

Village Council
Darell Bowen, Mayor
Dr. Carmine A. Priore, Vice Mayor
Lizbeth Benacquisto, Councilwoman
Matt Willhite, Councilman
Howard K. Coates, Jr., Councilman

Village Manager
Paul Scholfield

THE VILLAGE OF WELLINGTON

2009 Water Quality Report



HISTORICAL PERSPECTIVE

For more than a decade, the Village of Wellington has had in place programs designed to measure and reduce the Total Phosphorus (TP) in the Village's lakes and canals. As part of the South Florida's Water Management District's overall *Comprehensive Everglades Restoration Project (CERP)*, the reduction in total amount of phosphorus entering the Everglades is a critical component to the successful restoration of the Everglades ecosystem.

Prior to the incorporation of the Village of Wellington in 1994, the Acme Improvement District operated the storm water management system which was divided into two separate geographical basins. Basin A, in the northern half of the Village, primarily served the higher density residential and commercial areas. Basin A discharged into SFWMD's C-51 canal via pumps stations and control structures.

Generally, Basin B is characterized by historical agricultural uses, equestrian farms, nurseries and large lot residential estates. Basin B had discharged its storm water directly into the Loxahatchee Wildlife area via two pump stations (PS#1 and PS#2). These discharges were of particular concern because the Total Phosphorus concentrations were significantly higher than those found in Basin A and those target concentrations designed for the CERP program.

As a result of the cooperative efforts of the South Florida Water Management District and the Army Corps of Engineers, the Village of Wellington was able to eliminate the direct storm water discharges to the Loxahatchee Wildlife Area and direct Basin B storm water through Basin A to the north to the C-51 Canal.

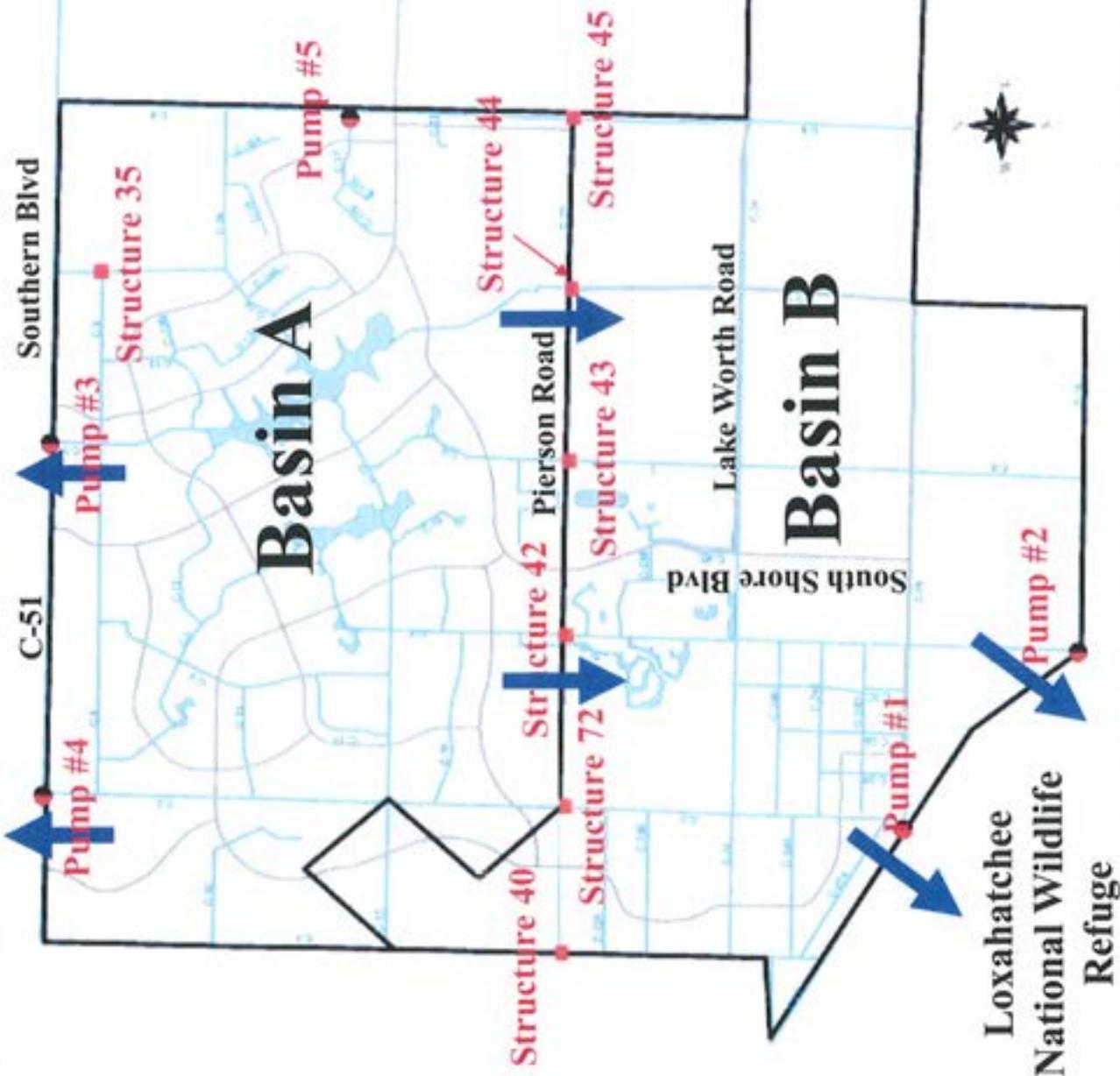
To accomplish this goal, additional pump stations were needed along the C-51 canal, drainage pipes were installed along the old basin divide (Pierson Road) and structures were installed to maintain control elevations in both basins. South Florida Water Management District Permit No. 50-00548-5 was modified to implement "*Permit Criteria and Best Management Practices Manual for Works in the Village of Wellington*"¹. The criteria in this manual provides for land

¹ Acme Improvement District Basin B Long Range Plan, SFWMD Staff Report.

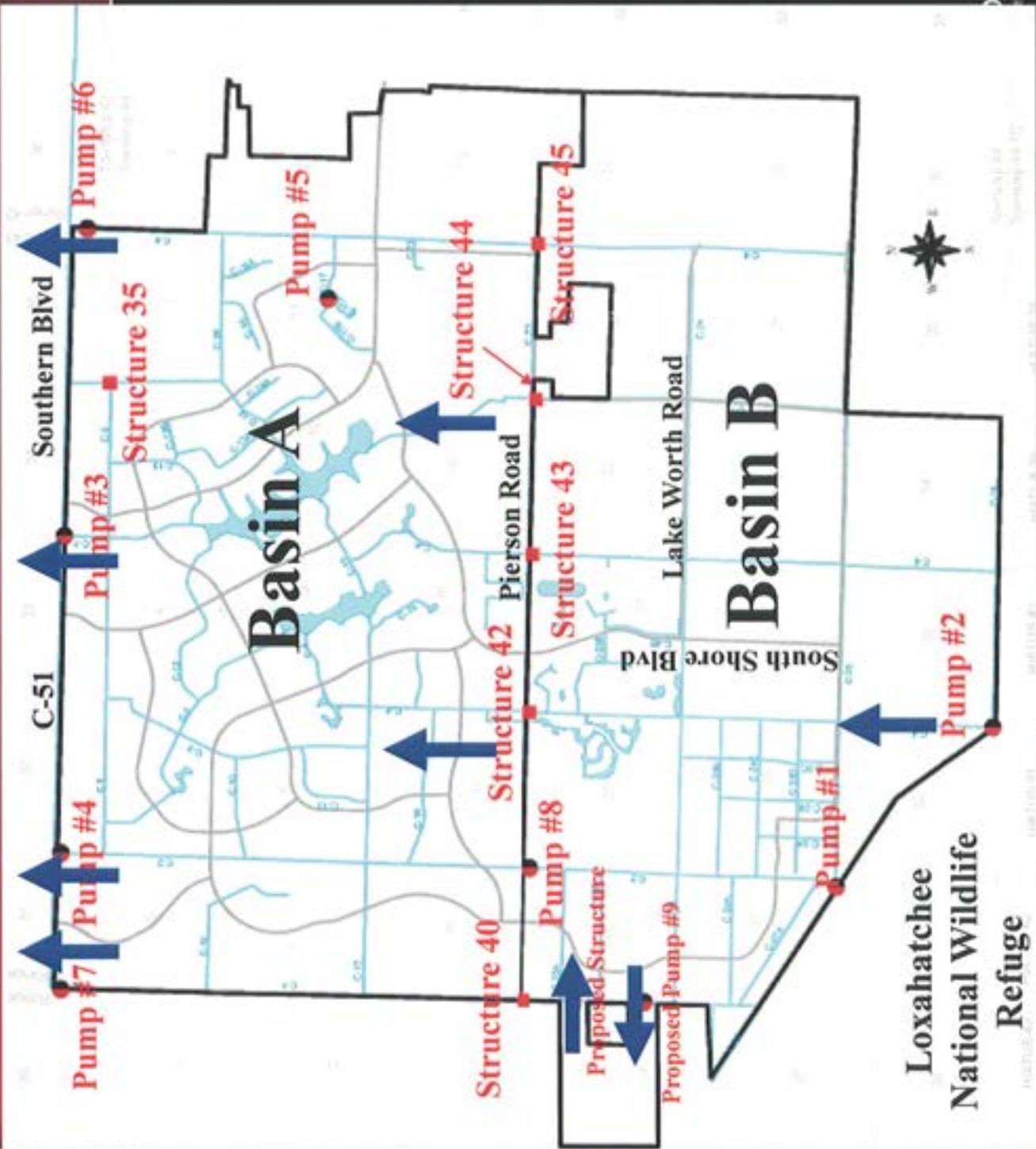
development standards for surface water management systems design including grading assumptions, pond design and wetland filter marshes.

Map A depicts the storm water flows and basin divide prior to 2008.

Map B illustrates the current flows including the new pump stations, control structures and the Section 24 Impoundment Area.



Plan



State of Washington

Water Quality Report 2009

This report summarizes storm Water Quality testing conducted by the Village of Wellington. In addition, the report provides information on the adopted Best Management Practices (BMP's) and the construction of the Section 24 Stormwater Project. This Report will also summarize the effectiveness of the actions taken to date.

The graphical water quality illustrations in this report use median averages for each sampling site using the data collected commencing October 1999 through June 2009. All data contained in this report has been provided to the South Florida Water Management District on a monthly basis. Previous summary reports created on *August 19, 2002 Interim Water Quality Report* prepared by Shalloway, Foy, Raymon and Newell, Inc. and the *2003 Water Quality Report* prepared by Village staff also utilized the median average to best represent the average TP values on an annual basis.

The median score was selected because a small number of outlying sample results were found to unduly influence the statistical mean or statistical average of the values and clearly did not represent the data set. While there are several logical explanations for these anomalies, it would be impossible to identify the source after the sample results were reported.

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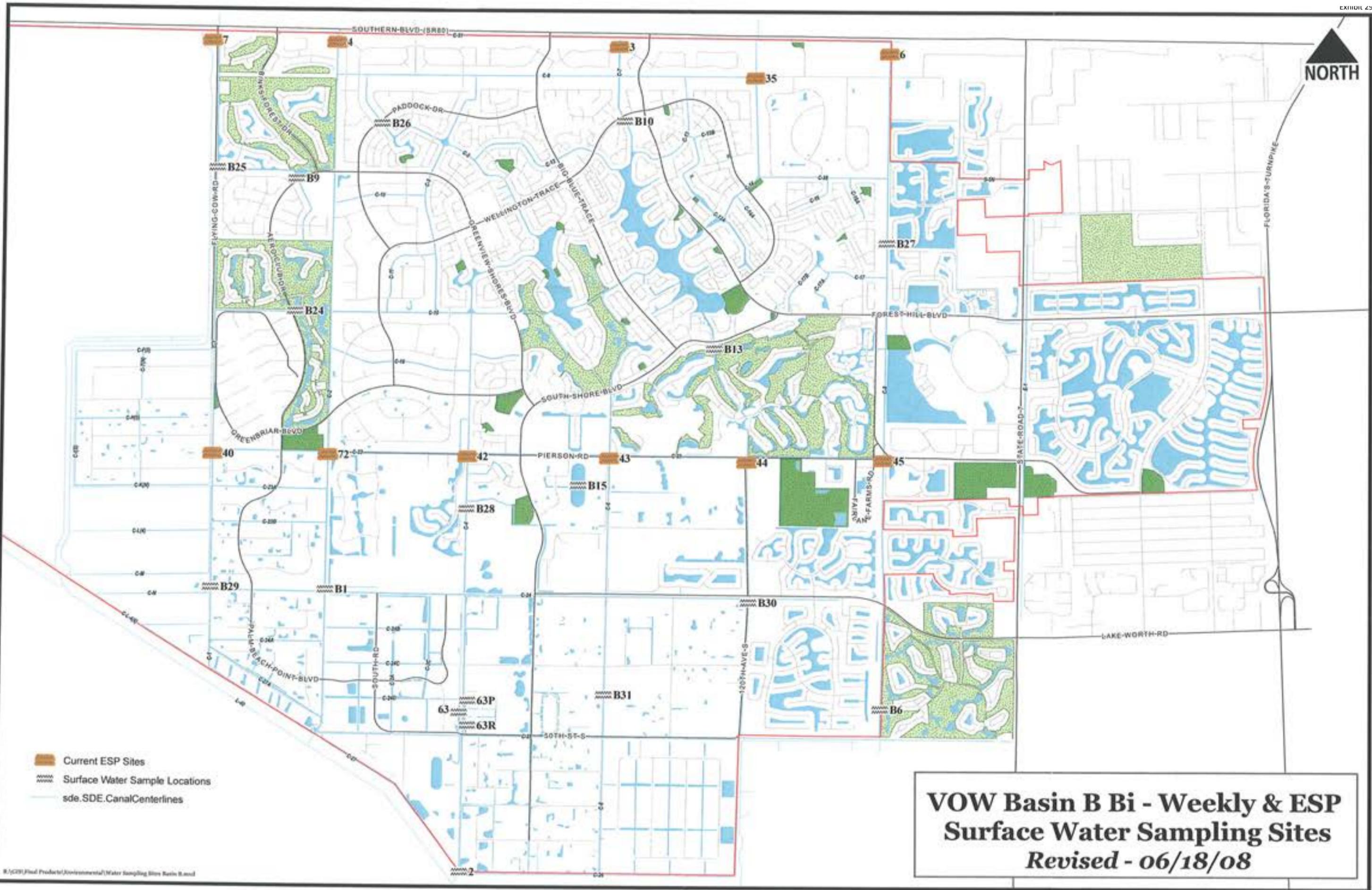
Section 2 - Water Sampling Program Results- Phosphorus

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Section 4 – Best Management Practices and Section 24

Section 5 – Executive Summary and Recommendations

Section 1- Water Quality Sampling Locations Map



**VOW Basin B Bi - Weekly & ESP
Surface Water Sampling Sites
Revised - 06/18/08**

Section 2 – Water Sampling Program - Phosphorus

The following spreadsheets contain the raw data results of the Village's Water Quality Sampling Program. The data is derived from a number of specific sampling locations throughout Basin A and B. The test samples are analyzed by an independent laboratory² under an annual contract with the Village.

There were a total of 53 possible sampling sites that have been used starting in October 1999. Currently, the Village monitors 29 sites for its Phosphorus testing program.

When reviewing the data, there are some data points that do not appear to be representative of the remainder of the site's sample results. These few "outliers" may be accounted for by a number of factors such as animal waste or sampling/analysis errors.

In attempting to derive a simple statistical average, these "high hits" skew the results. Therefore, this report utilizes the statistical median to establish an average that is more consistent with the population of data and provides better comparisons across all sample locations without eliminating any sample results.

The spreadsheet data is also color coded. Green cells contain Phosphorus results between 0-50ppb. Blue cells contain results between 51-150 ppb. Red cells contain results over 150 ppb.

² Pace Analytical Services -- Ormond Beach FL #E63079



State of Florida
Department of Health, Bureau of Laboratories
This is to certify that

E83079

PACE ANALYTICAL SERVICES-FLORIDA
8 EAST TOWER CIRCLE
ORMOND BEACH, FL 32174

has complied with Florida Administrative Code 64E-1,
for the examination of Environmental samples in the following categories

DRINKING WATER - GROUP I UNREGULATED CONTAMINANTS, DRINKING WATER - GROUP II UNREGULATED CONTAMINANTS, DRINKING WATER - OTHER REGULATED CONTAMINANTS, DRINKING WATER - GROUP III UNREGULATED CONTAMINANTS, DRINKING WATER - MICROBIOLOGY, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, DRINKING WATER - SYNTHETIC ORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

EFFECTIVE July 01, 2009 THROUGH June 30, 2010



A handwritten signature in black ink, appearing to read "Max Salfinger".

Max Salfinger, M.D.
Chief, Bureau of Laboratories
Florida Department of Health
DH Form 1697, 7/04

NON-TRANSFERABLE E83079-20-07/01/2009
Supersedes all previously issued certificates

Laboratory Scope of Accreditation

Attachment to Certificate #: E83079-20, expiration date June 30, 2010. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E83079

EPA Lab Code: FL01264

(386) 672-5668

E83079

Pace Analytical Services-Florida
8 East Tower Circle
Ormond Beach, FL 32174

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
n-Nitrosopiperidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosopyrrolidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Octadecane	EPA 625	Pesticides-Herbicides-PCB's	NELAP	5/11/2004
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
o,o,o-Triethyl phosphorothioate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Oil & Grease	EPA 1664A	General Chemistry	NELAP	1/8/2002
Organic nitrogen	EPA 351.2 - EPA 350.1	General Chemistry	NELAP	1/8/2002
Orthophosphate as P	EPA 300.0	General Chemistry	NELAP	1/8/2002
Orthophosphate as P	EPA 365.1	General Chemistry	NELAP	1/8/2002
Orthophosphate as P	EPA 9056	General Chemistry	NELAP	7/1/2003
o-Toluidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
Parathion, ethyl	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Parathion, ethyl	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Pentachlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Pentachloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Pentachloronitrobenzene	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/2/2008
Pentachlorophenol	EPA 625	Extractable Organics	NELAP	1/8/2002
Pentachlorophenol	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	9/4/2008
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
pH	EPA 9040	General Chemistry	NELAP	7/1/2003
pH	SM 4500-H ⁺ -B	General Chemistry	NELAP	10/3/2007
Phenacetin	EPA 8270	Extractable Organics	NELAP	7/1/2003
Phenanthrene	EPA 625	Extractable Organics	NELAP	1/8/2002
Phenanthrene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Phenol	EPA 625	Extractable Organics	NELAP	1/8/2002
Phenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
Phorate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Phosnet (Imidan)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Phosphamidon	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Phosphorus, total	EPA 365.3	General Chemistry	NELAP	12/4/2007
Phosphorus, total	EPA 365.4	General Chemistry	NELAP	1/8/2002
Picloram	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Potassium	EPA 200.7	Metals	NELAP	1/8/2002
Potassium	EPA 6010	Metals	NELAP	7/1/2003
Pronamide (Kerb)	EPA 8270	Extractable Organics	NELAP	7/1/2003

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2009

Expiration Date: 6/30/2010

Section 3 – Graphical Results of Phosphorus Testing Program

Subsequent to the Village of Wellington's storm water system modifications in 2008, all permitted discharges from Basin A and Basin B occur at five (5) locations as depicted on the attached Illustration B. This modification resulted in all storm water discharges from the Village of Wellington's Basin A and B being directed to SFWMD's C 51 Canal. Accordingly, it is the quality of the water from these five locations that is being delivered to the regional system. In addition, all discharges into the Loxahatchee Wildlife Refuge have been discontinued.

Individual graphs of each discharge structure or pump station are attached. In addition, a composite graph is also provided which summarizes the same data on one graph. Each graph contains X- Axis points representing the years 1999-2008. The Y-Axis illustrates the median quantity of Total Phosphorus (TP) expressed in parts per billion (ppb).



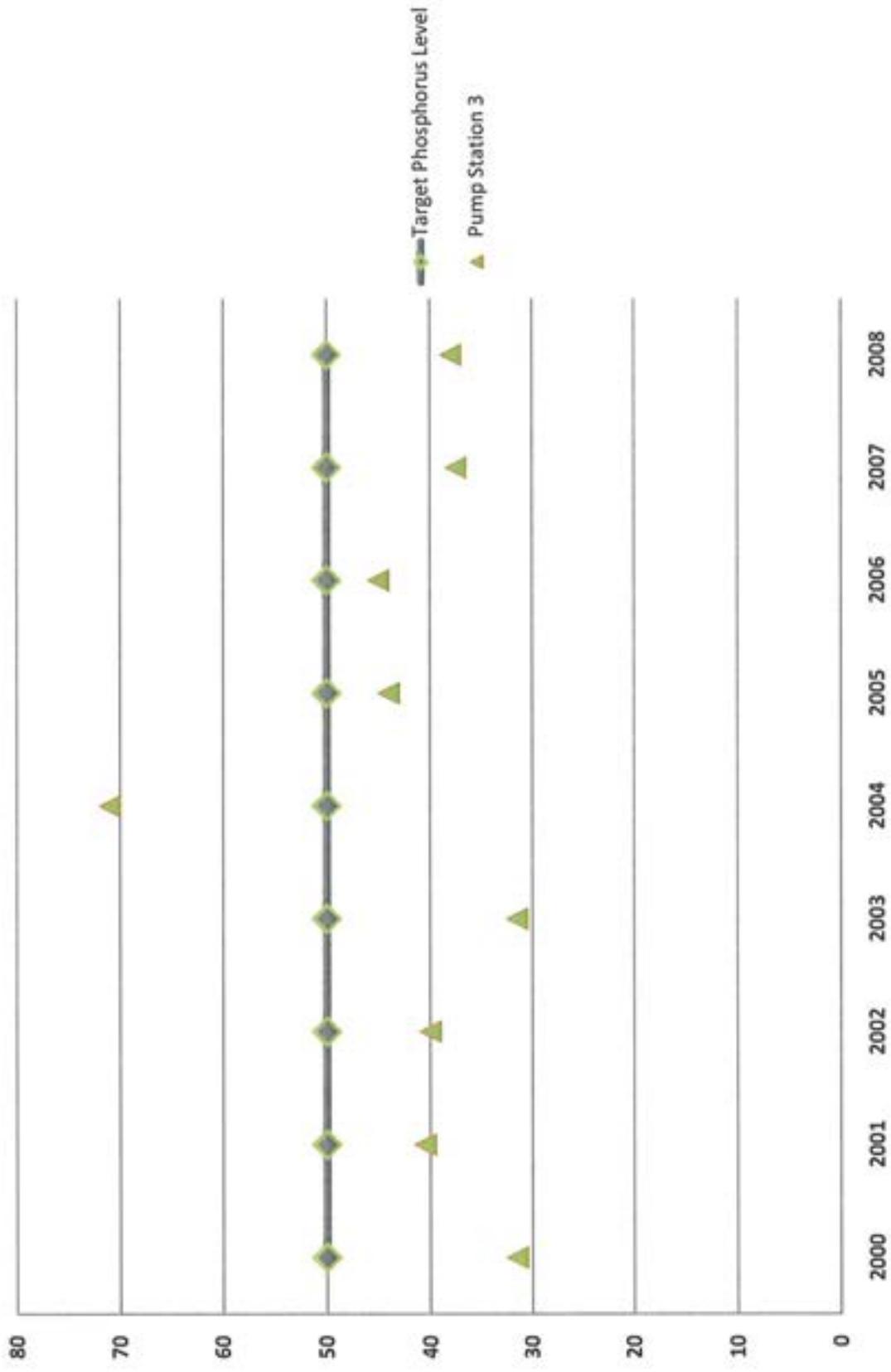
Not to Scale



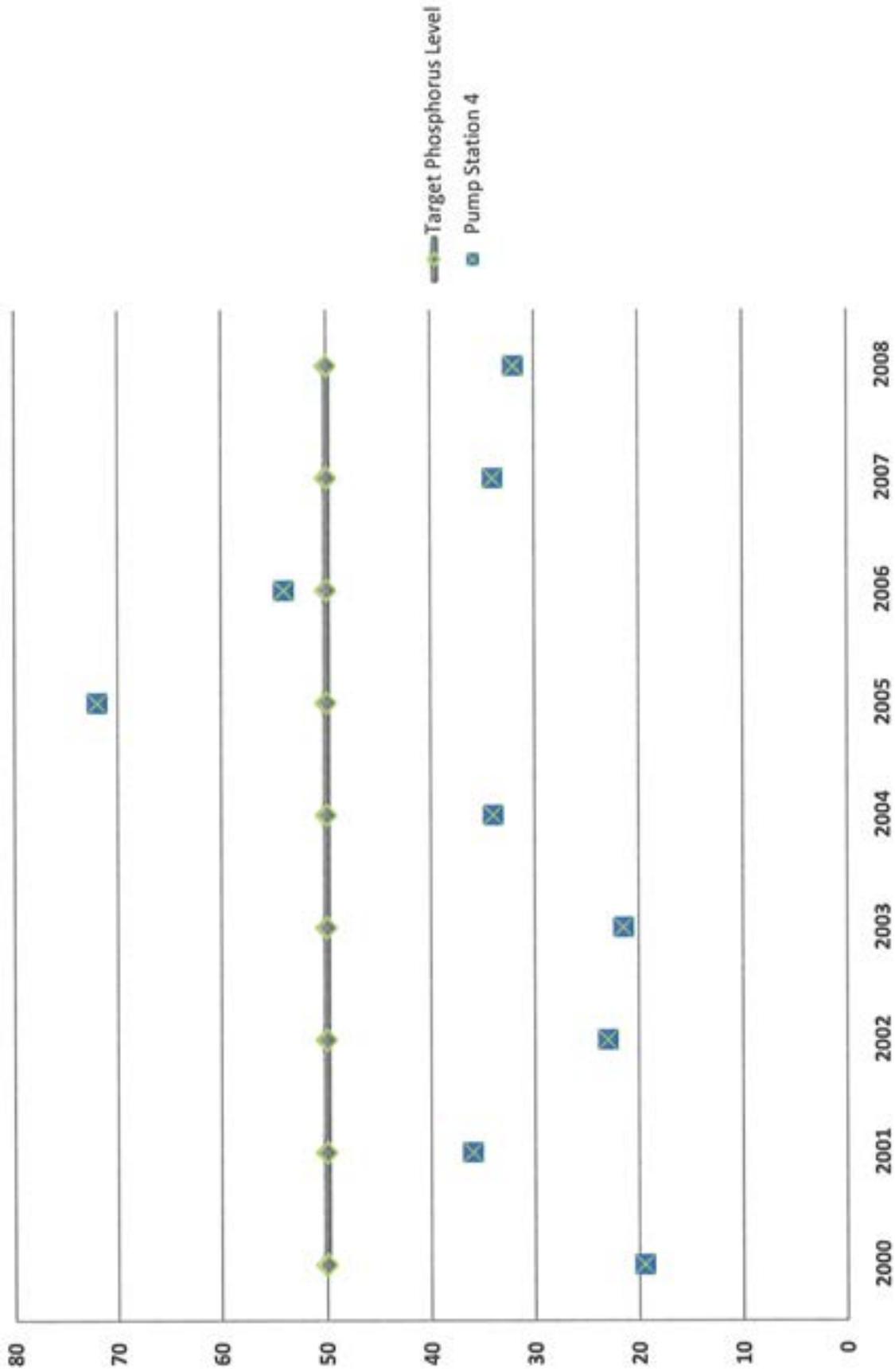

THE VILLAGE OF WELLINGTON
Illustration B

-  Pump Stations
-  Water Control Structures

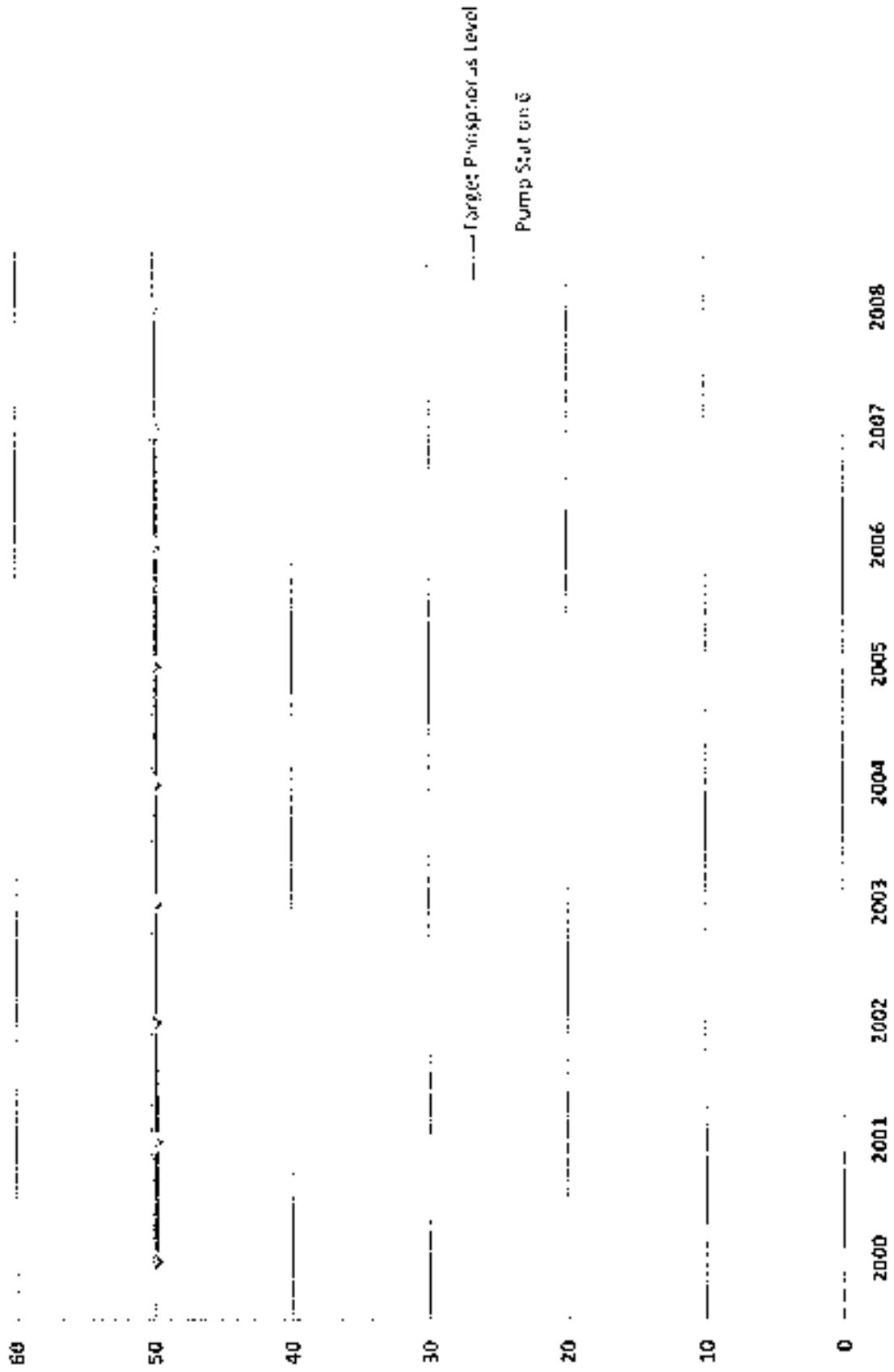
Pump Station 3 Phosphorus (TP) in ppb



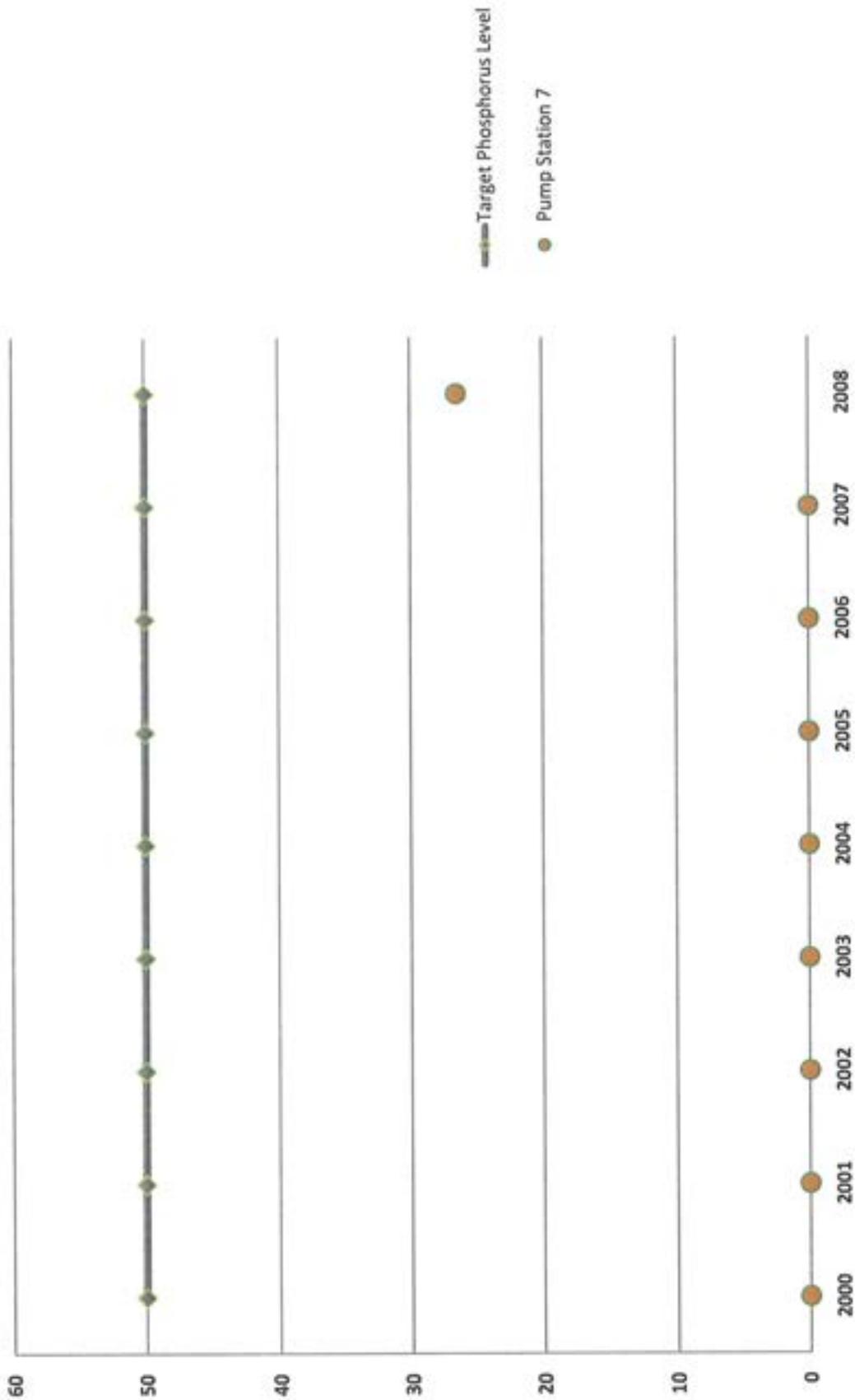
Pump Station 4 Phosphorus (TP) in ppb



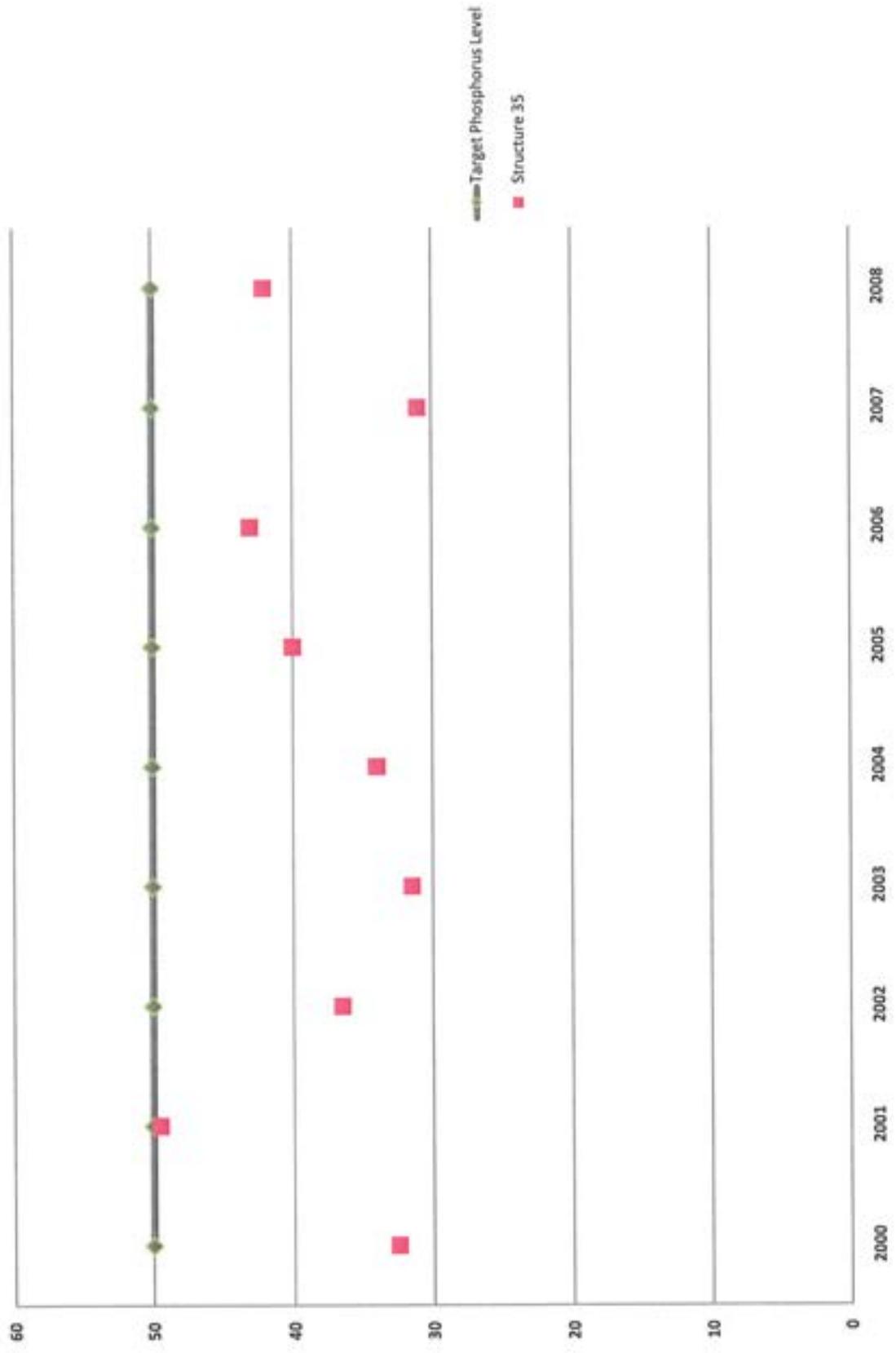
Pump Station 6 Phosphorus (TP) in ppb



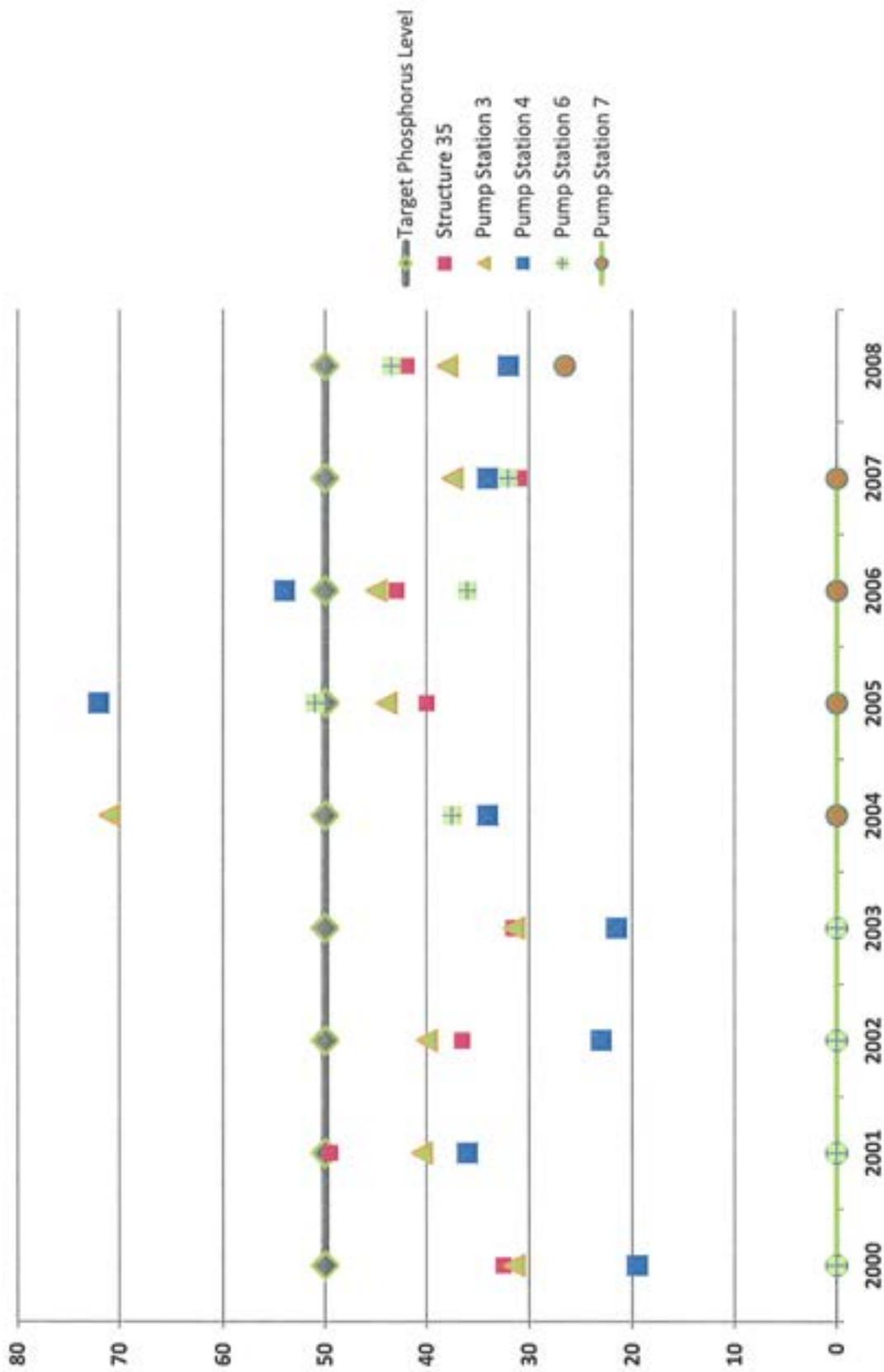
Pump Station 7 Phosphorus (TP) in ppb



Structure 35 Phosphorus (TP) in ppb



Combined C-51 Outfalls Phosphorus (TP) in ppb



Section 4- Best Management Practices and Section 24

The Village of Wellington adopted a Best Management Practices (BMP) Ordinance No. 2004-34 to provide standards and enforcement capabilities designed to reduce phosphorus entering the Village's storm water system (attached).

Fertilizers ---

The Village of Wellington's Ordinance No. *2004-34 Sec. 30-154 Best Management Practices for the application and storage of fertilizer* states that:

1. Fertilizers containing an excess of two percent phosphate/phosphorus per guaranteed analysis label shall be applied to turf grass, pastures, paddocks, or used in nurseries unless justified by a soil test.
2. Fertilizers in excess of two percent phosphate/phosphorus shall not be applied within five feet of the edge of water or within five feet of a drainage facility.
3. Liquid fertilizers in excess of two percent phosphate//phosphorus shall not be applied through an irrigation system within ten feet of the edge of water or drainage facility.

Licensed Village Code Compliance Officers are responsible for making inspections of fertilizer storage areas to ensure compliance with the provisions of this section of the Code of Ordinances. The Village has also developed a Public Education Campaign (example brochures attached) to educate residents on the proper types, storage, use and application of fertilizers.

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ORDINANCE NO. 2004-34

AN ORDINANCE OF THE VILLAGE COUNCIL OF THE VILLAGE OF WELLINGTON AMENDING ARTICLE V, "STORMWATER QUALITY MANAGEMENT", OF CHAPTER 30 OF THE CODE OF ORDINANCES OF THE VILLAGE OF WELLINGTON, TO PROVIDE ENHANCED STANDARDS FOR BEST MANAGEMENT PRACTICES FOR LIVESTOCK WASTE, PROVIDING A REPEALER CLAUSE; PROVIDING A SAVINGS CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Everglades ecological system is unique in the world and one of Florida's great treasures; and

WHEREAS, the Everglades ecological system not only contributes to South Florida's water supply, flood control, and recreation, but serves as the habitat for diverse species of wildlife and plant life, and

WHEREAS, the Everglades ecological system is endangered as a result of adverse changes in water quality and in the quantity, distribution, and timing of flows, and therefore, must be restored and protected; and

WHEREAS, the Florida Legislature has responded to adverse changes in water quality and in quantity, distribution, and timing of flows that endanger the Everglades ecological system by enacting the Everglades Forever Act; and

WHEREAS, the act authorized the Everglades Construction Project, which is by far the largest environmental cleanup and restoration program of this type ever undertaken; and

WHEREAS, the implementation of the Everglades Forever Act is critical to the conservation and protection of natural resources and improvement of water quality in the Everglades Protection Area and the Everglades Agricultural Area, and

WHEREAS, it has been determined that waters flowing into the Everglades Protection Area contain excessive levels of phosphorus and that a reduction in levels of phosphorus will benefit the ecology of the Everglades Protection Area, which includes the Art Marshall Loxahatchee National Wildlife Refuge; and

WHEREAS, the Village of Wellington is a municipal corporation located adjacent to the Art Marshall Loxahatchee National Wildlife Refuge; and

WHEREAS, the Village discharges stormwater from the Village into the Art Marshall Loxahatchee National Wildlife Refuge, which ultimately discharges into the Everglades Protection Area; and

1 **WHEREAS**, it is the intent of the Village to pursue comprehensive, aggressive,
2 and innovative solutions to issues of water quality which face the Everglades
3 ecosystem; and
4

5 **WHEREAS**, Best Management Practices are among the best available
6 technology for achieving the interim water quality goals of the Everglades Program and
7 a reasonable method of achieving interim total phosphorus discharge reductions; and
8

9 **WHEREAS**, the Village entered into a Joint Cooperation Agreement with the
10 South Florida Water Management District pursuant to which the Village adopted and
11 implemented regulatory measures aimed at lowering phosphorous discharge; and
12

13 **WHEREAS**, those regulatory measures as implemented achieved significant
14 total phosphorus discharge reductions; and
15

16 **WHEREAS**, the previously adopted measures have had an effect on lowering the
17 levels of phosphorous discharge; and
18

19 **WHEREAS**, further measures are needed to continue to reduce the level of
20 phosphorous discharge; and
21

22 **WHEREAS**, the Village of Wellington and South Florida Water Management
23 District did enter into a Memorandum of Understanding on or about June 30, 2003
24 relating to improvement of water resource management facilities in the Basin B area of
25 the Village of Wellington; and
26

27 **WHEREAS**, the Village of Wellington and South Florida Water Management
28 District did enter into a Cooperative/Cost Share Agreement on or about September 11,
29 2003, for the implementation of Best Management Practices to establish improved
30 water resource management facilities in the Basin B area; and
31

32 **WHEREAS**, the Village of Wellington and South Florida Water Management
33 District did enter into Memorandum of Understanding No. CPD40318 on or about
34 February 10, 2004, concerning the funding of the Acme Basin B Discharge Project; and
35

36 **WHEREAS**, pursuant to the agreements and memorandums of understanding
37 with South Florida Water Management District, it is necessary and advantageous to the
38 Village to implement a revised second phase of Best Management Practices with
39 enhanced regulations to further the goals of reducing phosphorous levels entering the
40 Everglades.
41

42 **NOW, THEREFORE, BE IT ORDAINED BY THE VILLAGE COUNCIL OF THE**
43 **VILLAGE OF WELLINGTON, FLORIDA that:**
44

45 **SECTION 1:** Section 30-150, "Definitions" of Article V, "Stormwater Quality
46 Management", of Chapter 30, "Environment" of the Village of Wellington Code of
47 Ordinances is hereby amended as follows:
48

1 **Sec. 30-150. Definitions.**
2

3 The following words, terms, and phrases, when used in this article, shall
4 have the meanings ascribed to them in this section, except where the
5 context indicates a different meaning:
6

7
8 (a) Basin A: Area north of Pierson Road, however includes Village of
9 Wellington Wastewater Treatment Facility and Village Park property and
10 the areas east of the C-8 Canal north of and including Versailles within
11 the Acme Improvement District.
12

13 (b) Basin B: The area south of Pierson Road, excluding Basin A.
14

15 (a)(c) Best management practices or "BMP": A practice, or combination
16 of practices, based on research, field-testing, and expert review to be the
17 most effective and practicable, including economic and technological
18 considerations and means of improving water quality in discharges to an
19 acceptable level.
20

21 (b)(c) Best management practices livestock waste (fertilization)
22 management plan (BPLW(F)MP): A comprehensive waste management
23 plan covering all aspects of managing livestock manure, urine, and
24 bedding waste and/or all aspects of managing fertilizer storage and
25 application developed to prevent the uncontrolled release of pollutants
26 from these wastes.
27

28 (c)(c) Commercial livestock waste hauler: Person(s), firm(s),
29 corporation(s), or other legal entity(ies) permitted by the Village to provide
30 livestock waste removal services for a fee within the village in accordance
31 with terms and conditions established by this article.
32

33 (d)(f) Common livestock waste storage area: A livestock waste storage
34 area established for the temporary storage of livestock waste from off-site
35 livestock boarding facilities.
36

37 (e)(g) Composting: The process by which biological decomposition of
38 organic solid waste is carried out under controlled aerobic conditions, and
39 which stabilizes the organic fraction into a material which can easily and
40 safely be stored, handled, and used in an environmentally acceptable
41 manner for a period of 30 to 90 days.
42

43 (f)(h) District: The South Florida Water Management District.
44

45 (g)(i) Everglades protection area: Water conservation areas 2a, 2b, 3a,
46 and 3B, the Arthur R. Marshall Loxahatchee National Wildlife Refuge
47 (Water Conservation Area 1), and the Everglades National Park.
48

1 (b)(ii) Livestock: All animals of the equine, bovine, or swine class.

2
3 (g)(k) Livestock facility: Property under single ownership or control where
4 livestock are raised or boarded.

5
6 (p)(i) Livestock waste: A solid waste composed of excreta of animals
7 and residual materials that have been used for bedding, sanitary, or
8 feeding purposes for such animals. For purposes of this Ordinance,
9 livestock waste that has been properly composted shall not be considered
10 livestock waste.

11
12 (k)(m) Livestock waste self hauler: Property owner and/or authorized
13 representative registered with the village to provide livestock waste
14 removal services from their own property in accordance with the terms
15 and conditions established by this Ordinance.

16
17 (l)(n) Livestock waste storage area: An area constructed of impermeable
18 material such as concrete or asphalt; or an area containing an
19 impermeable cover; or a mechanical storage container that can be
20 sealed, lifted, and transported.

21
22 (**)(o) Monitoring wells: Strategically located wells from which water
23 samples are drawn for water quality analysis or measurement of ground
24 water levels.

25
26 (r)(p) Paddock: A fenced grassed area of 1/4 acre or less used primarily
27 for exercise and secondarily for feeding of livestock.

28
29 (o)(q) Pasture: A fenced, grassed area of approximately more than 1/4
30 acre used primarily for exercise and secondarily for feeding of livestock.

31
32 (p)(r) Soil test: An analysis of a site soil sample by a qualified laboratory
33 to determine fertilizer needs of the site, specifically phosphorus needs of
34 the plants grown on the site.

35
36 (s) Spreading: Refer to human or mechanical means. Animals on
37 pasture shall not be considered spreading of livestock waste. Spreading
38 of unprocessed livestock waste shall not be allowed.

39
40 (q)(t) Stormwater treatment areas or "STAs": Those water quality
41 treatment and water storage areas described and depicted in the district's
42 conceptual design document of February 15, 1994, and any modifications
43 thereto.

44
45 **SECTION 2:** Section 30-153, "Best management practices for livestock waste" of Article
46 V, "Stormwater Quality Management", of Chapter 30, "Environment" of the Village of
47 Wellington Code of Ordinances is hereby amended to read as follows:
48

1 **Sec. 30-153. Best management practices for livestock waste.**

2 Livestock waste shall be placed, or stored in a livestock waste
3 storage area or a roll-off or dumpster container which is "permitted" by the
4 Village. Livestock waste shall not be placed, accepted, stored, or allowed
5 to accumulate on any property in the village, except as provided herein.

6 (a) *Management of livestock waste.*

7 (1) Each livestock facility shall provide a storage area for
8 livestock waste.

9 (2) Livestock waste shall be placed, spread, or stored only in a
10 livestock waste storage area that meets the following
11 requirements:

12 a. The livestock waste storage area shall be constructed of
13 concrete, masonry, or other impervious material. The storage area shall
14 be constructed to prevent runoff of waste into adjacent areas. The
15 storage area shall be constructed to prevent runoff of waste into
16 adjacent areas. The storage area shall be constructed to prevent runoff
17 of waste into adjacent areas. The storage area shall be constructed to
18 prevent runoff of waste into adjacent areas. The storage area shall be
19 constructed to prevent runoff of waste into adjacent areas. The storage
20 area shall be constructed to prevent runoff of waste into adjacent areas.

21 b. The livestock waste storage area shall be elevated to a
22 minimum of six (6) inches above the crown of road; or

23 c. A building "permit" shall be obtained from the Village
24 Planning, Zoning and Building Department prior to
25 constructing or altering a Livestock Waste Storage Area
26 within Village boundaries; or

27 d. The determination of the size of the livestock waste
28 storage area is the responsibility of the property owner
29 based upon the number of horses on the property and
30 their daily generation of manure, urine and bedding
31 material as well as intended frequency of removal for
32 disposal. At no time shall livestock waste be allowed to
33 accumulate outside of the confines of the livestock
34 waste storage area; or

35 e. Roll-off dumpster containers may be used as livestock
36 waste storage areas subject to the following
37 requirements.

1 i. Roll-off and dumpster containers used as livestock
2 waste storage areas shall be placed on a concrete
3 or asphalt pad with at least a two (2) inch curb
4 around the entire storage area, and

5 ii. Roll-off and dumpster containers used as livestock
6 waste storage areas shall meet the same elevation
7 requirements as in 1.b.

8 iii. Roll-off containers must be water tight at all times.

9 b. A composting area meeting the requirements of
10 subsection (b)(3); or

11 c. In accordance with a village approved Best
12 Management Practices Livestock Waste Management
13 Plan.

14 (23) Those facilities with improperly stored waste in existence as
15 of September 26, 2000, shall have livestock waste removed
16 from the facility as provided in this subsection (c).

17 ~~(b) Livestock waste storage areas.~~

18 ~~(1) Each livestock facility shall provide a storage area for livestock~~
19 ~~waste, meeting requirements of subsection (b)(3).~~

20 ~~(2) Livestock waste may be moved from one livestock facility to~~
21 ~~another in the village only for:~~

22 ~~a. The purpose of composting in a composting area meeting~~
23 ~~the requirements of subsection (b)(3); or~~

24 ~~b. Storage in a common livestock storage area meeting the~~
25 ~~requirements of subsection (b)(3).~~

26 ~~(3) Criteria for storage structures, livestock waste storage areas~~
27 ~~and composting areas shall be constructed so that no rainfall~~
28 ~~is allowed to enter or so that no liquid is released.~~

29 (b) Location of waste storage facilities.

30 (1) Livestock waste storage and roll-off and dumpster
31 containers shall be located

32 a. At least five (5) feet away from any roof overhang;

33 b. At least fifty (50) feet away from any (public) drainage
34 conveyance or drainage inlet.

1 c. At least one hundred (100) feet away from any body
2 of water not separated from the public conveyance).

3 d. At least one hundred fifty (150) feet away from a
4 potable water supply well.

5 (2) Compliance with the setback requirements shall be
6 determined by the Village Planning, Zoning and Building
7 Department.

8 (c) Livestock waste storage area maintenance/hauling.

9 (1) ~~All livestock waste shall be removed from livestock facilities.~~
10 ~~The removal and transportation of livestock waste on~~
11 ~~commercial and private properties within Village boundaries~~
12 ~~shall be done exclusively by either a commercial livestock~~
13 ~~waste hauler or a livestock waste self-hauler.~~

14 (2) ~~Commercial livestock waste haulers and livestock waste~~
15 ~~self-haulers shall not deposit livestock waste within the~~
16 ~~boundaries of the village or the Acme Improvement District~~
17 ~~unless it is deposited at a common livestock waste storage~~
18 ~~area or a composting area meeting the requirements of~~
19 ~~subsection (b)(3). Commercial livestock waste haulers will~~
20 ~~pay a reasonable permit fee to the village. Livestock waste~~
21 ~~self-haulers will not pay a fee.~~

22 (3) ~~Commercial livestock waste hauler/livestock waste self-~~
23 ~~hauler.~~

24 a. ~~The village shall establish a procedure for registering~~
25 ~~livestock waste self-haulers and permitting~~
26 ~~commercial livestock waste haulers. The procedure~~
27 ~~shall require the hauler to identify the location of the~~
28 ~~site to be used for disposal of the livestock waste.~~

29 b. ~~Commercial livestock waste hauler permits and livestock~~
30 ~~waste self-hauler registrations shall be subject to~~
31 ~~revocation for failure to abide by the terms and~~
32 ~~conditions established in this and other ordinances~~
33 ~~and resolutions of the village.~~

34 (2) The commercial livestock waste hauler and livestock waste
35 self-hauler shall be registered, as required annually with the
36 Village (Environmental Engineering/Public Works
37 Department)

38 (3) Livestock waste shall be confined within the waste storage
39 structure.

1 (4) Livestock waste storage area(s) shall be continuously
2 maintained so that no rainfall or liquids are allowed to be
3 released.

4 (b) Livestock waste storage areas shall be checked and
5 inspected annually for cracks, crevices and holes. Repair
6 shall be done in a timely manner. Inspections will be done
7 by a BMP Code Compliance Officer or Building Inspector.

8 (c) Roll-off and dumpster containers that are used for storage
9 of livestock waste shall be checked annually for cracks,
10 crevices, holes and/or leaks. Any containers with holes,
11 broken welds or improperly fitting lids shall be repaired or
12 replaced immediately.

13 (7) Concrete and asphalt pads used for storing roll-off and
14 dumpster containers which store livestock waste shall be
15 inspected annually for cracks, crevices, holes and/or leaks
16 to prevent soil contamination. The two (2) inch curb and/or
17 rolled lip around the storage area shall be inspected
18 annually. Inspections will be done by a BMP Code
19 Compliance Officer.

20 (d) *Stable waste spreading plan*

21 (1) The spreading of livestock waste shall be prohibited within
22 the Village of Wellington boundaries except as provided
23 herein:

24 a. A Village of Wellington Best Management Practice
25 Livestock Waste Management Plan shall be prepared
26 in accordance with Village requirements and
27 submitted to the Village Environmental Services
28 Coordinator for review and approval. Spreading of
29 livestock waste is prohibited without an approved plan.

30 b. Best Management Practices Program Livestock
31 Waste Management Plans are available at the Public
32 Works Department.

33 c. Best Management Practices Program Livestock
34 Waste Management Plans that have been approved
35 by the Village shall be inspected by the Environmental
36 Services Coordinator annually to ensure practices are
37 being followed as originally submitted.

1 (e) Composting of livestock waste

2 (1) Composting of livestock waste shall be prohibited within the
 3 Village of Wellington boundaries, except as provided
 4 herein:

5 a Where the compostor has received an approved
 6 permit from the Florida Department of Environmental
 7 Protection pursuant to Section 403.707, Florida
 8 Statutes, and in accordance with Rule 62-709 Florida
 9 Administrative Code. The approved DEP Form #62-
 10 701.900(10) shall be submitted to the Village
 11 Environmental Services Coordinator.

12 (f) Livestock waste hauling.

13 (1) All commercial livestock waste haulers and/or livestock
 14 waste self-haulers shall be permitted or registered, as
 15 required, annually by the Village Environmental
 16 Engineering Department.

17 (2) Livestock waste may be moved from one livestock facility to
 18 another in the Village only for,

19 a The purpose of composting in an approved
 20 composting area, or

21 b Storage in a common livestock storage area.

22 (3) All livestock facilities within the Village boundaries shall
 23 remove livestock waste by either a commercial livestock
 24 waste hauler or a livestock waste self-hauler that is
 25 registered by the Village.

26 (4) Commercial livestock waste haulers will pay a permit fee to
 27 the Village. Livestock waste self-haulers will not pay a fee.

28 (5) Commercial livestock waste haulers and livestock waste
 29 self-haulers permits and registrations shall be subject to
 30 revocation for failure to abide by the terms of this
 31 Ordinance and the provisions set forth in Florida
 32 Administrative Code Chapter 62-709.320.

33 **SECTION 3.** Should any section, paragraph, sentence, clause, or phrase of this
 34 Ordinance conflict with any section, paragraph, clause or phrase of any prior City
 35 Ordinance, Resolution, or municipal Code provision, then in that event the provisions of
 36 this Ordinance shall prevail to the extent of such conflict.
 37



The Village of Wellington has recently agreed to implement "Best Management Practices" (BMP's), a program designed to lower phosphorus levels in the Village's waterways.

Since one of the main components of fertilizer is phosphorus, it is important that you familiarize yourself with the BMP requirements:

- All fertilizers shall be stored in a dry storage area protected from rainfall and ponding.
- No fertilizer containing in excess of 2% phosphate/phosphorus (P₂O₅) per guaranteed analysis label (as defined by Chapter 576, Florida Statutes) shall be applied to turfgrass, pastures, paddocks, or used in nurseries unless justified by a soil test.
- Fertilizer containing in excess of 2% phosphate/phosphorus (P₂O₅) per guaranteed analysis label shall not be applied within 5 feet of the edge of water or within 5 feet of a drainage facility.
- All fertilizer shall be applied such that spreading of fertilizer on all impervious surfaces is minimized.
- Liquid fertilizers containing in excess of 2% phosphate/phosphorus (P₂O₅) per guaranteed analysis shall not be applied through an irrigation system within 10 feet of the edge of water or within 10 feet of a drainage facility.
- Liquid fertilizers containing in excess of 2% phosphate/phosphorus (P₂O₅) per guaranteed analysis label shall not be applied through high or medium mist application or directed spray application within 10 feet of the edge of the water or within 10 feet of a drainage facility.



VILLAGE OF WELLINGTON
14000 GREENBRIAR BOULEVARD
WELLINGTON, FL 33414

Village Council

- Mayor**
Thomas M. Wenham... 561-793-3342
- Vice Mayor**
Lizbeth Benacquisto... 561-791-0231
- Councilwoman**
Laurie S. Cohen..... 561-793-8022
- Councilman**
Robert S. Margolis..... 561-793-0313
- Councilman**
Dr. Carmine A. Priore.. 561-791-0991
- Village Manager**
Charles H. Lynn, AICR.. 561-791-4000



BE WISE!
DOING OUR PART TO SAVE THE EVERGLADES



WELLINGTON'S "BMP"

EDUCATION PROGRAM

FERTILIZER INFORMATION



BE WISE!
DOING OUR PART TO SAVE THE EVERGLADES

FERTILIZER MANAGEMENT INFORMATION

WHY IS IT NECESSARY TO MANAGE FERTILIZER USE AND HORSE MANURE?

The fertilizers used on lawns, landscaping, golf courses, nurseries, pastures, recreational and polo fields, etc. contain phosphorus. Phosphorus is a nutrient which promotes the growth of exotic plants that are harmful to the Everglade's fragile ecosystem. It is necessary to manage fertilizer use to control phosphorus levels.

WHY IS THIS IMPORTANT TO WELLINGTON RESIDENTS?

When it rains, the stormwater runoff carries away the phosphorus found on lawns and in the ground from fertilizers and manure. Grass clippings along with the phosphorus is then washed into Wellington's drainage network of canals and lakes that eventually discharge into the Everglades Protection Area. The Everglades Forever Act mandates that all water entering this two million acre region must meet water quality goals by the year 2006.

" DOING OUR PART TO SAVE THE EVERGLADES "

FERTILIZER FOR
SOUTHERN LAWN

16 - 2 - 8

On fertilizer labels, phosphate levels are indicated by the middle number.

This state law requires Wellington to reduce the phosphorus levels in its stormwater discharge. This can be accomplished through the construction of stormwater treatment areas. Alternatively, Wellington can combine treatment areas with Best Management Practices for fertilizer use and horse manure to provide a more economical solution.

WHAT ARE BEST MANAGEMENT PRACTICES OR BMPs?

BMPs are practices that minimize environmental impacts while still maintaining economic viability. In this case, they will minimize phosphorus levels, thereby helping to reduce the cost to taxpayers for the stormwater treatment areas.

If you effectively utilize BMPs you will help keep phosphorus levels in balance with plant needs and the levels that already exist in the soil.

BMPs FOR USING FERTILIZER AND HORSE MANURE IN WELLINGTON

Use fertilizers that contain minimum levels of phosphate:

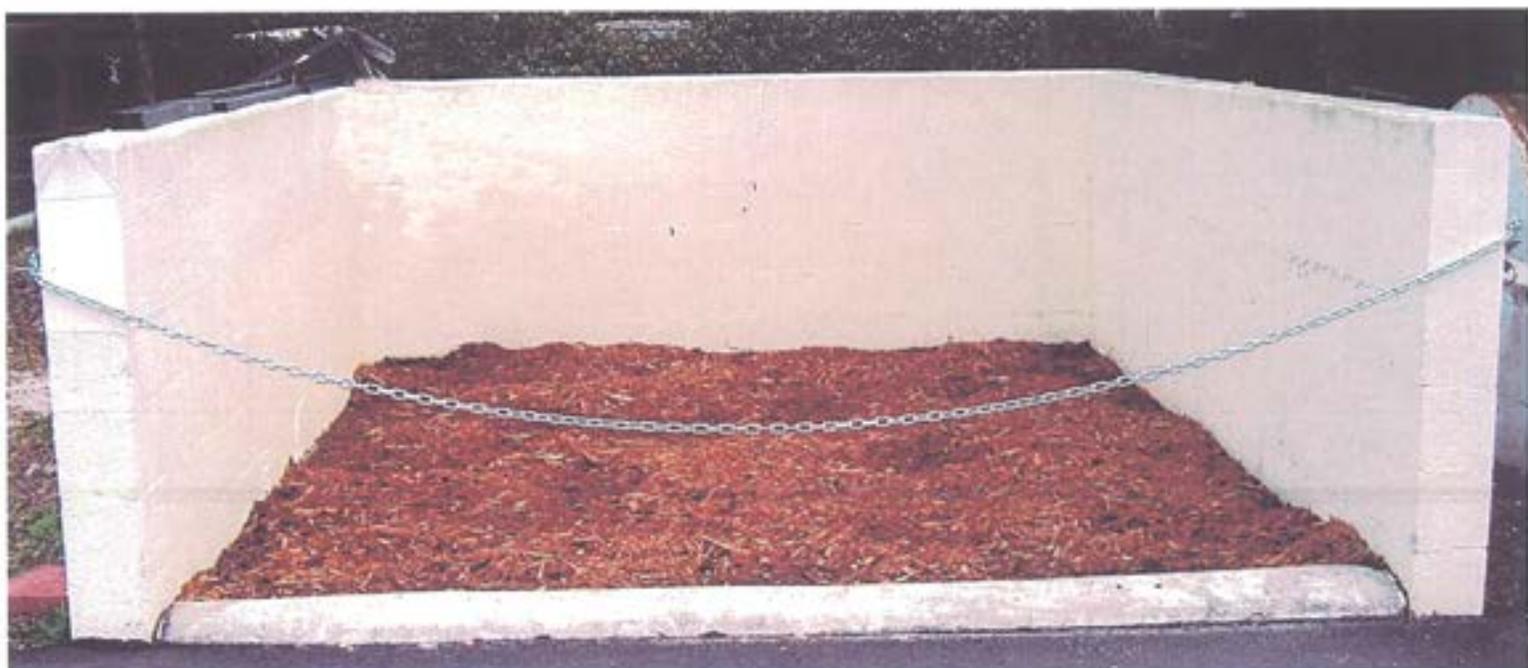
The soils in Wellington typically have adequate phosphorus levels, so look for slow-release or organic fertilizers with minimum phosphate levels, as indicated by the middle number (2) on the fertilizer bags. Fertilizers should never be applied above the recommended levels, no matter what the fertilizer label states.

Have your soil tested and find out the recommended levels for fertilizers. Contact the local office of the University of Florida's Institute of Food and Agricultural Services (IFAS) at (561) 233-1712. Self test kits for soil are also available.



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ONLY YOU CAN PREVENT POLLUTION!



Mechanical Weed Removal-

The Village purchased an Aquatic Weed Harvester to remove weeds from lakes and canals within the storm water network. The Village maintains a record of the number of tons removed each year. Using some basic assumptions about the content of phosphorus contained in each ton of weed mass, it has been determined that 2,899.8 pounds of phosphorus has been removed and properly disposed of between 2005 and 2009 (current) using mechanical harvesting techniques

Livestock Waste Storage and Disposal-

The Village Land Development Code Sec. 30-153 provides standards for the storage and disposal of livestock waste. Specifically, each livestock facility shall have an approved waste storage area. The storage areas are required to have an impermeable floor with sidewalls on three sides. The size of the storage area is also proportioned to the number of livestock served by the storage area. If roll off or dumpster containers are approved they must be placed on a concrete or asphalt pad with a lip around it to contain seepage.

Waste storage areas must be located at least five (5) feet away from any roof overhang, fifty (50) feet from any public drainage conveyance or drainage inlet, at least one hundred (100) feet from any water body and at least one hundred fifty (150) feet from a potable water supply well.

In addition this section of the code contains standards for the maintenance of the storage area, spreading/composting and for the hauling of livestock waste.

ILLUSTRATION D

Year	Loads	Tons (calculated @ 4.31 tn)	Lbs.	Total Phosphorus (Lbs.)
2005	73	314.630	629,260	188.78
2006	402.5	1734.775	3,469,550	1,040.87
2007	163.5	704.685	1,409,370	422.81
2008	456.5	1967.515	3,935,030	1,180.51
2009 (to date)	25.86	111.457	222,913	66.87
Total Phosphorus Removed (Lbs.)				2,899.84





In 1994 the Florida Legislature enacted the Everglades Forever Act to conserve and protect the natural resources and water quality in the Everglades Protection Area. Protecting the Everglades is also a high priority for the Village of Wellington. It has been determined that waters flowing into the Everglades contain excessive levels of phosphorus. In an effort to reduce phosphorus levels in our surface water management system, the Wellington Village Council adopted Ordinance 2000-18 for the purpose of establishing Best Management Practices (BMP) for Livestock waste and fertilizer application.

The BMP program is designed to reduce and prevent phosphorus discharges into the Village's surface water management system. The regulations that follow specifically address the storage and disposal of livestock waste.

The Village of Wellington has formed a Surface Water Action Team (SWAT) comprised of

engineers and consultants that specialize in water quality to assist the Village in addressing water quality issues in our community. Through their efforts, the Village of Wellington entered into a cooperative agreement with the South Florida Water Management District (SFWMD) to perform a water quality monitoring program to identify water quality problem areas within the Village. Although the extent and exact source(s) of the phosphorus problem have not yet been determined, livestock waste and fertilizer applications have been identified as the primary contributors of phosphorus discharge. The Village of Wellington will continue to closely monitor the quality of water being discharged into the Everglades and will implement a variety of programs including:

- Dredging of canals to remove sediments with phosphorus buildup
- Harvesting of aquatic weeds
- Regulating the use of fertilizers
- Licensing and franchising of livestock waste haulers
- Ongoing education program

"We are confident that with the implementation of Best Management Practices and the cooperation of our residents, the Village will be successful in reducing our phosphorus discharge into the Everglades," said Mayor Thomas Wenham.



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VILLAGE MANAGER

Charles H. Lynn, AICP.. 561-791-4000



BE WISE!

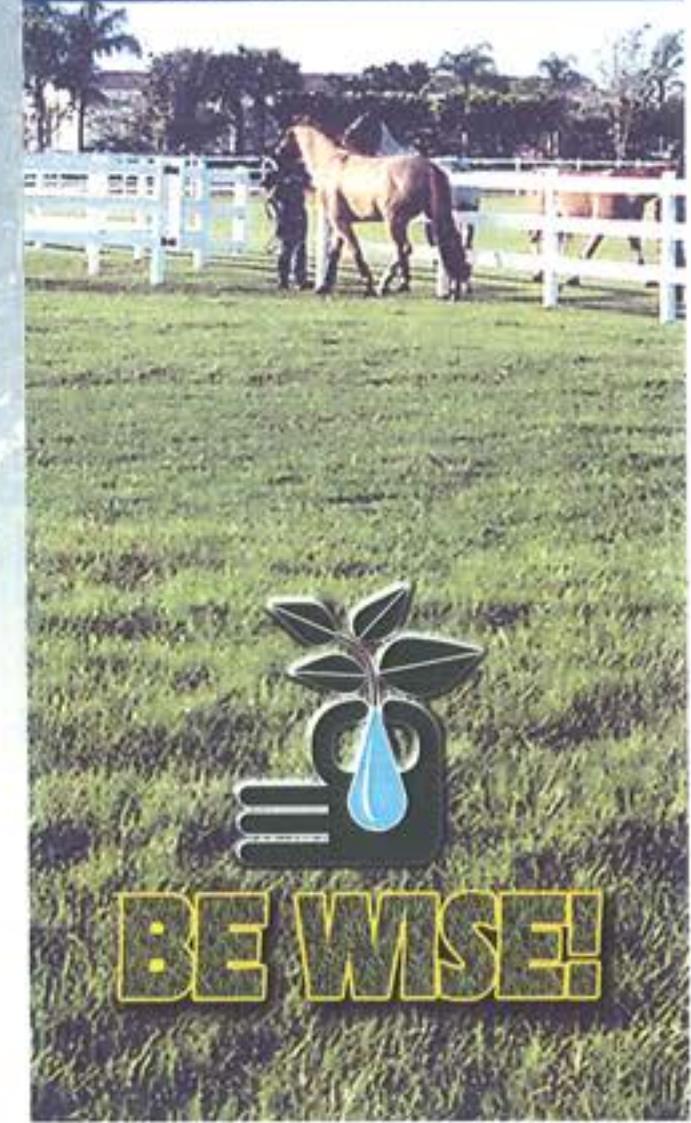
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WELLINGTON'S "BMP"

EDUCATION PROGRAM

LIVESTOCK WASTE STORAGE STRUCTURES



LIVESTOCK WASTE STORAGE STRUCTURES

P

er The Village's BMP ordinance, livestock waste storage areas shall be constructed or retrofitted, so that no liquid is

released into the environment. Although the ordinance does not specifically describe from which material the structure

should be constructed, it is advised that the storage areas be built out of cement block and have a concrete floor as shown.



In addition, mechanical containers such as a roll-off containers and dumpsters may also be used, if it is protected from the rainfall or no liquid is released.

Before reconstruction or construction of any type commences, a building permit must be obtained from the Village's Planning, Zoning and Building Department. Call **753-2430** for more information.

The following are suggestions and ideas that should be considered prior to designing and/or constructing any type of livestock waste structure:

- 1) Livestock waste storage shall be constructed so that no rainfall is allowed to enter or so that no liquid is released.
- 2) The storage structures should be located:

- 5 feet away from any roof overhang.
- 50 feet away from any drainage conveyance or drainage inlet.
- 100 feet away from any water body.
- 150 feet away from a potable water supply well.

- 3) The structure should contain a concrete floor, concrete block side walls on three sides, and concrete curb or lip at least 2" in height on the open side to prevent liquids from entering or leaving the storage area.
- 4) The interior dimensions should be at least wide enough to allow whatever machinery is used to empty it to enter it.
- 5) The storage structure should be elevated above the surrounding area to the extent necessary to prevent ponding.

- 6) If a mechanical container is used (roll-off or dumpster), the container should be placed on a concrete or asphalt pad which contains at least a 2" curb around the entire container storage area which is elevated 1 foot above the surrounding grade.

Contact VOW Public Works Department at **791-4003** for construction guidelines.



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Section 24

Funding for this project is being provided by the South Florida Water Management District via a construction agreement with the Village of Wellington. A design drawing of the entire project is attached as Illustration C.

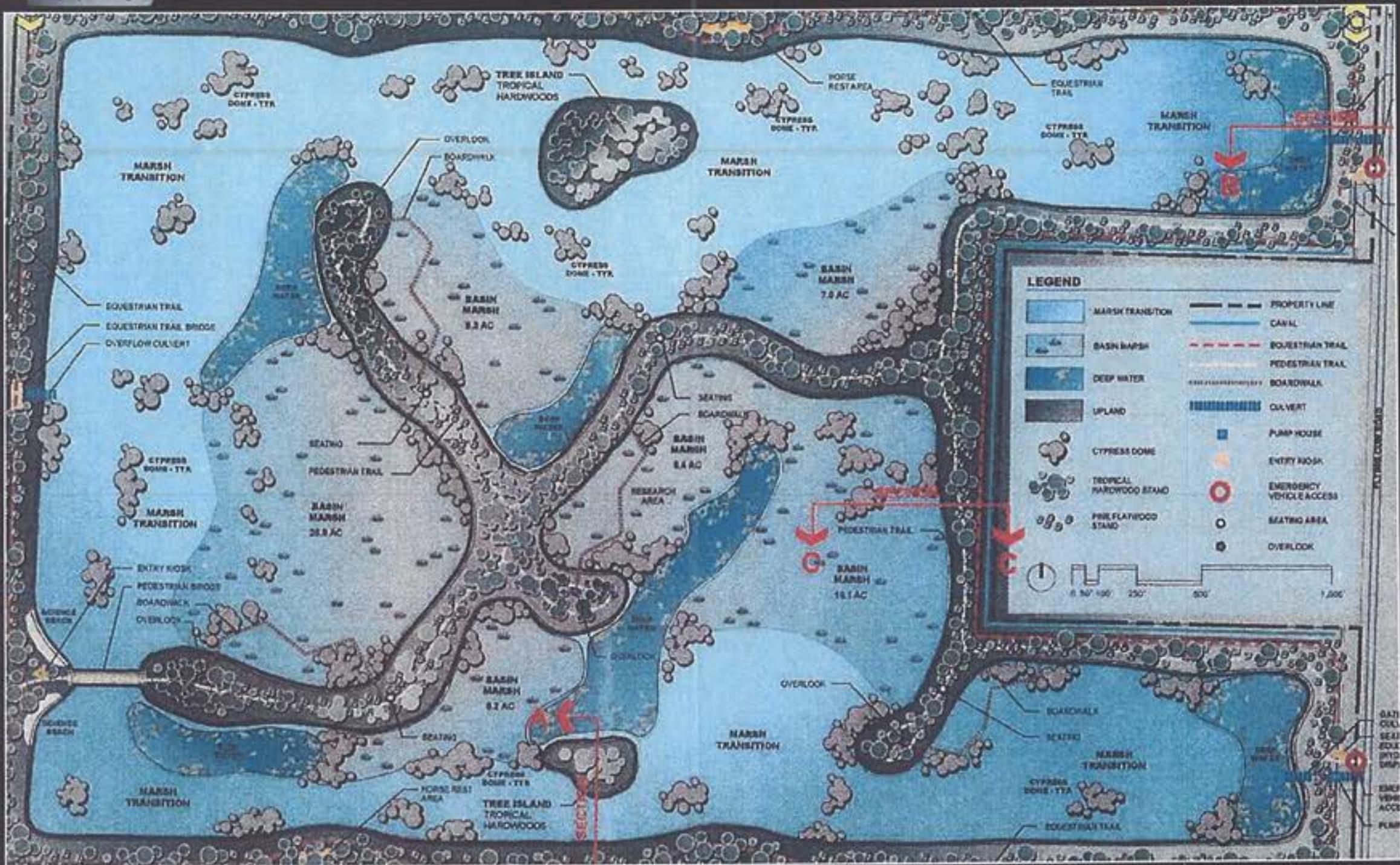
On March 10, 2009, the Village Council awarded Bid #007-09/JWV to H & J Contracting, Inc. for Construction of Section 24 Impoundment in the amount of \$9,989,768.42. The Section 24 Impoundment Project will provide regional environmental restoration, flood protection, water quality enhancement, and recreation. Part of the total project includes construction of an impoundment structure, consisting of a levee system, pedestrian and equestrian trails, boardwalks, observation tower and kiosk, plantings of trees and shrubs, as well as other accessories. The entire cost of this project, including design and engineering services along with construction of pump station #9, came in approximately \$6 million under the projected budget of \$21 million. A pre-construction meeting was held on March 25, 2009 with the contractor and representatives from the Village and work is now underway. Completion of this project is anticipated in March 2010.

Once the project has been completed and fully operational, Village staff will attempt to operate the project in a manner to optimize water quality and storage benefits.

ILLUSTRATION C



Master Plan



Section 5 – Executive Summary and Conclusions

The Village of Wellington and the Acme Improvement District have implemented significant structural changes to its storm water control systems over the past decade. As a direct result of both the 2003 Memorandum of Understanding and the subsequent Agreement No. CP040318 adopted in September of 2004 between the South Florida Water Management District and the Village of Wellington, all Basin B discharges to the Loxahatchee Conservation Area were curtailed in 2008.

This undertaking was accomplished by re-routing Basin B storm water to Basin A. Structurally, this required significant capital expenditures for the installation of large culverts and control structures at the basin divide. In addition, pump station capacity from Basin A to the C-51 Canal was enhanced to compensate for the additional of storm water volume.

The Village also enacted a *Best Management Practices* or BMP ordinance designed to reduce phosphorus discharges by putting in place “source controls”. Ordinance 2004-34 put in place a regulatory framework for managing livestock waste and setting standards for the application and use of fertilizers.

Throughout the past decade, the Village has also conducted an extensive water quality monitoring program. Based on this significant body of data, it has been concluded that the re-structuring of the storm water system in Basin A and Basin B combined with the *Best Management Practices* and regular compliance monitoring have resulted in significant reductions of phosphorus being discharged to the regional storm water system.

Most significantly, the elimination of direct discharges to the Loxahatchee Wildlife Refuge have contributed indirectly to “nutrient levels showing marked decline in 2008”³ reported by South Florida Water Management District. While the same report states that there “are no specific TP requirements established (in Non-ECP

³ Executive Summary 2009 South Florida Environmental Report March 2009

Basins- Acme/Wellington) at the point of discharge from these basins”⁴, both the Village and SFWMD staff have agreed that “target” TP discharge levels should be in the range of 50ppb. Results contained in this report clearly demonstrate that average discharges to the regional system have met or exceeded these target goals⁵.

The Village of Wellington is currently in the process of developing a second phase of BMP requirements designed to further reduce nutrient discharges. Combined with the completion and operation of the Section 24 Project, the Village anticipates further water quality improvements beyond those achieved thus far. The Village remains committed to the continued enforcement of both the current Best Management Practices and to BMP Phase II requirements as they are developed and approved.

⁴ Executive Summary 2009 South Florida Environmental Report March 2009 p.15

⁵ Average TP at all five discharges have been well below 50ppb since 2005