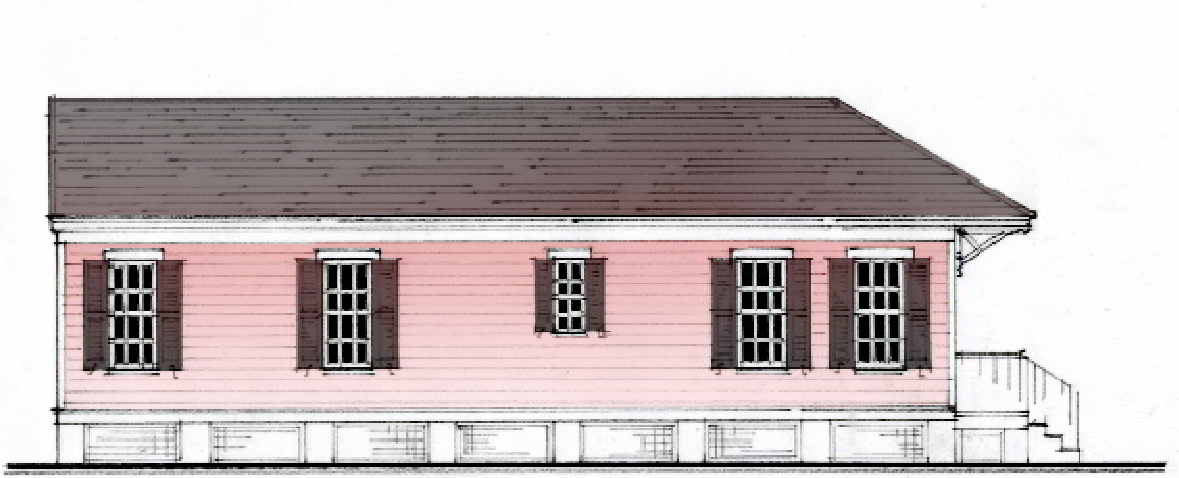
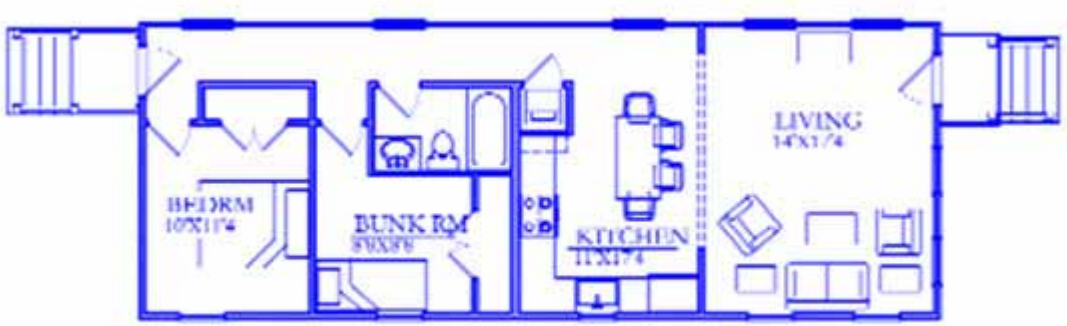
APPENDIX C
AHPP Cottage Designs

Cypress Realty Partners

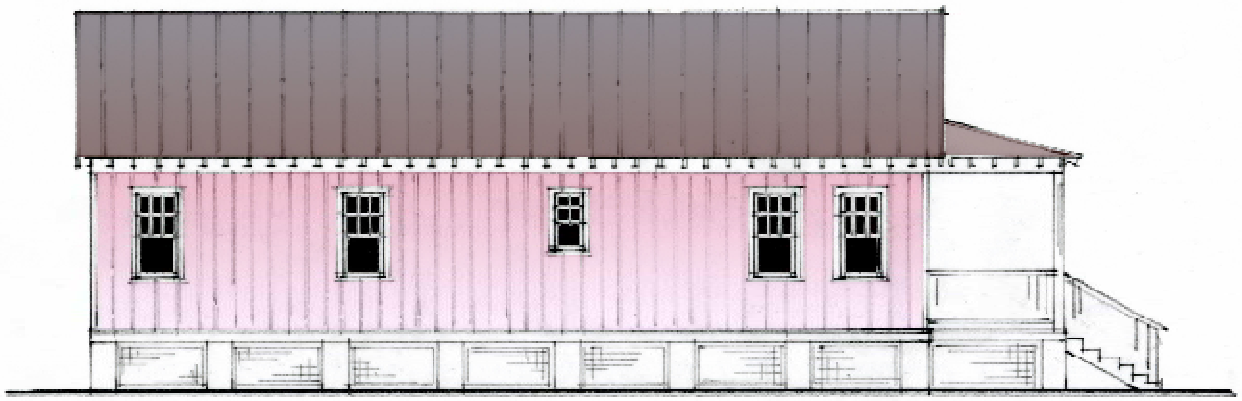


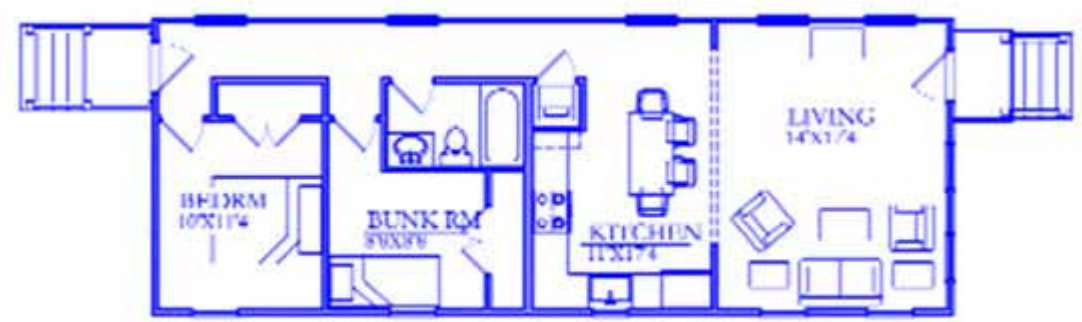


874 Sq. Ft. Unit

2 bed / 1 bath

Cypress Realty Partners

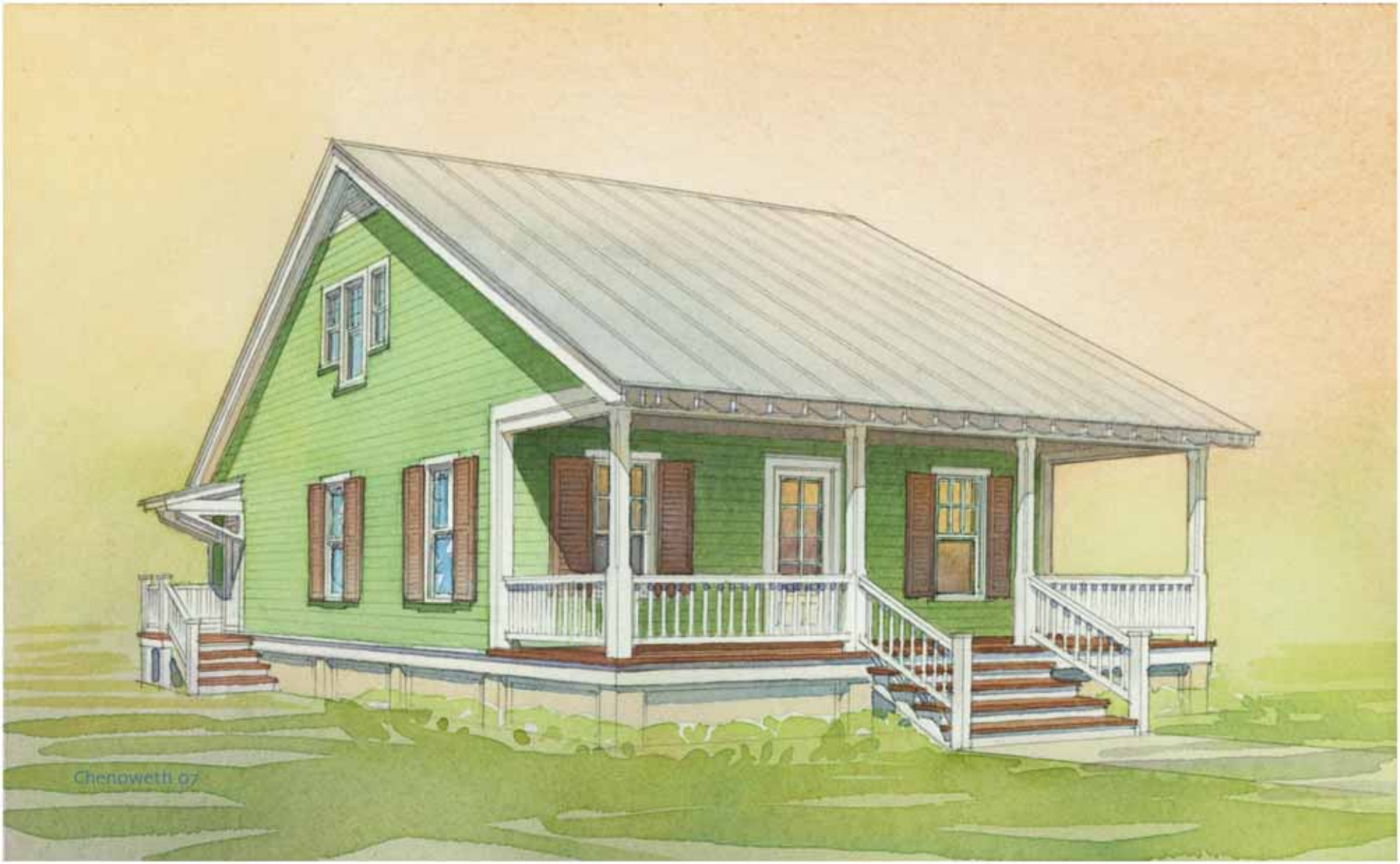




874 Sq. Ft. Unit

2 bed / 1 bath

Cypress Realty Partners



910 Sq. Ft. Unit

3 bed / 1 bath

Cypress Realty Partners

Option allows for expansion to 1,525 square feet living area

910 Sq. Ft. Unit

3 bed / 1 bath

Cypress Realty Partners

Option allows for expansion to 1,525 square feet living area

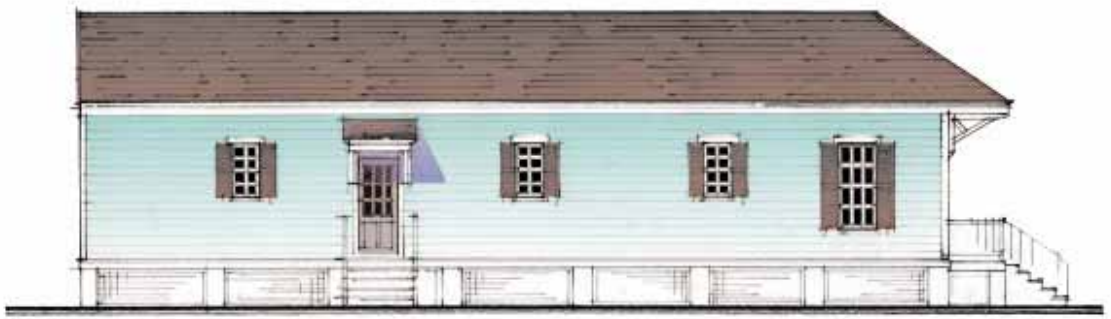
936 Sq. Ft. Unit

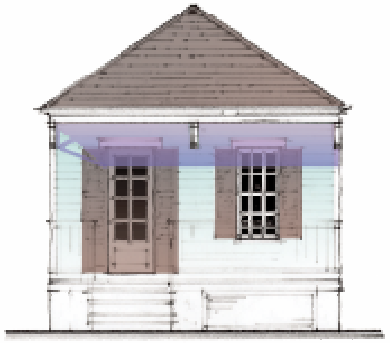
936 Sq. Ft. Unit

2 bed / 2 bath

1080 Sq. Ft. Unit

3 bed / 2 bath





1080 Sq. Ft. Unit

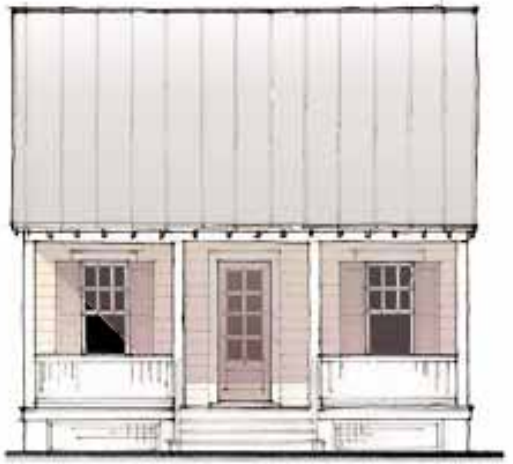
3 bed / 2 bath

Cypress Realty Partners

1112 Sq. Ft. Unit

3 bed / 2 bath

Cypress Realty Partners



1112 Sq. Ft. Unit

3 bed / 2 bath

Cypress Realty Partners

Cypress Realty Partners

APPENDIX D
Air Quality Calculations

CALCULATION SHEET-COMBUSTIBLE EMISSIONS

Assumptions for Combustible Emissions					
Type of Construction Equipment	Num. of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs
Water Truck	1	300	8	240	576000
Diesel Road Compactors	1	100	8	160	128000
Diesel Dump Truck	2	300	8	160	768000
Diesel Excavator	1	300	8	160	384000
Diesel Hole Trenchers	1	175	8	160	224000
Diesel Bore/Drill Rigs	1	300	8	160	384000
Diesel Cement & Mortar Mixers	1	300	8	240	576000
Diesel Cranes	1	175	8	240	336000
Diesel Graders	1	300	8	160	384000
Diesel Tractors/Loaders/Backhoes	2	100	8	160	256000
Diesel Bull Dozers	1	300	8	160	384000
Diesel Front End Loaders	1	300	8	160	384000
Diesel Fork Lifts	2	100	8	160	256000
Diesel Generator Set	12	40	8	160	614400

Emission Factors							
Type of Construction Equipment	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM-10 g/hp-hr	PM-2.5 g/hp-hr	SO2 g/hp-hr	CO2 g/hp-hr
Water Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Road Compactors	0.370	1.480	4.900	0.340	0.330	0.740	536.200
Diesel Dump Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Excavator	0.340	1.300	4.600	0.320	0.310	0.740	536.300
Diesel Trenchers	0.510	2.440	5.810	0.460	0.440	0.740	535.800
Diesel Bore/Drill Rigs	0.600	2.290	7.150	0.500	0.490	0.730	529.700
Diesel Cement & Mortar Mixers	0.610	2.320	7.280	0.480	0.470	0.730	529.700
Diesel Cranes	0.440	1.300	5.720	0.340	0.330	0.730	530.200
Diesel Graders	0.350	1.360	4.730	0.330	0.320	0.740	536.300
Diesel Tractors/Loaders/Backhoes	1.850	8.210	7.220	1.370	1.330	0.950	691.100
Diesel Bull Dozers	0.360	1.380	4.760	0.330	0.320	0.740	536.300
Diesel Front End Loaders	0.380	1.550	5.000	0.350	0.340	0.740	536.200
Diesel Fork Lifts	1.980	7.760	8.560	1.390	1.350	0.950	690.800
Diesel Generator Set	1.210	3.760	5.970	0.730	0.710	0.810	587.300

CALCULATION SHEET-COMBUSTIBLE EMISSIONS

Emission factors (EF) were generated from the NONROAD2005 model for the 2006 calendar year. The VOC EFs includes exhaust and evaporative emissions. The VOC evaporative components included in the NONROAD2005 model are diurnal, hotsoak, running loss, tank permeation, hose permeation, displacement, and spillage. The construction equipment age distribution in the NONROAD2005 model is based on the population in U.S. for the 2006 calendar year.

Emission Calculations							
Type of Construction Equipment	VOC tons/yr	CO tons/yr	NOx tons/yr	PM-10 tons/yr	PM-2.5 tons/yr	SO2 tons/yr	CO2 tons/yr
Water Truck	0.279	1.314	3.485	0.260	0.254	0.470	340.227
Diesel Road Paver	0.052	0.209	0.691	0.048	0.047	0.104	75.634
Diesel Dump Truck	0.372	1.752	4.646	0.347	0.339	0.626	453.636
Diesel Excavator	0.144	0.550	1.947	0.135	0.131	0.313	226.945
Diesel Hole Cleaners\Trenchers	0.126	0.602	1.434	0.114	0.109	0.183	132.261
Diesel Bore/Drill Rigs	0.254	0.969	3.026	0.212	0.207	0.309	224.152
Diesel Cement & Mortar Mixers	0.387	1.473	4.621	0.305	0.298	0.463	336.228
Diesel Cranes	0.163	0.481	2.118	0.126	0.122	0.270	196.318
Diesel Graders	0.148	0.576	2.002	0.140	0.135	0.313	226.945
Diesel Tractors/Loaders/Backhoes	0.522	2.316	2.037	0.386	0.375	0.268	194.968
Diesel Bull Dozers	0.152	0.584	2.014	0.140	0.135	0.313	226.945
Diesel Front End Loaders	0.161	0.656	2.116	0.148	0.144	0.313	226.903
Diesel Aerial Lifts	0.559	2.189	2.415	0.392	0.381	0.268	194.883
Diesel Generator Set	0.819	2.546	4.042	0.494	0.481	0.548	397.643
Total Emissions	**4.139**	**16.217**	**36.593**	**3.247**	**3.158**	**4.763**	**3453.688**

Conversion factors	
Grams to tons	1.102E-06

CALCULATION SHEET-TRANSPORTATION COMBUSTIBLE EMISSIONS

Construction Worker Personal Vehicle Commuting to Construction Site-Passenger and Light Duty Trucks									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	60	240	30	30	0.65	0.77	1.41
CO	12.4	15.7	60	240	30	30	5.90	7.47	13.38
NOx	0.95	1.22	60	240	30	30	0.45	0.58	1.03
PM-10	0.0052	0.0065	60	240	30	30	0.00	0.00	0.01
PM 2.5	0.0049	0.006	60	240	30	30	0.00	0.00	0.01
							-		

Heavy Duty Trucks Delivery Supply Trucks to Construction Site									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	10,000-19,500 lb Delivery Truck	33,000-60,000 lb semi trailer rig	Mile/day	Day/yr	Number of trucks	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	0.29	0.55	60	240	8	8	0.04	0.07	0.11
CO	1.32	3.21	60	240	8	8	0.17	0.41	0.58
NOx	4.97	12.6	60	240	8	8	0.63	1.60	2.23
PM-10	0.12	0.33	60	240	8	8	0.02	0.04	0.06
PM 2.5	0.13	0.36	60	240	8	8	0.02	0.05	0.06

	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of Cars	Number of trucks	Total Emissions cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	30	240			-	0.00	-
CO	12.4	15.7	30	240			-	0.00	-
NOx	0.95	1.22	30	240			-	0.00	-
PM-10	0.0052	0.0065	30	240			-	0.00	-
PM 2.5	0.0049	0.006	30	240			-	0.00	-

Truck Emission Factor Source: USEPA 2005 Emission Facts: Average annual emissions and fuel consumption for gasoline-fueled passenger cars and light trucks. EPA 420-F-05-022 August 2005. Emission rates were generated using MOBILE.6 highway vehicle emission factor model.

CALCULATION SHEET-FUGITIVE DUST

Construction Fugitive Dust Emissions

Construction Fugitive Dust Emission Factors

	Emission Factor	Units	Source
General Construction Activities	0.19	ton PM10/acre-month	MRI 1996; EPA 2001; EPA 2006
New Road Construction	0.42	ton PM10/acre-month	MRI 1996; EPA 2001; EPA 2006

PM2.5 Emissions

PM2.5 Multiplier	0.10	(10% of PM10 emissions assumed to be PM2.5)	EPA 2001; EPA 2006
Control Efficiency	0.50	(assume 50% control efficiency for PM10 and PM2.5 emissions)	EPA 2001; EPA 2006

Project Assumptions

Construction Area (0.19 ton PM10/acre-month)

Duration of Construction Project	12	months
Length	0	miles
Length (converted)	0	feet
Width	0	feet
Area	6.50	acres/month

Staging Areas

Duration of Construction Project		months
Length		miles
Length (converted)		feet
Width		feet
Area	0.00	acres

Conversion Factors

0.000022957	acres per feet
5280	feet per mile

Assumptions: 160 lots in Orleans Parish; Average Size: 0.5 acre; Construction Time: 1 month/unit; 13 units/month; 12 months to complete 160 units.

	Project Emissions (tons/year)			
	PM10 uncontrolled	**PM10 controlled**	**PM2.5 uncontrolled**	**PM2.5 controlled**
Construction Area (0.19 ton PM10/ac	14.82	7.41	1.48	0.74
Staging Areas	0.00	0.00	0.00	0.00
Total	**14.82**	**7.41**	**1.48**	**0.74**

Construction Fugitive Dust Emission Factors

General Construction Activities Emission Factor

0.19 ton PM10/acre-month Source: MRI 1996; EPA 2001; EPA 2006

The area-based emission factor for construction activities is based on a study completed by the Midwest Research Institute (MRI) Improvement of Specific Emission Factors (BACM Project No. 1), March 29, 1996. The MRI study evaluated seven construction projects in Nevada and California (Las Vegas, Coachella Valley, South Coast Air Basin, and the San Joaquin Valley). The study determined an average emission factor of 0.11 ton PM10/acre-month for sites without large-scale cut/fill operations. A worst-case emission factor of 0.42 ton PM10/acre-month was calculated for sites with active large-scale earth moving operations. The monthly emission factors are based on 168 work-hours per month (MRI 1996). A subsequent MRI Report in 1999, Estimating Particulate Matter Emissions From Construction Operations, calculated the 0.19 ton PM10/acre-month emission factor by applying 25% of the large-scale earthmoving emission factor (0.42 ton PM10/acre-month) and 75% of the average emission factor (0.11 ton PM10/acre-month).

The 0.19 ton PM10/acre-month emission factor is referenced by the EPA for non-residential construction activities in recent procedures documents for the National Emission Inventory (EPA 2001; EPA 2006). The 0.19 ton PM10/acre-month emission factor represents a refinement of EPA's original AP-42 area-based total suspended particle (TSP) emission factor in Section 13.2.3 Heavy Construction Operations. In addition to the EPA, this methodology is also supported by the South Coast Air Quality Management District and the Western Regional Air Partnership (WRAP) which is funded by the EPA and is administered jointly by the Western Governor's Association and the National Tribal Environmental Council. The emission factor is assumed to encompass a variety of non-residential construction activities including building construction (commercial, industrial, institutional, governmental), public works, and travel on unpaved roads. The EPA National Emission Inventory documentation assumes that the emission factors are uncontrolled and recommends a control efficiency of 50% for PM10 and PM2.5 in PM nonattainment areas.

New Road Construction Emission Factor

0.42 ton PM10/acre-month Source: MRI 1996; EPA 2001; EPA 2006

The emission factor for new road construction is based on the worst-case conditions emission factor from the MRI 1996 study described above (0.42 tons PM10/acre-month). It is assumed that road construction involves extensive earthmoving and heavy construction vehicle travel resulting in emissions that are higher than other general construction projects. The 0.42 ton PM10/acre-month emission factor for road construction is referenced in recent procedures documents for the EPA National Emission Inventory (EPA 2001; EPA 2006).

PM2.5 Multiplier **0.10**

PM2.5 emissions are estimated by applying a particle size multiplier of 0.10 to PM10 emissions. This methodology is consistent with the procedures documents for the National Emission Inventory (EPA 2006).

Control Efficiency for PM10 and PM2.5 **0.50**

The EPA National Emission Inventory documentation recommends a control efficiency of 50% for PM10 and PM2.5 in PM nonattainment areas. Wetting controls will be applied during project construction (EPA 2006).

References:

EPA 2001. *Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985-1999.* EPA-454/R-01-006. Office of Air Quality Planning and Standards, United States Environmental Protection Agency. March 2001.

EPA 2006. *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants.* Prepared for: Emissions Inventory and Analysis Group (C339-02) Air Quality Assessment Division Office of Air Quality Planning and Standards, United States Environmental Protection Agency. July 2006.

MRI 1996. *Improvement of Specific Emission Factors (BACM Project No. 1).* Midwest Research Institute (MRI). Prepared for the California South Coast Air Quality Management District, March 29, 1996.

CALCULATION SHEET-SUMMARY OF EMISSIONS

Proposed Action Construction Emissions for Criteria Pollutants (tons per year)						
Emission source	VOC	CO	NOx	PM-10	PM-2.5	SO2
Combustible Emissions	4.14	16.22	36.59	3.25	3.16	4.76
Construction Site-fugitive PM-10	NA	NA	NA	7.41	0.74	NA
Construction Workers Commuter & Trucking	1.52	13.95	3.26	0.06	0.07	NA
Total emissions	**5.66**	**30.17**	**39.86**	**10.72**	**3.97**	**4.76**
De minimis threshold	NA	NA	NA	NA	NA	NA

APPENDIX E
Floodplain Eight Step Planning Process and Public Notice

Programmatic Environmental Assessment
Orleans Parish Permanent Housing
Eight-Step Planning Process for Floodplains and Wetlands

Step 1: Determine whether the Proposed Action is located in a wetland and/or the 100-year floodplain, or whether it has the potential to affect or be affected by a floodplain or wetland.	**Project Analysis:** According to flood insurance rate map (FIRM) and preliminary DFIRM data (2008) the majority of Orleans Parish (greater than 75 percent) lies within flood hazard areas (100-year floodplains). The proposed project has the potential to locate and construct AHPP housing within the 100-year floodplain. It is not anticipated that wetlands would be impacted by the proposed AHPP housing sites as the sites would be located in areas that are previously disturbed and where there are currently adjacent residential developments.
Step 2: Notify public at earliest possible time of the intent to carry out an action in a floodplain or wetland, and involve the affected and interested public in the decision-making process.	**Project Analysis:** A final public notice was previously issued by FEMA notifying the public regarding floodplain impacts from various proposed housing actions within the 100-year floodplains in Orleans and St. Bernard parishes. In addition, FEMA and the Louisiana Recovery Authority (LRA) will notify the public of the availability of the draft Programmatic Environmental Assessment (PEA) which evaluates all natural resource impacts from the proposed project, including floodplains.
Step 3: Identify and evaluate practicable alternatives to locating the Proposed Action in a floodplain or wetland.	**Project Analysis:** The Applicant considered the following alternatives in selecting the proposed action: *Alternative 1. No Action:* Under the No Action Alternative, no AHPP housing would be provided for families displaced from their homes. Rental resources are very limited in the affected area, and people displaced by Hurricanes Katrina and Rita would remain in housing provided by family members or friends, in hotels, in temporary "dormitories" such as homeless shelters or churches, or in facilities damaged by the storm and determined structurally unsafe or unsanitary. Although no new construction would occur in the 100-year floodplain, permanent housing for Louisiana residents would remain inadequate. *Alternative 2. Proposed Action Alternative:* Alternative 2 would install AHPP units on previously disturbed land. Previously disturbed land would include land that was previously residential or commercial. The site would be cleared of all debris and vegetation, then grubbed, contoured, and graded, if necessary. Projects under this alternative may require ground disturbing activities, including the demolition of former housing structures, slab/foundation removal, and

Step 3, continued	the modification of utilities (*i.e.,* utility lines and septic systems) and entryways (driveways, sidewalks, *etc.*). All units would be located outside of the preliminary DFIRM Zone V or Zone VE also called the Coastal High Hazard Area (CHHA). If AHPP units were within the 100-year floodplain, they would be elevated at or above the preliminary DFIRM elevation, where applicable.
Step 4: Identify the full range of potential direct or indirect impacts associated with the occupancy or modification of floodplains and wetlands, and the potential direct and indirect support of floodplain and wetland development that could result from the Proposed Action.	**Project Analysis:** The placement of AHPP units in the floodplain would be considered a direct, permanent, and minor impact. The scattered placement of AHPP housing throughout Orleans Parish and the use of a pier system to elevate units would not likely result in the modification of existing floodplains or present an evident increase in flood velocities or elevations upstream or downstream from the proposed project sites. Floodplains are an important asset. They provide open space, aesthetic pleasure, and areas for active and passive uses. Undisturbed marshes and wetlands provide a wide range of benefits to the human and natural systems. They provide flood storage and conveyance, reduce flood velocities and flood peaks. Developments within floodplains can cause a reduction in floodplain capacity. Debris from nearby developments can become entangled in culverts and shallow streambeds, canals or drainage ditches and impede drainage causing the flow of water to back up. In addition, development in the 100-year floodplain has inherent risk associated with such development; and although homes in the 100-year floodplain may require that they be elevated, these homes and the individuals residing in them are more vulnerable to damage than those structures and individuals residing outside of the 100- and 500-year floodplains. Impacts to wetlands are not anticipated.
Step 5: Minimize the potential adverse impacts from work within floodplains and wetlands (identified under Step 4), restore and preserve the natural and beneficial values served by wetlands.	**Project Analysis:** To minimize impacts to the floodplain, the proposed AHPP cottages would be constructed on previously developed sites which may have been previously filled and graded. In addition, AHPP units located within the 100-year floodplain would be elevated on piers at or above the required preliminary DFIRM elevation. The LRA does not propose the use of additional fill material to elevate units within the floodplain.

Step 6: Re-evaluate the Proposed Action to determine: 1) if it is still practicable in light of its exposure to flood hazards; 2) the extent to which it will aggravate the hazards to others; 3) its potential to disrupt floodplain and wetland values.	**Project Analysis:** The Proposed Action remains practicable; as it increases permanent affordable housing in Louisiana, would only minimally (if at all) increase nearby flood elevations, and preserves abundant nearby floodplains retaining their natural values.
Step 7: If the agency decides to take an action in a floodplain or wetland, prepare and provide the public with a finding and explanation of any final decision that the floodplain or wetland is the only practicable alternative. The explanation should include any relevant factors considered in the decision-making process.	**Project Analysis:** Executive (EO) 11988 (Floodplain Management) requires Federal agencies to avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. FEMA applies the decision process described in 44 CFR Part 9, referred to as the Eight-Step Planning Process, to ensure that its actions are consistent with EO 11988. A final public notice for Orleans Parish was published in November 2007 informing the public of FEMA's decision to proceed with the AHPP projects.
Step 8: Review the implementation and post-implementation phases of the Proposed Action to ensure that the requirements of the EOs are fully implemented. Oversight responsibility shall be integrated into existing processes.	**Project Analysis:** This step is integrated into the NEPA process and FEMA project management and oversight functions.

FINAL PUBLIC NOTICE

FEMA-1603-DR-LA AND FEMA-1607-DR-LA

Proposed Federal Funding in the 100-year Floodplain

Public Notice is hereby given by the Federal Emergency Management Agency (FEMA) per 44 Code of Federal Regulations Part 9 (Floodplain Management and Protection of Wetlands), FEMA's implementing regulation for Executive Order 11988, Floodplain Management, of its intent to provide alternative pilot housing assistance under the Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery of 2006, Pub. L. No. 109-234, to the Louisiana Housing Finance Agency (applicant).

Section 2403 of the Emergency Supplemental Appropriations Acts provided for "the costs sufficient for alternative housing pilot programs in the areas hardest hit by Hurricane Katrina and other hurricanes of the 2005 season." FEMA awarded the applicant with $74,542,370 under this program after a competitive grant process.

After the Presidential disaster declarations FEMA-1603-DR-LA and FEMA-1603-DR-LA, FEMA published an initial floodplain notice providing information on the agency's disaster assistance actions in the 100-year floodplain (areas that have been determined to have a one percent probability of flooding in any given year).

This publication provides final notice for the construction of alternative pilot housing projects that would be located in the 100-year floodplain, in the parishes of Orleans and St. Bernard. FEMA has determined that for housing actions located in the aforementioned parishes, there are typically no practicable alternatives outside the floodplain because much of the parish area is in the floodplain. The applicant will ensure appropriate elevation of housing units through open works (columns, piers, piles, etc.) or fill. The applicant will ensure that construction meets the applicable State or local floodplain standards. Other mitigation measures may be incorporated on an action-by-action basis.

Maps of the area are available for public inspection upon request. Maps can also be accessed through the internet at http://www.fema.gov/plan/ehp/noma/resources4.shtm#katrina and http://www.fema.gov/hazard/flood/recoverydata/katrina/katrina_la_maps.shtm.

This constitutes final notice and FEMA is accepting comments to its above determination. The public comment period will be limited to the 7 days from November 30, 2007 to December 6 2007. Written comments can be faxed to (504) 762-2888; and verbal comments will be accepted at (504) 762-2425; between 8:00 am and 5:00 pm.