Greener Communities

A Study on Low Impact Development in York County's Codorus Creek Watershed

A Report by Clean Water Action
and Clean Water Fund

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CLEAN WATER FUND

CLEAN WATER ACTION
PENNSYLVANIA

Clean Water Action is a one million member organization of diverse people and groups joined together to protect our environment, health, economic well-being and community quality of life. Our goals include clean, safe and affordable water; prevention of health threatening pollution; creation of environmentally safe jobs and businesses; and empowerment of people to make democracy work. Clean Water Action organizes strong grassroots groups and coalitions and campaigns to elect environmental candidates and solve environmental and community problems.

Clean Water Fund promotes neighborhood-based action and education bringing people, businesses and government together for sensible solutions that protect water and health, prevent pollution and conserve natural resources.

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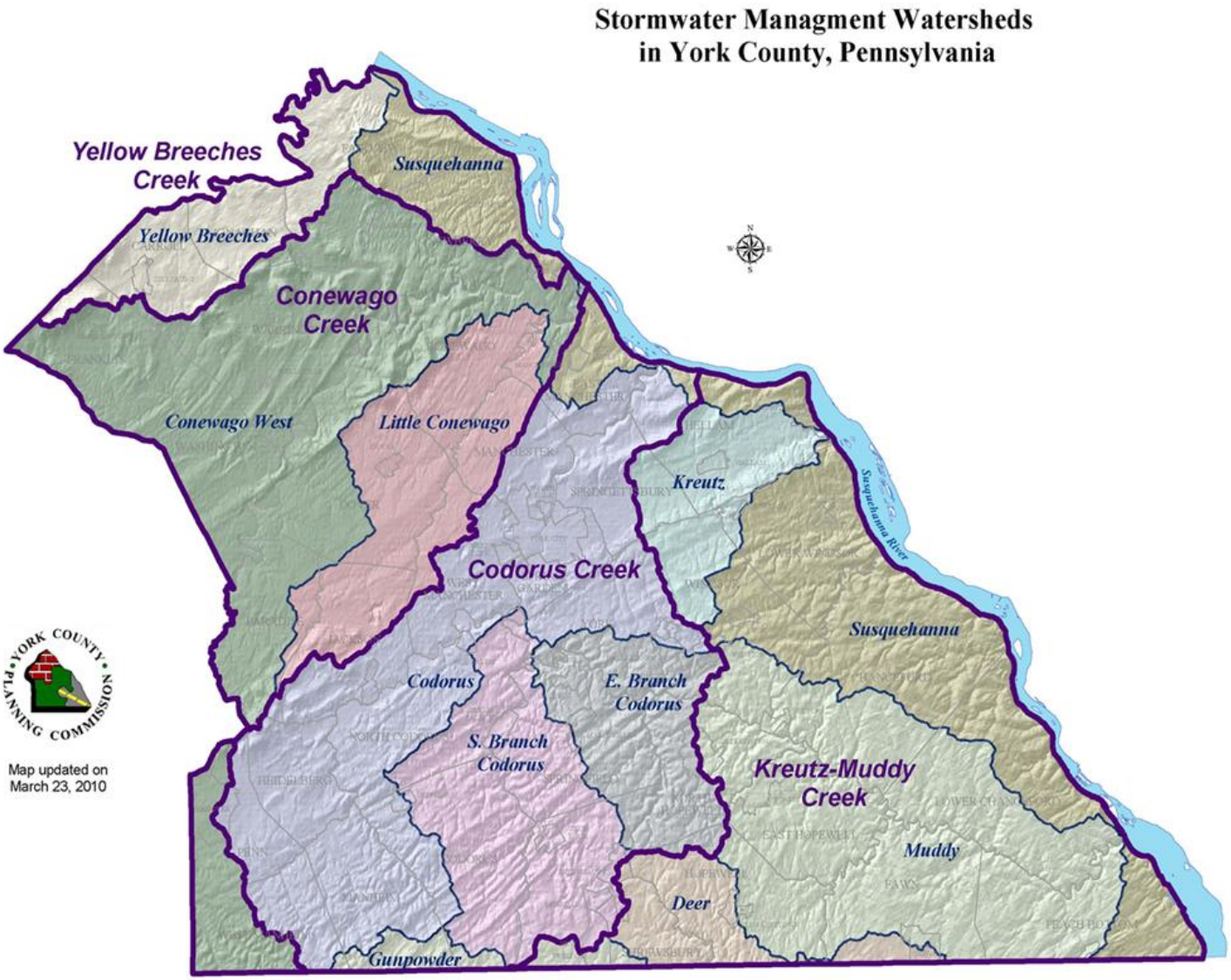
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EXECUTIVE SUMMARY

Low Impact Development (LID) is a method of community development that seeks to use less pavement and more natural systems to reduce impacts on the environment. This is Clean Water Action and Clean Water Fundôs first report for the York County region.

The Pennsylvania Department of Environmental Protection (DEP) is requiring townships and boroughs to update their local code to require more LID friendly techniques for new development as a condition of new MS4 (Municipal Separate Storm Sewer System) permits. LID methods are better for the environment because they slow the rate and volume of water that is entering local waterways after a storm event, reducing flooding, damage to streams and pollution from the runoff.

Many LID techniques benefit communities financially as well. By updating their local codes, townships and boroughs can control how meeting this new DEP requirement will impact their communities.

The Center for Watershed Protection (CWP) has developed a tool for evaluating LID as it relates to local codes. The tool gives points to a municipality for having ordinances that require parameters for development that meet LID specifications. Each municipality in this report was evaluated using the CWP tool. The scores range from 0-100, with 100 being the best possible score.

For this report, Clean Water Action and Clean Water Fund evaluated 9 townships and boroughs in York County. After completing the evaluation, a letter was sent to elected and appointed officials in each municipality. The purpose of the letters was to reveal the results of our initial evaluations to the municipality and provide ample opportunity for the municipality to provide feedback. This feedback was taken into consideration for this report.

The evaluations showed a wide range of scores for municipalities in the Codorus Creek watershed. The lowest score was 10 and the highest scores were in the low 60s. According to the CWP evaluation tool, any municipality that scores below an 80 has room for improvement. By this standard, **every municipality evaluated in this report has specific areas where changes could be made to local code to both increase the municipality's score and comply with the DEP requirements** for the MS4 permit.

Many municipalities scored well in the categories open space design, parking lot runoff, and rooftop runoff incentives. Many municipalities scored poorly in the sections concerning structured parking, driveways, street length, and cul-de-sacs.

Many of the code changes that could allow a municipality to meet the DEP standards for LID are simple and do not create an additional cost for developers. In many cases, studies cited in this report show that using LID is more cost effective for developers.

We encourage municipalities in this report to work with local environmental organizations and Clean Water Action and Clean Water Fund to move their local codes towards being more LID friendly.

INTRODUCTION

Low Impact Development (LID) is an approach to economic growth designed to do less harm to the natural environment than conventional forms of construction. Its goal is to pursue economic growth without as much disruption of natural systems. When land is cleared and impervious surface added, construction puts stress on the water supply. Impairment of streams can occur when less than 10% of a watershed consists of impervious cover.

ñGreener Communitiesò is a part of a series of reports by Clean Water Action on the degree to which specific South Central PA municipalities use local code to promote or inhibit the use of environmentally friendly practices for local development.

The context for these reports stems from the Commonwealthôs most recent permit for urbanized stormwater systems. In that permit the Pennsylvania Department of Environmental protection requires communities to move in the direction of Low Impact Development [PAG-13, Appendix A. MCM5, BMP5].

Until recently, the primary concern with rain has always been to get it off developed land and into the nearest waterbody as quickly as possible. Rain is collected using streets and directed into drains that pipe it to the nearest water-way. This puts much more water into these streams than they would ever receive under natural conditions. In a forested Pennsylvania, plants would absorb or slow down much of that water. A lot of water that did reach the stream would get there slowly after sinking into the ground and traveling laterally, along the bedrock. A good portion of rain would never reach the streams because it would be used by plants and then evaporate back into the air.

Another problem with routing all stormwater runoff directly to pipes and subsequently to streams and rivers is that such an approach does not filter out pollutants that have been picked up by the stormwater. This decreases the overall quality of our waterways because, in a natural system, stormwater would have a chance to be absorbed into the ground before reaching the rivers. Low Impact Development deals with this problem by introducing more natural infiltration points into a system with impervious surface so that less polluted water winds up in the river.

Improving local land use ordinances

In the spirit of providing towns with direction as they pursue compliance with the new stormwater management permits, Clean Water Action has conducted a survey of all the York County stormwater permittees in part of the Codorus Creek watershed.

Our findings show that there are many opportunities for towns and boroughs to make code changes that would enable them to comply with DEPôs requirement for a shift towards LID. Many of these changes do not have to create a financial burden for the township or borough, and over the long term, the changes would be fiscally beneficial.

In a study conducted by the National Association of Home Builders in Prince Georgeôs County Maryland, a developer used both LID and non-LID approaches to building two parts of a development (2002). By using the LID techniques the developer saved $300,000 by eliminating the need for storm water ponds and using on-lot bioretention instead. The developer was also able to gain six additional lots by reducing setbacks and gained their associated revenues. In addition, each lot was able to be developed by an average savings of $4,000 leading to an overall cost savings of over $900,000.

As the study above would indicate, there is much to be gained economically from using LID methodology in development. Not only are the effects of LID positive for the environment and the health of the

community, they are also positive for the pocket book of the community.

In a 1999 study by the Southwest Florida Water Management District, the findings indicated that using bioretention techniques greatly improved the quality, temperature and volume of runoff from parking lot facilities at the Florida Aquarium. When they compared pavement areas that were controlled by LID BMPs to the areas of asphalt that were uncontrolled, they found that a significant percentage of pollutants such as ammonia, nitrate, nitrogen, suspended soils, copper, iron, lead, zinc and manganese were removed.

The combination of economic benefits and public health benefits from LID practices makes LID an excellent guide for altering development codes in a township or borough. Supervisors and other committee members can be confident that engaging in these practices will have a positive impact of their communities.

METHODOLOGY

The Center for Watershed Protection [CWP] is a well-established organization of watershed experts. It works to promote responsible land use by advancing the watershed approach to managing stormwater. We used the Center for Watershed Protectionôs [CWP] ñCodes and Ordinances Worksheetò [available at cwp.org] as a way to provide a score for the degree to which each townôs code encourages or discourages excessive development footprints and the degree to which towns use natural approaches to manage stormwater. We used the worksheet as published and assessed all the codes directly from the municipal code of each town. The worksheet gives each town a score from 1 to 100, with 100 being the highest. CWP offers the opinion that any score below 70 is inadequate. Scores below 60 indicates that ñserious reform of the development rules is needed.ò

Because Pennsylvania places so much of its land use authority onto municipalities, we based our score entirely on local code. There are some state laws and regulations dealing with stormwater and riparian buffers. Additionally, we believe communities in such a watershed should adopt a mirroring ordinance to spare developers confusion and ensure that local enforcement officers can make sure that such buffers are respected.

Local codes are complicated and extensive and towns do not always place their rules under the same headings. So, in order to verify that we scored codes correctly, we sent at a letter to each town once we completed scoring their code. Our letter included a copy of the worksheet with a cover letter explaining for which questions on the worksheet we were unable to award the community points. We sent these letters to the municipal engineer, the township manager and the Chair of the local Board, unless we failed to find a contact for one of these officers.

We believe our data to be accurate as of the date at which we sent the letter, which could have occurred anytime between November and December of 2014. Some towns have already made some changes since our previous report, but thus far we have yet to see a community whose code changes moved their scores more than two or three points.

It is worth noting that the code-in-writing and the code-in-practice may vary considerably. We are only grading the code as written. In the experience of environmentalists in the area, the code-in-practice is generally more lenient than the code-in-writing.

We wish the tool reflected more of the newer stormwater technology, such as rainwater reuse and porous pavement; however, we chose to use the worksheet as is. We hope at some point that CWP will be able to update this valuable tool.

The Built Out Objection

We anticipate some communities will meet the call for better Low Impact Development code with the objection that their land area is already entirely or nearly built out. Even in light of a built out community, code should still be updated. Officials should ask themselves whether or not they believe there will be no serious change in the look and layout of their community over the next 100 years. No one can honestly know what changes to expect over a long time horizon, but all indication suggests that every community will see significant redevelopment and change over a long enough timeframe. With that understanding in place, we advise communities to update their code now so that when the change does happen it has the added benefit of reducing the townôs impact on the environment.

FINDINGS AND RECOMMENDATIONS

- As noted in the table on this page, no community scored above 80, which is the threshold for the ñGoodò category set by the CWP.
- All 9 townships fell into CWPôs ñInadequateò category.
- The highest score was 61; the lowest was 25.
- The average for all communities surveyed was 37.

The charts that follow show the areas in which specific towns can change their local code so that development and redevelopment will have less impact on the water we all share.

Areas in which most communities scored well include:

- Open Space Design
- Parking Lot Runoff
- Rooftop Runoff

Areas in which most or all communities fell short include:

- Structured Parking
- Cul-de-sacs
- Street Length
- Driveways

Average Score for all communities surveyed in report	**37**
Number with scores above 80	0
Number with scores from 70 to 79	0
Number with scores from 60 to 69	1
Number with scores from 50 to 59	0
Number with scores of 40-49	1
Number with scores below 40	7
Total communities surveyed	**9**

Among our general recommendations are the following:

We encourage communities to:

- Involve the full elected board of the municipality in making plans for updating the General or Individual Permit,
- Open the process to the community to seek ideas about low-impact development,
- Compare the costs and benefits of meeting TMDL obligations through direct construction of BMPs or by changing land development policies and
- Consult environmental organizations about ideas for updating the permit in ways that could serve economic development purposes as well as meeting long term environmental goals.

The most immediate steps for action that municipalities should take are to examine ways to reduce the amount of new pavement that is put down in new or redevelopment projects. Specific recommendations for action include:

- Redrafting ordinances for parking lots to reduce the number of required parking spaces and the size of those spaces
- Redrafting ordinances for driveways to reduce width and allow for alternatives to pavement in construction
- Redrafting ordinances to reduce paved cartway width requirements in residential neighborhoods

In addition, there are also many cases where towns could simply give landowners the option to have less impact. For example, few towns have code that allows for porous pavers in drive ways, two-track style driveways or thinner driveways for fewer or smaller cars. Cul-de-sacs could included vegetated centers and provisions could be

made for porous materials on low-traffic, residential areas.

In regards to parking ratios, many towns surveyed in this report have higher space requirements than is recommended by the CWP. At the same time, nearly all the towns surveyed lack an ordinance requiring that a certain percentage of parking spaces be set aside in commercial lots for compact cars. Compact cars are becoming more common and require less space for parking. We encourage towns to take this into consideration when updating their ordinances.

While many of towns surveyed allow for the use of shared parking, only one town has a model for a shared parking arrangement in their ordinances. We encourage towns to include a shared parking arrangement model for developers. The easier it is for a developer to envision a shared parking arrangement, the more likely it is that they may choose that option and, as a result, reduce the amount of pavement they add to the town in constructing a parking area.

The addition of an ordinance that specifies which direction sidewalks need to slope would be a major step forward for low-impact development in a town. Requiring that sidewalks in residential developments slope towards lawns instead of the street would allow for more stormwater to be infiltrated on-site instead of simply being directed into the street and subsequently into the sewer system.

Clean Water Action is eager to work with communities and residents in York County who want to see growth with less impact. As communities grapple with the costs associated with a changing approach to development and construction, we encourage communities to remember that the water and pollution added to Pennsylvaniaôs waterways by shortsighted economic development imposes costs on communities downstream with no say over what upstream neighbors do.

Our detailed findings for each town surveyed follow on the following pages.

Municipality	Total Score
Springettsbury Twp	61
Manchester Twp	46
York City	38
York Twp	37
Spring Garden Twp	35
West Manchester Twp	32
North York Twp	31
North Codorus Twp	27
Manheim Twp	25

	Springettsbury	Manchester	North York	York City	Spring Garden
1. Street Width					
What is the minimum pavement width allowed for streets in low density residential developments that have less than 500 daily trips (ADT)? If your answer is between 18-22 feet give yourself 4 points...	20 to 22 feet	32 feet	30 feet	22 feet	50 feet
At higher densities are parking lanes allowed to also serve as traffic lanes (i.e., queuing streets)? If your answer is Yes, give yourself 3 points	no	not mentioned	not mentioned	not mentioned	no
2. Street Length					
Do street standards promote the most efficient street layouts that reduce overall street length? If your answer is Yes, give yourself 1 point	intersection distance 1,800 ft max 600 ft min. town center allow 300 to 600 ft blocks	not mentioned	not mentioned	not mentioned	block max 1600ft min 500ft cul-de-sac max 500ft
3. Right-of-Way Width					
What is the minimum right of way (ROW) width for a residential street? If your answer is less than 45 feet give yourself 3 points	50 feet	50 feet	50 feet	40 feet	50 feet
Does the code allow utilities to be placed under the paved section of the ROW? If your answer is Yes, give yourself 1 point	yes	yes	not mentioned	yes	yes
4. Cul-de-Sacs					
What is the minimum radius allowed for cul-de-sacs? If your answer is less than 35 feet, give yourself 3 points. If your answer is 36-45 feet, give yourself 1 point	40 feet	40 feet	40 feet	80 feet	50 feet
Can a landscaped island be created within the cul-de-sac? If your answer is Yes, give yourself 1 point	no	no	not mentioned	not mentioned	not mentioned
Are alternative turnarounds such as "hammerheads" allowed on short streets in low density residential developments? If your answer is Yes, give yourself 1 point	no	yes	not mentioned	not mentioned	no

	Springettsbury	Manchester	North York	York City	Spring Garden
5. Vegetated Open Channels					
Are curb and gutters required for most residential street sections? If your answer is No, give yourself 2 points	Yes, can be waved in Industrial zoning districts	yes	yes	yes	required
Are there established design criteria for swales that can provide stormwater quality treatment (i.e., dry swales, biofilters, or grass swales)? If your answer is Yes, give yourself 2 points	yes	yes	yes	yes	yes
6. Parking Ratios					
What is the minimum parking ratio for a professional office building (per 1000 sq ft of gross floor area)? If your answer is less than 3.0 spaces, give yourself 1 point	3.5	5	3.3	1 space per 250 sq.ft. of ground floor gross floor area, plus 1 space per 400 sq.ft. of gross floor area on other occupied floors, plus per employee.	3.3
What is the minimum required parking ratio for shopping centers (per 1000 sq ft gross floor area)? If your answer is 4.5 spaces or less, give yourself 1 point	4.5	4.5	5	5	5 plus one per employee on the largest shift
What is the minimum required parking ratio for single family homes (per home)? If your answer is less than or equal to 2.0 spaces, give yourself 1 point	2	2	2	2	2
Are your parking requirements set as maximum or median (rather than minimum) requirements? If your answer is Yes, give yourself 2 points	no	no	no	no	no
7. Parking Codes					
Is the use of shared parking arrangements promoted? If your answer is Yes, give yourself 1 point	yes	yes	yes	yes	no
Are model shared parking agreements provided? If your answer is Yes, give yourself 1 point	yes	no	no	no	no
Are parking ratios reduced if shared parking arrangements are in place? If your answer is Yes, give yourself 1 point	yes	no	yes	yes, with special exceptions	n/a

If mass transit is provided nearby, is the parking ratio reduced? If your answer is Yes, give yourself 1 point	no	no	no	no	n/a

	Springettsbury	Manchester	North York	York City	Spring Garden
8. Parking Lots					
What is the minimum stall width for a standard parking space? If your answer is 9 feet or less, give yourself 1 point	9 feet	10 feet	9.5 feet	9 feet	10 feet
What is the minimum stall length for a standard parking space? If your answer is 18 feet or less give yourself 1 point	18 feet	18 feet	18 feet	18 feet	18 feet
Are at least 30% of the spaces at larger commercial parking lots required to have smaller dimensions for compact cars? If your answer is Yes, give yourself 1 point	no	no	no	no	no
Can pervious materials be used for spillover parking areas? If your answer is Yes, give yourself 2 points	Yes, adjusted required parking allows pervious area	not mentioned	no	not mentioned	yes
9. Structured Parking					
Are there any incentives to developers to provide parking within garages rather than surface parking lots? If your answer is Yes, give yourself 1 point	no	no	no	no	no
10. Parking Lot Runoff					
Is a minimum percentage of a parking lot required to be landscaped? If your answer is Yes, give yourself 2 points	yes 1/2 acre or more requires 5% landscaping	yes for >1/2 acre	yes	yes	1/2 acre or more requires 5% landscaping
Is the use of bioretention islands and other stormwater practices within landscaped areas or setbacks allowed? If your answer is Yes, give yourself 2 points	Act 167 Stormwater Ord. allows it	not mentioned	not mentioned	not mentioned	Act 167 Stormwater Ordinance allows it

	Springettsbury	Manchester	North York	York City	Spring Garden
11. Open Space Design					
Are open space or cluster development designs allowed in the community? If your answer is Yes, give yourself 3 points	yes	yes	yes	yes	no
Is land conservation or impervious cover reduction a major goal or objective of the open space design ordinance? If your answer is Yes, give yourself 1 point	Yes, 20 ft wide streets grass swales along streets	yes	yes	no	no
Are the submittal or review requirements for open space design greater than those for conventional development? If your answer is No, give yourself 1 point	no	no	no	no	no
Is open space or cluster design a by-right form of development? If your answer is Yes, give yourself 1 point	yes	yes	yes	yes	no
Are flexible site design criteria available for developers that utilize open space or cluster design options (e.g., setbacks, road widths, lot sizes)? If your answer is Yes, give yourself 2 points	Yes, town center allow flexible site design	yes	not mentioned	yes	no
12. Setbacks and Frontages					
Are irregular lot shapes (e.g., pie shaped, flag-lots) allowed in the community? If your answer is Yes, give yourself 1 point	no	Yes, under certain circumstances	yes	yes	no
What is minimum requirement for front setbacks for a one half (1/2) acre residential lot? If your answer is 20 feet or less, give yourself 1 point	Depends on zoning district R-1-20ft R-7-20ft R-20Ft. for open space option	35 feet	20 feet	40 feet	20 feet
What is the minimum requirement for rear setbacks for a one half (1/2) acre residential lot? If your answer is 25 feet or less give yourself 1 point	depends on zoning district R-1-25 ft R-7- 25 ft NC-25 ft M-U-10 ft T-N- 20 ft	35 feet	25 feet	10 feet	20 feet
What is the minimum requirement for side setbacks for a one half (1/2) acre residential lot? If your answer is 8 feet or less give yourself 1 point	No min lot frontage in R-1 and R-7	15 feet	5 feet	10 feet	5 feet
What is the minimum frontage distance for a one half (1/2) acre residential lot? If your answer is less than 80 feet, give yourself 2 points	no min lot width in R-1 and R-7	100 feet	not mentioned	not mentioned	R-2 60

	Springettsbury	Manchester	North York	York City	Spring Garden
13. Sidewalks					
What is the minimum sidewalk width allowed in the community? If your answer is 4 feet or less, give yourself 2 points	4 feet	4 feet	4 feet	4 feet	4 feet
Are sidewalks always required on both sides of residential streets? If your answer is No, give yourself 2 points	yes	no	yes	yes	no
Are sidewalks generally sloped so they drain to the front yard rather than the street? If your answer is Yes, give yourself 1 point	no	no	no	no	no
Can alternate pedestrian networks be substituted for sidewalks (e.g, trails through common areas)? If your answer is Yes, give yourself 1 point	Yes T-N allows trails and other pedestrian linkages	uncertain	no mention	no mention	uncertain
14. Driveways					
What is the minimum driveway width specified in the community? If your answer is 9 feet or less (one lane) or 18 or less (two lanes) give yourself 2 points	9 or 18 feet	10 or 20 feet	12 or 25 feet	not mentioned	15 feet
Can pervious materials be used for single family home driveways (e.g., grass, gravel porous pavers, etc)? If your answer is Yes give yourself 2 points	Act 167 Stormwater BMP's allow	yes	no	no	no
Can a "two track" design be used at single family driveways? If your answer is Yes, give yourself 1 point	never seen used?	not mentioned	not mentioned	not mentioned	never seen used?
Are share driveways permitted in residential developments? If your answer is Yes, give yourself 1 point	not specified	not specified	not mentioned	not mentioned	no

	Springettsbury	Manchester	North York	York City	Spring Garden
15. Open Space Management					
Does the community have enforceable requirements to establish associations that can effectively manage open space? If your answer is Yes, give yourself 2 points	yes	yes	no	yes	no
Are open space areas required to be consolidated into larger units? If your answer is Yes, give yourself 1 point	yes, T-N encourages interconnection	no	no	no	no
Does a minimum percentage of open space have to be managed in a natural condition? If your answer is Yes, give yourself 1 point	T-N 50%	no	no	no	no
Are allowable and unallowable uses for open space in residential developments defined? If your answer is Yes, give yourself 1 point	yes	yes	no	yes	no
Can open space be managed by a third party using land trusts or conservation easements? If your answer is Yes, give yourself 1 point	yes	not specified	not mentioned	not specified	no
16. Rooftop Runoff					
Can rooftop runoff be discharged to yard areas? If your answer is Yes, give yourself 2 points	yes	yes	yes	not mentioned	yes
Do current grading or drainage requirements allow for temporary ponding of stormwater on front yards or rooftops? If your answer is Yes, give yourself 2 points	yes	yes	no	yes	yes

	Springettsbury	Manchester	North York	York City	Spring Garden
17. Buffer Systems					
Is there a stream buffer ordinance in the community? If your answer is Yes, give yourself 2 points	no	no ordinance, but is encouraged	no	no	no
If so, what is the minimum buffer width? If your answer is 75 feet or more, give yourself 1 point	not applicable	not mentioned	n/a	n/a	n/a
Is expansion of the buffer to include freshwater wetlands, steep slopes or the 100-year floodplain required? If your answer is Yes, give yourself 1 point	no	not mentioned	n/a	n/a	n/a
18. Buffer Maintenance					
Does the stream buffer ordinance specify that at least part of the stream buffer be maintained with native vegetation? If your answer is yes, give yourself 2 points	n/a	no			n/a
Does the stream buffer ordinance outline allowable uses? If your answer is Yes, give yourself 1 point	n/a	no			n/a
Does the ordinance Specify enforcement and education mechanisms? If your answer is Yes, give yourself 1 point	n/a	no			n/a
19. Clearing and Grading					
Is there any ordinance that requires or encourages the preservation of natural vegetation at residential development sites? If your answer is Yes, give yourself 2 points	steep slope overlay protects areas 15% or greater slopes from disturbances	yes	yes	no	no
Do reserve septic field areas need to cleared of trees at the time of development? If your answer is No, give yourself 1 point	not specified	not specified	not specified	not specified	not addressed
20. Tree Conservation					
If forests or specimen trees are present at residential development sites, does some of the stand have to be preserved? If your answer is Yes, give yourself 2 points	no	yes, by township determination	yes	yes	yes

	Springettsbury	Manchester	North York	York City	Spring Garden
Are the limits of disturbance shown on construction plans adequate for preventing clearing of natural vegetative cover during construction? If your answer is Yes, give yourself 1 point	no	no	yes	no	don't see any limits
21. Land Conservation Incentives					
Are there any incentives to developers or landowners to conserve non-regulated land (open space design, density bonuses, stormwater credits or lower property tax rates)? If your answer is Yes, give yourself 2 points	yes	yes, stormwater credit	no	no	no
Is flexibility to meet regulatory or conservation restrictions (density compensation, buffer averaging, transferable development rights, off-site mitigation) offered to developers? If your answer is Yes, give yourself 2 points	no	no	no	no	no
22. Stormwater Outfalls					
Is stormwater required to be treated for quality before it is discharged? If your answer is Yes, give yourself 2 points	yes	yes	yes	no	yes
Are there effective design criteria for stormwater best management practices (BMPs)? If your answer is Yes, give yourself 1 point	yes	yes	yes	yes	yes
Can stormwater be directly discharged into a jurisdictional wetland without pretreatment? If your answer is No, give yourself 1 point	no	not mentioned	not mentioned	not mentioned	yes
Does a floodplain management ordinance that restricts or prohibits development within the 100-year floodplain exist? If your answer is Yes, give yourself 2 points	yes	yes, development restricted	no	no	yes
TOTAL SCORE (out of 100)	61	46	31	38	35

	West Manchester	North Codorus	Manheim	York
1. Street Width				
What is the minimum pavement width allowed for streets in low density residential developments that have less than 500 daily trips (ADT)? If your answer is between 18-22 feet give yourself 4 points...	32	50	24- no parking; 32- parking; 40 parking both sides	30
At higher densities are parking lanes allowed to also serve as traffic lanes (i.e., queuing streets)? If your answer is Yes, give yourself 3 points	no	no	no	no mention
2. Street Length				
Do street standards promote the most efficient street layouts that reduce overall street length? If your answer is Yes, give yourself 1 point	not mentioned	cul-de-sac max: 500 block max: 1500 intersection spacing: 200	intersection spacing: 200 min cul-de-sac max: 250 block max: 1500	no
3. Right-of-Way Width				
What is the minimum right of way (ROW) width for a residential street? If your answer is less than 45 feet give yourself 3 points	50 feet	50 feet	50 feet	50 feet
Does the code allow utilities to be placed under the paved section of the ROW? If your answer is Yes, give yourself 1 point	not mentioned	yes	no	no
4. Cul-de-Sacs				
What is the minimum radius allowed for cul-de-sacs? If your answer is less than 35 feet, give yourself 3 points. If your answer is 36-45 feet, give yourself 1 point	80 feet	cul-de-sacs discouraged	100 Ft?	no mention
Can a landscaped island be created within the cul-de-sac? If your answer is Yes, give yourself 1 point	not mentioned	possibly	not mentioned	yes
Are alternative turnarounds such as "hammerheads" allowed on short streets in low density residential developments? If your answer is Yes, give yourself 1 point	not mentioned	no	not mentioned	no

	West Manchester	North Codorus	Manheim	York
5. Vegetated Open Channels				
Are curb and gutters required for most residential street sections? If your answer is No, give yourself 2 points	yes	yes	yes	yes
Are there established design criteria for swales that can provide stormwater quality treatment (i.e., dry swales, biofilters, or grass swales)? If your answer is Yes, give yourself 2 points	yes	no	yes	no
6. Parking Ratios				
What is the minimum parking ratio for a professional office building (per 1000 sq ft of gross floor area)? If your answer is less than 3.0 spaces, give yourself 1 point	3.3	1 space for each 200 square feet of gross floor area, plus 1 space for every 2 full-time employees	1 per 300 sq f gross floor area	3.5
What is the minimum required parking ratio for shopping centers (per 1000 sq ft gross floor area)? If your answer is 4.5 spaces or less, give yourself 1 point	5.5	4.5 spaces for every 1,000 square feet of gross floor area	1/182 sq.f. of gross leasable floor area	5 plus one per employee on the largest shift
What is the minimum required parking ratio for single family homes (per home)? If your answer is less than or equal to 2.0 spaces, give yourself 1 point	2	2 spaces for each unit	2 spaces	2
Are your parking requirements set as maximum or median (rather than minimum) requirements? If your answer is Yes, give yourself 2 points	No	No	No	No
7. Parking Codes				
Is the use of shared parking arrangements promoted? If your answer is Yes, give yourself 1 point	yes	yes, under certain conditions	yes, under certain circumstances	yes
Are model shared parking agreements provided? If your answer is Yes, give yourself 1 point	No	No	No	No
Are parking ratios reduced if shared parking arrangements are in place? If your answer is Yes, give yourself 1 point	Yes	Yes	No	No
If mass transit is provided nearby, is the parking ratio reduced? If your answer is Yes, give yourself 1 point	no	no	no	no mention

	West Manchester	North Codorus	Manheim	York
8. Parking Lots				
What is the minimum stall width for a standard parking space? If your answer is 9 feet or less, give yourself 1 point	10 feet	10 feet	200 sq.f./ space	10 feet
What is the minimum stall length for a standard parking space? If your answer is 18 feet or less give yourself 1 point	20 feet	20 feet	200 sq.f./ space	20 feet
Are at least 30% of the spaces at larger commercial parking lots required to have smaller dimensions for compact cars? If your answer is Yes, give yourself 1 point	Yes	No mention	No mention	No mention
Can pervious materials be used for spillover parking areas? If your answer is Yes, give yourself 2 points	No mention	no	no mention	no
9. Structured Parking				
Are there any incentives to developers to provide parking within garages rather than surface parking lots? If your answer is Yes, give yourself 1 point	no	no	no	no
10. Parking Lot Runoff				
Is a minimum percentage of a parking lot required to be landscaped? If your answer is Yes, give yourself 2 points	yes	yes	Yes, at least 5%	no
Is the use of bioretention islands and other stormwater practices within landscaped areas or setbacks allowed? If your answer is Yes, give yourself 2 points	not mentioned	no	not mentioned	yes

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11. Open Space Design				
Are open space or cluster development designs allowed in the community? If your answer is Yes, give yourself 3 points	yes	yes	no	Yes
Is land conservation or impervious cover reduction a major goal or objective of the open space design ordinance? If your answer is Yes, give yourself 1 point	no	no	n/a	Yes
Are the submittal or review requirements for open space design greater than those for conventional development? If your answer is No, give yourself 1 point	no	no	n/a	No, they can be approved as a special exception
Is open space or cluster design a by-right form of development? If your answer is Yes, give yourself 1 point	yes	no	n/a	no?
Are flexible site design criteria available for developers that utilize open space or cluster design options (e.g., setbacks, road widths, lot sizes)? If your answer is Yes, give yourself 2 points	yes	no	n/a	no
12. Setbacks and Frontages				
Are irregular lot shapes (e.g., pie shaped, flag-lots) allowed in the community? If your answer is Yes, give yourself 1 point	no	yes	Yes, flag-lots allowed in agricultural zone	yes, in special cases
What is minimum requirement for front setbacks for a one half (1/2) acre residential lot? If your answer is 20 feet or less, give yourself 1 point	25 feet	20 feet	50 feet	50 feet
What is the minimum requirement for rear setbacks for a one half (1/2) acre residential lot? If your answer is 25 feet or less give yourself 1 point	30 feet	R-1-15 R-2-15	50 feet	not mentioned
What is the minimum requirement for side setbacks for a one half (1/2) acre residential lot? If your answer is 8 feet or less give yourself 1 point	10 feet	Not mentioned	50 feet	not mentioned
What is the minimum frontage distance for a one half (1/2) acre residential lot? If your answer is less than 80 feet, give yourself 2 points	80 feet	R-1-100 R-2-70	Not mentioned	50 feet

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13. Sidewalks				
What is the minimum sidewalk width allowed in the community? If your answer is 4 feet or less, give yourself 2 points	4 feet	4 feet	5 feet	not mentioned
Are sidewalks always required on both sides of residential streets? If your answer is No, give yourself 2 points	No	No	No	No
Are sidewalks generally sloped so they drain to the front yard rather than the street? If your answer is Yes, give yourself 1 point	no	yes	yes	no
Can alternate pedestrian networks be substituted for sidewalks (e.g, trails through common areas)? If your answer is Yes, give yourself 1 point	no mention	no	no mention	no mention
14. Driveways				
What is the minimum driveway width specified in the community? If your answer is 9 feet or less (one lane) or 18 or less (two lanes) give yourself 2 points	22 feet	min 10 ft. max 20 ft.	min 12 ft. max 36 ft.	Found in Ch. 220 (missing on 360)
Can pervious materials be used for single family home driveways (e.g., grass, gravel porous pavers, etc)? If your answer is Yes give yourself 2 points	not mentioned	no	yes	Found in Ch. 220 (missing on 360)
Can a "two track" design be used at single family driveways? If your answer is Yes, give yourself 1 point	not mentioned	not mentioned	not mentioned	Found in Ch. 220 (missing on 360)
Are share driveways permitted in residential developments? If your answer is Yes, give yourself 1 point	not mentioned	no	yes	Found in Ch. 220 (missing on 360)

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15. Open Space Management				
Does the community have enforceable requirements to establish associations that can effectively manage open space? If your answer is Yes, give yourself 2 points	no	yes	yes	yes
Are open space areas required to be consolidated into larger units? If your answer is Yes, give yourself 1 point	no	no	no	no
Does a minimum percentage of open space have to be managed in a natural condition? If your answer is Yes, give yourself 1 point	no	no	no	no
Are allowable and unallowable uses for open space in residential developments defined? If your answer is Yes, give yourself 1 point	yes	no	yes	Yes
Can open space be managed by a third party using land trusts or conservation easements? If your answer is Yes, give yourself 1 point	not mentioned	yes	yes	not mentioned
16. Rooftop Runoff				
Can rooftop runoff be discharged to yard areas? If your answer is Yes, give yourself 2 points	yes	Not sure	yes	yes
Do current grading or drainage requirements allow for temporary ponding of stormwater on front yards or rooftops? If your answer is Yes, give yourself 2 points	yes	yes	yes	Grading and drainage found in Ch. 220 (missing on 360)

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17. Buffer Systems				
Is there a stream buffer ordinance in the community? If your answer is Yes, give yourself 2 points	no	no	no	yes
If so, what is the minimum buffer width? If your answer is 75 feet or more, give yourself 1 point	n/a	n/a	n/a	75 Feet
Is expansion of the buffer to include freshwater wetlands, steep slopes or the 100-year floodplain required? If your answer is Yes, give yourself 1 point	n/a	n/a	n/a	Yes
18. Buffer Maintenance				
Does the stream buffer ordinance specify that at least part of the stream buffer be maintained with native vegetation? If your answer is yes, give yourself 2 points	n/a	n/a	n/a	Yes
Does the stream buffer ordinance outline allowable uses? If your answer is Yes, give yourself 1 point	n/a	n/a	n/a	Yes
Does the ordinance Specify enforcement and education mechanisms? If your answer is Yes, give yourself 1 point	n/a	n/a	n/a	No
19. Clearing and Grading				
Is there any ordinance that requires or encourages the preservation of natural vegetation at residential development sites? If your answer is Yes, give yourself 2 points	yes	no	yes	Yes
Do reserve septic field areas need to cleared of trees at the time of development? If your answer is No, give yourself 1 point	not specified	no	not sure	Not mentioned, may be found in Ch. 220
20. Tree Conservation				
If forests or specimen trees are present at residential development sites, does some of the stand have to be preserved? If your answer is Yes, give yourself 2 points	yes	no	yes	Yes

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Are the limits of disturbance shown on construction plans adequate for preventing clearing of natural vegetative cover during construction? If your answer is Yes, give yourself 1 point	no	it says only limits are that stated by PA Chapter 102	Not mentioned	Yes
21. Land Conservation Incentives				
Are there any incentives to developers or landowners to conserve non-regulated land (open space design, density bonuses, stormwater credits or lower property tax rates)? If your answer is Yes, give yourself 2 points	no	did not see any reference to incentives	no incentives referenced	No incentives referenced
Is flexibility to meet regulatory or conservation restrictions (density compensation, buffer averaging, transferable development rights, off-site mitigation) offered to developers? If your answer is Yes, give yourself 2 points	no	no	no	no
22. Stormwater Outfalls				
Is stormwater required to be treated for quality before it is discharged? If your answer is Yes, give yourself 2 points	no	Not mentioned	not mentioned in stormwater ordinance	Yes, the first inch
Are there effective design criteria for stormwater best management practices (BMPs)? If your answer is Yes, give yourself 1 point	Yes	Yes	Yes	Yes
Can stormwater be directly discharged into a jurisdictional wetland without pretreatment? If your answer is No, give yourself 1 point	No	No	No	No
Does a floodplain management ordinance that restricts or prohibits development within the 100-year floodplain exist? If your answer is Yes, give yourself 2 points	Yes	Yes	Yes	Yes
TOTAL SCORE (out of 100)	32	27	25	37