

APPENDIX D

ENERGY & UTILITIES WORKSHEETS

INTRODUCTION TO ENERGY SCREENING TABLES

The following worksheets are used to evaluate the potential impacts of a project.

Table 1 Definition of Project

This Table is used to establish the proposed development parameters that are used in the calculation of energy usage. The independent variable to be entered is identified by shading. For residential development, the number of housing units should be entered in the shaded area. For non-residential development, the total floor area of development should be entered in the shaded area.

Table 2 Summary of Project Impacts

Consumption/Generation Rates. This table indicates the development's projected electrical consumption, natural gas consumption, water consumption, effluent generation, and solid waste generation. No modifications should be made to this table.

Tables 3 through 4 Calculation of Project Impacts

Tables 3 through 4 indicate the results of the analysis.

Table 3 Electrical Consumption - This Table calculates the projected electrical consumption for new development. Default generation rates provided in the shaded areas may be changed.

Table 4 Natural Gas Consumption - This Table calculates the projected natural gas usage for new development. Default generation rates provided in the shaded areas may be changed.

Table 1 Project Name: VICT 007 - North Cactus Rd and Mesa Linda - Energy Use

Definition of Project Parameters - Enter independent variable (no. of units or floor area) in the shaded area. The independent variable to be entered is the number of units (for residential development) or the gross floor area (for non-residential development).

Land Use	Independent Variable	Factor
Residential Uses		
	Variable	Total Units
Single-Family Residential	No. of Units	0
Medium Density Residential	No. of Units	0
Multiple-Family Residential	No. of Units	0
Mobile Home	No. of Units	0
Office Uses		
	Variable	Total Floor Area
Office	Sq. Ft.	13,820
Medical Office Building	Sq. Ft.	0
Office Park	Sq. Ft.	0
Bank/Financial Services	Sq. Ft.	0
Commercial Uses		
	Variable	Floor Area/Rooms
Specialty Retail Commercial	Sq. Ft.	0
Convenience Store	Sq. Ft.	0
Movie Theater	Sq. Ft.	0
Shopping Center	Sq. Ft.	0
Sit-Down Restaurant	Sq. Ft.	0
Fast-Food Restaurant	Sq. Ft.	0
Hotel	Rooms	0
Manufacturing Uses		
	Variable	Total Floor Area
Industrial Park	Sq. Ft.	0
Manufacturing	Sq. Ft.	0
General Light Industry	Sq. Ft.	0
Warehouse	Sq. Ft.	160,170
Public/Institutional		
	Variable	Total Floor Area
Public/Institutional	Sq. Ft.	0
Open Space	Sq. Ft.	0

Table 2: Projected Energy Consumption and Generation

Summary of Project Impacts - Results of analysis identified below. No modifications should be made to this Table.

Utilities Consumption and Generation	Factor	Rates

Electrical Consumption	kWh/day	2,893.9
Natural Gas Consumption	cubic feet/day	26,014.6

Table 3: Electrical Consumption

Project Component	Units of Measure	Consumption Factor		Projected Consumption
Residential Uses	No. of Units	kWh	Variable	kWh/Unit/Day
Single-Family Residential	0	5,625.00	kWh/Unit/Year	0.0
Medium Density Residential	0	5,625.00	kWh/Unit/Year	0.0
Multiple-Family Residential	0	5,625.00	kWh/Unit/Year	0.0
Mobile Home	0	4,644.00	kWh/Unit/Year	0.0
Office Uses	Sq. Ft.	kWh	Variable	kWh/Sq. Ft./Day
Office	13,820	20.80	kWh/Sq. Ft./Year	787.6
Medical Office Building	0	14.20	kWh/Sq. Ft./Year	0.0
Office Park	0	20.80	kWh/Sq. Ft./Year	0.0
Bank/Financial Services	0	20.80	kWh/Sq. Ft./Year	0.0
Commercial Uses	Sq. Ft./Rooms	kWh	Variable	kWh/Sq. Ft./Day
Specialty Retail Commercial	0	16.00	kWh/Sq. Ft./Year	0.0
Convenience Store	0	16.00	kWh/Sq. Ft./Year	0.0
Movie Theater	0	16.00	kWh/Sq. Ft./Year	0.0
Shopping Center	0	35.90	kWh/Sq. Ft./Year	0
Sit-Down Restaurant	0	49.10	kWh/Sq. Ft./Year	0.0
Fast-Food Restaurant	0	49.10	kWh/Sq. Ft./Year	0.0
Hotel	0	8,955.00	kWh/Sq. Ft./Year	0.0
Manufacturing Uses	Sq. Ft.	kWh	Variable	kWh/Sq. Ft./Day
Industrial Park	0	4.80	kWh/Sq. Ft./Year	0.0
Manufacturing	0	4.80	kWh/Sq. Ft./Year	0.0
General Light Industry	0	4.80	kWh/Sq. Ft./Year	0.0
Warehouse	160,170	4.80	kWh/Sq. Ft./Year	2,106.3
Public/Institutional	Sq. Ft.	kWh	Variable	kWh/Sq. Ft./Day
Public/Institutional	0	4.80	kWh/Sq. Ft./Year	0.0
Open Space	0	0.00	kWh/Sq. Ft./Year	0.0
Total Daily Electrical Consumption (kWh/day)				2,893.9

Sources:

Residential rates were derived from the SCAQMD's CEQA Air Quality Handbook (April 1993).

All other rates are from Common Forecasting Methodology VII Demand Forms, 1989

Table 4: Natural Gas Consumption

Project Component	Units of Measure	Consumption Factor		Projected Consumption
Residential Uses	No. of Units	Cu. Ft. of Nat. Gas	Variable	Cu. Ft./Day
Single-Family Residential	0	6,665.00	Cu. Ft./Mo./Unit	0.0
Medium Density Residential	0	4,011.50	Cu. Ft./Mo./Unit	0.0
Multiple-Family Residential	0	4,011.50	Cu. Ft./Mo./Unit	0.0
Mobile Home	0	4,011.50	Cu. Ft./Mo./Unit	0.0
Office Uses	Sq. Ft.	Cu. Ft. of Nat. Gas	Variable	Cu. Ft./Day
Office	13,820	2.00	Cu. Ft./Mo./Sq. Ft.	921.3
Medical Office Building	0	2.00	Cu. Ft./Mo./Sq. Ft.	0.0
Office Park	0	2.00	Cu. Ft./Mo./Sq. Ft.	0.0
Bank/Financial Services	0	2.00	Cu. Ft./Mo./Sq. Ft.	0.0
Commercial Uses	Sq. Ft./Rooms	Cu. Ft. of Nat. Gas	Variable	Cu. Ft./Day
Specialty Retail Commercial	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Convenience Store	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Movie Theater	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Shopping Center	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Sit-Down Restaurant	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Fast-Food Restaurant	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Hotel	0	2.90	Cu. Ft./Mo./Room	0.0
Manufacturing Uses	Sq. Ft.	Cu. Ft. of Nat. Gas	Variable	Cu. Ft./Day

Industrial Park	0	4.70	Cu. Ft./Mo./Sq. Ft.	0.0
Manufacturing	0	4.70	Cu. Ft./Mo./Sq. Ft.	0.0
General Light Industry	0	4.70	Cu. Ft./Mo./Sq. Ft.	0.0
Warehouse	160,170	4.70	Cu. Ft./Mo./Sq. Ft.	25,093.3
Public/Institutional Use	Sq. Ft.	Cu. Ft. of Nat. Gas	Variable	Cu. Ft./Day
Public/Institutional	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Open Space	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Total Daily Natural Gas Consumption (cubic feet/day)				26,014.6
Sources:				
South Coast Air Quality Management District, CEQA Air Quality Handbook. April 1993				

INTRODUCTION TO UTILITY SCREENING TABLES

The following worksheets are used to evaluate the potential impacts of a project.

Table 1 Definition of Project

This Table is used to establish the proposed development parameters that are used in the calculation of utilities usage. The independent variable to be entered is identified by shading. For residential development, the number of housing units should be entered in the shaded area. For non-residential development, the total floor area of development should be entered in the shaded area.

Tables 2 Summary of Project Impacts

Consumption/Generation Rates. This table indicates the development's projected electrical consumption, natural gas consumption, water consumption, effluent generation, and solid waste generation. No modifications should be made to this table.

Tables 3 through 5 Calculation of Project Impacts

Tables 3 through 7 indicate the results of the analysis.

Table 3 Water Consumption - This Table calculates the projected water consumption rates for new development. Default generation rates provided in the shaded areas may be changed.

Table 4 Sewage Generation - This Table calculates the projected effluent generation rates for new development. Default generation rates provided in the shaded areas may be changed.

Table 5 Solid Waste Generation - This Table calculates the projected waste generation for new development. Default generation rates provided in the shaded areas may be changed.

Table 1 Project Name: VICT 007 - North Cactus Rd and Mesa Linda - Utilities

Definition of Project Parameters - Enter independent variable (no. of units or floor area) in the shaded area. The independent variable to be entered is the number of units (for residential development) or the gross floor area (for non-residential development).

Land Use	Independent Variable	Factor
Residential Uses		
	Variable	Total Units
Single-Family Residential	No. of Units	0
Medium Density Residential	No. of Units	0
Multiple-Family Residential	No. of Units	0
Mobile Home	No. of Units	0
Office Uses		
	Variable	Total Floor Area
Office	Sq. Ft.	13,820
Medical Office Building	Sq. Ft.	0
Office Park	Sq. Ft.	0
Bank/Financial Services	Sq. Ft.	0
Commercial Uses		
	Variable	Floor Area/Rooms
Specialty Retail Commercial	Sq. Ft.	0
Convenience Store	Sq. Ft.	0
Movie Theater	Sq. Ft.	0
Shopping Center	Sq. Ft.	0
Sit-Down Restaurant	Sq. Ft.	0
Fast-Food Restaurant	Sq. Ft.	0
Hotel	Rooms	0
Manufacturing Uses		
	Variable	Total Floor Area
Industrial Park	Sq. Ft.	0
Manufacturing	Sq. Ft.	0
General Light Industry	Sq. Ft.	0
Warehouse	Sq. Ft.	160,170
Public/Institutional		
	Variable	0
Public/Institutional	Sq. Ft.	0
Open Space	Sq. Ft.	0

Table 2: Projected Utility Consumption and Generation

Summary of Project Impacts - Results of analysis identified below. No modifications should be made to this Table.

Utilities Consumption and Generation	Factor	Rates
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Water Consumption	gallons/day	11,353.7
Sewage Generation	gallons/day	7,569.1
Solid Waste Generation	pounds/day	1,513.2

Table 3: Water Consumption

Project Component	Units of Measure	Consumption Factor		Projected Consumption
Residential Uses				
	No. of Units	Gals. of Water	Variable	Gals./Day
Single-Family Residential	0	390.000	Gals./Day/Unit	0.0
Medium Density Residential	0	300.000	Gals./Day/Unit	0.0
Multiple-Family Residential	0	234.000	Gals./Day/Unit	0.0
Mobile Home	0	234.000	Gals./Day/Unit	0.0
Office Uses				
	Sq. Ft.	Gals. of Water	Variable	Gals./Day
Office	13,820	0.300	Gals./Day/Sq. Ft.	4,146.0
Medical Office Building	0	0.300	Gals./Day/Sq. Ft.	0.0
Office Park	0	0.300	Gals./Day/Sq. Ft.	0.0
Bank/Financial Services	0	0.150	Gals./Day/Sq. Ft.	0.0
Commercial Uses				
	Sq. Ft./Room	Gals. of Water	Variable	Gals./Day
Specialty Retail Commercial	0	0.150	Gals./Day/Sq. Ft.	0.0
Convenience Store	0	0.150	Gals./Day/Sq. Ft.	0.0
Movie Theater	0	0.195	Gals./Day/Sq. Ft.	0.0
Shopping Center	0	0.495	Gals./Day/Sq. Ft.	0.0
Sit-Down Restaurant	0	1.500	Gals./Day/Sq. Ft.	0.0
Fast-Food Restaurant	0	0.120	Gals./Day/Sq. Ft.	0.0
Hotel	0	187.500	Gals./Day/Room.	0.0
Manufacturing Uses				
	Sq. Ft.	Gals. of Water	Variable	Gals./Day
Industrial Park	0	0.300	Gals./Day/Sq. Ft.	0.0
Manufacturing	0	0.300	Gals./Day/Sq. Ft.	0.0
General Light Industry	0	0.300	Gals./Day/Sq. Ft.	0.0
Warehouse	160,170	0.045	Gals./Day/Sq. Ft.	7,207.7
Public/Institutional Use				
	Sq. Ft.	Gals. of Water	Variable	Gals./Day
Public/Institutional	0	0.120	Gals./Day/Sq. Ft.	0.0
Open Space	0	0.120	Gals./Day/Sq. Ft.	0.0
Total Daily Water Consumption (gallons/day)				11,353.7

Source: Derived from Los Angeles County Sanitation District rates (150% of effluent generation).

Table 4: Sewage Generation

Project Component	Units of Measure	Generation Factor		Projected Consumption
Residential Uses				
	# of Units	Gals. of Effluent	Variable	Gals./Day
Single-Family Residential	0	260.00	Gals./Day/Unit	0.0
Medium Density Residential	0	200.00	Gals./Day/Unit	0.0
Multiple-Family Residential	0	156.00	Gals./Day/Unit	0.0
Mobile Home	0	156.00	Gals./Day/Unit	0.0
Office Uses				
	Sq. Ft.	Gals. of Effluent	Variable	Gals./Day
Office	13,820	0.20	Gals./Day/Sq. Ft.	2,764.0
Medical Office Building	0	0.20	Gals./Day/Sq. Ft.	0.0
Office Park	0	0.20	Gals./Day/Sq. Ft.	0.0
Bank/Financial Services	0	0.10	Gals./Day/Sq. Ft.	0.0
Commercial Uses				
	Sq. Ft./# Rooms	Gals. of Effluent	Variable	Gals./Day
Specialty Retail Commercial	0	0.10	Gals./Day/Sq. Ft.	0.0
Convenience Store	0	0.10	Gals./Day/Sq. Ft.	0.0
Movie Theater	0	0.13	Gals./Day/Sq. Ft.	0.0
Shopping Center	0	0.33	Gals./Day/Sq. Ft.	0.0
Sit-Down Restaurant	0	1.00	Gals./Day/Sq. Ft.	0.0
Fast-Food Restaurant	0	0.08	Gals./Day/Sq. Ft.	0.0
Hotel	0	125.00	Gals./Day/Room.	0.0
Manufacturing Uses				
	Sq. Ft.	Gals. of Effluent	Variable	Gals./Day
Industrial Park	0	0.20	Gals./Day/Sq. Ft.	0.0
Manufacturing	0	0.20	Gals./Day/Sq. Ft.	0.0
General Light Industry	0	0.20	Gals./Day/Sq. Ft.	0.0

Warehouse	160,170	0.03	Gals./Day/Sq. Ft.	4,805.1
Public/Institutional Use	Sq. Ft.	Gals. of Effluent	Variable	Gals./Day
Public/Institutional	0	0.10	Gals./Day/Sq. Ft.	0.0
Open Space	0	0.10	Gals./Day/Sq. Ft.	0.0
Total Daily Sewage Generation (gallons/day)				7,569.1
Source: Los Angeles County Sanitation Districts.				

Table 5: Solid Waste Generation				
Project Component	Units of Measure	Generation Factor		Projected Generation
Residential Uses				
	# of Units	Lbs. of Waste	Variable	Lbs./Day
Single-Family Residential	0	12.23	Lbs./Day/Unit	0.0
Medium Density Residential	0	12.23	Lbs./Day/Unit	0.0
Multiple-Family Residential	0	12.23	Lbs./Day/Unit	0.0
Mobile Home	0	12.23	Lbs./Day/Unit	0.0
Office Uses				
	Sq. Ft.	Lbs. of Waste	Variable	Lbs./Day
Office	13,820	6.00	Lbs./Day/1,000 Sq. Ft.	82.9
Medical Office Building	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Office Park	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Bank/Financial Services	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Commercial Uses				
	Sq. Ft./# Rooms	Lbs. of Waste	Variable	Lbs./Day
Specialty Retail Commercial	0	42.00	Lbs./Day/1,000 Sq. Ft.	0.0
Convenience Store	0	42.00	Lbs./Day/1,000 Sq. Ft.	0.0
Movie Theater	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Shopping Center	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Sit-Down Restaurant	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Fast-Food Restaurant	0	42.00	Lbs./Day/1,000 Sq. Ft.	0.0
Hotel	0	6.00	Lbs./Day/Room	0.0
Manufacturing Uses				
	Sq. Ft.	Lbs. of Waste	Variable	Lbs./Day
Industrial Park	0	8.93	Lbs./Day/1,000 Sq. Ft.	0.0
Manufacturing	0	8.93	Lbs./Day/1,000 Sq. Ft.	0.0
General Light Industry	0	8.93	Lbs./Day/1,000 Sq. Ft.	0.0
Warehouse	160,170	8.93	Lbs./Day/1,000 Sq. Ft.	1,430.3
Public/Institutional Use				
	Sq. Ft.	Lbs. of Waste	Variable	Lbs./Day
Public/Institutional	0	4.00	Lbs./Day/1,000 Sq. Ft.	0.0
Open Space	0	3.00	Lbs./Day/1,000 Sq. Ft.	0.0
Total Daily Solid Waste Generation				1,513.2
Source: City of Los Angeles CEQA Thresholds Guide, 2006, and City of Los Angeles Average Solid Waste Generation Rates, April 1981				