SOLID WASTE/HAZARDOUS WASTE/MEDICAL WASTE

A. Provide a projection of the average daily volumes of solid waste generated at the completion of each phase of development. Use the format below and identify the assumptions used in the projection.

Projected solid waste generation is shown in Table A-1, Solid Waste Generation for Restoration May 2008 for the combined development within the City of Edgewater. Generation rates are based standard unit rates provided by the City of Edgewater as respectively shown in Table A-2, Solid Waste Generation Rates City of Edgewater August 23, 2006.

Table A-1
Solid Waste Generation for Restoration
May, 2008

Phase	Domestic Solid Waste		Industrial, Hazardous, Medical, or Other Special Wastes (Specify) by Appropriate Units/Day
	Cubic Yards/Day	Tons/Day	
Phase 1 (2007-2013)			
Single-Family Residential	135	10.09	No Industrial Wastes will occur. Hazardous wastes will/may be produced by some retail/commercial uses and the golf course (Please see text). All such wastes will be handled in accordance with applicable regulations pertaining to each specific use by specialty contractors appropriately authorized and/or licensed for such work.
Multifamily Residential	37	2.80	
Commercial/Retail - General	42	3.13	
Office	25	1.25	
Phase 1 Subtotals	**239**	**17.27**	**0.000**
Phase 2 (2014-2018)			
Single-Family Residential	64	4.79	No Industrial Wastes will occur. Hazardous wastes will/may be produced by some retail/commercial uses the golf course and schools (Please see text). All such wastes will be handled in accordance with applicable regulations pertaining to each specific use by specialty contractors appropriately authorized and/or licensed for such work.
Multifamily Residential	67	5.04	
Commercial/Retail - General	90	6.78	
Office	73	5.47	
Schools (Students)	19	0.96	
Phase 2 Subtotals	**313**	**23.04**	**0.000**

Solid Waste Generation for DRI
May, 2008 (Continued)

Phase	Domestic Solid Waste		Industrial, Hazardous, Medical, or Other Special Wastes (Specify) by Appropriate Units/Day
	Cubic Yards/Day	Tons/Day	
Phase 3 (2019-2023)			
Multifamily Residential	151	11.29	No Industrial Wastes will occur. Hazardous wastes will/may be produced by some retail/commercial uses (Please see text). All such wastes will be handled in accordance with applicable regulations pertaining to each specific use by specialty contractors appropriately authorized and/or licensed for such work.
Commercial/Retail – General	86	6.48	
Office	39	2.96	
Phase 3 Subtotals	**276**	**20.73**	**0.000**
PROJECT TOTALS	**828**	**61.04**	**0.000**

Note: Solid waste reductions may be accomplished through recycling efforts.

Table A-2
Solid Waste Generation Rates
City of Edgewater
August 23, 2006

Land Use	Solid Waste Generation	Volume
Single-Family Residential	6.875 lbs/day/du	0.688 cy/day/du
Multifamily Residential	6.875 lbs/day/du	0.688 cy/day/du
Commercial/Retail - General	0.025 lbs/day/sf	0.00018 cy/day/sf
Office	0.010 lbs/day/sf	0.00009 cy/day/sf
Golf Course and Amenities	0.025 lbs/day/sf	0.00018 cy/day/sf
School Elementary	1.000 lbs/day/student	0.01 cy/day/student
School Middle	1.000 lbs/day/student	0.01 cy/day/student

Notes:
1. Residential Values from City of Edgewater Comprehensive Plan.
2. Other Data From: Technical Bulletin #85-6, "Basic Data: Solid Waste Amounts, Composition and Management Systems," National Solid Waste Management Association, October 1, 1985.
3. Solid waste reductions may be accomplished through recycling efforts.

B. 1. Please specify the extent to which this project will contain laboratories, storage

facilities, and warehouse space where hazardous materials may be generated or utilized. What types of hazardous waste or toxic materials are likely to be generated? Will a hazardous materials management plan be prepared covering all uses of hazardous materials on site? If so, please discuss contents and enforcement provisions.

Since there are no proposed industrial uses, all such wastes would be generated by individual commercial business such as doctor's/medical offices, dry cleaners, etc.

Hospital and/or related medical services, should they occur, would be expected to generate bio-wastes, laboratory wastes and radioactive wastes in small quantities. In such case, a variety of pharmaceutical and chemical products would be utilized.

All such uses and related disposal of waste products must be properly licensed and/or permitted by specified regulatory agencies such as the Florida Department of Environmental Regulation and Florida Department of Health. Due to the regulatory procedures already in place for such uses and materials a separate management plan is not proposed.

2. Please discuss what measures will be taken to separate hazardous waste from the solid waste stream. What plans and facilities will be developed for hazardous or toxic waste handling, generation, and emergencies?

Wastes generated by the types of uses discussed above will be separated within the generating facilities. Disposal will be the responsibility of the waste generator in conformance with applicable local, state, and federal regulations. Such wastes will be disposed of off-site in typical manner for these types of uses by appropriately licensed private service providers in conformance with applicable regulations.

3. Please identify off-site disposal plans for hazardous waste generated by this development and provide assurance of proper disposal by a qualified contractor.

Please see response above.

4. What local and state regulations, permits and plans will regulate the generation and handling of hazardous waste at this development?

The following information is provided by the Florida Department of Environmental Protection:

- Hazardous materials and wastes are regulated by 40 CFR 260-266 and are adopted by reference by the State of Florida.

- Responsibility and liability for the handling, storage, and use of hazardous materials rests with the person handling, storing, or using the material and not with the developer.

C. For all waste disposal planned (on or off site), attach a copy of the letter from the developer describing the types and volumes of waste and waste disposal areas requested, and attach a letter from the agencies or firms providing services outlining:

1. The projected excess capacity of the facilities serving the development at present and

for each phase through completion of the project,

A letter from the City of Edgewater and the Tomoka Landfill evidencing their intention and ability to provide solid waste disposal for the proposed development have been received. A copy of the request is attached.

Since reviewing these letters, the Applicant, the City's Environmental Services Department has indicated some concerns over the City's transfer station capacity at the build out of Restoration.

As to the need for an additional waste transfer station to serve the Restoration project, this need, although originally identified in April of 2007, is new to the Applicant. In the spirit of working together with the City of Edgewater on the apparent need for a new location, the applicant and the planning team will endeavor to accommodate such a facility in that portion of the site plan identified for the utility plant once the specific transfer station needs are identified. However, it's our understanding from the correspondence that adequate landfill capacity exists.

Volusia County
FLORIDA

Solid Waste Division

September 11, 2006

Mr. Jack Weinstein, P.E.
Donald W. McIntosh Associates, Inc.
2200 Park Avenue North
Winter Park, FL 32789-2355

Reference: Landfill Capacity
Restoration DRI, ±6,282-acres Mixed Use Development in the cities of Edgewater (±5,186 acres) and New Smyrna Beach (±1,096 acres)

Dear Mr. Weinstein:

Attached is the Solid Waste Division's engineer of record, certifying that the landfill has adequate capacity for developments that remain in the scope of the referenced population growth projections.

Volusia County Solid Waste Division has determined that the landfill has adequate capacity to serve the above referenced project.

If you need assistance or information, please contact this office at the telephone number listed below.

Sincerely,

Regina Montgomery

Regina Montgomery
Recycling Coordinator

ADM-06-188

cc: Josef Grusauskas, Solid Waste Director

NEEL-SCHAFFER

2600 Lake Lucien Drive, Ste. 117
Maitland, FL 32751-7235
407.647.6623 fax: 407.539.0575
www.neel-schaffer.com

October 11, 2005

Mr. Josef F. Grusauskas, Director
Public Works Solid Waste Division
Volusia County, Florida
3151 E. New York Avenue
Deland, Florida 32724

RE: **Certification of Availability of Disposal Capacity**
Tomoka Farms Road solid Waste Management Facility (TFRSWMF)
Volusia County Solid Waste Management System (SWMS)

Dear Mr. Grusauskas:

Based on the updated analysis of historical solid waste generation rates and the projection of contributing population of the service area, it is estimated that the North Cell and the planned East Cell at the TFRSWMF have sufficient Class I solid waste disposal capacity to support the projected population through April 2016.

SERVICE AREA POPULATION

The service area for the Volusia County SWMS covers Volusia and Flagler Counties. This year, City of Deltona optioned to leave the Volusia County SWMS and dispose of their waste elsewhere. Therefore, the contributing population of the City of Deltona is subtracted from the solid waste service area population projection. For the purpose of capacity utilization projections, it is assumed the solid waste from Flagler County will continue to be disposed in the TFRSWMF.

The annual per capita solid waste capacity utilization was determined based on the historical filling rate of the landfill and actual population of the service area during the past five years. The projected level rate of Class I landfill utilization was determined to be 0.95 cubic yards per capita per year. This includes the affect of the summer 2004 hurricane season on the volume of Class I solid waste disposed in the Volusia County SWMS.

The population for Volusia and Flagler Counties projected by the University of Florida Bureau of Economics and Business Research (BEBR, 2005) were used to project the future solid waste generation. The medium growth rate projection is used in estimating the availability of disposal capacity. The projected population of the solid waste service area is as follows:

Population Projections of Wasteshed Service Areas
Solid Waste Management System
Volusia County, Florida

Year	Class-I Solid Waste Service Area Population				Class III Solid Waste
	Class I Wasteshed Volusia County	*Class I Wasteshed Flagler County*	*Less: Class I Waste City of Deltona*	*Total Class I Solid Waste Population*	*Class III Wasteshed Volusia County*
2005	473,801	67,639	(79,063)	462,377	473,801
2006	480,921	70,579	(79,859)	471,641	480,921
2007	488,041	73,519	(80,655)	480,905	488,041
2008	495,161	76,458	(81,451)	490,168	495,161
2009	502,281	79,398	(82,247)	499,432	502,281
2010	509,401	82,338	(83,043)	508,696	509,401
2011	516,641	85,264	(83,839)	518,066	516,641
2012	523,881	88,204	(84,635)	527,449	523,881
2013	531,120	91,143	(85,431)	536,833	531,120
2014	538,360	94,083	(86,227)	546,216	538,360
2015	545,600	96,967	(87,023)	555,544	545,600
2016	552,840	99,907	(87,819)	564,928	552,840
2017	560,080	102,847	(88,615)	574,311	560,080
2018	567,319	105,786	(89,411)	583,695	567,319
2019	574,559	108,726	(90,207)	593,078	574,559
2020	581,900	111,666	(91,003)	602,563	581,900
2021	589,140	114,606	(91,799)	611,947	589,140
2022	596,380	117,546	(92,595)	621,330	596,380
2023	603,619	120,485	(93,391)	630,714	603,619
2024	610,859	123,425	(94,187)	640,097	610,859
2025	618,200	126,365	(94,983)	649,582	618,200

DISPOSAL CAPACITY UTILIZATION

The current North Cell disposal area has approximately two more years of permitted disposal capacity left based on the topographic mapping conducted in May 2005. The remaining disposal capacity of North Cell is projected to be utilized as follows:

North Cell Class I Landfill - Projected Capacity Utilization
Tomoka Farms Road Solid Waste Management Facility
Volusia County, Florida

Year (Ending 5/30)	Class I Volume Volusia County (CY)	Class I Volume Flagler County (CY)	Total Annual Volume Utilization (CY)	Total Cumulative Volume Utilized (CY)	Capacity Remaining (CY)	Percent Capacity Remaining
2004					1,190,719	100%
2005	523,123	64,000	587,123	587,123	603,596	51%
2006	530,613	66,782	597,395	1,184,518	6,201	1%
2007	538,103	69,564	607,667	1,792,185	Est. Completion Date: June 2007	

The East Cell was designed and permitted by the County to be contiguous with the North Cell. The combined disposal area of North and East Cells is permitted to elevation 192 NGVD. The construction of first segment of East Cell was completed this past year and the County is currently obtaining the certification of completion of construction from Florida Department of Environmental Protection (FDEP). Once the certification of completion of construction is accepted by FDEP, the landfill will be ready for disposal operations. The County is in the process of construction of the second segment of East Cell. The topographic mapping conducted in May 2005 reported that the combined North Cell and East Cell have

6,963,305 cubic yards of disposal capacity remaining. The disposal capacity of the East Cell and the North Cell is projected to be utilized as follows:

East Cell Class I Landfill - Projected Capacity Utilization
Tomoka Farms Road Solid Waste Management Facility
Volusia County, Florida

Year (Ending 5/30)	Class I Volume Volusia County (CY)	Class I Volume Flagler County (CY)	Total Annual Volume Utilization (CY)	Total Cumulative Volume Utilized (CY)	Capacity Remaining (CY)	Percent Capacity Remaining
2004					6,963,305	
2005	523,123	64,000	587,123	587,123	6,376,182	92%
2006	530,613	66,782	597,395	1,184,518	5,778,787	83%
2007	538,103	69,564	607,667	1,792,185	5,171,120	74%
2008	545,593	72,345	617,939	2,410,124	4,553,181	65%
2009	553,084	75,127	628,211	3,038,335	3,924,970	56%
2010	560,574	77,909	638,482	3,676,817	3,286,488	47%
2011	568,177	80,677	648,854	4,325,672	2,637,633	38%
2012	575,781	83,459	659,240	4,984,911	1,978,394	28%
2013	583,384	86,240	669,625	5,654,536	1,308,769	19%
2014	590,988	89,022	680,010	6,334,546	628,759	9%
2015	598,591	91,751	690,342	7,024,888	Est. Completion Date: April 2016	

Therefore, it is certified that the currently permitted disposal capacity of the Volusia county SWMS will be sufficient to support the projected population of the service area through April 2016 provided the construction of East Cell is completed and accepted by FDEP.

As stated, the medium projected population growth rate by BEBR and the rate of disposal capacity utilization reported above is a conservative estimation. The lower growth rate projection by BEBR allows the residual available disposal capacity during the same period to be higher. The per capita disposal capacity utilization also maybe lower in the future due to recycling, economics and environmental conditions. These factors may extend the life of the North and East Cells by 7 to 10 percent.

If you have any questions, please feel free to contact this office.

Very truly yours,
Neel-Shaffer, Inc.

Ron Beladi, P.E.
Vice President
Director of Solid Waste Services

Enclosure- Certified Volume Calculation Survey

CC: Mr. Patrick McCormack, Support Services Manager