

APPENDIX B

PLANNING CONSIDERATIONS

This Chapter outlines the factors that are considered in evaluating applications to amend the Comprehensive Development Master Plan (CDMP). It contains descriptions of the methods of analysis typically used by the Planning staff of the Department of Regulatory and Economic Resources (RER) in evaluating CDMP amendment applications. The chapter contains an overview followed by a discussion of countywide planning factors, and the factors that typically evaluated for the geographic study areas around the application areas, and for the applications sites. These factors include: environmental conditions; land use patterns; population and housing projections; supply and demand for residential, commercial, industrial and agricultural lands; and urban services which relate most directly to land development (roadways, mass transit, water and sewer, solid waste, fire rescue, park and recreation and schools). Also included are descriptions of the analysis methods typically used by the Planning staff in evaluating CDMP amendment applications.

Growth Management

Miami-Dade County's Comprehensive Development Master Plan is a metropolitan guide for growth management. The Plan is countywide in scale and comprehensive in scope. It establishes the County's policy framework within which specific development decisions are made. Among its key growth management objectives, the CDMP seeks to ensure that physical expansion of the urbanized area is managed so as to occur: 1) at a rate commensurate with projected population and economic growth; 2) in a contiguous pattern centered around a network of high-intensity activity centers well-connected by multimodal intra-urban transportation facilities; and 3) in locations which optimize efficiency in public service delivery and conservation of valuable natural resources. The forgoing objectives are also encouraged by the State's planning laws and the South Florida Regional Planning Council's (SFRPC) Strategic Regional Policy Plan (SRPP). Chapter 163, Part II, Florida Statutes, (F.S.) establishes planning direction for all local governments. The SFRPC's Strategic Regional Policy Plan establishes policy direction by way of regional goal and policy statements that are derived from state laws but relate more specifically to South Florida's conditions and circumstances.

Various State agencies (i.e. Department of Economic Opportunity, Department of Environmental Protection, Department of State, Department of Transportation, Fish and Wildlife Conservation Commission, Department of Agriculture and Consumer Services, and Department of Education) review proposed and adopted local comprehensive plans for impacts on important state resources and facilities. The DOE, the State Land Planning Agency, shall limit its comments on important state resources and facilities outside the jurisdiction of other commenting State agencies. The South Florida Water Management District shall provide comments to flood protection and floodplain management, wetlands and other surface waters, and regional water supply.

For State Coordinated Review process, the State Land Planning Agency may make objections, recommendations and comments in its report regarding whether the proposed plan or plan amendment is in compliance and whether the plan or plan amendment will adversely impact important state resources and facilities. Following local adoption, the DEO will issue a notice of intent to find the plan or plan amendment in compliance or non-compliance. Any affected person or the State Land Planning Agency may file a petition with the Division of Administrative

Hearings to request a formal hearing to challenge whether the plan or plan amendment is in compliance as defined in section 163.3184(1)(b), Florida Statutes.

Plan Implementation

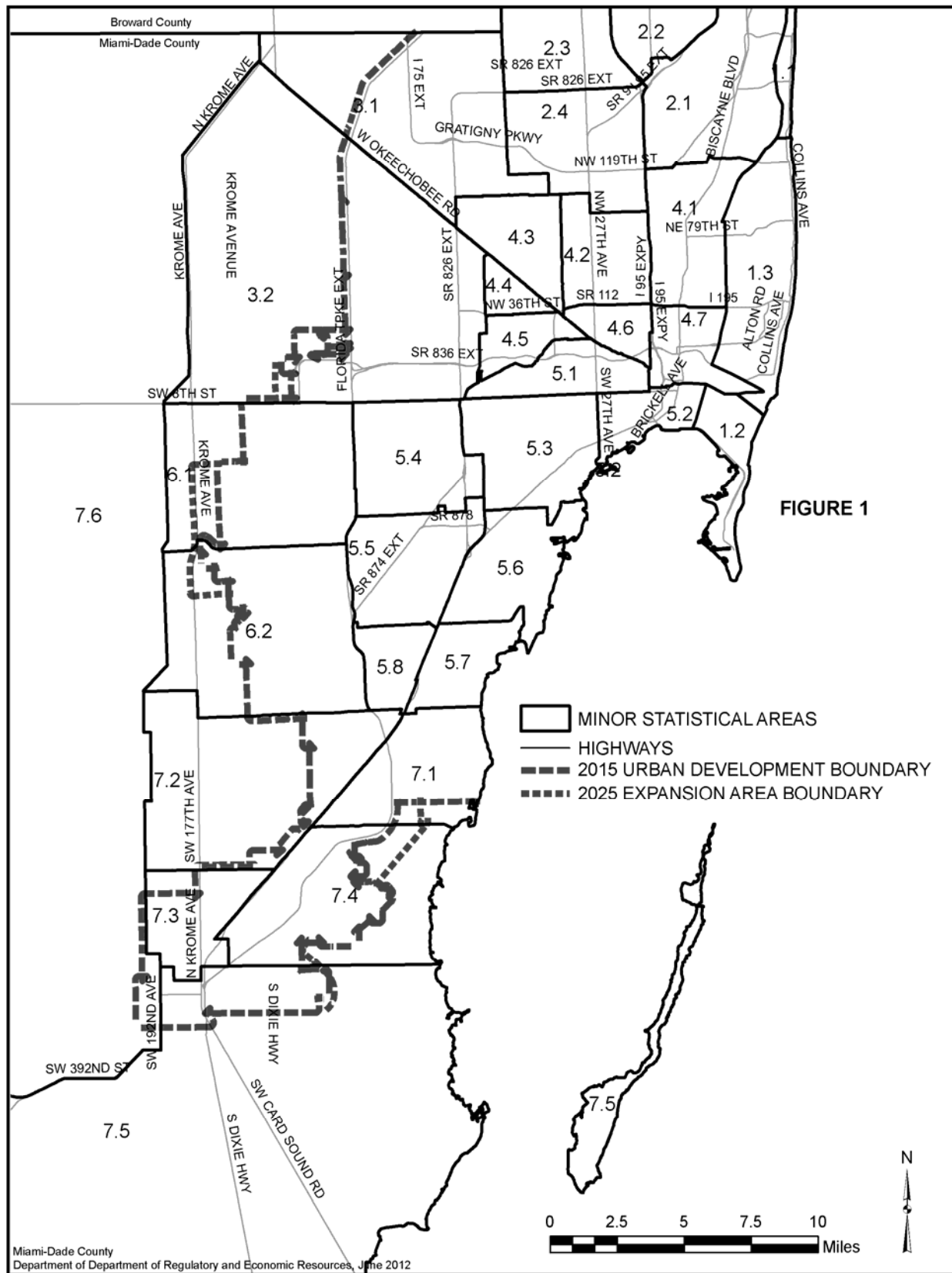
Chapter 163, F.S., provides that after a local government plan has been adopted, all development and development orders by governmental agencies shall be consistent with the plan (s. 163.3194(1)(a), F.S.). In addition, Chapter 163 requires that each local government must adopt and enforce land development regulations that are consistent with and implement its adopted comprehensive plan (s. 163.3202, F.S.). At a minimum, all local governments must enforce regulations which regulate the subdivision of land; regulate the use of land and water and ensure the compatibility of adjacent uses and provide for open space; provide for the protection of potable water wellfields; regulate areas subject to seasonal and periodic flooding and provide for drainage and stormwater management; ensure the protection of environmentally sensitive lands; regulate signage; ensure that public facilities and services meet or exceed the adopted level of service standards established in the comprehensive plan and are available when needed for the development, or that development orders and permits are conditioned on the availability of these public facilities and services; and ensure safe and convenient onsite traffic flow, considering needed vehicle parking.

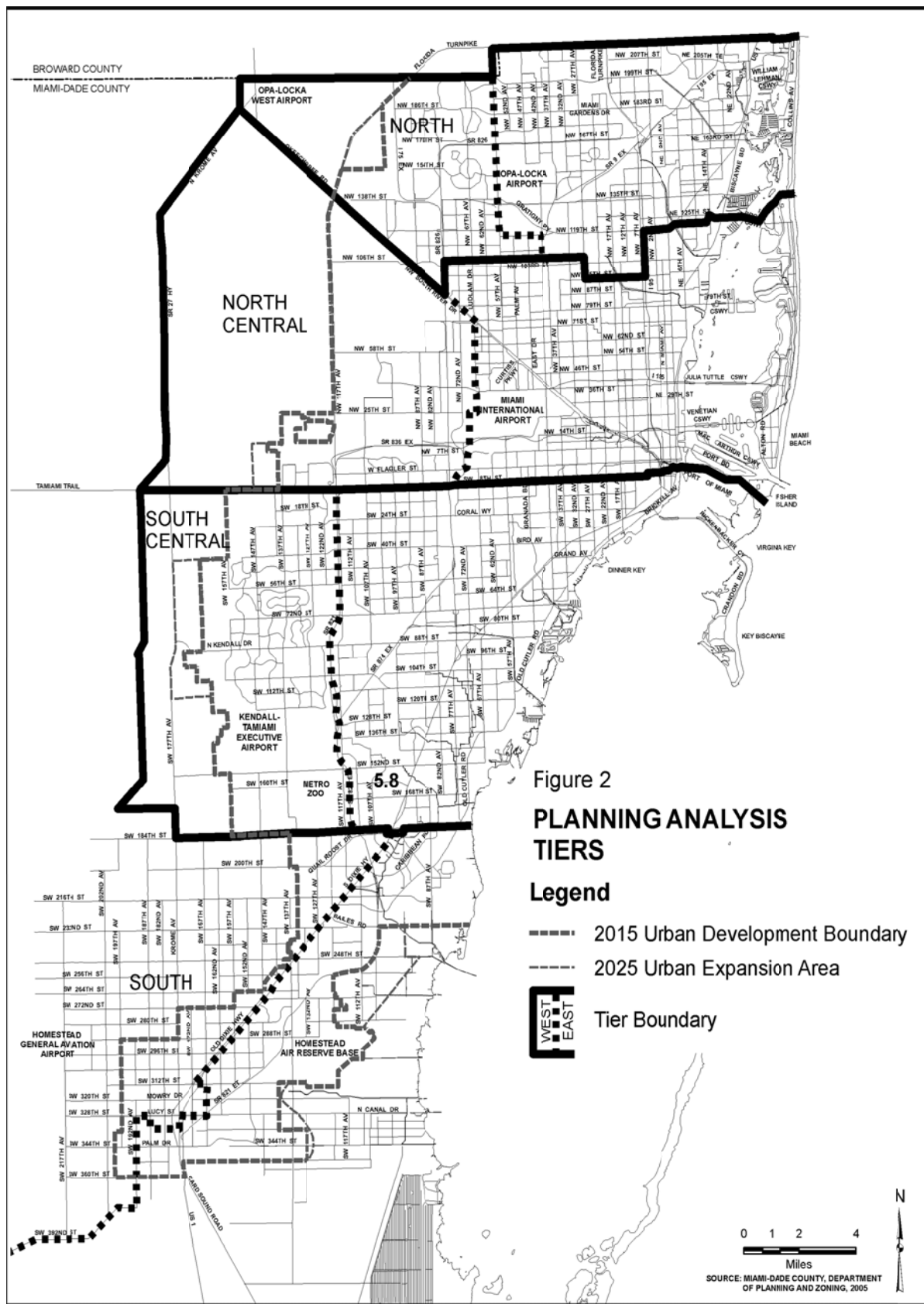
The DEO is authorized to review a local government's development regulations to determine its compliance with these requirements. Chapter 163, F.S., also provides that affected parties may challenge actions of local governments that are not consistent with the locally adopted plan or development regulations.

Areas of Analysis

To facilitate the evaluation of applications requesting amendments to the Adopted 2015 and 2025 Land Use Plan (LUP) map, Study Areas are established, encompassing an application or group of applications. The basic geographic unit used in many analyses conducted by the Department is the Minor Statistical Area (MSA); these areas are depicted in Figure 1 below. The MSA boundaries are based on census tracts, which are a component of the United States Census geography. An MSA may contain one large census tract or an aggregation of census tracts. The Department established MSAs as planning areas to facilitate small-area analyses and to standardize areas for the development of statistical data and projections.

In order to provide a broader picture than the MSA, larger planning areas called Tiers were established as standard analysis areas in the CDMP Land Use Element (see Figure 2 below). These two planning areas – MSAs and Tiers – provide continuity in the analyses.





ENVIRONMENTAL CONDITIONS AND CONSIDERATIONS

General environmental conditions are usually described for each parcel in unincorporated Miami-Dade County. A description of general environmental conditions is included within each respective Application review. Environmental conditions addressed include the following: natural ground elevations, soils, drainage characteristics, County and federal flood criteria, stormwater management, County wellfield protection criteria, hurricane evacuation areas, wetlands, upland forests, endangered species and habitats, exotic pest plant and animal species, historical and archaeological resources, and other relevant issues or concerns.

Several sources of information have been used in evaluating CDMP amendment Applications. These include: CDMP Conservation and Coastal Management Elements; Soil Survey of Dade County Area (1996), U.S.D.A. Natural Resources Conservation Service; Miami-Dade County Public Works Department Topographical Maps (revised 1954-56); Miami-Dade County Flood Criteria Maps (2009); National Flood Insurance Program Flood Insurance Rate Maps for Dade County, Florida (2008); Federal Emergency Management Agency; Wellfield Protection Areas (2006); Hurricane Evacuation Map (2012), Miami-Dade County Office of Emergency Management; and support data provided by the Division of Environmental Resources Management (DERM) of the Miami-Dade County Department of Regulatory Economic Resources (DRER). DERM assists in the evaluation of site conditions relative to County Code and other governmental requirements.

Drainage and Flood Protection

DERM reviews the proposed CDMP amendment applications for consistency with flood protection requirements contained in Chapter 11C, Chapter 24 and Chapter 28 of the Code of Miami-Dade County. For each application site, information on the natural ground elevation, flood criteria and the type of drainage required is presented in tabular form and further explained in narrative form if necessary.

Types of soil and drainage characteristics are no longer listed for each site. Standard practices in Miami-Dade County require soils that are unsuitable to support construction to be removed prior to filling to meet County flood criteria; however, these conditions are addressed at the time of development. Soils range from those that drain well, such as Dade sand, to those that drain very poorly, such as muck and marls. Since Miami-Dade County has been developing for decades, much of the urban area consists of previously filled wetlands, and upland areas that have been scarified to break up the natural bedrock outcroppings into moderately well-drained gravelly loam. Soils primarily consisting of fill are referenced as udorthents if the fill is identifiable or Urban Land if structures obscure the soil type and have moderate drainage characteristics.

CDMP Policy CON-5A of the Conservation, Aquifer Recharge, and Drainage Element establishes the stormwater management level of service standards for Miami-Dade County, which contains both a flood protection and water quality component. The minimum acceptable flood protection level of service standard is the protection from the degree of flooding that would result from duration of one day from a ten-year storm, with exceptions in previously developed canal basins, where additional development to this base standard would pose a risk to existing development. Further, the lowest habitable floor of all structures must be elevated above the federal flood criteria described below based on existing topography, roadway or County Flood Criteria that provides the highest protection level of service.

In areas having drainage limitations where site conditions prevent on-site retention of the applicable design storm and are adjacent to canals or surface waters, a minimum of one inch of runoff of total area, or 2.5 inches times the percentage of the site's impervious area must be retained in either a dry retention or exfiltration trench before discharge into surface waters. In addition, stormwater conveyance structures (e.g. catch basins) located in paved parking areas must be fitted with oil and grease interceptors prior to entering an exfiltration or infiltration system. Other environmental requirements that may limit development of particular sites are outlined in the following paragraphs.

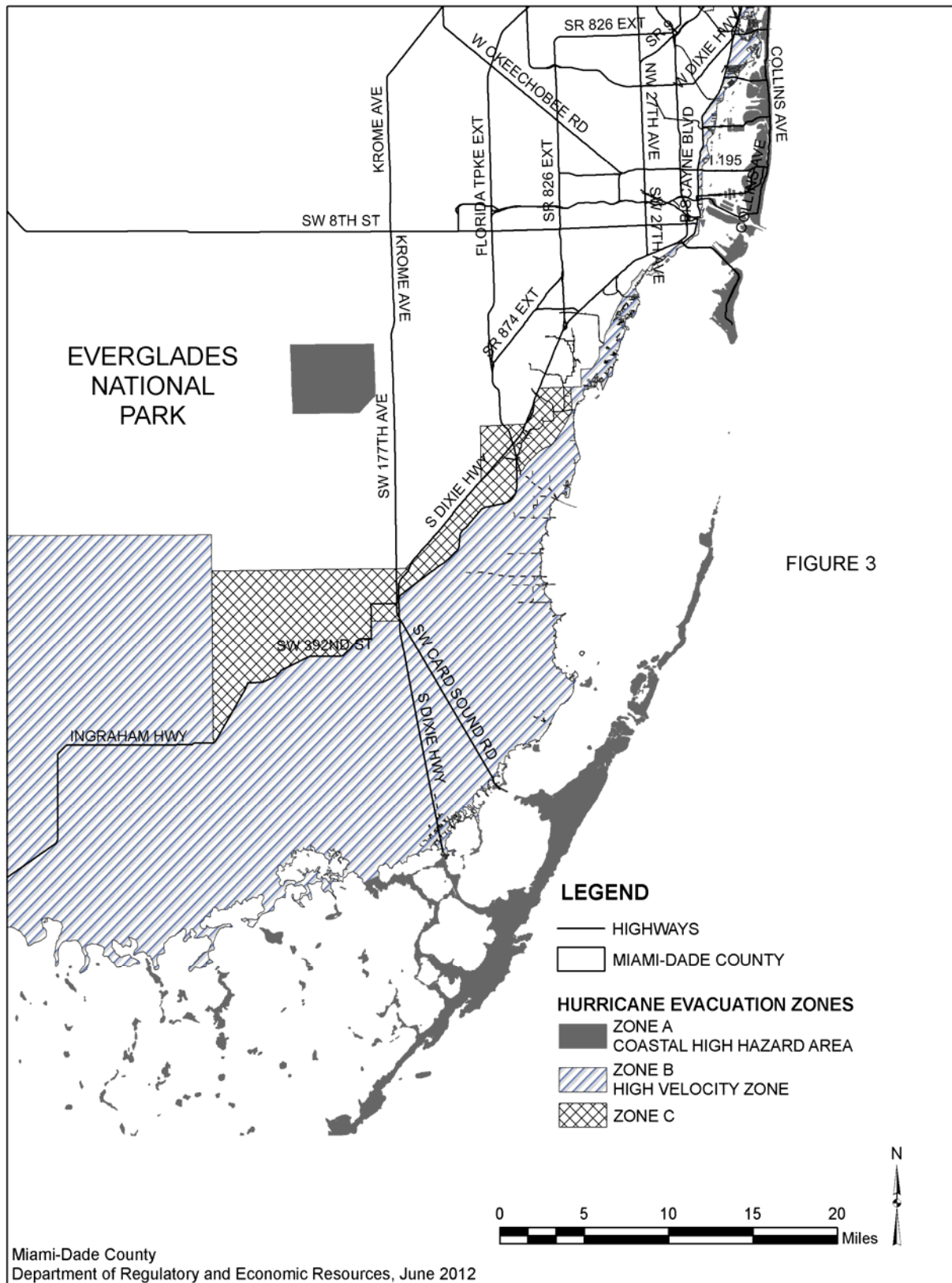
The water quality component of the stormwater management level of service standard is met when the annual average for each of the twelve priority pollutants do not exceed the target criteria for each of the pollutants within a canal basin or sub-basin, as determined in accordance with procedures established by DERM. This criterion is monitored through the County's Stormwater Monitoring Program, which was designed to meet the requirements of the National Pollutant Discharge Elimination System (NPDES), as approved by the U.S. Environmental Protection Agency (EPA) and the State of Florida, for the control of water pollution. (For a list of the referenced pollutants, see pg. IV-9 in the CDMP Conservation, Aquifer Recharge and Drainage Element.)

Drainage Basins

There are two types of hydrologic basins indicated in the environmental conditions summary tables. These are canal drainage basins, such as C-2 (Snapper Creek Canal), and wetland basins such as the Bird Drive Basin. Based upon information provided by the South Florida Water Management District (SFWMD), the primary canal system generally drains the following three areas of the County: east of the Turnpike and north of Kendall Drive; east of levee L-31N between Kendall and Eureka Drives; and south of Eureka Drive between L-31N and the Turnpike. The remaining portions of the County receive little or no flood protection from the primary canal system.

Areas generally north of Kendall Drive and west of the Florida Turnpike have drainage limitations and frequent flooding problems. Therefore, the SFWMD and the County have established special fill criteria for certain basins in this region, such as the Western C-9 Basin, the Bird Drive Basin, the North Trail Basin and Basin "B." These basins serve to conserve water, recharge the aquifer and mitigate impacts of floodwater loading on the canal systems.

The 2009 Federal Flood Criteria, which established 100-year base flood elevations for structures in Miami-Dade County, have been used to evaluate each application site. These criteria are based on assumed land use patterns in the various basins that could be altered by CDMP amendments. Federal flood criteria are used primarily for development and insurance purposes to protect property in flood-prone areas. Special Flood Hazard Areas (zone series A and V) are those inundated by a 100-year flood. The Federal Flood AE or AH Zone designations indicate areas where base flood elevation has been determined. Inundation to flood elevation can be expected in a 100-year flood in the AE designated areas, and one to three feet of ponding can be expected in AH zones. The V Zone indicates Coastal High Hazard Areas subject to high-velocity wave action. Areas designated as X Zone are outside the 100-year flood zone but may be within the 500-year flood area. Chapter 11C of the County Code regulates development within Special Flood Hazard Areas, and provides stricter regulations in Coastal High Hazard Areas.



Wellfield Protection Areas

The location of all existing public water supply wellfields in Miami-Dade County and the protection zones around the wellfields are depicted in Figure 4 below. All wellfields include a protection zone based on the theoretical 210-day groundwater travel distance from the wellheads. Larger capacity wellfields have had additional protection zones adopted over time that extend beyond their respective 210-day zones. Land use restrictions are increasingly more stringent the closer a proposed development is to a wellfield.

Wellfields that have additional protection zones are those that supply the regional drinking water treatment plants: Alexander Orr (Alexander Orr, Snapper Creek, and Southwest and West Wellfields) and the interconnected Preston and Hialeah Treatment Plants (Northwest, Hialeah, Preston, and Lower Miami Springs Wellfields). The outermost protection zones for these wellfields were established either directly or indirectly through technical and policy advisory committees that deliberated on a wide range of factors that included development patterns and projected water demands on each wellfield system. Consequently the resulting outer protection zones vary in terms of the underlying assumptions used in the respective hydrologic model that generated each of the mapped protection zones:

1. The Northwest Wellfield Protection outer protection zone west of the Florida Turnpike Extension was established in 1985 and delineated by the “0.25-foot drawdown contour.” A safety buffer was established east of the Turnpike at the same time to ensure protection of Northwest Wellfield groundwater during drought periods. The safety buffer was amended in 1993 to its current extent and based on a “3-year groundwater travel distance” east from the turnpike.
2. The oldest wellfield groups (Hialeah, Preston, and Lower Miami Springs Wellfields, and Alexander Orr Plant, Snapper Creek, Southwest Wellfields) have two outer protection zones that were based on their respective “average” and “maximum” permitted pumping rates. Each of these protection zones were delineated by a “1.0-foot drawdown contour. A drawdown is defined as the difference between the water table elevation that occurs without the wellfield pumping, contrasted with the water table elevation with the wellfield pumping.
3. The current West Wellfield Interim outer protection zone is also shown on Figure 4 below. That protection area boundary is delineated by the 0.1-foot drawdown contour.
4. South Miami Heights Wellfield has an outer protection zone that was based on theoretical 1,500-day groundwater travel distance from the wellheads.

Table 1 below summarizes the land use restrictions and regulations that apply within all urban wellfield protection areas except the Northwest and the West Wellfield Interim Protection Areas, which are subject to special protection regulations governing land use activities as outlined in Table 2 below.

Wetlands and Upland Forests

Wetlands are delineated based on vegetation, soils, and hydrology, consistent with a statewide methodology described in Chapter 62-340, F.A.C. If there are wetlands present on site, permits may be required pursuant to Chapter 24-48 of the Code of Miami-Dade County and mitigation criteria may also apply. Miami-Dade County has established policies in the CDMP to protect,

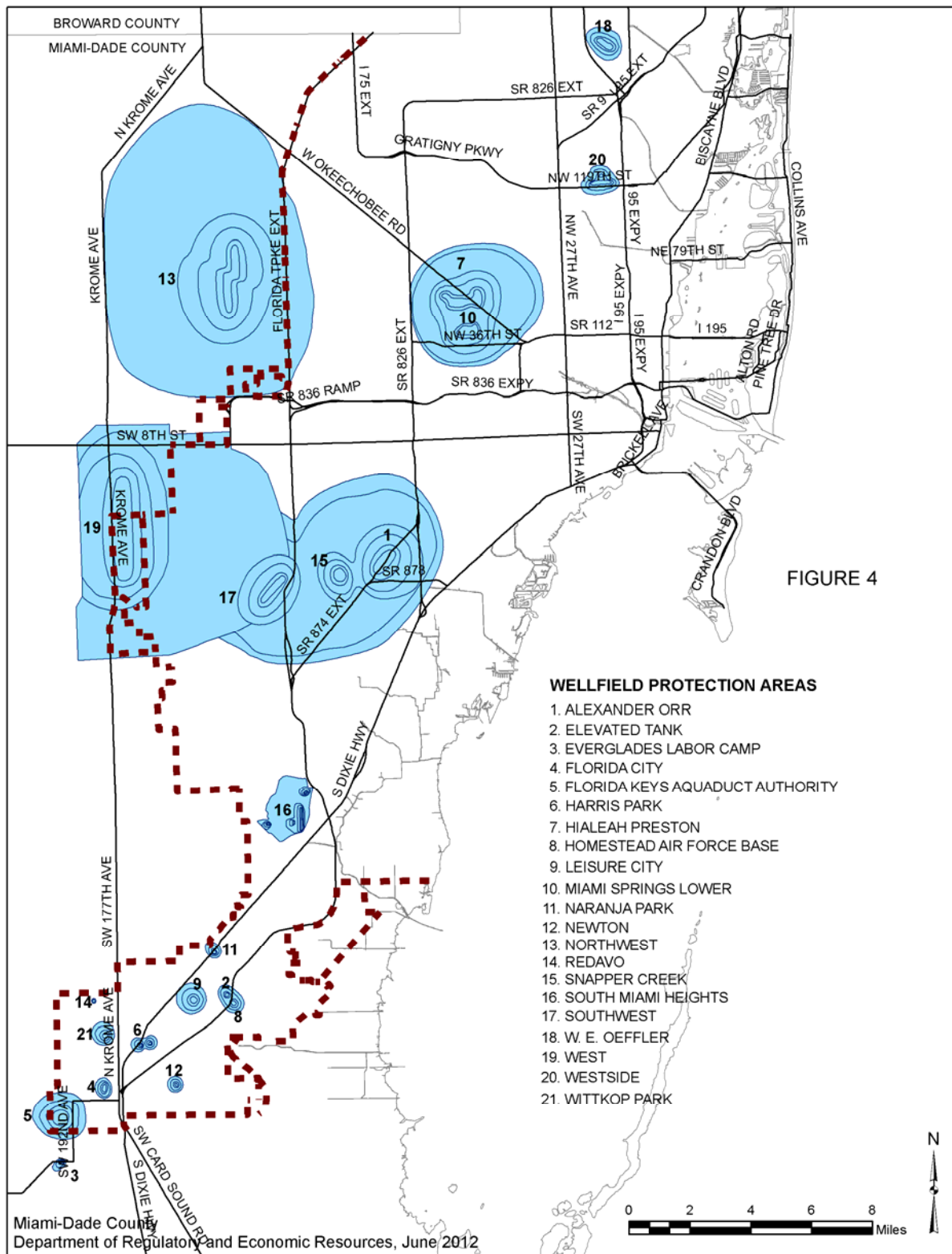


Table 1
Urban Wellfields Land Use Restrictions and
Prohibitions for New Construction

ACTIVITY	PROTECTION ZONES						
	100'	10 Day	30 Day	100 Day	210 Day	Avg. Day	Outer/Max Day
RESIDENTIAL USES SERVED BY SEWERS	P	2.4 Units/Acre	4.6 Units/Acre	NR	NR	NR	NR
STRINGENT SEWER CONSTRUCTION CRITERIA	Req.	Req.	Req.	Req.	Req.	Req.	Req.
STORMWATER DISPOSAL	P	Infiltration Only	Infiltration & seepage only	Infiltration, seepage or over flow outfall		NR	NR
ROCKMINING	P	P	P	40 ft. max depth or 30 day travel time buffer, land dedication, security required		R	NR
RESIDENTIAL LAND USES SERVED BY SEPTIC TANKS	P	R	R	R	R	NR	NR
NON-RESIDENTIAL USES HANDLING HAZARDOUS MATERIALS	P	P	P	P	P	R	NR
EXISTING USES HANDLING HAZ. MAT. MUST REDUCE RISK UPON EXPANSION	Req.	Req.	Req.	Req.	Req.	NR	NR
NON-RESIDENTIAL USES SERVED BY SEPTIC TANKS	P	R	R	R	R	NR	NR
NON-RESIDENTIAL USES SERVED BY SEWERS	P	R	R	NR	NR	NR	NR
UNDERGROUND STORAGE TANKS FOR HAZARDOUS MATERIALS	P	P	P	P	P	R	R
PIPELINES TRANSPORTING HAZARDOUS MATERIALS	P	P	P	P	P	P	P
LIQUID WASTE STORAGE, TREATMENT OR DISPOSAL METHODS OTHER THAN SEPTIC TANKS & PUBLIC SANITARY SEWERS	P	P	P	P	P	P	NR
RESOURCE RECOVERY AND MANAGEMENT FACILITIES	P	P	P	P	P	P	P
P=Prohibited NR=Not Restricted Req.=Required R=Restricted							

Table 2
Northwest and West Wellfields Protection Area
Land Use Restrictions and Prohibitions for New Construction

ACTIVITY	PROTECTION ZONES					
	100'	10 Day	30 Day	100 Day	210 Day	Outer Zone
RESIDENTIAL USES SERVED BY SEPTIC TANKS	P	R	R	R	R	NR
RESIDENTIAL AND NON-RESIDENTIAL USES SERVED BY SEWERS	P	2.4/Acre	4.6/Acre	NR	NR	NR
STRINGENT SEWER CONSTRUCTION CRITERIA	R eq.	Req.	Req.	Req.	Req.	Req.
STORMWATER DISPOSAL	P	Infiltration	Infiltration & Seepage	Infiltration, seepage or overflow outfall		NR
ROCKMINING	P	P	P	40 ft. max depth or 30 day travel time buffer, land dedication, security required		NR
NON-RESIDENTIAL USES HANDLING HAZARDOUS MATERIALS	P	P	P	P	P	P
EXISTING USES HANDLING HAZ. MAT. MUST REDUCE RISK UPON EXPANSION	Req.	Req.	Req.	Req.	Req.	Req.
BU-3 AND IU ZONING	P	P	P	P	P	P
NON-RESIDENTIAL USES SERVED BY SEPTIC TANKS	P	P	P P P P Excluding Rockmining & Ancillary Uses			
UNDERGROUND STORAGE TANKS FOR HAZARDOUS MATERIALS	P	P	P	P	P	P
PIPELINES TRANSPORTING HAZARDOUS MATERIALS	P	P	P	P	P	P
LIQUID WASTE STORAGE, TREATMENT OR DISPOSAL METHODS OTHER THAN SEPTIC TANKS & PUBLIC SANITARY SEWERS	P	P	P	P	P	P
RESOURCE RECOVERY AND MANAGEMENT FACILITIES	P	P	P	P	P	P
P=Prohibited NR=Not Restricted Req.=Required R=Restricted						

restore, and enhance wetlands. An environmental summary in each application review by DERM indicates if the site is subject to wetland permit requirements. Additionally, sites may be subject to State and Federal permitting requirements as well. It is the responsibility of the applicant to contact those agencies to determine applicability.

DERM also reviews each application site for the presence of environmentally sensitive areas, protected specimen trees and/or Natural Forest Communities (NFC). Habitats for threatened or endangered species are protected by the CDMP through objectives and policies in the Conservation, Aquifer Recharge and Drainage Element and the Coastal Management Element. The Board of County Commissioners (BCC), per Resolution R-1764-84 and Ordinance 84-34, designated approximately 230 environmentally sensitive pinelands and hammocks totaling 3,645 acres in Miami-Dade County as NFC. Of the total 3,645 acres of designated NFC's, 1,976 acres have been purchased through the Environmentally Endangered Lands (EEL) Program. The EEL program was established in 1991 to acquire and preserve environmentally endangered lands in Miami-Dade County.

In an attempt to preserve remaining NFC in private ownership, and to provide property owners with an economic incentive to preserve forestland, the Miami-Dade County Commission adopted the Environmentally Endangered Lands Tax Covenant Ordinance in December 1979. The ordinance established significantly lower property tax assessments for sites that qualify. Additionally, the Miami-Dade County Tree and Forest Resources Protection Code regulates development and provides preservation standards for these forests during development. A permit is required prior to the removal or relocation of any trees or understory vegetation in an NFC. In addition, Chapter 25-B of the Code provides for the execution of a covenant to preserve and maintain privately owned parcels of NFC's in their natural state in exchange for preferential tax treatment. The Code also provides protection standards for Specimen Trees (trees which are 18 inches or greater in diameter) during development. Regardless of whether a site contains an NFC or sensitive tree resources, a permit review by DERM is required prior to the removal or relocation of trees on any site. Potential and controlled exotic pest plants are addressed through permitting, enforcement and public outreach programs administered by the DERM and Building Division of the Department of Regulatory and Economic Resources.

On December 5, 1995, the BCC adopted a revised Landscape Ordinance (No. 95-215) as Chapter 18A of the County Code and on February 6, 1996 adopted a Landscape Manual, per Resolution R-90-96. An amendment to the Landscape Ordinance (No. 09-36), revising Chapter 18A and creating Chapter 18B, was adopted on May 5, 2009. The Landscape Ordinance applies countywide to both unincorporated areas and municipalities. All new development must meet the standards of this code. The purpose of the Landscape Manual is to illustrate the standards adopted in the Ordinance and provide recommendations for landscaping, including xeriscaping with native species to conserve water and reduce the potential for invasive exotic plants to threaten natural areas. Prohibited and controlled exotic pest plants are addressed through the permitting process by the Department of Regulatory and Economic Resources.

Historic and Archaeological Sites

Miami-Dade County contains a significant number of historic sites, historic districts and archaeological sites and zones under both municipal and County jurisdiction. These sites, districts and zones are identified for their significance and preserved because they represent distinctive elements of the County's cultural, social, economic, political, scientific, religious and architectural history and prehistory. Properties possessing exceptional historical and

archaeological elements, which meet the criteria for designation, are selected by the County's Historic Preservation Board for their unique attributes. Once designated, County Ordinance No. 81-13 (Chapter 16A), the Historic Preservation Ordinance, requires a Certificate to Dig and Certificate of Appropriateness prior to conducting any site work. Designated properties may also be eligible for certain local, state, or federal tax incentives for restoration, renovation or rehabilitation work.

EXISTING AND PLANNED LAND USE PATTERNS

Among the considerations used in evaluating individual applications to amend the LUP map of the CDMP, are the relationships of the requested use to the immediate surroundings in which the application site is located, and to the broader area of the County. The relative merit of the requested use is also evaluated in comparison to the currently planned use.

Each application analysis contains appendices with additional information related to each site. The appendices include a series of existing and future land use maps, aerial and zoning maps, the CDMP amendment application filed, the Miami-Dade County Public Schools analysis, and the fiscal impact of the site. Additional information may include any proposed declaration of restrictions submitted by the applicant, photos of the application site, or other information requested or supplied by the applicant, such as a traffic study.

Population Projections

Population projections are fundamental to the land needs analysis, both for the entire County and for the Minor Statistical Areas (MSA). The population projections used in this analysis utilizes the 2010 Decennial Census Count as a base. For the MSAs, the excess of vacant units above the levels of the past was factored into these subarea population projections. The population projections were used to project housing demand.

Housing Projections

The population projections were converted into housing demand projections by applying Census 2010 vacancy rates and household size figures to the projected population. The projections show a sustained demand for housing through 2030.

Residential Land

The total residential capacity of the County is the sum of existing units in 2012 and an estimate of new units that can be built on vacant, residentially zoned, or CDMP designated land and redevelopment capacity. The procedure to estimate redevelopment capacity is restricted only to residential parcels (excluding single-family type parcels) and parking lots without a structure. In addition, only those parcels inside the Urban Infill Area were analyzed. In addition, a set of criteria relating to building to land value, age of structure and the ratio of allowable to existing density was used.

The available capacity is the estimate of the number of new housing units that can be built on vacant developable land and redevelopment capacity within the Urban Development Boundary (UDB). The available capacity figures are based on a data set from the Department's land use file as of February 2013. Net available residential capacity within the Urban Development Boundary was 143,050 housing units.

Countywide Supply and Demand

Table 2-3 below compares the projected demand and supply of land for urban residential development countywide. This is an aggregation of analyses done in the 32 Minor Statistical Areas (MSAs) across the County. Gross capacity was reduced by 3 percent to reflect the fact that even in mature urban residential areas in Miami-Dade County, approximately 3 percent of the land base typically remains undeveloped.

It is important to note that the residential development capacity of vacant land within the UDB is not fixed. It is established and re-established by the planning and zoning decisions of the County and municipal governments.

As noted above, the countywide capacity in February 2013 was 143,050 housing units. The projected demand for housing units is 7,940 units per year in the 2010 through 2015 period and 11,676 units per year in the 2025-2030 period. These figures reflect the projected net increase in units required.

In the year 2026, the remaining residential capacity of vacant land within the current Urban Development Boundary is projected to be depleted. The single-family supply is projected to be exhausted in 2020; the multi-family in 2033. The single-family capacity is substantially smaller than the multi-family, while the projected demand for single-family units is somewhat higher than that for multi-family.

Table 3
Residential Land Supply/Demand Analysis,
Countywide, 2012 to 2030

Analysis Done Separately For Each Type, i.e. No Shifting of Demand Between Single & Multi-Family Type	Structure Type		
	Single-Family	Multifamily	Both Types
Capacity in 2012	41,001	102,049	143,050
Demand 2010-2015	4,013	3,927	7,940
Capacity in 2015	28,962	90,268	119,230
Demand 2015-2020	4,957	4,590	9,547
Capacity in 2020	4,177	57,318	71,495
Demand 2020-2025	5,353	4,920	10,273
Capacity in 2025	0	42,718	20,130
Demand 2025-2030	6,041	5,635	11,676
Capacity in 2030	0	14,543	0
Depletion Year	2020	2033	2026

Note: Residential capacity is expressed in terms of housing units.

Housing demand is an annual average figure based on population projections.

Source: Department of Regulatory and Economic Resources, Research Section, March 2013.

Supply and Demand within Tiers of the County

Tables 4, 5, 6 and 7 present supply and demand data for four tiers and for the eastern and western portions of these areas. These four areas are called "Planning Analysis Tiers" and are the North, North-Central, South-Central, and South Tiers

In general, the undeveloped residential land supply patterns are similar to those seen in previous years. It is important to note that for the purpose of the tier-specific supply/demand

analyses, each tier is treated independently. Thus, if the supply of a housing type is exhausted in a particular tier, it is not assumed that the demand will shift to another tier in the County. It is not possible to project where housing demand might surge if the supply of land in a single tier is exhausted. That is why it would appear that the remaining capacity for the sum of the individual tiers in the year 2030 is higher than the countywide figure.

Table 4
Residential Land Supply/Demand Analysis
North Tier, 2012 to 2030

Analysis Done Separately for Each Type, i.e. No Shifting of Demand between Single & Multi-family Type	Subs								
	Eastern Part			Western -- MSA 3.1			North Miami-Dade		
	Single Family	Multi- Family	Both Types	Single Family	Multi- Family	Both Types	Single Family	Multi- Family	Both Types
Capacity in 2012	2,876	9,850	12,726	3,594	792	4,386	6,470	10,642	17,112
Demand 2010-2015	329	435	764	178	135	313	507	570	1,077
Capacity in 2015	1,889	8,545	10,434	3,060	387	3,447	4,949	8,932	13,881
Demand 2015-2020	438	652	1,090	271	205	476	709	857	1,566
Capacity in 2020	0	5,285	4,984	1,705	0	1,067	1,404	4,647	6,051
Demand 2020-2025	424	607	1,031	274	207	481	698	814	1,512
Capacity in 2025	0	2,250	0	335	0	0	0	577	0
Demand 2025-2030	510	732	1,242	285	216	501	795	948	1,743
Capacity in 2030	0	0	0	0	0	0	0	0	0
Depletion Year	2019	2028	2024	2026	2016	2022	2022	2025	2024

Note: Housing demand is an annual average figure based on population projections.

Source: Department of Regulatory and Economic Resources, Research Section, March 2013.

Table 4 above shows that the North Tier has sufficient capacity to accommodate projected demand through the year 2024. The single-family supply is projected to be exhausted during 2022, whereas the multi-family supply is projected to be depleted during 2025. The projected overall demand for housing is higher in the eastern half than in the western half of the North Tier; capacity is also higher. The residential capacity in the eastern half is projected to be depleted by 2024, while in the western half the projected depletion year is 2022.

Table 5 below shows that the North Central Tier has sufficient capacity to accommodate projected demand until 2028. The single-family supply is projected to be exhausted by 2016, whereas the multi-family supply will be depleted in 2033. The projected demand for housing is higher in the eastern half than in the western half of the North Central Tier. Capacity in the eastern half is also higher, and residential land supply is projected to be depleted in 2029. In the western half, the projected depletion year is 2026.

Table 6 below shows that the South Central Tier has sufficient capacity to accommodate projected demand through the year 2024. The single-family supply is projected to be exhausted by 2017, whereas the multi-family supply is projected to be depleted in 2034. The projected demand for housing, as well as capacity is higher in the eastern half than in the western half. Capacity in the western half is projected to be depleted by 2020. In the eastern half, the projected depletion year is 2026.

Table 5
Residential Land Supply/Demand Analysis
North Central Tier, 2012 to 2030

Analysis Done Separately for Each Type, i.e. No Shifting of Demand between Single & Multifamily Type	Subs								
	Eastern Part			Western -- MSA 3.2			North Central Total		
	Single Family	Multi- Family	Both Types	Single Family	Multi- Family	Both Types	Single Family	Multi- Family	Both Types
Capacity in 2012	2,651	44,862	47,513	2,554	9,765	12,319	5,205	54,627	59,832
Demand 2010-2015	734	1,960	2,694	314	299	613	1,048	2,259	3,307
Capacity in 2015	449	38,982	39,431	1,612	8,868	10,480	2,061	47,850	49,911
Demand 2015-2020	684	1,954	2,638	443	422	865	1,127	2,376	3,503
Capacity in 2020	0	29,212	26,241	0	6,758	6,155	0	35,970	32,396
Demand 2020-2025	730	2,146	2,876	488	465	953	1,218	2,611	3,829
Capacity in 2025	0	18,482	11,861	0	4,433	1,390	0	22,915	13,251
Demand 2025-2030	842	2,486	3,328	540	514	1,054	1,382	3,000	4,382
Capacity in 2030	0	6,052	0	0	1,863	0	0	7,915	0
Depletion Year	2015	2033	2029	2018	2034	2026	2016	2033	2028

Note: Housing demand is an annual average figure based on population projections.

Source: Department of Regulatory and Economic Resources, Research Section, March 2013.

Table 6
Residential Land Supply/Demand Analysis
South Central Tier, 2012 to 2030

Analysis Done Separately for Each Type, i.e. No Shifting of Demand between Single & Multifamily Type	Subs								
	East of Turnpike			West of Turnpike			South Central Total		
	Single Family	Multi- Family	Both Types	Single Family	Multi- Family	Both Types	Single Family	Multi- Family	Both Types
Capacity in 2012	1,684	13,736	15,420	4,045	2,106	6,151	5,729	15,842	21,571
Demand 2010-2015	459	417	876	426	115	541	885	532	1,417
Capacity in 2015	307	12,485	12,792	2,767	1,761	4,528	3,074	14,246	17,320
Demand 2015-2020	540	499	1,039	643	174	817	1,183	673	1,856
Capacity in 2020	0	9,990	7,597	0	891	443	0	10,881	8,040
Demand 2020-2025	600	553	1,153	649	175	824	1,249	728	1,977
Capacity in 2025	0	7,225	1,832	0	16	0	0	7,241	0
Demand 2025-2030	689	634	1,323	674	181	855	1,363	815	2,178
Capacity in 2030	0	4,055	0	0	0	0	0	3,166	0
Depletion Year	2015	2038	2026	2019	2025	2020	2017	2034	2024

Note: Housing demand is an annual average figure based on population projections.

Source: Department of Regulatory and Economic Resources, Research Section, March 2013.

Table 7 below shows that the South Tier has sufficient capacity to accommodate projected housing demand to the year 2028. The capacity for single-family units is projected to be depleted in 2024, and multi-family capacity extends to 2042. Both housing demand and capacity is higher in the eastern half than in the western half.

Table 7
Residential Land Supply/Demand Analysis
South Tier, 2012 to 2030

Analysis Done Separately for Each Type, i.e. No Shifting of Demand between Single & Multifamily Type	Subs								
	East of US-1			West of US-1			South Miami Total		
	Single Family	Multi- Family	Both Types	Single Family	Multi- Family	Both Types	Single Family	Multi- Family	Both Types
Capacity in 2012	16,423	14,697	31,120	7,177	6,241	13,418	21,600	20,938	44,538
Demand 2010-2015	1,087	366	1,453	522	164	686	1,609	530	2,139
Capacity in 2015	13,162	13,599	26,761	5,611	5,749	11,360	18,773	19,348	38,121
Demand 2015-2020	1,397	476	1,873	575	174	749	1,972	650	2,622
Capacity in 2020	6,177	11,219	17,396	2,736	4,879	7,615	8,913	16,098	25,011
Demand 2020-2025	1,571	536	2,107	655	193	848	2,226	729	2,955
Capacity in 2025	0	8,539	6,861	0	3,914	3,375	0	12,453	10,236
Demand 2025-2030	1,772	602	2,374	773	226	999	2,545	828	3,373
Capacity in 2030	0	5,529	0	0	2,784	0	0	8,313	0
Depletion Year	2023	2040	2028	2024	2045	2028	2024	2042	2028

Note: Housing demand is an annual average figure based on population projections.

Source: Department of Regulatory and Economic Resources, Research Section, March 2013.

Commercial, Office and Industrial Land

The Department's most recent assessment of commercial and industrial land availability is presented below. This will provide the reader with a picture of the existing land use character and development rates throughout the County for these types of uses.

The adequacy of the Plan's existing capacities to accommodate projected commercial and office development is evaluated both on a countywide basis, and for smaller areas of the County, namely the Planning Analysis Tiers and MSAs. Absorption tables are presented for Commercial and Office, and Industrial land.

Projected Commercial and Industrial Land Supply and Demand

An inventory (2012) of the supply, and assessed the use of land for industrial and commercial development in Miami-Dade County to determine whether it can sustain projected commercial and industrial demand through the years 2020 and 2030. Following are projections of commercial and industrial absorption in Miami-Dade County.

Commercial Land

The first step in deriving countywide control totals was to obtain existing commercial acreage, commercial employment, and total population for the years 1994, 1998, 2000, 2001, and each year from 2003 to 2012. Secondly, a linear regression was run with commercial acres being the dependent variable and commercial employment and population as the independent variable. The regression coefficients were then applied to the independently projected population and commercial employment to arrive at projected demand for commercial land.

The next step consisted in the allocation of projected countywide demand for commercial land to each MSA. To obtain the MSA's share of the countywide demand for commercial land, the

following procedures were followed: The annual change in “in-use” commercial land was calculated for the periods 1994-1998, 1998-2000, 2000-2001, 2001-2003, 2003-2004, and for two year intervals thereafter through 2011-2012 periods was calculated. Then the average of these periods, by MSA, was computed. If the average was negative, the MSA’s share was put at zero. Next, the growth in population from 2010 to 2030, based on population projections for each MSA, was used. The final step involved averaging the annual growth in commercial land and the population growth for each MSA. This was done to better take into account the historical demand for commercial land and the projected growth in population by MSA. Lastly, the countywide demand was distributed proportionately to the MSA’s share of the total average growth (average of historical growth of “in-use” commercial land and projected population growth) for all MSAs. The end result is an annual absorption rate for the 2012-2030 period.

Table 8 below presents countywide projections of commercial land absorption. For purposes of this analysis, the only vacant land included in commercial supply is land that is specifically zoned for business, professional office, office park, or designated “Business and Office” on the LUP map of the CDMP. While vacant industrially zoned or designated land may be and often is used for commercial use (in particular for office development, but including retail uses such as hotels and restaurants), for purposes of this analysis none was included in the commercial land supply.

The first four columns of Table 8 summarize the result of applying the method described. Countywide, the 2,421.2 acres of vacant commercially designated land available in 2012 would be depleted in the year 2032, at the average annual absorption rate of 120.18 acres. However, the projected depletion year varies from Tier to Tier. Only in the South-Central Tier will supply be depleted before 2025. However, individual MSAs reveal more variability. In MSAs 1.1-1.3, 4.7, 5.1, 5.2, 5.4-5.6, 5.8, 6.1, and 7.6 the supply of commercial land will be depleted before 2020. It should be noted that MSA 7.6 lies almost wholly outside the UDB. At this point, it is necessary to point out that the projected year of depletion provides only one indication of the areas within the County where additional land for commercial use may be warranted. However, it cannot be concluded that land for commercial use should automatically be added in the specific MSAs where the numbers indicate depletion of supply before the year 2020. Because of the dual purposes of commercial land use category, the land allocation process and planning for future land availability are more complex than for the case of residential or industrial land use.

One important consideration related to the absorption of commercial land in the future is the land cost factor. As the supply of vacant developable land keeps decreasing and land becomes more expensive, commercial developments will tend to be built and sized more efficiently by utilizing a higher ratio of building square footage to land acreage. As a result, the average annual absorption rate for commercial uses may be lower in the future than it has been in the past.

It is worth noting that by redeveloping or adding additional uses to existing sites, the existing supply could accommodate significant growth. A second consideration is that some commercial uses are “population serving” and should be distributed throughout the community with consideration for convenience to the residential population, while some commercial uses can be categorized as “export” uses which may be better located in areas having good transportation access, and where other similar or complementary uses can agglomerate into commercial or employment centers. In this regard, “export” oriented commercial centers - like regional centers, industrial centers, and transportation facilities - can help give structure to the urban pattern and comprehensive planning should foster this.

In an effort to gauge what is an appropriate allocation of commercial land to “population serving” commercial uses, the ratio of commercial acres per 1,000 persons by MSA, Tier, and countywide was analyzed. The final two columns of Table 8 indicate commercial acres per 1,000 persons for each MSA, Tier and the countywide average. The countywide ratio for 2020 is projected to be 5.5 acres per 1,000 persons declining to 4.9 per 1,000 persons by the year 2030. This assumes that no industrial land is used for commercial purposes and no further supply is added. While 4.9 acres of commercial land per 1,000 persons is the County average, this includes commercial uses that are characterized as “export” uses such as regional centers, and other such commercial uses. If a local area registers a commercial land/population ratio below average, it does not necessarily indicate an undesirable condition. However, those MSAs or Tiers showing ratios significantly below the Tier or countywide ratio should warrant closer review to determine whether the commercial needs of the area’s population would be adequately met.

Where both measures – projected commercial land depletion year and the commercial acres per 1,000 population ratio – indicate a possible future need for additional commercial land, it is probable that this need will become apparent during the projection period, unless additional land is designated on the LUP map for Commercial or Office use. Thus, both the amount of vacant land and the adequacy of the commercial land to population ratio need to be considered when determining locations where additional commercial land should or need not be added.

Another factor that must be considered is the existence of vacant industrial land. There has been a continuing pattern in which there is much crossover in the use of industrial land for commercial purposes.

In addition to the traditional depletion analysis, a new procedure was added to analyze the adequacy of small-scale applications for commercial uses. The procedure is what is commonly known as a Trade Area analysis. It consists of drawing a radius (the size of the radius depends on the project’s size) around the proposed project and computing “in-use” commercial acreage, and the vacant commercially zoned land inside its radius.

Table 8						
PROJECTED ABSORPTION OF COMMERCIAL LAND						
MIAMI-DADE COUNTY, FLORIDA 2012 - 2030						
Tier and Minor Statistical Area	Vacant Commercial Land 2012 (Acres)	Commercial Land in Use 2012 (Acres)	Avg Annual Absorption Rate 2012-2030 (Acres)	Projected Year of Depletion	Commercial Land per Thousand Persons 2020 2030 (Acres)	
North Tier						
1.1	1.2	54.5	0.86	2013	2.2	1.9
2.1	71.9	1,052.2	2.51	2030+	6.2	5.8
2.2	21.0	248.6	0.91	2030+	4.7	4.4
2.3	44.3	300.3	1.17	2030+	3.9	3.7
2.4	30.0	464.0	0.75	2030+	5.9	5.7
3.1	346.6	929.8	17.18	2030+	5.4	5.1
Total	515.0	3,049.4	23.38	2030+	5.3	5.0
North Central Tier						
1.3	9.7	216.5	1.89	2017	1.9	1.8
3.2	377.1	1,470.5	11.92	2030+	11.0	9.4
4.1	44.8	349.8	1.28	2030+	4.3	4.1
4.2	52.9	396.7	1.36	2030+	5.3	5.0
4.3	13.6	686.5	0.33	2030+	6.0	5.9
4.4	3.2	67.8	0.08	2030+	4.3	4.2
4.5	29.6	208.8	1.18	2030+	--	--
4.6	19.7	288.0	1.32	2027	5.7	5.2
4.7	34.9	255.5	5.86	2018	4.0	2.9
5.1	7.8	474.2	2.01	2016	3.4	3.2
Total	593.3	4,414.3	27.22	2030+	5.8	5.3
South-Central Tier						
1.2	0.0	77.5	0.06	2012	6.1	6.0
5.2	4.4	226.1	2.32	2014	2.9	2.6
5.3	27.3	582.2	1.31	2030+	4.6	4.4
5.4	6.8	564.0	1.00	2019	5.6	5.5
5.5	4.4	596.7	3.40	2013	7.3	7.0
5.6	2.0	228.5	0.28	2019	7.0	6.7
5.7	8.7	258.3	0.30	2030+	10.4	10.2
5.8	15.6	88.9	1.23	2025	2.7	2.6
6.1	44.3	533.6	12.52	2016	3.0	2.8
6.2	240.5	539.1	15.11	2028	4.9	4.5
Total	354.0	3,694.9	37.53	2021	4.7	4.4
South Tier						
7.1	92.2	304.3	3.24	2030+	5.4	4.4
7.2	53.3	209.3	6.44	2020	4.2	3.2
7.3	199.2	195.4	1.52	2030+	9.0	7.8
7.4	270.8	378.5	16.60	2028	6.4	4.7
7.5	343.4	195.0	3.55	2030+	13.2	9.3
7.6	0.0	4.7	0.71	2012	0.6	0.5
Total	958.9	1,287.2	32.05	2030+	6.8	5.3
Grand Total	2,421.2	12,445.8	120.18	2032	5.5	4.9
-- Insignificant population.						
Source: Miami-Dade County, Regulatory and Economic Resources Department, Planning Division, Research Section, August 2012.						

Industrial Land

Table 9 presents countywide projections of industrial land absorption. The first step in projecting Miami-Dade County's future industrial land use was to develop control totals for countywide use of industrial land in each projection year. Historical land use data for 1994, 1998, and annually thereafter through 2012 was divided by relevant employment data to obtain acre per employee ratios for each year. The average ratio was applied to industrial employment projections to obtain projected demand for industrial land.

Before drawing conclusions from Table 9, it is important to consider the assumptions and methods used in developing the information presented, the high potential for cross-over among the land uses which may occur on industrially designated land, and the spatial distribution of uses and sites in an area. A significant amount of cross-over can occur among business, office, and industrial uses, with commercial uses occurring in industrially designated land.

It is inappropriate to draw conclusions regarding the adequacy or inadequacy of supply in any individual MSA solely from the information provided in Table 9, as well as the projected supply and demand in a single MSA; it is also necessary to consider land in adjoining MSAs.

In projecting future demand for industrial land, historical consumption data available for such land countywide and in each MSA were used. On this basis, average consumption of industrial land for the years 1994, 1998, 2000, 2001, 2003 and for each year thereafter through 2011-2012 was used to project the annual absorption rate. In MSAs where definitional or data compatibility issues are encountered, appropriate adjustments have been made. The demand for industrial land conversion through 2030 was calculated reflecting the 2012 to 2030 time period.

Table 9 provides the results of the analysis of the supply and demand for industrial land. In the North Tier, MSA 1.1 has no industrial land available, but it is not considered an industrial area. The MSAs in the South-Central Tier mostly have small or no amounts of industrial land, and correspondingly low or no absorption rates. In particular, MSA 1.2, 5.2, 5.5, 5.7, 5.8 and 6.1 have essentially no vacant industrial land available, they also exhibit very low absorption rates. Thus, only MSAs 5.5 and 6.2 indicate a possible need for increasing the current supply. The large supply in MSA 6.2 can meet the overall needs in this Tier. Similarly, no MSA in the South Tier shows deficient industrial land supply. However, as mentioned in the section on commercial land, there is significant conversion of vacant industrially zoned land for other uses. If this conversion continues to increase, the depletion of industrial land will take place earlier than projected.

		Table 9			
PROJECTED ABSORPTION OF INDUSTRIAL LAND					
MIAMI- DADE COUNTY, FLORIDA 2012 - 2030					

INFRASTRUCTURE AND SERVICES

The public services addressed in this section of the report are roadways, transit, water and sewer, solid waste, fire and rescue, parks and schools. Drainage is addressed in the Environmental Conditions and Considerations section of this report. Each of the public services is evaluated for current and future conditions, taking into account the impact of filed CDMP amendment applications. The time horizons for the assessment of future conditions vary somewhat among the different services because of the variability in planning time frames used by the service agencies in their functional planning and programming of capital improvements. Each CDMP amendment application is evaluated for the possible impact on the various services as compared with the impact of the currently planned use of the site, or the adequacy of existing and future service levels in meeting the demand generated by the application.

In accordance with state requirements, the CDMP includes level of service standards for roadways, transit, parks, water facilities, sewer facilities, solid waste, and stormwater drainage. New level of service standards for schools was adopted in 2009. These standards are used proactively by service and facility agencies as objectives to be met by their facility planning and service delivery programs. The County, in its administration of the state-mandated service "concurrency" management program also uses them reactively. The concurrency program mandates that development orders not be issued unless the necessary services are in place, or will be in place and operating at or above all adopted level of service standards, around the time the development will begin occupancy. In the evaluation of the merits or drawbacks of proposed CDMP amendments to the Land Use Plan Map, each of the noted services is evaluated in terms of the adopted level of service standards using the most current information available.

Miami-Dade County's concurrency management program procedures took effect in July 1989. The affected County service agencies have developed methods for determining level of service conditions. The Planning Division of the Department of Regulatory and Economic Resources (Department) coordinates the administration and implementation of those methods. The methods used by the Department are parallel to those developed for concurrency regulatory determinations but are not identical in all cases. In some cases, concurrency review agencies are using relatively short-term time horizons for concurrency determinations because they are responding to immediate development permit requests and are interested in immediate conditions, or because a full update of a complex data base is not yet complete. Geographic sub-areas used for concurrency may not be identical to those used in this report for long-range countywide planning. Consequently, the evaluations of level of service made are not a substitute for official concurrency determinations. In keeping with the function of long-range comprehensive planning, this report endeavors to address anticipated long-range conditions.

The level of service conditions for stormwater drainage is discussed in conjunction with flood protection in the "Environmental Conditions and Considerations" section of this report. The level of service conditions pertaining to each of the other services, and the methods that were used in developing the analysis for each Application, are described below.

A final note on services is that the CDMP is a body of broad policies adopted as a legislative, not regulatory, act of the Board of County Commissioners. The array of Plan elements and policies reflect consideration of a host of social and physical responsibilities of County government, including housing, economic growth, environmental resource management, as well as service delivery policies and their fiscal implications. Accordingly, broad service implications may be considered when evaluating proposals to amend the CDMP, in addition to whether or not a proposed Land Use Plan map amendment would meet level of service standards.

Roadways

Estimates of traffic conditions for each application site are developed using standard professional transportation analysis methods. For each application site, an analysis is performed to determine:

1. Current traffic conditions in roadways adjacent to the application site or within a study area (i.e. existing number of lanes and operating level of service);
2. Projected roadway concurrency conditions (i.e. level of service considering reserved trips from approved developments not yet constructed and programmed roadway capacity improvements) with and without the impacts from the CDMP amendment applications; and
3. Estimated impacts generated by each CDMP amendment application, if approved, in terms of the number of potential peak-period trips projected for both the current CDMP land use designation (and/or existing use) and the proposed CDMP land use designation, and the difference.

Key sources of information used in conducting these analyses include the Transportation Element of the Adopted Components of the Comprehensive Development Master Plan (October 2006 Edition, as amended through October 19, 2011); the Miami-Dade County Transportation Improvement Program, 2013 (May 17, 2012); the Miami-Dade Long Range Transportation Plan to the Year 2035, Cost Feasible Plan (October 2009); the most recent available traffic count data published monthly by the Miami-Dade County Public Works and Waste Management (PWWM) Department; The Generalized Peak Hour Two-way Volumes Tables for Florida's Urbanized Areas published by the Florida Department of Transportation (FDOT); and the most recent traffic counts data for state roadways published by FDOT.

Level of Service

The level of service concept is applied nationwide as a qualitative assessment of the road user's perception of the quality of traffic flow and, therefore, the degree of traffic congestion. The level of service is represented by one of the letters "A" through "F," with "A" generally representing the most favorable driving conditions and "F" representing the least favorable. The level of service reflects the quality of flow as measured by a scale of driver satisfaction. The definitions and measures of level of service reflect a national consensus of driver quality of flow. Measures of effectiveness such as vehicle delay, average travel speed and volume to capacity ratio have been developed to quantitatively approximate these qualitative representations. The measures used by Miami-Dade County are described below.

The roadway level of service standard adopted by the County requires that level of service conditions be measured during the "peak-period." Peak period is defined in the Traffic Circulation Subelement of the Transportation Element of the CDMP as the average of the two highest consecutive hours of traffic volume during a weekday (footnote on pg. II-11 of the CDMP). Current peak-period level of service conditions for county roadways are measured using FDOT's level of service software (LOSPLAN), which is designed to replicate the procedures of the 2010 Highway Capacity Manual Update prepared by the Federal Highway Administration; the updated 2012 Generalized Peak Hour Two-way Volumes for Florida's Urbanized Areas, Table 4-4 of the 2009 Quality/Level of Service Handbook; and the most recent traffic count data for state roadways published by FDOT. Many different roadway and traffic characteristics are taken into consideration when using the LOSPLAN software in order to produce roadway segment specific measures of level of service. A summary of the adopted

level of service standard for roadways in Miami-Dade County (CDMP Traffic Circulation Subelement, Policy TC-1B) is shown in Table 10 below.

Table 10
Traffic Circulation Peak-Period LOS Standard

Non-FIHS Roadways					
Location	Transit Availability				
	No Transit Service	20 Min. Headway Transit Service Within 1/2 Mile		Extraordinary Transit Service (Commuter Rail or Express Bus)	
Outside UDB	LOS D-State Minor Arterials LOS C-County Roads and State Principal Arterials				
Between UIA and UDB	LOS D (90% of Capacity) or LOS E on SUMAs (100% Capacity)		LOS E (100% of Capacity)		120% of Capacity
Inside UIA	LOS E (100% of Capacity)		120% of Capacity		150% of Capacity
FIHS Roadways					
FIHS Facility	Location				
	Outside UDB	Inside UDB	Roadways Parallel to Exclusive Transit Facilities	Inside Transportation Concurrency Management Areas	Constrained or Backlogged Roadways
Limited Access Facilities	B	D [E]	D [E]	D [E]	Manage
Controlled Access Facilities (two lanes)	C	D	E	E	Manage
Controlled Access Facilities (four or more lanes)	B	D	E	E	Manage
	NOTE: LOS inside of [brackets] applies to general use lanes only when exclusive through lanes exist.				

Source: Miami-Dade County Comprehensive Development Master Plan, October 2006 Edition As amended through October 19, 2011.

Notes: Constrained FIHS facilities are roadways that FDOT has determined will not be expanded by the addition of two or more through lanes because of physical, environmental or policy constraints.

Backlogged FIHS facilities are roadways operating below the minimum LOS standards, not constrained and not programmed for additional lanes in the first three years of FDOT's adopted work program or five year Capital Improvements Element.

FIHS: Florida Intrastate Highway System

UIA: Urban Infill Area –Area east of, and including NW/SW 77 Avenue and SR 826 (Palmetto Expressway), excluding the City of Islandia, and excluding the area north of SR 826 and west of I-95.

UDB: Urban Development Boundary

SUMA: State Urban Minor Arterial

*Peak-period means the average of the two highest consecutive hours of traffic volume during a weekday.

Projected levels of service for the year 2035 or the estimated buildout year were determined using the Southeast Florida Regional Planning Model (SERPM), a transportation planning computer model, and are expressed as a volume-to-capacity ratio (v/c ratio), which is the ratio of the number of vehicles using the road to the road capacity. The 2035 v/c ratio model output is expressed using daily volumes. Roadways for the 2035, or buildout year, highway network are rated as follows:

V/C Ratio	Level of Service
0.70 or less	LOS B or better
0.71 to 0.80	LOS C
0.81 to 0.90	LOS D
0.91 to 1.0	LOS E
1.0 or greater	LOS F

Analysis Method and Assumptions

The Miami-Dade County Metropolitan Planning Organization (MPO) adopted the Miami-Dade County Year 2035 Transportation Plan, Cost Feasible Plan, in October 2009. The 2035 Long Range Transportation Plan (LRTP) was developed to guide federal, state, and local transportation expenditures through the 25-year period. Improvements and extensions to the transportation system throughout the County are governed by this Plan. Significant transit improvement projects listed in the 2035 Cost Feasible Plan include: enhanced bus service for the North (NW 27 Avenue), Kendall (SW 88 Street), Northeast (Biscayne Boulevard) corridors, etc. One heavy rail extension was recently completed in July 2012, the AirportLink Connection from Earlington Heights Metrorail Station to the Miami Intermodal Center (MIC). Non-motorized facilities (on-road bicycle lanes, off-road greenways and trails, and sidewalks) are also included in the Cost Feasible Plan.

It is important to note that the SERPM, which is used the project the year 2035 or buildout year traffic impacts of the CDMF Land Use Plan map amendment applications, is the best available tool for conducting these long-term traffic impact assessments. However, the model was designed for large-area analyses; it uses traffic analysis zones (TAZ) as the smallest geographic unit; and it uses a schematic roadway network. Therefore, because of its schematic characteristics, it will not yield the same results as it would a site or area-specific traffic model or impact analysis when evaluating specific development proposals.

The analysis also includes the estimated total PM peak-hour trip generation impacts of each CDMF amendment application. The land use designation requested for each application site is the basis for estimating the number of PM peak-hour trips that would be generated by the application. This trip generation is then compared to the number of PM peak-hour trips generated or projected to be generated for an existing use and/or a potential use consistent with the current CDMF land use designation of the subject property. The potential development used is based on the most recent use of the property, or if it is vacant, the most intense use allowed under the existing or requested land use designation, or the most likely use given the current development trend in the area. Trips generated by the proposed amendment applications are estimated using trip generation rates or equations published in the Institute of Transportation Engineers' Trip Generation, 8th Edition (2008).

A near-term trip distribution and short-term (concurrency) traffic impact analysis is also performed for each application with the assistance of the Public Works Division of the Public Works and Waste Management Department. The analysis reveals any potential impacts the

applications may have on short-term traffic conditions in the vicinity of the application sites, accounting for current traffic conditions, programmed roadway capacity improvements, and the calculated impacts of other approved developments not yet built in the vicinity of the application site for which development orders have been issued. In some instances, an anticipated short-term concurrency problem, which may be solved by Long Range Transportation Plan improvements, would be reported as well as satisfactory short-term conditions projected to deteriorate without the impact of the requested CDMP amendment.

Transit Service

Transit service analyses are conducted for each CDMP Application with assistance from Miami-Dade Transit (MDT). The current transit service characteristics of each route that travels along the vicinity of each application site are described. Transit service is measured in terms of service headways and distance from the application site. Projected transit service improvements for the year 2014 are based on:

1. Characteristics of each CDMP amendment application;
2. Miami-Dade Transit's Service Standards for transit vehicle loading;
3. Planned improvements included in MDT's 2012 Ten-Year Transit Development Program (TDP); and
4. Adopted CDMP level of service standard for transit (CDMP Mass Transit Sub-element, Policy MT-1A).

The adopted CDMP level of service standard for transit states that the minimum peak-hour mass transit level of service for areas within the Urban Development Boundary, which have a combined resident and work force population of more than 10,000 persons per square mile shall be provided with public transit service having 30-minute headways and an average route spacing of one mile provided that:

1. The average combined population and employment density along the corridor between the existing transit network and the area of expansion exceeds 4,000 per square mile, and the corridor is 0.5 miles on either side of any necessary new routes or route extensions to the area of expansion;
2. It is estimated that there is sufficient demand to warrant the service;
3. The service is economically feasible; and
4. The expansion of transit service into new areas is not provided at the detriment of existing or planned services in higher density areas with greater need.

Relevant transit related characteristics of CDMP Land Use Plan map amendment applications are reported, such as proximity of each Application site to existing or anticipated routes, and connections of said routes with Metrorail. Regarding the CDMP-adopted level of service standard and criteria outlined above, if the future impact of each application is found to result in a combined population and employment of less than 10,000 persons per square mile, or the area already has transit service with minimum headways of 30 minutes and is projected to continue to have such service, no new transit service would be required to meet the transit level of service standard.

MDT annually updates its Ten-Year TDP. This document analyzes existing transit network conditions and identifies short-term future transit needs. The currently adopted 2012 TDP addresses the 2013-2022 time frame. A Recommended Service Plan (RSP) for 2022 has been

developed to provide a guideline for replacement, expansion and improvement of the County's transit system. The 2022 RSP improvements are prioritized and assigned cost estimates for implementation.

Each Application is reviewed for planned transit improvements identified for implementation in the TDP based on projected needs. Descriptions of such improvements, as relevant to each Application, are provided along with cost estimates for implementation.

Water and Sewer

Either a municipal utility or the Miami-Dade Water and Sewer Department (WASD) provide water and sewer services throughout Miami-Dade County. Under long-standing County policy, water and sewer service is provided to developed areas within the Adopted 2015 Urban Development Boundary (UDB) and is discouraged outside the UDB. WASD operates regional water supply and wastewater disposal systems, which serve both incorporated and unincorporated areas. WASD's water treatment plants produce 87 percent of the County's public potable water supply. The regional wastewater plants treat and dispose of over 98 percent of the wastewater treated by public utilities in the County. Programmed improvements to the WASD systems are ongoing in accordance with the Miami-Dade County Water Facilities Master Plan (2010), Wastewater Facilities Master Plan (2007), sanitary sewer Settlement Agreement with the Florida Department of Environmental Protection (FDEP), a First Partial Consent Decree and a Second Partial Final Consent Decree with the U.S. Environmental Protection Agency (EPA), a Consent Order with the FDEP, the 2006 Water Use Efficiency 5 Year Plan, subsequently extended to 20 years, and the 2008 County Water Supply Facilities Work Plan. Evaluation of sewer system capacity is based on criteria established in the First Partial Consent Decree and capacity of the plants for average flow will be required, depending on the compliance status of the EPA Second and Partial Final Consent Decree.

In addition to WASD's regional system, sixteen municipalities are franchised to operate water distribution systems, and twelve municipalities are franchised to operate sewage collection systems, within specified service areas. Within a franchised service area, the designated utility has the responsibility of providing service that meets the adopted level of service within the time frame of the CDMP.

The cities of North Miami, North Miami Beach, Homestead, and Florida City own and operate water treatment facilities to provide water service within their respective service areas. On December 27, 2007, the City of Hialeah and WASD entered into a Joint Participation Agreement to build, own and operate the Hialeah Reverse Osmosis (RO) Plant with a total capacity of 17.5 gallons per day (mgd) by 2026. The Plant will provide water for WASD's service area and a portion of Hialeah's Service Area. Also, the City of North Miami purchases water from WASD to provide water service to a portion of their service area. On April 20, 2010, the BCC approved a 20-year contract for WASD to provide 3 mgd of water on a wholesale basis to the City of Homestead to meet the demands of its retail water customers.

The City of Homestead owns and operates a sanitary sewer treatment facility to provide sewer services within their service area, and they are a volume sewer customer with WASD on an emergency basis. On June 19, 2012, WASD and the City entered into a 20-year wholesale agreement to treat all future flows in excess of the City's permitted Wastewater Treatment Plant capacity.

Water Resource Management

Allocation of water resources among environmental, agricultural, and urban interests is a serious issue in South Florida. New use of the Biscayne Aquifer as a water supply source is generally no longer allowed under new rules by the SFWMD, unless off-setting water is returned to the aquifer in an appropriate place and quantity as determined by the SFWMD. These rules were established as a major step towards the restoration of South Florida's natural environment including the Everglades and the Biscayne Bay Coastal Wetlands.

In 2006, Miami-Dade County adopted the *Water Use Efficiency 5-Year Plan*, and initiated several programs aimed at water conservation and at evaluating alternative water resource technologies. WASD has implemented a water conservation program aimed at reducing water demand by over 19 million mgd in the next 20 years. This plan includes public education, the use of new water-conserving devices in all new developments, restrictions on landscape irrigation, and an inclined block rate structure. Additionally, WASD has established an aggressive program to reduce water loss within its own systems, which may save as much as 14.25 mgd by 2030.

On November 15, 2007, the County obtained a 20-year Water Use Permit (WUP) which included a series of alternative water supply and wastewater reuse projects designed to offset the water needs of anticipated growth in the WASD service area through 2030. As water demands continue to decline as a result of the successful implementation of the County's Water Conservation Program, water restrictions, and economic conditions, the WUP was revised to re-assess the projects accordingly. On July 16, 2012, a second revision to the WUP was issued that included 34.95 mgd of water supply from the Floridan Aquifer, and a total of 265.51 mgd of reuse projects.

Potable Water Level of Service

The County's Comprehensive Development Master Plan (CDMP) adopted level of service standards for potable water facilities (CDMP Policy SW-2A(1)) requires that all federal, state, and county primary water quality standards for potable water be met; that countywide storage capacity for finished water shall be no less than 15 percent of the countywide average daily demand; that the regional system shall operate with a rated maximum daily capacity no less than two percent above the maximum daily flow for the preceding year and an average daily capacity 2 percent above the average daily system demand for the preceding 5 years. In addition, the level of service standard mandates that water be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. Unless otherwise approved by the Miami-Dade Fire Department, minimum fire flows must be maintained for specified land uses as shown in Table 2-12 below. All public water systems are currently meeting the adopted level of service standards for potable water.

Table 2-11
Capacity of Miami-Dade County
And Municipal Water Treatment Plants, 2011

Water Treatment Plant (WTP)	Maximum Permitted Raw Water Withdrawal (mgd)	Permitted Treatment Capacity (mgd)	Average Plant Production (Finished) (mgd) (1)	Max. Day Plant Production (Finished) (mgd) (1)	Max. Day Treatment Capacity Available (Finished) (mgd)	Max. Day Treatment Capacity Percentage Available Finished (2)
<u>COUNTY (WASD)</u>						
REGIONAL SYSTEM TOTAL (3)						
	341.70	439.74	300.8	341.4	98.34	22.36%
Hialeah/Preston*	155.40	225.00	139	163.8	61.2	27.20%
Alexander Orr*	186.30	214.74	161.9	177.6	37.14	17.30%
	7.8	14.19	7.30	8.74	5.49	38.69%
SO. DADE SYSTEM TOTAL *						
Leisure City		6.48	2.51			
Newton		2.01	2.03			
Naranja		1.38	0.06			
Elevated Tank		1.44	1.68			
Everglades LC		2.88	1.01			
WASD TOTAL *	349.50	453.93	308.09	350.1	103.83	22.87%
Future Hialeah RO(**)(***)						
Phase I	13.30	n/a	n/a	n/a	n/a	n/a
Future So. Miami Heights****						
Reverse Osmosis**	23.27	n/a	n/a	n/a	n/a	n/a
Biscayne Aquifer*	3.00	n/a	n/a	n/a	n/a	n/a
<u>MUNICIPAL</u>						
Florida City	3.60	3.00	4.37	4.596	-1.37	-45.67%
Homestead	15.20	14.11	12.81	12.85	1.26	8.9 %
North Miami TOTAL	9.30	18.10	13.25			
Winson Plant		9.00	9.24	9.28	-0.28	-3.1%
WASD Delivery (4)		9.10	4.01			
North Miami Beach TOTAL	17.70	54.3	22.98			
Norwood-Oeffler		32	22.90	26.46	5.54	17.3%
WASD Delivery (4)		22.30	0.08			
MUNICIPAL TOTAL (5)	45.80	89.5	49.32	53.18		

Source: Water Treatment Plant's Finished Water Flows as reported to Florida Department of Health, May 2012.

(1) Production based on raw water for a 12-month period, ending May, 2012.

(2) Percent Capacity Available is calculated as Treatment Capacity Available/Permitted Treatment Capacity.

(3) Maximum day flow determined by calculating the average highest day flow from the 5 highest day flows for the preceding 12 months.

(4) Treated potable water is purchased wholesale from WASD and combined with water produced by the municipal plants.

(5) Includes treatment plants and interconnections

*Maximum permitted withdrawal capacity from the Biscayne Aquifer through 2021.

**Maximum permitted withdrawal capacity from the Floridan Aquifer through 2021 based on Water Use Permit issued on July 16, 2012.

***Hialeah RO WTP, Phase 1 to be online by end of 2012.

****South Miami Heights WTP to be online by end of 2015.

On January 11, 2011, in an effort to better manage water supplies to ensure that the level of service is maintained, WASD implemented a Water Supply Certification (WSC) Program to track the water demands from platted and permitted development. The WSC Program was implemented to assure adequate water supply is available to all water users of the Miami-Dade WASD as required by Policies CIE-5D and WS-2C of the CDMP, and in accordance with the permitted withdrawal capacity in the County's 20-year Water Use Permit. This system corresponds to the allocation system currently being used by DERM for wastewater treatment facilities, and requires all development proposals to obtain a water supply certification letter from WASD stating that adequate water supply capacity is available for the proposed project. Through July 31, 2012, a total of 13.68 mgd of water supply was allocated for future development within WASD's service area including wholesale customers. A total water supply capacity of 51.80 mgd is available for allocation through 2021.

Table 2-12
Water Distribution Level of Service Standard
For Minimum Fire Flows

Land Use	Fire Flow Delivered at 20 PSI (gallons per minute)
Business and Industry	3,000
Hospitals, Schools	2,000
Multi-family Residential; Semiprofessional Offices	1,500
Single Family and Duplex; Residential on minimum lots of 7,500 square feet	750
Single Family Residential; Estate Density	500

Source: Water, Sewer, and Solid Waste Element of the CDMP (2006 Edition)

Potable Water Status

WASD's regional network of water mains currently runs from the Miami-Dade/Broward County line on the north to approximately SW 272 Street on the south. The Hialeah-Preston Water Treatment Plant serves the area north of Flagler Street and the Alexander Orr Water Treatment Plant serves the area south of Flagler Street. The network connects the regional plants to all of the municipal water treatment plants between these boundaries. The unincorporated area south of SW 272 Street is served by the South Miami-Dade Water System, which consists of several small plants formerly operated by Rex Utilities.

At the current time, all water treatment plants are operating within the adopted level of service standard. WASD completed an upgrade to the Everglades Labor Camp Water Treatment Plant and distribution system to provide additional flow capacity to the South Dade service area. The permitted capacity for the Everglades Labor Camp Water Treatment Plant was increased from 0.96 mgd to 2.88 mgd. Additionally, On December 27, 2007, the City of Hialeah and WASD entered into a Joint Participation Agreement to build, own and operate the Hialeah Reverse Osmosis (RO) Plant with a total capacity of 17.5 mgd by 2026. The Plant will provide water for WASD's service area and a portion of Hialeah's service area. The new South Miami Heights Water Treatment Plant is programmed to serve this service area. The new water treatment plant is anticipated to come online at the end of 2015.

Wastewater

WASD operates three regional wastewater treatment plants (WWTP); the North, Central and South Districts. Because the system is interconnected, the service districts, shown in Figure 5 below, have flexible boundaries, and some flows from one district can be diverted to other plants in the system. During 2011-2012, the total WASD regional system capacity is 375.59 mgd, and the annual average daily flow treated at the three plants totaled 301.55 mgd (twelve month period ending May 2012), or 80 percent of the design capacity of the regional system (see Table 2-13 below). There has been a significant reduction in average flow into the regional system as the result of extensive infiltration and inflow prevention work.

As the result of enforcement actions brought against Miami-Dade County by the State of Florida Department of Environmental Protection (FDEP) and the United States Environmental Protection Agency (EPA), Miami-Dade County agreed to construct more than \$1.169 billion worth of improvements to its wastewater treatment plants, transmission mains and sewage lines. Major improvements included construction of a new Biscayne Bay sewer line, a force main interceptor at Flagler Street, a South Miami-Dade transmission main and new mains in North Miami-Dade. Construction of the Biscayne Bay sewer line was completed in August 1994.

On July 1, 2008, the Florida Legislature passed Senate Bill 1302, which requires Miami-Dade County to:

- Submit an implementation plan to FDEP by July 1, 2013;
- Implement advanced wastewater treatment for the North and Central Districts' wastewater discharges, or equivalent nutrient load reduction by December 31, 2018; and
- Implement 60% reuse, and stop discharging out the outfall, except as "backup discharge" to the functioning reuse system, by December 31, 2025.

WASD is currently planning how to address and implement these requirements to ensure timely compliance.

Table 2-13
County and Municipal Wastewater Treatment Plant Capacity

Waste Water Treatment Plant	Average Flow Design Capacity (mgd)	12 Month Average* (mgd)	Flow as Percent of Design Capacity	Long-Term Programmed Capacity** (mgd)	Effluent Disposal
WASD					
Central District WWTP	143.00	110.92	77.57	143.00	Ocean Outfall
North District WWTP	120.09	86.01	71.61	120.00	Ocean Outfall & Deep Well Injection
South District WWTP	112.50	104.67	93.04	112.5	Deep Well Injection
Future West District WWTP				50.00	
Regional System Total	375.59	301.55	80.30	425.50	
Municipal Plants					
Homestead	6.00	6.13	102.17%	6.00	Ponds & Trenches

Source: Miami-Dade Water and Sewer Department, 2012

* Twelve month period ending May 2012

** Based on 2007 wastewater Facilities Master Plan to be revised by the Ocean Outfall Implementation Plan.

Wastewater Facility Level of Service

The County's adopted level of service standard for wastewater treatment and disposal requires that the regional wastewater treatment and disposal system maintain the capacity to collect and dispose of 102 percent of average daily sewage demand for the preceding five years and at a physical capacity of no less than the annual average daily sewer flow (CDMP Policy WS-2A(2)). The wastewater effluent must also meet all applicable federal, state, and county standards and all treatment plants must maintain the capacity to treat peak flows without overflow.

Wastewater Facility Status

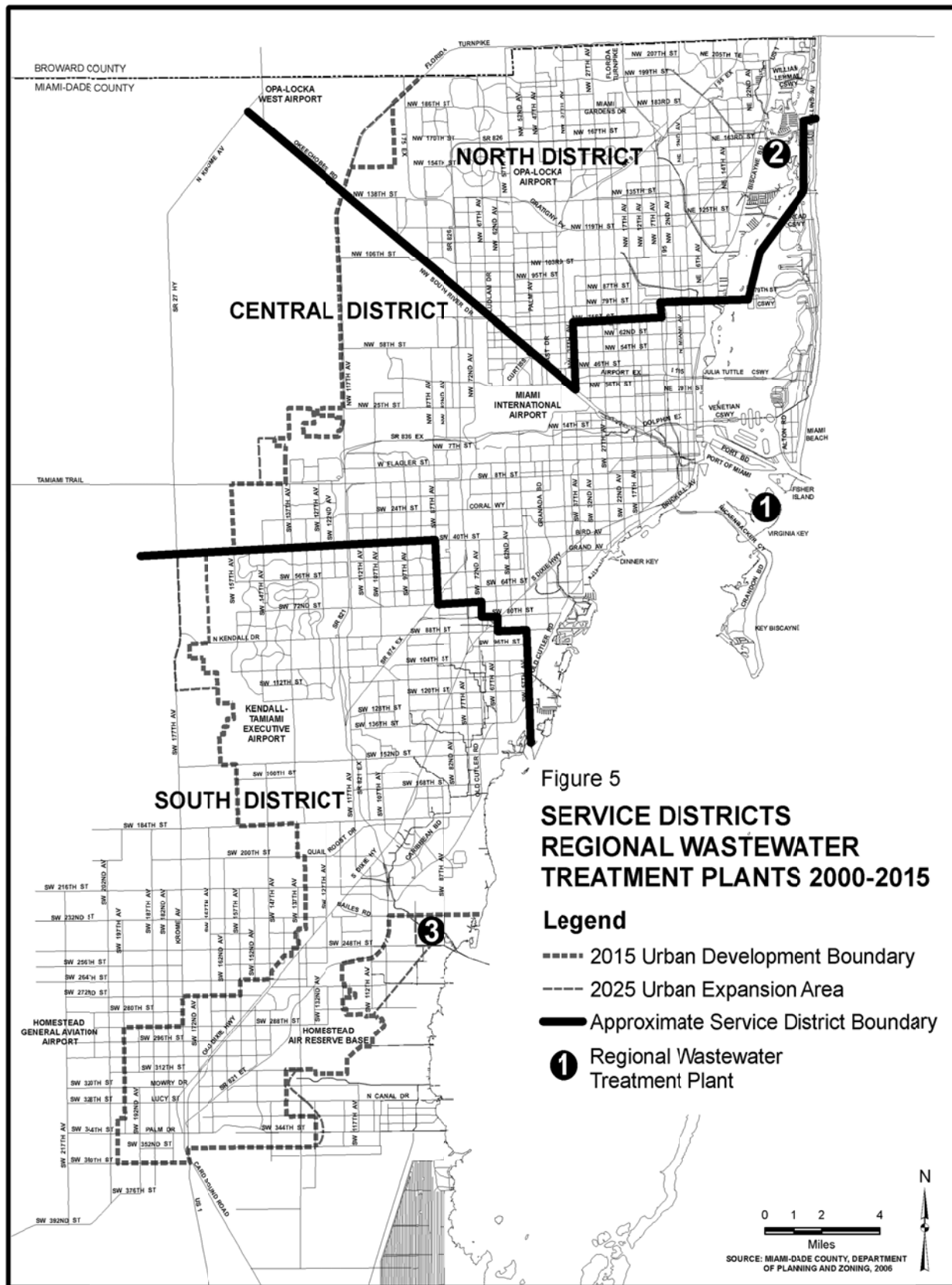
Currently, all of WASD's wastewater treatment plants have capacity to treat and dispose of wastewater flow demands. However, some of the collection/transmission facilities in the County do not have adequate capacity, as defined in the EPA's First and Second Partial Consent Decrees. Consequently, approval of each development order which will generate additional wastewater flow is evaluated for available capacity by the Department of Regulatory and Economic Resources Division of Environmental Resources Management (DERM). Approvals are only granted if the application for any proposed development order is certified by DERM to comply with the provisions of the EPA's Consent Decrees. Furthermore, in basins which have been determined not to have adequate capacity, no new sewer service connections can be permitted until adequate capacity becomes available. Consequently, in these areas, final development orders may not be granted unless adequate capacity in the sanitary sewer collection/transmission and treatment systems is available at the point in time when the project will be contributing sewage to the system, or if approval for alternative means of sewage disposal can be obtained. Use of an alternative means of sewage disposal shall be an interim measure, with connection to the public sanitary sewer system required upon availability of adequate collection/transmission and treatment capacity.

As of August 2, 2012, a total 105 pumping station basins have been identified as requiring remedial action in order to achieve compliance with the Consent Decrees between the County and the EPA. An additional 14 stations cannot receive additional flow due to lack of capacity at downstream pump stations. Depending on the station, this remedial action may include work on the pump station, the collection basin for the station, or the force main the station is pumping into. The remedial actions to return all of the basins to compliance are scheduled to be completed by December 31, 2019.

Miami-Dade County is now in negotiations with the EPA, the U.S. Department of Justice and the FDEP to enter into a new Consent Decree, which will supersede the existing Consent Decrees. This action is expected to include some minor changes to the definition of adequate capacity for parts of the collection/transmission system, which may impact which basins are found to have adequate capacity for additional flow. Further specific information on these changes is expected to become available in 2013.

Evaluation of Application Impacts on Water and Sewer

Although specific requirements under Chapter 24 of the Code of Miami-Dade County vary with land use, most new development in Miami-Dade County is required by Chapter 24 and CDMP policy to connect to the public water or sewer systems, or to both. The timing of new development is heavily dependent on the availability of service connections. Where water and sewer lines do not exist and are not programmed, the necessary service connections may be provided by the developer. When construction is completed, the facilities are donated to the utility.



The proximity of an application site to existing or programmed water and sewer lines is an important asset or constraint, which can influence the feasibility of a site's development. For this reason, the location of the nearest adequate water and sewer main connections is identified for each Application. Additionally, the adequacy of available water and sewer system capacity has been evaluated by the Department and WASD for each Application.

In evaluating proposals to amend the Land Use Plan map, expected changes in water demand and wastewater generation that would result from the different land uses are estimated. This can be done only in a general way because each of the CDMP Land Use Plan map categories allows a variety of land uses to be approved. For example, the "Industrial and Office" land use category allows warehousing, which creates little demand for water; and also allows office buildings, restaurants and manufactures, which could create a large demand for water. For purposes of estimating water demand or sewage generation, typical land uses for each land use classification are assumed.

Solid Waste Management

The Miami-Dade County Public Works and Waste Management Department (PWWM) Solid Waste Functions oversees the proper collection and disposal of solid waste generated in the County through direct operations, contractual arrangements, and regulations. In addition, the PWWM directs the countywide effort to comply with state regulations concerning recycling, household chemical waste management and the closure and maintenance of solid waste sites no longer in use.

Collection Services

The PWWM provides collection services to residential units within the Waste Collection Service Area (WCSA), which consists of all residents of the Unincorporated Municipal Service Area (UMSA) and residents of eight municipalities. The PWWM provides waste collection services to the municipalities of Aventura, Cutler Bay, Doral, Miami Gardens, Miami Lakes, Palmetto Bay, Pinecrest and Sunny Isles Beach.

The PWWM also operates 13 Neighborhood Trash and Recycling Centers (TRC) for residents of the WCSA to drop-off yard trash, bulky items, waste tires, end-of-life electronics, used oil, and white goods and two Home Chemical Collection Centers. Permitted landscapers can drop-off clean yard trash at the TRCs for a fee.

The PWWM offers collection services to residential units, while permitted haulers are hired by most commercial and multi-family establishments throughout the County. Private haulers purchase permits and vehicle decals to be allowed to haul solid waste on County roads. Municipalities outside of the WCSA either have their own solid waste collection departments or contract with permitted private haulers for residential waste collection service.

Disposal System

The County maintains three major disposal sites including the Resources Recovery Facility located at 6990 NW 97 Avenue, the South Dade Landfill located at 24000 SW 97 Avenue and the North Dade Landfill located at 21500 NW 47 Avenue. The County also contracts for landfill space with Waste Management Inc. of Florida for disposal of a portion of the County's waste. One of the two contracted landfills is located in the Town of Medley and the other in the City of Pompano Beach, in Broward County. The County also maintains three regional transfer stations including the Northeast Transfer Station located at 18701 NE 6 Avenue, the Central Transfer Station located at 1150 NW 20 Street and the West Transfer Station located at 2900 SW 72

Avenue. Solid waste is received at the three disposal facilities and three transfer stations from County collection operations, municipal collection operations, and permitted private haulers. The waste received at the transfer stations is loaded into transfer trailers and transported to the County's major disposal sites or contracted disposal sites. The primary uses of the transfer stations are to reduce hauling time and distance between collection sites and disposal sites and to enable the PWWM to manage its waste deliveries to fulfill contract obligations at the Resources Recovery Facility (RRF) and the contracted disposal site in the Town of Medley. In FY 2011-12, PWWM disposal operations are projected to receive 1.5 million tons of solid waste. The RRF has the capability to process 1.306 million tons of waste each year. The RRF accepts and processes two distinct municipal solid waste fractions (garbage and trash) in two separate processing areas. During garbage processing, metals (ferrous and non-ferrous) are removed for recycling and the remaining garbage is shredded to produce refuse derived fuel (RDF). Garbage processing also produces a grit-like process residue referred to as "unders." This material is disposed of at the South Dade Landfill, where it can be used as a daily cover for unprocessed waste. During trash processing, metals are removed for recycling and the remaining trash is shredded to produce biomass fuel, a portion of which is used to supplement the RDF used to generate electricity on-site. The bulk of the biomass fuel is sold to cogeneration facilities in Central Florida. Trash processing also produces process residues in the form of "fines" and "recyclable trash rejects." Fines can be used as daily cover for unprocessed waste at both the North Dade and South Dade Landfills. Recyclable Trash Rejects are landfilled. The total amount of waste material recycled annually at the RRF is approximately 128,000 tons, including metals, biomass fuel, and fines.

The RDF and biomass fuel generated by garbage and trash processing are combusted in a furnace to generate steam from four boilers that power two turbines, which generate approximately 72 megawatts of electricity for on-site consumption and export. The ash product that results from the combustion process is approximately 10 percent by volume of the original waste material and is placed in the ash monofill adjacent to the RRF. Based on data reported to the PWWM for FY 2011-12, the ash monofill was estimated to have a remaining capacity of approximately 87,000 tons. This capacity estimate does not include the development of the final permitted Cell 20, which once constructed, will permit the RRF to receive waste at a disposal rate of 166,000 tons per year until 2020, at a reported compaction ratio of 1.25 tons per cubic yard. The RRF also has a sophisticated air quality control system to remove acid gases and particulate matter from the flue gas prior to emission to the atmosphere.

The South Dade Landfill is a 300-acre site located in the south end of the County and is the only Class I waste disposal facility in the PWWM System. The South Dade Landfill is permitted to receive municipal solid waste, construction and demolition debris, contaminated soil, pathological waste, sterile medical waste, asbestos, off road tires, and dewatered wastewater sludge. Based on data reported to the PWWM for FY 2011-12, the South Dade Landfill was estimated to have a remaining capacity of 6.31 million tons, which equates to twelve years of capacity considering a disposal rate of approximately 486,000 tons per year and a reported compaction ratio of 0.55 tons per cubic yard.

The North Dade Landfill is a 269-acre site located in the north end of the County and is permitted to receive Class III waste, which is defined by the FDEP as "yard trash, construction and demolition debris, processed tires, carpet, cardboard, paper, glass, plastic, furniture and other appliances, or other materials approved by the PWWM that are not expected to produce leachate that poses a threat to public health or environment." Based on data reported to the PWWM for FY 2011-12, the North Dade Landfill was estimated to have a remaining capacity of 1.72 million tons, which equates to approximately ten years of capacity considering a disposal

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rate of 161,000 tons per year and a reported compaction ratio of 0.5 tons per cubic yard. There are no additional permitted landfill cells available at this facility.

In addition to the County's three waste disposal facilities, the County maintains a disposal service contract with Waste Management, Inc. of Florida (up to 500,000 tons per year for 20 years, ending September 30, 2015, with two five-year options to renew). This arrangement allows for flexibility in the amount delivered, permitting the County to maintain adequate capacity and meet concurrency requirements, subject to a minimum annual waste delivery guarantee of 100,000 tons.

Recycling

Curbside recycling for single-family residences in unincorporated Miami-Dade County transitioned from a dual-stream (two-bin) program implemented in FY 1990-91 to a single-stream program that became fully operational in FY 2008-09. The PWWM delivered 65-gallon wheeled carts to more than 345,000 homes. Single-stream allows residents to place all of their recyclable materials into one cart including magazines, catalogs, junk mail, office paper and paperboard such as cereal type boxes newspapers, aseptic containers, aluminum and steel cans, narrow neck plastic bottles regardless of the resin identification code (the number on the bottom of the container) and clear, brown and green glass bottles and jars.

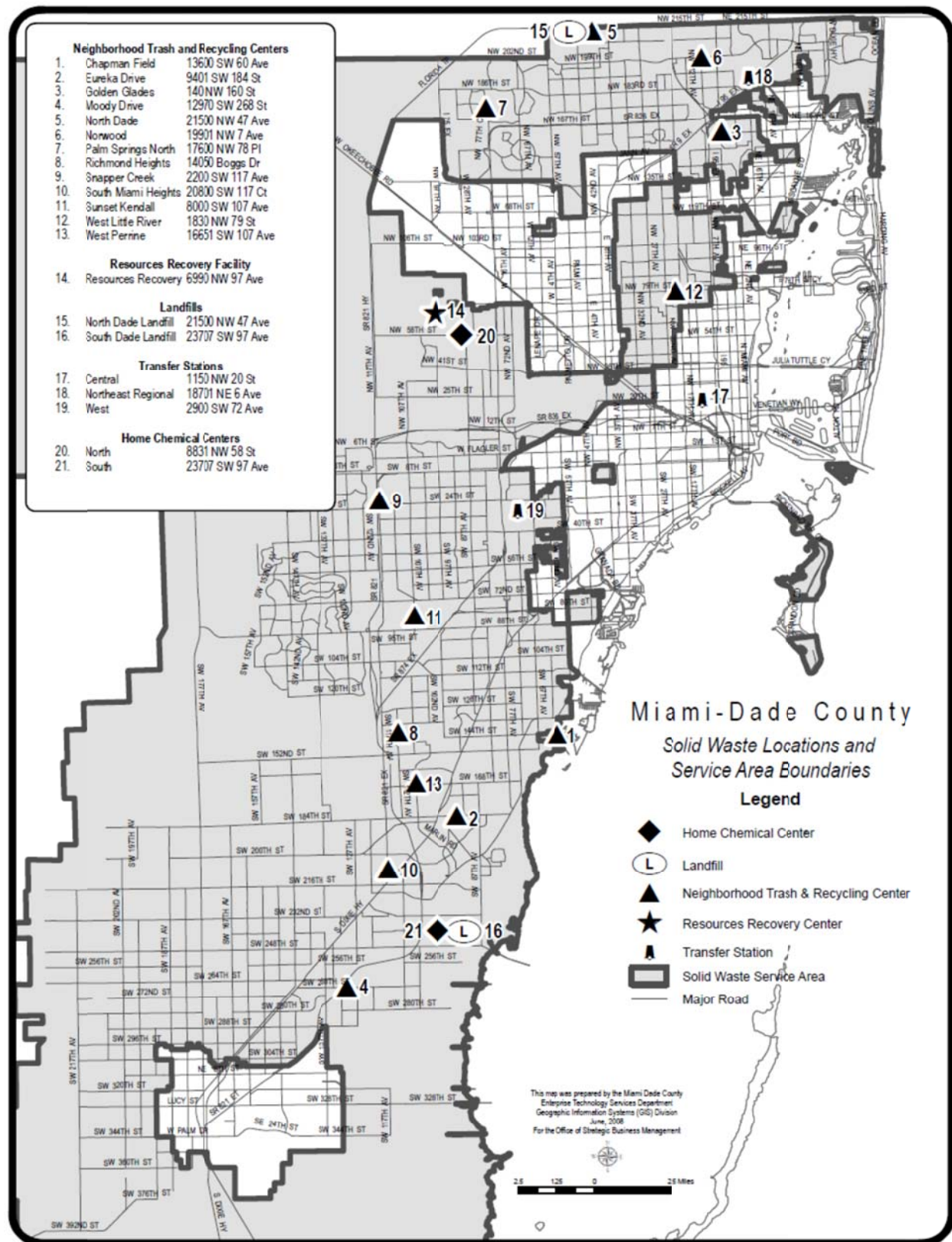
The program uses two contractors to collect recyclable materials. World Waste Recycling Services of Florida Inc. is the collector in the north and central areas of the County. Waste Services of Florida Inc. is the collector in the southern portion of the County (south of Kendall Drive). Waste Management Inc. of Florida has the contract to process the materials. The County receives revenue based on a per ton fee negotiated at the start of the contract, which increases annually with the Consumer Price Index.

The PWWM provides recycling services to the WCSA, which includes the municipalities of Aventura, Cutler Bay, Doral, Miami Gardens, Miami Lakes, Palmetto Bay, Pinecrest and Sunny Isles Beach. Twelve other municipalities participate in the single-stream curbside recycling program with the County through interlocal agreements. These municipalities are: El Portal, Florida City, Medley, Miami Beach, Miami Springs, North Bay Village, Opa-locka, South Miami, Surfside, Virginia Gardens, West Miami, and North Miami Beach. The remaining municipalities in Miami-Dade County offer recycling services to their residents either by curbside municipal service or through contracts with permitted private haulers.

Commercial and multi-family establishments are required by Chapter 15 of the County Code to provide for a recycling program. The PWWM is proactively enforcing these laws primarily through educational and outreach efforts.

Level of Service Standard

The adopted level of service standard for the County Public Works and Waste Management System is as follows: to maintain sufficient waste disposal capacity to accommodate waste flows committed to the system through long term contracts or interlocal agreements with municipalities and private waste haulers, and anticipated uncommitted waste flows, for a period of five years (CDMP Policy SW-2A). As of FY 2011-12, the PWWM is in compliance with this standard, meaning that there is adequate disposal capacity to meet projected growth in demand.



Fire Rescue

The Miami-Dade Fire Rescue Department (MDFR) provides 24-hour emergency response service to over 1.9 million residents, businesses and visitors within a 1,905 square mile territory through 119 rescue, suppression, and specialty units strategically located in 65 fire rescue stations within Unincorporated Miami-Dade County and 30 municipalities.

MDFR provides emergency response and transport services, which encompass fire suppression, Advanced Life Support (ALS) and Basic Life Support (BLS) emergency medical services, hazardous materials mitigation, disaster management, and other specialty services. MDFR also provides aero-medical transport services within Miami-Dade County to state approved trauma centers and other medical facilities.

During Fiscal Year 2010-11, MDFR responded to 237,062 emergencies, more than 80 percent of which were medical in nature. MDFR's air rescue helicopters flew almost 1,500 missions during the same Fiscal Year, increasing the survivability of patients in critical emergencies. Since Fiscal Year 1999-2000, MDFR has opened seventeen (17) new stations, rebuilt/relocated seven (7) stations, converted one peak-time rescue unit to full-time suppression, and upgraded eighteen (18) units from BLS to Advance Life Support (ALS).

Service Level Factors

One of the most critical factors in any emergency incident is response time, which is measured from the time an alarm is received by 911 to the time the first unit arrives. Major variables affecting response time are station alarm activity, travel time from the station, and the location of the incident. The busier a local station, the less likely those units will be available to respond, increasing the probability that a unit from a surrounding station will be dispatched. In that case, travel time to the incident would likely be increased. The distance from a station, as well as poor, congested or discontinuous roads between the station and the incident location, will increase travel time. These factors adversely impact the travel time of the first arriving unit, as well as those of other units responding on multiple-unit assignments, such as structure fire alarms. In areas of intense land use, the location of stations should facilitate several units working in tandem. Furthermore, MDFR's vast territory, with over 60% of its service area outside of the Urban Development Boundary (UDB), tends to exacerbate response time. The use of traffic calming devices such as barricades, speed bumps and lane narrowing obstructions also increases response time.

To address the service level factors, MDFR uses key comparative data for future decision making in planning the direction and growth of the department in terms of additional units and services. Trends and historical information serve as the foundation for future implementation. In Fiscal Year 2005-06, MDFR began using the DECCAN Modeling System, a fire station location analysis computer software program that allows for retrieval of alternate deployment scenarios, identification of color-coded workload and response performance trends. The software allows for the establishments of parameters against defined target goals for service delivery as recommended by National Fire Protection Association (NFPA) standard 1710 and adopted by MDFR. The DECCAN software was used to compile a five-year service plan and analyze long-term service delivery gaps based on projected residential population growth and call volumes in planning for future units and services. Additionally, recent enhancements to the Computer Aided Dispatch (CAD) system allow for more automated dispatching of fire-rescue calls to the nearest available unit using Automated Vehicle Location (AVL) capabilities, which will minimize service delivery gaps and thus reduce the response time of first units arriving to an emergency scene.

Fiscal Year 2007-08

MDFR opened three (3) new stations, rebuilt/relocated one (1) station, placed one (1) new front-line response unit and nine (9) BLS transport units (Squads) in service, and upgraded one (1) unit from suppression BLS to ALS.

1. Highland Oaks 63 – On November 9, 2007, Phase I of Station 63 was completed at 1773 NE 205 Street to accommodate a one-bay station. Haz Mat ALS Engine 63 located at Station 8, was relocated to Station 63.
2. East Homestead Station 65 – On November 27, 2007, Station 65 was opened at 1350 SE 24 Street. Rescue 65, located at Station 16, was relocated to Station 65.
3. East Kendall Station 13 – Station 13 located at 6000 SW 87 Avenue with ALS Aerial 13, Squad 8, and an Air Truck was opened March 24, 2008.
4. South Miami 14 – Engine 14 was upgraded to an ALS unit to augment paramedic services.
5. Interama 22 – Squad 3 was placed in service on November 26, 2007.
6. Bunche Park 54 – Squad 4 was placed in service on November 26, 2007.
7. West Little River 7 – Squad 5 was placed in service on October 29, 2007.
8. East Kendall 13/Suniland 23 – Squad 8 was placed in service on March 24, 2008.
9. Turnpike South 53 – Squad 7 was placed in service on November 26, 2007.
10. Cutler Ridge 34 – Squad 9 was placed in service on March 24, 2008.
11. Village of Homestead 66 – Squad 10 was placed in service on October 29, 2007.
12. Sweetwater 29 – Squad 12 was placed in service on October 29, 2007.
13. Miami Lakes 1/Model Cities 2 – Squad 14 was placed in service on November 26, 2007.
14. Pinecrest Station 49 – Station 49 was relocated to 10850 SW 57 Avenue.

Fiscal Year 2008-09

MDFR placed two (2) BLS transport units (Squads) in service and upgraded two (2) units from suppression BLS to ALS.

1. Coral Reef 4 – Engine 4 was upgraded to an ALS unit to augment paramedic services.
2. Miami Springs 35 – Engine 35 was upgraded to an ALS unit to augment paramedic services.
3. Opa-Locka 26 – Squad 2 was placed in service on June 19, 2009.
4. West Kendall 57 – Squad 13 was placed in service on June 19, 2009.

Fiscal Year 2009-10

MDFR opened one (1) new station, placed one (1) BLS transport unit (Squad) in service and upgraded one (1) unit from suppression BLS to ALS.

1. Tamiami Airport 24 – On October 1, 2009, the Motorcycle Emergency Response Team (MERT) was removed from service due to budget constraints.
2. North Miami Beach Station 78 – On November 1, 2009, Station 78 opened at 16435 NE 35 Avenue with Squad 1 placed in service.
3. Medley Station 46 – On May 31, 2010, Aerial 46 was upgraded to an ALS unit to augment paramedic services.

Fiscal Year 2010-11

MDFR opened one (1) new station, placed one (1) new front-line response unit in service, and removed three (3) BLS transport (Squads) units from service

1. Haulover 21 – Fireboat 2 was placed in service on January 24, 2011.
2. Opa-locka 26 – Squad 2 was removed from service on January 24, 2011 to fund Fireboat 2.
3. Turnpike South 53 – Squad 7 was removed from service on January 24, 2011 to fund Fireboat 2.
4. Miami Lakes 1 – Squad 14 was removed from service on January 24, 2011 to fund Fireboat 2.
5. Fireboat Station 73 – On April 20, 2011, Station 73 was opened at 975 North America Way.

Fiscal Year 2011-12

MDFR re-built/opened one (1) station, placed two (2) new front-line response units in service and removed two (2) front-line response units and nine (9) BLS transport (Squads) units from service.

1. Haulover 21 – Fireboat 2 was removed from service on October 17, 2011.
2. Interama 22 – Squad 3 was removed from service on October 24, 2011.
3. Village of Homestead 66 – Squad 10 was removed from service on October 24, 2011.
4. West Kendall 57 – Squad 13 was removed from service on October 24, 2011.
5. Sunny Isles Station 10 – On November 23, 2011, Station 10 re-opened at 172-175 Streets with Ladder 10 and Rescue 10.
6. Bay Harbor 76 – Rescue/Fireboat 76 was placed in service at Haulover Station 21 on November 28, 2011.
7. Eastern Shores 78 – On November 28, 2011, Squad 1/Rescue 78 were taken out of service and Rescue 63 was relocated to Station 78.
8. Fireboat 73 – Fireboat 1 was taken out of service on November 28, 2011.
9. Bunche Park 54 – Squad 4 was removed from service on December 5, 2011.
10. West Little River 7 – Squad 5 was removed from service on December 5, 2011.
11. East Kendall 13 – Squad 8 was removed from service on December 5, 2011.
12. Cutler Ridge 34 – Squad 9 was removed from service on December 5, 2011.
13. Sweetwater 29 – Squad 12 was removed from service on December 5, 2011.
14. Homestead/Florida City 16 – Rescue 72 was placed into service at Station 16 on April 2, 2012.
15. East Homestead 65 – Ladder 16 was relocated to Station 65 On April 2, 2012.

Major Programs, Initiatives, and Accomplishments/Milestones - Fiscal Year 2011-2012

- Completion of the new Model Cities Fire-Rescue Station 2, which replaces an existing station at 6460 NW 27 Avenue.
- Completion of the new Homestead Fire-Rescue Station 16, which replaces an existing station at 325 SW 2 Street.
- Completion of the new Bay Harbour Fire-Rescue Station 76 located at 9665 Bay Harbor Terrace. Rescue 76, which was placed in service on November 28, 2011 and temporarily housed at Station 21, will be relocated to Station 76 upon completion.
- Completion of the new Doral North Fire-Rescue Station 69 located at 11151 NW 74 Street. Rescue 69, currently housed at Station 45, will be relocated to Station 69 upon completion.

- Completion of the expansion to West Miami Fire-Rescue Station 40 at 975 SW 62 Avenue allowing permanent residency for Engine 40.
- Completion of land acquisition for land to construct Palmetto Bay Fire-Rescue Station 62 in the vicinity of Old Cutler Road and SW 176 Street. Upon completion, Engine 62 currently housed at Station 50 will be relocated to Station 62.

Major Programs, Initiatives, and Accomplishments/Milestones - Fiscal Year 2011-2012

- Completion of the new Model Cities Fire-Rescue Station 2, which replaces an existing station at 6460 NW 27 Avenue.
- Completion of the new Homestead Fire-Rescue Station 16, which replaces an existing station at 325 SW 2 Street.
- Completion of the new Bay Harbour Fire-Rescue Station 76 located at 9665 Bay Harbor Terrace. Rescue 76, which was placed in service on November 28, 2011 and temporarily housed at Station 21, will be relocated to Station 76 upon completion.
- Completion of the new Doral North Fire-Rescue Station 69 located at 11151 NW 74 Street. Rescue 69, currently housed at Station 45, will be relocated to Station 69 upon completion.
- Completion of the expansion to West Miami Fire-Rescue Station 40 at 975 SW 62 Avenue allowing permanent residency for Engine 40.
- Completion of land acquisition for land to construct Palmetto Bay Fire-Rescue Station 62 in the vicinity of Old Cutler Road and SW 176 Street. Upon completion, Engine 62 currently housed at Station 50 will be relocated to Station 62.

Major Programs, Initiatives, and Accomplishments/Milestones - Fiscal Year 2012-2013

- Coconut Palm Fire-Rescue Station 70 will be located in the vicinity of SW 248 Street and 114 Ave. Construction of Station 70 will allow Rescue 70, currently housed at Station 34, to be relocated to Station 70. Station 70 will be constructed on land owned by the County.
- Miami Lakes West Fire-Rescue Station 64 will be located in the vicinity of NW 154 Street and NW 77 Court in the Town of Miami Lakes. Upon completion of Station 64, temporary service located at 8205 Commerce Way will be relocated to Station 64.

Park and Recreation

Miami-Dade County residents benefit from a variety of parks offered by many different providers. Each provides a type of recreation and parkland, facilities, and services that are consistent with each provider's policies and service population needs. Within Miami-Dade County, recreation and open spaces include federal parks and preserves, state parks, water conservation areas, and County and municipal parks. As of July 2012, there are a total of 828 recreational facilities and open space areas countywide, of which 22 are under state and federal jurisdiction, 260 parks are under County jurisdiction and 546 parks are under municipal jurisdiction. Total park acreage in Miami-Dade County is 1,486,200 acres (see Table 14 below).

Table 14
Countywide Recreation & Open Space Areas

Jurisdiction	Miami-Dade County		Municipal		State/ Federal		Total	
	Sites	Acres	Sites	Acres	Sites	Acres	Sites	Acres
TOTAL	260	12,825	546	4,385	22	1,468,990	828	1,486,200

Source: Parks, Recreation and Open Spaces Department
Parks Property Management Information System, 07/2012

The Miami-Dade County Park, Recreation and Open Space Department (PROS) provides parkland, recreational facilities and services to Miami-Dade County in two primary ways. First, the PROS provides local recreation open space for Unincorporated Municipal Service Area (UMSA) residents. Second, the County provides countywide recreation open space for both UMSA residents and residents of the 34 municipal areas. Typically, the PROS does not provide local park services to municipal residents unless an intergovernmental agreement exists, and then such services would be limited.

PROS countywide parks are large and diverse and include such areas as beaches, natural area preserves, historic sites, and unique places such as Zoo Miami. Local parks are commonly much smaller and in the form of neighborhood, community and district properties. At present, the PROS offers 82 countywide parks and 177 local parks. Additional local recreation open spaces available for public use also include recreation facilities within public schools, colleges, universities, as well as privately owned local recreation open spaces within homeowner association areas.

The inventory of PROS recreation open space sites and acreage varies annually according to incorporations, land acquisitions, and transfer of maintenance responsibility to other County departments or government entities.

PROS operates and maintains a system of 12,825 acres of parkland that includes the two categories of countywide and local parks, as well as County-owned Environmentally Endangered Lands (EEL) that are adjacent or contiguous to PROS properties and managed as County parks. Of the 12,825 acres mentioned above, 2,800 acres are part of the EEL program. Countywide parks serve all residents and tourists, while local parks serve UMSA residents. Within these two general categories, County parks are further classified based on their primary function, size, and degree of facility/program development. The characteristics of the various classes of parks are summarized in Table 15 below.

Countywide Parks

Countywide parks support the recreational needs of incorporated and unincorporated area residents and tourists that can only be accommodated within larger, resource-based parks. They serve large populations and draw users from great distances. Countywide parks provided by the County include Metropolitan Parks, Natural Area Preserves, Special Activity Areas, District and/or Greenways.

Table 15
Recreation & Open Space Classifications

Criteria	Countywide					Local			
	Metropolitan	Natural Area Preserves	Greenway	Special Activity	District	Single-purpose	Community	Neighborhood	Mini Park
Primary Orientation	Resource	Resource	Resource	Resource	User	User	User	User	User
Staff	Yes	Varies	No	Yes	Yes	Yes	Yes	No	No
Available Programs	Varies	Varies	No	Yes	Yes	Yes	Yes	No	No
Acres	Varies	Varies	Varies	Varies	200 +	Varies	20-100	1-10	½
Service Area	County-wide	County-wide	County-wide	County-wide	5 miles	3 miles	3.5 miles	1 mile	0.5 mile

Source: (1) Parks, Recreation and Open Spaces Department, July 2009

(2) Miami-Dade Park and Recreation Areas- Summary of Park Classification, July 2006

Metropolitan Parks are large resource-oriented parks. Generally, these parks preserve valuable natural and historical resources while providing a broad mix of resource-dependent recreation opportunities. They typically include prominent water features. For example, Crandon Park provides numerous compatible recreational activities to park users, while at the same time preserving 343 acres of coastal wetland and 48 acres of coastal hammock as natural areas.

Natural Area Preserves are ecologically unique, resource-based parks that are often minimally improved with interpretive facilities and trails. Examples include Castellow Hammock Preserve, Nixon Smiley Pineland Preserve, and the R. Hardy Matheson Preserve.

Special Activity Areas vary greatly, but they typically are large and provide a unique recreational opportunity centered on a single theme. Miami-Metrozoo and Redland Fruit and Spice Park illustrate the diverse nature of Special Activity Areas.

District Parks are large-sized user-oriented parks that provide extensive recreational facilities and staffed recreational programs to UMSA residents living within many different communities. They also provide recreational facilities and programming to municipal residents. For example, Tropical Park is a District Park that offers swimming, picnicking, athletic fields, game courts, and supervised recreational programs to the residents living in the west-central portion of the County.

Greenways are linear open spaces that provide a select range of recreation and conservation activities. Greenway parks include horse trails, bike paths, canoe trails and conservation corridors that often link parks and other public facilities. Greenways are specialized recreational facilities that often include linear modes of transportation or a natural feature such as a trail, canal, or stream.

Countywide recreational open space in Miami-Dade County also includes state and federal recreation areas including the Everglades National Park, Biscayne National Park, the Big Cypress National Preserve, State Conservation Areas, State Parks and other state owned recreation areas.

Local Parks

Local parks are the County's functional equivalent of municipal parks and are designed to fulfill the specific recreational needs of unincorporated area residents. There are 177 local County parks totaling 1,468 acres that include Single Purpose, Community, Neighborhood and Mini-Parks. There are an additional 442 local parks totaling 2,359 acres of parkland in municipalities. Local parks have smaller service populations than countywide parks, drawing users principally from surrounding residential neighborhoods and communities.

Table 16 below summarizes local parkland by park class, and differentiates between the total number of County-owned park acres and acres for other government agencies.

Table 16
Local Park Land Inventory Summary

Park Class	Miami-Dade County Sites	Miami-Dade County Acres	Other Govt. Sites	Other Govt. Acres	Total Sites	Total Acres
Single Purpose	13	163	31	280	44	443
Community	50	819	141	1,624	191	2443
Neighborhood	79	459	89	369	168	828
Mini-Parks	35	27	181	86	216	113
TOTAL	177	1,468	442	2,359	619	3,827

Source: Parks, Recreation and Open Spaces Department, July 2012
Parks Property Management Information System Database

Single-Purpose Parks are smaller sized parks and user-oriented that provide single themed recreational facilities that meet the specific recreational needs of local residential communities. Tennis, boxing, and youth athletics are examples of the recreational opportunities provided at these parks. Unlike most County parks, single-purpose parks are often operated by non-profit service organizations.

Community Parks are medium-sized user-oriented parks that provide recreational facilities and staff programming to residents living within nearby communities. These parks focus on an aggregate of neighborhoods within a three and one-half mile radius of the park. Typically, community parks include a combination of active and passive areas, tot-lots, lighted athletic fields and game courts, and a staffed recreation building.

Neighborhood Parks are small-sized user-oriented parks that meet the recreational needs of individual neighborhoods, usually within one and one-half miles of the park. Most neighborhood parks are passive, un-staffed areas that typically include tot lots, multi-purpose courts, open playfields, and a picnic shelter. These facilities are generally open only during daylight hours since the facilities have no lighting.

Mini-parks are among the smallest parks, typically less than one-half acre, that provide a passive recreational setting for residents in various neighborhoods. The vast majority of mini-parks include tot-lots, walking and sitting areas, and open space. These facilities are unlit, walk-to type parks, and include a number of special taxing districts and common open spaces that are maintained by the PROS.

Level of Service Standards

The County has adopted a level of service standard of 2.75 acres of local recreation open space per 1,000 unincorporated area residents (CDMP Policy ROS-2A). Local recreation open space includes:

- County provided mini-, neighborhood, community, and single-purpose parks;
- Portions of County-provided countywide parks that function and are designated as local parks in the implementation of the Miami-Dade Service Concurrency Management Program;
- Portions of public school and public college playfields; and
- 50% of the recreation open space provided at private developments in the unincorporated area.

As of June 2012, there are 3,096.84 acres of local recreation open space, 752.74 acres of public school and public college playfields, and 829 acres of privately provided open space (see Table 17 below).

As required by Chapter 163, F.S. and the Miami-Dade Service Concurrency Management Program, the PROS calculates the level of service that is provided in each of the County's three Park Benefit Districts (PBD). The Park Benefit Districts are identified in Figure 8 below.

Table 17
Local Recreation Open Space Level of Service, 2012

Park Benefit District	Unincorporated Population (1) Plus Permitted Development	Standard @ 2.75 Acres Per 1000 Residents	Public Park Acres (2)	School Acres (3)	Private Open Space Acres (4)	Total Recreation Open Space Acreage	Surplus (Deficit) Acres	Percent of Standard (%)
1	370,546	1,019.00	763.09	299.82	267	1,329.91	310.91	131%
2	600,714	1,651.96	1,317.61	356.30	473	2,146.91	494.95	130%
3	154,867	425.88	448.99	96.62	89	634.61	208.73	149%
TOTAL	1,126,127	3,096.84	2,529.69	752.74	829	4,111.43	1,014.59	133%

Source: (1) Regulatory and Economic Resources Department, Planning Division, June 2012

(2) Parks, Recreation and Open Spaces Department, Planning and Research Division, June 2012

(3) Miami-Dade County School Board, Site Planning Department 11/28/08

(4) Private Open Space is one-half of total private acres.

The PROS also estimates the Year 2017 level of service. This estimate relies on acreage projections of: (1) local parks expected to be purchased through impact fees; (2) pending donations, covenants and long-term lease agreements; (3) acquisitions funded by Safe Neighborhood Park and Quality Neighborhood Initiative Bond Programs; and (4) school playfield acquisitions. Table 18 below summarizes projected local recreation open space additions between the years 2012 and 2017.

Table 18
Projected Local Recreation Open Space Additions
Between 2012-2017

Park Benefit District	Impact Fee Acquisitions (1) (acres)	Covenanted Dedications (2) (acres)	Bond Acquisition (acres)	School Playfields (3) (acres)	Projected Total Additions (acres)
1	10.29	47.6	0.00	8	65.89
2	13.51	6.02	0.00	3	22.53
3	13.73	4.89	0.00	4	22.62
TOTAL	37.53	58.51	0.00	15	111.04

Source: Parks, Recreation and Open Spaces Department, Planning and Research Division, July 2012
Miami-Dade County School Board, Site Planning Department, 2006

Notes: (1) Based on approved and projected residential development.
(2) Computed in accordance with the Park Impact Fee Ordinance No. 90-95
(3) Previously approved developer dedications. Based on School Board's -2012 new construction plans, and State Department of Education for 1999-2001

Table 19 below summarizes Years 2012-2017 levels of service for local recreation open space. The estimates in the "Year 2017 Surplus/Deficit Acres" column shows that the County will be able to accommodate the Year 2017 projected population for all three Park Benefit Districts.

Table 19
Projected 2012-2017 Local Recreation Open Space Level of Service

Park Benefit District	Projected 2017 Unincorporated Population (1) Plus Permitted Development	2012 Total Public Park Recreation Open Space Acreage (2)	2012-2017 Public Park Land Acres Addition (2)	2012-2017 School Playfield Acres Addition (3)	2017 Total Recreation Open Space Acres	Standard @2.75 Acres Per 1,000 Population in Acres	Year 2017 Surplus (Deficit) Acres	2017 Percent of Standard
1	390,399	1,329.91	57.89	8	1,395.80	1,073.60	322.20	130%
2	632,579	2,146.91	19.53	3	2,169.44	1,739.60	429.84	125%
3	185,225	634.61	18.62	4	657.23	509.37	147.86	129%
TOTAL	1,208,203	4,111.43	136.04	15	4,222.47	3,322.57	899.90	127%

Sources: (1) Regulatory and Economic Resources Department, Planning Division, Research Section, July 2012
(2) Parks, Recreation and Open Spaces Department, Planning and Research Division, June 2012
Park Ordinance (90-59), previously approved developer donations, and General Obligation Bond Acquisition: Safe Neighborhood Park Act of 1996.
(3) Miami-Dade County School Board, Site Planning Department, 2006.

Constraints

There are a number of constraints to the PROS's ability to adequately acquire, maintain and operate existing and proposed parks. These constraints include: 1) budget reductions that reduce staff's ability to manage and operate existing parks, much less new parks; 2) inadequate funding from bond and impact fees for the acquisition of neighborhood and community parks; and 3) the uncertainty of maintaining county-owned parks within areas considering incorporation.

Public Schools

Public schools are evaluated for existing and projected conditions after the completion of projects programmed under the Miami-Dade County Public Schools System's 5-Year Facilities Work Program.

Analysis Method

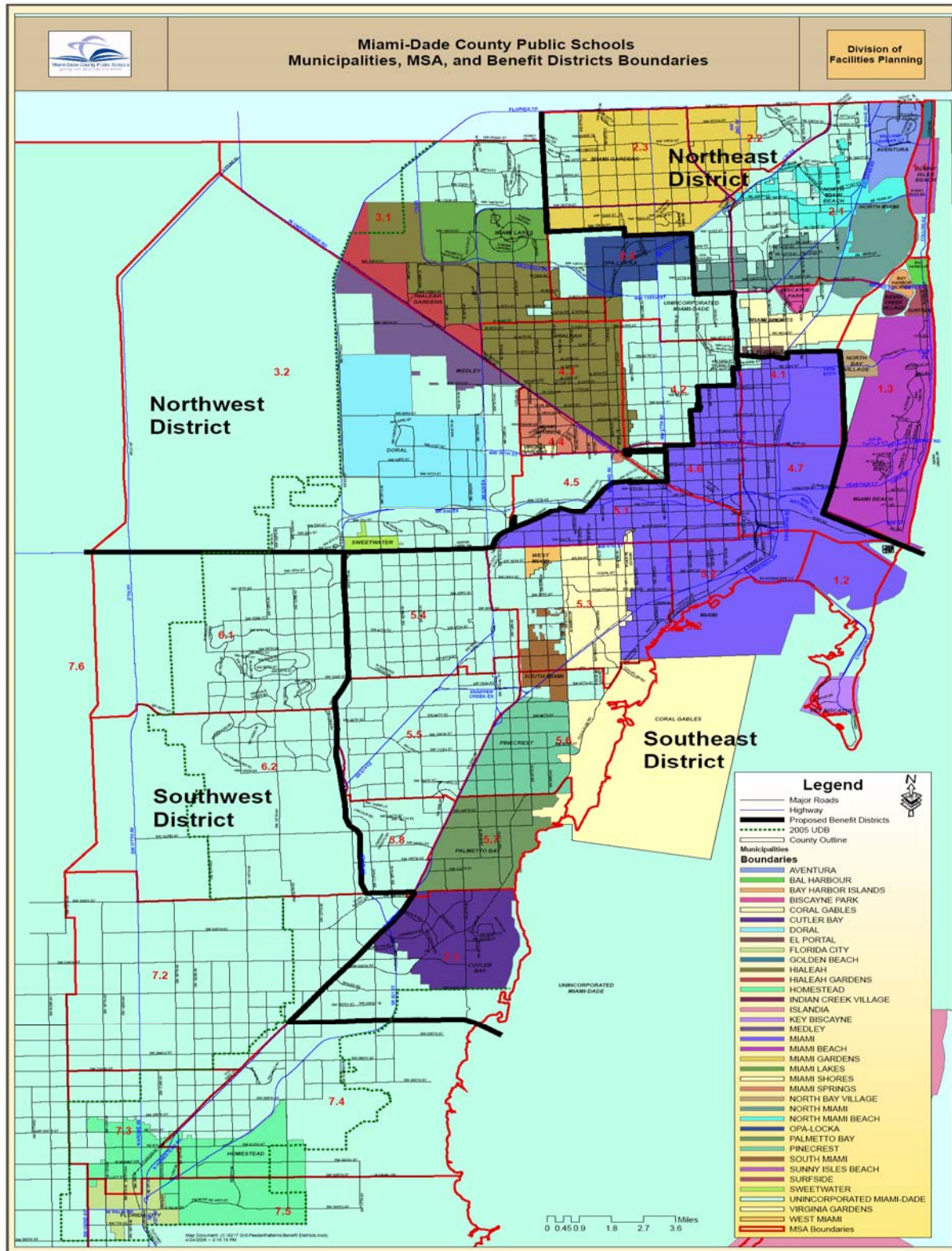
The adequacy of existing public schools is evaluated based on the adopted School Concurrency Management System. This new system tracks available capacity by considering student enrollment based upon the month of October membership of each public school, and school capacity based on the Florida Inventory of School Houses (FISH) that includes permanent and relocatable (portable) student stations (capacity also includes seats planned to be under construction within the next three years). Previously reserved capacity for residential developments is deducted from the overall available capacity.

The Interlocal Agreement for Public School Facility Planning (Interlocal Agreement) adopted by Miami-Dade County, the municipalities within Miami-Dade County and the Miami-Dade County School Board requires the review of development orders based on the adopted level of service standard for all Miami-Dade County public school facilities, which is 100% FISH capacity (permanent and relocatable student stations) (CDMP Policy EDU-2A). This level of service standard is applicable in each concurrency service area (CSA), which is defined as the public school attendance boundary established by Miami-Dade County Public Schools. To meet public school facility concurrency level of service standards, a plat application, site plan approval or the functionally equivalent of a development order is required. School concurrency capacity is then reserved with the development order.

If there is a capacity deficit in the impacted CSA, the impact is then shifted to one or more contiguous CSAs, within the same Geographic Area, if there is capacity available. The County is divided into four Geographic Areas (Northeast, Northwest, Southeast and Southwest), which are depicted in Figure 9 below. CDMP applications are reviewed and analyzed based on this new public school concurrency level of service standard. However, only a preliminary analysis is conducted for purposes of determining the current capacity and the potential impacts on the public schools being impacted from the proposed development.

On July 17, 2009, the County's Educational Plan Amendment and Interlocal Agreement adopting the level of service standard for public school facilities in Miami-Dade County was found in compliance by the former state planning agency, the Florida Department of Community Affairs (DCA), currently the Department of Economic Opportunity (DEO). When sufficient capacity is not available at the impacted CSA, the Public School Concurrency System allows the level of service standard to be satisfied if: 1) construction of additional capacity is programmed to relieve the impacted school within 3 years; 2) capacity is available at a public school facility in a contiguous CSA within the same Geographic Area; 3) development is phased to meet existing capacity; or, 4) if the proportionate share mitigation option is used. It is the goal of Miami-Dade County Public Schools and Miami-Dade County to achieve 100% utilization of Permanent FISH for all public schools facilities (no relocatable classrooms) by January 1, 2018.

Figure 9



Existing Conditions Countywide

In October 2012, there were 302,301 students attending Miami-Dade County's Public Schools (this includes magnet schools but not charter schools). The County's public schools system operates 216 elementary schools (including 42 K-8 centers), 57 middle schools, 50 senior high schools, and 5 other (alternative/specialized schools). There is a total FISH design capacity of 358,155, which represents a total FISH utilization rate of 84%.

In the Northeast Geographic Area, there are 47 elementary schools (including 10 K-8 centers), 12 middle schools, 7 senior high schools and 1 other. This Area has a FISH design capacity (including portables) of 67,099 with a total enrollment of 57,081 students, which represents a FISH utilization rate of 85% in the referenced geographic area.

In the Northwest Geographic Area, there are 52 elementary schools (including 10 K-8 centers), 15 middle schools, 12 senior high schools and 2 other. This Area has a FISH design capacity (including portables) of 91,713 with a total enrollment of 76,956 students, which represents a FISH utilization rate of 84% in the referenced geographic area.

In the Southeast Geographic Area, there are 79 elementary schools (including 13 K-8 centers), 18 middle schools, 22 senior high schools and 1 other. This Area has a FISH design capacity (including portables) of 121,333 with a total enrollment of 101,196 students, which represents a FISH utilization rate of 83% in the referenced geographic area.

In the Southwest Geographic Area, there are 38 elementary schools (including 9 K-8 centers), 12 middle schools, 9 senior high schools and 1 other. This Area has a FISH design capacity (including portables) of 78,010 with a total enrollment of 67,068 students, which represents a FISH utilization rate of 86% in the referenced geographic area.

Student enrollment system-wide for the 2012-13 school year totaled 302,301 students; FISH capacity totaled 358,155, which represents a total utilization rate of 84% for the 328 schools, including elementary, middle, senior high and other specialty schools in the Miami-Dade County Public School System.

The FISH design capacity percentage rate includes both permanent and portable student stations. The optimal situation is for the number of students enrolled in a particular facility not to exceed the number of permanent student stations.

Table 20
Miami-Dade County School District
Existing Conditions 2011-2012

Geographic Area	School Type	Number of Schools in Area	October 2012 Enrollment	Perm Capacity	% Util Perm	Reloc Capacity	Total FISH Design Capacity	FISH Percent Utilization Rate
Northeast	Elementary + K-8 Center	47	32,191	34,688	93%	2,386	37,074	87%
	Middle	12	9,722	12,544	78%	752	13,296	73%
	Senior + Other	8	15,168	16,516	92%	214	16,730	91%
Total		67	57,081	63,748	90%	3,352	67,099	85%
Northwest	Elementary + K-8 Center	52	40,855	44,605	92%	2,643	47,247	86%
	Middle	15	12,789	16,269	79%	673	16,942	75%
	Senior + Other	14	23,312	27,267	85%	256	27,523	85%
Total		81	76,956	88,141	87%	3,572	91,713	84%
Southeast	Elementary + K-8 Center	79	51,089	59,297	86%	2,164	61,461	83%
	Middle	18	16,945	21,367	79%	356	21,723	78%
	Senior + Other	23	33,162	37,336	89%	812	38,148	87%
Total		120	101,196	118,001	86%	3,332	121,333	83%
Southwest	Elementary + K-8 Center	38	31,490	35,376	89%	1,556	36,932	85%
	Middle	12	12,780	14,274	90%	1,247	15,521	82%
	Senior + Other	10	22,798	24,804	92%	753	25,556	89%
Total		60	67,068	74,454	90%	3,556	78,010	86%
Grand Total		328	302,301	344,343	88%	13,812	358,155	84%

Source: Miami-Dade County Public Schools, October 2012 FTE

CAPITAL IMPROVEMENTS ELEMENT SCHEDULE MODIFICATIONS

Some or all of the CDMP's schedules of capital improvements may be proposed for revision for a variety of reasons during each CDMP amendment cycle. Typically all schedules are revised during the April Cycle. This section briefly outlines the functional capital facility programs amended during the April 2010 Cycle, and explains the more significant amendments approved in 2011.

The Fiscal Year (FY) 2010-11 Capital Improvements Element (CIE) adopted in November 2010 contained 455 active projects with a total cost of \$17.902 billion. The largest expenditures are for Water and Sewer facilities with 38.3 percent of the total, followed by Aviation with 36.6 percent. Transit-related projects make up another 11.2 percent, Highways and roads 4.1 percent, Seaport close to 3.6 percent, and Park and Recreation just over 2.7 percent of total programmed expenditures. Aviation, water and sewer, and traffic projects have long been the dominant components of the CIE. Due to the injection of funding from the ½ cent transit surtax, as well as funding from the voter approved General Obligation Bond (GOB) program, the mass transit and park and recreation areas have increased their proportion in recent years.

The Schedule of Improvements for FY 2011-12 CIE has cost totals much lower to the values of the previous program, as are the six-year expenditures. There are 358 active projects with a total cost of \$17.464 billion and six-year programmed expenditures of \$5.297 billion. Also included are 39 new projects costing \$2.006 billion with \$561.730 million planned expenditures over the six FY 2011/12 – 2016/17 periods. The largest share (38.8 percent of cost) of this new CIE is held by Water/Sewer facilities followed by Aviation (34.5 percent) and Mass Transit (12.7 percent).

Aviation

The aviation component has consistently been one of the largest in dollar terms since the inception of the CIE process in 1988. The Miami-Dade Aviation Department (MDAD) is responsible for planning and carrying out the renovation and upgrading of existing facilities and the construction of new facilities to meet current and forecasted commercial passenger, cargo and general aviation demand at Miami International Airport (MIA); plus four other active general aviation airports and one training facility.

The currently adopted CIE (April 2010 Cycle) contains nine aviation projects at a total cost of \$6.556 billion. About 10.5 percent is proposed for expenditure over the six-year program period; a percentage below the previous year, with absolute expenditures of about \$655.854 million lower than the previous program cycle. During the FY 2010-11 budget and multi-year capital plan, \$689.406 million was programmed and many projects were carried out in the following areas: terminals, concourses, support facilities, cargo facilities, landside improvements, and airside improvements. The bulk of the program (54.6 percent) is to be found in the first category, a total of about \$376.422 million. Projects completed and in use at MIA include the new North Terminal, expansion of the South Terminal, as well as new concessions for passenger comfort and convenience.

For the 2010-11 budget year, this capital programming was continued; i.e. terminal, concourse, and gate expansion at MIA along with increases in cargo handling capacity; necessary airside and landside improvements (roads and parking) and a variety of support projects, including about \$71.34 million for various improvements in the general aviation airports. For the 2010/11–2015/16 period, programmed funding decreased substantially from the previous six-year period.

Overall, the April 2011 Cycle Aviation Schedule of Improvements planned expenditures of \$317.889 million is well below the previous program cycle. Similarly, the total cost of the program (\$6.021 billion) is \$534.711 million below the previous program cycle. Almost all is funded from a combination of state and federal grants, revenue bond funds, current capital outlay and passenger facility charges. The program contains seven active projects. Project Nos. 4 and 9 are anticipated to be completed during FY 2010. There are no new proposed projects.

This new schedule of improvements embodies the strategy of emphasizing capabilities changes of MIA to handle existing and future demand levels for passengers and cargo operations in an efficient manner. MDAD is finalizing a \$6.568 billion capital improvement program to make the airport a more desirable and efficient transportation center. Aeronautical activities at MIA are being enhanced by the new North Terminal and expansion of the South Terminal. During FY 2011-12, in addition to a new North Terminal, key elements of the capital program include improvements to the Central Terminal, construction of an elevated automated people mover system known as the "MIA Mover," roadway and facilities improvements, major security modifications, and replacement of business systems.

Coastal Management

The Environmental Resources Management Division (ERM) of the Department of Regulatory and Economic Enhancement administers the coastal management program as reflected in Table 3 of the Schedule of Improvements. Its primary aim is beach restoration and preservation. The program focuses on initiating and coordinating federal and/or state projects essential to the protection and recreational viability of the County's ocean shoreline.

The adopted (April 2010 Cycle) Coastal Management Schedule of Improvements includes two projects at a cost of \$63.137 million, with planned expenditures at \$32.531 million. Both the total cost and the six-year expenditures are lower than the previous year's capital program. During FY 2010-11, only one beach re-nourishment project is to be completed with programmed expenditure at the \$7.401 million level.

The currently recommended Coastal Schedule of Improvements contains two active projects with a six-year expenditure program of \$28.834 million, somewhat lower than the previous year, while total cost of the program at \$61.482 million is down by about 2.6 percent. There are no newly proposed projects. During FY 2011-12 there is one beach re-nourishment project with \$9.224 million planned expenditures.

Conservation

The Conservation Element of the CDMP provides direction for the protection and conservation of Miami-Dade County's natural resources. Projects with this purpose are included in the Conservation Schedule of Improvements of the CIE, which has emphasized protection of natural water bodies and unique endangered lands. Since the advent of the Stormwater Utility program, the focus has been heavily on major and local drainage improvements. However, as a result of changes in the Proposed Resource Allocation Plan during the previous four fiscal years, the bulk of these activities are now devoted mostly to the administrative function of the program. The presently adopted program for FY 2010-11 contains nine projects at a total cost of \$267.287 million, with expenditures programmed at \$45.031 million. The total cost for FY 2010-11 is \$7.833 million below the previous year and so are the six-year expenditures at about \$7.379 million lower from the previous program cycle.

Major activity during FY 2010-11 includes continued acquisitions of environmentally endangered lands, as ERM offers to purchase close to 100 acres of such lands and provides for active restoration and preservation of wetlands and environmentally valuable uplands. As a result of limited debt service millage capacity during FY 2010-11, the number of acquired acres is much lower than the previous year. About \$5.461 million was programmed for this purpose. Over the fiscal year, a small number of local drainage projects have been carried out. Of the \$45.031 million to be expended during the 2010/11 – 2015/16 programming period, \$3.755 million were devoted to a variety of drainage improvements for the Community Rating System (CRS) program. In addition, several individual drainage projects were completed.

The April 2011 Cycle recommended program for Conservation continues these efforts at about the same scale as the last year from the number of ongoing projects perspective. This is due to the transfer of drainage related activities to PWWM. The current program will cost \$271.985 million, which is an increase from the previous year, with only \$61.025 million planned to be expended over the six-year period. There are nine active projects with no proposed additions.

Drainage

The Miami-Dade County Department of Public Works and Waste Management (PWWM) has been responsible for eliminating or controlling localized stormwater drainage problems, and has an ongoing program directed to that purpose. As a result of the recommendations made during the summer of 2006, all drainage, design, and construction activities formerly housed in ERM were transferred to PWWM. This includes secondary canal maintenance, street swiping, and drain cleaning funded by the Stormwater Utility program.

The currently adopted (April 2010 Cycle) Drainage Schedule of Improvements contains 39 projects costing a total of \$88.990 million, with six-year programmed expenditures at the \$29.025 million level. With the abovementioned transfer of drainage improvements activities from ERM to PWWM, the April 2011 recommended capital program for Drainage has total cost slightly lower to the levels of last year (\$87.109 million), but the expenditure level is very much higher. Over the six-year program, \$47.114 million exclusively for roadway drainage improvements will be expended. There are 33 ongoing projects with two newly proposed ones. Six projects are being deleted; Project Nos. 4, 5, 32, and 38 due to completion. Funding sources for project numbers 6 and 39 have been assigned to other higher priority projects; as a result, the projects are being cancelled.

Park and Recreation

The Miami-Dade County Department of Parks, Recreation and Open Spaces (PROS) acquires, constructs, maintains, and operates or manages an extensive and diversified system of parks, and other recreational and cultural facilities along with open spaces, to serve the people of Miami-Dade County. PROS's facilities range from small neighborhood parks to large regional parks, and include golf courses, marinas, beaches, and the Miami-Dade Zoological Park and Gardens (Zoo Miami) that serve the entire County. Overall, PROS manages 263 parks encompassing over 12,848 acres, and is also responsible for historic sites and nature preserves.

Historically faced with huge unfunded capital needs, in the last fifteen years this situation has been somewhat relieved. This is due to the approval, late in 1996, of the Safe Neighborhood Parks (SNP) bond program and the Mayor's FY 1998-99 Quality Neighborhoods Improvement Program (QNIP). The former is exclusively for parks, while the latter also funds other local

capital projects such as sidewalks and street resurfacing. Aside from these sources, the Building Better Community (BBC) Bond Program has also provided additional funding to meet PROS's capital needs.

However, even with the utilization of these and a wide assortment of other funding sources, PROS is proceeding with a capital program that is less ambitious than previously anticipated. Because the GOB program funding remains low as a result of limited debt service millage capacity, the currently adopted FY 2010-11 Capital Budget and Multi-Year Plan shows programmed expenditures at \$114.464 million with a total cost of \$485.929 million, which is a drop from the previous year. During the first year (2010-11), PROS was budgeted to make improvements at several projects, the largest being the Areawide and Local Parks – Park Improvements, as well as QNIP Bond Phase II – Local Park Improvements at combined expenditures of \$5.905 million.

In light of the changes in current economic conditions and related needs, the presently recommended Park and Recreation schedule lists 87 active projects including two new additions, at a total cost of \$451.075 million and programmed outlays of \$153.918 million. These projects are covering a wide range of activities, most relatively small expenditures on local parks. But there are also significant improvements being made at the larger parks, including large expenditures at the Tropical Park, Amelia Earhart Park, Ives Estates District Park, and Westchester Arts Center. Fourteen projects are being deleted. Project Nos. 8, 9, 12, 15, 17, 21, 44, 62, 93, 95, and 97 have been completed. Project Nos. 82 and 83 are privately funded projects and are being deleted since these projects do not need to be included in the CIE schedule. Funding for project number 85 was reprogrammed to Project No. 73. Project number 98 was shifted to Park and Recreation from the Traffic Circulation schedule.

The FY 2011-12 capital budget and multi-year plan is 83.4 percent funded by the voter-approved GOB program, about 7.9 percent from park impact fees, 1.1 percent from QNIP II Bond, QNIP V Bond, and Safe Neighborhood Parks (SNP) Proceeds, as well as Capital Outlay Reserve (COR) combined. The remaining 7.6 percent comes primarily from State and Federal grants and financing proceeds. Of the total ongoing program, about 37.5 percent is devoted to Metropolitan Parks – Renovation. About 5.9 percent of the expenditures are allocated to Zoo Miami improvements. As a result of the economic downturn, during FY 2011-12, PROS plans to implement a smaller number of park projects than the projects implemented in the previous year funded by a combination of Impact Fees, QNIP, and SNP dollars.

Seaport

The Miami-Dade County Seaport Department manages and operates the Port of Miami, which is the busiest passenger cruise home port in the world and the 11th ranked busiest containerized cargo port in the United States. As part of the Transportation and Economic Development strategic areas, the Port of Miami is responsible for meeting the infrastructure needs of the cruise and cargo industries, ensuring that the Port is managed efficiently and effectively while maintaining, renovating and expanding the Port's facilities to meet industry growth for both cargo and cruise operations. The Port of Miami promotes cruise and cargo growth through infrastructure enhancements and through capacity improvements combined with an aggressive foreign and domestic marketing program.

The presently adopted (FY 2010-11) Capital Improvements Element contains a Seaport component listing a six-year expenditure program of \$464,182 million and a total cost of \$645,794 million. There are a total of 24 projects. The program is somewhat evenly loaded with

61.4 percent of the total expenditures being planned for the first three years. The single largest project in the FY 2010-11 capital program is the dredging the southern part of Lummus Island - Phase III with a total cost of 165,584 million. Other major projects are for the Seaport Tunnel and the Dredge III Bulkhead Strengthening with outlays of \$155,000 million and \$62,500 million, respectively. Together these three projects account for 59.3 percent of the total cost of the program. If capital costs for the Container Yard Improvements – Seaboard were added, just these four projects constitute about two thirds of the FY 2010-11 capital investments.

In this (April 2011 Cycle) recommended Schedule of Improvements, there are 24 ongoing projects with four new projects being proposed, while eleven are being deleted; Project Nos. 2, 3, 14, 16, 17, and 19 are listed as deletions from the program due to completion. Project No. 10 is expected to be completed in FY 2011. Project No. 1 is simply expanded and included in new Project No. 28. Project No. 11 is being downsized and put in Project No. 7. Project Nos. 21 and 22 are deleted and now included in project numbers 23 and 26, respectively.

This 2011-12 capital program embodies continued investment in new and improved berthing, cruise terminal facilities, security, and traffic circulation enhancement and throughput projects. Both the cost and the six-year expenditure figures are higher than those from the previous year.

A number of security installation and upgrades will be done on the Port. A wide variety of infrastructure improvements have expenditures of \$38.281 million. Likewise, passenger area facilities will be expanded including Cruise Terminals B and C improvements, Cruise Terminals D and E upgrades for future growth demands, as well as Terminals F and G upgrades at a combined cost of \$46.732 million. The largest project in terms of cost is for the Dredging Project (Phase III) for the southern part of Lummus Island (\$166.883 million) followed by the Port of Miami Tunnel (\$155.00 million). Other general port improvements and channel deepening will also be accomplished.

For the entire six-year programming period, the Seaport identifies 17 projects with expenditures of \$524.030 million, mostly funded by Seaport revenue bonds. The total cost of these projects is \$717.758 million.

Sewer Facilities

The Miami-Dade Water and Sewer Department (WASD) is the largest water and sewer utility in the Southeastern U.S. WASD has a major capital program to build and maintain wastewater collection and treatment infrastructure. About 99 percent of the wastewater generated in Miami-Dade County is collected and treated by WASD, utilizing three regional wastewater treatment plants with a total treatment capacity of 368 million gallons per day. WASD serves approximately 338,368 wastewater retail customers as of September 2010 and provides wholesale sewer service to 12 municipalities within Miami-Dade County.

The currently adopted capital schedule (April 2010 Cycle) contains expenditures of \$3,393.873 million for the period 2010/11-2015/16, with a total cost of \$5,026.740 million for 45 projects. The 2010-11 program reflected continuation of the major, expedited capital program to meet the requirements and deadlines of two settlement agreements with the Florida State Department of Environmental Protection and two consent decrees with the U.S. Environmental Protection Agency. Almost all of the required improvements have been put in place, except for consent decree projects addressing the collection system, such as pump station improvements and peak flow requirements. During FY 2010-11, the program expenditure total is \$394.514 million. The largest expenditures include \$119.675 million for the South District Wastewater Treatment Plant

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high level disinfection; \$24.453 million for peak flow management facilities; \$23.980 million for Central District wastewater transmission mains and pump station improvements; and \$23.877 million for Central District upgrades. These four projects constitute 48.7 percent of the program's first year expenditures.

For the period FY 2011/12 – 2016/17, recommended expenditures total close to \$1,209.740 million with the total cost at \$4,891.817 million for 33 active projects and twelve proposed deletions; Project Nos. 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, and 35 are being deleted and are now shown as one project (Project No. 47). There are two proposed additions, of which only one is truly new (Project No. 46); the other new project (Project No. 47) is as a result of the previously mentioned deletions. Both the cost and, especially, the expenditure levels are lower than the previous year.

Over the course of the 2011-2016 six-year program period, WASD will continue to pursue a capital strategy aimed at overcoming the deficiencies specified in the Consent Decrees through a series of improvements to the wastewater collection, transmission, treatment and disposal systems. A total of 173.139 million is programmed for FY 2011-12. Many upgrades go beyond merely correcting the deficiencies identified by the State and federal governments. This is especially true at the Central and South Wastewater Treatment Plants, systemwide peak flow pumping capacity, infiltration reduction, wastewater reuse, corrosion control program, and several sewer line extensions. Primary funding for the overall program is from wastewater revenue bonds and connection charges.

Solid Waste Disposal

The Department of Public Works and Waste Management (PWWM) collects garbage and trash in the Waste Collection Service Area (WCSA), performs a series of waste disposal tasks countywide, and enforces County ordinances as appropriate countywide. As part of the Neighborhood and Infrastructure strategic area, PWWM provides a variety of services for residents, including garbage and trash collection and curbside collection of recyclable materials. In addition, PWWM operates 13 Trash and Recycling (T&R) Centers in the WCSA and provides waste transfer and disposal services countywide to municipalities and private haulers. A large fleet of trucks and other equipment is maintained in order to carry out these and other activities. PWWM is also responsible for the operation and management of three regional transfer stations and associated fleet, two operating landfills, and the Resources Recovery Facility (one of the largest waste-to-energy facilities in the world) and a co-located ashfill. Additionally, PWWM has countywide responsibility for the regulation of waste collection, transportation of waste, and recycling activities. PWWM coordinates with federal and state regulators, other County departments, and municipalities for the implementation of disposal site mitigation.

The existing adopted capital program lists 31 projects costing \$197,003 million, with \$109,641 million to be expended over the 2010/11-2015/16 period. The cost of the program is \$27,843 million above the previous year, with planned expenditures about \$6,530 million higher than the previous program cycle. The Solid Waste Management capital program, guided by the 1995 Strategic Plan and the 1996 Master Plan, contains projects directed at the broad areas of Environmental Projects, Waste Collection, and Waste Disposal.

The recommended Solid Waste Management Schedule of Improvements for FY 2011/12–20016/17 has cost values lower than the previous year, as are the six-year expenditures. There are 26 active projects with no new projects being proposed. While total cost is now \$182.384

million, planned expenditures are \$102.333 million. There are five proposed deletions: Project Nos. 1, 6, 12, 13 and 28 are or will be completed within the fiscal year.

During the first three years of the Capital Program, about 69.6 percent of the program expenditures are devoted to waste disposal environmental projects. These include on-going miscellaneous capital projects, cell closures (at the Resources Recovery facility, North Dade and South Dade landfills), plus other remediation projects. About 19.1 percent of the six-year program is concerned with waste disposal. There are a number of small projects covering the full range of disposal activities. At the Resources Recovery facility, a new cell (#20) is planned to be constructed at a cost of \$4 million. One other cell (#5) is under construction at the South Miami-Dade facility at a cost of \$14.915 million. Waste collection projects constitute only about 2.8 percent of the program. Major emphasis is being placed on improvements at existing T&R Centers and the construction of a new T&R Center in West/Southwest Miami-Dade, where more than two thirds of the funding is programmed in the first three years of the six-year plan. Major funding comes from Future Solid Waste Disp. Notes/Bonds, followed by Solid Waste System Revenue Bonds, and Waste Disposal Operating revenues.

Traffic Circulation

The Department of Public Works and Waste Management is also responsible for constructing and maintaining the County's roadway and bridge infrastructure system, which totals 662 arterial and 2,692 local centerline road miles, as well as 171 bridges on arterial roads and 33 bridges on local roads. Basically, this includes many of the section-line and most half-section line roads, all collector roads and most of the various bridges in the County. In addition, all local roads in unincorporated Miami-Dade are maintained. Capacity improvements typically consist of widening and/or reconstructing roadways, replacement of bridges and reconfiguring intersections. Countywide street and roadway signage (2,750 traffic signal controllers, 21,500 streetlights, and 450,000 street and traffic signs, as of FY 2010-11) are also PWWM responsibility.

The presently adopted (FY 2010-11) Traffic Circulation component of the CIE contained 134 projects totaling \$737.054 million in cost. Expenditures of \$457.544 million were heavily programmed during the first three years of the 2010/11-2015/16 period, with 85.5 percent of the outlay found there. The largest category of expenditures was for projects funded by the People's Transportation Plan (PTP) bond program at \$238.665 million, which is 52.1 percent of the total for all projects. The Public Works Division is responsible for carrying out the building of several new roads, widening many others, resurfacing, new operational improvements and new curbs and gutters as set forth in the PTP. The second largest category was for projects funded by the Secondary Gas Tax at \$82.899 million, or about 18.1 percent of the total. The third largest category was for projects funded by FDOT funds at \$37.937 million, or about 8.3 percent of the total expenditures. The projects include unspecified infrastructure improvements in each Commission District, several bike path projects, and a few bridge expenditures. The majority of the other projects was funded by road impact fees and causeway toll revenue, and was applied to the usual array of road and bridge projects.

As recommended, the new 2011/12 – 2016/17 program is below the prior year's program and will have a total cost of \$681.179 million for 93 ongoing projects and 21 newly proposed ones. The six-year expenditure plan is for \$410.874 million, which is also below the prior year's program. Forty one projects are listed as deletions from the program; Project Nos. 3, 33, 41, 75, 85, 96, 127, 128, and 133 being completed. Project Nos. 112, 119, 120, 121, 122, 123, 124, 125, and 126 to be completed in FY 2010-11. Project Nos. 129, 130 and 132 were listed twice in October 2012 Cycle

last year's schedule. Project Nos. 9, 10, 11, 12, 14, 15, 16, 17, 91, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, and 107 are being deleted. All are privately funded projects and, as of the Community Planning Act of 2011, need not be included on the CIE schedule. Of the 21 proposed additions, only eight are truly new projects: Project Nos. 136, 137, 138, 139, 143, 151, 154 and 155. The remaining Project Nos. 135, 140, 141, 144, 145, 146, 147, 148, 149, 150, 152 and 153 were not included in last year's schedule. Project No. 142 was shifted from the Mass Transit schedule. The new projects have a total cost of \$15.518 million and planned expenditures of \$11.446 million.

This 2011/12 – 2016/17 multi-year Public Works Capital plan is somewhat similar to previous plan versions with the inclusion of projects both countywide and in unincorporated Miami-Dade. As it did last year, following its new Business Plan, PWWM has segmented the capital program into two parts: Neighborhood and Unincorporated Area Municipal Services, and Transportation. The latter is the largest component, \$655.233 million in cost versus \$178.834 million, while six-year expenditures are \$408.417 versus \$98.560 million. The transportation part includes causeway improvements, major road improvements, traffic control systems, infrastructure improvements and ADA accessibility improvements. The Neighborhood and Unincorporated Area Municipal Services part includes drainage improvements, infrastructure improvements, mosquito control (not addressed herein) and local road improvements. In transportation, the expenditures decrease in the second through fifth year and then increase for the last year of the six-year period, much less so in the Neighborhood/UMSA program, where the expenditure levels vary throughout the six-year programming period.

Mass Transit

Miami-Dade Transit (MDT) is the 14th largest public transit system in the country (based on passenger trips) and the largest transit agency in Florida. A large capital program is necessary for the purpose of constructing and maintaining facilities and acquiring equipment necessary to provide transportation services to the public. The transit system has four major components; Metrobus, Metrorail, Metromover, and Special Transportation Services (STS) which is a demand-response door-to-door service. MDT provides 29.2 million miles of Metrobus revenue service along 93 routes with a fleet of 772 full-sized buses, 25 articulated buses, and 75 minibuses, 2 contracted routes, a 24.6 mile elevated Metrorail system, a 20-mile Bus Rapid Transit (BRT) line that is the largest in the United States, and a 4.4-mile elevated people mover system. MDT also provides Special Transportation Services (STS) to eligible participants. The passage by County voters of the one-half cent sales tax in 2002 to be used primarily for transportation provides a dedicated funding source for transportation improvements and is expected to generate more than \$150 million annually, which has opened the door to applying for federal and state matching funds. Thus, despite the recent termination of the joint Participation Agreement by FDOT reflecting no funding for the North Corridor Metrorail Extension project, a potentially viable transit system can be planned and put into place. The various elements were compiled prior to the vote in a document entitled The Peoples Transportation Plan (PTP). MDT works closely with several federal, state and local agencies and other transportation stakeholders. MDT is working with the Citizens Independent Transportation Trust (CITT) and is in the process of implementing the PTP.

The capital program for FY 2010-11 has total costs of \$1.998 billion and expenditures of \$1.481 billion through the year 2015. The single largest component was for Capitalization of Preventive Maintenance. The next highest expenditure was for Rail Vehicle Replacement, then the Earlington Heights/MIC Connector, Bus Acquisition, and the Infrastructure Renewal Plan (IRP). Together, these five projects account for 84.4 percent of the budgeted six-year expenditures.

Approximately \$25.969 million was budgeted for the Rail Vehicle Replacement project for FY 2009-10. The remaining funds in this capital program were used to construct and modify park and ride facilities and for planning, administration, and contingency. Funding comes from federal grants, FDOT funds, County bonds, and the new surtax supported bonds.

Expenditures for Metrorail include vehicle replacement, repair and maintenance of Metrorail and Metromover facilities, as well as Metromover vehicle replacement. The largest outlay for the bus system is the acquisition of new buses (\$93.908 million). Equipment purchases include a variety of items ranging from the Upgrade and/or Replace Bus Tracker and Automatic Vehicle Locating System, tools and equipment for repair, to bus security and surveillance monitoring devices.

The FY 2011-12 capital program consists of 31 active projects, six new ones, and two deletions. A significant amount of reprogramming has occurred resulting in cost changes with values well above the prior year program. The cost at \$2,235.165 million is almost 11.9 percent higher than the previous year. The six-year expenditure level at \$1,459.004 million is somewhat lower by 1.5 percent. Of the six newly proposed projects, only five are truly new projects as Project No. 38 was an omission from last year's schedule. Two projects are marked as deletions from the program; Project No. 9 is no longer feasible and Project No. 43 has been completed. Project No. 56 is a privately funded project and is being deleted as need not be included on the CIE schedule. The funding breakdown for the six-year expenditures is as follows: People's Transportation Bond Program \$549.638 million; Federal grants \$472.862 million; and State of Florida-FDOT \$68.899 million. These three sources comprise 74.1 percent of total expenditures. MDT expenditures decrease during the first three years then increase over the next two years and decrease again over the last year.

Water Facilities

The Miami-Dade Water and Sewer Department (WASD) provides portable water to most residents and businesses within Miami-Dade County. Approximately 420,367 water retail customers are served and 15 municipalities purchase water wholesale. This is accomplished by the operation of three regional and five smaller water treatment plants, with water supply coming from 95 water supply wells (grouped into 14 wellfields) in the Biscayne Aquifer. The capital program necessary to accomplish this includes wellfield development, the expansion and upgrade of water treatment facilities, pumping capacity and related infrastructure. WASD implements water conservation measures, provides high quality drinking water, and plans for future growth. In providing these water services, WASD interacts with and is regulated by various federal and state agencies, the Miami-Dade County Health Department, the South Florida Water Management District, as well as Environmental Resources Management.

The April 2010 Cycle adopted program has 20 active projects costing \$1,836.564 million with \$1,329.73 million to be spent by FY 2015-16. Both the total cost figure and the six-year expenditures are much higher than the prior year's program. Several revenue sources were used to fund a variety of water supply and quality projects. Just six projects, excluding Project No. 19 and its components, account for about 75.3 percent of the six-year expenditures. These are: Safe Drinking Water Act Modifications, South Miami Heights Water Treatment Plant and Wellfield, Water Distribution System Extension Enhancements, Water System Maintenance and Upgrades, Water Treatment Plant – Alexander Orr, Jr. Expansion, and Water Treatment Plant – Hialeah/Preston Improvements. All of these projects are ongoing with various subcomponents completed each year.

The Schedule of Improvements shows a higher total cost than the previous year at \$1,882.951 million, but the expenditures level is lower at \$1,000.480 million for all the 28 active projects. The capital outlay predominately accounted for by the Safe Drinking Water Act Modification – Surface Water Treatment (SWT) and Disinfectant/Disinfection by Product (D-DBP) regulations. There are two proposed additions, of which only one is truly new project, number 32; the other, Project No. 33, is a result of the deletion of Project No. 19 and its components (A, B, C, D, E, and F) to form that project. Also, there are two additional deletions, Project No. 31, due to completion and Project No. 29 is no longer needed.

Like the capital programs before it, this six-year schedule of improvements is aimed at meeting current and future needs for water pumping, treatment, transmission, and distribution capacity. Water quality is given high priority also, as dictated by various federal and state regulations and guidelines.