

Agenda Item 10  
Meeting of 5/17/00

ORDINANCE 00-8843

AN ORDINANCE ADOPTING THE 1999 LEVEL OF SERVICE REPORT; DIRECTING STAFF TO TRANSMIT SAID REPORT TO THE STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, Chapter 90 of the Code of Ordinances of the City of Naples establishes procedures for the annual review of the service levels provided for a variety of City services; and

WHEREAS, the Level of Service Report is the administrative mechanism which identifies whether public facilities are provided concurrently to additional development, in compliance with Florida Growth Management Legislation; and

WHEREAS, it is the desire of the City Council to comply with Growth Management Legislation and assure that public facilities are maintained at acceptable levels for the citizens of the City of Naples;

NOW THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF NAPLES, FLORIDA:

Section 1. That the 1999 Annual Level of Service Report is hereby adopted, a copy of which is attached hereto and made a part hereof as Exhibit "A."

Section 2. That staff is hereby directed to transmit the 1999 Annual Level of Service Report to the Florida Department of Community Affairs.

Section 3. This ordinance shall take effect immediately upon adoption.

APPROVED AT FIRST READING THIS 3RD DAY OF MAY, 2000.

PASSED AND ADOPTED AT SECOND READING AND PUBLIC HEARING IN OPEN AND REGULAR SESSION OF THE CITY COUNCIL OF THE CITY OF NAPLES, FLORIDA THIS 17TH DAY OF MAY, 2000.

*Bonnie R. MacKenzie*  
Bonnie R. MacKenzie, Mayor

Attest:

Approved as to form and legality:

*Tara A. Norman*  
Tara A. Norman, City Clerk  
M:\REF\COUNCIL\ORD\00-8843

*Beverly Grady*  
Beverly Grady, City Attorney

Planning Advisory Board  
Meeting of 4/12/00  
Annual Level of Service Report  
Agenda Item No. 15

CITY OF NAPLES

STAFF REPORT

To: Planning Advisory Board  
From: Planning Department  
Subject: Level of Service Report  
Date: March 20, 2000

---

**1. BACKGROUND:** Chapter 90 of the Code of Ordinances requires the City of Naples to prepare an annual level of service monitoring report. The report is an evaluation to determine if the adopted Level of Service (LOS) standards for public infrastructure in the Comprehensive Plan are being met. The Planning Advisory Board (PAB) is the designated review body for potable water, sanitary sewer, solid waste, drainage, and street traffic.

This report reviews 1999 conditions in regard to:

1. Adopted versus current level of service
2. Current and/or potential LOS deficiencies
3. Current and/or potential options for maintaining LOS
4. Available and/or potential funding sources, if applicable

Section 90-7(1) states that "if the current level of service is below the adopted level of service policy standards, measures must be addressed by the Board which either:

- a. Fund the necessary improvements to reestablish the adopted level of service within a two year transition period;
- b. Adopt a lower level of service which would be consistent with the current level of service; or
- c. Cease issuing development orders which negatively impact the level of service until the adopted level of service is reestablished."

Per Section 90-43, the Parks and Recreation Advisory Board is the designated review body for park lands and recreation facilities. While this is not directly the PAB's responsibility, a copy of the Parks and Recreation LOS report is included for your information.

**2. PENDING AND/OR SUBSEQUENT ACTION:** The Planning Advisory Board (PAB) will hold a public hearing on this petition at its meeting on Wednesday, April 12, 2000. At the close of the public hearing, the PAB will make a recommendation to the City Council. The City Council should consider the PAB's recommendation at its meeting on May 3, 2000, with final action by resolution.

**3. EXECUTIVE SUMMARY:** The City met or exceeded LOS standards in all categories, with Fifth Avenue South categorized as a "Constrained Facility." The Development Services Department will continue to monitor and consider actions to improve LOS for that street.

**A. POTABLE WATER**

1999 TREATMENT PLANT CAPACITY

LOS STANDARD	RAW WATER PROJECTED	TREATED WATER PROJECTED	SURPLUS (DEFICIENCY)
(in Gallons/Capita/Day)			
300	644	508	208

**B. SANITARY SEWER**

1999 TREATMENT PLANT CAPACITY

LOS STANDARD	LOS PROJECTED	SURPLUS (DEFICIENCY)
(in Gallons/Capita/Day)		
150	189	39

**C. SOLID WASTE**

1999 LANDFILL CAPACITY

LOS STANDARD	LOS PROJECTED	SURPLUS (DEFICIENCY)
(in Tons/Capita/Day)		
1.17	0.88	0.29

**D. DRAINAGE**

In addition to all new development that met LOS standards for drainage, eight major development orders/building permits were processed in 1999 wherein the drainage systems were retrofitted to meet current LOS standards. The City initiated improvements to increase capacity of trunk lines in the Central Avenue area, in the 10<sup>th</sup> Street corridor, and the Goodlette-Frank Road Pump Station to maintain consistency with the Comprehensive Plan and stormwater drainage LOS standards.

**E. STREET TRAFFIC – ROADWAYS**

LOCATION	LOS STANDARD	1999 LOS	VOLUME/STANDARD RATIO
All City Streets	C	A/B/C	0.47
Fifth Avenue South	Constrained	D	1.03
Golden Gate Parkway	D <sup>1</sup>	B	0.39
Goodlette-Frank Road	E <sup>1</sup>	A	0.55
US 41	D <sup>2</sup>	C	0.65
Four Corners/Davis Boulevard	E <sup>2</sup>	C/D	0.72

Overall, the roadway level of service has improved from 1998 to 1999 with a 0.61% reduction in total traffic volume. Park Shore Drive was identified as a future concern and is being addressed with the design of intersection improvements at U.S. 41 and Park Shore Drive.

**F. STREET TRAFFIC – BIKE PATHS**

CITY POPULATION	LOS STANDARD	1999 LOS	SURPLUS(DEFICIENCY)
(in Miles)			
22,000 (approximate)	14.7	24	9.3

**4. POPULATION ESTIMATES AND PROJECTIONS:** With the exception of traffic and stormwater management, the adopted LOS standards are based on 1999 population estimates and projected population levels.

The population figures used in this report for solid waste and parks and recreation facilities are as follows:

POPULATION TYPE	NUMBER OF PERSONS		
	1999	2000	2005
Permanent	21,087	21,767	22,207
Seasonal	12,390	12,733	13,150
Total	33,477	34,500	35,357

<sup>1</sup> The County's Level of Service is adopted for County-maintained roads.

<sup>2</sup> The State Level of Service is adopted for U.S. 41.



The wastewater and potable water service areas extend beyond the City limits into unincorporated Collier County. As such, a different set of population estimates and projections are used as detailed below.

FACILITY	NUMBER OF PERSONS		
	1999	2000	2005
Potable water	59,015	59,900	64,530
Waste water	52,994	54,138	60,684

## 5. ANALYSIS

### A. POTABLE WATER

ADOPTED LOS STANDARD	300 GALLONS PER CAPITA PER DAY
1999 Treatment Level	508 gallons per capita per day
2000 Treatment Level	501 gallons per capita per day
2005 Treatment Level	465 gallons per capita per day

The adopted LOS for potable water was met in 1999, and it is projected that the City has sufficient water supply and treatment capacity to meet LOS requirements through the year 2005.

### B. WASTE WATER

ADOPTED LOS STANDARD	150 GALLONS PER CAPITA PER DAY
1999 Treatment Level	189 gallons per capita per day
2000 Treatment Level	185 gallons per capita per day
2005 Treatment Level	164 gallons per capita per day

The wastewater treatment plant was upgraded in 1999 from a treatment capacity of 8.5 million gallons per day (MGD) to 10 MGD. During 1999 the adopted LOS was met and it is projected that the City will have sufficient wastewater treatment capacity to meet LOS requirements through the year 2005.

Detailed information on water and wastewater services is provided in the attached report from the Utilities Department.

### C. SOLID WASTE

ADOPTED LOS STANDARD	1.17 TONS PER CAPITA PER YEAR
1999 Waste Generation	0.88 tons per capita per year

Collier County has the exclusive responsibility to provide adequate landfill space to service both County and City residents. There is not a designated area in the landfill site reserved for solid waste generated by City residents. Level of Service for the City is calculated from a sliding scale based on service requirements averaged over a five-year period. The current rate of waste generation is well accommodated at the current service standard.

The Collier County Landfill has available airspace of approximately 27 years, which includes 3.9 years of lined capacity at present fill rates and over 10 years permissible capacity at present fill rates.

For further information regarding solid waste LOS, see attached memo from Keeth Kipp.

D. STORMWATER DRAINAGE

Adopted LOS standards for drainage Level of Service for new development in the City of Naples are outlined as follows:

DRAINAGE CATEGORY	MINIMUM DESIGN STANDARDS
Roadway and yards	5 year – one hour storm event capacity
Pump station	5 year – one hour storm event capacity
Trunk lines	5 year – one hour storm event capacity
Flood protection – building elevation	100 year storm event elevation
Water quality	Wet detention – 1 <sup>st</sup> inch or 2.5 inches over impervious area Dry detention – 75% of wet detention but not less than one inch Retention – 50% of wet detention but not less than one inch

NOTE: For initial development of projects greater than 10 acres or with more than two acres of impervious area, a minimum design standard in accordance with SFWMD criteria is 25 year, three day storm event.

In addition to every new project in 1999 that met drainage LOS requirements, eight major development orders/building permits were processed in 1999 wherein commercial and multifamily properties were retrofitted to meet the above building elevation and/or water quality requirements. The City initiated drainage capacity improvements to trunk lines in the Central Avenue area, in the 10<sup>th</sup> Street corridor, and the Goodlette-Frank Road Pump Station. Based on the above information and the ongoing water management improvement programs, the Comprehensive Plan is being followed and the City is maintaining the requirements of stormwater drainage LOS.

For complete analysis of drainage LOS, see attached memo from George Archibald.

E. ROADWAYS

The level of service standard is measured by comparing the two-way traffic volume at peak hour, peak season, with the designated roadway capacity as set forth in the Collier County Generalized Service Volume Tables. The adopted standard is LOS C for all city streets, the exception being Fifth Avenue South from U.S. 41 to Gulf Shore Boulevard, which has been defined as a "Constrained Facility." For County maintained roads within City limits, the City has adopted the County's LOS D for Golden Gate Parkway and LOS E on Goodlette-Frank Road. For U.S. 41 within the city limits, the city is consistent with the state LOS D, and LOS E for the segment of U.S. 41 between Four Corners and Davis Boulevard. The table below identifies the Level of Service provision according to each road segment.

ARTERIAL OR COLLECTOR STREET	LOS STANDARD	1999 LEVEL OF SERVICE
Golden Gate Parkway	D	B
Goodlette Road	E	A
US 41 (North of Golden Gate Pkwy.)	D	C
US 41 (South of Golden Gate Pkwy.)	D	C
US 41 (6 <sup>th</sup> Ave. North/7 <sup>th</sup> Ave. North)	D	C
US 41 (West of Goodlette Rd.)	E	C
US 41 (East of Goodlette Rd.)	E	D
Park Shore Drive	C	C
Gulfshore Drive	C	A
Harbour Drive	C	A
Creech Road	C	A
Mooring Line Drive	C	A
Crayton Road	C	B
22 <sup>nd</sup> Avenue North	C	A
Orchid Drive	C	A
Fleischmann Boulevard	C	B
Gulfshore Boulevard	C	B
Banyan Boulevard	C	A
7 <sup>th</sup> Avenue North	C	A
10 <sup>th</sup> Street	C	A
5 <sup>th</sup> Avenue North	C	A
Central Avenue	C	A
8 <sup>th</sup> Street	C	A
3 <sup>rd</sup> Avenue South	C	A

ARTERIAL OR COLLECTOR STREET	LOS STANDARD	1999 LEVEL OF SERVICE
5 <sup>th</sup> Avenue South	Constrained Facility	D
9 <sup>th</sup> Street	C	A
Broad Avenue South	C	A
3 <sup>rd</sup> Street	C	A
Gordon Drive	C	A
Sandpiper Street	C	A
Gulfshore Boulevard South	C	A
4 <sup>th</sup> Avenue North	C	A
Neapolitan Way	C	A
West Road	C	A

All roadways exceeded LOS standards with the exception of Park Shore Drive which met the standard LOS C. The Development Services Department is addressing this with the design of intersection improvements for U.S. 41 and Park Shore Drive.

For complete analysis of roadway LOS, see attached memo from George Archibald.

#### F. BIKE PATHS

The adopted level of service standard for bike paths is one mile per 1,500 population. For 1999, the permanent population was approximated at 22,000, requiring a minimum of 14.7 miles of pathway.

In 1998, there were over 16 miles of bike paths within the city and an additional 8 miles of sidewalk available for bicycle use. Added bike lanes in 1999 included segments of 3<sup>rd</sup> Street South, and pathway improvements included 26<sup>th</sup> Avenue North and West Boulevard. Accordingly, the City's bike path LOS for 1999 was met and planned improvements in the City's Capital Improvement Program are designed to assure continued expansion of pathway facilities and continued maintenance of designated LOS for pathways.

#### G. PARKS AND RECREATION

As previously noted, the Parks and Recreation Advisory Board is the designated review body for park lands and recreation facilities, however the following Level of Service information is included here for your reference.

A joint agreement between the City and the School System is anticipated to continue, whereby Naples High School and Gulfview Middle School recreation amenities are available to the Community Services Department during non-school hours. Through the agreement, the facilities are part of the inventory used for LOS



requirements. The table below summarizes the Community Services Department report indicating service provisions in 1999 and 2005 relative to the adopted Level of Service standards.

FACILITY	LOS STANDARD (per population)	1999 SURPLUS (DEFICIENCY)	2005 SURPLUS (DEFICIENCY)
Basketball Courts	1 per 5,000	3.8	5.6
Baseball Fields	1 per 5,000	0.8	1.6
Beach Access	1 per 1,000	20.9	19.8
Boat Ramps	1 per 8,000	1.4	1.2
Bike Trails	1 mile per 1,500	5.9	5.1
Community Centers	1 per 8,000	0.4	0.2
Football Fields	1 per 11,000	0.1	1
Horseshoe Pits	1 per 2,500	(0.4)	1.1
Meeting Rooms	1 per 2,000	0.5	(0.1)
Pavilions	1 per 5,000	0.8	1.6
Picnic Areas	1 per 5,000	7.8	8.6
Play Areas	1 per 6,000	1.5	2.3
Racquetball Courts	1 per 2,500	(0.4)	0.1
Shuffleboard Courts	1 per 2,500	(2.4)	(2.9)
Swimming Pools	1 per 25,000	0.2	0.1
Tennis Courts	1 per 5,000	15.8	19.6
Volleyball Courts	1 per 2,000	0.5	0.9
Community Parks	2 acres per 1,000	6.1	8.9
Neighborhood Parks	1 acre per 1,000	2.0	3.9
Physical Fitness Courses	1 acre per 5,000	0.8	2.7
Community Beaches	1 mile per 2,500	0.5	0.1

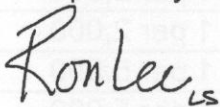
The LOS report for park and recreation facilities reflects one significant service deficiency, that being in the area of shuffleboard courts. The City is now deficient in shuffleboard courts due to the master planning of Cambier Park through which the results of public surveys led to the elimination of six courts. This deficiency will be addressed by adopting a lower level of service for shuffleboard courts that more accurately reflects the public interest and participation levels in Naples.

Additional Comment: The Parks and Recreation LOS standards adopted in the Comprehensive Plan are a combination of national and state standards and are not consistent with the Naples population profile. As indicated in the Evaluation and Appraisal Report completed during 1995, the standards need to be reviewed and modified to accurately reflect the needs of the city's residents.



**6. SUMMARY OF 1998 LOS REPORTING YEAR:** With regard to potable water, sanitary sewer, solid waste, stormwater drainage, roadways, and bike paths, the city is well within its LOS standards for all categories for the reporting year 1999, with no foreseeable service problems considering 5<sup>th</sup> Avenue South continues with the designation of "Constrained Facility." No specific action is required, however the Development Services Department will continue to monitor traffic and initiate appropriate action regarding the LOS for that roadway.

**7. STAFF RECOMMENDATION:** Staff recommends adoption of the 1999 Level of Service Report subject to the condition that City staff will continue to monitor the LOS values on an annual basis and keep the City Manager apprised of the LOS status.

Respectfully submitted,  
  
Ron Lee, Planning Director

- Attachments:
- Bob Middleton memo dated February 20, 2000
  - Keeth Kipp memo dated February 25, 2000
  - George Archibald memo dated March 10, 2000
  - Becky Poyer memo dated March 17, 2000



# Memo

Utilities Department - City of Naples, Florida

**TO:** RON LEE, PLANNING DIRECTOR  
**THROUGH:** DAN MERCER, PUBLIC DIRECTOR *Dan Mercer*  
**FROM:** BOB MIDDLETON, UTILITITES DIRECTOR *RLM*  
**SUBJECT:** LEVEL OF SERVICE REPORT, WATER & WASTEWATER  
**DATE:** FEBRUARY 29, 2000

---

Attached for your review is the LOS report for the water and wastewater facilities.

If you have any questions, please contact me.

## POTABLE WATER TREATMENT LOS SUMMARY

The following summary and tables represent current and future projections through the year 2000 for level of service (LOS) at the City of Naples Water Treatment Plant.

### ADOPTED LOS VS. CURRENT LOS

The adopted level of service for the water plant is 300 gallons per capita per day (gpcd). Table 1 shows the levels of service for the wellfields and the plant based on design capacities of each and the projected population. From this table, it can be seen that the facility design capacities are adequate to maintain compliance with the adopted LOS through the year 2015. However, this is based on the accuracy of the projected population. The level of service would be reached when the population reaches 100,000.

Table 2 indicates that the actual per capita use of water increased due to increased flow during 1999. The increased flow is due to the extremely dry conditions last year. The 1998 per capita use was 281 gallons per person and 294 gallons per person in 1999. The actual annual average flow increased by 1.03 mgd between 1998 and 1999. In late 1999, the population projections were recalculated through the year 2019 as part of our South Florida Water Management District (SFWMD) Water Use Permit application. This table indicates the resulting per capita water use for each year.

### CURRENT AND/OR POTENTIAL LOS DEFICIENCIES

The South Florida Water Management District (SFWMD) is currently reviewing the City's Water Use Permit application for permit renewal. We have requested a 20-year permit with 5-year review periods. This should insure the City's water allocation and future allocation request. The City has requested the daily maximum allocation to be increased from 24.64 MG to 25.73 MG. This includes maintaining the same consumption allocation from the Coastal Ridge wellfield of 11.6 MGD. The average daily flow will be increased from 17.73 MG to 18.92 MG. The updated population projections and historical flows derive these allocation increases.

Table 4 indicates that the permitted maximum daily flow is now 25.73 MGD and the design capacity of the Golden Gate wellfield is 24.05 MGD. The City has requested that the SFWMD approve an expansion of the Golden Gate wellfield to add 2 production wells at the north end.

A water booster station has been constructed at Broad Avenue and 9<sup>th</sup> Street South. This booster station was constructed to increase water volume and pressure to the southern portion of the City's water distribution system. The engineering firm of Hole Montes & Associates (HMA) was hired to design the booster station. The Broad Avenue booster station was on-line by December 1998. We have seen improvement in reduced fill time at the Port Royal tank site. HMA is currently completing the design of Phase II, which is the upgrade of the Port Royal tank site. The upgrade will be to replace the pump house and install larger pumps and electrical gear. This phase is scheduled to be completed and on-line by December 2000. Funds for Phase II would be available under the State Revolving Fund Loan (SRF).

Collier County is in the process of widening Golden Gate Blvd. This road-widening project has placed the City's 36-inch raw water line in conflict. The City and County have an interlocal agreement that states that Collier County will build a shifted urban cross section that will not require the relocation of this water line. The City agrees to pay about \$450,000.00 to accommodate construction of the shifted urban cross section. The relocation of this line would cost about \$5.0 million. Funding for this project may be available under the SRF loan program.

The City and County also have an interlocal agreement to relocate about 1000 feet of the 36-inch raw water line located on Golden Gate Parkway at Livingston Rd. This agreement requires the City to pay \$200,000 in engineering and construction cost for the line relocation. Collier County is designing the stormwater improvements and construction of Livingston Rd. north of Golden Gate Parkway. Construction of this project is scheduled to begin in June 2000. Funding for this project may be available under the SRF loan program.

#### CURRENT CIP/POTENTIAL CIP OPTIONS FOR MAINTAINING LOS WITH A FIVE YEAR TIME FRAME

The City has been placed on the fundable list to receive low interest money from the Florida Department of Environmental Protection for the above mentioned projects. This program is known as the State Revolving Fund Loan (SRF Loan). The SRF Loan program is currently funding the wastewater plant construction project.

#### AVAILABLE AND/OR POTENTIAL FUNDING SOURCES

Water user fees and impact fees are the most readily available funding sources. Special assessment districts, bonds, revolving loans and/or grants represent a potential source of funding in new service areas.

#### CURRENT INVENTORY OF FACILITIES

See Table 3-Water Facility Inventory, Table 4-Wellfield Inventory and Table 5-Water Storage Tank Inventory.

#### CURRENT POPULATION AND FIVE YEAR PROJECTION

In 1999, the City hired Hartman & Associates to complete and submit a Water Use Permit Renewal application to the South Florida Water Management District. As part of this application the population projections were revised to estimate future water allocations. This was done by reviewing the updated Traffic Analysis Zones that are inside our water service area. See Table 1.

POTENTIAL DEVELOPMENTS, REDEVELOPMENTS OR ANNEXATIONS WHICH COULD IMPACT LOS

Over the past several years Grey Oaks and Kensington developments have added additional phases. These developments will probably not reach build-out with this five- (5) year window. The population projections include these undeveloped areas which are used to calculate future water needs. According to the Water Master Plan, facilities are of capacity to meet the water needs for the next five- (5) years.

RELATIONSHIP TO THE GOALS, OBJECTIVES AND POLICIES OF THE COMPREHENSIVE PLAN

It appears that the City is meeting the goals, objectives and policies of the comprehensive plan with respect to potable water LOS.



# WATER PRODUCTION LOS TABLE

TABLE - 1

Year	RAW WATER		TREATMENT PLANT			
	Projected Population	Wellfield Design (MGD)	Projected LOS (GPCD)	Plant Capacity (MGD)	Projected LOS (GPCD)	Adopted LOS (GPCD)
1998	58,143	38	653	30	516	300
1999	59,015	38	644	30	508	300
2000	59,900	38	634	30	501	300
2005	64,530	38	589	30	465	300
2010	69,517	38	547	30	432	300
2015	74,890	38	507	30	400	300

# WATER PRODUCTION LOS TABLE

TABLE - 2

Year	Population	Average Daily Water Demand (MGD)	Projected Usage (GPCD)
1998	58,143	*16.34	281
1999	59,015	**17.34	294
2000	59,900	17.07	285
2001	60,799	17.21	283
2005	64,530	17.62	273
2010	69,517	18.07	260

\*Actual Annual Average Daily Flow for 1998.

\*\*Actual Annual Average Daily Flow for 1999.

## WATER FACILITY INVENTORY

### TABLE 3

#### TRANSFER

<u>AMOUNT</u>	<u>FACILITY</u>	<u>SIZE/CAPACITY</u>
19.1 miles	Raw Water Main-Golden Gate	8" - 36"
16 miles	Raw Water Main-Coastal Ridge	8" - 20"
292 miles	Potable Water Mains	4" - 30"
4	Booster Stations w/Storage	13 MG
6	Auxiliary Generators	125 - 350 kw
1075	Fire Hydrants	-----
15,500	Water Meters	5/8" - 10"

#### TREATMENT

<u>AMOUNT</u>	<u>FACILITY</u>
3	Accelators (Softening Units)
14	Gravity Sand Filters
3	Clearwells Storage
12	High Service Pumps
2	750 kw Generators
1	Solids Handling Facility
1	Reclaimed Water Storage Tank
5	Chemical Storage/Feed Systems
1	Color Removal Chemical Storage/Feed System

## WELLFIELD INVENTORY

TABLE - 4

	Number of Wells	Design Capacity	Maximum Permitted Capacity
Coastal Ridge	28	14.11	11.6
Golden Gate	23	24.05	25.73
<b>TOTALS</b>	<b>51</b>	<b>38.16</b>	<b>25.73</b>

# WATER STORAGE TANK INVENTORY

## TABLE - 5

### EAST NAPLES PUMP STATION

Ground Storage Tanks:	Three (3)
High Service Pumps:	Three (3)
Emergency Generator:	One (1)

### SOLANA ROAD PUMP STATION

Ground Storage Tank:	One (1)
High Service Pumps:	Three (3)
Emergency Generator:	One (1)

### PORT ROYAL PUMP STATION

Ground Storage Tanks:	Two (2)
High Service Pumps:	Three (3)
Auxiliary Power - Diesel Driven Pump:	One (1)



## WASTEWATER TREATMENT LOS SUMMARY

The following summary and tables represent the current and future projections to the year 2000 for level of service (LOS) for the City of Naples Wastewater Treatment Plant.

### ADOPTED LOS VS. CURRENT LOS

The City of Naples Wastewater Treatment Plant currently complies with the adopted LOS of 150 gallons per capita per day (gpcd) as the plant has the capacity to provide 189 gpcd for the year 1999. In 2000 and 2005 the plant will be able to provide 185 and 164 gpcd respectively. LOS projected capacity used for 1999 is 79.5%. This number is based on the projected population for 1999 and the plant design capacity of 10 MGD. The current population projections indicate that the LOS of 150 gpcd may be exceeded by the year 2009. See table 1. However, the plant is designed to accommodate the build out population for the City sewer service area.

Table 2 indicates that the per capita usage of the system 137 gpcd for 1999. This number is calculated based on the estimated population for that year and the annual average flow. The actual annual average daily flow for 1999 was 7.27 MGD.

### CURRENT AND/OR POTENTIAL LOS DEFICIENCIES

Since the 1994 report, the South Florida Water Management District (SFWMD) has made the golf courses use the City's reuse water as their primary irrigation source. Future ground water irrigation permit allocations are based on the amount of reuse water used for irrigation. This along with the addition of several other reuse water customers should reduce plant discharge to the Gordon River. See Reuse Customer list Table 3.

Part of the plant construction was to add an additional 5 million-gallon reuse water storage tank and upgrade the distribution pump station to produce 120 psi to the golf courses. We have a waiting list of 27 reuse water customers that we will begin connecting after the system is fully operational. We are concerned not to over sell the reuse water, however we are concerned about discharging too much water to the Gordon River. The plant permit issued by the Florida Department of Environmental Protection dictates that we cannot discharge to the river more than 2.42 MGD as an annual average.

Any additional future plant deficiencies will be eliminated with the plant upgrade and expansion construction project.

### CURRENT CIP/POTENTIAL CIP OPTIONS FOR MAINTAINING LOS WITH A FIVE YEAR TIME FRAME

The wastewater treatment plant construction reached the substantial completion status in August 1999. Final completion is expected by March 2000. We are meeting the new effluent limitations as described in the National Pollutant Discharge Elimination System (NPDES) Permit.

The cost for this project is \$20,472,000. The City has secured a \$25.8 million low interest loan from the State Revolving Fund loan program administered by the Florida Department of Environmental Protection.

### AVAILABLE AND/OR POTENTIAL FUNDING SOURCES

Sewer user fees and impact fees are the most readily available funding sources. Special assessment districts represent a potential source of funding in new service areas.

### CURRENT INVENTORY AT FACILITIES

See Table 4.

### CURRENT POPULATION AND FIVE YEAR PROJECTIONS

Revisions to previous population projections were made by the city planning division based on 1996 update of the 1990 census data. The 1994 Reuse Feasibility Study produced by Hole, Montes & Associates, Inc. was used for the County population estimate. See Table 1.

### POTENTIAL DEVELOPMENTS, REDEVELOPMENTS OR ANNEXATIONS WHICH COULD HAVE AN IMPACT ON CURRENT LOS

There are several unsewered areas in the Naples sewer service area. See Figure 1. Addition of these areas could potentially impact the current LOS, however, the plant expansion construction project includes capacity for all unsewered areas within the City's sewer service area. The Big Cypress area is currently being sewerred.

### RELATIONSHIP TO THE GOALS, OBJECTIVES AND POLICIES OF THE COMPREHENSIVE PLAN

It appears that the City is meeting the goals, objectives and policies of the comprehensive plan with respect to wastewater treatment LOS.

# WASTEWATER LOS TABLE

TABLE - 1

Year	Projected Population	Treatment Plant Capacity (MGD)	Projected LOS (GPCD)	Adopted LOS (GPCD)	Projected Capacity Used
1998	51,891	10	193	150	77.80%
1999	52,994	10	189	150	79.50%
2000	54,138	10	185	150	81.20%
2001	55,220	10	181	150	82.87%
2005	60,684	10	164	150	91.00%
2010	68,293	10	146	150	103.00%

**WASTEWATER LOS TABLE**

**TABLE - 2**

<b>Year</b>	<b>Projected Population</b>	<b>Average Daily Flow (MGD)</b>	<b>Projected Usage (GPCD)</b>
1998	51,891	*7.61	147
1999	52,994	**7.27	137
2000	54,138	5.76	106
2001	55,220	5.89	106
2005	60,684	6.41	105
2010	68,293	7.22	106

\*Actual Annual Average Daily Flow for 1997.

\*\* Actual Annual Average Daily Flow for 1998.

## WASTEWATER TREATMENT PLANT REUSE CUSTOMER LIST

TABLE - 3

**GOLF COURSES**

- Moorings Country Club
- Royal Poinciana
- Country Club of Naples
- Hole-In-The-Wall
- Quail Run Country Club
- High Point Country Club
- Naples Beach Club
- Bear's Paw Condo
- Wilderness Country Club

**MISCELLANEOUS**

- Bear's Paw Condo
- Moorings Park
- Intown Club Condo
- DeVoe, Inc.
- Emmanuel Evangelical
- Fairfield of Naples
- Sand Castle Apartments
- Ridgewood of Naples
- Naples Mimosa Club
- First Christian Church
- Moorehaven Apartments
- Jungle Larry's
- Stoney's Courtyard Inn
- Faith Lutheran Church
- Forest Lakes Condo
- Collier County Library
- Naples Community Hospital
- First Presbyterian Church
- Naples Beach Club
- Grace Lutheran Church
- High Point
- Post Office
- Coastland Mall

**SCHOOLS**

- Lake Park School
- Naples High School
- Gulfview Middle School

**CITY'S DEPARTMENTS**

- Utilities Department
- Solana Road Tank Site
- Distribution Warehouse
- Police Department
- Fourteen Parks & Parkways Locations



**WASTEWATER FACILITY INVENTORY****TABLE 4****TRANSFER**

<u>AMOUNT</u>	<u>FACILITY</u>	<u>SIZE/CAPACITY</u>
114	Sewage Lift Stations	-----
12 miles	Reuse Mains	6" - 30"
39 miles	Sewer Force Mains	4" - 20"
107 miles	Gravity Sewer Mains	8" - 24"
44 miles	Sewer Laterals	6"
2422	Manholes	-----
6	Emergency Generators	55 - 150 kw

**TREATMENT**

<u>AMOUNT</u>	<u>FACILITY</u>
1	Preliminary Treatment
4	Aeration Tanks
6	Final Clarifiers
1	Chemical Storage/Dosing Facility
3	Automatic Backwash Filters
1	Post Aeration Cascade
1	Chlorine Storage/Dosing Facility
2	Chlorine Contact Chambers
1	Reuse Pump Station
2	5 Million Gallon Reuse Storage Tanks
2	Sludge Holding Tanks
1	Solids Handling Facility
1	Solids Processing Facility (RDP)
2	Electrical Buildings
1	1150 kw Generator
1	1500 kw Generator
1	Blower Building
1	Lab Control Building
1	Stormwater Retention Pond



# Memo

Public Works Department - City of Naples, Florida

To: Ron Lee, Planning Department Director  
Through: Dan Mercer, Public Works Director *Dan Mercer*  
From: Keeth Kipp, Solid Waste Superintendent *KK*  
Subject: Level of Service Standards—2000  
Date: February 25, 2000

## Adopted LOS Versus Current LOS

The adopted level of service for solid waste disposal at the Collier County Landfill is 1.17 tons. The City currently generates .88 tons per capita based on 34,500 permanent and seasonal residents.

## Current and/or Potential LOS Deficiencies

There are currently no LOS deficiencies projected in the near future. The Collier County Landfill has available airspace of approximately 27 years. This includes three years and 11 months of lined capacity at present fill rates and more than 10 year permitable capacity at present fill rates. The Collier County Landfill is currently not permitted due to odor problems and is operating under a waiver from the Florida Department of Environmental Protection. It is expected that they will receive a Notice to Permit from the State in the near future.

## Current CIP/Potential Options for Maintaining LOS with a Five Year Time Frame

The City currently receives a small portion of Recycling and Education Grant funding from the State via an interlocal agreement with Collier County. The amount of this grant is approximately \$10,000 which is used for recycling education or equipment. Otherwise, funding comes exclusively from users fees.

## Current Inventory of Facilities

The disposal area for the City is the Collier County Landfill which is operated by Waste Management of Collier County under the jurisdiction of Collier County Government. The City has no Class I landfill.

**Current Population and Five Year Projection**

<b>Population Type</b>	<b>2000</b>	<b>2005</b>
Permanent	21,767	22,207
Seasonal	12,733	13,150
<b>Total</b>	<b>34,500</b>	<b>35,357</b>

**Potential Development, Redevelopment or Annexations which could Impact LOS**

The County landfill services both City and County residents and any type of annexation will not effect the LOS for the City.

**Relationship to the Goals, Objectives and Policies of the Comprehensive Plan**

It appears that the city is meeting the goals, objectives and policies of the comprehensive plans with respect to solid waste LOS.



# Memo

City of Naples, Florida

March 10, 2000

To: Laura Spurgeon, Planning Department

From: George Archibald for Richard A. Gatti, Development Services Director

Subject: Annual 1999 Concurrency Report for Roads, Drainage & Sidewalks

Per your recent request subject as above dated 24Jan00, attached are the Level of Service (LOS) reports for roadway traffic volume, stormwater drainage and bikepaths/sidewalks. Upon review of the attachments, should any additional information be necessary from this office, please do not hesitate in contacting me at Ext. 4784.

cc: Richard A. Gatti, Development Services Director

CITY OF NAPLES  
CONCURRENCY SYSTEM MANAGEMENT ELEMENT  
ROADWAYS LEVEL OF SERVICE FOR 1999

Adopted Standards for Roadway Level of Service

The Adopted Standard is Level of Service (LOS) 'C' for designated City streets. The single exception to the City's Standard LOS 'C' is Fifth Avenue South between U.S.41 and Gulf Shore Boulevard which has been defined as a "Constrained Facility". For County maintained roads within the City (Goodlette-Frank Road and Golden Gate Parkway), the City has adopted the County's Level of Service. This LOS is 'D' on Golden Gate Parkway and LOS 'E' on Goodlette-Frank Road. For State Roads #45 (U.S.41) and #90 (U.S.41) within the City Limits, the City shall be consistent with the State and adopt LOS 'D', except for the segment of U.S.41 between Four Corners and Davis Boulevard which is set at LOS 'E'. The LOS Standard is measured by comparing the two-way traffic volume at peak hour, peak season with the designated roadway capacity as set forth in the Collier County Generalized Service Volume Tables.

1999 Roadway Level of Service

Quarterly Traffic Counts taken in 1999 at 34 Count Stations on the arterial and collector streets in the City are attached as Exhibit #1 and serve as the basis for the City's LOS Monitoring Report. The data on Exhibit #1 includes Peak Season Average Daily Traffic counts (ADT) & Peak Hour Traffic counts along with off-season count data, volume/capacity data and LOS by designated street. All LOS determinations are based on the Collier County Generalized Service Volume Two-Way Peak Hour Tables. The results of the volume-to-capacity calculation is a road system operating at better than the Standard (LOS 'C') with the exception of Park Shore Drive being at the Standard of LOS 'C' and 5<sup>th</sup> Avenue South which is designated with a 'Constrained' LOS (Reference: Attached Exhibit #2-Service Volume Table). The overall improvement in LOS is attributable to an annual reduction in trip volumes on streets in Naples. The annual reductions in total volume between 1998 and 1999 equate to .61% and reflect the general 'level of build-out' in the community. This Monitoring Report concludes that no capacity deficiencies exist based on the City's adopted concurrency levels with the recognition of a single future capacity concerns on Park Shore Drive which is being addressed with the design of intersection improvements at U.S.41 and Park Shore Drive.



TWO-WAY VOLUMES (VEHICLES PER DAY)  
FOR COLLECTOR STREETS AND ARTERIALS  
IN THE CITY OF NAPLES

TRAFFIC COUNT STATION NUMBER	ARTERIAL OR COLLECTOR STREET	MAR 1996 1st Qtr PEAK HOUR	JUN 1996 2nd Qtr PEAK HOUR	SEP 1996 3rd Qtr PEAK HOUR	DEC 1996 4th Qtr PEAK HOUR	MAXIMUM 1996	1996 PEAK HOUR	MAR 1997 1st Qtr PEAK HOUR	JUN 1997 2nd Qtr PEAK HOUR
8	GOLDEN GATE PKWY (CR 886)	18,947	13,381	15,590	16,965	19,947	1,521	19,134	16,936
10	GOODLETTE ROAD (CR 851)	33,670	38,099	34,872	42,047	42,047	3,684	39,220	34,416
15	US 41 (N OF CR 886)	46,262	34,869	37,807	46,891	46,891	3,824	44,868	37,277
16	US 41 (S OF CR 886)	54,037	37,807	43,293	46,891	46,891	3,213	44,868	37,277
19	US 41 (6 AV N7 AV N)	33,678	15,187	1,037	39,535	39,535	3,164	37,329	31,554
23	US 41 (W OF CR 851)	42,305	24,860	26,157	36,949	42,305	3,703	40,215	33,365
24	US 41 (E OF CR 851)	64,966	47,204	45,932	67,391	67,391	5,439	63,724	52,151
30	PARKSHORE DRIVE	19,416	8,542	740	15,098	19,416	1,903	18,640	16,009
34	GULFSHORE BLVD	15,419	6,087	6,234	5,639	15,419	1,543	15,419	9,525
37	HARBOR DRIVE	7,869	5,641	4,704	5,509	7,869	691	7,017	6,772
38	CREECH ROAD	1,525	130	1,155	1,042	1,525	130	1,443	1,148
39	MOORING LINE DRIVE	12,759	1,219	4,740	8,326	12,759	1,219	11,120	10,440
40	GRAYTON ROAD	11,240	5,457	4,486	8,067	11,240	1,074	12,221	11,186
43	22ND AVENUE NORTH	3,950	3,144	2,777	4,389	4,389	470	3,298	3,242
44	ORCHID DRIVE	7,650	4,183	4,397	5,148	7,650	784	3,879	4,003
45	FLEISCHMANN BLVD	9,190	6,682	6,257	6,275	9,190	884	7,046	7,224
48	GULFSHORE BLVD	9,720	760	4,972	7,381	9,720	760	12,945	12,714
49	BANYAN BLVD	6,301	507	3,333	3,417	6,301	507	4,522	4,518
55	7TH AVENUE NORTH	9,352	784	5,218	5,881	9,352	784	6,020	5,219
56	10TH STREET	2,619	242	3,504	4,267	4,267	461	4,614	4,443
57	5TH AVENUE NORTH	4,682	401	7,482	7,088	7,482	708	5,065	4,534
62	CENTRAL AVENUE	9,178	914	5,274	7,801	9,178	914	7,728	7,773
63	8TH STREET	6,656	710	4,749	6,505	6,656	710	6,478	6,478
64	3RD AVENUE SOUTH	10,856	1,002	5,355	8,420	10,856	1,002	7,596	7,225
70	5TH AVENUE SOUTH	23,637	2,271	10,484	11,035	23,637	2,271	8,912	10,715
72	9TH STREET	13,122	1,165	6,057	11,010	13,122	1,165	9,404	8,711
76	BROAD AVENUE SOUTH	5,707	507	4,019	4,210	5,707	507	2,963	2,963
77	3RD STREET	10,830	846	5,194	8,185	10,830	846	9,677	9,677
79	GORDON DRIVE	8,666	907	5,931	6,532	8,666	907	8,496	8,345
83	SANDPIPER ST	16,061	1,417	8,113	6,203	16,061	1,417	7,794	6,004
85	GULFSHORE BLVD SO	7,669	765	3,340	6,792	7,669	765	8,170	7,941
86	4TH AVENUE NORTH	6,411	597	4,891	7,986	7,986	813	6,216	6,241
89	NEAPOLITAN WAY	9,871	921	4,86	7,143	9,871	921	8,845	8,564
91	WEST RD	5,679	571	2,971	9,718	9,718	942	5,085	5,222

SOURCE: CITY OF NAPLES DEVELOPMENT SERVICES DEPT., ENGINEERING DIVISION

TWO-WAY VOLUMES (VEHICLES PER DAY)  
FOR COLLECTOR STREETS AND ARTERIALS  
IN THE CITY OF NAPLES

SEP 1997	3rd Qtr PEAK HOUR	DEC 1997	4th Qtr PEAK HOUR	MAXIMUM 1997	1997 PEAK HOUR	MAR 1998	1st Qtr PEAK HOUR	JUN 1998	2nd Qtr PEAK HOUR	SEP 1998	3rd Qtr PEAK HOUR	DEC 1998	4th Qtr PEAK HOUR	MAXIMUM 1998	1998 PEAK HOUR	MAR 1999	1st Qtr PEAK HOUR	JUN 1999	2nd Qtr PEAK HOUR	SEP 1999	3rd Qtr PEAK HOUR	DEC 1999	4th Qtr PEAK HOUR	Maximum 1999	1999 PEAK HOUR	LOS C PEAK HOUR	VOLSTD RATIO & LOS	TRAFFIC COUNT STATION NUMBER
15,099	1,228	24,961	2,112	24,961	1,593	26,750	2,231	18,509	1,566			20,382	1,671	26,750	2,231	23,432	1,876	16,407	1,340		(1)	(2)	(2)	23,432	1,876	4,870	39B	8
31,636	2,656	35,936	3,227	39,220	3,416	37,520	3,235	30,462	2,629	(1)	(1)	35,790	3,080	37,520	3,235	37,550	3,096	30,448	2,674			36,609	3,151	37,550	3,096	5,680	55A	10
32,890	2,737	40,927	3,347	44,868	3,727	47,389	3,937	33,512	2,833	33,980	2,843	45,969	(1)	47,389	3,937	49,705	3,859	36,053	2,943			40,261	3,346	49,705	3,859	5,190	74C	15
31,720	2,640	39,055	3,237	43,389	3,612	45,318	3,812	32,886	2,710	32,321	2,623	43,456	(1)	45,318	3,812	42,591	3,476	27,923	2,296			45,672	3,909	42,591	3,476	5,190	64C	16
26,480	2,118	33,864	2,822	37,329	3,154	38,894	3,208	28,024	2,342	27,496	2,181	37,758	(1)	38,894	3,208	39,346	3,048	30,431	2,549			(2)	(2)	39,346	3,048	5,420	56C	19
26,303	2,155	32,982	2,588	40,215	3,365	35,395	2,794	26,845	2,152	26,171	2,042	(3)	(3)	35,395	2,794	(3)	(3)	(3)	(3)			33,553	2,775	33,553	2,775	5,420	51C	23
44,050	3,697	62,495	5,588	63,724	5,215	47,026	3,753	42,305	3,416	23,713	2,016	(3)	(3)	47,026	3,753	62,739	4,970	37,402	2,972			45,178	3,635	4,970	5,420	92D	24	
7,543	676	13,401	1,264	18,640	1,609	18,064	1,636	8,622	766		(1)	13,063	1,163	18,064	1,636	19,317	1,639	8,486	757			15,159	1,421	19,317	1,639	1,660	99C	30
3,201	285	4,953	447	5,789	673	6,075	751	2,872	265		(1)	4,497	226	6,075	751	7,370	651	2,792	269			(2)	(2)	7,370	651	1,780	37A	34
4,576	531	5,755	556	7,017	712	7,793	828	4,223	407		(1)	6,717	398	7,793	828	8,973	641	4,461	416			7,050	705	6,973	641	1,660	39A	37
1,676	151	1,237	103	1,443	154	1,220	134	1,074	110		(1)	1,266	129	1,266	129	1,364	137	1,206	112			1,198	114	1,364	137	1,570	09A	38
5,844	510	7,138	657	11,120	1,040	14,149	1,390	5,121	472		(1)	7,267	683	14,149	1,390	12,462	1,109	5,408	476			6,711	610	12,462	1,109	1,660	67A	39
5,962	614	8,331	851	12,221	1,186	11,294	1,141	5,529	551		(1)	7,887	761	11,294	1,141	11,117	1,074	5,215	496			9,220	967	11,117	1,074	1,320	81B	40
2,640	289	3,332	324	3,332	324	4,174	421	2,398	223		(1)	3,133	345	4,174	421	4,267	404	2,267	208			3,221	356	3,465	404	1,570	26A	43
2,563	237	3,736	349	3,879	403	3,922	368	2,548	234		(1)	3,645	347	3,922	368	5,561	571	2,698	257			3,668	358	5,561	571	1,570	36A	44
7,625	764	11,408	1,099	11,408	1,099	9,281	1,008	7,160	817		(1)	6,547	718	9,281	1,008	7,294	813	6,507	735			6,532	679	7,294	813	1,240	66B	45
4,642	433	7,434	423	12,945	1,274	10,668	617	5,310	311		(1)	6,377	392	10,668	617	9,894	935	5,559	527			6,129	583	9,894	935	1,960	48B	48
2,207	236	3,977	428	4,522	480	4,113	432	2,732	283		(1)	3,230	333	4,113	432	4,642	459	2,819	278			3,742	421	4,642	459	1,570	29A	49
3,146	494	6,489	657	6,489	657	5,671	517	5,484	497		(1)	6,767	633	6,767	633	6,842	604	5,920	531			5,387	498	6,842	604	1,080	56A	55
3,461	352	4,944	503	4,944	503	4,862	504	3,872	430		(1)	4,128	439	4,362	504	4,552	526	4,883	485			4,240	455	4,552	526	1,320	40A	56
4,955	465	5,263	561	5,263	561	4,892	451	4,254	367		(1)	4,918	441	4,918	441	5,105	463	4,450	380			4,823	451	5,105	463	1,080	43A	57
6,141	607	8,488	691	8,488	691	10,839	1,126	7,660	773		(1)	7,635	753	10,839	1,126	9,911	958	5,090	537			9,061	977	9,911	958	1,960	49A	62
1,801	400	6,432	619	6,478	647	6,757	672	5,453	538		(1)	6,323	627	6,757	672	6,637	595	4,788	512			6,338	601	6,637	595	1,080	55A	63
4,012	414	6,497	702	7,596	725	8,194	809	4,991	469		(1)	5,960	574	8,194	809	7,479	680	4,298	377			5,855	547	7,479	680	1,570	43A	64
9,323	769	10,268	856	10,268	1,075	16,306	1,275	9,199	780		(1)	10,481	801	16,306	1,275	10,526	1,127	9,077	770			11,028	907	10,526	1,127	1,090	1,03D	70
6,563	592	9,457	904	9,457	904	9,616	913	8,272	785		(1)	11,251	967	11,251	967	10,595	885	7,426	680			8,999	786	10,595	885	1,570	56A	72
3,969	347	4,955	495	4,955	495	5,716	528	3,993	393		(1)	5,004	444	5,716	528	6,374	585	4,235	364			4,977	429	6,374	585	1,080	52A	76
4,372	414	8,142	682	8,142	682	6,566	608	4,706	384		(1)	8,848	668	8,848	668	9,918	591	4,921	409			5,697	496	6,918	591	1,320	45A	77
6,117	631	7,587	763	7,587	763	7,905	827	6,207	618		(1)	7,598	748	7,905	827	9,015	852	6,669	648			8,535	894	9,015	852	1,570	54A	79
5,808	493	8,999	803	8,999	803	7,915	637	6,165	567		(1)	7,258	468	7,915	637	7,351	564	5,609	467			7,073	578	7,351	564	1,570	36A	83
3,331	334	4,652	456	7,941	721	9,158	1,066	3,915	379		(1)	5,177	522	9,158	1,066	7,781	794	4,278	389			4,579	450	7,781	794	1,420	56A	85
4,722	445	7,349	736	6,279	572	6,876	638	6,876	638		(1)	5,571	538	6,876	638	7,031	707	5,638	564			6,644	621	7,031	707	3,190	22A	86
5,330	472	7,509	722	8,845	802	10,069	923	6,052	546		(1)	7,254	712	10,069	923	9,372	846	5,398	483			7,824	740	9,372	846	1,960	43A	89
2,732	299	4,756	457	5,085	522	5,264	537	2,842	290		(1)	4,093	458	5,264	537	6,520	528	2,768	290			5,463	575	5,520	528	1,570	34A	91

Notes:  
(1) Ort. Counts not taken.  
(2) Traffic Counter malfunctioned.  
(3) Counts not taken due const.  
(4) 5th Ave. S. is 'constrained' LOS.  
(5) State & County Arterials are LOS D & E

EXHIBIT II-4  
COLLIER COUNTY GENERALIZED SERVICE VOLUMES (1)  
TWO-WAY PEAK HOUR SERVICE VOLUMES FOR URBAN TWO-WAY ARTERIALS

Group O (0.00 to 0.33 signals per mile)

Lanes/Type (2)	Level of Service				
	A	B	C	D	E
2 Undivided without left-turn bays	1,390	1,500	1,570	1,600	1,780
2 Undivided	1,660	1,780	1,860	1,990	2,110
2 Divided	1,740	1,880	1,960	2,090	2,220
4 Undivided	3,360	3,590	3,740	3,990	4,230
4 Divided	3,530	3,770	3,940	4,200	4,450
6 Undivided	5,060	5,390	5,620	5,990	6,340
6 Divided	5,320	5,670	5,920	6,300	6,680

Group A (0.34 to 0.75 signals per mile)

Lanes/Type (2)	Level of Service				
	A	B	C	D	E
2 Undivided without left-turn bays	1,260	1,370	1,420	1,500	1,580
2 Undivided	1,500	1,630	1,690	1,790	1,880
2 Divided	1,580	1,710	1,780	1,880	1,980
4 Undivided	3,090	3,290	3,400	3,590	3,780
4 Divided	3,260	3,470	3,580	3,780	3,980
6 Undivided	4,700	4,960	5,110	5,390	5,670
6 Divided	4,950	5,220	5,380	5,680	5,970

Group B (0.76 to 1.5 signals per mile)

Lanes/Type (2)	Level of Service				
	A	B	C	D	E
2 Undivided without left-turn bays	920	1,260	1,320	1,400	1,460
2 Undivided	1,090	1,490	1,570	1,660	1,740
2 Divided	1,150	1,570	1,660	1,740	1,830
4 Undivided	2,310	3,070	3,190	3,340	3,500
4 Divided	2,430	3,230	3,360	3,520	3,680
6 Undivided	3,550	4,660	4,810	5,030	5,260
6 Divided	3,740	4,900	5,060	5,290	5,530

EXHIBIT II-4 (continued)  
COLLIER COUNTY GENERALIZED SERVICE VOLUMES (1)  
TWO-WAY PEAK HOUR SERVICE VOLUMES FOR URBAN TWO-WAY ARTERIALS

Group C (1.6 to 2.5 signals per mile)

Lanes/Type (2)	A	B	C	D	E
2 Undivided without left-turn bays	--	1,000	1,240	1,350	1,430
2 Undivided	--	1,190	1,480	1,600	1,700
2 Divided	--	1,260	1,550	1,690	1,790
4 Undivided	--	2,530	3,060	3,270	3,430
4 Divided	--	2,660	3,220	3,440	3,620
6 Undivided	--	3,800	4,650	4,930	5,170
6 Divided	--	4,000	4,900	5,190	5,440

Group D (2.6 to 3.5 signals per mile)

Lanes/Type (2)	A	B	C	D	E
2 Undivided without left-turn bays	--	--	1,000	1,320	1,440
2 Undivided	--	--	1,280	1,560	1,710
2 Divided	--	--	1,350	1,650	1,800
4 Undivided	--	--	2,640	3,240	3,480
4 Divided	--	--	2,780	3,410	3,670
6 Undivided	--	--	3,950	4,930	5,260
6 Divided	--	--	4,160	5,190	5,540

Group E (3.6 to 4.5 signals per mile)

Lanes/Type (2)	A	B	C	D	E
2 Undivided without left-turn bays	--	--	810	1,200	1,390
2 Undivided	--	--	960	1,430	1,650
2 Divided	--	--	1,010	1,500	1,740
4 Undivided	--	--	1,990	3,010	3,390
4 Divided	--	--	2,100	3,170	3,570
6 Undivided	--	--	3,030	4,620	5,150
6 Divided	--	--	3,190	4,870	5,420



CITY OF NAPLES  
CONCURRENCY SYSTEM MANAGEMENT ELEMENT  
DRAINAGE LEVEL OF SERVICE FOR 1999

Adopted Standards For Drainage Level of Service

The Drainage Standards for new development in the City of Naples are outlined as follows:

<u>DRAINAGE CATEGORY</u>	<u>MINIMUM DESIGN STANDARDS</u>
Roadway and Yards	5 Yr.- 1 Hour Storm Event Capacity
Pump Station	5 Yr.- 1 Hour Storm Event Capacity
Trunk Lines	5 Yr.- 1 Hour Storm Event Capacity
Flood Protection-Bldg. Elev.	100 Year Storm Event Elev.
Water Quality	Wet Detention- 1 <sup>st</sup> 1 inch or 2.5 inches over impervious area. Dry Detention- 75% of Wet Detention but not less than 1 inch. Retention- 50% of Wet Detention but not less than 1 inch.

Note: For Initial Development of Projects greater than 10 acres or with more than 2 acres of impervious area, the Minimum Design Standard in accordance with S.F.W.M.D. criteria is a 25 Year-3 Day Storm Event.

The above standards are applied, subject to available infrastructure and feasibility, to re-development of industrial, commercial and multi-family properties.

1999 Drainage Level of Service

In 1999, 8 Development Orders/Building Permits were processed wherein commercial properties and multi-family properties retrofitted their respective sites to comply with the above building elevation requirements and/or water quality requirements. Also, during 1999, drainage capacity improvements for Drainage Basin VI were initiated; the identified improvements currently under construction will increase the capacity of trunk lines in the Central Avenue area, in the 10<sup>th</sup> Street corridor and the Goodlette-Frank Road Pump Station consistent with the above Concurrency Standards.

Based on the above information and the on-going water management improvement programs, the Comprehensive Plan is being followed and the City is maintaining the requirements of Stormwater Drainage LOS.

CITY OF NAPLES  
CONCURRENCY SYSTEM MANAGEMENT ELEMENT  
BIKE PATHWAY LEVEL OF SERVICE FOR 1999

Adopted Standard For Bike Path Level of Service

The Bike Path Standard Level of Service (LOS) for the City of Naples is outlined as follows:

1 Mile of Bike Path Per 1,500 Population

For 1999, the Permanent Population was estimated at 22,000 and required a minimum of 14.7 miles of Pathway.

1999 Bike Path Level of Service

In 1999, there were over 16 miles of Bike Paths in the City of Naples and over 8 miles of sidewalks available for bicycle use. Added bikelanes in 1999 included segments of 3<sup>rd</sup> Street South and improvements occurred to pathways on 26<sup>th</sup> Avenue North and West Boulevard. Accordingly, the City's Bike Path LOS for 1999 was met and planned improvements in the City's Capital Improvement Program are designed to assure continued expansion of pathway facilities and continued maintenance of the designated LOS for pathways.





# Memo

---

City of Naples, Florida

**TO: LAURA SPURGEON, PLANNER**

**FROM: BECKY POYER, SPECIAL EVENTS COORDINATOR**

**RE: LEVEL OF SERVICE REPORT**

**DATE: March 17, 2000**

---

Attached is the updated Level of Service report from the Community Services Department. I have made the changes we discussed during the meeting. Don asked that the report be forwarded to Ron as soon as possible. Thanks so much for your help with this!

**LEVEL OF SERVICE REPORT**

**RECREATION FACILITIES  
CITY OF NAPLES  
PUBLIC FACILITY REQUIREMENT**

Multi-Purpose Facility (River Park)  
LOS: 1 per 20,000 Population

(NOT A COMP PLAN REQUIREMENT)

Time Period	City Population	Facilities Required 0.00005	Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	1.05	0.00	-1.05
1999-2005 6-year Growth	1,120	0.06	1.00	0.94
Total as of 10/1/05	22,207	1.11	1.00	-0.11

**Basketball Courts**  
Comprehensive Plan LOS: 1 Court per 5,000 Population

	City Population	Courts Required 0.0002	Courts Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	4.22	8.00	3.78
1999-2005 6-year Growth	1,120	0.22	2.00	1.78
Total as of 10/1/05	22,207	4.44	10.00	5.56
1999 Participation Adult Basketball League	90% City	10% County		

**Baseball Fields**  
Comprehensive Plan LOS: 1: Field per 5,000 Population

	City Population	Field Required 0.0002	Fields Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	4.22	5.00	0.78
1999-2005 6-year Growth	1,120	0.22	1.00	0.78
Total as of 10/1/05	22,207	4.44	6.00	1.56
1999 Participation Adult Softball	10% City	90% County		
Babe Ruth Baseball	8% City	92% County		
Youth Baseball	48% City	52% County		

**LEVEL OF SERVICE REPORT**

**RECREATION FACILITIES  
CITY OF NAPLES  
PUBLIC FACILITY REQUIREMENT**

**Beach Access  
Comprehensive Plan LOS: 1 per 1,000 Population**

Time Period	City Population	Facilities Required 0.001	Access Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	21.09	42.00	20.91
1999-2005 6-year Growth	1,120	1.12	0.00	-1.12
<b>Total as of 10/1/05</b>	<b>22,207</b>	<b>22.21</b>	<b>42.00</b>	<b>19.79</b>

**Boat Ramps  
Comprehensive Plan LOS: 1 Ramp per 8,000 Population**

	City Population	Boat Ramps Required 0.000125	Boat Ramps Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	2.64	4.00	1.36
1999-2005 6-year Growth	1,120	0.14	0.00	-0.14
<b>Total as of 10/1/05</b>	<b>22,207</b>	<b>2.78</b>	<b>4.00</b>	<b>1.22</b>

**Bike Trails  
Comprehensive Plan LOS: 1 Mile per 1,500 Population**

	City Population	Miles Required 0.00067	Miles Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	14.13	20.00	5.87
1999-2005 6-year Growth	1,120	0.75	0.00	-0.75
<b>Total as of 10/1/05</b>	<b>22,207</b>	<b>14.88</b>	<b>20.00</b>	<b>5.12</b>

**LEVEL OF SERVICE REPORT****RECREATION FACILITIES  
CITY OF NAPLES  
PUBLIC FACILITY REQUIREMENT****Community Centers**

Comprehensive Plan LOS: 1 Center per 8,000 Population

Time Period	City Population	Facilities Required 0.000125	Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	2.635875	3	0.364125
1999-2005 6-year Growth	1,120	0.14	0	-0.14
Total as of 10/1/05	22,207	2.775875	3	0.224125

**Football Fields**

Comprehensive Plan LOS: 1 Field per 11,000 Population

	City Population	Fields Required 0.00009	Fields Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	1.90	2.00	0.10
1999-2005 6-year Growth	1,120	0.10	1.00	0.90
Total as of 10/1/05	22,207	2.00	3.00	1.00
Pal	39% City	61% County		
Flag Football	14% City	86% County		

**Horseshoe Pits**

Comprehensive Plan LOS: 1 Pit per 2,500 Population

	City Population	Pits Required 0.0004	Pits Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	8.43	8.00	-0.43
1999-2005 6-year Growth	1,120	0.45	2.00	1.55
Total as of 10/1/05	22,207	8.88	10.00	1.12

**LEVEL OF SERVICE REPORT**  
**RECREATION FACILITIES**  
**CITY OF NAPLES**  
**PUBLIC FACILITY REQUIREMENT**

**Meeting Rooms**

**Comprehensive Plan LOS: 1 Room per 2,000 Population**

Time Period	City Population	Facilities Required 0.0005	Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	10.5435	11	0.4565
1999-2005 6-year Growth	1,120	0.56	0	-0.56
<b>Total as of 10/1/05</b>	<b>22,207</b>	<b>11.1035</b>	<b>11</b>	<b>-0.1035</b>

**Pavilions**

**Comprehensive Plan LOS: 1 Field per 5,000 Population**

	City Population	Required 0.0002	Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	4.2174	5	0.7826
1999-2005 6-year Growth	1,120	0.224	1	0.776
<b>Total as of 10/1/05</b>	<b>22,207</b>	<b>4.4414</b>	<b>6</b>	<b>1.5586</b>

**Picnic Areas**

**Comprehensive Plan LOS: 1 per 5,000 Population**

	City Population	Required 0.0002	Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	4.2174	12	7.7826
1999-2005 6-year Growth	1,120	0.224	1	0.776
<b>Total as of 10/1/05</b>	<b>22,207</b>	<b>4.4414</b>	<b>13</b>	<b>8.5586</b>

**LEVEL OF SERVICE REPORT**

**RECREATION FACILITIES  
CITY OF NAPLES  
PUBLIC FACILITY REQUIREMENT**

**Play Areas**

**Comprehensive Plan LOS: 1 Area for 6,000 Population**

Time Period	City Population	Facilities Required 0.000167	Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	3.521529	5	1.478471
1999-2005 6-year Growth	1,120	0.18704	1	0.81296
Total as of 10/1/05	22,207	3.708569	6	2.291431

**Racquetball Courts**

**Comprehensive Plan LOS: 1 per 2,500 Population**

	City Population	Courts Required 0.0004	Courts Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	8.4348	8	-0.4348
1999-2005 6-year Growth	1,120	0.448	1	0.552
Total as of 10/1/05	22,207	8.8828	8	0.1172

**Shuffleboard Courts**

**Comprehensive Plan LOS: 1 Court per 2,500 Population**

	City Population	Required 0.0004	Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	8.4348	6	-2.4348
1999-2005 6-year Growth	1,120	0.448	0	-0.448
Total as of 10/1/05	22,207	8.8828	6	-2.8828



**LEVEL OF SERVICE REPORT**

**RECREATION FACILITIES  
CITY OF NAPLES  
PUBLIC FACILITY REQUIREMENT**

**Swimming Pools**

**Comprehensive Plan LOS: 1 pool per 25,000 Population**

Time Period	City Population	Court Required 0.00004	Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	0.84348	1	0.15652
1999-2005 6-year Growth	1,120	0.0448	0	-0.0448
Total as of 10/1/05	22,207	0.88828	1	0.11172

**Tennis Courts**

**Comprehensive Plan LOS: 1 Court per 5,000 Population**

	City Population	Courts Required 0.0002	Courts Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	4.2174	20	15.7826
1999-2005 6-year Growth	1,120	0.224	4	3.776
Total as of 10/1/05	22,207	4.4414	24	19.5586
1998 Participation Membership	82% City	18% County		

**Volleyball Courts**

**Comprehensive Plan LOS: 1 Pit per 2,000 Population**

	City Population	Courts Required 0.0005	Courts Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	10.5435	11	0.4565
1999-2005 6-year Growth	1,120	0.56	1	0.44
Total as of 10/1/05	22,207	11.1035	12	0.8965

**LEVEL OF SERVICE REPORT**  
**RECREATION FACILITIES**  
**CITY OF NAPLES**  
**PUBLIC FACILITY REQUIREMENT**

**Community Parks Acres**  
**Comprehensive Plan LOS: 2 Acres per 1,000 Population**

Time Period	City Population	Acres Required	Acres Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	42.174	48.26	6.086
1999-2005 6-year Growth	1,120	2.24	5	2.76
Total as of 10/1/05	22,207	44.414	53.26	8.846

**Neighborhood Park Acres**  
**Comprehensive Plan LOS: 1 Acre per 1,000 Population**

Time Period	City Population	Acres Required	Acres Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	21.087	23.06	1.973
1999-2005 6-year Growth	1,120	1.12	3	1.88
Total as of 10/1/05	22,207	22.207	26.06	3.853

**Physical Fitness Courses**  
**Comprehensive Plan LOS: 1 Acre per 5,000 Population**

Time Period	City Population	Courses Required	Courses Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	0.0002	5	0.7826
1999-2005 6-year Growth	1,120	1.12	3	1.88
Total as of 10/1/05	22,207	5.3374	8	2.6626

**LEVEL OF SERVICE REPORT**

**RECREATION FACILITIES  
CITY OF NAPLES  
PUBLIC FACILITY REQUIREMENT**

**Community Beaches  
Comprehensive Plan LOS: 1 Mile per 2,500 Population**

Time Period	City Population	Beach Required	Beaches Available	Surplus (Deficiency)
Present as of 10/1/99	21,087	0.0004	8.95	0.5152
1999-2005 6-year Growth	1,120	0.448	0.00	-0.448
<b>Total as of 10/1/05</b>	<b>22,207</b>	<b>8.8828</b>	<b>8.95</b>	<b>0.0672</b>

The Community Services Advisory Board has adopted the following Level of Service for Open Space:

Purchase one acre of open space per year. The Fleischmann Property (9.47 acres) was recently approved for purchase by the City Council. This purchase will fulfill the requirement for nine years or through 2009 if the purchase is completed in 2000.