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APPLICANT ADDRESS	541	SW AIRPARK GLEN		LAKE CITY	755-0704	- FL 32025
OWNER	-	ICHARDSON		PHON	IE 755-5779	
ADDRESS	692	SW ARLINGTON BLV	D	LAKE CITY		FL 32025
CONTRACTO		NNY WILLIAMS		PHON	IE 755-0764	( <del>s</del> )
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LAND USE &	ZONING	CI		N	MAX. HEIGHT	
Minimum Set	Back Requir	ments: STREET-FRO	ONT 5.00	REAR	15.00	SIDE
NO. EX.D.U.	1	FLOOD ZONE	X	DEVELOPMENT F	PERMIT NO.	
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			CGC004692	1) man	UE GILDI	1/2
Culvert Permit	No.	Culvert Waiver Cont	ractor's License Num	ber /	Applicant/Owne	r/Contractor
EXISTING		X08-020	BK		JH	N
Driveway Con	nection	Septic Tank Number	LU & Zoning	g checked by	Approved for Issuan	ce New Resident
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PERMIT

NOTICE: IN ADDITION TO THE REQUIREMENTS OF THIS PERMIT, THERE MAY BE ADDITIONAL RESTRICTIONS APPLICABLE TO THIS PROPERTY THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY. AND THERE MAY BE ADDITIONAL PERMITS REQUIRED FROM OTHER GOVERNMENTAL ENTITIES SUCH AS WATER MANAGEMENT DISTRICTS, STATE AGENCIES, OR FEDERAL AGENCIES.

"WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

EVERY PERMIT ISSUED SHALL BECOME INVALID UNLESS THE WORK AUTHORIZED BY SUCH PERMIT IS COMMENCED WITHIN 180 DAYS AFTER ITS ISSUANCE, OR IF THE WORK AUTHORIZED BY SUCH PERMIT IS SUSPENDED OR ABANDONED FOR A PERIOD OF 180 DAYS AFTER THE TIME THE WORK IS COMMENCED. A VALID PERMIT RECIEVES AN APPROVED INSPECTION EVERY 180 DAYS. WORK SHALL BE CONSIDERED TO BE IN ACTIVE PROGESS WHEN THE PERMIT HAS RECIEVED AN APPROVED INSPECTION WITHIN 180 DAYS.

The Issuance of this Permit Does Not Waive Compliance by Permittee with Deed Restrictions.

#### REPORT OF SUBSURFACE EXPLORATION

Richardson Aluminum-New Building Arlington Boulevard Lake City, Columbia County, Florida CTI Project No. 08-00141-01

> - Prepared For -Donnie Williams Construction 541 SW Airpark Glen Lake City, Florida 32025

> - Prepared by -Cal-Tech Testing, Inc. P.O. Box 1625 Lake City, Florida 32056-1625





### Cal-Tech Testing, Inc.

Engineering

Geotechnical

Environmental

P.O. Box 1625 • Lake City, FL 32056

4784 Rosselle Street • Jacksonville, FL 32254

2230 Greensboro Highway • Quincy, FL 32351

Tel. (386) 755-3633 • Fax (386) 752-5456

Tel. (904) 381-8901 • Fax (904) 381-8902

Tel. (850) 442-3495 • Fax (850) 442-4008

**LABORATORIES** 

February 4, 2008

**Donnie Williams Construction** 

5414784 West U.S. Highway 90 Lake City, Florida 32055

Attention: Mr. Donnie Williams

Subject:

Report of Subsurface Exploration

Proposed Richardson Aluminum New Building

Arlington Boulevard

Lake City, Columbia County, Florida

CTI Project No. 08-00141-01

Dear Mr. Williams:

Cal-Tech Testing, Inc. (CTI) has completed the subsurface exploration for the proposed Richardson Aluminum new building. Authorization to this work was verbally provided by you on February 28, 2008.

The following report presents the results of our field exploration and testing, an evaluation of the subsurface conditions with respect to available project characteristics, and recommendations to aid in the design and construction of the proposed building.

We have enjoyed assisting you on this project and look forward to serving as your geotechnical and construction materials testing consultant for the remainder of this and future projects. Should you have any questions concerning this report, please contact our office at 386-755-3633.

Sincerely,

CAL-TECH TESTING, INC.

David B. Brown

**Executive Vice President** 

Mabil O. Hmeidi, P.E.

Senior Geotechnical Engineer

Licensed, Florida No. 57842

Distribution:

File (1 copy)

Addressee (2 bound copies)

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#### **ATTACMENTS**

Vicinity Map (1 page)
Field Exploration Plan (1 page)
Soil Boring Logs (2 pages)
Subsurface Diagram (1 page)
Unified Soil Classification System Chart (1 page)
Key To Test Data (1 page)

#### 1.0 PROJECT INFORMATION

The purpose of this exploration was to develop information concerning the site and subsurface conditions in order to evaluate site preparation requirements and foundation support recommendations for the proposed building. The subject site is located on the west side of SW Arlington Boulevard approximately ¼ mile north of Atlantic Coastline Road in Lake City, Columbia County, Florida. This report briefly describes our field activities and presents our findings.

It is our understanding the proposed building will have an approximate footprint of 2,400 SF and will be used as a warehouse/office space. The building will be one-story and constructed of structural steel with Concrete Masonry Unit (CMU)/or metal stud framed walls supported on a conventional shallow foundation system. Field testing related to drainage or pavement design is beyond the scope of this exploration.

Detailed structural information has not been provided; however, we anticipate individual column loads will not exceed 50 kips. We have assumed that soil-supported ground floor loads (dead load plus live load) in the proposed building will not exceed 200 psf. We have not been provided finished floor elevation for the proposed structures; however, We assume that less than two feet of earthwork fill will be required to achieve desired grade.

#### 2.0 FIELD EXPLORATION

The subsurface conditions at the subject site were explored by drilling two (2) Standard Penetration Test (SPT) borings extending to a depth of 15 feet below the existing ground surface. The SPT borings were performed at the approximate locations shown on the attached Field Exploration Plan. These locations were determined in the field and measured by tape and turning approximate right angles from existing features. Therefore, the borings location should be considered only as accurate as the means and methods by which they were obtained.

Sampling and penetration procedures of the SPT borings were accomplished in general accordance with ASTM D-1586, "Penetration Test and Split-Barrel Sampling of Soils", using a power rotary drill rig. The standard penetration tests were performed by driving a standard 1-3/8" I.D. and 2" O.D. split spoon sampler with a 140 pound hammer falling 30 inches. The number of hammer blows required to drive the sampler a total of 18 inches, in 6 inch increments, were recorded. The penetration resistance or "N" value is the summation of the last two 6 inch increments and is illustrated on the attached boring logs adjacent to their corresponding sample depths. The penetration resistance is used as an index to derive soil parameters from various empirical correlations. The borings were performed using a **BK-51** (manual hammer).

The attached Generalized Subsurface Profile graphically illustrates penetration resistances, groundwater levels, and soil descriptions. It must be noted the stratification lines and depth designations indicated on the boring records represent approximate boundaries between soil types. In some instances, the transition between these soil types may be gradual. When reviewing the boring records, it should be understood that soil conditions may vary away from the boring locations.

#### 3.0 SITE AND SUBSURFACE CONDITIONS

#### 3.1 Site Conditions

The existing site conditions were observed by our personnel during our field program. At the time of our visit, the ground surface was grass-covered and was relatively level.

#### 3.2 Area Geology/Sinkholes Potential

A review of the site geology indicates the subject project is underlain by Undifferentiated Quaternary Sediments (**Qu**) of the Pleistocene and Holocene epochs. These sediments consist of siliciclastics, organics and freshwater carbonates. The silicicalstics are light gray, tan, brown to dark, unconsolidated to poorly consolidated, clean to clayey, silty, fossiliferous, variably organic-bearing sands to blue green to olive green, poorly to moderately consolidated, sandy, silty, clays. Freshwater carbonates "marls" are buff colored to tan, unconsolidated to poorly consolidated, fossiliferous (mollusks) carbonate muds containing organics.

We note that limestone in this area consists of carbonate rock and its weathered residuum. In Columbia County, Florida and the surrounding areas, the limestone is marked by solution features (sinkholes) associated with *karst* terrains. Sinkholes are primarily caused by an advanced state of internal soil erosion or raveling action, which under certain circumstances can lead to ground subsidences. This internal soil erosion is a very slow process by which soil particle usually migrate under the influence of a hydraulic gradient to underlying Karsted and/or fractured limestone formation. A review of the Sinkhole Database issued by the Florida Geological Survey indicates a number of sinkhole occurrences within a 1½-mile radius of the subject site (database reference No. 29-022 & 29-505). It should be noted that only reported sinkholes are documented in this database.

Our site observation and results of the test borings did not reveal presence of active sinkholes within the explored areas. Therefore, it is our opinion the proposed development on this site will have no greater risk of damage due to sinkhole activity than the development of structures in other areas within the immediate vicinity of the subject site.

#### 3.3 Subsurface Conditions

A representation of the subsurface conditions encountered in the explored areas is shown on the attached Generalized Subsurface Profile. Visual classification of the site soils indicates the soil profile as disclosed by SPT borings B-1 and B-2 initially consisted of about 12 inches of grayish brown silty fine sand with some organics. This surficial cover is underlain by about 4 to 5 feet of loose, gray to light brown, silty fine sand (SP-SM). This stratum is underlain by about 5½ feet of loose to medium dense, reddish tan and light gray, mottled, clayey fine sand (SC). Beneath this stratum to the borings termination depths, the soil profile consisted of about 4 to 5 feet of medium dense, light gray, fine sand to clayey fine sand (SP-SC). The borings were terminated at a depth of 15 feet below the existing ground surface.

#### 3.4 Groundwater

At the time of completion of drilling, the groundwater was encountered in all SPT borings at depths ranging from about 12 to 13 feet below the existing ground surface. We note that due to the relatively short time frame of the field exploration, the groundwater may not have had sufficient time to stabilize. For a true groundwater level reading, piezometers may be required. In any event, fluctuation in groundwater levels should be expected due to seasonal climatic changes, construction activity, rainfall variations, surface water runoff, and other site-specific factors. Since groundwater level variations are anticipated, design drawings and specifications should accommodate such possibilities and construction planning should be based on the assumption that variations will occur.

#### 4.0 RECOMMENDATIONS FOR FOUNDATION DESIGN & SITE PREPARATION

The recommendations presented in this report are based upon available project information, anticipated loading conditions, and data obtained during our field program. If the structural information is incorrect or the location of the structure changes, please contact this office so our recommendations may be reviewed and/or revised. Discovery of any site or subsurface condition during construction, which deviates from the data collected during this exploration, should be reported to us for evaluation. We note that assessment of site environmental conditions or presence of pollutants was beyond the scope of this exploration.

#### 4.1 General

Based on our evaluation of the encountered subsoils, anticipated loading conditions and our past experience with similar projects, it is our professional opinion the subject site can be made suitable for the support of the proposed development.

#### 4.2 Foundation Support

Our site observation indicated the presence of loose soils within the upper 12 to 18 inches of the existing ground surface. With the exception of the topsoil, the majority of the site soils are considered suitable for use as structural fill, however, they loose soils are not considered acceptable for the support of the proposed buildings and pavement sections in their current conditions. To improve the density of these soils, the upper 18 inches of the site soils (after removal of topsoil) within the buildings and pavement areas (including 5 feet outside the perimeter of the building) should be recompacted as indicated herein.

Provided the foundation and site soils are prepared in accordance with the guidelines presented in this report, it is our opinion the proposed structure may be supported on a conventional shallow foundation system. The shallow foundation may be designed for an allowable bearing pressure of 2,000 pounds per square foot (psf) or less supported on **recompacted** soils or newly placed structural fill.

In using net pressures, the weight of the footing and backfill over the footing need not be considered. Hence, only loads applied at or above final grade need to be used for dimensioning footings. However, wall bearing footings should be designed with a minimum width of 18 inches, while the individual column footings should have minimum dimensions of 2 feet by 2 feet.

#### 4.3 Settlement Analyses

Actual magnitude of settlement that will occur beneath foundations will depend upon variations within the subsurface soil profile, actual structural loading conditions, embedment depth of the footings, actual thickness of compacted fill or cut, and the quality of the earthwork operations. Assuming the foundation related site work and foundation design is completed in accordance with the enclosed recommendations, we estimate the total settlement of the structure will be on the order of 1 inch or less. Differential settlements (between adjacent columns or along the length of a continuous wall footing) should be approximately one-half of the total settlement. This settlement is primarily the result of elastic compression of the upper looser sands, and should occur almost immediately following the application of the structural dead load during construction.

#### 4.4 Uplift Resistance

Under wind loading conditions, the foundations will likely be subjected to considerable uplift forces. In order to resist these uplift forces, it may be necessary to increase the footing size (thus increasing the dead weight) or lower the footing to mobilize additional soil weight above the footing. Uplift resistance from the soil may be evaluated as the weight of the soil directly above the footing, plus the shearing resistance along the vertical face of the soil prism. Alternately, the available soil uplift resistance may be calculated as the weight of the soil prism defined by the diagonal line drawn from the top of the footing to the ground surface at an angle of 30 degrees with the vertical. We recommend that a total unit weight of 100 pcf (compacted to 95% of the

modified Proctor maximum dry density) be used for well-compacted, suitable fill. Should the bottom of any structure be below the stabilized seasonal-high groundwater level, these structures must be properly designed to resist the resulting uplift forces due to hydrostatic pressures.

#### 4.5 Lateral Resistance

Lateral loads created by wind loads may be resisted by the passive pressure of the soil acting against the side of the individual footings and/or the friction developed between the base of the foundation system and the underlying soils. For compacted backfill and/or in-situ material, the passive pressure may be taken as an equivalent to the pressure exerted by a fluid weighing 330 pcf for above the ground-water table and 113 pcf below the water level. A coefficient of friction equal to 0.4 may be used for calculating the frictional resistance at the base of the shallow footings. The resistance values discussed herein are based on the assumption that the foundations can withstand horizontal movements on the order of ¼ inch. Lateral resistance determined in accordance with the recommendations provided herein should be considered the total available resistance. Consequently, the design should include a minimum factor of safety of 1.5.

#### 4.6 Lateral Earth Pressures

In general, retaining walls are subject to "at-rest" or "active" pressures. Retaining walls that are restrained at the top will be subject to "at-rest" pressures due to their restricted movement. These "at-rest" pressures may be calculated as the equivalent pressure exerted by a fluid density of 50 pcf. Where walls are not restrained at the top and thus allowed sufficient movement to mobilize "active" pressures, an equivalent fluid density of 33 pcf should be used in the design.

These values may be used only for walls above the groundwater table. Therefore, the presence of any groundwater due to surface water intrusion should be handled with the use of a drainage layer behind the walls with a collection pipe discharging accumulated water away from the walls. If this is not practical, then the hydrostatic pressure due to water should be included in the design of the walls.

#### 4.7 Drainage Considerations

Adequate drainage should be provided at the site in order to minimize increase in moisture content of the foundation soils. Excessive moisture can significantly reduce the soil's bearing capacity and contribute to foundation settlement. For the protection of the foundation soils, we recommend that the ground water surface be sloped away from all proposed structures.

#### 4.8 Floor Slab

Exposed subgrade should be properly recompacted and proofrolled with a fully-loaded, tandem-axle dump-truck or similar pneumatic-tired equipment. Provided the recompaction and proofrolling operations do not indicate significant deflecting or pumping of the existing subgrade, the floor slab may be designed as a slab-on-grade. Any soft or loose soils found during the proofrolling procedure should be undercut and replaced with suitable, well-compacted, engineered fill.

All floor slabs should be supported on at least 4 inches of relatively clean granular material, such as sand, sand and gravel, or crushed stone. This is to help distribute concentrated loads and equalize moisture beneath the slab. This granular material should have 100 percent passing the 1½ -inch sieve and a maximum of 10 percent passing the No. 200 sieve. A vapor retarder may be installed on top of the subgrade to reduce dampness of the surface of the floor slabs. The vapor retarder should consist of a minimum 6-mil thickness overlapping (unsealed) sheets of plastic. In addition, properly constructed jointing will alleviate the potential for cracking and allow for some differential movement.

Based upon the soil conditions encountered at the subject site, the anticipated fill placement, and the recommended site preparation operations presented in this report, an estimated modulus of vertical subgrade reaction (k) for the slab bearing soils of 175 pounds per square inch per inch of vertical deflection (pci) may be used.

#### 4.9 Exposed Subgrade

All vegetation, topsoil, and other organic matters should be removed from the building and pavement areas. Following this operation, the exposed soils in the buildings and pavement areas should be compacted with overlapping passes of a relatively heavy weight drum roller (operating in static mode) having a total operating static weight (weight of fuel and water included) of at least 10 tons and a drum diameter of 5 feet. All exposed surfaces should be compacted to a minimum of 95 percent of the modified Proctor maximum dry density (ASTM D-1557) to a depth of at least 12 inches below the compacted surface.

#### 4.10 Structural Fill/Backfill

Structural fill should be placed in thin loose lifts not exceeding 12 inches in thickness and compacted with a heavy roller as described above. For walk-behind equipment, a maximum loose lift thickness of 6 inches is recommended. Each lift should be thoroughly compacted with the drum roller to provide densities equivalent to at least 95 percent of the modified Proctor maximum dry density (ASTM D-1557). Structural fill should consist of an inorganic, non-plastic, granular soil containing less than 10 percent material passing the No. 200 mesh sieve (relatively clean sand with a Unified Soil Classification of SP or SP-SM).

#### 4.11 Pavement Subgrade Consideration

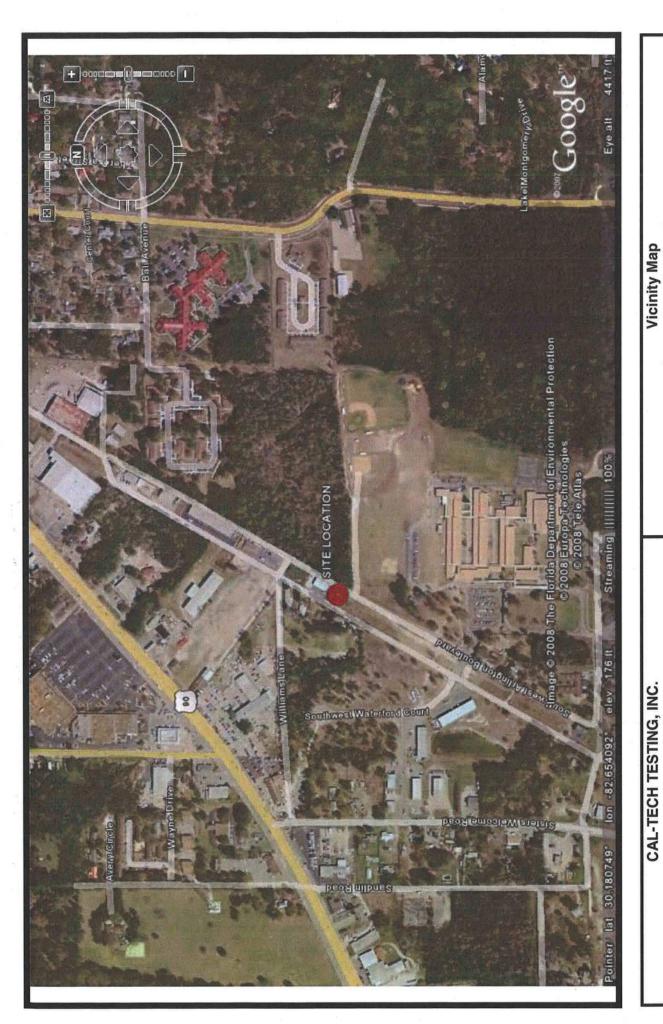
Pavement subgrades should be compacted to a minimum depth of 12 inches to at least 98 percent of the modified Proctor maximum dry density (ASTM D-1557). Any fill utilized to elevate the pavement areas to final subgrade elevation should consist of relatively clean fine sands (inorganic, non-expansive/non-plastic sands containing less than 10 percent, by weight, of fines). Pavement subgrade should be uniformly compacted to a minimum density of 95 percent of the soil's modified Proctor maximum dry density (ASTM D1557).

Laboratory tests should be performed on all off-site structural fill to be used to elevate proposed pavement areas to confirm that these soils meet the minimum requirements and can achieve the desired LBR values. Where subgrade stabilization is necessary, we recommend stabilization be used, as specified by the Florida Department of Transportation (FDOT) "Standard Specifications for Road and Bridge Construction," 2007 Edition, Section 160. To avoid rutting, traffic should not be allowed on pavement subgrade prior to placement and compaction of the base course materials.

#### 5.0 REPORT LIMITATIONS

This report has been prepared for the exclusive use of the **Donnie Williams Construction of Lake City, Florida,** for the specific application to the project discussed herein. Our conclusions and recommendations have been rendered using generally accepted standards of geotechnical engineering practice in the State of Florida. No other warranty is expressed or implied. **CTI** is not responsible for the interpretations, conclusions, opinions, or recommendations of others based on the data contained herein. We note that the assessment of environmental conditions for the presence of pollutants in the soil, rock, or groundwater at the site was beyond the scope of the exploration. Field observations, monitoring, and quality assurance testing during earthwork and foundation installation are an extension of the geotechnical design. We recommend that the owner retain these services and that **CTI** be allowed to continue our involvement in the project through these phases of construction.

**ATTACHMENTS** 



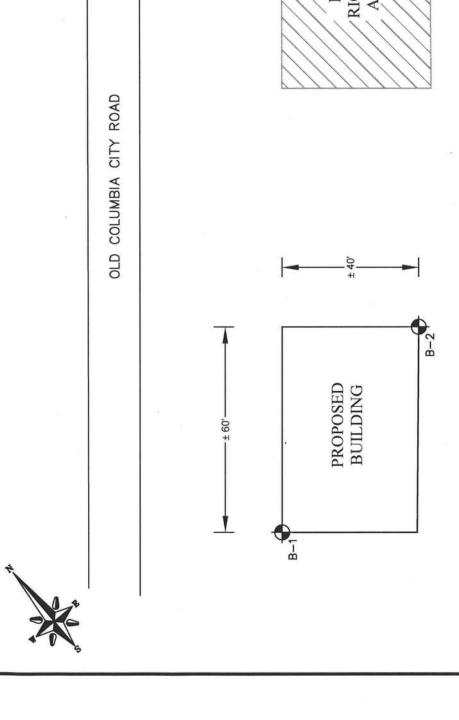
Richardson Aluminum New Building Lake City, Columbia County, Florida Cal-Tech Project No. 08-00141-01 Subsurface Exploration Vicinity Map

Lake City, Florida 32056-1625

P.O. Box 1625

Phone: (386) 755-3633 Fax: (386) 752-5456

Figure 1





# ARLINGTON BOULEVARD

A Standard Penetration Test Borings Performed by CTI on 02/29/2008

FOR ILLUSIRATION ONLY
NOT TO SCALE
NOT FOR CONSTRUCTIC

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	DRAWN BY:	CHECKED BY:	DRILLER(S):	EQUIPMENT:	TECH E
REVISIONS					

	EXPLORATION	CAL-TECH TESTING, INC. P.O. Box 1625
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Project No.	DRAWN:
1625	à

Project No	roject No. 08-00141-01	DATE: 03/04/200	2008	FIGURE
DRAWN:	APPROVED:	SCALE: N	TS	SHEET

FIELD EXPLORATION PLAN

#### CAL-TECH TESTING, INC. **BORING NUMBER B-1** 3309 SW SR 247 PAGE 1 OF 1 Lake City, Florida 32024 Telephone: (386) 755-3633 Fax: (386) 752-5456 CLIENT Donnie Williams Construction PROJECT NAME Richardson Aluminum Building PROJECT NUMBER 08-00141-01 PROJECT LOCATION Arlington Blvd., Lake City, Columbia County, Florida DATE STARTED 02/29/08 COMPLETED 02/29/08 GROUND ELEVATION 0 ft HOLE SIZE DRILLING CONTRACTOR Cal-Tech Testing, Inc. **GROUND WATER LEVELS:** DRILLING METHOD Continuous Flight Auger AT TIME OF DRILLING \_---AT END OF DRILLING 14.00 ft / Elev -14.00 ft LOGGED BY N.H. CHECKED BY N.H. AFTER DRILLING \_---NOTES SAMPLE TYPE NUMBER ▲ SPT N VALUE ▲ POCKET PEN. (tsf) DRY UNIT WT. (pcf) RECOVERY (RQD) 40 60 80 DEPTH (ft) GRAPHIC PL MC MATERIAL DESCRIPTION 20 40 60 ☐ FINES CONTENT (%) ☐ 0.0 40 60 Grayish brown, silty fine SAND, some organics (TOPSOIL) LOOSE, gray to light brown, silty fine SAND (SP-SM) SPT 4-4-5 100 (9) 2.5 SPT 3-3-3 100 TS\2008\08-00141-01\08-00141 SPT 3-3-4 100 5.0 (7) LOOSE to MEDIUM DENSE, reddish tan and light gray, mottled, CITY PROJECT clayey fine sand (SC) SPT 3-3-4 100 (7)SPT 4-5-6 100 (11)SPT 5-7-8 100 (15)03/04/08 12:20 10.0 GDT -MEDIUM DENSE, light gray, fine sand to clayey fine sand (SP-SC) STD US LAB. 12.5 - GINT GEOTECH BH PLOTS -

SPT

Bottom of borehole at 15.0 feet.

100

3-5-7

(12)

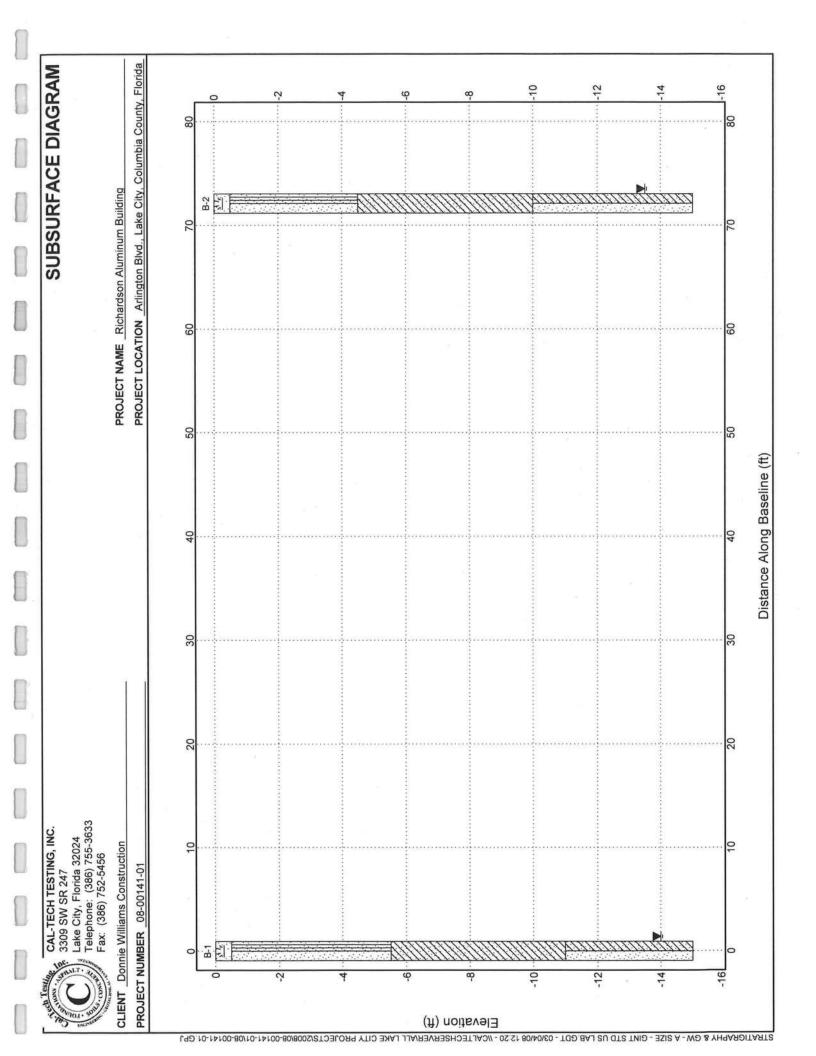
#### CAL-TECH TESTING, INC. **BORING NUMBER B-2** 3309 SW SR 247 PAGE 1 OF 1 Lake City, Florida 32024 Telephone: (386) 755-3633 Fax: (386) 752-5456 CLIENT Donnie Williams Construction PROJECT NAME Richardson Aluminum Building PROJECT NUMBER 08-00141-01 PROJECT LOCATION Arlington Blvd., Lake City, Columbia County, Florida DATE STARTED 02/29/08 COMPLETED 02/29/08 GROUND ELEVATION 0 ft HOLE SIZE **GROUND WATER LEVELS:** DRILLING CONTRACTOR Cal-Tech Testing, Inc. DRILLING METHOD Continuous Flight Auger AT TIME OF DRILLING \_---LOGGED BY N.H. CHECKED BY N.H. AT END OF DRILLING 13.50 ft / Elev -13.50 ft NOTES AFTER DRILLING ---▲ SPT N VALUE ▲ DRY UNIT WT. (pcf) SAMPLE TYPE NUMBER POCKET PEN. (tsf) BLOW COUNTS (N VALUE) RECOVERY (RQD) 20 40 60 80 GRAPHIC DEPTH (ft) MC PL MATERIAL DESCRIPTION 20 40 60 80 ☐ FINES CONTENT (%) ☐ 0.0 40 60 Grayish brown, silty fine SAND, some organics (TOPSOIL) LOOSE, gray to light brown, silty fine SAND (SP-SM) SPT 2-2-3 100 (5)2.5 GPJ SPT 3-4-3 PROJECTS\2008\08-00141-01\08-00141-01 100 SPT LOOSE to MEDIUM DENSE, reddish tan and light gray, mottled, 2-3-4 100 5.0 (7) clayey fine sand (SC) SPT 4-7-7 100 (14)CITY 7.5 SPT 5-6-6 100 (12)SPT 6-8-9 100 (17)10.0 MEDIUM DENSE, light gray, fine sand to clayey fine sand GDT - 03/04/08 (SP-SC) STD US LAB 12.5 GINT GEOTECH BH PLOTS

SPT

100

5-6-8

(14)



# UNIFIED SOIL CLASSIFICATION SYSTEM ASTM DESIGNATION D-2487

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	MAJOR DIVISIONS				GROUP SYMBOL	TYPICAL NAMES		LABORATORY CLASSIFICATION CRITERIA																																									
	eve)		raction is	an	gravels	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.	rve ) Sieve			Cu =	$= \frac{D60}{D10}$	> 4	i	1 < 0	$C_c =$	(D:	$\frac{D_{60}^2}{D_{60}}$	< 3																														
100	o. 200 si	Gravels (more than half of the coarse fraction is larger than No. 4 sieve)		Clean	gra	GP	Poorly graded gravels, gravel-sand mixture, little or no fines.	in size cu in No. 200	llows:	symbols	N	ot mee	ting all	grac	lation	requi	rments	of G	W																														
SOIL	r than N			Gravel with	fines	GM	Silty gravels, gravel- sand-silt mixtures.	from gra maller tha	ified as for SW. SP	SM, SC iring dual	Atter A-Li	berg Lin	nits belo	n 4	betwe	e A-L	and 7	are																															
COARSE GRAINED SOILS	(More than half of the material is larger than No. 200 sieve)  Sands  Gravels  Gravels		(more that	Grave	fīr	GC	Clayey gravels, gravel-sand-clay mixtures.	and grave fraction s	s are class GW, GP	GM, GC,	Atter A-Lin than	berg Lin ne or PI 7		ve		erline of o																																	
E GR	e materia	fof the coarse than No. 4 sieve)  Clean Gravel with Clean Gravel with Sands  Clean Gravel with Gravel with Clean Sands  Clean Gravel with Gravel with Clean Sands  Clean Gravel with Gravel with Clean Sands Sands  Clean Gravel with Clean Gravel-served Sands Sands Sand-selved Sands Sa					Cu=	$\frac{D60}{D10}$	> 6	;	1 < 0	$C_c =$	(D: D10 X	$\frac{(60)^2}{D_{60}}$	< 3																																		
OARS	alf of the	Sands (more than half of the coarse fraction is smaller than No. 4 sieve)		Ü	san	SP	Poorly graded sands, gravelly sands, little or no fines.	rcenta oarse Less t More			N	Not meeting all gradation requirments of SW			W																																		
	re than h			Sands with	fine	SM	Silty sands, sand-silt mixtures.	termine p	or o				n 4	Limits plotting in hatched zone with PI between 4 and 7 are borderline cases																																			
	(Mo		(mor fraction	Sand	fī	SC	Clayey sands, sand-clay mixtures.	rey sands, I-clay mixtures.					requiring the use of dual symbols.				al																																
	sieve)	ays 50)				ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity.				ion of P d above		rmined	by th	e Atte	rberg L	imits to	ests.																															
S	than No. 200 sieve)				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clay.	3. I	90-	plotte	d below	the A-L	ine indic	cate s	ilt.			(L.8)																																
SOILS				(LL le		77)		77)		- - - - - -		1		1		1		3		1		1		1		1				1		77				OL	Organic silts and organic silty clays of low plasticity.	(PI)	80- 70-						М	H U-Line	PIEOSI	W/2	
FINE GRAINED	(More than half of the material is finer			ays n 50)		МН	Inorganic silts, micaceous or diato- maceous fine sandy or silty soils, elastic silts.	Plasticity Index (PI	60 <b>-</b>			ÇL		_	CHC	OH PI		10)																															
INE G	INE GR		Silts and Clays	(LL greater than 50)		במוכו ווומ		СН	Inorganic clays of high plasticity, fat clay.	Plastic	Plastici				4		A-L	ine																															
F	than halt					ОН	Organic clays of medium to high plasticity, organic silts.		20- 10- 7- 4-		ZCL-ML Z	CL O	or OL			МНо	or CH																																
	(More		Highly Organic	Soils		Pt	Peat and other highly organic soils.	LL= -43.5 PI = -46.5	0-	) 10	ML 20	30	40 50 uid Li			70 80	0 90	100	)																														
	CAL-TECH TESTING, INC.					TESTING	, INC.	5%	∕₀ Ma	ax. Pa	ssing tl	ne U.S.	. No. 2	00 S	Sieve		SP																																

P.O. Box 1625

Lake City, Florida 32056-1625 Phone: 386-755-3633 Fax: 386-752-5456 5% - 12% Passing the U.S. No. 200 Sieve ...... SM-SP

12% - 50% Passing the U.S. No. 200 Sieve ....... SM/SC

#### KEY TO TEST DATA

#### STANDARD PENETRATION TEST:-

Soil sampling and penetration testing is performed in accordance with ASTM D-1586. The standard penetration resistance ("N") is the number of blows of a 140-pound hammer falling 30 inches to drive a 2-inch O.D., 1.4-inch I.D. split spoon sampler one foot.

#### **ROCK CORE DRILLING:-**

Rock sampling and core drilling is performed in accordance with ASTM D-2113. The rock quality designation percentage (RQD) is determined by summing only pieces of core that are at least 4 inches long, and dividing by the "run" length.

Relation of RQD and In-situ Rock Quality					
RQD (%)	Rock Quality				
90 -100	Excellent				
75 – 90	Good				
50 - 75	Fair				
25 - 50	Poor				
0 – 25	Very Poor				

#### **RELATIVE DENSITY:-**

SANDS: Very loose - less than 4 blows/ft.

Loose - 5 to 10 blows/ft.

Medium - 11 to 30 blows/ft.

Dense - 31 to 50 blows/ft.

Very dense - over 50 blows/ft.

SILTS AND CLAYS: Very soft - less than 2 blows/ft.

Soft - 3 to 4 blows/ft.

Medium stiff - 5 to 8 blows/ft.

Stiff - 9 to 15 blows/ft.

Very stiff - 16 to 30 blows/ft.

Hard - 31 to 50 blows/ft.

Very hard - over 50 blows/ft.

ROCKS: Soft - Rock core crumbles when handled.

Medium - Can break core with hands.

Moderately hard - Thin edges of rock core can be broken with fingers.

Hard - Thin edges of core can not be broken with fingers.

Very hard - Can not be scratched with knife.

<u>GROUNDWATER</u>:- Water levels shown on boring logs are taken immediately upon completion of boring, and are intended for general information. The apparent level may have been altered by the drilling process. Groundwater levels, if desired, can be monitored over a long time interval.

Columbia County Building Permit Application

(K# 14020

For Office Use Only Application # 0801-134 Date Received 1/26 By JW Permit # 26866
Zoning Official BLK Date 19.03.08 Flood Zone X FEMA Map # Zoning CI
Land Use Com, Elevation WA MFE about A River WA Plans Examiner Ot 71H Date 3-18-08
Comments VARIANCE 0197 reduction of Front setback to 5 Sect.
NOC WEH Deed or PA Site Plan State Road Info Parent Parcel #
T-i Dev Permit # n In Floodway ri Letter of Authorization from Contractor
□ Unincorporated area □ Incorporated area □ Town of Fort W h ite □ Town of Fort White Compliance letter
Septic Permit No. 08-020 Fox
Name Authorized Person Signing Permit DONNY WILLIAMS Phone 386-755-0764
Address 541 SW AIRPARK GLEN, LAKE CITY, FL 32025
Owners Name JAMES & ANDREA RICHARDSON Phone 386-755-5779
911 Address 692 SW ARLINGTON BLVD., LAKE CTS, 71 3015
Contractors Name DONNY WILLIAMS Phone 386-755-0764
Address 541 SW AIRPARK GLEN, U. JL 32025
Fee Simple Owner Name & Address 692 SW ARLINGTON BLVD.
Bonding Co. Name & Address NA
Architect/Engineer Name & Address HARRY V. WHIDDON, 2195 OLD QUITMAN RD., ADEL, GA.
Mortgage Lenders Name & Address NA
Circle the correct power company - FL Power & Light - Clay Elec Suwannee Valley Elec Progress Energy
Property ID Number 31-3S-17-06262-012 Estimated Cost of Construction 275, 000 ω
Subdivision Name_NALot Block Unit Phase
Driving Directions US #90 WEST TO CR 341, RIGHT TO FIRST ROAD TO LEFT FOLLOW TO ARLINGTON BLVD THEN
LEFT 150 YDS. TO JOB TL Arlington Blud; 150 gds on right, or 2nd lot
Number of Existing Dwellings on Property 1 METAL BLD
Construction of METAL BLD. Total Acreage573 Lot Size NA
Do you need a - Culvert Permit or <u>Culvert Waiver or Have an Existing</u> Total Building Heiaht 1
Actual Distance of Structure from Property Lines - Front 42' Side 10' Side 24' Rear 28'
Number of Stories _1 Heated Floor Area _502sf Total Floor Area _2400sf RoofPitch _4/12
Application is hereby made to obtain a permit to do 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 be performed to meet the standards of all laws regulating construction in this jurisdiction,

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCMENT MAY RESULT IN YOU 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 ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

#### FLORIDA'S CONSTRUCTION LIEN LAW: Protect Yourself and Your Investment

According to Florida Law, those who work on your property or provide materials, and are not paid-in-full, have a right to enforce their claim for payment against your property. This claim is known as a construction lien. If your contractor fails to pay subcontractors or material suppliers or neglects to make other legally required payments, the people who are owed money may look to your property for payment, even if you have paid your contractor in full. This means if a lien is filed against your property, it could be sold against your will to pay for labor, materials or other services which your contractor may have failed to pay.

#### NOTICE OF RESPONSIBILITY TO BUILDING PERMITEE:

YOU ARE HEREBY NOTIFIED as the recipient of a building permit from Columbia County, Florida, you will be held responsible to the County for any damage to sidewalks and/or road curbs and gutters, concrete features and structures, together with damage to drainage facilities, removal of sod, major changes to lot grades that result in ponding of water, or other damage to roadway and other public infrastructure facilities caused by you or your contractor, subcontractors, agents or representatives in the construction and/or improvement of the building and lot for which this permit is issued. No certificate of occupancy will be issued until all corrective work to these public infrastructures and facilities has been corrected.

OWNERS CERTIFICATION: I hereby certify that all the foregoing information is accurate and all work will be done in compliance with all applicable laws and regulating construction and zoning. I further understand the above written responsibilities in Columbia County for obtaining this Building Permit.

are above writter responsibilities in columbia count	ty for obtaining the banding refine.
Vince Richardson	
Owners Signature	
<b>CONTRACTORS AFFIDAVIT:</b> By my signature I unders	stand and agree that I have informed and provided this
A-11-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	ten responsibilities in Columbia County for obtaining
this Building Permit.	
Contractor's Signature (Permitee)	Contractor's License Number <u>CGC 004692</u> Columbia County Competency Card Number
Affirmed under penalty of perjury to by the Contractor an	nd subscribed before me this 28 day of 16 Jan 2008
	day of Mc Jay 20/7
Personally known_X_ or Produced Identification	
f Marts	SEAL: AMY MARTS
State of Florida Notary Signature (For the Contractor)	MY COMMISSION # DD458730 EXPIRES: Aug. 7, 2009 Elected Noting Service com

## COLUMBIA COUNTY, FLORIDA

THE UNDERSIGNED hereby gives notice that improvement will be made to certain real property, and in accordance with Chapter 713, Florida Statutes, the following information is provided in this Notice of Commencement.

Tax Parcel ID Number 31-3s-17-06262-012	
Description of property: (legal description of the property and	street address or 911 address)
COMM SW COR OF NE1/4 OF SW1/4, RUN E 286.94 FT TO E R/W	
FOR POB, CONT S 29 DEG W ALONG R/W 250 FT, S 60 DEG E 10	
DEG E 250 FT, N 60 DEG W 100 FT TO POB. ORB 950-2449, CORR	DEED 955-2704,
· ·	
2. General description of improvement: OFFICE/WAREHOUSE	Inst:200812001697 Date:1/28/2008 Time:11:21 AMDC,P.DeWitt Cason,Columbia County Page 1 or
3. Owner Name & Address JAMES & ANDERA RICHARDSON	
692 SW ARLINGTON BLVD, LAKE CITY, FL 32025 Interes	est in Property OWNERS
4. Name & Address of Fee Simple Owner (if other than owner):	SAME AS ABOVE
5. Contractor Name DONNY WILLAMS CONSTRUCTION LLC	Phone Number 755-0764
Address 541 SW AIRPARK GLEN, LAKE CITY, FL 32055	
6. Surety Holders Name NONE	Phone Number
Address	*
Amount of Bond	
7. Lender Name NONE	Phone Number
Address	
8. Persons within the State of Florida designated by the Owner userved as provided by section 718.13 (1)(a) 7; Florida Statutes:	upon whom notices or other documents may be
Name JAMES & ANDERA RICHARDSON	Phone Number 755-5779
Address 692 SW ARLINGTON BLVD, LAKE CITY, FL 32025	
9. In addition to himself / herself the owner designates None	of
to receive a copy of the	Lienor's Notice as provided in Section 713.13 (1) -
(a) 7. Phone Number of the designee NA	
10. Expiration date of the Notice of Commencement (the expirati	on date is 1 (one) year from the date of recording,
(Unless a different date is specified)	
To the state of th	
NOTICE AS PER CHAPTER 713, Florida Statutes: The owner must sign the notice of commencement and no one el	se may be permitted to sign in his/her stead.
ine.	Sworn to (or affirmed) and subscribed before day of 100000000000000000000000000000000000
Unice Michardson	1
Signature of Owner	NOTARY STAMPISEAL AMY MARTS
9	MY COMMISSION # DD458730  EXPIRES: Aug. 7, 2009

Signature of Notary



# Columbia County, Florida Planning & Zoning Department

Review of Building Permit for compliance with County's Comprehensive Plan and Land Development Regulations

To: Donny Williams

Fax: 386.755.0764

From: Brian L. Kepner, County Planner

Fax: 386.758.2160

Number of Pages: 1

Date: 18 March 2008

RE: Building Permit Application 0801-134, Richardson

#### Dear Donny:

I am finishing up the review of the above referenced building permit application. Your revised site plan shows two (2) handicap parking spaces on the west side of the proposed building. Is there an existing handicap parking space on the property? If so, then no additional handicap spaces would be required for the property because the total number of parking spaces need has not exceeded twenty-five (25) spaces. Nothing says you cannot have more. If you desire them to be handicap parking spaces the required size is thirteen (13) feet in width and twenty (20) feet in length. Your revised site plan shows the handicap spaces at ten (10) feet wide and nineteen (19) feet long.

If you have any questions concerning this matter, please do not hesitate to contact me at 386.758.1007.

Sincerely,

Brian L. Kepner

Land Development Regulation Administrator,

County Planner

Confidentiality Notice: This facsimile transmission is confidential and is intended only for the review of the party to whom it is addressed. It may contain proprietary and/or privileged information protected by law. If you are not the intended recipient, you may not use, copy or distribute this facsimile message or its attachments. If you have received this transmission in error, please immediately telephone the sender above to arrange for its return.

District No. 3 - George Skinner

District No. 4 - Stephen E. Bailey District No. 5 - Elizabeth Porter



#### BOARD OF COUNTY COMMISSIONERS . COLUMBIA COUNTY

18 March 2008

TO:

File

FROM:

Land Development Regulation Administrator

SUBJECT:

BP 08-1 (Williams/Richardson)

Concurrency Assessment Concerning a Building Permit

The following assessment is provided for the purpose of a binding concurrency determination regarding the demand and residual capacities for public facilities required to be addressed within the Concurrency Management System. This assessment serves as a binding concurrency determination, but does not ensure that facilities, which are not owned, operated or permitted by the County will be available to the property at the time development occurs.

BP 08-1, an application by Donny Williams, as agent for James and Andrea Richardson, for building permit approval for general office and warehouse use located in a COMMERCIAL INTENSIVE (CI) zoning district in accordance with a site plan and submitted as part of building permit application 0801-134 dated January 28, 2008 to be located on property described, as follows:

A parcel of land lying with in Section 31, Township 3 South, Range 17 East, Columbia County, Florida. Being more particularly described, as follows: Commence at the Southwest corner of the Northeast 1/4 of the Southwest 1/4 of said Section 31; thence North 88°07'51" East along the South line of said Northeast 1/4 of the Southwest 1/4 of said Section 31 a distance of 286.94 feet to the East right-of-way line of Southwest Arlington Boulevard; thence South 29°36'25" West along said East right-of-way line of Southwest Arlington Boulevard a distance of 145.52 feet to the Point of Beginning; thence continue South 29°36'25" West still along said East right-of-way line of Southwest Arlington Boulevard a distance 250.00 feet; thence South 60°38'16" East 100.00 feet; thence North 29°36'25" East 250.00 feet; thence North 60°38'16" West 100.00 feet to the Point of Beginning.

Containing 0.57 acre, more or less.

BOARD MEETS FIRST THURSDAY AT 7:00 P.M. AND THIRD THURSDAY AT 7:00 P.M.