Tree Board
Reference Handbook

Rev. 11/23/2020

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DIVISION 2. - TREE BOARD

Sec. 2-299. - Powers and duties.

The tree board shall have the following powers and duties:

(1) Develop an annual work plan in accordance with the Tree City USA guidelines. Such work plan shall include tree-related projects and tasks, as well as an implementation schedule for such projects and tasks.

(2) Submit to the Wellington Council not later than April of each year a list of estimated expenses for the following calendar year.

(3) Review and comment to the public works director on all Wellington planting projects prior to installation.

(4) Assist the public works director to study, investigate, counsel, and develop and/or update annually, and administer a written care guide for the care, preservation, pruning, planting, replanting, removal, or disposition of trees and shrubs in parks, along streets, and in other public areas.

(5) Assist Wellington in preparing plans for Wellington's Annual Arbor Day ceremony for approval by the Wellington Council.

(6) Review, upon referral by the Wellington Council proposed ordinances which relate to landscaping regulations and make recommendations to the council regarding such ordinances.

(7) To hears and decide appeals of administrative decisions of the planning, zoning, and building department pertaining to natural resource protection regulations.

(8) Such powers and duties as may be assigned by ordinance or resolution.

(Ord. No. 99-09, § 4, 5-11-99; Ord. No. 2002-06, § 7, 6-25-02; Ord. No. 2010-15, § 1, 6-22-10)

Sec. 2-300. - Creation.

The tree board shall consist of seven regular members. Appointments of regular members shall be for a term of two years.

(Ord. No. 99-09, § 4, 5-11-99; Ord. No. 00-08, § 1, 3-20-00; Ord. No. 2004-32, § 1, 5-25-04; Ord. No. 2010-15, § 1, 6-22-10)

Sec. 2-301. - Meetings, quorum, and required vote.

(a) A quorum for the transaction of business shall consist of four members.

(b) The affirmative vote of a majority of those present shall be necessary to take official action. If any

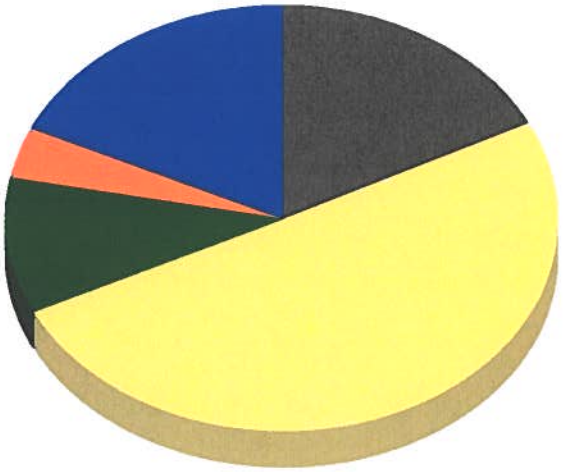
motion fails to achieve the affirmative vote of a majority of those present, then such petition or other matter shall be deemed denied.

(Ord. No. 99-09, § 4, 5-11-99; Ord. No. 2010-15, § 1, 6-22-10)

Secs. 2-302—2-305. - Reserved.

Analysis Report
for
Village of Wellington, FL 2005 Landcover

Land cover areas are in acres.



Impervious Surfaces	5,082.4	17.5%
Open Space - Grass/Scattered Trees	14,589.6	50.3%
Trees	2,977.3	10.3%
Urban: Bare	1,093.6	3.8%
Water Area	5,238.8	18.1%
Total:	28,981.8	100.0%

Total Tree Canopy: 2,977.3 acres (10.3%)

Air Pollution Removal

By absorbing and filtering out nitrogen dioxide (NO2), sulfur dioxide (SO2), ozone (O3), carbon monoxide (CO), and particulate matter less than 10 microns (PM10) in their leaves, urban trees perform a vital air cleaning service that directly affects the well-being of urban dwellers. CITYgreen estimates the annual air pollution removal rate of trees within a defined study area for the pollutants listed below. To calculate the dollar value of these pollutants, economists use "externality" costs, or indirect costs borne by society such as rising health care expenditures and reduced tourism revenue. The actual externality costs used in CITYgreen of each air pollutant is set by the each state, Public Services Commission.

Nearest Air Quality Reference City: **Miami**

	Lbs. Removed/yr	Dollar Value
Carbon Monoxide:	13,270	$5,663
Ozone:	145,971	$448,454
Nitrogen Dioxide:	45,118	$138,613
Particulate Matter:	122,085	$250,417
Sulfur Dioxide:	10,616	$7,967
Totals:	**337,060**	**$851,114**

Carbon Storage and Sequestration

Trees remove carbon dioxide from the air through their leaves and store carbon in their biomass. Approximately half of a tree's dry weight, in fact, is carbon. For this reason, large-scale tree planting projects are recognized as a legitimate tool in many national carbon-reduction programs. CITYgreen estimates the carbon storage capacity and carbon sequestration rates of trees within a defined study area.

Total Tons Stored: 128,118.64

Total Tons Sequestered (Annually): 997.44

Analysis Report
for
Village of Wellington, FL 2005 Landcover

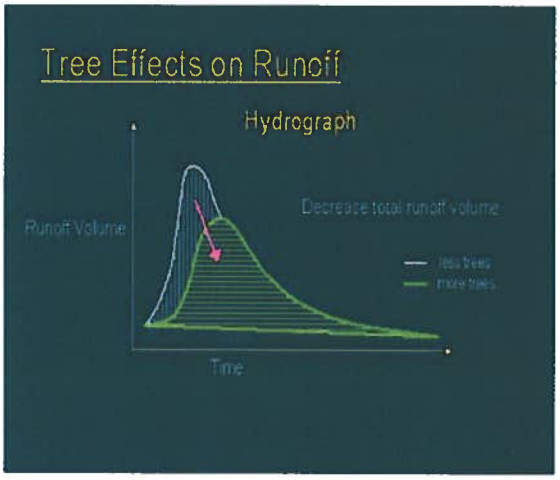
Stormwater

Trees decrease total stormwater volume helping cities to manage their stormwater and decrease detention costs. CITYgreen assesses how land cover, soil type, and precipitation affect stormwater runoff volume. It calculates the volume of runoff in a 2-year 24-hour storm event that would need to be contained by stormwater facilities if the trees were removed. This volume multiplied by local construction costs calculate the dollars saved by the tree canopy. CITYgreen uses the TR-55 model developed by the Natural Resource Conservation Service (NRCS) which is very effective in evaluating the effects of land cover/land use changes and conservation practices on stormwater runoff. The TR-55 calculations are based on curve number which is an index developed by the NRCS, to represent the potential for storm water runoff within a drainage area. Curve numbers range from 30 to 100. The higher the curve number the more runoff will occur. CITYgreen determines a curve number for the existing landcover conditions and generates a curve number for the conditions if the trees are removed and replaced with the user-defined replacement landcover specified in the CITYgreen Preferences. The change in curve number reflects the increase in the volume of stormwater runoff.

Water Quantity (Runoff)

2-yr, 24-hr Rainfall: 5.00 in.

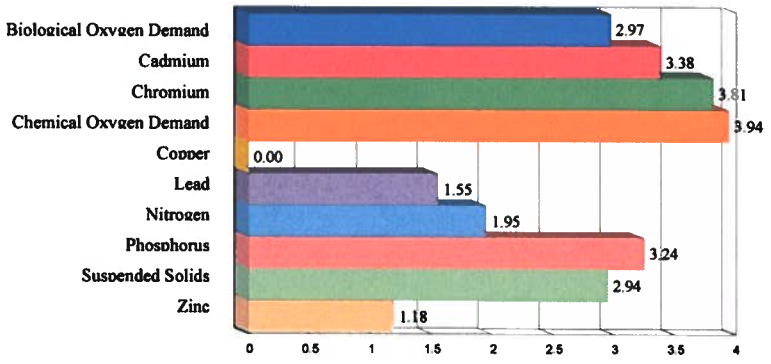
Curve Number reflecting existing conditions:	90
Curve Number using default replacement landcover:	91
Additional stormwater storage volume needed:	11,128,230 cu. ft.
Construction cost per cu. ft.:	$2.00
Total Stormwater Savings:	**$22,256,461**
Annual costs based on payments over 20 years at 6% Interest:	**$1,940,420 per year**



Water Quality (Contaminant Loading)

Cities must comply with Federal clean water regulations and develop plans to improve the quality of their streams and rivers. Trees filter surface water and prevent erosion, both of which maintain or improve water quality. Using values from the US Environmental Protection Agency (EPA) and Purdue University's L-thia spreadsheet water quality model, American Forests developed the CITYgreen water quality model. This model estimates the change in the concentration of the pollutants in runoff during a typical storm event given the change in the land cover. This model estimates the Event Mean Concentrations of Nitrogen, Phosphorus, Suspended Solids, Zinc, Lead, Copper, Cadmium, Chromium, Chemical Oxygen Demand(COD), and Biological Oxygen Demand (BOD). Pollutant values are shown as a percentage of change.

Percent Change in Contaminant Loadings

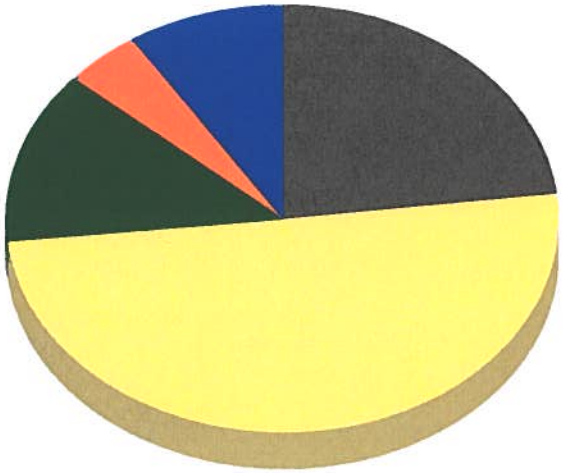


Analysis Report

for

Wellington, FL Urban Boundary 2005 Landcover

Land cover areas are in acres.



Impervious Surfaces	4,974.7	23.0%
Open Space - Grass/Scattered Trees	10,840.1	50.2%
Trees	2,851.6	13.2%
Urban: Bare	953.2	4.4%
Water Area	1,978.1	9.2%
Total:	21,597.7	100.0%

Total Tree Canopy: 2,851.6 acres (13.2%)

Air Pollution Removal

By absorbing and filtering out nitrogen dioxide (NO2), sulfur dioxide (SO2), ozone (O3), carbon monoxide (CO), and particulate matter less than 10 microns (PM10) in their leaves, urban trees perform a vital air cleaning service that directly affects the well-being of urban dwellers. CITYgreen estimates the annual air pollution removal rate of trees within a defined study area for the pollutants listed below. To calculate the dollar value of these pollutants, economists use "externality" costs, or indirect costs borne by society such as rising health care expenditures and reduced tourism revenue. The actual externality costs used in CITYgreen of each air pollutant is set by the each state, Public Services Commission.

Nearest Air Quality Reference City: **Miami**

	Lbs. Removed/yr	Dollar Value
Carbon Monoxide:	12,710	$5,424
Ozone:	139,806	$429,516
Nitrogen Dioxide:	43,213	$132,759
Particulate Matter:	116,929	$239,842
Sulfur Dioxide:	10,168	$7,631
Totals:	**322,826**	**$815,172**

Carbon Storage and Sequestration

Trees remove carbon dioxide from the air through their leaves and store carbon in their biomass. Approximately half of a tree's dry weight, in fact, is carbon. For this reason, large-scale tree planting projects are recognized as a legitimate tool in many national carbon-reduction programs. CITYgreen estimates the carbon storage capacity and carbon sequestration rates of trees within a defined study area.

Total Tons Stored: 122,708.20

Total Tons Sequestered (Annually): 955.32

Analysis Report

for

Wellington, FL Urban Boundary 2005 Landcover

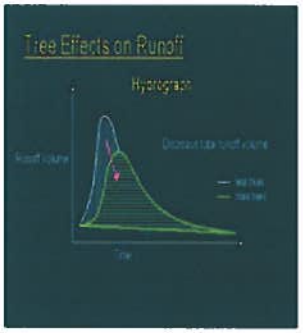
Stormwater

Trees decrease total stormwater volume helping cities to manage their stormwater and decrease detention costs. CITYgreen assesses how land cover, soil type, and precipitation affect stormwater runoff volume. It calculates the volume of runoff in a 2-year 24-hour storm event that would need to be contained by stormwater facilities if the trees were removed. This volume multiplied by local construction costs calculate the dollars saved by the tree canopy. CITYgreen uses the TR-55 model developed by the Natural Resource Conservation Service (NRCS) which is very effective in evaluating the effects of land cover/land use changes and conservation practices on stormwater runoff. The TR-55 calculations are based on curve number which is an index developed by the NRCS, to represent the potential for storm water runoff within a drainage area. Curve numbers range from 30 to 100. The higher the curve number the more runoff will occur. CITYgreen determines a curve number for the existing landcover conditions and generates a curve number for the conditions if the trees are removed and replaced with the user-defined replacement landcover specified in the CITYgreen Preferences. The change in curve number reflects the increase in the volume of stormwater runoff.

Water Quantity (Runoff)

2-yr, 24-hr Rainfall: 5.00 in.

Curve Number reflecting existing conditions:	79
Curve Number using default replacement landcover:	83
Additional stormwater storage volume needed:	29,199,751 cu. ft.
Construction cost per cu. ft.:	$2.00
Total Stormwater Savings:	**$58,399,501**
Annual costs based on payments over 20 years at 6% Interest:	**$5,091,535 per year**



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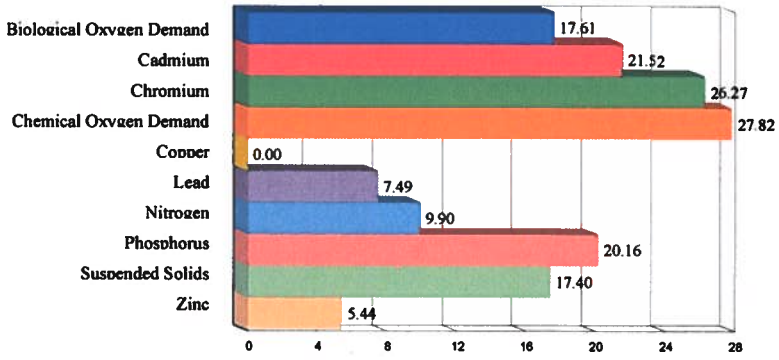
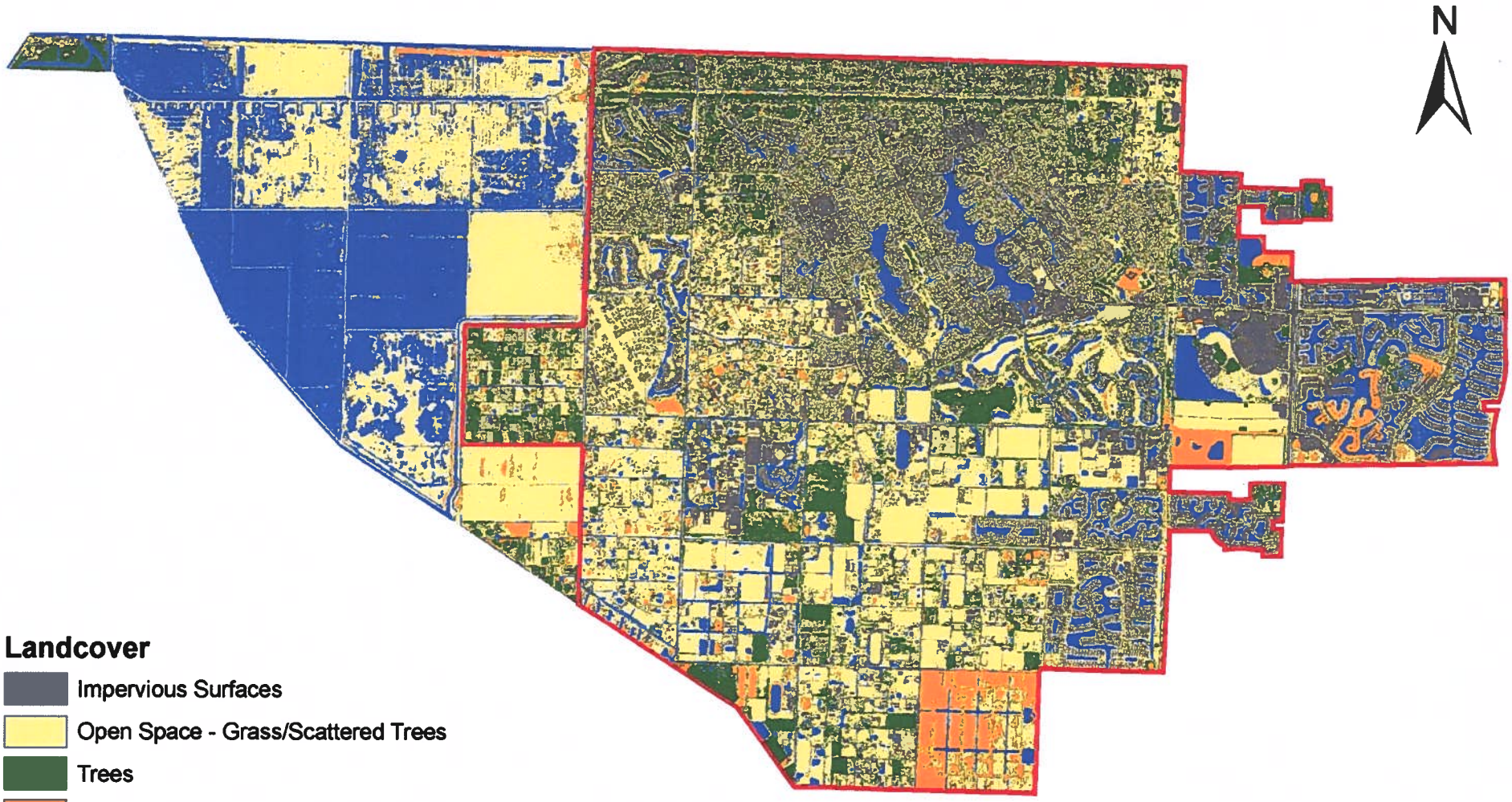
Percent Change in Contaminant Loadings



Village of Wellington, FL - Urban Boundary
2005 Landcover - Ikonos 1-meter



Landcover

- Impervious Surfaces
- Open Space - Grass/Scattered Trees
- Trees
- Bare Soil
- Water Area
- Village of Wellington, FL Urban Boundary

0 1 2 4

Miles

Source: American Forests
Village of Wellington, FL

AMERICAN FORESTS®
americanforests.org

SUMMARY OF
AMERICAN FORESTS
URBAN ECOSYSTEM ANALYSIS
6/6/06

American Forests is a non-for-profit organization founded in 1875 and based in Washington D.C. The process of an Urban Ecosystem Analysis helps developed regions like Wellington to understand how their tree canopy cover has changed overtime and from natural disasters. They have a developed a resourceful tool for municipalities and other agencies to access the value of their "green" infrastructure. On average American Forests has a target goal for municipalities the similar to Wellington to have tree canopy coverage of 40 – 50%.

CITYgreen for ArcGIS

This program uses raster data land cover classification from high resolution imagery for analysis. It functions as an extension of the already existing GIS platform and ArcGIS. From this analysis a Green data layer has been created for Wellington. This layer utilizes the CITYgreen program to interpolate 1 meter multispectral imagery and create this layer using specific land cover categories. These categories are divided into:

- Impervious Surfaces
- Open Space – Grass/Scattered Trees
- Trees
- Bare Soil
- Water

Once the land cover has been created, CITYgreen uses a series of formulas to calculate its totals for the analysis.

TR-55 for Stormwater Runoff: This calculation incorporates volume of runoff formulas from the Urban Hydrology of Small Watersheds model, developed by the US Natural Resources Conservation Service. The formulas have been customized to determine the benefits of trees and other urban vegetation with respect to stormwater management.

L-THIA for Water Quality: This model estimates the change in concentration of the pollutants in runoff during a typical storm event given the change in the land cover from existing trees to a no tree condition. This model estimates the event mean concentrations of nitrogen, phosphorus, suspended solids, zinc, lead, copper, cadmium, chromium, chemical oxygen demand, and biological oxygen demand.

UFORE Model for Air Pollution: Citygreen uses formulas from a model developed by the USDA Forest Service. The model estimates how many pounds of ozone, sulfur dioxide, nitrogen dioxide, and carbon monoxide are deposited in tree canopies as well as the amount of carbon sequestered.

city Green computer program

Wellington Analysis Findings Summary (Attached map and Report)

An Urban Ecosystems Analysis of Wellington was run using multispectral imagery from December 2005. The analysis shows that only 13.2% (2,851.6 acres) of Wellington has a tree canopy developed. 23.0% (4,974.7 acres) are impervious surfaces which are building, parking lots, roads, or any structure that does not allow water to permeate to the ground. 50.2% (10,840.1 acres) is open space – grass/scattered trees; 4.4% (953.2 acres) is urban or bare soil; and the remaining 9.2% (1,978.1 acres) is water.

The attached report also finds the quantity of water runoff, water quality (contaminant loading), and air pollution removal benefited from Wellingtons tree canopy. This number was calculated using only the urban or developable land in Wellington

CONSERVATION ELEMENT GOALS, OBJECTIVES, AND POLICIES

GOAL 1.0 ***Wellington shall protect and preserve the functions and values of its natural resources for the benefit and enjoyment of existing and future residents of and visitors to Wellington.***

Objective 1.1 Wellington shall continue to meet or exceed the air quality standards established by the Florida Department of Environmental Protection (DEP) and enforced by the Palm Beach County Public Health Unit. Wellington continues to comply with or exceed the air quality standards adopted by the County and the State, and shall continue to do so.

Policy 1.1.1 Wellington shall continue to ensure, through its development review process that development orders are issued only where measures will be implemented to ensure air pollution does not exceed established state or county standards.

Policy 1.1.2 Through its development review process, Wellington shall continue to ensure that development orders are not approved unless transportation concurrency requirements are met and transportation facilities continue to operate at adopted levels of service as identified in the Transportation Element of this Plan, so as to minimize air impacts from vehicular traffic.

Policy 1.1.3 Wellington shall encourage and support developments which promote use of transportation alternatives to the single-occupant vehicle, such as through mass transit, carpooling, ride-sharing, or use of alternatively fueled commercial vehicles. (The Development Review Committee (DRC) process of site plan, master plan and subdivision plan review shall be used to achieve this policy.)

Policy 1.1.4 Wellington shall promote a roadway design criterion that facilitates safe and efficient traffic flow in order to minimize non-point sources of air pollution. These design criteria shall continue to be enforced per current design standards and shall be revised as necessary to minimize non-point sources of air-pollution through incorporation of design criteria into the Land Development Regulations to be adopted within one year from the effective date of this Comprehensive Plan. These design criteria may include signalization standards, access standards, turn lane requirements and other such standards designed to improve roadway levels-of-service. These regulations shall be adopted and implemented consistent with the requirements of Chapter 163, F. S.

Policy 1.1.5 Through incorporation of requirements in a Land Development Regulations within one year from the effective date of this Comprehensive Plan.

Wellington shall require significant vegetative buffer zones along trafficways so as to filter sources of air pollution. These regulations shall be adopted and implemented consistent with the requirements of Chapter 163, F. S.

Objective 1.2 Water resources, including the functions and values of groundwaters, wetlands, floodplains and surface waters, shall be protected and conserved ~~through the Development Review Committee process~~ in accordance with established levels as defined by state, regional, county and local standards. ~~The Development Review Committee, consisting of Wellington staff and Wellington consultants, shall continue to ensure that water and resources are protected and conserved as part of the site planning process.~~ Incompatible land uses, such as those with potential negative impacts on wetlands, shall be directed away from or significantly buffered.

Policy 1.2.1 ~~All goals, objectives and policies contained within Wellington's Comprehensive Plan shall be consistent with Wellington's 10-year Water Supply Facilities Work Plan (Work Plan). The Work Plan is included as a part of the Comprehensive Plan as a sub-element of the Infrastructure Element. The Work Plan identifies~~ The Village shall implement the specific conservation and reuse strategies, plans, programs ~~for Wellington~~ in the adopted 10-year Water Supply Facilities Work Plan.

Policy 1.2.2 Wellington shall continue to ensure~~, through its development review process,~~ that property owners are notified of all nationally and locally adopted wetland regulations and the concept of "no net loss of wetlands" and with preservation of the natural functions of wetlands. ~~Additionally, incompatible land uses such as those with a negative impact on wetlands, shall continue to be directed away from or significantly buffered from wetlands through enforcement of existing provisions of the Land Development Regulations.~~

Policy 1.2.3 Wellington shall continue to ensure~~, through its development review process,~~ that development orders ~~are~~ approved in floodplain areas ~~only~~ are in accordance with established State Building Codes and Federal Emergency Management Agency ~~(FEMA)~~ standards.

Policy 1.2.4 The South Florida Water Management District ~~(S.F.W.M.D.)~~ permit requirements shall continue to be enforced for all land development including: minimum road crown elevations, parking lot design, first floor requirements and water quality and quantity requirements.

Policy 1.2.5 Excessive consumption of potable water shall continue to be discouraged through promotion and implementation of Wellington's Water Conservation Initiative and such water saving techniques as requiring ultra-low volume plumbing fixtures, Xeriscaping, and lawn irrigation restrictions ~~in a manner consistent with the Water Supply Facilities 10 Year Work Plan (Work Plan).~~ Emergency water conservation measures in periods of drought shall

~~continue to~~ be ~~observed in accordance with code requirements~~ implemented, as appropriate.

Policy 1.2.6 Wellington shall ~~encourage~~ promote the use of ~~well,~~ surface water or other non-potable water sources for irrigation purposes ~~through the use of a direct mail public information program to be conducted~~ as a part of Wellington Water Conservation Program.

Policy 1.2.7 Wellington shall continue to ensure the potable water supply in Wellington continues to meet or exceed the minimum quantity and quality requirements of all applicable state and federal regulations.

Policy 1.2.8 Wellington shall continue to review development proposals to ensure that water storage capacity is provided through mechanisms such as stormwater retention areas~~, consistent with South Florida Water Management District and other applicable water management agency regulations~~.

Policy 1.2.9 Wellington shall continue to coordinate with the South Florida Water Management District through regular attendance at applicable meetings to provide input into the East Coast Buffer ~~(ECB)~~ expansion, Water Preserve Area or Basin B Stormwater Treatment areas to ensure consistency for the planning of the areas.

Policy 1.2.10 Wellington shall evaluate and encourage innovative planning tools such as conservation easements, cluster development, and using the development review/permitting processes detailed in the Land Use Element to minimize the impacts of development or potential development upon the acquisition and future use of these areas. Such planning tools shall be fully considered through the development of the Land Development Regulations to be adopted within one year from the effective date of this Comprehensive Plan.

Policy 1.2.11 Wellington shall continue to review development proposals to ensure that pre-treatment for stormwater runoff is accomplished through use of grassy swales, wetlands filtration, exfiltration trenches, or other means consistent with the Best Management Practices of the South Florida Water Management District. This shall be accomplished through paving and drainage plan reviews conducted by the Wellington Engineer as part of Wellington's ongoing land development permitting process.

Policy 1.2.12 Wellington shall prohibit any development within designated public potable water wellfields and their respective cones of depression, if the development uses regulated substances except as provided in the Palm Beach County Wellfield Protection Ordinance. The Palm Beach County Wellfield Protection Ordinance 91-29 as such may be amended from time to time and is hereby adopted by reference. This ordinance may be superseded by an

ordinance of Wellington so long as the superseding ordinance accomplishes substantially the same purpose.

Policy 1.2.13 In conjunction with the South Florida Water Management District, Wellington ~~has adopted and~~ shall ~~continue to~~ enforce "Best Management Practices" to minimize the negative impacts on water quality of animal wastes, stormwater discharge, and land development within the Basin B area ~~on water quality~~.

Policy 1.2.14 Wellington shall continue to ensure that mining and excavation activities do not adversely impact the quality of our water resources. ~~Mining and excavation activities shall be permitted only when deemed consistent with review procedures established in existing Land Development Regulations or as may be revised and adopted within one year of the effective date of this Comprehensive Plan~~. Water quality protection measures included in the mining and excavation permitting process will continue to include requirements for planted littoral zones, sloping and grading requirements, reclamation and restoration requirements, sodding or seeding of canal and lake banks, and monitoring and enforcement procedures. ~~These regulations shall be adopted and implemented consistent with the requirements of Chapter 163, F. S.~~

~~Policy 1.2.15 Excavation permits shall be issued only in cases where a determination has been made that the operation will not adversely affect surrounding properties and that a reclamation plan, when required, has been approved by the South Florida Water Management District (SFWMD). Bonding or other methods of security shall be required to ensure reclamation of mining operations where appropriate.~~

Policy 1.2.~~16~~15 Turbidity control measures, such as turbidity curtains and other methods approved by Wellington, shall be required to be used during any excavation within or along Wellington's canal and lake system. Said measures shall be required to be identified on excavation permit applications, where appropriate.

Policy 1.2.~~17~~16 Wellington shall continue to pursue the use of ~~treated sewage effluent~~ reclaimed water for irrigation of Wellington property, whenever possible ~~in a manner consistent with Work Plan~~.

Policy 1.2.~~18~~17 ~~Wellington as feasible shall to continue to install additional lines for further distribution of treated effluent throughout Wellington for irrigation purposes in a manner consistent with Work Plan.~~ Wellington shall continue to pursue the use of reclaimed water for irrigation purposes on private property whenever feasible.

Policy 1.2.~~19~~18 Wellington shall continue to explore innovative and effective measures to promote the conservation of water through research of new

technology and methods for existing and proposed development as well as for irrigation purposes.

Objective 1.3 Wellington has adopted through its land development regulations and permitting processes suitable measures to conserve, appropriately use and protect its soil and mineral resources and its native vegetative communities. This shall continue to be accomplished through enforcement of existing protection measures incorporated into the Land Development Regulations. Said protective measures shall continue to be implemented through the excavation, paving and drainage, building, and vegetation removal permit processes. Said protection measures shall include but not be limited to those described in the implementing policies contained in this Element.

Policy 1.3.1 Natural functions of existing soils shall be preserved through adherence to code provisions addressing soil conservation techniques such as requiring canal and lake banks to be properly sloped and immediately stabilized, and requiring recently cleared and graded land to be seeded or sodded within thirty days of clearing work. Such provisions shall continue to be implemented through the existing excavation and vegetation removal permit processes.

Policy 1.3.2 Wellington shall continue to implement land development code requirements addressing protection of native vegetative communities, to the greatest extent feasible, including requirements for removal of invasive, exotic vegetation where appropriate and allowing for mitigation credits where possible. These protection measures shall continue to be administered through the Development Review Committee and vegetation removal permit processes.

Policy 1.3.3 Wellington shall continue to maintain its "Tree City USA" designation which shall continue to have as its primary goal the preservation of Wellington's native vegetation and pine flatwood tree canopy.

Policy 1.3.4 Wellington has adopted a tree preservation ordinance which shall have as its primary goal the preservation of existing vegetation to the greatest extent possible, and to require mitigation where preservation is not possible.

Policy 1.3.5 Land development proposals shall be reviewed with respect to potential adverse impacts to natural reservations or native upland vegetation and shall be denied or appropriately revised as necessary to preclude such adverse impacts prior to development permit issuance. These protection measures shall continue to be administered through the Development Review Committee and vegetation removal permit processes. These measures shall continue to include but not be limited to requiring the establishment of preserve areas for a portion of native upland vegetation, preserving and incorporating specimen trees and general tree protection into site design, requiring vegetation inventories,

providing habitat and corridors for wildlife, and buffering incompatible types of development.

Policy 1.3.6 Wellington shall continue to have regularly scheduled meetings of the official "tree board" whose mission shall be to develop and administer a comprehensive community tree management program for the care of trees on public property and for developing and citing minimum standards for tree protection and maintenance on a community-wide basis.

Policy 1.3.7 Wellington shall continue to enforce its vegetation protection standards incorporated in its Land Development Regulations (LDR). These standards shall continue to establish an administrative review and permitting process to prohibit the unnecessary removal or destruction of existing native upland vegetation and require the eradication of certain invasive non-native plant species. Specifically the LDR shall continue to limit the removal of vegetation from a site until the approval of a bona fide site development plan. It shall also continue to require the establishment of preserve areas for a portion of native upland vegetation; require preserving and incorporating specimen trees into the site design; and prohibit the clear cutting or total removal of native vegetation from a site. Wellington's LDR state that no less than 50% of the required trees and shrubs for non-residential uses shall be classified as "native." Wellington's LDR's require residential development to contain a minimum of 50% of plant species be selected from Wellington's "Preferred Species List" which consists of native, drought tolerant species or non-invasive species that are not destructive to native species.

Policy 1.3.8 Wellington shall support the Florida Department of Environmental Protection's (FDEP) Ecosystem Management initiative for protecting and sustaining Florida's natural resources. Specific attention will be paid to protecting the ongoing ecosystem management programs of the Loxahatchee National Wildlife Refuge. This will be accomplished through requiring specific impact analyses as part of the development review process for lands that abut or could potentially impact the Loxahatchee National Wildlife Refuge.

Policy 1.3.9 Wellington shall support the Century Commission for a Sustainable South Florida to protect the Everglades ecosystem. This will be accomplished by accommodating future development in the existing developed areas; discouraging new development near the fringes of the Everglades system; transforming urban sprawl into quality development patterns; and reducing the reliance on water from the Everglades.

Policy 1.3.10 By December 31, 2010, Wellington shall evaluate its Landscape Code to determine the feasibility of an increase of minimum of native species of trees, palms and all plant material for new residential and non-residential development.

Objective 1.4 Wellington shall continue to conserve and protect its wildlife, fresh water and fisheries habitats through ~~enforcement of existing regulations and through adoption of~~ protection measures ~~within the Land Development Regulations within one year of the effective date of this plan. The existing and adopted measures will be enforced through the Development Review and Engineering Permit Processes.~~ Protection measures will continue to include habitat identification and preservation requirements and enforcement of water quality control standards ~~through the development review process~~.

Policy 1.4.1 Within one year of the effective date of this Plan, Wellington shall adopt a "preservation enforcement" ordinance which will include punitive measures where necessary to address the monitoring and preservation of the functions and values of wetlands/conservation areas as designated "Conservation" on the Future Land Use Map.

Objective 1.5 Wellington shall continue to protect state and federally listed species which have been identified as endangered, threatened, of special concern, or rare, by the U.S. Fish and Wildlife Service, Florida Game and Freshwater Fish Commission, Florida Committee on Rare and Endangered Plants and Animals, or the Florida Department of Agriculture.

Policy 1.5.1 Wellington will continue to require identification of protected plant and wildlife communities at the earliest stage of development review. Where any of these species are present, Wellington will continue to require the protection of these species through the development review process. Protection measures will continue to include habitat protection through preservation area requirements, wetlands protection, native upland habitat protection, mitigation techniques, and site design review to ensure that development does not adversely impact plant and wildlife communities which have been identified as endangered, threatened, of special concern, or rare.

Objective 1.6 Wellington shall monitor future technological development in order to ensure Wellington remains informed of energy conservation and alternative energy technologies and is able to benefit from the maximum available incentives, rebates or grants.

Policy 1.6.1 In compliance with Florida Statute Section 163.3177, municipal buildings constructed shall, at a minimum, be LEED certified or other green building rating systems, including Green Globes and the Florida Green Building Coalition standards.

Policy 1.6.2 Wellington shall explore development of incentives for the private construction of structures built to LEED certified or other green building rating systems, including Green Globes and the Florida Green Building Coalition standards.

Objective 1.7 Wellington shall address Greenhouse Gas Reduction Strategies (GHG) through factors affecting energy conservation and include "energy conservation" in the Future Land Use Map Series.

Wellington's GHG reduction strategies are contained within goals, objectives and policies throughout the Conservation Element and are intended to promote GHG reduction by:

- ~~Reducing water demand.~~
- Reduction of the "heat island effect" which occurs when warm temperatures are experienced in urban areas compared to adjacent rural areas because of solar energy retention on constructed surfaces.
- Recycling.
- Reduction of vehicle miles traveled.
- Increasing the tree canopy.
- Educational initiatives.
- Promoting energy conservation.

Wellington's Comprehensive Plan Map Series identifies areas where components of Wellington's energy conservation strategies exist:

- Land Use Element Map Series - contains future land use designation map, municipal facilities map, soil survey, wellhead protection area map and parks map, lakes and canal map.
- Transportation Element Map Series - contains public transportation and transportation alternatives locational information.
- Recreation and Open Space Element Map Series - contains municipal owned park map.
- Equestrian Element Map- contains equestrian trail master plan.

Policy 1.7.1 Wellington shall maintain its United States Environmental Protection Agency designation as a Wastewise Partner and promote reduction of municipal waste.

Policy 1.7.2 Wellington shall maintain efforts to promote green initiatives and provide educational opportunities for residents and Wellington staff.

Policy 1.7.3 Wellington shall provide educational opportunities to residents and business owners to support better energy efficient buildings, energy efficient appliances, waste recycling, use of building products from renewable resources, non-toxic building products and water efficient fixtures and landscapes by utilizing means such as Wellington's website and media outlets, school outreach, participation in national programs and other efforts.

Policy 1.7.4 Wellington employees utilizing Wellington vehicles and equipment shall strive to reduce emissions by practices including, but not limited to, unnecessary vehicle idling, carpooling to meetings when feasible and use of webcast/audio-conferencing.

Policy 1.7.5 Wellington consolidated the majority of its municipal offices by the construction of a central municipal complex to maximize efficiency, reduce travel between municipal facilities and consolidate residential services to a single location.