PERMIT CARD INSTRUCTIONS

X The permit card must be displayed on street side of lot facing the street in a permanent, substantial shelter accessible to the inspector.

___ The permit card must remain displayed until all Final Inspections are completed.

___ No inspections will be made unless an approved set of plans is available at jobsite for the inspections.

___ Your first inspection must be made **within 180 days of permit issuance date**.

___ It is the contractor's (owner/builder's) responsibility to ensure that required inspections are made prior to proceeding with each stage of the project. Please refer to the list of required inspections given to you with your permit.

___ It is the contractor or owner/builder's responsibility to ensure corrections are made to items that have been red tagged, the red tags paid, and re-inspections performed and approved prior to proceeding with work. Failure of the contractor or owner/builder to request and receive re-inspections before proceeding with additional work may result in disciplinary action or a fine against the contractor or owner/builder.

___ Final Inspections must be requested within ten (10) days of completion of your project.

___ Final Inspections that have been red tagged must be re-inspected within seven (7) days. All red tags fees must be paid prior to next inspection. (sometimes computer will allow inspections up to FINALS)

___ You must have **a completed inspection within every 180 days** for your permit to remain active. If a completed inspection is not obtained your permit may become inactive and require you to pay additional fees to reactivate the permit.

1255167

___ **The life of the permit is 2 years from date of issuance.**

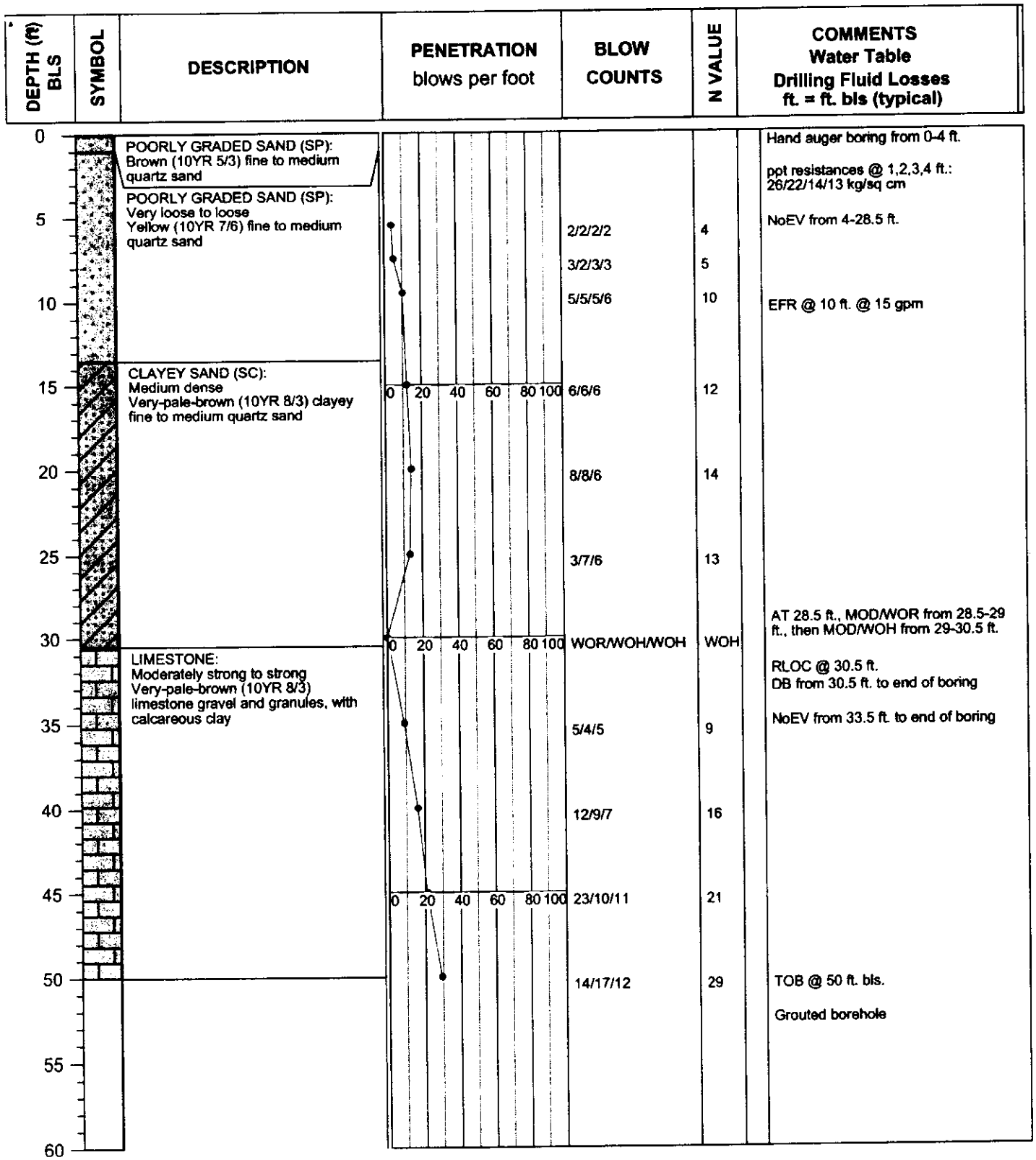
I have read and understand the permit card instructions as listed above.

COPY

Owner/Contractor Signature

Permit Representative: ______________

Date: 3-4-11



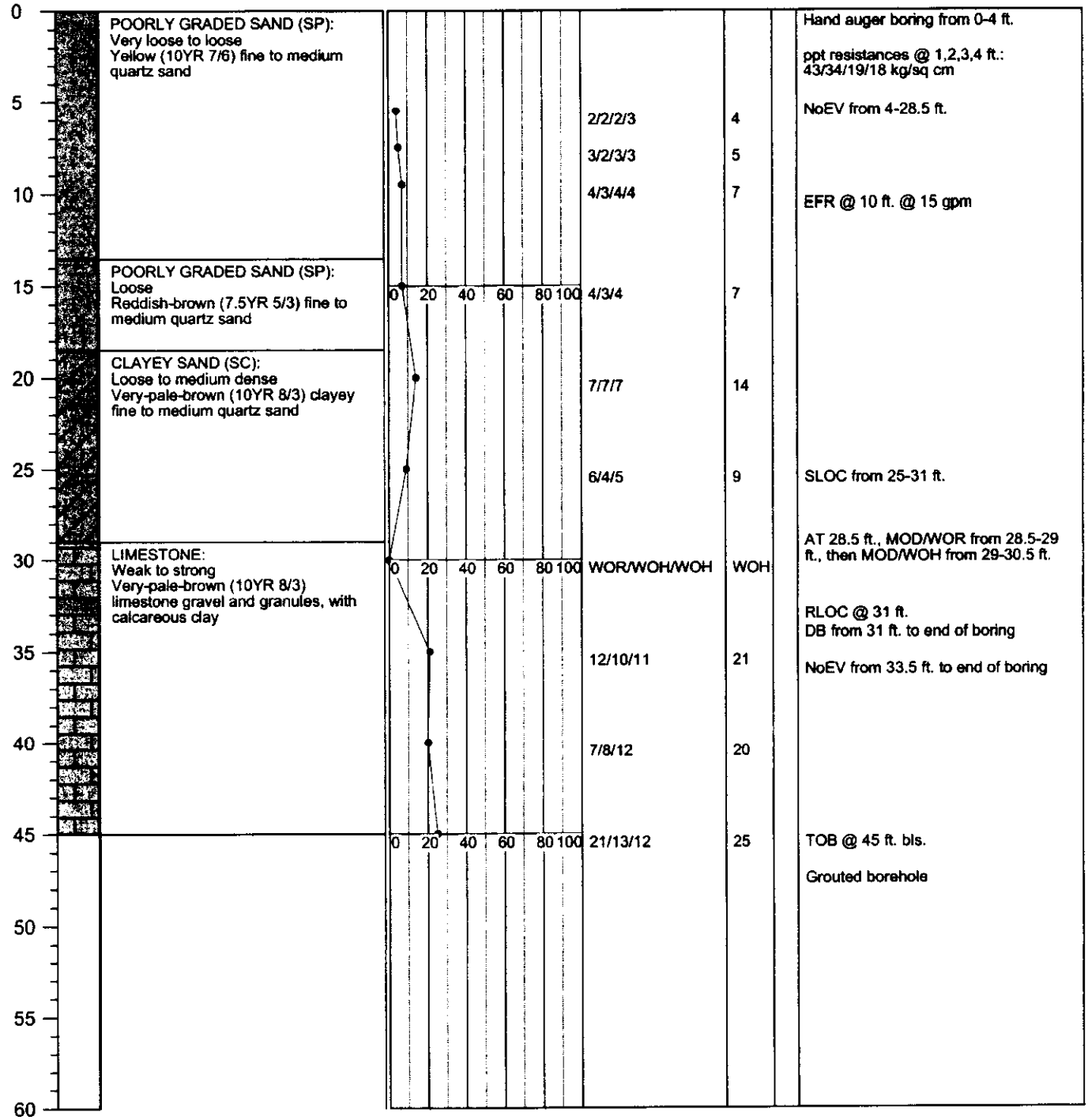
STATE FARM FLORIDA INSURANCE COMPANY
TAMPA, FLORIDA

EDI

SPT BORING LOG

SITE NAME: LLC JUST LIKE HOME PROPERTY
SITE LOCATION: WEEKI WACHEE, FLORIDA

DESIGNED BY:	JMW	PROJECT NO:	3027229	BORING B-4
CHECKED BY:	MLF	BORING DATE:	01/05/10	
DRAWN BY:	MVK	PAGE NO.:	1 OF 1	



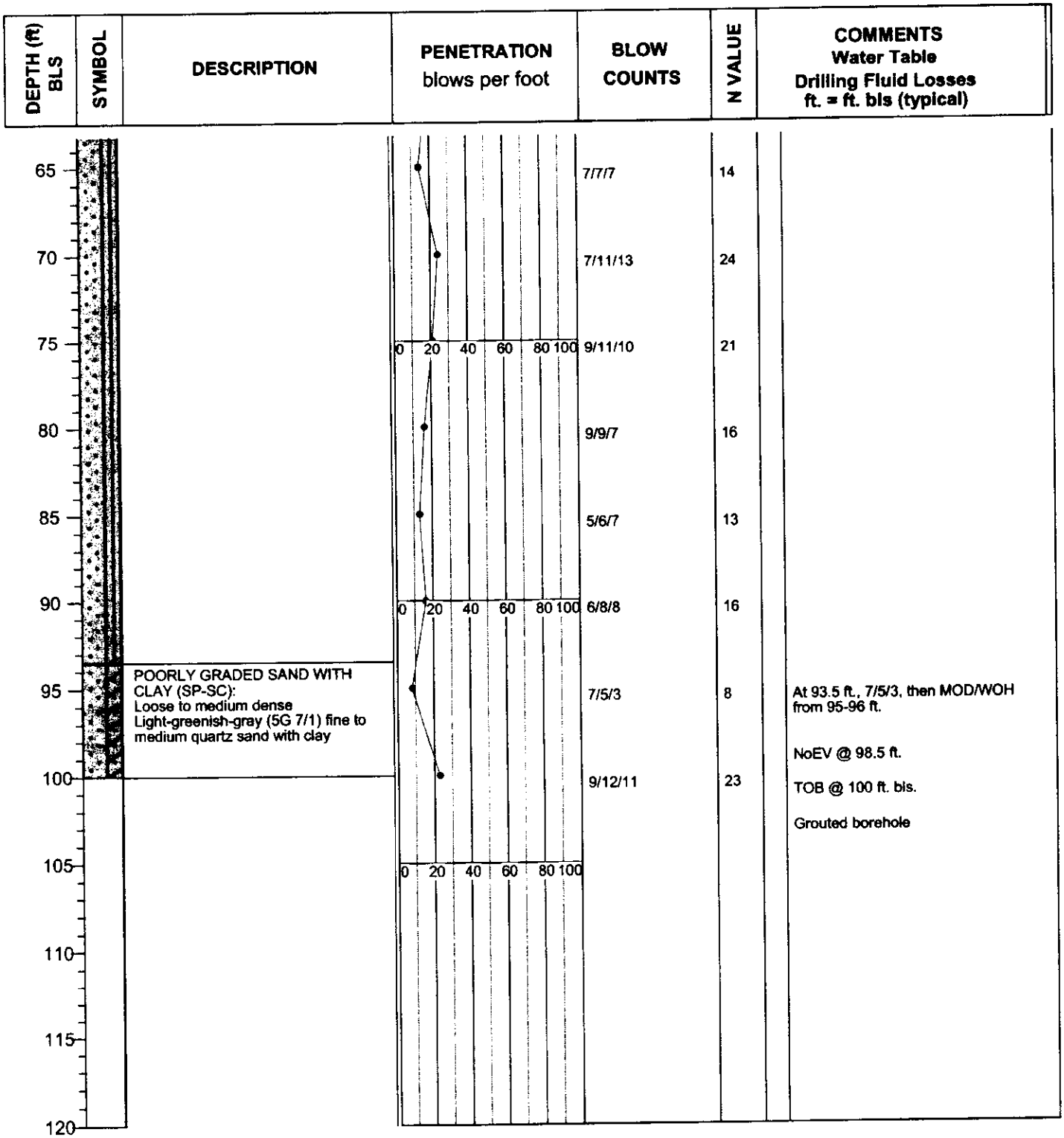
STATE FARM FLORIDA INSURANCE COMPANY
TAMPA, FLORIDA

EDI

SPT BORING LOG

SITE NAME: LLC JUST LIKE HOME PROPERTY
SITE LOCATION: WEEKI WACHEE, FLORIDA

DESIGNED BY:	JMW	PROJECT NO:	3027229	BORING B-3
CHECKED BY:	MLF	BORING DATE:	01/05/10	
DRAWN BY:	MVK	PAGE NO.:	1 OF 1	



STATE FARM FLORIDA INSURANCE COMPANY
TAMPA, FLORIDA

SPT BORING LOG

SITE NAME: LLC JUST LIKE HOME PROPERTY
SITE LOCATION: WEEKI WACHEE, FLORIDA

DESIGNED BY:	JMW	PROJECT NO:	3027229	BORING
CHECKED BY:	MLF	BORING DATE:	12/22/10	B-2
DRAWN BY:	MVK	PAGE NO.:	2 OF 2	

DEPTH (ft) BLS	SYMBOL	DESCRIPTION	PENETRATION blows per foot	BLOW COUNTS	N VALUE	COMMENTS Water Table Drilling Fluid Losses ft. = ft. bls (typical)
0		POORLY GRADED SAND (SP): Loose Yellow (10YR 7/6) fine to medium quartz sand				Hand auger boring from 0-4 ft.
						ppt resistances @ 1,2,3,4 ft.: 32/16/12/4 kg/sq cm
5				2/2/3/4	5	NoEV from 4-95 ft.
				2/3/2/3	5	
10				4/3/4/4	7	EFR @ 10 ft. @ 18 gpm
15		POORLY GRADED SAND (SP): Loose Reddish-brown (7.5YR 8/3) fine to medium quartz sand	0 20 40 60 80 100	3/4/4	8	
20		POORLY GRADED SAND WITH SILT (SP-SM): Loose to medium dense Brown (10YR 5/3) fine to medium quartz sand with silt and trace organics		5/9/9	18	
25				3/4/6	10	
30			0 20 40 60 80 100	6/8/8	16	
35				4/6/6	12	
40				5/6/7	13	
45		POORLY GRADED SAND (SP): Loose Light-gray (10YR 7/1) fine to medium quartz sand	0 20 40 60 80 100	4/6/4	10	
50		POORLY GRADED SAND WITH SILT (SP-SM): Medium dense Very-pale-brown (10YR 8/3) fine to medium quartz sand with silt		8/14/15	29	
55				6/8/9	17	
60			0 20 40 60 80 100	8/9/10	19	

STATE FARM FLORIDA INSURANCE COMPANY TAMPA, FLORIDA

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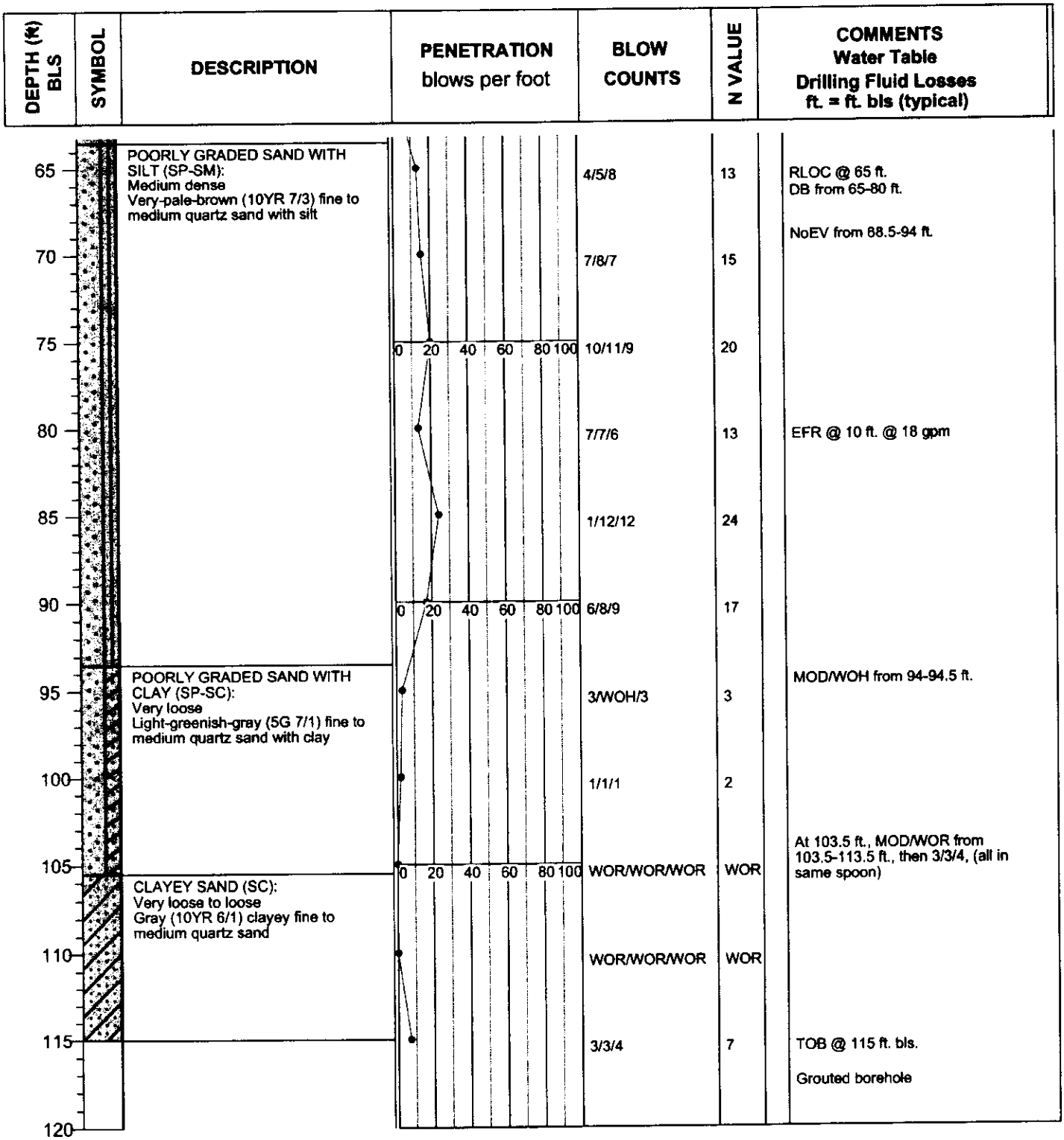
SPT BORING LOG

SITE NAME: LLC JUST LIKE HOME PROPERTY
SITE LOCATION: WEEKI WACHEE, FLORIDA

DESIGNED BY:	JMW	PROJECT NO:	3027229	BORING B-2
CHECKED BY:	MLF	BORING DATE:	12/22/10	
DRAWN BY:	MVK	PAGE NO.:	1 OF 2	



STATE FARM FLORIDA INSURANCE COMPANY
TAMPA, FLORIDA

EDI

SPT BORING LOG

SITE NAME: LLC JUST LIKE HOME PROPERTY
SITE LOCATION: WEEKI WACHEE, FLORIDA

DESIGNED BY:	JMW	PROJECT NO:	3027229	BORING B-1
CHECKED BY:	MLF	BORING DATE:	12/22/10	
DRAWN BY:	MVK	PAGE NO.:	2 OF 2	

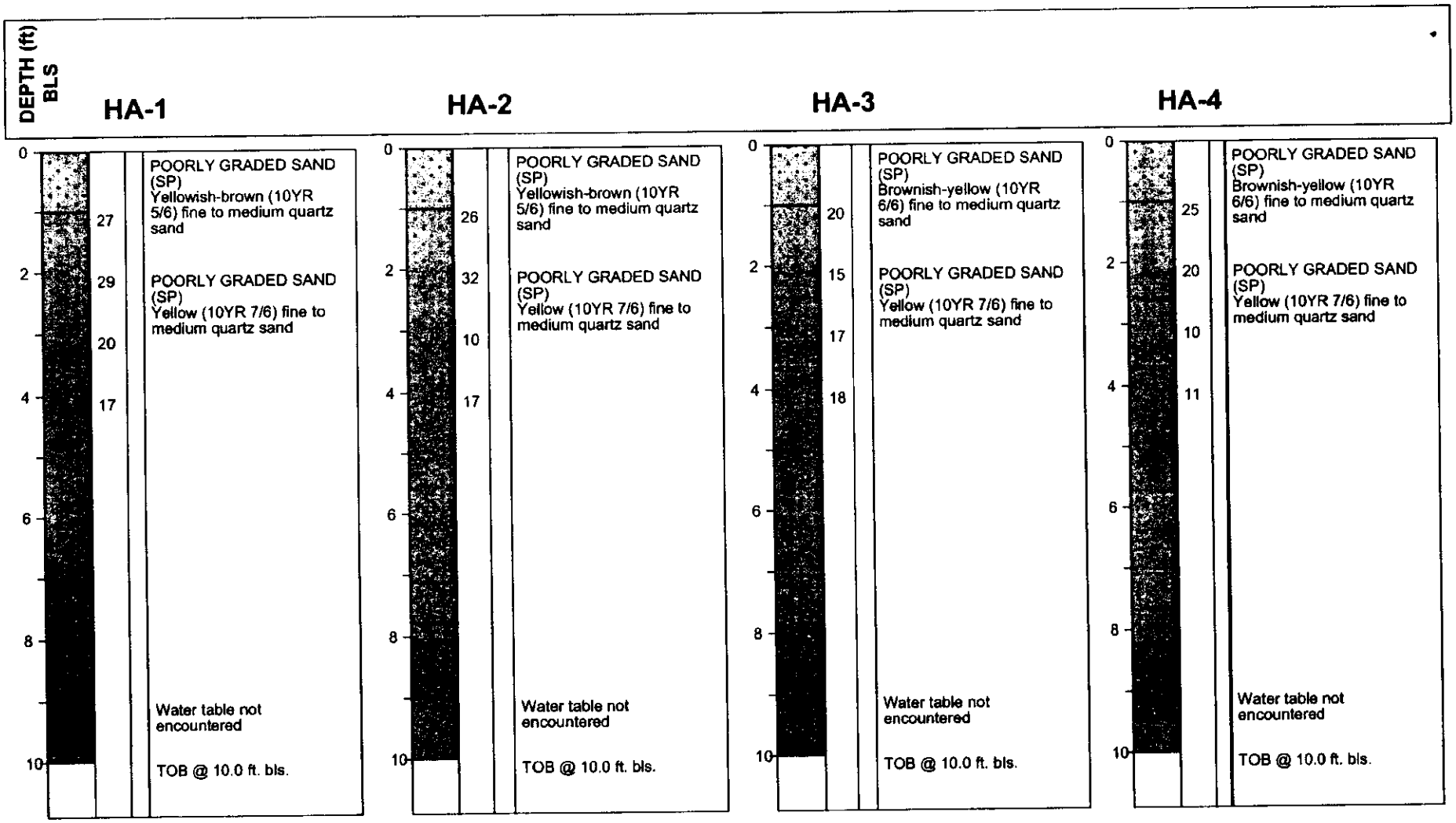
DEPTH (ft) BLS	SYMBOL	DESCRIPTION	PENETRATION blows per foot	BLOW COUNTS	N VALUE	COMMENTS Water Table Drilling Fluid Losses ft. = ft. bls (typical)
0		POORLY GRADED SAND (SP): Loose Yellow (10YR 7/6) fine to medium quartz sand				Hand auger boring from 0-4 ft.
						ppt resistances @ 1,2,3,4 ft.: 30/17/9/7 kg/sq cm
5				2/2/3/3	5	NoEV from 4-58.5 ft.
				3/2/4/3	6	
10				3/4/5/5	9	EFR @ 10 ft. @ 18 gpm
15		POORLY GRADED SAND WITH SILT (SP-SM): Medium dense Brown (10YR 5/3) fine to medium quartz sand with silt and trace organics	0 20 40 60 80 100	4/6/6	12	
20				5/7/7	14	
25				4/5/6	11	
30		POORLY GRADED SAND (SP): Loose to medium dense White (10YR 8/1) fine to medium quartz sand	0 20 40 60 80 100	5/5/5	10	
35				4/5/5	10	
40				5/8/7	15	
45			0 20 40 60 80 100	8/8/8	16	
50				9/8/7	15	
55		POORLY GRADED SAND WITH SILT (SP-SM): Very loose to loose Gray (10YR 6/1) fine to medium quartz sand with silt and trace organics		2/3/2	5	
60			0 20 40 60 80 100	WOR/WOR/WOR	WOR	At 58.5 ft., MOD/WOR from 58.5-63.5 ft., then 4/5/8, (all in same spoon)

STATE FARM FLORIDA INSURANCE COMPANY
TAMPA, FLORIDA

SPT BORING LOG

SITE NAME: LLC JUST LIKE HOME PROPERTY
SITE LOCATION: WEEKI WACHEE, FLORIDA

DESIGNED BY:	JMW	PROJECT NO:	3027229	BORING B-1
CHECKED BY:	MLF	BORING DATE:	12/22/10	
DRAWN BY:	MVK	PAGE NO.:	1 OF 2	



APPROX WATER TABLE ▽ APPROX SEASONAL HIGH WATER TABLE ⚖ APPROX ANALYZED SOIL HORIZON TOB TERMINATION OF BORING

NOTE:
SECOND COLUMN FROM LEFT INDICATES APPROXIMATE PUSH PENETRATION VALUES IN Kg/cm2 (WHERE APPLICABLE)

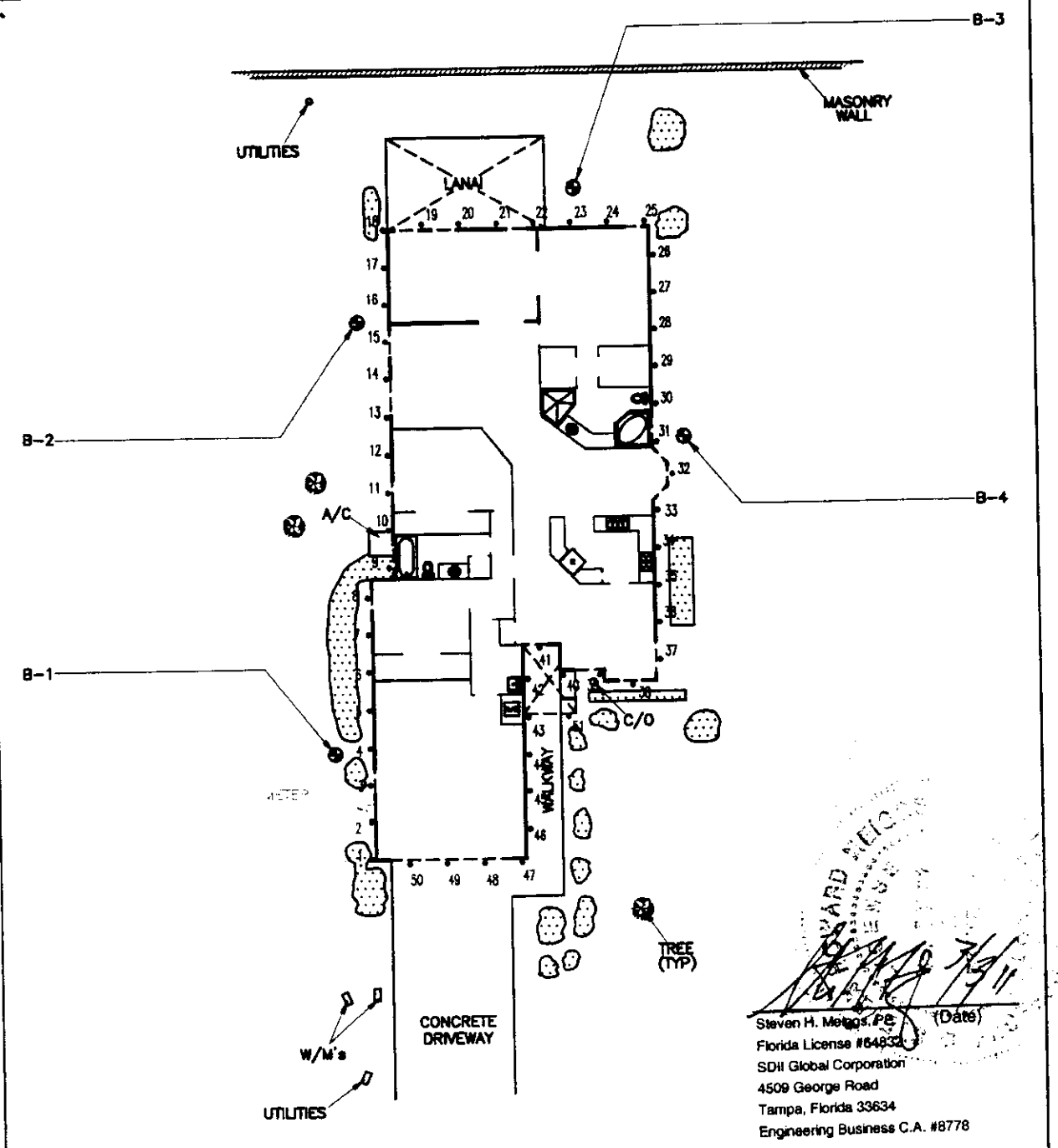
STATE FARM FLORIDA INSURANCE COMPANY TAMPA, FLORIDA

EDI

HAND AUGER BORING LOGS

SITE NAME: LLC JUST LIKE HOME PROPERTY
SITE LOCATION: WEEKI WACHEE, FLORIDA

DESIGNED BY:	JMW	PROJECT NO.:	3027229	HAND AUGER 1 thru 4
CHECKED BY:	MLF	BORING DATE:	12/07/10	
DRAWN BY:	MVK	PAGE NO.:	1 OF 1	



Steven H. Mellgs, P.E. (Date)
Florida License #64832
SDII Global Corporation
4509 George Road
Tampa, Florida 33634
Engineering Business C.A. #8778

● INDICATES APPROXIMATE LOCATION OF VERTICAL CHEMICAL INJECTION POINT

B-1 ⊕ APPROXIMATE LOCATION OF SPT BORING WITH DESIGNATION

APPROXIMATE LOCATION OF AREA PARTIALLY OR TOTALLY INACCESSIBLE TO GPR SURVEY

N

0 20'

SCALE

NOTES:
1) MAXIMUM INJECTION SPACING IS 5'-0" O.C.
2) CONTRACTOR TO SUBMIT PROPOSED INJECTION PLAN TO SDII FOR APPROVAL

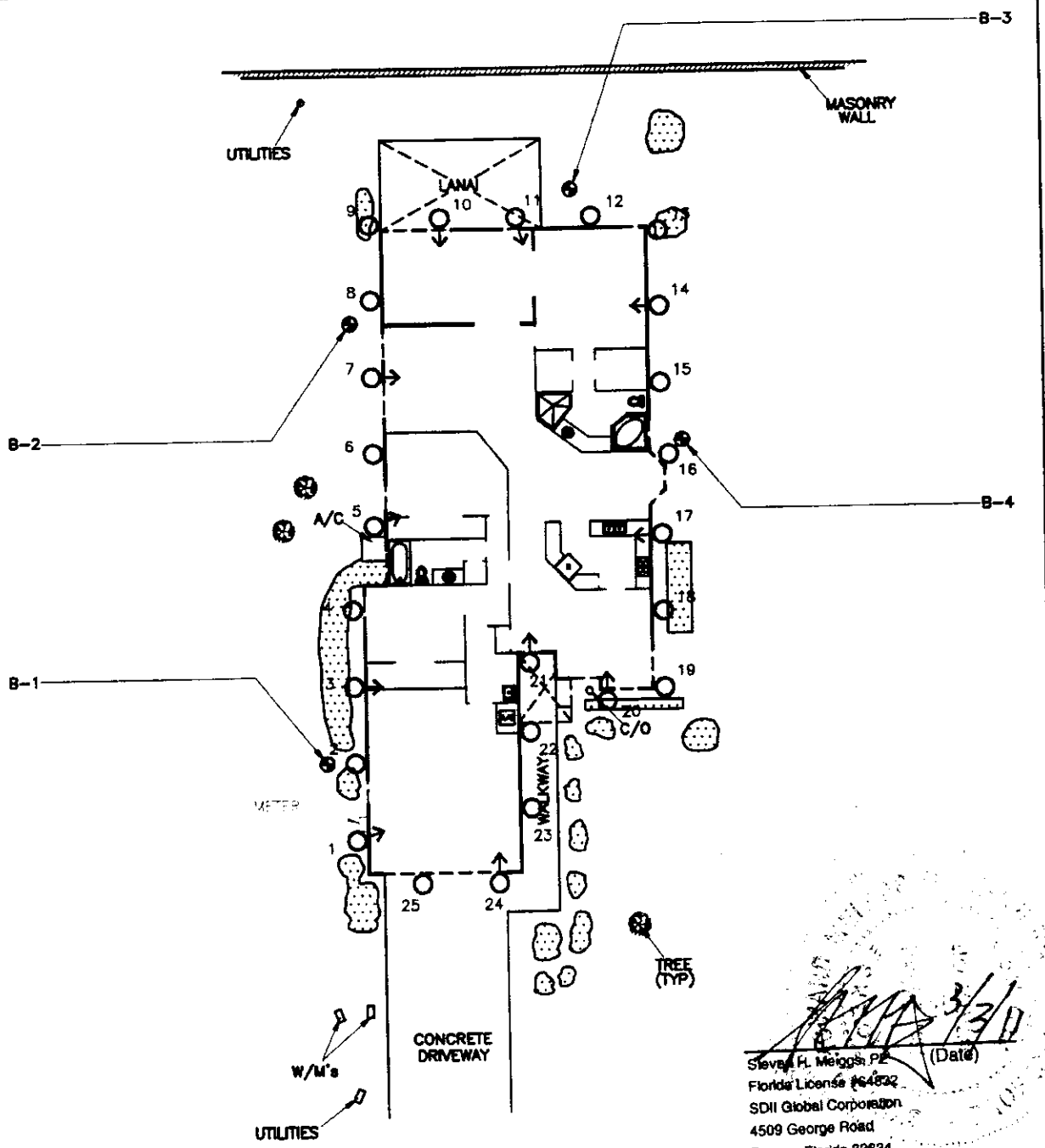
STATE FARM FLORIDA INSURANCE COMPANY TAMPA, FLORIDA

SDII

SITE PLAN SHOWING APPROXIMATE LOCATION OF CHEMICAL INJECTION POINTS

LLC JUST LIKE HOME PROPERTY
WEEKI WACHEE, FLORIDA

DESIGNED BY:	SHM	PROJECT NO.:	3027229	FIGURE
CHECKED BY:	SHM	DRAWING NO.:	7229-7	7
CREATED BY:	SMS	DATE:	12/22/10	



Steven H. Meiggs, PE (Date)
Florida License #64832
SDII Global Corporation
4509 George Road
Tampa, Florida 33634
Engineering Business C.A. #8778

NOTE:
GROUT POINT LOCATIONS TO BE AS CLOSE TO PERIMETER OF STRUCTURE AS POSSIBLE.
1.5 FEET OPTIMAL, BUT NO MORE THAN 3 FEET UNLESS APPROVED BY OVERSEEING GEOTECHNICAL ENGINEER.

STATE FARM FLORIDA INSURANCE COMPANY
TAMPA, FLORIDA

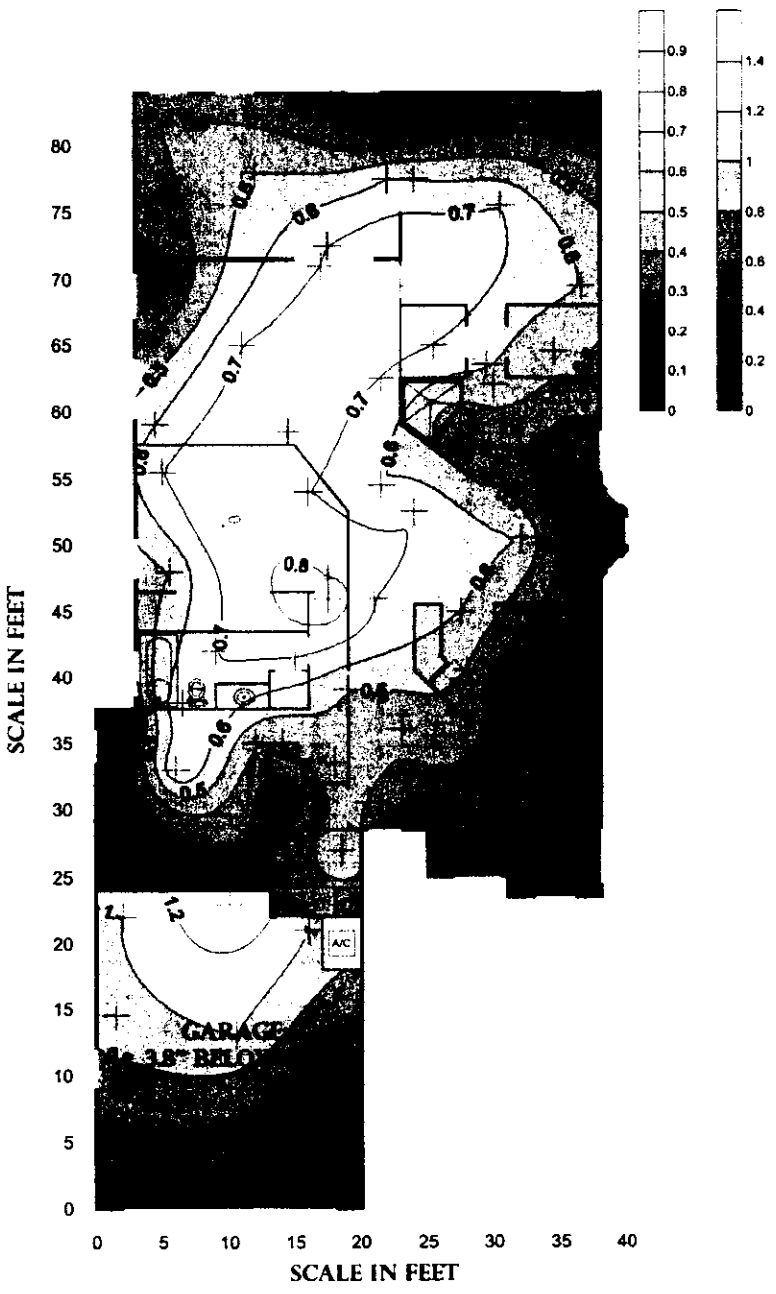
SDII

SITE PLAN SHOWING APPROXIMATE LOCATION OF GROUT INJECTION POINTS

LLC JUST LIKE HOME PROPERTY
WEEKI WACHEE, FLORIDA

DESIGNED BY:	SHM	PROJECT NO.:	3027229	FIGURE 6
CHECKED BY:	SHM	DRAWING NO.:	7229-6	
CREATED BY:	SMS	DATE:	12/22/10	

NOTE: COLOR SCALES DENOTE
RELATIVE ELEVATION IN INCHES



\+ INDICATES POINT OF MANOMETER DATA COLLECTION

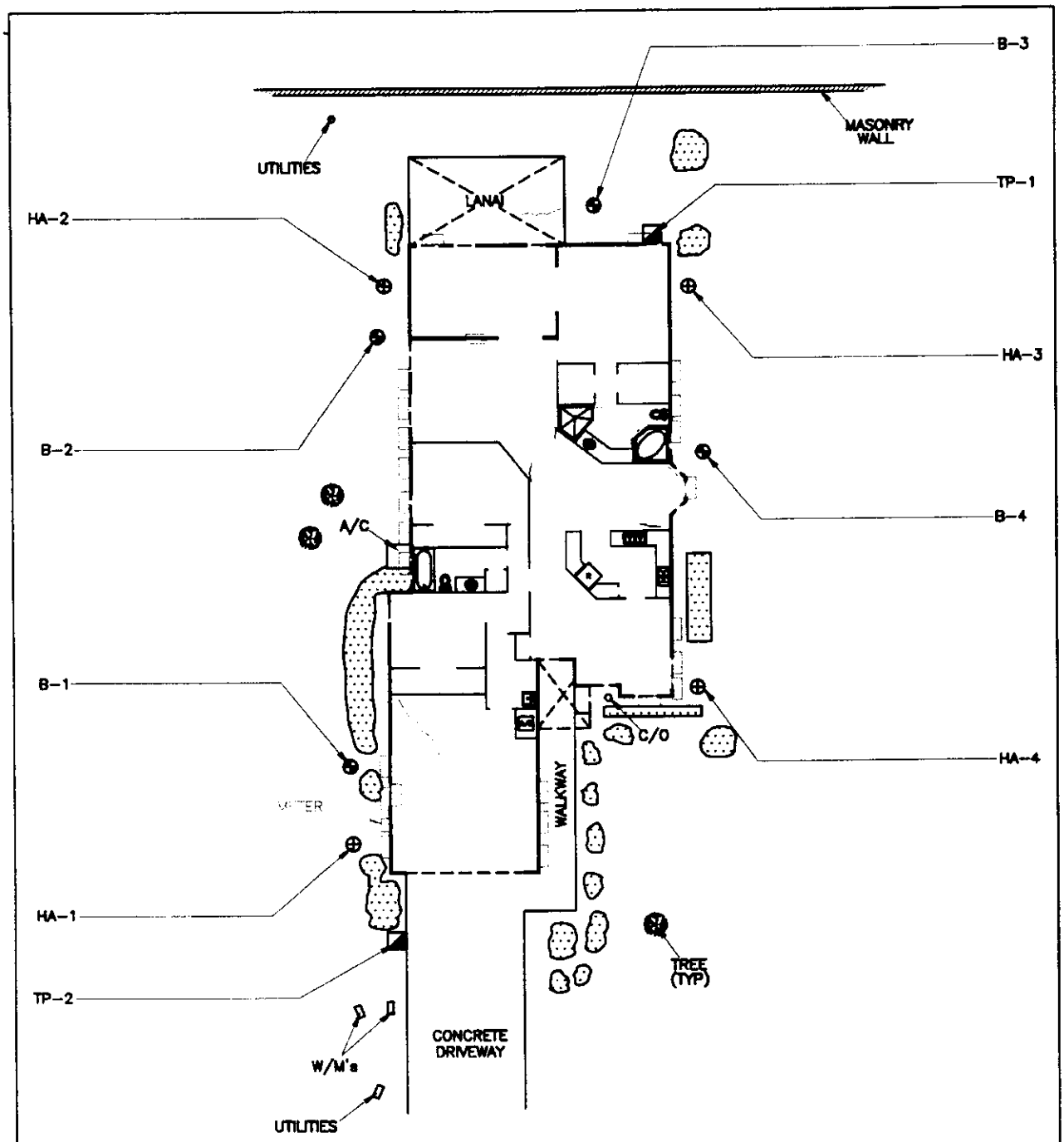
▼ APPROXIMATE LOCATION OF MANOMETER

FFE FINISHED FLOOR ELEVATION OF MAIN LIVING AREA

N

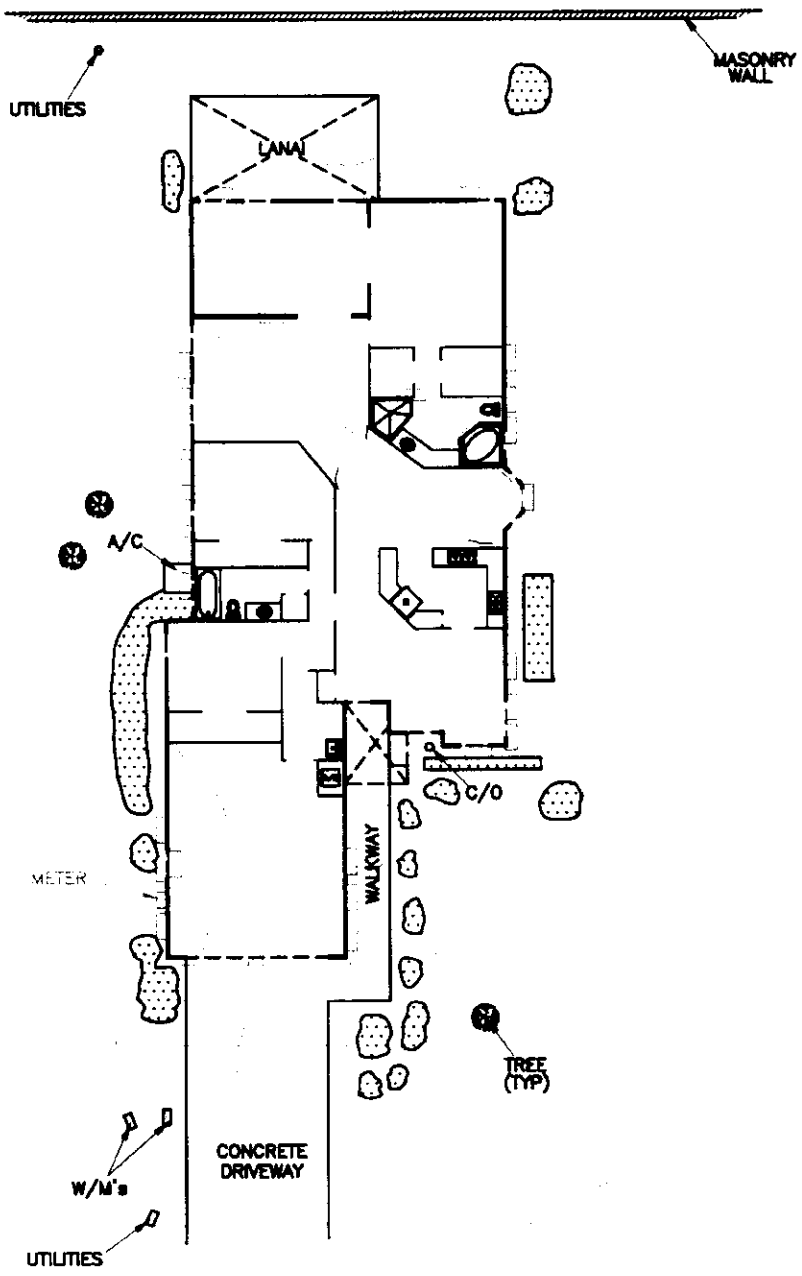
STATE FARM FLORIDA INSURANCE COMPANY TAMPA, FLORIDA		RELATIVE FLOOR ELEVATION CONTOUR MAP LLC JUST LIKE HOME PROPERTY WEEKI WACHEE, FLORIDA

FIELD DATA:	LL	PROJECT NO.:	3027229	FIGURE 5
CHECKED BY:	THF	DRAWING NO.:	7229-5	
DRAWN BY:	LAR	DATE:	12/22/10	



STATE FARM FLORIDA INSURANCE COMPANY TAMPA, FLORIDA	EDI	SITE PLAN SHOWING APPROXIMATE LOCATION OF FIELD TESTS LLC JUST LIKE HOME PROPERTY WEEKI WACHEE, FLORIDA

DESIGNED BY:	MDZ	PROJECT NO.:	3027229	FIGURE 4
CHECKED BY:	SU	DRAWING NO.:	7229-4	
CREATED BY:	SMS	DATE:	12/22/10	



APPROXIMATE LOCATION OF GPR TRANSECT LINE
APPROXIMATE LOCATION OF SUBSURFACE ANOMALY WITH DESIGNATION
APPROXIMATE LOCATION OF AREA PARTIALLY OR TOTALLY INACCESSIBLE TO GPR SURVEY
APPROXIMATE LOCATION OF CRACKING/SEPARATION ON WALLS
APPROXIMATE LOCATION OF CRACKING/SEPARATION IN CONCRETE SLAB
APPROXIMATE LOCATION OF CRACKING IN CEILING

N

0 20'

SCALE

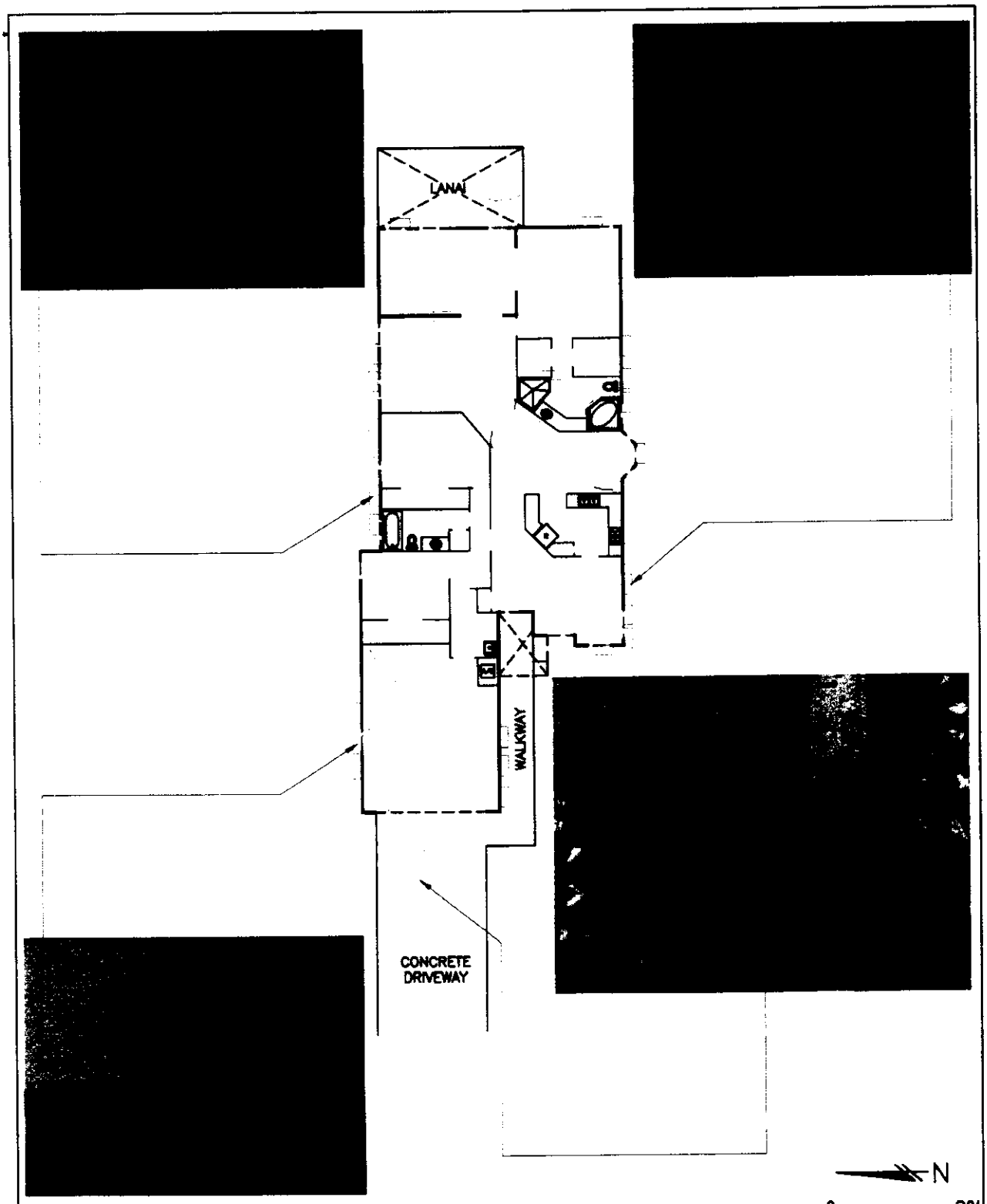
STATE FARM FLORIDA INSURANCE COMPANY
TAMPA, FLORIDA

EDI

SITE PLAN SHOWING APPROXIMATE LOCATION OF GPR SURVEY AND RESULTS

LLC JUST LIKE HOME PROPERTY
WEEKI WACHEE, FLORIDA

DESIGNED BY:	MDZ	PROJECT NO.:	3027229	FIGURE 3
CHECKED BY:	SU	DRAWING NO.:	7229-3	
CREATED BY:	SMS	DATE:	12/22/10	



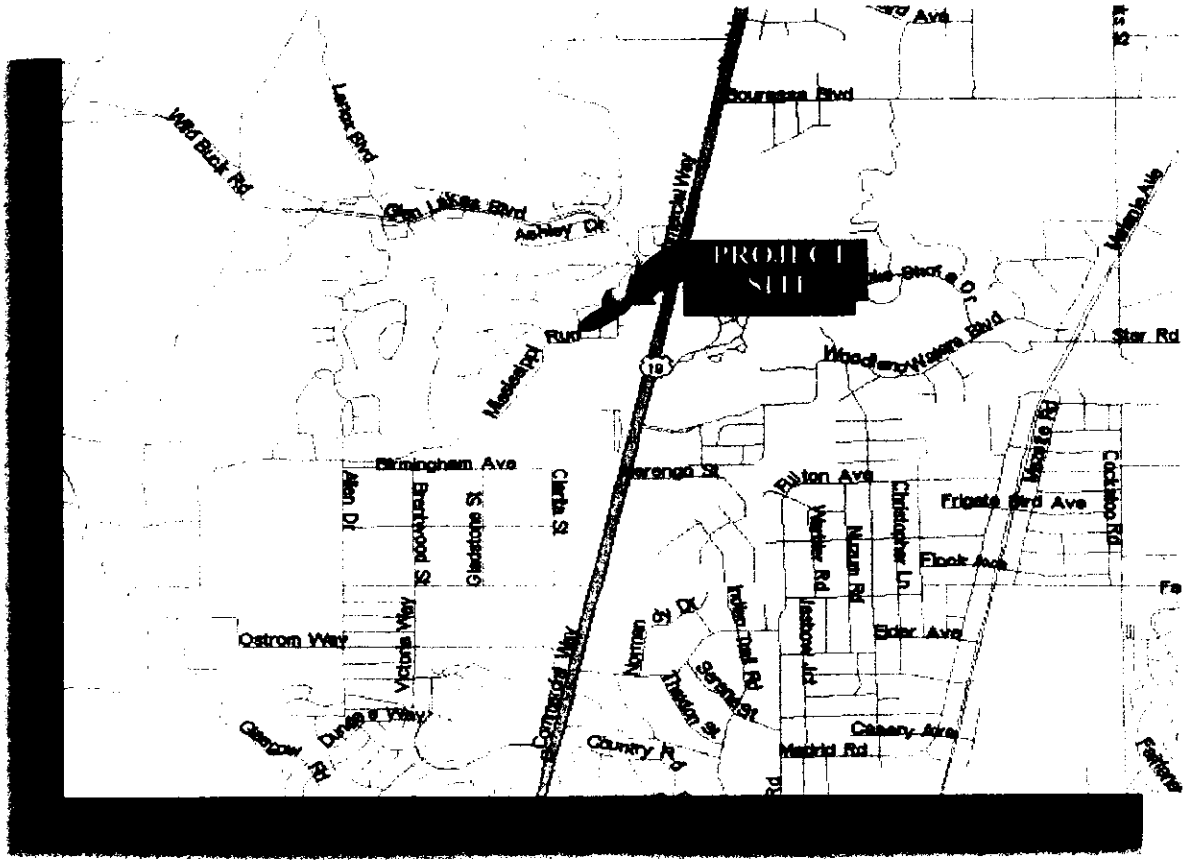
STATE FARM FLORIDA INSURANCE COMPANY
TAMPA, FLORIDA

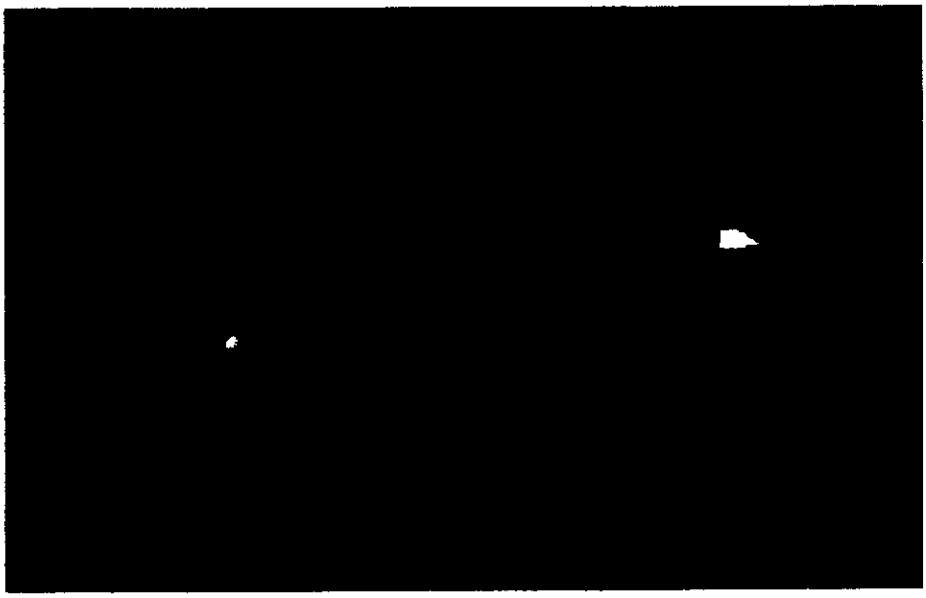
EDI

SITE PLAN SHOWING APPROXIMATE LOCATION AND EXAMPLES OF OBSERVED DAMAGE

LLC JUST LIKE HOME PROPERTY
WEEKI WACHEE, FLORIDA

DESIGNED BY:	MDZ	PROJECT NO.:	3027229	FIGURE
CHECKED BY:	SU	DRAWING NO.:	7229-2	2
CREATED BY:	SMS	DATE:	12/22/10	





N
NOT TO SCALE

STATE FARM FLORIDA INSURANCE COMPANY TAMPA, FLORIDA		PROJECT SITE LOCATION MAP		
		LLC JUST LIKE HOME PROPERTY WEEKI WACHEE, FLORIDA		
		CHECKED BY: MLF DRAWN BY: LAR	PROJECT NO.: 3027229 DRAWING NO.: 7229-1 DATE: 12/22/10	FIGURE 1

6.0 ENDORSEMENTS

6.1 Compliance with Florida Statute Title XXXVII Chapter 627.7073

This report followed the statutory requirements that it be prepared by an individual qualified to determine the existence of sinkhole activity and that the tests performed be of sufficient scope to identify sinkhole activity as the cause of damage. SDII certifies that this investigation was of sufficient scope to determine the cause(s) of damage within a reasonable professional probability as specified in §627.7073 Florida Statutes.

In accordance with Florida Statutes, the following individuals, who are licensed to practice in the State of Florida and are Principals of SDII, have supervised this investigation and report

SDII GLOBAL CORPORATION
4509 George Road, Tampa, FL 33634
FBPE Certificate of Authorization 8778
FBPG Certificate of Authorization GB91

1255167

Thomas L. Dobecki, Ph.D., P.G.
Geologist of Record
Florida License Number PG2299
(Geological Interpretation)

Thomas H. Fisher, P.E.
Structural Engineer of Record
Florida License Number 39027
(Structural Evaluation)

Steven H. Meiggs, P.E., PG, PSSC
Geotechnical Engineer of Record
Florida License Number 64832
Florida License Number PG2352
(Geotechnical Evaluation and Remediation Plan)

5.4 Conditions Described in this Report

Subsurface conditions and the construction and damage to the structure(s) investigated by SDII are subject to change. The conditions described in this report are, to the best of our knowledge, current at the time of the investigation, and they may not reflect historical or post-investigation conditions.

5.5 Use of This Report

This report was prepared for the exclusive use of State Farm Florida Insurance Company and its assigns. Use by persons or groups without the permission of State Farm Florida Insurance Company is not authorized.

5.0 LIMITATIONS

5.1 Ground Penetrating Radar

According to ASTM D6429, GPR is the preferred method for investigating "voids and sinkholes". This is because the method provides high-resolution data with a minimum of interferences. GPR has been used in similar investigations to help identify shallow subsurface conditions that are frequently associated with karst features. In many cases, a GPR investigation has resulted in the identification and mapping of the boundaries of karst features and has helped characterize their size and geometry. However, this method is limited to the ability of the GPR unit to collect interpretable data at the project site. There is a possibility that karst features may exist at the project site and not be detected by the GPR technique due to small size, subsurface soil conditions, or the occurrence of such karst features below the depth of penetration of the GPR signal. Note that many GPR anomalies are not sinkhole or karst features. The presence of an anomaly should not be construed to reflect sinkhole activity simply because of its existence.

5.2 Standard Penetration Test and Hand Auger Borings

The determination of soil type and conditions was only done from the ground surface to the maximum depth of the borings. Any changes in subsurface conditions that occur between or below the borings would not have been detected or reflected in this report.

The maximum depth of hand auger borings is 10 feet bls unless otherwise noted.

Soil classifications are based upon identifiable textural changes, color changes, changes in composition, or changes in resistance to penetration at the intervals from which such samples were collected. Abrupt changes in soil type, as reflected in boring logs and/or cross sections, may actually represent gradual transitions.

Depth to the water table is based upon observations made while advancing hand augers and SPT borings. This depth is an estimate and does not reflect the annual or extreme variations that occur in this area due to fluctuations in rainfall, pumpage, and rates of evapotranspiration. Low permeability soils or sediments may not allow water to freely enter the borehole and, therefore, the water table may not be evident or it may only represent a transient condition. The depths are estimated from the immediate land surface, which is not surveyed or tied to a known reference elevation.

5.3 Site Figures

The measurements used for the preparation of the figures in this report were made with a fiberglass measuring tape or measuring wheel. Such measurements are usually accurate to within ±5 percent. Right angles were estimated from existing exterior walls at the house; such angles are usually accurate to within 5 degrees. Figures in this report were not prepared by a licensed land surveyor and should not be interpreted as such.

4.0 CONCLUSIONS

It is SDII's opinion, within a reasonable professional probability, that sinkhole activity as defined by §627.706 Florida Statutes exists at the LLC Just Like Home property. Sinkhole activity was identified through the presence of: (1) the pattern of systematic declining N values through sandy soils in SPT boring B-1; (2) multiple feet of weight-of-rod/hammer strength material in SPT boring B-1; (3) the loss of drilling fluid circulation within the sand with silt layer in SPT boring B-1 from 65 to 80 feet bls; and (4) the difference in depth to limestone in SPT borings B-3 and B-4 as compared to borings B-1 and B-2.

It is also SDII's opinion, within a reasonable professional probability, that the damage to the residence is consistent with minor differential foundation movement; normal shrinkage cracking of un-reinforced or mildly reinforced concrete and masonry; long-term deflection of the roof structure; post-construction structural settlement; and minor thermal and moisture induced volume changes of construction materials including gypsum board, wood trim and framing, stucco, and fasteners. Further, it is the opinion of SDII that the sinkhole activity identified at the site has contributed to the damage. The observed damage on the exterior and interior of the residence is cosmetic in nature, in that the damage has not impaired the ability of the structure to support intended loads.

SDII recommends that the sinkhole conditions be remediated using compaction grout injection to increase the density of the soils and cap the limestone. Following the compaction grout injection, due to the presence of very loose shallow soils identified in the hand auger and SPT borings that may not sufficiently be densified through compaction grouting, SDII recommends a program of shallow chemical grout injection to stabilize the shallow soils around the perimeter of the residence. SDII also recommends that the remediation program be monitored in order to verify that it is completed in accordance with our recommendations.

to unforeseen site conditions. This will also allow the engineer who created the remedial design to certify that the remediation met design specifications.

Please note that the observed damages are not structurally significant in that they do not compromise the load capacity of structural members or systems and are primarily cosmetic in nature. From a structural viewpoint (the above ground structure), underpins are typically used for two reasons. The first involves re-leveling the foundation and floor slab of a structure that has been significantly affected by settlement distress. A second structural reason for the use of underpins at a residence is to close relatively wide cracks in structures that have been caused by settlement conditions. As neither of these reasons exist at this time, the use of underpins has not been recommended.

and at depths less than 60 feet bls, injection pressures should be limited to 300 psi. Additionally, no more than 10 yards of grout should be injected into any single point within a six-hour period. The elevation of the structure, and any within 30 feet of the injection point, should be monitored continuously during the grouting process to minimize unnecessary upward movement.

The total quantity of grout required can vary based on site conditions, but is likely to be between 325 and 425 cubic yards (cy). The estimated quantity for repair should be based on the higher volume of grout.

Following the compaction grout injection, due to the presence of very loose shallow soils identified in the hand auger and SPT borings that may not sufficiently be densified through compaction grouting, SDII recommends a program of shallow chemical grout injection to stabilize the shallow soils around the perimeter of the residence.

The chemical grout injection should be high-density polymer resins that when mixed, will create a rapidly expanding polyurethane (or equivalent) foam that can lift, realign, and fill voids under concrete slabs and foundations being supported by base soils. Hydrophilic or permeation type chemical grouts should not be utilized. Typically, once injected, the resin mixture expands into the composite material (foam), binding and densifying soils, filling voids, and exerting a controlled compressive uplifting force under a limited area of the slab/foundation. The foam then cures into a stable replacement base material for the slab/foundation. The chemical grout should be vertically injected approximately 5 feet on center to a depth of between 3 and 6 feet below the base of the foundation footing, through drilled holes in the perimeter exterior slabs where necessary. A total of 51 vertical injection points will be required under the foundation at the approximate locations depicted in Figure 7. The injection points around the perimeter of the residence should be inclined as necessary such that the material will be injected beneath the center of the closest bearing member to each location. It is estimated that 20 to 25 pounds of material will be required at each injection location. It is recommended that the chemical grout injection be performed no sooner than 45 days after the completion of the compaction grouting program to allow for any subsequent ground movement to occur. The contractor is to submit a detailed description of the proposed chemical injection program for approval.

A list of tasks and estimated quantities for repair and engineering supervision is provided below. It does not include estimates for cosmetic repairs, which should be estimated by a qualified insurance adjustor or contractor. Cosmetic repairs can begin shortly after the shallow chemical grouting.

A. Install grout pipes: 25 @ 85 feet (average)
B. Compaction grouting: 425 cy
C. Mobilization and injection of up to 1,275 pounds of polyurethane material
D. Monitoring and Certification

Continuous monitoring by SDII personnel during remediation is suggested to verify compliance with these recommendations and to make necessary adjustments to the remediation program due

construction is less common. Although the use of construction or control joints will reduce random cracking, some random cracking is to be expected.

In general, the damages to the main structure observed by SDII are minor in severity and sparsely distributed. The observed conditions are not structurally significant in that they do not compromise the load capacity of structural members or systems. The damage to the residence is considered cosmetic in nature.

3.6 Summary of Structural Evaluation

It is SDII's opinion, within a reasonable professional probability, that the damage to the residence is consistent with minor differential foundation movement; normal shrinkage cracking of un-reinforced or mildly reinforced concrete and masonry; long-term deflection of the roof structure; post-construction structural settlement; and minor thermal and moisture induced volume changes of construction materials including gypsum board, wood trim and framing, stucco, and fasteners. The observed damage on the exterior and interior of the residence is cosmetic in nature, in that the damage has not impaired the ability of the structure to support intended loads.

3.7 Remedial Recommendations

The geologic and geotechnical investigations concluded that sinkhole activity is occurring at the site. SDII recommends that the subsurface soils be stabilized to minimize further subsidence damage. Stabilization should be accomplished through compaction grout injection to densify the soils beneath the residence and to seal the top of the limestone surface to minimize future raveling.

The compaction grout stabilization should incorporate 25 injection points spaced approximately 10 feet on center around the perimeter of the structure. The grout points should be vertical and inclined (10 degrees) as shown on Figure 6. Grout point locations should be as close to the perimeter of the structure as possible.

The depth of grouting, based on the field boring logs and local experience, is likely to vary from approximately 45 to 50 feet in the vicinity of boring B-3, to 50 feet in the vicinity of boring B-4, to 105 to 115 feet in the vicinity of boring B-2, to 120 to 130 feet in the vicinity of boring B-1 (estimated average depth of 85 feet). The overseeing geotechnical engineer should approve the advancement of any injection point deeper than 130 feet. Grout injection should be performed up to a depth of 15 feet unless otherwise specified by the overseeing geotechnical engineer.

Typical pre-mixed compaction grout, with sufficient silt sizes to develop internal friction that generally does not enter soil pores but remains in a homogenous mass that can give controlled displacement to loose soils, with a slump between 4 and 6 inches, should be used. The grout should be pumped at slow enough rates such that the grout will densify and not merely hydro-fracture the soil. At depths greater than 100 feet bls, the injection pressures (at in-line pressure gauge at, or just before, the top of the grout pipe) should be limited to 200 pounds per square inch (psi), at depths between 60 and 100 feet bls injection pressures should be limited to 250 psi,

openings, at or near changes in geometry of the framing, and at or near abrupt changes or corners of a drywall panel. These separations and cracking resulting from minor differential foundation movement, long-term deflection, and post-construction settlement have no bearing on the structural integrity of the structure.

The separation of the kitchen cabinets from the adjacent ceiling is consistent with inadequate fastening of the cabinets. Kitchen cabinets are typically supported from the back wall utilizing wood screws through the rear of the cabinet into the wood studs of the wall. The cabinets are not supported from the ceiling and thus are cantilevered outward from the back wall. It is not uncommon for elevated cabinets to deflect downward at their outward face due to their cantilevered support condition. SDII recommends that additional support screws be installed in the affected cabinetry and that the wood trim piece placed at the top of the cabinets be removed and repositioned once the additional support is provided.

The nail head protrusion noted in the wall of the living room was unrelated to differential movement of the foundation. The protrusion of nail heads above the drywall surface is typically caused by lumber shrinkage due to initially high moisture content. As the lumber dries and shrinks, the nail is forced slightly out of the penetration resulting in the protrusion of the nail head above the drywall surface. The loose attachment of the drywall to the framing, improperly aligned, twisted, or warped framing, and improper fastener length also result in nail head protrusions.

The observed cracking on the interior of the garage and exterior of the residence is consistent with minor differential settlement of shallow, and mildly reinforced, conventional foundations constructed on loose soils. This minor differential foundation settlement has resulted in horizontal and stair-step pattern cracking in the masonry-block walls. Materials shrinkage of the masonry and/or stucco and the effects of thermal stress have further exacerbated the exterior cracks. Material shrinkage cracks frequently occur in residential masonry construction and typically appear as vertical cracking at those locations in which the wall is most susceptible to cracking, such as at window openings and corners. Movement resulting from cyclical thermal volume change exacerbates existing cracks and may induce additional cracking. The degree of movement associated with thermal stress is a function of the building materials, the length of the wall, and the amount of temperature change. Minor differential movement of the foundation appears to have further aggravated this damage. See Section 2.0 "Geologic and Geotechnical Evaluation" for further discussion of soil conditions encountered at the site that may have initiated the differential movement of the foundation. These damages do not have a significant impact on the structural integrity or required design capacity of the walls.

The observed cracking in the concrete slabs of the garage, lanai, and driveway is consistent with concrete shrinkage and/or the effect of thermal expansion and contraction. Concrete slabs on grade shrink after construction initially due to thermal volume change as the hydration process (curing) slows. The slab will also continue to shrink after construction due to drying shrinkage as free water (water not chemically bound during the hydration process) leaves the slab. Both of these shrinkage mechanisms are inherent in the concrete curing/aging process. Construction joints and control joints are typically used in commercial construction to control the random curing/shrinkage cracking; however, the use of construction and control joints in residential

tiles in the shower of the north bathroom, and between the wall tiles and the bathtub in the master bathroom. There were also cracks in the concrete slab of the garage.

On the exterior, SDII noted cracks in each of the wall elevations. There were stair-step pattern cracks in the north and south walls of the residence. There were also cracks in the concrete slabs of the lanai and driveway.

3.4 Relative Floor Elevation Contour Map

The data for a relative floor elevation contour map were collected on December 7, 2010. The methods used to evaluate the floor configuration are described in Appendix A. Figure 5 depicts the contour map showing the relative elevations of the floors. Where carpeting, wood, tile, or other floor coverings exist, corrections have been made to obtain the top of slab elevations.

The floor elevation map indicated that there was a total elevation difference of approximately 0.9 inches across the floor slab of the main living area of the residence. The highest elevation was recorded at the central portion of the floor slab, and the floor elevations generally decreased toward the northwest corner of the residence. The pattern of elevation change of the floor slab of the residence is consistent with minor differential foundation movement.

The floor slab of the garage was constructed 3.8 inches below the finished floor elevation (FFE) of the living area. The floor elevations in the garage have been adjusted to reflect this difference. The floor slab of the garage exhibited a slope of approximately 1.4 inches over a span of 25 feet descending toward the garage door opening. It is important to note that the floor slab of the garage would have been constructed in this manner to allow proper drainage.

3.5 Evaluation of Observed Damage

In the evaluation of the damage, cosmetic damage is defined as damage that has not impaired the ability of the structure to support intended loads. Cosmetic damage can be appropriately repaired without repairing foundation or load-bearing members of the structure. Further, SDII considers structural damage to exist when a load-bearing member, component, or structural assembly of a building or structure suffers a significant reduction in its capacity to support or transmit the loads for which it was designed.

The interior separations and cracking observed on the structure are consistent with normal structural movement that is within a reasonable range for the type and age of construction and the soil types and conditions encountered at the site. Normal structural movement includes minor differential foundation movement, long-term deflection of primarily wood framing members that occurs over the life of the structure, and post-construction settlement. Minor differential foundation movement typically affects interior and exterior walls and floor level. Long-term deflection typically involves roof/ceiling framing members and affects ceiling finishes. Post-construction structural settlement occurs when the self-weight of a structure and building components is transferred to the design bearing locations. The resulting stress will be redistributed through the structure resulting in hairline cracking of the drywall in the ceilings and interior walls. Locations that are particularly susceptible are above windows, doorways and

3.0 STRUCTURAL EVALUATION

The purpose of the visual, structural assessment of the LLC Just Like Home property was to help determine the probable causes that have contributed to the damage of the residence. In addition, the structural assessment provides critical information in determining the appropriate remedial actions for structures that may have been damaged by sinkhole activity. The homeowner, Ms. Hnatiuk, was present during the field portion of the assessment and provided access to the residence and information regarding the timeline of the damage and the primary concerns. Ms. Hnatiuk expressed that her main concern is the cracking in the concrete slab of the driveway.

3.1 General Structural Observations

According to information provided by the Hernando County Property Appraiser's website, the single-story structure was built in 1993. The structure faces generally west and is constructed of masonry-block, exterior load-bearing walls. The floor of the residence consists of a soil-supported, concrete slab-on-grade. The main roof structure was hip and gable in design and was covered with barrel tile. There were no reported or observed additions.

3.2 Results of Foundation Test Pit Excavation

Test pit (TP) excavations were performed along the perimeter of the main structure and the driveway to directly observe the foundation construction and geometry. For approximate locations of the test pit excavations, see Figure 4.

The results of TP-1 indicate that the foundation of the main structure consists of a concrete slab-on-grade with a thickened edge monolithic footing. The footing was embedded 10 inches. The top of the slab was 3 inches above the existing ground surface, for a total footing thickness of 13 inches. The current Florida Building Code (1805.2) states that the minimum depth of footings below the undisturbed ground surface shall be 12 inches. An improperly embedded foundation is more susceptible to movement caused by consolidation of near-surface soils as a result of lack of adequate soil confinement.

The results of TP-2 indicate that the driveway consists of a 4-inch thick concrete slab-on-grade. The slab was not embedded.

3.3 Summary of Observed Damage

The following paragraphs summarize the damage noted during the investigation. Approximate locations and photographs representative of the damage are illustrated in Figure 2. All of the photographs and other information obtained by SDII will be retained in the project file and can be provided upon request.

On the interior of the residence, SDII observed cracks in the ceilings of the breakfast nook and hallway. Cracks were noted in the walls of the master bathroom and garage. A nail head protrusion was observed in the wall of the living room. Separation was noted between the cabinets and the ceiling in the kitchen. There were cracks in the grout joints between the wall

SDII Global Corporation
www.sdii-global.com

4509 George Road
Tampa, FL 33634
tel 813-496-9634
fax 813-496-9664

January 13, 2011

Mr. Gary Emerson
State Farm Florida Insurance Company
5404 Cypress Center Drive
Suite 180
Tampa, FL 33609

Subject: Final Report – Subsidence Investigation
LLC Just Like Home property - Weeki Wachee, Florida
Claim Number 59-D307-168
SDII Project No. 3027229

Dear Mr. Emerson:

SDII Global Corporation (SDII) is pleased to submit this final report of our subsidence evaluation for the above referenced project. When conducting a subsidence investigation, SDII follows the general sinkhole-investigation protocols included in Chapter 627.707 Florida Statutes and described in "Geological and Geotechnical Investigation Procedures for Evaluation of the Causes of Subsidence Damage in Florida" (Florida Geological Survey, Special Publication No. 57, 2005).

Presented herein are the findings and conclusions of our investigation including geologic, geotechnical, and structural evaluations of the cause(s) of damage to the LLC Just Like Home property. These evaluations are based on an extensive data collection and interpretation effort by our technical staff who have been trained in Florida subsidence investigation techniques and data interpretation, and supervision and review by the senior professionals who have signed and sealed the report.

SDII appreciates the opportunity to have assisted State Farm Florida Insurance Company on this project. The senior professionals who developed the opinions herein and signed the report and I are always available to help. If you have any questions or comments concerning this report, please contact us.

Sincerely,

SDII GLOBAL CORPORATION

1255167

Sam B. Upchurch, Ph.D., P.G.
Vice President and Principal Geologist

FILE COPY

SUBSIDENCE INVESTIGATION

LLC JUST LIKE HOME PROPERTY
9474 MISSISSIPPI RUN
WEEKI WACHEE, FLORIDA

ZONING PERMIT zoned PdPMF
To be used as Grout
Checked By B Date 3/4/14

Prepared For:

STATE FARM FLORIDA INSURANCE COMPANY
TAMPA, FLORIDA
Claim Number: 59-D307-168

The work being done under this permit does not require a change in setback or create any encroachments. Any additional work will require other permits.

Prepared By:
SDII GLOBAL CORPORATION
SDII Project Number: 3027229

1255167

JANUARY 2011

FILE COPY

SDII Global Corporation's General Guidelines for Deep Compaction Grouting in Florida

The grout stabilization should incorporate injection points spaced approximately 10 feet on center around the perimeter of the structure. The grout points should alternate between vertical and inclined or as directed by the overseeing geotechnical engineer. Grout point locations should be located as close to the perimeter of the structure as possible. Optimal is 1.5 but up to 3 feet is required. The overseeing geotechnical engineer must approve any points further away than 3 feet.

The depth of grouting will be based on the field boring logs, not on what a driller believes they are encountering. It is recommended that driller have the SPT boring logs at the site for reference. Poorly lithified/consolidated/weathered limestones that are normal occurrences in the depositional sequence can often feel soft during drilling as they lack sheer strength, but they maintain their bearing and compressive strengths. The overseeing geotechnical engineer should approve the advancement of any injection point deeper than 10 feet beyond what may be stated in the subsidence report. Grout injection should be performed up to a depth of 15 feet with the exception of those around pools, which should be performed up to a depth of 20 feet unless otherwise specified by the overseeing geotechnical engineer.

Typical pre-mixed compaction grout, with sufficient silt sizes to develop internal friction that generally does not enter soil pores but remains in a homogenous mass that can give controlled displacement to loose soils, with a slump between 4 and 6 inches, should be used, pumped at slow enough rates such that the grout will densify and not merely hydro-fracture the soil. The overseeing geotechnical engineer should approve the compaction grout mix design to be utilized. At depths greater than 100 feet bls, the injection pressures (at in-line pressure gauge at, or just before, the top of the grout pipe) should be limited to 200 pounds per square inch (psi), at depths between 60 and 100 feet bls injection pressures should be limited to 250 psi, and at depths less than 60 feet bls, injection pressures should be limited to 300 psi. The injection pressures should be limited to 200 psi around pools, regardless of depth. The overseeing geotechnical engineer may implement alternate injection pressure limitations if necessary. Additionally, no more than 10 yards of grout should be injected into any single point within a six-hour period. The elevation of the main structure and any within 30 feet should be monitored continuously during the grouting process to detect and minimize any unnecessary upward movement.

Continuous monitoring by SDII personnel during remediation is suggested to verify compliance with these recommendations and to make necessary adjustments to the remediation program due to unforeseen site conditions. This will also allow the engineer who created the remedial design to certify that the remediation met design specifications. Failure to follow engineering guidance and/or specification provided by SDII may likely result in SDII's inability to certify that the remediation met design specifications.

Please note that these specifications are intended to supplement those included in SDII's Subsidence Investigation - Final Reports. If questions about any specification or their applicability arise, please contact SDII for clarification.

3/3/11

Steven H. Meiggs, PE (Date)
SDII Project Number: 3027229 LLC Just Like Home Property
Geotechnical Engineer of Record
Florida License #64832
SDII Global Corporation
4509 George Road
Tampa, FL 33634
Engineering Business C.A. #8778

1255167

FILE COPY

SDII Global Corporation
www.sdii-global.com

4509 George Road
Tampa, FL 33634
tel 813-496-9634
fax 813-496-9664

March 3, 2011

Hernando County Development Department
789 Providence Boulevard
Brooksville, Florida 34601

Subject: **Permission for Use of Report**
LLC Just Like Home Property
9474 Mississippi Run, Weeki Wachi, Fl. 34613
Claim No. 59-D307-168
SDII Project No. 3027229

To Whom It May Concern:

Please be advised that SDII completed a subsidence investigation at the LLC Just Like Home Property and determined that sinkhole activity exists at the site. To remediate the sinkhole activity, SDII has recommended compaction grouting and chemical grouting. A remediation protocol is contained in the attached report. Please note that State Farm Florida Insurance Company has authorized the completion of the remediation protocol proposed by SDII. With this letter, SDII authorizes Certified Foundations, Inc. to use the attached report and specifications for the use in permitting for the implementation of the proposed remediation protocol.

Please feel free to contact us with any questions or concerns.

Sincerely,

SDII GLOBAL CORPORATION
4509 George Road, Tampa, Florida 33634
FBPE Certificate of Authorization 8778

Steven H. Meggs, PE, PG, PSSC
Principal Geological/Geotechnical Engineer

1255167

COPY

STATE OF FLORIDA
COUNTY OF HERNANDO

This is to certify that the foregoing is a true and correct copy of the original on file in my office.

Witness my hand and official seal this 2-3-04 2014

Karen Nicolai, Clerk Circuit Ct.

By: Joan Lindsay Deputy Clerk

Instr #2011011636 BK:2807 PG:1228 Filed & Recorded:3/4/2011 4:21:24 PM,#Pgs:1
Rec Fees:$10.00 JEP Deputy Clk, Karen Nicolai, Hernando County Clerk of Court

ICC ✓

NOTICE OF COMMENCEMENT

FILE COPY

Permit No. 1255167---
Parcel ID No. R13 222 17 1653 0000 0660

THE UNDERSIGNED hereby gives notice that improvements will be made to certain real property, and in accordance with Section 713.13 of the Florida Statutes, the following information is provided in this NOTICE OF COMMENCEMENT.

1. Description of property (*legal description*): GLEN HILLS VILLAGE LOT 66
   a) Street (*Job*) Address: 9474 Mississippi Run Brooksville, FL. 34613
2. General description of improvements: Foundation Stabilization
3. Owner Information
   a) Name and address: Julia + Glen Hnatiuk - JUST LIKE HOME LLC.
   b) Name and address of fee simple titleholder (if other than owner) 9474 MISSISSIPPI RUN, BROOKSVILLE, FL. 34613
   c) Interest in property
4. Contractor Information
   a) Name and address: Certified Foundations, Inc., 1306 Banana Rd, Lakeland, FL 33810
   b) Telephone No.: 863/859-3889 Fax No. (Opt.)
5. Surety Information
   a) Name and address:
   b) Amount of Bond:
   c) Telephone No.: Fax No. (Opt.)
6. Lender
   a) Name and address:
   Phone No.
7. Identity of person within the State of Florida designated by owner upon whom notices or other documents may be served:
   a) Name and address:
   b) Telephone No.: Fax No. (Opt.)
8. In addition to himself, owner designates the following person to receive a copy of the Lienor's Notice as provided in Section 713.13(1)(b), Florida Statutes:
   a) Name and address:
   b) Telephone No.: Fax No. (Opt.)
9. Expiration date of Notice of Commencement (the expiration date is one year from the date of recording unless a different date is specified):

WARNING TO OWNER: ANY PAYMENTS MADE BY THE OWNER AFTER THE EXPIRATION OF THE NOTICE OF COMMENCEMENT ARE CONSIDERED IMPROPER PAYMENTS UNDER CHAPTER 713, PART I, SECTION 713.13, FLORIDA STATUTES, AND CAN RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT YOUR LENDER OR AN ATTORNEY BEFORE COMMENCING WORK OR RECORDING YOUR NOTICE OF COMMENCEMENT.

STATE OF FLORIDA
COUNTY OF HERNANDO

NOTARY PUBLIC-STATE OF FLORIDA
Richard A. Plage
Commission # DD796996
Expires: JUNE 11, 2012
BONDED THRU ATLANTIC BONDING CO., INC.

10. Julia C Hnatiuk
Signature of Owner or Owner's Authorized Officer/Director/Partner/Manager
JULIA A. HNATIUK
Print Name

The foregoing instrument was acknowledged before me this 4th day of MARCH, 2011, by JULIA C. HNATIUK as OWNER (type of authority, e.g. officer, trustee, attorney in fact) for (name of party on behalf of whom instrument was executed).

Personally Known ___ OR Produced Identification X
Notary Signature Richard A. Plage
Type of Identification Produced FL DL
Name (print) RICHARD A. PLAGE

Verification pursuant to Section 92.525, Florida Statutes. Under penalties of perjury, I declare that I have read the foregoing and that the facts stated in it are true to the best of my knowledge and belief.

Julia Hnatiuk
Signature of Natural Person Signing (in line # 10.) Above

Note: This document was presented for Recording containing SOME ENTRIES THAT ARE OF POOR QUALITY AND MAY NOT BE LEGIBLE.

AUTHORIZED AGENT AFFIDAVIT

I Lewis G Collier (Contractor) hereby grant authorization to Richard A Plage (Authorized Agent) to act in my behalf with the Hernando County Development Department while conducting activities related to obtaining permits. These activities specifically include signing all documents requiring signature of "contractor".

Richard A Plage (Authorized Agent) is to be considered an agent of my business and therefore the signature of said agent is binding and causes me to assume all responsibilities connected to or associated with the signature as they may relate to my contracting business.

I Lewis G Collier (Contractor) relieve the Hernando County Development of, and agree to hold the Hernando County Development Department harmless from, any and all responsibility, claims or other actions arising from or related to the Department's acceptance of the above agent's signature for permit-related activities. I further understand that it is my sole responsibility to grant and terminate any such authorization and to ensure that the Department receives timely notice of any such grant or termination.

Signature of Contractor

Richard A. Plage
Signature of Agent

CGC 1504067
State Certification or Registration Number

County Certification Number (if applicable)

1255167 FILE COPY

****PLEASE NOTE: BOTH SIGNATURES MUST BE NOTARIZED****

Notary for Contractor's Signature:

State of Florida County of Polk

The foregoing was acknowledged before me this 22nd day of September, 2010, by Lewis G. Collier (who is personally known to me, or who produced _____ as identification.

Melissa Spruill
Notary Public Signature

Melissa Spruill
Print, Type, or Stamp Name of Notary

MELISSA A. SPRUILL
Notary Public - State of Florida
My Comm. Expires May 1, 2014
Commission # DD 957174
Bonded Through National Notary Assn.

Notary for Agent's Signature:

State of Florida County of Polk

The foregoing was acknowledged before me this 22nd day of September 2010, by Rick Plage (who is personally known to me) or who produced _____ as identification.

Melissa Spruill
Notary Public Signature

Melissa Spruill
Print, Type, or Stamp Name of Notary

MELISSA A. SPRUILL
Notary Public - State of Florida
My Comm. Expires May 1, 2014
Commission # DD 957174
Bonded Through National Notary Assn.

* The original of this affidavit should be kept in the possession of the above designated "Authorized Agent". This affidavit need only be produced to Hernando County when signing documents in the presence of a permit representative. When you sign a permit application be prepared to produce this affidavit, it will be copied and placed in the appropriate permit application.*

*****The Department, at its discretion, may require a contractor or license-holder to personally apply for or obtain a building permit notwithstanding any authorization allowing another person to apply for or obtain any permit of a duly licensed contractor, qualifier, or license-holder.***

License Number:_____(State Certification or Hernando County # Only)

Aluminum: N/A Phone _____
License Number:_____(State Certification or Hernando County # Only)

Bonding Company Name:_____
Address:_____
City:_____ State:_____ Zip:_____

~~Architect~~/Engineer's name: STEVEN H. MEIGGS (DBA: SOIL GLOBAL)
Address: 4509 GEORGE RD
City: TAMPA State: FL Zip 33634

Mortgage lender's name:_____
Address:_____
City:_____ State:_____ Zip:_____

Application is hereby made to obtain a permit to do the work and installations as indicated. I certify that no work or installation has commenced prior to the issuance of a permit and that all work will be performed to meet the standards of all laws regulating construction in this jurisdiction. I understand that a permit must be secured for ELECTRICAL WORK, PLUMBING, SIGNS, WELLS, POOLS, FURNACES, BOILERS, HEATERS, TANKS, and AIR CONDITIONERS, ETC.

OWNER'S AFFIDAVIT: I certify that all of the foregoing information is accurate and that all work will be done in compliance with all applicable laws regulating construction and zoning.

WARNING TO OWNER: ANY PAYMENTS MADE BY THE OWNER AFTER THE EXPIRATION OF THE NOTICE OF COMMENCEMENT ARE CONSIDERED IMPROPER PAYMENTS UNDER CHAPTER 713, PART 1, SEC 713.13, FLORIDA STATUTES, AND CAN RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION.

IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

Rodney R Playe
~~Owner/Contractor or~~ Authorized Agent

1255167

State of: FL County of: Hernando

The foregoing instrument was acknowledged before me this 4 day of March, 2011 by Rick Playe, who is (✓) personally known to me or who (__) has produced _____ as identification.

JANE N. ANDERSEN
Notary Public - State of Florida
My Commission Expires May 28, 2011
Commission # DD 888602
Bonded Through National Notary Assn.

Jane N Andersen
Signature of Notary Public

Type, Print, Stamp Name of Notary

Application Approved By Permit Representative:_____

Hernando Co. Dev. Dept., 789 Providence Boulevard, Brooksville, Florida, 34601 ● 352-754-4050 ● Fax: (352)754-4416
www.co.hernando.fl.us

RECEIVED
MAR 04 2011

HERNANDO COUNTY BUILDING PERMIT APPLICATION

FBC 2007

Want a Deficiency Report Faxed to you?
Please Provide Your FAX#:_____
Permitting Service FAX #:_____

NOTICE:
No structure, building, or improvement can encroach or be constructed within an easement.

Permit Application No. 1255167

Key #: 01195637

Date: 3-4-11

Describe work to be done: Foundation Stabilization
Deep Compaction Grouting AND CHEMICAL GROUTING

Valuation of work to be done: $ 107,325-

Type of construction: SFR Frame: _____ CBS: X Other: _____

Legal description: Lot: 66 Block: — Subdivision: GLEN HILLS Unit: —

Address of job site: No.: 9474 Street: MISSISSIPPI RUN City: BROOKSVILLE Hernando County

Directions to job site: W ON SR 50 N ON US 19 W ON GLEN LAKES BLVD S ON NEW ORLEANS OR SE ON MISSISSIPPI RUN.

Property owner: GLEN & JULIA HNATIUK Phone: _____
Address: 8746 MISSISSIPPI RUN City: BROOKSVILLE State: FL Zip: 34613
Interest in property: _____

Name of fee simple titleholder (If Other Than Owner): _____
Address: _____ City: _____ State: ___ Zip: _____

Permitting Service Name: _____ Phone: _____ Contact Name: _____

Contractor: Lewis G Collier (DBA: Certified Foundations, Inc.) * Email: Rick@cfi-1.com * Phone: 863 559-8317
Address: 1306 Banana Rd City: Lakeland State: FL Zip: 33810
License Number: CGC 1504067 (State Certification or Hernando County # Only)

Sub-Contractor List (Complete as Necessary)

Electrical: N/A Phone: _____
License Number: _____ (State Certification or Hernando County # Only)

Plumbing: N/A Phone: _____
License Number: _____ (State Certification or Hernando County # Only)

Mechanical: N/A Phone: _____
License Number: _____ (State Certification or Hernando County # Only)

Roofing: N/A Phone: _____

FILE COPY