SUBSURFACE EXPLORATION
AND
GEOTECHNICAL ENGINEERING EVALUATION
PROPOSED HOME2 SUITES HOTEL SITE
SEC MANE STREET & CONSTITUTION DRIVE
WEST MONROE, LOUISIANA

PREPARED FOR:

SOUTHERN HOSPITALITY SERVICES, LLC
115 HOSPITALITY DRIVE
JACKSON, MISSISSIPPI 39232

PREPARED BY:

ARDAMAN & ASSOCIATES, INC.
7222 GREENWOOD ROAD
SHREVEPORT, LOUISIANA 71119

AAI PROJECT NO.: 113-13-94-8717
SHREVEPORT FILE NO.: 14.94.024

DECEMBER 20, 2013

Ardaman & Associates, Inc.

Geotechnical, Environmental and
Materials Consultants

December 20, 2013

Southern Hospitality Services, LLC
115 Hospitality Drive
Jackson, Mississippi 39232

Attention: Mr. Nash Patel
Vice President

Reference: Subsurface Exploration and Geotechnical Engineering Evaluation
Proposed Home2 Suites Hotel Site
SWC Mane Street and Constitution Drive
West Monroe, Louisiana
AAI Project No.: 113-13-94-8717
Shreveport File No.: 14.94.024

Gentlemen:

Attached is our Subsurface Investigation Report for the above referenced project. Ardaman & Associates, Inc. (AAI) will be happy to assist you further on this project by furnishing any Construction Materials Testing (CMT) Services you or your contractor may require. AAI's local West Monroe office can provide all of your CMT needs during the construction phase of the project.

It has been a pleasure to perform this work for you. If we can be of any further assistance, please do not hesitate to call on us.

Very truly yours,

ARDAMAN & ASSOCIATES, INC.

Prepared By:

James M. Belt, P.E.
Shreveport Branch Manager

Reviewed By:

Lloyd G. Hoover, P.E.
Principal Engineer

cc: (2) client

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WEST MONROE, LOUISIANA

GENERAL

This study was authorized by Mr. Nash Patel, Vice President of Southern Hospitality Services, L.L.C. on November 15, 2013. The purposes of the study were to (1) explore the subsurface conditions present at this site, (2) determine the pertinent engineering properties of the materials encountered, and (3) develop recommendations concerning suitable foundation types and pavement sections for the subsurface soils encountered at this site.

PROJECT DESCRIPTION

AAI understands the proposed hotel will be four (4) stories in height with a ground level outdoor pool. The building will house ninety-nine (99) guest rooms and have a footprint of about 14,500 SF. The facility will include parking for about 126 vehicles. It is anticipated construction will consist of wood or metal stud framed load bearing walls with stucco type exterior cladding and glazing. There will be new access drives and parking surrounding the structure. Anticipated loading for this type structure is relatively light with exterior wall loading on the order of 3 kips or less and interior column loads not more than 50 kips.

FIELD INVESTIGATION

The subsurface exploration at the site consisted of a total of six (6) test borings. Three (3) borings were performed in the general area proposed for the new building. These borings were advanced to a depth of twenty-five (25) feet below the existing ground surface. One test boring was performed in the area of the proposed pool. This boring was advanced to a depth of twenty (20) feet. Two (2) test borings were performed in areas proposed for paving. These borings were advanced to depths of ten (10) feet. This investigation was conducted on November 30, 2013.

Test boring locations and depth were selected by the Geotechnical Engineer and were placed in the areas believed pertinent to new construction. Boring depths were selected based on our understanding of the proposed project and our knowledge of soil conditions in this general area of West Monroe, Louisiana.

Test boring sites were located in the field by AAI using the site map provided, estimating angles, and taping distances from the existing site features. The locations are accurate only to the degree implied by the methods used. Our estimation of the test boring locations is included on the site plan provided by the Architect and included in Appendix "A" of this report.

The test borings were advanced utilizing continuous-flight augers in general accordance with provisions outlined in *ASTM D1452, Standard Practice for Soil Investigation and Sampling by Auger Borings*. Samples were obtained for laboratory evaluation in general accordance with provisions of *ASTM D1586, Standard Test Method for Penetration Test and Split-Barrel Sampling of Soils* or SPT sampling. The SPT test consists of determining the number of blows required by a one hundred forty (140) pound hammer dropped thirty (30) inches to achieve one (1) foot penetration of the soil. This number is then related to "in situ" relative density of the material.

Soil samples were taken continuously to a depth of ten (10) feet below the existing ground surface. Below this depth, samples were obtained at intervals of five (5) feet as the borings were advanced. All samples obtained were logged, packaged, and sealed in the field to protect them from disturbance and maintain their in situ moisture content during transportation to our laboratory. The results of the boring program (Log of Boring) are included as Appendix "A" of this report.

LABORATORY INVESTIGATION

Upon return to our laboratory selected samples were subjected to standard laboratory tests under the supervision of the Geotechnical Engineer. These soil properties were used to evaluate shear strength, to classify the soils, and to evaluate their potential for volumetric change. Our laboratory testing program included the ASTM standard methods outlined below. The results of our laboratory testing program are included on the Logs of Boring in Appendix "A".

ASTM D 1140 – Amount of Material in Soils Finer than the No. 200 (75-µm) Sieve.
ASTM D 2216 – Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.
ASTM D 4318 – Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

SITE CONDITIONS

GEOGRAPHY

The site of the proposed facility is located on an undeveloped lot situated on the north side of Mane Street at is intersection with Constitution Drive. At the time of this investigation the site was an open grassed area. Topography of the site appears relatively flat with sheet flow drainage towards the east and into existing drainage ditches bordering the site along Constitution Drive and Mane Street. Google™earth indicates average site elevation is about 118 feet MSL with elevation differential across the site on the order of three (3) feet. The general location of this site is known to be within an area reclaimed from a gravel mining/washing operation some years ago.

GEOLOGY

The undisturbed subsurface materials in the general area of this site lie on sedimentary sequences deposited on an ancestral flood plain of the Ouachita River. The remnants of these flood plain deposits are identified as Pleistocene aged Prairie Terraces (Qtp) in recent geologic literature (Prairie Formation in older literature). In this geographic area Prairie Terrace deposits generally consist of the usual sequence of oxidized basal sands and gravels of orange-brown color, grading upward into silts and clays of a lighter color. The gravel consists primarily of brown Chert, with minor amounts of Quartz, whitish Chert, and traces of igneous rocks. Gravel size varies from one fourth an inch to an inch or more in diameter. The deposits are prominently stratified, showing cross bedding, lensing, and inter stratification. Thicknesses of up to eight (80) feet were known to exist in local gravel pits. The Prairie sands and gravels were identified as having high commercial value early in the last century and have been extensively exploited locally. The general area of this site was mined by open pit operations for its gravel resources beginning in the 1920's. Pits up to fifty (50) feet once existed in the general area. The mined out areas have since been reclaimed for commercial development.

SOIL PROFILE

Soil conditions described in this section are of a generalized nature and are intended to emphasize key features and characteristics. For a more detailed description of the subsurface materials encountered refer to the soil profiles on each Log of Boring in Appendix "A" of this report. Strata contacts indicated on our Logs are approximate. Actual transitions may be gradual in nature.

The near surface soils encountered at this this site consist of uncontrolled sand, silt and clay fill materials (reclaim material). The thickness of this material at our test boring locations extends to approximately twenty (20) feet. Classification per *ASTM D2487, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soils Classification System)* varies from non-plastic silty sand (SM) to moderately plastic lean clay (CL). Strength consistency is equally varied but generally is loose in sandier soils and soft in clayey soils. Below the upper fill materials, dense silty sand (SM) with gravel and sandy gravel (GM) was encountered. Our deeper test borings were terminated in the dense stratum at a depth of approximately twenty-five (25) below the existing ground surface.

The soil types generally encountered within the upper ten (10) feet at our test borings have low potential for shrink and swell with changes in moisture content and they are not considered expansive. However due to the variability in material types and lack of compaction control, these soils have significant potential for differential consolidation settlement.

A seismic site classification of Class D as defined in the 2009 International Building Code; Section 1613 should be assumed for this site due to the lack of specific soil data to a depth of one hundred (100) feet.

GROUNDWATER

Shallow groundwater was encountered at our test borings during drilling operations at a depth of about ten (10) feet below the existing ground surface. Water levels rose to about the five (5) foot depth after twenty-four (24) hours. Groundwater at these shallow depths is typical of levels historically encountered in the Downing Pines Road area of West Monroe. Based on the soil stratification and anticipated construction activities at this site, shallow groundwater should not impact construction activities for the hotel building or parking lot but will likely impact construction activities for the in-ground pool. Surface moisture could also be problematic especially during the wetter seasons of the year. If construction activities are to be initiated during the wetter seasons of the year it may be difficult to move construction equipment about the site.

If the control of groundwater is required to achieve installation of the pool or other below ground structures for the project, the actual method(s) of dewatering should be determined by the *contractor.* Dewatering should lower groundwater levels to depths that are adequately below

working surfaces. An adequate groundwater level depth below excavations and compaction surfaces is generally two (2) feet or more. Dewatering solely with sump pumps may not achieve the desired results.

GEOTECHNICAL RECOMMENDATIONS

SUBGRADE PREPARATION

Prior to subsequent construction activity surficial vegetation should be removed and wasted. Top soil stripping on the order of four (4) inches or less is anticipated. However, additional excavation and backfill may be required if undetected weak spots are encountered during the stripping operation. Any abandoned utilities should be completely removed or pressure grouted in-place. Provide drainage of the exposed subgrade by sloping grades and ditching away from the construction site.

After stripping and rough site grading is complete the exposed surface of areas where structures, paving or fill are to be placed should be proof rolled to identify any isolated weak soils. Isolated weak spots should be investigated, removed, or repaired under the supervision of the geotechnical engineer prior to subsequent construction activity. After establishment of a stable subgrade layer, the exposed subgrade layer should be scarified to a minimum of twelve (12) inches, the moisture content adjusted to within one (1) percent below to three (3) percent above optimum and recompacted to ninety-eight (98) percent of the laboratory maximum as determined by *ASTM D698, Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3)* prior to placement of any fill or base materials.

If construction is initiated during wetter periods of the year, consideration should be given to treating the sandy subgrade with Portland cement after establishing positive site drainage and prior to attempting scarification, re-compaction or any fill placement. Six (6) percent Type I Portland cement by volume can be used to estimate cost for cement treatment at the site. This quantity is generally sufficient to establish a working table or subbase layer in sandy soils when properly executed. Treatment to a depth of one (1) foot is recommended. Actual cement quantity required may increase or decrease depending upon soil moisture conditions at the time of construction. An unconfined compressive strength of 150 PSI at seven (7) days of age is desired for the cement treated materials. If cement treatment is used, compaction of the subgrade layer should be under the direction and to the satisfaction of the geotechnical engineer.

FILL MATERIAL CONTROL

Where fill materials are required to achieve the desired finished grade elevations, the material should be placed in controlled lifts. Lifts should be placed in thin horizontal layers not exceeding eight (8) inches compacted thickness. Each lift of select fill should be moisture conditioned to within two (2) percentage points of optimum moisture and compacted to a minimum of ninety-five (95) percent of the laboratory maximum as determined by ASTM D698.

All imported fill material should be *"select"*. Select materials classify SC or CL (clayey sand or sandy lean clay) in accordance with ASTM D2487 and should have liquid limits no greater than thirty-five (35), plasticity indices (PI) between eight (8) and eighteen (18), and no more than sixty (60) percent passing the U.S. Standard No. 200 Sieve. The low plasticity soils encountered within the upper fifteen (15) feet at this site are considered non-expansive and are suitable for re-use as fill with adequate moisture conditioning and compaction control. Typical specifications for compaction of sandy clay and clayey sand type soils are included in Appendix "B" or this report.

FOUNDATION SYSTEMS

Due to the extent of uncontrolled fill materials encountered at this site a conventionally reinforced, shallow foundation system could experience significant consolidation settlement if used to support the proposed building. AAI does not recommend utilizing a shallow foundation system unless differential settlement can be tolerated. The most positive means of supporting this structure is on a deep foundation system that transfers structural loads to more competent materials. The most positive means of supporting the floor slab is to either structurally suspend it between foundation supports or also support the slab on deep foundation elements. If little of no movement can be tolerated a deep foundation system must be used.

Cast In Place Piles

Traditional drilled and cast in place straight sided shafts or auger cast in place pressure grouted (ACIP) piles could be used to transfer building loads below the weak soils encountered in the upper twenty (20) feet at this site. Drilled shafts *will* require temporary casing to facilitate installation on this site. ACIP piles do not require casing to complete installation. All piles should penetrate into the dense sandy gravel or gravelly sand stratum a minimum of five (5) feet. Summarized in Table 1 are allowable loads for various sizes of drilled shafts or ACIP piles installed to a tip depth of twenty-five (25) feet below the existing ground surface. The values incorporate a minimum safety factor of two (2) and assume a minimum concrete compressive strength of 3,000 PSI at twenty-eight (28) day of age.

Table 1

ALLOWABLE LOADS FOR CAST IN PLACE PILES

Shaft Diameter (inches)	Tip Depth (feet)	Total Capacity (kips)	Uplift Capacity (kips)
12	25	38.56	19.30
18	25	74.61	30.05
24	25	122.91	41.54
30	25	184.34	53.77
36	25	253.73	66.73

Shaft stems need to be reinforced to resist tensile forces that may develop from wind or other lateral loading. This typically requires reinforcement for the entire shaft length.

Slab

The non-load bearing floor slab for the proposed structure can be place directly on prepared subgrade soils or density controlled fill materials. A Modulus of Subgrade Reaction (k_s) of 100 PCI can be assumed for density controlled subgrade soil or density controlled fill materials. To reduce the potential differential movement relative to the foundation, AAI recommends the floor slab be reinforced and structurally tied to the foundation system (placed monolithically with gradebeams). Use of a polyethylene moisture (vapor) barrier is recommended under all climate controlled areas.

POOL INFORMATION

Ardaman understands an inground pool will be constructed at this site. The groundwater was encountered at about ten (10) feet and was observed to rise to about five (5) feet. These levels will fluctuate with the seasons of the year and the rise and fall of nearby streams. Perched water can also occur occasionally. Because of the possibility of uplift on the pool due to buoyancy, AAI suggests anchoring the pool in some manner. The type anchoring system may depend upon the type pool installed (pre-fabricated or cast in-place liner system.) The anchoring system should be professionally designed and be able to resist uplift forces with water rising to the ground surface. The uplift pressure will be 62.4 PSF per foot of depth of pool. Additionally a standpipe can be installed to both monitor and to allow any perched water to be pumped out to relieve uplift pressures on the pool when emptying for cleaning after construction.

PAVEMENT SYSTEMS

The pavement section recommendations for this site are based upon subsurface conditions inferred by the test borings, our experience with facilities of a similar nature, and the assumption traffic will be generally limited to automobiles and weekly garbage collection vehicles. The existing silty and clayey sand surface soils, recompacted as required in the Subgrade Preparation section of this report will have a laboratory soaked California Bearing Ratio (CBR) value in the order of ten (10). AAI would recommend a conservative Modulus of Subgrade Reaction (k) value in the order of 100 PSI per inch or a conservative value for Resilient Modulus (M_R) of 7500 PSI is assumed for pavement design.

Rigid Pavement

Based on the limited space and typical configuration of pavements associated with a facility of this type we recommend Portland Cement Concrete Pavement be given first consideration for this project. Minimum flexural strength of the concrete should be 600 pounds per square inch (PSI) at twenty-eight (28) days of age or have compressive strength value of 3,500 PSI. Ardaman recommends the use of air entrainment chemicals that improve workability of the concrete mix and improve durability of the pavement surface. Control joint spacing should not exceed twelve (12) feet for un-reinforced pavement of the thicknesses outlined below. All concrete paving should include provisions to mechanically control temperature induced shrinkage cracking and provide for load transfer across construction joints. Rigid pavement sections suggested for this site are summarized in Table 2.

Table 2

RIDGID PAVEMENT SECTIONS

Pavement Layer	Light Duty Auto Applications	Medium Duty Auto Applications	Heavy Duty Applications
Portland Cement Concrete Wearing Course Thickness	5 inches	6 inches	9 inches
Base Course Thickness	4 inches crushed stone base material	4 inches crushed stone base material	6 inches crushed stone base material
Subbase Course Thickness	12 inches density controlled fill or subgrade soils	12 inches density controlled fill or subgrade soils	12 inches density controlled fill or subgrade soils

move equipment about the site. Once the silt or fine sand becomes saturated, compaction operations can be seriously hampered by a tendency of the material to "pump". Consequently, it is imperative adequate site drainage be established and maintained prior to and during construction operations to prevent water ponding on or adjacent to the site resulting in subsequent saturation of the soil. Compaction operations may be expedited by using light compaction equipment and thin lifts of soil. Rolling only as necessary to obtain compaction is advisable because further repetitive loading may cause the subgrade to "pump" or fail.

Compaction operations and installation of the foundations should be supervised by an AAI inspector. All foundation excavations should be inspected to verify cleanliness and bearing stratum suitability. Concrete should be placed in foundation excavations as soon as practical after forming and imbed placements have been approved, to avoid prolonged exposure of the bearing stratum and possible disturbance due to standing water, desiccation or construction operations.

When the structure is complete, the ground surface should slope away from the structure and downspouts should carry runoff water several feet away from the structure, preferably into paved areas or sewers, before discharging.

LIMITATIONS

This study has been prepared in accordance with generally accepted geotechnical engineering principles and practices in this area at this time. We make no other warranty either express or implied.

The conclusions and recommendations submitted in this report are based upon the data obtained from the exploratory borings drilled at the locations indicated in Appendix "A", the proposed type of construction and our experience in the area. Our findings include interpolation and extrapolation of the subsurface conditions identified at the exploratory borings and variations in the subsurface conditions may not become evident until excavations are performed. If conditions encountered during construction appear to be different from those described in this report, we should be notified at once so that supplemental recommendations if required can be made.

This study has been prepared for the exclusive use by our client for design purposes. We are not responsible for technical interpretations by others of our exploratory information, which has not been described or documented in this report. As the project evolves, we should provide continued consultation and field services during design and construction to review and monitor the implementation of our recommendations, and to verify that the recommendations have been appropriately interpreted. Design changes may require additional analysis or modifications of the recommendations presented herein.

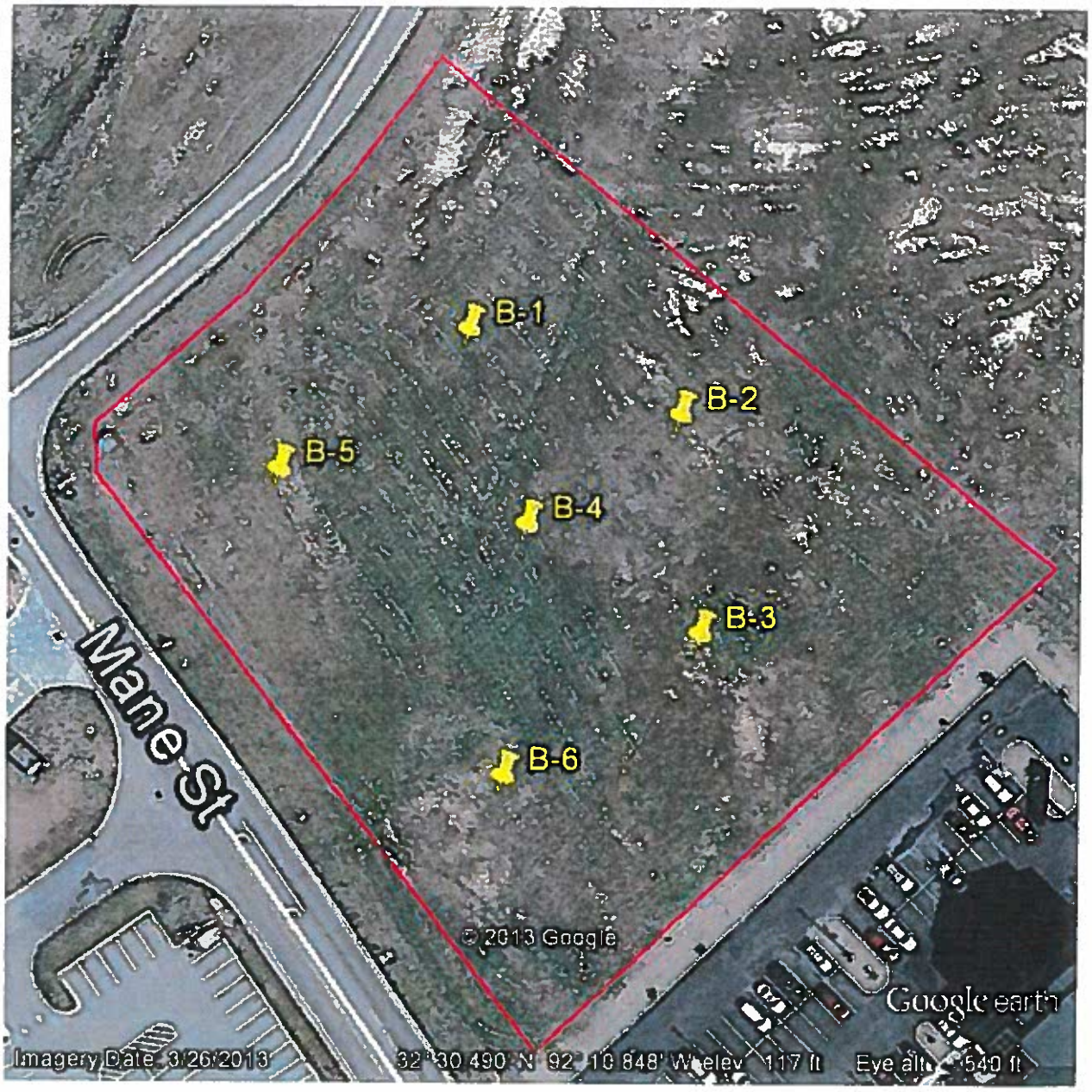
We recommend the geotechnical engineer of record (AAI) be retained to provide, construction materials testing, on-site observation of excavations, and verification of foundation bearing strata during the construction phase of this project.

APPENDIX A

SITE MAPS
AND
LOGS OF BORING

SITE LOCATION

PROPOSED HOME2 SUITES SITE
WEST MONROE, LOUISIANA



TEST BORING LOCATIONS

PROPOSED HOME2 SUITES SITE
WEST MONROE, LOUISIANA

LOG OF BORING NO. B-1

PROJECT: Home2 Suites Hotel | **SHEET** 1 of 1

CLIENT: Southern Hospitality Services LLC | **LOCATION:** Building North

DATE: 11/30/13 | **SURFACE ELEV:** +/- 117

DRILLING METHOD(S): Auger

GROUNDWATER INFORMATION: Water encountered at 10.5 feet after 30 minutes stayed at 5.5 feet depth

FIELD DATA				LABORATORY DATA									
SOIL & ROCK SYMBOL	DEPTH (FT)	SAMPLE TYPE	N: SPT, BLOWS/FT T: THD, BLOWS/FT P: HAND PEN, TSF	MOISTURE CONTENT, %	DRY DENSITY POUNDS/CU.FT	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	MINUS NO. 200 SIEVE, %	COMPRESSIVE STRENGTH, KSF	FAILURE STRAIN (%)	CONFINING PRESSURE PSI	DESCRIPTION OF STRATUM
	0		N = 9	12		24	20	4	44				Fill/reclaim materials to approximately 20 feet.
			N = 12	11									--Loose tan and gray clayey silty sand (SC-SM)
			N = 6	21					52				--Soft to medium tan and gray sandy clay (CL)
	5		N = 2	26									--Very loose grayish tan and gray clayey sand (SC)
			N = 1	25					47				
	10												
			N = 1	25									--Very loose grayish tan clayey sand (SC)
	15												
			N = 1	22					14				--With gravel, becomes dense at 19.5 feet
													19.5
	20												Dense tan silty sand with gravel (SM)
			N = 35	13									
													25.0
	25												Bottom of boring at 25 feet
	30												

REMARKS:

TUBE SAMPLE | AUGER SAMPLE | SPLIT SPOON | ROCK CORE | THD CONE PEN. | NO RECOVERY

LOG OF BORING NO. B-2

PROJECT: Home2 Suites Hotel

SHEET 1 of 1

CLIENT: Southern Hospitality Services LLC

LOCATION: Pool

DATE: 11/27/13

SURFACE ELEV: +/- 117'

DRILLING METHOD(S): Auger

GROUNDWATER INFORMATION: Water encountered at 9 feet after 48 hours stayed at 7 feet depth

FIELD DATA				LABORATORY DATA									
SOIL & ROCK SYMBOL	DEPTH (FT)	SAMPLE TYPE	N: SPT, BLOWS/FT T: THD, BLOWS/FT P: HAND PEN, TSF	MOISTURE CONTENT, %	DRY DENSITY POUNDS/CU.FT	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	MINUS NO. 200 SIEVE, %	COMPRESSIVE STRENGTH, KSF	FAILURE STRAIN (%)	CONFINING PRESSURE PSI	DESCRIPTION OF STRATUM
			N=15	10									Fill/reclaim material to approximately 19 feet.
			N=20	11					32				--Medium dense tan to brown clayey silty sand (SC-SM)
	5		N=9	17		24	19	5					--Loose brown clayey sand (SC)
			N=8 ▽	14					23				
			N=7 ▼	18									--Loose tan silty sand (SM)
	10												
			N=3	22					55				--Soft grayish tan sandy lean clay (CL)
	15												18.0
			N=76	25									Very dense red and gray gravelly sand (SM) at 19 feet
	20												20.0
													Bottom of boring at 20 feet
	25												
	30												

REMARKS:

TUBE SAMPLE | AUGER SAMPLE | SPLIT-SPOON | ROCK CORE | THD CONE PEN. | NO RECOVERY

LOG OF BORING NO. B-3

PROJECT: Home2 Suites Hotel — **SHEET** 1 of 1

CLIENT: Southern Hospitality Services LLC — **LOCATION:** Building South

DATE: 11/30/13 — **SURFACE ELEV:** +/- 118'

DRILLING METHOD(S): Auger

GROUNDWATER INFORMATION: Water not initially encountered but after 30 minutes water stayed at 5.5 feet depth

DEPTH (FT)	SAMPLE TYPE	N: SPT, BLOWS/FT T: THD, BLOWS/FT P: HAND PEN, TSF	MOISTURE CONTENT, %	DRY DENSITY POUNDS/CU.FT	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	MINUS NO. 200 SIEVE, %	COMPRESSIVE STRENGTH, KSF	FAILURE STRAIN (%)	CONFINING PRESSURE PSI	DESCRIPTION OF STRATUM
		N = 17	12		NP	NP	NP	17				Fill/reclaim material to 22 feet.
		N = 15	14									--Medium dense tan silty sand (SM) with gravel
5		N = 13	17					15				
		N = 1	17									--Very loose, wet tan silty sand with gravel (SM)
		N = 5	23					39				--Soft grayish tan sandy lean clay (CL)
10												
		N = 2	24									--Very loose grayish tan clayey sand (SC) with trace gravel
15												
		N = 4	23					24				--Loose clayey sand (SC) with trace gravel
20												22.0
		N = 76/7"	16									Very dense red clayey sandy gravel (GC) at 22 feet
25												25.0
												Bottom of boring at 25 feet
30												

TUBE SAMPLE | AUGER SAMPLE | SPLIT SPOON | ROCK CORE | THD CONE PEN. | NO RECOVERY

REMARKS:

LOG OF BORING NO. B-4

PROJECT: Home2 Suites Hotel

SHEET 1 of 1

CLIENT: Southern Hospitality Services LLC

LOCATION: Building West Center

DATE: 11/27/13

SURFACE ELEV: +/- 118'

DRILLING METHOD(S): Auger

GROUNDWATER INFORMATION: Water encountered at 8 feet depth but after 48 hours stayed at 26 inches.

FIELD DATA				LABORATORY DATA									
SOIL & ROCK SYMBOL	DEPTH (FT)	SAMPLE TYPE	N: SPT, BLOWS/FT T: THD, BLOWS/FT P: HAND PEN, TSF	MOISTURE CONTENT, %	DRY DENSITY POUNDS/CU.FT	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	MINUS NO. 200 SIEVE, %	COMPRESSIVE STRENGTH, KSF	FAILURE STRAIN (%)	CONFINING PRESSURE PSI	DESCRIPTION OF STRATUM
			N = 4	18		24	17	7					Fill/reclaim material to approximately 20 feet.
			N = 10 ▽	15					32				--Loose brown silty sand (SM)
	5		N = 1	22									--Very loose clayey sand (SC-SM)
			N = 1	23					41				
			N = 2 ▼	20									--Very loose tan silty sand (SM)
	10												
			N = 0	22					43				--Very loose gray clayey sand (SC)
	15												
			N = 14	12									--Medium dense gravelly clayey sand (SC), becomes dense below 19.5 feet
													19.5
	20												Dense red clayey sandy gravel (GC)
			N = 46	18					10				
	25												25.0
													Bottom of boring at 25 feet
	30												

REMARKS:

TUBE SAMPLE | AUGER SAMPLE | SPLIT-SPOON | ROCK CORE | THD CONE PEN. | NO RECOVERY

LOG OF BORING NO. B-5

PROJECT: Home2 Suites Hotel

SHEET 1 of 1

CLIENT: Southern Hospitality Services LLC

LOCATION: Paving Northwest

DATE: 11/27/13

SURFACE ELEV: +/- 118'

DRILLING METHOD(S): Auger

GROUNDWATER INFORMATION: No water encountered

FIELD DATA				LABORATORY DATA									
SOIL & ROCK SYMBOL	DEPTH (FT)	SAMPLE TYPE	N: SPT, BLOWS/FT T: THD, BLOWS/FT P: HAND PEN, TSF	MOISTURE CONTENT, %	DRY DENSITY POUNDS/CU.FT	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	MINUS NO. 200 SIEVE, %	COMPRESSIVE STRENGTH, KSF	FAILURE STRAIN (%)	CONFINING PRESSURE PSI	DESCRIPTION OF STRATUM
			N = 15	8		26	15	11	42				Fill/reclaim material full depth of borehole.
			N = 20	11									--Medium dense tan to brown clayey sand (SC)
	5		P = 1.0	15					52				--Medium stiff grayish tan sandy lean clay (CL)
			P = 0.5	17									--Soft below 6 feet
			P = 0.5	24					73				
	10												10.0
													Bottom of boring at 10 feet
	15												
	20												
	25												
	30												

REMARKS:

TUBE SAMPLE | AUGER SAMPLE | SPLIT-SPOON | ROCK CORE | THD CONE PEN. | NO RECOVERY

LOG OF BORING NO. B-6

PROJECT: Home2 Suites Hotel

SHEET 1 of 1

CLIENT: Southern Hospitality Services LLC

LOCATION: Paving Southwest

DATE: 11/30/13

SURFACE ELEV: +/- 119'

DRILLING METHOD(S): Auger

GROUNDWATER INFORMATION: No water encountered

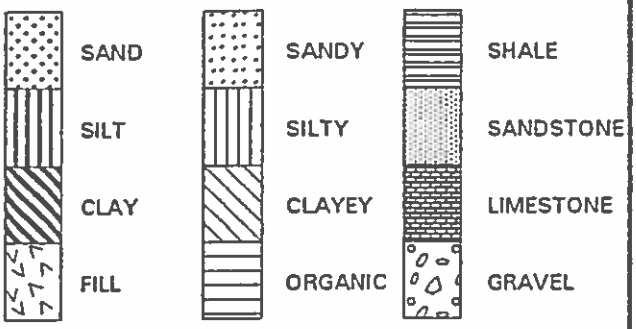
FIELD DATA				LABORATORY DATA									
SOIL & ROCK SYMBOL	DEPTH (FT)	SAMPLE TYPE	N: SPT, BLOWS/FT T: THD, BLOWS/FT P: HAND PEN, TSF	MOISTURE CONTENT, %	DRY DENSITY POUNDS/CU.FT	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	MINUS NO. 200 SIEVE, %	COMPRESSIVE STRENGTH, KSF	FAILURE STRAIN (%)	CONFINING PRESSURE PSI	DESCRIPTION OF STRATUM
			N = 4	12		21	15	6					Fill/reclaim material full depth of borehole.
			N = 27	5					30				--Loose to medium dense tan clayey silty sand (SC-SM)
	5		N = 20	12		22	16	6					
			N = 17	15					35				--Medium dense tan to gray silty sand (SM)
			N = 13	18									
	10												10.0
													Bottom of boring at 10 feet
	15												
	20												
	25												
	30												

REMARKS:

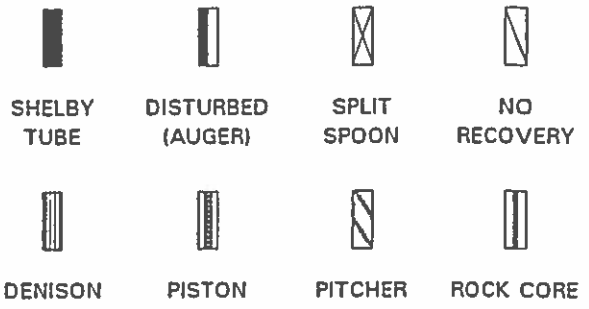
TUBE SAMPLE | AUGER SAMPLE | SPLIT-SPOON | ROCK CORE | THD CONE PEN. | NO RECOVERY

KEY TO SOIL CLASSIFICATION TERMS AND SYMBOLS

SOIL OR ROCK TYPES



SAMPLER TYPES



CONSISTENCY OF COHESIVE SOILS (MAJOR PORTION PASSING NO. 200 SIEVE)

DESCRIPTIVE TERM	UNDRAINED SHEAR STRENGTH, TONS/SQ FT
VERY SOFT	LESS THAN 0.25
SOFT	0.25 TO 0.5
FIRM	0.5 TO 1.0
STIFF	1.0 TO 2.0
VERY STIFF	2.0 TO 4.0
HARD	GREATER THAN 4.0

RELATIVE DENSITY OF GRANULAR SOILS (MAJOR PORTION RETAINED ON NO. 200 SIEVE)

DESCRIPTIVE TERM	RELATIVE DENSITY, %
VERY LOOSE	LESS THAN 15
LOOSE	15 TO 35
MEDIUM DENSE	35 TO 65
DENSE	65 TO 85
VERY DENSE	GREATER THAN 85

WATER LEVELS

▼ - DEPTH GROUNDWATER FIRST ENCOUNTERED DURING DRILLING

▽ - GROUNDWATER LEVEL AFTER 24 HOURS (UNLESS OTHERWISE NOTED)

TERMS DESCRIBING SOIL STRUCTURE

Parting: paper thin in thickness

Seam: 1/8" - 3" in thickness

Layer: greater than 3" in thickness

Calcareous: containing appreciable quanties of calcium carbonate

Ferrous: containing appreciable quantities of iron

Well-graded: having wide range in grain size & similar proportions of all intermediate sizes

Poorly graded: predominately one grain size or having a range of sizes with few or no particles of some intermediate sizes

Fissured: containing shrinkage cracks, frequently filled with fine sand or silt, usually more or less vertical

Interbedded: composed of alternate layers of different soil types

Laminated: composed of thin layers of varying color and texture

Slickensided: having inclined planes of weakness that are slick & glossy in appearance

NOTE: Clays possessing slickensided or fissured structure may exhibit lower measured shear strength than indicated by the described consistency. The consistency of such soil is interpreted using the measured shear strength along with pocket penetrometer results.

APPENDIX B

PROCEDURES AND SPECIFICATIONS

B.1. SPECIFICATIONS FOR COMPACTION

Sandy Clay and Clayey Sand Soils

The thickness of lifts used should be no more than the height of the teeth on sheepsfoot rollers. Generally, for a forty-eight (48) inch diameter or smaller drum roller, the maximum compacted lift thickness acceptable is six (6) inches. For rollers with drums of sixty (60) inches in diameter and larger with teeth about nine (9) inches long, a nine (9) inch final compacted lift thickness will be acceptable. The sole determination of the thickness of a lift will be the capability of the contractor's equipment to obtain the required compaction.

When obtaining the average density of a lift to determine its conformance to specifications, the lift should be immediately rejected if any density is more than 2% below the required average.

Generally, sheepsfoot rollers are most suitable for compaction of sandy clay and clayey sand soils, the contractor may use spiketooth rollers, rubber tired rollers, or any fill compaction equipment that has sufficient mass to compact the soil. Generally, the drums of sheepsfoot rollers should be filled with water or for additional weight with both water and sand. Tractors or other vehicles used primarily for hauling should not be allowed as fill compaction equipment. The contractor should also have smooth wheel rollers to seal the working area at the end of the day's operations so overnight rains will not saturate the soil and delay his work. These rollers should also be used to seal the surface whenever rainfall is imminent.

The geotechnical engineer or his representative will perform density tests and will accept or reject a lift within two (2) hours after being tested. No material will be placed on any lift that has not been accepted by the engineer.

B.2. COARSE AGGREGATE SPECIFICATIONS

Crushed Stone
Crushed Concrete

Crushed stone base course shall be composed of crusher-run broken stone. The material shall be crushed and consist of durable particles of stone mixed with approved soil binder material.

Gradation

The base material shall meet the following requirements:

Pass #1-1/2"	100%
Pass #1"	90 -100%
Pass #3/4"	70 -100%
Pass #4	35 - 65%
Pass #40	12 - 32%
Pass #200	5 -12%

Soil Binder

Material passing the No. 40 sieve shall be known as "soil binder" and shall meet the following requirements:
Liquid Limit < 25
Plasticity Index < 5

Note

Extra binder material may be added with the approval of the geotechnical or design engineer.

Soundness and Los Angeles abrasion tests should meet Louisiana Department of Transportation and Development (LDOT) specifications.

B.3. GEOTEXTILE FABRIC SPECIFICATIONS

The following proven woven Geotextile Fabrics are approved:

1. Amoco Pro Pex 2006
2. Beltech Style 980
3. ConTech C300
4. Mirafi 600X
5. Hanes (Terra Tex) HD

If alternate geotextile fabric from above is requested, the following qualifications should be met:

SPECIFICATIONS

Property	Test Method	Minimum Requirements
Fabric Structure	-	Woven
Polymer Composition	-	Polypropylene
Fabric Width	-	12½', 15', 17½'
Weight	ASTM D-3776C	5 oz. / yd.
Grab Strength	ASTM D-4632	300 x 300 lbs.
Elongation	ASTM D-4632	20%
Trap Tear Strength	ASTM D-4533	115 lbs. x 115 lbs.
Burst Strength	ASTM D-3786	575 psi.
Puncture	ASTM D-4833	120 lbs.
UV Resistance	ASTM D-4355	> 70%
A.O.S.	ASTM D-4751	35

NOTE:

1. Requires Mill Certification from manufacturer.
2. Minimum requirements are not minimum average values. Minimum average values per roll are not an acceptable specification.