4.6 Measures and Controls to Limit Adverse Impacts During Construction

Sections 4.1 through 4.5 and Section 4.7S identify potential adverse environmental impacts that may result from construction of STP 3 & 4 and measures and controls to limit those impacts. The proposed measures and controls comply with:

- Applicable local, state, and federal ordinances, laws, and regulations intended to prevent or minimize adverse environmental effects.
- Applicable requirements of environmental permits and licenses.
- STP procedures and processes.

Table 4.6-1 is a summary of the adverse impacts due to construction of STP 3 & 4, as identified in previous sections, the significance level of the impacts, and the possible mitigation measures to be implemented beyond those identified above.

Table 4.6-2 provides estimates of the construction and preconstruction related environmental impacts and a summary of the basis for the estimates. The estimated percentages of construction versus preconstruction related impacts presented in the table were based primarily on two criteria; first, the land area associated with the construction of structures, systems, and components (SSCs) and second, the labor hours associated with the construction of the SSCs. These criteria are named “Land Area Disturbance Basis” and “Labor Hours Basis”.

The calculation of the estimated percentages was based upon an assessment of the differences for construction versus preconstruction impacts for each individual impact listed in the Table 4.6-2. These two criteria are defined as follows:

Land Area Disturbance Basis:

The STP site consists of approximately 12,220 acres, exclusive of off-site linear facilities (heavy haul road, water pipelines, electric transmission lines, and rail corridors) or other supporting facilities. Approximately 540 acres would be disturbed for long-term or short-term construction activities associated with the construction of STP Units 3 and 4 and their supporting facilities. Of these disturbed areas, approximately 210 acres will be developed for SSCs that meet the criteria in 10 CFR 50.10(a)(1), which will constitute “construction” activities. The area that will be developed for the construction of these SSCs therefore represents approximately 40 percent of the total area that will ultimately be disturbed. The estimated impact percentages based upon the land area disturbance were calculated based upon the specific type of impact and the relative impact for construction and preconstruction.

Labor Hours Basis:

Based on preliminary construction estimates for all phases of development of the STP site, the estimated labor hours associated with the construction of SSCs that meet the criteria in 10 CFR 50.10(a)(1) is approximately 90 percent of the total labor hours associated with the development of the entire STP site. The estimated impact

percentages based upon the labor hours were calculated based upon the specific type of impact and the relative impact for construction and preconstruction.

Table 4.6-1 Summary of Potentially Adverse Impacts of Construction

Impact	Description of Potential Impact	Potential Impact Significance [1]	Planned Control Program
4.0 Land Use Impacts			
4.1.1 The Site and Vicinity	Ground-disturbing activities including installation of a slurry wall, excavating and recontouring the landscape.[2]	S	Conduct construction activities using best management practices (BMP) in accordance with regulatory and permit requirements. Implement environmental controls required in the SWPPP (Storm Water Pollution Prevention Plan) such as weekly compliance inspections, documentation of runoff controls, etc.
	Removal of vegetation within the temporary and permanent impact areas.[2]	S	Clean up and dispose of waste debris at designated location. Temporary impact area will be graded, landscaped to match the surrounding area, and revegetated.
	Stockpiling of soils on site including spoil mounds and borrow pit soils.[2]	S	Restrict stockpiling to designated areas. Stabilize all loose soils on site through the use of approved erosion control methodologies and soil erosion and sediment control plan.
	Construction of new permanent structures and the creation of impervious surface within the existing STP Site (i.e., the haul road and the parking area). The site is designated for industrial land use. [2]	S	Restrict construction to the designated areas within the STP site.
	Impacts to wetlands and other surface waters e.g. removal of onsite drainage ditch.	S	Avoid wetlands. Use appropriate erosion control measures to prevent turbid water, soil deposition, vegetation removal, etc., from impacting drainage features, wetlands and downstream areas through the approved SWPPP.
	Construction activities conducted within the Coastal Management Zone.[2]	S-M	Proposed project is consistent with the Texas Coastal Management Plan.
	Construction activities (e.g., crossing of a pipeline, installation of discharge pipe, etc.) conducted within the designated flood zone and other sensitive areas.	S	Avoid these areas where possible. Comply with regulatory and permit requirements.

Table 4.6-1 Summary of Potentially Adverse Impacts of Construction (Continued)

	Potential short-term land use changes in the vicinity of the project due to development of employee housing.[2]	S-M	The temporary housing facilities, if constructed, would be converted to pre-project conditions upon completion of construction.
	The increase in traffic during shift change and increased truck deliveries will impact traffic on existing roads during peak times.	S	Stagger work shifts and truck delivery times to reduce the additional traffic during peak hours.
4.1.2 Transmission Corridors and Off-Site Areas	Potential short-term physical land use changes due to the addition of a 345 Kilovolt switchyard and rerouting of one 345 kV transmission line that is currently connected to Bay No. 1 of the existing switchyard for STP 1 & 2.	S	Minimization of land use impacts through the use of existing access points and ROW roads. Limit construction activities associated with the new onsite switchyard and connecting transmission lines to those areas previously disturbed for construction activities associated with STP 1 & 2.
4.1.3 Historic Properties	Ground-disturbing activities including grading, excavation, recontouring, and construction may expose historic resources.	S	Take appropriate actions as required by site procedures following discovery of potential historic or archaeological resources.

Table 4.6-1 Summary of Potentially Adverse Impacts of Construction (Continued)

4.2 Water-Related Impacts			
4.2.1 Hydrologic Alterations	Impacts to onsite surface water drainage flows by diverting or filling several unnamed onsite drainage features.[2]	S	New drainage ditches and other features such as sediment filters would be used to accommodate surface water runoff from altered drainage areas and the newly constructed impervious areas. Avoid all wetlands. Appropriate erosion control measures will be taken on all drainage features and wetlands to prevent turbid water, soil deposition, vegetation removal, etc., from occurring within those areas or downstream areas through the approved SWPPP.
	Increase in surface water as a result of dewatering and excavation activities. [2]	S	To decrease the volume of surface water runoff created during dewatering/excavating activities of the deeply excavated areas, a groundwater control system will be installed consisting of a slurry wall and perimeter circuit of deep wells in conjunction with sand drains. All other surface water runoff created during the excavation/dewatering activities will be controlled by a series of ditches that drain the water away from construction activities. Proper erosion controls will be used to contain sediments found in the runoff before it is discharged into any jurisdictional water.
	Impacts to local hydrology resulting from the excavation through the shallow aquifer, and subsequent dewatering of the shallow aquifer.[2]	S	Local drinking water wells found in the vicinity of the construction area will be unaffected because they are located in the deeper aquifer which is isolated by surficial clays. Dewatering would occur within the shallow aquifer in a limited area for a short period of time. Upon completion of construction, groundwater in the shallow aquifer will return to natural elevations.
4.2.2 Water Use Impacts	Potential for water pressure reduction within the local water table due to dewatering activities for dust abatement, concrete mixing, potable water use. [2]	S	Limit dewatering activities to only those necessary for construction.

Table 4.6-1 Summary of Potentially Adverse Impacts of Construction (Continued)

4.2.3 Water-Quality Impacts	Potential impacts on surface water quality from accidental release of fuel, oils, or other chemicals associated with construction activities into onsite wetlands and drainage features.	S	Develop and implement a construction SWPPP and spill response plan.
	A potential impact to Little Robbins Slough, Kelly's Pond, and subsequently the Colorado River due to turbidity and sedimentation caused by soil erosion from ground disturbance.[2]	S	Adhere to applicable regulations and permit requirements found in the TPDES permit. Implement BMPs to prevent the movement of pollutants (including sediments) into wetlands and water bodies via storm water runoff. BMPs will include the use of erosion control measures such as silt fences to prevent sedimentation and turbid water discharge. Use of vegetated land buffers between water bodies and the construction site will minimize sedimentation impacts.
4.3 Ecological Impacts			
4.3.1 Terrestrial Ecosystems	Construction activities will result in habitat loss and will displace animals such as birds and mammals that currently inhabit the construction site. The mortality rate of less mobile animals may increase.[2]	S	Limit vegetation removal to only those areas needed for construction. Restoration of the temporary impact areas will be completed in a timely manner upon completion of construction.
	Filling of drainage areas and ditches may impact foraging and roosting habits of wetland-dependent species.[2]	S	Restore the habitat by relocating and revegetating of drainage areas.
	Impacts to biota from use of wetlands as laydown areas or spoil areas. [2]	S	Avoid wetland areas during construction activities.
	Potential impacts to local bird population from bird collisions with man-made structures (cranes, buildings) during construction.	S	The likelihood of this impact is low and when considered with the availability of the resource on a regional basis, mitigation is not necessary.
	Wildlife may be startled or frightened away by construction noises.[2]	S	Animal displacement due to noise should be temporary in nature. Animals should return upon completion of construction.
	Potential disturbance to nesting birds caused by noise/movement during transmission line upgrades. The disturbance impacts will increase during the nesting season.	S	Scheduling work during non-nesting periods would minimize these impacts.

Table 4.6-1 Summary of Potentially Adverse Impacts of Construction (Continued)

4.3.2 Aquatic Ecosystems-Construction Impacts	Potential impacts on aquatic ecology from accidental release of fuel, oils, or other chemicals associated with construction activities in to onsite wetlands and drainage features.	S	Develop and implement a construction SWPPP and spill response plan.
	Potential impacts to aquatic plants, benthic macroinvertebrates, and fish as a result of water turbidity and sedimentation caused by soil erosion from construction activities such as road construction, excavation, grading, temporary storage of soil piles, and use of heavy machinery.[2]	S	Develop and implement erosion and sediment control plans that incorporate recognized BMPs such as covering all disturbed areas, keeping to a minimum the length of time disturbed soil is exposed to weather, and intercepting and retaining sediment via retention ponds and drainage ditches. Upon completion of construction along stream banks or drainage features, disturbed areas will be rip-rapped or seeded to establish a perennial vegetative cover to prevent erosion.
	Impacts to the benthic community resulting from suspended sediments from erosion of surface soil. Impacts may include blockage of light for photosynthesis, interference in respiration in invertebrates, smothering of eggs, and degradation of the quality of spawning grounds.	S	Divert excess surface water caused by construction activities into sediment settling ponds prior to release into on site drainage features.
	Impacts to fish populations due to the loss of invertebrates from suspended sediments.	S	Develop and implement erosion and sediment control plans as mentioned above.
	Displacement of fish, aquatic species, crustaceans, and insects due to filling of drainage features on site.[2]	S	The impacted acreage of this non-jurisdictional area is small and the type of habitat is not unique to the area. Due to the availability of this resource on a regional basis and because no important species are found onsite, mitigation is not necessary.
	Temporary decline in insect population from rerouting of onsite drainage features.[2]	S	Restore the habitat by relocating and revegetating the drainage feature.

Table 4.6-1 Summary of Potentially Adverse Impacts of Construction (Continued)

4.4 Socioeconomic Impacts			
4.4.1 Physical Impacts	Potential temporary impacts to construction workers, STP personnel, people living or working adjacent to the construction area, and transient populations caused by exposure to elevated noise levels. [2]	S	Construction workers would use hearing protection. The public will be notified of impending construction activities that may exceed acceptable noise levels. Perform all construction activities in compliance with local, state, and federal regulations. Emergency first-aid care would be available at the construction site, and regular health and safety monitoring will be conducted during construction.
	Potential temporary impacts to construction workers, STP personnel, people living or working adjacent to the construction area, and transient populations caused by fugitive dust and fine particulate matter emissions.[2]	S	Minimize the potential for these emissions by using local, state, and federal regulations. Prepare a dust control plan containing dust control measures such as watering, stabilization of disturbed areas, phased grading to minimize disturbance acreage, covering haul truck beds, etc. Emergency first-aid care would be available at the construction site, and regular health and safety monitoring will be conducted during construction.
	Potential temporary impacts to construction workers, STP personnel people living or working adjacent to the construction area and transient populations caused by exhaust emissions.[2]	S	Equipment will be serviced regularly. Equipment will be operated in accordance with local, state, and federal emission requirements. Construction activities will be phased to minimize peak hour degradation of local ambient air quality. Emergency first-aid care would be available at the construction site, and regular health and safety monitoring will be conducted during construction.
	Degradation of roads in the vicinity of the project due to increased traffic and an increase in heavy, wide-bodied trucks and equipment.[2]	S	Alert local government agencies and complete road repairs and improvements (i.e., patching cracks and potholes, adding turn lanes, reinforcing soft shoulders) in a timely manner.

Table 4.6-1 Summary of Potentially Adverse Impacts of Construction (Continued)

4.4.2 Social and Economic Impacts	Increased traffic congestion in the vicinity of STP due to construction activities.[2]	M-L	Develop and implement a construction traffic management plan that would include such measures as turn lane installation where necessary, establishing a centralized parking area with shuttle service, encouraging carpools, and staggering shifts.
	Potential short-term housing shortage in Matagorda County.[2]	M-L	Mitigation efforts will be market-driven over time. Construction employment will increase gradually with a peak after 2 or 3 years. This will allow time for construction of new housing. Temporary housing could be constructed as needed.
	Water shortages in Matagorda County as a result of the in-migrating construction workforce.[2]	M-L	Maintain communication with local government and planning officials so that ample time is given to plan for the influx. Mitigation strategies could include reuse, seawater desalination, conservation, and the Lower Colorado River Authority/San Antonio Water System Project.
	Shortage of waste water treatment plants in Matagorda County as a result of the in-migrating construction workforce.[2]	M-L	Maintain communication with local government and planning officials so that ample time is given to plan for the influx.
	Potential impacts to police and fire services in Matagorda County. [2]	M	Maintain communication with local government officials so that expansions in police and fire services could be coordinated, planned, and funded in a timely manner. Funding for this expansion will be provided through the increased tax revenues from the construction project.
	Potential impacts to medical services in Matagorda County. [2]	S	Projected increase in the population during construction would not stress the current capacity; therefore mitigation would not be warranted.

Table 4.6-1 Summary of Potentially Adverse Impacts of Construction (Continued)

	Potential impacts to social services in Matagorda County.[2]	S	Construction could be beneficial to the disadvantaged population by creating jobs therefore decreasing the need for social services. Impacts to social services should be small and not warrant further mitigation.
	Potential impact on the short-term ability of schools in Matagorda County to accommodate the increase in student population.[2]	M-L	Short-term solutions can be implemented in the form of adding modular classrooms and hiring additional teachers to existing schools. Funding for additional resources will be provided through the increased tax revenues from the construction project.
4.4.3 Environmental Justice	Low-income rental housing rates could increase due to increased demand for housing, potentially displacing low-income renters in Matagorda County. [2]	S	Analysis of housing availability in Matagorda County determined that the probability of this being an issue is low. Because of this, control efforts would not be necessary.
4.5 Radiation Exposure to Construction Workers	Construction workers may be exposed to radiation sources (through direct radiation, gaseous effluents, or liquid effluents) from the routine operations of STP 1 & 2.[2]	S	Conduct continual monitoring the STP site for radiation exposure. The construction activities on the site will be in accordance with all radiation safety regulations to ensure that the construction workers are protected.
4.7S Non-Radiological Health Impacts	Potential of construction accidents requiring first aid or medical treatment.	S	Provide job training and implement procedures to ensure a safe working environment. Provide first-aid capabilities at the construction site.

[1] The assigned significance levels [(S)mall, (M)oderate, or (L)arge] are based on the assumption that for each impact, the associated proposed mitigation measures and controls (or equivalents) will be implemented (10 CFR 51, Appendix B, Table B-1, Footnote 3)

[2] The mitigation measure specified for this impact is insufficient to reduce the impact to insignificant. No other practical measures for mitigation of this impact are available. Therefore, these impacts will be considered in the evaluation of unavoidable adverse impacts (Section 10.1).

Table 4.6-2 Summary of Construction and Preconstruction Related Impacts

Impact	Description of Potential Impact	Potential Impact Significance	Estimated Impacts (%)		Basis of Estimate
			Construction	Preconstruction	
4.1.1 The Site and Vicinity	Ground-disturbing activities including excavating and recontouring the landscape.	S	50%	50%	Land Area Disturbance Basis (Based on Unit 3 construction leading Unit 4 by approx. 1 year)
	Removal of vegetation within the temporary and permanent impact areas.	S	25%	75%	Land Area Disturbance Basis (Based on Unit 3 construction leading Unit 4 by approx. 1 year)
	Stockpiling of soils on site including spoil mounds and borrow pit soils.	S	50%	50%	Land Area Disturbance Basis (Based on Unit 3 construction leading Unit 4 by approx. 1 year)
	Construction of new permanent structures and the creation of impervious surface within the existing STP site (i.e., the haul road and the parking area). The site is designated for industrial land use.	S	10%	90%	Land Area Disturbance Basis (Based on Unit 3 construction leading Unit 4 by approx. 1 year)
	Impacts to wetlands and other surface waters (e.g., removal of onsite drainage ditch).	S	5%	95%	Land Area Disturbance Basis All wetlands have been identified and mapped. In order to limit impacts, these sites will be avoided during the construction phase.

Table 4.6-2 Summary of Construction and Preconstruction Related Impacts (Continued)

Impact	Description of Potential Impact	Potential Impact Significance	Estimated Impacts (%)		Basis of Estimate
			Construction	Preconstruction	
	Construction activities conducted within the Coastal Management Zone.	S-M	25%	75%	Land Area Disturbance Basis The STP property is located almost entirely within the coastal zone as defined by the Texas Coastal Management Program (CMP). For the plant areas located within the coastal zone, the basis of separation for the construction versus preconstruction impacts is best determined by using the land area disturbance basis. Mitigation measures for this impact are described in ER Section 4.1.1.1 and will be applied during preconstruction and construction activities.
	Construction activities (e.g., crossing of a pipeline, installation of discharge pipe, etc.) conducted within the designated flood zone and other sensitive areas.	S	25%	75%	Land Area Disturbance Basis (Based on Unit 3 construction leading Unit 4 by approx. 1 year)

Table 4.6-2 Summary of Construction and Preconstruction Related Impacts (Continued)

Impact	Description of Potential Impact	Potential Impact Significance	Estimated Impacts (%)		Basis of Estimate
			Construction	Preconstruction	
	Potential short-term land use changes in the vicinity of the project due to development of employee housing.	S-M	50%	50%	Labor Hours Basis The basis for segregating this impact is the Labor Hours Basis, since the erection of temporary housing (see corresponding entry in Table 4.6-1) should roughly follow the addition of labor to the jobsite. Consideration was given to adjusting the Labor Hours Basis so as to acknowledge the need to erect housing prior to labor arrival; however, the erection period for temporary housing does not warrant such an adjustment. As noted in Table 4.6-1, the mitigation of this impact would be to convert the land to pre-project conditions upon completion of construction.
	The increase in traffic during shift change and increased truck deliveries will impact traffic on existing roads during peak times.	S	60%	40%	Labor Hours Basis
4.1.2 Transmission Corridors and Offsite Areas	Potential short-term physical land use changes due to the addition of a 345 kilovolt (kV) switchyard and rerouting of one 345 kV transmission line that is currently connected to Bay No. 1 of the existing switchyard for STP 1 and 2.	S	85%	15%	Land Area Disturbance Basis

Table 4.6-2 Summary of Construction and Preconstruction Related Impacts (Continued)

Impact	Description of Potential Impact	Potential Impact Significance	Estimated Impacts (%)		Basis of Estimate
			Construction	Preconstruction	
4.1.3 Historic Properties	Ground-disturbing activities including grading, excavation, recontouring, and construction may expose historic resources. (NOTE: Based on SHPO determination, this is unlikely.)	S	25%	75%	The South Texas Project site has been surveyed and a determination of no adverse effect to historic properties was asserted and concurred with by the Texas Historical Commission (THC) on January 19, 2007. However, in the unlikely event that cultural resources are discovered during ground-disturbing activities for STP 3 & 4, specific actions would be undertaken by STPNOC as outlined in Addendum #5 to STP Procedure No. 0PGP03-ZO-0025 (Unanticipated Discovery of Cultural Resources), which was forwarded to the NRC on June 9, 2008. If any historical properties are discovered it will be during preconstruction activities such as land clearing, excavating, grading, installation of environmental mitigation measures, and/or construction of roads and laydown areas. Therefore, the impacts would occur only during preconstruction.

Table 4.6-2 Summary of Construction and Preconstruction Related Impacts (Continued)

Impact	Description of Potential Impact	Potential Impact Significance	Estimated Impacts (%)		Basis of Estimate
			Construction	Preconstruction	
4.2.1 Hydrologic Alterations	Impacts to onsite surface water drainage flows by diverting or filling several unnamed onsite drainage features.	S	25%	75%	Land Area Disturbance Basis
	Increase in surface water as a result of dewatering and excavation activities.	S	10%	90%	Land Area Disturbance Basis
	Impacts to local hydrology resulting from the excavation through the shallow aquifer and subsequent dewatering of the shallow aquifer.	S	10%	90%	Land Area Disturbance Basis
4.2.2 Water Use Impacts	Potential for water pressure reduction within the local water table due to dewatering activities for dust abatement, concrete mixing, potable water use.	S	5%	95%	Land Area Disturbance Basis
4.2.3 Water Quality Impacts	Potential impacts on surface water quality from accidental release of fuel, oils, or other chemicals associated with construction activities into onsite wetlands and drainage features.	S	80%	20%	Land Area Disturbance Basis
	A potential impact to Little Robbins Slough, Kelly's Pond, and subsequently the Colorado River due to turbidity and sedimentation caused by soil erosion from ground disturbance.	S	20%	80%	Land Area Disturbance Basis

Table 4.6-2 Summary of Construction and Preconstruction Related Impacts (Continued)

Impact	Description of Potential Impact	Potential Impact Significance	Estimated Impacts (%)		Basis of Estimate
			Construction	Preconstruction	
4.3.1 Terrestrial Ecosystems	Construction activities will result in habitat loss and will displace animals such as birds and mammals that currently inhabit the construction site. The mortality rate of less mobile animals may increase.	S	10%	90%	Land Area Disturbance Basis
	Filling of drainage areas and ditches may impact foraging and roosting habits of wetland-dependent species.	S	10%	90%	Land Area Disturbance Basis
	Impacts to biota from use of wetlands as laydown areas or spoil areas.	S	10%	90%	Other non-jurisdictional wetlands are located in areas that have been designated as temporary laydown and spoil areas. In order to limit impacts, these sites will be avoided during the construction phase.
	Potential impacts to local bird population from bird collisions with man-made structures (cranes, buildings) during construction.	S	10%	90%	Labor Hours Basis
	Wildlife may be startled or frightened away by construction noises.	S	10%	90%	Labor Hours Basis
	Potential disturbance to nesting birds caused by noise/movement during transmission line upgrades. The disturbance impacts will increase during the nesting season.	S	10%	90%	Labor Hours Basis

Table 4.6-2 Summary of Construction and Preconstruction Related Impacts (Continued)

Impact	Description of Potential Impact	Potential Impact Significance	Estimated Impacts (%)		Basis of Estimate
			Construction	Preconstruction	
4.3.2 Aquatic Ecosystems—Construction Impacts	Potential impacts on aquatic ecology from accidental release of fuel, oils, or other chemicals associated with construction activities into onsite wetlands and drainage features.	S	10%	90%	Land Area Disturbance Basis
	Potential impacts to aquatic plants, benthic macroinvertebrates, and fish as a result of water turbidity and sedimentation caused by soil erosion from construction activities such as road construction, excavation, grading, temporary storage of soil piles, and use of heavy machinery.	S	10%	90%	Land Area Disturbance Basis
	Impacts to the benthic community resulting from suspended sediments from erosion of surface soil. Impacts may include blockage of light for photosynthesis, interference in respiration in invertebrates, smothering of eggs, and degradation of the quality of spawning grounds.	S	20%	80%	Land Area Disturbance Basis
	Impacts to fish populations due to the loss of invertebrates from suspended sediments.	S	20%	80%	Land Area Disturbance Basis
	Displacement of fish, aquatic species, crustaceans, and insects due to filling of drainage features on site.	S	10%	90%	Land Area Disturbance Basis

Table 4.6-2 Summary of Construction and Preconstruction Related Impacts (Continued)

Impact	Description of Potential Impact	Potential Impact Significance	Estimated Impacts (%)		Basis of Estimate
			Construction	Preconstruction	
	Temporary decline in insect population from rerouting of onsite drainage features.	S	10%	90%	Land Area Disturbance Basis
4.4.1 Physical Impacts	Potential temporary impacts to construction workers, STP personnel, people living or working adjacent to the construction area, and transient populations caused by exposure to elevated noise levels.	S	80%	20%	Labor Hours Basis
	Potential temporary impacts to construction workers, STP personnel, people living or working adjacent to the construction area, and transient populations caused by fugitive dust and fine particulate matter emissions.	S	80%	20%	Labor Hours Basis
	Potential temporary impacts to construction workers, STP personnel, people living or working adjacent to the construction area, and transient populations caused by exhaust emissions.	S	50%	50%	Labor Hours Basis
	Degradation of roads in the vicinity of the project due to increased traffic and an increase in heavy, wide-bodied trucks and equipment.	S	50%	50%	Labor Hours Basis

Table 4.6-2 Summary of Construction and Preconstruction Related Impacts (Continued)

Impact	Description of Potential Impact	Potential Impact Significance	Estimated Impacts (%)		Basis of Estimate
			Construction	Preconstruction	
4.4.2 Social and Economic Impacts	Increased traffic congestion in the vicinity of STP due to construction activities.	M-L	75%	25%	Labor Hours Basis The amount of traffic congestion will be directly proportional to the number of plant workers traveling on the local roads. The number of workers traveling the roads is directly related to the total labor hours worked. Therefore, the segregation of impacts between construction and preconstruction is best determined by comparing the total labor hours worked. Mitigation measures for this impact are described in ER Section 4.4.2.2.4.
	Potential short-term housing shortage in Matagorda County.	M-L	75%	25%	Labor Hours Basis (for workers relocating to area) The impact on housing in Matagorda County will depend on the number of workers that would relocate to the area and require housing. The basis of estimate for the impact on housing is best determined by using the estimate of the total number of workers that would relocate to the area and the percentage of those workers that will be engaged in construction and preconstruction tasks. The estimated number of relocating workers is contained in ER Section 4.4.2.2.6. Mitigation measures for this impact are described in ER Section 4.4.2.2.6.

Table 4.6-2 Summary of Construction and Preconstruction Related Impacts (Continued)

Impact	Description of Potential Impact	Potential Impact Significance	Estimated Impacts (%)		Basis of Estimate
			Construction	Preconstruction	
	Water shortages in Matagorda County as a result of the in-migrating construction workforce.	M-L	75%	25%	Labor Hours Basis (for workers relocating to area) The impact on water shortages in Matagorda County will depend on the number of workers that would relocate to the area and require housing. The basis of estimate for the impact on water shortages is best determined by using the estimate of the total number of workers that would relocate to the area and the percentage of those workers that will be engaged in construction and preconstruction tasks. The estimated number of relocating workers is contained in ER Section 4.4.2.2.6. Mitigation measures for this impact are described in ER Section 4.4.2.2.7.

Table 4.6-2 Summary of Construction and Preconstruction Related Impacts (Continued)

Impact	Description of Potential Impact	Potential Impact Significance	Estimated Impacts (%)		Basis of Estimate
			Construction	Preconstruction	
	Shortage of wastewater treatment plants in Matagorda County as a result of the in-migrating construction workforce.	M-L	75%	25%	Labor Hours Basis (for workers relocating to area) The impact on the shortage of wastewater treatment plants in Matagorda County will depend on the number of workers that would relocate to the area and require housing. The basis of estimate for the impact on the shortage of wastewater treatment plants is best determined by using the estimate of the total number of workers that would relocate to the area and the percentage of those workers that will be engaged in construction and preconstruction tasks. The estimated number of relocating workers is contained in ER Section 4.4.2.2.6. Mitigation measures for this impact are described in ER Section 4.4.2.2.7.

Table 4.6-2 Summary of Construction and Preconstruction Related Impacts (Continued)

Impact	Description of Potential Impact	Potential Impact Significance	Estimated Impacts (%)		Basis of Estimate
			Construction	Preconstruction	
	Potential impacts to police and fire services in Matagorda County.	M	75%	25%	Labor Hours Basis (for workers relocating to area) The impact on police and fires services in Matagorda County will depend on the number of workers that would relocate to the area and require housing. The basis of estimate for the impact on police and fire services is best determined by using the estimate of the total number of workers that would relocate to the area and the percentage of those workers that will be engaged in construction and preconstruction tasks. The estimated number of relocating workers is contained in ER Section 4.4.2.2.6. Mitigation measures for this impact are described in ER Section 4.4.2.2.7.
	Potential impacts to medical services in Matagorda County.	S	75%	25%	Labor Hours Basis

Table 4.6-2 Summary of Construction and Preconstruction Related Impacts (Continued)

Impact	Description of Potential Impact	Potential Impact Significance	Estimated Impacts (%)		Basis of Estimate
			Construction	Preconstruction	
	Potential impacts to social services in Matagorda County.	S	75%	25%	Labor Hours Basis
	Potential impact on the short-term ability of schools in Matagorda County to accommodate the increase in student population.	M-L	75%	25%	Labor Hours Basis (for workers relocating to area) The impact on the short-term ability of schools in Matagorda County to accommodate the increase in student population will depend on the number of workers that would relocate to the area and require housing. The basis of estimate for the impact on the short-term ability of schools in Matagorda County to accommodate the increase in student population is best determined by using the estimate of the total number of workers that would relocate to the area and the percentage of those workers that will be engaged in construction and preconstruction tasks. The estimated number of relocating workers is contained in ER Section 4.4.2.2.6. Mitigation measures for this impact are described in ER Section 4.4.2.2.8.
4.4.3 Environmental Justice	Low-income rental housing rates could increase due to increased demand for housing, potentially displacing low-income renters in Matagorda County.	S	75%	25%	Labor Hours Basis

Table 4.6-2 Summary of Construction and Preconstruction Related Impacts (Continued)

Impact	Description of Potential Impact	Potential Impact Significance	Estimated Impacts (%)		Basis of Estimate
			Construction	Preconstruction	
4.5 Radiation Exposure to Construction Workers	Construction workers may be exposed to radiation sources (through direct radiation, gaseous effluents, or liquid effluents) from the routine operations of STP 1 and 2.	S	75%	25%	Labor Hours Basis
4.7S Non-Radiological Health Impacts	Potential of construction accidents requiring first aid or medical treatment.	S	75%	25%	Labor Hours Basis