

Overview

Impacts to surrounding properties may require the need to store stormwater on-site. By mitigating many of the common areas where stormwater runoff can occur, adverse flooding impacts to neighboring properties can be prevented.

Relevant Locations

Structural improvements can be made with all new development or redevelopment to reduce the amount of direct runoff onto area properties.

Benefits

Providing onsite runoff storage is a very simple and cost-effective way to prevent area flooding. Community education campaigns can be an effective method of outreach to provide homeowners with the ability to retrofit their home systems.

Recommended Implementation Guidelines

Require a minimum amount of stormwater to be stored and treated onsite.

Most grading plans direct stormwater off-site. Requiring a minimum amount of onsite storage in site plan review can better mimic the natural, pre-development hydrologic cycle.

Provide green building points and/or other development incentives to encourage onsite storage.

Green rooftops, as discussed under Best Management Practices, absorb rainwater and may redirect it to rooftop gardens or rain barrels. Incentives, such as reduced setbacks, may encourage new developments to utilize green building design techniques to retain water onsite.

Develop master plan policies to prevent over-engineering of on-site stormwater conveyance.

Policies regarding the management of land use within a community are expressed through the master plan. Policies promoting the use of natural stormwater management techniques, such as vegetated swales and greenspace can minimize the amount of engineered infrastructure.

Prohibit direct connection of downspouts to stormwater system.

Contain rooftop runoff before it is discharged into yard areas by using gutters to direct rain water to rain barrels. Rain barrels can store water for future use; reducing area water demand and releasing stormwater slowly back into the environment.

Encourage developers to reduce the amount of off-street surface parking.

The size of parking areas can be reduced through shared parking agreements between adjacent properties. Businesses or uses with different hours of service, such as a bank a church, benefit from this arrangement. Municipalities can encourage shared parking by applying reduced parking standards where appropriate.

Resources

Smart Growth Network, 'Getting to Smart Growth: 100 policies for implementation'
www.smartgrowth.org



Overview

On-site stormwater mitigation, such as detention ponds, is less practical for infill developments where the desire is to create a more compact, walkable mixed-use environment.

Relevant Locations

Allow developers to treat stormwater at off-site locations, which has the same overall effect on regional water quality. This would be most beneficial for infill developments in urban areas.

Benefits

Enables better location of mitigation facilities and more efficient use of valuable land.

Recommended Implementation Guidelines

Provide incentives for off-site mitigation for developments in areas targeted for higher-intensity uses.

On-site stormwater detention facilities may not be practical in urban areas of a community planned for higher density development or mixed-use neighborhoods. The intent of these areas is to concentrate development within areas most suited and create a critical mass necessary to support a vibrant neighborhood. In these areas, it may be more cost effective to provide a regional stormwater detention system.

Allow nearby developers to pool stormwater management efforts, which can reduce the total acreage devoted to stormwater mitigation.

Require a shared storm drainage and stormwater management plan for each development.



Off-site treatment area should have same or greater acreage as development site.

Off-site stormwater management is not an exemption from the obligation for development to properly manage and treat stormwater runoff. Even in incidences where stormwater is being treated off-site, provisions still need to be made for adequate storage.

Overview

The condition of riparian areas, where land and water meet, influences how much sediment can runoff into adjacent waterways. Area water bodies supply St. Clair County's water system. In order to provide as much natural sediment removal as possible, it is important to have an area of natural vegetation that can provide a line of defense to the local waterway.

Relevant Locations

Also known as a 'greenbelt' or 'vegetative' buffer, these land areas are located along the waters edge. This practice would be most applicable for new developments in rural areas. In developed waterfront areas, establishing a new 'vegetative buffer' may be difficult; however, property owner education may assist in preventing residents to fertilize their lawns to the waters edge.

Benefits

By reducing runoff, greenbelts help reduce pollution transport to lakes and streams and provide numerous other benefits. Riparian buffers of at least 30 feet are suggested, and depending on the quality of area water ways, 55 feet is suggested to reduce pollution from sediment nutrient and pesticide runoff.

Recommended Implementation Guidelines

Add buffer policies to master plan and setback requirements to site plan review standards.

A critical element to actively protect the watershed and its natural resources is providing sufficient justification in the master plan. Add policy statements, such as, "Stabilization of stream banks and the protection of stream channels will be achieved through vegetated strip requirements" and "Establish minimum transition

area for the protection of natural features". Within site plan review, require all natural features and their required setbacks to be clearly identified and marked.

Restrict vegetation and soil disturbance during maintenance.

Require trees and shrubs be planted within 180 days of land disturbance to maintain good soil erosion control. Phase land development within large scale PUDs and site condominiums to prevent large scale land clearing.

Regulate uses along waterways to reduce pollutants entering riparian zone.

Overlay zones preserve natural vegetative buffers along streams that meander through several zoning districts or political jurisdictions.

Develop a number of generic lakefront restoration planting plans that can be given to residents. These plans can include a combination of plant types and list of native species that can be planted to provide filtering buffer strips and wildlife habitat in place of lawn along lakefront properties.

Include tables illustrating buffer width adjustment by percent slope and type of stream.

The width of an appropriate stream buffer will vary depending on topography, land cover and type of stream. A 'one size fits all' approach may not protect all waterways. Some of the relevant factors to consider when determining the size of a buffer are:

- The quality of stream or wetland to be protected.
- The intensity of the adjacent land use.



- The quality or density of the buffer (larger buffers are needed for high-value wetlands and streams buffered from intense land uses).
- The function of the buffer.
- The soil type and how surface water filters into the ground.
- The types and amount of vegetative cover and how it stabilizes the soil.
- The slope of the land within the zone and how significant it is for retaining sediment from reaching the streams.

In general, it has been hypothesized that smaller buffers are adequate when the buffer is in good condition (e.g., dense native vegetation, undisturbed soils), when the water body or resource is of low functional value, and the adjacent land use has low impact potential (park land or very low density residential development).

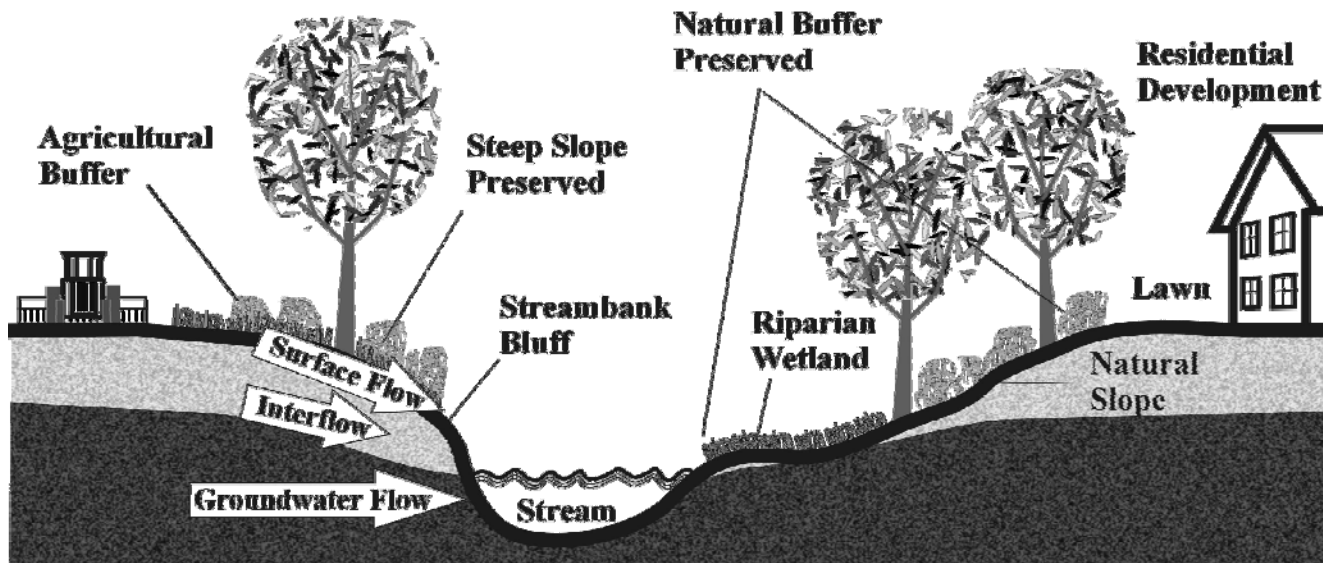
Large buffers will provide water quality protection for high impact land uses such as highly developed commercial areas dominated by parking lots.

Mark buffer boundaries on planning maps.

Establish a riparian buffer on natural feature inventory maps to identify to area landowners where additional development restrictions may apply.

Require permanent markers to delineate buffer boundaries.

Riparian open space has the potential to be slowly encroached upon by area property owners, such as storing boats, creating pathways, etc. Require developments to set permanent markers to clearly identify areas that should not be disturbed.



Resources

Huron River Watershed Council, Riparian Buffer Model Ordinance, www.hrwc.org

USDA National Agroforestry Center: <http://www.unl.edu/nac/>

Tip of the Mitt Watershed Council www.watershedcouncil.org

Overview

Developers may elect to develop a site that does not have public sewer available by means of a "private community wastewater system"(PCWS). These can be prevalent in areas where poor soil qualities limit the ability to have individual on-site sanitary drain fields or where lot sizes are smaller than allowed for individual on-site sanitary drain fields.

The MDEQ is authorized to issue permits for PCWS that serve more than one property. While a PCWS may be preferred over individual septic systems in some limited circumstances, the local unit of government should require assurances that the community is indemnified from any costs or liability in connection with the design, construction, operation, maintenance, repair and/or replacement of that PCWS. Also, if a PCWS fails or begins to function improperly, there needs to be an adequate replacement reserve for the PCWS. For these purposes, a local community should have regulations in place for PCWSs.



Relevant Locations

Private community wastewater systems will typically be located in communities that do not have public sewer systems, so this tool is most applicable to rural townships. A community system may also be relevant in an area where seasonal homes will be converted to full time residences.

Benefits

In areas of sensitive natural features, or poor soils, community wastewater systems will reduce the possibility of contamination of individual septic systems. In addition, when compared to individual systems, such as septic tanks, shared treatment systems typically cost less per home.

Recommended Implementation Guidelines

In a maintenance agreement, specify all parties responsible for operation and maintenance of the facility and require associations to hire a certified operator

Consult with the community attorney and have sample maintenance agreement language drafted to formalize the agreement and have a legally binding document in case of system failure. The agreement should specify the following:

- The parties responsible for inspection, monitoring, repairing, replacing, operating and maintaining the PCWS.
- Standards for inspection, monitoring, operation, maintenance, repair and replacement of the PCWS.
- Indemnification of the community by the applicant, owners and homeowners association.

- A requirement that the association maintain an insurance policy for the replacement value of the PCWS

Provide standards for inspection, monitoring, and maintenance.

The PCWS should be inspected, monitored, operated, maintained, repaired and replaced by the homeowners association. The homeowners association should hire a certified operator approved by the MDEQ and the County Health Department. The association should provide the community with copies of signed agreements with the certified operators and the results of the inspections.

Provide local government with option to require connection to the public sanitary sewer, when available.

The agreement should provide the local government with the authority to require that systems be abandoned and connected to the public sanitary sewer, when public sewer becomes available in the area, with all required fees and costs paid by the homeowners association.

Require financial reserve for operation and adequate replacement reserve.

Each homeowners association should be required to maintain a financial reserve sufficient for 5 years of monitoring, inspection, operation, maintenance and repair of the PCWS and an adequate replacement reserve in the amounts certified by a design engineer or the certified operator.

Establish a special assessment district for the development at the time of approval.

Prior to recording the PCWS maintenance agreement and sale of any unit, lot or parcel served by a PCWS, the developer should

establish a special assessment district for the development. This would typically be done at the time of final preliminary plat approval. The purpose of SAD is to provide for assessment of the units or lots by the community for the costs of inspection, monitoring, maintenance, repair, operation or replacement of the PCWS in the event the association fails to properly perform the work.

Disclosure document delivered to the prospective purchaser of a unit.

Often, perspective homeowners will buy a lot or dwelling in a development that is served by a PCWS without fully understanding the conditions and liabilities associated with it. With developments that contain a PCWS, the provisions of the maintenance agreement should be included in a disclosure document that is delivered to the prospective purchaser of a unit or lot prior to the execution of a purchase agreement.

Provide adequate buffering of systems from natural features, such as wetlands and streams.

The zoning ordinance should require a buffer or setback between a PCWS and any off-site dwelling, all proposed on-site dwelling, any existing well and any surface water, wetlands, or floodplain.

Resources

U.S. Environmental Protection Agency,
www.epa.gov/reg3wapd/septic/index.htm

Toolbase Services
www.toolbase.org



Overview

Land development and population growth increase the demand for more water. How much additional water and at what cost is related to how that growth takes place. Communities should use their 20-year population projections as a basis for projecting future water needs over the next 20 years. Areas planned for public water supply will depend on the extent of planned growth areas and the existing and projected capacity of the public water supply system.

Relevant Locations

Smart growth techniques that reduce the need for water can be implemented in every community. Urban fringe communities may require more aggressive policies to manage demand.

Benefits

Policies to manage water demand are an effective way to manage the costs of growth. In the Journal of the American Planning Association a study evaluated the influence of land use on the cost of water distribution and sewer services. Estimated service costs for a household on a .25 acre lot near a service center was approximately \$143, as compared to a house on a 1 acre lot at \$272.

Recommended Implementation Guidelines

Connect utility and land use plan to provide predictability in development process.

The availability of public water together with other public utilities and services can have a significant impact on the willingness of industry and business to locate in an area. Promote capacity

enhancement to make the community attractive to new development and to sustain existing development.

Integrate water budgeting into land use planning.

Large lots are a major contributor to commercial and residential water use. Large lot size increases costs of required infrastructure through longer pipes which increases the potential for water system leaks. Discourage development in areas that would threaten long-term public water supplies and promote compact development. Encouraging infill of vacant land and underutilized downtown sites can reduce necessary extensions of public water.

Formation of special authorities to finance, implement and operate infrastructure improvements.

Special assessments are levied against individual properties benefiting from an infrastructure improvement through the establishment of a district.

Variable utility fees based upon development location (i.e. infill vs. system expansion).

Graduated utility fees will erase potential subsidies by charging new construction something closer to what it costs.

Set rates to fully cover costs through conservation pricing or incremental block pricing.

Regulators should integrate the average and marginal cost approaches in water-rate design. Average cost could be used in allocating revenue requirements to specific



customer classes and services. That is, average, embedded cost would determine rate levels for individual classes and services. Marginal cost could be used for designing actual rate structures for individual classes and services.

Zone pricing based upon distance from utility source.

Recognizing that the unit cost of providing water service can vary substantially for customers at different locations within the utility service area, pricing should be based on distance for the utility source.

Resources:

U.S. Environmental Protection Agency, "Case Studies of Sustainable Water and Wastewater Pricing"

www.epa.gov/ogwdw

U.S. Environmental Protection Agency, Growing Toward More Efficient Water Use: Linking Development, Infrastructure, and Drinking Water Policies

www.epa.gov



Overview

In most communities, sewer hookup fees are calculated and assessed by localities without regard to location. As a result, hookup fees often do not reflect distance-dependent costs. Each municipality should promote compact growth to minimize impacts on the landscape and increase the efficiency of area systems coordinated with utility expansion. Revenue from hookup fees should be directly related to the capital costs of expansion and costs for operation and maintenance of utility service should be recovered from service/usage fees.

Relevant Locations

Areas experiencing growth and development that are located outside of a planned urban service boundary should recover the costs of utility service sprawl. Graduated utility rates will erase subsidies for this growth, by charging customers something closer to what it costs to provide services.

Benefits

Monetary incentives and disincentives are powerful tools for influencing growth patterns to minimize their water quality impact. Recovery of marginal/additional cost of service extension can be more accurate (some would say more fairly) than average cost pricing.

Recommended Implementation Guidelines

Sliding-scale hookup fee schedule based on proximity to existing service lines, service facilities, or designated growth area.

The establishment of hookup fees should reflect the distance-dependent costs associated with sewer service to encourage development to take place in a central location.

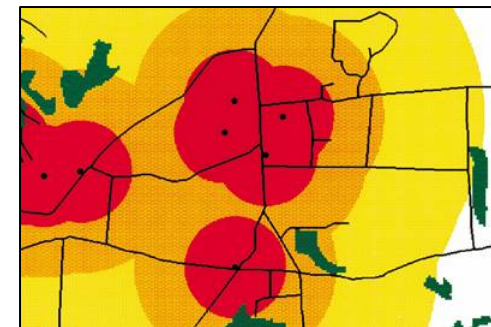
Sliding-scale usage fee schedule to cover capital cost to system in expanding the geographic area served.

Fees can augment public loans and other funding resources and provide capital for upgrades, expansions and other enhancements to the infrastructure systems.

Resources

Environment Colorado Research and Policy Center, '[The Fiscal Costs of Sprawl](#)'

www.environmentcolorado.org



Overview

Public facilities ordinances can help stimulate private investment in utilities by requiring that sewer and water lines be in place before development can begin. An adequate public facilities ordinance will help ensure that services are available prior to new development approval, consistent with local master plans and urban service district plans.

Development's demand for public services is evaluated against capacity. While there is no enabling legislation in Michigan, public facility growth guidelines could be stated in the master plan and used with rezonings and PUDs. Municipalities can track and allocate services available for new development, and plan for reserved and used infrastructure capacity.

Relevant Locations

Implementation of a public facilities ordinance must be used in coordination with master plan and adequate infrastructure funding. A capital improvement plan can outline schedules and funding opportunities.

Benefits

If capital improvements are not scheduled, development may not proceed unless the developer provides the necessary improvement. This can be a great benefit for communities and prevent the unnecessary waste of available resources. This will eliminate the unintended consequences of deflecting development to other areas not planned for growth which can create sprawl and degraded water quality.

Recommended Implementation Guidelines

Encourage centralized sewage systems to coordinate efforts to address pollutant loading into area waterways.

In order to address the issue of private development and growth, site plan review regulations should prohibit the construction of on-site systems until local approval is granted. Communities can require better tools for the regulation of land uses, such as adopting urban service districts showing where higher density growth is permitted and where it is prohibited. New residential developments should utilize centralized sewage systems for better local management and quality assurances to prevent groundwater contamination.

Prohibit group systems in groundwater recharge protection zones.

Proposed development should not pollute ground or surface water. Group systems should be evaluated during site plan review to determine that their placement will not be located in a highly susceptible groundwater recharge zone.

Link timing of development to infrastructure availability.

Often plans for water and sewer service expansion are more heavily influenced by utilities projections for future demand than by a community's growth plan. New developments should be evaluated for consistency with the master plan and CIP, and ensure that adequate infrastructure is available.

Resources

The National Center for Smart Growth Research and Education,
University of Maryland
www.smartgrowth.umd.edu



Overview

The Michigan Conditional Land Transfer Act (PA 425 of 1984) permits two or more local units of government to enter into a written agreement to conditionally transfer land from one local unit to another. When land in the township is conditionally transferred, the transferred property comes under the jurisdiction of the city. The property becomes subject to the property tax levy of the city; the property is afforded access to the full scope of services provided by the city, including public utilities; the property assessment records and voting records of residents will be transferred to the city; and the transferred land becomes subject to the planning and zoning controls of the city.

PA 425 allows the transfer of control and jurisdiction to be limited. The language of the Act provides for complete transfer “unless the contract specifically provides otherwise.” The city and township can agree to a transfer of something less than complete jurisdiction. Agreements commonly require mutual assent between the two units on decisions related to the planning and zoning of the subject property.

The Act provides that the local units of government may conditionally transfer property “for a period of not more than 50 years.” The agreement may be renewed for additional periods not to exceed 50 years upon approval of the legislative bodies of the involved units and the acquiescence of their citizens. The contract must specify which local unit has jurisdiction over the property upon the expiration, termination or nonrenewal of the agreement.

Relevant Locations

An Act 425 agreement permits two or more local units of government to enter into a written agreement to conditionally transfer land from one local unit to another. This is most commonly done between townships and cities.

Benefits

The purpose of PA 425 is to enhance economic development, housing, and environmental protection. “Economic development project” is defined as “land and existing or planned improvements suitable for use by an industrial or commercial enterprise, or housing development, or the protection of the environment, including, but not limited to groundwater or surface water.” Projects covered by Act 425 include everything from industrial park development to port improvements. PA 425 was amended in 1990 to redefine “housing development” as an economic development project in and of itself.

Recommended Implementation Guidelines

Statutory considerations.

When formulating a 425 agreement, the local units of government are directed to consider several factors, including:

- Population.
- Land area and land uses.
- Assessed valuation.
- Past and probable future growth, including population increase, and commercial and industrial development.
- The need for organized community services.
- The cost and adequacy of governmental services in the area to be transferred.



- Probable change in taxes and tax rates in relation to the benefits expected to accrue from the transfer.
- The ability of the receiving jurisdiction to provide and maintain services.
- The relationship of the proposed action to any relevant land use plans.

Contract provisions.

The 425 agreement must include the following provisions:

- The length of the contract.
- Specific authorization and terms for the sharing of taxes and other revenues.
- Methods of contract enforcement.
- Identification of which unit has jurisdiction over the transferred area upon expiration of the agreement.

In addition to these basic provisions, the agreement may include the following considerations:

- Method by which the contract may be rescinded or terminated prior to the stated date of termination.
- The manner of employing personnel required for the economic development project to be carried out under the contract.
- The fixing and collecting of fees.
- The adoption and enforcement of ordinances.
- How contracts are entered into for improvements.
- Issues related to any liabilities that might be incurred through performance of the contract.

Public meetings; referendum

PA 425 requires each local legislative body to hold at least one public hearing on the proposed agreement prior to its approval by a majority vote of both legislative bodies. The draft agreement is subject to referendum if 20% or more of the registered voters in the land area to be transferred, or persons owning 50% or more of the land to be transferred sign a petition or if or either local unit call for a referendum.

County and state review.

The agreement must be filed with the Secretary of State and the County Clerk. The Michigan Department of Transportation is required to review each agreement to ensure the accuracy of the boundary descriptions.

Ownership of infrastructure.

If the agreement calls for the transferred land to revert to the transferring jurisdiction upon expiration of the agreement, then responsibility for all municipal functions reverts to the transferring jurisdiction, and the receiving jurisdiction’s laws concerning taxation and zoning in effect at the time of the reversion control the property. An issue that should be addressed is the ownership of any infrastructure installed by the receiving jurisdiction during the period of the contract and whether this reverts to the transferring jurisdiction.

Resources

Michigan Townships Association www.michigantownships.org
www.michigantownships.org/resourcetoolkits.asp



Overview

Capital Improvement Plans (CIP) identify major capital projects expected in the next several (5 to 10) years, as well as the anticipated funding mechanism. Revenues supporting the CIP may include some or all of tax revenues, user rates and charges, special assessments, connection fees, and capital reserve funds.

Capital Projects can be thought of as belonging to one of the following categories:

- Water and waste.
- Streets, streetscapes and transportation.
- Community facilities.
- Energy and telecommunications.
- Low income housing.
- Equipment and vehicles.

Water facilities, including water treatment plants, stormwater and water lines, are major infrastructure components and have a powerful influence on the location of development. CIPs should identify potential funding sources for water system improvements, expansion, and water source protection.

Relevant Locations

Identify CIP in the master plan and develop utility service areas based on CIP. Any municipal CIP should be consistent with the future land use map of the master plan and the zoning map.

Benefits

CIPs can identify potential funding sources for water system improvements that provide water source protection. The US



Department of Agriculture's Rural Utilities Service offers loans and grants for water and wastewater projects in rural areas and communities of fewer than 10,000 people. By having an adopted CIP, communities can leverage local system improvements with grants and other resources, that can protect local water resources and improve the overall quality of life of area residents.

Recommended Implementation Guidelines

Identify the extent of the current system and any future infrastructure improvements.

Where public sewer lines are planned, public water lines should be considered as well, particularly in areas with low groundwater yields.

Develop a timeline for when improvements will be made.

With a 5 to 10 year timeline, identify and prioritize capital improvements. Sometimes, multiple purposes can be served

through the same CIP project. An identified wellhead or aquifer protection area can also provide an area for a local park or open space.

Tie development permits and site plan review standards to CIP.

The proposed development should be evaluated for consistency with the master plan and CIP, and for compliance with the zoning ordinance's site plan review standards. The planning commission should ensure through site plan review standards that adequate potable water will be available to the proposed development and will continue to be available to existing neighboring water users. The proposed development should not pollute ground or surface water through excessive stormwater runoff or encroachment into natural features, such as wetlands and streams.

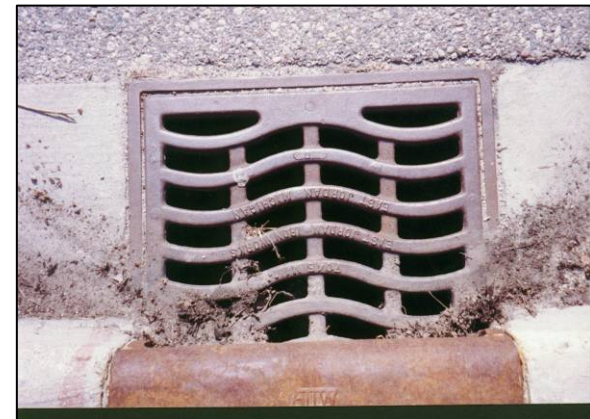


Inventory green infrastructure system and coordinate natural capacity of systems with the CIP.

Planning for water quality begins with identifying surface watersheds, groundwater aquifers, and existing and potential water pollution sources. By conducting a green infrastructure inventory, master plans, zoning ordinances and CIPs can be revised where appropriate to protect the quality of streams, lakes, reservoirs, wetlands and groundwater.

Resources

Lincoln Institute of Land Policy,
www.lincolnst.edu/subcenters/TFDP/capital.asp



Priority Funding Areas

Overview

Public infrastructure is the foundation for every vibrant community. The need for public investment in streets, sewers and water systems can far outgrow a community's ability to provide for it. Investing in new infrastructure while deferring maintenance of older systems can worsen system inefficiencies. Communities face more long-term costs for improvements and upgrades if existing infrastructure is not maintained. Priority funding measures influence where new growth and development may occur.

Relevant Locations

Designate priority funding areas where infrastructure exists and/or is close to developed areas:

- Existing urban areas
- High growth areas

Benefits

Focusing investment and infrastructure within a particular area

Recommended Implementation Guidelines

Invest in existing infrastructure: Fix-It-First.

Local government can help area utilities implement a fix-it-first policy by targeting growth to areas on existing infrastructure systems.

Coordination of improvements between agencies (MDOT, road commission, county, local municipality, school district).

To be effective, coordination should involve all relevant agencies that impact land use in the community. Often, road and transit

agencies are not informed of land development plans until late in the process. A commitment to reciprocal early notification and ongoing coordination will make for better land use and transportation decisions.

Regulate minimum density/intensity requirements.

Priority funding areas are intended for use in high growth areas, based on the availability of water and sewer systems, with at least 3.5 dwelling units per acre.

Locate public facility improvements within priority funding areas wherever possible.

By certifying priority growth areas, public facility improvements should be focused to promote investment and development.

Resources

US EPA

http://www.epa.gov/smartgrowth/getting_to_sg2.htm

State of Maryland

www.mde.state.md.us/Programs/MultimediaPrograms/Smart_Growth/PriorityFunding/index.asp



Overview

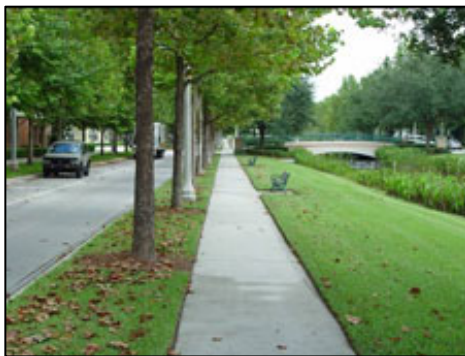
A major influence in the amount of impervious surface and runoff is our transportation network. Where motor vehicle travel is the only practical form of transportation, there is little incentive for area residents to use any type of transportation alternative that may lessen impacts on the watershed. Bike paths, sidewalks, and transit provide mobility to citizens regardless of age, health, or income and reduce the need for vehicles and related road improvements.

Relevant Locations

While multi-modal transportation is more commonly applied in cities and villages transportation options should be considered for all communities.

Benefits

Transportation infrastructure (roads, driveways, and parking lots) account for up to 70% of the impervious surface area, even in residential developments (University of Wisconsin 2002 and University of Connecticut 2003). Reducing the number of automobiles can reduce traffic, air and water pollution, and costly road widenings.



Recommended Implementation Guidelines

Require new development to install sidewalks and/or bike paths.

During site plan review, look for opportunities for cross access easements at points east and north of the property lines to adjacent properties. Verify that new development will install sidewalks and bike paths during the first phase of development, rather than constructing this infrastructure at the end, which can be 5-6 years before final construction of a development.

Transit oriented development design

Transit oriented development (TOD) offers a more compact arrangement of buildings and services for residents that choose to live near and use alternative transportation. Compact development can reduce infrastructure costs of expanding water, sewage and roads for municipalities, while providing for alternative housing options. A mixture of residential dwellings and commercial land uses is encouraged within the TOD area. The area should be well-connected to the pedestrian sidewalk/pathway system to encourage less reliance on automobiles.

Provide Transportation Options

Plan and zone for higher density districts that are transit supportive.

Transit-oriented development in coordination with bus and non-motorized pathways can provide for areas of high-density development without the need for new road construction and access management of cars and trucks. Greater emphasis on pedestrian walkways, bike paths and trails that interconnect the places people live, work and play can assist in offered transit-supportive systems. Mixed-use zoning and neotraditional development can reduce the need for travel by offering life services within close proximity to residential dwelling units.

Resources

Michigan Land Use Leadership Council
www.michiganlanduse.org/resources

Southeast Michigan Council of Governments
www.semcog.org

Michigan Suburbs Alliance
www.michigansuburbsalliance.org

Federal Transit Administration
www.fta.dot.gov

