualify for twice the credit (or more) against open space requirements set by the municipality.	1	0	0	no.	
Restoration of degraded riparian/wetland areas qualifies for additional open space credit within the local municipal system.	1	0	0	no.	
Transfer of density from protected riparian areas/buffers to upland portions of development sites.	1	0	0	no.	
ENACT REGULATIONS:					
Riparian and wetland buffer areas required by local land use regulations • Buffer is at least 50 feet (as measured from the top of bank) = 1 point • Buffer is at least 100 feet (as measured from the top of bank) = 2 points • Buffer is greater than 100 feet (as measured from the top of bank) = 3 points	1 to 3	0	0	min 30'	
Critical water resource areas cannot be counted in calculating allowable density on a site (e.g., on a 200-acre site with 50 acres of wetlands, only 150 acres can be used to calculate density under zone district regulations, and only those 150 acres may be developed).	1	0	0	no. encourage clustering.	
PAGE TOTAL 3		SUBTOTAL FROM PREVIOUS PAGE 7 + 10 = 10 ▼ CARRY THIS SUBTOTAL TO NEXT PAGE			

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
Development in floodplains is prohibited or must demonstrate no adverse impacts upstream and downstream (See resources below for details on "no adverse impact" approach to floodplain management).	2	2		
Stormwater quality and quantity performance standards exist for development sites (e.g., restrictions on sedimentation levels, pre/post development flows).	1	0		
Local regulations require restoration of degraded riparian/wetland areas on a development site.	1	0		
Compensation for damage to riparian/wetland areas must be on a minimum 2:1 basis on- or off-site.	1	0		
Performance standards exist and are well enforced for stormwater discharges to wetlands that protect the hydrologic regimes and limit pollutant loads.	1	0		
		PAGE TOTAL 2 + SUBTOTAL FROM PREVIOUS PAGE 10 = ▼ CARRY THIS SUBTOTAL TO NEXT PAGE 12		

1.A.2b	Protection Of Water Bodies/Aquifers																																																																	
	QUESTION: Does the community have protection measures for source water protection areas through land use controls and stewardship activities? GOAL: Protect source water areas from current or potential sources of contamination. WHY: These practices will help safeguard community health, reduce the risk of water supply contamination, and potentially reduce water treatment costs.																																																																	
	<table border="1"> <thead> <tr> <th colspan="2">Implementation Tools and Policies</th> <th>Pts. Avail.</th> <th>Pts. Rec. or N/A</th> <th>Notes and Local References</th> </tr> </thead> <tbody> <tr> <td colspan="5">ADOPT PLANS/EDUCATE:</td> </tr> <tr> <td>Local land use plans identify aquifer recharge/source water areas and recommend protective measures.</td> <td>1</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>Require that all stormwater inlets carry a notice regarding discharge to receiving waters.</td> <td>1</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>Map and publish wellhead and aquifer recharge areas to alert developers to potential restrictions.</td> <td>1</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td colspan="5">ADOPT INCENTIVES:</td> </tr> <tr> <td>Identification of drinking water source protection and aquifer recharge areas with a dedicated funding source in place to purchase and protect such areas.</td> <td>1</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>Protection of critical water source areas qualifies for additional credit towards local open space requirements.</td> <td>1</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td colspan="5">ENACT REGULATIONS:</td> </tr> <tr> <td>Adopt well-head protection regulations/zones to prevent incompatible development and uses.</td> <td>1</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>Adopt aquifer protection regulations/zones to prevent incompatible development and uses.</td> <td>2</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td colspan="2"></td> <td colspan="2"> <table border="1"> <tr> <td>PAGE TOTAL</td> <td>0</td> </tr> </table> </td> <td> SUBTOTAL FROM PREVIOUS PAGE + 12 = 12 ▼ CARRY THIS SUBTOTAL TO NEXT PAGE </td> </tr> </tbody> </table>				Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References	ADOPT PLANS/EDUCATE:					Local land use plans identify aquifer recharge/source water areas and recommend protective measures.	1	0			Require that all stormwater inlets carry a notice regarding discharge to receiving waters.	1	0			Map and publish wellhead and aquifer recharge areas to alert developers to potential restrictions.	1	0			ADOPT INCENTIVES:					Identification of drinking water source protection and aquifer recharge areas with a dedicated funding source in place to purchase and protect such areas.	1	0			Protection of critical water source areas qualifies for additional credit towards local open space requirements.	1	0			ENACT REGULATIONS:					Adopt well-head protection regulations/zones to prevent incompatible development and uses.	1	0			Adopt aquifer protection regulations/zones to prevent incompatible development and uses.	2	0					<table border="1"> <tr> <td>PAGE TOTAL</td> <td>0</td> </tr> </table>		PAGE TOTAL	0	SUBTOTAL FROM PREVIOUS PAGE + 12 = 12 ▼ CARRY THIS SUBTOTAL TO NEXT PAGE
	Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References																																																													
ADOPT PLANS/EDUCATE:																																																																		
Local land use plans identify aquifer recharge/source water areas and recommend protective measures.	1	0																																																																
Require that all stormwater inlets carry a notice regarding discharge to receiving waters.	1	0																																																																
Map and publish wellhead and aquifer recharge areas to alert developers to potential restrictions.	1	0																																																																
ADOPT INCENTIVES:																																																																		
Identification of drinking water source protection and aquifer recharge areas with a dedicated funding source in place to purchase and protect such areas.	1	0																																																																
Protection of critical water source areas qualifies for additional credit towards local open space requirements.	1	0																																																																
ENACT REGULATIONS:																																																																		
Adopt well-head protection regulations/zones to prevent incompatible development and uses.	1	0																																																																
Adopt aquifer protection regulations/zones to prevent incompatible development and uses.	2	0																																																																
		<table border="1"> <tr> <td>PAGE TOTAL</td> <td>0</td> </tr> </table>		PAGE TOTAL	0	SUBTOTAL FROM PREVIOUS PAGE + 12 = 12 ▼ CARRY THIS SUBTOTAL TO NEXT PAGE																																																												
PAGE TOTAL	0																																																																	

1.B OPEN SPACE PROTECTION

1.B.1

QUESTION: Does the jurisdiction have adequate open space in both developed and greenfield areas of the community?

GOAL: Create open space networks throughout a community that serve a dual function of providing recreational areas and assisting in the management of stormwater runoff.

WHY: In addition to providing open space throughout a community as an amenity, such a network can provide large areas that contribute little to stormwater loads and can provide large areas for the infiltration and purification of stormwater.

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
ADOPT PLANS/EDUCATE:				
Adopt a community-wide open space and parks plan.	1	0		
The local comprehensive plan contains an open space/parks element that recognizes the role of open space in sustainable stormwater management.	1	1		
REMOVE BARRIERS:				
Green infrastructure practices count towards local open space set aside requirements up to 50% of total.	1	0		
Allow and encourage retrofits of abandoned or underutilized public lands to serve as permanent or temporary open space and green infrastructure sites.	1	0		
ADOPT INCENTIVES:				
Additional open space credits are eligible for green stormwater management facilities improved/designed for public recreational purposes.	1	0		
Provide credit against open space impact fees for green roofs.	1	0		
ENACT REGULATIONS:				
Adopt neighborhood policies and ordinances that work to create neighborhood—not development site—open space amenities that are within ¼ to ½ mile walking distance from every residence.	1	0		
Adopt an open space impact fee to purchase passive open space that can assist in stormwater management.	1	0		
Adopt open space dedication and/or set aside requirements based on the demand generated by the development. As a baseline, use the average open space requirements adopted by the National Recreation and Park Assn. (e.g., 10 acres of community and neighborhood parks for every 1,000 persons in a development or fraction thereof).	1	0		
		PAGE TOTAL	1	
		SUBTOTAL FROM PREVIOUS PAGE		
		▼ CARRY THIS SUBTOTAL TO NEXT PAGE		
		+ 12 = 13		

1.C TREE PROTECTION

1.C.1

QUESTION: Does the local government have a comprehensive public urban forestry program?

GOAL: Protect and maintain trees on public property and rights-of-way and plant additional trees to enhance the urban tree canopy.

WHY: Mature trees provide multiple community benefits, reduce overall stormwater runoff, and improve stormwater quality.

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
ADOPT PLANS/EDUCATE:				
Survey and inventory existing trees on public lands and street rights-of-way. Document the characteristics and location of street trees and urban tree canopy to inform public tree planting, adoption, and maintenance programs.	1	0		
Select tree species based on known performance for managing stormwater runoff. Publish list and make widely available for homeowners/others that plant street trees.	1	0		
Conduct education and outreach about tree protection, proper maintenance, and replanting opportunities through printed materials, workshops, events, and signage.	1	0		
Adopt a policy to protect existing trees on local government development sites (e.g., municipal parking lots, municipal buildings).	1	0		
Maintain an active tree maintenance program for public trees, including pest control, pruning, watering, and similar measures.	1	0		
REMOVE BARRIERS:				
Acknowledge trees as part of community infrastructure and develop a coordinated design for locating public utilities to provide enough space for mature tree canopy and root development.	1	1		
ADOPT INCENTIVES:				
Provide free or reduced-price trees to homeowners to be used as street trees.	1	0		
ENACT REGULATIONS:				
Require any public trees removed or damaged during construction associated with private development to be replaced on- or off-site with an equivalent amount of tree caliper (e.g., remove a 24-inch diameter tree/replace with 6 four-inch diameter trees).	1	0		
Adopt construction protection rules for all public trees (e.g., fencing, no storage of hazardous materials, avoid cutting into root zones).	1	0		

PAGE TOTAL 1 + SUBTOTAL FROM PREVIOUS PAGE 13 = CARRY THIS SUBTOTAL TO NEXT PAGE 14

QUESTION: Has the community taken steps to protect trees on private property?			
GOAL: Preserve trees on private property and require replacement when trees are removed or damaged during development.			
WHY: Mature trees provide multiple environmental, economic, and community benefits, including improved water and air quality, reduced heat island effects, lowered energy costs, and improved community aesthetics.			
Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A
Notes and Local References			
ADOPT PLANS/EDUCATE:			
Community plans specifically include tree preservation and replacement as community goals.	1	1	1
Conduct educational sessions for builders and developers regarding appropriate tree protection techniques and/or publish a technical tree protection manual.	1	0	
Follow maintenance and inspection timelines and meet canopy goals and milestones by ensuring old trees survive, replacing dead or diseased trees, and planting new trees.	1	0	
REMOVE BARRIERS:			
Set up maintenance and inspection agreements for private properties meeting stormwater requirements or receiving stormwater fee credit for trees.	1	0	
Set up long-term maintenance and inspection schedules for trees on public lands.	1	0	
ADOPT INCENTIVES:			
Support local non-profits that plant trees and provide educational services.	1	0	
Provide financial incentives for tree purchases and planting.	1	0	
A tree fund has been established to receive in-lieu payments when trees must be removed from a development site to accommodate permitted projects.	1	0	
Trees of a specified minimum size count towards a percentage of stormwater management requirements (e.g., partial credit given for each mature tree exceeding a specified height or canopy size).	1	0	
Trees over a specified minimum size (e.g., 3-inch caliper) protected during development are credited towards landscaping requirements.	1 to 2	0	
- meeting the established landscape requirement = 1 point - exceeding the established landscape requirement = 2 points			
PAGE TOTAL		1	

SUBTOTAL FROM PREVIOUS PAGE + 14 = 15
 ▼ CARRY THIS SUBTOTAL TO NEXT PAGE

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
ENACT REGULATIONS:				
Require permits before removing trees on proposed development or redevelopment sites. Provide fines and/or stop-work authority for permit violations.	1	1		Land disturbance permit
Set minimum tree preservation standards for new development sites.	1	1		tree density units
Require site plans or stormwater plans to include tree preservation.	1	0		
Require/allow tree replacement off-site for infill sites.	1	0		
		2 PAGE TOTAL		SUBTOTAL FROM PREVIOUS PAGE 15 ▼ CARRY THIS SUBTOTAL TO NEXT PAGE = 17

1.C.3

QUESTION: Are street trees encouraged or required as part of road and public right-of-way capital improvement projects?

GOAL: Leverage existing capital funds to plant more street trees and add multiple benefits to the public right-of-way.

WHY: Street trees can help manage and reduce stormwater runoff while providing multiple public and environmental benefits.

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
ADOPT PLANS/EDUCATE:				
Local comprehensive and transportation plans support the planting of street trees by all private and public development projects.		1	0	
Capital improvement plans include tree planning as part of project budgets.		1	0	
ADOPT INCENTIVES:				
Offer incentives, such as reduced setbacks or increased building densities, in exchange for additional tree preservation beyond ordinance requirements.		1	0	
ENACT REGULATIONS:				
All private and public developments are required to plant street trees in accordance with size, spacing, and other local government requirements.		1	1	private developments / design guidelines
New street designs and redesigns of existing streets take into account space for tree development and require necessary surface area and volume of soil dependent on type of tree species selected (this includes lateral root growth as well as direct downward growth to accommodate mature tree canopy and roots without adversely affecting other utilities).		1	0	
Street specifications require permeable paving for sidewalks and other surfaces to reduce stormwater runoff and allow street trees to benefit from the available water.		1	0	

▼ **Total score for SECTION 1: PROTECT NATURAL RESOURCES (INCLUDING TREES) AND OPEN SPACE**

PAGE TOTAL: 1

SUBTOTAL FROM PREVIOUS PAGE: 17

+ 18 = 35 (TOTAL POINTS AVAILABLE: 82)

This section has been reviewed and scored by Heather Sparkes

Department name Planning Signee H. Sparkes

2 PROMOTE EFFICIENT, COMPACT DEVELOPMENT PATTERNS AND INFILL

2A SUPPORT INFILL AND REDEVELOPMENT

2A.1	QUESTION: Are policy incentives in place to direct development to previously developed areas? GOAL: Municipalities implement a range of policies and tools to direct development to specific areas. WHY: Municipalities can realize a significant reduction in regional runoff if they take advantage of underused properties, such as infill, brownfield, or greyfield sites. Redeveloping already degraded sites such as abandoned shopping centers or underutilized parking lots rather than paving greenfield sites for new development can dramatically reduce total impervious area while allowing communities to experience the benefits and opportunities associated with growth.			
		Notes and Local References		
ADOPT PLANS/EDUCATE:			Pts. Avail.	Pts. Rec. or N/A
Local plans identify potential brownfield and greyfield sites, and support their redevelopment.		1	1	1
Capital improvement plans include infrastructure improvements (water, sewer, road, sidewalk, etc. upgrades) for identified brownfield and greyfield sites.		1	0	
Educate lending and financial institutions about benefits and local priorities of directing development to existing areas.		1	0	
Conduct outreach to the community to ensure support for local forms and patterns of development.		1	1	PC Brainining
REMOVE BARRIERS:				
Establish a brownfields program to remove uncertainty regarding cleanup and liability issues.		1	0	
ADOPT INCENTIVES:				
Provide incentives such as density bonuses and accelerated permitting for brownfield and greyfield sites.		1	1	no setbacks in B3 zoning
Adopt funding mechanisms for remediating/redeveloping brownfield and greyfield sites.		1	0	
Streamline permitting procedures to facilitate infill and brownfield redevelopment plan review.		1	0	
Establish tax increment financing (TIF) districts to encourage redevelopment.		1	0	
ENACT REGULATIONS:				
In local codes, ordinances, and policies, the municipality differentiates between greenfield and infill development.		1	0	
			3	

◀ CARRY THIS SUBTOTAL TO NEXT PAGE

= 3

PAGE TOTAL

2.B.1

QUESTION: Does the municipality direct growth to areas with existing infrastructure, such as sewer, water, and roads?

GOAL: Adopt policies, incentives, and regulations to direct new development to areas that have infrastructure, such as water and sewer. However, in situations where development is in areas with no sewer infrastructure, permitting alternative treatment options that can allow for higher density development or clustering of houses will reduce the overall water quality impact.

WHY: Sewer and water authorities can play a major role in directing a region's growth by determining when and where new infrastructure investment will occur. Well-drafted facility planning areas can direct growth by providing sewer service in areas least likely to impact water resources.

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
ADOPT PLANS/EDUCATE:				
Local plans recommend/establish urban growth areas and urban growth boundaries. Development is encouraged within urban growth boundaries and discouraged outside of them.	1		1	
Analyze which areas within the jurisdiction are appropriate for higher density development based on existing infrastructure capacity, cost of providing new services, and access.	2		0	
Capital improvement plans for public infrastructure (roads, water, sewer, etc.) target funding inside urban growth boundary.	2		2	
Local sewer/water authority capital improvement plans follow development policies established in local comprehensive plans and target areas with existing development/infrastructure.	1		0	
REMOVE BARRIERS:				
Development standards addressing landscaping, buffering, parking, and open space are tailored for infill areas to avoid creating unnecessary hurdles to development (e.g., imposing suburban parking requirements in high-density infill areas).	2		2	BB Standards, Parking based on use, on-street & shared parking
Remove prohibitions on accessory dwelling units in infill areas to increase density of development.	2		0	
Off-site, regional water retention/detention encouraged/allowed to avoid costly on-site retention in densely developed infill areas and to provide benefit to priority retrofit sites, such as schools.	2		2	Regional detention encouraged rather than per site
Package plants and other wastewater treatment trains are encouraged for development in limited circumstance areas where growth is appropriate but sewer's/treatment capacity does not exist.	1		0	
		7 PAGE TOTAL		SUBTOTAL FROM PREVIOUS PAGE ▼ CARRY THIS SUBTOTAL TO NEXT PAGE = 3 + 10

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
Technical information and analysis on the effectiveness of various treatment systems are readily available to developers. Local governments have determined which systems work best for their soil conditions and topography and have made this information available to the development community.		1	0	
Allow a wide variety of housing types and sizes within infill areas and reduced minimum lot sizes.		1	1	Based on density - PD Ord.
ADOPT INCENTIVES:				
Increase development densities and allowable height in infill areas.		1	0	
Reduce impact fees for infill development based on less demand for new infrastructure.		1	0	
Create development incentives for green roofs (e.g., increased floor area ratio [FAR] bonus, additional building height).		1	0	
Include provision in stormwater management requirement that reduces on-site management requirements for projects that decrease total imperviousness on previously developed sites.		1	0	
ENACT REGULATIONS:				
Zoning and land development regulations implement urban service areas/urban growth boundary policies by restricting development in outlying areas.		1	1	Urban growth boundary, Estate Zoning S. of I-40 (no sewer)
Adopt adequate public facility and concurrency ordinances that require adequate public infrastructure to be available when development comes on line (e.g., water, sewer, roads).		1	1	
Adopt large-lot/agricultural zoning (e.g., 1 unit/160 acres) on fringe of city to restrict inappropriate greenfield development.		1	1	Urban Growth Plan
Enact transitional compatibility standards to ensure that new denser infill development is compatible with existing neighborhoods/adjacent development.		1	1	
		5 PAGE TOTAL		SUBTOTAL FROM PREVIOUS PAGE 10 + ▼ CARRY THIS SUBTOTAL TO NEXT PAGE 15 =

2.C ENCOURAGE MIXED-USE DEVELOPMENTS

2.C.1

QUESTION: Are mixed-use and transit-oriented developments allowed or encouraged?

GOAL: Revise codes and ordinances to allow for the "by right" building of mixed-use and transit-oriented developments.

WHY: Mixed-use developments allow for the co-locating of land uses, which decreases impervious surfaces associated with parking and decreases vehicle miles traveled—resulting in a reduction of hydrocarbons left on roadways and reduced air deposition.

Transit-oriented development (TOD) produces water quality benefits by reducing: (1) land consumption due to smaller site footprints; (2) parking spaces and the impervious cover associated with them; and (3) average vehicle miles traveled, which, in turn, reduces deposition of air pollution into water bodies.

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
ADOPT PLANS/EDUCATE:				
Comprehensive plans identify appropriate areas for higher-density mixed-use developments (e.g., at transit stops) and recommend policies to encourage their development.	1	1		
Local capital improvement plans and funding are targeted to areas appropriate for mixed-use development.	2	2		Depot Square, i.e.
REMOVE BARRIERS:				
Zoning ordinances can create by-right mixed-use and transit-oriented development districts or overlays through amendments.	1	1		Planned Development Ord. - Traditional Hood Overlay
Initiate map amendments to designate mixed-use and transit-oriented development areas, eliminating the need for developers to secure zoning amendments.	1	0		
ADOPT INCENTIVES:				
Parking requirements are reduced to reflect decreased automobile use.	1	0		
Credit given for adjacent on-street parking, which can count for local parking requirements.	1	1		
Shared parking and alternative parking arrangements encouraged.	1	1		
Mixed-use districts/areas feature increased densities and height.	1	1		
Accessory parking structures are not counted against maximum floor area ratio (FAR) on a site.	1	0		
PAGE TOTAL		7	+	15
		SUBTOTAL FROM PREVIOUS PAGE		
		▼ CARRY THIS SUBTOTAL TO NEXT PAGE		
		= 22		

Zoning code requires a minimum mix of uses and minimum density in designated mixed-use and transit-oriented development areas.	1	0	
Auto-oriented uses and drive-throughs are restricted or prohibited in mixed-use and transit-oriented development areas.	1	0	

▼ Total score for SECTION 2: PROMOTE EFFICIENT, COMPACT DEVELOPMENT PATTERNS AND INFILL PAGE TOTAL 0 + SUBTOTAL FROM PREVIOUS PAGE 22 = 22 (TOTAL POINTS AVAILABLE: 45)	
---	--

This section has been reviewed and scored by

Heather Sparkes

Department name

Planning

Signee

HP Sparkes

3

3.A STREET DESIGN

3.A.1

QUESTION: Do local street design standards and engineering practices encourage streets to be no wider than necessary to move traffic effectively?

Do street designs vary according to:

- **street type** (arterial streets, collector streets, neighborhood streets) and
- **urban context** (urban core, transit station area, suburban center, general suburban, rural)?

Do policies allow narrow neighborhood streets designed to slow traffic and create safer conditions for pedestrians and bicyclists?

GOAL: Appropriate street widths allow narrower lanes for certain street types, thereby reducing overall imperviousness.

WHY: The width of travel lanes, parking lanes and sidewalks should be tailored to the urban setting. Where appropriate, narrowing travel lane width to 10-11 feet, rather than the standard 12-13 feet, can significantly reduce the total amount of impervious surfaces. Such streets can also substantially improve conditions for walking, biking, and using transit, which reduces automobile use and overall demand for parking spaces.

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
ADOPT PLANS/EDUCATE:				
Comprehensive plan/transportation plan emphasizes alternative modes of transportation (walking, biking, and transit) to reduce vehicle miles traveled and width and prominence of roads/streets.	1		1	
Comprehensive/transportation plan calls for distributing traffic across several parallel streets, reducing the need for high capacity streets with wide rights-of-way.	1		1	
Comprehensive/transportation planning process brings emergency response and other local government departments (e.g., public works, utilities) to the table early in the process to discuss street design.	1		0	
Adopt formal bicycle/pedestrian master plan.	1		1	Greenway trail plan/MPO Plan
Create "safe routes to school" programs or other pedestrian/bike safety initiatives.	1		0	
Make consistent improvements to walking/biking conditions or develop a formal bicycle/pedestrian master plan.	1		1	
REMOVE BARRIERS:				
Comprehensive plan endorses context-sensitive street design with narrower streets in appropriate locations.	1		1	Depart 23.
Improve pedestrian crossing at intersections to encourage walking.	1		1	
Consolidate utilities in street right-of-way to improve sidewalk design and function.	1		0	
			6	
			PAGE TOTAL ◀ CARRY THIS SUBTOTAL TO NEXT PAGE = 6	

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
Negotiate with state department of transportation or county transportation department to allow different design standards for regional roads passing through downtowns or other key areas.	1	1	1	Depart. Ag.
Promote street standards for fire safety that include attributes of narrow streets (20 feet widths) while identifying factors relevant to local government departments involved with streets such as public works, engineering, and utilities.	2	0	0	
Take formal control of state or county roads within city boundaries to ensure power over design and operations.	2	0	0	
ADOPT INCENTIVES:				
Developments that provide comprehensive pedestrian/bicycle circulation systems allowed reducing number of vehicle parking spaces. (See parking section below for greater detail.)	1	0	0	
Developments with approved comprehensive mobility/transportation plans allowed building narrower, less costly streets and alleys.	1	0	0	
ENACT REGULATIONS:				
Revamp local government technical street specifications to allow context-sensitive, innovative street design with narrower travel lanes, without curb and gutter, etc., in appropriate circumstances (See Institute of Transportation Engineers Recommended Practice document below).	2	0	0	
Emergency response professionals and other local government departments involved with streets (e.g. public works, engineering, utilities) have endorsed or adopted design standards for narrower neighborhood streets.	1	0	0	
Development review process involves emergency response early on to reach consensus on appropriate project street design and access.	1	1	1	
Development review process requires submittal of project pedestrian/bicycle circulation plans with safe street routes and other pedestrian/bicycle-friendly features in addition to traffic circulation plans for larger developments.	1	0	0	
Apply formal connectivity index ⁷ or other measures to ensure adequate internal street and pedestrian/bicycle connections.	2	2	2	Sub-Reg.
Zoning/subdivision regulations require minimum number of connections between new project and surrounding developments and neighborhoods.	2	2	2	
		PAGE TOTAL		
		6		
		SUBTOTAL FROM PREVIOUS PAGE		▼ CARRY THIS SUBTOTAL TO NEXT PAGE
		6		= 12

⁷ Connectivity index refers to the directness of links and the density of connections in path or road network. A well-connected road or path network has many short links, numerous intersections, and minimal dead-ends (cul-de-sacs). As connectivity increases, travel distances decrease and route options increase, allowing more direct travel between destinations, and creating a more *Accessible* and *Resilient* system. Source: Online Travel Demand Management Encyclopedia. <http://www.vtapi.org/tdm/tdm116.htm>

3.A.2	QUESTION: Are shared driveways, reduced driveway widths, two-track driveways, and rear garages and alleys encouraged for all single-family developments?		
	GOAL: Encourage alternative forms and decreased dimensions of residential driveways and parking areas.		
	WHY: Off-street parking and driveways contribute significantly to the impervious areas on a residential lot. Reducing such dimensions can minimize the amount of stormwater runoff from a site.		
	REMOVE BARRIERS:		
	Allow developments that utilize shared driveways and rear-loaded garages to permit overnight parking in driveways and on-street.	1	0
	Development code prohibits homeowner covenants forbidding overnight parking in driveways, on-street overnight parking, and shared driveways.	1	0
	ADOPT INCENTIVES:		
	Allow developments with narrow driveways and rear-loaded garages to reduce number of parking spaces for guests.	1	0
	Zoning/subdivision regulations require minimum number of connections between new project and surrounding developments and neighborhoods.	1	1
	ENACT REGULATIONS:		
	Shared driveways are permitted or required for single-family residential developments.	1	0
	Minimum widths for single-family driveways reduced to 9 feet.	1	0
	Two-track driveways are allowed by technical street/subdivision specifications.	1	0
	Single-family residential developments encouraged/required to be designed with minimum percentage of alley-accessible, rear-loading garages. · Alleys/garages encouraged = 1 points · Alleys/garages required = 2 points	1 to 2	0
		PAGE TOTAL	1
		SUBTOTAL FROM PREVIOUS PAGE <u>12</u> + <u>13</u> = <u>25</u> ▼ CARRY THIS SUBTOTAL TO NEXT PAGE	

GREEN INFRASTRUCTURE ELEMENTS AND STREET DESIGN

QUESTION: Are major street projects required to integrate green infrastructure practices as a standard part of construction, maintenance, and improvement plans?

GOAL: Formally integrate green infrastructure into standard roadway construction and retrofit practice.

WHY: Consistent projects to improve or repair streets provide opportunities to include green infrastructure retrofits as part of larger project budget, design, and construction.

Implementation Tools and Policies		Pts. Avail.	Pts. Rec.	or N/A	Notes and Local References
ADOPT PLANS/EDUCATE:					
Comprehensive/transportation plans promote green infrastructure practices in street design.	1	0			
Street project cost estimates include green infrastructure designs and assess cost savings from reduced hard infrastructure.	1	0			
REMOVE BARRIERS:					
Technical street specifications allow/require integration of green infrastructure elements into street project construction.	1	0			
Allow street-side swales to replace conventional curb and gutter for managing stormwater and for separating sidewalks from street traffic in appropriate circumstances.	1	0			
ADOPT INCENTIVES:					
Undertake consistent effort to secure state and federal funds (e.g., transportation enhancements) to pay for green infrastructure elements.	1	0			
Streets with green infrastructure count towards stormwater requirements.	1	0			
ENACT REGULATIONS:					
Adopt green infrastructure retrofit standards for major street projects.	1	0			
Adopt technical specifications and design templates for green infrastructure in private and public rights-of-way.	1	0			
All local road projects required to allocate a minimum amount of the total project cost to green infrastructure elements.	1	0			

▼ CARRY THIS SUBTOTAL TO NEXT PAGE

SUBTOTAL FROM PREVIOUS PAGE

13 =

+

13

PAGE TOTAL

QUESTION: Do regulations and policies promote use of pervious materials for all paving areas, including alleys, streets, sidewalks, crosswalks, driveways, and parking lots?

GOAL: Build and retrofit these surfaces with pervious materials to reduce stormwater runoff and its negative impacts.

NOTE: While eliminating sidewalks or placing sidewalks on only one side of the road can reduce impervious cover, this strategy is typically most appropriate for rural areas. However, other effective strategies can achieve the same runoff reductions that will not limit residents' options for recreation and transportation.

WHY: Streets, sidewalks, and other hard surfaces contribute a large portion to a municipality's total imperviousness. Making these impervious surfaces more permeable protects water quality, reduces flooding, and can recharge groundwater.

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
ADOPT PLANS/EDUCATE:				
Sponsor/approve pilot programs to determine appropriate pervious materials for different paving areas (e.g., permeable concrete for sidewalks, permeable pavers for driveways), as well as process for installation and maintenance.	1		0	
Pilot project results incorporated into standard practice for all new paved areas and retrofits of existing paved surfaces.	1		0	
Adopt policy to replace impervious materials with pervious materials where practical.	1		0	
REMOVE BARRIERS:				
Technical street specifications allow pervious paving materials in appropriate circumstances (e.g., not allowed over aquifer recharge areas).	1		0	
ADOPT INCENTIVES:				
Create formal program offering incentives (e.g., cost sharing, reduction in street widths/parking requirements, assistance with maintenance) to property owners who utilize pervious pavement elements.	1		0	
ENACT REGULATIONS:				
Adopt requirement that some percentage of parking lots, alleys, or roads in a development utilize pervious materials.	1		1	at least over min. req'd speed
Development approvals that allow/require use of pervious materials include requirements for continuing maintenance/cleaning of pervious surfaces.	1		0	

▼ Total score for SECTION 3: DESIGN COMPLETE, SMART STREETS THAT REDUCE OVERALL IMPERVIOUSNESS

PAGE TOTAL: 1 + SUBTOTAL FROM PREVIOUS PAGE: 13 = 14 (TOTAL POINTS AVAILABLE: 50)

This section has been reviewed and scored by Heather Sparkes

Department name Planning Signee H. Sparkes

4 ENCOURAGE EFFICIENT PARKING

4.A REDUCED PARKING REQUIREMENTS

4.A.1

QUESTION: Does your local government provide flexibility regarding alternative parking requirements (e.g., shared parking, off-site parking) and discourage over-parking of developments?

Do parking requirements vary by zone to reflect places where more trips are on foot or by transit?

GOAL: Match parking requirements to the level of demand and allow flexible arrangements to meet parking standards.

WHY: Inflexible parking requirements that do not allow for alternative approaches, as well as standards that require too much parking for specific uses increase the amount of impervious surface in a development. Over-parking a development also encourages greater vehicle use and detracts from the overall pedestrian environment.

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
ADOPT PLANS/EDUCATE:				
The comprehensive plan recognizes the advantages to reduced parking requirements generally and specifically for mixed-use and transit-oriented developments.	1		1	
The comprehensive plan recommends alternative, flexible approaches to meeting parking demands (e.g., shared parking, counting on-street spaces towards site parking requirements).	1		1	
Comprehensive/bicycle plans recommend provision of bicycle parking spaces/storage lockers and concomitant reduction in vehicle parking space requirements.	1		0	
REMOVE BARRIERS:				
Allow flexibility in meeting parking space requirements through shared parking, off-site parking, and similar approaches.	1		1	
Permit businesses with different peak demand periods to share their required parking spaces.	1		1	
ADOPT INCENTIVES:				
Permit reduction in vehicle parking spaces through the provision of a minimum number of bicycle parking spaces.	1		0	
Allow by-right reduction in required parking spaces (e.g., 25%) in mixed-use and transit-oriented developments and districts.	1		0	
Permit developers to undertake parking studies to establish that specific developments (e.g., senior housing, affordable housing) require fewer parking spaces than typical projects.	1		1	
			5	
			PAGE TOTAL	◀ CARRY THIS SUBTOTAL TO NEXT PAGE = 5

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
Create parking districts to finance/construct centralized parking lots/structures as shared parking facilities to reduce on-site parking.	1	0		
ENACT REGULATIONS:				
Revise parking regulations to reduce minimums below standard ITE (Institute of Transportation Engineers) requirements based on analysis of local developments and actual parking demand/experience.	2	0		
Charge developers for every space beyond parking minimums to offset environmental impacts.	1	0		
Enact parking standards that allow credit for adjacent on-street parking.	1	1		
Create zones with reduced parking requirements (e.g., transit overlay districts, mixed-use activity centers, multi-modal districts).	1	1		
Waive all parking minimums in downtown and other locations that are pedestrian-oriented and/or have good transit access.	1	1		Adjacent to original Depot
Adopt parking standards that reduce requirements based on sliding scale tied to degree of walkability/transit access locations (20% reduction in areas well served by bus, 30% reduction in areas served by rail stations).	1	0		
Require shared parking agreements where appropriate complementary uses exist.	1	0		
Adopt maximum parking caps (e.g., 125% above minimum) for multi-family and commercial developments.	2	2		
Reduce minimum parking space size based on analysis of average vehicle size in jurisdiction.	1	0		
		PAGE TOTAL 5		SUBTOTAL FROM PREVIOUS PAGE 5 ▼ CARRY THIS SUBTOTAL TO NEXT PAGE = 10

4.B TRANSPORTATION DEMAND MANAGEMENT ALTERNATIVES

4.B.1

QUESTION: Can developers use alternative measures such as transportation demand management or in-lieu payments to reduce required parking?

GOAL: Provide flexibility to reduce parking in exchange for specific actions that reduce parking demands on site.

WHY: Incentives such as transit passes, vanpool arrangements, flexible work schedules, market-priced facilities, and separate leasing for spaces in apartments and condominiums have quantifiable impacts on parking demand. Incorporating them into parking requirements creates the opportunity to meet demand with less impervious cover.

Notes and Local References

ADOPT PLANS/EDUCATE:

Comprehensive/transportation plans recognize transportation demand management as an approach to reducing vehicle miles traveled and parking requirements.

1

0

REMOVE BARRIERS:

Rather than include parking spaces with an apartment lease, allow tenants to opt-out by treating parking as a separate optional lease agreement.

1

0

ADOPT INCENTIVES:

Allow businesses that offer employee transit passes, provide vans for employee commuting, allow flexible working arrangements, or charge market rates for parking to 1) provide fewer parking spaces or 2) pay less into a parking district fund for required parking spaces.

2

0

Allow developers to make in-lieu fee payments for parking. Fees utilized by local government/parking authority to provide off-site parking lots/structures.

1

0

Provide mechanisms for car sharing in transit-oriented development. Where done, area parking requirements are reduced.

1

0

ENACT REGULATIONS:

Create a parking district and allow/require businesses to support public garages rather than provide their own on-site parking.

1

0

Require large developments to adopt transportation demand management techniques to lower vehicle use and parking demand.

1

0

SUBTOTAL FROM PREVIOUS PAGE

+ 10

▼ CARRY THIS SUBTOTAL TO NEXT PAGE

= 10

PAGE TOTAL

0

4.C MINIMIZE STORMWATER FROM PARKING LOTS

4.C.1

QUESTION: Are there requirements for landscaping designed to minimize stormwater in parking lots?

GOAL: Require substantial landscaping to help reduce runoff.

WHY: Parking lots generate a large amount of impervious cover. Requiring landscaping reduces the environmental impact of parking and can provide additional community benefits by providing shade and, if appropriately placed, creating natural barriers between pedestrians and cars.

Implementation Tools and Policies		Pts. Avail.	Pts. Rec.	or N/A	Notes and Local References
ADOPT PLANS/EDUCATE					
Comprehensive plan calls for landscaping in parking lots to help reduce stormwater runoff.		1	0		
REMOVE BARRIERS:					
Allow alternative or innovative landscaping solutions that provide stormwater management functions to count towards perimeter or other landscaping requirements.		1	1		
ADOPT INCENTIVES:					
Parking lot landscaping and green roofs on parking structures credited towards meeting local stormwater management requirements.		1	0		
Give additional landscaping credit for preservation of large, mature trees within parking lots.		1	0		
Do not count parking structures with green roofs against the allowable floor area ratio of a site.		1	0		
ENACT REGULATIONS:					
Adopt parking lot landscape regulations that require provision of trees, minimum percent of parking lot interior area to be landscaped (e.g., 10%), and minimum sized landscaping areas (e.g., minimum of 25 square feet for island planting areas).		1	1		
In parking lot landscaping regulations, specify the types and sizes of shrubs and trees most appropriate for controlling/reducing stormwater runoff.		1	1		
Adopt standards requiring a minimum area of the parking lot to drain into landscaped areas.		1	0		
Require the management of runoff from parking lots through green infrastructure practices, including trees, vegetated islands, swales, rain gardens, or other approaches.		1	0		

SUBTOTAL FROM PREVIOUS PAGE
 3 + 10 = 13
 PAGE TOTAL

▼ CARRY THIS SUBTOTAL TO NEXT PAGE

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
Enact specific alternative landscaping and parking regulations to support infill development (parking requirements, parking lot landscaping options that focus on perimeter landscaping to encourage smaller lots, etc.).	2	0		
Require parking structures to incorporate green roofs to reduce stormwater runoff.	1	0		
Reduce drive aisle widths in parking lots to decrease the amount of pervious surface. For multi-family developments, drive aisles can be shared. In commercial developments, typical drive aisles can be reduced 5–10%.	1	0		
		PAGE TOTAL	0	

▼ **Total score for SECTION 4: ENCOURAGE EFFICIENT PARKING**

SUBTOTAL FROM PREVIOUS PAGE + 13 = 13 (TOTAL POINTS AVAILABLE: 41)

This section has been reviewed and scored by Heather Sparkes

Department name Planning Signee HP Sparkes

5 ADOPT GREEN INFRASTRUCTURE STORMWATER MANAGEMENT PROVISIONS

5.A GREEN INFRASTRUCTURE PRACTICES

5.A.1

QUESTION: Are green infrastructure practices encouraged as legal and preferred for managing stormwater runoff?

GOAL: Make all types of green infrastructure allowed and legal and remove all impediments to using green infrastructure (including for stormwater requirements), such as limits on infiltration in rights-of-way, permit challenges for green roofs, safety issues with permeable pavements, restrictions on the use of cisterns and rain barrels, and other such unnecessary barriers.

WHY: Green infrastructure approaches are more effective and cost efficient than conventional stormwater management practices in many instances, and provide other substantial community benefits.

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
ADOPT PLANS/EDUCATE:				
Inform the public, through education and outreach programs, that green infrastructure practices can manage stormwater runoff on their property.	1		0	
Create a green infrastructure workshop or training program for internal and external reviewers to ensure that the stakeholders who use this tool will have the ability to understand and use it effectively.	1		0	
REMOVE BARRIERS:				
Development and other codes encourage and allow property owners to adopt home-based green infrastructure practices, such as rain gardens, rain barrels, and other rainwater harvesting practices.	1		0	
Review and change, where necessary, building codes or other local regulations to ensure that all local government departments/agencies have coordinated with one another to ensure that green infrastructure implementation is legal, e.g. remove restrictions on downspout disconnection.	1		0	
ADOPT INCENTIVES:				
Credit green infrastructure practices towards required controls for stormwater runoff.	1		0	
Establish a "Green Tape" expedited review program for applications that include green infrastructure practices.	1		0	
Reduce stormwater utility rates based on the use of green infrastructure practices.	1		0	
PAGE TOTAL			0	◀ CARRY THIS SUBTOTAL TO NEXT PAGE = 0

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
ENACT REGULATIONS:				
Zoning and subdivision regulations specifically permit green infrastructure facilities, including but not limited to: (1 point for each technique to a maximum of 4 points)	1 to 4		0	
- Green roofs; - Infiltration approaches, such as rain gardens, curb extensions, planter gardens, permeable and porous pavements, and other designs where the intent is to capture and manage stormwater using soils and plants; - Water harvesting devices, such as rain barrels and cisterns; and - Downspout disconnection.				
Developers are required to meet stormwater requirements using green infrastructure practices where site conditions allow. Developers must provide documentation for sites that do not allow on-site infiltration, reuse, or evapotranspiration to meet locally determined performance stormwater management standards.	1 to 2		0	
		PAGE TOTAL	0	SUBTOTAL FROM PREVIOUS PAGE + 0 = 0 ▼ CARRY THIS SUBTOTAL TO NEXT PAGE

5.A.2	QUESTION: Do stormwater management plan reviews take place early in the development review process?				
	GOAL:	Incorporate stormwater plan comments and review into the early stages of development review/site plan review and approval, preferably at pre-application meetings with developers.			
	WHY:	Pre-site plan review is an effective tool for discussing with developers alternative approaches for meeting stormwater requirements. This will incorporate green infrastructure techniques into new projects at early design stages, well before construction begins.			
	Implementation Tools and Policies				Pts. Avail.
ADOPT PLANS/EDUCATE:					
	Encourage/require a pre-site plan meeting with developers to discuss stormwater management and green infrastructure approaches.	1 to 2	1		
	· Voluntary = 1 point · Mandatory = 2 points				
	Include landscape architects in design and review of stormwater management plans.	1	0		
ADOPT INCENTIVES:					
	Provide accelerated review of projects where developer attended a pre-application meeting.	1	0		
ENACT REGULATIONS:					
	Preliminary stormwater plan review occurs contemporaneously with preliminary site plan review and before any development approvals.	1	0		
	Development applications must include preliminary/conceptual stormwater management plans that incorporate green infrastructure elements and describe how stormwater management standards will be met.	1	0		
				PAGE TOTAL	6
				+	0
				SUBTOTAL FROM PREVIOUS PAGE	
				▼ CARRY THIS SUBTOTAL TO NEXT PAGE	
				=	6

5.A.3	QUESTION: Do local building and plumbing codes allow harvested rainwater for exterior uses, such as irrigation, and non-potable interior uses, such as toilet flushing? GOAL: Ensure that the municipality allows and encourages stormwater reuse for non-potable uses. WHY: Stormwater reuse is important for dense, urban areas with limited spaces for vegetated green infrastructure practices.		
Implementation Tools and Policies			
ADOPT PLANS/EDUCATE:			
Local government provides information brochures/manual for homeowners describing acceptable rainwater harvesting techniques.	1		
REMOVE BARRIERS:			
Local development, building, and plumbing codes updated to allow reuse of stormwater for non-potable purposes.	1		
ADOPT INCENTIVES:			
Reduce stormwater management facility requirements for developments employing comprehensive rainwater harvesting.	1		
Reduce stormwater utility rates based on the use of harvest and reuse techniques.	1		
ENACT REGULATIONS:			
Require developments to adopt rainwater harvesting techniques as elements of stormwater management plans.	1		

PAGE TOTAL

+

1

=

SUBTOTAL FROM PREVIOUS PAGE

▼ CARRY THIS SUBTOTAL TO NEXT PAGE

Unknown - Shelby County

5.A.4	QUESTION: Are provisions available to meet stormwater requirements in other ways, such as off-site management within the same sewershed or "payment in lieu" of programs, to the extent that on-site alternatives are not technically feasible? GOAL: Allow off-site management of runoff while still holding developers responsible for meeting stormwater management goals. WHY: In some cases, it is impracticable or infeasible to treat all or even some of the stormwater runoff on site. In such instances, alternative means should be provided through contribution to off-site mitigation projects or off-site stormwater management facilities (preferably green infrastructure facilities).		
Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A
For infill and redevelopment areas, off-site green stormwater management plans should be developed in cooperation between local government and landowners/developers. Allowing off-site management of stormwater runoff requires sewershed designation within the local government to ensure that true mitigation is possible and realize the equal stormwater management and water quality benefits through off-site management.	2	0	
Retrofit projects that will utilize green infrastructure stormwater management techniques should be identified and prioritized within the sewershed.	1	0	
Amend stormwater management regulations and development codes as necessary to allow off-site stormwater management, especially for infill and redevelopment areas.	1	0	
Establish system that allows/requires payment-in-lieu fees for off-site stormwater management facilities. Fees should be set sufficiently high as to cover the true cost of off-site management. Consider limitations on amount of off-site management allowed (more for infill areas, less for greenfield sites).	1	0	
PAGE TOTAL		+ 1	SUBTOTAL FROM PREVIOUS PAGE ▼ CARRY THIS SUBTOTAL TO NEXT PAGE = 1

5.B.1

QUESTION: Does your stormwater ordinance include monitoring, tracking, and maintenance requirements for stormwater management practices?

GOAL: Incorporate monitoring, tracking, and maintenance requirements for stormwater management practices into your municipal stormwater ordinance.

WHY: These measures will help ensure that the successful tracking and monitoring of green infrastructure practices remain in proper working condition to provide the performance required by the stormwater ordinance.

ADOPT PLANS/EDUCATE:

Develop a system to monitor and track stormwater management practices deployed at greenfield and redevelopment sites. Tracking of management practices should begin during the plan review and approval process with a database or geographic information system (GIS). The database should include both public and private projects.

Provide model checklist for maintenance protocols for ease of inspection, tracking, and enforcement.

Sponsor demonstration projects for green infrastructure management best practices.

REMOVE BARRIERS:

Ensure that proper local agencies have authority to enforce maintenance requirements.

ADOPT INCENTIVES:

Create self-inspection maintenance certification program that allows developers/landowners to train/retain private inspectors to certify compliance with stormwater management plans and long-term maintenance.

ENACT REGULATIONS:

Require long-term maintenance agreements that allow for public inspections of the management practices and account for transfer of responsibility in leases and/or deed transfers.

Conduct inspections every 3 to 5 years, prioritizing properties that pose the highest risk to water quality, inspecting at least 20% of approved facilities annually.

Develop a plan approval and post-construction verification process to ensure compliance with stormwater standards, including enforceable procedures for bringing noncompliant projects into compliance.

3
PAGE TOTAL

SUBTOTAL FROM PREVIOUS PAGE

+

1
= 4

▼ CARRY THIS SUBTOTAL TO NEXT PAGE

Notes and Local References

Implementation Tools and Policies		Pts. Avail.	Pts. Rec. or N/A	Notes and Local References
Inspections of construction sites occur at for at least 25% of permitted projects to ensure proper installation of approved practices.	1	1		
Require conservation/green infrastructure bond/escrow in zoning/subdivision ordinances to ensure installation/maintenance of green infrastructure storm water management facilities.	1	0		
		PAGE TOTAL	1	
		SUBTOTAL FROM PREVIOUS PAGE <u>4</u> + <u>5</u> = <u>9</u> (TOTAL POINTS AVAILABLE: 39)		
		▼ Total score for SECTION 5: GREEN INFRASTRUCTURE STORMWATER MANAGEMENT PROVISIONS		

This section has been reviewed and scored by Heather Sparkes

Department name Planning Signee H. Sparkes



Town of Arlington

MS4 Annual Report 2014-2015

Organization Chart

Town of Arlington
MS4 Stormwater Program
Organization Chart

