FLORIDA INTERNATIONAL UNIVERSITY
2005-2015 Comprehensive Master Plan Update
State Project No. BT-805

INVENTORY & ANALYSIS

Prepared by

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FLORIDA INTERNATIONAL UNIVERSITY
2005-2015 INVENTORY & ANALYSIS

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1.0 ACADEMIC MISSION OF THE UNIVERSITY ELEMENT

(2) ANALYSIS REQUIREMENTS

a) Change In University's Mission Since Its Inception

In 1972, FIU opened its doors to 5,667 students enrolled in upper division undergraduate and graduate programs and began its mission:

"…. To serve the people of southeast Florida, the state, the nation and the international community by imparting knowledge through research and fostering creativity and its expression." Nine years later, in 1981, lower division classes for freshmen and sophomore level students were added to the university. Soon after this, doctoral level degree programs were added.

The mission of the University is reviewed every year following the "Florida International University internal planning process". As with other state universities, modifications of the University mission can be made every five years, following the process established by the Florida Board of Education, Division of Colleges and Universities for the five-year planning process.

Since opening in 1972, the university has developed into a "comprehensive, multi-campus urban research institution–that offers 195 baccalaureate, masters and doctoral degree programs. It provides programs for full and part time degree seeking students and addresses the needs of the lifelong learners, both by traditional and distance learning methods. This expansion of educational programs is a reflection of the University's current mission statement approved by the Florida Board of Education in 2002:

Florida International University is an urban, multi-campus, research university serving south Florida, the state, the nation and the international community. It fulfills its mission by imparting knowledge through excellent teaching, promoting public service, discovering new knowledge, solving problems through research, and fostering creativity.

b) Change In The University's Mission Since The Last Master Plan Was Prepared

The University mission, approved by the Florida Board of Education, Division of Colleges and Universities in September 1993 reads as follows:

Florida International University (FIU) is an urban, multi-campus, doctoral-granting institution located in Miami, Florida's largest population center, with campuses at University Park [Modesto A Madique] and North Miami, selected programs offered in Davie and Fort Lauderdale, and off-campus continuing education programs. The mission of this state University is to serve the people of Southeast Florida, the state, the nation and the international community by imparting knowledge through excellent teaching, creating new knowledge through research, and fostering creativity and its expression.

The current University mission, approved by the Florida Board of Education, Division of Colleges and Universities in the Fall of 2002, is more streamlined and identifies South Florida as the service area. Specific information on location and degree programs were eliminated to make the statement more concise. The new mission now embodies five strategic themes to guide the University's development: International, Environmental, Florida and Local Economic Development, Health, Arts, Culture, and Diversity and Learning Opportunities, with a commitment to quality management and cultural diversity.

c) University Response To Roles Established By The Board Of Governors For The State University System

FIU's rapid increases in student enrollments and academic programs is evidence that FIU fulfills its role to become a major public university serving the diverse urban community of South Florida. Its current mission allows communities in Southeast Florida to have access to as full and complete a range of higher educational opportunities and experiences at undergraduate, graduate and professional levels as may be available at other public universities in Florida.

Under the leadership of Dr. Modesto A. Maidique from 1986 through 2008, the University has been guided by the Florida Board of Education, Division of Colleges and Universities Master and Strategic Plans, the University Mission Statement and the *FIU Millennium Strategic Plan*, the University's strategic plan for the 21st century. As a result, the University has grown at the lower division, the upper division and graduate level; academic programs have increased to meet the demands of this growth.

2.0 ACADEMIC PROGRAM ELEMENT

(1) DATA REQUIREMENTS

a) Headcount Enrollment, Undergraduate and Graduate, for Last Available Fall Term 2008, By Campus

Florida International University provides a vast and rapidly expanding array of educational opportunities for the 39,146 students enrolled in the Fall 2008 academic degree programs. The majority of these students take classes at Modesto A. Maidique Campus, though a large percentage of students take classes at more than one campus due to the availability of course offerings. This attendance at multiple campuses creates an exaggerated headcount found at each location (see Table 2.1).

In addition to the students found on-campus, there are a number of students who are enrolled in off-campus degree programs, either out of the country or on an independent basis. These students are currently a small percentage of the total University headcount. However, as technology continues to expand, more students are expected to enroll in these types of programs.

Table 2.1 Headcount Enrollment (Fall 2008)

	UNDERGRADUATE	GRADUATE	UNCLASIFIED	TOTAL
University Wide*	30,428	6,629	2,089	39,146 (1)
Modesto A. Maidique	25,236	5,344	977	31,557
Biscayne Bay Campus	6,701	428	466	7,595
Brow. Pines	1,136	469	102	1,707
Other Satellite Sites (2)	8,962	1,247	714	10,923

Source: FIU Office of Institutional Research Fall 2008

* Includes Zero-Credit Students
(1) Number represents non-duplicated total headcount for FIU.
(2) Off campus and sponsored credit. Includes Online, Off-Campus, Sponsored Credit
(3) Includes Engineering Center and Wolfsonian

b) FTE Enrollment, Undergraduate and Graduate, for Each College and By Campus (Fall 2008)

When evaluating student enrollment, it is necessary to make projections in terms of full time equivalent (FTE) student enrollment which takes the total University headcount enrollment and converts all the part-time and full-time students into full-time enrollment (see Table 2.2). This conversion factor and all enrollment projections have been calculated by the FIU Office of Institutional Research staff for the use of this Campus Master Plan.

Table 2.2 Full Time Equivalent (FTE) Enrollment by College and Campus (Fall 2008)

	Campus				
	Modesto A. Maidique	**Biscayne Bay**	**Broward Pines**	**Other**	**Grand Total**
Architecture					
Undergraduate	93.48	0	0	22.15	115.63
Graduate	26.63	0	0	0	26.63
Thesis	0.97	0	0	0	0.97
Arts and Sciences					
Undergraduate	3,916.25	627.25	4.20	158.83	4,706.53
Graduate	231.09	21.31	0	3.84	256.25
Thesis	37.28	1.75	0	0	39.03
Business Administration					
Undergraduate	476.48	137.10	24.23	394.90	1,032.70
Graduate	56.53	0	0	123.34	179.88
Thesis	2.06	0	0	0	2.06
Education					
Undergraduate	374.53	9.10	7.58	11.55	402.75
Graduate	126.91	0.47	14.34	19.78	161.50
Thesis	12.75	0	9.81	0	22.56
Health and Urban Affairs					
Undergraduate	386.28	208.60	0	48.30	643.18
Graduate	164.81	47.47	16.13	35.13	263.53
Thesis	5.19	3.28	0	0	8.47
Engineering					
Undergraduate	286.40	0	13.58	26.28	326.25
Graduate	94.22	0	3.94	12.25	110.41
Thesis	14.44	0	0	0	14.44
Hospitality					
Undergraduate	9.23	150.20	0	19.50	178.93
Graduate	0	17.75	0	0	17.75
Journalism					
Undergraduate	0	153.60	0	0	153.60
Graduate	0	22.56	0	1.22	23.78
Thesis	0	1.50	0	0	1.50
Law					
Graduate	113.91	0	0	0	113.91
Other					
Undergraduate	9.68	0	0	0	9.68
Grand Total	**6,439.08**	**1,401.94**	**93.79**	**877.06**	**8,811.88**

Note: (1) Off campus and sponsored credit
Source: FIU Office Institutional Research 2008

c) Headcount Enrollment By Major, For Each College And Campus.

The University is made up of ten colleges and two schools; College of Architecture, College of Arts and Sciences, College of Business Administration, College of Continuing and Professional Studies, College of Education, College of Engineering and Computing, College of Nursing & Health Sciences, College of Public Health and Social Work, Honors College, School of Hospitality and Tourism Management, School of Journalism and Mass Communication, College of Law, College of Medicine, and University Graduate School. The Honors College is a program and offers no major. Many courses in the Colleges of Arts and Sciences, Business Administration, Education and Health and Urban Affairs are duplicated at each campus. The Schools of Hospitality and Management, and Journalism conduct the majority of their concentration courses at the Biscayne Bay Campus.

Table 2.3 Headcount Enrollment by Colleges on Campus (Fall 2008)

	BACCALAUREATE	**GRAD 1**	**UNCLASSIFIED**	**GRAD 2**	**TOTAL**
College of Arts & Sciences	11,472	834	9	395	12,710
College of Business.	6,996	1,106	3	41	8,146
College of Education	1,918	764	60	253	2,995
College of Engineering and Computing	3,510	684	0	208	4,402
College of Public Health and Social Work	746	601	1	54	1,402
College of Law	0	533	0	0	533
College of Architecture	1,105	183	0	0	1,288
School of Hospitality Management &Tourism Mgmt	1,277	182	1	0	1,460
College of Nursing & Health Sciences	1,903	588	0	84	2,575
School of Journalism	1,496	119	1	0	1,616
Unclassified	5	0	2,014	0	~~2,019~~

Source: FIU Office Institutional Research-2008

d) Headcount In Non-Fundable Programs (E.G., Continuing Education)

In accordance with the University mission, FIU has committed itself to providing a quality education to the South Florida area by offering programs at locations both on and off campus. University Outreach advances the mission of Florida International University by delivering quality lifelong learning programs. The Division offers academic credit, distance learning, and professional development and personal enrichment programs in partnership with FIU's academic units (see Table 2.4). The tables below provide enrollment information for non-fundable and fundable programs. Non-fundable programs are not funded by the state and do not generate FTEs (i.e. Sponsored Credit and Self-Supporting). These types of programs/courses are either paid by the students or by a sponsor.

Table 2.4 Non-fundable Program Enrollment (Summer, Fall, and Spring 2008)

NON-FUNDABLE(1)	SUMMER 2005	FALL 2005	SPRING 2005	TOTAL
Sponsored Credit Institutes				
Undergraduate	23	21	164	208
Graduate	394	428	422	1244
Self-Supporting				
Undergraduate	453	456	281	1190
Graduate	372	758	701	1831
TOTAL	1242	1663	1568	4473

Source: FIU Office of Continuing and Professional Studies

Table 2.5 Fundable Program FTE Enrollment (Summer, Fall, and Spring 2008)

FUNDABLE	SUMMER 2005	FALL 2005	SPRING 2005	TOTAL
Academic Credit Program				
Undergraduate	4813	5409	6380	16602
Graduate	1449	2561	1913	5923
Distance Learning				
Undergraduate	4122	6556	4959	15637
Graduate	359	468	439	1266
TOTAL	10743	14994	13691	39428

Source: FIU Office of Continuing and Professional Studies

e) Headcount Enrollment Of All Other Activities Which Generate Facility Usage, By Campus And By College

This information does not exist at this time. The University is in the process of conducting a study to asses other campus activities that generate facility usage.

f) Inventory Of All Degree Programs By College (Fall 2008)

Within the University structure, there are 202 baccalaureate, master's, and doctoral majors and 190 academic degree programs. Majors are fields of study with areas of concentration, tracks or sequences. Authorized degree programs may have more than one major in a degree program (see Table 2.6). The Honors College is a non-traditional program pursued in conjunction with a major area of study.

Table 2.6 Degree Programs by College (Fall 2008)

College of Arts and Sciences	**BACCALAUREATE**	**MASTERS**	**DOCTORATE**
African- American and New World Studies		MA	
Art	BFA	MFA	
Art History and appreciation	BA		
Asian Studies	BA	MA	
Biology	BS	MS	PhD
Chemistry and Biochemistry	BA/BS	MS	PhD
Computer and Informational Science	BS	MS	PhD
Creative Writing		MFA	
Dance	BA/BFA		
Economics	BA	MA	PhD
English	BA	MA	
Environmental Studies	BA/BS	MS	
Forensic Science		MS	
French	BA		
Geology	BA/BS	MS	PhD
Geography	BA		
German	BA		
History	BA	MA	PhD
Humanities	BA		
Information Technology	BS		
International Relations	BA	MA	PhD
Italian	BA		
Latin American Studies		MA	
Liberal Studies	BA/BS	MA	
Linguistics		MA	
Marine/Aquatic Biology	BS		
Mathematical Sciences	BS	~~MS~~	
Mathematics	BS		
Music	BM	MM	
Music Teacher Education	BS	MS	

College of Arts and Sciences	BACCALAUREATE	MASTERS	DOCTORATE
Philosophy	BA		
Physics	BS	MS	PhD
Political Science and Government	BA/BS	MA	PhD
Portuguese	BA		
Psychology	BA	MS	PhD
Religious Studies	BA	MA	
Russian	BA		
Sociology	BA	MA	PhD
Spanish	BA	MA	PhD
Statistics	BS	MS	
Theater	BFA/ BA		
Visual Arts	BFA/ BA		
Women's Studies	BA		

College of Business	BACCALAUREATE	MASTERS	DOCTORATE
Accounting	BA	MA	
Business Administration and Management	BBA	MBA	PhD
Finance	BBA	MSF	
Insurance Risk Management	BBA		
International Business and Management	BBA	MIB	
Logistics & Materials	BBA		
Management Information Sys.	BBA		PhD
Marketing Management	BBA		
Taxation		MST	
International MBA (Real Estate)		MBA	
Real Estate	BBA	MA	
Travel and Tourism Management	BBA	MA	

College of Education	BACCALAUREATE	MASTERS	DOCTORATE
Adult Education and Continuing Teacher Education		MS	
Art Teacher Education Exceptionalities/ESOL	BS	MS	
Counselor Education		MS	
Curriculum and Instruction			EdD
Early Childhood Education		MS	
Education Admin. ,Supervision, & leadership			EdD
Elementary Teacher Education	BA	MS	
English Teacher Education	BS	MS	
Higher Education Administration			EdD
Home Economics Teacher Education	BS	MS	
International Dev. Education		MS	
Mathematics Teacher Education	BS	MS	
Modern Language Education	BS	MS	
Parks & Recreation Management	BS	MS	

College of Education	BACCALAUREATE	MASTERS	DOCTORATE
Physical Education Teaching and Coaching	BS	MS	
Reading Teacher Education		MS	
School Psychology			EdD
Science Education	BS	MS	
Social Sciences Teacher Education	BS	MS	
Special Education	BS	MS	ED
Technology Education	BS	MS	
Vocational Education	BS	MS	
Urban Education		MS	

College of Engineering and Computer Science	BACCALAUREATE	MASTERS	DOCTORATE
Biomedical Engineering	BS	MS	PhD
Chemical Engineering	BS		
Civil Engineering	BS	MS	PhD
Computer Engineering	BS	MS	PhD
Construction Building Tech	BS	MS	
Electrical Engineering	BS	MS	PhD
Engineering Management		MS	
Engineering, Other	BS		
Environmental & Urban Sys.	BS	MS	
Environmental Health Engineering		MS	
Industrial & Systems Eng.	BS	MS	PhD
Industrial/ Manufacturing Engineering		MS	
Materials Engineering		MS	PhD
Mechanical Engineering	BS	MS	PhD
Nursing Science			PhD
Speech / Pathology & Audio		MS	
Telecomm/Networking		MS	

Coll. of Health & Urban Affairs	BACCALAUREATE	MASTERS	DOCTORATE
Criminal Justice Studies	BS	MS	
Dietetics and Nutritional Services	BS	MS	PhD
Health Information Mgmt.	BS		
Health Services Administration	BS	MS	
Health Sciences	BS/BHSA		
Nursing	BS	MS/MSN	
Occupational Therapy	BS	MS	
Physical Therapy	BS	MS	
Prosthetics and Orthotics	BS		
Public Administration	BPA	MPA	PhD
Public Health		MS/MPH	PhD
Social Welfare			PhD
Social Work	BS	MSW	PhD

College of Law.	BACCALAUREATE	MASTERS	DOCTORATE
Law (Full time)			JD
Law (Part-time)			JD

School of Architecture	BACCALAUREATE	MASTERS	DOCTORATE
Architecture	BS	MS	
Architectural Studies	BS		
Interior Design	BS	MS	
Landscape Architecture	BS	MS	

School of Hospitality Mgmt.	BACCALAUREATE	MASTERS	DOCTORATE
Travel and Tourism	BS	MS	
General Hospitality Administration Mgmt.	BS	MS	

School of Journal.	BACCALAUREATE	MASTERS	DOCTORATE
Communication	BS	MS	
Mass Communication	BA	MS	

Source: State University System of Florida, Degree Programs Inventory as of June 5,2008

g) Distribution Of Faculty And Staff (Fall 2004)

Table 2.7 Distribution of Total Headcount of Faculty and Staff (Fall 2008)

	ADMINISTRATIVE & PROFESSIONAL	FACULTY	USPS	TOTAL
Clerical and Secretarial			491	491
Exec., Admin. & Mgmt.	293	161		454
Instructional Faculty		838		838
Other Professional	539	137	242	918
Service/Maintenance			136	136
Skilled Craft			93	93
Tech. & Paraprofessional			147	147
Total	832	1,136	1,109	3,077

Source: FIU Office of Institutional Research-Fall 2008 IPEDs

(2) ANALYSIS REQUIREMENTS

a) Projections Of Anticipated Academic Degree Programs For Year 2008

Table 2.8 Proposed Academic Programs

PROGRAM	DEGREE
Adult and Continuing teacher Education	Ph.D
Applied Math/ Math Sciences	BA, MA
Asian Studies	BA
Construction Engineering	BS
Criminal Justice/ Law Enforcement Administration	MA
Early Childhood Education	BA
Education of the Emotionally Handicapped	BA
Education of the Mentally Handicapped	BA
Education of the Specific Learning Disabled	BA
Engineering	D.E.
Environmental Engineering	BS
Environmental Studies	PhD
Exercises Science/ Physiology/ Movement Studies	BS, MS
Foreign Languages Teacher Education	BS, MS
Forensic Science	MS
Human Resources Management	BBA
Industrial and Systems Engineering	PhD
Insurance Risk Management	BBA
International and Comparative Education	MS
Logistics and Material Management	B, M, PhD
Materials Engineering	MS
Museum Studies	MA
Meteorology/Atmospheric Sciences	BA
Music	DMA
Performing Arts Production	MA
Physician Assistant	MS
Recreation/ Leisure Service	BS. MS
School Psychology	Certificate
Special Education	PhD
Speech Pathology, Audiology	MS
Software Systems Engineering	MA
Technical Management	MS
Telecommunications/ Networking	MS
Trade and Industrial Education	BS, MS
Urban Education	MS
MIDCOURSE MODIFICATION RECOMMENDATIONS	
Computer Programming Technology	DMA
General Business	
Travel and Tourism Management	BS
Tourism Studies	BBA
Telecommunications	BS
Higher Education Administration	MS

Source: FIU Planning and Institutional Effectiveness, 2008

b) Distribution Of Projected FTE Enrollment By Campus, Undergraduate And Graduate

Table 2.9 Projections for Future Student FTE Enrollment

	2004-05	2006-07	2007-08	2008-09	2009-10	2010-11	2014-15
MODESTO A. MAIDIQUE							
Undergraduate	14,269	15,810	16,759	17,765	18,831	19,960	25,200
Graduate/Law	2,476	2,867	3,039	3,221	3,415	3,619	4,569
BISCAYNE BAY CAMPUS							
Undergraduate	3,022	3,361	3,562	3,776	4,003	4,242	5,356
Graduate	301	347	368	390	414	439	553
BROWARD PINES CAMPUS							
Undergraduate	234	262	278	295	312	331	418
Graduate	195	224	237	252	266	283	357
OTHER (1)							
Undergraduate	1,090	1,213	1,285	1,363	1,444	1,531	1,933
Graduate	210	243	257	272	289	306	387
TOTAL	21,587	24,327	25,785	27,334	28,974	30,711	38,773

Source: Office of Planning and Institutional Research
(1) Off campus and sponsored credit. Includes Online, Off-Campus, Sponsored Credit

CAMPUS	LEVEL	Final Projections for 2008-09	Final Projections for 2009-10	Final Projections for 2010-11	Final Projections for 2011-12	Final Projections for 2012-13	Final Projections for 2013-14
MAMC	Lower	6,445	6,566	6,686	7,154	7,655	8,191
	Upper	8,399	8,399	8,567	8,824	9,177	9,543
	Grad 1	2,840	2,926	3,043	3,195	3,355	3,523
	Grad 2	492	516	547	585	626	670
MAMC TOTAL		18,176	18,407	18,843	19,759	20,812	21,927
BBC	Lower	1,041	1,061	1,080	1,156	1,237	1,324
	Upper	1,810	1,810	1,846	1,901	1,977	2,056
	Grad 1	226	233	242	255	267	281
	Grad 2	7	7	7	8	8	9
BBC TOTAL		3,084	3,111	3,176	3,320	3,490	3,670
PINES	Lower	38	39	40	43	45	49
	Upper	229	229	234	241	251	261
	Grad 1	186	192	199	209	220	231
	Grad 2	23	24	26	27	29	31
PINES TOTAL		477	484	499	520	545	571
OTHER	Lower	794	809	824	881	943	1,009
	Upper	1,423	1,423	1,451	1,495	1,554	1,617
	Grad 1	435	448	466	489	513	539
	Grad 2	20	21	22	24	25	27
OTHER TOTAL		2,671	2,700	2,762	2,888	3,036	3,191
ALL CAMPUS	Lower	8,319	8,475	8,630	9,234	9,880	10,572
	Upper	11,861	11,861	12,098	12,461	12,959	13,477
	Grad 1	3,687	3,798	3,950	4,148	4,355	4,573
	Grad 2	541	568	602	644	689	737
ALL CAMPUS TOTAL		**24,408**	**24,702**	**25,280**	**26,487**	**27,883**	**29,359**

c) Anticipated Student Headcount Distributed By Campus For Year 2008 Of The Planning Time Frame

The information in Table 2.10 is available for FTE enrollment projections for a six-year planning period.

Table 2.10 Anticipated Student Headcount Based on FTE Projections

	2004-05	2006-07	2007-08	2008-09	2009-10	2010-11	2014-15
MODESTO A. MAIDIQUE	26,227	29,255	30,389	31,568	32,792	34,065	42,146
BISCAYNE BAY CAMPUS	5,429	6,058	6,294	6,537	6,790	7,054	8,728
BROWARD CAMPUSES	424	479	498	517	537	558	691
OTHER (1)	2,980	3,338	3467	3,602	3,742	3,887	4,809
TOTAL	35,060	39,130	40,647	42,224	43,862	45,565	56,374

Source: FIU Planning and Institutional Effectiveness

(1) Headcounts are estimated based on the ratio of headcount of FTE student projections. The ratio is decreased over time based on current efforts to increase the number of average credit hours carried by students.
(2) Includes Advising Center, Affiliated, Certified Programs, National Student Exchange and University College.

d) From this projected headcount enrollment in Year 2008, estimate the proportion of enrollment represented by:

On-campus resident students, off-campus students residing within mile of campus and all other off-campus students.

This information does not exist at this time. A special study will be required to obtain this data.

3.0 URBAN DESIGN ELEMENT

PURPOSE

The purpose of this element is to develop an understanding of the overall physical form of the development within the University and its relationship to the surrounding community, and based on this understanding; provide conceptual principles for the organization of future development on the campus.

(1) DATA REQUIREMENTS. This element shall be based, at a minimum, on the following data and/or information:

a) A description of the spatial form of existing development on the campus and in the context area.

1. Campus open spaces character - a qualitative description of the existing spatial organization, enclosure, activity, and symbolic associations.

<u>UNIVERSITY PARK</u>

The campus has a strong framework for spatial organization that evolves from its centrally located **campus core**. The campus core is bounded by a loop road which directs vehicles to perimeter surface and structured parking lots and serves as a connector to the additional university facilities, found along the campus perimeters. Modesto A. Maidique Campus has two main entry points and four secondary entrances that link the University to its surrounding communities. An additional entrance is located along at S.W 117^{th} Avenue but is limited access to Carlos Finlay Elementary School.

The guiding principles for urban design at Modesto A. Maidique Campus are axial planning, the development of open spaces such as quadrangles and courtyards, and continuity of design associations.

Axial planning within the campus setting creates strong vistas and assists in way finding. The campus entryways at:

- **112th Avenue entrance from SW 8th Street:** The campus entrance features a colonnade entry and allee of mature Royal Palms that terminate at the Ryder Business Administration Building forming "The Mall" (see Photograph 3.1).

- **SW 107^{th} Avenue 16^{Th} Street:** A similar geometric framework is associated with the SW 107^{th} Avenue 16^{Th} Street campus entry zone. Once again, colonnades and rhythmic plantings enclose a formal vista, which terminates with a modern piece of sculpture.

- **109th Avenue entrance at SW 8TH Street:** This serves as a secondary entrance on S.W. 8th Street. The Red Parking garage is located on the western section. Future plans call for the construction of a sister building to be constructed on the eastern section—creating an architectural entry into the campus. (Photographs 3.1, 3.2, and 3.3).
- The remaining vehicular entries are minor entry ways to campus that do not form an axial relationship.

In addition, there are three primary pedestrian axes that regulate the central campus core:

- Avenue of the Professions: extends from the western perimeter parking areas to Green Library and continues easterly along the Graham Center to Loop Road
- Avenue of the Arts: Extends from the Performing Arts Center north to the Graham Center
- Avenue of the Sciences: Extends diagonally from the Panther Village Housing district to the northeast to the intersection of SW 8th St and SW 107th Ave.

Quadrangles: Quadrangles are primarily enclosed areas defined by the buildings that surround them. They serve to focus attention on the major facades, direct movement toward entrances and serve as a foreground for buildings. The initial "quad" at Modesto A. Maidique Campus, which is referred to as "The Pit", is located at the center of the campus core, and is surrounded by four buildings. Additional quads have developed overtime and vary in levels of area, scale of buildings and landscape design.

Courtyards: Another prominent design feature that accentuates the importance of outdoor spaces at Modesto A. Maidique Campus is its building courtyards. Building concepts are often organized around courtyards, and the courtyards express the personality of the facilities (Photograph 3.4).

Form, Pattern, Materials, Texture, and Color: The continuity of design associations is an important unifying element for campus development at Modesto A. Maidique Campus. A consistency in form, pattern, materials, texture, and color connects individual architectural and landscape architectural elements to form an overall fabric. Established themes on campus such as arched colonnades, sandstone finishes with tan, cream and pastel coral finishes, architectural accents of keystone coral, consistent site furnishings and lighting, and repetition of landscape patterns all contribute to the overall integrity of the campus.

Photograph 3.1 Modesto A. Maidique entries from SW 8th

Photograph 3.2 Modesto A. Maidique entries from SW 107th Avenue

Photograph 3.3 “The Mall” as entry feature at the SW 8th Street entrance.

Photograph 3.4 Campus Support Complex courtyards

ENGINEERING CENTER
The campus doesn't have a strong framework for spatial organization. A previous office park, the campus is primarily defined by its surface parking lots and remaining open space it is bounded by West Flagler Ave to the south, NW 10th Ave to the west, existing residential to the north and a public park to the east. The campus has two campus entry points

The guiding principles for urban design at Engineering Center is the development of axial planning, the development of open spaces such as quadrangles and courtyards, and continuity of design associations developed at University Park.

Quadrangles & Courtyards: There are no existing quads on campus. The existing internal greenspace is border by parking with no tree cover.

Form, Pattern, Materials, Texture, and Color: The existing form at Engineering Center is that of a traditional office building. Future buildings and the "re-skinning" of the building should be similar in design associations and important unifying elements of the Modesto A. Maidique Campus to conceptually link the campuses.

BISCAYNE BAY CAMPUS
Biscayne Bay Campus is in a unique location, making it an untraditional campus. Located on the shores of Biscayne Bay, the campus has access to the intra-coastal and is surrounded by a State Park and a natural preserve.

The **core of the campus** includes:

- The Library
- Academic One
- Academic Two
- Gregory B. Wolfe University Center
- Hospitality Management.

The area between these buildings is the only defined outdoor space on campus.

Design and Scale
Architecturally, there is a consistency of design and scale on campus. Buildings are typically no higher than three stories and constructed of masonry with tan, gray or cream stucco finishes.

The Kovens Center is the prominent architectural structure on campus. It has different architectural style to that of any existing academic core buildings.

Campus visual structure - a qualitative identification of existing visual landmarks, edge conditions, entrances, building location and orientation, mass and scale, landscape character, ground level functional character, etc.

UNIVERSITY PARK

Visual Edge

The perimeter of the Modesto A. Maidique Campus is characterized by several different conditions that exist outside the campus. On the west and northwest of the campus, the Florida Turnpike and entrance/exist ramps at SW 8th Street creates a definite functional and visual edge to the campus. The campus is bounded on the north by SW 8th Street, an arterial street. Since residential development along this street north of a canal running parallel to the road, this corridor has much more open character than other urban arterial streets in the area. SW 107th Avenue, which is a six-lane divided arterial running along the eastern side of the campus, is lined with traditional strip commercial development creating a more urban character along this side of the campus.

Tamiami Park, a Miami-Dade County property, is situated immediately south of the campus. Although the campus perimeter road near this boundary establishes the current functional edge of the campus, there is not a strong spatial separation between the county land and the campus. The space is predominately occupied by surface parking lots. The University's football stadium and Performing Arts Center are also located along this edge.

Building Location and Orientation

One of the significant features of the Modesto A. Maidique Campus itself is the large land area on the western side and northern perimeter of campus. Although the majority of this land is not utilized for buildings, much of this space is designated for recreational fields and campus parking. In several locations these spaces are interrupted by large structures such as FIU Arena, Campus Support Complex, NOAA National Hurricane Center and Carlos Finlay Elementary School and Parking Garage Three. However, in terms of the overall spatial organization of the campus those buildings or groups of buildings appear as "objects-in-space", separate from the central group of structures and grouping patterns.

The northeastern area of the campus is beginning to develop in accordance with Academic Heath Sciences master plan. The addition of the Nursing & Health Sciences buildings and Parking Garage Four are transforming the existing edge of surface parking lots into an academic and research district.

The eastern perimeter of the campus is becoming denser with the addition of Wertheim Performing Arts Center, Parking Garage One, the expansion of Graham Center, Parking Garage Two, and Phi Gamma Delta Fraternity

House. The University House (President's Residence) maintains a large amount of open space within the district.

Entrances and Landscape Features

The peripheral open spaces around the academic core are also distinguished in several locations by distinctive landscape features. On the northern perimeter of campus the formal colonnaded and enhanced landscape entrance from SW 8th St provides the framework for a dramatic arrival to the Modesto A. Maidique Campus. This dramatic, formal boulevard surrounded by a double row of mature Royal Palms frames a vista that penetrates the heart of the campus. Adjacent to this ceremonial campus entranceway, an informal planting of canopy trees, flowering trees and palms provide a visual buffer from SW 8^{th} Street.

Many of the predominant design elements in the SW 8^{th} Street entry zone are repeated in the other primary campus entrance for the Modesto A. Maidique Campus off of SW 107^{th} Avenue. Two arched entry towers are constructed of stucco and cut coral keystone. Sidewalks leading through the arches at the base of the towers and an allee of Royal Palms create a formal vista into the campus.

Pedestrian Entrances and Walkways

While there are numerous pedestrian "entrances" to the central academic core, two are more clearly defined. The pedestrian plaza located between the Graham Center and Charles Perry Building serves as a pedestrian entrance from Parking Garage One & Two, eastern parking surface areas and will serve as the primary campus access from Greek housing. This exterior plaza is characterized by large paved areas, which direct movement toward the central courtyard between the Perry Building and Green Library. The open space between Parking Garage One and Graham Center is comprised of lawn areas and broad walkways interspersed with planting areas.

On the western edge of the Perry Building, a pedestrian entryway, known as Avenue of the Sciences, provides access to the central academic courtyard from the residential complex of Panther Village and parking areas to the south. The Avenue extends northeasterly to the existing surface parking lots provided direst access to commuters. Pedestrian access to the campus core east of Green Library from the University Apartments is indirect due to the development of the Health and Life sciences buildings. On the western side of Green Library an additional pedestrian entrance connects the campus core to Golden Panther Arena and the western parking areas.

Landscape Character

The campus landscape is a mixture of formally planted trees along roadways and axes and informal plantings of canopy trees, flowering trees and palms at campus perimeters, entry zones and open spaces. Detailed plantings are associated with building courtyards and some quadrangles. Some natural vegetation on campus is located on an eight acre area located immediately east of the Baseball Stadium.

Landscape character in quads consists of canopy tree and palms along walkways with minimal to no under-story plantings near building foundations. Most understory plantings are associated with exterior plazas.

ENGINEERING CENTER

Visual Edge

The perimeter of Engineering Center is characterized by open space along West Flagler Street, a six lane arterial street with some landscaping along SW 107th Ave a six lane arterial street with a median divide. Both streets are traditional commercial corridors with varying forms and ages of retail. The existing multi-family to the north of the campus is apartments of three stories and medium density. To the west is a public park, with some landscaping along its edges.

Building Location and Orientation

The large existing building is located internal to the parcel. It is surrounded by surface parking on two sides. Two support facilities are also located on site but not grouped nor linked to one another.

Entrances and Landscape Features

The existing entry from West Flagler is a divided median entrance with no landscape plantings or features. The existing entry from NW 107th Ave is a two lane condition with minimal landscape features.

Pedestrian Entrances and Walkways

There are few pedestrian connections on-campus . The West Flagler entry provides for a pedestrian connection to the campus from the community.

Landscape Character

There is no existing landscape character on-campus as the site is predominately lawn. The site does contain some good sized hardwood trees along the boundary of West Flagler St and the western surface parking lot. Future development should minimize impact to these trees when possible.

BISCAYNE BAY CAMPUS

Visual Edge

A distinctive feature of Biscayne Bay Campus is that its bounded on three sides by undeveloped land. Biscayne Bay borders the remainder of the campus edge (Photograph 3.6). These campus perimeters provide the campus with a uniquely isolated setting even though it is located in an area that is otherwise fully developed. A second significant feature of the campus is its orientation. Unlike the Modesto A. Maidique Campus, that is bounded on all sides by urban conditions, the Biscayne Bay Campus has a distinct linear orientation that is the result of the Biscayne Bay waterfront on the east, and forested land on the west.

Entrances and Landscape Features

The vehicular entrances to the campus parking areas are located off of Bay Vista Blvd. The interior pedestrian "street" that links the Wolfe University Center, Academic One and Academic Two buildings runs perpendicular to the bay-front. Consequently, one is not fully aware of the extensive shoreline of the campus until having walked through or beyond the academic buildings within the campus core.

Building Location and Orientation

Development on Biscayne Bay Campus is concentrated in a relatively compact area near the northern limits of the property. The Marine Biology building to the south of the Wolfe University Center is also oriented perpendicular to the Bay. Location of the campus core combined with the orientation of the main academic buildings and open spaces to the southeast, all contribute to waterfront views of the southern portion of campus property.

The Kovens Conference Center is located south of the campus and does not have an internal vehicular connection to the academic core. Similar to the other buildings on campus, the building is oriented perpendicular to the Bay (Photograph 3.6).

Visual Landmarks

Biscayne Bay Campus has three lakes that are distinctive visual amenities. The two lakes situated south of the academic buildings is significant since it visually extends the waters' edge from the bay perimeter into the central portion of the site. The lake at the northeastern edge of campus with its fountain and backdrop of Coconut Palms creates a striking entry feature.

The campus quad between the Library and Wolfe University Center are the primary hubs of activity on campus. New building additions and uses to the southern facade of the Wolfe University Center has increased activity along the lake edges (Photographs 3.7 & 3.8).

Photograph 3.5 View of Biscayne Bay

Photograph 3.6 Kovens Center

Photograph 3.7 Plaza adjacent to The Library

Photograph 3.8 Quad adjacent to Wolfe University Center and Hospitality Management

b) An inventory of existing building service areas, service entrances, trash collection points, etc.

MODESTO A. MAIDIQUE CAMPUS

Service areas in the campus core normally have an outward orientation from pedestrian activity zones and towards the existing loop road. The Green Library service court creates a non-desired edge condition to the central quad. The street that provides service to the Charles Perry Building divides the campus core, delineating between the academic core and residential district.

ENGINEERING CENTER

The existing building sits on podium with parking underneath, service can be accessed from any side of the building.

BISCAYNE BAY CAMPUS

The primary service area for the campus core is screened from public view by a sodded berm located near Central Utilities. The location of the Marine Biology Building Hospitality and Tourism Building requires a circuitous route in order not to encroach into the pedestrian quad.

c) An identification of existing high activity buildings and spaces.

MODESTO A. MAIDIQUE CAMPUS

The activity "center" of the Modesto A. Maidique Campus includes a cluster of four buildings initially constructed on the campus core:

- The Charles Perry Building is the focus of administration functions
- Ernest R. Graham Center is the student activity center (Photograph 3.9)
- Green Library is the focus of research
- Deuxieme Maison has a large concentration of faculty offices

The importance of the plaza between these buildings as a pedestrian activity area is reflected in the location of building service areas at the outside edges of structures enclosing space and programmed nature of the hardscape with various pedestrian level features.

A secondary activity node occurs in the buildings located north of the library. The focus in this area is academic activity focused around the following buildings (Photograph 3.10):

- Owa Ehan,
- Engineering and Computer Science
- Viertes Haus,
- School of Architecture
- The Chemistry and Physics Building
  Health and Life Sciences

Molecular Biology

Another activity node occurs at the housing complex south of the campus core. These buildings include:

- Lakeview Residence Hall
- Panther Residence hall
- University Towers
- Everglades Residence Hall

ENGINEERING CENTER

There is no area of activity on-campus.

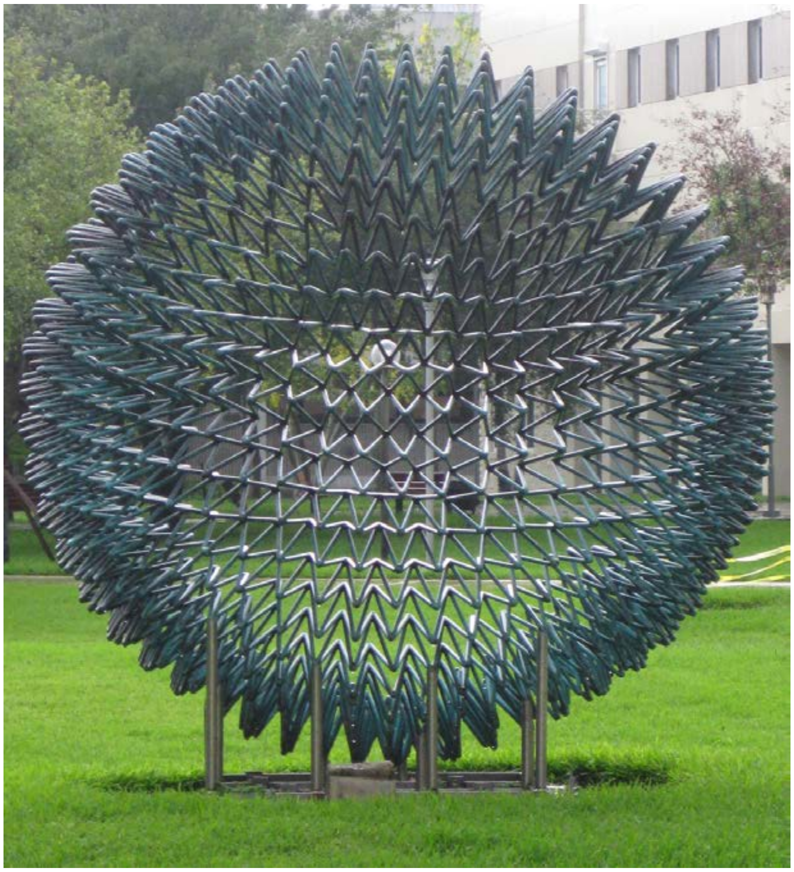
BISCAYNE BAY CAMPUS

The Library, Wolfe University Center and Academic One are the primary focus of activity at this campus, with the majority of students concentrating at the Library.

The Kovens Center attracts ample activity from conferences, trainings and events. The building has a defined architectural style and enhanced finishes. The complex is nestled into its site, positioned closely to the bay. The landscape blends well with a mangrove-lined pond at the building's entry. Building orientation and design accentuates views of Biscayne Bay.

Also of interest at this campus is the location of the Aquatic Center. Placed adjacent to the Wolfe University Center and Hospitality Management, this facility faces the waterfront and provides views out across the bay from the pool deck. The Aquatic Center is separated from the other athletic facilities on campus.

Photograph 3.9 Dining plaza at Graham Center



Photograph 3.10 Art in quad east Owa Ehan

d) An identification of existing functional linkages, i.e., major pedestrian, auto or other linkages.

MODESTO A. MAIDIQUE CAMPUS

The campus core functions are an inwardly oriented complex of free standing buildings linked by a pedestrian circulation system that connects the core activities to the perimeter parking areas. A large concentration of pedestrian activity, walking and gathering, between the Graham Center, Green Library and Perry Building is reflected by the amount of paved pedestrian walkways in the south - central portion of the campus.

Pedestrian movements are organized along three main spines which are continuous across the central campus:

- **Avenue of the Professions:** extends from the western perimeter parking areas to Green Library and continues easterly along the Graham Center to the Loop Road
- **Avenue of the Sciences:** extends in a diagonal direction from the residential housing complex to the central campus core and continues to the Loop Road near University Apartments
- **Avenue of the Arts:** Connects the Performing Arts Center and Parking Garages One and Two to the Graham Center.

Another east – west pedestrian linkage connects Owa Ehan past the Education Building to Parking Garage Three and associated surface parking areas.

Pedestrian Circulation

Within the central campus is the differentiation of the pedestrian circulation pattern between the northern and southern portions of the core. The southern portion of the campus core, situated between Green Library and Perry Building, has pedestrian movement facilities and patterns that extend through the space. The northern portion of the central campus, located between Green Library and Engineering and Computer Science, is characterized by pedestrian movement facilities that are organized around the perimeter of the space. In this part of the campus pedestrian movement is accommodated within the buildings or in covered outdoor walkways such as in Owa Ehan.

Another feature of pedestrian circulation patterns is found in its walkways linking parking to the central academic core and its surroundings. The parking lots and south of the central campus have pedestrian walkways connecting them directly with the main campus activity centers (Green Library, Graham Center and Primera Casa). Parking Garage Four has a colonnaded covered walkway that connects it to the central-campus. The parking lot on the northeast side of campus has a strongly expressed connection to the academic core that is reinforced with an allee of Royal Palms.

The northwest parking lot and the parking lot located in the southwest region of the campus are linked together by a sidewalk that follows the campus loop road. This sidewalk currently extends around the entire western end of the campus, and across the edge of the northeast parking lot.

Vehicular Circulation

The primary vehicular circulation route within the Modesto A. Maidique Campus is the Loop Road. The Loop Road encircles much of the core of the campus, provides access to perimeter parking lots and connects to secondary roads and service drives within the campus. The Loop Road was reconfigured to south of the residential villages with the development of Parking Garage One & Two. This allowed for unimpeded pedestrian circulation from the parking garages and adjacent parking lots the campus core. The connection of the Loop Road to the surrounding community occurs through two main entrances and four secondary entrances.

Primary Entrances:

- 112 Avenue at SW 8th Street
- 109 Avenue at SW 8th Street

Secondary Entrances:

- SW 16th St at SW 107th Ave
- SW 11th St at SW 107th Ave
- SW 109th Ave at SW 8th St
- SW 17th St at SW 117th Ave

ENGINEERING CENTER

Pedestrian Circulation

Pedestrian circulation is limited to movement from the eastern and western parking lots to the main building.

Vehicular Circulation

Vehicular circulation is primarily through the exiting parking lots. Entrances exist off of West Flagler St to the south and NW 107th Ave to the east.

BISCAYNE BAY CAMPUS

Because of the compact form of development at Biscayne Bay Campus, the major pedestrian activity is concentrated in a relatively small area focused between the Library on the northern edge of the quad and the Wolf University Center on the southern edge of the quad. One of the important distinguishing features of this campus is that the Wolfe University Center, Academic One and Academic Two are closely linked by an interior pedestrian "street" which provides a continuous covered connection among these buildings. This interior corridor is reflected on the exterior by a continuous walkway and a portico extending along the south side of the buildings (Photograph 3.11). This exterior walkway, which incorporates generous paved areas, few trees and pedestrian lighting, faces the adjacent lake and Biscayne Bay in the distance. (Photograph 3.12).

Although the Library is located approximately three hundred feet from Wolfe University Center, it is provided with a two level pedestrian walkway offering a covered link between those two buildings. The Library is also linked by a ground-level covered walkway to Hospitality Management. At present, Hospitality Management is not connected by covered walkway with the nearby Wolfe University Center.

Another distinctive feature of Biscayne Bay Campus is the large paved entrance plazas located between the parking lots and Academic One and Academic Two buildings. The large paved areas with modest landscape "islands" give this area a very urban character. The urban character of this space contrasts with the informally laid out pedestrian walkways that extend south from the main academic buildings and along the bay.

Pedestrian linkages between parking and the academic core of the campus exist in varying degrees. The parking lot located just west of Academic Two has pedestrian walks along both sides that provide clear connections to that building. The parking lot west of The Library does not have a separate sidewalk connection to the campus core, resulting in pedestrians walking along the parking lot driveways toward the Library.

Photograph 3.11 Porticos along Wolfe University Center

Photograph 3.12 Interior pedestrian corridor in Wolfe University Center

b) A description of the character of existing buildings and open spaces within the context area.

MODESTO A. MAIDIQUE CAMPUS

The Modesto A. Maidique Campus context area is a completely urbanized, developed area. The campus is landlocked and bordered with SW 8th Street to the north, SW 107th Avenue to the east, SW 117th Avenue to the west and Tamiami Park to the south. Development consists primarily of single and multi-family residential uses along with traditional strip commercial development along major road corridors. All development within the context area is low-rise construction.

Tamiami Park, immediately south of the campus is the largest park/open space in the context area, and is a facility that hosts activities of regional significance. Miami-Dade County Fair and Exposition abuts the southern perimeter of the campus along SW 107th Avenue.

The perception of the area can, to a large extent, be described in terms of the character of development along the major roadways. SW 8th Street, SW 107th Avenue and SW 24th Street are the major through-streets in the context area. North of SW 8th Street in the City of Sweetwater the land use predominantly consists of low to moderate income housing. While SW 8th Street and SW 24th Street are characterized primarily by residential development, SW 107th Avenue is characterized by commercial development along the east side of the campus.

ENGINNERING CENTER

The surrounding buildings to Engineering Center are traditional retail stores to the south and west of the site with surface parking lots between the street and the building entrances. Garden style apartments are located to the north of the campus. The Woman's Park, a passive recreation space, is located along the eastern boundary of the campus.

BISCAYNE BAY CAMPUS

Although Biscayne Bay Campus is in a region of Miami-Dade County that is completely urbanized, the lands immediately adjacent to the campus remain open and undeveloped. This is in part the result of environmental constraints to development and zoning in which portions of these lands are designated for parks and recreation use.

A middle school has been built at the southeast corner of US 1 near the entrance to Biscayne Bay Campus.

Although there are two entrance roads into the campus, only the northern road is operable. As a result, the vehicular entrance to the campus actually exists at US 1 (Biscayne Boulevard) located approximately three-quarters of a mile west of the campus buildings. US 1 in this portion of the county is characterized by nearly continuous commercial development. Other portions of the context area are characterized primarily by single family residential development. Because these areas were originally developed many years ago, the residential areas are organized on the grid street system typical of older areas of the county.

(2) ANALYSIS REQUIREMENTS. This element shall provide, at a minimum, the following analyses:

a) An analysis of the evolution of the development pattern of University buildings and open spaces.

<u>MODESTO A. MAIDIQUE CAMPUS</u>

The first increment of development at the Modesto A. Maidique Campus occurred in the period 1972-75, with the construction of five major buildings: Primera Casa (which has been renamed Charles Perry Building), Deuxieme Maison, Viertes Haus, Green Library and the Graham Center. These structures were grouped in the south-central section of the overall campus property and formed a compact campus core with a central pedestrian courtyard located between Primera Casa and Green Library.

The construction of Viertes Haus to the north of Green Library established a northerly direction for future growth. The construction of Owa Ehan in the period 1976-85, followed by the construction of Chemistry and Physics and Engineering and Computer Science in the period 1986-93, created, and completed a second campus "quadrangle". Also in the period 1976-85 student housing was constructed east of the academic core along the edge of the campus, as was Golden Panther Arena, located in the west central part of the campus, away from the existing academic buildings.

In 1992, the Ryder Business Administration was completed. Located between the previously constructed academic buildings to the east, and Golden Panther Arena to the west, this structure occupies the southern end of the formal vehicular entrance from SW 8th Street. This entrance established a new organizing element for the campus, apart from the "quadrangles" and courtyards established in earlier development.

In recent construction at the Modesto A. Maidique Campus from 1994 to 2000, development has moved toward the southern and western edges of the campus. Three athletic facilities have been constructed, the Baseball Stadium, FIU Community Stadium and the Athletic Academics Fitness Center. Additional construction along the southern edge of the campus includes two residential facilities, Panther Residence Hall and University Towers. Wertheim Performing Arts Center was completed in 1996. This facility is located along the southern perimeter of the FIU campus adjacent to the Miami-Dade County Fair and Exposition. Wertheim Performing Arts Center and the FIU Community Stadium each straddle the Modesto A. Maidique Campus's southern property line and are each joint–use facilities. The FIU Community Stadium is shared with Tamiami Park and Wertheim Performing Arts Center is shared with the Miami-Dade County Fair and Exposition.

The projects constructed from 2005 to 2010 include:

- Rafael Diaz-Balart Hall
- Chemistry & Physics Building
- Health & Life Sciences
- Nursing & Health Sciences

ENGINEERING CENTER

(Need history)

BISCAYNE BAY CAMPUS

Biscayne Bay Campus retains a more compact physical form than the Modesto A. Maidique Campus. Development of the campus began in the late 1970's with construction of the Wolfe University Center, the Academic One and Academic Two buildings. Hospitality Management was an existing building on the property that was taken over by the University along with the campus site.

Unlike the first increment of development at the Modesto A. Maidique Campus, in which buildings were organized around a central circulation courtyard, the first buildings at Biscayne Bay Campus were organized around an internal circulation linkage concept. Consequently the Wolfe University Center, Academic One and Academic Two buildings were built close to one another, and linked by covered walkways and pedestrian bridges, giving the complex the appearance of one large structure.

The Library and student housing built in subsequent years broke the pattern of the closely spaced buildings of earlier phases and extended the campus development toward the north (Photographs 3.13 & 3.14). Although the Library is separated from the other structures it is physically connected to them with a second level pedestrian walkway and a surface pedestrian plaza.

The most recent buildings constructed on campus are Kovens Center, the Student Health and Wellness Center and the Marine Biology Building. Kovens Center is located well to the south of the other existing structures, and was in conformance with previously prepared Master Plans. This remote location allows room for future expansion of academic facilities between the conference center and Academic Two. The Student Health and Wellness Center is located west of The Library. The Marine Biology Building is located south of the Wolfe University Center

Photograph 3.13 Plaza void of plantings and amenities

Photograph 3.14 Neglected landscape at campus housing

b) An identification of and assessment of the advantages and disadvantages of alternative spatial configurations by which future development on the campus may be organized. This analysis shall include consideration of methods to improve energy efficiency and alternatives for coordinating the pattern of buildings and spaces along the University/community boundary.

MODESTO A. MAIDIQUE CAMPUS

This is a critical planning period to review the future programmable needs for new buildings and facilities for the Modesto A. Maidique Campus. Organization of campus growth should respect existing campus land uses, primary axes and vistas and pedestrian and vehicular movements. Presently and in the immediate future at the Modesto A. Maidique Campus, the greatest program demands are for additional recreational and open space facilities, academic classrooms and offices, research facilities and residential housing. The proper ratio of brick and mortar must be balanced with the need for preserving and developing necessary open spaces and structured and unstructured recreational areas. The Master Plan process must take a holistic approach that acts as a addresses projected campus growth while maintaining practical land use constraints.

The siting of new facilities should continue to fulfill the historical FIU traditions of forming campus spaces and providing focal elements at the terminus of grand axes. One alternative concept suggested for future campus growth consist of siting buildings along streets with an outward orientation to the host community. This concept has been investigated and accepted during the development of the Academic Health Sciences planning initiative. When utilizing this planning scheme it will be important to overcome the perception that the building façade that faces the campus core is perceived as the back of the facility. This alternative building pattern is most effective near campus entrances or major intersections that provide an opportunity for redevelopment from the private sector to complement the university's efforts in creating a sense of place.

Another alternative spatial configuration for future growth involves placing buildings on existing surface parking lots. This strategy has begun to be utilized at University Park during previous planning periods. Parking garages though not as economical as surface parking, are necessary on campuses with a scarcity of developable land.

An additional pattern of campus planning at the Modesto A. Maidique Campus consists of orienting structures along interior vehicular roadways. This planning concept was used for the Education Building and the School of Architecture. This strategy of design expands the campus core outward to the Loop Road. An important element in the success of this concept will require that building exposures oriented toward roadways have a consistency of design that addresses the street. The architectural edges of such buildings oriented to the campus core will begin to define new quads that surround open spaces. This planning alternative is quite effective when used in conjunction with the

construction of perimeter parking garages to define the space.
Another creative concept for future campus organization proposes mixed uses for future buildings. This concept has been successfully utilized in Parking Garage One, which has office space on the first floor. Another contemplated mixed-use project for the Modesto A. Maidique Campus includes combining housing with student support functions, such as a satellite dining facility, and combining residential uses with academic uses.

ENGINEERING CENTER

Due to its small site and surrounding urban context, it will be important to develop an academic campus with open spaces and a sense of separation from its surroundings. Separation could be obtained by heavily "buffering" the campus edges from the surrounding context through landscaping and fencing. An alternative would be through the placement of buildings and the preservation of open space. While one concept presents a sense of increased security along its edges the other opens the campus visually and functionally to the community.

BISCAYNE BAY CAMPUS

Present issues and desires that affect the direction of future campus expansion must be addressed in this current planning period. One of the primary issues that should be considered in campus growth is ensuring that orientation of planned facilities maximize views to Biscayne Bay, an unequaled amenity. A significant entrance that directs the visual focal point to the bay rather than away from it should be developed. Additional axes and focal points on campus should direct and preserve view corridors to the bay. Vehicular circulation and parking areas should be reconfigured to furnish distinct connections to the academic, convention and residential districts and ultimately to the bay.

Future facilities should be planned in a manner to maximize the integration of campus activities with Biscayne Bay. The existing campus is detached from its surrounding uses requiring students and faculty to leave the campus for non-academic activities. New student services and residential buildings should be integrated and located within close proximity of the academic core creating a more viable walking district. The services should include more traditional retail and restaurant opportunities to allow students to stay on-campus and create a more truly sustainable campus while developing an activity node.

c) An identification and assessment of alternative future activity location and linkage concepts for the campus and the context area.

MODESTO A. MAIDIQUE CAMPUS

As discussed in this element, a large portion of the 342.2-acre the Modesto A. Maidique Campus property has been developed. Physical expansion will continue outward from the present campus core. The University will need to continue its facility expansion through consolidation and densification to increase efficiency within the developable area. Due to the scarcity of available land for expansion on campus, it will be imperative to wisely use the remaining land. This will require an increase in density and increase in structured parking options.

It is extremely important that the Modesto A. Maidique Campus foster its relationship with its host community. To maximize the remaining resources of the campus it may be necessary to pursue possibly partnering within the context area for certain university functions. Consideration should be given to how the Modesto A. Maidique Campus can influence the planning of physical spaces around the host community and encourage public/private partnerships. The desire by FIU to physically link the Modesto A. Maidique Campus to The Engineering Center will be determined by the ability of the community and FIU to discuss creative design elements conducive to both.

Difficult site conditions such as those that face the Modesto A. Maidique Campus often require creative solutions. Aside from possible future land acquisitions one potential strategy to pursue within the host community includes access to off-campus housing. This might include the possibility of off-campus housing in the City of Sweetwater. However, this and other interaction within the context area requires improved linkage to furnish safe and dependable transportation across the physical vehicular boundaries that surround the campus on three sides. Better transit systems would be beneficial to link the Modesto A. Maidique Campus to its host community.

In addition to the demands typical of college campuses, the University context area presents a challenge: the fast paced urban style of the surrounding community is sometimes in conflict with the functions of the Modesto A. Maidique Campus. While it is not the University's intention to shut out the surrounding community, the traditional routine of learning, studying and research is not always compatible with the noise, rapid vehicular movement and normal distractions of an urban environment. Through extensive landscape plantings during the previous planning period, the Modesto A. Maidique Campus has done an excellent job of defining the campus from its context area and furnishing a sense of campus enclosure and security while providing an aesthetic edge to the campus.

ENGINEERING CENTER

Developing the campus as a part of the community is vital in improving the perception of the campus. The existing configuration and character of the campus isolates it from the surrounding context. Pedestrian linkage to the surrounding commercial corridors is difficult and access to the campus is vehicular oriented. Due to its smaller footprint and to create a viable and attractive campus to future student and faculty, the campus must develop a sense of a traditional campus through enhanced open space and new buildings, but it must also engage the local community. The campus is not large enough to be "self sufficient". Utilizing the surrounding resources, improving the aesthetic edge conditions and providing pedestrian access to the surrounding businesses and public park will help create a sense of place within the community.

BISCAYNE BAY CAMPUS

Due to the location of Biscayne Bay Campus, continuing to improve the perception of the University within the host community is a necessity. The development of the campus as a sustainable campus, with lower impact minimized building footprints, restored Mangrove vegetation stands and preserved open space should be highlighted.

The immediate campus context area includes a new elementary school at the southeast corner of US-1 and the Biscayne Bay Campus entrance. It will be very important for the University to coordinate planned expansion with future growth in the context area. Planners should endeavor to influence planned activity in the surrounding community and seek possible community joint use projects.

4.0 FUTURE LAND USE ELEMENT

(1) DATA REQUIREMENTS

a) University Facilities within the State

Florida International University consists of two main campuses; Modesto A. Maidique and Biscayne Bay Campus. Both are located in southeast Florida, in the central and northeastern parts of Miami-Dade County, respectively and are part of the greater Miami metropolitan area. Modesto A. Maidique includes the Engineering Center (EC). The University also has a museum facility in Miami Beach, known as The Wolfsonian. It consists of two buildings; the Museum Headquarters, and The Annex Storage facility (See Figure 4.1: Campus Locations Map).

b) University Facilities within the Host Community

<u>MODESTO A. MAIDIQUE</u>

The principle and largest campus, Modesto A. Maidique, lies in the east-central section of Miami-Dade County at the southeast quadrant of the intersection of the Homestead Extension of Florida's Turnpike (S.R. 821) and Tamiami Trail (SW 8th Street/U.S. 41). This campus, comprised of approximately 342.2 acres, is surrounded by the sprawling suburban development pattern of west Miami. Surrounding land uses are characterized by low-density single family residential development in a rectilinear grid, with strip commercial, multifamily homes and apartments lining major arterial roads and creating ”hard” edges to the campus. Similarly, the Florida Turnpike to the west and the Tamiami Trail/Tamiami canal corridor to the north act as major barriers, restricting direct vehicular access and minimizing visual or other land use conflicts along these edges. Modesto A. Maidique shares the land of the former Tamiami Airport site with Tamiami Park and the Miami-Dade County Fair and Exposition, the southern boundary of the campus is considered a "soft" edge. FIU shares the uses of FIU Community Stadium, Wertheim Performing Arts Center sand surface parking lots along the southern perimeter of Modesto A. Maidique with other entities.

The Carlos Finlay Elementary School and the NOAA National Hurricane Center located within the University campus are not under the jurisdiction or operation of the Florida Board of Education, Division of Colleges and Universities. The FIU Community Stadium and Wertheim Performing Arts Center are joint use facilities. FIU owns the facilities and shares the respective land with Tamiami Park. FIU currently uses Tamiami Park during many of its sports tournaments and swimming competitions.

<u>BISCAYNE BAY CAMPUS</u>

The Biscayne Bay Campus is located within the City of North Miami in northeast Miami-Dade County. The site is strategically located on a 195 acre parcel on

Biscayne Bay formerly designated as an international trade and exposition center in the 1950's and 1960's. Located to the southeast of the intersection of U.S. 1 (Dixie Highway) and State Road 826 (Sunny Isles Boulevard) the campus is surrounded by open space and public facilities, namely Oleta River State Recreation Area and the "Munisport" site owned by the City of North Miami.

ENGINEERING CENTER (EC)
The Engineering Center (EC) provides academic and administrative space for FIU. Located approximately one mile north of Modesto A. Maidique, at the northeast intersection of SW 107th Avenue and West Flagler Street, this 36 acre site is considered part of Modesto A. Maidique.

THE WOLFSONIAN
The Wolfsonian is a museum that provides education and research opportunities to the community. It is located in Miami Beach and consists of two buildings located on different sites the Museum Headquarters and the Annex Storage facility. The two sites comprise approximately 0.2 acres.

c) Student Enrollment Projections

Table 4.1 Projected Future FTE Student Enrollment by Campus

	2004-05	2006-07	2007-08	2008-09	2009-10	2010-11	2014-15
MODESTO A. MAIDIQUE							
Undergraduate	14,269	15,810	16,759	17,765	18,831	19,960	25,200
	2,476	2,867	3,039	3,221	3,415	3,619	4,569
BISCAYNE BAY CAMPUS							
Undergraduate	3,022	3,361	3,562	3,776	4,003	4,242	5,356
Graduate	301	347	368	390	414	439	553
BROWARD/PINES							
Undergraduate	234	262	278	295	312	331	418
Graduate	195	224	237	252	266	283	357
OTHER (1)							
Undergraduate	1,090	1,213	1,285	1,363	1,444	1,531	1,933
Graduate	210	243	257	272	289	306	387
TOTAL	21,587	24,327	25,785	27,334	28,974	30,711	38,773

Source: Office of Planning and Institutional Research
(1) Off campus and sponsored credit. Includes Online, Off-Campus, Sponsored Credit

With a total population of approximately 2,379,818[1] persons in-2005, Miami-Dade County remains Florida's most populous county with 14% of the total state population. Over the past decade population growth has remained high in part due to the continued, but unpredictable, influx of immigrants from Cuba, Nicaragua, Colombia, Haiti and Dominican Republic. However, it is important to recognize that the rate of growth for Miami Dade County is slower than the counties to the north. This factor may affect the University's recruitment and

[1] "Miami-Dade County Facts 2005

service strategies in the near future.

According to the FIU Strategic Plan, future enrollment will be impacted by some of the following conditions and trends:

Demographic:
- *Population Growth:* Miami Dade County is still growing, although at a slower rate. The projected population for 2010 is 2,517,154
- *Change in Population Characteristic*: During the next two decades there will be a shift in the population characteristics associated with the aging of the baby boomer generation, continued international immigration in the U.S and increasing diversity of the U.S population.

Economic:
- *The Economy*: Economic growth will be slower in Miami-Dade County. The forecasts for Miami Dade County's economy also suggested a continued decline in the role of tourism and a continued increase in the service sector.

Social:
- *Mega Driving Forces*: Information/communication technology, information/knowledge society and economy, globalization, economic development expectations for higher education, increased competition in higher education and increased consumerism and accountability.
- *Student Recruiting Base*: The Miami-Dade Public School System is and will continue to be a major source of students for FIU and the characteristics of MDPS graduates and their selection of institutions of higher education they attend will impact the future of FIU.

Political/legal:
- Changes in the governance system for higher education in Florida
- Competition for undergraduate students will increase within Florida's higher education system.

Physical environment:
- *Affordable Housing:* Affordable housing will continue limiting the University's ability to rely on external markets to supply housing for potential students
- *Transportation System*: The limited public transportation system and the increase in traffic congestion will continue to present access problems for students traveling to the FIU sites.

d) Property and Land Acquisition Program

(A legal description of FIU properties can be found on file at the Facilities Management office.)

MODESTO A. MAIDIQUE CAMPUS

During World War II, Miami-Dade County purchased a 640-acre parcel located some 11 miles west of the City of Miami limits for the development of an airport intended for student instruction and general (non-commercial carrier) aviation. The airport was built with three runways in 1947 and by 1958 there were 1,100 to 1,300 flight operations per day requiring the placement of a control tower, which was relocated from Miami International Airport and placed in service in 1959. By 1960, Tamiami Airport ranked as the third busiest in the nation, behind O'Hare and Miami International. This very high level of, mostly student pilot, flight activity coupled with conflicts with Miami International air traffic led to the closure of the airport and the construction of the New Tamiami Airport in Southwest Miami-Dade County. After its closure, 342.2 acres of the site were donated to the State of Florida for the construction of FIU. The remaining 300 acres were retained for development of Tamiami Park and the Miami-Dade County Fair and Exposition.

Since it opened its doors to the public, the name of the campus has changed several times. Below is a list of the various names:

- Tamiami Park
- South Campus
- University Park
- Modesto A. Maidique

BISCAYNE BAY CAMPUS

Biscayne Bay Campus was also part of a scheme to build an airport during World War II. In 1945, the 1,707-acre Graves Tract was purchased for the construction of a major metropolitan airport. The airport plans subsequently shifted to the Pan American Airways field for development of what is now Miami International Airport. A large portion of the Graves tract was sold in 1951 to the Interama Authority for the creation of the world's first permanent international trade and cultural exposition center. Clearing, dredging and filling of this environmentally sensitive site continued into the 1960's, but by the end of the decade the project was abandoned. The only remnant of the project, other than hundreds of acres of filled bayfront wetlands, is the original Trade Center facility that is now Hospitality Management at Biscayne Bay campus. The property was divided between the City of North Miami, Miami-Dade County for a regional park and the State of Florida for the creation of Oleta River State Recreation Area and for a north (Bay Vista) campus of FIU. In 1975, FIU opened the Biscayne Bay Campus, then named the “Bay Vista” Campus, and development proceeded rapidly over the next 18 years.

Since 1975, the name of the campus has changed several times. Below is the list with the various names:

- Bay Vista Campus
- North Miami Campus
- North Campus
- Biscayne Bay Campus

ENGINEERING CENTER (EC)

The Engineering Center (EC) is located on 36 acres approximately one mile from Modesto A. Maidique Campus. The site is located at the northeast intersection of West Flagler Street and SW 107th Avenue, accommodating engineering students and faculty. The campus facility resides in a 245,000 square foot building that includes research centers, teaching laboratories, faculty offices, study areas, computing facilities and research laboratories.

This facility has had several names over the years. Below is the list of the various names:

- Engineer and Applied Science
- The Engineer Center
- Engineer Center
- Engineering Center

THE WOLFSONIAN

The Wolfsonian was founded in 1986 to exhibit, document, and preserve the Mitchell Wolfson Jr. Collection. In 1997, The Wolfsonian became a division of Florida International University, following Mitchell Wolfson Jr.'s landmark donation of his collection to the State. This site consists of two buildings:

- The Museum Headquarters: Located at 1001 Washington Avenue, this facility houses the Wolfonian's auditorium and shop (1St floor), administrative offices (2nd and 4th floors), a library (3rd floor), small objects and paintings (4th floor), and exhibition galleries (5th-7th floors).

- The Wolfsonian Annex Storage Facility: This 28,000 square foot historic warehouse on Lenox Avenue contains a conservation lab and the remaining objects of the Wolfsonian collection.

e) Title Interests

The University is in the process of completing an inventory of title interests, including leases.

Note: Chapter 18 4.003 of the Florida Administrative Code was repealed.

f) Alternative (non-educational) Uses of the Leased Premises

The University has not considered any plans for alternative uses of leased premises.

g) Proximity of University Property to Other Significant Local, State or Federal Land or Water Resources

MODESTO A. MAIDIQUE
Modesto A. Maidique Campus is in close proximity to:

- Tamiami Park and Miami-Dade County Fair and Exposition (located immediately south of Modesto A. Maidique)
- Three canals (bordering Modesto A. Maidique, Tamiami Park and Miami-Dade County Fair and Exposition to the north, west and south)

BISCAYNE BAY CAMPUS
Biscayne Bay Campus is in close proximity to:

- Oleta River State Recreation Area (Borders the campus to the east and north. (This 1,048-acre park is one of Florida's significant urban water front parks. The campus shoreline has an unobstructed view to the state recreational area.)
- Oleta River Harbor (The shoreline makes up the southern boundary of the campus)
- Biscayne Bay Estuary and the Florida Intercoastal Waterway

ENGINEERING CENTER (EC)
The Engineering Center (EC) is located near:

- Womens Park (bordering the site to the east)
- Sweetwater Elementary School (located approximately two blocks south of the site)
- The City of Sweetwater City Hall Complex (within a mile south of the site)
- S.R. 836 Expressway (within a mile of the site to the north)

THE WOLFSONIAN
The Wolfsonian is located within a mile of:

- The Miami Beach City Hall Complex
- The Miami Beach Convention Center
- The Atlantic Ocean beaches and the Florida Intercoastal Waterway

h) University Property in Relation to an Aquatic Preserve or a Designated Area of Critical State Concern

MODESTO A. MAIDIQUE, ENGINEERING CENTER, AND THE WOLFSONIAN

According to FIU and other applicable agencies, Modesto A. Maidique, the Engineering Center (EC) and The Wolfsonian are not within an aquatic preserve nor are they designated or under consideration for designation as areas under critical state concern.

BISCAYNE BAY CAMPUS

Biscayne Bay Campus is located in an aquatic preserve and has a designated area of state concern. The following provides a description:

BISCAYNE BAY AQUATIC PRESERVE

Biscayne Bay and all natural waterways (including the Oleta River and the estuary at the north end of the Biscayne Bay Campus) tidally connect to Biscayne Bay and are designated as the Biscayne Bay Aquatic Preserve, a Miami-Dade County preserve. Biscayne Bay Campus is bordered to the north and east by Oleta River State Recreation Area and adjacent to Biscayne Bay along the southern edge of the campus. The most environmentally sensitive site on Biscayne Bay Campus consists of mangrove lined shores along Oleta River and Biscayne Bay. The mangrove management plan is a high priority and the Department of Environmental Resources Management prescribes maintenance standards. To compensate for the construction of an access road in a mangrove-dominated canal and mangrove trimming in front of Kovens Center, mangrove mitigation projects have been constructed near the impacted area and at the southwestern end of campus.

AREA OF STATE CONCERN: THE MUNISPORT LANDFILL

The Munisport Landfill is an inactive landfill site located in the City of North Miami, adjacent to Biscayne Bay Campus, the Oleta River Recreational Area and Biscayne Bay. Operations were halted in 1981 after evidence of leachates and contamination was discovered in the soil, sediments, ground water, and Biscayne Bay. The Munisport Landfill site was categorized as an indeterminate public health hazard. Though it posed no threat to human health, it did pose a significant threat to aquatic organisms in the adjacent wetlands. Based on these findings, EPA and the City of North Miami entered into a Consent Decree for the cleanup in 1992. Mitigation included groundwater remediation, wetland restoration, and landfill closure and capping. As a result of these actions, the site was removed from EPA's National Priorities List in September 1999 and regulatory authority for the landfill closure was transferred to the state and county.

Under the approval of EPA and Miami-Dade County, the City of North Miami is currently in the process of transforming 193 acres of the former landfill into a mixed-use development project, known as Biscayne Landing. The proposed reuse project will include a mix of residential, commercial, retail and recreation facilities, as well as a charter school—with full build-out projected by 2021. The developer of the project, Swerdlow Boca Development, will be responsible for the site's remediation as part of an agreement with the City of North Miami.

i) Existing Land Uses and Zoning for the Context Area

MODESTO A. MAIDIQUE

As depicted on Figure 4.1a: Context Area Map the principal land uses adjacent to the campus and extending out a mile radius is primarily low density, single family residential development, much of which occurred in the 1960's and 1970's. Suburban character strip commercial development as well as higher density multifamily residential is clustered along portions of the main roadway arterials in the vicinity of the campus. Arterial streets adjacent to Modesto A. Maidique Campus include Tamiami Trail (SW 8th Street) to the north, SW 107th Avenue to the east and Coral Way (SW 24th Street) and Bird Road (SW 40th Street) to the south.

BISCAYNE BAY CAMPUS

As depicted in Figure 4.3a: Context Area Map, located behind this element write-up, the principal land use type in the context area immediately surrounding Biscayne Bay is open space categorized as Parks and Recreation (Oleta River State Recreation Area) and environmentally protected parks. The latter category includes the extensive wetland area of Oleta River and Biscayne Bay shoreline. In addition, substantial public facilities exist nearby including a City of North Miami sewage treatment plant and portions of the Munisport landfill area that are currently closed. Approximately 193 acres of the former landfill site has been designated for mixed-use development by the City of North Miami. The proposed reuse project, known as Biscayne Landing, will include a mix of residential, commercial, retail and recreation facilities.

Beyond the zone of public open space, extensive single family residential development extends to the south and west. Strip commercial development and multifamily development occurs along the two principal arterials in the context area, Federal Highway and Sunny Isles Boulevard. To the east, across Biscayne Bay, a major regional activity generator, Haulover Park and Marina; as well as the Sunny Isles hotel/motel corridor lines the beachfront.

ENGINEERING CENTER (EC)

The principal land uses adjacent to the site and extending out a mile radius is primarily low density, single family residential development to the south and commercial and industrial use to the north. Strip commercial development and higher density multifamily residential is clustered along SW 107th Avenue and West Flagler Street.

THE WOLFSONIAN

Extensive multi-family residential use surrounds the Wolfsonian buildings. This is a high density urban environment with commercial and retail use along principal arterials, including Washington Avenue and Collins Avenue.

j) Generalized Land Use Categories

The following land use categories will apply to all FIU campuses. The designations are based on topography, soil conditions, adjacent land uses, existing space utilization and utility locations, proximity to existing and planned multimodal transportation systems, and existing development patterns:

<u>ACADEMIC and RESEARCH USE</u>
This land use designation identifies existing areas on the campus that include buildings with classrooms, faculty and departmental offices, assembly space, exhibit spaces, and library spaces, where academic activities take place.

Indoor Research: This refers to existing areas on the campus designated for research, including laboratories, offices, assembly spaces, exhibit spaces, and library spaces.

Outdoor Research: This land use designation identifies existing outdoor areas on the campus that are used for environmental studies and any research related to outdoor plant and wild life.

<u>MODESTO A. MAIDIQUE</u>
There are eighteen facilities that serve academic functions (see Figure 4.4: Campus Land Use Map):

- Deuxieme Maison
- Viertes Haus
- Green Library
- Owa Ehan
- Chemistry & Physics
- Chemistry & Physics addition
- Engineering and Computer Science
- Ryder Business Building
- Sanford and Dolores Ziff Education Building
- Health And Life Science
- Health And Life Science Phase Two
- School Of Architecture
- Sculpture Building
- Ceramics Building
- Athletics Academic Fitness Center (Dedicated to provide classrooms, tutoring space, and academic support for student-athletes)
- College of Law
- Graduate School of Business (Phase One)
- Social Science Building

In-door Research Facilities:

- Management and Advanced Research Center
- Biology Greenhouse
- Molecular Biology Building (currently under construction)

Out-door Research Use

- Natural Preserve: Environmental Studies has a continuing conservation project at the preserve.
- Heddington Island: Lake on the northwester quadrant of the campus has a small island used for environmental studies

BISCAYNE BAY CAMPUS

There are four major academic facilities and four trailers that serve academic functions (See Figure 4.6: Campus Land Use Map):

- The Library
- Academic One
- Academic Two
- Hospitality Management.
- NM Trailer 1
- NM Trailer 2
- NM Trailer 5
- NM Trailer 7

In-door Research Facilities:

- Ecology Lab
- NM Trailer 21
- Marine Biology Fish Tanks
- Marine Biology Research Center (in final construction phase)

Out-door Research Use

- There are no areas designated for outdoor research on campus.

ENGINEERING CENTER (EC)

This is a mixed-use facility with some academic use. (See mixed-use category under Section 4(1)(l)).

In-door Research: This mixed-use facility includes research use.

Out-door Research: There is no outdoor research on this site.

THE WOLFSONIAN

Museum Headquarters: This is a mixed-use facility with some academic use ((See mixed-use category under Section 4(1)(l)).

Annex Storage Facility: No academic activities take place in this facility

In-door Research: Museum Headquarters and the Annex Storage Facility are mixed-use buildings that are sometimes used for research.

Out-door Research: There is no outdoor research at the Wolfsonian.

SUPPORT USE

This land use designation identifies existing areas on the campus where non-academic administrative offices, student services, and physical plant spaces are concentrated.

MODESTO A. MAIDIQUE

Support facilities include:

- Labor Center,
- Duplicating Center
- Tower (original Tamiami Airport Control Tower)
- The University Health Service Complex
- Campus Support Complex-Shops
- Campus Support Complex-Administration
- UP Information Center
- Exit. Support
- Children's Creative Learning Center

BISCAYNE BAY CAMPUS

Support facilities include:

- Student Health Clinic
- Wellness Center
- Biscayne Bay Campus Information Booth
- Public Safety
- Grounds
- Central Receiving
- PDC Administration

ENGINEERING CENTER (EC)

There is one single story building at the site serving as a support function. (See mixed-use category under Section 4(1)(l)).

THE WOLFSONIAN

Museum Headquarters: This is a mixed-use facility with some support use consisting of administrative offices on the 2nd and 4th floors. (See mixed-use category under Section 4(1)(l)).

Annex Storage Facility: This is a mixed-use facility that is primarily utilized for storage of museum artifacts. (See mixed-use category under Section 4(1)(l)).

RESIDENTIAL USE

This land use designation identifies existing areas on the campus that include student housing and other housing facilities.

MODESTO A. MAIDIQUE

Facilities designated for housing include:

- University Park Apartments/Student Housing: an apartment complex of ten buildings located along the eastern perimeter of Modesto A. Maidique Campus
- Panther Residence Hall: a four-story state of the art building.
- University Towers: This facility is comprised of three sections, North Tower, South Tower, and the West Wing; clustered along the southern edge of campus.
- Everglades Residence Hall: This facility is comprised of three wings.
- Lakeview Residence Hall: Completed in 2006, this two-building facility provides housing and residential life functions.
- Phi gamma Delta Fraternity/Fiji: Fraternity housing
- Pi Kappa Alpha Fraternity: Fraternity housing

Proposed housing facilities include three additional Greek fraternity houses (Sigma Phi Epsilon, Sigma Alpha Mu, and Tau Kappa Epsilon). These projects have been approved and funded.

BISCAYNE BAY CAMPUS

The only housing facility at Biscayne Bay Campus is Bay Vista Housing. This is a four-story apartment style building with five wings. It is located on the northeastern corner of the campus.

ENGINEERING CENTER (EC)

There is no residential housing provided at this site.

THE WOLFSONIAN

There is no residential housing provided at The Wolfsonian.

RECREATION AND OPEN SPACE USES

This land use designation identifies existing areas on the campus that are adequate for active and passive recreation. Active recreation includes sports, athletics, organized sporting events, gymnasiums, and workout facilities. Passive recreation refers to plazas, courtyards, pedestrian malls and other open areas for the passive enjoyment of nature.

MODESTO A. MAIDIQUE

Recreational and open space is primarily found in buffer areas along the northern and western edges of Modesto A. Maidique Campus. Major recreational facilities include:

- Pharmed Arena
- Baseball Stadium.
- FIU Community Stadium
- Recreation Complex
- Recreation Fields
- Women's Softball/Tennis Center

BISCAYNE BAY CAMPUS

Recreational and open space is primarily found along the perimeters of developed areas for Biscayne Bay Campus. They are located north and south of the campus academic core along the Oleta River and Biscayne Bay shoreline and include:

- The Aquatic Center
- Outdoor Recreation Facilities: Tennis courts, basketball court and one multipurpose field.
- Fitness Center: Located inside the Wolfe University Center

A new Fitness Center Building is currently under construction. The project broke ground on April 2005.

ENGINEERING CENTER (EC)

The site offers no organized recreational facilities. The site consists approximately 10 acres of open space for potential use as recreation.

THE WOLFSONIAN

Museum Headquarters: The site does not have any recreation or open spaces.

Annex Storage Facility: The site does not have any recreation or open spaces.

UTILITIES USE

This land use designation refers to areas on campus that provide all the infrastructure necessary to support the University's electrical, storm water, sanitary sewer, potable water, chilled water, steam, natural gas, telecommunication and solid waste systems.

Utility provisions at Modesto A. Maidique Campus, Biscayne Bay Campus, the Engineering Center, and The Wolfsonian are accounted for under the Support Facilities land use designations. Refer to 9.0 General Infrastructure Element and 10.0 Utilities Element for further discussion of campus utilities.

MODESTO A. MAIDIQUE

Utilities Facilities within the campus include:

- Physical Plant
- Plant Support
- Central Utilities

PARKING USE

This land use designation identifies those areas on campus that are appropriate for general parking in surface lots or garage structures.

Existing parking structures at Modesto A. Maidique Campus are accounted for within the Mixed Use category. Surface parking at all three campuses is accounted for amongst other land use categories.

MODESTO A. MAIDIQUE

Existing parking facilities include surface parking areas and four parking garages:

- Gold Parking Garage
- Blue Parking Garage
- Panther Parking Garage
- Red Parking Garage

Surface parking is primarily located along the northern and western edges of the campus core and along the southern perimeter adjacent to Tamiami Park and Miami-Dade Youth Fair and Exposition. Two parking garages (Gold and Blue) and two additional surface parking lots are in the southeastern quadrant of the campus.

BISCAYNE BAY CAMPUS

Parking facilities are comprised of existing surface parking areas west of the academic zone of the campus. Additional surface parking is associated with Kovens Center located south of the campus core.

ENGINEERING CENTER (EC)

Surface parking is provided at the western and eastern portions of the site.

THE WOLFSONIAN

None of the Wolfsonian buildings offer parking facilities. Off-street and municipal parking facilities are available nearby.

CONSERVATION AREAS

This land use designation identifies existing areas on the campus that shall be preserved and managed to protect natural features including topography, soil conditions, archaeological sites, plant and animal species, wildlife habitats, heritage trees and wetlands.

MODESTO A. MAIDIQUE

Modesto A. Maidique Campus is designated as a Wildlife Sanctuary by an agreement between FIU and the Audubon Society and, therefore, vegetative communities that serve as wildlife habitat are protected. However, no areas have been officially designated by the State for conservation. The area known as the "Natural Preserve" has been set aside by the University for environmental studies and natural open space. An environmental inspection conducted in 2001 revealed that most of the land does not contain threatened or endangered fauna or protected wild life.

BISCAYNE BAY CAMPUS

There are a number of habitat enhancement/mitigation projects that have been or will be completed along the shoreline of the Oleta River. Additional mitigation work is in progress on Sandspur Island, an island immediately south of Biscayne Bay Campus.

The estuary at the north end of Biscayne Bay Campus has been designated as the Biscayne Bay Aquatic Preserve. The planting of mangroves at the southwestern end of campus was required as compensatory mitigation for the trimming of mangroves adjacent to Kovens Center. This mitigation site at the southwestern end of campus should be designated as a potential mitigation bank to prevent conflicts with future developments in this area.

ENGINEERING CENTER (EC)

No lands are designated for conservation.

THE WOLFSONIAN

No lands are designated for conservation

COMMUNITY INTERFACE USE

This land use designation identifies those areas within the campus that are operated by non-FIU organizations,

MODESTO A. MAIDIQUE

Existing land use areas designated as Other Public Facilities for Modesto A. Maidique Campus include:

- The Hurricane Center (NOAA)
- Carlos Findlay Elementary School

BISCAYNE BAY CAMPUS

No land use areas have been designated as Other Public facilities for Biscayne Bay Campus.

ENGINEERING CENTER (EC)

No land use areas have been designated as Other Public facilities at this site.

k) Additional Land Use Categories

MIXED-USE FACILITIES

Mixed-Use has been added as an existing land use designation. This category identifies buildings within the campus that comprise more than one use.

l) Acreage and General Range of Density or Intensity of Use

The approximate acreage for each existing designated land use for University-owned property for Modesto A. Maidique and Biscayne Bay Campus is shown in Table 4.2.

Table 4.2 Associated Land Use Acreage by Campus

MODESTO A. MAIDIQUE (Combined with EC)

NAME	Acre	% of Total Acres
Academic	48.07	13%
Community Interface	6.76	2%
Conservation	13.25	4%
Mixed Use	22.31	6%
Other Public	12.23	3%
Parking	62.8	18%
Recreation and Open Space	112.55	31%
Research	2.77	1%
Residential	41.27	12%
Support	19.95	6%
Undeveloped	13.67	4%
Utilities	2.06	1%

MODESTO A. MAIDIQUE (Excluding EC)

NAME	Acre	% of Total Acres
Academic	48.07	14%
Community Interface	6.76	2%
Conservation	13.25	4%
Mixed Use	19.61	5%
Other Public Facilities	12.23	4%
Parking	54.6	16%
Recreation and Open Space	97.12	28%
Research	2.41	1%
Residential	41.27	13%
Support	18.87	6%
Undeveloped	7.87	2%
Utilities	2.06	1%

ENGINEERING CENTER

NAME	Acre	% of Total Acres
Academic	0	14%
Community Interface	0	2%
Conservation	0	4%
Mixed Use	2.7	5%
Other Public	0	4%
Parking	8.2	16%
Recreation and Open Space	15.43	28%
Research	0.36	1%
Residential	0	13%
Support	1.08	6%
Undeveloped	5.8	2%
Utilities	0	1%

BISCAYNE BAY CAMPUS

NAME	ACRE	% OF TOTAL ACRES
Academic	8.52	5%
Community Interface	2.86	2%
Conservation	19.54	11%
Mixed Use	2.8	3%
Other Public	0	0%
Parking	23.99	13%
Recreation and Open Space	64.56	36%
Research	1.09	1%
Residential	5.25	3%
Support	10.27	6%
Undeveloped	40.50	22%
Utilities	0.00	0%

Source: FIU, 2004 (Headcount for Fall of 2004: 35,002).

(2) ANALYSIS REQUIREMENTS

a) Land Required to Accommodate the Planned Future Enrollment

MODESTO A. MAIDIQUE

The categories of land use and the estimated gross acreage for each category are shown in Table 4.3.

Table 4.3 Projected Land Requirements 2015– MODESTO A. MAIDIQUE

MODESTO A. MAIDIQUE (Combined with EC)

NAME	Acre	% of Total Acres
Academic & Research	70.28	22%
Community Interface	8.48	3%
Conservation	0	0
Mixed Use	118.89	38%
Parking	7.78	3%
Recreation and Open Space	72.98	23%
Residential	24.63	8%
Support	10.33	3%

MODESTO A. MAIDIQUE (Excluding EC)

NAME	Acre	% of Total Acres
Academic & Research	50.29	18%
Community Interface	8.48	3%
Conservation	0	0
Mixed Use	114.85	41%
Parking	7.78	3%
Recreation and Open Space	69.43	24%
Residential	24.62	9%
Support	6.88	2%

ENGINEERING CENTER

NAME	Acre	% of Total Acres
Academic & Research	19.99	65%
Community Interface	0	0
Conservation	0	0
Mixed Use	4.04	13%
Parking	0	0
Recreation and Open Space	3.54	11%
Residential	0	0
Support	3.45	11%

BISCAYNE BAY CAMPUS

The categories of land use and the estimated gross acreage for each category are shown in Table 4.4.

Table 4.4 Projected Land Requirements 2015– BISCAYNE BAY CAMPUS

NAME	ACRE	% OF TOTAL ACRES
Academic & Research	39.52	24%
Community Interface	0	0
Conservation	28.69	18%
Mixed Use	8.02	5%
Parking	0	0
Recreation and Open Space	56.90	35%
Residential	23.57	15%
Support	5.66	3%

Academic and Support facility space deficits, are documented in 5.0 Academic Facilities Element and 6.0 Support Facilities Element. Calculated deficiencies use standard ratios developed by THE FLORIDA BOARD OF EDUCATION, DIVISION OF COLLEGES AND UNIVERSITIES in the most current FIU Educational Plant Survey and the enrollment projections. Calculations for Academic gross building square footage needs include a 1.6 multiplier. The projected growth at FIU and the academic building deficiencies that currently exist, require that space needs be addressed with new facilities rather that the renovation of existing facilities.

b) Projected Future Space and Building Needs for Academic/Research and Support Facilities

MODESTO A. MAIDIQUE & ENGINEERING CENTER

Projections for future net academic/research space, support space and building area needs for Modesto A. Maidique and the Engineering Center are depicted in Table 4.5. Projections represent university wide calculated deficiencies of the 5.0 Academic Facilities Element and the 6.0 Support Facilities element, factored, the proportion of total FTE students.

BISCAYNE BAY CAMPUS

Projections for future net academic/research space, support space and building area needs for Biscayne Bay Campus are depicted in Table 4.6. Projections represent university wide calculated of the 5.0 Academic Facilities Element and Support Facilities Element, factored the proportion of total FTE students attending Biscayne Bay Campus.

d) Suitability of Existing Vacant and Undeveloped Land on the University Campus

MODESTO A. MAIDIQUE
Campus expansion will need to occur within existing surface parking areas and intensification of the campus core. Refer to 13.0 Conservation Element for further information concerning the suitability of existing vacant land.

Future campus expansion campus will not be adversely impacted by existing soils, topography natural resources and historic and archaeological resources.

BISCAYNE BAY CAMPUS
Gross vacant and undeveloped land at Biscayne Bay Campus is approximately 40.5 acres. Refer to 13.0 Conservation Element for further information concerning the suitability of gross undeveloped land.

Future campus expansion campus will not be adversely impacted by existing soils, topography, and historic and archaeological resources. There is a an environmental impact buffer along Biscayne Bay, an enhanced mangrove wetland area in front of Kovens Center a mitigation zone at the southwest corner of the property that are not available for campus expansion.

e) Opportunities for Redevelopment and for Elimination of Uses

Redevelopment at Modesto A. Maidique Campus and the Wolfsonian are anticipated as a need during this planning period. There are some opportunities to consider the redevelopment of existing parking and open space uses at Modesto A. Maidique for future campus development.

At Biscayne Bay there are some opportunities for campus expansion within the open space between the campus core and the Kovens Center, north of the existing academic buildings and west of Academic Two and the Kovens Center.

At the Engineering Center, there is room for further expansion in the open space that surrounds the site.

Elimination of inconsistent uses is not anticipated as a need during this planning period

f) Planned Use of University Property Consistent with the Adopted Conceptual State Lands Management Plan

No inconsistencies with the planned uses have been identified or noted to fate at Modesto A. Maidique Campus, Biscayne Bay Campus, and other University Sites (the Engineering Center and the Wolfsonian).

g) Additional Land Required to Meet Future Needs

1. The categories of land use and their densities or intensities of use;
2. The estimated gross acreage for each category; and
1. A description of the methodology used. The methodology should be based on floor area ratio (FAR) or other acceptable means of establishing the relationship between land requirements and building areas.

Modesto A. Maidique Campus does not have sufficient land area to expand beyond what is currently planned. This campus will be completely built-out within the next five years. Potential expansion is possible at the Engineering Center and the Biscayne Bay Campus.

h) Assessment of Surplus University Property

Due to limited land resources, it is not recommended that any portion of property be declared surplus for release as surplus by FIU or the Florida Board of Education, Division of Colleges and Universities.

i) Additional University Land and Context Area Analysis

1. Existing land use
2. Property values
3. Constraints that may limit future development
4. Future proposed land use
5. Building conditions (if appropriate)

If additional land is necessary for future growth, the University will coordinate with local governmental agencies and private developers for the acquisition and development of lands. The most immediate need for land will be at Modesto A. Maidique Campus Campus, in the form of off-campus student housing and recreational fields. However, the increasing costs of real estate may make the acquisition of land for future expansion a financial challenge.

Additional land will not be necessary for future development of Biscayne Bay Campus, the Engineering Center or The Wolfsonian.

j) Alternatives to Additional Land Acquisition

MODESTO A. MAIDIQUE

There is sufficient available land to accommodate projected expansion by creating a compact development pattern and increasing building heights. No other mechanisms are being currently considered for anticipated future campus growth.

BISCAYNE BAY CAMPUS

Additional land will not be necessary for future development of the Biscayne Bay Campus. Future campus expansion will focus on creating a link between the campus core and Kovens Center with planned housing and the Marine Biology Building. There is substantial vacant land available for campus expansion beyond this planning period for future projected campus enrollment. No other alternatives are currently considered necessary to anticipated future campus growth.

ENGINEERING CENTER

Additional land will not be necessary for future development

THE WOLFSONIAN

Additional land will not be necessary for future development

k) Constraints to Future Land Use Development

MODESTO A. MAIDIQUE

Modesto A. Maidique contains relatively few naturally vegetated areas. The Natural Preserve represents the most valuable natural feature of Modesto A. Maidique with its botanicals. However, as part of the RS&H campus master plan update, on June 20, 2001, an inspection revealed that there were no threatened or endangered fauna or nests in the Preserve. Given these findings, future campus expansion will consider retention of the most sensitive portions of the preserve for conservation and botanical study.

Potential impacts for surface waters, wildlife habitat, airport restrictions, utility requirements and easements and stormwater management all must be considered for all future campus expansion, but at this time there appears to be no major constraints that would limit future land use development. There are no areas on campus identified by the host community comprehensive plan to be developed for a particular land use.

There are relatively few wetland areas on site. Potential wetland areas include lake littoral zones, low lawn areas and a portion of the preserve. No jurisdictional determination has been done for the campus. Campus expansion without a jurisdictional determination might result in need for mitigation or restoration that may not be necessary with prior jurisdictional determination. There are no floodplains on campus or within the context area. The campus itself is designated as a hurricane evacuation site for Monroe County.

BISCAYNE BAY CAMPUS

There are a number of areas with sensitive vegetation that must not be disturbed by planned campus expansion. The mangrove forests on Biscayne Bay Campus are jurisdictional wetlands. An environmentally sensitive site with mangroves exists along the shores of the Oleta River and Biscayne Bay. In addition a mangrove mitigation site has been planted at the southeastern portion of the campus. An additional existing enhanced mangrove area is located immediately west of Kovens Center.

The principal concern regarding potential surface water and development conflicts involves the need to ensure that development of the campus does not negatively impact the habitat of the West Indian manatee. The entire Biscayne Bay Campus is within the 100-year flood plain and is characterized as a special flood hazard area. Potential conflicts regarding floodplains are primarily concerned with flooding of the campus and flood protection for buildings and structures. Building design should respond to state-of-the-art data and modeling, not to out-of-date studies.

Potential impacts wildlife habitat, airport restrictions, utility requirements and easements and stormwater management all must be considered for all future campus expansion, but at this time there appears to be no major constraints that would limit future land use development. There are no areas on campus identified by the host community comprehensive plan to be developed for a particular land use.

l) Off-campus Constraints to Future Land Use Development

Based on utility conditions (9.0 Infrastructure Element) and (10.0 Utilities Element) and traffic capacities (11.0 Transportation Element) within the context areas of both Modesto A. Maidique and Biscayne Bay Campus potential off-campus constraints on University development is summarized below.

MODESTO A. MAIDIQUE

Utility Constraints

Sanitary Sewer – The Miami-Dade County Water and Sewer Department (WASD) is responsible for processing waste water generated by Modesto A. Maidique Campus. According to Miami-Dade County, the campus is served by the Central District Waste Water Treatment Plant. The capacity for the Central District Plant is 143.0 MGD. The average flow for the plant in 2004 was 113.1 or 79 percent of the design capacity. Infiltration and Inflow improvements have helped to reduce the average flow of the regional system.[2] However, these improvements may not be sufficient to sustain the projected demand for service that will be generated by the

2 Initial Recommendations: October 2004 Applications to Amend the Comprehensive Development Master Plan for Miami-Dade County. March 30,2005

expected development growth in Miami-Dade. As a result, the County is evaluating development orders that generate additional wastewater flows on a case by case basis. Plans to increase capacity are also being considered. The major limitation to the sewage collection system on campus is the depth of the gravity sewer mains and pump station that affects service area.

Solid Waste - Through agreements with Miami-Dade County solid waste generated at Modesto A. Maidique Campus is disposed of at the Miami-Dade County Resource Recovery Facility by a private hauler. Although no proportional capacity is assigned to FIU or private collection firms the resource recovery plant has adequate capacity to handle its projected demands through the 2015 planning horizon.

Traffic Capacity - The existing road system in the context area consists of three major arterial roads, SW.107th Avenue, Coral Way, and S.W 8th Street. These arterials roads have an LOS “D”. The campus contains 2 collector roads (S.W 16th Street and S.W 112th Avenue) with an LOS of “C” or better. Due to the growing congestion on the arterial roads surrounding the University, traffic circulation in the context area is becoming a constraint. To address this problem, the University has implemented policies to encourage alternative modes of transportation and a pedestrian-friendly environment, including the creation of a shuttle bus service in between campuses.

Potable Water - There is sufficient water treatment capacity at the Alexander Orr Water Treatment Plant for future development at Modesto A. Maidique Campus. However, the County should seek an increase in the permitted average day withdrawal allocation and maximum day allocation for the wellfield

FIU will follow concurrency regulations to assure that adequate level of service will be available for any proposed development. Pursuant to new State regulations, the University consults with WASD prior to approval of building permits to assure that adequate water supplies will be available to serve the proposed development no later than the issuance of a certificate of occupancy.

The physical condition of the water main distribution system is adequate. Ongoing improvements to the onsite primary distribution system will be needed. This includes continuing to link the systems and eliminating dead end systems. Pressure test shall be performed to assure the distribution systems meet all of the required potable water demands.

Stormwater Management - The capacities of the existing swale and lake system are sufficient for the present development. The system capacity analysis shows that the campus has sufficient area to provide additional lake area and/or exfiltration trench for future development. There are no offsite discharge connections as all rainfall is contained onsite. Currently, there is no stormwater master drainage plan in place. In the future, it is recommended for any new developments to prepare a pre-post analysis of the entire site to evaluate the 100-year flood stages.

Hot and Chilled Water - Florida International University has operation responsibility for the hot water and chilled water system. With the completion of the Phase II Central Plant Expansion the transport capacity is adequate for the addition of three new buildings (Research & Development Facility, Museum, and Academic Building) with one pump redundant for standby. There are plans to build a satellite chiller plan in order to serve the needs of other future development.

Electrical Power - Florida Power and Light provides services to Modesto A. Maidique Campus. The electrical transmission and distribution system provide the campus with unmatched service reliability against possible drownouts. The current electrical distribution system is adequate for the existing and short-term program improvements.

BISCAYNE BAY CAMPUS

Utility Constraints

Sanitary Sewer – Sewage flow for this campus is processed and treated at North District Wastewater and Treatment Plant (NDWTP) located on the corner of Biscayne Boulevard and N.W. 151st Street. The sanitary sewer system should be adequate to handle future development of Biscayne Bay Campus. Modifications to the existing system may be necessary due to the site plan and/or system configuration. Due to the age of the system, infiltration and pump station conditions may need to be evaluated. However, the system is owned and maintained by the City of North Miami. Refer to Table 9.7 in 9.0 General Infrastructure Element. While the present treatment capacities of the NRWTP exceed demand, the pump station operating time criteria may affect the issuance of a water meter.

Solid Waste - Through agreements with Miami-Dade County solid waste generated at Biscayne Bay Campus is disposed of at the Miami-Dade County Resource Recovery Facility by a private hauler. Although no proportional capacity is assigned to FIU or private collection firms the resource recovery plant has adequate capacity to handle its projected demands through the 2015 planning horizon.

Potable Water - There is sufficient treatment capacity at the City's Norman Winson Water Plant for future development at Biscayne Bay Campus. In addition, their agreement with WASAD would further provide capacity if necessary. The onsite primary distribution system is sufficient for future development; however, new secondary systems will be required. Also, some existing secondary systems are presently dead-end and need to become a "looped" system. Currently, the physical condition of the water main distribution system is adequate. Pressure test shall be performed to assure the distribution systems meet all of the required potable water demands.

Stormwater Management - The capacities of the existing swale, exfiltration trench, and lake system are sufficient for the runoff from the present development. The existing drainage pipes and exfiltration trench should not have excess capacity as they were probably designed for a specific drainage area. In the future, it is recommended for any new developments to prepare a pre-post analysis of the entire site to evaluate the 100-year flood stages.

Hot and Chilled Water - Florida International University has operation responsibility for the hot water and chilled water system. With the implementation of the 1995 Chilled Water Study recommendations, the system capacity of 2,880 tons is adequate.

Electrical Power - Florida Power and Light provides services to Biscayne Bay Campus. The current electrical distribution system is adequate for the existing and short-term program improvements.

Traffic Capacity - At present Bay Vista Boulevard north of the campus is operating at an acceptable Level of Service (LOS) "C" or better during the P.M. peak hour in the context area, while Bay Vista Boulevard east of the campus is operating at “D” LOS (Refer to 11.0 Transportation Element). Future traffic projections are expected to remain adequate (LOS "C" or better) through the 2000-2010 period with the exception of Bay Vista Boulevard north of the main campus entrance (Refer to 11.0 Transportation Element). However, with limited physical improvements or transportation System Management Techniques at this one constrained location, traffic capacity constraints at Biscayne Bay are considered minor.

m) Host Community Comprehensive Plans Related to Future Land Use Development

University Land Use Element Goals, Objectives and Policies are coordinated with the comprehensive plans of Miami-Dade and affected local governments.

MODESTO A. MAIDIQUE CAMPUS
Pertinent Local Government Comprehensive Plan:
Comprehensive Development Master Plan, Miami-Dade County, Florida

BISCAYNE BAY CAMPUS
Pertinent Local Government Comprehensive Plan:
City of North Miami Comprehensive Plan, Volume One : Adopted Documents

The Biscayne Bay Campus of FIU is surrounded on three sides by the City of North Miami and on the fourth by water. While the City's limits end at the campus edge, the goals, objectives and policies of its Land Use Element were reviewed as it is the closest coordinating municipality to the campus.

ENGINEERING CENTER
Pertinent Local Government Comprehensive Plan:
Comprehensive Development Master Plan, Miami-Dade County, Florida

THE WOLFSONIAN
Pertinent Local Government Comprehensive Plan:
City of Miami Beach Comprehensive Development Master Plan, Miami Beach, Florida

Intensity Standards (Floor Area Ratio)*

MAX. F.A.R. = Gross Square Footage of all structures on a site** / Gross Square Footage of the lot

Academic and Research	2.05	
Support	1.20	
Housing	530 beds/acre	
Athletics / Recreation / Open Space***	.10	or 10%(impervious surface)
Community	1.50	
Parking	.40	or 40% (impervious surface)
Mixed Use	2.25	

* Floor Area Ratios apply only to habitable academic, support, residential and research uses. Parking structures are excluded from F.A.R. calculations. Residential is defined by beds per acre.

** The height of a proposed building will be evaluated on a project by project basis. The only area where strict height restrictions will be observed is the Balloon Release Area adjacent to the Hurricane Center.

**** No construction is anticipated in these areas except for minimal structures and improvements needed to ensure safe access and essential support functions.

5.0 ACADEMIC AND RESEARCH FACILITIES ELEMENT

Assumptions

- Space utilization analysis and space needs projections were performed based on Florida Board of Governors document titled, *'Space Standards for Fixed Capital Outlay Needs Generation Formula'*. Where no Florida standard existed, Council of Educational Facility Planners International (CEFPI) guidelines were utilized.
- Florida International University declared that a growth rate of 2.0% be used as the basis of enrollment projections and resultant modeling of space needs for both target dates.
- Modesto A. Maidique Campus: With a 2.0% growth rate, the target year of 2015 resulted in a population of 20,720 FTE students. The more distant target of 2034 resulted in a population of 30,185 FTE students.
- Biscayne Bay Campus: With a 2.0% growth rate, the target year of 2015 resulted in an FTE population of 3,413 FTE students. The target year of 2034 resulted in an FTE population of 4,972 FTE students.
- Totals from both Modesto A. Maidique Campus and Biscayne Bay Campus resulted in a total population of 35,157 FTE students in the target year 2034.
- Engineering Campus square foot data is a subset of Modesto A. Maidique Campus and not separately delineated. Therefore, per FIA direction, space allocation was set at 94.5% for MAM Campus and 5.5% for EC Campus, except for Category 250 Research, which was set at 90% for MAM Campus and 10% for EC Campus.

(1) DATA REQUIREMENTS

a) Future Student Enrollment Projections

Table 5.1 Projections of Future FTE Enrollment

UNIVERSITY WIDE	FTE PROJECTIONS .0%
2008	24,456
2009	24,945
2010	25,444
2011	25,933
2012	26,472
2013	27,001
2014	27,541
2015	28,092

Source: 2008 base rate taken from OPIE fact book fall 2008
Projection Rate: 2.0% annual per Instruction to Consultant at 19 Feb 2009 meeting on campus)

b) Existing Building Spaces Inventory

Figures 5.1, 5.2 and 5.3: Academic & Research Facilities depict typical academic facilities at Modesto A. Maidique, Engineering Center and Biscayne Bay

Campus. Table 5.2 contains an inventory of existing academic buildings by function for each campus.

Table 5.2 Inventory of Existing Building Spaces for Academic Functions.

MODESTO A. MAIDIQUE CAMPUS	CLASSROOM	TEACHING LAB	STUDY	RESEARCH LAB
Bldg 1 Primera Casa	15,910	16,458	1,564	6,666
Bldg 2 Deuxieme Maison	9,086	6,451		4,802
Bldg 3 E.R. Graham Center	13,397	2,881		
Bldg 4 Viertes Haus	2,441	10,302	1,049	14,522
Bldg 5 Green Library	14,333	9,759	134,492	1,683
Bldg 6 Owa Ehan	3,075	21,018		23,087
Bldg 6A Wertheim Conservatory				4,201
Bldg 7 Pharmed Arena	4,990	336		
Bldg 8 Eng/Computer Science	4,495	14,764		25,069
Bldg 9 Chemistry & Physics	11,679	19,812		23,821
Bldg 10 College of Health				
Bldg 11 Ryder Business Bldg.	5,667		2,648	1,124
Bldg 13 Labor Center	3,711	1,666	356	
Bldg 14 Education Building	5,939	6,312		
Bldg 16 Wertheim Per. Arts Ctr.		7,853	533	
Bldg 19A University Park Towers	1,201			
Bldg 20 Fitness Center			2,697	
Bldg 21 Health & Life Sciences		5,058	509	29,729
Bldg 21A Health & Life Sciences II	10,740	13,895		6,356
Bldg 24 Paul Cejas Architecture Building	12,097	24,430		
Bldg 25 Management & Advanced Research Center	8,461			1,084
W01C Ceramics Building	0	3,051		255
TOTAL	127,222	164,046	143,848	142,399

BISCAYNE BAY CAMPUS	CLASSROOM	TEACHING LAB	STUDY	RESEARCH LAB
N01 Hospitality Management	8,693	22,210		
N02 Academic One	17,213	5,811	1,882	258
N04 Academic Two	7,315	25,739		330
N05 The Library	8,473	2,110	28,302	
N08 Ecology Laboratory Building				2,120
N13 Marine Biology	4,690	10,792	990	11,479
TOTAL	46,384	66,662	31,174	14,187

ENGINEERING CENTER	CLASSROOM	TEACHING LAB	STUDY	RESEARCH LAB
101 Engineering Center	16,293	24,979		47,897
102 Operations/Utility		958		13,056
TOTAL	16,293	25,937		60,953

FIU WOLFONIAN	CLASSROOM	TEACHING LAB	STUDY	RESEARCH LAB
MB01 Wolfsonian Museum	N/A			

FIU ANNEX	CLASSROOM	TEACHING LAB	STUDY	RESEARCH LAB
MB 02 Wolfsonian Annex	N/A			

UNIVERSITY WIDE	CLASSROOM	TEACHING LAB	STUDY	RESEARCH LAB
TOTAL	173,606	230,708	175,022	156,586

Source: FIU Space Utilization Report, 2005

c) Existing Space Utilization

Table 5.3 Existing Space Utilization

MODESTO A. MAIDIQUE	WEEKLY ROOM HOURS	ROOM UTILIZATION
Classroom	N/A	N/A
Teaching Laboratory	N/A	N/A
BISCAYNE BAY CAMPUS	**WEEKLY ROOM HOURS**	**ROOM UTILIZATION**
Classroom	N/A	N/A
Teaching Laboratory	N/A	N/A

Source: FIU Space Utilization Report

d) SUS Space Use Standards

Table 5.4 Space Use Standards for Academic Space Type

Biscayne Bay Campus

Space Code	*Space Category*	*Fla Bd Governors Std*	*Alternative Std*
110	Classrooms	11.84	
210	Teaching Labs	9.73	
220	Open Labs		7.00
250	Research Labs	13.08	
300	Offices/Computer	29.08	

400	Study/Library	16.51	
520	Teaching Gymnasium	0.00	
530	Media Production	0.50	
540	Clinic		0.40
550	Demonstration		0.10
570	Animal Quarters		0.00
580	Greenhouses		0.50
590	Other		0.00
610/620	Assembly / Exhibition	3.00	
630	Food Service		8.41
650	Student Lounge		3.00
660	Merchandising		2.50
670	Recreation		1.50
680/690	Meeting Rm /Student Academic Meeting Rm	0.60	
700	Central Service / Central Computer / Telecomm / Central Storage / Vehicle Storage / Hazardous Materials	7.08	
800	Health Care		0.77

Notes:

a) All space categories include supporting service space
b) Category 250 Research Lab space was prorated between MAM and EC as follows: MAM 90% and EC = 10%
c) Exstg ASF per 'SPA-FIU.MIS.SPAPRD.F200808.GOODFILE.G0396V00(BOR)' (forwarded by PC 8 Jan 09)
d) Space Standards Per Florida Bd of Governors, "Space Standards for Fixed Capital Outlay Needs Generation Formula"
e) Space Standards not listed by Florida Bd of Governors used a hybrid of CEFPI Standards and P+W benchmark data

Modesto A. Maidique Campus

Space Code	*Space Category*	*Fla Bd Governors Std*	*Alternative Std*
110	Classrooms	12.08	
210	Teaching Labs	13.77	
220	Open Labs		7.00
250	MAM Research Labs	8.89	
250	EC Research Labs	0.99	
300	Offices/Computer	36.88	
400	Study/Library	17.54	
520	Teaching Gymnasium	5.77	
530	Media Production	1.13	
540	Clinic		0.40
550	Demonstration		0.10
570	Animal Quarters		0.61
580	Greenhouses		0.50
590	Other		0.37
610/620	Assembly / Exhibition	3.00	

630	Food Service		6.92
650	Student Lounge		2.00
660	Merchandising		3.00
670	Recreation		2.00
680/690	Meeting Rm /Student Academic Meeting Rm	0.60	
700	Central Service / Central Computer / Telecomm / Central Storage / Vehicle Storage / Hazardous Materials	7.08	
800	Health Care		0.38

Notes:

a) All space categories include supporting service space
b) Category 250 Research Lab space was prorated between MAM and EC as follows: MAM 90% and EC = 10%
c) Exstg ASF per 'SPA-FIU.MIS.SPAPRD.F200808.GOODFILE.G0396V00(BOR)' (forwarded by PC 8 Jan 09)
d) Space Standards Per Florida Bd of Governors, "Space Standards for Fixed Capital Outlay Needs Generation Formula"
e) Space Standards not listed by Florida Bd of Governors used a hybrid of CEFPI Standards and P+W benchmark data

Note:

Exstg ASF per 'SPA-FIU.MIS.SPAPRD.F200808.GOODFILE.G0396V00(BOR)' (forwarded by PC 8 Jan 09)
Space Standards Per Florida Bd of Governors, "Space Standards for Fixed Capital Outlay Needs Generation Formula"
Space Standards not listed by Florida Bd of Governors used a hybrid of CEFPI Standards and P+W benchmark data

e) Existing Total Credit Hours

Table 5.5 Actual Student Credit Hours for Each Campus and Campus Wide

CAMPUS	STUDENT CREDIT HOURS
Modesto A. Maidique	684,888
Biscayne Bay	117,991
Pines Center	21,184
Other	146,656
UNIVERSITY WIDE	868,940

Source: FIU 2008 Fact Book: OPIE Full Time Equivalent, Fundable Student Credit Hours, & SCH By Campus

(2) ANALYSIS REQUIREMENTS

a) Future Student Credit Hours Projection

Table 5.6 Projected Student Credit Hours

	2005 UNDERGRD.	2005 GRADUATE	2010 UNDERGRD.	2010 GRAD.
UNIVERSITY WIDE	794,080	113,248	1,042,608	148,692

Source: FIU-Planning and Institutional Effectiveness

b) Future Weekly Student Contact Hours (WSCH) Projection

Table 5.7 Projected Weekly Student Contact Hours by Campus

	2005 UNDERGRD.	2005 GRADUATE	2010 UNDERGRD.	2010 GRAD.
UNIVERSITY WIDE	30,542	-4,356	40,100	5,719

Source: FIU, 2000.

c) Future Space Utilization Projection

Information was not available to complete this response.

d) Future Net and Gross Building Area Requirements by Building Increments

Net and gross building area planned improvements and requirements by building increment are contained in Table 5.10 and represent calculated deficiencies using standard ratios developed in the Capital Improvements Plan, 2001 and the enrollment projections contained in Table 5.1. These increments consider those Gross Academic Building Area Needs as shown on Table 5.9. The projected growth of students at FIU and the relative academic building deficiencies that already exist, mandate that space needs at FIU be addressed by the addition of new facilities and not the renovation of existing facilities.

e) Future Net Academic Space Need Projection

University Park Campus (UP)

	Fall 2008			2015		2034	
FTE	18,038			FTE	20,720	FTE	30,185
	31,568			HC	36,262	HC	52,826
9.88							
Faculty FYE	est	965		Faculty FYE	1,108	Faculty FYE	1,615
Staff: Admin + Prof	est	707		Staff: Admin + Prof	812	Staff: Admin + Prof	1,183
General Staff	est	942		General Staff	1,082	General Staff	1,576

Space Code	Space Category	Florida Standard[c]	FIU Calc	Fall 2008 Existing ASF[a]	Exstg ASF/FTE	Guideline ASF	Guideline ASF/FTE	Surplus (Deficit)	Under Const ASF + CIP Plan ASF	2015 Projected Exstg ASF[b]	2015 Guideline ASF	2015 Surplus (Deficit)	2034 Projected Exstg ASF	2034 Guideline ASF	2034 Surplus (Deficit)
110	Classrooms + Service	12.08	•	129,909	7.20	217,899	12.08	(87,990)	92,120	222,029	250,298	(28,269)	222,029	364,636	(142,607)
210	Teaching Labs + Service	13.77	•	162,194	8.99	248,383	13.77	(86,189)	59,310	221,504	285,314	(63,810)	221,504	415,649	(194,145)
220	Open Labs		•	77,980	4.32	126,266	7.00	(48,286)		77,980	145,040	(67,060)	77,980	211,296	(133,316)
250	UP Research Labs + Service	90% 8.89	•	159,126	8.82	160,394	8.89	(1,268)	46,528	205,654	184,242	21,412	205,654	268,406	(62,752)
250	EC Research Labs + Service	10% 0.99	•	68,128	3.78	17,822	0.99	50,306	0	68,128	20,471	47,657	68,128	29,823	38,305
300	Offices / Computer	36.88	•	498,958	27.66	665,241	36.88	(166,283)	219,243	718,201	764,153	(45,952)	718,201	1,113,227	(395,026)
400	Study / Library	17.54	•	183,998	10.20	316,387	17.54	(132,389)	85,680	269,678	363,429	(93,751)	269,678	529,447	(259,769)
520	Teaching Gymnasium	5.77	•	109,139	6.05	104,079	5.77	5,060	0	109,139	119,554	(10,415)	109,139	174,168	(65,029)
530	Media Production	1.13	•	9,975	0.55	20,383	1.13	(10,408)	3,350	13,325	23,414	(10,089)	13,325	34,109	(20,784)
540	Clinic			0	0	7,215	0.40	(7,215)	—	0	8,288	(8,288)	0	12,074	(12,074)
550	Demonstration			4,033	0.22	1,804	0.10	2,229	—	4,033	2,072	1,961	4,033	3,019	1,014
560	Field Buildings			0	0.00	0	0.00	0		0	0	0	0	0	0
570	Animal Quarters			1,294	0.07	11,000	0.61	(9,706)	—	1,294	12,636	(11,342)	1,294	18,408	(17,114)
580	Greenhouses			3,466	0.19	9,019	0.50	(5,553)	—	3,466	10,360	(6,894)	3,466	15,093	(11,627)
590	Other			6,639	0.37	6,639	0.37	0	—	6,639	7,626	(987)	6,639	11,110	(4,471)
610	Assembly	3.00	•	67,389	3.74	54,114	3.00	13,275	18,699	86,088	62,160	23,928	86,088	90,555	(4,467)
620	Exhibition	(610/620)	•	Included Above in Cat 610					Incl w/ 610	Included Above in Cat 610			Included Above in Cat 610		
630	Food Service			45,405	2.52	124,820	6.92	(79,415)	—	45,405	143,379	(97,974)	45,405	208,877	(163,472)
640	Day Care			0	0	0	0.00	0							
650	Student Lounge			19,299	1.07	36,076	2.00	(16,777)	—	19,299	41,440	(22,141)	19,299	60,370	(41,071)
660	Merchandising			38,402	2.13	54,114	3.00	(15,712)	—	38,402	62,160	(23,758)	38,402	90,555	(52,153)
670	Recreation			36,048	2.00	36,076	2.00	(28)	—	36,048	41,440	(5,392)	36,048	60,370	(24,322)
680	Meeting Room (other than 690)	0.60	•	25,263	1.40	10,823	0.60	14,440	2,000	27,263	12,432	14,831	27,263	18,111	9,152
690	Student Academic Meeting Room		•	Included Above in Cat 680				—	Incl w/ 680	Included Above in Cat 680			Included Above in Cat 680		
710	Central Computer / Telecomm	7.08	•	73,560	4.08	127,709	7.08	(54,149)		73,560	146,698	(73,138)	73,560	213,711	(140,151)
720	Shop / Central Service		•	Includes Cats 710-760						Includes Cats 710-760			Includes Cats 710-760		
730	Central Storage		•	Includes Cats 710-761						Includes Cats 710-761			Includes Cats 710-761		
740	Vehicle Storage (ramps not incl)		•	Includes Cats 710-762					32,490	Includes Cats 710-762			Includes Cats 710-762		
750	Central Service		•	Includes Cats 710-763					Incl 710-760	Includes Cats 710-763			Includes Cats 710-763		
760	Hazardous Materials		•	Includes Cats 710-764						Includes Cats 710-764			Includes Cats 710-764		
800	Health Care			5,730	0.32	6,811	0.38	(1,081)	—	5,730	7,824	(2,094)	5,730	11,398	(5,668)
	TOTAL ACADEMIC SPACE			1,725,935	95.68	2,363,075	131.01	(637,140) (637,140)	559,420	2,252,865	2,714,430	(461,565)	2,252,865	3,954,412	(1,701,547)
									Increase		351,355			1,239,982	
									Assumed annual growth rate	→		2.00%			2.00%
									Accumulated Rate	→ 7	Years =	114.87%	19	Years =	145.68%

EC is 5.5% of total ASF, with exception of Cat 250 which will set based on ration agreed to by FIU admin.

[a] Exstg ASF per 'SPA-FIU.MIS.SPAPRD.F200808.GOODFILE.G0396V00(BOR)' (forwarded by PC 8 Jan 09)

[b] Projected Exstg ASF = Existing + CIP/New Const - Demolition

[c] Per Florida Bd of Governors, "Space Standards for Fixed Capital Outlay Needs Generation Formula"

Code	Housing	Exstg Beds	Target %	Target Beds	Surplus (Deficit)	Under Const + CIP	2015 Projected Exstg	2015 Target Beds	2015 Surplus (Deficit)	2034 Projected Exstg	2034 Target	2034 Surplus (Deficit)
900	Housing UP	2,709	20%	3,608	(899)	416	3,125	4,144	(1,019)	3,125	6,037	(2,912)

Exstg ASF	Exstg ASF/Bed	Assume Exstg Eff %	Exstg GSF/Bed
530,969	196	70%	280

Code	Parking	Existing	Target Ratio	Target	Surplus (Deficit)	Under Const + CIP	2015 Projected Exstg Stalls	2015 Target	2015 Surplus (Deficit)	2034 Project Exstg Stalls	2034 Target	2034 Surplus (Deficit)
Pkg	Parking											
	Number of Stalls (per KHA calcs)	10,986		17,455	(6,469)	4,000	14,986	19,604	(4,618)	14,986	29,141	(14,155)
	Stalls per FTE (resultant)	0.609		0.842								
	Stalls per HC (resultant)	0.348		0.481								
	Less Stalls Removed for New Bldgs					less - 000	less - 000			less - 000		
	Net Stalls					4,000	14,986			14,986		

NOTES:

a) Projections based on 2008 FTE and 2% per annum growth rate to Year 2015
b) Space Standards Per Florida Bd of Governors, "Space Standards for Fixed Capital Outlay Needs Generation Formula"
c) Space Standards not listed by Florida Bd of Governors used a hybrid of CEFPI Standards and P+W benchmark data
d) Grossing Factor: ASF = 62% of GSF
e) All space categories include supporting service space
f) Category 250 Research Lab space was prorated between MAM and EC as follows: MAM 90% and EC = 10%
g) Exstg ASF per 'SPA-FIU.MIS.SPAPRD.F200808.GOODFILE.G0396V00(BOR)' (forwarded by PC 8 Jan 09)
h) Proposed CIP projects soruce: 2008 CIP Plan

Biscayne Bay (BB)

	Fall 2008		Under Const ASF + CIP Plan ASF	2015		2034	
FTE		2,971		FTE	3,413	FTE	4,972
		7,469		HC	8,580	HC	12,499
	Faculty FYE	170		Faculty FYE	195	Faculty FYE	284
	Staff: Admin + Prof	100		Staff: Admin + Prof	115	Staff: Admin + Prof	167
	General Staff	190		General Staff	218	General Staff	318

Space Code	Space Category	Florida Standard[c]	FIU Cats	Existing ASF[a]	Exstg ASF/FTE	Guideline ASF	Guideline ASF/FTE	Surplus (Deficit)	Under Const ASF + CIP Plan ASF	2015 Projected Exstg ASF[b]	2015 Guideline ASF	2015 Surplus (Deficit)	2034 Projected Exstg ASF	2034 Guideline ASF	2034 Surplus (Deficit)
110	Classrooms + Service	11.84	•	43,093	14.50	35,177	11.84	7,916	8,000	51,093	40,407	10,686	51,093	58,865	(7,772)
210	Teaching Labs + Service	9.73	•	49,713	16.73	28,908	9.73	20,805	1,000	50,713	33,206	17,507	50,713	48,375	2,338
220	Open Labs		•	22,548	7.59	20,797	7.00	1,751		22,548	23,889	(1,341)	22,548	34,802	(12,254)
250	Research Labs + Service	13.08	•	16,108	5.42	38,861	13.08	(22,753)	8,000	24,108	44,639	(20,531)	24,108	65,030	(40,922)
300	Offices / Computer	29.08	•	81,395	27.40	86,397	29.08	(5,002)	17,800	99,195	99,243	(48)	99,195	144,578	(45,383)
400	Study / Library	16.51	•	31,174	10.49	49,051	16.51	(17,877)	7,000	38,174	56,344	(18,170)	38,174	82,083	(43,909)
520	Teaching Gymnasium	0.00	•	8,779	2.95	8,779	2.95	0	0	8,779	10,084	(1,305)	8,779	14,691	(5,912)
530	Instructional Media	0.50	•	1,529	0.51	1,486	0.50	44	800	2,329	1,706	623	2,329	2,486	(157)
540	Clinic			0	0.00	1,188	0.40	(1,188)	—	0	1,365	(1,365)	0	1,989	(1,989)
550	Demonstration			0	0.00	297	0.10	(297)	—	0	341	(341)	0	497	(497)
560	Field Buildings			0	0.00	0	0.00	0	—	0	0	0	0	0	0
570	Animal Quarters			0	0.00	0	0.00	0	—	0	0	0	0	0	0
580	Greenhouses			49	0.02	1,486	0.50	(1,437)	—	49	1,706	(1,657)	49	2,486	(2,437)
590	Other			0	0.00	0	0.00	0	—	0	0	0	0	0	0
610	Assembly	3.00	•	16,279	5.48	8,913	3.00	7,366	—	16,279	10,238	6,041	16,279	14,915	1,364
620	Exhibition	(610/620)	•	Included Above in Cat 610					—	Included Above in Cat 610					
630	Food Service			23,437	7.89	24,977	8.41	(1,540)	—	23,437	28,691	(5,254)	23,437	41,798	(18,361)
640	Day Care			0	0.00	0	0.00	0	—	0	0	0	0	0	0
650	Student Lounge			1,403	0.47	8,913	3.00	(7,510)	—	1,403	10,238	(8,835)	1,403	14,915	(13,512)
660	Merchandising			6,813	2.29	7,428	2.50	(615)	—	6,813	8,532	(1,719)	6,813	12,429	(5,616)
670	Recreation			1,971	0.66	4,457	1.50	(2,486)	—	1,971	5,119	(3,148)	1,971	7,458	(5,487)
680	Meeting Room (other than 690)	0.60		1,499	0.50	1,783	0.60	(284)	2,000	3,499	2,048	1,451	3,499	2,983	516
690	Student Academic Meeting Room		•	Included Above in Cat 680					*Incl w/ 680*	Included Above in Cat 680					
710	Central Computer / Telecomm		•	24,220	8.15	21,035	7.08	3,185		24,820	24,162	658	24,820	35,200	(10,380)
720	Shop / Central Service		•	Includes Cats 710-760					—	Includes Cats 710-760					
730	Central Storage		•	Includes Cats 710-761					—	Includes Cats 710-761					
740	Vehicle Storage (ramps not incl)	7.08	•	Includes Cats 710-762					—	Includes Cats 710-762					
750	Central Service		•	Includes Cats 710-763					600	Includes Cats 710-763					
760	Hazardous Materials		•	Includes Cats 710-764					—	Includes Cats 710-764					
800	Health Care			1,111	0.37	2,291	0.77	(1,180)	—	1,111	2,632	(1,521)	1,111	3,834	(2,723)
	TOTAL ACADEMIC SPACE			331,121	111.45	352,222	118.55	(21,101)	45,200	376,321	404,592	(28,271)	376,321	589,414	(213,093)
								(21,101)							
									Increase		52,370			184,822	
									Assumed annual growth rate			2.00%			2.00%
									Accumulated Rate	7	Years =	114.87%	19	Years =	145.68%

[a] Exstg ASF per Form B Existing Data: Run date 11/25/08
[b] Projected Exstg ASF = Existing + CIP/New Const - Demolition
[c] Per Florida Bd of Governors, Space Standards for Fixed Capital Outlay Needs Generation Formula"

		Fall 2008					Under Const ASF + CIP Plan ASF	2015			2034		
900	Housing	*Exstg Beds*	*Target %*	*Target Beds*		*Surplus (Deficit)*		*Projected Exstg*	*Target Beds*	*Surplus (Deficit)*	*Projected Exstg*	*Target*	*Surplus (Deficit)*
		300	20%	594		(294)	-300	0	683	(683)	0	994	(994)
		Exstg ASF	*Exstg ASF/Bed*	*Assume Exstg Eff %*	*Exstg GSF/Bed*								
		80,161	267	70%	382								

Pkg	Parking	*Existing*	*Target*	*Surplus (Deficit)*		*Projected Exstg Stalls*	*Target*	*Surplus (Deficit)*	*Project Exstg Stalls*	*Target*	*Surplus (Deficit)*
	Number of Stalls	2,229	2,780	(551)	0	2,229	3,744	(1,515)	2,229	5,671	(3,442)
	Stalls per FTE	0.750	0.815			0.653	1.097		0.448	1.141	
	Stalls per HC	0.298	0.324			0.260	0.436		0.178	0.454	
	Less Stalls Removed for New Bldgs				-000	- 000			- 000		
	Net Stalls				0	2,229			2,229		

NOTES:

a) Projections based on 2008 FTE and 2% per annum growth rate to Year 2015
b) Space Standards Per Florida Bd of Governors, "Space Standards for Fixed Capital Outlay Needs Generation Formula"
c) Space Standards not listed by Florida Bd of Governors used a hybrid of CEFPI Standards and P+W benchmark data
d) Grossing Factor: ASF = 62% of GSF
e) All space categories include supporting service space
f) Category 250 Research Lab space was prorated between MAM and EC as follows: MAM 90% and EC = 10%
g) Exstg ASF per 'SPA-FIU.MIS.SPAPRD.F200808.GOODFILE.G0396V00(BOR)' (forwarded by PC 8 Jan 09)
h) Proposed CIP projects source: 2008 CIP Plan

Bldg No.	Building Name	Completed	ASF	GSF	110 Classrooms	210 Teaching Labs	250 Research Labs	300 Offices/ Computer	400 Study / Library	520 Teaching Gym	530 Instructional Media	610/620 Auditorium/ Exhibit	680 Student Academic Support	— Campus Support Services	Total ASF
Under Construction (not in use yet, but not in Exstg Inventory)															
Univ Park															
1	College of Nursing & Health Sciences (Molecular Biology) / Health Sciences Laboratory Clinic		62,192	103,653	12,000	18,400	8,617	21,575	0	0	0	0	0	1,600	62,192
															0
		Total Under Construction	62,192	103,653	12,000	18,400	8,617	21,575	0	0	0	0	0	1,600	62,192

2009-10 CIP-2 CIP-3 CIP-3B – Final 1.05.09.doc

Bldg No.	Building Name	Shown in Previous	ASF	GSF	Classrooms	Teaching Labs	Research Labs	Offices/ Computer	Study / Library	Teaching Gym	Instructional Media	Auditorium/ Exhibit	Student Academic Support	Campus Support Services	Total ASF
Univ Park															
2	Student Academic Support Center		50,000	80,000	6,000	0	0	32,400	10,000	0	0	0	1,600	0	50,000
	ASF Category % of Total														
4	Public Safety Bldg Supplement		2,500	4,000	0	0	0	2,500	0	0	0	0	0	0	2,500
	ASF Category % of Total														
5	Social Sciences / Phase II Completion		na	na	—	—	—	—	—	—	—	—	—	—	0
	ASF Category % of Total														
6	Satellite Chiller Plant Expansion		7,500	12,000	0	0	0	500	0	0	0	0	0	7,000	7,500
	ASF Category % of Total														
10	Humanities Center (Arts + Sciences)		48,500	77,600	4,000	15,000	5,000	15,500	4,000	0	0	0	0	0	43,500
	ASF Category % of Total														
11	Graduate School of Business / Phase II		55,820	89,312	9,900	3,410	0	40,740	800	0	0	0	0	0	54,850
	ASF Category % of Total														
12	Science Labatory Complex		79,500	127,200	7,500	4,000	28,000	20,000	17,000	0	2,000	0	0	0	78,500
	ASF Category % of Total														
14	Const Mgmt + Engineering Expansion		17,400	27,840	3,960	6,000	0	4,400	0	0	0	0	0	0	14,360
	ASF Category % of Total														
15	Training Complex (Human Resources)		25,270	40,432	0	0	0	14,420	0	0	0	0	0	10,000	24,420
	ASF Category % of Total														
16	Honors College		24,780	39,648	9,000	0	3,000	8,880	1,000	0	0	0	0	0	21,880
	ASF Category % of Total														
17	Science Science / Phase II		35,678	57,085	9,000	0	0	16,878	3,200	0	1,000	0	0	5,000	35,078
	ASF Category % of Total														
18	College of Law BR-832		96,415	153,768	10,960	12,500	0	12,925	45,000	0	350	0	400	1,300	82,835
	ASF Category % of Total														
19	IHRC- Wall of Wind Testing Facility	?	1,651	1,981	0	0	1,651	0	0	0	0	0	0	0	1,651
	ASF Category % of Total														
20	College of Nursing + Helath Sciences (Molecular Biology) Health Sciences Labotory Clinic	Shown as 'Under Construction' above			—	—	—	—	—	—	—	—	—	—	0
	ASF Category % of Total														
22	Engineering Center / Lab Remodeling and Expansion	Added	250	312	0	0	250	0	0	0	0	0	0	0	250
	ASF Category % of Total														
24	Graduate School of Business / Phase 1	Added	54,705	87,528	20,400	0	0	22,760	4,680	0	0	4,375	0	2,490	54,705
	ASF Category % of Total														
25	Patricia and Phillip Frost Art Museum UP BR-839	Added	30,839	48,874	0	0	0	5,765	0	0	0	14,324	0	5,100	25,189
	ASF Category % of Total														
	Total CIP Plan Projects UP Campus		530,818	847,580	80,120	40,910	37,911	197,668	85,680	0	3,350	18,699	2,000	30,890	490,228
															497,228

Bldg No.	Building Name	Shown in Previous	ASF	GSF	Classrooms	Teaching Labs	Research Labs	Offices/ Computer	Study / Library	Teaching Gym	Instructional Media	Auditorium/ Exhibit	Student Academic Support	Campus Support Services	Total ASF
Biscayne Bay															
13	Classroom / Office (Academic IV)		38,600	54,000	8,000	0	8,000	16,800	6,000	0	800	0	0	400	40,000
	ASF Category % of Total														
21	Hospitality Management / Carnival Student Center	Added	1,700	2,550	0	0	0	700	1,000	0	0	0	0	0	1,700
	ASF Category % of Total														
23	Hospitality Management / Beverage Management Center	Added	3,500	5,600	0	1,000	0	300	0	0	0	0	2,000	200	3,500
	ASF Category % of Total														
	Total CIP Plan Projects BB Campus		44,800	62,150	8,000	1,000	8,000	17,800	7,000	0	800	0	2,000	600	45,200

SUPPLEMENT: SPACE PROJECTION OVERVIEW

The following outlines the projected space requirements for the target years of 2015 and 2034. The base and target years include the following components: existing baseline square footage, square footage added due to projects in design or construction, Capital Improvement Plan (CIP), reduction of square footage due to demolished facilities, and square footage need per student enrollment.

1.0 CLASSROOM SPACE (CEFPI Category 110/115)

Modesto A. Maidique
In Florida Board of Governors document titled, *Space Standards for fixed Capital Outlay Needs Generation Formula*, the planning allocation stated is 12.08 ASF per FTE.

There is a significant current net deficit of 87,990 ASF. This equates to a current allocation of 7.20 ASF/FTE. With 92,120 ASF of classroom space that is planned to be constructed, there would be 222,029 ASF, which would equate to a net deficit of 28,269 ASF in Target Year 2015.

With no further ASF constructed, there would be a large deficit of 142,607 ASF in Target Year 2034.

Biscayne Bay
In Florida Board of Governors document titled, *Space Standards for fixed Capital Outlay Needs Generation Formula*, the planning allocation stated is 11.84 ASF per FTE.

There is a net surplus of 7,916 ASF. This equates to a current allocation of 14.50 ASF/FTE. With 8,000 ASF of classroom space to be constructed, there would be 51,093 ASF, which equates to a surplus of 10,686 ASF in Target Year 2015.

With no further ASF constructed, there would be a net deficit of 7,772 ASF in Target Year 2034.

Note: With *'Student Centered Learning'* as a goal of the University, space allocations for classrooms, seminar rooms, casual learning spaces, etc. should be reviewed so that the allocated areas per student support *Student Centered Learning*.

Typical classrooms range from 15 – 20 ASF per student station (22 ASF is the Florida State System standard), while *Student Centered Learning* spaces are typically allocated at 25 – 30 ASF per student station for highly flexible instructional spaces. As might be imagined, the increased allocation can have a significant ripple effect in space needs that can be substantial. The ASF needs should be reassessed over time to correlate with the level of implementation for *Student*

Centered Learning.

210 TEACHING LABORATORY SPACE (Cat 210/215)

Modesto A. Maidique

Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation of 13.77 ASF per FTE.

There is a significant current net deficit of 86,169 ASF. This equates to a current allocation of 8.99 ASF/FTE. With 59,310 ASF of lab space that is planned to be constructed, there would be 221,504 ASF, which would equate to a net deficit of 63,810 ASFin Target Year 2015.

With no further ASF constructed, there would be a large deficit of 194,145 ASF in Target Year 2034.

Biscayne Bay

Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation 9.73 ASF per FTE.

There is a current net surplus of 20,805 ASF. This equates to a current allocation of 16.73 ASF/FTE. With 1,000 ASF of lab space that is planned to be constructed, there would be 50,713 ASF, which would equate to a net surplus of 17,507 ASF in Target Year 2015.

With no further ASF constructed, there would be a negligible surplus of 2,338 ASF in Target Year 2034.

220 OPEN LABORATORY SPACE (Cat 220/225)

Note: Space Standards for fixed Capital Outlay Needs Generation Formula does not indicate a planning allocation for Open Laboratory Space. Therefore, the CEFPI standard was reviewed (3.7 – 9.2 ASF/FTE), and a rate of 7.0 ASF/FTE was used based on observations, staff commentary, high percentage of commuters, and planner’s expertise / judgment.

Modesto A. Maidique

There is a current net deficit of 48,286 ASF. This equates to a current allocation of 4.32 ASF/FTE. With 0 ASF of Open Lab space planned for construction, there would be a net deficit of 67,060 ASF in Target Year 2015.

With no further ASF constructed, there would be a net deficit of 133,316 ASF in Target Year 2034.

Biscayne Bay

There is a current small surplus of 1,751 ASF. This equates to a current allocation of 7.59 ASF/FTE. With 0 ASF of Open Lab space planned for construction, there would be a small deficit of 1,341 ASF in Target Year 2015.

With no further ASF constructed, there would be a net deficit of 12,254 ASF in Target Year 2034.

250 RESEARCH LABORATORY (Cat 250/255)

NOTE: Per FIA instructions, the Modesto A. Maidique Campus was allocated at 90% of the total MAM Campus, while the Engineering Center was allocated at 10% of the MAM Campus total.

With the 90/10% split between MAM and EC, this pro rates out to a Florida Board of Governor's Space Allocation of 8.89 ASF/FTE on the MAM Campus, and 0.99 ASF/FTE on the EC Campus.

Modesto A. Maidique (excluding EC)
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation 8.89 ASF per FTE.

There is a current deficit of 1,268 ASF. This equates to a current allocation of 8.82 ASF/FTE. With 46,528 ASF of Research Lab space planned for construction, there would be a surplus of 21,412 ASF in Target Year 2015.

With no further ASF constructed, there would be a net deficit of 62,752 ASF in Target Year 2034.

Engineering Center
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation 0.99 ASF per FTE.

There is a current surplus of 50,306 ASF. This equates to a current allocation of 3.78 ASF/FTE. With 0 ASF of Research Lab space planned for construction, there would be a surplus of 47,657 ASF in Target Year 2015.

With no further ASF constructed, there would be a net surplus of 38,305 ASF in Target Year 2034.

Biscayne Bay
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation 13.08 ASF per FTE.

There is a current deficit of 22,753 ASF. This equates to a current allocation of 13.08 ASF/FTE. With 8,000 ASF of Research Lab space planned for construction, there would be a deficit of 20,531 ASF in Target Year 2015.

With no further ASF constructed, there would be a net deficit of 40,922 ASF in

Target Year 2034.

300 OFFICE SPACE (Cat 310/315/350/355)

Note: As is typical with most universities and colleges, office space and associated support spaces account for the largest block of space groups on campus.
(MAM Office space = 29% of total, while BB = 25%.)

Modesto A. Maidique
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation of 36.88 ASF per FTE.

There is a significant current net deficit of 166,283 ASF. This equates to a current allocation of 27.66 ASF/FTE. With 219,243 ASF of office space that is planned to be constructed, there would be 718,201 ASF, which would equate to a net deficit of 45,952 ASF in Target Year 2015.

With no further ASF constructed, there would be a large deficit of 395,026 ASF in Target Year 2034.

Biscayne Bay
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation 29.08 ASF per FTE.

There is a current net deficit of 5,002 ASF. This equates to a current allocation of 27.40 ASF/FTE. With 17,800 ASF of office space that is planned to be constructed, there would be 99,195 ASF, which would equate to a net deficit of 48 ASF in Target Year 2015.

With no further ASF constructed, there would be a deficit of 45,383 ASF in Target Year 2034.

400 STUDY AND LIBRARY SPACE (Cat 410 and 420/430 and 440)

Note that Category 400 Study and Library Space include spaces within buildings in addition to the main facilities.

Includes the following breakdown:

- Study (Cat 410)
- Stack + Open Stack Study Room (Cat 420/430)
- Processing Room (Cat 440)

Modesto A. Maidique
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a

planning allocation of 17.54 ASF per FTE.

There is a significant current net deficit of 132,389 ASF. This equates to a current allocation of 10.20 ASF/FTE. With 85,680 ASF of study space that is planned to be constructed, there would be 269,678 ASF, which would equate to a net deficit of 93,751 ASF in Target Year 2015.

With no further ASF constructed, there would be a large deficit of 259,769 ASF in Target Year 2034.

Biscayne Bay
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation 16.51 ASF per FTE.

There is a current net deficit of 17,877 ASF. This equates to a current allocation of 10.49 ASF/FTE. With 7,000 ASF of study space that is planned to be constructed, there would be 38,174 ASF, which would equate to a net deficit of 18,170 ASF in Target Year 2015.

With no further ASF constructed, there would be a deficit of 43,909 ASF in Target Year 2034.

500 SPECIAL USE FACILITIES

520 Teaching Gymnasium + Service (Cat 520/523/525)

Modesto A. Maidique
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation of 5.77 ASF per FTE.

There is a current net surplus of 5,060 ASF. This equates to a current allocation of 6.05 ASF/FTE. With 0 ASF of gym space that is planned to be constructed, there would be 109,139 ASF, which would equate to a net deficit of 10,415 ASF in Target Year 2015.

With no further ASF constructed, there would be a large deficit of 65,029 ASF in Target Year 2034.

Biscayne Bay
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation of 0 ASF per FTE.

There is a current net surplus of 8,779 ASF (which is the current ASF). This equates to a current allocation of 2.95 ASF/FTE. With 0 ASF of gym space planned to be constructed, there would be 8,779 ASF, which would equate to a net deficit of 1,305 ASF in Target Year 2015.

With no further ASF constructed, there would be a deficit of 5,912 ASF in Target Year 2034.

530 Media Production + Service (Cat530/535)

Note: Although the deficit does not represent a large ASF number in comparison to other areas in the University, this category should be reviewed in more detail since it supports the emerging technological support of educational delivery methods on campus.

Modesto A. Maidique
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation of 1.33 ASF per FTE.

There is a current net deficit of 10,408 ASF. This equates to a current allocation of 0.55 ASF/FTE. With 3,350 ASF of media production space that is planned to be constructed, there would be 13,325 ASF, which would equate to a net deficit of 10,089 ASF in Target Year 2015.

With no further ASF constructed, there would be a large deficit of 20,784 ASF in Target Year 2034.

Biscayne Bay
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation of 0.50 ASF per FTE.

There is a current negligible surplus of 44 ASF. This equates to a current allocation of 0.51 ASF/FTE. With 800 ASF of media production space planned to be constructed, there would be 2,329 ASF, which would equate to a net surplus of 623 ASF in Target Year 2015.

With no further ASF constructed, there would be a deficit of 157 ASF in Target Year 2034.

540 Clinic + Service (Cat540/545)

Note: Space Standards for fixed Capital Outlay Needs Generation Formula does not indicate a planning allocation for Clinic Space. Therefore, the CEFPI standard was reviewed (0.40 ASF/FTE or ad hoc), and a rate of 0.40 ASF/FTE was used based on observations, staff commentary, high percentage of commuters, and planner's expertise / judgment.

Modesto A. Maidique
There is not a current allocation. There is a current net deficit of 7,215 ASF. With 0 ASF of clinic space planned for construction, there would be a net deficit of

8,288 ASF in Target Year 2015.

With no further ASF constructed, there would be a large deficit of 12,074 ASF in Target Year 2034.

Biscayne Bay
There is not a current allocation. There is a current net deficit of 1,188 ASF. With 0 ASF of clinic space planned for construction, there would be a net deficit of 1,365 ASF in Target Year 2015.

With no further ASF constructed, there would be a large deficit of 1,989 ASF in Target Year 2034.

550 Demonstration + Service (Cat550/555)

Note: Space Standards for fixed Capital Outlay Needs Generation Formula does not indicate a planning allocation for Demonstration Space. Therefore, the CEFPI standard was reviewed (0.40 ASF/FTE or ad hoc), and a rate of 0.10 ASF/FTE was used.

Modesto A. Maidique
There is not a current allocation. There is a current net deficit of 2,229 ASF. With 0 ASF of demonstration space planned for construction, there would be a net surplus of 1,961 ASF in Target Year 2015.

With no further ASF constructed, there would be a surplus of 1,014 ASF in Target Year 2034.

Biscayne Bay
There is not a current allocation. There is a current net deficit of 297 ASF. With 0 ASF of demonstration space planned for construction, there would be a net deficit of 341 ASF in Target Year 2015.

With no further ASF constructed, there would be a deficit of 497 ASF in Target Year 2034.

580 Greenhouses + Service (Cat580/585)

Note: Space Standards for fixed Capital Outlay Needs Generation Formula does not indicate a planning allocation for greenhouse space. Therefore, the CEFPI standard was reviewed (0.50 ASF/FTE or ad hoc), and a rate of 0.50 ASF/FTE was used.

Modesto A. Maidique
There is not a current allocation. There is a current net deficit of 5,553 ASF. With 0 ASF of greenhouse space planned for construction, there would be a net deficit

of 6,894 ASF in Target Year 2015.

With no further ASF constructed, there would be a deficit of 11,267 ASF in Target Year 2034.

Biscayne Bay
There is not a current allocation. There is a current net deficit of 1,437 ASF. With 0 ASF of greenhouse space planned for construction, there would be a net deficit of 1,657 ASF in Target Year 2015.

With no further ASF constructed, there would be a deficit of 2,437 ASF in Target Year 2034.

600 GENERAL USE FACILITIES

610/ Assembly & Service (Cat 610/615)

620 Exhibition Space & Service (Cat 620/625)

Note: The Florida Board of Governors' *Space Standards for fixed Capital Outlay Needs Generation Formula* list categories 610 and 620 as one single space allocation. That allocation is 3.0 ASF/FTE for both the MAM and BB campuses.

Modesto A. Maidique
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation of 3.00 ASF per FTE.

There is a current net surplus of 13,275 ASF. This equates to a current allocation of 3.74 ASF/FTE. With 18,699 ASF of Assembly/Exhibition space that is planned to be constructed, there would be 86,088 ASF, which would equate to a net surplus of 23,928 ASF in Target Year 2015.

With no further ASF constructed, there would be a deficit of 4,467 ASF in Target Year 2034.

Biscayne Bay
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation of 3.00 ASF per FTE.

There is a current net surplus of 7,366 ASF. This equates to a current allocation of 5.48 ASF/FTE. With 0 ASF of Assembly/Exhibition space to be constructed, there would be 16,279 ASF, which would equate to a net surplus of 6,041 ASF in Target Year 2015.

With no further ASF constructed, there would be a surplus of 1,364 ASF in Target Year 2034.

630 Food Service (Cat 630/635)

Note: Space Standards for fixed Capital Outlay Needs Generation Formula does not indicate a planning allocation for Food Service. Therefore, the CEFPI method using 'Planning Head Count' (PHC) was applied.

Food service calculations are based on lunch hour service, since it is the largest demand period on campus. The 'Planning Head Count' (PHC) is based on percentages of students with meal cards, students without meal cards, and faculty and staff. Seating turnover rate was 2.5 "turns" per lunch hour. Refer to "Calculations' section in *Space Needs Analysis* document for additional assumptions.

Modesto A. Maidique
The PHC used for Modesto A. Maidique was calculated at 28,576, with 2.5 turns at peak hours.

There is not a current allocation. There is a current net deficit of 79,415 ASF. With 0 ASF of food service space planned for construction, there would be a net deficit of 97,974 ASF in Target Year 2015.

With no further ASF constructed, there would be a large deficit of 163,472 ASF in Target Year 2034.

Biscayne Bay
The PHC used for Biscayne Bay was calculated at 6,004, with 2.5 turns at peak hours.

There is not a current allocation. There is a small net deficit of 1,540 ASF. With 0 ASF of food service space planned for construction, there would be a net deficit of 5,254 ASF in Target Year 2015.

With no further ASF constructed, there would be a net deficit of 18,361 ASF in Target Year 2034.

650 Student Lounge + Service (Cat 650/655)

Note: Space Standards for fixed Capital Outlay Needs Generation Formula does not indicate a planning allocation for Student Lounge Space. Therefore, the CEFPI standard was reviewed (2.00 ASF/FTE or ad hoc), and a rate of 2.00 ASF/FTE was used.

Modesto A. Maidique
There is not a current allocation. There is a net deficit of 16,777 ASF. With 0 ASF of student lounge space planned for construction, there would be a net deficit of 22,141 ASF in Target Year 2015.

With no further ASF constructed, there would be a net deficit of 41,071 ASF in Target Year 2034.

Biscayne Bay
There is not a current allocation. There is a current net deficit of 7,510 ASF. With 0 ASF of student lounge space planned for construction, there would be a net deficit of 8,835 ASF in Target Year 2015.

With no further ASF constructed, there would be a net deficit of 13,512 ASF in Target Year 2034.

Note: As part of a Student Centered Learning environment, it is encouraged that students (and faculty) be provided informal spaces for “productive collisions”. These spaces are where students, faculty and administrators can be “encouraged” to cross paths when they otherwise might not, thus providing opportunities for cross pollination of disciplines and ideas.

660 Merchandising + Service (Cat 660/665)

Note: Space Standards for fixed Capital Outlay Needs Generation Formula does not indicate a planning allocation for merchandising space. Therefore, the CEFPI standard was reviewed (3.00 ASF/FTE or ad hoc), and a rate of 3.00 ASF/FTE was used.

Modesto A. Maidique
In Fall 2008 Merchandising has a deficit of 15,712 ASF, and remains a deficit at 23,758 ASF in target year 2015, and a deficit of 52,153 ASF in target year 2034.

With an increase of resident students, this figure should be reviewed, and may possibly need to be adjusted upwards. (could be much larger dependent on residents’ behavior)

Biscayne Bay
In Fall 2008 Merchandising has a small deficit of 615 ASF, and remains a deficit at 1,719 ASF in target year 2015, and a deficit of 5,616 ASF in target year 2034.

With an increase of resident students, this figure should be reviewed, and may possibly need to be adjusted upwards. (could be larger dependent on residents’ behavior)

670 Recreation + Service (Cat 670/675)

This CEFPI category is intended to include such spaces as arcade rooms, table games, fitness, TV viewing, etc., and can include physical education spaces if used for non-instructional purposes.

Note: Space Standards for fixed Capital Outlay Needs Generation Formula does not indicate a planning allocation for recreation space. Therefore, the CEFPI standard was reviewed (1.50 ASF/FTE or ad hoc), and a rate of 1.50 ASF/FTE was used.

Modesto A. Maidique
The calculation is based on 1.5 ASF/FTE. This equates to a very small deficit of 28 ASF in Year 2006, a net deficit of 5,392 ASF in target year 2015, and a net deficit of 24,322 ASF in target year 2034.

Biscayne Bay
The calculation is based on 1.5 ASF/FTE. This equates to a net deficit of 2,486 ASF in Year 2006, a net deficit of 3,148 ASF in target year 2015, and net deficit of 5,487 ASF in target year 2034.

In light of discussions on this category, review and study of the potential "cross-over' reporting of Categories 520 and 670 (and other categories if necessary) probably warrant further discussion and consideration.

680 Meeting Room + Service (Cat 680/685)

690 Student Academic Meeting Room & Service (Cat 690/695)

Modesto A. Maidique
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation of 0.60 ASF per FTE.

There is a current excess of 14,440 ASF. With 2,000 ASF of meeting room space planned for construction, there would be a net surplus of 14,831 ASF in Target Year 2015.

With no further ASF constructed, there would be a net surplus of 9,152 ASF in Target Year 2034.

Biscayne Bay
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation of 0.60 ASF per FTE.

There is a small deficit of 284 ASF. With 2,000 ASF of meeting room space planned for construction, there would be a net surplus of 1,451 ASF in Target Year 2015.

With no further ASF constructed, there would be a small surplus of 516 ASF in Target Year 2034.

700 SUPPORT FACILITIES

710 Central Computer / Telecomm & Service (Cat 710/715)

720 Shop / Central Service (Cat 720/725)

730 Central Storage (Cat 730/735)

740 Vehicle Storage (Cat 740/745)

750 Central Service (Cat 750/755)

760 Hazardous Materials & Service (Cat 760/765)

Note: The Florida Board of Governors' *Space Standards for fixed Capital Outlay Needs Generation Formula* list combined categories 710-760 as one single space allocation.

Modesto A. Maidique
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation 7.08 ASF per FTE.

There is a current net deficit of 54,149 ASF. This equates to a current allocation of 4.08 ASF/FTE. With 32,490 ASF of support space that is planned to be constructed, there would be 73,560 ASF, which would equate to a net deficit of 73,138 ASF in Target Year 2015.

With no further ASF constructed, there would be a deficit of 140,151 ASF in Target Year 2034.

Biscayne Bay
Space Standards for fixed Capital Outlay Needs Generation Formula indicates a planning allocation 7.08 ASF per FTE.

There is a current net surplus of 3,185 ASF. This equates to a current allocation of 8.15 ASF/FTE. With 600 ASF of support space that is planned to be constructed, there would be 24,820 ASF, which would equate to a net surplus of 658 ASF in Target Year 2015.

With no further ASF constructed, there would be a deficit of 10,380 ASF in Target Year 2034.

800 HEALTH CARE FACLITIES (Cat 800)

Note: Space Standards for fixed Capital Outlay Needs Generation Formula does not indicate a planning allocation for Health Care Space. Therefore, the CEFPI standard was reviewed (2.0 ASF/FTE plus core of 2,000 ASF or ad hoc), and a core of 2,000 ASF plus a rate of 0.4 ASF/FTE was used.

Modesto A. Maidique
There is not a current allocation. There is a net deficit of 1,081 ASF. With 0 ASF of health care space planned for construction, there would be a net deficit of 2,094 ASF in Target Year 2015.

With no further ASF constructed, there would be a net deficit of 5,668 ASF in Target Year 2034.

Biscayne Bay
There is not a current allocation. There is a net deficit of 1,180 ASF. With 0 ASF of health care space planned for construction, there would be a net deficit of 1,521 ASF in Target Year 2015.

With no further ASF constructed, there would be a net deficit of 2,723 ASF in Target Year 2034.

SUMMARY CONCLUSION

Modesto A. Maidique
The current MAM allocation rate is 95.68 ASF/FTE, while the target rate of 131.00 ASF/FTE is considerably larger. This indicates a significant campus wide deficit per the campus ASF/FTE ratio, which is reflected in considerable crowding on campus for various functions.

Biscayne Bay
The current BB allocate rate is 111.45 ASF/FTE, not far off the target rate of 118.55 ASF/FTE (6.3% lower). This implies that there might be some localized crowding, but on the whole, the BB campus has adequate space to deliver its Mission at its current FTE level.

6.0 SUPPORT FACILITIES ELEMENT

(1) DATA REQUIREMENTS

a) Inventory of Existing Building Spaces for Support Facilities.

Figures 6.1, 6.2 and 6.3: Support Facilities depict typical support facilities at Modesto A. Maidique Campus, Biscayne Bay Campus, and other FIU sites, including the Engineering Center, the FIU Wolfsonian and Wolfsonian Annex. Table 6.1 contains an inventory of existing support buildings by function for each campus.

Table 6.1 Inventory of Existing Building Spaces for Support Facilities (in GSF)

MODESTO A. MAIDIQUE CAMPUS	Office/Computer	Student Academic Support	Campus Support Service	Other
Bldg. 1 Charles E. Perry	75,920		765	1,211
Bldg. 2 Deuxieme Maison	41,873		898	227
Bldg. 3 E.R. Graham Center	33,183		2,456	89,271
Bldg. 4 Viertes Haus	12,691		119	
Bldg. 4A Central Utilities	200		600	
Bldg. 5 Green Library	33,380		226	197
Bldg. 6 Owa Ehan	11,524		459	205
Bldg. 6A Wertheim Conservatory			52	1,365
Bldg. 7 Pharmed Arena	6,175		885	1,224
Bldg. 8 Engineering/Computer	18,865		659	38
Bldg. 9 Chemistry & Physics	10,081		118	46
Bldg. 10 College of Health	5,548			
Bldg. 11 Business Administration	21,161		1,104	153
Bldg. 12 University Health Service Complex	8,688			5,993
Bldg. 13 Labor Center	6,490		332	604
Bldg. 14 Ziff Education	18,848	698	202	
Bldg. 14A UP Information Center	552			
Bldg. 15 Baseball Stadium	2,134		517	7,197
Bldg. 16 Wertheim Arts	4,512			
Bldg. 17 Childrens Creative Learning Cter	1,128			4,033
Bldg. 19 Panther Hall	8,785			57,946
Bldg. 19A University Park Towers	6,146		7,134	157,667
Bldg. 19B Everglades Hall	1,119		1,473	111,772
Bldg. 20 Athletic Fitness Center	1,444		214	1,076
Bldg. 21 Health & Life Sciences	18,901		1,088	
Bldg. 21A Health & Life Sciences II	32,714			

MODESTO A. MAIDIQUE CAMPUS	Office/Computer	Student Academic Support	Campus Support Service	Other
Bldg. 22 Campus Support - Shop	12,649		25,199	
Bldg. 23 Campus Support Complex	27,491			
Bldg. 24 Paul Cejas Architecture Building	17,551		2,071	3,318
Bldg. 25 Management & Advanced Research	40,054			618
Bldg. 28 University House				6,613
Bldg. 40 Women's Softball/Tennis Complex	335			
Bldg. Tower C01	2,043		193	
Bldg. C05 Duplicating Center	2,533		2,613	
PG1 Parking Garage One Blue	1,437		241,000	
PG2 Parking Garage Two Gold	1,831		241,000	
PG3 Parking Garage One Panther	866		381,996	
PG2 Parking Garage Two Red	865		381,996	
THA A Housing Office	413			1,495
THB B Tam Housing				10,052
THC C Tam Housing				12,800
THD D Tam Housing				13,135
THE E Tam Housing				10,052
THF F Tam Housing				13,095
THG G Tam Housing				13,548
THH H Tam Housing				13,366
THJ J Tam Housing				13,100
THK K Tam Housing				13,100
THL L Tam Housing				13,100
W02 West 2	1,915		4,986	
W02B Grounds Chemical Storage			94	
TOTAL	492,045	698	1,300,449	577,617

BISCAYNE BAY CAMPUS	Office/Computer	Student Academic Support	Campus Support Services	Other
BH1 Bay Vista Housing	360			79,327
N01 Hospitality Management	11,952			604
N02 Academic One	34,752		938	758
N02A Central Utilities	427		266	
N03 Wolfe University Center	18,922			22,181
N04 Academic Two	11,680		550	819
N05 The Library	9,953		156	529
N06 Health/Wellness Center	713		129	1,468
N07 Kovens Center	4,367		2,388	18,965
N08 Ecology Laboratory Building	129			
P04 PDC Administration	2,673			

MODESTO A. MAIDIQUE CAMPUS	Office/Computer	Student Academic Support	Campus Support Service	Other
P09 Wellness Center	1,386			
P10 BBC Information Center	26			
R01 Outdoor Recreation	332			183
S01 Central Receiving	529		5,137	
S02 Public Safety	1,301		508	49
S03 Physical Plant	2,324		6,613	
S03A Plant Support			269	
S04 Grounds	305		2,723	
TOTAL	102,131		19,677	124,883

BISCAYNE BAY CAMPUS	Office/Computer	Student Academic Support	Campus Support Services	Other
101 Engineering Center	66,350		3,221	7,429
102 Operations/Utility	3,410		1,882	
TOTAL	69,760		5,103	7,429

FIU WOLFSONIAN	Office/Computer	Student Academic Support	Campus Support Services	Other
MB01 Museum Headquarters	8,830		4,046	3,170
MB02 The Annex Storage Facility			2,194	
TOTAL	8,830		6,240	3,170

UNIVERSITY WIDE	Office/Computer	Student Academic Support	Campus Support Services	Other
TOTAL	672,766	698	1,331,469	713,099

b) Inventory of all University-owned Athletic Facilities

Table 6.2 Inventory of all University-owned Athletic Facilities (Fall 1999)

MODESTO A. MAIDIQUE	Number of Facilities	Estimated Usage	Total Acreage
Pharmed Arena	1	150,000	121,000 SF
Soccer Stadium	1	20,000	142,183 SF
Baseball Stadium	1	20,000	183,800 SF
FIU Community Stadium	1	250,000	339,490 SF
Multipurpose Fields	2	N/A	64,350 SF
Softball Field	1	N/A	74,939
Fitness Center	1	N/A	3,500 SF
Tennis Courts	12	N/A	124,260
Racquetball Courts	3	N/A	10,387
Par Course	32 stations	N/A	4 Acres
Basketball Courts	2	N/A	13,189 SF

BISCAYNE BAY CAMPUS	Number of Facilities	Estimated Usage	Total Acreage
Par Course	22 stations	N/A	42,057 SF
Swimming Pool	1	N/A	N/A
Tennis Courts	6	N/A	N/A
Multipurpose Fields	~~3~~ 1	N/A	1 Acre
Basketball Courts	1	N/A	N/A

SOURCE: FIU, 2002

c) Projections for Future Student FTE Enrollment

Table 6.3 Projections for Future Student FTE Enrollment

	2004-05	2006-07	2007-08	2008-09	2009-10	2010-11	2014-15
MODESTO A. MAIDIQUE							
Undergraduate	14,269	15,810	16,759	17,765	18,831	19,960	25,200
	2,476	2,867	3,039	3,221	3,415	3,619	4,569
BISCAYNE BAY CAMPUS							
Undergraduate	3,022	3,361	3,562	3,776	4,003	4,242	5,356
Graduate	301	347	368	390	414	439	553
BROWARD PINES CAMPUS							
Undergraduate	234	262	278	295	312	331	418
Graduate	195	224	237	252	266	283	357
OTHER (1)							
Undergraduate	1,090	1,213	1,285	1,363	1,444	1,531	1,933
Graduate	210	243	257	272	289	306	387
TOTAL	21,587	24,327	25,785	27,334	28,974	30,711	38,773

Source: Office of Planning and Institutional Research

(1) Off campus and sponsored credit. Includes Online, Off-Campus, Sponsored Credit

d) Space Use Standards for Support Facilities

Table 6.4 Florida Board of Education Space Use Standards for Support Facilities

SPACE TYPE BY CATEGORY	SPACE STANDARD	RESULTING NASF/FTE
MODESTO A. MAIDIQUE		
Offices/Computer	145.00 ASF per FTE position	52.2
(Faculty/Staff Lounge Space)	3.00 ASF per FTE position	
Campus Support Services	5 percent of total ASF generated by formula plus 5 percent of other existing space requiring support services	7.08
Student Academic Support	0.60 ASF per FTE	0.6

SPACE TYPE BY CATEGORY	SPACE STANDARD	RESULTING NASF/FTE
BISCAYNE BAY CAMPUS		
Offices/Computer	145.00 ASF per FTE position	52.2
(Faculty/Staff Lounge Space)	3.00 ASF per FTE position	
Campus Support Services	5 percent of total ASF generated by formula plus 5 percent of other existing space requiring support services	7.08
Student Academic Support	7.50 ASF per FTE	0.6

2001 Educational Plant Survey.

e) Space Utilization for Support Facilities

Existing Space Utilization for Support Facilities

Offices	40 HPW
Computer	100% Utilized
Campus Support Service	No Vacant Space
Student Academic Support	No Vacant Space

(2) ANALYSIS REQUIREMENTS

a) Projection of Future Support Service Activities

b) Future Needs of the Athletic Department

The University currently has a sufficient amount of recreation and open space to serve the students at each campus. As FIU continues its enrollment and increases the number of students living on campus, the need for additional informal recreation space will be needed to support on-campus residents.

MODESTO A. MAIDIQUE

Future recreation at Modesto A. Maidique Campus should remain limited to the western and southern edges of the campus adjacent to existing athletic facilities and should be incorporated into future housing development on the east. Open space development should be formalized and unified throughout the academic core.

BISCAYNE BAY CAMPUS

Biscayne Bay Campus recreation include additional tennis courts, a gymnasium and general noncompetitive recreation facilities. There has also been discussion to further develop the existing rowing and water related activities.

Recreation space at Biscayne Bay Campus is located on the western edge of the campus close to the water's edge. Fields in this area do not obstruct the views of Biscayne Bay; however, fenced facilities such as tennis courts and above ground level structures such as the campus aquatic center do obstruct the views that are unique to this campus. Future recreation development will most likely serve the on campus residents and should be in close proximity to the housing area.

c) A projection or assumption about the future space utilization, for the space types identified in the DATA REQUIREMENTS section of this element.

Information was not available to complete this response.

Projection of Future Net Support Space Needs Distributed to the Campus or Satellite Facility

Table 6.5 Land Area Requirement for Athletic Facilities

CAMPUS	ATHLETIC FACILITIES NEEDS (ACRES)
MODESTO A. MAIDIQUE	45 acres
BISCAYNE BAY CAMPUS	17 acres

d) Projection of Future Support Facility Gross Building Area Needs.

Table 6.6 Projection of Future Support Facility Gross Building Area Needs

Total Gross Support Space Needs Deficit for 2015

UNIVERSITY WIDE	Office	Aud/ Exhibit	Instruct . Media	Student Support	Gym	Support Services	Total
2015 Projected Net Space Needs	1,904,573	160,551	54,891	32,109	257,651	262,097	2,671,871
Less Inventory as of October 2005	934,805	154,158	25,862	6,162	94,344	150,180	1,365,510
Less Under Construction or in 2005-15 CIP	301,863	25,236	9,600	14,625	-	37,635	388,959
Total Gross Space Needs Deficit for 2015	667,905	(18,843)	19,430	11,322	163,307	74,282	917,402

e) Analysis Translating Future Net and Gross Building Area Requirements into Building "Increments".

Table 6.7: Future Space Needs by Space Type (Form B): 'Net Assignable Square Feet Eligible for Fixed Capital Outlay Budgeting

	Academic Space Needs					Support Space Needs							TOTAL
'Space Needs by Space Type 2005-2015*	Class-room	Teaching Lab	Study	Research Lab	Sub Total	Office	Aud/ Exhibition	Instruct. Media	Student Support	Gym	Support Services	Sub Total	Total NASF
2015 Projected Net Space Needs Based on FTEs	**429,573**	**467,414**	**619,706**	**371,408**	**1,888,101**	**1,269,715**	**107,034**	**36,594**	**21,406**	**171,767**	**174,731**	**1,781,247**	**3,669,348**
University Park and Engineering Center	359,610	409,919	522,148	294,118	1,585,795	1,097,881	89,307	33,639	17,861	171,767	149,813	1,560,268	3,146,063
Biscayne Bay Campus	69,963	57,495	97,558	77,290	302,306	171,834	17,727	2,955	3,545	0	24,918	220,979	523,285
Inventory as of October 2005	**186,106**	**297,757**	**213,297**	**218,368**	**915,528**	**623,203**	**102,772**	**17,241**	**4,108**	**62,896**	**100,120**	**910,340**	**1,825,868**
University Park and Engineering Center	139,417	230,204	182,123	204,128	755,872	530,405	96,323	15,712	4,108	62,896	78,248	787,692	1,543,564
Biscayne Bay Campus	46,689	67,553	31,174	14,240	159,656	92,798	6,449	1,529	0	0	21,872	122,648	282,304
Under Construction or in 2005-2015 CIP	**158,585**	**101,500**	**116,730**	**65,400**	**442,215**	**201,242**	**16,824**	**6,400**	**9,750**	**0**	**25,090**	**259,306**	**701,521**
University Park & Engineering Center	***150,585***	***100,500***	***108,730***	***57,400***	***417,215***	***181,990***	***14,324***	***5,600***	***6,750***	***0***	***24,890***	***233,554***	***650,769***
Patricia and Phillip Frost Art Museum (FECG), UP	0	0	0	0	0	5,765	14,324	0	0	0	5,100	25,189	25,189
College of Law, UP	10,360	12,500	45,000	0	67,860	12,925	0	350	400	0	1,300	14,975	82,835
Central Utilities Plant Sub Station, UP	0	0	0	0	0	400	0	0	0	0	0	400	400
Office/Classroom (Graduate School of Business), UP	24,775	0	4,680	0	29,455	22,760	0	0	0	0	2,490	25,250	54,705
Social Sciences, UP	17,500	0	0	0	17,500	15,570	0	500	0	0	1,500	17,570	35,070
Molecular Biology, UP	0	0	0	23,700	23,700	2,650	0	0	0	0	1,500	4,150	27,850
Facilities Infrastructure/Capital Renewal	0	0	0	0	0	0	0	0	0	0	0	0	0
Science/Classroom Complex-UP	25,000	30,000	12,750	0	67,750	12,000	0	1,000	1,000		0	14,000	81,750
Graduate Classroom Building -UP	7,500	0	5,000	10,500	23,000	10,000	0	750	1,200	0	0	11,950	34,950
Satellite Chiller Plant, UP	0	0	0	0	0	500	0	0	0	0	0	500	500
Health-Science Lab Clinic UP	0	0	1,500	10,000	11,500	8,000	0	0	0	0	0	8,000	19,500
Humanities Center/Offices-UP	4,000	30,000	4,000	0	38,000	5,500	0	0	0	0	0	5,500	43,500
International Hurricane Center, UP	0	1,000	0	3,000	4,000	12,000	0	1,000	0	0	0	13,000	17,000
Training Complex, UP	0	0	0	0	0	14,420	0	0	0	0	10,000	24,420	24,420
Graduate School Business Phase II, UP	4,450	0	800	0	5,250	16,000	0	0	0	0	0	16,000	21,250
Health & Life Science II Nursing Labs, UP	0	0	0	3,200	3,200	0	0	0	1,150	0	0	1,150	4,350
Science/Classroom Complex-Phase II, UP	40,000	15,000	30,000	0	85,000	20,000	0	2,000	1,000	0	0	23,000	108,000
Public Safety, UP	0	0	0	0	0	12,000	0	0	0	0	3,000	15,000	15,000
Honors College, UP	10,500	3,000	3,000	3,000	19,500	6,500	0	0	0	0	0	6,500	26,000
Construction Management Bldg, EC	6,500	9,000	2,000	3,000	20,500	5,000	0	0	2,000	0	0	7,000	27,500
EC Classroom Expansion, EC				1,000	1,000							0	1,000
Renovation of Existing Space	0	0	0	0	0	0	0	0	0	0	0	0	0
Biscayne Bay Campus	***8,000***	***1,000***	***8,000***	***8,000***	***25,000***	***19,252***	***2,500***	***800***	***3,000***	***0***	***200***	***25,752***	***50,752***
Wolfe University Center Addition, BBC	0	0	0	0	0	952	0	0	0	0	0	952	952
Classroom/Office (AC IV), BBC	8,000	0	6,000	8,000	22,000	16,800	0	800	0	0	0	17,600	39,600
Hospitality Management Beverage Mgmt Cntr. BBC	0	1,000	0	0	1,000	300	0	0	2,000	0	200	2,500	3,500
Theater. BBC (P,C,E)	0	0	2,000	0	2,000	1,200	2,500	0	1,000	0	0	4,700	6,700

GRAND TOTAL													
'Space Needs by Space Type 2005-2015*	**Class-room**	**Teaching Lab**	**Study**	**Research Lab**	**Sub Total**	**Office**	**Aud/ Exhibition**	**Instruct. Media**	**Student Support**	**Gym**	**Support Services**	**Sub Total**	**Total NASF**
University Wide													
2015 Projected Net Space Needs Based on FTEs	429,573	467,414	619,706	371,408	1,888,101	1,269,715	107,034	36,594	21,406	171,767	174,731	1,781,247	3,669,348
Less Inventory as of October 2005	186,106	297,757	213,297	218,368	915,528	623,203	102,772	17,241	4,108	62,896	100,120	910,340	1,825,868
Less Under Construction or in 2005-2015 CIP	158,585	101,500	116,730	65,400	442,215	201,242	16,824	6,400	9,750	0	25,090	259,306	701,521
Adjusted Total Net Space Needs for 2015	**84,882**	**68,157**	**289,679**	**87,640**	**530,358**	**445,270**	**(12,562)**	**12,953**	**7,548**	**108,871**	**49,521**	**611,601**	**1,141,959**
University Park and EC													
2015 Projected Net Space Needs Based on FTEs	359,610	409,919	522,148	294,118	1,585,795	1,097,881	89,307	33,639	17,861	171,767	149,813	1,560,268	3,146,063
Less Inventory as of October 2005	139,417	230,204	182,123	204,128	755,872	530,405	96,323	15,712	4,108	62,896	78,248	787,692	1,543,564
Less Under Construction or in 2005-2015 CIP	150,585	100,500	108,730	57,400	417,215	181,990	14,324	5,600	6,750	0	24,890	233,554	650,769
Adjusted Total Net Space Needs for 2015	**69,608**	**79,215**	**231,295**	**32,590**	**412,708**	**385,486**	**(21,340)**	**12,327**	**7,003**	**108,871**	**46,675**	**539,022**	**951,730**
Biscayne Bay Campus													
2015 Projected Net Space Needs Based on FTEs	69,963	57,495	97,558	77,290	302,306	171,834	17,727	2,955	3,545	0	24,918	220,979	523,285
Less Inventory as of October 2005	46,689	67,553	31,174	14,240	159,656	92,798	6,449	1,529	0	0	21,872	122,648	282,304
Less Under Construction or in 2005-2015 CIP	8,000	1,000	8,000	8,000	25,000	19,252	2,500	800	3,000	0	200	25,752	50,752
Adjusted Total Net Space Needs for 2015	**15,274**	**(11,058)**	**58,384**	**55,050**	**117,650**	**59,784**	**8,778**	**626**	**545**	**-**	**2,846**	**72,579**	**190,229**

NOTES: Funded projects consisting of space that is not eligible for fixed capital outlay budgeting are not shown.
* 2005-15 Space Needs based on 2000-01 NASF/FTE factors and projected FTEs: UP FTE: 29,769 BBC FTE: 5,909
Source: Form B for UP for 2010-11 revised on 2/15/06; Form B for BBC for 2010-11 revised on 1/13/06; and Capital Improvement Plan (CIP-2) 2007-2008 through 2011-2012

7.0 HOUSING ELEMENT

(1) DATA REQUIREMENTS.

a) Inventory of Existing Beds by Type

MODESTO A. MAIDIQUE
As indicated in Table 7.1, the current total number of bed spaces at Modesto A. Maidique equates to Two thousand seven hundred and seven (2,709). See Figure 7.1: Housing Facilities for the location of housing.

BISCAYNE BAY CAMPUS
As indicated on Table 7.1, the current total number of bed spaces at Biscayne Bay Campus equates to three hundred (300). Due to staffing arrangements, sixteen (16) existing bed spaces are not rented, leaving a total of two hundred eighty four (284) rentable spaces at Biscayne Bay Campus. See Figure 7.2: Housing Facilities for the location of housing.

7.1 Inventory of Existing Beds by Type
Modesto A. Maidique

Location	**Total**	**Type of Student**
University Park Towers	500	Upper Classmen, Graduate
4-Bedroom Single		
2-Bedroom Single		
Studio Single		
Panther Hall	400	Freshman, Upper Classmen, Graduate
2-Bedroom Double		
2-Bedroom Single		
Lakeview Hall	825	Freshman,Soph, Upper Classmen
2-Bedroom Double		
4-Bedroom Single		
Everglades Hall	400	Upper Classmen
3-Bedroom Single		
University Park Apartments	584	Upper Classmen, Graduate, Married
Studio Single		
Efficiency Single		
1-Bedroom Double		
2-Bedroom B Double		
2-Bedroom B Single		
2-Bedroom Quad		
2-Bedroom Quad Single		
4-Bedroom Single		
Total Beds	2,709	

Biscayne Bay Campus

Location	Total	Type of Student
Bay Vista Housing	300	Freshman, Upper Classmen, Married
Studio Single		
1-Bedroom Single (P)		
Efficiency Single (S)		
1-Bedroom Single(S)		
2-Bedroom Single (S)		
Total Beds	300	

Source: FIU Housing Census
2009-2010 FIU Housing Brochure (for Type of Student)

b) Inventory of Existing Beds Provided for Graduate Students

MODESTO A. MAIDIQUE
Presently ninety (90) graduate student reside in Panther Hall, twenty-nine (29) graduate students are housed in University Towers and thirty-three (33) graduate students are housed in University Apartments. One of the University Apartment buildings is designated for students at least twenty-five years old and older, graduate students and married students without children.

Biscayne Bay CAMPUS
Currently thirty (30) graduate students are housed in Bay Vista Housing.

c) Inventory of Existing Housing Units, by Type, for Married Students

MODESTO A. MAIDIQUE
Two of the University Park Apartment buildings are designated for students twenty-five years and older, graduate students and married students without children. Another building is designated for students at least twenty-one years and older. Currently, no married students are housed in Modesto A. Maidique housing. Married students normally opt for rental in the existing off-campus apartment community.

BISCAYNE BAY CAMPUS
Currently, no married students are housed in Biscayne Bay Campus housing. Married students normally opt for rental in the existing off-campus apartment community.

d) Inventory of Other Existing Student Housing

MODESTO A. MAIDIQUE
There are currently two fraternity houses at Modesto A. Maidique Campus: Phi Gamma Delta and Pi Kappa Alpha. The houses are located near the entrance of 107th Ave and 16th Street. Each house has 35 beds for a total of 70 beds. Three additional houses are being planned for the future, which will

raise the total beds to 150.

BISCAYNE BAY CAMPUS

No specific beds or apartments are set aside for fraternities and sororities. No facilities are currently contemplated for fraternity/sorority housing.

e) Inventory of Historically Significant Housing

MODESTO A. MAIDIQUE

Modesto A. Maidique Campus neither maintains nor owns any historically significant housing, either on or off campus.

BISCAYNE BAY CAMPUS

Biscayne Bay Campus neither maintains nor owns any historically significant housing, either on or off campus.

f) Description of the Existing Housing Types Provided On Campus

All housing units are suite style with private bathrooms and kitchens. Bedrooms are furnished with a bed, desk, chair and dresser. Additional services include basic cable television in each bedroom, local telephone service and unlimited internet access via an Ethernet connection. Other common areas include a study lounge, laundry room, and computer lab. Below is a description of the housing facilities for each campus.

MODESTO A. MAIDIQUE

On-campus housing includes University Park Apartments, an apartment complex of ten (10) buildings; Panther Residence Hall, a four-story residence hall consisting of three (3) separate buildings around a central courtyard; University Park Towers, comprised of three (3) sections: North Tower, South Tower and West Wing; Everglades Hall, a six-story residence hall located on a central courtyard; and Lakeview Hall, a six-story residence hall consisting of two buildings. Below is a list of the types of units by housing facility.

University Park Apartments offers a variety of unit types including studio and efficiency privates, two bedroom privates, four bedroom privates, one bedroom doubles, two bedroom double and two bedroom quads. All units are apartment style with private bathrooms and kitchens. Each building contains a laundry room and common area courtyard. All rooms open to the courtyard area. Available recreational facilities available to students include a gazebo with a barbecue pit, sand volleyball court and basketball court. All residents have access to a central complex building housing the complex office, television lounge, computer lab and game room.

Panther Hall residence is a four-story residence hall. The first floor contains one wing of students, the office complex, Central Housing Office, and several common areas. The remaining three floors each contain three wings of approximately forty (40) students each. One wing is designated for students in the First Year Residents Succeeding Together program. Another wing houses the Honors/Scholars program students. All accommodations are traditional two bedroom suites. Each suite offers double accommodation with private bedrooms and contains a full size refrigerator and microwave. The building provides common area/study lounges on each floor. The first floor contains a recreation room and one large lounge. Other common areas housed in the residence hall include a computer lab, laundry facilities, and common area kitchens. An outdoor courtyard area contains a sand volleyball court and a swimming pool.

University Park Towers offers four bedroom apartment suites. Each suite contains two private bathrooms, a fully equipped kitchen, and a furnished living room. Bedrooms are furnished with a bed, desk, chair and dresser. Additional services include basic cable television in each bedroom and the living room and each bedroom is equipped with a fast internet connection.

Everglades Hall offers apartment style housing with private bedrooms. Each apartment suite contains three bedrooms, a shared bathroom, and full kitchen. Additional services for each apartment include high-speed Internet access and cable TV service. Additional building services include study/social lounges, a multi-purpose lounge, a seminar room, Wi-Fi lounges, academic advising, laundry, swimming pool and sand volleyball court.

Lakeview Hall is comprised of two buildings: Lakeview North, a sophomore and upper classmen residence hall, and Lakeview South, a freshman residence hall. Both buildings offer 2-bedroom and 4-bedroom residence suites, fully furnished and air-conditioned. The suites also contain a shared bathroom, refrigerator, high-speed Internet access and cable TV service. Overall residence hall amenities include academic advising and free tutoring, study/multi-purpose lounges, seminar rooms, mailboxes and laundry. Recreational amenities include access to a swimming pool and sand volleyball court in a central courtyard.

The Units Types at Modesto A. Maidique are described as follows:

University Park Towers
4-Bedroom Single
2-Bedroom Single
Studio Single
Panther Hall
2-Bedroom Double
2-Bedroom Single
Lakeview Hall
2-Bedroom Double
4-Bedroom Single
Everglades Hall
3-Bedroom Single
University Park Apartments
Studio Single
Efficiency Single
1-Bedroom Double
2-Bedroom B Double
2-Bedroom B Single
2-Bedroom Quad
2-Bedroom Quad Single
4-Bedroom Single

BISCAYNE BAY CAMPUS

Bay Vista Housing consists of a four-story apartment style building containing student apartments and common area spaces. The unit types at Bay Vista housing are described as follows:

Bay Vista Housing
Studio Single
1-Bedroom Single (P)
Efficiency Single (S)
1-Bedroom Single(S)
2-Bedroom Single (S)

(P)=Private Bathe
(S)=Share Bath

The first floor contains student apartments, the front desk complex office, and a community room. Student apartments are located on the remaining three floors. Unit types available are one person privates, two bedroom privates. All units are apartment style, with private or shared bathrooms and kitchens. A community room on the first floor serves as a television and game room. Other common areas include a study lounge, laundry room, and computer lab. An outdoor courtyard area contains barbecue pits and a sand volleyball court.

THE WOLFSONIAN

There is currently no housing available at this site.

ENGINEERING CENTER (EC)
There is currently no housing available at this site.

g) Inventory of University Provided Housing Located Off Campus

MODESTO A. MAIDIQUE
Due to the abundance of rental units available in Miami-Dade County, Modesto A. Maidique Campus does not provide any off-campus housing.

BISCAYNE BAY CAMPUS
Due to the abundance of rental units available in Miami-Dade County, Biscayne Bay Campus does not provide any off-campus housing.

h) Estimates of Students Housed On Campus and in University Facilities Located Off Campus

MODESTO A. MAIDIQUE
Modesto A. Maidique housing personnel estimate that excluding staffing and ELI arrangement, there are Two thousand six hundred and forty seven hundred (2,647)undergraduate and sixty (60) graduate students housed on campus. There are no married students presently housed on campus. Modesto A. Maidique does not provide any off-campus housing.

BISCAYNE BAY CAMPUS
Biscayne Bay Campus housing personnel estimate that excluding staffing arrangements, there are two hundred and fifty eight (258) undergraduate, Thirty (30) graduate and no married students housed on campus. Biscayne Bay Campus does not provide any off-campus housing.

i) Estimates of Full-Time Students Housed Off Campus in Non-University Provided Rental Housing

MODESTO A. MAIDIQUE
The urban community, in which Modesto A. Maidique is located, enables students to easily find some type of off-campus housing. According to a recent report on Housing in Miami-Dade County prepared by Miami-Dade County Planning Department, Miami-Dade County has the largest rental stock in South Florida. Unincorporated Dade County has the largest number of vacant-for-rent units and the highest number of vacant-for-sale units. Because of the abundance of rental units available in Miami-Dade County, Modesto A. Maidique does not provide any off-campus housing.

According to data provided by the FIU Office Institutional Research, 2008, there are eighteen thousand and thirty-eight (18,038) full-time equivalent (FTE) students. Approximately fifty-nine (59) percent of the student headcount enrollments for fall 2008 are full-time students. Since practically all of the students housed on campus are full-time status (Two thousand seven hundred and seven -2,707- students), approximately fourteen thousand thirty seven (14,037) live in some type of off-campus housing. Aside from out of state and foreign students, most students are from the Miami area at the time of enrollment and continue to live at home thus, not impacting significantly on the surrounding community.

Because there is no data available concerning the number of students living off-campus at home, the following assumptions have been made for off-campus projection purposes.

1. Approximately ninety-four (94) percent of the total student headcount are considered to live in some type of off-campus facility.

2. More than half of FTE students enrolled at Modesto A. Maidique live at home with family members therefore; approximately forty-seven (47) percent of the full-time students live in off-campus rental housing.

BISCAYNE BAY CAMPUS

The urban environment, in which Biscayne Bay Campus is located, enables students to easily find some type of off-campus housing. According to a report on Housing in Miami-Dade County prepared by Miami-Dade County Planning Department, Miami-Dade County has the largest rental stock in South Florida. Unincorporated Dade County has the largest number of vacant-for-rent units and the highest number of vacant-for-sale units. Because of the abundance of rental units available in Dade County, Biscayne Bay Campus does not provide any off-campus housing.

According to data provided by the FIU Office Institutional Research, 2008, there were four thousand and six hundred (,4,600) full-time students for the fall of 2008. Approximately sixty (60) percent of the student headcount enrollment for Fall 2008 are full-time students. Since practically all of the students housed on campus are full-time status (two hundred and eighty eight -288- students), approximately four thousand three hundred and twelve students(4,312) live in some type of off-campus housing. Aside from out of state and foreign students, most students are from the Miami area at the time of enrollment and continue to live at home thus, not impacting significantly on the surrounding community.

Because there is no data available concerning the number of students living off-campus at home, the following assumptions have been made for off-campus projection purposes.

1. Approximately ninety-six (96) percent of the total student headcount are considered to live in some type of off-campus facility.

2. More than half of FTE students enrolled at FIU live at home with family members therefore; approximately forty-eight (48) percent of the full-time students live in off-campus rental housing.

j) Inventory of the Host Community's Rental Housing Supply by Rental Range

Table 7.2 Host Community Market Rent Survey: 2005

MODESTO A. MAIDIQUE	**RENTAL RANGE**
33174	$780-$1200
33144	$825-$1700
33172	$875-$1400
33165	$825-$1700
33184	$800-$1325
BISCAYNE BAY	**RENTAL RANGE**
33181	$650-$1700
33161	$575-$950
33160	$900-$1750
33162	$750-1600

(2) ANALYSIS REQUIREMENTS

a) Existing University Policies Regarding the Percentage of Students for Which On-Campus Housing is Provided

MODESTO A. MAIDIQUE

No specific policy exists; however, it is understood that the FIU president has projected a goal of twenty (20) percent of the full-time equivalent (FTE) student enrollment in on-campus housing. Currently only fifteen (15) percent and Two thousand seven hundred and nine (2,709) FTE students are housed in on-campus residences. The twenty percent goal would equate to three thousand two hundred and fifty eight (3,258) beds for the current FTE enrollment. This goal is considered according to Modesto A. Maidique housing personnel as aggressive but achievable.

BISCAYNE BAY CAMPUS

No specific policy exists; however, it is understood that the FIU president has projected a goal of twenty percent of the full-time equivalent (FTE) student enrollment in on-campus housing. Currently only eight (8) percent and two hundred eighty eight (288) FTE students are housed in on-campus residences. The twenty percent goal would equate six hundred and sixty four (664) beds for the current FTE enrollment. Based on the percentage of current FTE students housed on-campus and considering the demographics of the student population, typically an older working student; the current goal of twenty percent may be overly aggressive. Biscayne Bay Campus housing personnel suggest that apart from an expansion of academic programs or other creative strategies such as expanding the Honors College that the twenty percent goal may not be achievable.

b) Projection of Students to be Housed On Campus in University-Provided Facilities

MODESTO A. MAIDIQUE

According to the current goal FIU has an established goal of maintaining housing for twenty percent of the full-time student enrollment. Modesto A. Maidique Campus is currently five hundred and fifty one (551) bed spaces shy of this goal. Without the addition of new residential housing this deficiency will naturally increase as enrollment increases. The projected FTE for students in the ten year planning period of 2005-2015 is twenty nine thousand seven hundred and sixty nine (29,769). The twenty percent goal for the projected FTE for the planning period would equate to five thousand eight hundred forty-one (5,841) beds for the ten year planning period. To meet the housing goal for the ten year planning period Modesto A. Maidique Campus would need to add Three thousand one hundred thirty-four (3,134) beds (see Table 7.3).

Modesto A. Maidique Campus currently houses no handicapped students. This is a reflection of demand and not policy or availability. Modesto A. Maidique housing is almost one hundred percent accessible to persons with disabilities. Currently, forty-one (41) units are adapted for use by handicapped students that meet current ADA standards. FIU policy states that five percent of suites for new property shall be available for ADA purposes.

BISCAYNE BAY CAMPUS

According to the current goal FIU has an established goal of maintaining housing for twenty percent of the full-time student enrollment. Biscayne Bay Campus is currently three hundred and seventy seven (377) bed spaces shy of this goal. Without the addition of new residential housing this deficiency will naturally increase as enrollment increases. The projected FTE for students in the ten year planning period of 2005-2015 is five thousand nine hundred and nine (5,909). The twenty percent goal for projected FTE for the planning period would equate to one thousand one hundred and fifty-nine (1,159) beds for the ten (10)-year planning period. To meet the housing goal for the ten year planning period Biscayne Bay Campus would need to add eight hundred seventy-one (871) beds (see Table 7.3).

Biscayne Bay Campus currently houses no handicapped students. This is a reflection of demand and not policy or availability. Biscayne Bay Campus housing is almost one hundred percent accessible to persons with disabilities. Thirteen (13) units are adapted for use by handicapped students that meet current ADA standards. FIU policy states that five percent of suites for new property shall be available for ADA purposes.

Table 7.3 Projected On-Campus Housing and Land Need – Biscayne Bay Campus

MODESTO A. MAIDIQUE	FTE	Projected Needed Beds	Inventory (beds)	Deficit (beds)
2004-2005	16,289	3,258	2,707	551
2009-2010	22,246	4,449	2,707	1,742
2014-2015*	29,769	5,841	2,707	3,134

BISCAYNE BAY CAMPUS	FTE	Projected Needed Beds	Inventory (beds)	Deficit (beds)
2004-2005	3323	665	288	377
2009-2010	4057	811	288	523
2014-2015*	5909	1159	288	871

* Cap of 7000 beds

c) Projection of Students to be Housed in Non-University Provided Facilities on Campus

MODESTO A. MAIDIQUE

Currently there are twenty-three social fraternities and sororities at Modesto A. Maidique. There are currently two fraternity houses at Modesto A. Maidique which together house 70 students. Three additional houses are being planned which will house an additional 80 students for a total of 150

BISCAYNE BAY CAMPUS

Biscayne Bay Campus has no plans for on-campus fraternities and sororities in this ten year planning period.

d) Analysis of the Existing On-Campus Housing

MODESTO A. MAIDIQUE

The campus residential core consists of four residence hall communities; a four-story residence hall of three separate buildings, Panther Hall; two high-rise apartment towers with a lower wing, University Towers; a six-story residence hall with three wings, Everglades Hall; and Lakeview Hall, a residence hall of two six-story buildings. Three of the residence communities, Panther, Everglades and University Towers, are located around a central courtyard that contains a sand volleyball court and swimming pool.

Panther Hall is a traditional residence hall with two bedroom suites. This facility is more economical than University Towers and is best suited for traditional lower division students. This traditional residence hall is appropriate space for summer conference housing. The size of the building footprint, one hundred twenty (120) students per floor, is considered excessive to achieve a sense of community. Though Panther Hall lacks some of the amenities of the newer University Towers it is a quality housing facility in excellent condition.

All apartments in University Towers include a fully equipped kitchen and furnished living rooms with computer access in each bedroom. The building footprint for University Towers is limited to forty (40) students per floor. This smaller building footprint fosters a more intimate environment than that of Panther Hall. There have been concerns expressed about the height of the residential towers. Various members of the faculty and administration have indicated that both visual scale and cost considerations should be evaluated prior to constructing additional high-rises at Modesto A. Maidique. Modesto A. Maidique has done a commendable job developing green spaces associated with each of the residential facilities. A central courtyard between Panther Hall, Everglades Hall and University Towers affords opportunity for limited recreational activities and social interaction, where students can informally gather. Attention has been given to assure that interior courtyards are secure, protected areas. There are limited unstructured recreational facilities associated with existing housing. Thought should be given to offering additional recreational facilities for residential occupants.

The apartment-style units at Everglades Hall include furnishings, three private bedrooms, a full kitchen, shared bathroom and Internet access. Two wings of the building define the southeast corner of the residential central courtyard. The first level of the building includes lounges, classroom, computer lab, front desk and housing. Levels two through six contain resident housing.

Lakeview Hall consists of two buildings, Lakeview Hall North and Lakeview Hall South. Two types of rooms are available at this complex: two-bedroom double suites and four-bedroom single suites. Each of the apartment style suites is fully furnished and includes a shared bathroom and Internet access. Common areas include an academic resources room, lounge spaces and laundry facilities.
University Apartments, the original Modesto A. Maidique on-campus housing, includes an apartment complex of ten detached two-story buildings. This housing is presently utilized for both undergraduate and graduate students. Its village concept of clustered low-rise buildings suggest appropriate housing uses might be limited to housing for upper classroom and graduated students. This village-style housing offers lower densities and greater privacy, however provides fewer environmental controls to ensure a safe and

secure environment. Unlike high-rise residential buildings, the clustered apartments fail to maximize the use of the land.

Historically the greatest percentages of students living on-campus were juniors, due primarily to the large amount of junior transfer students entering Modesto A. Maidique. However in recent years the amount of freshmen and sophomores has increased significantly. The diverse student population at Modesto A. Maidique, offers a unique residential experience to live with people from other countries and cultures. In additional to traditional living arrangements, there are a number of special living options including rooms available for graduate and married students. Other special living options include a residential program for first year residents and a program for students in the Honors College.

BISCAYNE BAY CAMPUS

The nature of student population at this campus has limited demand for on-campus housing. Historically, Biscayne Bay Campus has been considered primarily a commuter college. Many of the students at this campus are considered non-traditional students that are employed in the day and attend college in the evenings.

Bay Vista housing is currently the only housing currently provided at Biscayne Bay Campus. The facility is a four-story apartment-style building of five wings. Due to this building's age there are limited amenities associated with this residence hall. The building's siting and configuration does not capitalize on views to Biscayne Bay.

In addition to international residents, there are a number of special living options including rooms available for graduate and married students. Other special living options include a residential program for first year residents and a program for students in the Honors programs.

1. **Age of buildings that house students and programs to retrofit or replace aged structures.**

   MODESTO A. MAIDIQUE

   The majority of on-campus housing is less than 15 years old, with the exception of University Apartments (built in 1986). All of the residence halls should last past the planning period with appropriate upkeep and maintenance.

   University Apartments (1986)
   Panther Hall (1996)
   University Park Towers (2000)
   Everglades Hall (2002)
   Lakeview Housing (2006)

BISCAYNE BAY CAMPUS

University housing, Bay Vista Housing, received a two million three hundred thousand dollar ($2,300,000) renovation in 2006-2007, Future replacement of this residential facility should be addressed in the planning period.

Physical condition of those buildings.

MODESTO A. MAIDIQUE

University Towers,Panther Hall , Everglades Hall and Lakeview Hall are less than fifteen years old. A continued maintenance program should ensure that each of these facilities remain in excellent condition during the ten year planning period. University Apartments is an older housing facility in satisfactory condition that will require preventive maintenance and upkeep to reduce costs of operation and ensure the health and safety of the residents during the ten-year planning period.

BISCAYNE BAY CAMPUS

Bay Vista Housing is an older housing facility that will require high levels of maintenance and upkeep to maintain serviceability during the ten-year planning period.

2. The existing rate structure charged for on-campus housing.

MODESTO A. MAIDIQUE

The cost for on-campus housing is an important factor for many when choosing housing. Though prices vary depending on the type of unit and residential facility, the average cost for a student to live on-campus for the academic year is approximately $700 per month. This rate includes standard utilities as well as security and convenience to Green Library, academic buildings, athletic facilities, health facilities and food service. As new housing facilities are built with added amenities to meet the changing needs of the University students, the University is faced with the continual challenge to provide this housing at a cost effective rate.

BISCAYNE BAY CAMPUS

The cost for on-campus housing is an important factor for many when choosing housing. Though prices vary depending on the type of unit and residential facility, the average cost for a student to live on-campus is approximately $750 per month. This rate includes standard utilities as well as security and convenience to the library, academics, athletic facilities, health facilities and food service. As new housing facilities are built with added amenities to meet the changing needs of the University students, the University is faced with continual challenges to provide this housing at a cost effective rate.

e) **Estimate of Additional On-Campus Housing Units, By Type, Necessary to Meet the Needs Described in Subparagraph (2) (a)**

MODESTO A. MAIDIQUE

The current goal of the University is to house twenty percent of the full-time equivalent (FTE) students until a cap of 7,000 beds is achieved. This requires that five thousand eight hundred forty-one (5,841) students bed spaces be available on campus. Presently, there are Two thousand seven hundred seven(2,707) beds at Modesto A. Maidique with an eighty-nine percent occupancy rate. To meet the current housing goal, an additional Three thousand one hundred and thirty four (3,134) bed spaces are required. Modesto A. Maidique plans to limit all additional bed spaces in the ten year planning period to apartment-style units. No additional traditional dormitory-style residence halls are anticipated at this time.

BISCAYNE BAY CAMPUS

The current goal of the University is to house twenty percent of the full-time equivalent (FTE) students, requiring that One thousand one hundred fifty-nine (1,159)students bed spaces be available on campus. Presently, there are two hundred Eighty-eight (288) beds at Biscayne Bay Campus with a ninety-one percent occupancy rate. To meet the current housing goal an additional Eight hundred and seventy-one (871) bed spaces are required. This campus currently does not have any future housing facilities planned or committed. For future housing facilities, Biscayne Bay Campus plans to limit all additional bed spaces in the ten year planning period to apartment-style units. No additional traditional dormitory-style residence halls are anticipated at this time.

f) **Potential On-Campus Sites and of the Capacity of These Sites (Beds)**

MODESTO A. MAIDIQUE

There has been discussion about mixing residential and academic land uses for a future housing site. Another potential goal for future housing sites would consider relating housing to a new recreational center and unstructured open spaces. Another potential residential project envisions a satellite cafeteria associated with the existing residential quad after the completion of Lake View housing project.

BISCAYNE BAY CAMPUS

There are a couple planned competing sites for additional residential facilities on campus. One proposed site for new housing is adjacent and north to the existing Bay Vista Housing. This site could be more cost efficient by creating a residential core. Another site proposes locating high-end housing on the southern peninsula. Any potential development adjacent to the bay must be cognizant of the need to preserve views of the bay. This enticing site, oriented to Biscayne Bay might potentially serve some Modesto A. Maidique housing demands. The southern “peninsular” location could be an excellent recruiting mechanism for both faculty and students.

g) Projection of Students That Will be Housed Off Campus in Facilities Provided by Others

MODESTO A. MAIDIQUE

It is estimated that as many as fourteen thousand three hundred and eighty nine(14,389) full-time equivalent (FTE) students are presently provided housing in the private sector. Based on projections for a FTE student population of 29,769 for the ten year planning period and a twenty percent goal for FTE housing, is estimated that as many as 23,815 full time students will require off campus housing in the private market.

BISCAYNE BAY CAMPUS

It is estimated that as many as three thousand and forty five (3,045) full-time equivalent (FTE) students are presently provided housing in the private sector. Based on projections for a FTE student population of 5,909 for the ten year planning period and a twenty percent goal for FTE housing, is estimated that as many as 4,727 full time students will require off campus housing in the private market.

h) Assessment of Student Impacts on the Occupancy of the Host Community's Rental Stock

MODESTO A. MAIDIQUE

The highly urbanized host community of Modesto A. Maidique, with its an abundance of rental properties, enables students to easily find some type of off-campus housing. There is not anticipated any appreciable impact on the community’s rental stock.

BISCAYNE BAY CAMPUS

The urbanized host community of Biscayne Bay Campus, with its an abundance of rental properties, enables students to easily find some type of off-campus housing. There is not anticipated any appreciable impact on the community’s rental stock.

8.0 RECREATION AND OPEN SPACE ELEMENT

(1) DATA REQUIREMENTS

a) Inventory of all existing privately-owned, state-owned, or local government-owned recreational facilities and open spaces within the context area

MODESTO A. MAIDIQUE (Including the Engineering Center)

Within the Modesto A. Maidique context area, there are 600 acres of park and recreation space providing a variety of athlete facilities, many of which can be found at Tamiami Park adjacent to Modesto A. Maidique. Most of these facilities are owned and operated by Miami-Dade County; however, there are a few privately owned recreational areas, such as the golf course at Fontainebleau Country Club.

In addition to the public and private park and recreation areas listed in Table 8.1, the inventory also includes 96.26 acres of recreation area at Modesto A. Maidique. The recreation facilities located in each FIU campus are owned by the Florida Board of Education, Division of Colleges and Universities and are completely maintained by the University. These facilities include a new football stadium, completed in 1998. The stadium serves the University, Tamiami Park, and Miami-Dade County Public high schools for football games. The stadium is owned by FIU, but is physically located between Tamiami Park and the Modesto A. Maidique Campus property line--dividing the stadium in half.

Table 8.1 Recreational Facilities within the FIU Service Areas – MODESTO A. MAIDIQUE

PARK FACILITIES	TYPES OF USES PROVIDED	TYPES OF RECREATION FACILITIES	FREQUENCY OF USE	TOTAL ACREAGE
Carlow Park	Activity	Recreation Center (1), Play Equipment (1), Basketball (2),	Not Available	2
Concord Park	Activity	Baseball (1), Basketball (2), Multi-purpose field (1), Play Equipment (1)	Not Available	10
Fountainbleau Park	Activity	Softball (1). Multi-purpose Field (2), Jogging path (1), Recreation Center (1)	Not Available	42
Fountainbleau Country Club	Activity	18 Hole Golf Course (2)	Not Available	152.28
International Gardens Park	Activity/Resource	Softball (1), Open Space, Multi-purpose field (2)	Not Available	Not Available
Southern Estates Park	Activity	Softball (1), Multi-purpose Field (2)	Not Available	16
Sweetwater Youth Center	Activity	Multi-purpose Field (1), Recreation Center (1)	Not Available	5
Tamiami Park	Activity	Recreation Center (1), Pool (1), Basketball (1), Baseball (2), Softball/Baseball (4), Tennis (6), Volleyball (6), Multi-purpose (12) Football Stadium (1)	Not Available	241.8

Source: FIU, 2005

BISCAYNE BAY CAMPUS

The park and recreation areas found within the one mile context area of Biscayne Bay Campus total over 1,000 acres and contain a wide variety of facilities, including, a golf course, camp sites, horse stables and boat launches, multipurpose fields and basketball courts. In addition to the park and recreation areas listed in Table 8. 2, the inventory also includes 64.6 acres at Biscayne Bay Campus. The recreation facilities located at each FIU campus are owned by the State University System and are completely maintained by the University. The facilities as Miami-Dade County Parks and Recreation inventory them include the following:

Table 8.-2 Recreational Facilities within the FIU Service Areas – BISCAYNE BAY CAMPUS

PARK FACILITIES	TYPES OF USES PROVIDED	TYPES OF RECREATION FACILITIES	FREQUENCY OF USE	TOTAL ACREAGE
Aqua Bowl Park	Activity	Community center (1) Play equipment (1) Multi-purpose field (1)	Not Available	20
Arch Creek Park	Resource	Nature Center (1)	Not Available	9
East Greynols Park	Activity/Resource	Picnic (1), Basketball (1) Nature center (1) Boat launch (1)	Not Available	56
Haulover Beach Park	Resource	Picnic (2), Tennis (6) Beach (1), Boat launch (11)	Not Available	177
Highland Village Park	Activity	Picnic (1), Baseball (1) Multi-purpose field (2)	Not Available	5
Oleta River State Rec. Area	Resource	Swimming, Fishing, Picnic, Mountain biking	Not Available	1,048

Source: FIU, 2005

THE WOLFSONIAN MUSEUM

The Wolfsonian does not have any active recreation and open space facilities; however, it has access to the various open space and recreation facilities within the City of Miami Beach, including the beaches and marine facilities. See Table 8.3 for a list of recreation facilities that are in close proximity to the FIU site.

Table 8.3 Recreational Facilities within the FIU Service Areas – The Wolfsonian

PARK FACILITIES	TYPES OF USES PROVIDED	TYPES OF RECREATION FACILITIES	FREQUENCY OF USE	TOTAL ACREAGE
Fairway Park	Activity	Basketball courts, Open play space, Pavilions/shelters, Playground, Tennis Courts, Rentals	Not Available	Not Available
Flamingo Park	Activity/Resource	Bark park, Basketball courts, Open play space, Playground, Pools, Tennis courts	Not Available	Not Available
Lummus Park	Resource	Playground, Rentals	Not Available	Not Available
Maurice Gibb Memorial Park	Resource	Playground, Rentals	Not Available	Not Available
Marjory Stoneman Douglas Park	Resource	Playground, Rentals	Not Available	Not Available
Miami Beach Golf Course	Activity	Golf	Not Available	Not Available
Normandy Shores Park	Activity	Playground, Rentals, Tennis courts	Not Available	Not Available
Palm Island Park	Activity	Basketball courts, Open play space, Pavilions/shelters, Playground, Rentals, Tennis courts	Not Available	Not Available
Scott Rakow Youth Center & Ice Rink	Activity/Resource	Bark park, Basketball courts, Pools, Ice rink	Not Available	Not Available
South Point Park	Resource	Open play space, Pavilions/shelters	Not Available	Not Available

Source: FIU, 2005

b) Inventory Of All University-Owned Or Managed Recreation Sites, Open

Spaces, Incidental Recreation Facilities, Parks, Lakes, Forests, Reservations, Freshwater Or Saltwater Beaches

MODESTO A. MAIDIQUE

Table 8.4 University-owned Recreation Facilities and Open Spaces – MODESTO A. MAIDIQUE

Modesto A. Maidique:	Estimated Usage	Total Acreage
RECREATION FACILITIES		
Women's Softball/Tennis Center		
Tennis Courts (12)	2,586 annual use	2.8
Softball Fields (1)	N/A	1.0
Pharmed Arena		
Racquetball Courts (3 indoor, 0 outdoor)	N/A	0
Multipurpose Fields (2)***	N/A	1.8
Baseball Stadium (1)	N/A	4.6
Football Stadium*	N/A	9.4
Soccer Stadium (1)	N/A	3.4
Basketball Courts (6)	65 per day	0.3
Swimming Pools (1)**	1,793 annual use	0.1
Recreation Center (1)	N/A	3.4
Fitness Space (1)	196,537 annual use	3.4
Court gym (2)	N/A	--
Multipurpose fitness rooms (2)	N/A	--
	Total Acres	**26.8**
OPEN SPACE AND LAKES		
Open Space	N/A	
Lakes	Not Available for Public Use	14 Lakes

*Football Stadium is shared facility with Tamiami Park,
**In addition to the Panther Hall pool, FIU has access to the Tamiami Park pool adjacent to Modesto A. Maidique.
***1 field is shared with the elementary school on the northwest corner of campus.

BISCAYNE BAY CAMPUS

Table 8.5 University-owned Recreation Facilities and Open Space– BISCAYNE BAY CAMPUS

Biscayne Bay Campus:	Estimated Usage	Total Acreage
RECREATION FACILITIES		
Swimming Pool (1)	50,700 annual use	0.2
Tennis Courts (6)	3,500 annual use	1.4
Multipurpose Fields ~~(3)~~ (1)	2,000 annual use	5.4
Basketball Courts (1)	16,800 annual use	0.3
Fitness Center (1)	21,600 annual use	1.5
Running Track (1)	N/A	--
	Total Acres	**8.8**
OPEN SPACE AND LAKES		
Open Spaces	N/A	
Lakes	Not Available for Public Use	4 Lakes

ENGINEERING CENTER (EC)

The Engineering Center does not have any recreation and open space facilities.

THE WOLFSONIAN MUSEUM

The Wolfsonian does not have any recreation and open space facilities.

c) Level Of Service Standard(S) Established By The Host Community For Each Type Of Recreation Facility Described In The Comprehensive Plan Of The Jurisdiction

The table below provides the minimum level of service standard for recreation and open space for each of the host communities where FIU has a site.

Table 8.6: Level of Service Standards of Host Communities

FIU Campus	Host Communities	Level of Service Standard
Modesto A. Maidique	Miami-Dade County City of Sweetwater	2.75 acres per 1000 permanent residents 1.45 acres per 1000 permanent residents
Biscayne Bay Campus	Miami-Dade County City of North Miami	2.75 acres per 1000 permanent residents 2.75 acres per 1000 permanent residents
Other University Sites		
Engineering Center	Miami-Dade County City of Sweetwater	2.75 acres per 1000 permanent residents 1.45 acres per 1000 permanent resident
The Wolfsonian	City of Miami Beach	6 acres per 6000 permanent residents and seasonal visitors, excluding public landscape open space and the Atlantic beachfront area.

Source: Comprehensive Plans for Miami-Dade County, the City of Miami Beach, the City of North Miami, and the City of Sweetwater.

d) University-Owned Recreational Facilities Or Open Spaces That Have Been Incorporated In The Recreation And Open Space Element Of The Host Community's Comprehensive Plan

There are no University-owned recreational facilities or open spaces incorporated into the comprehensive plan of any of the following host communities:

University Site	**Host Community**
Modesto A. Maidique Campus	Miami-Dade County City of Sweetwater
Biscayne Bay Campus	Miami-Dade County City of North Miami
Engineering Center (EC)*	Miami-Dade County City of Sweetwater
The Wolfsonian *	City of Miami Beach

* The Engineering Center and The Wolfsonian do not have any recreation and open space facilities.

(2) ANALYSIS REQUIREMENTS

a) Projected Needs For Recreation And Open Space Facilities Required To Meet The Needs Of The Future University Population

Table 8.7 Recreation and Open Space Facilities Level of Service Standard

Year	Student Headcount	Acres	LOS
University Wide			
2004-05	35,002.0	174.7	5.0 acres/1000 students
2014-15	56,374.0	174.5	3.1 acres/1000 students
Modesto A. Maidique			
2004-05	27,307.0	96.6	3.5 acres/1000 students
2014-15	42,146.0	98.2	2.3 acres/1000 students
Biscayne Bay Campus			
2004-05	7,540.0	64.6	8.6 acres/1000 students
2014-15	8,728.0	68.2	7.8 acres/1000 students
Recommended LOS			2.75 acres/1000 students

Source: FIU Institutional Research and Metropolitan Center

The recommended level of service standard for FIU is 2.75 acres per 1000 students. This LOS is consistent with the standards of the host communities. As can be seen from the table below, the recommended LOS will enable FIU to meet the current needs of the university. It should be noted, however, that by 2015 Modesto A. Maidique will be at its maximum capacity.

MODESTO A. MAIDIQUE

Future recreation at Modesto A. Maidique should remain limited to the western and southern edges of the campus adjacent to existing athletic facilities. Open space development should be formalized and unified throughout the academic core.

BISCAYNE BAY CAMPUS

Biscayne Bay Campus recreation needs include additional tennis courts, and general noncompetitive recreation facilities.

Recreation space at Biscayne Bay Campus is located on the western edge of the campus close to the water's edge. Fields in this area do not obstruct the views of Biscayne Bay; however, fenced facilities, such as tennis courts and above ground level structures such as the campus aquatic center, do obstruct the views that are unique to this campus. Future recreation development will serve the on campus residents and should be in close proximity to the housing area.

b) Adequacy Of The Existing Recreational Facilities And Open Spaces To Meet The Projected Needs Of The University

MODESTO A. MAIDIQUE

As the demand for recreation facilities increases beyond that which is planned on-site, the University may need to look off campus for additional space. This would include developing an interlocal agreement with Miami-Dade County for joint use of their facilities.

The following is a list of the recreation needs at Modesto A. Maidique:

- **Recreation Fields:** New recreation fields are needed to support field sports and intramural /club sport activities. Currently the University has four fields, in addition to the tennis courts, baseball stadium and football stadium. As the University continues to grow, the available land on campus will be developed to support academic, research and support functions. The University should explore additional recreation opportunities at Tamiami Park.

- **Track:** The existing track was removed as part of the stadium expansion. The University is in the process of identifying a site for a new track.

- **General Renovations and Upgrades of Existing Facilities:** Existing facilities, such as the Panther Arena, need to be improved. Additional storage space and office space for staff is needed. There is also a need to renovate bathrooms.

BISCAYNE BAY CAMPUS

There are two new Division I programs proposed for Biscayne Bay Campus, Women's Swimming and Women's Rowing. Facilities are adequate to initiate these programs; however, improvements in the aquatics center will be required to support the swimming program and an upgraded boat launch/practice area required for the rowing program.

There is also a need to replace the two recreation fields that were lost at Biscayne Bay Campus due to the construction of the new Marine Biology Building.

There are over 1,000 acres of parks and open space in the context area of Biscayne Bay Campus (See Table 8.2). These facilities adequately meet the open space and recreation needs of the host communities and FIU.

ENGINEERING CENTER (EC)

At this time, the Engineering Center does not have any recreation facilities; however, the site has sufficient open space for active and passive recreation areas.

<u>THE WOLFSONIAN</u>

The Wolfsoninan does not have any open space suitable for active recreation activities; however, the City of Miami Beach has sufficient parks and open space to meet the needs of the University community.

d) Opportunities For Alternative Future Facility Siting In Order To Conserve The Supply And Character Of Campus Open Space

<u>MODESTO A. MAIDIQUE CAMPUS</u>

Space reserved for recreational use has slowly been encumbered by new academic and support facilities. Because of this, FIU will need to look off campus to support some of its future recreation needs for Modesto A. Maidique.

<u>BISCAYNE BAY CAMPUS</u>

Recreation facilities provided by the Master Plan will support planned expansion of the campus. The southern portion of campus includes a substantial amount of land to accommodate any additional recreational needs.

<u>THE WOLFSONIAN</u>

The Wolfsonian does not have any open space.

c) Planned Future Recreation And Open Space Facilities, As Adopted By The Host Community In Their Comprehensive Plan Or Best Available Data

The amount of land that is available for large-scale development in Miami-Dade County is rapidly decreasing. Projections by the County indicate that Miami-Dade will be built out in the next twenty years. As a result, parks and open spaces that are underutilized may become vulnerable to the demand for land—particularly since the County has a surplus of parks. Privately owned facilities, such as golf courses, are also likely to be targeted for land use changes that would allow development. This is evident in the Fontainebleau Country Club, where there is an amendment to change the land use on the golf course to allow for multi-family residential use. Within the next ten years, the need to meet the parks and open space LOS will become more challenging as land becomes scarce. This is an issue for FIU and for the general community.

Below is a brief summary of some of the recreation and open space plans adopted by the host communities that may have an impact on the FIU campuses.

<u>MODESTO A. MAIDIQUE CAMPUS</u>

Miami-Dade County is proposing an amendment to the Comprehensive Plan that would change the land use designation of Fountainbleu Country Club (a 152.28-acre private golf course) from “Parks and Recreation” to “Medium Density Residential.” This would reduce the open space in the host community and increase the density of the area.

In addition to the Comprehensive Plan Amendment, the County is proposing the following capital improvements at Tamiami Park:

- Hockey rinks
- Bleachers
- ADA pathways
- Pool upgrades
- General recreational and facility improvements

BISCAYNE BAY CAMPUS

Miami-Dade County is planning to improve Greynolds Park through the following projects:[1]

- Restoration of shelters and swimming hole
- Lake expansion
- Campground and ADA upgrades
- Meeting rooms and log roof shelters
- Automatic irrigation

ENGINEERING CENTER (EC)

During the next five years, the City of Sweetwater plans to construct an additional park in order to meet its Parks and Open Space LOS. At this time it is uncertain, where the park facility will be located, but it is likely to be in close proximity to the Engineering Campus.

THE WOLFSONIAN

At this time, the City of Miami Beach does not have any recreation and open space facilities plans that would have an impact on the Wolfsonian site.

[1] IBID.

9.0 GENERAL INFRASTRUCTURE ELEMENT

STORM WATER MANAGEMENT SUB-ELEMENT

(1) DATA REQUIREMENTS.

a) Stormwater Management System Inventory

MODESTO A. MAIDIQUE CAMPUS

Modesto A. Maidique Campus covers approximately three hundred and forty two (342.2) acres. The stormwater management plan for Modesto A. Maidique Campus is a combination of percolation, overland flow, exfiltration systems and positive drainage systems with outfalls to onsite lakes. There are no offsite discharge connections as all rainfall is contained onsite. Per Figure 9.1 – Drainage Map, the breakdown of these methodologies is as follows:

Percolation and exfiltration trench systems:

- The Student Housing Area,
- Portions of the roadway system,
- The parking lot north of the Engineering and Computer Science building,
- Part of the parking lot northwest of the Ryder Business Administration building, and
- Some of the parking lots in the physical plant building area.

The positive drainage systems with an outfall to a water body include:

- Parking lots south of the Primera Casa building,
- Roof runoff and plaza drainage in the core building area, and
- The Pharmed Arena area.

The balance of the site, which is recreation or undeveloped open space, relies on swale drainage, sheetflow to low lying areas, and percolation through the soil.

Based on the Miami-Dade County Flood Criteria Map, the minimum allowable elevations of the ground surface and crown of roads is 7.5 ft. NGVD. For exfiltration trench design; the groundwater elevation ranges from 4.0 to 4.2 from east to west across the campus. From the Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel Number 125098-0170F, the campus lies within Zone X, areas of 500-year flood. All new construction must abide hazard mitigation standards.

BISCAYNE BAY CAMPUS

Biscayne Bay Campus property covers approximately one hundred ninety five (195) acres located in the northeast Miami-Dade County area. The stormwater management plan for Biscayne Bay Campus is a combination of percolation, overland flow, exfiltration systems and positive drainage systems with outfalls to onsite lakes. Currently, this stormwater drainage system has two out falls located on the north and east sides of the site. The north out fall system consists of a 42-inch culvert and the east out fall consists of an 8“x 12” culvert.

On Site Lakes and Exfiltration Trench Drainage System:
As shown on Figure 9.3: Drainage System Map, Biscayne Bay Campus has a canal on the north and east that separates the campus from the mangroves of Oleta State Park. Also on the east and south lies the Biscayne Bay. A mangrove preserve and landfill lie west of the campus. Roof runoff and most of the parking areas runoff is collected and discharged into onsite lakes. Parking lots No. 6 and 7 use exfiltration trench drainage systems. There are two onsite lakes: one is adjacent to Academic One and the Wolfe University Center and the other is next to the Physical Plant Building.

Based on the Miami-Dade County Flood Criteria Map, the minimum allowable elevations of the ground surface and crown of roads is 5.5 ft. NGVD. The Biscayne Bay is a tidal water body which effects the groundwater elevations on adjacent properties. The nearest average October groundwater level contour with elevation 2.0 is located near US1. From the Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel Number 125098-0092G the campus lies within Zone AE (el 8, 9 & 10) and Zone VE (el 10). The majority of the site is Zone AE (el 9) with a portion of the campus in the northwest corner as Zone AE (el 8). A very small portion along the southern edge of the campus is Zone AE (el 10) and Zone VE (el 10). Zone AE are special flood hazard areas inundated by a 100-yard flood with base flood elevations determined. Zone VE is the same as Zone AE with an additional velocity hazard (wave action). All new construction must abide hazard mitigation standards

<u>ENGINEERING CENTER</u>
The Engineering Center site is thirty-six (36) acres located one mile north of Modesto A. Maidique Campus in the western Miami-Dade County area. At this site, water management drainage systems are designed to handle all major stormwater rainfall events on site. Currently, the stormwater runoff generated by these developments are conveyed to existing exfiltration trenches, on site dry and wet retention areas, drainage swales, lakes, overland flow, and positive drainage pipe system. It appears that these stormwater drainage systems were not designed for any future developments. Therefore any new development must meet all of the drainage requirements to obtain surface water permits (see Figure 9.2: Drainage Map).

Based on the Miami-Dade County Flood Criteria Map, the minimum allowable elevations of the ground surface and crown of roads is 7.5 ft NGVD. For exfiltration trench design; the groundwater elevation ranges is approximately 3.75 ft across the campus. From the Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel Number 125098-0170F, the campus lies within Zone X, areas of 500-year flood. All new construction must abide hazard mitigation standards.

b) **System operation and maintenance**

All stormwater runoff is handled by onsite facilities at Modesto A. Maidique Campus, the Engineering Center, and Biscayne Bay Campus. None of these sites have off-campus discharge connections nor do they share stormwater facilities with the neighboring host community.

FIU has operational responsibility for the management and maintenance of the stormwater systems at Modesto A. Maidique Campus, Biscayne Bay Campus and the Engineering Center.

c) **Geographic service area and surrounding land uses**

<u>MODESTO A. MAIDIQUE CAMPUS</u>
Modesto A. Maidique Campus is bounded to the east by SW 107th Avenue, to the west by SW 117th Avenue, to the north by SW 8th Street and to the south by the Tamiami Park. The principal land use adjacent to the campus and extending out a mile radius is primarily low density single family residential development. Suburban character strip commercial development as well as higher density multifamily residential is clustered along portions of the main roadway arterials in the vicinity of the campus.

<u>BISCAYNE BAY CAMPUS</u>
Biscayne Bay Campus is located in the City of North Miami along NW 151st Street. The principal land use in the context area immediately surrounding the campus is Parks and Recreation and environmentally protected parks and open space. Beyond the public open space, extensive single family residential development extends to the south and west. Strip commercial development and multifamily development occurs along the two principal arterials in the context area, Federal Highway and Sunny Isles Boulevard.

<u>ENGINEERING CENTER</u>
The principal land uses adjacent to the site and extending out a mile radius are primarily low density single family residential development to the south and commercial and industrial use to the north. Strip commercial development and higher density multifamily residential is clustered along SW 107th Avenue and West Flagler Street.

d) **Facility demand and capacity**

The stormwater systems at each of the FIU sites are designed for a 100 year flood.

MODESTO A. MAIDIQUE CAMPUS

The capacities of the existing swale and lake system are sufficient for the demand generated by development. The system capacity analysis shows that the campus has sufficient area to provide additional lake area and/or exfiltration trench for future development. The lakes are not interconnected which causes each area to operate as an individual sub basin. Once these sub basins are connected, some compensation on runoff exceedances can be distributed.

BISCAYNE BAY CAMPUS

The capacities of the existing swale, exfiltration trench, and lake system are sufficient for the runoff generated from the present development. The existing drainage pipes and exfiltration trench should not have excess capacity as they were probably designed for a specific drainage area.

ENGINEERING CENTER

The existing exfiltration trenches, on site dry and wet retention areas, drainage swales, overland flow, and positive drainage pipe system are sufficient for meet the demand for drainage generated from the present development.

e) **Level of service**

The level of service (LOS) for future program elements must meet state water quality and quantity regulations according to Chapter 40E FAC and other applicable local, state and federal regulations.

Level of service for storm water drainage is a threshold beyond which a particular infrastructure is considered flooded. Below is a description of the LOS standards of the Miami-Dade Department of Environmental and Resource Management. Each of the FIU sites is able to meet the LOS standards.

Miami-Dade DERM's LOS Standards

Type of Infrastructure	Rainstorm Design Return Period	Flooding Limits
▪ Miami River (Primary Canal)	100-years	Top of Bank
▪ Canals (Secondary Canal)	25-years	Top of Bank
▪ Residential, commercial and public structures	100-years	15 feet from front step
▪ Principal Arterial (Evacuation routes)	100-years	Impassable at 8 inches above top of crown
▪ Minor Arterial (4-lane roads in high traffic area)	10-years	To outer edge of traffic lanes
▪ Collector Roads (2-lane roads on residential and commercial areas)	5-years (except 10-years for bridge of culvert in the canal system)	To crown of street
▪ Local Roads (residential	5-years	To crown of street or within

Type of Infrastructure	Rainstorm Design Return Period	Flooding Limits
roads)		15 feet of occupied structure, whichever is lower

Source: Miami-Dade Department of Environmental Resource Management (DERM)

To assure that FIU continues to meet the LOS standards, it is recommended that all new developments prepare a pre-post analysis of the entire site to evaluate the 100-year flood stages.

(2) ANALYSIS REQUIREMENTS

a) Existing facility capacity analysis

The capacities of the existing stormwater systems at each of the FIU sites are sufficient for present development.

MODESTO A. MAIDIQUE CAMPUS

The positive drainage systems with lake outfalls rely on storage of the runoff within the lake banks until infiltration into the groundwater or evapotranspiration return the water levels to normal levels. These systems require a difference of elevation between the drainage area and the lake water surface to drain the runoff through the pipes. All of the water bodies on the campus are not interconnected. This does not allow the drainage subbasins to compensate each other for inconsistencies in rainfall and runoff areas. As a result, some areas within the campus have drainage problems.

BISCAYNE BAY CAMPUS

The existing development is concentrated in the northern portion of the campus. Only the primary systems of the water and sanitary sewer infrastructure have been constructed in the southern portion. A master drainage plan was not available. The volume of runoff is handled by the existing lakes, exfiltration trenches, and ponding in the low-lying, undeveloped areas. As is the case with Modesto A. Maidique Campus, the water bodies on the campus are not interconnected. This does not allow the drainage subbasins to compensate each other for inconsistencies in rainfall and runoff areas.

b) Projected facility demand and capacity analysis

The planning time frame extends to 2015. Based on projected student populations and demand, it is estimated that future development will require further exfiltration trench and/or a lake outfall system at Modesto A. Maidique Campus, Biscayne Bay Campus and the Engineering Center. The sites appear to have sufficient area to provide additional lake area and/or exfiltration trench for future development.

Implementation of any drainage improvements associated with future build-out should be ahead of development to ensure appropriate flood control.

It should be noted that the lakes at Modesto A. Maidique Campus are not interconnected which causes each area to operate as an individual subbasin. Once these subbasins are connected, some compensation on runoff exceedances can be distributed. The impact on flood protection by the removal of open space will be minimized by the implementation of a master drainage plan.

Best Management Practices (BMP) should be incorporated into the drainage infrastructure design to minimize the impacts to ground and surface water quality. These BMP's include down-turned elbows in catch basins to collect oils and grease in the runoff prior to discharge to the ground or surface water. All new construction must abide hazard mitigation standards

c) **System analysis and recommendations**

The existing exfiltration trench and drainage pipe systems at Modesto A. Maidique Campus, Biscayne Bay Campus, and the Engineering Center were designed for specific drainage areas and, in some cases, do not have excess capacity for future development. To address this issue, the following is needed:

- Future development will require exfiltration trench and/or a lake outfall system.
- All water bodies should be interconnected whenever possible to eliminate isolated subbasins and minimize the possibility of one subbasin being overburdened and another underutilized.
- Any proposed development that connects to an existing drainage system should evaluate the impacts on that system
- A master drainage plan should be prepared based on the proposed development. Implementation should be ahead of development to ensure appropriate flood control.
- Disaster Resistant University-FEMA Hazard Mitigation Plan
- Best management practices (BMP’s) should be incorporated into the drainage infrastructure design to minimize the impacts to the ground and surface water quality.

d) **Existing regulations and programs**

There are some federal, state and local regulations governing land use and development of drainage features.

<u>Water Quality Act of 1987</u>
Federal legislation known as the "Water Quality Act of 1987" amended the Clean Water Act and provided federal provisions for the permitting of stormwater drainage. This results in all stormwater discharges to waters of the United States from construction activities which disturbs a total land area of 5.0 or more acres

must be authorized by a National Pollution Discharge Elimination System (NPDES) permit from the United States Environmental Protection Agency.

Federal Emergency Management Agency (FEMA)
Federal Emergency Management Agency (FEMA) regularly updates and publishes Flood Insurance Rate Maps (FIRM) to establish eligibility for federal flood insurance.

U.S. Army Corps of Engineers and the State of Florida Department of Environmental Protection
The U.S. Army Corps of Engineers and the State of Florida Department of Environmental Protection have overlapping dredge and fill permitting criteria concerning the protection of wetland habitats and function.

South Florida Water Management District
South Florida Water Management District has regulatory responsibility for stormwater discharge consumptive use, and surface water management permits.

Department of Environmental Resource Management (DERM)
For the majority of projects in Miami-Dade County, the Department of Environmental Resource Management (DERM) has been delegated stormwater permit responsibilities.

POTABLE WATER SUB-ELEMENT

(1) DATA REQUIREMENTS.

a) Potable water facility inventory

MODESTO A. MAIDIQUE CAMPUS
The water main distribution system for Modesto A. Maidique Campus connects to 12” and 36” water mains located on SW 8th Street and SW 117th Avenue. These water mains are owned and maintained by Miami-Dade Water and Sewer Department (WASD). The primary distribution system ties into the existing water lines at several locations. Most of these connections are predominately 12 inches in diameter. There is a 16 inch diameter pipe, which runs along the main entrance drive from SW 8th Street to approximately the College of Health Building. This 16 inch primary line is connected to the secondary lines that supply the potable water to the buildings. This line also provides fire flow to a number of existing buildings. All of the site water mains are maintained by WASD

Many buildings receive water services and fire protection directly from the primary distribution system. There are a few secondary distribution systems that connect to the primary distribution system. Generally, these systems are smaller and specific to a building or limited service area. Pharmed Arena has a looped 8" water main and an 8" water main connects two links of the primary distribution system by running along and providing service to the Central Utility, Viertes Haus, Green Library, Owa Ehan and Chemistry and Physics buildings. Water consumption is measured by the use of water meters.

BISCAYNE BAY CAMPUS

The water main distribution system for Biscayne Bay Campus connects to 16" and 30" water mains located on NW 151st Street and NW 135th Street. These primary transmission water mains are owned and maintained by the City of North Miami. The main primary distribution system that runs through the campus consists of 16" to 20" diameter water mains which connect to the 16" and 30" water main located on NW 151st and NW 135th Street. An 8" diameter water main serves as a secondary distribution line and provide the water needs for the Physical Plant/Public Safety Area and the Student Housing Area. Water meters for each building measure all water consumption. The core area of the campus has a secondary distribution system with a 10" diameter water main.

To reduce the irrigation demand on the potable water system, the University utilizes irrigation quality, treated effluent from the North Regional Wastewater Treatment Plant

ENGINEERING CENTER

The water distribution system for the Engineering Center site connects to a 30" water main located on SW 107th Avenue. This water main is owned and maintained by WASD. The primary system for this campus ties into a secondary system that provides water to the existing building. WASD maintain all of the on-site water mains up to the water meter. Water meters for each building measure all water consumption for both sites.

b) **System operation and maintenance**

MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER

For Modesto A. Maidique Campus and the Engineering Center site, the potable water and fire flow needs are provided by the Miami-Dade Water and Sewer Department WASD) from the Alexander Orr Water Treatment Plant. The primary source of potable water for Modesto A. Maidique Campus and Engineering Center is the Biscayne Aquifer. WASD is the utility company, which removes the water from the aquifer, and the Alexander Orr Water Treatment Plant located at 6700 S.W. 87th Avenue is where the water is treated.

BISCAYNE BAY CAMPUS

The potable water and fire flow needs are provided by the City of North Miami Public Utilities. The water supply is from two sources, Norman Winson Water Plant and WASD. All of the main distribution lines are owned and operated by the City.

All of the host communities provide potable water to FIU based on demand. There is no allocation cap on potable water usage at Modesto A. Maidique

Campus, Biscayne Bay Campus or the Engineering Center. However, it should be noted that an agreement between the Florida Board of Regents and WASAD was executed in 1975 regarding water distribution facilities at Modesto A. Maidique Campus. The agreement does not specify the amount of potable water to be allocated. It only states that an adequate supply of water shall be provided to the Modesto A. Maidique Campus property.

c) **Geographic service area and surrounding land uses**

MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER
The service area for the Alexander Orr Plant, which provides potable water to Modesto A. Maidique Campus and the Engineering Center, extends from south of Flagler Street to S.W. 248 Street. The land uses are primarily residential and commercial. The geographic service area for the FIU facility is Modesto A. Maidique Campus and the Engineering Center. The predominant types of land uses served by the facility are; academic, support and recreation.

BISCAYNE BAY CAMPUS
The geographic service area of the City of North Miami water facility includes the Biscayne Bay Campus as well as the residential and commercial areas that constitute the City of North Miami. The geographic service area for the FIU facility is Biscayne Bay Campus. The predominant types of land uses served by the facility are; academic, support and recreation.

d) **Facility demand and capacity**

Since the Miami-Dade County Water and Sewer Department is the primary source of potable for all the facilities in the host communities, it is important to note that the County is in the process of renewing its Agreement with the South Florida Water Management District. The approval of the Agreement is contingent on the completion of the 10-year Water Supplies Facilities Workplan and the adoption of water conservation and re-use programs. FIU will need to work closely with WASD to assure that there is sufficient water capacity for new projects.

MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER
Current improvements at the Alexander Orr Plant will increase the permitted rated capacity from 217.7 MGD, to 248 MGD in 2005, and 278 MGD in 2014.

BISCAYNE BAY CAMPUS
The City of North Miami has the capacity to supply 9.3 million gallons a day (MGD), but on average produces 8.7 MGD. This is about 60% of the total demand which is approximately 13.5 MGD. The other 40% of the demand is provided by water purchased from WASD.

The following provides the current demand on capacity for each of the facilities that provide potable water to FIU sites:

UNIVERSITY SITE	HOST COMMUNITY	HEAD COUNT* LOS AT FIU SITE 2005-06**
Modesto A. Maidique Campus	Miami-Dade County	Alexander Orr: 248 MGD in 2005
Engineering Center	Miami-Dade County	Alexander Orr: 248 MGD in 2005
Biscayne Bay Campus	City of North Miami	Winson Water Plant: 13.5 MGD

Below is a detailed account of water consumption per University site:

MODESTO A. MAIDIQUE CAMPUS

The potable water consumption for 2005-2006 at Modesto A. Maidique Campus is shown in Tables 9.1.

Table 9.1 Potable Water Consumption – Modesto A. Maidique Campus (FY 2005-06)

Building	Annual Consumption	Average GPD
GC	11,509,004	31,532
ECS	1,283,106	3,515
GC III 8429290745	663,476	1,818
P. Garage 3 8759085821	38,148	105
P. Garage 4 6128961769	26,928	74
W4 North	2,493,293	6,831
Tower	308,940	846
VH	2,514,028	6,888
CU	30,100,268	82,466
DM	1,210,264	3,316
PC	3,301,672	9,046
CP	5,765,584	15,796
OE Sprink	0	-
OE	2,294,862	6,287
Dupli'tng	89,760	246
GPA	4,373,546	11,982
Fire Lines	321,640	881
Health Svc	840,752	2,303
Bioclimat	965,665	2,646
BA	916,300	2,510
927522332 (Spr. BA)	627,572	1,719
Wellness	71,060	195
Inf. Booth 1975233200	95,744	262
Ed. Bldg 2375233200	619,326	1,697
6725233200 (Library)	1,047,852	2,871
7725233200 (Library)	3,022,660	8,281
5175233200 (Library)	1,188,572	3,256
8963150556 (Sch. Of Arch)	554,268	1,519
Joint Ctr	151,096	414
GC2 8525233200	1,807,168	4,951
W1-W3 4806233200	4,681,733	12,827
BioGreen House	864,688	2,369
PAC 0625233200	197,472	541
PAC 1625233200	100,980	277
Parking Garage	106,964	293
Cam Suppt. 9806233200	287,980	789
Cam Suppt. 0906233200	1,172,592	3,213
Cam Suppt. 8806233200	436,125	1,195

Health and Life 3963953511	1,954,524	5,355
Pres House 4525233200	567,732	1,555
1687118786	214,441	588
MISC	12,000,000	32,877
Total	100,787,785	276,131

Source: Water Consumption and Sewage Report for 2005/2006, Facilities Management

BISCAYNE BAY CAMPUS

The potable water consumption for 2005-06 at Biscayne Bay Campus is shown in Table 9. 2.

Table 9.2 Potable Water Consumption – Biscayne Bay (FY 2005-06)

BUILDING	ANNUAL CONSUMPTION	AVERAGE GPD
Tc 02990	849,000	2,326
Irri/Pool 03020	4,795,000	13,137
Irri/Lib 03080	333,000	912
Aca I 03070	12,975,000	35,548
Stu Ctr 03010	1,906,000	5,222
Phy Pit 03170	448,000	1,227
Aca II 07890	456,000	1,249
Aca II 07892	487,000	1,334
Lib 03060	871,000	2,386
HRS 07885	61,000	167
Marine Bio. 7760	7,000	19
Swim Pool	285,000	781
Conf. Ctr. 03190	491,000	1,345
Conf. Ctr. 03180	458,000	1,255
TcC 03000	4,000	11
City of No. Miami Beach	426,000	1,167
Student Health 03050	82,000	225
Total	24,934,000	68,312

*Does not include Reclaimed Water (37,579,520 gallons for 2005/2006).
Source: Water Consumption and Sewage Report for 2005/2006, Facilities Management

ENGINEERING CENTER

Table 9.3 Potable Water Consumption –Engineering Center (EC) (FY 2005-06)

BUILDING	ANNUAL CONSUMPTION	AVERAGE GPD
Ceas/Cordis 6674233200	10,765,216	29,494
Ceas/Cordis 4674233200	1,240,934	3,400
Firelines 0774/1774	748	2
TOTAL	12,006,898	32,896

Source: Water Consumption and Sewage Report for 2005/2006, Facilities Management

e) Level of service

Table 9.4 Potable Water Level of Service by Facility

WASD FACILITY	REQUIRED FACILITY LOS	FIU SITE SERVED BY FACILITY	HEAD COUNT*	LOS AT FIU SITE 2005-06**
Alexander Orr Plant	200 Gallons per Capita per day	Modesto A. Maidique Campus and Engineering Center	27,307	11 Gallons per Capita per day
City of Miami Beach thru the Hialeah/Preston Plant	140 Gallons per Capita per day	Wolfsonian Museum and Annex		
Winson Water Plant thru the City of North Miami	125 Gallons per Capita per day	Biscayne Bay Campus	7,540	9 Gallons per Capita per day
		Total	34,847	11 Gallons per Capita per day

*LOS at FIU is based on Head Count for 2004/2005. The total does not include Broward Pines, Off-campus, or On-line students.
**BBC LOS does not include reclaimed water.
Source: Development Agreement Between the FIU Board of Trustees and Miami-Dade County the Development Agreement Between the FIU Board of Trustees and the City of North Miami, and the City of Miami Beach Comprehensive Plan.

(2) ANALYSIS REQUIREMENTS

a) Existing facility capacity analysis

The physical condition of the water main distribution systems at all FIU sites is adequate. Pressure tests are performed regularly to assure the distribution systems meet all of the required potable water demands.

Although the water facilities of the host communities appear to have adequate capacity to serve the University, it is expected that the 10-year Water Supplies Facilities Workplan of the Miami-Dade Water and Sewer Department will call for (1) water conservation and re-use efforts, (2) facility improvements, and (3) stricter requirements for development. As per Senate Bill 360, the Workplan will restrict development unless there is sufficient water supply to meet the needs of future projects. FIU will need to work closely with WASD and the host communities to assure there is sufficient capacity to meet the water consumption needs of future University development.

b) Projected facility demand and capacity analysis

Below are the projected levels of service for 2015 based on student growth and existing water consumption patterns. Projections for the Medical School are not included.

MODESTO A. MAIDIQUE CAMPUS

Table 9.5 Projected Need for Potable Water - Modesto A. Maidique Campus

Year	Head Count	Average GPD
2005-06		276,131
2006-07	29,255	321,805
2007-08	30,389	334,279
2008-09	31,568	347,248
2009-10	32,792	360,712
2010-11	34,065	374,715
2014-15	42,146	463,606
Average Gallons per Capita per Day		11

Source: Facilities Management

BISCAYNE BAY CAMPUS

Table 9.6 Projected Needs for Potable Water At Biscayne Bay Campus

Year	Head Count	Average GPD*
2005-06	7,540	68,312
2006-07	7,842	71,044
2007-08	8,155	73,886
2008-09	8,481	76,842
2009-10	8,821	79,915
2010-11	9,174	83,112
2014-15	9,541	86,436
Average Gallons per Capita per Day		9

*Includes Reclaimed Water
Source: Facilities Management

c) Existing performance evaluation

General Performance, Condition and Expected Life of Facilities

As stated previously, the physical condition of the water main distribution systems at each of the FIU sites are adequate. Within the next ten years, WASD and the host communities, which provide water supply to FIU, will be making improvements to their facilities. The improvements are expected to increase the capacity of the water plants and improve water conservation throughout the County. The intent is to increase capacity, while protecting Miami-Dade County's water resources.

To assure that future development at FIU has a minimum impact on the region's water supply, all water main improvements shall be hydraulically modeled to determine the impact to the system.

Level of Service

The water LOS is based on historical water consumed per enrolled student (population).

Water consumed during fiscal year 2005-2006 was approximately 137 million gallons (provided by FIU Staff). Based on the total number of full-time students at FIU (34,847 students), it is estimated that the water consumed per student was eleven (11) gallons per day (gpd).

TABLE 9.7 Level of Service by University Site

FIU SITE SERVED BY FACILITY	WATER CONSUMPTION FY 2005-06	HEAD COUNT*	LOS AT FIU SITE 2005-06**
Modesto A. Maidique Campus and Engineering Center	100,787,785 Gallons 12,006,898 Gallons	27,307	11 Gallons per Capita per day
Wolfsonian Museum and Annex	32,500 Gallons		
Biscayne Bay Campus	24,934,000 Gallons	7,540	9 Gallons per Capita per day
Total	137,761,183	34,847	11 Gallons per Capita per day

*LOS at FIU is based on Head Count for 2004/2005. The total does not include Broward Pines, Off-campus, or On-line students.

**BBC LOS does not include reclaimed water.

Source: Water Consumption and Sewage Report for 2005/2006, Facilities Management

d) System Analysis and Recommendations

MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER

There is sufficient water treatment capacity at the Alexander Orr Water Treatment Plant for future development at Modesto A. Maidique Campus and the Engineering Center. However, the County should seek an increase in the permitted average day withdrawal allocation and maximum day allocation for the wellfield.

The onsite primary distribution system will need expansion for future development and missing links to provide a "looped" system. New secondary systems and elimination of dead end systems will be required.

BISCAYNE BAY CAMPUS

There is sufficient treatment capacity at the City's Norman Winson Water Plant for future development at Biscayne Bay Campus. In addition, their agreement with WASAD would further provide capacity if necessary. The onsite primary distribution system is sufficient for future development; however, new secondary systems will be required. Also, some existing secondary systems are presently dead end and need to become a "looped" system.

e) Existing regulations and programs

Federal Regulations: The Federal Safe Drinking Water Act (Public Law 93-523) establishes operating standards and quality controls for the protection of public water supplies. As directed by this Act, the Environmental Protection Agency (EPA) has established minimum drinking water standards, to which every public water supply system must conform. Included are "primary" standards required for public health, and "secondary" standards which are recommended to attain a higher aesthetic quality of water.

State Regulations: In accordance with federal guidelines, the Florida Safe Drinking Water Act (Sections 403.850 -403.864, F.S.) has been adopted, which designates the Florida Department of Environmental Protection (DEP) as the state agency responsible for the regulation of drinking water. The DEP has therefore promulgated rules classifying and regulating public water systems, including mandatory water treatment criteria (Chapter 17-550. F.A.C.). The DEP enforces both the primary and secondary water quality standards for public water supplies in Florida.

In addition to the Florida Statutes discussed above, in 2005 the Florida Legislature passed Senate Bill 360. This legislation requires all jurisdictions to amend their comprehensive plans to include the following provisions:

- Require adequate water supplies no later than certificate of occupancy.
- Provide for alternative water supply development funding, more comprehensive regional water supply plans and enhanced consumptive use permitting, as per SB 444, an act relating to water resource protection and sustainability. Municipalities must identify alternative water supply projects within 18 months after the regional water supply plan is updated.
- Coordinate local government water supply plans with water management districts' regional water supply plans. Requires consultation on population projections, timing of development, annexation, and any issue that may impact water supply.

Local Regulations: FIU is subject to the State Uniform Building Code for Public Educational Facilities and exempt from local regulations. Section 6A-2.012, F.A.C. states,

> "All educational facilities constructed by a board ... are hereby exempt from all other state, county, district, municipal, or local building codes, interpretations, building permits and assessments of fees for building permits, ordinances and impact fees or service availability fees."

Rule 6A-2.001(48), F.A.C., however, states that educational facilities are not exempt from assessments "...for that length and size of line actually needed to service the educational or ancillary plant on that site".

Although Modesto A. Maidique Campus is not required to obtain building permits for their projects, they regularly review projects with and pay water meter fees to the local agencies charged with regulating, monitoring and operating water facilities. Miami-Dade County Department of Environmental Resources Management

(DERM) is responsible for regulating and monitoring the operation of water facilities under Chapter 24 of the County Code. WASAD is responsible for the distribution of potable water throughout Miami-Dade County.

Biscayne Bay Campus reviews projects with the City of North Miami and pays to the City of North Miami fees associated with installation of water meters.

SANITARY SEWER SUB-ELEMENT

(1) DATA REQUIREMENTS.

a) Sanitary Sewer system inventory

MODESTO A. MAIDIQUE CAMPUS

Modesto A. Maidique Campus sanitary sewer system consists of gravity sewer lines, a series of sanitary lift stations, and two tie in connection points located at SW 8th Street and SW 117th Avenue. These two force mains are owned and maintained by WASD. Sewage flow from Modesto A. Maidique Campus is processed and treated at the South District Wastewater Treatment Plant (SDWTP)

Pump Station No. 1 serves the student housing area. Sewage from this pump station is transmitted through a 4” force main, which discharges into the gravity line located north of Pump Station No. 2. Pump Station No. 2 is the master lift station of the campus. This pump station transmits all the sewage flow into the WASAD 36” diameter force main.

Gravity sewer lines range from 8” to 12” in diameter discharge into this lift station. Pump Station No. 3 transmits all the sewage flow from the Pharmed Arena only. Pump Station No. 4 transmits sewage flow from several buildings and facilities located on the west side of the campus. Pump Station No. 5 transmits all the sewage flow for the NOAA Hurricane building only.

BISCAYNE BAY CAMPUS

Biscayne Bay Campus sanitary sewer system consists of gravity sewer lines and a master pump station. The City of North Miami is contracted with WASD to provide treatment and disposal for this campus. Sewage flow for this campus is processed and treated at North District Wastewater and Treatment Plant (NDWTP) located on the corner of Biscayne Boulevard and N.W. 151st Street.

The master pump station is located near the Academic Two building. The gravity sanitary sewage flows to the pump station through pipe ranging from 8” to 15” in diameter. The discharge from this pump station is transmitted through a 12” force main, which connects to the WASD force main system.

ENGINEERING CENTER
The sanitary sewer system of the Engineering Center consists of gravity sewer lines and sanitary lift stations. The site is connected to a force main located at SW 117th Avenue, which is owned and maintained by WASD.

b) **Proportional capacity requirements**

All of the host communities provide sewer service to FIU sites based on usage. There is no allocation agreement on capacity at Modesto A. Maidique Campus, Biscayne Bay Campus or the Engineering Center.

No data is available regarding the proportional capacity of the host community facility to meet the existing University need.

c) **System operation and maintenance**

MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER
The sewage from Modesto A. Maidique Campus and the Engineering Center is treated by WASD's South Regional Wastewater Treatment Plant (SRWTP).

BISCAYNE BAY CAMPUS
The City of North Miami is the utility company that invoices FIU for the sanitary sewage produced at Biscayne Bay Campus. However, they contract with WASD to provide the treatment and disposal. WASD's North Regional Wastewater Treatment Plant (NRWTP) is located less than a mile away from the campus near the corner of Biscayne Blvd. & NW 151 St.

d) **Geographic service area and surrounding land uses**

MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER
The service area for South Regional Wastewater Treatment Plant, which provides sanitary sewer service to Modesto A. Maidique Campus and the Engineering Center, includes all the residential and commercial areas that border the University, the City of Sweetwater and southern Miami-Dade County.

The geographic service area for the FIU facility is Modesto A. Maidique Campus and the Engineering Center. The predominant types of land uses served by the facility are; academic, support and recreation.

BISCAYNE BAY CAMPUS
The geographic service area of the City of North Miami sanitary sewer facility includes the Biscayne Bay Campus as well as the residential and commercial areas that constitute the City of North Miami.

The geographic service area for the FIU facility is Biscayne Bay Campus. The predominant types of land uses served by the facility are; academic, support and recreation.

e) **Facility demand and capacity**

Table 9.8 Facility Demand and Capacity

WASD FACILITY	FIU SITE SERVED BY FACILITY	12 MONTH AVERAGE (MGD)	PLANNED CAPACITY (MGD)
South District Plant	Modesto A. Maidique Campus and Engineering Center	87.6	131.25
North District Plant thru the City of North Miami	Biscayne Bay Campus	74.7	135
City of Miami Beach	Wolfsonian Museum and Annex	NA	NA

Source: Miami-Dade County Evaluation and Appraisal Report: 2003

MODESTO A. MAIDIQUE CAMPUS

The design of sanitary sewer facilities is based on a specific service area and sewage flows. For excess capacity to be available, some master planning would have been required. The major limitation to the sewage collection system is the depth of the gravity sewer mains and pump station which affects service area. The sanitary sewer subsystems, except PS2, are limited in the way of changes from current operation. However, PS2 should have flexibility since it operates as the master pump station for the campus. See Table 9.6.

The sewage treatment capacities of the SRWTP are inadequate to handle the present County's system operation within permitted conditions. Miami-Dade County plans to resolve the sewage problems over the next 18 months.

Table 9.9 Sanitary Waste Generations – Modesto A. Maidique Campus (Fy 2005-2006)

FLOW METER	WASTE GENERATED FY 2005-06	AVERAGE GPD
MODESTO A. MAIDIQUE CAMPUS	242,369,852	664,027

SOURCE: FIU Water Bills readings provided by Facilities Management

BISCAYNE BAY CAMPUS

The sanitary sewer system should be adequate to handle future development of Biscayne Bay Campus. Modifications to the existing system may be necessary due to the site plan and/or system configuration. Due to the age of the system, infiltration and pump station conditions may need to be evaluated. However, the system is owned and maintained by the City of North Miami. See Table 9.10.

While the present treatment capacities of the NRWTP exceed demand, the pump station operating time criteria may affect the issuance of a water meter.

Table 9.10 Sanitary Waste Generations – Biscayne Bay Campus (Fy 2005-2006)

FLOW METER	WASTE GENERATED FY 2005-06	AVERAGE GPD
BISCAYNE BAY CAMPUS	28,998,500	79,448

SOURCE: FIU Water Bills readings provided by Facilities Management

ENGINEERING CENTER

Table 9.11 Sanitary Waste Generations – Engineering Center (Fy 2005-2006)

FLOW METER	WASTE GENERATED FY 2005-06	AVERAGE GPD
ENGINEERING CENTER	12,006,150	32,894

SOURCE: FIU Water Bills readings provided by Facilities Management

f) Level of service

Table 9.12 Level of Service

WASD FACILITY	REQUIRED FACILITY LOS	FIU SITE SERVED BY FACILITY	LOS AT FIU SITE 2005-06
South District Plant	102% of Avg. Daily Demand for 5 Years	Modesto A. Maidique Campus and Engineering Center	26 Gallons per Capita per Day
North District Plant thru the City of North Miami	100 Gallons per Capita per Day	Biscayne Bay Campus	11 Gallons per Capita per Day

Source: Development Agreement Between the FIU Board of Trustees and Miami-Dade County the Development Agreement Between the FIU Board of Trustees and the City of North Miami, and the City of Miami Beach Comprehensive Plan.

(2) ANALYSIS REQUIREMENTS

a) Existing facility capacity analysis

MODESTO A. MAIDIQUE CAMPUS
The University is undertaking a study to evaluate and provide recommendations for taking corrective measures to improve infiltration and inflow problems. FIU has identified funding to further improve the system.

BISCAYNE BAY CAMPUS
The City of North Miami has upgraded the existing sanitary sewer force main leaving the FIU pump station. The pump station will require comparable upgrades to assure adequate service and capacity.

ENGINEERING CENTER

The sanitary sewer system is in good condition. No master infiltration or inflow problems exist at this time and no major repairs have been warranted over the last several years.

b) Projected facility demand and capacity analysis

MODESTO A. MAIDIQUE CAMPUS

Table 9.13 calculates the sanitary sewage flows based on the statistical generation rates by head count for each fiscal year.

Table 9.13 Projected Need for Wastewater Treatment - Modesto A. Maidique Campus

Year	Head Count	Average GPD
2004-05	26,227	664,027
2006-07	29,255	740,691
2007-08	30,389	759,725
2008-09	31,568	789,200
2009-10	32,792	819,800
2010-11	34,065	851,625
2014-15	42,146	1,053,650
	Gallons per Capita per Day	25

SOURCE: FIU Water Bills readings provided by Facilities Management

BISCAYNE BAY CAMPUS

Table 9.14 calculates the sanitary sewage flows based on the statistical generation rates by head count for each fiscal year.

Table 9.14 Projected Needs for Wastewater Treatment - Biscayne Bay Campus

Year	Head Count	Average GPD
2004-05	7,540	79,448
2006-07	7,842	82,626
2007-08	8,155	89,708
2008-09	8,481	93,296
2009-10	8,821	97,028
2010-11	9,174	100,909
2014-15	9,541	104,946
	Gallons per Capita per Day	11

SOURCE: FIU Water Bills readings provided by Facilities Management

c) Existing performance evaluation

MODESTO A. MAIDIQUE CAMPUS

The design of sanitary sewer facilities is based on a specific service area and sewage flows. For excess capacity to be available, some master planning would have been required. The major limitation to the sewage collection system is the depth of the gravity sewer mains and pump station which affects service area. The sanitary sewer subsystems, except PS2, are limited in the way of changes from current operation. However, PS2 should have flexibility since it operates as the master pump station for the campus.

BISCAYNE BAY CAMPUS
The sanitary sewer system should be adequate to handle future development of Biscayne Bay Campus. Modifications to the existing system may be necessary due to the site plan and/or system configuration. Due to the age of the system, infiltration and pump station conditions may need to be evaluated. However, the system is owned and maintained by the City of North Miami.

While the present treatment capacities of the NRWTP exceed demand, the pump station operating time criteria may affect the issuance of a water meter.

d) System Analysis and Recommendations

The Miami-Dade County Water and Sewer Department has made some significant improvements to the County's sewer system as a result of an Agreement with the Environmental Protection Agency. Pump stations are now monitored and certified by the County. Infiltration and inflow improvements have also helped to reduce the average flow of the system.[1] However, these improvements may not be sufficient to meet the needs of the projected growth in Miami-Dade County. As a result, the County is evaluating development orders that generate additional wastewater flows on a case-by-case basis. Plans to increase capacity are also being considered. All of these factors could have an impact on the expansion plans of University.

The University may need to develop more specific agreements with WASD and the other host communities to assure that all the University sites have sufficient capacity to meet the existing and future development needs of FIU.

f) Existing regulations and programs

Federal Regulations: The Federal Pollution Control Act (PL 92-500) is the controlling national legislation relating to the provision of sanitary sewer service. The goal of this act is the restoration and/or maintenance of the chemical, physical and biological integrity of the nation's waters. The act established the national policy aimed at implementing area-wide waste treatment and management programs to ensure adequate control of pollutant sources.

State Regulations: At the State level, the Florida Department of Environmental Protection (DEP) is responsible for compliance with federal and state regulations within Florida. Florida's Safe Drinking Water Act provides for the regulation of public water systems. The act is administered under Chapter 17-22, F.A.C. which

1 Initial Recommendations: October 2004 Applications to Amend the Comprehensive Development Master Plan for Miami-Dade County. March 30, 2005

contains State standards for potable water.

Local Regulations: As a Board of Trustees facility, FIU is subject to the State Uniform Building Code for Public Educational Facilities and exempt from local regulations. Section 6A-2.012, F.A.C. states,

“All educational facilities constructed by a board ... are hereby exempt from all other state, county, district, municipal, or local building codes, interpretations, building permits and assessments of fees for building permits, ordinances and impact fees or service availability fees.”

Rule 6A-2.001(48), F.A.C., however, states that educational facilities are not exempt from assessments "...for that length and size of line actually needed to service the educational or ancillary plant on that site".

Although the Modesto A. Maidique Campus is not required to pull building permits for their projects, they regularly review projects with and pay water meter fees to the local agencies charged with regulating, monitoring and operating water facilities. Miami-Dade County Department of Environmental Resources Management (DERM) is responsible for regulating and monitoring the operation of water facilities under Chapter 24 of the County Code. WASD is responsible for the distribution of potable water throughout Dade County.

SOLID WASTE SUB-ELEMENT

(1) DATA REQUIREMENTS.

a) Solid Waste collection facilities inventory

MODESTO A. MAIDIQUE CAMPUS

Solid Waste collection and disposal is accomplished at Modesto A. Maidique Campus through a combination of utilizing University staff, private contractors and public entities. Following is a description of the solid waste collection and disposal methods used by type of material.

Trash Collection: Trash is collected in dumpsters at Modesto A. Maidique Campus using various on-campus locations. Table 9.15 indicates the dumpster location, size and number of pick-ups scheduled each week. Trash collection fluctuates by season.

Table 9.15 Trash Collection Facilities: Modesto A. Maidique Campus, Engineering Center

SERVICE LOCATIONS	CONTANERS	SIZE CONTAINER (YD)	DAYS OF SERVICE
Modesto A. Maidique Campus	1	6	M-F
CP	1	8	M-F
ECS	1	6	M-F
ZEB	1	8	M-F
RB	2	4	M-F
PAC	1	6	M-F
OE	1	8	M-F
GPA	3	8	M-SAT
DM	2	8	M-F
GL/AT	1	2	M-SAT
LABOR	1	2	M-F
PUBLIC SAFETY TOWER	1	6	M-F
VH-CU	2	2	M-F
W-1	1	2	M-F
W-2	1	6	M-F
W-10	1	6	M-F
CHARLES PERRY-PC	2	8	M-F
CAMPUS SUPPORT	1	4	M-F
PHI GAMMA DELTA	1	2	2 TIMES PER WEEK
UNIVERSITY HOUSE	1	8	M-SAT
HEALTH & SCIENCE	1	8	M-F
P.C ARCHITECTURE-PCA	1	8	M-F
HLS-2	1	4	M-F
PHI KAPPA ALPHA	1	8	2 TIMES PER WEEK
MARC	1	8	M-F
GC-BOOKSTORE	1	6	3 TIMES PER WEEK
STUDENT APARTMENTS	8	2	3 TIMES PER WEEK
PANTHER RESIDENCE HALL	1	4	M-SAT
MODESTO A. MAIDIQUE CAMPUS TOWERS	4	2	M-SAT
EVERGLADES HALL HOUSING	1	2	M-SAT
PG-1-GOLD	1	2	M-F
PG-2- BLUE	1	2	M-F
PG-3-PANTHER	1	2	M-F
PG-4-RED	1	6	M-F
FOOTBALL STADIUM	1	6	M,TH,SAT
BASEBALL STADIUM	1	20	M,TH,SAT
PHYSICAL PLANT COMPOUND	2	30	M,W
CSC COMPOUND	2	20	W
PAC	1	20	
W-1	1	20	
W-7	1	20	
EC, EAST 10555 W.FLAGLER	1	20	
EC, WEAST 10555 W.FLAGLER	1	20	
GC-CAFETERIA COMPACTOR	1	30	M,W
ENGINNERING CENTER	2	8	M-F

Table 9.16 Trash Collection Facilities – Biscayne Bay Campus

BISCAYNE BAY	1		
LIBRARY	1	8	4 TIMES PER WEEK
ACADEMIC 1&2	1	8	4 TIMES PER WEEK
KOVENS	1	8	4 TIMES PER WEEK
PHYSICAL PLANT	1	8	4 TIMES PER WEEK
BBC-BAY VISTA HOUSING	4	4	M-SAT
BBC-PHYSICAL PLANT-20YD	1	20	1 TIME PER WEEK
BBC-CFETERIA COMPACTOR	1	30	2 TIME PER WEEK

Recycling:
The following is a description of FIU's recycling programs:

- Paper: Bins for the collection of recyclable paper (any paper) are located inside buildings on campus. FIU Recycling staff services the bins and transports the materials to recycling centers.

- Confidential Paper Destruction: Bins with locks are delivered and picked pup as requested. Materials are shredded on-site by Micro-Shred.

- Cardboard: Containers are located in various locations for the collection of cardboard for recycling. FIU Physical Plant Staff is responsible for the operation of the on-site compactor.

- Aluminum Cans: Approximately bins are used for the collection of aluminum cans are located on campus. Two bins are generally provided for each principal building on campus. FIU Recycling staff services these bins and the aluminum cans are sold locally.

- Tires: Waste tires are stored in the Modesto A. Maidique Campus Nursery. The tires are then delivered to the Miami-Dade County incinerator by FIU personnel.

- Wooden Pallets: Wooden Pallets are recovered, by the FIU recycling staff and redistributed to University vendors for reuse

- Yard Waste: Small and medium branches are chipped on campus. Large branches, limbs and tree trunks are transported to the North Dade landfill for mulching. Grass clippings and fallen tree leaves are left on the ground to decompose.

- Phone Books: Southern Bell phone books are collected for recycling.

- Oil Filters: Two drums for the collection of used oil filters are located at the Modesto A. Maidique Campus motor pool area, and when filled are disposed according to regulations

- Auto Batteries: Auto batteries are collected by the FIU recycling staff and stored on pallets within the nursery area at Modesto A. Maidique Campus. The batteries are periodically sold to the vendor.

- Alkaline Batteries: All alkaline batteries are being recycled, e.g. those from electronic equipment, such as electronic door locks.

- Light Bulbs: All light bulbs are crushed on campus and send to the local recycle agency.

Hazardous Wastes:

- Used Motor Oil: Drums for the collection of used motor oil are located at each motor pool for periodic collection by the vendor for proper disposal.

- Hazardous, Biohazards and Radioactive Wastes: The current waste disposal procedures consist of collection from generator departments throughout the University (by Environmental Health & Safety staff) and storage to await and pick-up and disposal by hazardous waste disposal companies, or by direct pick-up from the point of generation by the selected waste disposal company. Large volumes of wastes such as that generated by the Chemistry Department are picked from the point of generation. Hazardous wastes, once picked up by the Environmental Health and Safety Department, are stored in the Hazardous Waste Shed located on the west side of Modesto A. Maidique Campus. Waste generated at Biscayne Bay Campus is stored at Academic I. A room will be designated in the Marine Biology Building for radioactive waste. Material classified as hazardous waste is picked up by a hazardous waste disposal company. The volume of hazardous waste generated at the Biscayne Bay Campus is very small compared to that generated at Modesto A. Maidique Campus.

- Biohazardous Waste: Biohazardous wastes are, in most part, picked up from the point of generation by the disposal company. There is currently one outside storage container at Modesto A. Maidique Campus and at Biscayne Bay Campus from which waste is picked up once per month. Pick-up from the points of generation (labs and clinics) takes place on a periodicity convenient for the generators and ranges from one to two week periods. Biohazardous waste is generated at both campuses.

- Radioactive: Radioactive waste materials are currently stored in OE 152 at Modesto A. Maidique Campus to allow decay to an acceptable level. Radioactive wastes are transported to this room by the generators themselves (professors and their graduate assistants). Because the handling of Radioactive waste is a regulated activity, this is currently the only acceptable arrangement. At Biscayne Bay Campus, radioactive waste is kept at the generator's lab to await pick up by an approved waste disposal company. The Marine Biology Building will have a designated room for the storage of radioactive waste.

The volume and types of wastes (hazardous, biohazardous and radioactive wastes) generated by departments throughout the University fluctuates and often depends on the time of the semester, the number of students registered for a course and the amount of research activity.

As a rule hazardous wastes are disposed of every 180 days and are picked up by a waste disposal company that has met basic insurance and other permit requirements and which has submitted a competitive quotes.

It is anticipated that as the University grows and the volume and diversity of research activities increase, the volume and types of hazardous wastes will increase and will require planning for additional storage facilities.

b) **Solid Waste Generation**

Table 9.17 indicates the amount of solid waste generated by campus

Table 9.17 Solid Waste Generation 2005-2006

CAMPUS	TONS/YEAR	TONS/DAY
MODESTO A. MAIDIQUE CAMPUS	1,316	3.61
ENGINEERING CENTER	118	0.32
BISCAYNE BAY CAMPUS	211	0.58
TOTAL	1,654	4.53

c) **System operation and maintenance**

FIU utilizes the Miami-Dade County solid waste facilities. None of the FIU sites have an allocation agreement regarding the disposal of solid waste.

Miami-Dade County is responsible for providing a landfill for the disposal of solid waste materials. Therefore, FIU is only responsible for the collection and hauling of the solid waste materials to the disposal locations from each campus. Table 9.18 is a list of solid waste service providers.

Table 9.18 **Solid Waste Service Providers**

SERVICE PROVIDER	VOLUME
Waste Management, Inc. Trash removal service 2125 NW 10 CT Miami, FL 33127 (305) 471-4444	5,850 tons/year
Waste Management, Inc. Trash/Cardboard compactors 2125 NW 10 CT Miami, FL 33127 (305) 471-4444	Not Available
Atlantic Paper Paper recycling, Phone books 3725 E 10 CT Miami, FL (305) 835-8046	300 tons/year
Waste Management, Inc. Aluminum cans, glass, plastics 2125 NW 10 CT Miami, FL 33127 (305) 471-4444	3 tons/year
Motor Pool Tires	Not available
Waste Management, Inc. Pallets and yard 2125 NW 10 CT Miami, FL 33127 (305) 471-4444	Not available

SERVICE PROVIDER	VOLUME
Ricky's Waste Oil Used motor oil 6330 W. 16 Ave. Hialeah, FL: 33012 (305) 822-2253	Approximately 6 drums/year
Ricky's Waste Oil Used oil filters 6330 W. 16 Ave. Hialeah, FL: 33012 (305) 822-2253	Not available
AERC-Bulbs and Batteries 2591 Mitchell Ave., Allentown, PA 18103	Not available
Micro-Shred- Confidential Paper 19593 NE 10 Ave., Miami, FL 33179	Not available

SOURCE: -FIU Custodial Solid Waste Recycling Department, February 2001
Revised in April 2006 for Facilities Management

d) Geographic service area and surrounding land uses

As explained previously, FIU utilizes the Miami-Dade County solid waste facilities, which serve the entire county. The solid waste facilities include the Resources Recovery waste-to-energy facility, the North Dade Landfill (a trash-only facility) and the South Dade Landfill (a garbage and trash facility). These facilities are supported by three regional waste transfer stations and serve.

The predominant land uses served by the County's disposal facilities include residential and commercial areas.

e) Facility demand and capacity

According to Miami-Dade County's Comprehensive Plan, the solid waste facilities must accommodate waste flows committed to the system for a period of five years. This includes commitments through long-term interlocal agreements or contracts with municipalities and private haulers, and anticipated non-committed waste flows.

A capacity analysis conducted by the Miami-Dade County Department of Solid Waste indicates that the County has sufficient capacity to meet the projected demand for five years. The facilities have some capacity for projected wastestreams until the year 2032. This determination is contingent upon the County's growth rate.

Below is an account of the solid waste and recycling material generated by each FIU site:

Table 9.19 Solid Waste and Recycling Material Generated by FIU Site: July 1 2005- June 30 2006

FIU Site	Solid Waste (Tons)	Recycling				Total Tons
		Cardboard (Tons)	Paper (Tons	Light Bulbs (Tons)	Aluminum, Plastic, Glass (Tons)	
Modesto A. Maidique Campus	1,316	67	371	5	13	1,771
Engineering	118	10	49	1		179

Center						
Biscayne Bay Campus	211	49	81			341
Wolfsonian Museum	9.4					9
Subtotal	1,654	126	501	5.9	13	2,300
Total	1,654	645				2,300

f) Level of Service

Below is an account of the level of service provided at each FIU site for solid waste and recycling:

Table 9.20 Solid Waste and Recycling Level of Service: July 1 2005- June 30 2006

FIU SITE	FTE	SOLID WASTE	RECYCLING
Modesto A. Maidique Campus	16,745	0.43 lbs per capita per day	0.15 lbs per capita per day
Biscayne Bay Campus	3,323	0.35 lbs per capita per day	0.21 lbs per capita per day
Total	20,068	0.42 lbs per capita per day	0.16 lbs per capita per day

(2) ANALYSIS REQUIREMENTS

a) Existing facility capacity analysis

Miami-Dade County is responsible for providing the landfill for the disposal of solid waste materials for solid waste generated at all University sites. Therefore, FIU is only responsible for the collection and hauling of the solid waste materials to the disposal locations. FIU currently has an aggressive solid waste recycling program and is exceeding all state recycling requirements. The specific solid waste volume at institutional facilities is dependent upon the number of University staff and support personnel, student enrollment classification mix, student on-campus housing/boarding, operating methods, materials purchased, and other related factors.

b) Projected facility demand and capacity analysis

Table 9.21 indicates the projected five and ten-year solid waste generation for the university and is based on the present estimation of 0.58 pounds per full time equivalent student.

Table 9.21 Projected Solid Waste and Recycling Material Generation 2005-2015

2005			
	FTE's	**TONS/YEAR**	**TONS/DAY**
MODESTO A. MAIDIQUE CAMPUS	16,745	1,771	4.85
BISCAYNE BAY CAMPUS	3,323	341	0.93
TOTAL	20,068	2,112	5.79
2009-2010			
MODESTO A. MAIDIQUE CAMPUS	22,246	2,355	6.45
BISCAYNE BAY CAMPUS	4,417	468	1.28
TOTAL	26,663	2,822	7.73
2014-2015			
MODESTO A. MAIDIQUE CAMPUS	29,769	3,151	8.63
BISCAYNE BAY CAMPUS	5,889	623	1.71
TOTAL	35,658	3,774	10.34

Note: The Engineer Center (EC) generated 170 tons and the Wolfsonian Museum 9 tons of solid waste and recycling material from July 1, 2005 to June 30, 2006.

c) Existing performance evaluation

Information was not available to complete the required response.

d) System Analysis and Recommendations

Information was not available to complete the required response.

e) Existing regulations and programs

Federal Regulations: The federal government regulates solid waste in order to minimize the potential for environmental impacts, and to encourage resource recovery. The U.S. Environmental Protection Agency (EPA) reviews solid waste management facilities for air and water quality impacts. The U. S. Army Corps of Engineers, along with the Florida Department of Environmental Protection (DEP), regulate filling activities in wetlands. The 1976 Federal Resource Conservation and Recovery Act (PL 94-580) removed the regulatory constraints that impeded resource recovery in order to encourage states to conserve materials and energy.

The Resource Conservation and Recovery Act also addresses the regulation of hazardous wastes. Pursuant to this Act, EPA has set forth guidelines and standards for the handling of hazardous wastes, and directs state agencies, including Florida's DEP, to regulate hazardous waste management. To aid in hazardous waste management financing, the EPA "Superfund" Program was established by the Comprehensive Emergency Response and Compensation Liability Act of 1980. This Act provided EPA with the funds to respond to sites requiring clean-up and emergency mitigation, and allows local governments to apply for funding of their hazardous waste management projects.

State Regulations: The environmental impacts of solid waste are regulated at the state level by the Florida Department of Environmental Protection (DEP). The DEP follows the solid waste management guidelines set forth in Rule 17-701, F.A.C. when permitting solid waste facilities. Specifically, the DEP has established evaluation criteria for the construction, operation, closure and long-term care of landfills. The agency also regulates the handling, classification and disposal of wastes, as well as resource recovery operations.

The 1974 Florida Resource Recovery and Management Act (Chapter 403.701, F.S.) required each county to prepare a Solid Waste Management Plan. In 1988 this Act was amended by the Solid Waste Management Act to establish state goals, regulations and programs for a host of solid waste activities. A central focus of the amendment is recycling. It mandates that counties recycle thirty percent of their total municipal solid waste by December 1994, and requires counties and municipalities to have initiated recycling programs by July 1, 1989. No more that half of the 30% can be met with yard trash, white goods, construction debris and tires. It requires that, at minimum, a majority of newspaper, aluminum cans, glass and plastic must be separated from the solid waste stream and offered for recycling. The State imposes deadlines for the separate handling of various special wastes, including construction and demolition debris, yard waste, white goods and used batteries and oil, to divert their disposal away from the landfills. Composting of other mechanically treated solid waste and yard trash is also encouraged.

Additionally, the new law requires municipalities to determine the full cost of solid waste management, to update it annually, and to provide this cost information to consumers. Other changes include the establishment of a Solid Waste Management Trust Fund to encourage innovative solutions to solid waste management and recycling, and encouragement of the use of enterprise funds to operate solid waste services.

Miami-Dade County Regulation: The principal authority of the County to regulate solid waste collection and disposal in the incorporated and unincorporated areas of County is provided for in the Home Rule Charter. Pursuant to Article 1, Section 1.01, Paragraph 9 of the Miami-Dade County Home Rule Charter, the Board of County Commissioners has the power to provide and regulate waste collection and disposal and, for incorporated areas, to delegate this authority to municipal governments.

Additional authority is provided for in Section 403.706(1) and (2)(b), F.S. In this section, the State of Florida mandates the establishment of a local Resource Recovery and Management Program. Furthermore, it designates that, unless otherwise agreed upon by interlocal agreement:

> "... the board of county commissioners shall administer and be responsible for the local resource recovery program ... for the entire county."

Accordingly, through Chapter 15 of the Miami-Dade County Code, the Board of County Commissioners regulates all waste collection and disposal activities. This authority has been exercised through a number of County ordinances, one of which prohibits private collectors from disposing of solid waste in any location other than a County approved facility.

Responsibility for the collection and disposal activities has been assigned in the County Code as follows: The Public Works Department is designated to perform the function of solid waste disposal countywide in Chapter 2, Article XIV, Section 2-100, (f) and the Director of Solid Waste Collection Department is empowered to operate and administer the collection service, designate collection areas in the unincorporated area and enforce collection procedures.

The environmental impacts of solid waste disposal facilities are addressed in the extensive permitting requirements at the state and federal levels. Potential impacts of solid waste facilities on air and water quality are reviewed by the U.S. Environmental Protection Agency and the Florida Department of Environmental Regulation. At the local level, the Miami-Dade Department of Environmental Resources Management has broad authority under Chapter 24 of the Code of Miami-Dade County to regulate facilities in order to protect the environment. (Source: Miami-Dade County Comprehensive Plan).

f) **Available Opportunities for solid waste reduction, re-use and recycling.**

Additional Recycling Opportunities: FIU is presently recycling or causing to be recycled the following materials: paper, phone books, aluminum cans, motor oil, oil filters, cooking oils, auto batteries and wooden pallets

Recycling for plastics, steel cans and glass has been implemented in five buildings as a pilot program. There are plans to expand the program in the near future. The University would also like to intensify its program for recycling card board paper.

Absent from the list of recycled materials are white goods. As part of the solid waste goals, objectives and policies, attention should be given to policies which lead to the implementation of programs for the recycling of these additional materials.

Solid Waste Management Trust Fund: The Department of Regulation administers the Solid Waste Management Trust Fund as a source of money for grants to local governments for solid waste management, recycling, and public education; for demonstration projects, college and university research, and to administer the Department's solid waste management programs.

The Solid Waste Management Trust Fund also is used for demonstration grants and research into the proper management and recycling of solid waste, including used oil, waste tires, manufacture of plastic foam products, disposal of white goods, disposal of seafood wastes, the use of rubber from used tires and plastics in building materials and in transportation, and for composting.

During the development of the solid waste goals, objectives and policies consideration will be given to formulation of a policy whereby FIU will seek to participate in the Solid Waste Management Trust Fund Program.

g) **Service Agreements**

General Contract Provision: The bid solicitation and selection process is subject to the general conditions as established by Florida International University Purchasing Services Department. The contract contains supplemental conditions which are not germane to the specific solid waste removal and disposal operations and provide provisions related to the following items: vendor's right to payment; Prison Rehabilitative Industries (PRIDE); contract cancellation; travel; cancellation; renewal; protection of property; qualification of bidders; hold harmless; public entity crimes; identical tie bids; vendors notification of vendor ombudsman name and telephone number; award; availability of funds; insurance required; inspection of facilities; assembly and/or placement; delivery; environmental conditions F.O.B. Point and cancellation.

Trash Removal: Waste Management, Inc. is under contract with Florida International University to provide the previously described trash removal services. The contract provides for the trash removal services at both Biscayne Bay Campus and Modesto A. Maidique Campus. The specific trash removal specifications are as follows:

- Garbage and other refuse materials are to be collected in general on the campuses each business day, Monday and Friday. Collections at Biscayne Bay Campus Housing and Modesto A. Maidique Campus Housing areas shall be seven (7) days per week or as requested. Collections shall be made between the hours of 5:00 A.M. and 7:00 A.M.

- It shall be the responsibility of the contractor to provide and maintain all dumpsters in good repair and in a clean and sanitary condition at all times. Dumpsters must be odor free when empty.

- Provision shall be made for increases or decreases for cost of additional or eliminated collection points or frequency to be determined by the University per cost schedule.

- Provision shall be provided for special or one-time pick-up of construction, clean yard waste and other trash upon request of the University in both Options.

- All dumpsters shall have plastic covers instead of metal to facilitate access in depositing refuse.

- Collection point and container specifications -- Modesto A. Maidique Campus are:

Location		Size	Pick-Up/Hauling
1.	Key Bank	3-6 yd. dumpster	3 days/week
2.	Owa Ehan Building	1-6 yd. dumpster	3 days/week
3.	Tower Building	1-4 yd. dumpster	twice weekly
4.	W-2 Building	1-4 yd. dumpster	3 days/week
5.	W-10 Building	1-6 yd. dumpster	3 days/week
6.	South of VH Building	2-6 yd. dumpster	3 days/week
7.	S.W. 117 Ave. Entrance	1-20 yd. dumpster	once weekly
8.	W-1 Bldg. (Sculpture)	1-6 yd. dumpster	once weekly
9.	Pharmed Arena	1-6 yd. dumpster	3 days/week
10.	Housing Complex	5-6 yd. dumpster	3 days/week
11.	Chemistry/Physics Bldg.	1-8 yd. dumpster	3 days/week
12.	Engineering Building	1-8 yd. dumpster	3 days/week
13.	Business Admin. Bldg.	1-6 yd. dumpster	3 days/week

- Collection point and container specifications – Biscayne Bay Campus are:

Location		Size	Pick-Up/Hauling
1.	P.P. Campus Support	1-6 yd. dumpster	Daily
2.	Academic Two Building	1-4 yd. dumpster	Daily
3.	Library (behind)	1-4 yd. dumpster	Daily
4.	Housing Complex	1-8 yd. dumpster	7 days/week

- In rare case where dumpsters prove inadequate (i.e. when there is bagged refuse placed beside containers), it shall be the responsibility of the contractor to collect excess refuse and leave the area in an orderly condition. In instances where there is an ongoing problem, it shall be the responsibility of the contractor to notify the University so that changes in container size or frequency of collection may be changed per the cost schedule.

<u>Recycling Collection Services</u>: Waste Management, Inc. is under contract with Florida International University to provide compacting and recycling services at both Modesto A. Maidique Campus and Biscayne Bay Campus. The specific specifications are as follows:

- Compactors: Compactor (2) shall be a 20/30 yard compactor, self contained, leak proof, key operated, lockable disconnect, side loading, painted and labeled per University instructions, to be located one each at each campus at the designated site as agreed upon by the University. All environmental conditions required for the installation of the compactors shall be attached to your bid response. The University shall install the pad and the electrical requirements, etc. as required at the University's expense. The vendor shall deliver and install/hook up the compactor when notified and the service shall start within ten days of this notification. The vendor shall maintain the compactors (rental or purchased) in a clean and sanitary condition. All repairs shall be made within forty-eight (48) hours of notification.

- Collection Services: shall be made on call as necessary within forty-eight hours of such notice on normal week days before 8:00 A.M. A schedule of frequency of the pick-ups shall be determined by the contractor as agreed upon by the University with due regard to product production.

- Contaminated materials: The University shall keep and make every effort to keep the compactors free from contaminated products. The compactors shall be used for cardboard products only. All wax or plastic coated cartons, shoe boxes, newspaper, magazines, books, plastic, styrofoam, wood and metal shall be considered contaminated and shall be excluded. If contaminated, the University shall pay for the disposal at the prices stated.

- Records: The contractor shall record the weight of materials collected on each pick-up. The weights shall be recorded from a state of Florida certified and inspected scale for the purpose of ascertaining payments due to the University. Weight receipts are to be provided to the University on a monthly basis with the reimbursement. The University reserves the right to inspect and verify weight records and procedures.

- Payments/Reimbursements: Payments shall be made by the contractor to the University on or before the 20th day of each month for the previous month's collections. Payment shall be accompanied by an itemized statement showing the amount of recyclable product collected and contamination material removed under the provisions of the agreement. The contractor payments to the University shall be by check, payable to Florida International University (Recycle program) and shall be mailed or delivered to the Coordinator. After ninety (90) days, reimbursement payments/prices maybe negotiated based on the published monthly market such as the "Recycling Times" in writing.

- Training: The contractor shall train no less than ten (10) employees (5 per campus) on the proper operation of the compactor each year.

- Guarantees: The University offers no guarantee that a fixed amount of any recyclable product or material can be collected each month.

<u>Recycling Collection Services</u> for Source-Separated Program for Housing Complexes for both Campuses:

- Containers: Vendors shall supply a customized 30 cubic yard storage container compatible with hauling services for each housing complex with at least five (5) compartments, painted and labeled per university instruction, and installed. All environmental conditions required for the installation of the container shall be attached to your bid response. The University shall install the pad, etc. as required at the University's expense. The vendor shall deliver and install the containers when notified and service shall start within ten days of this notification. Vendor shall maintain the containers (rental or purchased) in a clean and sanitary condition. All repairs shall be made within forty-eight (48) hours of notification.

- Collection Services: Vendor shall collect on call as necessary within forty-eight hours of such notice on normal week days before 8:00 A.M. The vendor shall collect and market clear glass, brown glass, plastic (H.D.P.E. and P.E.T. co-mingled), newspaper and metal cans (aluminum and tin co-mingled) from the University housing areas of Modesto A. Maidique Campus and Biscayne Bay Campus. A schedule of frequency of the pick-ups shall be determined by the contractor as agreed upon by the University with due regard to product production.

- Contaminated materials: The University shall keep and make every effort to keep the containers free from contaminated products. The containers shall be used as labeled. If contaminated, the University shall pay for the disposal at the prices stated.

- Records: The vendor shall record the weight of each product collected by collection site, date and product. The weights shall be recorded from a state of Florida certified in inspected scale and shall be recorded and certified by the contractor for the purpose of ascertaining payments due. Weight receipts are to be provided to the University on a monthly basis. The University reserves the right to inspect and verify weight records and procedures.

- Guarantees: The University does not guarantee that a fixed amount of any recyclable product or material can be collected each month.

- Addendum: As it may become appropriate or beneficial, other recyclable products or materials may be added or deleted to the scope of this contract at the discretion of the University based on the successful negotiations of the rates per specification 8 between the University and the vendor. All changes shall be in writing.

- Recycling Marketing: The vendor shall be totally responsible for the marketing of the recyclable collected with the exception of the contaminates. All materials collected must be recycled or reused.

- Payments/Reimbursements: Payments shall be made by the contractor to the University on or before the 20th day of each month for the previous month's collections. Payment shall be accompanied by an itemized statement showing the amount of recyclable product collected and contamination material removed under the provisions of the agreement. The contractor payments to the University shall be by check, payable to Florida International University (Housing Recycle Program) and shall be mailed or delivered to the Coordinator. After ninety (90) days, reimbursement payments/prices maybe negotiated based on the published monthly market such as the "Recycling Times".

10.0 UTILITIES ELEMENT

PURPOSE

The purpose of this element is to ensure adequate provision of utility services required to meet the future needs of the University including the following:

a) **Ensure provision of adequate chilled water supply to meet future University needs;**

b) **Ensure provision of adequate electric power supply and other fuels to meet Future University needs;**

c) **Ensure provision of adequate supplies of natural gas or other fuels to meet future University needs; and**

d) **Ensure provision of adequate supply and distribution facilities for telecommunication systems required to meet future University needs.**

<u>**Chilled Water Sub-Element**</u>

(1) DATA REQUIREMENTS. This sub-element shall be based, at a minimum, on the following data requirements:

The following summary and analysis of the chilled water system is based on existing utility maps, data and workshop meeting with FIU staff.

a) **An inventory of the existing chilled water distribution systems on the campus indicating locations and sizes of main distribution lines.**

<u>**MODESTO A. MAIDIQUE CAMPUS**</u>

The campus core is served by a chilled water system consisting of a chiller plant and a substation or secondary chiller plant with their complementary equipment and a common piping distribution loop. The combined plants house seven (7), chillers, five (5) in the main and two (2) in the sub/secondary plant, six (6) cooling towers, four (4) at the main and two (2) at the sub/secondary plant, there are ten (10) condenser pumps, eight (8) at the main and two (2) at the sub/secondary plant, five (5) primary chilled water transport pumps consisting of three (3) at the main, and two (2) at the sub/secondary plant, plus a dedicated chilled water pump for each chiller at both plants central plants consisting of a total of seven (7) dedicated chilled water pumps.

Table 10.1 Existing Chilled Water System – MODESTO A. MAIDIQUE CAMPUS

Building	Conditioned SF	Approximate A/C Tonnage
Viertes Haus (VH)	56,000	233
Engineering & Computer Science	65,200	189
Owa Ehan	140,800	587
Chemistry & Physics	176,800	737
Graham Center – East	96,800	457
Graham Center – West	70,400	426
Ryder Business Building	41,200	167
Deuxiem Maison (DM)	100,000	418
Perry Building (PC)	162,000	675
Health Care Wellness Center	11,600	38
Ziff Education Building	41,200	173
Panther Residence Hall	80,000	350
Wertheim Performing Arts Center –East	48,400	201
Wertheim Performing Arts Center –West	52,000	217
Green Library	208,400	869
Labor Center	17,600	74
College of Health	8,000	28
Conservatory & Greenhouse	5,000	17
University Tower	195,000	561
MARC	75,000	363
Everglades Hall	135,000	403
Health & Life Science I & II	195,000	1210
School of Architecture	48,000	336
Health Care Wellness Center Expansion	23,000	56
Recreation Center I	45,000	170
Law School		467
Lakeview Housing		373
Art Museum		183
Graduate Business I		346
Total		10,324

SOURCE: FIU Central Chilled Water System Engineering Study December, 2009

A set of three primary transport pumps circulates the water through the piping loop and its extensions. Green Library, Owa Ehan, Engineering, Chemistry/ Physics, and Ryder Business Administration buildings have two (one standby) secondary chilled water pumps. Primera Casa has one secondary pump and University Center has two separate secondary systems, one with an inline pump and the other with 4 through a valved transfer loop. The primary/secondary transfer loop in most buildings is pressure controlled through an automatic mixing valve.

There is a separate 200 ton capacity "Trane" air cooled chiller operating on R-22 refrigerant with its own circulating pump. This chiller is locally connected to the main loop at the Owa Ehan Building. Pharmed Arena has two 200 ton (each) York chillers operating on R-11 refrigerant. These chillers have their own chilled water circulating pumps.

BISCAYNE BAY CAMPUS

A Central Utility Building located in a service yard near the Wolfe University Center produces the chilled water that is circulated throughout Biscayne Bay Campus. The Central Utility Building houses three chillers, cooling towers, condenser, and chilled water transport pumps. Chilled water is conveyed through the campus via underground and exposed supply and return pipes. Table 10.2 shows the buildings, which are served by the chilled water system.

Table 10.2 Existing Chilled Water System – BISCAYNE BAY CAMPUS

Building	Conditioned SF	Approximate A/C Tonnage
Wolfe University Center	87,658	219
Academic One	78,667	197
Academic Two	55,786	140
Hospitality Management	46,222	116
The Library	82,332	206
Student Health & Wellness	15,000	38
Student Health Clinic	1,567	4
Kovens Conference Center	57,604	144
Marine Biology	48,000	191
Total	472,836	1255

SOURCE: Facilities Operations

The chilled water from the Plant is circulated through the pipe network by primary transport pumps. The Library, Wolfe University Center, Academic One building and Kovens Conference Center have in-line single pump secondary systems drawing chilled water from the primary network. These three buildings have the secondary pumps located on a platform which renders them accessible for servicing. Each of the remainder buildings have two pumps for the secondary systems, one of them being a standby unit (see Figure 10.3: Existing Chilled Water Distribution Map).

The "BRDG-TNDR" brand automatic valving system has been replaced by frequency drives on buster pumps at each building, except the Kovens Conference Center.

<u>OTHER UNIVERSITY SITES</u>

<u>Engineering Center</u>

The Engineering Center has three (3) chillers, one (1) new 1,000.00 ton and two (2) older 600.00 tons that are stated for replacement in the near future. All three circuits are presently stand alone with it's respective cooling towers, condenser pumps and chilled water pumps. There are primary chilled water pumps for the entire loop.

b) The following data shall be included for the chilled water facilities identified in (1) a):

1. **The entity having operation responsibility for the facility;**

   <u>MODESTO A. MAIDIQUE CAMPUS</u>

   Florida International University has operation responsibility for the chilled water system.

   <u>BISCAYNE BAY CAMPUS</u>

   Florida International University has operation responsibility for the chilled water system.

   <u>OTHER UNIVERSITY SITES</u>

   <u>Engineering Center</u>

   Florida International University has operation responsibility for the chilled water system.

2. **The geographic service area of the facility and the predominant types of land uses served by the facility;**

   <u>MODESTO A. MAIDIQUE CAMPUS</u>

The geographic service area is Modesto A. Maidique Campus. The predominant types of land uses served by the facility are; academic, support and recreation.

BISCAYNE BAY CAMPUS

The geographic service area is Biscayne Bay Campus. The predominant types of land uses served by the facility are; academic, support and recreation.

OTHER UNIVERSITY SITES

Engineering Center

The geographic service area is Engineering Center. The predominant types of land uses served by the facility are; academic and support.

3. The design capacity of the facility;

MODESTO A. MAIDIQUE CAMPUS

Cooling capacity of the plant is indicated in Table 10.3.

Table 10.3 Chiller Capacity – MODESTO A. MAIDIQUE CAMPUS

Number	Tons	Manufacturer	Refrigerant	Arrangement
1	1500	Trane	123	Parallel
2	1500	Trane	123	Parallel
3	1500	Carrier	134A	Parallel
4	1500	Trane	123	Parallel
5	1500	Carrier	134A	Parallel
1A	1500	Carrier	134A	Parallel
2A	1500	Carrier	134A	Parallel
Total	10,500*			

Source: Facilities Operations
*Based on the Chilled Water System Engineering Study (July 2000), several older machines have been replaced and total chilled water capacity in the main plant is 7500 tons

BISCAYNE BAY CAMPUS

Cooling capacity of the plant is indicated in Table 10.4.

Table 10.4 Chiller Capacity – BISCAYNE BAY CAMPUS

Number	Tons	Manufacturer	Refrigerant	Arrangement
1	1,250	Carrier	134-a	Parallel
2	1,280	Trane	123	Parallel
3	325	McQuay	134-a	Parallel
Total	2,880*			

Source: Facilities Operations

OTHER UNIVERSITY SITES

Engineering Center

4. The current demand on the capacity of the facility;

MODESTO A. MAIDIQUE CAMPUS

The completion of the Phase II Central Plant Expansion (recommended in the Central Chilled Water System Engineering Study of July, 2000), provided adequate capacity, with minimal redundancy for the inclusion of newly additions of the Research and Development Facility, Museum, and Academic Bldg. Since then, other new facilities have come on line such as New Housing Facilities, and Law School which led to the addition of a satellite chiller plant, which houses two (2) 1500 ton chillers and associated components and equipment interconnected to the existing loop to provide a total plants producing capacity of 10,500 tons of cooling to the main chilled water loop.

BISCAYNE BAY CAMPUS

With the implementation of the 1995 Chilled Water Study recommendations, the system capacity of 2,880 tons is adequate.

OTHER UNIVERSITY SITES

Engineering Center

5. The level of service provided by the facility.

MODESTO A. MAIDIQUE CAMPUS

At the present time, the Chiller Plant has approximately a 14% redundancy in capacity and a multiple distribution of chillers for safe operation. The building has been designed and the piping prepared for an expeditious expansion.

BISCAYNE BAY CAMPUS

At the present time, the Chiller Plant has approximately a 56% redundancy in capacity and a multiple distribution of chillers to provide safe operation.

OTHER UNIVERSITY SITES

Engineering Center

(2) ANALYSIS DATA REQUIREMENTS. This sub-element shall be based, at a minimum, on the following analyses:

a) A facility capacity analysis, by geographic service area, indicating capacity surpluses and deficiencies for:

1. Existing conditions, based on the facility design capacity and the current demand on facility capacity;

MODESTO A. MAIDIQUE CAMPUS

The existing transport capacity is adequate for the addition of three new buildings (Research & Development Facility, Museum, and Academic Building) with one pump redundant for standby. Beyond that no new major facilities should be added to the campus without serious considerations of expanding the existing central chilled water plant and distribution system which could be interconnected to the existing facilities.

BISCAYNE BAY CAMPUS

With the implementation of the 1995 Chilled Water Study recommendations, the system capacity of 2,880 tons is adequate.

The Central Utility Building houses three chillers, cooling towers, condenser, and chilled water transport pumps. Of the three chillers, the 1,280 ton Trane chiller is used regularly. The 1,280 ton Trane chiller uses the least amount of energy because it operates on low pressure system, whereas the 1,250 Carrier chiller must run at a minimum of 70% to service Biscayne Bay. The 325 ton McQuay chiller is used only in the winter, and the 1,250 ton Carrier chiller serves as a backup system and remains redundant. With approximately 56% redundancy in capacity, there is a surplus in the capacity of the chilled water system.

OTHER UNIVERSITY SITES

Engineering Center

2. **The end of the planning time frame, based in the projected demand at current level of service standards for the facility, projected student populations and land use distributions, and any available existing surplus facility capacity.**

MODESTO A. MAIDIQUE CAMPUS

There are several new buildings or expansions to existing ones in the planning stages. These buildings are in the general area of the main core. Therefore, it is planned to serve them from the Central Chiller Plant.

The buildings under design are: FIU Arena, Nursing and Health Sciences and Social Sciences buildings. The total projected square footage of air-conditioned space for this imminent expansion is 85,000 square feet. The air conditioning load increase reflected is of 298 tons. However, after any one of these two new buildings is added there will be no chiller redundancy.

BISCAYNE BAY CAMPUS

The existing primary chilled water pump capabilities presently surpass the existing demand. This system is adequate to guarantee primary flow through the piping network, and with a 56% redundancy it is also capable of meeting the demand of future expansions.

OTHER UNIVERSITY SITES

Engineering Center

b) **The general performance of existing chilled water facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the impact of the facility upon adjacent natural resources.**

MODESTO A. MAIDIQUE CAMPUS

The existing transport capacity is adequate for the additional buildings with one pump redundant for standby. Beyond that no new major facilities should be added to the campus without serious considerations of expanding the existing central chilled water plant and distribution system which could be interconnected to the existing facilities.

BISCAYNE BAY CAMPUS

With the implementation of the 1995 Chilled Water Study recommendations, the system capacity of 2,880 tons is adequate. The existing primary chilled water pump capabilities presently surpass the existing demand. This system is adequate to guarantee primary flow through the piping network, and with a 56% redundancy it is also capable of meeting the demand of future expansions.

OTHER UNIVERSITY SITES

Engineering Center

Information will need to be obtained to complete this response.

c) An assessment of opportunities or available and practical technologies to reduce University energy consumption. Investigation of emerging technologies to address this issue is encouraged.

MODESTO A. MAIDIQUE CAMPUS

Today and even more in the near and distant future any utility planning, especially the production of chilled water, needs to consider devices to conserve energy and produce/distribute it efficiently.

BISCAYNE BAY CAMPUS

Today and even more in the near and distant future any utility planning, especially the production of chilled water, needs to consider devices to conserve energy and produce/distribute it efficiently.

OTHER UNIVERSITY SITES

Engineering Center

Electrical Power and Other Fuels Sub-Element

(1) DATA REQUIREMENTS. This sub-element shall be based, at a minimum, on the following data requirements:

The following summary and analysis of the electrical power system at FIU is based on workshop meetings with FIU staff.

a) **An inventory of the electrical power supply distribution system on the campus indicating locations and sizes of main distribution lines.**

MODESTO A. MAIDIQUE CAMPUS

The electrical transmission and distribution system serving Modesto A. Maidique Campus presently consists of two primary voltage (13.2 KV) underground feeders which run in a north-south direction up to 107th Avenue and 117th Avenue respectively. Since each feeder originates at a different substation, and each has the rated capacity to energize all campus loads, the campus intrinsically has flexibility and back-up capabilities in the event that any one feeder should fail. See Figure 10.4: Existing Electrical Distribution).

In addition, a new third primary voltage feeder which originates from the new FPL substation built on an easement located at the southwest corner of the campus is completed. This new underground feeder which borders the Modesto A. Maidique Campus/Miami-Dade County Fair and Exposition boundary on the campus side runs in an easterly direction towards 107th Avenue. This new underground ductbank is provided with strategically placed intermediate manholes to allow for taps and extensions to service the campus expansions. This transmission and distribution system provides the campus with unmatched service reliability against possible brownouts.

BISCAYNE BAY CAMPUS

The electrical transmission and distribution system serving Biscayne Bay Campus consists of two primary voltage (13.2 KV) feeders routed through an underground conduit ductbank network. The entry route of these feeders trains the existing entry road to the Central Utilities Building. Each feeder has the rated capacity to individually handle the electrical consumption of the entire campus. However, one feeder is designated as the main service, while the second feeder is designated as a backup circuit, which is interconnected via an automatic throwover mechanism within the transformer vaults to automatically come on line in the event of a main service feeder failure. This design provides the highest level of service reliability to the campus (see Figure 10.6: Existing Electrical Distribution).

In addition to the two primary feeders described above, there is an existing primary voltage overhead feeder which is dead ended near the southeast region of the campus at 135th Street. If required, this feeder could be routed down a riser underground and extended into the campus network to develop a second service loop. However, since only one line is available, it would not provide the reliability of the throw over back-up service.

OTHER UNIVERSITY SITES

Engineering Center

The electrical distribution system serving Engineering Center, consists of two primary voltage (23KV) feeders routed through an underground ductbank network. These feeders enter the OU Building and terminate at the main Switchgear. Each feeder has the rated capacity to individually handle the electrical consumption to the entire campus. Both circuits are available for service. At the main switchgear in the OU Building, one feeder is designated as the main service and the second feeder as a backup, which is interconnected manually via a tie breaker in the event of a main feeder failure. This design provides a high level of reliability.

b) An inventory of any other fuel storage or distributions facilities on the campus indicating their location, size and sizes of main distribution lines (if applicable).

MODESTO A. MAIDIQUE CAMPUS

There are several emergency generators located on campus, that backup the electrical system in the event of a blackout. These generators are located at the following buildings: Engineering and Computer Sciences, Wertheim Conservatory, Owa Ehan, Chemistry and Physics, Tower, Herbert and Nicole Wertheim Performing Arts Center, Management and Advanced Research Center, Deuxiem Maison, Health and Life Sciences, Everglades Hall, Cenral Utilities, Viertes Haus, Charles E. Perry, Parking Garage 3, Parking Garage 4, Ernest R. Graham Center and at various Campus Support buildings.

Fuel storage and distribution facility is located is located at the Campus Support Complex Vechicle Services Facility. The storage facility has a 6000 gallon gasoline tank and a 6000 gallon tank diesel tank. In addition, for distribution, it has a trailer mounted 500 gallon diesel tank.

BISCAYNE BAY CAMPUS

There are two emergency generators located on campus, that backup the electrical system in the event of a blackout. One generator serves the Academic One, part of the Wolfe University Center, and part of the Central Utility building. Another generator is located at the Kovens Conference Center, it backups the lighting, elevators, and computer room outlets.

OTHER UNIVERSITY SITES

Engineering Center

c) The following data shall be included for the electrical power distribution

system facilities identified in (1) a):

1. **The entity having operational responsibility of the facility;**

   MODESTO A. MAIDIQUE CAMPUS

   Florida Power and Light provides services to Modesto A. Maidique Campus.

   BISCAYNE BAY CAMPUS

   Florida Power and Light provides services to Biscayne Bay Campus.

   OTHER UNIVERSITY SITES

   Engineering Center

   Florida Power and Light provides services to Engineering Center.

2. **The geographic service area of the facility and the predominant types of land uses served by the facility;**

   MODESTO A. MAIDIQUE CAMPUS

   The geographic service area is Modesto A. Maidique Campus. The predominant types of land uses served by the facility are; academic, support and recreation.

   BISCAYNE BAY CAMPUS

   The geographic service area is Biscayne Bay Campus. The predominant types of land uses served by the facility are; academic, support and recreation.

   OTHER UNIVERSITY SITES

   Engineering Center

3. **The design capacity of the facility;**

   MODESTO A. MAIDIQUE CAMPUS

   The design capacity of the facility is not available. Electrical design is done on a per building basis, rather than considering the impact on the entire campus. In order to calculate the electrical design capacity, an in-depth analysis of the electrical design (riser diagrams) for each building must be done. Therefore, further analysis is required to compute the design capacity of Modesto A. Maidique Campus, as well as Engineering Center.

BISCAYNE BAY CAMPUS

The design capacity of the facility is not available. Electrical design is done on a per building basis, rather than considering the impact on the entire campus. In order to calculate the electrical design capacity, an in-depth analysis of the electrical design (riser diagrams) for each building must be done. Therefore, further analysis is required to compute the design capacity of the campus.

OTHER UNIVERSITY SITES

Engineering Center

4. **The current demand on the capacity of the facility;**

MODESTO A. MAIDIQUE CAMPUS

The current electrical distribution system is adequate for the existing and short-term program improvements. The threat of blackouts for Modesto A. Maidique Campus facilities was minimized by the two incoming electrical power feeds from the substation.

Electrical power distribution system should be extended to all long-term program improvements through the above master electrical feed systems. Specific routing and sizing should be evaluated when more details are known about these long-term program improvements.

BISCAYNE BAY CAMPUS

The current electrical distribution system is adequate for the existing and short-term program improvements. The threat of blackouts for Biscayne Bay Campus facilities was minimized by the two incoming electrical power feeds from the substation.

Electrical power distribution system should be extended to all long-term program improvements through the above master electrical feed systems. Specific routing and sizing should be evaluated when more details are known about these long-term program improvements.

OTHER UNIVERSITY SITES

Engineering Center

5. **The level of service provided by the facility.**

MODESTO A. MAIDIQUE CAMPUS

The LOS for the energy system (electrical, fuel oil, and L.P. gas combined) will be at the required therms per gross square foot (maximum).

BISCAYNE BAY CAMPUS

The LOS for the energy system (electrical, fuel oil, and L.P. gas combined) will be at the required therms per gross square foot (maximum).

(2) ANALYSIS DATA REQUIREMENTS. This sub-element shall be based, at a minimum, on the following analyses:

a) **A facility capacity analysis, by geographic service area, indicating capacity and the current demand on facility capacity;**

1. **Existing conditions, based on the facility design capacity and the current demand on facility capacity,**

MODESTO A. MAIDIQUE CAMPUS

The current electrical distribution system is adequate for the existing and short-term program improvements. The threat of blackouts for Modesto A. Maidique Campus facilities was minimized by the two incoming electrical power feeds from the substation.

Electrical power distribution system should be extended to all long-term program improvements through the above master electrical feed systems. Specific routing and sizing should be evaluated when more details are known about these long-term program improvements.

BISCAYNE BAY CAMPUS

The current electrical distribution system is adequate for the existing and short-term program improvements. The threat of blackouts for Biscayne Bay Campus facilities was minimized by the two incoming electrical power feeds from the substation.

Electrical power distribution system should be extended to all long-term program improvements through the above master electrical feed systems. Specific routing and sizing should be evaluated when more details are known about these long-term program improvements.

2. **The end of the planning time frame, based in the projected demand at current level of service standards for the facility, projected student populations and land use distributions, and any available existing surplus facility capacity.**

<u>MODESTO A. MAIDIQUE CAMPUS</u>

The electrical transmission and distribution system serving Modesto A. Maidique Campus presently consists of two primary voltage (13.2 KV) underground feeders. Since each feeder originates at a different substation, and each has the rated capacity to energize all campus loads, the campus intrinsically has flexibility and back-up capabilities in the event that any one feeder should fail.
In addition, a third primary voltage feeder which originates from the new FPL substation built on an easement located at the southwest corner of the campus is completed. This underground ductbank is provided with strategically placed intermediate manholes to allow for taps and extensions to service the campus expansions. This transmission and distribution system provide the campus with unmatched service reliability against possible brownouts.

<u>BISCAYNE BAY CAMPUS</u>

The electrical transmission and distribution system serving Biscayne Bay Campus consists of two primary voltage (13.2 KV) feeders. Each feeder has the rated capacity to individually handle the electrical consumption of the entire campus. However, one feeder is designated as the main service, while the second feeder is designated as a backup circuit, which is interconnected via an automatic throwover mechanism within the transformer vaults to automatically come on line in the event of a main service feeder failure. This design provides the highest level of service reliability to the campus.

In addition to the two primary feeders described above, there is an existing primary voltage overhead feeder which is dead ended near the southeast region of the campus at 135th Street. If required, this feeder could be routed down a riser underground and extended into the campus network to develop a second service loop. However, since only one line is available, it would not provide the reliability of the throwover back-up service.

b) **The general performance of existing electrical power and other fuel facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the impact of the facility upon adjacent natural resources.**

MODESTO A. MAIDIQUE CAMPUS

As previously noted, the existing three primary voltage feeders designed to service Modesto A. Maidique Campus have both the required rating and capacity to accommodate all planned expansions. Existing primary feeders should be intercepted at manhole locations, tapped and extended via underground conduit ductbanks to planned expansion locations. From there, and based upon square footage and projected equipment loads, either pad mounted transformers or transformer vaults can be specified to provide the distribution voltages required by the end user.

In order to maximize the utility kilowatt hour consumption rate as well as providing streamlined electrical equipment, planned building expansions should take advantage of incentive and rebate program offered by Florida Power and Light, designed to help minimize consumption requirements especially at peak demand hours. These incentive programs include thermal energy storage, energy efficient lighting such as T-8 and compact fluorescent lamps, electronic ballast and automated building lighting control systems.

The energy efficient technologies described above will be expanded upon in upcoming sections of this report when alternative plans are discussed.

BISCAYNE BAY CAMPUS

Presently, the existing primary voltage feeders can accommodate sufficient capacity to expand upon and service the projected growth at Biscayne Bay Campus. Therefore, electrical service for planned building expansions would tie into and extend the existing primary feeders to either transformer vaults or padmounted transformers to provide the utilization voltage required.

In order to maximize the existing feeder's capabilities to their fullest potential, all new building designs should incorporate energy conservation programs favored by FPL to both reduce the overall KW consumption and acquire favorable KW per KWH usage rates. These energy conservation programs would include automatic lighting control, energy efficient T-8 lamps, electronic ballasts, LED exit signs, compact fluorescent lighting, and thermal energy storage.

The energy efficient technologies described above will be expanded upon in upcoming sections of this report when alternative plans are discussed.

c) **An assessment of opportunities or available and practical technologies to reduce University energy consumption. Investigation of emerging technologies to address this issue is encouraged.**

MODESTO A. MAIDIQUE CAMPUS

Electrical power distribution system should be extended to all long-term program improvements through the above master electrical feed systems. Specific routing and sizing should be evaluated when more details are known about these long-term program improvements.

BISCAYNE BAY CAMPUS

Electrical power distribution system should be extended to all long-term program improvements through the above master electrical feed systems. Specific routing and sizing should be evaluated when more details are known about these long-term program improvements.

Telecommunications Systems Sub-Element

(1) DATA REQUIREMENTS. This sub-element shall be based, at a minimum, on the following data requirements:

The following summary and analysis of the telecommunication at FIU will be verified from a response to inquiries made to designated FIU personnel.

a) An inventory of the existing telecommunications system(s) serving the campus, including but not limited to:

1. Telephone;

MODESTO A. MAIDIQUE CAMPUS

Modesto A. Maidique Campus voice communications system is serviced by the Bell South "ESSX" service. The Campus main telephone feeder originates at 107th Avenue and enters into the cable plant located at the PC Building. This cable plant, which provides the voice communications throughout the campus, is owned and maintained by Bell South which provides it as part of the ESSX service rate.

BISCAYNE BAY CAMPUS

The voice communications system at Biscayne Bay Campus is served from a "Rolm CBX 9000" system. This cable plant, located at the Academic Two building, is owned, operated, maintained and managed by the University.

OTHER UNIVERSITY SITES
Engineering Center

Engineering Center voice communications system is serviced by Bell South

"ESSX" service. The site main telephone feeder originates at 107th Avenue and enters in to the cable plant located at the Utilities building. This cable plant, which consists of copper provides voice communication as well as dedicated circuits throughout the site, is owned and maintained by BellSouth, which provides it as part of the ESSX service rate.

2. **Computer network(s);**

MODESTO A. MAIDIQUE CAMPUS

The data communications system at Modesto A. Maidique Campus is comprised of two networks: the FIUnet and the Administration Network. The FIUnet system is a fiber-optic cable based transmission system which links Primera Casa, Deuxieme Maison, Owa Ehan, Engineering & Computer Science, Viertes Haus, Graham Center, Green Library, Health Wellness Center, and Physical Science. The operation, maintenance and management of this fiber network is the responsibility of the University. The Administrative Network which services the end users is a twisted pair, copper cable based, dedicated data circuit system. The data circuits required to run or expand the system are leased from Bell South via the cable plant located at the Primera Casa building (see Figure 10.7: Existing Telecommunications Network).

The data communications system at the Engineering site is comprised of two networks: FIUnet and EICnet. The FIUnet system is a fiber-optic cable based transmission system, which links both the CEAS and Utility buildings. The operation, maintenance and management of this network are the responsibility of the University. The EICnet system is a fiber-optic cable as well as twisted copper pair cabling based transmission system, which links all users within the EICnet system. The operation, maintenance and management of this network are the responsibility of the College of Engineering (see Figure 10.8: Existing Telecommunications Network).

BISCAYNE BAY CAMPUS

The data communications system is divided into two networks: FIUnet and the Administration Network. FIUnet is a fiber-optic cable based distribution system which expands to the following buildings: Academic One, Hospitality Management, The Library, and Wolfe University Center. This fiber network is owned, operated, maintained and managed by the University.

The Administrative Network is a twisted pair copper cable based, dedicated data circuit system to service the end users. Although the University owns the cable plant, the required number of lines are leased from Bell South (see Figure 10.9: Existing Telecommunications Network).

3. **Radio;**
4. **Microwave;**
5. **Satellite transmission/reception.**

   Information was not available to complete the required response.

b) **An inventory of electromagnetic fields (if any) emanating from any telecommunications transmitter that pose a hazard to persons or equipment.**

   Information was not available to complete the required response.

(2) ANALYSIS DATA REQUIREMENTS. This sub-element shall be based, at a minimum, on the following analyses:

a) **A facility capacity analysis, by geographic service area, indicating capacity and the current demand on facility capacity;**

   1. **Existing conditions, based on the facility design capacity and the current demand on facility capacity,**

      Information was not available to complete the required response.

   2. **The end of the planning time frame, based in the projected demand at current level of service standards for the facility, projected student populations and land use distributions, and any available existing surplus facility capacity.**

      <u>MODESTO A. MAIDIQUE CAMPUS</u>

      In order to increase telecommunications reliability, a second main telephone feeder should be extended into the campus from 117th Avenue. This second feeder should be strategically located in such a fashion with the existing telecommunications network to form a loop around the campus.

      <u>BISCAYNE BAY CAMPUS</u>

      Telecommunication extensions for planned building expansions will follow the established path of transmitting via fiber optic cables and distributing to end users via a copper based twisted pair network. Four inch communication conduit ductbanks should be extended from the existing cable plant at Academic Two via intermediate manholes to service the building expansions.

b) **The general performance of existing telecommunications systems and facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the**

impact of the facility upon adjacent natural resources.

MODESTO A. MAIDIQUE CAMPUS

Network technology has undergone a rapid evolutionary process over the course of the last decade. Today, organizations still rely on separate network infrastructures to transmit data and voice traffic. The challenge of integrating voice and data networks is becoming a rising priority for many organizations. Modesto A. Maidique Campus plans to take advantage of the synergies gained by converging data and voice onto a single multiservice IP network. An IP-based network that integrates data and voice introduces the opportunity to a new world of technologies that increases productivity and provides a more efficient allocation of resources. This multiservice network will serve Modesto A. Maidique Campus's communication needs well into the future.

In order to achieve the multiservice network, the communication conduit infrastructure needs to be reevaluated. A proposed conduit layout of four-inch communication conduit duct-banks will provide redundancy among core buildings on the campus and a single conduit path for the boundary buildings on the campus. The conduit layout could be made more robust by providing redundancy to every building on campus.

BISCAYNE BAY CAMPUS

Network technology has undergone a rapid evolutionary process over the course of the last decade. Today, organizations still rely on separate network infrastructures to transmit data and voice traffic. The challenge of integrating voice and data networks is becoming a rising priority for many organizations. Biscayne Bay Campus plans to take advantage of the synergies gained by converging data and voice onto a single multiservice IP network. An IP-based network that integrates data and voice introduces the opportunity to a new world of technologies that increases productivity and provides a more efficient allocation of resources. This multiservice network will serve Biscayne Bay Campus's communication needs well into the future.

In order to achieve the multiservice network, the communication conduit infrastructure needs to be reevaluated. A proposed conduit layout of four-inch communication conduit duct-banks will provide redundancy among core buildings on the campus and a single conduit path for the boundary buildings on the campus. The conduit layout could be made more robust by providing redundancy to every building on campus.

c) An assessment of potential electromagnetic hazards resulting from facilities required to meet future telecommunications needs of the University, and an analysis of practical ways to mitigate such hazards.

Information was not available to complete the required response.

11.0 TRANSPORTATION ELEMENT

Transit, Circulation and Parking Sub-Element

(1) DATA REQUIREMENTS.

a) An inventory of existing on-campus parking facilities, which identifies:

1. Spaces allocated to students, faculty staff and visitors.

MODESTO A. MAIDIQUE CAMPUS

Figure 11.1a: Transportation Network Map shows the parking layout at this campus. The number of spaces by type for each parking lot is shown in Table 11.1. The majority of the parking spaces are allocated to students (61%). Faculty and staff occupied 17% of the available spaces and the remaining 22% are allocated among executive, administrative, resident, disabled, visitors, loading, etc.

ENGINEERING CENTER

Figure 11.2a: Transportation Network Map shows the parking layout at this campus. The number of spaces by type for the parking lot is shown on Table 11.2. The majority of parking spaces are allocated to students (74%). Faculty and staff occupied 19% of the available spaces and the remaining 7% are allocated among executive, administrative, disabled, visitors (metered), motor bike, and state vehicle.

BISCAYNE BAY CAMPUS

Figure 11.3a: Transportation Network Map shows the parking layout at this campus. Table 11.3 contains detailed counts of spaces by type for each lot. Parking spaces are allocated by the following: 64% to students, 15% to faculty and staff, and the remaining 21% are allocated among executive, administrative, resident, disabled, visitors (metered), loading, etc.

Table 11.1 Parking Lot Counts by Stall Type – MODESTO A. MAIDIQUE

Lot #	Executiv	Admin.	Fac./ Staff	Studen t	Residnt	Reserv e	Disabled	Metere d Single SP	Metere d Multi SP	Carpoo l	Motor Bike	State Vehicle	FIU Police	Service Deliver y	Time Limit	Total
1	0	14	50	151	0	0	0	0	0	0	2	10	0	0	0	**227**
2	0	15	110	527	0	0	0	0	0	2	1	10	0	0	0	**665**
3	0	4	99	390	0	0	4	0	58	2	2	0	0	0	0	**559**
4	0	0	0	164	0	0	0	8	0	0	0	6	0	0	0	**178**
5	0	3	24	506	0	0	0	0	0	0	0	0	0	2	0	**535**
6	0	0	15	0	359	0	0	12	0	0	0	0	0	0	0	**386**
7	0	0	25	91	0	0	4	2	0	0	1	0	0	0	0	**123**
8	1	14	114	28	0	8	9	10	0	2	1	3	0	0	0	**190**
9	5	34	213	254	0	0	11	28	0	4	1	0	0	4	1	**555**
10	0	0	7	202	0	0	2	7	0	0	1	0	0	0	0	**219**
11	0	5	25	0	0	0	4	0	0	0	0	2	0	0	0	**36**
12	0	0	10	0	219	0	6	2	0	0	1	0	0	0	0	**238**
13	0	0	20	0	66	0	4	2	0	0	1	0	0	0	0	**93**
14	0	0	9	0	356	0	10	2	0	0	3	0	0	0	0	**380**
15	1	15	0	0	0	2	8	0	0	0	0	5	15	0	1	**47**
16	2	0	0	0	0	1	6	0	0	0	0	3	0	0	3	**15**
17	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	**16**
18	3	0	0	0	0	0	10	2	0	0	0	0	0	0	5	**20**
19	0	0	0	0	0	0	4	0	0	0	0	0	0	0	3	**7**
20	0	0	0	0	0	5	0	3	0	0	0	2	0	1	0	**11**
21	2	0	0	0	0	0	0	10	0	0	0	16	0	0	3	**31**

22	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	**4**
23	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
25	0	0	0	0	0	0	0	0	0	0	0	37	0	0	0	**37**
26	4	24	122	0	0	0	4	11	0	0	0	18	0	0	0	**183**
27	0	0	22	0	0	0	1	0	0	0	0	54	0	0	1	**78**
28	0	0	5	5	0	0	0	0	0	0	0	0	0	2	0	**12**
29	0	3	10	47	0	0	0	0	0	0	0	4	0	1	0	**65**
30	0	3	35	0	0	0	4	2	0	0	0	2	0	0	0	**46**
31	0	0	7	65	0	0	1	0	0	0	0	0	0	0	0	**73**
32	18	0	0	0	0	2	8	0	0	0	0	2	0	0	0	**30**
33	3	0	0	0	0	0	8	0	56	0	0	2	0	0	0	**69**
34	0	0	0	56	0	0	0	0	0	0	0	0	0	0	0	**56**
Gold PG	15	125	193	632	0	2	16	0	16	0	3	0	2	0	0	**1004**
Blue PG	0	25	264	653	0	0	6	0	52	0	0	0	2	0	0	**1002**
Pant PG	0	24	65	1326	0	0	8	0	16	0	2	5	2	0	0	**1448**
Red PG	1	57	258	1080	0	0	8	0	32	0	3	0	2	0	0	**1441**
Total	**55**	**365**	**1702**	**6177**	**1000**	**20**	**151**	**101**	**230**	**10**	**22**	**197**	**23**	**10**	**17**	**10080**

Source: FIU Department of Parking and Transportation, January, 2009

Table 11.2 Parking Lot Counts by Stall Type – ENGINEERING CENTER

Lot #	Executiv	Admin.	Fac./ Staff	Student	Residnt	Reserve	Disabled	Metered Single SP	Metered Multi SP	Carpool	Motor Bike	State Vehicle	FIU Police	Service Delivery	Time Limit	Total
1	0	0	17	153	0	0	10	17	0	0	0	2	0	0	0	**199**
2	0	0	29	170	0	0	0	0	0	0	0	0	0	0	0	**199**
3	0	0	61	359	0	0	0	0	0	0	0	0	0	0	0	**420**
4	0	0	0	25	0	0	1	0	0	0	0	2	0	0	0	**28**
5	0	0	3	5	0	0	0	0	0	0	0	2	0	0	0	**10**

6	6	13	76	0	0	0	8	0	0	0	2	0	0	0	0	**105**
Total	**6**	**13**	**186**	**712**	**0**	**0**	**19**	**17**	**0**	**0**	**2**	**6**	**0**	**0**	**0**	**961**

Source: FIU Department of Parking and Transportation, January, 2009

Table 11.3 Parking Lot Counts by Stall Type – BISCAYNE BAY CAMPUS

Lot #	Executiv	Admin.	Fac./ Staff	Student	Residnt	Reserve	Disabled	Metered Single SP	Metered Multi SP	Carpool	Motor Bike	State Vehicle	FIU Police	Service Delivery	Time Limit	Total
1	4	7	179	200	0	0	12	4	39	0	3	3	0	2	0	**453**
2	3	8	53	279	0	0	11	0	55	0	3	0	0	0	0	**412**
3	0	0	0	203	0	0	0	0	0	0	0	2	0	0	0	**205**
4	0	0	23	540	0	0	7	0	0	0	1	0	0	0	0	**571**
5	0	0	34	187	0	0	11	0	0	0	0	0	0	0	0	**232**
6	0	0	5	0	228	0	8	2	0	0	2	0	0	0	0	**245**
7	0	0	29	27	0	0	0	6	0	0	0	0	0	0	0	**62**
8	0	0	2	0	0	0	1	1	0	0	0	3	10	2	0	**19**
9	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	**16**
10	2	0	0	0	0	1	0	0	0	0	0	1	0	4	0	**8**
11	2	0	0	0	0	0	4	0	0	0	0	0	0	1	0	**7**
12	4	1	19	0	0	0	0	0	0	0	0	0	0	3	0	**27**
Total	**15**	**16**	**344**	**1436**	**228**	**1**	**54**	**13**	**94**	**0**	**9**	**25**	**10**	**12**	**0**	**2257**

Source: FIU Department of Parking and Transportation, January, 2009

WOLFSONIAN MUSEUM

Table 11.4 provides the counts of the parking spaces in surface parking lots, multi-level parking garages, and on-street parking within a 0.25 mile radius of the Wolfsonian Museum. Multi-level parking garages and surface parking lots account for46% and 4% of the total parking spaces, respectively. The remaining parking spaces (50%) in the area are on-street parking facilities.

Table 11.4 Parking Lot Counts – WOLFSONIAN MUSEUM

Parking Lots & Garages	Spaces
Parking Lot at Washington Avenue & 9th Street	23
Parking Lot at Washington Avenue & 10th Street	33
Parking Lot at Collins Avenue from 10th Street to 11th Street	30
Parking Lot at Collins Avenue & 13th Street	54
Parking Garage at 7th Street between Washington Avenue & Collins Avenue	646
Parking Garage at 12th Street 1/2 block west of Washington Avenue	134
Parking Garage at 13th Street 1/2 block east of Collins Avenue	286
Parking Garage at 10th Street & Washington Avenue	300
On-Street Parking Spaces within 0.25 mile distance from Wolfsonian Museum	1,497
Total	**3,003**

Source: City of Miami Beach Parking Department, May 2008
City of Miami Beach Police Department, 2006

Existing Parking Permit System (Modesto A. Maidique Campus, Engineering Center, and Biscayne Bay Campus):

Decals are required for all lots except designated visitor lots, which are metered. These permits are issued to all members of the University community who request them. Different decal categories and lot designations exist on campuses including Modesto A. Maidique Campus, Engineering Center, and Biscayne Bay Campus. A description of the various decals currently issued is shown in Table 11.5. Specialized parking requirements are accommodated on an as-needed basis. Parking for service vehicles is located adjacent to the buildings. Visitor parking is controlled by meters located throughout the campuses, at which University permit holders are forbidden to park. Americans with Disabilities Act (ADA) parking spaces are located adjacent to various buildings on campus. In addition, visitors attending temporary events, special events, meetings, and seminars can obtain special permits to park in most available parking spaces that are assigned to faculty/staff and students.

Parking Fees (Modesto A. Maidique Campus, Engineering Center, and Biscayne Bay Campus):

A description of the fees charged for the different types of permits is shown in Table 11.5 along with the cost of the parking permits.

Table 11.5 Existing Fee Structure as of 2006

Decal/Permit Type	Fee w/tax	Comments
Executive	$752.21	President Approval
Duplicate Executive	$32.10	
Administrative	$338.12	Director of P&T Approval
Duplicate Administrative	$21.40	
Faculty/Staff Annual	$197.74	$45,000 & Over- Annual
Faculty/Staff Annual	$171.20	$35,000 to $45,000-Annual
Faculty/Staff Annual	$117.70	$25,000 to $35,000 - Annual Salary
Faculty/Staff Annual	$102.72	$25,000 & Under - Annual Salary
Duplicate Faculty/Staff Annual	$16.05	
Faculty/Staff Semester	$101.65	$45,000 & Over - Annual Salary
Faculty/Staff Semester	$90.95	$35,000 to $45,000 - Annual Salary
Faculty/Staff Semester	$71.69	$25,000 to $35,000 - Annual Salary
Faculty/Staff Semester	$62.06	$25,000 & Under - Annual Salary
Duplicate Faculty/Staff Semester	$16.05	
Alumni	$179.76	
Duplicate Alumni	$16.05	
Student	$62.06	Fall or Spring Semester
Student	$56.50	Summer Semester
Duplicate Student	$16.05	One Year Hangtag
Annual permit	$180.62	
Semester Permit	$62.06	Fall or Spring Semester
Semester Permit	$56.50	Summer Semester
Semester Housing Sticker	N/C	
Contract Daily Permit	$1.00	Surface Lots
Vendor/Contractor	$21.40	30 Day Permit
Vendor/Contractor	$38.52	60 Day Permit
Vendor/Contractor	$57.78	90 Day Permit
Volunteer	$5.35	30 Day Permit
Volunteer	$10.70	60 Day Permit
Volunteer	$16.05	90 Day Permit
Temporary	$21.40	30 Day Permit
Temporary	$38.52	60 Day Permit
Temporary	$57.78	90 Day Permit

Source: FIU Department of Parking and Transportation, 2006

2. Spaces available for special event parking (football, basketball, baseball, swimming, auditoriums, performing arts facilities, concert halls, conference centers, etc.).

MODESTO A. MAIDIQUE CAMPUS

Existing Facilities: Parking needs for baseball and soccer games are met at adjacent paved and unpaved lots. Basketball games and arena events primarily use Lot # 11 and Lot #12 to accommodate parking demand. . Parking demand associated with University athletic events and special events has not exceeded parking supply.

The Miami-Dade County Fair and Exposition has expanded to an 18-day event at the end of March. Daily attendance averages nearly 50,000 people. Parking for the fair is provided in Tamiami Park, but spillover into FIU parking lots often occurs when the fair lots are full. The fair's short duration has made the spillover parking demand tolerable. However, should the duration of the fair lengthen or future attendance rise significantly, the cooperation of the Miami-Dade County Fair and Exposition officials would be requested to seek means to satisfy excessive parking demand within the Park's fairgrounds.

ENGINEERING CENTER

Special events include: guest speakers, social events, engineering galas, and other student organized events. Most special parking needs have been and are expected to continue to be met with the existing parking supply.

BISCAYNE BAY CAMPUS

Special events, which could potentially affect on-campus parking include: swimming tournaments, guest speakers, social events, and other student organized events. Most special parking needs have been and are expected to continue to be met with the existing parking supply.

WOLFSONIAN MUSEUM

The Wolfsonian Museum offers a varied selection of programs that address current exhibition themes or focus on contemporary design. Visitors who attend various programs must use parking spaces provided near the museum.

3. Existing surface (including on-street parking) and multi-level parking facilities which identifies their location and capacity (map, tabular, narrative).

MODESTO A. MAIDIQUE CAMPUS

Figure 11.1: Transportation Network Map illustrates numbered parking areas throughout the campus. The total parking spaces available in each area are summarized in Table 11.1. A total of 5,185 surface parking spaces and a total of 4,895 multi-level parking spaces are currently provided on this campus.

ENGINEERING CENTER

Figure 11.2: Transportation Network Map illustrates parking areas throughout the campus. Table 11.2 shows that a total of 961 existing surface parking spaces are provided at this site.

BISCAYNE BAY CAMPUS

Figure 11.3: Transportation Network Map illustrates numbered parking areas throughout the campus. A tabulation of total parking spaces available in each area is provided in Table 11.3. A total of 2,257 surface parking spaces–are provided on this campus. Presently, there are no multi-level parking facilities.

WOLFSONIAN MUSEUM

Parking spaces located within a 0.25 mile radius of the Wolfsonian Museum (including surface parking lots, multi-level parking garages, and on-street parking) are summarized in Table 11.4. A total of 3,003 parking spaces are available within a 0.25 mile radius of this museum.

b) An inventory or estimate of the amount of student, faculty and staff parking off-campus, and a description of parking locations.

Presently, there are no designated off-campus parking facilities.

c) An inventory of accident locations and number of accident occurrences on campus and in the context area.

MODESTO A. MAIDIQUE CAMPUS

Traffic crash data for SW 8th Street, SW 107th Avenue, and the Homestead Extension of Florida's Turnpike (HEFT) were obtained from the FDOT District VI Traffic Operations Office. The crash data in the context area recorded for the three-year period (2002-2004) are summarized in Table 11.6. The crash data on SW 8th Street from SW 127th Avenue to SW 97th Avenue are summarized by sections bounded by Florida's Turnpike, SW 112th Avenue (entrance), SW 109th Avenue (entrance), and SW 107th Avenue. The limits on SW 107th Avenue and Florida's Turnpike are SW 8th Street and SW 40th Street. Over the three-year analysis period, the average number of crashes was 281 crashes per year on SW 8th Street and 57 crashes per year on SW 107th Avenue. An average of 53 crashes per year was recorded on the Florida Turnpike between SW 8th Street and SW 40th Street.

Crash data recorded for the Modesto A. Maidique Campus roadway network were obtained from the FIU Police Department for the three-year period of 2003-2005. Table 11.7 summarizes crashes by location and year. There were a total of 486 crashes on the Modesto A. Maidique Campus for three years, averaging 162 crashes per year.

Table 11. 6 Traffic Crash Data – MODESTO A. MAIDIQUE CAMPUS

		Fatal Crashes			Injury Crashes		Property Damage	Total Crashes		
LOCATION	YR	No. of Crashes	No. of Fatalities	No. of Injuries	No. of Crashes	No. of Injuries	No. of Crashes	No. of Crashes	No. of Fatalities	No. of Injuries
SW 8th St. (127th Ave. to HEFT)	2002	0	0	0	61	120	39	100	0	120
	2003	1	1	0	60	129	39	100	1	129
	2004	0	0	0	89	172	46	135	0	172
SW 8th St. (HEFT to 112th Ave. Gate)	2002	0	0	0	28	61	20	48	0	61
	2003	0	0	0	31	66	22	53	0	66
	2004	0	0	0	41	79	33	74	0	79
SW 8th St. (112th Ave. Gate to 109th Ave. Gate)	2002	1	1	0	6	13	4	11	1	13
	2003	0	0	0	10	21	4	14	0	21
	2004	0	0	0	20	44	17	37	0	44
SW 8th St. (109th Ave. Gate to 107th Ave.)	2002	0	0	0	9	24	7	16	0	24
	2003	1	1	0	12	28	6	19	1	28
	2004	0	0	0	12	28	2	14	0	28
SW 8th St. (107th Ave. to 97th Ave.)	2002	0	0	0	38	83	23	61	0	83
	2003	0	0	0	38	72	23	87	0	93
	2004	0	0	0	45	77	30	75	0	77
SW 107th Ave. (SW 8th St. to SW 40th St.)	2002	0	0	0	22	30	31	53	0	30
	2003	0	0	0	24	39	37	61	0	39
	2004	0	0	0	28	44	29	57	0	44
HEFT (SW 8th St. to SW 40th St.)	2002	0	0	0	26	39	7	33	0	39
	2003	1	1	0	30	49	16	47	1	49
	2004	1	1	1	40	59	39	80	1	60

Source: FDOT District VI Traffic Operations Office, 2006

Table 11.7 Roadway Accidents– MODESTO A. MAIDIQUE CAMPUS

Year	LOCATION	NUMBER OF ACCIDENTS
2003	SW 107th Avenue & SW 8th Street	1
2003	SW 107th Avenue & SW 11th Street	3
2003	SW 107th Avenue & SW 16th Street	15
2003	SW 107th Avenue & SW 17th Street	1
2003	SW 108th Avenue & SW 10th Street	1
2003	SW 108th Avenue & SW 12th Street	2
2003	SW 108th Avenue & SW 16th Street	48
2003	SW 108th Avenue & SW 17th Street	3
2003	SW 109th Avenue & SW 8th Street	1
2003	SW 109th Avenue & SW 10th Street	1
2003	SW 109th Avenue & SW 11th Street	2
2003	SW 109th Avenue & SW 16th Street	1

2003	SW 110th Avenue & SW 10th Street	1
2003	SW 111th Avenue & SW 10th Street	1
2003	SW 111th Avenue & SW 17th Street	1
2003	SW 112th Avenue & SW 8th Street	14
2003	SW 112th Avenue & SW 10th Street	9
2003	SW 112th Avenue & SW 12th Street	1
2003	SW 112th Avenue & SW 13th Street	2
2003	SW 112th Avenue & SW 17th Street	5
2003	SW 113th Avenue & SW 10th Street	1
2003	SW 113th Avenue & SW 11th Street	6
2003	SW 113th Avenue & SW 12th Street	1
2003	SW 113th Avenue & SW 14th Street	2
2003	SW 113th Avenue & SW 15th Street	1
2003	SW 113th Avenue & SW 17th Street	3
2003	SW 114th Avenue & SW 17th Street	1
2003	SW 115th Avenue & SW 17th Street	2
2003	SW 116th Avenue & SW 17th Street	3
2003	SW 117th Avenue & SW 17th Street	2
SUBTOTAL		**135**
2004	SW 107th Avenue & SW 8th Street	1
2004	SW 107th Avenue & SW 11th Street	5
2004	SW 107th Avenue & SW 16th Street	16
2004	SW 107th Avenue & SW 17th Street	4
2004	SW 108th Avenue & SW 8th Street	1
2004	SW 108th Avenue & SW 10th Street	2
2004	SW 108th Avenue & SW 12th Street	3
2004	SW 108th Avenue & SW 14th Street	1
2004	SW 108th Avenue & SW 16th Street	55
2004	SW 108th Avenue & SW 17th Street	9
2004	SW 109th Avenue & SW 8th Street	9
2004	SW 109th Avenue & SW 10th Street	1
2004	SW 109th Avenue & SW 12th Street	2
2004	SW 109th Avenue & SW 16th Street	4
2004	SW 109th Avenue & SW 17th Street	2
2004	SW 110th Avenue & SW 9th Street	1
2004	SW 110th Avenue & SW 12th Street	1
2004	SW 112th Avenue & SW 8th Street	39
2004	SW 112th Avenue & SW 10th Street	4
2004	SW 112th Avenue & SW 17th Street	2
2004	SW 112th Avenue & SW 18th Street	1
2004	SW 113th Avenue & SW 10th Street	1
2004	SW 113th Avenue & SW 11th Street	1
2004	SW 113th Avenue & SW 12th Street	2
2004	SW 113th Avenue & SW 14th Street	2
2004	SW 113th Avenue & SW 17th Street	7
2004	SW 114th Avenue & SW 17th Street	2
2004	SW 115th Avenue & SW 12th Street	3
2004	SW 115th Avenue & SW 15th Street	1

2004	SW 115th Avenue & SW 17th Street	5
2004	SW 116th Avenue & SW 17th Street	3
2004	SW 117th Avenue & SW 17th Street	1
SUBTOTAL		**191**
2005	SW 107th Avenue & SW 10th Street	1
2005	SW 107th Avenue & SW 11th Street	5
2005	SW 107th Avenue & SW 16th Street	6
2005	SW 107th Avenue & SW 17th Street	2
2005	SW 108th Avenue & SW 8th Street	3
2005	SW 108th Avenue & SW 10th Street	1
2005	SW 108th Avenue & SW 12th Street	3
2005	SW 108th Avenue & SW 16th Street	60
2005	SW 108th Avenue & SW 17th Street	6
2005	SW 109th Avenue & SW 8th Street	6
2005	SW 109th Avenue & SW 9th Street	1
2005	SW 109th Avenue & SW 10th Street	2
2005	SW 109th Avenue & SW 12th Street	1
2005	SW 109th Avenue & SW 14th Street	1
2005	SW 109th Avenue & SW 15th Street	1
2005	SW 111th Avenue & SW 17th Street	1
2005	SW 112th Avenue & SW 8th Street	25
2005	SW 112th Avenue & SW 10th Street	1
2005	SW 112th Avenue & SW 11th Street	1
2005	SW 112th Avenue & SW 12th Street	1
2005	SW 112th Avenue & SW 17th Street	5
2005	SW 113th Avenue & SW 10th Street	4
2005	SW 113th Avenue & SW 11th Street	3
2005	SW 113th Avenue & SW 12th Street	1
2005	SW 113th Avenue & SW 14th Street	3
2005	SW 113th Avenue & SW 17th Street	5
2005	SW 114th Avenue & SW 17th Street	1
2005	SW 115th Avenue & SW 11th Street	1
2005	SW 115th Avenue & SW 12th Street	3
2005	SW 115th Avenue & SW 17th Street	1
2005	SW 116th Avenue & SW 12th Street	1
2005	SW 116th Avenue & SW 17th Street	1
2005	SW 116th Avenue & SW 18th Street	1
2005	SW 117th Avenue & SW 17th Street	1
2005	Tamiami Park	1
SUBTOTAL		**160**

Source: FIU Police Department, 2006

ENGINEERING CENTER

Traffic crash data for 107th Avenue and the Florida Turnpike were obtained from the FDOT District VI Traffic Operations Office for the three-year period of 2002-2004. The crash data for the context area are summarized in Table 11.8. The average number of crashes is 77 crashes per year on 107th Avenue between SW

8th Street and NW 7th Street over the analysis period. The average of 34 crashes per year was recorded on the Florida Turnpike between SW 8th Street and W. Flagler Street.

Crash data recorded for the Engineering Center roadway network were obtained from the FIU Police Department for the most recent three-year period (2003-2005). Table 11.9 summarizes crashes by location and year. There were a total of 11 crashes on the Engineering Center for three years, averaging 4 crashes per year.

Table 11.8 Traffic Crash Data – ENGINEERING CENTER

		Fatal Crashes			Injury Crashes		Property Damage	Total Crashes		
LOCATION	YR	No. of Crashes	No. of Fatalities	No. of Injuries	No. of Crashes	No. of Injuries	No. of Crashes	No. of Crashes	No. of Fatalities	No. of Injuries
SW 107th Ave. (SW 8th St. to NW 7th St.)	2002	0	0	0	24	38	37	61	0	38
	2003	0	0	0	49	93	38	87	0	93
	2004	0	0	0	39	71	45	84	0	71
HEFT (SW 8th St. to W Flagler St.)	2002	1	1	0	17	24	6	24	1	24
	2003	0	0	0	26	44	11	37	0	44
	2004	2	4	3	24	36	16	42	4	39

Source: FDOT District VI Traffic Operations Office, 2006

Table 11.9 Roadway Accidents-– ENGINEERING CENTER

Year	LOCATION	NUMBER OF ACCIDENTS
2003	SW 107th Avenue & W. Flagler Street	4
2004	SW 105th Place & W. Flagler Street	4
2005	SW 107th Avenue & W. Flagler Street	3

Source: FIU Police Department, 2006

BISCAYNE BAY CAMPUS

Traffic crash data for US 1 and NE 163rd Street were obtained from the FDOT District VI Traffic Operations Office. Traffic crash data recorded for the three-year period of 2002-2004 are summarized in Table 11.10. Over the three-year analysis period, the average number of crashes recorded in the context area was 80 crashes per year with the highest being in 2002 (92 crashes) and the lowest in 2003 (64 crashes).

Crash data recorded for the Biscayne Bay Campus roadway network were obtained from the FIU Police Department for crashes in the most recent three-year period (2003-2005). Table 11.11 shows that there was a total of 69 crashes on this campus in the period, or 23 crashes per year.

Table 11.10 Traffic Crash Data – BISCAYNE BAY CAMPUS

		Fatal Crashes			Injury Crashes		Property Damage	Total Crashes		
LOCATION	YR	No. of Crashes	No. of Fatalities	No. of Injuries	No. of Crashes	No. of Injuries	No. of Crashes	No. of Crashes	No. of Fatalities	No. of Injuries
US 1 (NE 163rd St. to NE 123rd St.)	2002	1	5	1	29	45	25	55	1	50
	2003	0	0	0	19	29	18	37	0	29
	2004	2	2	1	26	41	19	47	2	42
NE 163rd St. (US 1 to Interama Blvd.)	2002	1	1	1	23	48	13	37	1	49
	2003	0	0	0	14	23	13	27	0	23
	2004	0	0	0	23	37	13	36	0	37

Source: FDOT District VI Traffic Operations Office, 2006

Table 11.11 Roadway Accidents for Year 2003-2005 – BISCAYNE BAY CAMPUS

Year	LOCATION	NUMBER OF ACCIDENTS
2003	NE 144th Street and Bay Vista Boulevard	1
2003	NE 145th Street and NE 27th Avenue	1
2003	NE 145th Street and NE 28th Avenue	1
2003	3000 NE 145th Street	7
2003	NE 147th Street and NE 25th Avenue	1
2003	2800 NE 147th Street	1
2003	NE 151st Street and NE 27th Avenue	2
2003	3000 NE 151st Street	11
SUBTOTAL		**25**
2004	NE 144th Street and NE 27th Avenue	1
2004	NE 145th Street and NE 25th Avenue	1
2004	NE 145th Street and NE 26th Avenue	4
2004	NE 145th Street and NE 27th Avenue	2
2004	NE 145th Street and NE 29th Avenue	3
2004	3000 NE 145th Street	8
2004	NE 146th Street and NE 28th Avenue	1
2004	NE 151st Street and NE 27th Avenue	1
SUBTOTAL		**21**
2005	3000 NE 145th Street	23
SUBTOTAL		**23**

Source: FIU Police Department, 2006

WOLFSONIAN MUSEUM

Traffic crash data for 5th Street, Alton Road, and Collins Avenue were obtained from the FDOT District VI Traffic Operations Office. Traffic crash data recorded for the three-year period of 2002-2004 are summarized in Table 11.12. The average number of crashes in the context area is 987 crashes per year over the analysis period.

Table 11.12 Traffic Crash Data – WOLFSONIAN MUSEUM

		Fatal Crashes			Injury Crashes		Property Damage	Total Crashes		
LOCATION	YR	No. of Crashes	No. of Fatalities	No. of Injuries	No. of Crashes	No. of Injuries	No. of Crashes	No. of Crashes	No. of Fatalities	No. of Injuries
5th St. (Alton Rd. to Ocean Dr.)	2002	0	0	0	56	97	212	268	0	97
	2003	0	0	0	65	88	179	244	0	88
	2004	0	0	0	67	94	211	278	0	94
Alton Rd. (Lincoln Rd. to 10th St.)	2002	1	1	0	53	69	230	284	1	39
	2003	1	1	0	40	48	198	239	1	48
	2004	1	1	0	42	51	220	263	1	51
Alton Rd (10th St. to 5th St.)	2002	0	0	0	25	41	79	104	0	41
	2003	0	0	0	25	33	85	110	0	33
	2004	0	0	0	18	21	66	84	0	21
Collins Ave (Lincoln Rd. to 10th St.)	2002	0	0	0	42	52	216	258	0	52
	2003	1	1	0	54	71	215	270	1	71
	2004	0	0	0	51	61	223	274	0	61
Collins Ave (10th St. to 5th St.)	2002	0	0	0	21	23	69	90	0	23
	2003	1	1	0	17	26	85	103	1	26
	2004	0	0	0	18	25	74	92	0	25

Source: FDOT District VI Traffic Operations Office, 2006

d) The existing classification of roadways on the campus, utilizing definitions used by the host community in its local comprehensive plans, or a classification determined by the University, which is correlated to the classification system of the host community.

MODESTO A. MAIDIQUE CAMPUS

Collector Roads: The entrance roads, campus loop road, and south perimeter road (SW 17th Street, between SW 117th Avenue and SW 107th Avenue) function as collectors. The main road for the western part of campus (athletic fields, arena, classroom trailers, tennis courts, etc.), connects the south perimeter road and the campus loop road and is also a collector road.

Local Roads: All other roads on campus function as local streets; these streets are: the east/west road in front of the existing classroom trailers on the western part of campus; the north/south road, just east of the nature preserve, which connects the south perimeter road to the campus loop road; and the main entrance road south of the main loop road which terminates at Building #34 (Business Administration); and the student dormitory road which connects to SW 107th Avenue.

ENGINEERING CENTER

Collector Roads: The entrance roads to NW 107th Avenue and W. Flagler Street function as collectors.

Local Roads: All other roads providing access to the campus parking lots and engineering center building function as local streets.

BISCAYNE BAY CAMPUS

Collector Roads: Bay Vista Boulevard is the main collector road which leads into the Biscayne Bay Campus. It connects with US 1 (Biscayne Boulevard), and also connects with NE 151st Street to the north.

Local Roads: All other roads providing access to the campus parking lots function as local streets.

WOLFSONIAN MUSEUM

There is no campus roadway at the the Wolfsonian Museum.

e) Existing roadway classifications in the context area including designated fire lanes and fire routes on campus.

MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER

The roadways in the context area function as follows: Tamiami Trail (SW 8th Street) is classified as a state principal arterial. The Homestead Extension of Florida's Turnpike (HEFT) is classified as a limited-access expressway.

The following roadways are minor arterials:

- SW 24th Street
- 107th Avenue
- SW 117th Avenue
- W Flagler Street

The following roadways are collectors:

- SW 16th Street
- NW 7th Street
- 97th Avenue
- SW 102nd Avenue
- SW 122nd Avenue
- SW 127th Avenue

BISCAYNE BAY CAMPUS

In the context area, US 1 (Biscayne Boulevard) and NE 163rd Street are classified as principal arterials. W. Dixie Highway is classified as a minor arterial, while the following are classified as collectors: NE 159th Street, NE 151st

Street, and Bay Vista Boulevard.

WOLFSONIAN MUSEUM

Collins Avenue, MacArthur Causeway, 5th Street, and Pointe Drive are classfiied as principal arterials. Alton Road, Venetian Causeway, and Dade Boulevard are classified as minor arterials.

The following are classified as collectors

- 11th Street
- 15th Street
- 16th Street
- Hank Meyer Boulevard
- Meridian Avenue
- Pennsylvania Avenue
- Washington Avenue
- West Avenue

f) The current levels of service (LOS) of the roadways on campus and within the context area.

A level of service (LOS) analysis was conducted for PM peak hour traffic conditions. FIU experiences the highest volume of traffic during the PM peak period as many part-time students commute to/from campus during this period.

MODESTO A. MAIDIQUE CAMPUS

Highway Capacity Software (HCS) 2000 was used to analyze the level of service on each study area roadway segment. The current PM peak hour levels of service for the roadways on campus and within the "context area" are shown in Table 11.13. All of the roadway segments currently operate at or above adopted levels of service with the exception of southbound 109th Avenue north of SW 8th Street. This segment is currently operating at LOS "F".

Capacity analyses for critical intersections around the campus were performed using HCS 2000. The existing intersection LOS for the PM peak hour are shown in Table 11.14. All locations, with the exception of one, currently satisfy the minimum adopted level of service threshold. The intersection of SW 109th Avenue and SW 8th Street operates at a LOS F during the PM peak hour. Optimization of the existing signal timings would reduce delays and improve LOS, at this location, from a LOS F to LOS C. Results are provided in Table 11.14.

Table 11. 13 Existing Roadway Segment Level of Service Analysis PM Peak Hour – MODESTO A. MAIDIQUE CAMPUS

Location	Direction	Lanes	LOS E Capacity (1)	Volumes (2)	LOS
SW 117th Avenue, S/O 17th Street	NB	1	810	568	C
	SB	1	810	679	C
SW 17th Street, E/O 117th Avenue	EB	1	660	225	B
	WB	1	660	367	C
SW 117th Avenue ,N/O 17th Street	NB	1	810	478	B
	SB	1	810	447	B
SW 8th Street, W/O 109th Avenue	EB	3	2,710	1,812	B
	WB	3	2,710	2,362	C
SW 109th Avenue, S/O 8th Street	NB	1	660	417	C
	SB	1	660	313	C
SW 8th Street, E/O 109th Avenue	EB	3	2,710	1,844	B
	WB	3	2,710	1,991	B
SW 109th Avenue, N/O 8th Street	NB	1	660	445	C
	SB	1	660	744	F
SW 8th Street, W/O 112th Avenue	EB	3	2,710	1,996	B
	WB	3	2,710	2,842	B
SW 112th Avenue, S/O 8th Street	NB	2	1,320	423	B
	SB	2	1,320	285	A
SW 8th Street, E/O 112th Avenue	EB	3	2,710	1,880	B
	WB	3	2,710	2,587	D
SW 107th Avenue, N/O 11th Street	NB	3	2,710	1,706	B
	SB	3	2,710	2,053	B
SW 11th Street , W/O 107th Avenue	EB	1	660	62	A
	WB	1	660	84	A
SW 11th Street, E/O 107th Avenue	EB	1	660	35	A
	WB	1	660	39	A
SW 16th Street, W/O 107th Avenue	EB	2	1,320	830	C
	WB	2	1,320	767	C
SW 16th Street, E/O 107th Avenue	EB	2	1,320	643	C
	WB	2	1,320	835	C
SW 17th Street, W/O 107th Avenue	EB	2	1,320	113	A
	WB	2	1,320	98	A
SW 107th Avenue, S/O 17th Street	NB	3	2,710	1,354	B
	SB	3	2,710	2,022	B

Source: 2006 Campus Master Plan Update
Notes:
(1) Levels of Service are based on FDOT peak hour directional service volumes.
(2) Traffic volumes are based on turning movement counts.

Table 11. 14 Existing Intersection Level of Service PM Peak Hour - MODESTO A. MAIDIQUE CAMPUS

SIGNALIZED INTERSECTIONS				
	EXISTING TIMINGS		OPTIMIZING TIMINGS	
LOCATION	Average Stopped Delay (sec/veh)	LOS	Average Stopped Delay (sec/veh)	LOS
SW 107th Avenue and SW 1100 Block	11	B		
SW 107th Avenue and SW 16th Street	67.2	E		
SW 107th Avenue and SW 1700 Block	7.9	A		
SW 109th Avenue and SW 8th Street	132.4	F	30.2	C
SW 112th Avenue and SW 8th Street	28.1	C		
SW 117th Avenue and SW 17th Street	18.1	B		

Source: 2006 Campus Master Plan Update

ENGINEERING CENTER

HCS 2000 was used to analyze the level of service on each roadway segment adjacent to the Engineering Center. All of the roadway segments currently operate at or above adopted levels of service.

HCS 2000 was also used to determine intersection level of service. Table 11.16 summarizes the existing level of service for study area intersections. Analysis re sults indicate that all study intersections operate at or above adopted levels of se rvice.

Table 11.15 Existing Roadway Segment Level of Service Analysis PM Peak Hour – ENGINEERING CENTER

Location	Direction	Lanes	LOS E Capacity (1)	Volumes (2)	LOS
NW 107th Avenue between the EC Entrance and Flagler Street	NB	3	2,710	1,163	B
	SB	3	2,710	1,859	B
NW 107th Avenue between the EC Entrance and NW 7th Street	NB	3	2,710	1,161	B
	SB	3	2,710	1,931	B
Flagler Street between the EC Entrance and SW 104th Court	EB	3	2,710	920	B
	WB	3	2,710	1,365	B
Flagler Street between the EC Entrance and 107th Avenue	EB	3	2,710	935	B
	WB	3	2,710	1,294	B

Source: 2006 Campus Master Plan Update
Notes:
(1) Levels of Service are based on FDOT peak hour directional service volumes.
(2) Traffic volumes are based on turning movement counts.

Table 11.16 Existing Intersection Level of Service PM Peak Hour – ENGINEERING CENTER

SIGNALIZED INTERSECTIONS			
LOCATION		EXISTING TIMINGS	
		Average Stopped Delay (sec/veh)	LOS
SW 105th Avenue and Flagler Street		11.9	B
UNSIGNALIZED INTERSECTION			
NW 107th Street and EC Entrance	Exiting Approach	20.9	C
	Entering Approach	17.6	C
	Left Movement of South Approach	19.4	C
	Left Movement of North Approach	14.4	B

Source: 2006 Campus Master Plan Update

BISCAYNE BAY CAMPUS

HCS 2000 was used to analyze the level of service on each roadway segment adjacent to the Biscayne Cay Campus. All of the roadway segments currently operate at or above adopted levels of service as presented in Table 11.17.

Table 11. 17 Existing Roadway Segment Level of Service Analysis PM Peak Hour – BISCAYNE BAY CAMPUS

Location	Direction	Lanes	LOS E Capacity (1)	Volumes (2)	LOS
Bay Vista Blvd., N/O BBC Entrance	NB	2	1,320	490	B
	SB	2	1,320	483	B
Campus Entrance, E/O Bay Vista Blvd.	EB	1	660	483	C
	WB	1	660	490	C

Source: 2006 Campus Master Plan Update
Notes:
(1) Levels of Service are based on FDOT peak hour directional service volumes.
(2) Traffic volumes are collected in the field.

HCS 2000 was also used to determine intersection level of service. Table 11.18 summarizes the existing level of service for study area intersections. Analysis results indicate that the intersection of US 1 and NE 151st Street is currently operating at LOS F. Signal timing optimization will result in the intersection operating above minimum adopted level of service.

Table 11. 18 Existing Intersection Level of Service PM Peak Hour – BISCAYNE BAY CAMPUS

SIGNALIZED INTERSECTIONS				
	EXISTING TIMINGS		OPTIMIZING TIMINGS	
LOCATION	Average Stopped Delay (sec/veh)	LOS	Average Stopped Delay (sec/veh)	LOS
US 1 and NE 151st Street(1)	90.1	F	27.5	C
UNSIGNALIZED INTERSECTION				
Bay Vista Blvd. and FIU Access Drive	Approach Delay (sec/veh)	LOS		
East Approach	15.31	C		
North Approach	20.59	C		

Source: 2006 Campus Master Plan Update
Notes:
(1) Four-lane construction of Bay Vista Boulevard impacted traffic data collection. Therefore, data collected in 2001 was utilized.

WOLFSONIAN MUSEUM

Roadway segments in the context area of the Wolfsonian Museum were analyzed for their levels of service using the HCS 2000. All of the roadway segments currently operate at or above adopted levels of service as presented in Table 11.19.

Table 11.19 Existing Roadway Segment Level of Service Analysis PM Peak Hour – WOLFSONIAN MUSEUM

Location	Direction	Lanes	LOS E Capacity (1)	Volumes (2)	LOS
MacArthur CSWY, W/O Alton Road	EB	3	5,500	2,971	B
	WB	3	5,500	2,692	B
MacArthur CSWY, E/O Alton Road	EB	3	2,710	1,333	B
	WB	3	2,710	1,208	B
Alton Road, S/O Dade Blvd	NB	2	1,800	1,608	C
	SB	2	1,800	1,380	C
Collins Park Avenue, N/O 5th Street	NB	2	1,800	762	B
	SB	2	1,800	654	B

Source: 2006 Campus Master Plan Update

Notes:
(1) Levels of Service are based on FDOT peak hour directional service volumes.
(2) Traffic volumes are obtained from the 2005 Florida Transportation Information CD from FDOT.

g) Traffic counts at major University access locations.

MODESTO A. MAIDIQUE CAMPUS

AM and PM peak period turning movement counts were collected at the following University access locations:

- SW 107th Avenue and SW 1100 Block
- SW 107th Avenue and SW 16th Street
- SW 107th Avenue and SW 1700 Block
- SW 109th Avenue and SW 8th Street
- SW 112th Avenue and SW 8th Street
- SW 117th Avenue and SW 17th Street

The traffic counts were collected on April 18-19, 2006 during AM and PM peak periods from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. The collected turning movement counts are contained in the Appendix.

ENGINEERING CENTER

AM and PM peak period turning movement counts were collected at the following locations:

- NW 107th Avenue and NW 2nd Street (West Entrance)
- W Flagler Street and SW 105th Place (South Entrance)

The traffic counts were collected on April 19, 2006 during weekday morning peak hours (7:00 to 9:00 AM) and afternoon peak hours (4:00 to 6:00 PM). The Appendix contains collected turning movement counts.

BISCAYNE BAY CAMPUS

A 24-hour continuous machine traffic count was collected on NE 151st Street 200 feet east from Biscayne Boulevard. The traffic counts were collected on April 18-20, 2006 and are contained in the Appendix.

h) Existing University trip generation based on original survey data prepared for the campus master plan. Traffic counts and origin/destination studies will be used to generate data.

MODESTO A. MAIDIQUE CAMPUS, ENGINEERING CENTER, AND BISCAYNE BAY CAMPUS

Trip generation is based on equations or rates. Two available sources were included in this analysis, the ITE (Institute of Transportation Engineers) Trip Generation Handbook and the SUSTS (State University System Transportation Study). Trip generation by ITE method requires student headcount, while trip generation by the SUSTS method uses student headcount together with faculty/staff headcount. Table 11.20 summarizes the PM peak hour trips estimated based on the ITE and SUSTS methods and the Spring 2006 student and faculty/staff headcounts, along with traffic counts collected in Spring 2006.

Table 11.20 Comparison of PM-Peak Hour Trips by ITE and SUSTS Methods with Traffic Counts

University Campus	Spring 2006 Student Headcount	Spring 2006 Faculty/Staff Headcount	PM Peak Ho ur Trips by ITE	PM Peak Hour Trips by SUST S	Traffic Counts
Modesto A. Maidique	24,590	2,311	5,164	3,796	3,958
Engineering Center	3,782	225	794	551	348
Biscayne Bay Campus	6,892	379	1,447	1,063	973

Source: 2006 Campus Master Plan Update

PM peak hour trips by the SUSTS method were closer to traffic counts than those by the ITE method since the former includes a study only for FIU, whereas the ITE method was based on studies on universities nationwide. Therefore, trip generation was estimated by using the SUSTS trip generation rates. Table 11.21 summarizes the PM peak hour trips by the SUSTS method based on the Fall 2005 student and faculty/staff headcounts for each campus.

Table 11.21 Fall 2005 PM Peak Hour Trips by FIU Campuses

University Campus	Fall 2005 Student Headcount	Fall 2005 Faculty/Staff Headcoun t	PM Peak Hour Trips by SUSTS
Modesto A. Maidique	26,615	2,379	4,079
Engineering Center	4,094	232	594
Biscayne Bay Campus	7,584	390	1,164

Source: 2006 Campus Master Plan Update

WOLFSONIAN MUSEUM

A survey was conducted to on the visitors to the Wolfsonian Museum. Survey questionnaires were distributed to visitors from Thursday, June 8 to Thursday, June 22, 2006. Survey questionnaires included questions regarding travel mode, travel time, parking, group size, and so on. Travel modes used by visitors included auto (55%), bus (13%), and walk (32%). Vehicle occupancy rate was found to be 2.43 person per auto. The average group size for visitors traveling to the museum by bus was 1.33. The average number of daily visitors during the survey period was 42, which was calculated based on the visitor count obtained from a staff member at the Wolfsonian Museum. Since the survey period did not concede with the museum peak season a peak season conversion factor was applied to the counts. The appropriate peak season conversion factor of 1.67 was utilized. Table 11.22 summarizes the estimated annual average daily visitors and trips by auto, bus, and walk.

Table 11.22 Trips Generated by the Wolfsonian Museum

	Visitors			Trips		
Average Daily Visitor	Auto	Bus	Walk	Auto	Bus	Walk
70	39	9	22	16	7	22

Source: 2006 Campus Master Plan Update

i) Existing traffic analysis zones (TAZs) of the host local government within which University facilities are located.

MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER

Modesto A. Maidique Campus is located within the Miami-Dade County Metropolitan Planning Organization (MPO) Traffic Analysis Zone (TAZ) 983 while Engineering Center is located within TAZ 814. Trip distribution was accomplished using the cardinal directional distribution method, which is currently used in the Miami-Dade County. Distribution percentages of each TAZ were obtained form the Department of Planning and Zoning. Tables 11.23 and 11.24 show the distribution percentage and trip distribution corresponding to the cardinal direction for the TAZs in which the Modesto A. Maidique campus and the Engineering Center are located.

Table 11. 23 Trip Distribution by Cardinal Direction – MODESTO A. MAIDIQUE CAMPUS

Cardinal Direction	Percent of Trip Distribution for TAZ 983	Trip Distribution
NNE	17.99	734
ENE	21.27	868
ESE	9.68	395
SSE	12.42	507
SSW	18.35	748
WSW	11.50	469
WNW	4.41	180
NNW	4.38	179
TOTAL	100	4,079

Source: 2006 Campus Master Plan Update

Table 11.24 Trip Distribution by Cardinal Direction – ENGINEERING CENTER

Cardinal Direction	Percent of Trip Distribution for TAZ 814	Trip Distribution
NNE	22.05	131
ENE	27.94	166
ESE	16.11	96
SSE	9.79	58

SSW	12.74	76
WSW	7.29	43
WNW	1.79	11
NNW	2.28	14
TOTAL	100	594

Source: 2006 Campus Master Plan Update

Existing Traffic Concurrency Evaluation:

The traffic assignment has been documented to establish the project traffic contribution on roadways within one mile of the campuses using the concurrency data kept by the Miami-Dade County Public Works Department. The resulting two-way assignment of project traffic along with the percentage of project traffic contribution for each concurrency station is shown in Table 11.25.

Table 11.25 Traffic Impact Assessment – Two Way Analysis – MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER

Roadway	Limits	Station No.	Roadway LOS Standard	Roadway Capacity	PHP (1)	Two-Way Project Traffic	Project Traffic Con tribution	Background Traffic
SW 127 Avenue	SW 7 St to NW 6 St	9770	D	2,840	1,389	32	1.1%	1,357
SW 127 Avenue	SW 8 St to SW 26 St	9772	E	3,150	1,970	8	0.3%	1,962
SW 127 Avenue	SW 8 St to SW 24 St	9766	E	3,520	4,014	11	0.3%	4,003
SW 122 Avenue	NW 6 St to SW 8 St	9764	D	2,050	2,150	28	1.4%	2,122
HEFT	300' N of SW 8 St	2250	D	9,800	7,420	116	1.2%	7,304
HEFT	1000' N of Bird Rd	2270	D	9,800	5,231	262	2.7%	4,969
NW 107 Avenue	200' N of NW 7 St	1218	E	5,590	4,368	700	12.5%	3,668
SW 107 Avenue	Flagler St. to SW 8 St.	2580	E	4,630	2,973	1,209	26.1%	1,764
SW 107 Avenue	200' S of SW 8 St	1090	E	6,540	3,684	454	6.9%	3,230
SW 97 Avenue	SW 8 St to SW 40 St	9698	D	1,320	990	28	2.1%	962
SW 24 St./Coral Way	SW 117 Ave to 127 Ave	9130	E	4,900	3,486	395	8.1%	3,091
SW 24 St./Coral Way	SW 107 Ave to 117 Ave	9128	E	4,330	3,133	23	0.5%	3,110
SW 24 St./Coral Way	SW 97 Ave to 107 Ave	9126	E	7,380	2,997	255	3.5%	2,742
SW 8 Street	200' E of SW 137 Ave	88	D	7,320	3,843	194	2.7%	3,649
SW 8 Street	200' W of SW 122 Ave	2561	E	5,860	4,849	260	4.4%	4,589
SW 8 Street	200' E of SW 109 Ave	90	D	8,590	3,771	354	4.1%	3,417
W Flagler Street	NW 107 Ave to 114 Ave	9158	E	6,990	2,881	175	2.5%	2,706
W Flagler Street	NW 97 Ave to 107 Ave	9156	E	4,660	2,771	249	5.3%	2,522

Source: 2006 Campus Master Plan Update
Note:
(1) Average of the two highest peak hour traffic.

The percent of project traffic contribution is below 10% except for two count stations. These count stations are located on 107th Avenue between Flagler Street and SW 8th Street and 200' south of SW 8th Street.

BISCAYNE BAY CAMPUS

The Biscayne Bay Campus is located within the Miami-Dade County Metropolitan Planning Organization (MPO) Traffic Analysis Zone (TAZ) 190. Trip distribution was accomplished using the cardinal directional distribution method. Distribution percentages of TAZ 190 were obtained form the Department of Planning and Zoning. Table 11.26 summarizes the distribution percentage and trip distribution corresponding to the cardinal direction of TAZ 190.

Table 11. 26 Trip Distribution by Cardinal Direction – BISCAYNE BAY CAMPUS

Cardinal Direction	Percent of Trip Distribution for TAZ 51	Trip Distribution
NNE	6.14	71
ENE	0.09	1
ESE	0	0
SSE	4.75	55
SSW	14.59	170
WSW	27.16	316
WNW	24.77	288
NNW	22.49	262
TOTAL	100	1,164

Source: 2006 Campus Master Plan Update

Existing Traffic Concurrency Evaluation:

Table 11.27 depicts the project traffic contribution on all roadway links within 1 mile of campus using concurrency data kept by the Miami-Dade County Public Works Department. Project consumption is below 10% consumption

Table 11.27 Traffic Impact Assessment – Two Way Analysis – BISCAYNE BAY CAMPUS

Roadway	Limits	Station No.	Roadway LOS Standard	Roadway Capacity	PHP (1)	Two-Way Project Traffic	Project Traffic Con tribution	Background Traffic
West Dixie Highway	200' N of NE 151 St	531	E	2,910	1,501	2	0.1%	1,499

Biscayne Boulevard	300’ S of NE 163 St	5219	E + 50 (2)	9,540	3,268	357	3.7%	2,911
Biscayne Boulevard	200’ S of NE 123 St	524	E + 50 (2)	5,800	2,626	103	1.8%	2,523
NE 135th Street	200’ W of Biscayne Blvd	1026	E	3,150	1,265	255	8.1%	1,010
Bay Vista Boulevard (3)	US 1 to Biscayne Bay Campus Entrance	NA	E	3,420	1,023	1,164	34.0%	0

Source: 2006 Campus Master Plan Update
Note:

(1) 150% Level of Service is allowed due to the roadway being serviced by Transit Operation at 20 minute headways.
(2) Average of the two highest peak hour traffic.
(3) The Miami-Dade County does not have a traffic count station on Bay Vista Boulevard. Roadway service volume was from the previous FIU Campus Master Plan and PHP was estimated based on the collected data, shown in Appendix.

WOLFSONIAN MUSEUM

The Wolfsonian Museum is located within TAZ 638. By multiplying the PM peak hour trips by the distribution percentages, trip distribution for each cardinal direction was estimated. The distribution percentages of TAZ 638 obtained form the Department of Planning and Zoning are summarized in Table 11.28, along with the trip distribution.

Table 11.28 Trip Distribution by Cardinal Direction – WOLFSONIAN MUSEUM

Cardinal Direction	Percent of Trip Distribution for TAZ 638	Trip Distribution
NNE	17.71	4
ENE	0	0
ESE	0	0
SSE	0	0
SSW	8.25	2
WSW	23.32	5
WNW	28.32	7
NNW	22.40	5
TOTAL	100	23

Source: 2006 Campus Master Plan Update

Existing Traffic Concurrency Evaluation:

Table 11.29 lists locations where traffic counts are installed within 1 mile from the Wolfsonian Museum. Since the Wolfsonian Museum produces few trips, there is no significant impact from the Wolfsonian Museum.

Table 11.29 Traffic Impact Assessment – Two Way Analysis – WOLFSONIAN MUSEUM

Roadway	Limits	Station No.	Roadway LOS Standard	Roadway Capacity	PHP (1)	Two-Way Project Traffic	Project Traffic Contribution	Background Traffic
Alton Road	200' N of 20 St	12	E	3,260	3,205	3	0.1%	3,202
Alton Road	200' S of 51 St	1018	E	3,760	2,352	0	0%	2,352

Source: 2006 Campus Master Plan Update

Note:
(1) Average of the two highest peak hour traffic.

j) Established public transit or University-provided transit routes (including inter-campus routes) on campus and in the context area indicating location of stops, frequency of service and capacity of the vehicles.

MODESTO A. MAIDIQUE CAMPUS

A Miami-Dade Transit Agency (MDTA) bus terminal is located on campus east of Lot #5. Four bus routes serve the area. Table 11.30 provides information on the weekly schedule for each bus route, including frequency during weekday peak hours. For transit, weekday peak hour services operate from approximately 6:30 am through 9:00 am and in the evening from 4:00 pm to 6:30 pm. The buses operate with less frequent headways during the weekends. MDTA buses have a seated capacity of approximately 38 persons and a standing load of 31 persons.

Table 11.30 Public Transit Routes – MODESTO A. MAIDIQUE CAMPUS

Route #	Frequency during Peak Hours	Route Alignment	Service Hours
8	10-15 minutes	From Miami Dade College Downtown Campus to Modesto A. Maidique Terminal	4:40am-11:05pm (Eastbound)
			5:26am-12:06am (Westbound)
11	15-30 minutes	From Metro-Dade Government Center to Modesto A. Maidique Terminal	24 hours (Eastbound)
			24 hours (Westbound)
24	20-30 minutes	From SW 26th Street and SW 137th Avenue to SW 1st Street and SW 1st Avenue	6:00am-12:00am (Eastbound)
24	30 minutes	From SW 1st Street and SW 1st Avenue to SW 26th Street and SW 137th Avenue	6:00am-12:00am (Westbound)
71	20-30 minutes	From Miami Dade College South to Modesto A. Maidique Terminal	6:00am-8:00pm
71	20-30 minutes	From Modesto A. Maidique Terminal to Dolphin Mall	6:00am- 8:00pm

Source: Miami-Dade Transit Agency, 2006

ENGINEERING CENTER

Four bus routes serve Engineering Center daily. Table 11.31 provides information on the weekly schedule for each bus route, including frequency during weekday peak hours. For transit, weekday peak hour services operate from approximately 6:30 am through 9:00 am and in the evening from 4:00 pm to 6:30 pm. The buses operate with less frequent headways during the weekends.

Campus Area Transit System (CATS) is a free transportation system, which is operated by FIU personnel at Modesto A. Maidique Campus. The shuttle transports FIU students, faculty, and staff between the Modesto A. Maidique campus and the Engineering Center campus. Table 11.32 summarizes the frequency of service, route alignment, and service hours. Vans used for CATS have a seated capacity of 15 passengers.

Table 11.31 Public Transit Routes – ENGINEERING CENTER

Route #	Frequency during Peak Hours	Route Alignment	Service Hours
11	15-30 minutes	From Metro-Dade Government Center to Modesto A. Maidique Terminal	24 hours (Eastbound)
			24 hours (Westbound)
51 Flagler MAX	3-10 minutes	From SW 8th Street and SW 132nd Avenue to NE 19th Street and Meridian Avenue	6:00am-10:00pm (Eastbound)
			6:00am-10:00pm (Westbound)
71	20-30 minutes	From Miami Dade College South to Engineering Center	6:00am-8:00pm (Northbound)
71	20-30 minutes	Runs from Engineering Center to Dolphin Mall	6:00am- 8:00pm (Northbound)
212 Sweetwater Circulator	15-20 minutes	From SW 24th Street and SW 88th Avenue to SW 1st Street and SW 1st Avenue	4:30am-1:30am (Eastbound)
			4:40am-1:24am (Westbound)

Source: Miami-Dade County Transit Agency, 2006

Table 11.32 Campus Transit Routes – MODESTO A. MAIDIQUE CAMPUS and ENGINEERING CENTER

Route #	Frequency during Peak hours	Route Alignment	Service Hours
Blue Bus	90 minutes	From Engineering Center to Modesto A. Maidique Campus	8:15am-9:30pm
Gold Bus	90 minutes	From Engineering Center to Modesto A. Maidique Campus	9:15am-4:45pm

Source: FIU Department of Parking and Transportation, 2006

BISCAYNE BAY CAMPUS

MDTA bus shelters are located south of the library and east of parking lot #1. Three bus routes terminate at the Biscayne Bay Campus. Five buses serve the campus daily and are listed in Table 11.33 with service frequency, route alignment, and service hours. The buses operate with less frequent headways during the weekends. The NOMI Express is included which provides community bus service within the City of North Miami. Efforts should be made by the University to strengthen coordination efforts with the City of North Miami to promote use of this bus services as an alternative transportation option available to both students and faculty.

The Golden Panther Express Shuttle is available to students traveling between Modesto A. Maidique Campus and the Biscayne Bay Campuses. Table 11.34 gives the service frequency, route alignment, and service hours of the Golden

Panther Express Shuttle.

Table 11.33 Public Transit Routes – BISCAYNE BAY CAMPUS

Route #	Frequency during Peak Hours	Route Alignment	Service Hours
3	15-60 minutes	From CBD Bus Terminal to Wal-Mart Florida City	5:15am-4:10am (Northbound) 4:27am-3:54pm (Southbound)
28	30-60 minutes	From Biscayne Bay Campus to Hialeah Metrorail Station	6:00am-8:20pm (Eastbound) 5:10am-9:30pm (Westbound)
83	30-60 minutes	From Biscayne Bay Campus to Miami Lakes City Center	5:00am-11:30pm (Eastbound) 5:30am-10:20pm (Westbound)
93 Biscayne MAX	15 minutes	From CBD Bus Terminal to Aventura Mall	5:50am-6:35pm (Northbound) 6:00am-6:10pm (Southbound)
183 183 Street MAX	30-60 minutes	From Biscayne Bay Campus to NW 186th Street and NW 87th Avenue	5:00am-9:00pm (Eastbound) 5:00am-10:00pm (Westbound)

Source: Miami-Dade County Transit Agency, 2006

Table 11.34 Campus Transit Route – MODESTO A. MAIDIQUE CAMPUS and BISCAYNE BAY CAMPUS

Route #	Frequency during Peak Hours	Route Alignment	Service Hours
Golden Panther Express	75 minutes	From Modesto A. Maidique Campus to Biscayne Bay Campus	6:45am-10:45pm

Source: FIU Department of Parking and Transportation, 2006

WOLFSONIAN MUSEUM

Six bus routes provide service to the Wolfsonian Museum. Two routes operate daily and the other four routes provide services with limited hours. Table 11.35 provides information on the weekly schedule for each bus route, including frequency during weekday peak hours.

Table 11.35 Public Transit Routes – WOLFSONIAN MUSEUM

Route #	Frequency during Peak hours	Route Alignment	Service Hours
103 Route C	15-20 minutes	From CBD Bus Terminal to NW 39th Street and Alton Road	5:00am-12:00am
108 Route H	20-30 minutes	From NE 2nd Street and Alton Road to NE 185th Street and NE 18th Avenue	5:00am-12:00am
111 Route K	20 minutes	From CBD Bus Terminal to Diplomat Mall	5:50am-10:00pm

113 Route M	30 minutes	From NW 20th Street and NW 19th Avenue to Miami Heart Institute	6:00am-10:00pm
236 Airport Owl	60 minutes	From Miami Airport Tri-Rail to Miami Airport Tri-Rail.	11:20pm-7:00am
246 Night Owl	60 minutes	From NW 167th Street and NW 1st Avenue to NW 167th Street and NW 1st Avenue	10:30pm-5:40am

Source: Miami-Dade County Transit Agency, 2006

(2) ANALYSIS REQUIREMENTS.

a) Future parking needs for students, faculty, and staff and types of special events for the planning period.

MODESTO A. MAIDIQUE CAMPUS

Existing Parking Ratios:

Analysis of parking spaces is based on the number of users and the available parking spaces. Users include students, faculties, and staff who have parking decals. The number of parking decal holders is the number of parking decals issued to students, faculties, staffs, and others, which was obtained from the Department of Parking and Transportation. Table 11.36 summarizes number of users, number of spaces, and ratio of users to spaces. Average ratios of 3.285 students/space and 1.972 faculty-staff/space were calculated for existing conditions. The computation of these ratios does not include auxiliary parking spaces for uses such as visitors, ADA, and loading. The need for these uses should be evaluated individually for each campus based on existing ratios for these uses.

Table 11. 36 Existing Parking Ratios – MODESTO A. MAIDIQUE CAMPUS

Type of User	Number of Users	Number of Spaces	Ratio of User/Space
Students	23,023	7,008	3.285
Faculty/Staff	2,859	1,450	1.972

Source: 2006 Campus Master Plan Update

Parking Utilization - On Campus:

The peak parking demand occurs between 10:00 am and 2:00 pm. Parking conditions at all parking lots were surveyed at 10:00 am and 2:00 pm. Utilization of student parking lots ranges from 24% at parking lot #5 to 100% at parking lots #1, #3, #8, and #9, and the Golden Garage, which results in an average utilization of 75%. Faculty parking utilization of individual lots was lower, ranging from 37% at the Panther Garage to 100% at parking lots #1, #3, and #8, the Golden Garage, and the Red Garage, with an average utilization of 74%.

Future Parking Needs:

Based on discussions and information provided by the University's Parking Department, the equation used for calculating parking spaces is based on the number of full-time enrollees and the number of full-time enrollees living in campus housing. One (1) parking space is provided for every 2.94 full-time enrollee and one (1) parking space is provided for every 2.00 full-time enrollee living in campus housing. Since future parking projections are based on campus population, it is important to understand future population estimates. Based on future population estimates provided by the University the full-time enrollee population at the Modesto A. Maidique campus is estimated to be 19,580 and an additional 4,144 full-time enrollees living in campus house.

Future Needs Projections:

Total parking required by the end of the planning period (2015) is shown in Table 11.37. Although sufficient parking will be provided on the entire campus, localized demand within specific areas of the campus will be an issue, as well as the demand generated by the Academic Health Sciences component with the external ambulatory care/hospital additions in 2015. As such, a detailed analysis of the northeast quadrant of the campus was prepared for existing, five year build-out, ten year build-out and 20 year build-out scenarios.

Table 11. 37 Future Parking Needs Projections – MODESTO A. MAIDIQUE CAMPUS

	2015 University Park
Students	
FTE	19,580
FTE in campus housing	4,144
HC	34,268
Faculty FYE	1,047
Staff: Admin + Prof	767
General Staff	1,022
Total Population	56,684
FIU Total Parking Demand Methodology [(1)]	***8,729***
FIU Metrorail Adjustment (15%) [(2)]	(1,309)
FIU Metrobus Adjustment (10%) [(3)]	-
FIU Adjusted Parking Demand	***7,420***
Parking Capacity	***10,080***
FIU Methodology Excess Capacity	***2,660***

[(1)] Parking generation based upon parking equations provided by FIU:

$P = 0.34x+0.5y$ (x = Full Time Enrollees, y = Full Time Enrollees living in campus housing)

[(2)] Metrorail adjustment (at UP and Eng. Campuses) based upon programmed construction of Metrorail's Oran

[(3)] The Biscayne Campus site is served by four (4) bus lines including two (2) limited stop bus routes.

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ENGINEERING CENTER

Existing Parking Ratios:
The total number of decals issued to students, faculties, staffs, and others was obtained from the University's Parking Department. Table 11.38 summarizes number of users, number of spaces, and ratio of users to spaces at the Engineering Center. The average ratios of 5.819 students/space and 1.958 faculty-staff/space were found under the existing conditions. These do not include auxiliary parking spaces for uses such as visitors, disabled, and loading.

Table 11.38 Existing Parking Ratios – ENGNEERING CENTER (These numbers are higher than the 2015 projections)

Type of User	Number of Users	Number of Spaces	Ratio of User/Space
Students	3,567	613	5.819
Faculty/Staff	280	143	1.958

Parking Utilization - On Campus:
A parking survey of the parking lots at the Engineering Center was conducted between 10:00 am and 2:00 pm. The peak parking conditions occurred in the afternoon. Utilization of student parking spaces in the afternoon ranges from 24% at parking lot #3 to 100% at parking lots #1 and #2. Faculty parking utilization was found to be 100% at all lots in the afternoon.

Future Parking Needs:
Based on discussions and information provided by the University's Parking Department, the equation used for calculating parking spaces is based on the number of full-time enrollees and the number of full-time enrollees living in campus housing. One (1) parking space is provided for every 2.94 full-time enrollee and one (1) parking space is provided for every 2.00 full-time enrollee living in campus housing. Projections for academic year 2015, which represents the end of the planning period, consist of headcounts of 1,994 students and 166 faculty/staff.

Future Needs Projections:
Total parking required by the end of the planning period (2015) is shown in Table 11.39. A total of 349 parking spaces will be required at the Engineering Center. As 961 parking spaces are provided, additional parking will not be required.

Table 11.39 Future Parking Needs Projections – ENGINEERING CENTER

	2015 Engineering Campus
Students	
FTE	1,140
FTE in campus housing	-
HC	1,994
Faculty FYE	61
Staff: Admin + Prof	45
General Staff	60
Total Population	3,300
FIU Total Parking Demand Methodology [(1)]	***388***
FIU Metrorail Adjustment (15%) [(2)]	
FIU Metrobus Adjustment (10%) [(3)]	(39)
FIU Adjusted Parking Demand	***349***
Parking Capacity	***961***
FIU Methodology Excess Capacity	***612***

(1) Parking generation based upon parking equations provided by FIU:

$P = 0.34x+0.5y$ (x = Full Time Enrollees, y = Full Time Enrollees living in campus housing)

(2) Metrorail adjustment (at UP and Eng. Campuses) based upon programmed construction of Metrorail's Oran

(3) The Biscayne Campus site is served by four (4) bus lines including two (2) limited stop bus routes.

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BISCAYNE BAY CAMPUS

Existing Parking Ratios:

The total number of decals issued to students, faculty, staff, and others was obtained from the Department of Parking and Transportation. Table 11.40 summarizes the number of users, number of spaces, and ratio of users to spaces. Average ratios of 3.981 students/space and 1.224 faculty-staff/space were found under the existing conditions. These do not include auxiliary parking spaces for uses such as visitors, disabled and loading.

Table 11. 40 Existing Parking Ratios –BISCAYNE BAY CAMPUS

Type of User	Number of Users	Number of Spaces	Ratio of User/Space
Students	6,485	1,629	3.981
Faculty/Staff	470	384	1.224

Source: 2006 Campus Master Plan Update

Parking Utilization - On Campus:

Utilization varies between 20% and 100% throughout the campus at this time. Average student parking occupancy is approximately 52%, while the faculty parking occupancy average is 71%.

Future Parking Needs:

Based on discussions and information provided by the University's Parking Department, the equation used for calculating parking spaces is based on the number of full-time enrollees and the number of full-time enrollees living in campus housing. One (1) parking space is provided for every 2.94 full-time enrollee and one (1) parking space is provided for every 2.00 full-time enrollee living in campus housing. The actual counts of students and faculty/staff at the Biscayne Bay Camps for Fall 2005 were provided by the OPIE. The student population at the Biscayne Bay Campus was 7,584 and the faculty/staff headcount was 390.

Projections for academic year 2015, which represents the end of the planning period, consist of headcounts of 8,580 students and 528 faculty/staff.

Future Needs Projections:

Total parking required by the end of the planning period (2015) is shown in Table 11.41. A total of 1,352 parking spaces will be required at the Biscayne Bay Campus. As 2,257 parking spaces are provided, additional parking will not be required.

Table 11. 41 Future Parking Needs Projections – BISCAYNE BAY CAMPUS

	2015 Biscayne Campus
Students	
FTE	3,413
FTE in campus housing	683
HC	8,580
Faculty FYE	195
Staff: Admin + Prof	115
General Staff	218
Total Population	12,521
FIU Total Parking Demand Methodology [1]	***1,502***
FIU Metrorail Adjustment (15%) [2]	-
FIU Metrobus Adjustment (10%) [3]	(150)
FIU Adjusted Parking Demand	***1,352***
Parking Capacity	***2,257***
FIU Methodology Excess Capacity	***905***

[1] Parking generation based upon parking equations provided by FIU:

P = 0.34x+0.5y (x = Full Time Enrollees, y = Full Time Enrollees living in campus housing)

[2] Metrorail adjustment (at UP and Eng. Campuses) based upon programmed construction of Metrorail's Oran

[3] The Biscayne Campus site is served by four (4) bus lines including two (2) limited stop bus routes.

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WOLFSONIAN MUSEUM

Visitor statistics for the last six years were obtained from the Wolfsonian Museum. The trend of visitors was analyzed to calculate a future growth rate for visitors. Based on the analysis, total daily visitors will be approximately 90 in 2015, which reflects a 29% increase from the number of 2006 visitors. Assuming the mode share will remain the same in 2015, 50 visitors are expected to use the automobile, 11 visitors are expected to use public transit, and 29 visitors are expected to walk to the museum. Using the vehicle occupancy rate found from the survey, 20 auto trips and 9 public transit trips will be generated by the museum. Table 11.42 summarizes mode share, projected daily visitors, and projected trips in 2015.

Table 11.42 Future Visitor Projections – WOLFSONIAN MUSEUM

Travel Mode	Mode Share	Projected Daily Visitors (2015)	Projected Trips (2015)
Total	100%	90	
Automobile	55%	50	20
Public Transit	13%	11	9
Walk	32%	29	28

b) Amount of land required to provide the amount of parking calculated in (2) a).

MODESTO A. MAIDIQUE CAMPUS
There is limited land available for any parking facilities at the Modesto A. Maidique campus. A Parking garage is recommended in place of parking lots to accommodate required parking by 2015.

ENGINEERING CENTER
There is limited land available for any parking facilities at the Engineering Center. However, parking projections do not show a need in 2015 for additional parking.

BISCAYNE BAY CAMPUS
The Biscayne Bay Campus has land available for expanding the existing parking lot or constructing new parking lots. However, parking projections do not show a need in 2015 for additional parking.

WOLFSONIAN MUSEUM
Parking provided near the museum is expected to have adequate capacity given the parking requirements.

c) Capacity of University lands to accommodate the amount of parking calculated in (2) a)

MODESTO A. MAIDIQUE CAMPUS
Parking Garage 5, which is a twin of Parking Garage 4, will be constructed in the near future. The proposed garage will accommodate 1,400 spaces.

ENGINEERING CENTER
No parking structures are planned.

BISCAYNE BAY CAMPUS
No parking structures are planned.

WOLFSONIAN MUSEUM
No land is available for the University.

d) Methods to accommodate the amount of parking calculated in (2) a) on the University campus, including at a minimum:

1. Decreasing automobile trips.

Automobile is a major transportation mode for students and employees to commute to the University and most automobile trips are single-occupant vehicle trips. By promoting ridesharing with carpool and vanpool programs, many trips could be eliminated reducing the number of parking spaces demanded.

Encouraging students and employees who live in the residential areas around the campus to use bicycle as a commuting mode could decrease automobile trips. Improved bicycle facilities and bicycle paths would promote the use of bicycle as a viable alternative to automobile trips.

2. Increasing utilization.

The survey of parking facilities show that parking demand was high during peak hours and low during off-peak hours. Parking utilization could be improved by evenly distributing parking demand during peak and off-peak hours. With the implementation of MWF class schedules beginning in the fall of 2007, the parking demands will ease. The degree of parking demand reduction will depend on the actual implementation of class schedules, and will need to be determined based on an assessment.

3. Increasing use of public or University-provided transit.

Improving public transportation is crucial in reducing the need for new parking facilities and congestion near the university campuses. Long range planned improvements like the planned proposed east-west extension to FIU may alleviate some of the parking and traffic issues. In the short term, improvements to the bus transit services may help increase public transit use and reduce automobile tips to the campuses. This will require that the university work with the Miami-Dade Transit to identify the necessary improvements, which may require a travel characteristics study including origin-destination, travel time, mode, purpose, etc. Transit stations with weather protection may also increase public transit use.

e) Off-campus lands in the context area that may be available for University parking and the parking capacity of those sites.

MODESTO A. MAIDIQUE CAMPUS
Off-campus parking has not been identified presently or in the future plan.

ENGINEERING CENTER
Off-campus parking has not been identified presently or in the future plan.

BISCAYNE BAY CAMPUS
Off-campus parking has not been identified presently or in the future plan.

WOLFSONIAN MUSEUM
Off-campus parking has not been identified presently or in the future plan.

f) Impacts of off-campus University parking on the context area and the alternatives for minimizing these impacts.

MODESTO A. MAIDIQUE CAMPUS
There are no off-campus parking impacts, since there is no off-campus parking.

ENGINEERING CENTER
There are no off-campus parking impacts, since there is no off-campus parking.

BISCAYNE BAY CAMPUS
There are no off-campus parking impacts, since there is no off-campus parking.

WOLFSONIAN MUSEUM
There are no off-campus parking impacts, since there is no off-campus parking.

g) Projected traffic volumes/capacities and levels of service on University roads in the context area, including an analysis of the traffic circulation model used by the host community in projecting traffic circulation in the context area.

Future Traffic Analysis:
For purpose of the analysis, trip generation was done using the State University System Transportation Study (BR-052). This study provides daily trip generation rates per student and faculty staff member. The trips estimated by the SUSTS method includes the trips by students and trips by faculty/staff. The trip generation rates for students and faculty/staff were applied to the future headcounts of student and faculty/staff at each campus to estimate the daily trips. Daily trips were converted to PM peak hourly trips using hourly to daily ratio (K-factors) at each campus as shown in the SUSTS. Table 11.43 summarizes the future population of students and faculty/staff, trip rate, daily trips, and peak hour trips by campus.

Table 11. 43 Future Traffic Volumes

Type of User	Population	Trip Rate(1)	Daily Trips	Peak Hour Trips(2)
MODESTO A. MAIDIQUE CAMPUS				
Students	38,867	1.82	70,738	5,093
Faculty/Staff	3,473	3.45	11,982	863

TOTAL				5,956
ENGINEERING CENTER				
Students	5,979	1.82	10,882	783
Faculty/Staff	339	3.45	1,170	84
TOTAL				868
BISCAYNE BAY CAMPUS				
Students	9,114	1.88	17,134	1,285
Faculty/Staff	468	3.22	1,507	113
TOTAL				1,398

Source: 2006 Campus Master Plan Update
Note:
(1) Trip rate was obtained from SUSTS.
(2) Peak to Daily ratio was used from SUSTS (for Modesto A. Maidique Campus K=7.2%, for Biscayne Bay Campus K=7.5%)

MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER

Roadways:
The background traffic volumes, are the sum of the existing traffic and an additional amount of traffic to account for potential growth in the study area, in the context area will increase 17 percent by year 2015. The Miami-Dade County Long-Range Plan (LRP) was used as the basis to calculate the growth rate for the future traffic study. On-campus existing volumes will increase by the same growth rate as that of the student population (46%).

The future PM peak hour LOS analyses for the roadways on campus and within the context area of the Modesto A. Maidique Campus are shown in Table 11.44. All roadway segments are expected to operate at or above adopted level of service with the exception of three (3) links. These links include southbound SW 117th Avenue (south of SW 17th Street), westbound SW 8th Street (from SW 109th Avenue to SW 112th Avenue), and southbound SW 109th Avenue (north of SW 8th Street), will operate at a level of service “F”.

Table 11. 44 Future Level of Service Analysis PM Peak Hour – Modesto A. Maidique Campus

Location	Direction	Lanes	LOS E Capacity (1)	Volumes (2)	LOS
SW 117th Avenue, S/O 17th Street	NB	1	810	739	C
	SB	1	810	906	F
SW 17th Street, E/O 117th Avenue	EB	1	660	356	C
	WB	1	660	579	D
SW 117th Avenue ,N/O 17th Street	NB	1	810	596	C
	SB	1	810	541	C
SW 8th Street, W/O 109th Avenue	EB	3	2,710	2,151	C

	WB	3	2,710	2,846	F
SW 109th Avenue, S/O 8th Street	NB	1	660	659	D
	SB	1	660	495	C
SW 8th Street, E/O 109th Avenue	EB	3	2,710	2,219	C
	WB	3	2,710	2,387	C
SW 109th Avenue, N/O 8th Street	NB	1	660	548	D
	SB	1	660	910	F
SW 8th Street, W/O 112th Avenue	EB	3	2,710	2,421	C
	WB	3	2,710	3,438	F
SW 112th Avenue, S/O 8th Street	NB	2	1,320	668	C
	SB	2	1,320	450	B
SW 8th Street, E/O 112th Avenue	EB	3	2,710	2,237	C
	WB	3	2,710	3,035	F
SW 107th Avenue, N/O 11th Street	NB	3	2,710	1,995	B
	SB	3	2,710	2,420	C
SW 11th Street , W/O 107th Avenue	EB	1	660	88	A
	WB	1	660	133	A
SW 11th Street, E/O 107th Avenue	EB	1	660	40	A
	WB	1	660	45	A
SW 16th Street, W/O 107th Avenue	EB	2	1,320	1,311	D
	WB	2	1,320	1,211	D
SW 16th Street, E/O 107th Avenue	EB	2	1,320	854	C
	WB	2	1,320	1,069	C
SW 17th Street, W/O 107th Avenue	EB	2	1,320	178	A
	WB	2	1,320	155	A
SW 107th Avenue, S/O 17th Street	NB	3	2,710	1,610	B
	SB	3	2,710	2,411	C

Source: 2006 Campus Master Plan Update

Notes:
(1) Level of Service are based on FDOT peak hour directional service volumes.
(2) Traffic volumes includes background growth and future campus growth.

The future PM peak hour LOS analyses for the roadways within the context area of the Engineering Center are shown in Table 11.45. All roadways surrounding the Engineering Center will anticipated to operate at or above adopted levels of service.

Table 11.45 Future Level of Service Analysis PM Peak Hour – ENGINEERING CENTER

Location	Direction	Lanes	LOS E Capacity (1)	Volumes	LOS
NW 107th Avenue, S/O EC Entrance	NB	3	2,710	1,379	B
	SB	3	2,710	2,175	C
NW 107th Avenue, N/O EC Entrance	NB	3	2,710	1,407	B
	SB	3	2,710	2,266	C
Flagler Street, E/O EC Entrance	EB	3	2,710	1,089	B
	WB	3	2,710	1,612	B
Flagler Street, W/O EC Entrance	EB	3	2,710	1,096	B
	WB	3	2,710	1,530	B

Source: 2006 Campus Master Plan Update

Notes:
(1) Levels of Service are based on FDOT peak hour directional service volumes.

The traffic assignment has been documented to establish project traffic contribution on roadways within one mile of the campus, using concurrency data from the Miami-Dade County Public Works Department. The resulting two-way assignment of project traffic, as well as the percentage of contributed project traffic for each concurrency station, is shown in Table 11.46.

Table 11.46 2015 Traffic Impact Assessment – Two Way Analysis – MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER

Roadway	Limits	Station No.	Roadway LOS Standard	Roadway Capacity	Background Traffic	Two-Way Project Traffic	Project Traffic Contribution	Total Traffic	LOS F?
SW 127 Avenue	SW 7 St to NW 6 St	9770	D	2,840	1,588	90	3.2%	1,678	No
SW 127 Avenue	SW 8 St to SW 26 St	9772	E	3,150	2,296	35	1.1%	2,331	No
SW 127 Avenue	SW 8 St to SW 24 St	9766	E	3,520	4,684	37	1.1%	4,721	Yes
SW 122 Avenue	NW 6 St to SW 8 St	9764	D	2,050	2,483	48	2.3%	2,531	Yes
HEFT	300′ N of SW 8 St	2250	D	9,800	8,546	322	3.3%	8,868	No
HEFT	1000′ N of Bird Rd	2270	D	9,800	5,814	375	3.8%	6,189	No
NW 107 Avenue	200′ N of NW 7 St	1218	E	5,590	4,292	731	13.1%	5,023	No
SW 107 Avenue	Flagler St. to SW 8 St.	2580	E	6,540	2,064	1,532	23.4%	3,596	No
SW 107 Avenue	200′ S of SW 8 St	1090	E	6,540	3,779	1,549	23.7%	5,328	No
SW 97 Avenue	SW 8 St to SW 40 St	9698	D	1,320	1,126	28	2.1%	1,154	No
SW 24 St./Coral Way	SW 117 Ave to 127 Ave	9130	E	4,900	3,616	484	9.9%	4,100	No
SW 24 St./Coral Way	SW 107 Ave to 117 Ave	9128	E	4,330	3,639	80	1.8%	3,719	No
SW 24 St./Coral Way	SW 97 Ave to 107 Ave	9126	E	7,380	3,208	409	5.5%	3,617	No
SW 8 Street	200′ E of SW 137 Ave	88	D	7,320	4,269	312	4.3%	4,581	No
SW 8 Street	200′ W of SW 122 Ave	2561	E	5,860	5,369	465	7.9%	5,834	No
SW 8 Street	200′ E of SW 109 Ave	90	D	8,590	3,998	648	7.5%	4,646	No
W Flagler Street	NW 107 Ave to 114 Ave	9158	E	6,990	3,166	246	3.5%	3,412	No
W Flagler Street	NW 97 Ave to 107 Ave	9156	E	4,660	2,951	337	7.2%	3,288	No

Source: Miami-Dade County Concurrency Information
2006 Campus Master Plan Update

A 10% threshold is established by the Florida Department of Community Affairs (DCA) to trigger concurrency review on all roadways within one mile of each campus. The project traffic contribution is below 10% consumption with the exception of three (3) roadway segments. They are located on 107th Avenue north of NW 7th Street, between Flagler Street and SW 8th Street, and south of SW 8th Street. However, these roadway links will be operating at or above adopted level of service standards.

NEED ROADWAY ANALYSIS FOR ENGINEERING CENTER

Intersections:
Capacity analyses for critical intersections within the study area were performed using the methodology contained the HCM. The HCS 2000 software was used for the analysis. The future levels of service (LOS) for study area intersections is provided in Table 11.47. All study area intersections operate at or above adopted levels of service.

Table 11. 47 Future Intersection Level of Service PM Peak Hour – Modesto A. Maidique Campus

SIGNALIZED INTERSECTIONS	OPTIMIZING TIMINGS	
LOCATION	Average Stopped Delay (sec/veh)	LOS
SW 107th Avenue and SW 1100 Block	7.5	A
SW 107th Avenue and SW 16th Street	72.6	E
SW 107th Avenue and SW 1700 Block	12.5	B
SW 112th Avenue and SW 8th Street	53.7	D
SW 117th Avenue and SW 17th Street	31.8	D
SW 109th Avenue and SW 8th Street	42.7	C

Source: 2006 Campus Master Plan Update

The future PM peak hour levels of service (LOS) for study area intersections for the Engineering Center are shown in Table 11.48. All study area intersections operate at or above adopted levels of service.

Table 11.48 Future Intersection Level of Service PM Peak Hour – ENGINEERING CENTER

SIGNALIZED INTERSECTIONS		
LOCATION	EXISTING TIMINGS	
	Average Stopped Delay (sec/veh)	LOS

SW 105th Avenue and Flagler Street		9.6	A
UNSIGNALIZED INTERSECTION			
NW 107th Street and EC Entrance	West Approach	26.9	D
	East Approach	20.0	C
	Left Movement of South Approach	26.3	D
	Left Movement of North Approach	15.5	C

Source: 2006 Campus Master Plan Update

BISCAYNE BAY CAMPUS

Roadways:

The background traffic volumes in the context area will increase 15 percent by year 2015. The 2030 Miami-Dade County Long-Range Transportation Plan (LRTP) model was used to calculate the growth rate for the future traffic study. On campus existing volumes will increase by the same growth rate as that of the student population (46%).

The future PM peak hour LOS analyses for the roadways on campus and within the context area of the Biscayne Bay Campus are shown in Table 11.49. All roadways will be operating at a level of service "B" or "D".

Table 11.49 Future Level of Service Analysis PM Peak Hour – BISCAYNE BAY CAMPUS

Location	Direction	Lanes	LOS E Capacity (1)	Volumes (2)	LOS
Bay Vista Blvd., N/O BBC Entrance	NB	2	1,320	649	B
	SB	2	1,320	639	B
Campus Entrance, E/O Bay Vista Blvd.	EB	1	660	639	D
	WB	1	660	649	D

Source: 2006 Campus Master Plan Update

Notes:
(1) Levels of Service are based on FDOT peak hour directional service volumes.
(2) Traffic volumes include background growth and future campus growth.

The resulting two-way assignment of project traffic volume, along with the project traffic contribution percentage of roadway capacities at each concurrency station, is shown in Table 11.50. Roadway capacities were obtained from the Miami-Dade County Public Works Department. The percentage of project traffic contribution on all study area roadways is below 10 percent.

Table 11.50 Traffic Impact Assessment – Two Way Analysis – BISCAYNE BAY CAMPUS

Roadway	Limits	Station No.	Roadway LOS Standard	Roadway Service Volume	Background Traffic	Two-Way Project Traffic	Projects Percent Consumption	Total Traffic	LOS F?
West Dixie Highway	200' N of NE 151 St	531	E	2,910	1,724	6	0.2%	1,730	No
Biscayne Boulevard	300' S of NE 163 St	5219	E + 50 (1)	9,540	3,348	376	3.9%	3,724	No
Biscayne Boulevard	200' S of NE 123 St	524	E + 50 (1)	5,800	2,901	130	2.2%	3,031	No
NE 135th Street	200' W of Biscayne Blvd	1026	E	3,150	1,162	271	8.6%	1,433	No
Bay Vista Boulevard(2)	US 1 to Biscayne Bay Campus Entrance	NA	E	3,420	0	1,398	40.9%	1,398	No

Source: 2006 Campus Master Plan Update
Note:

(1) 150% Level of Service is allowed due to the roadway being serviced by Transit Operation at 20 minute headways.

(2) The Miami-Dade County does not have a traffic count station on Bay Vista Boulevard. Roadway service volume was from the previous FIU Campus Master Plan.

Intersections:

Capacity analyses for study area intersections were performed consistent with the methodology used for the Modesto A. Maidique campus. The analysis of the intersection at US 1 and NE 151st Street was for 2010, which was stated in the previous FIU Campus Master Plan.

The future levels of service (LOS) for the PM peak hour are shown in Table 11.51. All locations satisfy the minimum adopted level of service criteria.

Table 11. 51 Future Intersection Level of Service PM Peak Hour – Biscayne Bay Campus

SIGNALIZED INTERSECTIONS	OPTIMIZING TIMINGS	
LOCATION	Average Stopped Delay (sec/veh)	LOS
US 1 and NE 151st Street	34.9	C
UNSIGNALIZED INTERSECTIONS		
Bay Vista Boulevard and FIU Access Drive		
East Approach	48.78	E
North Approach	14.68	B

Source: 2006 Campus Master Plan Update

WOLFSONIAN MUSEUM

Roadway segments within the context area of the Wolfsonian Museum were analyzed using the HCS 2000. Traffic volumes were obtained from the 2005 Florida Transportation Information CD. The current PM peak hour levels of service of roadways are shown in Table 11.52. Northbound Alton Road south of Dade Boulevard is expected to operate at LOS F while all other roadways are expected to operate at or above the adopted level of service.

Table 11.52 Future Level of Service Analysis PM Peak Hour – WOLFSONIAN MUSEUM

Location	Direction	Lanes	LOS E Capacity (1)	Volumes	LOS
MacArthur CSWY, W/O Alton Road	EB	3	5,500	3,417	B
	WB	3	5,500	3,096	B
MacArthur CSWY, E/O Alton Road	EB	3	2,710	1,533	B
	WB	3	2,710	1,389	B
Alton Road, S/O Dade Blvd	NB	2	1,800	1,849	F
	SB	2	1,800	1,587	C
Colins Park Avenue, N/O 5th Street	NB	2	1,800	876	B
	SB	2	1,800	752	B

Source: 2006 Campus Master Plan Update

The resulting two-way assignment of project traffic volume, along with the project traffic contribution percentage of roadway capacities at each concurrency station, is shown in Table 11.53. Roadway capacities were obtained from the Miami-Dade County Public Works Department. The percentage of project traffic contribution on all study area roadways is well below 10 percent.

Table 11.53 Traffic Impact Assessment – Two Way Analysis – WOLFSONIAN MUSEUM

Roadway	Limits	Station No.	Roadway LOS Standard	Roadway Service Volume	Background Traffic	Two-Way Project Traffic	Projects Percent Consumption	Total Traffic	LOS F?
Alton Road	200' N of 20 St	12	E	3,260	3,682	2	0.1%	3,684	Yes
Alton Road	200' S of 51 St	1018	E	3,760	2,705	0	0%	2,705	No

Source: 2006 Campus Master Plan Update

h) An analysis of improvements that would be required to on-campus roadways to meet the future traffic circulation needs of the University.

MODESTO A. MAIDIQUE CAMPUS

The two-lane sections of the internal campus roadway should be widened to provide left turn lanes to existing and future parking facilities. This will help reduce delays and queuing as a result of through volume waiting for left-turn movements. This improvement would provide a consistent cross-section throughout the campus.

ENGINEERING CENTER

No improvements are required for on-campus roadways in the Engineering Center.

BISCAYNE BAY CAMPUS

No improvements are required for on-campus roadways at the Biscayne Bay Campus.

WOLFSONIAN MUSEUM

The Wolfsonian Museum does not have any on-campus roadways.

i) An analysis of improvements that would be required to off-campus roads in the context area, based on the additional traffic projected to be generated by the University.

MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER

Future Roadway Needs - Context Area:
A review of the 2007 Miami-Dade County Metropolitan Planning Organization Transportation Improvement Program (TIP) and the 2030 Miami-Dade Transportation Plan shows the following planned or programmed improvements near the Modesto A. Maidique campus:

1. SW 107th Avenue (from SW 8th Street to Flagler Street): Widen from four lanes to six lanes (2009-2014 TIP)
2. SW 117th Avenue (from SW 40th Street to SW 8th Street): Widen from two lanes to four lanes (2009-2014 TIP)
3. Florida Turnpike (at SW 8th Street): Interchange modification (LRTP Priority 1)
4. SW 107th Avenue (from SW 40th Street to SW 24th Street): Miscellaneous construction (2009-2014 TIP)

BISCAYNE BAY CAMPUS

Future Roadway Needs - Context Area:
A review of the 2009 Miami-Dade County Metropolitan Planning Organization TIP and the 2030 Miami-Dade LRTP found no planned or programmed improvements near this campus.

WOLFSONIAN MUSEUM

Future Roadway Needs - Context Area:
A review of the 2009 Miami-Dade County Metropolitan Planning Organization TIP and the 2030 Miami-Dade LRTP found no planned or programmed improvements near the Museum.

j) An analysis of additional public or University-provided transit that will be required to meet the future needs of the University for the planning period.

MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER
The frequency of bus routes serving the campus should be evaluated as growth on this campus occurs.

BISCAYNE BAY CAMPUS
The frequency of bus routes serving the campus should be evaluated as the University grows. Other transit modes besides buses have not been identified.

WOLFSONIAN MUSEUM

No additional public transit is considered for the Wolfsonian Museum.

k) An analysis of the opportunities to implement transportation system management and transportation demand management techniques and strategies to minimize off-site impacts on roadways within the context area, including:

Transportation Demand Management

1. Promote ridesharing.
   Ridesharing refers to carpooling and vanpooling. Carpooling uses participants' own automobiles while vanpooling usually uses rented vans. Ridesharing can be implemented in the Modesto A. Maidique Campus, the Engineering Center, and the Biscayne Bay Campus. Survey results of Wolfsonian Museum visitors demonstrate that visitors avidly rideshare.

2. Encourage public transit usage.
   Strategies to encourage public transit usage include:
   - *Improve transit service* in terms of transit routes and frequency of services.
   - *Reduce fares and offer discounts* (expand the existing student discount to include university students).
   - *Create a transportation access guide* that provides maps, schedules, and other information on how to reach a particular destination by public transit.
   - *Build Park-n-Ride station*.

   These strategies can be implemented on all campuses, but benefits from the implementation will vary. The Modesto A. Maidique Campus will benefit more than other campuses.

3. Develop paratransit systems.
   Demand-Response paratransit includes various types of flexible route transit service using small buses or vans. Paratransit service can be provided in the residential area around all campuses. FIU also can offer special late night shuttle services after regular transit service ends to cover adjacent areas within a certain distance, such as two miles.

4. Encourage walk and non-motorized transportation mode.
   Strategies to encourage walk and non-motorized transportation mode include:
   - Improve bicycle and pedestrian facilities.
   - Develop cycling and walking commute campaigns.
   - Provide bicycle parking and clothe-changing facilities at the University and transportation terminals.
   - Provide education programs that teach cycling skills.

- Promote a cycling club among students.
- Provide cycling maps showing recommended cycling routes and facilities, roadway conditions (shoulders, traffic volumes, special barriers to cycling, etc.), recreational facilities, and other information helpful to cyclists.
- Provide bicycles to rent or loan.
- Reimburse employee walking or cycling mileage expenses.

These strategies can be implemented on all campuses, except for the Wolfsonian Museum.

5. Use alternative work schedule.
Alternative work schedules include flextime, compressed workweek, and staggered shifts. Flextime and staggered shifts allow some flexibility in daily work schedule. Flextime allows employees to choose work schedule, but staggered shifts does not. Compressed workweek means that employees work fewer but longer days, such as four 10-hour days each week (4/40), or 9-hour days with one day off every two weeks (9/80). Before using alternative work schedules, jobs that can utilize an alternative work schedule would need to be identified.

6. Encourage distance-learning programs.
Distance learning programs offered by the University enable students to take classes without traveling to the campuses. Providing more courses and programs through distance learning will reduce trips to the University by students significantly. It is not applicable with the Wolfsonian Museum.

7. Introduce transit oriented development in the context area.
Transit oriented development refers to residential and commercial centers designed to maximize access by transit and non-motorized transportation, with features to encourage transit ridership. Providing a transit station at Modesto A. Maidique Campus and / or Engineering Center would provide transit access to the surrounding area.

Transportation System Management (TSM)

1. Add intersection turning lanes.
3. Optimize traffic signal phasings or timings.
4. Improve signal progression.
5. Modify an interchange by following the Department's Interchange Modification Report Procedure.
6. Implement incident management programs.
8. Implement intelligent transportation systems (ITS).

The above TSM strategies are improvements intended to fully utilize the existing transportation system's capacity. Among these TSM strategies, the interchange modification strategy needs to be applied to the interchange of the Homestead Extension of Florida's Turnpike (HEFT) and SW 8th Street immediately. Long queues and traffic congestion occur on SW 8th Street as a result of traffic on westbound SW 8th Street traveling to northbound HEFT. The westbound left-turn lane is not long enough to accommodate traffic and which spills back to block through lanes on SW 8th Street during the PM peak hour.

A right-turn lane may be required on 107th Avenue northbound at the entrance to the Engineering Center. A right-turn lane improvement would increase capacity on 107th Avenue and provide safety improvements.

l) The planned locations of future facilities identified in the Academic Facilities, Support Facilities, and Utilities Elements, with accompanying parking to serve these facilities.

MODESTO A. MAIDIQUE CAMPUS
Future land use on the Modesto A. Maidique campus is illustrated in Figure 4.3. Figure 5.1 shows facilities planned or under construction, future facilities, and existing academic facilities on the Modesto A. Maidique campus.

ENGINEERING CENTER
Future land use on the Engineering Center is illustrated in Figure 4.4. Figure 5.2 shows facilities planned or under construction, future facilities, and existing academic facilities on the Engineering Center.

BISCAYNE BAY CAMPUS
Future land use on the Modesto A. Maidique campus is illustrated in Figure 4.5. Figure 5.3 shows facilities planned or under construction, future facilities, and existing academic facilities on the Biscayne Bay Campus.

WOLFSONIAN MUSEUM
There are no facilities planned for the Wolfsonian Museum in the future.

Pedestrian and Non-Vehicular Circulation Sub-Element

(1) DATA REQUIREMENTS.

a) An inventory of existing pedestrian and non-vehicular facilities on the University campus(s) illustrating the location, size and surface material of the facilities.

MODESTO A. MAIDIQUE CAMPUS
Modesto A. Maidique Campus consists of a conglomerate of buildings connected by covered and uncovered walkways that serve pedestrians. A vehicular loop road surrounds the academic facilities. The athletic facilities are located on the west side of the campus. Student housing is located on the east side and the

south side of the campus. Outside the campus loop road, six parking lots and two parking garages are provided. Figure 11.2 ~~:~~shows the general configuration of pedestrian and non-vehicular circulation on the campus. Pedestrian and non-vehicular circulation facilities are highlighted. A description of the pedestrian and non-vehicular facilities available on the campus is provided below.

Walkways:
Pedestrian access among the existing buildings is provided by covered and uncovered walkways. The core building surrounding the library is provided with covered walkways approximately 12′ wide. Buildings located north of the library are accessible to pedestrians via uncovered walkways varying in width between 6′ and 14′. Pedestrian walkways are also provided north and south of the campus loop road, leading to parking lots, on the east leading to student housing, and the west leading to athletics facilities. Surface material of these walkways consists of cast-in-place concrete and asphalt.

Crosswalks:
There are crosswalks on the eastern half of the campus loop road, connecting academic facilities located in the center of the campus to parking lots on the north side of the campus and student housing on the east side of the campus. During the pedestrian hours (10:30 am –11:30 am and 6:30 pm - 8:00 pm), pedestrian activities on the eastern half of the loop road are significant and vehicular traffic is slowed significantly by pedestrians**.**

Crosswalks also exist on the western half of the loop road. Most pedestrian activity on the western half occurs near the arena. However, in general, pedestrian traffic in this area is light except during special events at the arena. The western part of campus is used mostly for athletics. However, trailers are currently being used for classrooms. Several parking lots exist to serve the area.

Bikeways:
Bicycle racks are currently located in the courtyards of the residential housing dormitories on the campus. Many of the pedestrian and non-vehicular facilities are being shared with cyclist in the campus core and on the campus loop road. However, an official marked bikeway does not exist on this campus.

ENGINEERING CENTER

The pedestrian and non-vehicular facilities available on the Engineering Center are described below.

Walkways:
There are uncovered pedestrian walkways 6′ wide, linking the Engineering building and the parking lots #2 and #3. Surface material of these walkways consists of cast-in-place concrete. There are no walkways between the NW 107th Ave and the building on the campus. The pedestrians share the entrance roadway with vehicles.

Crosswalks:
There are crosswalks providing access to the east parking lots from the Engineering building.

Bikeways:
Bicycle racks are currently located in the area close to the west entrance of the Engineering building. However, an official marked bikeway does not exist on this campus.

BISCAYNE BAY CAMPUS

Biscayne Bay Campus consists of a group of academic buildings on the east side of the campus, student housing on the north, and parking lots on the southwest area of the campus. One main entrance provides vehicular access to the campus. The general configuration of pedestrian and non-vehicular circulation is shown in Figure 11.5. The pedestrian and non-vehicular facilities available on the Biscayne Bay Campus are described below.

Walkways:
Pedestrian access among the existing buildings is provided via covered and uncovered walkways that vary in width between 5′ to 10′. One path provides access to student housing. Sidewalks are provided along the campus roads to furnish access to the parking lots. Walkways are made of cast-in-place concrete and asphalt as surface material.

Crosswalks:
Crosswalks (see Figure 11.5) traverse campus roadways. Most pedestrian activity occurs on the crosswalks crossing the south and east portions of the main roads, since these are the links between the academic facilities and parking lots. Additional crosswalks provide access between the parking lot and the support facilities located on the northwest portion of the campus.

Bikeways:
Bicycle racks are currently located in the courtyards of the residential housing dormitories on the campus. Many of the pedestrian and vehicular facilities are being shared with cyclists on the campus core and the loop road. An FDOT marked bikeway exists on campus.

WOLFSONIAN MUSEUM

The Wolfsonian Museum does not have any pedestrian and non-vehicular facilities on the premise.

b) The planned location of future facilities identified in the Academic Facilities, Support Facilities and Utilities Elements.

MODESTO A. MAIDIQUE CAMPUS

Locations of future academic facilities, support facilities, and utilities elements for the Modesto A. Maidique Campus are presented in Figure 4.3. Academic facilities are located mostly inside of the campus loop road. Northeast area, which is outside of the campus loop road, will accommodate future academic facilities.

ENGINEERING CENTER

Locations of future academic facilities, support facilities, and utilities elements for the Engineering Center are shown in Figure 4.4. Future academic facilities will be located in the east area of the Engineering Center building.

BISCAYNE BAY CAMPUS

Figure 4.5 presents Campus Land Use Map for proposed locations of all future academic, support facilities and utilities for the Biscayne Bay Campus.

WOLFSONIAN MUSEUM

There is no plan for future facilities identified as the Academic Facilities, Support Facilities, and Utilities Elements for the Wolfsonian Museum.

c) An inventory of existing pedestrian and non-vehicular circulation facilities located within the context area.

MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER

Within the context area of the Modesto A. Maidique Campus and the Engineering Center, sidewalks are provided along major roadways surrounding the campuses.

BISCAYNE BAY CAMPUS

There is a bikeway path along Biscayne Boulevard (US 1), NE 151st Street, and Bay Vista Boulevard to the main entrance of the Biscayne Bay Campus. This bikeway path links the Biscayne Bay Campus to residential neighborhoods in the cities of North Miami and North Miami Beach.

WOLFSONIAN MUSEUM

Sidewalks are provided along all roadways within the context area of the Wolfsonian Museum.

d) An inventory of the planned pedestrian and non-vehicular circulation facilities located in the host community in the context area, illustrating the location, size and function planned for each facility as identified in the host community Bicycle Plans or other related documents.

MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER

Pedestrian project planned in the context area provides sidewalk repair. The project presented in Table 11.54 limits the project area to the City of Sweetwater. In the context area, there are no projects for bicycle in the period of 2005-2010.

Table 11.54 Transportation Improvement Program for Pedestrian/Bicycle for 2005-2010 – MODESTO A. MAIDIQUE CAMPUS AND ENGINEERING CENTER

Facility	Location / From	Location / To	Work Program
Sidewalk	City of Sweetwater	(Federal Earmark)	Sidewalk Repairs

Source: Miami-Dade County Metropolitan Planning Organization, 2006

BISCAYNE BAY CAMPUS

There is a project to improve bike path in the context area. Bike path in the City of North Miami Beach will be improved from Snake Creek Canal at NE 167th Street to Oleta State Park Entrance, as presented in Table 11.55. No project is planned for pedestrian facilities in the context area.

Table 11.55 Transportation Improvement Program for Pedestrian/Bicycle for 2005-2010 – BISCAYNE BAY CAMPUS

Facility	Location / From	Location / To	Work Program
N. Miami Beach Bike Path	Snake Creek Canal at NE 167th Street	Oleta State Park Entrance	Bike Path

Source: Miami-Dade County Metropolitan Planning Organization, 2006

WOLFSONIAN MUSEUM

In the context area around the Wolfsonian Museum, there are two projects to improve pedestrian facilities and one project to improve the bike path. Those projects are summarized in Table 11.56 with facility, location, and work program.

Table 11.56 Transportation Improvement Program for Pedestrian/Bicycle for 2005-2010 – WOLFSONIAN MUSEUM

Facility	Location / From	Location / To	Work Program
Dade Boulevard	City of Miami Beach		Bike Path Improvements
Collins Avenue	Sunny Isles Causeway	Lehman Causeway	Pedestrian Safety Improvement
Alton Road	5th Street	17th Street	Pedestrian Safety Improvement

Source: Miami-Dade County Metropolitan Planning Organization, 2006

e) An inventory of existing problem areas on-campus related to pedestrian and non-vehicular circulation. Data must include statistics on accidents involving, and violent crimes committed against pedestrians and bicyclists on-campus and in the context area. Statistics must include type of crime or accident, location and time of occurrence. Data on violent crimes must indicate gender of victim and suspect(s).

MODESTO A. MAIDIQUE CAMPUS

Information on crime statistics was obtained from the FIU University Police Department (UPD). Crime data was recorded for the three-year period (2002-2004) and is summarized in Table 11.57 by types of offense. Data was available to identify existing problem areas at residence halls and other areas but not the relationship of these crimes to pedestrians.

Table 11.57 Crime Statistics– MODESTO A. MAIDIQUE CAMPUS

Offense Type	2002		2003		2004	
	Residence Halls	Other Areas	Residence Halls	Other Areas	Residence Halls	Other Areas
Murder/Homicide	0	0	0	0	0	0
Manslaughter	0	0	0	0	0	0
Forcible Sex/Rape	0	0	0	1	1	0
Non-Forcible Sex Offenses	0	0	0	0	0	0
Robbery	0	1	0	3	2	0
Aggravated Assault	1	4	0	1	1	12
Burglary	22	33	29	35	10	69
Arson	0	0	0	0	1	1
Motor Vehicle Theft	2	55	5	22	2	10
Liquor Law Violations	0	1	0	1	1	1
Drug Law Violations	8	0	12	3	1	2
Weapons Law Violations	0	1	0	0	0	1

Source: FIU University Police Department, 2006

ENGINEERING CENTER

Crime statistics for Engineering Center are included in crime statistics for Modesto A. Maidique Campus, which are summarized in Table 11.57.

BISCAYNE BAY CAMPUS

Campus-wide crime statistics was obtained from FIU UPD for 2002 through 2004 and by types of offense. Table 11.58 summarizes the data collected for crimes reported on Biscayne Bay Campus in the residence halls and other areas.

Table 11.58 Crime Statistics– BISCAYNE BAY CAMPUS

Offense Type	2002		2003		2004	
	Residence Halls	Other Areas	Residence Halls	Other Areas	Residence Halls	Other Areas
Murder/Homicide	0	0	0	0	0	0
Manslaughter	0	0	0	0	0	0
Forcible Sex/Rape	0	0	0	0	0	0
Non-Forcible Sex Offenses	0	0	0	0	0	0
Robbery	0	0	0	0	1	0
Aggravated Assault	0	0	0	0	0	1
Burglary	0	2	6	5	4	3
Arson	0	0	0	0	1	0
Motor Vehicle Theft	0	0	0	5	1	1
Liquor Law Violations	0	0	0	0	0	0

Drug Law Violations	0	0	0	0	0	0
Weapons Law Violations	0	0	0	0	0	0

Source: FIU University Police Department, 2006

WOLFSONIAN MUSEUM

Crime statistics for the Wolfsonian Museum are summarized in Table 11.59. Crimes reported in 2002 through 2004 are listed by types of offense in the table.

Table 11.59 Crime Statistics – WOLFSONIAN MUSEUM

Offense Type	2002	2003	2004
Murder/Homicide	0	0	0
Manslaughter	0	0	0
Forcible Sex/Rape	0	0	0
Non-Forcible Sex Offenses	0	0	0
Robbery	0	0	0
Aggravated Assault	0	1	1
Burglary	0	0	0
Arson	0	0	0
Motor Vehicle Theft	0	0	0
Liquor Law Violations	0	0	0
Drug Law Violations	0	0	0
Weapons Law Violations	0	0	0

Source: FIU University Police Department, 2006

(2) ANALYSIS REQUIREMENTS.

a) An analysis of the amount and type of pedestrian and non-vehicular circulation facilities that will be required to meet the needs of projected University enrollment including the basis for this analysis.

MODESTO A. MAIDIQUE CAMPUS

Due to the extreme weather condition in the South Florida, covered facilities such as covered walkway, covered bus stops, and covered bike rack are desired amenities under heavy rain and strong sun light. There is an immediate need for additional covered walkways within the academic core as well as those connections from academic buildings to parking lots and housing facilities. Covered bus stop is also needed at bus stop on the Modesto A. Maidique Campus and existing bike racks need to be covered.

Pedestrian crosswalks across roadways are critical design components for efficient traffic flow and pedestrian safety. Vehicular traffic flow is impeded by the heavy volume of pedestrian movement on the northeast portion of campus loop road, especially around parking lot #2, Parking Garage 4, and the housing facilities. With the construction of Parking Garage 5, more pedestrian movement will be expected on this portion of campus loop road. The west portion of campus loop road will have the heavy volume of pedestrian movement upon the opening of new buildings for Graduate School of Business and College of Law.

Miami-Dade Transit (MDT) has conducted an environmental impact study to extend Metrorail to the Modesto A. Maidique Campus. This study is currently under way and includes options providing a transit station at the Modesto A. Maidique Campus. The East-West Corridor Metrorail Extension is expected to be open in 2014. Possible sites for the transit station include a bus station at the Southeast corner of the campus and the southwest area of the campus. If a transit station is to be located on the Modesto A. Maidique campus, pedestrian crosswalks are needed to connect academic core to the transit station.

ENGINEERING CENTER

FIU has considered design components that would physically link the Engineering Center to the Modesto A. Maidique Campus. There is an environmental impact study sponsored by Miami-Dade Transit (MDT) on the East-West Corridor Metrorail Extension. This study is currently under way and includes options linking the Engineering Center with the Modesto A. Maidique Campus by providing stations at both sites. The East-West Corridor Metrorail Extension is expected to begin service in 2014.

Amenities including covered walkways and covered bus stop are needed in the Engineering Center to provide comfort under the extreme weather condition in the South Florida There is a need for covered walkways connecting academic buildings with parking lots. In the future, if there is a transit station at 107th Avenue and W. Flagler Street, covered walkway will be needed to connect the engineering building to the transit station. Covered bus stop is also needed in the Engineering Center.

BISCAYNE BAY CAMPUS

Due to the extreme weather condition in the South Florida, covered facilities such as covered walkway, covered bus stops, and covered bike rack are desired amenities under heavy rain and strong sun light. There is an immediate need for additional covered walkways within the academic core as well as those connections from academic buildings to parking lots and housing facilities. Covered bus stop is also needed at bus stop on the Biscayne Bay Campus and existing bike racks need to be covered.

WOLFSONIAN MUSEUM

Pedestrian and non-vehicular circulation facilities are not required in the Wolfsonian Museum.

b) An analysis assessing the need for pedestrian and non-vehicular circulation facilities in the context area with reference to those facilities serving areas of off-campus student housing, or other off-campus student activities.

<u>MODESTO A. MAIDIQUE CAMPUS</u>

Pedestrian crosswalk at the entrance of the dormitory located on SW 107th Avenue links the student dormitories to the surrounding area, which has shopping centers, retail stores, fast food restaurants, and so on. There is another pedestrian crosswalk crossing SW 107th Avenue connecting the Modesto A. Maidique Campus to the surrounding commercial and residential area. It is recommended that these pedestrian crosswalks be marked with highly visible crosswalks for the pedestrian safety.

Bicycle path should be provided in the context area to connect the residential area to the Modesto A. Maidique Campus. Bicycle is one of popular travel modes for students and faculties who live in the area nearby the campus. Bicycle paths should be considered on the following roads: SW 16th Street, SW 8th Street, 107th Avenue, and 109th Avenue.

<u>ENGINEERING CENTER</u>

Pedestrian crosswalks at the intersection of W Flagler Street with 107th Avenue and the south entrance of the Engineering Center need to be marked with highly visible crosswalks for the pedestrian safety.

Bicycle is one of popular travel modes for students and faculties who live in the Sweetwater area to commute to the Engineering Center. Bicycle path should be provided in the context area. Bicycle path should be considered on the following roads: NW 7th Street, Fontainebleau Boulevard, W Flagler Street, 107th Avenue, and 109th Avenue.

<u>BISCAYNE BAY CAMPUS</u>

Because of the walking distances required to reach residential off-campus areas, it is unlikely that pedestrian activity will dramatically increase in the future. Improvements are, therefore, not recommended in this area, but should be considered as part of any possible future road improvement project.

Bikeway paths planned for Biscayne Boulevard, NE 151st Street, and Bay Vista Boulevard are sufficient to meet future demand by FIU North Campus. Additional improvements are, therefore, not recommended.

<u>WOLFSONIAN MUSEUM</u>

The Wolfsonian Museum is located in Miami Beach, which is a popular area to travelers and attracts many visitors. The area is well designed for pedestrians. Thus, additional improvements are not recommended.

c) An analysis of lighting conditions along pedestrian and non-vehicular circulation routes to identify areas where lighting is inadequate.

MODESTO A. MAIDIQUE CAMPUS

The campus loop roadway lighting is fairly consistent, using a shoe box type fixture on a short twelve to fifteen-foot post and was deemed acceptable. Parking Lots area adequately lit by a shoe box type fixture on a tall, twenty-four foot post, with light fixtures near vehicular service areas for Golden Panther Arena and some parking areas for Modesto A. Maidique Apartments. The pedestrian areas appear adequately lit with a mixture of globe type fixtures, clear and opaque balls. Bollard type lighting fixtures are used adjacent to the Graham Center.

Additional lighting for pedestrian walkways that was used in more recent campus construction is a clear, cylindrical fixture with painted metal framing and round, hood on a short twelve foot post. A wall-mounted variation of this painted aluminum fixture with a clear, cylindrical globe is installed at the entrance of the Campus Support Systems building as well as on the Graham Center. The only lighting apparent in the Athletic / Support Area was the tall recreational type flood light used to light the tennis courts and play fields.

ENGINEERING CENTER

The Engineering Center lighting is fairly consistent, using a shoe box type fixture on a twenty-four foot post. Tall Cobra-head lights are used along NW 107th Avenue and W Flagler Street.

BISCAYNE BAY CAMPUS

The parking lots have a series of light fixtures on a tall twenty-four foot, square concrete pole. These aluminum fixtures with concrete standards are also used along primary roadways, recreational and maintenance facilities, the pedestrian path along Biscayne Bay and throughout the Kovens Center site. Occasionally illumination for roadways and open lawn areas on campus is provided by a shoe box type fixture on a short twelve foot post. Tall Cobra-head lights are used along Bay Vista Boulevard.

Principal lighting that occurs in the academic core and along most walkways is a pedestrian scale light, which was deemed adequate for its use. Another pedestrian light used in the quad adjacent to the Library, Hospitality Management and Wolfe University Center is an aluminum bollard style light with a dark bronze finish. Although the intensity of illumination for some areas of campus is occasionally insufficient, the continuity of style and quality of materials is exemplary.

WOLFSONIAN MUSEUM

Adjacent roadway lighting is fairly consistent. Washington Avenue appears adequately lit with pedestrian scale lights, and Cobra-head lights are used in other streets.

APPENDIX. TRAFFIC COUNTS

Modesto A. Maidique Campus

McMAHON
710 NW 107 Avenue, Suite 110
Miami, Fl 33172
305-222-1945/305-222-1944

File Name : SW 117th Ave & SW 17 St-041906
Site Code : 00000000
Start Date : 4/19/2006
Page No : 3

	SW 117th AVENUE Southbound				SW 17th STREET Westbound				SW 117th AVENUE Northbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:15 PM													
04:15 PM	0	105	7	112	15	0	50	65	41	78	0	119	296
04:30 PM	0	92	6	98	18	0	68	86	**75**	**93**	0	**168**	**352**
04:45 PM	0	**117**	**11**	**128**	13	0	**82**	95	63	62	0	125	348
05:00 PM	0	76	6	82	**27**	0	75	**102**	40	82	0	122	306
Total Volume	0	390	30	420	73	0	275	348	219	315	0	534	1302
% App. Total	0	92.9	7.1		21	0	79		41	59	0		
PHF	.000	.833	.682	.820	.676	.000	.838	.853	.730	.847	.000	.795	.925
Pass. Vehicles	0	387	28	415	71	0	271	342	218	311	0	529	1286
% Pass. Vehicles	0	99.2	93.3	98.8	97.3	0	98.5	98.3	99.5	98.7	0	99.1	98.8
Trucks	0	3	2	5	2	0	4	6	1	4	0	5	16
% Trucks	0	0.8	6.7	1.2	2.7	0	1.5	1.7	0.5	1.3	0	0.9	1.2

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:00 PM			
+0 mins.	0	117	**11**	**128**	13	0	**82**	95	53	82	0	135
+15 mins.	0	76	6	82	**27**	0	75	**102**	41	78	0	119
+30 mins.	0	106	0	106	21	0	69	90	**75**	**93**	0	**168**
+45 mins.	0	**118**	6	124	19	0	81	100	63	62	0	125
Total Volume	0	417	23	440	80	0	307	387	232	315	0	547
% App. Total	0	94.8	5.2		20.7	0	79.3		42.4	57.6	0	
PHF	.000	.883	.523	.859	.741	.000	.936	.949	.773	.847	.000	.814
Pass. Vehicles	0	413	22	435	80	0	305	385	229	310	0	539
% Pass. Vehicles	0	99	95.7	98.9	100	0	99.3	99.5	98.7	98.4	0	98.5
Trucks	0	4	1	5	0	0	2	2	3	5	0	8
% Trucks	0	1	4.3	1.1	0	0	0.7	0.5	1.3	1.6	0	1.5

McMAHON
710 NW 107 Avenue, Suite 110
Miami, Fl 33172
305-222-1945/[illegible]

File Name : SW 8th Street& 119th Avenue-41806
Site Code : 06269.11
Start Date : 4/18/2006
Page No : 1

Groups Printed- Pass. Vehicles - Trucks

	SW 109th AVENUE Southbound					SW 8th STRETT Westbound					SW 109th AVENUE Northbound					SW 8th STREET Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	44	7	73	4	124	33	204	10	0	247	6	2	8	0	16	0	473	64	0	537	4	924	928
07:15 AM	75	10	113	0	198	26	209	16	1	251	2	2	5	0	9	0	420	65	0	485	1	943	944
07:30 AM	111	20	120	0	251	25	251	35	1	311	5	8	7	0	20	1	295	59	1	355	2	937	939
07:45 AM	112	30	120	0	262	29	274	39	0	342	9	7	10	0	26	0	421	63	0	484	0	1114	1114
Total	342	67	426	4	835	113	938	100	2	1151	22	19	30	0	71	1	1609	251	1	1861	7	3918	3925
08:00 AM	166	25	112	0	303	33	262	21	0	316	6	13	9	0	28	2	438	85	0	525	0	1172	1172
08:15 AM	115	23	106	0	244	38	264	30	0	332	5	3	5	0	13	2	479	102	0	583	0	1172	1172
08:30 AM	79	22	100	0	201	29	264	28	0	321	8	5	6	0	19	0	500	93	0	593	0	1134	1134
08:45 AM	67	21	116	0	204	26	243	45	0	314	4	7	10	0	21	0	504	109	0	613	0	1152	1152
Total	427	91	434	0	952	126	1033	124	0	1283	23	28	30	0	81	4	1921	389	0	2314	0	4630	4630
*** BREAK ***																							
04:00 PM	74	9	88	1	171	29	423	19	0	471	32	9	41	1	82	0	349	84	0	433	2	1157	1159
04:15 PM	75	17	53	0	145	26	339	108	0	473	13	15	29	2	57	0	315	70	0	385	2	1060	1062
04:30 PM	88	31	70	0	189	23	375	49	0	447	27	14	52	1	93	1	312	60	0	373	1	1102	1103
04:45 PM	81	27	62	0	170	26	420	52	0	498	44	20	61	2	125	0	363	83	0	446	2	1239	1241
Total	318	84	273	1	675	104	1557	228	0	1889	116	58	183	6	357	1	1339	297	0	1637	7	4558	4565
05:00 PM	131	25	63	0	219	17	489	27	0	533	45	21	55	1	121	0	395	98	0	493	1	1366	1367
05:15 PM	101	20	66	0	187	29	498	22	0	549	30	15	60	0	105	0	324	82	0	406	0	1247	1247
05:30 PM	109	19	85	0	213	16	425	30	0	471	30	9	25	0	64	0	343	77	0	420	0	1168	1168
05:45 PM	100	22	42	0	164	22	463	23	0	508	31	17	38	6	86	0	329	64	0	393	6	1151	1157
Total	441	86	256	0	783	84	1875	102	0	2061	136	62	178	7	376	0	1391	321	0	1712	7	4932	4939
06:00 PM	93	30	53	0	176	28	419	37	0	484	49	16	50	3	115	0	286	51	0	337	3	1112	1115
Grand Total	1621	358	1442	5	3421	455	5822	591	2	6868	346	183	471	16	1000	6	6546	1309	1	7861	24	19150	19174
Apprch %	47.4	10.5	42.2			6.6	84.8	8.6			34.6	18.3	47.1			0.1	83.3	16.7					
Total %	8.5	1.9	7.5		17.9	2.4	30.4	3.1		35.9	1.8	1	2.5		5.2	0	34.2	6.8		41	0.1	99.9	
Pass. Vehicles	1613	354	1380		3352	455	5776	591		6824	342	177	466		1001	0	6446	1309		7756	0	0	18933
% Pass. Vehicles	99.5	98.9	95.7	100	97.8	100	99.2	100	100	99.3	98.8	96.7	98.9	100	98.5	0	98.5	100	100	98.7	0	0	98.7
Trucks	8	4	62		74	0	46	0		46	4	6	5		15	6	100	0		106	0	0	241
% Trucks	0.5	1.1	4.3	0	2.2	0	0.8	0	0	0.7	1.2	3.3	1.1	0	1.5	100	1.5	0	0	1.3	0	0	1.3

McMAHON
710 NW 107 Avenue, Suite 110
Miami, Fl 33172
305-222-1945/[illegible]1944

File Name : SW 8th Street& 119th Avenue-41806
Site Code : 06269.11
Start Date : 4/18/2006
Page No : 2

	SW 109th AVENUE Southbound				SW 8th STRETT Westbound				SW 109th AVENUE Northbound				SW 8th STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**166**	**25**	112	**303**	33	262	21	316	6	**13**	9	**28**	**2**	438	85	525	**1172**
08:15 AM	115	23	106	244	**38**	**264**	30	**332**	5	3	5	13	2	479	102	583	1172
08:30 AM	79	22	100	201	29	264	28	321	**8**	5	6	19	0	500	93	593	1134
08:45 AM	67	21	**116**	204	26	243	**45**	314	4	7	**10**	21	0	**504**	**109**	**613**	1152
Total Volume	427	91	434	952	126	1033	124	1283	23	28	30	81	4	1921	389	2314	4630
% App. Total	44.9	9.6	45.6		9.8	80.5	9.7		28.4	34.6	37		0.2	83	16.8		
PHF	.643	.910	.935	.785	.829	.978	.689	.966	.719	.538	.750	.723	.500	.953	.892	.944	.988
Pass. Vehicles	423	89	404	916	126	1033	124	1283	23	27	29	79	0	1885	389	2274	4552
% Pass. Vehicles	99.1	97.8	93.1	96.2	100	100	100	100	100	96.4	96.7	97.5	0	98.1	100	98.3	98.3
Trucks	4	2	30	36	0	0	0	0	0	1	1	2	4	36	0	40	78
% Trucks	0.9	2.2	6.9	3.8	0	0	0	0	0	3.6	3.3	2.5	100	1.9	0	1.7	1.7

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				07:30 AM				08:00 AM			
+0 mins.	111	20	**120**	251	29	**274**	**39**	**342**	5	8	7	20	**2**	438	85	525
+15 mins.	112	**30**	120	262	33	262	21	316	**9**	7	**10**	26	2	479	102	583
+30 mins.	**166**	25	112	**303**	**38**	264	30	332	6	**13**	9	**28**	0	500	93	593
+45 mins.	115	23	106	244	29	264	28	321	5	3	5	13	0	**504**	**109**	**613**
Total Volume	504	98	458	1060	129	1064	118	1311	25	31	31	87	4	1921	389	2314
% App. Total	47.5	9.2	43.2		9.8	81.2	9		28.7	35.6	35.6		0.2	83	16.8	
PHF	.759	.817	.954	.875	.849	.971	.756	.958	.694	.596	.775	.777	.500	.953	.892	.944
Pass. Vehicles	499	94	426	1019	129	1064	118	1311	24	26	30	80	0	1885	389	2274
% Pass. Vehicles	99	95.9	93	96.1	100	100	100	100	96	83.9	96.8	92	0	98.1	100	98.3
Trucks	5	4	32	41	0	0	0	0	1	5	1	7	4	36	0	40
% Trucks	1	4.1	7	3.9	0	0	0	0	4	16.1	3.2	8	100	1.9	0	1.7

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File Name : SW 8th Street& 119th Avenue-41806
Site Code : 06269.11
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	SW 109th AVENUE Southbound				SW 8th STRETT Westbound				SW 109th AVENUE Northbound				SW 8th STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	81	**27**	62	170	26	420	**52**	498	44	20	**61**	**125**	0	363	83	446	1239
05:00 PM	**131**	25	63	**219**	17	489	27	533	**45**	**21**	55	121	0	**395**	**98**	**493**	**1366**
05:15 PM	101	20	66	187	**29**	**498**	22	**549**	30	15	60	105	0	324	82	406	1247
05:30 PM	109	19	**85**	213	16	425	30	471	30	9	25	64	0	343	77	420	1168
Total Volume	422	91	276	789	88	1832	131	2051	149	65	201	415	0	1425	340	1765	5020
% App. Total	53.5	11.5	35		4.3	89.3	6.4		35.9	15.7	48.4		0	80.7	19.3		
PHF	.805	.843	.812	.901	.759	.920	.630	.934	.828	.774	.824	.830	.000	.902	.867	.895	.919
Pass. Vehicles	420	91	272	783	88	1819	131	2038	148	65	199	412	0	1406	340	1746	4979
% Pass. Vehicles	99.5	100	98.6	99.2	100	99.3	100	99.4	99.3	100	99.0	99.3	0	98.7	100	98.9	99.2
Trucks	2	0	4	6	0	13	0	13	1	0	2	3	0	19	0	19	41
% Trucks	0.5	0	1.4	0.8	0	0.7	0	0.6	0.7	0	1.0	0.7	0	1.3	0	1.1	0.8

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				05:00 PM				04:30 PM				04:45 PM			
+0 mins.	81	**27**	62	170	17	489	27	533	27	14	52	93	0	363	83	446
+15 mins.	**131**	25	63	**219**	**29**	**498**	22	**549**	44	20	**61**	**125**	0	**395**	**98**	**493**
+30 mins.	101	20	66	187	16	425	**30**	471	**45**	**21**	55	121	0	324	82	406
+45 mins.	109	19	**85**	213	22	463	23	508	30	15	60	105	0	343	77	420
Total Volume	422	91	276	789	84	1875	102	2061	146	70	228	444	0	1425	340	1765
% App. Total	53.5	11.5	35		4.1	91	4.9		32.9	15.8	51.4		0	80.7	19.3	
PHF	.805	.843	.812	.901	.724	.941	.850	.939	.811	.833	.934	.888	.000	.902	.867	.895
Pass. Vehicles	420	91	272	783	84	1859	102	2045	145	70	225	440	0	1406	340	1746
% Pass. Vehicles	99.5	100	98.6	99.2	100	99.1	100	99.2	99.3	100	98.7	99.1	0	98.7	100	98.9
Trucks	2	0	4	6	0	16	0	16	1	0	3	4	0	19	0	19
% Trucks	0.5	0	1.4	0.8	0	0.9	0	0.8	0.7	0	1.3	0.9	0	1.3	0	1.1

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Groups Printed- Pass. Vehicles - Trucks

	SW 109th AVENUE Southbound					SW 8th STREET Westbound					SW 109th AVENUE Northbound					SW 8th STREET Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	51	14	112	0	177	15	221	3	0	239	1	1	1	2	3	18	651	64	0	733	2	1152	1154
07:15 AM	63	6	100	0	169	28	224	10	0	262	4	2	2	0	8	47	541	57	0	645	0	1084	1084
07:30 AM	88	16	114	0	218	18	211	14	0	243	3	3	6	0	12	62	516	62	0	640	0	1113	1113
07:45 AM	87	27	115	0	229	18	292	21	0	331	3	8	10	1	21	52	454	79	0	585	1	1166	1167
Total	289	63	441	0	793	79	948	48	0	1075	11	14	19	3	44	179	2162	262	0	2603	3	4515	4518
08:00 AM	107	24	72	0	203	18	240	28	2	286	6	10	9	2	25	50	500	85	1	635	5	1149	1154
08:15 AM	82	20	94	0	196	13	269	29	0	311	4	7	10	3	21	28	431	111	0	570	3	1098	1101
08:30 AM	47	14	74	0	135	29	253	29	0	311	3	6	8	0	17	60	447	81	0	588	0	1051	1051
08:45 AM	54	18	80	0	152	35	266	31	0	332	9	9	13	2	31	79	445	86	0	610	2	1125	1127
Total	290	76	320	0	686	95	1028	117	2	1240	22	32	40	7	94	217	1823	363	1	2403	10	4423	4433
*** BREAK ***																							
04:00 PM	75	14	55	0	144	0	8	0	0	8	0	0	2	0	2	23	388	59	0	470	0	624	624
04:15 PM	86	36	54	0	176	17	407	21	1	445	38	15	38	3	91	31	369	70	0	470	4	1182	1186
04:30 PM	83	29	69	0	181	24	417	27	0	468	37	20	52	0	109	58	347	56	0	461	0	1219	1219
04:45 PM	89	18	46	0	153	23	461	56	0	540	35	14	47	0	96	41	353	62	0	456	0	1245	1245
Total	333	97	224	0	654	64	1293	104	1	1461	110	49	139	3	298	153	1457	247	0	1857	4	4270	4274
05:00 PM	112	20	57	0	189	19	415	44	0	478	42	19	62	0	123	23	390	58	0	471	0	1261	1261
05:15 PM	76	17	53	0	146	22	435	35	0	492	27	17	50	3	94	21	297	55	0	373	3	1105	1108
05:30 PM	89	17	47	0	153	26	498	12	0	536	43	10	42	3	95	15	325	56	0	396	3	1180	1183
05:45 PM	108	20	76	0	204	24	428	18	2	470	36	15	33	2	84	20	306	34	0	360	4	1118	1122
Total	385	74	233	0	692	91	1776	109	2	1976	148	61	187	8	396	79	1318	203	0	1600	10	4664	4674
Grand Total	1297	310	1218	0	2825	329	5045	378	5	5752	291	156	385	21	832	628	6760	1075	1	8463	27	17872	17899
Apprch %	45.9	11	43.1			5.7	87.7	6.6			35	18.8	46.3			7.4	79.9	12.7					
Total %	7.3	1.7	6.8		15.8	1.8	28.2	2.1		32.2	1.6	0.9	2.2		4.7	3.5	37.8	6		47.4	0.2	99.8	
Pass. Vehicles	1296	300	1212		2808	329	4937	376		5647	288	150	375		834	620	6654	1075		8350	0	0	17639
% Pass. Vehicles	99.9	96.8	99.5	0	99.4	100	97.9	99.5	100	98.1	99	96.2	97.4	100	97.8	98.7	98.4	100	100	98.7	0	0	98.5
Trucks	1	10	6		17	0	108	2		110	3	6	10		19	8	106	0		114	0	0	260
% Trucks	0.1	3.2	0.5	0	0.6	0	2.1	0.5	0	1.9	1	3.8	2.6	0	2.2	1.3	1.6	0	0	1.3	0	0	1.5

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	SW 109th AVENUE Southbound				SW 8th STREET Westbound				SW 109th AVENUE Northbound				SW 8th STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	88	16	114	218	**18**	211	14	243	3	3	6	12	**62**	**516**	62	**640**	1113
07:45 AM	87	**27**	**115**	**229**	18	**292**	21	**331**	3	8	**10**	21	52	454	79	585	**1166**
08:00 AM	**107**	24	72	203	18	240	28	286	**6**	**10**	9	**25**	50	500	85	635	1149
08:15 AM	82	20	94	196	13	269	**29**	311	4	7	10	21	28	431	**111**	570	1098
Total Volume	364	87	395	846	67	1012	92	1171	16	28	35	79	192	1901	337	2430	4526
% App. Total	43	10.3	46.7		5.7	86.4	7.9		20.3	35.4	44.3		7.9	78.2	13.9		
PHF	.850	.806	.859	.924	.931	.866	.793	.884	.667	.700	.875	.790	.774	.921	.759	.949	.970
Pass. Vehicles	364	84	395	843	67	968	91	1126	15	25	30	70	187	1877	337	2401	4440
% Pass. Vehicles	100	96.6	100	99.6	100	95.7	98.9	96.2	93.8	89.3	85.7	88.6	97.4	98.7	100	98.8	98.1
Trucks	0	3	0	3	0	44	1	45	1	3	5	9	5	24	0	29	86
% Trucks	0	3.4	0	0.4	0	4.3	1.1	3.8	6.3	10.7	14.3	11.4	2.6	1.3	0	1.2	1.9

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				08:00 AM				08:00 AM				07:00 AM			
+0 mins.	88	16	114	218	18	240	28	286	6	**10**	9	25	18	**651**	64	**733**
+15 mins.	87	**27**	**115**	**229**	13	**269**	29	311	4	7	10	21	47	541	57	645
+30 mins.	**107**	24	72	203	29	253	29	311	3	6	8	17	**62**	516	62	640
+45 mins.	82	20	94	196	**35**	266	**31**	**332**	**9**	9	**13**	**31**	52	454	**79**	585
Total Volume	364	87	395	846	95	1028	117	1240	22	32	40	94	179	2162	262	2603
% App. Total	43	10.3	46.7		7.7	82.9	9.4		23.4	34	42.6		6.9	83.1	10.1	
PHF	.850	.806	.859	.924	.679	.955	.944	.934	.611	.800	.769	.758	.722	.830	.829	.888
Pass. Vehicles	364	84	395	843	95	985	117	1197	21	30	35	86	174	2136	262	2572
% Pass. Vehicles	100	96.6	100	99.6	100	95.8	100	96.5	95.5	93.8	87.5	91.5	97.2	98.8	100	98.8
Trucks	0	3	0	3	0	43	0	43	1	2	5	8	5	26	0	31
% Trucks	0	3.4	0	0.4	0	4.2	0	3.5	4.5	6.2	12.5	8.5	2.8	1.2	0	1.2

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File Name : SW 8th Street& 109th Avenue-041906
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	SW 109th AVENUE Southbound				SW 8th STREET Westbound				SW 109th AVENUE Northbound				SW 8th STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	86	**36**	54	176	17	407	21	445	38	15	38	91	31	369	**70**	470	1182
04:30 PM	83	29	**69**	181	**24**	417	27	468	37	**20**	52	109	**58**	347	56	461	1219
04:45 PM	89	18	46	153	23	**461**	**56**	**540**	35	14	47	96	41	353	62	456	1245
05:00 PM	**112**	20	57	**189**	19	415	44	478	**42**	19	**62**	**123**	23	**390**	58	**471**	**1261**
Total Volume	370	103	226	699	83	1700	148	1931	152	68	199	419	153	1459	246	1858	4907
% App. Total	52.9	14.7	32.3		4.3	88	7.7		36.3	16.2	47.5		8.2	78.5	13.2		
PHF	.826	.715	.819	.925	.865	.922	.661	.894	.905	.850	.802	.852	.659	.935	.879	.986	.973
Pass. Vehicles	369	100	223	692	83	1684	148	1915	151	66	198	415	153	1426	246	1825	4847
% Pass. Vehicles	99.7	97.1	98.7	99.0	100	99.1	100	99.2	99.3	97.1	99.5	99.0	100	97.7	100	98.2	98.8
Trucks	1	3	3	7	0	16	0	16	1	2	1	4	0	33	0	33	60
% Trucks	0.3	2.9	1.3	1.0	0	0.9	0	0.8	0.7	2.9	0.5	1.0	0	2.3	0	1.8	1.2

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:45 PM				04:30 PM				04:15 PM			
+0 mins.	86	**36**	54	176	23	461	**56**	**540**	37	**20**	52	109	31	369	**70**	470
+15 mins.	83	29	**69**	181	19	415	44	478	35	14	47	96	**58**	347	56	461
+30 mins.	89	18	46	153	22	435	35	492	**42**	19	**62**	**123**	41	353	62	456
+45 mins.	**112**	20	57	**189**	**26**	**498**	12	536	27	17	50	94	23	**390**	58	**471**
Total Volume	370	103	226	699	90	1809	147	2046	141	70	211	422	153	1459	246	1858
% App. Total	52.9	14.7	32.3		4.4	88.4	7.2		33.4	16.6	50		8.2	78.5	13.2	
PHF	.826	.715	.819	.925	.865	.908	.656	.947	.839	.875	.851	.858	.659	.935	.879	.986
Pass. Vehicles	369	100	223	692	90	1797	147	2034	141	68	210	419	153	1426	246	1825
% Pass. Vehicles	99.7	97.1	98.7	99	100	99.3	100	99.4	100	97.1	99.5	99.3	100	97.7	100	98.2
Trucks	1	3	3	7	0	12	0	12	0	2	1	3	0	33	0	33
% Trucks	0.3	2.9	1.3	1	0	0.7	0	0.6	0	2.9	0.5	0.7	0	2.3	0	1.8

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File Name : SW 8th Street& 112th Avenue-41806
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Groups Printed- Pass. Vehicles - Trucks

	8TH STREET Westbound					112TH AVENUE Northbound					8TH STREET Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	264	8	0	272	3	0	3	0	6	29	407	0	0	436	0	714	714
07:15 AM	0	282	13	1	295	2	0	8	0	10	30	530	0	0	560	1	865	866
07:30 AM	0	288	16	0	304	3	0	3	0	6	44	491	0	0	535	0	845	845
07:45 AM	0	365	29	2	394	5	0	7	0	12	57	557	0	0	614	2	1020	1022
Total	0	1199	66	3	1265	13	0	21	0	34	160	1985	0	0	2145	3	3444	3447
08:00 AM	0	440	35	0	475	13	0	9	0	22	85	579	1	0	665	0	1162	1162
08:15 AM	0	382	39	0	421	11	0	6	0	17	86	682	0	0	768	0	1206	1206
08:30 AM	0	350	30	0	380	12	0	17	0	29	59	746	0	0	805	0	1214	1214
08:45 AM	0	370	35	3	405	7	0	26	0	33	65	717	0	0	782	3	1220	1223
Total	0	1542	139	3	1681	43	0	58	0	101	295	2724	1	0	3020	3	4802	4805
*** BREAK ***																		
04:00 PM	0	588	16	0	604	24	0	55	0	79	42	461	0	0	503	0	1186	1186
04:15 PM	0	506	18	0	524	9	0	43	0	52	54	461	0	0	515	0	1091	1091
04:30 PM	0	495	23	0	518	14	0	71	0	85	50	428	0	0	478	0	1081	1081
04:45 PM	0	596	24	0	620	29	0	96	0	125	64	460	0	0	524	0	1269	1269
Total	0	2185	81	0	2266	76	0	265	0	341	210	1810	0	0	2020	0	4627	4627
05:00 PM	0	650	17	0	667	34	0	87	0	121	65	501	0	0	566	0	1354	1354
05:15 PM	0	637	15	0	652	13	0	82	0	95	25	422	0	0	447	0	1194	1194
05:30 PM	0	650	20	0	670	17	0	66	0	83	34	421	0	0	455	0	1208	1208
05:45 PM	0	650	22	0	672	13	0	45	0	58	48	386	0	0	434	0	1164	1164
Total	0	2587	74	0	2661	77	0	280	0	357	172	1730	0	0	1902	0	4920	4920
Grand Total	0	7513	360	6	7873	209	0	624	0	833	837	8249	1	0	9087	6	17793	17799
Apprch %	0	95.4	4.6			25.1	0	74.9			9.2	90.8	0					
Total %	0	42.2	2		44.2	1.2	0	3.5		4.7	4.7	46.4	0		51.1	0	100	
Pass. Vehicles	0	7467	360		7833	206	0	620		826	831	8149	1		8981	0	0	17640
% Pass. Vehicles	0	99.4	100	100	99.4	98.6	0	99.4	0	99.2	99.3	98.8	100	0	98.8	0	0	99.1
Trucks	0	46	0		46	3	0	4		7	6	100	0		106	0	0	159
% Trucks	0	0.6	0	0	0.6	1.4	0	0.6	0	0.8	0.7	1.2	0	0	1.2	0	0	0.9

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	8TH STREET Westbound				112TH AVENUE Northbound				8TH STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	**440**	35	**475**	**13**	0	9	22	85	579	**1**	665	1162
08:15 AM	0	382	**39**	421	11	0	6	17	**86**	682	0	768	1206
08:30 AM	0	350	30	380	12	0	17	29	59	**746**	0	**805**	1214
08:45 AM	0	370	35	405	7	0	**26**	**33**	65	717	0	782	**1220**
Total Volume	0	1542	139	1681	43	0	58	101	295	2724	1	3020	4802
% App. Total	0	91.7	8.3		42.6	0	57.4		9.8	90.2	0		
PHF	.000	.876	.891	.885	.827	.000	.558	.765	.858	.913	.250	.938	.984
Pass. Vehicles	0	1542	139	1681	42	0	56	98	291	2688	1	2980	4759
% Pass. Vehicles	0	100	100	100	97.7	0	96.6	97.0	98.6	98.7	100	98.7	99.1
Trucks	0	0	0	0	1	0	2	3	4	36	0	40	43
% Trucks	0	0	0	0	2.3	0	3.4	3.0	1.4	1.3	0	1.3	0.9

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	**440**	35	**475**	**13**	0	9	22	85	579	**1**	665
+15 mins.	0	382	**39**	421	11	0	6	17	**86**	682	0	768
+30 mins.	0	350	30	380	12	0	17	29	59	**746**	0	**805**
+45 mins.	0	370	35	405	7	0	**26**	**33**	65	717	0	782
Total Volume	0	1542	139	1681	43	0	58	101	295	2724	1	3020
% App. Total	0	91.7	8.3		42.6	0	57.4		9.8	90.2	0	
PHF	.000	.876	.891	.885	.827	.000	.558	.765	.858	.913	.250	.938
Pass. Vehicles	0	1542	139	1681	42	0	56	98	291	2688	1	2980
% Pass. Vehicles	0	100	100	100	97.7	0	96.6	97	98.6	98.7	100	98.7
Trucks	0	0	0	0	1	0	2	3	4	36	0	40
% Trucks	0	0	0	0	2.3	0	3.4	3	1.4	1.3	0	1.3

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305-222-1945/[illegible]

File Name : SW 8th Street& 112th Avenue-41806
Site Code : 06269.11
Start Date : 4/18/2006

	8TH STREET Westbound				112TH AVENUE Northbound				8TH STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	0	596	**24**	620	29	0	**96**	**125**	64	460	0	524	1269
05:00 PM	0	**650**	17	667	**34**	0	87	121	**65**	**501**	0	**566**	**1354**
05:15 PM	0	637	15	652	13	0	82	95	25	422	0	447	1194
05:30 PM	0	650	20	**670**	17	0	66	83	34	421	0	455	1208
Total Volume	0	2533	76	2609	93	0	331	424	188	1804	0	1992	5025
% App. Total	0	97.1	2.9		21.9	0	78.1		9.4	90.6	0		
PHF	.000	.974	.792	.974	.684	.000	.862	.848	.723	.900	.000	.880	.928
Pass. Vehicles	0	2520	76	2596	93	0	330	423	188	1785	0	1973	4992
% Pass. Vehicles	0	99.5	100	99.5	100	0	99.7	99.8	100	98.9	0	99.0	99.3
Trucks	0	13	0	13	0	0	1	1	0	19	0	19	33
% Trucks	0	0.5	0	0.5	0	0	0.3	0.2	0	1.1	0	1.0	0.7

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:15 PM			
+0 mins.	0	**650**	17	667	14	0	71	85	54	461	0	515
+15 mins.	0	637	15	652	29	0	**96**	**125**	50	428	0	478
+30 mins.	0	650	20	670	**34**	0	87	121	64	460	0	524
+45 mins.	0	650	**22**	**672**	13	0	82	95	**65**	**501**	0	**566**
Total Volume	0	2587	74	2661	90	0	336	426	233	1850	0	2083
% App. Total	0	97.2	2.8		21.1	0	78.9		11.2	88.8	0	
PHF	.000	.995	.841	.990	.662	.000	.875	.852	.896	.923	.000	.920
Pass. Vehicles	0	2571	74	2645	90	0	335	425	232	1825	0	2057
% Pass. Vehicles	0	99.4	100	99.4	100	0	99.7	99.8	99.6	98.6	0	98.8
Trucks	0	16	0	16	0	0	1	1	1	25	0	26
% Trucks	0	0.6	0	0.6	0	0	0.3	0.2	0.4	1.4	0	1.2

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File Name : SW 8th Street & 112th Avenue-41906
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Groups Printed- Pass. Vehicles - Trucks

	8TH STREET Westbound					112TH AVENUE Northbound					8TH STREET Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	223	15	0	238	2	0	2	0	4	52	679	0	0	731	0	973	973
07:15 AM	0	304	9	0	313	5	0	6	0	11	41	648	0	0	689	0	1013	1013
07:30 AM	0	360	23	0	383	7	0	5	0	12	86	688	0	0	774	0	1169	1169
07:45 AM	0	355	33	0	388	4	0	11	0	15	101	626	0	0	727	0	1130	1130
Total	0	1242	80	0	1322	18	0	24	0	42	280	2641	0	0	2921	0	4285	4285
08:00 AM	0	409	29	0	438	6	0	15	0	21	67	631	0	0	698	0	1157	1157
08:15 AM	0	403	27	0	430	2	0	6	0	8	50	598	0	0	648	0	1086	1086
08:30 AM	0	340	23	0	363	3	0	2	0	5	56	564	0	0	620	0	988	988
08:45 AM	0	319	32	0	351	5	0	15	0	20	62	535	0	0	597	0	968	968
Total	0	1471	111	0	1582	16	0	38	0	54	235	2328	0	0	2563	0	4199	4199
*** BREAK ***																		
04:00 PM	0	506	17	0	523	17	0	74	0	91	48	368	0	0	416	0	1030	1030
04:15 PM	0	505	32	0	537	12	0	36	0	48	73	494	0	0	567	0	1152	1152
04:30 PM	0	496	33	0	529	25	0	78	0	103	88	409	0	0	497	0	1129	1129
04:45 PM	0	605	31	0	636	27	0	87	0	114	103	469	0	0	572	0	1322	1322
Total	0	2112	113	0	2225	81	0	275	0	356	312	1740	0	0	2052	0	4633	4633
05:00 PM	0	575	11	0	586	24	0	116	0	140	61	476	0	0	537	0	1263	1263
05:15 PM	0	619	16	0	635	17	0	56	0	73	35	406	0	0	441	0	1149	1149
05:30 PM	0	649	19	0	668	22	0	73	0	95	29	421	0	0	450	0	1213	1213
05:45 PM	0	598	27	0	625	20	0	58	0	78	41	437	0	0	478	0	1181	1181
Total	0	2441	73	0	2514	83	0	303	0	386	166	1740	0	0	1906	0	4806	4806
Grand Total	0	7266	377	0	7643	198	0	640	0	838	993	8449	0	0	9442	0	17923	17923
Apprch %	0	95.1	4.9			23.6	0	76.4			10.5	89.5	0					
Total %	0	40.5	2.1		42.6	1.1	0	3.6		4.7	5.5	47.1	0		52.7	0	100	
Pass. Vehicles	0	7142	375		7517	196	0	630		826	985	8343	0		9328	0	0	17671
% Pass. Vehicles	0	98.3	99.5	0	98.4	99	0	98.4	0	98.6	99.2	98.7	0	0	98.8	0	0	98.6
Trucks	0	124	2		126	2	0	10		12	8	106	0		114	0	0	252
% Trucks	0	1.7	0.5	0	1.6	1	0	1.6	0	1.4	0.8	1.3	0	0	1.2	0	0	1.4

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File Name : SW 8th Street & 112th Avenue-41906
Site Code : 06269.11
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	8TH STREET Westbound				112TH AVENUE Northbound				8TH STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	0	360	23	383	**7**	0	5	12	86	**688**	0	**774**	**1169**
07:45 AM	0	355	**33**	388	4	0	11	15	**101**	626	0	727	1130
08:00 AM	0	**409**	29	**438**	6	0	**15**	**21**	67	631	0	698	1157
08:15 AM	0	403	27	430	2	0	6	8	50	598	0	648	1086
Total Volume	0	1527	112	1639	19	0	37	56	304	2543	0	2847	4542
% App. Total	0	93.2	6.8		33.9	0	66.1		10.7	89.3	0		
PHF	.000	.933	.848	.936	.679	.000	.617	.667	.752	.924	.000	.920	.971
Pass. Vehicles	0	1478	111	1589	18	0	32	50	299	2519	0	2818	4457
% Pass. Vehicles	0	96.8	99.1	96.9	94.7	0	86.5	89.3	98.4	99.1	0	99.0	98.1
Trucks	0	49	1	50	1	0	5	6	5	24	0	29	85
% Trucks	0	3.2	0.9	3.1	5.3	0	13.5	10.7	1.6	0.9	0	1.0	1.9

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:15 AM				07:00 AM			
+0 mins.	0	360	23	383	5	0	6	11	52	679	0	731
+15 mins.	0	355	**33**	388	**7**	0	5	12	41	648	0	689
+30 mins.	0	**409**	29	**438**	4	0	11	15	86	**688**	0	**774**
+45 mins.	0	403	27	430	6	0	**15**	**21**	**101**	626	0	727
Total Volume	0	1527	112	1639	22	0	37	59	280	2641	0	2921
% App. Total	0	93.2	6.8		37.3	0	62.7		9.6	90.4	0	
PHF	.000	.933	.848	.936	.786	.000	.617	.702	.693	.960	.000	.943
Pass. Vehicles	0	1478	111	1589	21	0	33	54	275	2615	0	2890
% Pass. Vehicles	0	96.8	99.1	96.9	95.5	0	89.2	91.5	98.2	99	0	98.9
Trucks	0	49	1	50	1	0	4	5	5	26	0	31
% Trucks	0	3.2	0.9	3.1	4.5	0	10.8	8.5	1.8	1	0	1.1

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File Name : SW 8th Street & 112th Avenue-41906
Site Code : 06269.11
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	8TH STREET Westbound				112TH AVENUE Northbound				8TH STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	0	605	**31**	636	**27**	0	87	114	**103**	469	0	**572**	**1322**
05:00 PM	0	575	11	586	24	0	**116**	**140**	61	**476**	0	537	1263
05:15 PM	0	619	16	635	17	0	56	73	35	406	0	441	1149
05:30 PM	0	**649**	19	**668**	22	0	73	95	29	421	0	450	1213
Total Volume	0	2448	77	2525	90	0	332	422	228	1772	0	2000	4947
% App. Total	0	97	3		21.3	0	78.7		11.4	88.6	0		
PHF	.000	.943	.621	.945	.833	.000	.716	.754	.553	.931	.000	.874	.936
Pass. Vehicles	0	2436	77	2513	89	0	332	421	228	1750	0	1978	4912
% Pass. Vehicles	0	99.5	100	99.5	98.9	0	100	99.8	100	98.8	0	98.9	99.3
Trucks	0	12	0	12	1	0	0	1	0	22	0	22	35
% Trucks	0	0.5	0	0.5	1.1	0	0	0.2	0	1.2	0	1.1	0.7

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:30 PM				04:15 PM			
+0 mins.	0	605	**31**	636	25	0	78	103	73	**494**	0	567
+15 mins.	0	575	11	586	**27**	0	87	114	88	409	0	497
+30 mins.	0	619	16	635	24	0	**116**	**140**	**103**	469	0	**572**
+45 mins.	0	**649**	19	**668**	17	0	56	73	61	476	0	537
Total Volume	0	2448	77	2525	93	0	337	430	325	1848	0	2173
% App. Total	0	97	3		21.6	0	78.4		15	85	0	
PHF	.000	.943	.621	.945	.861	.000	.726	.768	.789	.935	.000	.950
Pass. Vehicles	0	2436	77	2513	93	0	336	429	325	1815	0	2140
% Pass. Vehicles	0	99.5	100	99.5	100	0	99.7	99.8	100	98.2	0	98.5
Trucks	0	12	0	12	0	0	1	1	0	33	0	33
% Trucks	0	0.5	0	0.5	0	0	0.3	0.2	0	1.8	0	1.5

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305-222-1945/305-222-1944

File Name : SW 107th Ave & SW 16 St-041806
Site Code : 06269.11
Start Date : 4/18/2006
Page No : 1

Groups Printed- Pass. Vehicles - Trucks

	SW 107th AVENUE Southbound					SW 16th STREET Westbound					SW 107th AVENUE Northbound					SW 16th STREET Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	26	130	24	1	180	17	18	24	0	59	36	353	41	1	430	3	3	13	0	19	2	688	690
07:15 AM	35	181	28	1	244	22	35	37	2	94	46	362	43	1	451	5	4	15	0	24	4	813	817
07:30 AM	40	201	31	1	272	23	44	53	6	120	49	333	61	1	443	9	5	18	0	32	8	867	875
07:45 AM	79	210	25	0	314	24	44	44	2	112	44	302	57	0	403	9	10	13	0	32	2	861	863
Total	180	722	108	3	1010	86	141	158	10	385	175	1350	202	3	1727	26	22	59	0	107	16	3229	3245
08:00 AM	101	193	29	1	323	32	35	49	3	116	53	313	42	2	408	5	15	10	0	30	6	877	883
08:15 AM	63	206	39	0	308	22	40	44	1	106	38	321	43	0	402	11	9	7	1	27	2	843	845
08:30 AM	69	227	41	0	337	20	50	42	3	112	41	312	41	2	394	6	9	12	0	27	5	870	875
08:45 AM	67	250	52	0	369	18	37	40	0	95	39	307	38	0	384	6	14	23	0	43	0	891	891
Total	300	876	161	1	1337	92	162	175	7	429	171	1253	164	4	1588	28	47	52	1	127	13	3481	3494
*** BREAK ***																							
04:00 PM	50	305	62	4	417	13	27	81	1	121	15	221	32	0	268	13	12	27	0	52	5	858	863
04:15 PM	60	320	64	4	444	24	37	89	1	150	17	273	33	2	323	25	22	43	1	90	8	1007	1015
04:30 PM	83	272	51	10	406	37	52	90	1	179	23	279	49	1	351	49	36	72	0	157	12	1093	1105
04:45 PM	125	294	99	1	518	45	63	94	1	202	35	270	52	1	357	32	45	81	0	158	3	1235	1238
Total	318	1191	276	19	1785	119	179	354	4	652	90	1043	166	4	1299	119	115	223	1	457	28	4193	4221
05:00 PM	99	301	64	6	464	49	65	111	3	225	40	241	56	1	337	59	78	129	0	266	10	1292	1302
05:15 PM	60	368	75	8	503	54	54	123	1	231	23	248	50	4	321	66	63	87	0	216	13	1271	1284
05:30 PM	53	317	68	2	438	51	42	99	2	192	22	232	43	5	297	40	50	90	0	180	9	1107	1116
05:45 PM	87	302	80	3	469	46	40	93	0	179	20	225	35	2	280	36	43	50	0	129	5	1057	1062
Total	299	1288	287	19	1874	200	201	426	6	827	105	946	184	12	1235	201	234	356	0	791	37	4727	4764
Grand Total	1097	4077	832	42	6006	497	683	1113	27	2293	541	4592	716	23	5849	374	418	690	2	1482	94	15630	15724
Apprch %	18.3	67.9	13.9			21.7	29.8	48.5			9.2	78.5	12.2			25.2	28.2	46.6					
Total %	7	26.1	5.3		38.4	3.2	4.4	7.1		14.7	3.5	29.4	4.6		37.4	2.4	2.7	4.4		9.5	0.6	99.4	
Pass. Vehicles	1091	4045	826		6004	490	681	1103		2301	529	4544	713		5809	368	414	679		1463	0	0	15577
% Pass. Vehicles	99.5	99.2	99.3	100	99.3	98.6	99.7	99.1	100	99.2	97.8	99	99.6	100	98.9	98.4	99	98.4	100	98.6	0	0	99.1
Trucks	6	32	6		44	7	2	10		19	12	48	3		63	6	4	11		21	0	0	147
% Trucks	0.5	0.8	0.7	0	0.7	1.4	0.3	0.9	0	0.8	2.2	1	0.4	0	1.1	1.6	1	1.6	0	1.4	0	0	0.9

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File Name : SW 107th Ave & SW 16 St-041806
Site Code : 06269.11
Start Date : 4/18/2006
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	SW 107th AVENUE Southbound				SW 16th STREET Westbound				SW 107th AVENUE Northbound				SW 16th STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**101**	193	29	323	**32**	35	**49**	**116**	**53**	313	42	**408**	5	**15**	10	30	877
08:15 AM	63	206	39	308	22	40	44	106	38	**321**	**43**	402	**11**	9	7	27	843
08:30 AM	69	227	41	337	20	**50**	42	112	41	312	41	394	6	9	12	27	870
08:45 AM	67	**250**	**52**	**369**	18	37	40	95	39	307	38	384	6	14	**23**	**43**	**891**
Total Volume	300	876	161	1337	92	162	175	429	171	1253	164	1588	28	47	52	127	3481
% App. Total	22.4	65.5	12		21.4	37.8	40.8		10.8	78.9	10.3		22	37	40.9		
PHF	.743	.876	.774	.906	.719	.810	.893	.925	.807	.976	.953	.973	.636	.783	.565	.738	.977
Pass. Vehicles	299	867	160	1326	90	162	175	427	169	1246	164	1579	27	47	50	124	3456
% Pass. Vehicles	99.7	99.0	99.4	99.2	97.8	100	100	99.5	98.8	99.4	100	99.4	96.4	100	96.2	97.6	99.3
Trucks	1	9	1	11	2	0	0	2	2	7	0	9	1	0	2	3	25
% Trucks	0.3	1.0	0.6	0.8	2.2	0	0	0.5	1.2	0.6	0	0.6	3.6	0	3.8	2.4	0.7

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				07:00 AM				08:00 AM			
+0 mins.	**101**	193	29	323	23	**44**	**53**	**120**	36	353	41	430	5	**15**	10	30
+15 mins.	63	206	39	308	24	44	44	112	46	**362**	43	**451**	**11**	9	7	27
+30 mins.	69	227	41	337	**32**	35	49	116	**49**	333	**61**	443	6	9	12	27
+45 mins.	67	**250**	**52**	**369**	22	40	44	106	44	302	57	403	6	14	**23**	**43**
Total Volume	300	876	161	1337	101	163	190	454	175	1350	202	1727	28	47	52	127
% App. Total	22.4	65.5	12		22.2	35.9	41.9		10.1	78.2	11.7		22	37	40.9	
PHF	.743	.876	.774	.906	.789	.926	.896	.946	.893	.932	.828	.957	.636	.783	.565	.738
Pass. Vehicles	299	867	160	1326	98	163	186	447	169	1322	202	1693	27	47	50	124
% Pass. Vehicles	99.7	99	99.4	99.2	97	100	97.9	98.5	96.6	97.9	100	98	96.4	100	96.2	97.6
Trucks	1	9	1	11	3	0	4	7	6	28	0	34	1	0	2	3
% Trucks	0.3	1	0.6	0.8	3	0	2.1	1.5	3.4	2.1	0	2	3.6	0	3.8	2.4

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	SW 107th AVENUE Southbound				SW 16th STREET Westbound				SW 107th AVENUE Northbound				SW 16th STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**125**	294	**99**	**518**	45	63	94	202	35	**270**	52	**357**	32	45	81	158	1235
05:00 PM	99	301	64	464	49	**65**	111	225	**40**	241	**56**	337	59	**78**	**129**	**266**	**1292**
05:15 PM	60	**368**	75	503	**54**	54	**123**	**231**	23	248	50	321	**66**	63	87	216	1271
05:30 PM	53	317	68	438	51	42	99	192	22	232	43	297	40	50	90	180	1107
Total Volume	337	1280	306	1923	199	224	427	850	120	991	201	1312	197	236	387	820	4905
% App. Total	17.5	66.6	15.9		23.4	26.4	50.2		9.1	75.5	15.3		24	28.8	47.2		
PHF	.674	.870	.773	.928	.921	.862	.868	.920	.750	.918	.897	.919	.746	.756	.750	.771	.949
Pass. Vehicles	336	1276	304	1916	197	223	425	845	118	984	199	1301	196	235	383	814	4876
% Pass. Vehicles	99.7	99.7	99.3	99.6	99.0	99.6	99.5	99.4	98.3	99.3	99.0	99.2	99.5	99.6	99.0	99.3	99.4
Trucks	1	4	2	7	2	1	2	5	2	7	2	11	1	1	4	6	29
% Trucks	0.3	0.3	0.7	0.4	1.0	0.4	0.5	0.6	1.7	0.7	1.0	0.8	0.5	0.4	1.0	0.7	0.6

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:15 PM				04:45 PM			
+0 mins.	**125**	294	**99**	**518**	45	63	94	202	17	273	33	323	32	45	81	158
+15 mins.	99	301	64	464	49	**65**	111	225	23	**279**	49	351	59	**78**	**129**	**266**
+30 mins.	60	**368**	75	503	**54**	54	**123**	**231**	35	270	52	**357**	**66**	63	87	216
+45 mins.	53	317	68	438	51	42	99	192	**40**	241	**56**	337	40	50	90	180
Total Volume	337	1280	306	1923	199	224	427	850	115	1063	190	1368	197	236	387	820
% App. Total	17.5	66.6	15.9		23.4	26.4	50.2		8.4	77.7	13.9		24	28.8	47.2	
PHF	.674	.870	.773	.928	.921	.862	.868	.920	.719	.953	.848	.958	.746	.756	.750	.771
Pass. Vehicles	336	1276	304	1916	197	223	425	845	111	1056	189	1356	196	235	383	814
% Pass. Vehicles	99.7	99.7	99.3	99.6	99	99.6	99.5	99.4	96.5	99.3	99.5	99.1	99.5	99.6	99	99.3
Trucks	1	4	2	7	2	1	2	5	4	7	1	12	1	1	4	6
% Trucks	0.3	0.3	0.7	0.4	1	0.4	0.5	0.6	3.5	0.7	0.5	0.9	0.5	0.4	1	0.7

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Groups Printed- Pass. Vehicles - Trucks

	SW 107th AVENUE Southbound					SW 16th STREET Westbound					SW 107th AVENUE Northbound					SW 16th STREET Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	33	173	19	1	225	22	11	37	1	70	33	352	29	0	414	5	3	10	1	18	3	727	730
07:15 AM	38	180	22	0	240	33	18	47	3	98	36	355	34	3	425	5	6	14	0	25	6	788	794
07:30 AM	54	190	34	2	278	16	36	40	1	92	67	337	77	2	481	7	7	14	0	28	5	879	884
07:45 AM	91	202	26	11	319	21	59	55	2	135	64	319	47	0	430	5	8	18	1	31	14	915	929
Total	216	745	101	14	1062	92	124	179	7	395	200	1363	187	5	1750	22	24	56	2	102	28	3309	3337
08:00 AM	95	225	32	1	352	18	27	44	4	89	55	301	42	0	398	6	10	6	0	22	5	861	866
08:15 AM	73	209	34	2	316	24	54	55	1	133	48	295	35	2	378	6	16	12	0	34	5	861	866
08:30 AM	55	218	40	2	313	21	43	53	8	117	47	294	61	0	402	5	11	11	0	27	10	859	869
08:45 AM	84	263	54	2	401	31	46	54	2	131	45	304	74	3	423	10	9	20	0	39	7	994	1001
Total	307	915	160	7	1382	94	170	206	15	470	195	1194	212	5	1601	27	46	49	0	122	27	3575	3602
*** BREAK ***																							
04:00 PM	63	292	47	1	402	30	33	72	1	135	20	279	24	0	323	31	28	62	0	121	2	981	983
04:15 PM	74	303	51	0	428	35	47	94	2	176	26	284	38	2	348	34	35	68	0	137	4	1089	1093
04:30 PM	77	316	55	2	448	44	60	95	1	199	32	271	77	3	380	37	37	70	1	144	7	1171	1178
04:45 PM	113	266	59	3	438	38	76	99	2	213	41	260	55	0	356	35	48	91	1	174	6	1181	1187
Total	327	1177	212	6	1716	147	216	360	6	723	119	1094	194	5	1407	137	148	291	2	576	19	4422	4441
05:00 PM	126	325	72	11	523	53	54	104	4	211	30	223	43	6	296	48	66	120	0	234	21	1264	1285
05:15 PM	79	319	60	5	458	43	43	111	0	197	26	253	27	1	306	36	83	104	0	223	6	1184	1190
05:30 PM	68	344	49	2	461	41	51	107	4	199	28	245	36	3	309	38	62	108	0	208	9	1177	1186
05:45 PM	61	331	73	7	465	50	57	123	0	230	20	215	49	0	284	30	47	95	1	172	8	1151	1159
Total	334	1319	254	25	1907	187	205	445	8	837	104	936	155	10	1195	152	258	427	1	837	44	4776	4820
Grand Total	1184	4156	727	52	6067	520	715	1190	36	2425	618	4587	748	25	5953	338	476	823	5	1637	118	16082	16200
Apprch %	19.5	68.5	12			21.4	29.5	49.1			10.4	77.1	12.6			20.6	29.1	50.3					
Total %	7.4	25.8	4.5		37.7	3.2	4.4	7.4		15.1	3.8	28.5	4.7		37	2.1	3	5.1		10.2	0.7	99.3	
Pass. Vehicles	1176	4109	722		6059	511	712	1180		2439	608	4532	744		5909	334	473	807		1619	0	0	16026
% Pass. Vehicles	99.3	98.9	99.3	100	99	98.3	99.6	99.2	100	99.1	98.4	98.8	99.5	100	98.8	98.8	99.4	98.1	100	98.6	0	0	98.9
Trucks	8	47	5		60	9	3	10		22	10	55	4		69	4	3	16		23	0	0	174
% Trucks	0.7	1.1	0.7	0	1	1.7	0.4	0.8	0	0.9	1.6	1.2	0.5	0	1.2	1.2	0.6	1.9	0	1.4	0	0	1.1

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	SW 107th AVENUE Southbound				SW 16th STREET Westbound				SW 107th AVENUE Northbound				SW 16th STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**95**	225	32	352	18	27	44	89	**55**	301	42	398	6	10	6	22	861
08:15 AM	73	209	34	316	24	**54**	**55**	**133**	48	295	35	378	6	**16**	12	34	861
08:30 AM	55	218	40	313	21	43	53	117	47	294	61	402	5	11	11	27	859
08:45 AM	84	**263**	**54**	**401**	**31**	46	54	131	45	**304**	**74**	**423**	**10**	9	**20**	**39**	**994**
Total Volume	307	915	160	1382	94	170	206	470	195	1194	212	1601	27	46	49	122	3575
% App. Total	22.2	66.2	11.6		20	36.2	43.8		12.2	74.6	13.2		22.1	37.7	40.2		
PHF	.808	.870	.741	.862	.758	.787	.936	.883	.886	.982	.716	.946	.675	.719	.613	.782	.899
Pass. Vehicles	306	901	159	1366	93	168	203	464	194	1181	211	1586	26	46	47	119	3535
% Pass. Vehicles	99.7	98.5	99.4	98.8	98.9	98.8	98.5	98.7	99.5	98.9	99.5	99.1	96.3	100	95.9	97.5	98.9
Trucks	1	14	1	16	1	2	3	6	1	13	1	15	1	0	2	3	40
% Trucks	0.3	1.5	0.6	1.2	1.1	1.2	1.5	1.3	0.5	1.1	0.5	0.9	3.7	0	4.1	2.5	1.1

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				07:00 AM				08:00 AM			
+0 mins.	**95**	225	32	352	21	**59**	**55**	**135**	33	352	29	414	6	10	6	22
+15 mins.	73	209	34	316	18	27	44	89	36	**355**	34	425	6	**16**	12	34
+30 mins.	55	218	40	313	**24**	54	55	133	**67**	337	**77**	**481**	5	11	11	27
+45 mins.	84	**263**	**54**	**401**	21	43	53	117	64	319	47	430	**10**	9	**20**	**39**
Total Volume	307	915	160	1382	84	183	207	474	200	1363	187	1750	27	46	49	122
% App. Total	22.2	66.2	11.6		17.7	38.6	43.7		11.4	77.9	10.7		22.1	37.7	40.2	
PHF	.808	.870	.741	.862	.875	.775	.941	.878	.746	.960	.607	.910	.675	.719	.613	.782
Pass. Vehicles	306	901	159	1366	82	181	204	467	194	1344	187	1725	26	46	47	119
% Pass. Vehicles	99.7	98.5	99.4	98.8	97.6	98.9	98.6	98.5	97	98.6	100	98.6	96.3	100	95.9	97.5
Trucks	1	14	1	16	2	2	3	7	6	19	0	25	1	0	2	3
% Trucks	0.3	1.5	0.6	1.2	2.4	1.1	1.4	1.5	3	1.4	0	1.4	3.7	0	4.1	2.5

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	SW 107th AVENUE Southbound				SW 16th STREET Westbound				SW 107th AVENUE Northbound				SW 16th STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	113	266	59	438	38	**76**	99	**213**	**41**	**260**	**55**	**356**	35	48	91	174	1181
05:00 PM	**126**	325	**72**	**523**	**53**	54	104	211	30	223	43	296	**48**	66	**120**	**234**	**1264**
05:15 PM	79	319	60	458	43	43	**111**	197	26	253	27	306	36	**83**	104	223	1184
05:30 PM	68	**344**	49	461	41	51	107	199	28	245	36	309	38	62	108	208	1177
Total Volume	386	1254	240	1880	175	224	421	820	125	981	161	1267	157	259	423	839	4806
% App. Total	20.5	66.7	12.8		21.3	27.3	51.3		9.9	77.4	12.7		18.7	30.9	50.4		
PHF	.766	.911	.833	.899	.825	.737	.948	.962	.762	.943	.732	.890	.818	.780	.881	.896	.951
Pass. Vehicles	384	1246	239	1869	173	224	418	815	123	968	159	1250	157	258	418	833	4767
% Pass. Vehicles	99.5	99.4	99.6	99.4	98.9	100	99.3	99.4	98.4	98.7	98.8	98.7	100	99.6	98.8	99.3	99.2
Trucks	2	8	1	11	2	0	3	5	2	13	2	17	0	1	5	6	39
% Trucks	0.5	0.6	0.4	0.6	1.1	0	0.7	0.6	1.6	1.3	1.2	1.3	0	0.4	1.2	0.7	0.8

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				04:00 PM				04:45 PM			
+0 mins.	**126**	325	72	**523**	**53**	54	104	211	20	279	24	323	35	48	91	174
+15 mins.	79	319	60	458	43	43	111	197	26	**284**	38	348	**48**	66	**120**	**234**
+30 mins.	68	**344**	49	461	41	51	107	199	32	271	**77**	**380**	36	**83**	104	223
+45 mins.	61	331	**73**	465	50	**57**	**123**	**230**	**41**	260	55	356	38	62	108	208
Total Volume	334	1319	254	1907	187	205	445	837	119	1094	194	1407	157	259	423	839
% App. Total	17.5	69.2	13.3		22.3	24.5	53.2		8.5	77.8	13.8		18.7	30.9	50.4	
PHF	.663	.959	.870	.912	.882	.899	.904	.910	.726	.963	.630	.926	.818	.780	.881	.896
Pass. Vehicles	332	1316	253	1901	186	205	444	835	117	1082	192	1391	157	258	418	833
% Pass. Vehicles	99.4	99.8	99.6	99.7	99.5	100	99.8	99.8	98.3	98.9	99	98.9	100	99.6	98.8	99.3
Trucks	2	3	1	6	1	0	1	2	2	12	2	16	0	1	5	6
% Trucks	0.6	0.2	0.4	0.3	0.5	0	0.2	0.2	1.7	1.1	1	1.1	0	0.4	1.2	0.7

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Groups Printed- Pass. Vehicles - Trucks

	SW 107th AVENUE Southbound					SW 107th AVENUE Northbound					SW 17th STREET Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	8	185	0	0	193	0	474	11	0	485	6	0	0	0	6	0	684	684
07:15 AM	6	231	0	0	237	0	440	24	0	464	2	0	0	0	2	0	703	703
07:30 AM	6	231	0	0	237	0	447	25	0	472	3	0	0	1	3	1	712	713
07:45 AM	4	273	0	0	277	0	455	41	0	496	7	0	0	1	7	1	780	781
Total	24	920	0	0	944	0	1816	101	0	1917	18	0	0	2	18	2	2879	2881
08:00 AM	2	236	0	0	238	0	381	47	0	428	6	0	0	0	6	0	672	672
08:15 AM	6	284	0	0	290	0	366	54	0	420	9	0	0	0	9	0	719	719
08:30 AM	4	284	0	0	288	0	364	54	0	418	11	0	0	0	11	0	717	717
08:45 AM	9	265	0	0	274	0	380	47	0	427	7	1	0	0	8	0	709	709
Total	21	1069	0	0	1090	0	1491	202	0	1693	33	1	0	0	34	0	2817	2817
*** BREAK ***																		
03:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	2	2
Total	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	2	2
04:00 PM	1	431	0	0	432	0	297	24	0	321	30	0	0	0	30	0	783	783
04:15 PM	0	396	0	0	396	0	306	20	0	326	26	0	0	0	26	0	748	748
04:30 PM	6	424	0	0	430	0	342	26	0	368	29	0	0	0	29	0	827	827
04:45 PM	5	445	0	0	450	0	315	18	0	333	41	0	0	2	41	2	824	826
Total	12	1696	0	0	1708	0	1260	88	0	1348	126	0	0	2	126	2	3182	3184
05:00 PM	7	531	0	0	538	0	324	23	0	347	36	0	0	0	36	0	921	921
05:15 PM	3	459	0	0	462	0	328	19	0	347	35	0	0	0	35	0	844	844
05:30 PM	18	460	0	1	478	0	364	12	0	376	27	0	0	0	27	1	881	882
05:45 PM	5	411	0	0	416	0	295	19	0	314	24	0	0	1	24	1	754	755
Total	33	1861	0	1	1894	0	1311	73	0	1384	122	0	0	1	122	2	3400	3402
Grand Total	90	5546	0	1	5636	0	5878	464	0	6342	301	1	0	5	302	6	12280	12286
Apprch %	1.6	98.4	0			0	92.7	7.3			99.7	0.3	0					
Total %	0.7	45.2	0		45.9	0	47.9	3.8		51.6	2.5	0	0		2.5	0	100	
Pass. Vehicles	77	5508	0		5586	0	5838	449		6287	283	1	0		289	0	0	12162
% Pass. Vehicles	85.6	99.3	0	100	99.1	0	99.3	96.8	0	99.1	94	100	0	100	94.1	0	0	99
Trucks	13	38	0		51	0	40	15		55	18	0	0		18	0	0	124
% Trucks	14.4	0.7	0	0	0.9	0	0.7	3.2	0	0.9	6	0	0	0	5.9	0	0	1

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	SW 107th AVENUE Southbound				SW 107th AVENUE Northbound				SW 17th STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	4	273	0	277	0	455	41	496	7	0	0	7	780
08:00 AM	2	236	0	238	0	381	47	428	6	0	0	6	672
08:15 AM	6	284	0	290	0	366	54	420	9	0	0	9	719
08:30 AM	4	284	0	288	0	364	54	418	11	0	0	11	717
Total Volume	16	1077	0	1093	0	1566	196	1762	33	0	0	33	2888
% App. Total	1.5	98.5	0		0	88.9	11.1		100	0	0		
PHF	667	.948	.000	.942	.000	.860	.907	.888	.750	.000	.000	.750	.926
Pass. Vehicles	12	1068	0	1080	0	1555	192	1747	29	0	0	29	2856
% Pass. Vehicles	75.0	99.2	0	98.8	0	99.3	98.0	99.1	87.9	0	0	87.9	98.9
Trucks	4	9	0	13	0	11	4	15	4	0	0	4	32
% Trucks	25.0	0.8	0	1.2	0	0.7	2.0	0.9	12.1	0	0	12.1	1.1

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:00 AM				08:00 AM			
+0 mins.	4	273	0	277	0	474	11	485	6	0	0	6
+15 mins.	2	236	0	238	0	440	24	464	9	0	0	9
+30 mins.	6	284	0	290	0	447	25	472	11	0	0	11
+45 mins.	4	284	0	288	0	455	41	496	7	1	0	8
Total Volume	16	1077	0	1093	0	1816	101	1917	33	1	0	34
% App. Total	1.5	98.5	0		0	94.7	5.3		97.1	2.9	0	
PHF	667	.948	.000	.942	.000	.958	.616	.966	.750	.250	.000	.773
Pass. Vehicles	12	1068	0	1080	0	1800	98	1898	30	1	0	31
% Pass. Vehicles	75	99.2	0	98.8	0	99.1	97	99	90.9	100	0	91.2
Trucks	4	9	0	13	0	16	3	19	3	0	0	3
% Trucks	25	0.8	0	1.2	0	0.9	3	1	9.1	0	0	8.8

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305-222-1945/305-222-194[illegible]

File Name : SW 107th Ave & SW 17 St-041806
Site Code : 00000000
Start Date : 4/18/2006
Page No : 3

	SW 107th AVENUE Southbound				SW 107th AVENUE Northbound				SW 17th STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	5	445	0	450	0	315	18	333	**41**	0	0	**41**	824
05:00 PM	7	**531**	0	**538**	0	324	**23**	347	36	0	0	36	**921**
05:15 PM	3	459	0	462	0	328	19	347	35	0	0	35	844
05:30 PM	**18**	460	0	478	0	**364**	12	**376**	27	0	0	27	881
Total Volume	33	1895	0	1928	0	1331	72	1403	139	0	0	139	3470
% App. Total	1.7	98.3	0		0	94.9	5.1		100	0	0		
PHF	.458	.892	.000	.896	.000	.914	.783	.933	.848	.000	.000	.848	.942
Pass. Vehicles	32	1888	0	1920	0	1323	68	1391	137	0	0	137	3448
% Pass. Vehicles	97.0	99.6	0	99.6	0	99.4	94.4	99.1	98.6	0	0	98.6	99.4
Trucks	1	7	0	8	0	8	4	12	2	0	0	2	22
% Trucks	3.0	0.4	0	0.4	0	0.6	5.6	0.9	1.4	0	0	1.4	0.6

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:30 PM			
+0 mins.	5	445	0	450	0	315	18	333	29	0	0	29
+15 mins.	7	**531**	0	**538**	0	324	**23**	347	**41**	0	0	**41**
+30 mins.	3	459	0	462	0	328	19	347	36	0	0	36
+45 mins.	**18**	460	0	478	0	**364**	12	**376**	35	0	0	35
Total Volume	33	1895	0	1928	0	1331	72	1403	141	0	0	141
% App. Total	1.7	98.3	0		0	94.9	5.1		100	0	0	
PHF	.458	.892	.000	.896	.000	.914	.783	.933	.860	.000	.000	.860
Pass. Vehicles	32	1888	0	1920	0	1323	68	1391	137	0	0	137
% Pass. Vehicles	97	99.6	0	99.6	0	99.4	94.4	99.1	97.2	0	0	97.2
Trucks	1	7	0	8	0	8	4	12	4	0	0	4
% Trucks	3	0.4	0	0.4	0	0.6	5.6	0.9	2.8	0	0	2.8

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305-222-1945/305-222-1944

File Name : SW 107th Ave & SW 17 St-041906
Site Code : 00000000
Start Date : 4/19/2006
Page No : 1

Groups Printed- Pass. Vehicles - Trucks

	SW 107th AVENUE Southbound					SW 107th AVENUE Northbound					SW 17th STREET Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	9	178	0	0	187	0	400	19	0	419	9	0	0	0	9	0	615	615
07:15 AM	10	225	0	0	235	0	433	13	0	446	1	0	0	0	1	0	682	682
07:30 AM	5	253	0	0	258	0	487	23	0	510	4	0	0	0	4	0	772	772
07:45 AM	10	303	0	0	313	0	460	40	0	500	1	0	0	0	1	0	814	814
Total	34	959	0	0	993	0	1780	95	0	1875	15	0	0	0	15	0	2883	2883
08:00 AM	13	236	0	0	249	0	438	45	0	483	8	0	0	0	8	0	740	740
08:15 AM	9	297	1	0	307	0	425	44	0	469	1	0	0	0	1	0	777	777
08:30 AM	15	301	0	0	316	0	415	38	0	453	4	0	0	0	4	0	773	773
08:45 AM	8	306	0	0	314	0	434	38	0	472	5	0	0	0	5	0	791	791
Total	45	1140	1	0	1186	0	1712	165	0	1877	18	0	0	0	18	0	3081	3081
*** BREAK ***																		
04:00 PM	7	401	0	0	408	0	316	15	0	331	6	0	0	0	6	0	745	745
04:15 PM	9	446	0	0	455	0	329	15	0	344	8	0	0	0	8	0	807	807
04:30 PM	13	455	0	0	468	0	384	30	0	414	4	0	0	0	4	0	886	886
04:45 PM	10	427	0	0	437	0	358	27	0	385	21	0	0	0	21	0	843	843
Total	39	1729	0	0	1768	0	1387	87	0	1474	39	0	0	0	39	0	3281	3281
05:00 PM	11	475	0	0	486	0	305	11	0	316	3	0	0	0	3	0	805	805
05:15 PM	5	467	0	0	472	0	303	15	0	318	15	0	0	0	15	0	805	805
05:30 PM	12	479	0	0	491	0	316	13	0	329	50	0	0	0	50	0	870	870
05:45 PM	8	502	0	0	510	0	326	16	0	342	18	0	0	0	18	0	870	870
Total	36	1923	0	0	1959	0	1250	55	0	1305	86	0	0	0	86	0	3350	3350
Grand Total	154	5751	1	0	5906	0	6129	402	0	6531	158	0	0	0	158	0	12595	12595
Apprch %	2.6	97.4	0			0	93.8	6.2			100	0	0					
Total %	1.2	45.7	0		46.9	0	48.7	3.2		51.9	1.3	0	0		1.3	0	100	
Pass. Vehicles	143	5706	1		5850	0	6071	386		6457	148	0	0		148	0	0	12455
% Pass. Vehicles	92.9	99.2	100	0	99.1	0	99.1	96	0	98.9	93.7	0	0	0	93.7	0	0	98.9
Trucks	11	45	0		56	0	58	16		74	10	0	0		10	0	0	140
% Trucks	7.1	0.8	0	0	0.9	0	0.9	4	0	1.1	6.3	0	0	0	6.3	0	0	1.1

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File Name : SW 107th Ave & SW 17 St-041906
Site Code : 00000000
Start Date : 4/19/2006
Page No : 2

	SW 107th AVENUE Southbound				SW 107th AVENUE Northbound				SW 17th STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	10	**303**	0	313	0	**460**	40	**500**	1	0	0	1	**814**
08:00 AM	13	236	0	249	0	438	**45**	483	**8**	0	0	**8**	740
08:15 AM	9	297	**1**	307	0	425	44	469	1	0	0	1	777
08:30 AM	**15**	301	0	**316**	0	415	38	453	4	0	0	4	773
Total Volume	47	1137	1	1185	0	1738	167	1905	14	0	0	14	3104
% App. Total	4	95.9	0.1		0	91.2	8.8		100	0	0		
PHF	783	.938	.250	.938	.000	.945	.928	.953	.438	.000	.000	.438	.953
Pass. Vehicles	44	1119	1	1164	0	1720	162	1882	13	0	0	13	3059
% Pass. Vehicles	93.6	98.4	100	98.2	0	99.0	97.0	98.8	92.9	0	0	92.9	98.6
Trucks	3	18	0	21	0	18	5	23	1	0	0	1	45
% Trucks	6.4	1.6	0	1.8	0	1.0	3.0	1.2	7.1	0	0	7.1	1.4

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				08:00 AM			
+0 mins.	13	236	0	249	0	**487**	23	**510**	**8**	0	0	**8**
+15 mins.	9	297	**1**	307	0	460	40	500	1	0	0	1
+30 mins.	**15**	301	0	**316**	0	438	**45**	483	4	0	0	4
+45 mins.	8	**306**	0	314	0	425	44	469	5	0	0	5
Total Volume	45	1140	1	1186	0	1810	152	1962	18	0	0	18
% App. Total	3.8	96.1	0.1		0	92.3	7.7		100	0	0	
PHF	750	.931	.250	.938	.000	.929	.844	.962	.563	.000	.000	.563
Pass. Vehicles	42	1125	1	1168	0	1792	147	1939	17	0	0	17
% Pass. Vehicles	93.3	98.7	100	98.5	0	99	96.7	98.8	94.4	0	0	94.4
Trucks	3	15	0	18	0	18	5	23	1	0	0	1
% Trucks	6.7	1.3	0	1.5	0	1	3.3	1.2	5.6	0	0	5.6

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305-222-1945/305-222-1944

File Name : SW 107th Ave & SW 17 St-041906
Site Code : 00000000
Start Date : 4/19/2006
Page No : 3

	SW 107th AVENUE Southbound				SW 107th AVENUE Northbound				SW 17th STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	11	475	0	486	0	305	11	316	3	0	0	3	805
05:15 PM	5	467	0	472	0	303	15	318	15	0	0	15	805
05:30 PM	**12**	479	0	491	0	316	13	329	**50**	0	0	**50**	**870**
05:45 PM	8	**502**	0	**510**	0	**326**	**16**	**342**	18	0	0	18	870
Total Volume	36	1923	0	1959	0	1250	55	1305	86	0	0	86	3350
% App. Total	1.8	98.2	0		0	95.8	4.2		100	0	0		
PHF	.750	.958	.000	.960	.000	.959	.859	.954	.430	.000	.000	.430	.963
Pass. Vehicles	34	1918	0	1952	0	1235	54	1289	82	0	0	82	3323
% Pass. Vehicles	94.4	99.7	0	99.6	0	98.8	98.2	98.8	95.3	0	0	95.3	99.2
Trucks	2	5	0	7	0	15	1	16	4	0	0	4	27
% Trucks	5.6	0.3	0	0.4	0	1.2	1.8	1.2	4.7	0	0	4.7	0.8

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:45 PM			
+0 mins.	11	475	0	486	0	316	15	331	21	0	0	21
+15 mins.	5	467	0	472	0	329	15	344	3	0	0	3
+30 mins.	**12**	479	0	491	0	**384**	**30**	**414**	15	0	0	15
+45 mins.	8	**502**	0	**510**	0	358	27	385	**50**	0	0	**50**
Total Volume	36	1923	0	1959	0	1387	87	1474	89	0	0	89
% App. Total	1.8	98.2	0		0	94.1	5.9		100	0	0	
PHF	.750	.958	.000	.960	.000	.903	.725	.890	.445	.000	.000	.445
Pass. Vehicles	34	1918	0	1952	0	1373	80	1453	85	0	0	85
% Pass. Vehicles	94.4	99.7	0	99.6	0	99	92	98.6	95.5	0	0	95.5
Trucks	2	5	0	7	0	14	7	21	4	0	0	4
% Trucks	5.6	0.3	0	0.4	0	1	8	1.4	4.5	0	0	4.5

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305-222-[illegible]944

File Name : SW 107th Ave & SW 1100 Block-041806
Site Code : 06269.11
Start Date : 4/18/2006
Page No : 1

Groups Printed- Pass. Vehicles - Trucks

	SW 107th AVENUE Southbound					SW 1100 BLOCK Westbound					SW 107th AVENUE Northbound					SW 1100 BLOCK Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	242	3	0	246	2	0	2	0	4	6	392	1	0	399	3	1	2	0	6	0	655	655
07:15 AM	3	286	0	0	289	5	0	6	0	11	0	540	2	0	542	0	0	4	0	4	0	846	846
07:30 AM	3	300	0	0	303	11	0	15	0	26	0	310	3	0	313	2	0	4	0	6	0	648	648
07:45 AM	1	397	0	0	398	9	0	21	0	30	3	394	2	0	399	2	0	4	0	6	0	833	833
Total	8	1225	3	0	1236	27	0	44	0	71	9	1636	8	0	1653	7	1	14	0	22	0	2982	2982
08:00 AM	5	346	2	0	353	7	0	17	0	24	1	496	2	0	499	3	0	4	0	7	0	883	883
08:15 AM	1	348	6	0	355	3	0	12	0	15	2	441	3	0	446	4	0	3	0	7	0	823	823
08:30 AM	6	410	0	0	416	1	0	5	0	6	1	346	5	0	352	3	0	3	0	6	0	780	780
08:45 AM	1	399	1	0	401	2	0	3	0	5	1	407	3	0	411	3	0	1	0	4	0	821	821
Total	13	1503	9	0	1525	13	0	37	0	50	5	1690	13	0	1708	13	0	11	0	24	0	3307	3307
*** BREAK ***																							
04:00 PM	11	462	1	0	474	4	0	7	0	11	5	385	16	0	406	11	0	10	2	21	2	912	914
04:15 PM	5	486	3	2	494	2	0	6	1	8	5	393	7	4	405	3	0	6	5	9	12	916	928
04:30 PM	10	505	3	0	518	3	0	8	0	11	3	412	8	2	423	8	0	5	3	13	5	965	970
04:45 PM	23	522	1	2	546	1	0	7	5	8	6	406	11	1	423	12	0	8	4	20	12	997	1009
Total	49	1975	8	4	2032	10	0	28	6	38	19	1596	42	7	1657	34	0	29	14	63	31	3790	3821
05:00 PM	15	483	3	0	501	2	0	10	1	12	9	465	11	0	485	10	0	7	2	17	3	1015	1018
05:15 PM	8	508	6	0	522	1	0	11	3	12	5	424	8	1	437	12	0	2	0	14	4	985	989
05:30 PM	13	497	0	0	510	1	0	5	1	6	5	372	16	1	393	9	0	7	1	16	3	925	928
05:45 PM	10	495	17	0	522	2	0	3	4	5	3	397	14	0	414	9	0	5	1	14	5	955	960
Total	46	1983	26	0	2055	6	0	29	9	35	22	1658	49	2	1729	40	0	21	4	61	15	3880	3895
Grand Total	116	6686	46	4	6848	56	0	138	15	194	55	6580	112	9	6747	94	1	75	18	170	46	13959	14005
Apprch %	1.7	97.6	0.7			28.9	0	71.1			0.8	97.5	1.7			55.3	0.6	44.1					
Total %	0.8	47.9	0.3		49.1	0.4	0	1		1.4	0.4	47.1	0.8		48.3	0.7	0	0.5		1.2	0.3	99.7	
Pass. Vehicles	116	6664	46		6830	56	0	138		209	55	6542	112		6718	94	1	75		188	0	0	13945
% Pass. Vehicles	100	99.7	100	100	99.7	100	0	100	100	100	100	99.4	100	100	99.4	100	100	100	100	100	0	0	99.6
Trucks	0	22	0		22	0	0	0		0	0	38	0		38	0	0	0		0	0	0	60
% Trucks	0	0.3	0	0	0.3	0	0	0	0	0	0	0.6	0	0	0.6	0	0	0	0	0	0	0	0.4

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305-222-1945 305-222-4944

File Name : SW 107th Ave & SW 1100 Block-041806
Site Code : 06269.11
Start Date : 4/18/2006
Page No : 2

	SW 107th AVENUE Southbound				SW 1100 BLOCK Westbound				SW 107th AVENUE Northbound				SW 1100 BLOCK Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	1	397	0	398	**9**	0	**21**	**30**	**3**	394	2	399	2	0	**4**	6	833
08:00 AM	5	346	2	353	7	0	17	24	1	**496**	2	**499**	3	0	4	**7**	**883**
08:15 AM	1	348	**6**	355	3	0	12	15	2	441	3	446	**4**	0	3	7	823
08:30 AM	**6**	**410**	0	**416**	1	0	5	6	1	346	**5**	352	3	0	3	6	780
Total Volume	13	1501	8	1522	20	0	55	75	7	1677	12	1696	12	0	14	26	3319
% App. Total	0.9	98.6	0.5		26.7	0	73.3		0.4	98.9	0.7		46.2	0	53.8		
PHF	.542	.915	.333	.915	.556	.000	.655	.625	.583	.845	.600	.850	.750	.000	.875	.929	.940
Pass. Vehicles	13	1494	8	1515	20	0	55	75	7	1667	12	1686	12	0	14	26	3302
% Pass. Vehicles	100	99.5	100	99.5	100	0	100	100	100	99.4	100	99.4	100	0	100	100	99.5
Trucks	0	7	0	7	0	0	0	0	0	10	0	10	0	0	0	0	17
% Trucks	0	0.5	0	0.5	0	0	0	0	0	0.6	0	0.6	0	0	0	0	0.5

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				07:15 AM				07:30 AM			
+0 mins.	5	346	2	353	**11**	0	15	26	0	**540**	2	**542**	2	0	**4**	6
+15 mins.	1	348	**6**	355	9	0	**21**	**30**	0	310	**3**	313	2	0	4	6
+30 mins.	**6**	**410**	0	**416**	7	0	17	24	**3**	394	2	399	3	0	4	**7**
+45 mins.	1	399	1	401	3	0	12	15	1	496	2	499	**4**	0	3	7
Total Volume	13	1503	9	1525	30	0	65	95	4	1740	9	1753	11	0	15	26
% App. Total	0.9	98.6	0.6		31.6	0	68.4		0.2	99.3	0.5		42.3	0	57.7	
PHF	.542	.916	.375	.916	.682	.000	.774	.792	.333	.806	.750	.809	.688	.000	.938	.929
Pass. Vehicles	13	1498	9	1520	30	0	65	95	4	1718	9	1731	11	0	15	26
% Pass. Vehicles	100	99.7	100	99.7	100	0	100	100	100	98.7	100	98.7	100	0	100	100
Trucks	0	5	0	5	0	0	0	0	0	22	0	22	0	0	0	0
% Trucks	0	0.3	0	0.3	0	0	0	0	0	1.3	0	1.3	0	0	0	0

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File Name : SW 107th Ave & SW 1100 Block-041806
Site Code : 06269.11
Start Date : 4/18/2006
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	SW 107th AVENUE Southbound				SW 1100 BLOCK Westbound				SW 107th AVENUE Northbound				SW 1100 BLOCK Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	10	505	3	518	**3**	0	8	11	3	412	8	423	8	0	5	13	965
04:45 PM	**23**	**522**	1	**546**	1	0	7	8	6	406	**11**	423	**12**	0	**8**	**20**	997
05:00 PM	15	483	3	501	2	0	10	**12**	**9**	**465**	11	**485**	10	0	7	17	**1015**
05:15 PM	8	508	**6**	522	1	0	**11**	12	5	424	8	437	12	0	2	14	985
Total Volume	56	2018	13	2087	7	0	36	43	23	1707	38	1768	42	0	22	64	3962
% App. Total	2.7	96.7	0.6		16.3	0	83.7		1.3	96.5	2.1		65.6	0	34.4		
PHF	.609	.966	.542	.956	.583	.000	.818	.896	.639	.918	.864	.911	.875	.000	.688	.800	.976
Pass. Vehicles	56	2014	13	2083	7	0	36	43	23	1701	38	1762	42	0	22	64	3952
% Pass. Vehicles	100	99.8	100	99.8	100	0	100	100	100	99.6	100	99.7	100	0	100	100	99.7
Trucks	0	4	0	4	0	0	0	0	0	6	0	6	0	0	0	0	10
% Trucks	0	0.2	0	0.2	0	0	0	0	0	0.4	0	0.3	0	0	0	0	0.3

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:45 PM			
+0 mins.	10	505	3	518	**3**	0	8	11	3	412	8	423	**12**	0	**8**	**20**
+15 mins.	**23**	**522**	1	**546**	1	0	7	8	6	406	**11**	423	10	0	7	17
+30 mins.	15	483	3	501	2	0	10	**12**	**9**	**465**	11	**485**	12	0	2	14
+45 mins.	8	508	**6**	522	1	0	**11**	12	5	424	8	437	9	0	7	16
Total Volume	56	2018	13	2087	7	0	36	43	23	1707	38	1768	43	0	24	67
% App. Total	2.7	96.7	0.6		16.3	0	83.7		1.3	96.5	2.1		64.2	0	35.8	
PHF	.609	.966	.542	.956	.583	.000	.818	.896	.639	.918	.864	.911	.896	.000	.750	.838
Pass. Vehicles	56	2014	13	2083	7	0	36	43	23	1701	38	1762	43	0	24	67
% Pass. Vehicles	100	99.8	100	99.8	100	0	100	100	100	99.6	100	99.7	100	0	100	100
Trucks	0	4	0	4	0	0	0	0	0	6	0	6	0	0	0	0
% Trucks	0	0.2	0	0.2	0	0	0	0	0	0.4	0	0.3	0	0	0	0

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305-222-1945 305-222-4944

File Name : SW 107th Ave & SW 1100 Block-041906
Site Code : 06269.11
Start Date : 4/19/2006
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Groups Printed- Pass. Vehicles - Trucks

	SW 107TH AVENUE Southbound					SW 1100 BLOCK Westbound					SW 107TH AVENUE Northbound					SW 1100 BLOCK Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	236	3	2	240	5	0	6	0	11	4	431	0	2	435	2	0	2	0	4	4	690	694
07:15 AM	0	245	1	0	246	7	0	11	0	18	6	497	3	0	506	0	0	1	4	1	4	771	775
07:30 AM	2	321	1	0	324	11	0	15	0	26	15	410	1	0	426	3	0	2	0	5	0	781	781
07:45 AM	1	363	4	0	368	5	0	8	2	13	12	409	5	1	426	5	0	4	2	9	5	816	821
Total	4	1165	9	2	1178	28	0	40	2	68	37	1747	9	3	1793	10	0	9	6	19	13	3058	3071
08:00 AM	3	343	3	1	349	4	0	5	2	9	7	378	4	1	389	7	0	2	0	9	4	756	760
08:15 AM	4	371	0	0	375	6	0	1	2	7	4	395	3	0	402	1	0	1	1	2	3	786	789
08:30 AM	4	376	6	0	386	2	0	3	0	5	2	391	3	0	396	3	0	2	0	5	0	792	792
08:45 AM	1	393	1	1	395	2	0	1	1	3	3	377	3	0	383	6	0	7	0	13	2	794	796
Total	12	1483	10	2	1505	14	0	10	5	24	16	1541	13	1	1570	17	0	12	1	29	9	3128	3137
*** BREAK ***																							
04:00 PM	15	514	4	0	533	1	0	5	0	6	4	387	5	0	396	0	0	0	0	0	0	935	935
04:15 PM	8	461	1	3	470	0	0	6	0	6	3	403	8	0	414	10	0	4	0	14	3	904	907
04:30 PM	16	528	2	0	546	5	0	5	0	10	2	443	12	3	457	9	0	6	0	15	3	1028	1031
04:45 PM	6	490	8	1	504	2	0	7	1	9	2	383	12	1	397	8	0	7	0	15	3	925	928
Total	45	1993	15	4	2053	8	0	23	1	31	11	1616	37	4	1664	27	0	17	0	44	9	3792	3801
05:00 PM	5	479	14	0	498	3	0	6	0	9	1	410	7	1	418	7	0	9	0	16	1	941	942
05:15 PM	9	487	8	1	504	0	0	12	2	12	3	367	6	5	376	7	0	2	1	9	9	901	910
05:30 PM	11	452	3	3	466	2	0	2	0	4	1	430	8	1	439	5	0	10	1	15	5	924	929
05:45 PM	15	449	5	0	469	0	0	1	0	1	1	320	8	3	329	6	0	7	0	13	3	812	815
Total	40	1867	30	4	1937	5	0	21	2	26	6	1527	29	10	1562	25	0	28	2	53	18	3578	3596
Grand Total	101	6508	64	12	6673	55	0	94	10	149	70	6431	88	18	6589	79	0	66	9	145	49	13556	13605
Apprch %	1.5	97.5	1			36.9	0	63.1			1.1	97.6	1.3			54.5	0	45.5					
Total %	0.7	48	0.5		49.2	0.4	0	0.7		1.1	0.5	47.4	0.6		48.6	0.6	0	0.5		1.1	0.4	99.6	
Pass. Vehicles	100	6457	64		6633	55	0	94		159	70	6388	88		6564	79	0	65		153	0	0	13509
% Pass. Vehicles	99	99.2	100	100	99.2	100	0	100	100	100	100	99.3	100	100	99.3	100	0	98.5	100	99.4	0	0	99.3
Trucks	1	51	0		52	0	0	0		0	0	43	0		43	0	0	1		1	0	0	96
% Trucks	1	0.8	0	0	0.8	0	0	0	0	0	0	0.7	0	0	0.7	0	0	1.5	0	0.6	0	0	0.7

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File Name : SW 107th Ave & SW 1100 Block-041906
Site Code : 06269.11
Start Date : 4/19/2006
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	SW 107TH AVENUE Southbound				SW 1100 BLOCK Westbound				SW 107TH AVENUE Northbound				SW 1100 BLOCK Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	1	363	4	368	5	0	**8**	**13**	**12**	**409**	**5**	**426**	5	0	**4**	**9**	**816**
08:00 AM	3	343	3	349	4	0	5	9	7	378	4	389	**7**	0	2	9	756
08:15 AM	**4**	371	0	375	**6**	0	1	7	4	395	3	402	1	0	1	2	786
08:30 AM	4	**376**	**6**	**386**	2	0	3	5	2	391	3	396	3	0	2	5	792
Total Volume	12	1453	13	1478	17	0	17	34	25	1573	15	1613	16	0	9	25	3150
% App. Total	0.8	98.3	0.9		50	0	50		1.5	97.5	0.9		64	0	36		
PHF	.750	.966	.542	.957	.708	.000	.531	.654	.521	.961	.750	.947	.571	.000	.563	.694	.965

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:00 AM				07:00 AM				08:00 AM			
+0 mins.	3	343	3	349	5	0	6	11	4	431	0	435	**7**	0	2	9
+15 mins.	**4**	371	0	375	7	0	11	18	6	**497**	3	**506**	1	0	1	2
+30 mins.	4	376	**6**	386	**11**	0	**15**	**26**	**15**	410	1	426	3	0	2	5
+45 mins.	1	**393**	1	**395**	5	0	8	13	12	409	**5**	426	6	0	**7**	**13**
Total Volume	12	1483	10	1505	28	0	40	68	37	1747	9	1793	17	0	12	29
% App. Total	0.8	98.5	0.7		41.2	0	58.8		2.1	97.4	0.5		58.6	0	41.4	
PHF	.750	.943	.417	.953	.636	.000	.667	.654	.617	.879	.450	.886	.607	.000	.429	.558

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File Name : SW 107th Ave & SW 1100 Block-041906
Site Code : 06269.11
Start Date : 4/19/2006
Page No : 3

	SW 107TH AVENUE Southbound				SW 1100 BLOCK Westbound				SW 107TH AVENUE Northbound				SW 1100 BLOCK Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	8	461	1	470	0	0	6	6	**3**	403	8	414	**10**	0	4	14	904
04:30 PM	**16**	**528**	2	**546**	**5**	0	5	**10**	2	**443**	**12**	**457**	9	0	6	15	**1028**
04:45 PM	6	490	8	504	2	0	**7**	9	2	383	12	397	8	0	7	15	925
05:00 PM	5	479	**14**	498	3	0	6	9	1	410	7	418	7	0	**9**	**16**	941
Total Volume	35	1958	25	2018	10	0	24	34	8	1639	39	1686	34	0	26	60	3798
% App. Total	1.7	97	1.2		29.4	0	70.6		0.5	97.2	2.3		56.7	0	43.3		
PHF	.547	.927	.446	.924	.500	.000	.857	.850	.667	.925	.813	.922	.850	.000	.722	.938	.924

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:15 PM				04:15 PM			
+0 mins.	15	514	4	533	**5**	0	5	10	**3**	403	8	414	**10**	0	4	14
+15 mins.	8	461	1	470	2	0	7	9	2	**443**	**12**	**457**	9	0	6	15
+30 mins.	**16**	**528**	2	**546**	3	0	6	9	2	383	12	397	8	0	7	15
+45 mins.	6	490	**8**	504	0	0	**12**	**12**	1	410	7	418	7	0	**9**	**16**
Total Volume	45	1993	15	2053	10	0	30	40	8	1639	39	1686	34	0	26	60
% App. Total	2.2	97.1	0.7		25	0	75		0.5	97.2	2.3		56.7	0	43.3	
PHF	.703	.944	.469	.940	.500	.000	.625	.833	.667	.925	.813	.922	.850	.000	.722	.938

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305-222-1945/305-222-1944

File Name : SW 117th Ave & SW 17 St-041806
Site Code : 06269.11
Start Date : 4/18/2006
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Groups Printed- Pass. Vehicles - Trucks

	SW 117th AVENUE Southbound					SW 17th STREET Westbound					SW 117th AVENUE Northbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	40	19	0	59	5	0	8	0	13	38	184	0	0	222	0	294	294
07:15 AM	0	39	9	0	48	3	0	11	0	14	73	181	0	0	254	0	316	316
07:30 AM	0	52	5	0	57	4	0	11	0	15	96	196	0	0	292	0	364	364
07:45 AM	0	67	7	0	74	2	0	12	0	14	138	148	0	0	286	0	374	374
Total	0	198	40	0	238	14	0	42	0	56	345	709	0	0	1054	0	1348	1348
08:00 AM	0	50	11	0	61	2	0	7	0	9	100	188	0	0	288	0	358	358
08:15 AM	0	55	12	0	67	1	0	12	0	13	107	160	0	0	267	0	347	347
08:30 AM	0	78	17	0	95	2	0	12	0	14	154	119	0	0	273	0	382	382
08:45 AM	0	54	18	0	72	3	0	20	0	23	133	135	0	0	268	0	363	363
Total	0	237	58	0	295	8	0	51	0	59	494	602	0	0	1096	0	1450	1450
*** BREAK ***																		
04:00 PM	0	77	7	0	84	11	0	28	0	39	23	100	0	0	123	0	246	246
04:15 PM	0	89	11	0	100	18	0	37	0	55	31	113	0	0	144	0	299	299
04:30 PM	0	103	12	0	115	22	0	57	0	79	37	118	0	0	155	0	349	349
04:45 PM	0	113	15	0	128	25	0	73	0	98	50	122	0	0	172	0	398	398
Total	0	382	45	0	427	76	0	195	0	271	141	453	0	0	594	0	1292	1292
05:00 PM	0	106	16	0	122	33	0	73	0	106	33	117	0	0	150	0	378	378
05:15 PM	0	96	13	0	109	31	0	71	0	102	25	99	0	0	124	0	335	335
05:30 PM	0	101	9	0	110	27	0	66	0	93	23	93	0	0	116	0	319	319
05:45 PM	0	89	6	0	95	23	0	62	0	85	18	77	0	0	95	0	275	275
Total	0	392	44	0	436	114	0	272	0	386	99	386	0	0	485	0	1307	1307
Grand Total	0	1209	187	0	1396	212	0	560	0	772	1079	2150	0	0	3229	0	5397	5397
Apprch %	0	86.6	13.4			27.5	0	72.5			33.4	66.6	0					
Total %	0	22.4	3.5		25.9	3.9	0	10.4		14.3	20	39.8	0		59.8	0	100	
Pass. Vehicles	0	1201	178		1379	204	0	548		752	1062	2131	0		3193	0	0	5324
% Pass. Vehicles	0	99.3	95.2	0	98.8	96.2	0	97.9	0	97.4	98.4	99.1	0	0	98.9	0	0	98.6
Trucks	0	8	9		17	8	0	12		20	17	19	0		36	0	0	73
% Trucks	0	0.7	4.8	0	1.2	3.8	0	2.1	0	2.6	1.6	0.9	0	0	1.1	0	0	1.4

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305-222-1945/305-222-1944

File Name : SW 117th Ave & SW 17 St-041806
Site Code : 06269.11
Start Date : 4/18/2006
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	SW 117th AVENUE Southbound				SW 17th STREET Westbound				SW 117th AVENUE Northbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	0	67	7	74	**2**	0	**12**	**14**	138	148	0	286	374
08:00 AM	0	50	11	61	2	0	7	9	100	**188**	0	**288**	358
08:15 AM	0	55	12	67	1	0	12	13	107	160	0	267	347
08:30 AM	0	**78**	**17**	**95**	2	0	12	14	**154**	119	0	273	**382**
Total Volume	0	250	47	297	7	0	43	50	499	615	0	1114	1461
% App. Total	0	84.2	15.8		14	0	86		44.8	55.2	0		
PHF	.000	.801	.691	.782	.875	.000	.896	.893	.810	.818	.000	.967	.956
Pass. Vehicles	0	247	45	292	6	0	40	46	496	607	0	1103	1441
% Pass. Vehicles	0	98.8	95.7	98.3	85.7	0	93.0	92.0	99.4	98.7	0	99.0	98.6
Trucks	0	3	2	5	1	0	3	4	3	8	0	11	20
% Trucks	0	1.2	4.3	1.7	14.3	0	7.0	8.0	0.6	1.3	0	1.0	1.4

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				08:00 AM				07:30 AM			
+0 mins.	0	67	7	74	2	0	7	9	96	**196**	0	**292**
+15 mins.	0	50	11	61	1	0	12	13	**138**	148	0	286
+30 mins.	0	55	12	67	2	0	12	14	100	188	0	288
+45 mins.	0	**78**	**17**	**95**	**3**	0	**20**	**23**	107	160	0	267
Total Volume	0	250	47	297	8	0	51	59	441	692	0	1133
% App. Total	0	84.2	15.8		13.6	0	86.4		38.9	61.1	0	
PHF	.000	.801	.691	.782	.667	.000	.638	.641	.799	.883	.000	.970
Pass. Vehicles	0	247	45	292	7	0	47	54	437	685	0	1122
% Pass. Vehicles	0	98.8	95.7	98.3	87.5	0	92.2	91.5	99.1	99	0	99
Trucks	0	3	2	5	1	0	4	5	4	7	0	11
% Trucks	0	1.2	4.3	1.7	12.5	0	7.8	8.5	0.9	1	0	1

McMAHON
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305-222-1945/305-222-1841

File Name : SW 117th Ave & SW 17 St-041806
Site Code : 06269.11
Start Date : 4/18/2006
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	SW 117th AVENUE Southbound				SW 17th STREET Westbound				SW 117th AVENUE Northbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	0	103	12	115	22	0	57	79	37	118	0	155	349
04:45 PM	0	**113**	15	**128**	25	0	**73**	98	**50**	**122**	0	**172**	**398**
05:00 PM	0	106	**16**	122	**33**	0	73	**106**	33	117	0	150	378
05:15 PM	0	96	13	109	31	0	71	102	25	99	0	124	335
Total Volume	0	418	56	474	111	0	274	385	145	456	0	601	1460
% App. Total	0	88.2	11.8		28.8	0	71.2		24.1	75.9	0		
PHF	.000	.925	.875	.926	.841	.000	.938	.908	.725	.934	.000	.874	.917
Pass. Vehicles	0	415	54	469	108	0	272	380	141	455	0	596	1445
% Pass. Vehicles	0	99.3	96.4	98.9	97.3	0	99.3	98.7	97.2	99.8	0	99.2	99.0
Trucks	0	3	2	5	3	0	2	5	4	1	0	5	15
% Trucks	0	0.7	3.6	1.1	2.7	0	0.7	1.3	2.8	0.2	0	0.8	1.0

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:45 PM				04:15 PM			
+0 mins.	0	103	12	115	25	0	**73**	98	31	113	0	144
+15 mins.	0	**113**	15	**128**	**33**	0	73	**106**	37	118	0	155
+30 mins.	0	106	**16**	122	31	0	71	102	**50**	**122**	0	**172**
+45 mins.	0	96	13	109	27	0	66	93	33	117	0	150
Total Volume	0	418	56	474	116	0	283	399	151	470	0	621
% App. Total	0	88.2	11.8		29.1	0	70.9		24.3	75.7	0	
PHF	.000	.925	.875	.926	.879	.000	.969	.941	.755	.963	.000	.903
Pass. Vehicles	0	415	54	469	114	0	281	395	145	468	0	613
% Pass. Vehicles	0	99.3	96.4	98.9	98.3	0	99.3	99	96	99.6	0	98.7
Trucks	0	3	2	5	2	0	2	4	6	2	0	8
% Trucks	0	0.7	3.6	1.1	1.7	0	0.7	1	4	0.4	0	1.3

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File Name : SW 117th Ave & SW 17 St-041906
Site Code : 00000000
Start Date : 4/19/2006
Page No : 1

Groups Printed- Pass. Vehicles - Trucks

	SW 117th AVENUE Southbound					SW 17th STREET Westbound					SW 117th AVENUE Northbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	39	15	0	54	4	0	5	0	9	59	189	0	0	248	0	311	311
07:15 AM	0	46	17	0	63	4	0	7	0	11	75	186	0	0	261	0	335	335
07:30 AM	0	68	8	0	76	3	0	11	0	14	103	211	0	0	314	0	404	404
07:45 AM	0	71	10	0	81	4	0	5	0	9	131	161	0	0	292	0	382	382
Total	0	224	50	0	274	15	0	28	0	43	368	747	0	0	1115	0	1432	1432
08:00 AM	0	61	10	0	71	2	0	13	0	15	103	190	0	0	293	0	379	379
08:15 AM	0	47	12	0	59	2	0	16	0	18	116	155	0	0	271	0	348	348
08:30 AM	0	56	12	0	68	6	0	12	0	18	152	111	0	0	263	0	349	349
08:45 AM	0	48	14	0	62	8	0	21	0	29	151	118	0	0	269	0	360	360
Total	0	212	48	0	260	18	0	62	0	80	522	574	0	0	1096	0	1436	1436
*** BREAK ***																		
04:00 PM	0	89	3	0	92	14	0	39	0	53	53	82	0	0	135	0	280	280
04:15 PM	0	105	7	0	112	15	0	50	0	65	41	78	0	0	119	0	296	296
04:30 PM	0	92	6	0	98	18	0	68	0	86	75	93	0	0	168	0	352	352
04:45 PM	0	117	11	0	128	13	0	82	0	95	63	62	0	0	125	0	348	348
Total	0	403	27	0	430	60	0	239	0	299	232	315	0	0	547	0	1276	1276
05:00 PM	0	76	6	0	82	27	0	75	0	102	40	82	0	0	122	0	306	306
05:15 PM	0	106	0	0	106	21	0	69	0	90	25	71	0	0	96	0	292	292
05:30 PM	0	118	6	0	124	19	0	81	0	100	23	83	0	0	106	0	330	330
05:45 PM	0	120	2	0	122	14	0	59	0	73	30	67	0	0	97	0	292	292
Total	0	420	14	0	434	81	0	284	0	365	118	303	0	0	421	0	1220	1220
Grand Total	0	1259	139	0	1398	174	0	613	0	787	1240	1939	0	0	3179	0	5364	5364
Apprch %	0	90.1	9.9			22.1	0	77.9			39	61	0					
Total %	0	23.5	2.6		26.1	3.2	0	11.4		14.7	23.1	36.1	0		59.3	0	100	
Pass. Vehicles	0	1251	133		1384	167	0	601		768	1233	1919	0		3152	0	0	5304
% Pass. Vehicles	0	99.4	95.7	0	99	96	0	98	0	97.6	99.4	99	0	0	99.2	0	0	98.9
Trucks	0	8	6		14	7	0	12		19	7	20	0		27	0	0	60
% Trucks	0	0.6	4.3	0	1	4	0	2	0	2.4	0.6	1	0	0	0.8	0	0	1.1

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File Name : SW 117th Ave & SW 17 St-041906
Site Code : 00000000
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	SW 117th AVENUE Southbound				SW 17th STREET Westbound				SW 117th AVENUE Northbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	0	68	8	76	3	0	11	14	103	**211**	0	**314**	**404**
07:45 AM	0	**71**	10	**81**	**4**	0	5	9	**131**	161	0	292	382
08:00 AM	0	61	10	71	2	0	13	15	103	190	0	293	379
08:15 AM	0	47	**12**	59	2	0	**16**	**18**	116	155	0	271	348
Total Volume	0	247	40	287	11	0	45	56	453	717	0	1170	1513
% App. Total	0	86.1	13.9		19.6	0	80.4		38.7	61.3	0		
PHF	.000	.870	.833	.886	.688	.000	.703	.778	.865	.850	.000	.932	.936
Pass. Vehicles	0	243	39	282	10	0	44	54	451	714	0	1165	1501
% Pass. Vehicles	0	98.4	97.5	98.3	90.9	0	97.8	96.4	99.6	99.6	0	99.6	99.2
Trucks	0	4	1	5	1	0	1	2	2	3	0	5	12
% Trucks	0	1.6	2.5	1.7	9.1	0	2.2	3.6	0.4	0.4	0	0.4	0.8

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				08:00 AM				07:30 AM			
+0 mins.	0	46	**17**	63	2	0	13	15	103	**211**	0	**314**
+15 mins.	0	68	8	76	2	0	16	18	**131**	161	0	292
+30 mins.	0	**71**	10	**81**	6	0	12	18	103	190	0	293
+45 mins.	0	61	10	71	**8**	0	**21**	**29**	116	155	0	271
Total Volume	0	246	45	291	18	0	62	80	453	717	0	1170
% App. Total	0	84.5	15.5		22.5	0	77.5		38.7	61.3	0	
PHF	.000	.866	.662	.898	.563	.000	.738	.690	.865	.850	.000	.932
Pass. Vehicles	0	243	44	287	17	0	61	78	451	714	0	1165
% Pass. Vehicles	0	98.8	97.8	98.6	94.4	0	98.4	97.5	99.6	99.6	0	99.6
Trucks	0	3	1	4	1	0	1	2	2	3	0	5
% Trucks	0	1.2	2.2	1.4	5.6	0	1.6	2.5	0.4	0.4	0	0.4

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NORTHBOUND and SOUTHBOUND U-TURNS

File Name : U-Turns at NW 107 Ave by Eng. Center Driveway
Site Code : 00000000
Start Date : 4/19/2006
Page No : 3

	NW 107TH AVENUE Southbound		NW 107TH AVENUE Northbound		
Start Time	U-Turns	App. Total	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 04:15 PM					
04:15 PM	5	5	2	2	7
04:30 PM	4	4	5	5	9
04:45 PM	5	5	2	2	7
05:00 PM	6	6	3	3	9
Total Volume	20	20	12	12	32
% App. Total	100		100		
PHF	.833	.833	.600	.600	.889

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM		04:30 PM	
+0 mins.	5	5	5	5
+15 mins.	4	4	2	2
+30 mins.	5	5	3	3
+45 mins.	6	6	4	4
Total Volume	20	20	14	14
% App. Total	100		100	
PHF	.833	.833	.700	.700

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File Name : Flagler St @ Eng. Center Driveway
Site Code : K06269.1
Start Date : 4/19/2006
Page No : 1

Groups Printed- Passenger Vehicles - Trucks

	ENG. CENTER DRIVEWAY Southbound					FLAGLER STREET Westbound					Northbound					FLAGLER STREET Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	6	132	3	0	141	11	0	2	0	13	7	279	3	0	289	0	443	443
07:15 AM	0	0	0	0	0	2	155	11	0	168	14	0	3	0	17	9	298	8	0	315	0	500	500
07:30 AM	1	0	0	0	1	3	156	8	0	167	18	0	1	0	19	13	305	9	0	327	0	514	514
07:45 AM	0	0	0	0	0	2	163	6	0	171	22	0	4	0	26	15	312	4	0	331	0	528	528
Total	1	0	0	0	1	13	606	28	0	647	65	0	10	0	75	44	1194	24	0	1262	0	1985	1985
08:00 AM	1	0	0	0	1	7	172	9	0	188	15	0	3	0	18	11	301	5	0	317	0	524	524
08:15 AM	8	0	5	0	13	11	176	9	0	196	13	3	2	0	18	11	278	16	0	305	0	532	532
08:30 AM	3	0	1	0	4	6	171	6	0	183	11	4	1	0	16	12	265	7	0	284	0	487	487
08:45 AM	1	1	2	0	4	11	176	8	0	195	8	0	0	0	8	9	259	18	0	286	0	493	493
Total	13	1	8	0	22	35	695	32	0	762	47	7	6	0	60	43	1103	46	0	1192	0	2036	2036
*** BREAK ***																							
04:00 PM	15	5	6	0	26	13	348	10	0	371	14	3	0	0	17	9	142	6	0	157	0	571	571
04:15 PM	29	2	4	0	35	10	302	9	0	321	17	0	1	0	18	11	155	15	0	181	0	555	555
04:30 PM	7	5	5	0	17	5	295	15	0	315	15	1	3	0	19	15	168	7	0	190	0	541	541
04:45 PM	8	2	5	0	15	8	316	22	0	346	16	0	2	0	18	18	201	6	0	225	0	604	604
Total	59	14	20	0	93	36	1261	56	0	1353	62	4	6	0	72	53	666	34	0	753	0	2271	2271
05:00 PM	6	12	10	0	28	18	291	21	0	330	13	2	4	0	19	15	219	10	0	244	0	621	621
05:15 PM	7	7	7	0	21	4	314	22	0	340	11	5	1	0	17	13	214	10	0	237	0	615	615
05:30 PM	17	7	8	0	32	7	325	17	1	349	9	1	3	0	13	11	207	11	0	229	1	623	624
05:45 PM	13	18	10	0	41	6	304	15	0	325	10	0	2	0	12	11	187	5	0	203	0	581	581
Total	43	44	35	0	122	35	1234	75	1	1344	43	8	10	0	61	50	827	36	0	913	1	2440	2441
Grand Total	116	59	63	0	238	119	3796	191	1	4106	217	19	32	0	268	190	3790	140	0	4120	1	8732	8733
Apprch %	48.7	24.8	26.5			2.9	92.5	4.7			81	7.1	11.9			4.6	92	3.4					
Total %	1.3	0.7	0.7		2.7	1.4	43.5	2.2		47	2.5	0.2	0.4		3.1	2.2	43.4	1.6		47.2	0	100	
Passenger Vehicles	112	55	62		229	117	3682	188		3988	217	19	32		268	190	3790	137		4117	0	0	8602
% Passenger Vehicles	96.6	93.2	98.4	0	96.2	98.3	97	98.4	100	97.1	100	100	100	0	100	100	100	97.9	0	99.9	0	0	98.5
Trucks	4	4	1		9	2	114	3		119	0	0	0		0	0	0	3		3	0	0	131
% Trucks	3.4	6.8	1.6	0	3.8	1.7	3	1.6	0	2.9	0	0	0	0	0	0	0	2.1	0	0.1	0	0	1.5

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File Name : Flagler St @ Eng. Center Driveway
Site Code : K06269.1
Start Date : 4/19/2006
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	ENG. CENTER DRIVEWAY Southbound				FLAGLER STREET Westbound				Northbound				FLAGLER STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	1	0	0	1	3	156	8	167	18	0	1	19	13	305	9	327	514
07:45 AM	0	0	0	0	2	163	6	171	**22**	0	**4**	**26**	**15**	**312**	4	**331**	528
08:00 AM	1	0	0	1	7	172	**9**	188	15	0	3	18	11	301	5	317	524
08:15 AM	**8**	0	**5**	**13**	**11**	**176**	9	**196**	13	**3**	2	18	11	278	**16**	305	**532**
Total Volume	10	0	5	15	23	667	32	722	68	3	10	81	50	1196	34	1280	2098
% App. Total	66.7	0	33.3		3.2	92.4	4.4		84	3.7	12.3		3.9	93.4	2.7		
PHF	.313	.000	.250	.288	.523	.947	.889	.921	.773	.250	.625	.779	.833	.958	.531	.967	.986
Passenger Vehicles	9	0	5	14	23	635	31	689	68	3	10	81	50	1196	34	1280	2064
% Passenger Vehicles	90.0	0	100	93.3	100	95.2	96.9	95.4	100	100	100	100	100	100	100	100	98.4
Trucks	1	0	0	1	0	32	1	33	0	0	0	0	0	0	0	0	34
% Trucks	10.0	0	0	6.7	0	4.8	3.1	4.6	0	0	0	0	0	0	0	0	1.6

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				07:30 AM				07:15 AM			
+0 mins.	1	0	0	1	7	172	**9**	188	18	0	1	19	9	298	8	315
+15 mins.	**8**	0	**5**	**13**	**11**	**176**	9	**196**	**22**	0	**4**	**26**	13	305	**9**	327
+30 mins.	3	0	1	4	6	171	6	183	15	0	3	18	**15**	**312**	4	**331**
+45 mins.	1	**1**	2	4	11	176	8	195	13	**3**	2	18	11	301	5	317
Total Volume	13	1	8	22	35	695	32	762	68	3	10	81	48	1216	26	1290
% App. Total	59.1	4.5	36.4		4.6	91.2	4.2		84	3.7	12.3		3.7	94.3	2	
PHF	.406	.250	.400	.423	.795	.987	.889	.972	.773	.250	.625	.779	.800	.974	.722	.974
Passenger Vehicles	11	1	7	19	35	656	31	722	68	3	10	81	48	1216	26	1290
% Passenger Vehicles	84.6	100	87.5	86.4	100	94.4	96.9	94.8	100	100	100	100	100	100	100	100
Trucks	2	0	1	3	0	39	1	40	0	0	0	0	0	0	0	0
% Trucks	15.4	0	12.5	13.6	0	5.6	3.1	5.2	0	0	0	0	0	0	0	0

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File Name : Flagler St @ Eng. Center Driveway
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	ENG. CENTER DRIVEWAY Southbound				FLAGLER STREET Westbound				Northbound				FLAGLER STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	8	2	5	15	8	316	**22**	346	**16**	0	2	18	**18**	201	6	225	604
05:00 PM	6	**12**	**10**	28	**18**	291	21	330	13	2	**4**	**19**	15	**219**	10	**244**	621
05:15 PM	7	7	7	21	4	314	22	340	11	**5**	1	17	13	214	10	237	615
05:30 PM	**17**	7	8	**32**	7	**325**	17	**349**	9	1	3	13	11	207	**11**	229	**623**
Total Volume	38	28	30	96	37	1246	82	1365	49	8	10	67	57	841	37	935	2463
% App. Total	39.6	29.2	31.2		2.7	91.3	6		73.1	11.9	14.9		6.1	89.9	4		
PHF	.559	.583	.750	.750	.514	.958	.932	.978	.766	.400	.625	.882	.792	.960	.841	.958	.988
Passenger Vehicles	38	26	30	94	37	1223	82	1342	49	8	10	67	57	841	36	934	2437
% Passenger Vehicles	100	92.9	100	97.9	100	98.2	100	98.3	100	100	100	100	100	100	97.3	99.9	98.9
Trucks	0	2	0	2	0	23	0	23	0	0	0	0	0	0	1	1	26
% Trucks	0	7.1	0	2.1	0	1.8	0	1.7	0	0	0	0	0	0	2.7	0.1	1.1

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:15 PM				04:45 PM			
+0 mins.	6	12	**10**	28	8	316	**22**	346	**17**	0	1	18	**18**	201	6	225
+15 mins.	7	7	7	21	**18**	291	21	330	15	1	3	**19**	15	**219**	10	**244**
+30 mins.	**17**	7	8	32	4	314	22	340	16	0	2	18	13	214	10	237
+45 mins.	13	**18**	10	**41**	7	**325**	17	**349**	13	**2**	4	19	11	207	**11**	229
Total Volume	43	44	35	122	37	1246	82	1365	61	3	10	74	57	841	37	935
% App. Total	35.2	36.1	28.7		2.7	91.3	6		82.4	4.1	13.5		6.1	89.9	4	
PHF	.632	.611	.875	.744	.514	.958	.932	.978	.897	.375	.625	.974	.792	.960	.841	.958
Passenger Vehicles	43	42	35	120	37	1223	82	1342	61	3	10	74	57	841	36	934
% Passenger Vehicles	100	95.5	100	98.4	100	98.2	100	98.3	100	100	100	100	100	100	97.3	99.9
Trucks	0	2	0	2	0	23	0	23	0	0	0	0	0	0	1	1
% Trucks	0	4.5	0	1.6	0	1.8	0	1.7	0	0	0	0	0	0	2.7	0.1

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305-222-1945/305-222-1944

File Name : nw 107 ave @ eng. center driveway
Site Code : 00000000
Start Date : 4/19/2006
Page No : 1

Groups Printed- Passenger Vehicles - Trucks

	NW 107TH AVENUE Southbound					ENGINEERING CENTER DRIVEWAY Westbound					NW 107TH AVENUE Northbound					Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	127	5	0	132	3	0	0	1	3	2	266	3	0	271	5	0	0	1	5	2	411	413
07:15 AM	0	212	5	0	217	1	0	0	0	1	2	562	0	0	564	8	0	0	0	8	0	790	790
07:30 AM	1	187	7	0	195	5	0	0	0	5	3	525	0	4	528	4	0	0	2	4	6	732	738
07:45 AM	0	207	2	0	209	1	0	0	1	1	3	465	5	0	473	7	0	0	0	7	1	690	691
Total	1	733	19	0	753	10	0	0	2	10	10	1818	8	4	1836	24	0	0	3	24	9	2623	2632
08:00 AM	2	211	18	0	231	0	0	0	1	0	3	330	11	2	344	9	0	0	6	9	9	584	593
08:15 AM	0	186	22	0	208	0	0	0	3	0	6	343	5	0	354	9	0	0	1	9	4	571	575
08:30 AM	1	218	12	0	231	2	0	0	1	2	10	387	0	1	397	7	0	0	2	7	4	637	641
08:45 AM	1	204	14	1	219	0	0	0	0	0	7	317	4	0	328	9	0	0	1	9	2	556	558
Total	4	819	66	1	889	2	0	0	5	2	26	1377	20	3	1423	34	0	0	10	34	19	2348	2367
*** BREAK ***																							
04:00 PM	0	494	15	0	509	23	0	0	2	23	18	277	5	0	300	2	0	0	5	2	7	834	841
04:15 PM	1	468	24	0	493	17	0	0	0	17	6	315	6	1	327	4	0	0	4	4	5	841	846
04:30 PM	2	477	22	0	501	13	0	0	0	13	9	341	4	0	354	2	0	0	7	2	7	870	877
04:45 PM	1	407	20	1	428	16	0	0	0	16	12	159	11	3	182	5	0	0	6	5	10	631	641
Total	4	1846	81	1	1931	69	0	0	2	69	45	1092	26	4	1163	13	0	0	22	13	29	3176	3205
05:00 PM	3	456	16	0	475	17	0	0	1	17	15	154	4	1	173	4	0	0	11	4	13	669	682
05:15 PM	2	458	25	2	485	17	0	0	0	17	18	150	17	5	185	4	0	0	7	4	14	691	705
05:30 PM	4	467	24	0	495	24	0	0	0	24	9	285	7	2	301	7	0	0	7	7	9	827	836
05:45 PM	0	496	18	1	514	31	0	0	1	31	8	293	17	2	318	12	0	0	1	12	5	875	880
Total	9	1877	83	3	1969	89	0	0	2	89	50	882	45	10	977	27	0	0	26	27	41	3062	3103
Grand Total	18	5275	249	5	5542	170	0	0	11	170	131	5169	99	21	5399	98	0	0	61	98	98	11209	11307
Apprch %	0.3	95.2	4.5			100	0	0			2.4	95.7	1.8			100	0	0					
Total %	0.2	47.1	2.2		49.4	1.5	0	0		1.5	1.2	46.1	0.9		48.2	0.9	0	0		0.9	0.9	99.1	
Passenger Vehicles	18	5188	249		5460	169	0	0		180	129	5080	91		5321	95	0	0		156	0	0	11117
% Passenger Vehicles	100	98.4	100	100	98.4	99.4	0	0	100	99.4	98.5	98.3	91.9	100	98.2	96.9	0	0	100	98.1	0	0	98.3
Trucks	0	87	0		87	1	0	0		1	2	89	8		99	3	0	0		3	0	0	190
% Trucks	0	1.6	0	0	1.6	0.6	0	0	0	0.6	1.5	1.7	8.1	0	1.8	3.1	0	0	0	1.9	0	0	1.7

McMAHON
710 NW 107 Avenue, Suite 110
Miami, Fl 33172
305-222-1945/305-222-1944

File Name : nw 107 ave @ eng. center driveway
Site Code : 00000000
Start Date : 4/19/2006
Page No : 2

	NW 107TH AVENUE Southbound				ENGINEERING CENTER DRIVEWAY Westbound				NW 107TH AVENUE Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	**212**	5	217	1	0	0	1	2	**562**	0	**564**	8	0	0	8	**790**
07:30 AM	1	187	7	195	**5**	0	0	**5**	**3**	525	0	528	4	0	0	4	732
07:45 AM	0	207	2	209	1	0	0	1	3	465	5	473	7	0	0	7	690
08:00 AM	**2**	211	**18**	**231**	0	0	0	0	3	330	**11**	344	**9**	0	0	**9**	584
Total Volume	3	817	32	852	7	0	0	7	11	1882	16	1909	28	0	0	28	2796
% App. Total	0.4	95.9	3.8		100	0	0		0.6	98.6	0.8		100	0	0		
PHF	.375	.963	.444	.922	.350	.000	.000	.350	.917	.837	.364	.846	.778	.000	.000	.778	.885
Passenger Vehicles	3	785	32	820	6	0	0	6	10	1861	11	1882	27	0	0	27	2735
% Passenger Vehicles	100	96.1	100	96.2	85.7	0	0	85.7	90.9	98.9	68.8	98.6	96.4	0	0	96.4	97.8
Trucks	0	32	0	32	1	0	0	1	1	21	5	27	1	0	0	1	61
% Trucks	0	3.9	0	3.8	14.3	0	0	14.3	9.1	1.1	31.3	1.4	3.6	0	0	3.6	2.2

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:00 AM				07:15 AM				08:00 AM			
+0 mins.	**2**	211	18	**231**	3	0	0	3	2	**562**	0	**564**	**9**	0	0	**9**
+15 mins.	0	186	**22**	208	1	0	0	1	**3**	525	0	528	9	0	0	9
+30 mins.	1	**218**	12	231	**5**	0	0	**5**	3	465	5	473	7	0	0	7
+45 mins.	1	204	14	219	1	0	0	1	3	330	**11**	344	9	0	0	9
Total Volume	4	819	66	889	10	0	0	10	11	1882	16	1909	34	0	0	34
% App. Total	0.4	92.1	7.4		100	0	0		0.6	98.6	0.8		100	0	0	
PHF	.500	.939	.750	.962	.500	.000	.000	.500	.917	.837	.364	.846	.944	.000	.000	.944
Passenger Vehicles	4	784	66	854	9	0	0	9	10	1861	11	1882	33	0	0	33
% Passenger Vehicles	100	95.7	100	96.1	90	0	0	90	90.9	98.9	68.8	98.6	97.1	0	0	97.1
Trucks	0	35	0	35	1	0	0	1	1	21	5	27	1	0	0	1
% Trucks	0	4.3	0	3.9	10	0	0	10	9.1	1.1	31.2	1.4	2.9	0	0	2.9

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305-222-1945/305-222-1944

File Name : nw 107 ave @ eng. center driveway
Site Code : 00000000
Start Date : 4/19/2006
Page No : 3

	NW 107TH AVENUE Southbound				ENGINEERING CENTER DRIVEWAY Westbound				NW 107TH AVENUE Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	**494**	15	**509**	**23**	0	0	**23**	**18**	277	5	300	2	0	0	2	834
04:15 PM	1	468	**24**	493	17	0	0	17	6	315	6	327	4	0	0	4	841
04:30 PM	**2**	477	22	501	13	0	0	13	9	**341**	4	**354**	2	0	0	2	**870**
04:45 PM	1	407	20	428	16	0	0	16	12	159	**11**	182	**5**	0	0	**5**	631
Total Volume	4	1846	81	1931	69	0	0	69	45	1092	26	1163	13	0	0	13	3176
% App. Total	0.2	95.6	4.2		100	0	0		3.9	93.9	2.2		100	0	0		
PHF	.500	.934	.844	.948	.750	.000	.000	.750	.625	.801	.591	.821	.650	.000	.000	.650	.913
Passenger Vehicles	4	1836	81	1921	69	0	0	69	44	1067	24	1135	12	0	0	12	3137
% Passenger Vehicles	100	99.5	100	99.5	100	0	0	100	97.8	97.7	92.3	97.6	92.3	0	0	92.3	98.8
Trucks	0	10	0	10	0	0	0	0	1	25	2	28	1	0	0	1	39
% Trucks	0	0.5	0	0.5	0	0	0	0	2.2	2.3	7.7	2.4	7.7	0	0	7.7	1.2

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				04:00 PM				05:00 PM			
+0 mins.	3	456	16	475	17	0	0	17	**18**	277	5	300	4	0	0	4
+15 mins.	2	458	**25**	485	17	0	0	17	6	315	6	327	4	0	0	4
+30 mins.	**4**	467	24	495	24	0	0	24	9	**341**	4	**354**	7	0	0	7
+45 mins.	0	**496**	18	**514**	**31**	0	0	**31**	12	159	**11**	182	**12**	0	0	**12**
Total Volume	9	1877	83	1969	89	0	0	89	45	1092	26	1163	27	0	0	27
% App. Total	0.5	95.3	4.2		100	0	0		3.9	93.9	2.2		100	0	0	
PHF	.563	.946	.830	.958	.718	.000	.000	.718	.625	.801	.591	.821	.563	.000	.000	.563
Passenger Vehicles	9	1872	83	1964	89	0	0	89	44	1067	24	1135	26	0	0	26
% Passenger Vehicles	100	99.7	100	99.7	100	0	0	100	97.8	97.7	92.3	97.6	96.3	0	0	96.3
Trucks	0	5	0	5	0	0	0	0	1	25	2	28	1	0	0	1
% Trucks	0	0.3	0	0.3	0	0	0	0	2.2	2.3	7.7	2.4	3.7	0	0	3.7

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305-222-1946/305-221-1914

EASTBOUND and WESTBOUND
U-TURNS

File Name : U-Turns at Flagler St by Eng. Center Driveway
Site Code : K06269.1
Start Date : 4/19/2006
Page No : 1

Groups Printed- Turns

	FLAGLER STREET Westbound		**FLAGLER STREET** Eastbound		
Start Time	U-Turns	App. Total	U-Turns	App. Total	Int. Total
07:00 AM	0	0	5	5	5
07:15 AM	0	0	18	18	18
07:30 AM	0	0	6	6	6
07:45 AM	0	0	2	2	2
Total	0	0	31	31	31
08:00 AM	0	0	1	1	1
08:15 AM	0	0	1	1	1
08:30 AM	0	0	2	2	2
08:45 AM	0	0	2	2	2
Total	0	0	6	6	6
*** BREAK ***					
04:00 PM	0	0	1	1	1
04:15 PM	0	0	3	3	3
04:30 PM	0	0	1	1	1
04:45 PM	0	0	3	3	3
Total	0	0	8	8	8
*** BREAK ***					
05:15 PM	0	0	1	1	1
*** BREAK ***					
Total	0	0	1	1	1
Grand Total	0	0	46	46	46
Apprch %	0		100		
Total %	0	0	100	100	

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305-222-1946/305-222-1944

File Name : U-Turns at Flagler St by Eng. Center Driveway
Site Code : K06269.1
Start Date : 4/19/2006
Page No : 2

	FLAGLER STREET Westbound		FLAGLER STREET Eastbound		
Start Time	U-Turns	App. Total	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 07:00 AM					
07:00 AM	0	0	5	5	5
07:15 AM	0	0	**18**	**18**	**18**
07:30 AM	0	0	6	6	6
07:45 AM	0	0	2	2	2
Total Volume	0	0	31	31	31
% App. Total	0		100		
PHF	.000	.000	.431	.431	.431

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM		07:00 AM	
+0 mins.	0	0	5	5
+15 mins.	0	0	**18**	**18**
+30 mins.	0	0	6	6
+45 mins.	0	0	2	2
Total Volume	0	0	31	31
% App. Total	0		100	
PHF	.000	.000	.431	.431

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Miami, Fl 33172
305-222-1945/305-222-1944

File Name : U-Turns at Flagler St by Eng. Center Driveway
Site Code : K06269.1
Start Date : 4/19/2006
Page No : 3

	FLAGLER STREET Westbound		FLAGLER STREET Eastbound		
Start Time	U-Turns	App. Total	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 04:00 PM					
04:00 PM	0	0	1	1	1
04:15 PM	0	0	**3**	**3**	**3**
04:30 PM	0	0	1	1	1
04:45 PM	0	0	3	3	3
Total Volume	0	0	8	8	8
% App. Total	0		100		
PHF	.000	.000	.667	.667	.667

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM		04:00 PM	
+0 mins.	0	0	1	1
+15 mins.	0	0	**3**	**3**
+30 mins.	0	0	1	1
+45 mins.	0	0	3	3
Total Volume	0	0	8	8
% App. Total	0		100	
PHF	.000	.000	.667	.667

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Miami, Fl 33172
305/222-1945/305-222-1944

NORTHBOUND and SOUTHBOUND U-TURNS

File Name : U-Turns at NW 107 Ave by Eng. Center Driveway
Site Code : 00000000
Start Date : 4/19/2006
Page No : 1

Groups Printed- Turns

	NW 107TH AVENUE Southbound		NW 107TH AVENUE Northbound		
Start Time	U-Turns	App. Total	U-Turns	App. Total	Int. Total
07:00 AM	8	8	0	0	8
07:15 AM	10	10	0	0	10
07:30 AM	11	11	0	0	11
07:45 AM	6	6	3	3	9
Total	35	35	3	3	38
08:00 AM	1	1	3	3	4
08:15 AM	6	6	1	1	7
08:30 AM	5	5	2	2	7
08:45 AM	5	5	2	2	7
Total	17	17	8	8	25
*** BREAK ***					
04:00 PM	3	3	1	1	4
04:15 PM	5	5	2	2	7
04:30 PM	4	4	5	5	9
04:45 PM	5	5	2	2	7
Total	17	17	10	10	27
05:00 PM	6	6	3	3	9
05:15 PM	3	3	4	4	7
05:30 PM	1	1	2	2	3
05:45 PM	1	1	2	2	3
Total	11	11	11	11	22
Grand Total	80	80	32	32	112
Apprch %	100		100		
Total %	71.4	71.4	28.6	28.6	

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305/223-1945/305-272-1944

NORTHBOUND and SOUTHBOUND U-TURNS

File Name : U-Turns at NW 107 Ave by Eng. Center Driveway
Site Code : 00000000
Start Date : 4/19/2006
Page No : 2

	NW 107TH AVENUE Southbound		NW 107TH AVENUE Northbound		
Start Time	U-Turns	App. Total	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 07:00 AM					
07:00 AM	8	8	0	0	8
07:15 AM	10	10	0	0	10
07:30 AM	**11**	**11**	0	0	**11**
07:45 AM	6	6	**3**	**3**	9
Total Volume	35	35	3	3	38
% App. Total	100		100		
PHF	.795	.795	.250	.250	.864

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM		07:45 AM	
+0 mins.	8	8	**3**	**3**
+15 mins.	10	10	3	3
+30 mins.	**11**	**11**	1	1
+45 mins.	6	6	2	2
Total Volume	35	35	9	9
% App. Total	100		100	
PHF	.795	.795	.750	.750

Biscayne Bay Campus

Site ID:000000000007
Station Num:000000000007
Description:
City:
County:
Start Date/Time:04-18-2006 00:00
End Date/Time:04-19-2006 00:00

04-18-2006		**Lane 1 (North) Entering**										
End Time	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**
15	7	5	1	1	0	2	9	30	97	198	97	122
30	7	4	2	1	1	2	14	31	81	264	82	89
45	5	0	2	0	1	4	35	77	101	161	94	64
00	8	3	2	2	0	8	39	140	157	101	152	89
Hr Total	27	12	7	4	2	16	97	278	436	724	425	364
End Time	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
15	103	75	107	83	67	88	135	58	32	27	22	10
30	130	85	63	97	66	83	132	62	34	28	24	19
45	107	105	73	85	77	68	110	52	41	40	24	13
00	77	160	77	51	112	102	75	55	45	31	18	11
Hr Total	417	425	320	316	322	341	452	227	152	126	88	53
24 Hour Total :			5631									
AM Peak Hour Begins :			08:45	**AM Peak Volume :**			780	**AM Peak Hour Factor :**				0.74
PM Peak Hour Begins :			17:45	**PM Peak Volume :**			479	**PM Peak Hour Factor :**				0.75
04-18-2006		**Lane 2 (North) Exiting**										
End Time	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**
15	31	28	5	1	0	2	5	13	27	46	61	110
30	16	6	3	1	0	2	6	12	22	77	66	72
45	17	7	1	0	10	3	14	15	35	45	80	86
00	25	4	7	2	1	3	16	33	38	51	98	75
Hr Total	89	45	16	4	11	10	41	73	122	219	305	343
End Time	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
15	120	76	16	12	0	14	20	0	0	1	0	0
30	145	66	2	14	5	1	20	0	0	4	0	0
45	105	30	11	13	12	3	8	0	6	6	0	0
00	69	28	12	4	16	16	0	0	0	2	0	0
Hr Total	439	200	41	43	33	34	48	0	6	13	0	0
24 Hour Total :			2135									
AM Peak Hour Begins :			10:45	**AM Peak Volume :**			366	**AM Peak Hour Factor :**				0.83
PM Peak Hour Begins :			12:00	**PM Peak Volume :**			439	**PM Peak Hour Factor :**				0.76

Site ID:000000000007
Station Num:000000000007
Description:
City:
County:
Start Date/Time:04-19-2006 00:00
End Date/Time:04-20-2006 00:00

04-19-2006	Lane 1 (North)											
End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	7	5	5	1	0	2	11	38	132	180	100	122
30	11	0	1	3	0	5	14	31	80	260	89	79
45	6	2	2	2	1	3	37	70	110	213	127	56
00	3	4	1	1	1	8	42	133	155	118	150	87
Hr Total	27	11	9	7	2	18	104	272	477	771	466	344
End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	121	72	88	80	115	127	120	72	41	28	26	12
30	135	89	78	83	128	92	104	57	43	29	15	16
45	66	113	41	97	140	82	77	71	33	24	29	10
00	70	136	73	82	170	105	62	49	31	26	12	11
Hr Total	392	410	280	342	553	406	363	249	148	107	82	49
24 Hour Total :			5889									
AM Peak Hour Begins :			08:45	AM Peak Volume :			808	AM Peak Hour Factor :				0.78
PM Peak Hour Begins :			16:15	PM Peak Volume :			565	PM Peak Hour Factor :				0.83

04-19-2006	Lane 2 (North)											
End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	0	0	1	0	0	0	0	0	0	27	14	18
30	0	0	0	0	0	0	1	0	3	61	14	12
45	0	1	0	0	0	0	0	1	17	33	19	5
00	0	0	0	0	0	0	0	0	25	18	22	8
Hr Total	0	1	1	0	0	0	1	1	45	139	69	43
End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	16	69	124	108	111	110	107	115	115	80	47	40
30	17	72	78	129	78	122	174	115	83	88	47	32
45	10	94	77	142	91	108	145	162	121	80	38	32
00	1	138	109	57	106	95	105	170	86	49	46	17
Hr Total	44	373	388	436	386	435	531	562	405	297	178	121
24 Hour Total :			4456									
AM Peak Hour Begins :			08:45	AM Peak Volume :			146	AM Peak Hour Factor :				0.60
PM Peak Hour Begins :			19:00	PM Peak Volume :			562	PM Peak Hour Factor :				0.81

Site ID:000000000007
Station Num:000000000007
Description:
City:
County:
Start Date/Time:04-20-2006 00:00
End Date/Time:04-21-2006 00:00

04-20-2006		**Lane 1 (North)**										
End Time	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**
15	11	5	4	1	1	2	5	42	10	181	60	86
30	6	7	0	2	3	3	20	49	149	177	78	74
45	7	5	0	2	0	7	30	84	101	158	98	72
00	9	3	1	0	1	5	43	100	107	93	145	82
Hr Total	33	20	5	5	5	17	98	275	367	609	381	314
End Time	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
15	86	55	80	82	62	90	115	56	46	32	24	13
30	123	88	63	93	82	69	124	39	33	22	20	13
45	99	120	42	73	85	74	71	62	28	20	22	12
00	80	108	55	61	116	92	54	79	36	22	16	12
Hr Total	388	371	240	309	345	325	364	236	143	96	82	50
24 Hour Total :			5078									
AM Peak Hour Begins :			08:45	**AM Peak Volume :**			623	**AM Peak Hour Factor :**				0.86
PM Peak Hour Begins :			17:30	**PM Peak Volume :**			405	**PM Peak Hour Factor :**				0.82
04-20-2006		**Lane 2 (North)**										
End Time	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**
15	21	31	4	0	1	1	3	13	7	46	59	80
30	22	17	2	2	2	2	4	14	41	51	38	86
45	19	6	0	2	0	4	14	23	42	45	64	93
00	19	5	3	0	0	3	13	30	34	53	102	89
Hr Total	81	59	9	4	3	10	34	80	124	195	263	348
End Time	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
15	76	105	90	86	70	115	77	68	101	114	32	36
30	92	101	80	132	90	83	80	100	85	83	49	32
45	92	67	81	107	95	77	91	120	64	58	40	16
00	95	132	112	73	132	70	66	149	98	74	30	26
Hr Total	355	405	363	398	387	345	314	437	348	329	151	110
24 Hour Total :			5152									
AM Peak Hour Begins :			10:45	**AM Peak Volume :**			361	**AM Peak Hour Factor :**				0.88
PM Peak Hour Begins :			19:15	**PM Peak Volume :**			470	**PM Peak Hour Factor :**				0.79

12.0 INTERGOVERNMENTAL COORDINATION ELEMENT

(1) DATA REQUIREMENTS

a) Inventory Of All Host And Affected Governments And Other Units Of Local Government Providing Services But Not Having Regulatory Authority Over The Use Of Land, Independent Special Districts, Water Management Districts, Regional Planning Councils, And State Agencies With Which The University Coordinates Or Which Provides Services To The University.

Table 12.1 provides an inventory of the agencies and regulatory authorities with whom FIU interacts as it carries out its mission to serve the Florida Board of Education's Division of Colleges and Universities. These agencies serve as the primary coordination/jurisdictional agency(s). It should be noted that the agency coordination described in Table 12.1 reflects the historical coordination mechanisms and not those required to meet the goals, objectives and policies of this current Comprehensive Master Plan (2005-2015).

Table 12.1 Host Community Government Agencies

CITY	**REGIONAL**
City of Miami	South Florida Water Management District (SFWMD)
City of Sweetwater	**STATE**
City of North Miami	Florida Board of Education, Board of Governors
City of North Miami Beach	Florida Department of Community Affairs (DCA)
City of Miami Beach	Florida Department of Environmental Protection (DEP)
COUNTY	Florida Department of Transportation (DOT), District 6
Miami-Dade County Commission	Florida Department of State
Miami-Dade County Planning Department	Florida Fish and Wildlife Conservation Commission
Miami-Dade County Department of Environmental Resources (DERM)	**FEDERAL**
Miami-Dade Water and Sewer Authority Department	U.S. Army Corps of Engineers (ACOE)
Miami-Dade Transit Authority	U.S. Environmental Protection Agency (USEPA)
Miami-Dade Metropolitan Planning Organization	Federal Highway Administration (FHA)

b) Existing Coordination Mechanisms For Each Entity Listed In (1) A)

Subject 1. To assure existing and proposed land uses are compatible with the host communities land use plan element.

Description

In order to maintain the land use compatibility between the University and its host communities, a reciprocal review of development plans on and adjacent to the campuses is observed.

Primary Entities

Miami-Dade County Planning Department
City of Sweetwater
City of North Miami Beach
FIU Facilities Planning

FIU does not own land in the City of Miami, the City of Sweetwater and the City of North Miami Beach. However these municipalities are in close proximity to existing FIU sites. As such, the university maintains an informal relationship with these governments, informing them of future development plans as a courtesy.

Coordinating Mechanisms

The host communities have Future Land Use Elements adopted in accordance with Chapter 163, Florida Statutes. All amendments to the future land use plan map must undergo statutory review and the public hearing process as set forth in Chapter 163, Florida Statutes.

The Nature of the Relationship

Chapter 163 Florida Statutes, related to the comprehensive plan amendment process gives the University formal standing to comment on land use issues related to amendments to Comprehensive Plans. The host communities are not required to coordinate the review of public or private land development proposal that are in accordance with the adopted land use plan, local zoning ordinances, and land development regulations with the University.

Subject 2. Expansion of Land Resources Available for University Facilities after the Projected Build-out date of 2015.

Description

Due the finite land resources available for University expansion and recognizing that the Modesto A. Maidique Campus is constrained from any potential expansion by major roadways and existing land uses on the northern, eastern and western boundaries, the University should initiate short and long term agreements for the use of Tamiami Park for University facility purposes. The University may also consider potential expansion in the areas surrounding the campus. The projected buildout of the Modesto A. Maidique Campus resulting from the implementation of this Master Plan is 2015.

Primary Entities
Florida Board of Education's Board of Governors
Miami-Dade County Commission
City of Sweetwater

Secondary Entities
FIU Facilities Planning
Miami-Dade County Park and Recreation Department
Miami-Dade County Fair and Exposition

Coordinating Mechanisms
There are no coordinating mechanisms at this time. Most discussion for potential expansion has been on an informal basis. However, an agreement will be needed if the plans for expansion become formal.

Nature of the Relationship
No formal relationship exists at this time.

Subject 3. Miami-Dade County Transit Authority

Description
The University works closely with Miami-Dade Transit and other transportation agencies to assure adequate transit service for the FIU community. Existing transit facilities include a bus terminal at Modesto A. Maidique and a bus stop at Biscayne Bay Campus. In the future, the County plans to build a Metrorail station near Modesto A. Maidique Grounds.

Primary Entities
State of Florida Department of Transportation
Federal Highway Administration
Miami-Dade Transit Authority
Miami-Dade Metropolitan Planning Organization
City of North Miami

Secondary Entities
FIU Facilities Planning

Coordination Mechanisms
Miami-Dade Public Hearing Process
Miami-Dade Metropolitan Planning Organization

Nature of the Relationship
No formal relationship exists at this time.

Subject 4. Sanitary Sewage Collection and Treatment Capacity

Description

These are no agreements for the provision of sanitary sewage collection and/or treatment between FIU and the Miami-Dade Water and Sewer Authority Department (WASAD). There is a 1975 water distribution facility agreement that requires WASAD to provide an adequate supply of potable water to the Modesto A. Maidique Campus. At the present time, no agreement exists between FIU and WASAD that guarantees the availability of adequate sanitary sewage treatment capacity to either campus. Generally, the acceptance of sewage flow is part of the installation of the water meters by the utility. At the present time, WASAD is accepting sewage for treatment at the South Regional Water Treatment Plant (SRWTP) from the Modesto A. Maidique campus and treatment of sanitary sewage from Biscayne Bay Campus at North Regional Wastewater Treatment Plant (NRWTP).

As a Board of Education's Division of Colleges and Universities facility, FIU is subject to the State Uniform Building Code for Public Educational Facility and is therefore exempt from local regulations including impact fees and service availability fees. Although FIU is not required to obtain building permits for their projects, the projects are regularly reviewed and meter fees are paid to the agencies charged with regulating, monitoring and operating the water facilities.

Given the increased sanitary sewage flows coincident with the ongoing campus development an allocation or measures which assure the acceptance of sewage from the University by WASAD should be obtained.

Primary Entities

Miami-Dade Water and Sewer Authority Department
Miami-Dade Department of Environmental Resources Management
United States Environmental Protection Agency
City of North Miami
Florida International University Department of Facilities Planning

Nature of the Relationship

The Miami-Dade Water and Sewer Authority Department is responsible for developing and operating the county-wide sanitary sewage collection and disposal system. Environmental regulations in Chapter 24 of the Code of Miami-Dade County regarding sewer connections and septic tanks are administered and enforced by the Miami-Dade Department of Environmental Resources Management (DERM). As previously indicated, the FIU Department of Facilities Planning routinely forwards engineering plans for water and sewer improvements to WASAD and DERM for review. Comments are generally received only on the water component of the building design.

Subject 5. Development and Sufficiency Review

Description

The present procedure for the review of on-campus engineering and permitting requirements is for FIU to submit engineering plans to DERM, WASAD and the host community as applicable. These plans are reviewed on an informal basis, comments are received, however, no permits are issued. Although agreements exist for the provision of water to the campuses, no formal review procedure or master agreement exist for the review and permitting of infrastructure improvements or reviewing the availability of facilities and services provided by the host government. In addition, the University is not required to submit building plans to the host community or receive building permits or certificates of occupancy.

Chapter 1013.30, Florida Statutes establishes provisions for campus planning and concurrency management that supersedes the requirements of Part II of Chapter 163, Florida Statutes. The growth management provisions established in Chapter 1013.30, F.S. were adopted in recognition of the unique relationship between campuses of the State University system and the local governments in which they are located. The statute recognizes that while the University provide research and educational benefits of state wide and national importance, and provide substantial educational, economic and cultural benefits to the host communities, the campus may also have an adverse impact on the public facilities, services and natural resources of local government.

Chapter 1013.30 F.S. requires the University to prepare and adopt campus master plans of which this element is a component. ***Upon adoption*** of the campus master plan in accordance with 163.3184(15), and within 270 days, the ***University Board of Trustees must forward a draft campus development agreement***. This development agreement must address the following public facilities and services; roads, sanitary sewer, solid waste, drainage, potable water, solid waste, drainage, parks and recreation and transportation. The development agreement must identify the level-of-service standard established by the host community, identify the entity that will provide the service to the campus, and describe any financial arrangements between the Board of Education's Division of Colleges and Universities and other entities relating to the provision of the facility or service.

The ***development agreement*** must determine the impact of existing and proposed campus development reasonably expected over the terms of the agreement (a minimum of five years) on the services and facility which the proposed campus will create or to which it will contribute. All improvements to facilities or services which are necessary to eliminate any identifies deficiencies must be specifically identified in the development agreement. University Board of Trustees "fair share" cost associated with remediating any of the facility or services deficiencies identified and attributed to University impacts must be stated. Chapter 1013.30, F.S. requires that the Board of Education’s Division of Colleges and Universities assume responsibility for payment of the cost for remediation of the facility or services deficiencies. The Statute allows the fair share payment to be accomplished either by: 1) paying a fare share of the required improvement identified in the development agreement or 2) taking on full responsibility for the improvement or improvements identified in the development agreement and agreed to between the host local government and the University Board of Trustees, the total cost which equals the "fair share" attributed to the University's impacts.

Primary Entities
City of North Miami
City of Sweetwater
FIU Facilities Planning
Miami-Dade Planning Department
Miami-Dade Water and Sewer Authority Department
Miami-Dade Department of Environmental
Miami-Dade Metropolitan Planning Organization
South Florida Water Management District
Florida Department of Community Affairs
Board of Education’s Division of Colleges and Universities

Secondary Entities
South Florida Regional Planning Council
Florida Department of Environmental Protection
Florida Department of Transportation
Florida Department of State
Florida Fish and Wildlife Conservation Commission

Coordinating Mechanism
Chapter 240.155, Florida Statutes

Nature of the Relationship
Primary:
The agencies, municipalities and Miami-Dade Departments are the entities that provide services and facilities which support the University. FIU utilizes the off site services and utilities and, therefore, has a proportionate impact of these services. The Board of Education’s Division of Colleges and Universities and Florida International University are required to prepare the Campus Master Plan in accordance with the provisions contained in Chapter 1013.30, F.S. This statute requires the University to identify the proportionate impact of the host community and County's facilities and to mitigate these impacts.

Secondary:

In addition to the host communities and the water management district, the agencies identified as being secondary coordinating mechanisms will review the contents of the campus master plan for consistency with the requirements for the development of campus master plans. The findings contained in the campus master plans will provide the basis for identifying services and facility deficiencies and establishment of the University "fair share" commitments.

(2) ANALYSIS REQUIREMENTS

a) Effectiveness Of Existing Coordination Mechanisms Described In (1) B)

Miami-Dade County and the City of North Miami

The ability of the Miami/Dade County and the City of North Miami to supply basic services to both of the FIU campuses will determine the rate of growth, as well as the ability of the campus to accommodate anticipated growth while respecting and managing the naturally occurring resources of uplands, wetlands and wildlife and vegetation. Interaction with the context area through sound land planning efforts, constructive interaction with the FDOT and Metro-Dade Transit Authority and the coordination with the City of North Miami, will be the key to successful growth and development at the FIU campuses.

Miami-Dade County, the City of North Miami, and FIU administrators have worked very closely throughout South Florida's growth. They have partnered in the development of both campuses and the area surrounding each campus. Each party sees the other as having an integral role in their combined success: the University helps each city to attract new businesses; new businesses and their new technologies encourage the University to respond with educational opportunities to train students to new career opportunities and to advance the level of training for current employees. The informal nature of the close, continuing alliance between the city and the University has served them well.

Permitting/Jurisdictional Agencies

The University's relationship with jurisdictional agencies has also been positive throughout the existence of the University. FIU respects the unique natural environment in which it is located. By working well with such permitting/jurisdictional agencies as Florida Department of Environmental Protection (and its predecessor agencies, the Florida Departments of Natural Resources and of Environmental Resources), South Florida Water Management District and Florida Fish and Wildlife Conservation Commission, FIU has continued to grow--adding new facilities and serving more students--while preserving wetland and habitat areas.

Monroe County and the American Red Cross

One of the most important intergovernmental arrangements between the University and any public agencies has been developed by the FIU Public Safety Department for hurricane evacuation procedures. FIU has developed a plan for evacuation in case of hurricane or other emergencies and threats to public safety. The Emergency Operations Plan which is updated annually describes the necessary preparation and implementation of actions required to secure the University and evacuate the campuses. On behalf of the Board of Education's Division of Colleges and Universities, FIU has formed an agreement with the American Red Cross and the Monroe County Office of Emergency Management to provide emergency shelter "during hurricanes or other disasters which cause the evacuation of residents from Monroe County and for resident students who have not left campus.

Responsibilities have been outlined for the various agencies to ensure smooth operation of the shelter. FIU Facilities Management personnel will provide building and maintenance service to residents and families, will schedule appropriate work crews to handle building sanitation, maintenance and control of access to restricted areas. The Red Cross will be fully responsible for the operation of the shelter as a temporary housing facility. It will provide volunteers, food and food service, water and other emergency supplies. If the need for emergency shelter continues for an extended period, FIU can provide alternate areas to move the shelter, so the Primera Casa can be converted into educational uses within a period of five days. The primary function of Monroe County will be for the establishment of a temporary infirmary, which will be fully staffed, supplied, and operated by the County's Emergency Medical Services.

b) Specific Problems And Needs Within Each Of The Campus Master Plan Elements Which Would Benefit From Improved Or Additional Intergovernmental Coordination And Means For Resolving Those Problems And Needs

The elements of the Campus Master Plan identified two areas that could benefit from enhanced intergovernmental coordination:

- **Modesto A. Maidique Buildout by 2015:** If additional land is needed for expansion, formal agreements with Miami-Dade County and the City of Sweetwater may be necessary. The City of Sweetwater would enable the University to expand north. It may also be possible to expand south by working with the Miami-Dade County Fair and Exposition and Tamiami Park.

- **Sanitary Sewer Service:** In order to assure uninterrupted acceptance of sanitary sewage generated by the existing and future campus development, the University should request a letter of allocation from DERM for treatment capacity for the flows expected to be generated through 2005-2015. This allocation should come from that capacity which is presently reserved for governmental purposes.

c) Growth And Development Proposed In Comprehensive Plans In The Area Of Concern And A Comparison With The Appropriate Regional Policy Plan

In Order To Evaluate The Needs For Additional Planning Coordination.

- **Miami-Dade County Comprehensive Plan:** There are no development proposals at the County level that would require additional coordination.

- **City of North Miami Comprehensive Plan:** There are no development proposals at the City level that would require additional coordination.

- **City of Sweetwater Comprehensive Plan**: The City of Sweetwater is amending its Comprehensive plan to create mixed-use corridors along the portions of 107^{th} Avenue, 109^{th} Avenue, and SW 7^{th} Terrace that run through the municipality. The mixed-use corridors would allow for greater density and intensity in the designated areas. The intent of the City is to create a College Town by developing off-campus housing and other facilities to attract the university community. As the city moves forward this plan, FIU should work closely with Sweetwater.

- **2005 Growth Management Legislation**: Senate Bill 360, approved in 2005, requires greater coordination related to water management. The regulations call for adequate water supply to be in place no later than certificate of occupancy. They also require consultation on population projections, timing of development, and any issue that may impact water supply.

13.0 CONSERVATION ELEMENT

(1) DATA REQUIREMENTS

a) Inventory Of The Following Existing And Environmental Resources, Where Present On The University Campus And Within The Context Area

1. Rivers, lakes, bays, wetlands (including estuarine marshes), and bottom lands:

Rivers, lakes and bays:

MODESTO A. MAIDIQUE

A physical inventory was completed in December 2000 that identified 15 small bodies of water on the campus, all of which appear to be artificial (see Figure 13.1: Conservation Element). None of these small lakes are connected to canals or other bodies of water. The littoral zones of most of these lakes are sparsely vegetated with a variety of wetland plants.

One lake located off campus falls within the context area, located near the intersection of SW 122th Avenue and SW 11th Street, is surrounded by residential units and landscaped lawn areas and has a reasonably well-developed littoral zone. Canals bordering Modesto A. Maidique and the Miami-Dade County Fair and Exposition to the north, west and south are vegetated primarily with the aquatic weed Hydrilla (Hydrilla verticillata). The canals are steep sided, and as such have no littoral zone.

BISCAYNE BAY CAMPUS

Fresh and brackish water: Bodies of fresh or brackish water on the Biscayne Bay Campus are restricted to two lakes on campus. A shoreline investigation of these lakes was conducted on December 2000. The larger of the two lakes (west lake) is located immediately to the west of the main parking areas on campus (see Figure 13.3: Conservation Element). The lake appears to have little or no submerged aquatic vegetation other than algal growth that coats most visible surfaces; there is approximately a 40 square-foot patch of emergent vegetation on one shoreline. Along the entire perimeter of the lake, shoreline vegetation has been mowed to the water's edge, except for a few planted bald cypress trees (Taxodium distichum). The second lake (east lake) is located immediately to the south of the built-up area of campus. The shore of this lake has been landscaped and has emergent aquatic vegetation lining its entire shoreline, and extending up to 10 feet into the water in some areas.

An inspection of the campus in December 2000 revealed that the previously described conditions in the 1994 Master Plan still exist on the site.

Within the context area of Biscayne Bay Campus, the Oleta River is the only river. The Oleta River extends into the context area to the north of Biscayne Bay Campus and is an important site for the endangered West Indian manatee (Trichechus manatus latirostris). Visual surveys of the river from adjacent roadways conducted and analysis of aerial photographs show that the river is bordered by apparently healthy stands of mangroves which show little or no human disturbance. The exception to this is the 30 acre Terama Tract, located between the Sunny Isles Causeway and the Oleta River, which has been filled and is now dominated by Australian pine (Casuarina sp.) (Figure 13.3).

The only other bodies of fresh or brackish water located within the context area are several small lakes located within the Munisport Landfill site. These lakes were dug to a depth of 35 feet below mean sea level sometime in the 1970s. For descriptions of these lakes the reader is referred to the EPA Record of Decision (EPA,-1990)

Salt water: The northeastern, eastern, and southern sides of Biscayne Bay Campus are bounded by Biscayne Bay, the Intracoastal Waterway, and mangrove channels that join with the Bay. The northeastern edge of Biscayne Bay Campus also abuts a small estuary that extends northward from the Intracoastal Waterway and Biscayne Bay.

Within the context area of Biscayne Bay Campus, both the Oleta River State Recreation Area and the state mangrove preserves are bounded by portions of Biscayne Bay and the Intracoastal Waterway. Further, a flow-through pond system has been constructed within Oleta River State Recreation Area to enhance mangrove habitat.

The principal concern regarding potential surface water and development conflicts involves the need to ensure that development of the campus does not negatively impact the habitat of the West Indian manatee. There are opportunities to enhance the habitat values of the lakes and shoreline. These should be considered in devising goals for campus development.

Wetlands:

Although, to our knowledge, no jurisdictional wetland determinations have been carried out at either Modesto A. Maidique or Biscayne Bay Campuses, several areas on these campuses may qualify as jurisdictional wetlands under current Federal and State wetlands regulations. Determination and delineation of jurisdictional wetlands is a complicated process, involving analysis and interpretation of hydrology, soils and vegetation data, and is beyond the scope of work for this project. An inventory of flora at the Modesto A. Maidique and Biscayne Bay Campus is listed in Table 13.1.

MODESTO A. MAIDIQUE

The entire Modesto A. Maidique campus was probably a sawgrass wetland prior to development of the Tamiami Airport, previously developed on this site. The context area was also historically a wetland. Potential wetlands at Modesto A. Maidique can be classified into the following categories:

Exotic-invaded hardwood hammocks containing wetland vegetation: In the southeast corner, the four largest tree islands (Figure 13.1) contain a mix of native and exotic hardwood trees and shrubs, wetland herbs and graminoids, and other disturbance-adapted plants. At least one of the small hammocks appears to be an old pond that has been overgrown.

Sweet bay-dominated hardwood hammock): An oval-shaped hammock , located near the southwestern corner of Modesto A. Maidique, appears to be an old bay head that has been partially cleared. Wetland vegetation appears in the hammock and along its margins. This area has been designated as an on campus botanical and wildlife area, and portions of it may be jurisdictional wetlands. The hammock represents a valuable natural botanical feature of Modesto A. Maidique.

One lake located off campus falls within the context area. This artificial lake, located near the intersection of SW 122th Avenue and SW 11th Street, is surrounded by residential units and landscaped lawn areas and contains a reasonably well-developed littoral zone. This lake was not inspected during the December 2000 site visit.

Wetland soils: Only one of the three soil types that the Miami-Dade County Soil Conservation Service lists as present at Modesto A. Maidique can be considered a hydric (wetland) soil. Hallandale fine sand, located in the northern third of the campus and in two smaller areas in the east and southeast portions of the campus, are classified as a hydric soil by the USDA Soil Conservation Service (USDA, 1987). This soil type is level, poorly drained sandy soil underlain by limestone 7-20 inches deep. The remaining two soil types, Urthodents/Urban land complex and Urban land are well drained, either by nature of the base material (excavated limestone material) or by topography and drainage systems. Hydric soils were undoubtedly more extensive on site prior to the construction of Tamiami Airport.

Virtually all of Modesto A. Maidique Campus was historically a wetland. An accurate determination of the hydric nature of the on-site soils will be made during future jurisdictional wetland delineations conducted prior to development. To our knowledge, no jurisdictional wetland determinations have been carried out on campus or within the context area, and, at least for the campus, lack of such a determination could lead to problems and conflicts as new facilities are developed. Jurisdictional determinations should be carried out prior to proceeding with any new building construction.

In the absence of clearly defined jurisdictional wetland areas within the campus, development may result in an avoidable loss of wetland areas and any potential wetland mitigation or restoration. For this reason, it is necessary to pursue a jurisdictional determination from the appropriate regulatory agencies.

BISCAYNE BAY CAMPUS

Most, if not all of the Biscayne Bay Campus was wetland prior to the development of the Interama Tract. Potential wetlands at Biscayne Bay Campus can be classified into the following categories:

Mangrove forests: The mangrove forests on the Biscayne Bay Campus are most certainly jurisdictional wetlands; however, the definitive boundaries of these areas are unclear. A complex analysis beyond the scope of work is required to determine the boundaries**.**

Mangrove forests located on the Biscayne Bay Campus are restricted to thin bands of mangroves that line an estuary on the north, as well as canals and ditches on the north and northeastern edges of the campus, and along the western edge of the campus (Figure 13.3). Extensive mangrove forests occur in state mangrove preserves located to the north and west of the Biscayne Bay Campus, and within the Oleta River State Recreation Area, located to the north and east of the Biscayne Bay Campus. Mangrove mitigation work has been completed or is in progress at several sites in the Oleta River State Recreation Area. Currently, mangrove mitigation planting is being conducted at the southern edge of Biscayne Bay Campus. For a discussion of mitigation sites and descriptions of mitigation projects at Biscayne Bay Campus and context area, see Section (1) 4. These mitigation projects are not related to Biscayne Bay Campus construction activities.

Back-mangrove associations: Back-mangrove vegetation associations occur in those areas that transition between mangrove forest and upland plant communities. On the Biscayne Bay Campus, back-mangrove associations occur on the land adjacent to the mangrove-lined canals at the north and west boundaries of the campus (Figure 13.3). Within the context area, back-mangrove associations occur on the land adjacent to the side of mangrove forests in the Oleta River State Recreation Area and in the State mangrove preserves.

Beach strand: Beach strand vegetation dominates the eastern edge of the Biscayne Bay Campus which is primarily shoreline, a portion of which is stabilized with rip-rap for erosion control. Beach strand also occurs along portions of the south edge of Biscayne Bay Campus. Within the context area, beach strand occurs along portions of the shorelines within the Oleta River State Recreation Area and may occur in the State mangrove preserves.

Disturbed areas containing wetland plant species: In the southeast corner of the Biscayne Bay Campus, a large area was cleared of vegetation sometime prior to January 1993 (Figure 13.3). Since that time, the scraped area has been recolonized by a mix of upland and transitional wetland weeds (Table 13.1 Preliminary Plant Species List). This area can be classified as a low-grade wetland, although it should be analyzed to determine if it is a jurisdictional wetland. The previously described area was examined during the December 2000 inspection of the campus. Currently, a portion of this area is being planted with mangroves, as compensatory mitigation for previous wetland impacts at the campus.

Wetland soils: Only one of the four soil types that the Miami-Dade County Soil Conservation Service lists as present on the Biscayne Bay Campus can be considered a hydric (wetland) soil. Terra Ceia muck, located to the north and northwest of the central building area of the campus, are classified as a tidal hydric soil by the United States Department of Agriculture Soil Conservation Service (USDA, 1987). Terra Ceia muck is tidally inundated and supports mangrove vegetation associations at the Biscayne Bay Campus and within the context area. Two of the remaining soil types, Urthodents (excavated limestone material) and Urban land (the built-up portion of campus) are well drained, either by the nature of the base material, or by topography and drainage systems. Urthodents occur to the northeast of the built-up campus area, and to the south and west. The final soil type, Opa-locka Rock outcrop complex, occurs in an area immediately south of the campus building area, and is bounded by Biscayne Bay to the east and by Urthodents to the west. This soil type is also well-drained.

It should be noted that most, if not all, of the Urthodents and Urban land areas of Biscayne Bay Campus were likely underlain by hydric soils prior to the development of the Interama Tract in 1962.

Prior to development, the Biscayne Bay Campus was predominately wetlands, most likely mangrove forest. These wetlands were cleared during the development of the site as the Interama project. An analysis of the campus and context area would likely indicate that these areas are historical wetlands. An accurate determination of the hydric nature of the on-site soils will be made during future jurisdictional wetland delineations conducted prior to development.

Table 13.1 Preliminary Plant Species List for the FIU Campuses

N=Native, E=Exotic, BBC=Biscayne Bay Campus, MAM=Modesto A. Maidique
* listed as present in the landscape design manual (Modesto A. Maidique campus only)

COMMON NAME	SCIENTIFIC NAME	PRESENCE			
		N	E	BBC	MAM
Ear-leaf acacia	Acacia auriculaeformis		X	X	X
Paurotis palm	Acoeloraphe wrightii	X			X
Leather fern	Acrostichum danaeifolium	X		X	
Woman's tongue	Albizia lebbeck		X	X	X
Golden trumpet	Allamanda cathartica		X	X	
Ginger lily*	Alpinia zerumbet				X
Alligator weed	Alternanthera maritima		X	X	
Slender amaranth	Amaranthus viridis	X		X	
Ragweed	Ambrosia artemesiifolia		X	X	X
Toothcups	Ammania coccinea	X		X	
Cashew	Anacardium sp.		X		X
Broomsedge	Andropogon glomeratus	X			X
Pine fern	Anemia adiantifolia	X			X
Sugar apple*	Annona squamosa			X	X
Anthurium*	Anthurium heiglii		X		X
Alexander palm*	Archoneophoenix alexandrae		X		X
Asian marlberry	Ardisia elliptica		X	X	X
Queen palm*	Arecastrum romanzofianum	X		X	
Scarlet milkweed	Asclepias curassavica		X		X
Asparagus fern	Asparagus plumosus		X		X
Carambola, Starfruit*	Averrhoa carambola		X		X
Black mangrove	Avicennia germinans	X		X	
Saltbush	Baccharis halimifolia	X		X	X
Water hyssop	Bacopa monnieri	X			X
Orchid tree	Bauhinia sp.		X	X	X
Beggar's tick	Bidens pilosa		X	X	X
Bishopwood	Bischofia javanica		X	X	X
Akee*	Blighia sapida		X		X
Kapok tree	Bombax sp.		X		X
Borreria	Borreria laevis		X	X	X
Silver sea oxeye*	Borrichia frutescens	X		X	X
Bougainvillea*	Bougainvillea spectabilis		X	X	X
Black olive	Bucida buceras	X			X
Willow bustic	Bumelia salicifolia	X			X
Pindo palm*	Butia capitata		X		X
Beauty berry	Callicarpa americanum	X			X
Bottlebrush	Callistemon vinninalis		X	X	X
Ylang-ylang*	Cananga odorata		X		X
Seaside bean	Canavalia rosea	X		X	
Papaya	Carica papaya		X		X
Dwarf carissa*	Carissa macrocarpa		X		X
Natal plum*	Carissa macrocarpa		X		X
Fishtail palm*	Caryota mitis		X		X
Seven-year apple	Casasia clusiifolia	X		X	
Cassia	Cassia sp.		X		X
Australian pine*	Casuarina cunninghamianni	X		X	
Australian pine*	Casuarina equisetifolia		X	X	X
Australian pine*	Casuarina lepidophloid		X		X
Madagascar periwinkle	Catharanthus roseus		X	X	X
Silk cotton tree*	Ceiba pentandra		X		X
Sandspur	Cenchrus sp.	X		X	X
Coin-wort	Centella asiatica		X	X	X
Day jasmine	Cestrum diurnum		X	X	
Night blooming jasmine*	Cestrum nocturnum		X	X	X

Table 13.1 Preliminary Plant Species List (continued)

COMMON NAME	SCIENTIFIC NAME	PRESENCE			
		N	E	BBC	MAM
Spurge	Chamaesysce hypericifloia	X		X	X
Spurge	Chamaesyce hyssopifolia	X			X
European fan palm*	Chamaerops humilis		X		X
Spiderplant*	Chlorophytum comosum		X		X
Silk floss tree*	Chorisa speciosa		X		X
Areca palm*	Chrysalidocarpus lutescens		X		X
Coco plum (Red Tip)*	Chrysobalanus icaco	X			X
Satin leaf	Chrysopyllum oliviforme	X			X
Thistle	Cirsium horridulum	X			X
Lime, Orange, etc.*	Citris aurantiifolia		X		X
Sawgrass	Cladium jamaicensis	X			X
Bleeding heart*	Clerodendron thomsoniae		X		X
Pitch apple	Clusia rosea	X			X
Pigeon plum	Coccoloba diversifolia	X			X
Big-leaf sea-grape*	Coccoloba grandifolia	X			X
Sea grape	Coccoloba uvifera	X		X	X
Silver palm*	Coccothrinax argentata	X			X
Old man palm*	Coccothrinax crinita		X		X
Buttercup tree*	Cochlospermum vitifolium		X		X
Coconut*	Cocos nucifera	X		X	X
Croton*	Codiaeum variegatum		X		X
Taro	Colocasia esculenta		X		X
Buttonwood*	Conocarpus erectus	X		X	X
Silver buttonwood*	Conocarpus erectus (sericeus)	X		X	X
Geiger*	Cordia sebestena	X		X	X
Ti plant*	Cordyline terminalis		X		X
Queen sago*	Cycas circinalis		X		X
Dwarf/King sago*	Cycas revoluta		X		X
Bermuda grass*	Cynodon dactylon		X		X
Flat sedge	Cyperus haspan	X		X	X
Flat sedge	Cyperus ligularis	X		X	X
Indian rosewood*	Dalbergia sissoo		X		X
Royal poinciana	Delonix regia		X	X	X
White-tops	Dichromena floridensis	X			X
Diodea	Diodea virginiana	X			X
Black sapote*	Diospyros digyna		X		X
Varnish leaf*	Dodonaea viscosa	X			X
Tree dracaena*	Dracaena arborea		X		X
Dracaena “Janet Craig”	Dracaena deremensis		X		X
Corn plant*	Dracaena fragrans		X		X
Dracaena*	Dracaena marginata		X		X
Golden dew drop*	Duranta repens		X		X
Oil palm	Elais guineensis		X		X
Spike rush	Eleocharis geniculata	X		X	X
Soft rush	Eleocharis interstincta	X		X	X
Pothos*	Epipremnum aureum	X		X	
Loquat*	Eriobotrya japonica		X		X
Coral bean	Erythrina herbacea		X		X
Variegated tiger claw*	Erythrina variegata		X		X
Gum tree*	Eucalyptus spp.		X		X
White stopper	Eugenia axillaris	X			X

Surinam cherry*	Eugenia uniflora		X		X

Table 13.1 Preliminary Plant Species List (continued)

COMMON NAME	SCIENTIFIC NAME	PRESENCE			
		N	E	BBC	MAM
Dog fennel	Eupatorium capillifolium	X		X	X
Mistflower	Eupatorium coelestinum	X			X
Blue daze*	Evolvulus glomerata	?			X
Strangler fig	Ficus aurea	X			X
Weeping fig*	Ficus benjamina		X		X
	Ficus carica		X		X
Indian rubber tree	Ficus elastica		X		X
Strangler fig	Ficus microcarpa		X		X
Cuban laurel*	Ficus nitida		X		X
Yellowtops	Flaveria linearis	X		X	X
Forestiera*	Forestiera segregata	X			X
Lignum vitae*	Guaiacum sanctum	X			X
Manatee grass	Halodule wrightii	X		X	
Firebush	Hamelia patens	X			X
Tulipwood*	Harpullia arborea		X		X
Scorpiontail	Heliotropium polyphyllum	X		X	X
Day lily*	Hemerocallis sp.		X		X
Hibiscus*	Hibiscus rosa-sinensis		X		X
Mahoe	Hibiscus tiliaceus	X		X	
Forster sentry palm*	Howeia forsteriana		X		X
Elodea	Hydrilla verticillata		X	X	X
Water pennywort	Hydrocotyle bonariensis		X	X	X
Marsh pennywort	Hydrocotyle umbellata		X	X	X
Bottle palm*	Hyophorbe lagenicaulis		X		X
Spindle palm*	Hyophorbe verschaffetltii		X		X
Musky mint	Hyptis alata	X		X	X
Dahoon holly*	Ilex cassine	X			X
Yaupon*	Ilex vomitoria	X			X
Railroad vine	Ipomoea pes-caprae	X		X	
Morning glory	Ipomoea spp.		X	X	X
Red ixora*	Ixora coccinea		X		X
Jacaranda*	Jacaranda mimosaefolia		X		X
Rush	Juncus megacephalus	X			X
Southern red cedar*	Juniperus siliciola	X			X
Life plant	Kalanchoe sp.		X	X	
Golden rain tree*	Koelreuteria formosana		X	X	X
Black ironwood*	Krugiodendron ferreum	X			X
Crape myrtle*	Lagerstroemia indica		X		X
Queen crape myrtle*	Lagerstroemia speciosa		X		X
White mangrove	Laguncularia racemosa	X		X	
Lantana	Lantana camera		X	X	X
Lantana	Lantana depressa	X			X
Lantana	Lantana involucrata	X		X	X
Lantana*	Lantana montevidensis		X		X
Lead tree	Leucaena leucocephala		X	X	X
Southern wax privet*	Ligustrum japonicum		X		X
Lippia	Lippia nodiflora	X		X	X
Liriope*	Liriope muscari		X		X
Chinese fan palm*	Livistona chinensis		X		X
Primrose willow	Ludwigia peruviana	X		X	X

Wild tamarind	Lysiloma bahamensis	X			X
Macadamia nut*	Macadamia tetraphylla		X		X
Sweet bay*	Magnolia virginiana	X			X
Apple*	Malus pumila (ana)		X		X
Mango*	Mangifera indica		X	X	X

Table 13.1 Preliminary Plant Species List (continued)

COMMON NAME	SCIENTIFIC NAME	PRESENCE			
		N	E	BBC	MAM
Sapodilla*	Manilkara zapota		X		X
Mastic	Mastichodendron foetidissimum	X		X	
Melaleuca*	Melaleuca quinquernervia		X	X	X
Melanthera	Melanthera nivea	X		X	
Small-leaved cat tongue	Melanthera parvifolia	X			X
Creeping cucumber	Melothria pendula	X		X	X
	Metopium toxiferum	X			X
Climbing hemp vine	Mikania scandens	X		X	X
Spanish cherry*	Mimusops elengii		X		X
Mimusops*	Mimusops roxburghii		X		X
Mitrewort	Mitreola angustifolia	X			X
Balsam apple	Momordica balsamina	X			X
Monstera*	Monstera deliciosa		X		X
Orange jasmine*	Murraya paniculata		X		X
Banana	Musa paradisiaca		X		X
Simpsons stopper*	Myrcianthes fragrans	X			X
Wax myrtle	Myrica cerifera	X			X
Myrsine	Myrsine guianensis	X			X
Triangle palm*	Neodypsis decaryi		X		X
Sword fern*	Nephrolepis exaltata		X	X	X
Common reed	Neyraudia reynaudiana		X	X	X
Guinea chestnut*	Pachira aquatica		X		X
Screw pine*	Pandanus utilis		X		X
Maiden-cane	Panicum hemitomon	X			X
Jerusalem thorn*	Parkinsonia aculeata		X		X
Bahia 'Argentine' sod*	Paspalum notatum		X		X
Salt jointgrass	Paspalum vaginatum	X		X	
Corky passionflower	Passiflora suberosa	X		X	X
Egyptian starclusters	Pentas lanceolata		X		X
Avocado*	Persea americanum		X	X	X
Sweet bay	Persea borbonia	X			X
Yellow Poinciana*	Petophorum pterocarpum		X		X
Queen's wreath*	Petrea volubilis		X		X
Philodendron*	Philodendron selloum		X		X
Senegal date palm*	Phoenix reclinata		X		X
Pygmy date palm*	Phoenix roebelenii		X		X
Wild date*	Phoenix sylvestris		X		X
Pokeweed	Phytolacca americana	X		X	X
All spice*	Pimenta officinalis		X		X
Slash pine	Pinus elliottii var. densa	X			X
Jamaica dogwood	Piscidia piscipula	X			X
Black bead*	Pithecellobium keyense	X			X
Camphor weed	Pluchea odorata	X		X	
Camphor weed	Pluchea rosea	X		X	X
Leadwort	Plumbago capensis		X	X	

Frangipani*	Plumeria rubra		X		X
Japanese yew*	Podocarpus macrophyllus		X		X
Painted leaf	Poinsettia cyathophora	X		X	X
Fiddler's spurge	Poinsettia heterophylla	X		X	
Procession flower	Polgala incarnata	X			X
Pongam*	Pongamia pinnata		X		X
Peach*	Prunus persica		X		X
Buccaneer palm*	Pseudophoenix sargentii		X		X
Guava*	Psidium guajava		X		X
Whisk fern	Psilotum nudum	X		X	

Table 13.1 Preliminary Plant Species List (continued)

COMMON NAME	SCIENTIFIC NAME	PRESENCE			
		N	E	BBC	MAM
Wild coffee	Psychotria nervosa	X			X
Pineland brake fern	Pteris vittatta	X		X	X
Solitaire palm*	Ptychosperma elegans		X		X
Macarthur palm*	Ptychosperma macarthuri	X		X	
Laurel oak*	Quercus laurifolia	X			X
Live oak	Quercus virginia	X		X	X
	Randia aculeata	X			X
Travellers palm*	Ravenela madagascarensis	X		X	
Lady palm*	Rhapis excelsa		X		X
Red mangrove	Rhizophora mangle	X		X	?
Oyster plant	Rhoeo spathacea		X	X	X
Winged sumac	Rhus copallina	X			X
Beak rush	Rhynchospora sp.	X			X
Castor bean	Ricinus communis		X	X	X
Royal palm*	Roystonea elata	X			X
Firecracker plant*	Russelia equisetiformis		X	X	X
Cabbage palm	Sabal palmetto	X		X	X
Duck potato	Sagittaria falcata	X		X	X
Willow	Salix carolinensis	X			X
Beach naupaka*	Scaevola frutescens		X	X	X
Umbrella tree	Schefflera actinophylla		X	X	X
Brazilian pepper	Schinus terebinthifolius		X	X	X
Bullrush	Scirpus sp.	X		X	X
Saw palmetto	Serenoa repens	X			X
Sesban	Sesbania punicea		X	X	
Sea purslane	Sesuvium portulacastrum	X		X	
Bristlegrass	Setaria geniculata	X		X	X
Indian mallow	Sida rhombifolia	X		X	X
Paradise tree	Simarouba glauca	X			X
Goldenrod	Solidago sp.	X			X
Necklace pod*	Sophora tomentosa	X			X
Cordgrass	Spartina sp.	X		X	X
Peace lily*	Spathiphyllum 'Mauna Loa'	X		X	
African tulip tree*	Spathodea campanulata		X		X
Buttonweed	Spermacoce verticillata	X		X	X
Dropseed	Sporobolus spp.	X		X	X
Blue porterweed	Stachytarpheta jamaicensis	X			X
St. Augustine grass	Stenotaphrum secundatum	X		X	
Pencil flower	Stylosanthes hamata	X		X	
Sea blite	Suaeda linearis	X		X	

Mahogany	Sweitenia mahogani	X		X	X
Syngonium	Syngonium podophyllum	X	X		
Rose apple*	Syzygium jambos		X		X
Silver trumpet-tree/yllow*	Tabebuia caraiba		X		X
Silver trumpet-tree/pink*	Tabebuia heterophylla		X		X
Indian tamarind*	Tamarindus indica		X		X
Pond cypress*	Taxodium ascendens	X			X
Bald cypress	Taxodium distichum	X			X
Indian almond	Terminalia catappa		X	X	X
Tetrazygia	Tetrazygia bicolor	X			X
Turtle grass	Thalassia testudinum	X		X	
Shield fern	Thelypteris palustris	X			X
Seaside mahoe	Thespesia populnea		X	X	
Key thatch*	Thrinax morrisii		X		X

Table 13.1 Preliminary Plant Species List (continued)

COMMON NAME	SCIENTIFIC NAME	PRESENCE			
		N	**E**	**BBC**	**MAM**
Thatch palm*	Thrinax radiata		X		X
Cardinal air plant	Tillandsia fasciculata	X			X
Air plant	Tillandsia sp.	X		X	X
Spanish moss	Tillandsia useoides	X		X	
Sea lavender	Tournefortia gnaphalodes	X		X	
West Indies trema	Trema lamarckianum	X			X
	Trema micrantha	X		X	X
Walking iris*	Trimezia martinicensis		X		X
Turnera*	Turnera ulmifolia		X		X
Cattail	Typha latifolia	X		X	X
Manila, Christmas palm*	Veitchia merrillii		X		X
Montgomery's palm*	Veitchia montgomeryana		X		X
Muscadine grape	Vitis rotundifolia	X			X
Mex. Washingtonia palm*	Washingtonia robusta	X		X	
Wedelia	Wedelia trilobata		X	X	X
Coontie	Zamia pumila	X			X
Wild lime*	Zanthoxylum fagana	X			X
Wandering Jew*	Zebrina pendula		X	X	X

Bottom Lands:

No bottom lands are known to occur at either Modesto A. Maidique or Biscayne Bay Campus or in their respective context areas.

2. Floodplains:

MODESTO A. MAIDIQUE

According to Flood Insurance Rate Maps (revised 16 October 1992), Modesto A. Maidique is designated as Zone X. This zone is an area of 500-year flood, or of 100-year flood with average depths of less than one foot or with drainage areas less than one square mile, and areas protected by levees from 100-year flood. The campus itself is designated as a hurricane evacuation site for Monroe County.

BISCAYNE BAY CAMPUS

According to Flood Insurance Rate Maps (revised 16 October 1992), the entire Biscayne Bay Campus is at an elevation of 9 feet, and is zoned AE. This area is characterized as a special flood hazard area inundated by 100-year flood. According to undocumented sources at FIU, a SLOSH model run in the 1960's indicated a 15-foot hurricane flood elevation for the area.

3. Known unique geological features (springs, sinkholes, etc.):

No unique geological features are known to occur at either Modesto A. Maidique or Biscayne Bay Campus or in their respective context areas.

4. Existing mitigation sites:

MODESTO A. MAIDIQUE

There are no mitigation projects at Modesto A. Maidique. However, there is a hardwood hammock area that is being restored/enhanced by the Environmental Studies program as well as maintenance of littoral vegetation at Hennington Lake. While not for mitigation, oak trees were planted in a small area in the northeastern part of the campus. This area is presently known as the Earth Day 1990 Hammock.

BISCAYNE BAY CAMPUS

Within the Biscayne Bay Campus context area there are several areas that have either undergone or are slated for restoration/replanting. Most of these areas have been enhanced as a part of the Miami-Dade County Beach Restoration and Preservation Program, which is funded by mitigation bank payments.

A shoreline stabilization project along Biscayne Bay was carried out by Dade County Department of Environmental Resources Management (DERM) at Biscayne Bay Campus from 1989-1991. This project involved placement of boulder rip-rap along 1,225 linear feet of shoreline along the southern and southeastern edges of campus property; constructing mangrove planters totaling 1,525 linear feet along the southern and southeastern edges of FIU property (mangroves interspersed with rip-rap); 1,200 linear foot cordgrass (Spartina sp.) planter on the southeast edge; and planting of cordgrass along 500 feet of shoreline (no rip-rap) along the southeast edge. The December

2000 site inspection revealed that the above-referenced project appears to have been completed.

Another mangrove mitigation project was planned by DERM for Biscayne Bay Campus. This project involved scraping an area of 1.65 acres to an elevation of +1 foot above mean sea level, excavation of drainage channels to a height of 0 feet above mean sea level, and planting of red mangroves (Rhizophora mangle) and black mangroves (Avicennia germinans) on 3 foot centers in the areas between the drainage channels. The December 2000 site inspection revealed that the above-referenced project has been completed.

Construction of an access road to the Kovens Center required the filling of a section of a mangrove-dominated, tidally influenced canal. As mitigation for this activity, the University planted a buffer zone of native vegetation adjacent to mangroves near the impact site. The specifics are contained in DERM Permit # CC 95-056. The December 2000 site inspection confirmed that this project has been completed.

Security concerns necessitated the trimming of mangroves adjacent to the conference center (DERM Permit # 95–218; CC 99–053). The planting of mangroves at the southwestern end of campus was required for compensatory mitigation. The December 2000 site inspection revealed that this project was in progress. The design of this mitigation area allows for the expansion of additional mangrove plantings to the east if required by future development on campus. This project has been completed.

Several mitigation projects have been carried out at Oleta River State Recreation Area since its creation in 1986. The first of these was initiated by DERM in 1986 and involved placement of boulder rip-rap along 990 linear feet of Biscayne Bay shoreline for shoreline stabilization, construction of an 80-foot x 9-foot fishing pier extending into Biscayne Bay at the southwest corner of park, construction of a 935 linear foot sand beach along Biscayne Bay, shallowing and interconnecting 4 existing ponds and connecting the ponds to Biscayne Bay to create a shallow flow-through lagoon system, and repairing an existing bridge over the Oleta River at the north end of the park. A mangrove restoration project was carried out by DERM in Oleta River State Recreation Area from 1989 to 1991. This project involved clearing and grading approximately 15 acres of previously filled wetland area (the filled area was dominated by Australian pine), reducing elevation from +3 feet to between 0 and +1 foot above mean sea level, stockpiling graded material on park property in the west-central portion of the park (see Figure 13.2), planting approximately 75,000 red mangroves on 3-foot centers, and monitoring the planting sites and replanting to maintain at least 80% survival over a 2 year period. A roseate spoonbill (Ajaia ajaja) was observed in the mitigation area, along with several white ibis (Eudocimus albus), both of which are listed as species of special concern (see Table 13.2 for a complete list of County, State and Federally listed plant and animal species known to occur within the two campuses and their respective context areas).

In 1991, DERM carried out a mitigation project in Oleta River State Recreation Area that involved the construction of mangrove planters totaling 1800 linear feet of shoreline in three sections along the western side of the park. Red mangroves and black mangroves were planted.

Mangrove planters were observed on December 2000 and found the mangroves to be healthy and growing well, with apparent good survival of planted seedlings. The mangrove planters facing Biscayne Bay are planted with red mangroves and white mangroves (Laguncularia racemosa), while the shores of the flow-through lagoon are planted with black mangrove and buttonwood (Conocarpus erecta). In addition, other mangrove-associated plant species are becoming established. In both of these areas and along the extensive rip-rapped sections of shoreline there appears to be considerable natural establishment of mangrove seedlings.

A mitigation project on Sandspur Island (a part of the Oleta River State Recreation Area), located immediately south of Biscayne Bay Campus and within the context area, involved shoreline stabilization and mangrove reclamation. Specifically, boulder rip-rap and mangrove planters are being placed along the entire north, east, and south shorelines of the island (i.e., those shorelines facing the Intracoastal Waterway and thus most impacted by boat traffic in the Intracoastal).

Table 13.2 Animals-Threatened and Endangered Species System(TESS)/Florida

Scientific Name	**Common Name**	**Status**	**FIU**
Alligator, American	Alligator mississippiensis	T(S/A)	N/A
Bankclimber, purple (mussel)	Elliptoideus sloatianus	T	N/A
Bat, gray	Myotis grisescens	E	N/A
Butterfly, Schaus swallowtail	Heraclides aristodemus ponceanus	E	N/A
Caracara, Audubon's crested FL pop.	Polyborus pancus audubonii	T	N/A
Crane, whooping U.S.A.	Grus americana	XN	N/A
Crocodile, American	Crododylus acutus	E	N/A
Darter, Okaloosa	Etheostoma okaloosae	E	N/A
Deer, key	Odocoileus virginianus clavium	E	N/A
Eagle, bald lower 48 States	Haliaeetus leucocephalus	T	N/A
Jay, Florida scrub	Aphelocoma coerulescens	T	N/A
Kite, Everglade snail FL pop.	Rostrhamus sociabilis plumbeus	E	N/A
Manatee, West Indian	Trichechus manatus	E	BBC
Moccasinshell, Gulf	Medionidus penicillatus	E	N/A
Moccasinshell, Ochlockonee	Medionidus simpsonianus	E	N/A
Mouse, Anastasia Island beach	Peromyscus polionotus phasma	E	N/A
Mouse, Choctawhatchee beach	Peromyscus polionotus allophrys	E	N/A

Table 13.2 Animals-Threatened and Endangered Species System(TESS)/Florida			
Mouse, Key Largo cotton	Peromyscus gossypinus allapaticola	E	N/A
Mouse, Perdido Key beach	Peromyscus polionotus trissyllepsis	E	N/A
Mouse, southeastern beach	Peromyscus polionotus niveiventris	T	N/A
Mouse, St. Andrew beach	Peromyscus polionotus peninsularis	E	N/A
Panther, Florida	Puma(=Felis)concolor coryi	E	N/A
Pigtoe, oval	Pleurobema pyriforme	E	N/A
Plover	Chardrius melodus	T	N/A
Pocketbook, shinyrayed	Lampsilis subangulata	E	N/A
Puma (=mountain lion) FL	Puma(=Felis) concolor (all subsp. Exp.coryi)	T(S/A)	N/A
Rabbit, Lower Keys marsh	Sylvilagus palustris hefneri	E	N/A
Rice rat lower FL Keys	Oryzomys palustris natator	E	N/A
Salamander, flatwoods	Ambystome cingulatum	T	N/A
Sawfish, smalltooth U.S.A.	Pristis pectinata	E	N/A
Sea turtle, green FL,	Chelonia Mydas	E	N/A
Sea turtle, green	Chelonia Mydas	T	N/A
Sea turtle, hawksbill	Eretmochelys imbricata	E	N/A
Sea turtle, Kemp's ridley	Lepidochelys kempii	E	N/A
Sea turtle, leatherback	Dermochelys coriacea	E	N/A
Sea turtle, loggerhead	Caretta caretta	T	N/A
Seal, Caribbean monk	Monacus tropicalis	E	N/A
Shrimp, Squirrel Chimney Cave	Palaemonetes cummingi	T	N/A
Skink, bluetail mole	Eumeces egregius lividus	T	N/A
Skink, sand	Neoseps reynoldsi	T	N/A
Slabshell, Chipola	Elliptio chipolaensis	T	N/A
Snail, Stock Island tree	Orthalicus reses	T	N/A
Snake, Atlantic salt marsh	Nerodia clarkii taeniata	T	N/A
Snake, eastern indigo	Drymarchon corais couperi	T	N/A
Sparrow, Cape Sable seaside	Ammodramus maritimus mirabilis	E	N/A
Sparrow, Florida grasshopper	Ammodramus savannarum floridanus	E	N/A
Stork, wood AL, FL, GA, SC	Mycteria american	E	N/A
Sturgeon, gulf	Acipenser oxyrinchus desotoi	T	N/A
Sturgeon, shortnose	Acipenser brevirostrum	E	N/A
Tern, roseate	Sterna dougallii dougalliii	T	N/A
Three-ridge, fat (mussel)	Amblema neislerii	E	N/A
Vole, Florida salt marsh	Microtus pennylvanicus dukecampbelli	E	N/A
Whale, finback	Balaenoptera physalus	E	N/A
Whale, humpback	Magaptera novaeangliae	E	N/A
Whale, right	Balaena glacialis	E	N/A
Wolf, red except where XN	Canis rufus	E	N/A
Woodpecker, red-cockaded	Picoides borealis	E	N/A
Woodrat, Key Largo	Neotoma floridana smalli	E	N/A

Plants-Threatened and Endangered Species System(TESS)/Florida

Scientific Name	Common Name	Status	FIU

Plants-Threatened and Endangered Species System(TESS)/Florida			
Amorpha crenulata	crenulated lead-plant	E	N/A
Asimina tetramera	four-petal pawpaw	E	N/A
Bonamia grandiflora	Florida bonamia	T	N/A
Campanula robinsiae	Brooksville bellflower	E	N/A
Cereus eriophorus var. fragrans	fragrant prickly-apple	E	N/A
Cereus robinii	Key tree-cactus	E	N/A
Chamaesyce deltoidea ssp. deltoidea	deltoid spurge	E	N/A
Chamaesyce garberi	Garber's spurge	T	N/A
Chionanthus pygmaeus	pygmy fringe tree	E	N/A
Chrysopsis floridana	Florida golden aster	E	N/A
Cladonia perforata	Florida perforate cladonia	E	N/A
Clitoria fragrans	pigeon wings	T	N/A
Conradina brevifolia	short-leaved rosemary	E	N/A
Conradina etonia	Etonia rosemary	E	N/A
Conradina glabra	Apalachicola rosemary	E	N/A
Crotalaria avonensis	Avon Park harebells	E	N/A
Cucurbita okeechobeensis ssp. okeechobeensis	Okeechobee gourd	E	N/A
Deeringothamnus pulchellus	beautiful pawpaw	E	N/A
Deeringothamnus rugelii	Rugel's pawpaw	E	N/A
Dicerandra christmanii	Garrett's mint	E	N/A
Dicerandra cornutissima	longspurred mint	E	N/A
Dicerandra frutescens	scrub mint	E	N/A
Dicerandra immaculata	Lakela's mint	E	N/A
Eriogonum longifolium var. ghaphalifolium	scrub buckwheat	T	N/A
Eryngium cuneifolium	snakeroot	E	N/A
Euphorbia telephioides	Telephus spurge	T	N/A
Galactia smallii	Small's milkpea	E	N/A
Halophila johnsonii	Johnson's seagrass	T	N/A
Harperocallis flava	Harper's beauty	E	N/A
Hypericum cumulicola	Highlands scrub hypericum	E	N/A
Jacquemontia reclinata	beach jacquemontia	E	N/A
Justicia cooleyi	Cooley's water-willow	E	N/A
Liatris ohlingerae	scrub blazing star	E	N/A
Lindera melissifolia	pondberry	E	N/A
Lupinus aridorum	scrub lupine	E	N/A
Macbridea alba	white birds-in-a-nest	T	N/A
Nolina brittoniana	Britton's beargrass	E	N/A
Paronychia chartacea	papery whitlow-wort	T	N/A
Pinguicula ionantha	Godfrey's butterwort	T	N/A
Polygala lewtonii	Lewton's polygala	E	N/A
Polygala smallii	tiny polygala	E	N/A
Polygonella basiramia	wireweed	E	N/A
Polygonella myriophylla	sandlace	E	N/A
Prunus geniculata	scrub plum	E	N/A
Rhododendron chapmanii	Chapman's rhododendron	E	N/A

Plants-Threatened and Endangered Species System(TESS)/Florida			
Ribes echinellum	Miccosukee gooseberry	T	N/A
Schwalbea americana	American chaffseed	E	N/A
Scutellaria floridana	Florida skullcap	T	N/A
Silene polypetala	fringed campion	E	N/A
Spigelia gentianoides	gentian pinkroot	E	N/A
Thalictrum cooleyi	Cooley's meadowrue	E	N/A
Torreya taxifolia	Florida torreya	E	N/A
Warea amplexifolia	clasping warea	E	N/A
Warea carteri	Carter's warea	E	N/A
Ziziphus celata	scrub ziziphus	E	N/A

STATUS CODES:
E: Endangered
T: Threatened
LISTING AGENCIES:
FGFWFC: Florida Game and Fresh Water Fish Commission
FDA: Florida Department of Agriculture and Consumer Services
USFWS: United States Fish and Wildlife Service
CITIES: Convention on International Trade in Endangered Species of Wild Fauna and Flora
BBC: Biscayne Bay Campus

The existing mitigation areas previously identified in the context area were not examined during the December 2000 campus inspection. No conflicts regarding mitigation have been identified. Existing and planned mitigation areas should be factored into development plans for the Biscayne Bay Campus.

5. Fisheries, wildlife marine habitats and vegetative communities, indicating dominant species present and species listed by Federal, State or local agencies as endangered, threatened or species of special concern:

All species that were observed during the December 2000 inspections have been previously documented. Table 13.2 lists threatened, endangered and species of special concern likely to occur at Modesto A. Maidique and Biscayne Bay Campus while Tables 13.3 and 13.4 list the more common avian species and other fauna, respectively.

BISCAYNE BAY CAMPUS

Australian pine-dominated upland forest: The Australian pine-dominated forest has limited value as wildlife habitat for either birds or mammals. There is little or no food available for frugivorous, granivorous or nectarivorous species, and little cover available for species which prefer dense foliage cover. Woodpeckers and introduced exotics such as starlings, mynahs and parrots may use dead trees as nesting sites, but other species are unlikely to so. During migration, flocks of warblers and other insectivorous birds may forage in Australian pines, but they are probably a resource-poor habitat even for these species. No County, State or Federally listed plant or animal species were found in the Australian pine-dominated forests at the Biscayne Bay Campus.

Mangrove forest: The total area of these mangroves is relatively small, and although the mangroves present appear to be in good health, the carrying capacity for mangrove-frequenting species is likely to be small. Extensive mangrove areas exist to the north, east, and west of the campus. The mangrove-lined banks of the estuary and various canals may be important corridors for bird and mammal species traveling between these larger mangrove areas. Mangrove areas immediately adjacent to the campus may be important roosting and/or nesting sites for several species of wading birds, including little blue herons, green-backed herons, yellow-crowned night herons and white ibis.

Beach strand: Many of the plants making up the beach strand vegetative association are relatively small, having been recently planted or established following completion of rip-rap placement. The beach strand vegetation serves as an important corridor for land bird species traveling along the coast, but is probably most important as a barrier between the littoral zone and jogging/maintenance paths located inland of the strand vegetation. This barrier may reduce disturbance to wading and pelagic birds utilizing the littoral zone and adjacent waters and may also provide roosting and nesting sites for some species, although nearby mangrove areas are likely to be more important in this respect.

Lakes and littoral zones: The two lakes located on the Biscayne Bay Campus do not appear to be very important wildlife habitat. The west lake is depauperate of both vegetation and animal life. The east lake has a well vegetated littoral zone but is smaller in size and depauperate in animal life.

Wildlife associated with Biscayne Bay and estuary: Vertebrate species in and adjacent to Biscayne Bay and associated waterways were observed during visits to the Biscayne Bay Campus and the Oleta River State Recreation Area. Bird species observed in and adjacent to the Bay included several species of herons, cormorants, gulls and ibis (Table 13.3). Fish species observed included various food and sport fish (snapper, mullet, and a sighting of what was likely to have been a tarpon or snook) as well as a variety of smaller fish species (Table 13.4). No mammals were observed in the Bay, although it is known to be an important area for the West Indian manatee. Atlantic bottlenose dolphins (Tursiops truncatus) and several species of sea turtles also occur in the area.

The shoreline on the Biscayne Bay Campus facing Biscayne Bay is of mixed habitat quality. The extensive area of rip-rap may be used by some species of herons, but is unlikely to be a suitable feeding habitat for most shorebirds or wading birds, or for mammals such as raccoons. The rip-rap does provide considerable cover and foraging area for various fish and invertebrate species. The shallow waters of the Bay adjacent to the shoreline appear to be good habitat for a variety of wildlife. Although this area was only surveyed from shore, turtle grass and manatee grass beds were visible, along with several species of algae. The sea grass areas in particular appear to be good habitat for a wide range of invertebrates and fishes, and should consequently be valuable feeding grounds for diving and aerially fishing birds (cormorants, mergansers, gulls, terns and pelicans). Additionally these areas support important game and food fish (mullet, snapper, tarpon and snook) and are important feeding/wintering grounds for the West Indian manatee.

Landscaped areas: Tree islands and landscaped areas at Biscayne Bay Campus are likely to be important primarily for common resident bird species such as bluejays (Cyanocitta cristata), mockingbirds (Mimus polyglottos), loggerhead shrikes (Lanius ludovicianus), gray kingbirds (Tyrannus dominicensis) and boat-tailed grackles (Quiscalis major). The tree islands are not large enough to provide nesting habitat for less aggressive or more secretive species.

An inspection of the campus during December 2000 revealed little change since the last master plan. Exotic plant removal (i.e., Brazilian pepper, Australian pine) has led to a decrease in forested areas with a concurrent increase in grassland. Additionally since the mangrove mitigation planting at the south end of the campus is now complete, there is a net increase in this habitat type with benefits to associated wildlife. All wildlife species observed during the December 2000 inspection have been previously documented at FIU.

Table 13.3 Preliminary Bird Species List for the FIU Campuses

MAM=Modesto A. Maidique, BBC=Biscayne Bay Campus

COMMON NAME	SCIENTIFIC NAME	Presence		
		MAM	BBC	CODE
Pied-billed Grebe	Podylimbus podiceps	X		pc
Dble-crested Cormorant	Phalacrocorax auritus	X	X	c/f
Anhinga	Anhinga anhinga	X		pc
Great blue heron	Ardea herodias	X	/f	
Little blue heron	Egretta caerulea	X	/l	
Cattle egret	Bubulcus ibis	X	X	c
Green-backed heron	Butorides striatus	X	X	pc
Yllw-crowned nt-heron	Nyctanassa violacea		X	
Blck-crowned nt-heron	Nycticorax nycticorax	X		p
White ibis	Eudocimus albus	X	X	/ia
Roseate spoonbill[b]	Ajaia ajaja		X	
Turkey vulture	Cathartes aura	X		c
Osprey	Pandion haliaetus	X	X	pc/f
Sharp-shinned hawk	Accipiter striatus	X		p

Cooper's hawk	Accipiter cooperii	X		pc
Red-shouldered hawk	Buteo lineatus	X		
Broad-winged hawk	Buteo platypterus		X	p
American kestrel[c]	Falco sparverius	X		pc
Common moorhen	Gallinula chloropus	X		c*
American coot	Fulica americana	X		c
Killdeer	Charadrius vociferus	X	X	pc
Greater yellowlegs	Tringa melanoleuca	X		c
Spotted sandpiper	Actitis macularia		X	
Laughing gull	Larus atricilla	X	X	pc
Ring-billed gull	Larus delawarensis	X		c
Least tern	Sterna antillarum	X		c
Black skimmer	Rynchops nigra	X		c
Rock dove	Columba livia	X	X	c
White-crowned pigeon	Columba leucocephala	X	/f	
Mourning dove	Zenaida macroura	X	X	p*
Eurasian collared dove	Streptopelia decaocto	X		p
Common ground-dove	Columbina passerina		X	
Monk parakeet	Myiopsitta monachus	X		pc*
Red-masked parakeet	Aratinga erythrogenys	X		pc
Cockatiel	Nymphicus hollandicus	X		c
Smooth-billed ani	Crotophaga ani	X		p
Burrowing owl	Speotyto cunicularia	X		c
Common nighthawk	Chordeiles minor		X	
Chuck-will's widow	Caprimulgus carolin.	X		p
Rufous hummingbird	Selasphorus rufus	X		p
Belted kingfisher	Ceryle alcyon	X	X	pc
Red-bellied woodpecker	Melanerpes carolinus	X	X	pc
Yllw-bellied sapsucker	Sphyrapicus varius	X		c
er	Colaptes auratus	X		c*
.	Empidonax sp.	X		p
Gt-crested flycatcher	Myiarchus crinitus	X		c
Eastern kingbird	Tyrannus tyrannus	X		p
Gray kingbird	Tyrannus dominicensis	X	X	pc*
Barn swallow	Hirundo rustica	X	X	pc
N. rugh-winged swallow	Stelgidopteryx serri.	X		pc
Blue jay	Cyanocitta cristata	X	X	p
Fish crow	Corvus ossifragus	X	X	c
House wren	Troglodytes troglody.	X		p
Blue-gray gnatcatcher	Polioptila caerulea	X	X	pc*
American robin	Turdus migratorius	X		p
Grey catbird	Dumetella carolinen.	X		p
Northern mockingbird	Mimus polyglottos	X	X	pc*

Table 13.3 Preliminary Bird Species List for the FIU Campuses (continued)

Brown thrasher	Toxostoma rufum	X		p
Cedar waxwing	Bombycilla cedrorum	X		p
Loggerhead shrike	Lanius ludovicianus	X	X	pc*
European starling	Sternus vulgaris	X	X	c
White-eyed vireo	Vireo griseus	X		p
Red-eyed vireo	Vireo olivaceus	X		p
Northern parula	Parula americana	X		pc
Prairie warbler	Dendroica discolor	X	X	pc

Palm warbler	Dendroica palmarum	X		pc
Black-and-white wrblr	Mniotilta varia	X	X	p
American redstart	Setophaga ruticilla	X	X	pc
Ovenbird	Seiurus aurocapillus	X		p
Common yellowthroat	Geothlypis trichas	X		p*
Northern cardinal	Cardinalis cardinalis	X	X	p*
Painted bunting	Passerina ciris	X		p
Red-winged blackbird	Agelaius phoeniceus	X		p*
Boat-tailed grackle	Quiscalus major	X	X	pc*
Common grackle	Quiscalus quiscula	X		pc*

[a] List compiled since 4 December, 1992. [b] Observed at the Oleta River State Recreational Area
[c] Subspecies undetermined

CODES: Codes given after a slash (/) refer to Biscayne Bay Campus,
all other codes refer to Modesto A. Maidique.

a = Adult c = Observed on campus other than in the preserve
f = Seen only in flight i = Immature
p = Observed in the preserve, including the adjacent pond
= Species that bred or went through the motions of doing so
Note: Unless otherwise noted, all birds were adults.

Table 13.4 Animal Species (Excluding Birds) Observed or Reported at the FIU Campuses and in the Surrounding Context Areas

COMMON NAME	SCIENTIFIC NAME	Presence	
		BBC	MAM
MAMMAL SPECIES:			
Bobcat[a]	Lynx rufus		X
Raccoon	Procyon lotor	X	
West Indian manatee	Trichechus manatus	X	
Atl. bottlenose dolphin	Tursiops truncatus	X	
	Vulpes vulpes		X
FISH SPECIES:			
Snook	Centropomus sp.		X
Mosquito fish	Gambusia sp.	X	X
Mojarra	Gerres sp.	X	
Herring	Jenkinsia sp.	X	
Pinfish[b]	Lagodon rhomboidesX		
Bluegill	Lepomis macrochirus		X
Tarpon	Megalops atlantica	X	
Largemouth bass	Micropterus salmoides		X
Mullet	Mugil curema	X	
Tillapia sp.	Oreochromis spp.		X
Barracuda	Sphyraena barracuda	X	
Mangrove snapper	Serranidae	X	
Needlefish	Belonidae	X	
Silversides	Atherinidae	X	

Table 13.4 Animal Species (Excluding Birds) Observed or Reported at the FIU Campuses and in the Surrounding Context Areas (continued)

		Presence

COMMON NAME	SCIENTIFIC NAME	BBC	MAM
Pufferfish		X	
AMPHIBIAN SPECIES:			
Cane toad	Bufo marinus		X
East. Narrw-mouthed			
Toad	Gastrophryne carolinensis		X
REPTILE SPECIES:			
Carolina anole	Anolis carolinensis	X	X
Cuban Brown anole	Norops sagrei	X	X
Bark anole	Norops distichus	X	X
NOTABLE INVERTEBRATE SPECIES:			
Limpet	Acmaea sp	X	
Gulf fritillary	Agraulis vanillae		X
Battalaria snail	Battalaria sp.	X	
Barnacle	Chthamalus sp.	X	
Queen butterfly	Danaus gilippus berenice		X
Julia butterfly	Dryas iulia	X	
Blue sponge[b]	Dysidea etherea	X	
Florida atala butterfly	Eumaeus atala florida		X
Zebra butterfly	Heliconius charitonius		X
Sulfur butterfly	Phoebis spp.		X
Orange sponge	Demospongiae	X	
Sea cucumber	Holothuroidea	X	
Periwinkle	Gastropoda	X	
Mussel	Bivalvia	X	
Amphipods	Amphipoda	X	
Fiddler crab	Decapoda	X	
Sea urchin	Echinoidea	X	

Vegetation and Wildlife Composition:

MODESTO A. MAIDIQUE

Exotic vegetation has continued to invade the teaching and research area south of the Pharmed Arena as well as the island at Hennington Lake. With regard to wildlife, all species that were observed during the December 2000 inspection had been previously documented. A large communal nest of Monk Parakeets was observed on a floodlight platform of the recreational field west of the teaching and research area. Also, it appears that the burrowing owls previously found on campus have been extirpated.

Brief surveys were conducted of the vegetation. These surveys were limited to: an examination of the exterior vegetation of tree islands; the paths through the hardwood hammock preserve; inspection of littoral zone vegetation in the manmade ponds and lakes; other potential wetland sites on campus; and an examination of the grassed areas along the south edge of the campus, where burrowing owl burrows had been reported.

Modesto A. Maidique contains relatively few naturally vegetated areas. Non-landscape vegetation associations (see Table 13.1) can be classified into the following categories:

Tree islands: This association consists of isolated natural or landscape trees that have been overgrown with viny herbaceous and woody vegetation. In most cases, the "understory vegetation" (i.e., herbs and low shrubs growing under the crown of the tree) has been left intact, often to a radius of 10 feet or more. Tree islands are scattered throughout Modesto A. Maidique.

Exotic-invaded hardwood hammocks: In the southeast corner of Modesto A. Maidique, four wooded areas are interspersed with the tree islands (Figure 13.1). These small hammocks contain a mix of native and exotic hardwood trees and shrubs, wetland herbs and graminoids, and other disturbance-adapted plants.

Sweet bay-dominated hardwood hammock An oval shaped hammock is located near the southwestern corner of the Modesto A. Maidique Campus (Figure 13.1), which appears to be an old bay head that has been partially cleared. A central portion of the hammock contains a shelter and planted "butterfly garden" vegetation. In the relatively undisturbed portions of this area, canopy vegetation is dominated by sweet bay (Persea borbonia; some quite large), live oak (Quercus virginiana), mastic (Mastichodendron foetidissimum), wild tamarind (Lysiloma bahamensis), pigeon plum and white stopper (Eugenia axillaris). This area has been designated as an on-campus botanical and wildlife area. An interpretive trail system has been established, and individuals of several species are flagged throughout the zone.

This zone represents the most botanically valuable natural feature of Modesto A. Maidique. It is used by faculty to conduct research of reclaimed land. However, it should be noted that an inspection of the site in 2001 did not reveal the presence of any threatened or endangered fauna or nests during the site inspection. Due to these findings and the scarcity of developable land at Modesto A. Maidique, FIU has placed a 10-year limit on the “conservation” designation of the area. If within the next ten years funding cannot be identified to develop the zone as recommended in the 2003 Charette, the university will reconsider the “conservation” status. The Faculty Senate has committed to raising the funds. The 2003 Charette calls for the creation of a small research facility, gardens, trails, a jogging track, picnic areas and some development.

<u>Littoral zone and submerged vegetation associated with lakes</u>: Modesto A. Maidique contains 15 ponds and lakes, all apparently artificial (Figure 13.1). The littoral zones of most of these lakes are sparsely vegetated with a variety of wetland plants, including soft rush, flat sedge (<u>Cyperus haspan</u>), duck potato, primrose willow (<u>Ludwigia peruviana</u>) and cattail. Additionally, a few wetland trees, including willow (<u>Salix carolinensis</u>) and bald cypress appear to have been planted. Elodea abounds in the shallow-water portions of these lakes.

The vegetation of Hennington Lake, located near the northeast corner of Modesto A. Maidique (Figure 13.1), was examined in some detail. This lake contains a spoil island called Hennington Island, which is apparently intended to serve as a "rainforest island". Design team personnel were unable to access the island, but visual examination of Hennington Island from the shore of the lake indicates that the island is dominated by a mix of native and exotic hardwood hammock trees, including Indian almond (<u>Terminalia catappa</u>), wild tamarind, royal poinciana (<u>Delonix regia</u>), Indian rubber tree (<u>Ficus elastica</u>), paurotis palm (<u>Acoelorraphe wrightii</u>), oil palm (<u>Elaeis guineensis</u>), umbrella tree (<u>Schefflera actinophylla</u>), paradise tree (<u>Simarouba glauca</u>), ear-leaf acacia (<u>Acacia auriculaeformis</u>), and kapok tree (<u>Bombax</u> spp.). Littoral zone vegetation in this lake includes Florida white-tops, soft rush, primrose willow, camphor weed, water hyssop (<u>Bacopa monnieri</u>), coinwort (<u>Centella asiatica</u>), miterwort and diodia, with scattered planted bald cypress and wax myrtle.

Littoral zone vegetation also occurs in association with the off campus lake within the context area (west of Highway 821), consisting of extensive areas of cattail and soft rush which extend away from the shoreline for up to 20-30 feet in some places. Submerged vegetation consists of dense beds of elodea.

Periodically inundated lawn areas overgrown with wetland vegetation: The northwest corner of Modesto A. Maidique is somewhat lower than the rest of the site and consequently experiences some degree of ponding during the rainy season. Two general areas have been identified in this portion of the campus where marshy areas have been undisturbed (i.e., unmowed) long enough to develop a reasonable wetland vegetative cover.

BISCAYNE BAY CAMPUS

Since the last master plan in 1995, a program for removal of exotic vegetation has been implemented as well as mangrove mitigation planting initiated. Exotic plant removal (i.e., Brazilian pepper, Australian pine) has led to a decrease in forested areas with a concurrent increase in grassland. There is a net increase in this habitat type, which benefits the associated wildlife, due to the mangrove mitigation planting at the south end of the campus. All wildlife species observed during the December 2000 inspection have been previously documented at the Biscayne Bay Campus. All wildlife species that were observed during the December 2000 inspection have been accurately documented at the campus.

Brief surveys were conducted of the vegetated areas at Biscayne Bay Campus. Vegetation surveys were largely restricted to brief walking surveys of the "forested" areas surrounding the main building area and the replanting zone near Biscayne Bay, and "windshield surveys" of additional portions of the campus and surrounding areas readily accessible by roads.

Biscayne Bay Campus contains relatively few naturally vegetated areas. Non-landscape vegetation associations at the Biscayne Bay Campus can be classified into the following categories:

Australian pine-dominated upland forest: Much of the non-landscape vegetation at the Biscayne Bay Campus, including the forested parcels to the southwest of the main building area and to the north of the canal at the north edge of the building area (Figure 13.3), is dominated by Australian pine (Casuarina equisetifolia and C. glauca). No County, State or Federally listed plant species were found in the Australian pine-dominated forests at Biscayne Bay Campus.

Mangrove Forest: Mangrove vegetation at the Biscayne Bay Campus is restricted primarily to two areas (Figure 13.3): a narrow band along approximately 2100 feet of an internal canal; and along approximately 2200 feet of the estuary at the east edge of the campus. A few scattered trees also occur in the rip-rapped section of shoreline along Biscayne Bay.

Mangrove associations at the Biscayne Bay Campus are dominated by red mangrove, with buttonwood, black mangrove, white mangrove, and seaside mahoe (Thespesia populnea) also commonly found.

Back-mangrove associations: Back-mangrove associations are found on the Biscayne Bay Campus in areas that are transitional between mangrove forests and upland vegetation; i.e., along the edges of the mangrove forest, interior to the mangrove-lined portion of the estuary (Figure 13.3), and landward of mangrove forests elsewhere in the context area of Biscayne Bay Campus. Back-mangrove canopy is dominated by a mix of upland and wetland trees, including Australian pine, buttonwood, seaside mahoe, and sea grape.

Beach strand: Most of the eastern and southern edge of the Biscayne Bay Campus is Biscayne Bay shoreline, a portion of which has been rip-rapped for shoreline stabilization (Figure 13.3). Behind the rip-rap areas, and in those portions of the shoreline that lack rip-rap, beach strand vegetation dominates. In addition, scattered buttonwood trees and a few red mangroves occur along the shoreline behind the rip-rap.

Within the context area of the Biscayne Bay Campus, beach strand vegetation also occurs along portions of the shorelines in the Oleta River State Recreation Area and may occur in the State mangrove preserves.

Littoral zone and submerged vegetation associated with lakes: The Biscayne Bay Campus contains two lakes, both apparently manmade (Figure 13.3). The western of the two lakes has a very sparsely vegetated littoral zone, with vegetation consisting almost exclusively of soft rush (Eleocharis interstincta), a few planted bald cypress (Taxodium distichum) and a few landscape grasses and lawn weeds. No deep-water vegetation was observed in the western lake. The eastern of the two lakes has a landscaped edge, and emergent vegetation occupies nearly the entire littoral zone of the lake. Dominant littoral zone vegetation in the eastern lake includes soft rush, duck potato (Sagittaria falcata), cattail (Typha latifolia).

Submerged vegetation associated with Biscayne Bay and estuary: A visual survey of aquatic vegetation from the shoreline, and inspection of vegetation washed up by tidal action were conducted along a portion of the Biscayne Bay shoreline and at several points along the estuary. In the estuary the predominant aquatic vegetation consists of Caulerpa spp. and several unidentified species of green algae and red algae. The shallow waters facing Biscayne Bay have a rubble bottom in most places, interspersed with turtle grass (Thalassia testudinum) and manatee grass (Halodule wrightii) beds.

Disturbed areas containing wetland plant species: In the southeast corner of Biscayne Bay Campus, a large area was cleared of vegetation. Since that time, the scraped area has been recolonized by a mix of upland and transitional wetland weeds.

6. Aquifers and aquifer recharge areas:

Technically, all of Miami-Dade County is an aquifer recharge area because an impermeable layer does not lie between the surface and the aquifer. However, aquifer recharge areas of concern to South Florida Water Management District (SFWMD) are the major wetland systems in western and southern Miami-Dade County. Neither campus is considered an important aquifer recharge area.

MODESTO A. MAIDIQUE

Modesto A. Maidique and context area receive water from the Miami-Dade Water and Sewer Authority Department (MDWASAD) which draws its water from the Biscayne aquifer. The Modesto A. Maidique campus and context area lack extensive wetland systems, and are thus not important aquifer recharge areas.

BISCAYNE BAY CAMPUS

The Biscayne Bay Campus and context area receive water from the Miami-Dade Water and Sewer Authority Department (MDWASAD), which draws its water from the Biscayne aquifer. However, potable water is not drawn from the Biscayne aquifer within Biscayne Bay Campus context area because of saltwater intrusion.

7. Air quality, including but not limited to the pollutants subject to National Ambient Air Quality Standards:

Air quality information was obtained from Miami-Dade County DERM. The Miami-Dade County Ambient Air Monitoring Network consists of National Air Monitoring Stations (NAMS) and State and Local Air Monitoring Stations (SLAMS). The primary purpose of the network is to measure ambient air levels of criteria pollutants, the air pollutants for which National Ambient Air Quality Standards (NAAQS) have been established by the Federal government.

MODESTO A. MAIDIQUE

The Air Quality Index (AQI) scale ranges from 0 to 500 with the following descriptor words and ranges:

Good	0	to	50
Moderate	51	to	100
Unhealthful	101	to	199
Very unhealthful	200	to	299
Hazardous	300	to	500

The index uses a scale based on the National Ambient Air Quality Standards for the five pollutants (nitrogen dioxide, sulfur dioxide, carbon monoxide, lead, and total suspended particulates). The actual standard for each pollutant represents 100 on the AQI scale, which is unitless. The standards are aimed at protecting sensitive populations. If the AQI is over 100, generalized health effects and cautionary statements may also be provided. These statements were issued in 1989 when the Everglades fires were causing breathing problems for some people.

The reported Daily Index is done on working days using a PM10 sampler at the Miami Fire Station (1200 NW 20th Street), and all operational carbon monoxide, ozone, nitrogen dioxide and sulfur dioxide sites. The data for nitrogen dioxide and sulfur dioxide are recorded but have never been high enough to be used for the AQI. After converting the concentrations to AQI values, the highest AQI value of all the pollutants for the day is reported. After all the continuous monitoring data for the month are corrected and verified, a corrected AQI is calculated for every day in the month using all air monitoring sites. This is called the Total AQI and is reported to the Florida Department of Environmental Protection every quarter.

<u>BISCAYNE BAY CAMPUS</u>

Very few Miami-Dade County air quality monitoring sites are located close to the Biscayne Bay Campus. The closest site is approximately 8.1 miles southwest of the campus. All of the monitoring sites are located to the south of the Biscayne Bay Campus except the Thompson Park site, which is located nearly 19 miles west-northwest of the campus.

8. Surface water quality, including the water quality for each lake, river and other surface water, and the identification of any such water body designated as an Outstanding Florida Water:

Water quality data for Modesto A. Maidique Campus and Biscayne Bay Campus were obtained from two sources: (1) DERM monitoring wells in the vicinity of the two campuses, and (2) data compiled by the EPA from surface water quality assessments done in and around the Munisport Landfill.

DERM monitors a variety of parameters, including ammonia, nitrate/nitrite, organic PO_4, total PO_4, chloride, barium, iron, calcium, magnesium, potassium, sodium, manganese, zinc, sulfate, cadmium, chromium, copper, lead, mercury, turbidity, total dissolved solids, arsenic, nickel, selenium, silver, phenol, cyanide, alkalinity, total Kjeldahl nitrogen, color, and fluoride. DERM uses the 1993 DER drinking water standards, Chapter 17-550, F.A.C. Phenol is monitored by DERM.

MODESTO A. MAIDIQUE

There are five groundwater wells monitored by DERM within three miles of Modesto A. Maidique Campus. For two of the five wells data are available from 1981 through 1983 and 1989 through 1990. Data for two of the remaining wells are available only from 1992. Only data from 1989 were available for the final well.

In the wells near Modesto A. Maidique, there was one exceedance of lead in 1992. The lead level in the well was measured as 0.041 mg/L; the DER standard is 0.015 mg/L.

There were three exceedances of acceptable levels of iron in two wells near the Modesto A. Maidique Campus. These iron levels were, respectively, 1.0, 1.4, and 1.4 mg/L; the DER standard for iron is 0.3 mg/L. Two of these exceedances occurred in the fall of 1989; the third was in the fall of 1990. All other parameters monitored by DERM were within DER standards for these five wells.

BISCAYNE BAY CAMPUS

There are two groundwater wells monitored by DERM near the Biscayne Bay Campus each located two and one half miles from the campus. Data for one of the two wells is available from 1981 through 1990. Data for the other well is available from 1992.

EPA surface water data for the Munisport Landfill: The EPA, in cooperation with State and local regulatory agencies, has compiled an enormous amount of water and soil quality data for the Munisport Landfill (currently an EPA Superfund site), which is adjacent to the western boundary of Biscayne Bay Campus and falls within the context area for this campus. For details, the reader is referred to the EPA Record of Decision (EPA, 1990) for the Munisport site.

In June 1989, the EPA undertook a study to evaluate the emergence of toxic leachate from the Munisport Landfill into the surface waters of the mangrove preserve (EPA, 1989). Surface water quality within Munisport and the State mangrove preserve (adjacent to the southwest edge of Biscayne Bay Campus) was monitored at five sampling sites along the canal separating Munisport from the mangrove preserve and at two sites along the two culverts at the southeast boundary of the preserve. Surface water samples were analyzed for a variety of parameters including ammonia, nitrate/nitrite, phosphates, dissolved oxygen, metals and extractable and purgeable organics. EPA uses both State and Federal ambient water quality standards.

At all sampling sites, ammonia levels were much higher (maximum = 15 mg/L) in the portion of the preserve adjacent to the landfill than they were in the culverts at the east edge of the preserve (maximum = 2.0 mg/L). Ammonia concentrations at both sites varied directly with tidal stage, with dilution occurring with incoming high tide. The EPA concluded that the most likely source of increased ammonia levels in the mangrove preserve was the encroachment of leachate from the adjacent landfill.

Results of the organic and metal analyses of surface water samples revealed no detectable heavy metals and only a few extractable and purgeable organic compounds, none of which exceeded State or Federal water quality standards. Analysis of sediments extracted from the same sampling sites, however, revealed increased amounts of metals and organic compounds in the sites adjacent to the landfill compared with the sites nearer the Bay. However, the concentration of metals in sediments was generally within the ranges observed in marine sediments far removed from urbanization and industrial effects.

There are no water quality monitoring stations on or very near either campus. The absence of monitoring precludes the determination of whether or not campus activities are significantly affecting ground or surface water quality.

Storm water runoff from roadways and parking lots and other impervious surfaces is probably the principal source of water pollution on campus. Runoff from landscaped and grassed areas also, no doubt, contributes to water pollution. Presumably, fertilizers and pesticides are used in maintenance of landscaped areas on campus; no data relating to this matter was found. There are mulch storage areas on University property, and these likely contribute some leachate to the nearby waters.

There are areas along the waterfront away from the developed portions of the campus where a considerable amount of clearing has occurred. No doubt some of these areas contribute to turbidity in the adjacent portion of Biscayne Bay.

The Munsiport Landfill Site lies to the west of and adjacent to the campus. This is a Superfund site for which an Environmental Protection Agency (EPA) Record of Decision Declaration was issued in 1990 (EPA, 1990). Based on Munisport's impacts on the environment, the EPA prescribed a remedial action for this site, primarily to protect the State mangrove preserve adjacent to Munisport and Biscayne Bay Campus. Evaluating the potential long-term effects of Munisport on resources in the context area is beyond the scope of this study.

Because of the smaller size of the lakes, it is likely that storm water runoff has a greater impact on the lakes on campus than it does on Biscayne Bay or the Oleta River.

9. Known septic tanks, grease traps, storage sites of hazardous, toxic or medical waste:

No known septic tanks are present at either Modesto A. Maidique or Biscayne Bay Campus. According to FIU sources, the last septic tank was removed from Biscayne Bay Campus in 1992. Grease traps have been installed on both campuses in the portions of the sewer lines associated with cafeteria facilities, and in association with the hospitality management facility on at Modesto A. Maidique.

10. Chemical and hazardous waste disposal systems:

MODESTO A. MAIDIQUE

According to information provided by the FIU Environmental Health and Safety staff, hazardous, toxic and medical wastes are collected by FIU Environmental Health and Safety staff from sources of generation and stored until pick-up and disposal can be arranged with a contracted waste disposal company. Hazardous (non-biohazardous and non-radioactive) waste is stored in the Hazardous Waste Shed located on the westside of Modesto A. Maidique.

Biohazardous wastes generated at Modesto A. Maidique are either picked up from the point of generation by the disposal company, or are stored in an outside storage container (location unknown). Biohazardous waste is presumably generated from only two sites at Modesto A. Maidique: Modesto A. Maidique Health Clinic, from which biohazardous waste is collected once per week, and the Medical Science Lab, from which biohazardous waste is collected biweekly. Waste stored in the outside container is picked up once per month.

Radioactive wastes generated at Modesto A. Maidique are currently stored in Building OE 152 to "allow decay to an acceptable level". Radioactive wastes are transported to this room by the generators themselves (professors and their graduate assistants). Because the handling of radioactive waste is a regulated activity, this is currently the only acceptable arrangement for the disposal of radioactive wastes. No further information regarding the handling of radioactive wastes was provided.

As a rule, hazardous wastes stored on campus are disposed of by a waste disposal company every 180 days. The waste disposal company handling the disposal of hazardous wastes must meet basic insurance and other permit requirements.

The largest concentration of fuel tanks is at the grounds/motor pool building at the southwest corner of the campus, where two 6,000 gallon gasoline tanks, one 500 gallon kerosene tank, and one 600 gallon diesel tank are located. One thousand gallon emergency diesel tanks are located at Viertes Haus, the library, Owa Ehan, and Engineering and Computer Science. Smaller emergency diesel tanks (550-600 gallons each) are located at Public Safety, Primera Casa, Graham Center and Deuxieme Maison.

BISCAYNE BAY CAMPUS

According to information provided by the FIU Environmental Health and Safety staff, hazardous, toxic and medical wastes are collected by FIU Environmental Health and Safety staff from sources of generation and transported to Modesto A. Maidique for storage until pick-up and disposal can be arranged with a contracted waste disposal company. Hazardous (non-biohazardous and non-radioactive) waste is transported to Modesto A. Maidique, where it is stored in the Hazardous Waste Shed located on the west side of the campus. Only small amounts of hazardous wastes (approximately 5-20 gallons per year) are generated at Biscayne Bay Campus. Biohazardous wastes generated at Biscayne Bay Campus are presumably picked up from the point of generation by the disposal company. According to FIU Health and Safety Staff, no radioactive waste is generated at Biscayne Bay Campus.

Below-ground fuel storage tanks on Biscayne Bay Campus are associated with motor pool/vehicle maintenance areas. Presumably there are underground emergency fuel storage tanks located under the main buildings, no specific information on this was given.

11. Surface and groundwater hydrology:

MODESTO A. MAIDIQUE
Refer to 13-(1)a)1.

BISCAYNE BAY CAMPUS
Refer to 13-(1)a)1.

(2) ANALYSIS REQUIREMENTS

a) Existing Commercial, Recreational Or Conservation Uses For The Following Resources

1. Rivers, lakes, bays, wetlands (including estuarine marshes), and bottom lands:

Rivers, lakes and bays:

MODESTO A. MAIDIQUE

Commercial Uses: There are no commercial uses in the lakes and surface waters in the context area.

Recreational Uses: The canals in the context area outside Modesto A. Maidique boundaries are used primarily for water conveyance and drainage. There is limited recreational boating and fishing along the canal that borders Tamiami Trail. We have no knowledge of recreational uses of the off-campus lake.

Conservation Uses: The Environmental Studies program plans to develop a wetland area within the lake associated with the teaching and research area. No other surface water-related conservation uses were discovered.

BISCAYNE BAY CAMPUS

Commercial Uses: There are no surface water-related commercial uses within the context area.

Recreational Uses: The principal surface water-related recreational uses in the context area are boating and fishing in the Oleta River. The FIU student rowing club uses the Oleta River on a regular basis. No other surface-water-related recreational uses on campus or within the context area were discovered.

Conservation Uses: There are a number of habitat enhancement/mitigation projects that have been or will be completed along the shoreline of the Oleta River. Additional mitigation work is in progress on Sandspur Island.

Biscayne Bay and all natural waterways (including the Oleta River and the estuary at the north end of the Biscayne Bay Campus) tidally connected to the bay have been designated as the Biscayne Bay Aquatic Preserve, a Miami-Dade County preserve.

2. Floodplains:

MODESTO A. MAIDIQUE
There are no floodplains on campus or within the context area.

BISCAYNE BAY CAMPUS
The Biscayne Bay Campus and the context area are within the 100-year flood zone. No commercial uses occur within the context area; therefore, all recreational and conservation activities within the context area and discussed elsewhere within this document are present in the floodplain area.

3. Wetlands:

MODESTO A. MAIDIQUE

Commercial Uses: There are no commercial uses in the wetland areas within the context area.

Recreational Uses: There is a jogging/fitness trail adjacent to the teaching and research park on campus. The other potential wetland areas are located in vacant land and serve no recreational function.

Conservation Uses: The teaching and research park serves both conservation and educational functions. The Environmental Studies program has an ongoing conservation/restoration project here, and has plans to develop wetland areas associated with the preserve. No other conservation uses associated with on-campus wetlands have been identified.

BISCAYNE BAY CAMPUS

The majority of wetland areas on campus and within the context area are mangrove forest or back-mangrove associations.

Commercial Uses: There are no commercial uses associated with wetlands on campus or within the context area. However, seagrass and mangrove areas are important resources in the maintenance of fisheries, and as such may be important to commercial interests. There is a regional water treatment plant in an area that likely was dominated by mangroves at one time.

Recreational Uses: The dominant recreational feature within the context area is the 470-acre Oleta River State Recreation Area. The passive recreation uses in the mangrove areas of Oleta River State Recreation Area are primarily for nature study and education. Fishing and snorkling are the primary active recreational activities associated with the mangrove areas. There is a beach and fishing pier at Oleta River, but these are not associated with the mangrove areas.

On campus, a jogging/fitness recreation trail runs adjacent to mangroves and passes some of the strand areas. While there may be other occasional recreational uses in portions of the mangrove areas at Biscayne Bay Campus, no evidence was found that any of these relate to University activities. No nature trails or evidence of planned passive or active recreation activities other than the jogging/fitness trails were observed on campus.

There are two structures on the water; however, neither one appears to serve as a recreational facility. The northern one is a pier in good condition, but it is located in a "no trespassing" area. The other is a floating dock that is in disrepair. It likely is used by the student rowing club and by occasional boaters. Also, there is a launch ramp adjacent to the red drum fish hatchery on campus that is accessed from a service road; however with the absence of a parking lot and other amenities, it is of minor recreation value.

Conservation Uses: There are a number of State-owned mangrove preserves within the context area. According to the coastal element of the City of North Miami's Comprehensive Plan, there are 575 acres of mangrove preserves in or adjacent to the context area. Additional conservation uses within the context area are related to mitigation or environmental enhancement projects. These are discussed in Section (1) a) 4. existing mitigation sites.

4. Fisheries, wildlife marine habitats and vegetative communities:

MODESTO A. MAIDIQUE

Wetland plant communities on campus and within the context area are discussed in Section (1) a) 1 wetlands.

Commercial Uses: There are no commercial uses in any of the existing vegetative communities in the context area.

Recreational Uses: Other than those discussed above, there are no recreational uses associated with the vegetative communities in the context area.

Conservation Uses: Because Modesto A. Maidique is designated as a Wildlife Sanctuary by an agreement between FIU and the Tropical Audubon Society, those vegetative communities that serve as wildlife habitat (see Section (1) a) 5.) are protected. Other conservation uses are discussed under wetlands.

BISCAYNE BAY CAMPUS

Mangrove forests and back-mangrove associations, as well as beach strand communities, are discussed in Section (1) a) 5 above.

Commercial Uses: There are no commercial uses in any of the existing vegetative communities in the context area.

Recreational Uses: Other than those discussed in Section (1) a) 5, there are no recreational uses associated with the vegetative communities in the context area.

Conservation Uses: The only additional conservation uses not discussed above are an unknown contribution to the marine or estuarine ecosystem by the submerged vegetation associated with Biscayne Bay and the estuary.

Species Listed by Federal, State or Local Agencies:

MODESTO A. MAIDIQUE

The habitat values of each of the vegetation communities in the context area are discussed above as are the commercial, recreational and conservation values of each.

BISCAYNE BAY CAMPUS

The habitat values of each of the vegetation communities in the context area are discussed above, as are the commercial, recreational and conservation values of each.

The Oleta River in this area is a known habitat for the West Indian manatee. Recreational uses of the Oleta River are discussed above. Most of these activities are not associated with the campus. Nonetheless, some of the recreational uses of the Oleta River are not compatible with the survival of the West Indian manatee.

Known Corridors for the Faunal Species:

MODESTO A. MAIDIQUE

No animal corridors are known to occur on campus or within the context area.

BISCAYNE BAY CAMPUS

The only significant wildlife corridors on campus or within the context occur in mangroves, beach strand and other wetland areas, and are discussed above.

b) Available And Practical Opportunities And Methods For Protection Or Restoration Of Resources Identified In (1) A)

1. Rivers, lakes, bays, wetlands (including estuarine marshes), and bottom lands:

Rivers and lakes:

MODESTO A. MAIDIQUE

Protective measures: Protective measures for lakes are discussed in Section (2) 1. above. Methods for littoral zone protection are discussed in Section (2) 1. above.

Enhancement measures: Most of the lakes at Modesto A. Maidique would benefit from a variety of enhancement measures. Several of the lakes lack any kind of littoral zone and are steep-sided. These lakes would benefit from grading measures to produce a shallower grade. This would permit the planting of littoral vegetation around the peripheries of the lakes and would help to reduce safety hazards of steep-sided lakes. Most lakes on campus would benefit from the planting of native littoral zone plants. Such plantings would increase the value of the lakes as wildlife habitat, and, by absorbing excess nutrients could help prevent the occurrence of algal blooms.

Removal of exotic vegetation from the shorelines of lakes is also desirable as a means of enhancing their value. The species that is most problematic in this respect is Australian pine. Removal of adult trees followed by regular and systematic eradication of seedlings and saplings would reduce the control costs in the long term and prevent competition with desired native plant species.

BISCAYNE BAY CAMPUS

Protective measures: Routine monitoring of water quality at the two lakes on Biscayne Bay Campus should be initiated as a means of identifying point and non-point sources of pollution at the lakes. This is especially important for the west lake due to the potential of pollution from parking lots to the south of the lake, from the Munisport Landfill to the west, and from the maintenance and service facilities located to the north of the lake.

Within the context area, lakes located within the Munisport site were not open to public access, so an assessment of the need for protective measures for these lakes was not within the scope of this project. Furthermore, protective measures at these lakes are probably not warranted until environmental issues associated with the Munisport Landfill are resolved (EPA, 1990).

Within the context area, the Oleta River and adjacent mangrove areas and channels are protected within the Oleta River State Recreation Area and the State mangrove preserves. This waterway is already protected by various measures designed to minimize the impacts of boating and other recreational use on mangroves and on West Indian manatees that utilize the river.

Biscayne Bay and all natural waterways (including the Oleta River and the estuary at the north end of Biscayne Bay Campus) tidally connected to the bay have been designated as the Biscayne Bay Aquatic Preserve, a Miami-Dade County preserve.

Enhancement measures: The east lake on campus has a well developed littoral zone, and natural colonization of the lake by various aquatic invertebrates and vertebrates will enhance its value as wildlife habitat over time. The width and depth of the lake probably restricts its value as habitat for aquatic birds and many fish species. The west lake appears to be very poor animal habitat at present. Planting of littoral zone vegetation along the periphery of the lake would greatly enhance its habitat and visual value.

The Oleta River and associated mangrove areas appear to be in good ecological condition. The existing protective measures governing the river and associated mangroves appear to be sufficient, and no enhancement measures are recommended. The Terama Tract (Figure 13.2) is the only disturbed area abutting the river, and any mitigation work done at the site (e.g., removal of Australian pine, removal of fill) is dependent on final resolution of the development status of the tract.

Wetlands:

MODESTO A. MAIDIQUE

There are relatively few wetland areas at Modesto A. Maidique. The majority of wetlands on campus and within the context area fall into three categories: the teaching and research park and associated lake, littoral zones associated with other lakes, and periodically flooded lawn areas.

Protective measures: The teaching and research park contains patches of wetland plant vegetation and has a lake with a reasonably well-developed littoral zone. The park and associated lake are already protected as a campus nature preserve, and existing levels of protection are probably adequate to protect these wetlands.

Littoral zones associated with the 15 other lakes on campus are generally poorly developed and likely serve as only marginal habitat for birds and other animals. However, littoral zone vegetation could be better protected by limiting the use of herbicides and pesticides within those portions of the campus that drain into lakes, and by selecting herbicides and pesticides with short environmental half-lives and low toxicity to non-target organisms. University maintenance staff should also be encouraged to restrict mowing near on campus lakes to encourage the growth of transitional wetland vegetation.

Within the context area, the only wetland is the large lake near SW 122nd Avenue and SW 11th Street. This lake possesses a reasonably well-developed littoral zone and serves as habitat for a number of birds and other animals. However, plastic bottles and other debris litter much of the littoral zone and should be removed.

Periodically flooded lawn areas occur on campus to the immediate west of the main entrance to the campus from Tamiami Trail and along the periphery of the playing fields in the northwest corner of the campus. These lawn areas support wetland vegetation, primarily because mowing has been curtailed due to ponding. However, because wetland hydrology, soils and vegetation appear to be present, these areas may qualify as jurisdictional wetlands under the United States Army Corps of Engineers (ACOE) and State of Florida wetlands regulations. Delineation of jurisdictional wetlands is a complex process and is beyond the scope of work for this project.

Flooded lawn areas likely only serve as marginal foraging habitat for birds and other animals.

Enhancement measures: Wetland areas associated with the teaching and research park are currently undergoing an enhancement program, with exotic plant species being removed and littoral zone vegetation being replanted in the adjacent lake.

The remaining wetland areas would benefit most from a reduced mowing regime, allowing the establishment of disturbance-sensitive wetland species, and allowing the development of mature, reproductive plant species would benefit these areas. Additionally, limiting the application of herbicides and pesticides would enhance the value of these areas as wildlife habitats.

BISCAYNE BAY CAMPUS

The majority of wetland areas on campus and within the context area are mangrove forest or back-mangrove associations.

Protective measures: Since mangrove areas on campus are primarily located along an estuary and canal at the north end of the campus, proposed protective measures apply primarily to these areas.

The estuary located at the north end of the campus should be designated as a no-wake boating zone with signs posted at the entrance to the estuary. Recreational and other activities within the estuary should be limited to those activities which will not stir up sediment or scar the bottom, and which will not create undue wave action along shorelines. Any other activities which might damage mangrove roots and/or propagules should be prohibited or closely controlled. The mangrove-lined canal on campus is both shallow and narrow, and any recreational or other activities occurring in the canal will likely damage the mangroves growing there. Signs should be posted at potential access points of the canal designating it as a restricted-access or no-access area.

The mangrove canal and estuary should be periodically monitored to check for point and non-point sources of pollution (from parking lots, damaged sewage lines, etc.). Where possible, the University should restrict the use of herbicides, pesticides, and fertilizers within the portions of the campus that drain into mangrove and back-mangrove areas, and should carefully select herbicides and pesticides tailored to specific needs, and with short half-lives and low toxicity to non-target organisms.

Exotic plant species invading or approaching mangrove areas may pose a serious threat to the viability of these systems. The two most problematic species in this respect are Brazilian pepper and Australian pine. A policy of systematic removal of adults and seedlings of these and other exotic species from mangrove forests and back-mangrove associations is being implemented by the University.

Enhancement measures: Mangrove areas along the estuary and canal at the north end of the campus appear to be in relatively good condition. Growth of the mangroves would be enhanced by removal of shading Australian pines, especially along the north side of the canal and along the north part of the estuary. On-going shoreline stabilization and mangrove replanting programs could create or restore mangrove vegetation in areas at the southern and south-west edges of the campus.

Bottom Lands:

MODESTO A. MAIDIQUE

There are no bottom lands on campus.

BISCAYNE BAY CAMPUS

There are no bottom lands on campus.

2. **Floodplains:**

MODESTO A. MAIDIQUE

There are no floodplains on campus.

BISCAYNE BAY CAMPUS

The entire Biscayne Bay Campus is within the 100-year flood zone. All protection and enhancement activities discussed elsewhere fall within the floodplain.

3. **Existing mitigation sites:**

MODESTO A. MAIDIQUE

There are no mitigation sites on campus.

BISCAYNE BAY CAMPUS

All of the known mitigation sites on campus are within or are adjacent to wetlands and are discussed in Section (2) 1. above.

4. **Fisheries, wildlife marine habitats and vegetative communities:**

MODESTO A. MAIDIQUE

Most of the natural vegetative communities on campus and within the context area are wetlands and are discussed in Section (2) 1. above.

Protective Measures: Non-wetland areas that serve as habitat for birds and other wildlife should be adequately protected under the Wildlife Sanctuary agreement between the University and the Tropical Audubon Society (see Section (2) 1. above).

Enhancement Measures: Enhancement measures for wetland communities on Modesto A. Maidique and context area are discussed in Section (2) 1. above.

Upland plant communities (hardwood hammocks and tree islands) occurring on the campus and in the context area would benefit from a systematic program of exotic plant removal targeting Australian pine, Brazilian pepper and lead tree (Leucaena leucocephala.) Facilities management is undertaking a removal program.

BISCAYNE BAY CAMPUS

Most of the natural vegetative communities on campus and within the context area are wetlands and are discussed in Section (2) 1. above.

Protective and enhancement methods: The only upland vegetative community on the campus and in the context area is Australian pine forests. These are undesirable vegetative associations that provide little or no wildlife habitat. No protection of these areas is warranted.

Species Listed by Federal, State or Local Agencies:

MODESTO A. MAIDIQUE

The habitat values of each of the vegetative communities are discussed in Section (2) 5. above.

Wetlands provide the most of the significant habitat on campus and within the context area. Protective and enhancement measures for wetlands are discussed in Section (2) 5. above.

BISCAYNE BAY CAMPUS

The habitat values of each of the vegetative communities in the context area are discussed in Section (2) 5. The only natural vegetative communities that provide significant habitat are wetlands.

Known corridors for faunal species:

MODESTO A. MAIDIQUE

There are no known animal corridors on campus.

BISCAYNE BAY CAMPUS

The only significant animal corridors on campus or within the context area occur within the mangrove, estuarine and bay areas. Protective and enhancement measures for these areas are discussed in Section (2) 5.

c) For each of the resources identified in (1) a), identify known sources and rates of discharge or generation of pollution.

1. Air quality, including but not limited to the pollutants subject to National Ambient Air Quality Standards:

MODESTO A. MAIDIQUE

There are no air quality monitoring stations close to the campus or context area; however, data from the closest stations indicate few if any air quality violations, and it is probable that the air quality parameters measured by Miami-Dade County are within legal limits on campus.

Vehicular emissions are, no doubt, the primary source of air pollution on campus. There likely are some hydrocarbon emissions generated by on campus fuel storage.

We could find no data regarding air pollution emissions from laboratories and other chemical storage/chemical use areas; it is likely that any such emissions would have a more dramatic effect on the human environment than on natural resources.

BISCAYNE BAY CAMPUS

There are no air quality monitoring stations close to the campus or context area; however, data from the closest stations indicate few if any air quality violations, and it is probable that the air quality parameters measured by Miami-Dade County are within legal limits on campus.

Vehicular emissions are, no doubt, the primary source of air pollution on campus. There likely are some hydrocarbon emissions generated by on campus fuel storage.

We could find no data regarding air pollution emissions from laboratories and other chemical storage/chemical use areas; it is likely that any such emissions would have a more dramatic effect on the human environment than on natural resources.

2. Surface Water Quality, including the water quality for each lake, river and other surface water, and the identification of any such water body designated as an Outstanding Florida Water:

MODESTO A. MAIDIQUE

Storm water runoff no doubt has some impact on surface water quality on the campus.

BISCAYNE BAY CAMPUS

Storm water runoff from roadways and parking lots and other impervious surfaces is probably the principal source of water pollution on campus. Runoff from landscaped and grassed areas also, no doubt, contributes to water pollution. Presumably, fertilizers and pesticides are used in maintenance of landscaped areas on campus; no data relating to this matter was given.

There are mulch storage areas on University property, and these likely contribute some leachate to the nearby waters.

There are areas along the waterfront away from the developed portions of the campus where a considerable amount of clearing has occurred. No doubt some of these areas contribute to turbidity in the adjacent portion of Biscayne Bay.

The Munsiport Landfill Site lies to the west of and adjacent to the campus. This is a Superfund site for which an Environmental Protection Agency (EPA) Record of Decision Declaration was issued in 1990 (EPA, 1990). Based on Munisport's impacts on the environment, the EPA prescribed a remedial action for this site, primarily to protect the State mangrove preserve adjacent to Munisport and Biscayne Bay Campus. Evaluating the potential long-term effects of Munisport on resources in the context area is beyond the scope of this study.

Because of the smaller size of the lakes, it is likely that storm water runoff has a greater impact on the lakes on campus than it does on Biscayne Bay or the Oleta River.

d) Opportunities Of Available And Practical Technologies To Reduce Pollution Or Its Impacts Generated By University Activities For Resources Identified In (1) A)

In the absence of available data regarding pollution generated on campus or in the context area, it is not possible to recommend specific technologies to address these impacts. Strong consideration should be given to implementing air quality and water quality monitoring programs so that levels of pollutants generated by on campus activities can be documented and, if necessary, control technologies implemented.

e) Current And Projected Water Needs And Sources, Based On The Demand For Industrial, Agricultural And Potable Water Use And The Quantity And Quality Available To Meet Those Demands

Storm water runoff from roadways, parking lots and impervious surfaces is likely the principal source of water pollution for both campuses. Runoff from landscaped and grassed areas also, no doubt, contributes to water pollution. Presumably, fertilizers and pesticides are used in maintenance of landscaped areas on campus; no data relating to this matter was given. Storm water runoff no doubt has some impact on surface water quality on both campuses.

Strong consideration should be given to implementing water quality monitoring programs so that levels of pollutants generated by on-campus activities can be documented and, if necessary, control technologies implemented.

14.0 CAPITAL IMPROVEMENTS ELEMENT

(1) DATA REQUIREMENTS

The following represents an effort to compile University and Board of Governors information relating to the data requirements for the Capital Improvements Element. The analyses requirements for this element are based upon planning and facility requirements derived from analysis of the other elements of the Master Plan and input received from Florida International University (FIU). This includes the identification of necessary or recommended capital improvements, projected operating costs and infrastructure requirements and impacts. Each of these areas cannot be addressed from a funding perspective by the Consultant, but should be evaluated each year hereafter to best facilitate the implementation of this plan by PECO/CITF monies and those made available by FIU. The data requirements are addressed below.

a) Facility Needs As Identified In The Other Elements And Support For Future Needs As Identified In The Future Land Use Element

Facility needs by building area requirements by space type are identified in Table 14.1a and Table 14.1b.

Table 14.1a: Future Space Needs by Space Type (Form B) 2008 - 2015
Modesto A. Maidique Campus

University Park Campus (UP)

	Fall 2008			Under Const ASF + CIP Plan ASF	2015			2024		
	FTE		18,038		FTE		20,720	FTE		30,185
			31,568		HC		36,262	HC		62,826
9.88	Faculty FYE	est	965		Faculty FYE		1,108	Faculty FYE		1,615
	Staff: Admin + Prof	est	707		Staff: Admin + Prof		812	Staff: Admin + Prof		1,183
	General Staff	est	942		General Staff		1,082	General Staff		1,576

Space Code	Space Category		Florida Standard*	FIU Calc	Existing ASF*	Exstg ASF/FTE	Guideline ASF	Guideline ASF/FTE	Surplus (Deficit)	Under Const ASF + CIP Plan ASF	2015 Projected Exstg ASF*	2015 Guideline ASF	2015 Surplus (Deficit)	2024 Projected Exstg ASF	2024 Guideline ASF	2024 Surplus (Deficit)
110	Classrooms + Service		12.08	•	129,909	7.20	217,899	12.08	(87,990)	92,120	222,029	250,298	(28,269)	222,029	364,636	(142,607)
210	Teaching Labs + Service		13.77	•	162,194	8.99	248,383	13.77	(86,189)	59,310	221,504	285,314	(63,810)	221,504	415,649	(194,145)
220	Open Labs			•	77,980	4.32	126,266	7.00	(48,286)		77,980	145,040	(67,060)	77,980	211,296	(133,316)
250	UP Research Labs + Service	90%	8.89	•	159,126	8.82	160,394	8.89	(1,268)	46,528	205,654	184,242	21,412	205,654	268,406	(62,752)
250	EC Research Labs + Service	10%	0.99	•	68,128	3.78	17,822	0.99	50,306	0	68,128	20,471	47,657	68,128	29,823	38,305
300	Offices / Computer		36.88	•	498,958	27.66	665,241	36.88	(166,283)	219,243	718,201	764,153	(45,952)	718,201	1,113,227	(395,026)
400	Study / Library		17.54	•	183,998	10.20	316,387	17.54	(132,389)	85,680	269,678	363,429	(93,751)	269,678	529,447	(259,769)
520	Teaching Gymnasium		5.77	•	109,139	6.05	104,079	5.77	5,060	0	109,139	119,554	(10,415)	109,139	174,168	(65,029)
530	Media Production		1.13	•	9,975	0.55	20,383	1.13	(10,408)	3,350	13,325	23,414	(10,089)	13,325	34,109	(20,784)
540	Clinic				0	0	7,215	0.40	(7,215)	—	0	8,288	(8,288)	0	12,074	(12,074)
550	Demonstration				4,033	0.22	1,804	0.10	2,229	—	4,033	2,072	1,961	4,033	3,019	1,014
560	Field Buildings				0	0.00	0	0.00	0		0	0	0	0	0	0
570	Animal Quarters				1,294	0.07	11,000	0.61	(9,706)	—	1,294	12,636	(11,342)	1,294	18,408	(17,114)
580	Greenhouses				3,466	0.19	9,019	0.50	(5,553)	—	3,466	10,360	(6,894)	3,466	15,093	(11,627)
590	Other				6,639	0.37	6,639	0.37	0	—	6,639	7,626	(987)	6,639	11,110	(4,471)
610	Assembly	}	3.00	•	67,389	3.74	54,114	3.00	13,275	18,699	86,088	62,160	23,928	86,088	90,555	(4,467)
620	Exhibition		(610/620)	•	Included Above in Cat 610					incl w/ 610	Included Above in Cat 610			Included Above in Cat 610		
630	Food Service				45,405	2.52	124,820	6.92	(79,415)	—	45,405	143,379	(97,974)	45,405	208,877	(163,472)
640	Day Care				0	0	0	0.00	0							
650	Student Lounge				19,299	1.07	36,076	2.00	(16,777)	—	19,299	41,440	(22,141)	19,299	60,370	(41,071)
660	Merchandising				38,402	2.13	54,114	3.00	(15,712)	—	38,402	62,160	(23,758)	38,402	90,555	(52,153)
670	Recreation				36,048	2.00	36,076	2.00	(28)	—	36,048	41,440	(5,392)	36,048	60,370	(24,322)
680	Meeting Room (other than 690)	}	0.60	•	25,263	1.40	10,823	0.60	14,440	2,000	27,263	12,432	14,831	27,263	18,111	9,152
690	Student Academic Meeting Room			•	Included Above in Cat 680				—	incl w/ 680	Included Above in Cat 680			Included Above in Cat 680		
710	Central Computer / Telecomm	}	7.08	•	73,560	4.08	127,709	7.08	(54,149)		73,560	146,698	(73,138)	73,560	213,711	(140,151)
720	Shop / Central Service			•	Includes Cats 710-760						Includes Cats 710-760			Includes Cats 710-760		
730	Central Storage			•	Includes Cats 710-761						Includes Cats 710-761			Includes Cats 710-761		
740	Vehicle Storage (ramps not incl)			•	Includes Cats 710-762					32,490 incl 710-760	Includes Cats 710-762			Includes Cats 710-762		
750	Central Service			•	Includes Cats 710-763						Includes Cats 710-763			Includes Cats 710-763		
760	Hazardous Materials			•	Includes Cats 710-764						Includes Cats 710-764			Includes Cats 710-764		
800	Health Care				5,730	0.32	6,811	0.38	(1,081)	—	5,730	7,824	(2,094)	5,730	11,358	(5,668)
	TOTAL ACADEMIC SPACE				1,725,935	95.68	2,363,075	131.01	(637,140)	559,420	2,252,865	2,714,430	(461,565)	2,252,865	3,954,412	(1,701,547)
									(637,140)							
										Increase		351,355			1,239,982	
										Assumed annual growth rate	→		2.00%			2.00%
										Accumulated Rate	→ 7	Years =	114.87%	19	Years =	145.68%

* Exstg ASF per "SPA-FIU MIS SPAPRD F200808 GOODFILE G0396V00(SOR)" (forwarded by PC 8 Jan 08)

* Projected Exstg ASF = Existing + CIP/New Const - Demolition

* Per Florida Bd of Governors, "Space Standards for Fixed Capital Outlay Needs Generation Formula"

Space Code	Space Category	Exstg Beds	Target %	Target Beds	Surplus (Deficit)	Under Const + CIP	2015 Projected Exstg	2015 Target Beds	2015 Surplus (Deficit)	2024 Projected Exstg	2024 Target	2024 Surplus (Deficit)
900	Housing UP	2,709	20%	3,608	(899)	416	3,125	4,144	(1,019)	3,125	6,037	(2,912)

Exstg ASF	Exstg ASF/Bed	Assume Exstg Eff %	Exstg GSF/Bed
530,969	196	70%	280

Space Code	Space Category	Existing	Target Ratio	Target	Surplus (Deficit)	Under Const + CIP	2015 Projected Exstg Stalls	2015 Target	2015 Surplus (Deficit)	2024 Projected Exstg Stalls	2024 Target	2024 Surplus (Deficit)
Pkg	Parking											
	Number of Stalls (per KHA calcs)	10,986		17,455	(6,469)	4,000	14,986	19,604	(4,618)	14,986	29,141	(14,155)
	Stalls per FTE (resultant)	0.609		0.842								
	Stalls per HC (resultant)	0.348		0.481								
	Less Stalls Removed for New Bldgs					less - 000	less - 000			less - 000		
	Net Stalls					4,000	14,986			14,986		

Table 14.1b: Future Space Needs by Space Type (Form B) 2008 - 2015
Biscayne Bay Campus

Biscayne Bay (BB)

	Fall 2008		2015		2034	
FTE		2,971	FTE	3,413	FTE	4,972
		7,469	HC	8,580	HC	12,499
Faculty FYE		170	Faculty FYE	195	Faculty FYE	284
Staff. Admin + Prof		100	Staff. Admin + Prof	115	Staff. Admin + Prof	157
General Staff		190	General Staff	218	General Staff	318

Space Code	Space Category	Florida Standard[c]		Fall 2008 Existing ASF[a]	Exstg ASF/FTE	Guideline ASF	Guideline ASF/FTE	Surplus (Deficit)	Under Const ASF + CIP Plan ASF	2015 Projected Exstg ASF[b]	Guideline ASF	Surplus (Deficit)	2034 Projected Exstg ASF	Guideline ASF	Surplus (Deficit)
110	Classrooms + Service	11.84	•	43,093	14.50	35,177	11.84	7,916	8,000	51,093	40,487	10,606	51,093	58,865	(7,772)
210	Teaching Labs + Service	9.73	•	49,713	16.73	28,908	9.73	20,805	1,000	50,713	33,206	17,507	50,713	48,375	2,338
220	Open Labs		•	22,548	7.59	20,797	7.00	1,751		22,548	23,889	(1,341)	22,548	34,802	(12,254)
250	Research Labs + Service	13.08	•	16,108	5.42	38,861	13.08	(22,753)	8,000	24,108	44,639	(20,531)	24,108	65,030	(40,922)
300	Offices / Computer	29.08	•	81,395	27.40	86,397	29.08	(5,002)	17,800	99,195	99,243	(48)	99,195	144,578	(45,383)
400	Study / Library	16.51	•	31,174	10.49	49,051	16.51	(17,877)	7,000	38,174	56,344	(18,170)	38,174	82,083	(43,909)
520	Teaching Gymnasium	0.00	•	8,779	2.95	8,779	2.95	0	0	8,779	10,084	(1,305)	8,779	14,691	(5,912)
530	Instructional Media	0.50	•	1,529	0.51	1,486	0.50	44	800	2,329	1,706	623	2,329	2,486	(157)
540	Clinic			0	0.00	1,188	0.40	(1,188)	—	0	1,365	(1,365)	0	1,989	(1,989)
550	Demonstration			0	0.00	297	0.10	(297)	—	0	341	(341)	0	497	(497)
560	Field Buildings			0	0.00	0	0.00	0	—	0	0	0	0	0	0
570	Animal Quarters			0	0.00	0	0.00	0	—	0	0	0	0	0	0
580	Greenhouses			49	0.02	1,486	0.50	(1,437)	—	49	1,706	(1,657)	49	2,486	(2,437)
590	Other			0	0.00	0	0.00	0	—	0	0	0	0	0	0
610	Assembly	3.00	•	16,279	5.48	8,913	3.00	7,366	—	16,279	10,238	6,041	16,279	14,915	1,364
620	Exhibition	(610/620)	•	Included Above in Cat 610					—	Included Above in Cat 610					
630	Food Service			23,437	7.89	24,977	8.41	(1,540)	—	23,437	28,691	(5,254)	23,437	41,798	(18,361)
640	Day Care			0	0.00	0	0.00	0	—	0	0	0	0	0	0
650	Student Lounge			1,403	0.47	8,913	3.00	(7,510)	—	1,403	10,238	(8,835)	1,403	14,915	(13,512)
660	Merchandising			6,813	2.29	7,428	2.50	(615)	—	6,813	8,532	(1,719)	6,813	12,429	(5,616)
670	Recreation			1,971	0.66	4,457	1.50	(2,485)	—	1,971	5,119	(3,148)	1,971	7,458	(5,487)
680	Meeting Room (other than 690)	0.60		1,499	0.50	1,783	0.60	(284)	2,000	3,499	2,048	1,451	3,499	2,983	516
690	Student Academic Meeting Room		•	Included Above in Cat 680					incl w/ 690	Included Above in Cat 680					
710	Central Computer / Telecomm		•	24,220	8.15	21,035	7.08	3,185		24,820	24,162	658	24,820	35,200	(10,380)
720	Shop / Central Service		•	Includes Cats 710-760					—	Includes Cats 710-760					
730	Central Storage		•	Includes Cats 710-761					—	Includes Cats 710-761					
740	Vehicle Storage (ramps not incl)	7.08	•	Includes Cats 710-762					—	Includes Cats 710-762					
750	Central Service		•	Includes Cats 710-763					600	Includes Cats 710-763					
760	Hazardous Materials		•	Includes Cats 710-764					—	Includes Cats 710-764					
800	Health Care			1,111	0.37	2,291	0.77	(1,180)	—	1,111	2,632	(1,521)	1,111	3,834	(2,723)
	TOTAL ACADEMIC SPACE			331,121	111.45	352,222	118.55	(21,101)	45,200	376,321	404,592	(28,271)	376,321	589,414	(213,093)
								[illegible]	Increase		52,370			184,822	
									Assumed annual growth rate →			2.00%			2.00%
									Accumulated Rate →	7	Years =	114.87%	19	Years =	145.68%

[a] Exstg ASF per Form B: Existing Data: Run date 11/25/08

[b] Projected Exstg ASF = Existing + CIP/New Const - Demolition

[c] Per Florida Bd of Governors, Space Standards for Fixed Capital Outlay Needs Generation Formula"

Space Code		Exstg Beds	Target %	Target Beds		Surplus (Deficit)		Projected Exstg	Target Beds	Surplus (Deficit)	Projected Exstg	Target	Surplus (Deficit)
900	Housing	300	20%	594		(294)	-300	0	683	(683)	0	994	(994)
		Exstg ASF	Exstg ASF/Bed	Assume Exstg Eff %	Exstg GSF/Bed								
		80,161	267	70%	382								

Space Code		Existing	Target	Surplus (Deficit)		Projected Exstg Stalls	Target	Surplus (Deficit)	Project Exstg Stalls	Target	Surplus (Deficit)
Pkg	Parking										
	Number of Stalls	2,229	2,780	(551)	0	2,229	3,744	(1,515)	2,229	5,671	(3,442)
	Stalls per FTE	0.750	0.815			0.653	1.097		0.448	1.141	
	Stalls per HC	0.298	0.324			0.260	0.436		0.178	0.454	
	Less Stalls Removed for New Bldgs				-000	-000			-000		
	Net Stalls				0	2,229			2,229		

b) Inventory Of Existing And Anticipated Revenue Sources And Funding Mechanisms Available For Capital Improvement Financing

Florida International University currently relies on the following existing revenue sources and funding mechanisms for capital improvements:

- Direct service Organization Financing:
  *Public Education Capital Outlay (PECO)
  *Capital Improvement Trust Fund (CITF)

- Auxiliary Enterprises:
  *Revenue Bonds (housing, parking, etc.)
  *Parking Decal Fees
  *Student Health Fees
  *Bookstore
  *English Language Institute
  *Food Service
  *Other
- Foundation Loans(Direct Service Organization financing- DSOF)
- Contracts and Grants for Sponsored Research

In addition to these existing sources, FIU currently has no other anticipated sources of revenue funding for future facilities proposed by this Master Plan.

c) Inventory Of Operations And Maintenance Costs For Existing Facilities

Operating and maintenance (O&M) costs typically originate from three categories~~:~~ Below is an itemized list of each category along with the costs for each category for fiscal year 2004-2005

- Preventive Maintenance Costs $ 9,855,971
- Differed Maintenance Costs $15,117,000
- General Maintenance Costs $39,423,084

(2) ANALYSIS REQUIREMENTS

a) Current University Practices That Guide The Timing And Location Of Construction, Extensions Or Increases In The Capacity Of University Facilities

Timing and location of new construction on campus is guided by previous master planning documents to determine location and the annual update of the legislative budget request for the capital improvement plan which determines funding. Additionally, a three year Capital Improvement Fee list is prepared every third year for student services projects while auxiliary facilities projects and facilities projects using other fund sources are generally planned on an "as needed" basis or as an appropriate opportunity arises. Minor projects are funded annually for the specific purpose of renovations, repairs, maintenance and site improvements. Specific policy decisions regarding use of space, including existing and new facilities are channeled for approval through the University Space Committee as an advisory committee to the University President.

A budget estimate is pre-approved and updated annually for the purpose of assessing anticipated project costs including planning fees, construction, surveys, testing services, contingencies, furnishings and equipment.

b) Cost Estimate Of Each On-Campus Capital Improvements Identified In The Other Plan Elements, Including Consideration Of Inflation Factors And The Relative Priority Of Need Ranking

Capital improvement costs for 2005 through 2015 are depicted in Table 14.2.

Table 14.2 Capital Improvement Plan 2005-2011

Bldg No.	Building Name	ASF	GSF	Project Cost
	Under Construction (not in use yet, but not in Exstg Inventory)			
	Univ Park			
1	College of Nursing & Health Sciences (Molecular Biology) / Health Sciences Laboratory Clinic	62,192	103,653	$0
	Total Under Construction	62,192	103,653	$0

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Bldg No.	Building Name	ASF	GSF	Project Cost
	Univ Park			
2	Student Academic Support Center	50,000	80,000	$30,887,426
4	Public Safety Bldg Supplement	2,500	4,000	$2,066,679
5	Social Sciences / Phase I Completion	na	na	$28,449,971
6	Satellite Chiller Plant Expansion	7,500	12,000	$7,000,000
10	Humnanities Center (Arts + Sciences)	48,500	77,600	$33,814,021
11	Graduate School of Business / Phase II	55,820	89,312	$40,033,112
12	Science Labatory Complex	79,500	127,200	$61,168,234
14	Const Mgmt + Engineering Expansion	17,400	27,840	$14,233,194
15	Training Complex (Human Resources)	25,270	40,432	$17,998,308
16	Honors College	24,780	39,648	$20,162,055
17	Science Science / Phase II	35,678	57,085	$28,646,751
18	College of Law BR-832	96,415	153,768	$38,962,981
19	IHRC- Wall of Wind Testing Facility	1,651	1,981	$1,480,726
20	College of Nursing + Helath Sciences (Molecular Biology) Helath Sciences Labatory Clinic	—	—	$39,931,185
22	Engineering Center / Lab Remodeling and Expansion	260	312	$180,000
24	Graduate School of Business / Phase 1	54,705	87,528	$32,270,346
25	Patricia and Phillip Frost Art Museum UP BR-839	30,839	48,874	$18,180,751
	Total CIP Plan Projects UP Campus	530,818	847,580	$415,465,740

Bldg No.	Building Name	ASF	GSF	Project Cost
	Biscayne Bay			
13	Classroom / Office (Academic IV)	39,600	54,000	$33,272,408
	ASF Category % of Total			
21	Hospitality Management / Carnival Student Center	1,700	2,550	$1,000,000
	ASF Category % of Total			
23	Hospitality Management / Beverage Management Center	3,500	5,600	$2,100,000
	ASF Category % of Total			
	Total CIP Plan Projects BB Campus	44,800	62,150	$36,372,408
	GRAND TOTAL	637,810	1,013,383	$451,838,148

c) Cost Estimate Of Future Capital Improvements That May Be Required Functions Of The University

Off-campus capital improvements necessary to support the future traffic and utility functions of the University are limited. The provisions for utilities are somewhat minimal within the ten (10)-year planning period but may change with the new level-of-service standards that have been adopted. However, a transportation improvement program should become a reality within the next ten (10) years.

b) Basis Of The Cost Estimates

Cost estimates are based on the Board of Governors cost data provided each year with instructions for preparation of the 5-year capital improvement plan. This data is compiled by the Board of Governors. Projects selected for the database are classified by space type and averaged with ENR indexed adjustments for inflation and differences in the geographic locations of the University campuses throughout the state. Special facility type (e.g., athletic, recreational, greenhouse, infrastructure, etc.) are estimated based on contractor estimates, comparable projects of similar nature, or standard database publications such as ""R.S. Means," "Dodge Reports," or other widely accepted available data sources.

e) Assessment Of The University's Ability To Finance Capital Improvements Including:

1. Forecasting of revenue and expenditures for the planning period.
   a. 3-year committed
   b. 10-year projected

   Please refer to Table 14.2.

2. Projection of operating costs for existing and future facilities.
The analysis found in Element 5.0 Academic Facilities and Element 6.0 Support Facilities indicates the need for 4,381,977 GSF of space to accommodate the projected enrollment for 2015. This in turn will generate new operating costs that must be planned for the future, as shown in Table 14.3.

TABLE 14-3: Projected Operating Costs

Projected Operating Costs	2004-2005	2010-2011	2014-2015
Preventive Maintenance Costs	$9,855,971	$22,569,520	$29,657,486
Deferred Maintenance Costs	$15,117,000	$34,616,928	$45,488,386
General Maintenance	$39,423,084	$90,276,248	$118,627,537

Costs			
Total	$64,396,055	$147,462,696	$193,773,410

Source: Facilities Management
Based on cost per GSF. Includes existing and planned GSF for 2015.

3. Projections of other tax bases and revenue sources, such as impact and user fees.

Capital improvements funding for the University currently comes from various revenue sources of which, Public Education Capital Outlay (PECO) is the greatest contributing sources. Florida International University currently relies on other revenue sources and funding mechanisms for capital improvements including the following Auxiliary Enterprises:

- Revenue Bonds (housing, parking, etc.),
- Parking Decal Fees,
- Student Health Fees,
- Bookstore,
- English Language Institute,
- Food Service,
- Other Auxiliaries,
- Foundation Loans(Direct Service Organization financing- DSOF)
- Contracts and grants for Sponsored Research.

In addition to these existing sources, FIU currently has no other anticipated sources of revenue funding for future facilities proposed by this Master Plan.

f) Comparisons between the host community's and the University's cost estimates for future improvements generated by University infrastructure impacts

All infrastructure impacts generated by the University are contained within University lands. Host community infrastructure capacities are adequate to serve future infrastructure needs of the University. All costs of infrastructure impacts contained on University lands are the responsibility of the University and the Florida Board of Education, Division of Colleges and Universities State University System. Infrastructure costs of special "shared-use" facilities may be assessed on a prorated basis.

15.0 ARCHITECTURAL DESIGN GUIDELINES ELEMENT

PURPOSE

The purpose of this element is to establish guidelines to assist in achieving a high level of quality in architectural design throughout the State University System (SUS).

(1) DATA REQUIREMENTS. This element shall be based, at a minimum, on the following data:

a) A general description of the existing campus/community architectural character including building language, proportion, scale, etc.

<u>MODESTO A. MAIDIQUE CAMPUS</u>
Modesto A. Maidique Campus is located within an urban setting, it is surrounded by residential/commercial buildings on all its boundaries. It has grown substantially since it's opening in 1968, to becoming a very important part of the community. It offers a broad range of educational programs and services to a growing student population, which is made up of local residents and students from abroad. The University has international blend of students and professors, offering many services to the continuously growing community.

The original campus buildings were developed around a central rotunda, which are connected by the use of covered walks.

The existing original buildings, which include (Primera Casa, Deuxime Maison, Graham Center, etc.) are primarily exposed concrete finish buildings (see Photographs 15.1 and 15.2). As other buildings have been developed the introduction of other architectural elements has been included, more noticeably is the use of 90-degree arches and keystone finishes. These elements are evident in the entranced archway and in various buildings such as Education Building, Graham Center, etc.

Photograph 15.1 Ernest R. Graham University Center

Photograph 15.2 Primera Casa

The design of some of the original buildings was massive in nature without the use of fenestrations and contained interior open courtyards, which are seen in the Deuxime Maison and the Owa Ehan. In more recent buildings the use of colonnades with arches, more fenestration, and a reduction in scale the building form and massing.

BISCAYNE BAY CAMPUS

Biscayne Bay Campus is located directly on the bay with excellent views. It is reached by a single road, which leads to the entrance of the campus. It serves a student population that is limited due to the limited amount of academic courses that it offers. Its location is prime for many reasons, not only the views, but it is located on the northern side of the county close to the Broward / Dade county line. It's potential for being a very important campus is tremendous, it can serve as a key point for Miami-Dade and Broward County communities.

Hospitality Management was the first building built when this site was previously to be used as a trade and amusement center. The original academic buildings, Academic One, Academic Two, and Wolfe University Center (see Photograph 15.4) were laid out in a stepping pattern, which are interconnected by aligned interior corridors, establishing a mall theme. Bay Vista Housing is located within wooded areas hidden from any possible views to the bay.

The original academic buildings began to establish a similarity in architectural scale and form, the primary materials used were pre-cast with embedded aggregates, cast-in-place concrete, and some fluted and split face block. Glass areas are primarily storefront glass, there is some use of metal shading louvers at Hospitality Management. The more recent buildings are primarily stucco painted finish exteriors with the use of storefront type glass. The colors used on buildings is mostly low key palette, the use of more aggressive colors is found only on the metal work, such as railings, and some accent tile work.

Photograph 15.3 The Engineering Center

Photograph 15.4 Wolfe University Center

This campus should focus its architectural direction in taking the most advantageous views of the bay. The location also blends itself to create a more secluded educational environment away from the more urban settings. As students and staff approach the campus it should create a transitional process for students and the community, to promote the educational environment that is so important to conducing the motivation for learning. The buildings should be more oriented and designed to be open towards the bay side, with the use of architectural elements that enhance the natural surroundings of the site. There are recent buildings, such as the Kovens Center, which represent a very different architectural approach that departs from some of the more prevailing themes at the campus. Strong consideration needs to be given to creating design guidelines that will maintain a certain level of continuity, while allowing each building its ability to create its own character.

OTHER UNIVERSITY SITES

Engineering Center (TEC)

Engineering Center, as an extension of Modesto A. Maidique Campus, is located within an urban setting, it is surrounded by residential/commercial buildings on all its boundaries. The original building remains an academic facility, offering specialized engineering courses within the curriculum of FIU and remains an important component of the surrounding community (see Photograph 15.3).

b) A description of architecturally significant historic buildings including style, age, etc.

MODESTO A. MAIDIQUE CAMPUS

The original building on site, prior to the University acquiring the property, is the aviation tower that was built when this site was known as the Tamiami Airport. This building may have some possible historic value, but as of date this is not documented (see Photograph 15.5).

BISCAYNE BAY CAMPUS

This campus was opened in 1973, the original building on this site, prior to FIU acquiring the property is Hospitality Management, previously known as the Trade Center.

Photograph 15.5 Aviation Tower

<u>OTHER UNIVERSITY SITES</u>

Engineering Center
There are no architecturally significant historical buildings at this site.

<u>The Wolfsonian</u>
<u>The Wolfsonian does not have any recreation and open space facilities.</u>

c) **A detailed inventory of existing material use, proportion, color, etc. for the following architectural elements:**

1. **Materials, 2. Color, 3. Architectural Detailing, 4. Style, 5. Scale, 6. Siting and 7. Image**

MODESTO A. MAIDIQUE CAMPUS

Materials

This campus uses various material types, which include the following: Original buildings are monolithic exposed concrete finish, fluted block, and split face block with very little glass. The more recent buildings incorporate stucco finish, keystone, a wall cladding system and more use of storefront glass and windows.

Color

The use of color is limited, primarily found on the metal work or in a limited fashion on the buildings, mostly the newer buildings. The later structures have introduced elements that have softened their appearance.

Architectural Detailing and Style

There are a variety of architectural styles on the campus which need architectural elements that would create a theme that will help blend the buildings. It also needs some general sense of orientation to help guide the students and/or visitors through the campus.

Other distinctive spaces on campus are associated with prominent buildings. These include Golden Panther Arena, Ryder Business Administration and Wertheim Conservatory (Greenhouse). Ryder Business Administration is distinctive in part because of its axial location at the end of the campus entry mall, and by its glass atrium that projects out from the main building facade. The greenhouse is an all-glass structure that contrasts with the concrete exterior of the adjacent Engineering and Computer Science building. Although these structures are not "landmarks" in a historical or legal sense, they do provide a sense of orientation within the campus.

More recently constructed buildings include Campus Support Complex (see Photograph 15.6), Graham Center addition, Parking Garages One and Two (see Photograph 15.7) and the Executive Center. The Campus Support Complex's design has a Mediterranean influence with its colonnaded entry and courtyard. The building's smooth, beige stucco façade has crisp lines highlighted by a pale blue trim. The superb building finishes and site furnishings offer a standard for campus-wide guidelines. The Graham Center's style and finishes are similar to those of the Campus Support Complex. The Graham Center's façade has distinct lines with a white and pale coral smooth finish and sharp scoring. The southern side of the Graham Center has a prominent building ingress accentuated with an arched entry with the building name, cut keystone coral and a clock inset in the building's facade. Parking Garage One has offices on the ground floor and an outstanding patterned façade of arches and geometric shapes. This creative treatment of a utilitarian building function transforms this facility into an architectural gem. Each of these buildings through their consistency of design and repetition of patterns, textures, colors and shapes begin to establish a visual theme in the campus appearance.

Scale

A determination of the preferred mass and scale of new buildings for Modesto A. Maidique Campus will have a profound effect on how the campus is perceived. The architectural style of earlier campus development has been described as brutalist modern. These buildings are massive heavy concrete construction with minimal articulation of facades. More recent architecture has more of a Mediterranean style with pastel colors and increased building articulation. These buildings have a lighter, softer and airier feel. Typically it is easier to blend this architectural style with the buildings surroundings. There has been dialogue at Modesto A. Maidique Campus concerning the degree of individuality of design appropriate for buildings on campus. Guidelines must be established to encourage design creativity and ensure that every new building is not a monument unto itself. Typically architectural style of future buildings should be consistent with existing campus vernacular.

Appropriate building heights is another critical issue that must be resolved to establish campus identity for future growth. Building mass and height has a direct affect on visual appearance, ground level scale and also affects the

Photograph 15.6 Architectural detail of Campus Support Complex

Photograph 15.7 Distinctive architectural style of the Parking Garage

perception of campus identity. Due to the scarcity of developable land remaining at Modesto A. Maidique Campus, there is tremendous pressure to go vertical with new buildings. However, as observed in a couple of the taller monument buildings on campus, Green Library (see Photograph 15.8) and University Towers, it is difficult to relate massive structures to the human scale.

Photograph 15.8 The Green Library

The scale of the original buildings is relatively massive and monolithic, the later buildings have departed from this approach and have reduced the Architectural scale. There is a need for creating more inviting people spaces to that will establish a better relation between buildings and people.

Siting and Image

The campus is surrounded by urban development, it has various locations where emphasize should be made to announce the entrance to the campus. There is a colonnade entrance feature from SW 8th Street (Tamiami Trail), and another entry point is located of SW 107th Avenue. The corner of SW 8th Street and SW 107th Avenue is a prime location for a structure that will clearly show the presence of the University.

BISCAYNE BAY CAMPUS

Material

The primary material used is precast concrete with embedded aggregates, cast-in-place concrete, fluted block, split face block, and also stucco finish has been used on more recent buildings. Glass is used in the form of storefront panels (see Photograph 15.10) .

Color

The majority of the buildings are precast panel with aggregate finish, some buildings the exposed concrete finish has been painted with low tone color.

The original buildings started to establish a blend between buildings by using similar exterior materials and a continuous internal connection between buildings.

Architectural Design and Style

The architectural style of recent buildings have significantly departed from original styles, they incorporate elements very different that shift the newer buildings in a different architectural direction.

Photograph 15.10 Architectural example – Biscayne Bay Campus

Scale

The majority of the buildings are three-story high, they have certain elements which help in creating a scale that relates to people. Creating people spaces, in particular on the bay side, would help to encourage a better architectural scale (see Photograph 15.11).

Siting and Image

This campus is located away from urban development and its location on the bay creates a site with amenities that are found in very few other Universities. The single main entrance, located at the crossing of N.E. 151st Street and U.S. 1, would be the best location where the presence of the University is to be developed.

Photograph 15.11 Architectural Scale –Biscayne Bay Campus

OTHER UNIVERSITY SITES

Engineering Center

The academic building at this site is precast concrete with embedded aggregates, cast-in-place concrete, fluted block, split face block and stucco finishes. Glass is used in the form of storefront panels (see Photograph 9).

Photograph 15. 9 Architectural example – The Engineering Center

(2) ANALYSIS REQUIREMENTS. This element shall be based, at a minimum, on the following analyses:

a) An assessment of the degree to which existing building designs are coordinated, and the degree to which they contribute to or detract from the present visual or functional quality of the University.

<u>MODESTO A. MAIDIQUE CAMPUS</u>

Designs of the existing buildings were coordinated through the requirements dictated by FIU's Architectural Design Guidelines, which include criteria for the creation of facilities to blend into the academic environment and learning experience. This criteria preserves and enhances the image of higher education that has been the base concept for past design and has served as the foundation for development of FIU. While the designs highlight unique styles of architecture, the buildings must also be able to blend into its existing environment and not overpower other facilities.

Discussions about re-assessing building height restrictions will create opportunities for new building design as well as for renovations to existing facilities. Care must be placed on good design and building placement for equal distribution of building footprint within the existing land and for accommodations of open space, covered walkways and gathering spaces.

<u>BISCAYNE BAY CAMPUS</u>

The existing academic and housing facilities are fairly muted in texture, color and material, often overlooked as a viable asset to the campus. While these buildings struggle for an identity within the academic core, other buildings, such as The Library, Hospitality Management and the Wolfe University Center, bring color and new textures to the overall design palate. Any renovation and enhancement projects that might occur to the academic and housing facilities should encompass similar design components of the more attractive facilities, incorporating more color and texture.

While the campus offers spectacular bay views to its visitors and users, such an attractive asset should be enhanced with new architectural elements included into new facility construction. The need to capture and retain people at the campus creates opportunities to offer ancillary functions, such as boardwalks, outdoor cafes and recreational areas. These amenities can be incorporated into new construction by careful and thoughtful design, giving definition for functionality to its users.

<u>OTHER UNIVERSITY SITES</u>

<u>Engineering Center</u>

The existing academic facility has undergone a much-needed "facelift". New colors and textures have been included as part of this enhancement and, along with new plant material, has accentuated the site within the community. In keeping with a South Florida theme, the new colors are bold and eclectic, bringing the facility into a new decade with energy and a renewed sense of placement within its environment.

With the addition of a new classroom planned for future expansion, there will be the need to re-assess how the University wants to project its image to the community, so the new classroom design must blend into the site and not compete with the existing building. With the creation of quads and pedestrian-friendly areas, properly placed landscape and vegetative buffers along edges, the new addition can enhance the site and create a facility which opens up to the community and does not distract from the overall vitality of the surrounding community.

b) An assessment of the accessibility of University buildings to disabled persons.

All buildings on all FIU campuses are built in accordance with the “Accessibility Requirements Manual” by the Department of Community Affairs Florida Board of Building Codes and Standards.

16.0 LANDSCAPE DESIGN GUIDELINES

PURPOSE

The purpose of this element is to provide guidelines to assist the University in establishing and maintaining a high level of quality in the design of landscape treatments on the University campus. The considerations of this element are qualitative in nature and are in addition to the quantitative requirements of other Master Plan elements.

(1) DATA REQUIREMENTS. This element shall be based, at a minimum, on the following data:

a) An inventory of the existing character, quality and location of landscape treatments on the campus identifying the existing character and quality of landscape treatments for the following.

1. Vehicular Circulation Routes

MODESTO A. MAIDIQUE CAMPUS

The existing vehicular circulation consists primarily of a campus loop road, two major entrances and four secondary entrances. Currently, the predominant landscape treatment for the campus loop road consists of a grass ground plane with a formal planting of canopy/shade trees in either a single or double row. The northern and western portion of the loop road (SW 10th Street and SW 16th Avenue) is planted with Live Oak trees which will, with time, continue to develop into a mature canopy and enclose the roadway. The southern portion of the loop road (SW 17th Street) is less developed with some areas of canopy trees on the interior side of the street. Groupings of Washingtonia Palms and Cabbage Palms have been strategically placed to highlight parking entryways (see Photograph 16.1). When the loop road is adjacent to parking areas, an approximate three-foot high grassed berm has been constructed to screen cars in parking lots (Photograph 16.2). The relatively steep grassed slopes require greater maintenance than lower slopes yet offer substantial visual separation between campus and parking circulation. This technique of using grassed mounds rather than dense vegetative screens to screen vehicular areas, creates an open, airy landscape that is more responsive to campus security issues.

Photograph 16.1 Accent palms at entrances

Photograph 16.2 Screening Berm

Royal Palms have been planted in one median to accentuate directional change of the loop road and connection with a major campus entrance. The primary campus entrance road (SW 112th Avenue) has a formal landscape character with a symmetrical planting of Live Oak trees immediately within the campus entrance that leads to a formal boulevard that continues past the loop road into the campus interior. This boulevard terminates with a vehicular drop-off in front of the Ryder Business Administration building and is planted on each side with mature Royal Palms (see Photograph 16.3). The secondary campus entryway off of SW 107th Avenue repeats the theme of a grand campus gateway. A double row of Royal Palms planted on each side of the street frame sidewalks that penetrate the southeastern quadrant of the campus.

BISCAYNE BAY CAMPUS

The U.S. 1 entrance to Biscayne Bay Campus consists of a campus identification sign and planting of Cabbage Palms on the southern side of Bay Vista Boulevard, which leads into the campus and is currently maintained with a grass shoulder. Along the northeastern corner of campus adjacent to Bay Vista Boulevard is an existing forest of Australian Pines and a mixed planting of small canopy trees, palms and flowering trees on a low berm. Adjacent to the remainder of campus exposure to Bay Vista Boulevard are a few scattered groupings of Cabbage Palms and plantings associated with campus signage, but otherwise there are no consistent landscape treatments to identify the campus.

An alley of mature Royal Palms border the Kovens Center entrance road and frame a vista of the formal entrance and drop-off for the facility (see Photograph 16.3). Some internal roads on campus have modest plantings of palms. Existing street plantings offer no consistent theme to reinforce vehicular circulation hierarchy.

2. Parking Facilities

MODESTO A. MAIDIQUE CAMPUS

The majority of existing surface-parking facilities are located along the campus loop road. Landscape treatments typically consist of grassed medians at the terminus of parking rows planted with shade trees and additional trees planted along parking lot perimeters. An intensive tree-planting program in the last six years has significantly upgraded the quality and quantity of tree species planted in association with parking facilities. In addition, many of the older trees have grown and now offer a more mature tree canopy for surface-parking facilities along the edges.

Parking Lot #1 and the Red Parking Garage: (Located in front of ESC and the Weertehim Conservatory, west of the S.W. 8th Street and 109th Avenue entrance) The layout of the parking aisles allows pedestrian circulation to access to a perimeter sidewalk. Much of the planting occurs at the end aisles and along the perimeter walk that is planted with Gumbo Limbo trees. The parking lot is separated by an internal drive that is centered on the Engineering and Computer Science building that is framed by mature Royal Palms. East of the internal drive along the southern perimeter of this parking lot grassed overflow parking areas are fully utilized. The more mature trees are located between the parking perimeter and the campus loop road. Hedge material has been planted along the perimeter walk to screen the cars from the loop road. The expansion of this parking lot has allowed for planting islands the entire length of each aisle that has been planted with canopy trees.

Photograph 16.3 Royal Palm Allee Entryway

Photograph 16.4 Royal Palm Allee at Kovens Center

University Park Apartments Parking – Parking Lot #2: (Located along SW 8th Street and 107th Avenue) These parking areas consist of a parking lot across the loop road from the Chemistry & Physics Building and parking for the University Apartments. The parking areas have sparse plantings of shade trees along its perimeters and in parking medians. A hedge is located along SW 107th Avenue that screens parking and located adjacent to an external loop roadway. The most substantial trees are located along parking perimeters adjacent to the campus loop road, SW 107th Avenue and along the lake south of University Park Apartments. Since there are no hedge treatments and smaller trees located along the northern parking lot perimeter there is little visual separation between apartments parking and the Parking Lot in front of CP. This immature landscape treatment also results in high visibility of parking areas to SW 107th Avenue. There are plans to build a parking garage on this site, along the entrance of 109th Avenue and 8th Street. The new garage will mirror the Parking Garage 4.

Parking Lot #34: This small metered visitor parking lot adjacent to the Graham Center is landscaped with planted medians and canopy and smaller ornamental trees. An evergreen hedge screens the parking lot from the loop road. There are plans to build an expansion to the Graham Center on this site.

Parking Lots #3, 4, & 35: (Located on the southeastern section of the campus: Lot #3 is in front of the Gold Garage, and Lot #4 is in front of the Blue Garage).These large parking lots do not provide sidewalks and are designed with the majority of pedestrian traffic walking within the main vehicular circulation aisles. Parking Lots #3 and #4 have some mature evergreen trees in the parking lots with smaller canopy trees formally planted along parking perimeters. Most medians are grassed with sporadic plantings and canopy trees at the end of the aisle terminuses. Ficus trees along the one way section of SW 14th Street help screen the lot from the external roadway. There are some grassed berms between the loop road and the parking lots. Lot #35, which is adjacent to Lot #3, serves the University House and is attractively landscaped with flowering trees and a perimeter hedge. An allee of Royal Palms are planted on each drive of the entryway to the University House.

Gold and Blue Parking Garage: (Located on the entrance of 16th Street and 107th Avenue). These two parking garages help to anchor the 16th entrance. Rows of palm trees and other plantings on the median and sidewalks of 16th Street lead to the parking garages. Sidewalks connect the parking facilities to the campus core. There are also lawn areas with occasional benches interspersed under Royal Palms along the façade of the structures.

Parking Lots #5, 6 & 7: (Located along the southern boundary of the campus.) Lot #5 is on the southeast corner of the campus. Lot #6 is across from Everglades Hall and Panther Hall. Lot # 7 is located on the southwestern section of the campus in front of the Baseball stadium. These Parking Lots have a continuous sidewalk and a hedge that connects them to Wertheim Performing

Arts Center and to FIU Community Stadium. They have minimal tree canopies to provide shading and offer screening of vehicles from adjacent land uses.

Parking Lots #8 and 13: (Located to the interior of the campus loop road) Parking Lot #13 is a small lot that services Panther Residence Hall. This lot is surrounded on three (3) sides with grassy terrain and plantings of scattered trees that softens the parking area from the campus loop roadway. Interior parking islands are grassed with plantings of palms and canopy trees. Parking Lot #8 is located between the Recreation Complex and the University Health Services Complex. It has a perimeter sidewalk associated with the campus loop road with flowering trees planted between the sidewalk and the perimeter of the surface parking. This lot has continuous interior grassed medians with plantings of modest canopy trees. There are plans to build phase II of the Recreation Complex on this parking lot.

Parking Lot #9: (Located adjacent to the loop road on the northwestern section of campus). Lot #9 currently serves the Sanford and Dolores Ziff Education Building. However, there are plans to build the Graduate School of Business and housing on this lot. The lot provide sidewalks for the pedestrian traffic that connect to the campus central core. Gumbo Limbo trees have been planted in many of the islands, developing modest canopies. The grassed perimeters of the lots have been mounded to diminish visibility to the lot's broad expanses of pavement.

Parking Lots #10 and the Panther Parking Garage: (These parking facilities are to the north and west of the FIU Arena). Parking Lots # 10 has a perimeter sidewalk associated with the campus loop road with flowering trees planted between the sidewalk and the perimeter of the surface parking. Terminal medians and occasional interior medians are grassed and planted with a canopy tree. There is a simple landscape treatment for the Panther Parking Garage consisting of lawn areas interspersed with small ornamental trees along the façade of the structure.

Parking Lot #11: (Located east of Panther Residence Hall.) Parking Lot #11 has grassed medians and perimeters with small ornamental trees in the medians and Live Oak trees planted at the edges of the parking lot.

Parking Lots #12-30: (Located at various locations throughout campus) Most of these are small parking lots that serve the campus support system. The landscaping for these lots vary.

ENGINEERING CENTER

Parking Lots # 1, 2, 3, 4, and 5 have terminal medians. Occasional interior medians are grassed and planted with canopy trees.

BISCAYNE BAY CAMPUS

Landscape treatments typically consists of grassed medians at the terminus of parking rows planted with shade trees with additional trees planted along parking lot perimeters. Parking Lot #7 and the Kovens Center parking areas contain grassed medians with shade trees within parking rows and occasional planting islands with trees that extend between abutting parking spaces.

Typically for Parking Lots #1, 2, 3, 4, 5 and 6 landscape treatments consist of trees provided in scattered parking medians and end medians. One of the few structured landscape treatments within parking areas occurs along the southern edge of the circulation roadway for The Library, Wolfe University Center and Academic One and Academic Two. A formal planting of Cabbage Palms accentuates this primary vehicular circulation pattern (Photograph 16.5). No grassed parking perimeters are bermed or screened with lower plantings from adjacent roadways. Additional tree massing would help buffer the campus from Bay Vista Boulevard and screen parking areas from circulation roads. In addition a more consistent street tree scheme would better demarcate primary internal circulation roadways.

3. Pedestrian Circulation Routes

MODESTO A. MAIDIQUE CAMPUS

Major Walkways:

There are three major pedestrian axial walkways that penetrate the central campus core from the campus loop roadway and beyond:

- Avenue of the Professions: extends from the western perimeter parking areas to Green Library and continues easterly along the Graham Center to Loop Road
- Avenue of the Sciences: extends in a diagonal direction from the residential housing complex to the central campus core and extends to the Loop Road near University Apartments
- Avenue of the Arts: Extends from the Performing Arts Center north to the Graham Center

Though there is not a consistent landscape treatment of these axes, they are considered the foundation of campus pedestrian circulation and should continue to be preserved and enhanced.

The landscape treatment of the east/west walkway that links the University Park Apartments to Panther Arena is reflective of its surroundings. There is a natural look to the landscape at the western portion of this walkway with its lakes, wooden bridge and informal tree plantings; (Photograph 16.6) while along the more urban areas of the campus core there is a wider walkway with accent

Photograph 16.5 Formal palm plantings

Photograph 16.6 Naturalistic gardens

pavers and more structured planting of various palm species. The walkway has a simple, clean appearance by the Graham Center and near the eastern terminus of the walk. The landscape related to this walkway evolves from the site's site furnishings and formal planting of Coconut Palms. The diagonal pedestrian axis that traverses the campus from the residential complex south to the apartment complex to the east has an inconsistent landscape treatment. The portion of this corridor from the apartment complex to Chemistry and Physics has been planted with Royal Palms and Live Oaks. Interior portions of this sidewalk have a more open look with few plantings to reinforce circulation patterns. Sidewalk plantings related to the residential complex are more formal with an allee of Royal Palms and small shade trees. The east/west walkway that connects the northern campus core to Golden Panther Arena has occasional tree masses and some formal tree plantings adjacent to buildings, however, for the most part landscape treatments are limited. While there is some level of landscape treatment for all of these primary pedestrian routes, the sporadic approach of landscape design tends to accentuate portions of the walkways without addressing an overall theme and hierarchy of pedestrian circulation.

A recently constructed pedestrian route links the campus core between the Charles Perry Building and the Graham Center to two parking garages and adjacent surface parking lots and ultimately extends to SW 107th Avenue. This corridor contains numerous formally planted areas of small palms and ornamental trees within a broad paved surface. There are a few other examples of successful landscapes related to pedestrian walkways. North of the campus core is a curved sidewalk that weaves between grassy mounds, palms, flowering trees and small evergreen trees. There is also a strong pedestrian corridor reinforced with a row Royal Palms on one side of the walk between Parking Lot #1 and Chemistry and Physic building.

<u>Sidewalks</u>:
In addition to the major pedestrian walkways that traverse the inner campus, there is a network of sidewalks that encircle the campus. A pedestrian circulation pattern responds to the loop road vehicular circulation and the location of the parking for the academic core area. The pedestrian traffic from the parking lots outside the loop road link to a walkway located within a grassed buffer separating the loop roadway and parking circulation. This lawn area is normally bermed and when space allows planted with flowering shade trees.

<u>Crosswalks:</u>
Other pedestrian crossings of the loop road, including those associated with primary axes previously mentioned in this element, serve the northern parking lots and athletic and support areas of campus. Crosswalks are normally striped with white paint, however, consideration should be given to the further use of concrete, colored pavers to clearly delineate pedestrian crossings and circulation patterns as well as a tool to slow vehicular traffic. Other peripheral campus walkways include those adjacent to parking areas along the campus southern

perimeter road. The small Live Oak trees planted along these sidewalks will require considerable time before they offer needed shade for pedestrians. One particular crossing of south perimeter road links parking to residential housing. This is a high concentration of vehicle and pedestrian traffic. As this walkway passes near two lakes, it is bordered by a low metal fence and framed by an allee of Royal Palms.

Covered Walkways:
Covered walkways connect Green Library with Owa Ehan and connect the Green Library, Deuxieme Maison and Viertes Haus. An additional covered walkway links the Perry building with Deuxieme Maison (see Photograph 16.7). A colonnaded walkway has been constructed between Parking Garage One and Perry.

BISCAYNE BAY CAMPUS

Two examples of integrating the landscape with pedestrian circulation routes occur in a lushly planted pedestrian plaza between The Library and Academic One (see Photograph 16.8) and a more formal exterior space between the Library and Hospitality Management (see Photograph 16.9). Sidewalks include covered and uncovered walkways within the academic facilities. Walkways in open areas between The Library and Academic One and Hospitality Management are typically concrete. A second level walkway between Academic One and The Library passes through the treetops of the landscaped plaza below. This walkway that offers cover for pedestrian circulation at grade acts as a building edge that divides a lush tropical planting adjacent to The Library from a more open lawn area anchored by Live Oak trees surrounding a circular walkway with seating.

The broad exposed aggregate walkways adjoining Academic One, Academic Two and adjacent to Hospitality Management have (Photograph 16.10) sparse landscape treatments consisting of modest landscape plantings and some site furnishings. A metal covered walkway between The Library and Hospitality Management and some adjoining secondary buildings have few landscape treatments. The covered walkways are effective in allowing access to classrooms in rainy weather. Landscape plantings for a connecting sidewalk from The Library to Bay Vista Housing is minimal, primarily limited to groupings of Cabbage and Coconut Palms. This does not provide for much shade or visual interest for pedestrians.

A series of curvilinear asphalt paths that circulate through the open lawns south of the academic facilities and adjacent to Biscayne Bay are typically landscaped with groupings of palms, canopy trees and some accent trees. Consideration for placement of additional landscaping in these areas should promote the establishment of prominent vistas to Biscayne Bay.

Photograph 16.7 Colonnaded walkway

Photograph 16.8 Lush plantings at pedestrian plaza

Photograph 16.9 Formal quadrangle

Photograph 16.10 Austere plaza

4. Bicycle Facilities

<u>MODESTO A. MAIDIQUE CAMPUS</u>

It appears that bicycle racks have been provided adjacent to most buildings in the academic core area although in some cases they are not heavily used, with students instead opting for adjacent light poles and signs. The bicycle racks exposed to the weather were used less than those racks under cover. The racks most often used were the upright metal 'ribbon' style racks. Currently there are no bike pathways established on campus.

<u>BISCAYNE BAY CAMPUS</u>

Bicycle facilities consist of two types of bike racks located adjacent to the student housing, student center and most academic buildings. The traditional metal racks are located adjacent to housing with ribbon racks utilized in other areas on campus. A few bicycle racks at student housing are placed in graveled areas rather than on concrete pads. Some of the bicycle racks are located without cover from the weather.

5. Public Transportation Facilities

<u>MODESTO A. MAIDIQUE CAMPUS</u>

There are currently no special landscape treatments for public transportation facilities. The Miami-Dade County Transit Authority bus system has a transfer facility at the SW 108th Ave entrance. A modern bus shelter for bus service has been installed east of the Gold Parking Garage. There are other bus stops demarcated near off-campus entrances along SW 107th Avenue.

<u>BISCAYNE BAY CAMPUS</u>

Current public transportation facilities consist of a two separate covered bus stops at the drop-off adjacent to the plaza area between the Academic One and The Library.

6. Emergency Access Facilities

<u>MODESTO A. MAIDIQUE CAMPUS</u>

Landscape treatments present no particular deterrents for emergency access. Detailed studies for police and emergency access are recommended as the campus continues to mature.

<u>BISCAYNE BAY CAMPUS</u>

Landscape treatments present no particular deterrents for emergency access. Detailed studies for police and emergency access are recommended as the campus continues to mature.

7. Planted Areas

MODESTO A. MAIDIQUE CAMPUS

The campus landscape is a mixture of very formally planted spaces, with trees in lawn areas planted in single or double rows, and informally planted areas, with groupings of palms and trees often planted on berms in a random manner. Other areas are open spaces available for leisure and unstructured recreation. Lake treatments with Coconut Palms and flowering tree species have a more tropical appearance while some ponds with Cypress trees and evergreen tress have a more natural look. It is currently difficult to define an established landscape character for the Modesto A. Maidique Campus. Planted areas appear to be adequately maintained. The limited use of shrub material in small masses and planters within the central academic core area is successful and helps to establish the appropriate scale for that specific area. A concept of establishing theme gardens for building courtyards has been an effective means of differentiating individual facilities while offering exterior spaces for rest and reflection.

Entrances: The major entrances occur at SW 8th Street and SW 107th Avenue. The entrance at SW 8th Street is the ceremonial boulevard type entrance gate with its arched symmetrical signage and flanking colonnaded walls. A formal planting of Royal Palms on either side of the roadway directs traffic within the campus where at the intersection with the campus loop road the planting pattern changes to a double row of Live Oaks with Royal Palms in the median. A secondary entrance at SW 107th Avenue has two ceremonial gates constructed of the same tan stucco finish and cut keystone coral used in the primary campus entrance. On each side of the boulevard the entry gate's arched base aligns with an allee of Royal Palms that penetrate the campus.

FIU Arena: This facility is landscaped with a mixture of Royal Palms, Washingtonia Palms, Cabbage Palms and smaller palm varieties. Royal Palms and Gumbo Limbos are planted in the building entrance island and Podocarpus are used in the paved plaza area. The Podocarpus seem an inappropriate choice for a plaza tree.

College of Health and Central Utilities Building Courtyard: This space is in contrast to the immediately adjacent main entrance landscape. This area is informally treated with plantings of Bottlebrush, Mahoganies and Cabbage Palms in a bermed lawn. This area needs to be addressed as a transition space from the rigidly formal landscape to the informal plantings within the central academic core.

Ryder Business Administration / Deuxieme Maison / Tower Area: This central space is gardenesque in character with a series of lakes with mounds and sporadic informal plantings predominated with flowering trees. The lakes require periodic maintenance but the associated wooden bridge, arched stone entrance gate and gazebos are incomparable for creating a pastoral setting. This area presents an opportunity for further development of pleasant study garden spaces for relaxation and quiet social reaction.

<u>Graham Center / Perry Building / Deuxieme Maison / Green Library Core</u>: This central academic core is the most developed area with walkways, planters and a central depressed fountain area. There is a small amphitheater-like area at the east entrance of Deuxieme Maison. The plantings in this primary campus quad consist of various palms, canopy trees with ferns, foliage plants, accents and other ground covers. There is a large planting area south of Perry Building that has lush tropical foliage and flowering plants under a canopy of mature Ficus trees. Although there is a diversity of lower plantings and accents, the restrained palette of trees and palms is very successful for this intensively used institutional space.

<u>Viertes Haus / Green Library / Owa Ehan / Engineering and Computer Science</u>: The quad formed by these buildings is relatively open with a large central pond with fountain and open lawns predominantly planted with canopy trees. Royal Palms are planted adjacent to the front of Green Library. The narrow interior courtyard for Viertes Haus is planted with a mixture of tall slender palms and other tropical vegetation such as Traveler's Palms, with a ground planting of various shade-loving tropical foliage materials.

The front entrance of Engineering and Computer Science has a planter with a concrete seat-wall planted with Royal Palms. Each side of the entrance walkway for this building is also planted with a row of Royal Palms with smaller ornamental trees and shrubs adjacent to building exteriors. In an exterior courtyard mature Queen Palms are planted in tree grates and raised planters.

<u>Ernest R. Graham Center</u>: Exterior spaces surrounding the Graham Center function as the primary gathering area on campus for dining and social activities. An informal dining area on the western and northern sides of the center offer a pleasant view of the adjacent quad with its mature plantings of shade trees and tall palms toward Green Library and the open lawns with smaller ornamental trees and Coconut Palms to the north.

<u>Chemistry and Physics / Wertheim Conservatory</u>: Lawns along sides of the building exteriors contain a large grove of Crepe Myrtles planted at the northwest entrance to the building. The landscape treatment for the building's primary entrance includes a formal walkway with Royal Palms adjacent to the sidewalks framed by a planted border and Creeping Fig vine on building facades. A paved central courtyard contains tree grates with Queen Palms and modest plantings. In the center of this plaza as a sculptural effect is a black granite column. The sparse plantings within the concrete plaza is rather stark. This plaza would be more inviting with additional planted areas, possible accents of paving color and site furnishings. Within Chemistry and Physics is a dramatic rotunda with

radiating paving patterns and an obelisk-type sculpture. Wertheim Conservatory has a planting of Date Palms on the north side of the facility.

Student Housing: Student housing consists of three housing facilities: University Park Apartments, Panther Residence Hall and University Towers. The grounds for the University Park Apartments have sparse plantings. With the development of the Academic Health Sciences District, these apartments will slowly be phased out. Current plantings have hedges along the campus loop road and SW 107th Avenue but are relatively open to the north. Other than substantial tree plantings along a lake south of the apartments landscape is at a minimum with scattered trees and few foundation plantings.

The predominant landscape treatment for Panther Residence Hall and University Towers are plantings of an assortment of palms including Paurotis Palms, Queen Palms, Royal Palms Pygmy Date Palms and Foxtail Palms. The landscape treatment for the back of Panther Residence Hall consists of mature Royal Palms and flowering trees accentuating an entrance and a lawn area planted with a grove of Live Oak trees. A similar treatment for other residential areas, utilizing evergreen trees to provide shade and canopy mass and utilizing flowering tree species for color, would create a landscape in residential areas that is more consistent with the overall campus landscape character.

Baseball Stadium / FIU Community Stadium Athletic / Support Area: This area has few plantings with the exception of scattered trees and palms at the ends of the stadium.

Wertheim Performing Arts Center: This facility has rows of Royal Palms planted along the building perimeters to articulate the pedestrian entrances to the building. Canopy trees have been planting in parking areas.

Education Building: This facility immediately within the primary campus entrance has a colonnaded feature at the corner of the building constructed of materials similar to the primary entrance, tan stucco and cut Keystone Coral. This building's interior plaza with a striped paving pattern is virtually void of planting areas and site furnishings. A row of Pygmy Date Palms adjacent to a colonnade along the western building façade is framed by a series of Live Oak trees in front.

Campus Support Complex: The primary landscape architectural contribution for this facility consists of its superb site amenities and furnishings. Colonnades, trellises, a pool with sculpture and special pavings all enhance the overall landscape concept. This building has lush plantings within a colonnaded entryway and an interior courtyard (see Photograph 16.11). A series of Royal Palms at the front of the building accentuate the entrance and relate the facility to human scale.

College of Business Complex: The new building complex provides minimal landscape plantings along the perimeter of the buildings. The interior courtyard and building entrances are accessed at two corners of the site. The interior landscape includes wide pedestrian walkways lawn and a grouping of Royal Palms. A water feature is the central focus of the space.

Photograph 16.11 Lush tropical plantings

BISCAYNE BAY CAMPUS

In general most areas of campus have a modest base of landscape materials yet still lack a richness, fullness and maturity of plantings. Aside from the quad between The Library, Hospitality Management and Wolfe University Center, the remaining exterior building plazas are inadequate for furnishing attractive, inviting spaces for social interaction and repose. Extensive pavements along most building exteriors need to be softened with intermittent treatments of tree, palm and ground cover plantings and related site furnishings. These enhancements would soften and accentuate architectural facades and furnish additional quality exterior spaces for the enjoyment of students and faculty.

Main Entrance: The campus entrance at Bay Vista Boulevard has been planted with Cabbage Palms. A lake with a fountain adjacent to the campus entry drive is framed by a mass of Coconut Palms.

Academic Core: The quad surrounded by Hospitality Management, The Library, and Wolfe University Center has an attractively designed plaza with lush plantings. Informal planting areas include Live Oaks and other canopy trees, Cabbage Palms and smaller palms, native plant species as Fakahatcheee Grass and Firebush and flowering plants as Dwarf Ixora, lilies and other ornamental grasses. The functional plaza design respects pedestrian circulation needs while offering broad landscape areas of lawns, some dense plantings and shaded seating. An overhead walkway that divides the quad separates this open space into two zones with distinctly differing landscape characteristics. The area west of the overhead walkway is a more vibrant, social activity center while the large lawn area adjacent to Hospitality Management is a more passive space used for rest and relaxation. Plantings to the east of the walkway focuses on centrally located flagpoles and an adjacent seating area adjacent to the Wolfe University Center. This area includes a circular walk with seating shaded by a planting of Live Oaks.

The southern facade of the Wolfe University Center has been recently expanded to create fore of a presence on the southern quad. New plantings consist of palms and lawn. The landscape treatments along the northern and southern façades of Academic One and the area between Academic One and Academic Two consist of periodic palm plantings within expansive concrete plazas and plantings of Coconut Palms and Queen Palms in lawns near these facilities. The planting areas associated with the plaza in front of Academic One and the common entrance for Academic One and Academic Two, should be consolidated to direct pedestrian circulation, offer attractive landscaped oasis to accommodate outdoor activities and demarcate building entry zones. The large expanse of paving east of Academic Two and at the southwest corner of Academic One does not furnish niches for planting nor create quality exterior spaces for gathering. These plaza areas are deficient of canopy trees to provide much needed shade for outdoor use in the warmer seasons. Substantial planting areas with more diversified plant palettes should be introduced along the front and back of these facilities in conjunction with improved plaza design and site furnishings.

Another area that could be enhanced with additional landscaping is the large service court for Central Utilities north of Academic One and Wolfe University Center. Currently this area is screened with a steep grassed berm that has a topiary planting of 'FIU' in the lawn area (see Photograph 16.12). Although this area's bunker-style construction may limit the extent of plantings, it would be beneficial to plant trees or palms along the base of the grassed berm to offer continuity of landscape design.

The south side of Hospitality Management building lack continuity in plant palette or intent and suffer the similar shortcomings as discussed for Academic One and Academic Two. There are some sporadic plantings of palms and canopy trees but much of the building is surrounded with harsh pavements with few plantings. The patio area at the northeast corner of this building has a textured exposed aggregate pavement with new site furnishings and modest foundation plantings. The pavements and furnishings for this plaza might be included in standards for improved landscape treatments for the Biscayne Bay Campus.

The relatively new Marine Biology building delineates the southern edge of the developing south quad. Landscape includes palms to the southern and eastern side of the building with low understory planting masses along three edges. The existing service court is visible from the adjacent conference center. Some understory plantings would work well in softening this edge.

<u>Housing and Recreation</u>: Landscape treatments and site furnishings for Bay Vista Housing are insufficient to offer a quality of life that fosters a desire to reside on campus (see Photograph 16.13). The lawns surrounding student housing are landscaped with modest plantings of Coconut Palms and a few canopy trees but otherwise the grounds are desolate. Lawns are weedy, with particularly poor turf adjacent to parking lots and building entryways. Courtyards are difficult areas to maintain a healthy landscape. Presently, plantings within building courtyards have rock mulch or in some instances there are no landscape treatments. Improving the image of student housing should be a priority for campus landscape development.

The space between the academic buildings and the Bay Vista Housing is an open lawn with a few scattered trees. Some picnic tables, grills and a volleyball net has been located in open spaces between the wings of Bay Vista Housing. Numerous Coconut Palms encompass the pool area. A few small salt tolerant trees are planted within lawns along the tennis facilities. This casual recreation area needs additional vegetation to define spaces and buffer differing activities.

Photograph 16.12 Ineffectual Landscape Treatments

Photograph 16.13 Barren Landscape

An unattractive area on campus is the landscape associated with the Marine Biology Laboratory. The rusty trailers and bare soil around these facilities is unsightly. Remedial landscaping for these facilities should, at a minimum, ensure an established turf and basic vegetative screening.

Support Facilities: This area currently has minimum landscape treatment and is being used as an unpaved parking area for HRS training facility. The area adjacent to the maintenance facility is currently being used as a shade house nursery and holding area for plant materials. The primary tree cover adjacent to Support Facilities consist of a background of native Austrailian Pines with plantings of various canopy trees, Cabbage Palms and Coconut Palms (see Photograph 16.15).

Bayfront and Open Spaces: This open area with informal planting has potential for development into a pleasant open space adjacent to the bay. Currently the plantings of Coconut Palms, Cabbage Palms, Sea Grapes and Tabebuias and other trees and palms are random without any apparent design direction to define the space.

Kovens Center: The front of the facility is landscaped with a dense planting of Cabbage Palms, evergreen shrubs, accent planting and other flowering groundcovers (see Photograph 16.16). A series of mature Royal Palms are planted along the sidewalk on each side of the building porte-cochere. The plantings on the bayside of the building consist of masses of Cabbage Palms and Fakahatchee Grass and other simple plantings that compliment building architecture yet do not obscure views of Biscayne Bay.

Photograph 16.15 Coconut palm grouping

Photograph 16.16 Successful native planting

8. Site Furnishings

MODESTO A. MAIDIQUE CAMPUS

Site furnishings are primarily placed in plazas, building courtyards, quads and other exterior areas associated with buildings. Some additional seating areas are placed along pedestrian walkways. Picnic facilities are distributed throughout the campus, typically in common lawn areas between buildings.

Site furnishings include benches, trash receptacles, ash urns, picnic tables and dining tables, and bicycle racks (see Figure 16.3: Site Furnishings Inventory for a photographic survey of site furnishings found at the Modesto A. Maidique Campus). There is a mixture of materials and styles with older furnishings predominant in much of the central academic campus core and with more contemporary site furnishings typically associated with recent campus construction. As older site furnishings become unserviceable they should be replaced with the more contemporary campus standard selected models.

In addition to traditional manufactured site furnishings utilized on campus there are numerous supplementary and custom site furnishings that contribute to the overall fabric of the landscape character. Probably the most distinctive addition to the campus landscape and what distinguishes the Modesto A. Maidique Campus from other universities is a collection of sculpture prominently displayed (see Photograph 16.17). The majority of the primarily modern sculpture is placed in locations to accentuate the more urban zones of campus: near building entryways, plazas and at circulation termini. Another element that accentuates the contrast in campus character from an urban environment to a more natural, gardenesque style are the wooden gazebos that are tucked away in niches of the landscape (see Photograph 16.18). These structures offer opportunity for relaxation and reflection.

Presently, there are three formal water features located on campus, the large depressed fountain and pool in the central academic core , a small fountain with a sculptural element in a courtyard for the Campus Support Complex and the liner reflecting pool within the College of Business Complex. A number of the lakes on campus have aerator type fountains. A custom site amenity that is compatible with earlier campus architecture is the numerous planter seat-walls. In the original quads in the central campus core and in other open space associated with some buildings, planter seat-walls were constructed and became an integral part of the landscape scheme.

Photograph 16.17 Prominent Campus Sculpture

Photograph 16.18 Gazebo in naturalistic garden

BISCAYNE BAY CAMPUS

Site furnishings are primarily placed in plazas, quads, under roof overhangs near building entrances and in other exterior areas associated with buildings (see Figure 16.4: Site Furnishings Inventory for a photographic survey of site furnishings found on the Biscayne Bay Campus). Some additional seating areas are placed along pedestrian walkways. Picnic facilities are distributed throughout the campus, occasionally placed near building entrances and commonly placed along pedestrian walkways and in common lawn areas between buildings.

Presently, the only fountain on campus is an aerator type fountain located in the lake near the primary campus entrance drive on Bay Vista Boulevard that serves the campus core.

Generally, in the academic core and housing zones of the campus there is a pronounced shortage of quality furnishings.

9. Lighting Location and Type

MODESTO A. MAIDIQUE CAMPUS

Like other site furnishings a variety of lighting fixtures are found on campus. The campus loop roadway lighting is fairly consistent, using a shoe box type fixture on a short twelve to fifteen foot post. Parking Lots all have the multiple shoe box type fixture on a tall, twenty-four foot post. There are some Cobra head type light fixtures near vehicular service areas for Golden Panther Arena and some parking areas for University Park Apartments. The pedestrian area lighting is a mixture of globe type fixtures, clear and opaque balls. The clear globe fixture is the dominant fixture found within the academic core area. Bollard type lighting fixtures are used in front of Engineering and Computer Science and adjacent to the Graham Center.

Another type of pedestrian fixture that is used in more recent campus construction is a clear, cylindrical fixture with painted metal framing and round, hood on a short twelve foot post. A wall-mounted variation of this painted aluminum fixture with a clear, cylindrical globe is installed at the entrance of the Campus Support Systems building. A square, clear fixture with an aluminum support is wall mounted on the Graham Center. The only lighting apparent in the Athletic / Support Area was the tall recreational type flood light used to light the tennis courts and play fields.

BISCAYNE BAY CAMPUS

Like other site furnishings a variety of lighting fixtures are found on campus. The parking lots have a series of single or double shoebox type fixtures on a tall twenty-four foot, square concrete pole. These aluminum fixtures with concrete standards are also used along primary roadways, recreational and maintenance facilities, the pedestrian path along Biscayne Bay and throughout the Kovens

Center site. Occasionally illumination for roadways and open lawn areas on campus is provided by a shoe box type fixture on a short twelve foot post. Tall Cobra-head lights are used along Bay Vista Boulevard.

The principal style of lighting that occurs in the academic core and along most walkways is a pedestrian scale light that consists of a clear, cylindrical fixture with painted metal framing and round hood supported by a short twelve foot post. Another pedestrian light used in the quad adjacent to The Library, Hospitality Management and Wolfe University Center is an aluminum bollard style light with a dark bronze finish. Although the intensity of illumination for some areas of campus is occasionally insufficient, the continuity of style and quality of materials is exemplary.

10. Trash Collection Facility

MODESTO A. MAIDIQUE CAMPUS

Typically, service areas and recycle and trash collection facilities are screened with walls but in a few instances maintenance facilities and some of the older facilities need buffering or landscaping to screen trash collection facilities.

BISCAYNE BAY CAMPUS

Normally service areas, trash collection facilities and receptacles are screened with walls. There are a couple instances such as maintenance facilities and residential areas where buffering or landscaping is needed to screen trash collection facilities (Photograph 16.19).

11. Maintenance Facility

MODESTO A. MAIDIQUE CAMPUS

This facility is found in the Athletic / Support area and currently the landscape treatment is limited to hedges along the street and sporadic street tree planting.

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An attractive setting for the clustered campus maintenance facilities is achieved by a view across a lake with floating fountain and planted with numerous Coconut Palms, flowering trees and canopy trees (see Photograph 16.20). Parking and service areas for the maintenance facilities are inward oriented and not visible to the general public, university staff and students.

12. Campus Edges

MODESTO A. MAIDIQUE CAMPUS

Currently the campus edge landscape treatments consist of broad lawns planted with various tree and palm species. The northern edge along SW 8th Street and the northeast portion of SW 107th Avenue have been planted with Royal Poinciana, Live Oak, and an assortment of various other accent trees, palms and flowering trees in a rather loose, open pattern. The addition of numerous palms and flowering trees, along with the maturation of the existing canopy has begun to offer the necessary mass to define the campus edges and buffer off-site conditions. Tall Royal Palms are planted in a row at the northwestern corner of the campus along SW 8th Street.

There is virtually no landscape treatment along the southern boundary with Tamiami Park and near perimeters of the new elementary school, other than some trees and plantings related to an entrance sign. Though the campus south portion of the loop road is planted with small Live Oak trees along the adjoining Tamiami Park and Miami-Dade County Fair and Exposition, there is no noticeable spatial separation from the campus and the park properties.

Photograph 16.19 Unscreened trash collection area

Photograph 16.20 Lake feature

BISCAYNE BAY CAMPUS

Most of the eastern edge of this campus overlooks Biscayne Bay. A portion of the shoreline has been "rip rapped" for stabilization. Existing Mangroves are preserved along much of the existing shoreline with some openings that allow views to Biscayne Bay. Selective clearing or transplanting of landscape materials other than Mangroves could offer selected vistas of Biscayne Bay. A mature Mangrove forest exists at the northeastern corner of the campus adjacent to Oleta State Park and the remainder of the northern edge is predominated with Austrailian Pines.

The southern edge of the campus except for a cleared area is forested with Australian Pine, Seagrape and Brazilian Pepper interspersed with some scattered upland mangroves.

The western edge, most visible along Bay Vista Boulevard and adjacent to the lake is planted with Coconut Palms, Cabbage Palms and scattered flowering trees.

Currently the campus is exploring the mitigation of Mangrove areas along the south edge of the campus and adjacent to the Bay and along the northern edge of the campus adjacent to the existing residential housing.

b) A description of the natural landscape context within which the University campus exists, including a description of important native plant species.

MODESTO A. MAIDIQUE CAMPUS

The Modesto A. Maidique Campus was previously an airport and contains relatively few naturally vegetated areas. Non-landscape vegetation associations are described in 13.0 Conservation Element, Existing Vegetative Communities.

The only significant natural landscape feature currently at the Modesto A. Maidique Campus is a "Bay Hammock" located between Panther Residence Hall and the Baseball Stadium. This area is described in 13.0 Conservation Element, Existing Vegetative Communities.

BISCAYNE BAY CAMPUS

Much of the natural vegetation context on the Biscayne Bay Campus, includes forested parcels to the southwest of the main building area and to the north of the canal at the north edge of the building area. These context areas are dominated by Australian Pine interspersed with scattered Brazilian Pepper and Sea Grape.

Mangrove vegetation at the Biscayne Bay Campus exits along a narrow band of an internal canal and along estuary at the eastern edge of the campus. Mangroves also occur in a portion of the shoreline along Biscayne Bay rip-rapped for stabilization. Along the natural shoreline that lacks rip-rap, beach strand vegetation dominates scattered buttonwood trees and a few Red Mangroves. Mangrove plant associations at Biscayne Bay Campus include Red Mangrove, Green Buttonwood, Black Mangrove, White Mangrove, and Seaside Mahoe.

Within the context area of Biscayne Bay Campus, extensive mangrove forests occur in the state mangrove preserves located to the north and west of the campus, and within the Oleta River State Recreation Area. Beach strand vegetation also occurs along portions of the shorelines in the Oleta River State Recreation Area and may occur in the State mangrove preserves.

A buffer zone of native vegetation was planted as mitigation, adjacent to a section of the mangrove-dominated, tidally influenced canal impacted by construction of an access road for Kovens Center. Currently, mangrove mitigation planting is being conducted at the southwestern end of campus for compensatory mitigation for mangroves trimmed near Kovens Center for security concerns. Removal of terrestrial exotic vegetation, such as Brazilian Pepper and Australian Pine has been a priority at the campus since Hurricane Andrew. This exotic removal project is still in progress.

c) An identification and inventory of existing historic landscape features on the campus.

There are no known historic landscape features on the University properties.

d) An identification and inventory of specimen or significant landscape features on the campus.

<u>MODESTO A. MAIDIQUE CAMPUS</u>

Although there are no specimen landscape features on campus, there are, however, significant landscape features that have evolved with a natural maturing of the campus landscape. In many instances these traditional exterior spaces have been enhanced with site amenities for the users further enjoyment. These spaces include ‘The Mall’, which is a formal, axial planting of Royal Palms framing a lawn that penetrates the campus interior. The vista of this grand boulevard terminates at the primary campus drop-off point in front of the Ryder Business Administration building. This grand manor style draws one into the campus from the primary campus entrance on SW 107th Street.

Another significant landscape feature is “The Pit’. This outstanding exterior space has a canopy of mature evergreen and flowering trees, under-story plantings of tropical foliage plants and various seating areas. The core of this landscaped space is anchored by a large circular, depressed fountain. Building facades and entry points are accentuated with large planters of mature palms and canopy trees. A contrasting significant landscape feature occurs west of the central campus core. This natural style of campus landscape has a more scenic, open feel than the canopied landscape in campus interiors. The landscape of this naturalistic style is comprised of lakes, grassed mounds and informal plantings of flowering and canopy trees. Various site amenities that all contribute to its pastoral setting include fountains, wooden bridges, gazebos and stone entrance gates.

BISCAYNE BAY CAMPUS

A significant landscape feature on campus is associated with the entrance roadway and vehicular drop-off for the Kovens Center. A buffer zone of native vegetation was planted along the existing mangrove-dominated canal located immediately in front of the building's public entryway. The preserved mangrove wetland in front of the facility is augmented with plantings of Fakahatchee Grass, Firebush, Beach Sunflower and other natives that blend with the indigenous preserved species in the foreground and a backdrop of massed plantings of Washingtonia Palms (see Photograph 16.21). The landscape treatments for Kovens Center are an outstanding example of a planned design that respects existing site conditions, compliments building architecture and creates a dramatic arrival vista. A vista to the building's entry rotunda and drop-off is defined by an allee of Royal Palms that border the entrance roadway.

Another exemplary landscaped area on Biscayne Bay Campus, situated in the plaza between The Library and Central Utilities, has an attractively designed plaza with lush plantings (see Photograph 16.22). The densely planted informal landscaped areas feature native plant species with occasional tropical accents. Indigenous species include Live Oaks, Cabbage Palms, Fakahatcheee Grass and Firebush. Tropical accents and other flowering plants including Dwarf Ixora, lilies and other ornamental grasses are interspersed in the native plant materials.

Photograph 16.21 Existing mangroves with native plantings

Photograph 16.22 Native grasses

e) An inventory of the existing types of outdoor furnishings and graphics used on campus, including identification of model numbers, materials etc. (seating, trash receptacles, paving materials, light poles and fixtures, signage, etc.)

MODESTO A. MAIDIQUE CAMPUS

Outdoor Furnishings

Existing campus site furnishings are a mixture of materials and styles with older furnishings more prevalent in the central academic campus core and more contemporary site furnishings utilized in recent campus construction. The Graham Center, Campus Support Complex, Panther Residence Hall and University Towers have their own palette of site furnishings. Site furnishings include benches, trash receptacles, urns, picnic tables and dining tables, and bicycle racks.

- **Benches:** The majority of older styles of existing benches on campus include curved redwood slat benches and concrete planter walls (see Photograph 16.23). Bench styles recently installed on campus include a curved composite wood bench with metal framing and a pale blue, metal slat bench with back (see Photograph 16.24).

- **Trash Receptacles:** Older styles of trash receptacles on campus include rectangular redwood slat benches. Trash receptacles recently installed on campus include black perforated metal with solid black metal top receptacles. A similar receptacle is a blue perforated metal with solid white metal top, a square with aggregate trash receptacle with a brown metal top, square exposed aggregate receptacle with a blue metal top.

- **Ash Urns:** ash urns include black perforated metal with tubular steel and a round, lightly colored exposed aggregate urn with metal lid.

- **Bicycle Racks:** Older styles of bicycle racks on campus include looped steel racks. Recently installed bicycle facilities include slotted concrete bike racks and steel 'ribbon' style racks.

- **Picnic Tables:** Older styles of picnic tables on campus include redwood slat, square tables with four (4) benches. Recently installed picnic tables and dining tables include a perforated metal table and four seats with a canvas umbrella for the table. Another recent addition to the site furniture palette is a gray, composite wood picnic table and two benches with red trim at edge of table and benches.

There is no available record of model number of the furnishings used on campus.

Photograph 16.23 Planter seat-walls

Photograph 16.24 Shaded seating area

Graphics

There is a campus graphics and signage program that has been fully adopted as a campus wide signage system. The system consists of a unified system of coordinated messages, styles, colors and materials. The signs are easy to read and the graphics are simple enough to accomplish their purpose. The colors and materials are compatible with one another and often with building architecture. Campus signage includes primary entrance signs, secondary site identification signs, changeable message signs, directional signs, building identification signs, campus directory signs, parking lot signs and banners.

- **Primary Campus Entrance Sign**: The primary campus entrance sign associated with the principal campus access occurs at SW 8th Street and 112 Avenue. The grand entry gate consists of two masonry arches supported by three cut Keystone Coral arched pillars. 'Florida International University' is identified in large, brown, individual letters. Below the campus name above the central arched pillar is the campus logo. A secondary entrance at SW 107th Avenue has two ceremonial gates constructed of the same tan stucco finish and cut keystone coral used in the primary campus entrance. On one of the gates, 'Florida International University' is identified in large, brown, individual letters and on the other gate is the campus logo.

- **Minor campus Site Identification Signs:** There are three minor campus site identification signs located at the campus perimeters. One sign occurs at the intersection of SW 117th Avenue and SW 17th Street, another at the intersection of SW 8th Street and SW 107th Avenue and a third adjacent to SW 107th Avenue, near an abandoned campus entrance east of University House. These monument signs are constructed of smooth concrete panels with brown, individual capital letters. A variable, computerized message board is located within each entry gateway. These lighted boards are contained in an arched blue sign panel with two, blue, tubular posts. 'Florida International University' is identified in white, individual letters applied to the sign panel and the school logo is centered above in the sign's arched top.

- **Directional Sings:** Directional signs are constructed of a rectangular aluminum panel painted blue with white, adhesive, individual die - cut letters and directional arrows. This sign panel overlaps an aluminum panel painted yellow with a campus logo. Directional signs vary in size depending on the number of messages. The sign panel's blue and yellow school colors with white letters offer high contrast for excellent sign legibility. Building identification for the major buildings on campus is provided by individual aluminum, capital letters, stud mounted to the building façade.

- **Monument Style Building Identification Signs**: Buildings such as the

Green Library have a monument style building identification sign constructed of the same materials as the directional signage. This horizontal shaped sign has white letters on a blue panel overlapping a yellow panel. Some of the minor buildings are identified with a white letter and number applied to a small, blue aluminum panel.

- **Parking Lot Signs:** Parking lot signs are similar to directional signage with the exception that the parking lot number is identified with blue letters at the top of the yellow aluminum panel in lieu of the campus logo.

- **Directory Sign:** A campus directory sign has a blue metal support for the typical blue and yellow painted sign panels. The large, white campus map applied to a blue panel prominently denotes the campus sign location. Directional arrows and names for adjacent facilities are indicated in the margin of the sign panel. An intensification of the muted blue and gold colors for the campus map delineation would improve the overall sign legibility. Fabric campus banners are attached to light standards to identify special events on campus. Banners have blue fabric with gold striping and white and gold letters.

BISCAYNE BAY CAMPUS

Outdoor Furnishings

Site furnishings include benches, trash receptacles, picnic tables, dining tables, and bicycle racks. (See Figure 16.4: Site Furnishings Inventory for a photographic survey of site furnishings found on Biscayne Bay Campus). There is a mixture of materials and styles with more contemporary site furnishings typically interspersed with older furnishings. The older site furnishings are normally constructed of concrete and wood while the more contemporary site furnishings are often constructed of metals and polymer materials. As older site furnishings become unserviceable they should be replaced with more contemporary campus standard selected models.

- **Benches:** Concrete benches are located in the plaza in front of The Library. The concrete seats are painted in blue, yellow and white colors. Wood slat benches are placed under covered walkways and often near buildings. A more traditional bench is utilized along the circular walkway in the quad north of Wolfe University Center. This bench is constructed of heavy wood planks with a curved back and concrete supports. Another earlier style bench located the southern plaza for Academic Two is a white plastic bench with back. An attractive contemporary bench has been recently installed on campus in front of The Library. This natural wood slat bench is accented with red steel framing. A sleek new bench constructed of painted blue wood members turned on edge is placed in interior corridors within the academic buildings. Another recent addition to the site furniture palette is a black metal slat seat with rounded back and arm supports, used on an second floor exterior patio for The Library.

- **<u>Trash Receptacles:</u>** The principal trash receptacle utilized on campus is a square pebbled concrete trash receptacle with a brown metal hood. Trash receptacles recently installed on campus include black perforated metal with solid black metal top receptacles. A similar receptacle is made of blue perforated metal with a solid white metal top. A recently installed ash urn located on the back patio of Hospitality Management is a square, smooth gray concrete urn.

- **<u>Bicycle Racks:</u>** Older styles of bicycle racks on campus include the traditional style steel racks used at Bay Vista Housing. Recently installed bicycle facilities include steel 'ribbon' style racks.

- **<u>Picnic Tables:</u>** Earlier styles of picnic tables on campus include wood slat, square tables with four integral benches are scattered in the lawns at the back of the Bay Vista Housing building wings. Another earlier style bench located the southern plaza for Academic Two is a white plastic table with four molded plastic seats. A contemporary picnic table is utilized in the entry plaza for Academic One. This table is manufactured of a blue, square perforated metal table with two seats of like material and a black tubular steel support system. A similar newer picnic table is located along the asphalt path along Biscayne Bay and in the plaza at the back of the Wolfe University Center. This round table constructed of blue perforated metal with four individual attached seats with backs has a steel support system. There is no available record of model numbers of the furnishings used on campus.

- **<u>Concrete or Exposed Aggregate Paving</u>**: Scored concrete or exposed aggregate paving is typically used for walkways, plazas and courtyards. The exterior patio at the southwest corner of Academic Two is paved with colored, stamped concrete that simulates Mexican tile.

<u>Graphics</u>

- **<u>Primary Campus Entrance Sign:</u>** The primary campus entrance sign associated with the principal campus access occurs at Bay Vista Boulevard and Biscayne Boulevard. A secondary campus entrance sign is located immediately south of the main campus entrance drive off of Bay Vista Boulevard. A smaller site identification sign is located at the entry drive for Kovens Center. These monument signs are constructed of smooth concrete panels with brown, individual capital letters. A variable message sign is located just north of the main campus entrance drive off of Bay Vista Boulevard. These lighted boards are contained in an arched blue sign panel with two, blue, tubular posts. 'Florida International

University' is identified in white, individual letters applied to the sign panel and the school logo is centered above in the sign's arched top.

- **Directional Sings:** Directional signs are constructed of a rectangular aluminum panel painted blue with white, adhesive, individual die - cut letters and directional arrows. This sign panel overlaps an aluminum panel painted yellow with a campus logo. Directional signs vary in size depending on the number of messages. The sign panel's blue and yellow school colors with white letters offer high contrast for excellent sign legibility. Building identification for the major buildings on campus is provided by brown, individual aluminum, capital letters, stud mounted to the building facade. Additional building identification signs are identified on sign panels with the same style and materials of the directional signs.

- **Parking lot signs:** Parking lot signs mounted on light standards identify the number of each parking lot. For these signs the parking lot number is identified with white numbers in a blue banner mounted near the top of parking lot light standards. Fabric campus banners are attached to pedestrian campus light standards to identify special events on campus. Banners have blue fabric with gold striping and white and gold letters.

- **Directory Sign:** A campus directory sign located near the public bus shelter has a blue metal support for the typical blue and yellow painted sign panels. The large, white campus map applied to a blue panel prominently denotes the campus sign location. Directional arrows and names for adjacent facilities are indicated in the margin of the sign panel. An intensification of the muted blue and gold colors for the campus map delineation would improve the overall sign legibility.

2) ANALYSIS REQUIREMENTS. This element shall be based, at a minimum, on the following data:

a) An assessment of the degree to which existing landscape features (plants, materials, furnishing, graphics, etc.) are coordinated and the degree to which they contribute to or detract from the present visual and functional quality of the campus.

<u>MODESTO A. MAIDIQUE CAMPUS</u>

The Modesto A. Maidique Campus has made dramatic improvements in the physical character of the campus landscape and its site amenities. Students have indicated that one of the primary factors that have drawn them to University Park is the attractive appearance of the grounds. While there is great diversity in landscape schemes, there are some unifying elements that are repeated throughout the campus. Unifying landscape treatments include Royal Palm allees to frame vistas and significant circulation corridors, groupings of palms at campus and building entrances, street tree plantings, groupings of flowering and canopy trees in lawn areas, minimal understory plantings at buildings edges and grassed berms adjacent to parking and service areas.

Site amenities and site furnishings are coordinated well with campus signage and lighting. Through the repetition of colors, materials, and design elements site materials, furnishings and graphics all contribute to the overall visual and quality of the campus. The University colors of blue and yellow are utilized in signage and site furnishings and sometimes as accent colors for buildings. Many of the furnishings are constructed of blue and black painted metals or sand and tan colors of textured concrete products. Some of the newer site furnishings are finished with more subtle pastel blues, corals and tans. The design of many custom site amenities associated with campus entryways, pedestrian corridors and plazas have a Mediterranean influence. These include colonnaded entrances and courtyards constructed of smooth beige stucco and cut keystone coral. Through the consistency of design and repetition of patterns and colors the built landscape begins to establish a visual theme in campus appearance.

<u>BISCAYNE BAY CAMPUS</u>

In general most areas of Biscayne Bay Campus have a moderate base of plantings yet still lack the maturity of plantings needed to identify campus landscape themes. The majority of other landscape treatments on campus lack density of plantings, continuity in plant palette or design intent. Repetition of selected particular plant species and landscape treatments would unify the campus landscape. A couple of exemplary landscapes on campus are associated with Kovens Center and the plaza and quad between The Library and Wolfe University Center and Hospitality Management. Another area with potential for a quality landscape are the substantial informal plantings of trees and palms in the open lawns between Wolfe University Center and Kovens Center and along the edge of Biscayne Bay. Some thought should be given to restructuring selected corridors and possibly transplanting some materials to create views of Biscayne Bay. An area of particular concern is open spaces around Bay Vista Housing, Improving the image of student housing should be a priority for campus landscape development. Other priority zones on campus for landscape improvements include buffer areas from Bay Vista Boulevard and on-campus parking and roadways, open spaces adjoining recreational facilities and spaces near the Marine Biology Laboratory. Berms should be enhanced at edges of vehicular areas and coordinated with an overall effort to improve campus drainage.

The only successful gathering place on campus occurs in front of The Library. There is a critical need to develop more definable spaces on campus. Presently, the areas near Academic One and Academic Two are dead zones dominated by broad expanses of exposed aggregate walkways with few trees and inadequate site furnishings. Extensive pavements along most building exteriors need to be softened with intermittent treatments of tree, palm and ground cover plantings and related site furnishings. These open areas need more shade, quality site furnishings and other site amenities to create desirable exterior spaces for gathering and social interaction. Emphasis has been placed on developing the southern facade of Wolf University Center to create views towards the bay and place activity of the developing southern quad. The University has a successfully coordinated graphics and signage system but there is little consistency of style and materials for site furnishings.

A planning element that could be an impetus for further landscape architectural development would be the relocation of the primary campus entrance and development of visual corridors to the bay. A new campus entrance should be reinforced with prominent landscape and appropriate signage for campus identification.

b) An assessment of the existing design treatments for the items identified in (1) a) with regard to their impacts on campus safety.

<u>MODESTO A. MAIDIQUE CAMPUS</u>

The Modesto A. Maidique Campus has made a good effort to assure design treatments for campus landscape features do not adversely impact campus safety. Landscapes are somewhat open and typically recognize the need to ensure walkways are well lit and landscaped areas do not provide shelter for assailants. Sight visibility along pedestrian and vehicular corridors has been maintained through thoughtful design and selective vegetative maintenance. Current directional and regulatory signage and lighting intensity is satisfactory to sustain campus safety. One idea that might be considered for further consideration is the installation of kiosks located on campus for emergency assistance.

BISCAYNE BAY CAMPUS

Biscayne Bay Campus has made a good effort to assure design treatments for campus landscape features do not adversely impact campus safety. Landscapes are somewhat open and typically recognize the need to ensure walkways are well lit and landscaped areas do not provide shelter for assailants. Sight visibility along pedestrian and vehicular corridors has been maintained through thoughtful design and selective vegetative maintenance. Current directional and regulatory signage and lighting intensity is satisfactory to sustain campus safety. One idea that might be considered for further consideration is the installation of kiosks located on campus for emergency assistance.

c) An assessment of the ease or difficulty of maintaining the existing landscape features.

MODESTO A. MAIDIQUE CAMPUS

The sheer size of the campus landscape contributes to a relatively extensive effort to maintain a quality appearance for plantings, assist in campus safety and security and assure the health and vitality of plant materials. By primarily limiting shrub and under-story plantings to campus entry zones, selected screenings and building facades, courtyards and exterior plazas, the efforts associated with more intensive shrub care are minimized. Additional thought should be given to the accepted campus plant palette to ensure that sustainable species are the predominant materials selected.

The majority of site amenities, including pavements and furnishings, require minimal maintenance. A replacement program for older furnishings with new site furnishings with an extended life cycle will ease required maintenance for campus site furnishings. The required level of maintenance for lighting and signage is normal for preserving satisfactory functional levels.

BISCAYNE BAY CAMPUS

By limiting shrub and under-story plantings to campus entry zones, selected screenings and building facades, courtyards and exterior plazas, the efforts associated with more intensive shrub care are minimized. Further thought should be given to the accepted campus plant palette to ensure that sustainable species are the predominant materials selected. The preponderance of palms utilized on campus inherently requires less pruning than canopy and flowering trees.

The majority of site amenities, including pavements and furnishings, require minimal maintenance. A replacement program for older furnishings with new standardized site furnishings with an extended life cycle will ease required maintenance for campus site furnishings. The required level of maintenance for lighting and signage is normal for preserving satisfactory functional levels.

d) An assessment of the physical condition of the existing landscape features.

MODESTO A. MAIDIQUE CAMPUS

Existing campus landscape features are in good physical condition. Site furnishings, lighting and pavements with few exceptions are presently in good physical condition.

BISCAYNE BAY CAMPUS

Existing campus landscape features are in good physical condition. There are some areas of campus that do not have an established turf an inherently require added maintenance. Site furnishings, and lighting with few exceptions are presently in good physical condition. Some of the earlier paving materials in plazas are beginning to deteriorate and consideration should be given to replacement with attractive alternative pavements.

e) An assessment of the accessibility of the campus to disabled persons.

MODESTO A. MAIDIQUE CAMPUS

Disabled accessibility for the campus is excellent. Signed handicap parking spaces and ramps are consistently located near facility accesses. The campus is nearly devoid of exterior stairways and most pedestrian sidewalks maintain manageable slopes.

BISCAYNE BAY CAMPUS

Disabled accessibility for the campus is excellent. Signed handicap parking spaces and ramps are consistently located near facility accesses. The campus is nearly devoid of exterior stairways and most pedestrian sidewalks maintain manageable slopes.

17.0 FACILITIES MAINTENANCE ELEMENT

(1) DATA REQUIREMENTS

a) Building Survey Including General, Exterior, Interior And Systems Elements

FIU has on-going reviews of existing facilities by in-house and independent consultants to maintain updated status of maintenance requirements.

(2) ANALYSIS REQUIREMENTS

a) Projected Improvement Needs For Each Facility During The Planning Period

The University is proceeding with improvements as funds become available from the State University System (SUS).

b) Projected Level And Frequency Of Building Maintenance By Facility

The University follows a planned maintenance program by facility. This plan includes preventive as well as general maintenance.

<u>Americans with Disabilities Act</u>
The Americans with Disabilities Act (ADA) requires adherence to guidelines to ensure buildings, facilities and vehicles are accessible to individuals with disabilities. The ADA guidelines set forth standards for architecture, design, transportation and communication. The University adheres to the guidelines outlined in the ADA Accessibility Requirements Manual, issued by the Department of Community Affairs Florida Board of Building Codes and Standards. The University also adheres to the standards developed through an ADA Facilities Compliance Workbook developed May 30, 1994, commissioned by the State of Florida Board of Regents.

18.0 COASTAL MANAGEMENT ELEMENT

(1) DATA REQUIREMENTS

a) Inventory Of All Land Uses And Facilities On The University Property Within Coastal Area

MODESTO A. MAIDIQUE
Refer to 4.0 Future Land Use, 5.0 Academic Facilities and 6.0 Support Facilities Elements for an inventory of all land uses and facilities included at Modesto A. Maidique is not classified as a coastal zone.

Engineering Center
Refer to 4.0 Future Land Use, 5.0 Academic Facilities and 6.0 Support Facilities Elements for an inventory of all land uses and facilities included at Engineering Center. Engineering Center is not classified as a coastal zone.

BISCAYNE BAY CAMPUS
Refer to 4.0 Future Land Use, 5.0 Academic Facilities and 6.0 Support Facilities Elements for an inventory of all land uses and facilities included at Biscayne Bay Campus.

According to Flood Insurance Rate Maps (revised 16 October 1992), the entire Biscayne Bay Campus and context area is classified as coastal zone. The reader is referred to the inventory of land uses and facilities contained in 13.0 Conservation Element of this Master Plan Revision and other appropriate sections of this document.

b) Inventory Of Natural Features On The University Property Within The Coastal Area

BISCAYNE BAY CAMPUS
According to Flood Insurance Rate Maps (revised 16 October 1992), the entire Biscayne Bay Campus and context area is classified as coastal zone. The reader is referred to the inventory of wetlands, vegetative cover, areas subject to coastal flooding, and wildlife habitats contained in 13.0 Conservation Element of this Master Plan.

c) Inventory Of On-Campus Estuarine Conditions

BISCAYNE BAY CAMPUS
The northeastern edge of Biscayne Bay Campus abuts a small estuary that extends northward from the Intracoastal Waterway and Biscayne Bay (the reader is referred to the 1988 Master Plan update).

Biscayne Bay and all natural waterways (including the Oleta River and the estuary at the north end of Biscayne Bay Campus) tidally connected to the Bay have been designated as the Biscayne Bay Aquatic Preserve, a Miami-Dade County preserve.

d) Campus Facilities Designated As Public Hurricane Shelters

The South Florida hurricane season last from June through November each year. FIU has developed a plan for evacuation in case of hurricane or other emergencies and threats to public safety. The Emergency Operations Plan, which is updated annually, describes the necessary preparation and implementation of actions required to secure the University and evacuate the campus. This report includes specific responsibilities of essential personnel during these times.

Signs are posted at each entrance to Modesto A. Maidique indicating emergency routes to help direct the on campus traffic generated by such events. Broadcast agreements with local radio and television stations are established in order to communicate to the University's faculty, staff, students, and the surrounding community in case of emergency.

In the event of a hurricane, Biscayne Bay Campus would be completely evacuated, due to its location in the coastal zone and vulnerability to hurricane storm surge. Students living in on-campus housing on each campus will be provided with shelter at Modesto A. Maidique. Because Modesto A. Maidique is located on uplands at the western developed fringe of Dade County (Flood Zone X) it is not considered vulnerable to storm surge. In fact, due to its relatively protected location, the largest campus building, Primera Casa, serves as a shelter for evacuees for hurricanes with intensities up to and including Category 5.

Shelter Space

Each county in South Florida has developed a hurricane evacuation plan, which includes a series of designated public shelter spaces. On behalf of the Board of Regents, FIU has formed an agreement with the American Red Cross and the Monroe County Office of Emergency Management to provide emergency shelter "during hurricanes or other disasters which cause the evacuation of residents from Monroe County and for resident students who have not left campus". At present, Monroe County relies solely upon FIU to provide shelter for up to 5,000 evacuees from storms in Categories 3 through 5. The shelter space is based upon a standard of 20 square foot per person. However, the Monroe County Comprehensive Plan indicates a need for more than double this capacity. Consequently, FIU representatives have identified possible additional shelter capacity to meet the needs of Monroe County.

The second, third and fourth floor hallways and designated classrooms of Primera Casa are identified as temporary housing for individuals and families who have been evacuated due to a hurricane or disaster. Communication systems have been installed in rooms that are designated as "Command Central" for managers of the Red Cross and Monroe County, and areas designated as a temporary infirmary. Parking for all shelter residents and staff will be located in the parking lot east of Primera Casa.

Responsibilities have been outlined for the various agencies to ensure smooth operation of the shelter. FIU Physical Plant personnel are assigned to provide building and maintenance service to residents and families, schedule appropriate work crews to handle building sanitation, and maintain control of access to restricted areas. The Red Cross will be fully responsible for the operation of the shelter as a temporary housing facility. They will provide volunteers, food and food service, water and other emergency supplies. If the need for emergency shelter continues for an extended period, FIU will provide alternate areas to move the shelter, so the Primera Casa can be converted into educational uses within a period of five days. The primary function of Monroe County is to establish a temporary infirmary, which will be fully staffed, supplied, and operated by the County's Emergency Medical Services.

Hurricane Evacuation

During the evacuation caused by Hurricane Andrew in 1992, the majority of students who live on campus took shelter at Modesto A. Maidique at Primera Casa. If the majority of students were to require emergency shelter while classes were in session, provisions would need to be made for approximately 4,000 FIU students in addition to evacuees from Monroe County and the shelter staff. The Primera Casa building currently has a housing capacity for 1,800 people. If extra space is needed, additional shelters and infirmaries may be established on the FIU campus through the mutual agreement of FIU, the Red Cross and the county. This additional space could be accommodated in Golden Panther Arena hallways, which will be convenient because of the amount of space and shower facilities available.

Hurricane Preparation

Preparation of the Primera Casa building for occupancy of evacuees will begin after Monroe County Emergency Management or the American Red Cross contacts FIU Public Safety Department. When possible, FIU will be given a 36-hour advance warning. The three party agreement states that "depending on the extent of the disaster and the number of people requiring shelter the facility will be vacated no later than 5 days after the disaster", although, if the need for emergency shelter continues for an extended period, FIU can provide alternate areas to move the shelter, so the Primera Casa can be converted into educational uses. The primary function of Monroe County will be for the establishment of a temporary infirmary, which will be fully staffed, supplied, and operated by the County's Emergency Medical Services.

Post Hurricane Actions

The University Emergency Operations Plan lists the necessary post-hurricane actions to return the facilities to campus use. The plan includes damage assessment, media communication, information hot-line activation, securing hazardous areas, and documentation of damages to ensure safety and to resume University operations as quickly as possible.

In compliance with Florida Statute 240.295, FIU has identified public shelter space to house students, faculty and staff expecting to require shelter space in time of disaster. Based on criteria provided by the BOR, Table 18.1 shows the following space has been set aside for times of disaster.

Table 18.1 Facilities Designated as Hurricane Shelters

CURRENT FACILITIES DESIGNATED AS PUBLIC HURRICANE SHELTER	DURING A DISASTER	AFTER A DISASTER
Charles E. Perry Primera Casa	58,873 sf	65,840 sf
Ernest F. Graham University Center	9,811 sf	50,029 sf
Green Library	6,474 sf	6,474 sf
Golden Panther Arena (w/roof reinforcing)	49,483 sf	49,483 sf
Engineering & Computer Science	12,417 sf	24,487 sf
Ryder Business Administration	7,425 sf	7,425 sf
Chemistry & Physics	0 sf	35,468 sf
Health and Wellness Center	0 sf	13,576 sf
TOTAL	144,483 sf	252,782 sf

Additional shelter space will become available as planned projects near completion of construction. The following projects shown in Table 18.2 are presently in construction or design and may be considered for shelter space.

Table 18.2 Additional Shelter Space Available

Labor Center	4,040 sf
Multi-Purpose Stadium Complex	1,465 sf
Ryder Business Administration Building	3,900 sf
Fitness Center	800 sf
Graham Center	12,337 sf
Arts Complex I	14,620 sf
Campus Support Complex	3,585 sf
AT Library Addition	7,070 sf
TOTAL	47,817 sf

Based on the assumption that approximately 25% of the University population would seek shelter at Modesto A. Maidique, the following space will be required by the end of the planning period:

- Total shelter space required during a storm (based on 20 sf/person): 203,805 sf

- Total shelter space required after a storm (based on 40 sf/person): 497,600 sf*

*This number will be much lower due to the fact that most evacuees will return to their own residence

In addition to providing shelter for the University community, FIU will provide shelter space for Monroe County evacuees.

- Total shelter space required by Monroe County (5,000 people) during a storm (based on 20 sf/person): 100,000 sf

Given the space requirements and the future space availability at Modesto A. Maidique, FIU will be able to provide a sufficient amount of shelter space for the projected ten year University enrollment in the event of a disaster. This will, however, require coordination with the American Red Cross to ensure that new buildings include hurricane shelter criteria.

e) Inventory Of Existing Beach And Dune Systems On The University Property, Including Erosion And Accretion Trends, And An Identification Of Existing University Programs To Protect Or Restore Beaches Or Dunes

<u>BISCAYNE BAY CAMPUS</u>
Beaches at Biscayne Bay Campus are limited to short, poor quality stretches along the coastline. No dunes are present on Biscayne Bay Campus. Rip-rap was installed along portions of the shoreline of Biscayne Bay Campus and in various areas within the context area in order to stabilize shorelines and prevent erosion. Please refer to 13.0 Conservation Element's Wetland Mitigation Sites for more information concerning these mitigation projects.

Within the context area, only one beach was created as part of a mitigation project at Oleta River State Recreation Area in 1986 (see 13.0 Conservation Element's Wetland Mitigation Sites,). There are no dunes in the context area.

<u>Shoreline accretion and/or erosion trends:</u> Historical aerial photos of Biscayne Bay Campus for the years 1985, 1988, and 1990 were obtained in order to search for evidence of shoreline accretion and/or erosion trends. Analysis and comparison of these photos revealed areas in Biscayne Bay located directly east of Biscayne Bay Campus, which appeared darker than the surrounding water. These areas may represent dredging activity. There was no evidence in the photos of either shoreline accretion or erosion. Rip-rap has been placed along the shoreline (Wetland Mitigation Sites, in 13.0 Conservation Element of this Master Plan).

f) Inventory Of Public Access Facilities, Including Access Points To Beaches Or The Shoreline, Ramps, Docks Or Other Public Use Facilities On The University Property

BISCAYNE BAY CAMPUS

No public access facilities exist on this campus. The existing dock is for university use for the Marine Biology program.

g) Coastal High Hazard Area And Inventory Of Improvements And Infrastructure

BISCAYNE BAY CAMPUS

According to Flood Insurance Rate Maps (revised 16 October 1992), Biscayne Bay Campus and context area are not classified as coastal high hazard area. Refer to the inventory of land uses and facilities contained in 13.0 Conservation Element of this Master Plan Revision.

(2) ANALYSIS REQUIREMENTS

(a) Measures To Reduce Exposure To Hazards For Identified Facilities

BISCAYNE BAY CAMPUS

All new construction and renovation of existing facilities must comply with current Building Codes and Public Shelter Criteria, when applicable, as outlined in Section 235.26 (8)(a), F.S. The State of Florida Building Codes outlines specifications related to building structure and material that are intended to reduce exposure to hazards in coastal zone areas.

(b) Impacts Of Proposed Development On Identified Natural Resources And Strategies For Avoidance And/Or Mitigation Of Impacts

BISCAYNE BAY CAMPUS

Some buildings and other improvements to Biscayne Bay Campus are proposed in areas that are adjacent or in close proximity to lake littoral zones and other natural vegetation associations. A vegetated buffer zone should be maintained around existing natural vegetation associations to minimize the impacts or proposed developments on the natural functions and values of these areas.

The majority of the buildings and other improvements planned for Biscayne Bay Campus are sited within areas presently occupied by Australian pine-dominated forests. Because this vegetation association is considered undesirable, construction in Australian pine forests should not have any appreciable negative impact on natural resources except as these developments impact adjacent or nearby vegetation associations or potentially jurisdictional wetlands.

Some of the proposed improvements at Biscayne Bay Campus may impact lake littoral zones and other areas that may be jurisdictional wetlands (see 13.0 Conservation Element). Prior to commencement of construction activities in potential jurisdictional wetland areas, the University should have a binding jurisdictional wetlands determination performed, and, if necessary, perform any required mitigation.

(c) Impacts Of Any Proposed Development On Esturine Environmental Quality, Strategies To Minimize Impacts Of Development And A Feasibility Analysis Of Mitigating Impacts Of Identified Pollution Sources

BISCAYNE BAY CAMPUS

Methods for protection and enhancement of natural resources at the Biscayne Bay Campus are discussed in 13.0 Conservation Element.

No improvements are proposed in the immediate vicinity of the on-campus estuary. However, the absence of water quality monitoring precludes determining whether or not existing campus activities have significantly affected estuarine water quality. Methods for protection and enhancement of estuarine environments at the Biscayne Bay Campus are discussed in 13.0 Conservation Element.

(d) Host Community's Plans And Procedures For Hurricane Evacuation And Sheltering, Including The Requirements For The Use Of University Facilities As Public Shelters

The host community, Monroe County, hurricane evacuation plan is outlined in Section18 (1) d) of this report.

(e) Adequacy Of Existing Beach And Dune Protection

BISCAYNE BAY CAMPUS

No dunes are present at Biscayne Bay Campus, and beaches are limited to stretches along the coastline. Extensive shoreline enhancements have been done in the context area of Biscayne Bay Campus and are planned for Biscayne Bay Campus itself. Because it appears that no appreciable accretion or erosion is occurring with regard to the beaches in the context area, existing and planned enhancements are probably adequate to protect campus beaches.

(f) Capacity Of And Need For Public Access Facilities To The Beach Or Shoreline

BISCAYNE BAY CAMPUS

There is currently no need for public access facilities to the Biscayne Bay shoreline at Biscayne Bay Campus due to the proximity of Oleta State Park, which provides many public waterfront activities. Waterfront activity should be limited to the University community and not be promoted for public use due to liability. It also allows the University to control use of its facilities. However, the Master Plan outlines waterfront enhancements that include a continuous promenade at the water's edge with intermittent structures and extends the existing open space buffer towards the southern peninsula where beach activity could be developed.