

Dinsmore & Shohl LLP
ATTORNEYS

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December 2, 2005

RECEIVED

DEC 02 2005

PUBLIC SERVICE
COMMISSION

Beth O'Donnell
Executive Director
Public Service Commission
of the Commonwealth of Kentucky
211 Sower Boulevard
Frankfort, Kentucky 40602

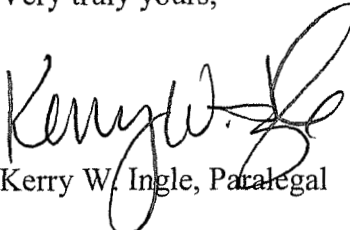
Re: Application of Bluegrass Wireless LLC for issuance of a Certificate of Public Convenience and Necessity to Construct a Cell Site (BURNSIDE) in Rural Service Area #6 (PULASKI) of the Commonwealth of Kentucky, Case No. 2005-00282

Dear Ms. O'Donnell:

Pursuant to 807 KAR 5:063 § 1(1)(d), we are enclosing with this letter an original and three (3) copies of the amended geotechnical report of Bluegrass Wireless LLC ("Bluegrass Wireless"). This document is being filed to satisfy the deficiency of Exhibit "B" of Bluegrass Wireless' application in this matter, as identified in the letter of the Public Service Commission of the Commonwealth of Kentucky dated November 2, 2005.

Thank you, and if you have any questions with respect to this matter, please call me or John E. Selent.

Very truly yours,



Kerry W. Ingle, Paralegal

KI
Enclosure

105644v1
33597-3

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November 18, 2005



RSB Design
6403 Mercury Drive
Louisville, Kentucky 40291

Terracon Consultants, Inc.
4545 Bishop Lane, Suite 101
Louisville, Kentucky 40218
Phone 502.456.1256
Fax 502.456.1278
www.terracon.com

Attention: Mr. Robin Becker

**Re: Geotechnical Engineering Report - Addendum
Proposed Burnside II Communication Tower
Lake Cumberland Motor Speedway
Burnside, Kentucky
Terracon Project No. 57057351G**

Dear Mr. Becker:

We are submitting, herewith, the results of our additional subsurface exploration for the referenced project. The purpose of this exploration was to obtain additional information on the subsurface conditions at the proposed project site and, based on this information; provide any additional recommendations regarding the design and construction of the foundations for the proposed tower.

Project Information

The subject site is located near the Lake Cumberland Speedway in Burnside, Kentucky. The original subsurface exploration consisted of drilling and sampling one boring at the site to a depth of about 19 feet below existing grade. As requested, due to the trees and boulders in the vicinity of the tower, the initial boring was advanced approximately 250 feet south of the staked tower location. After clearing the subject site, a second boring was advanced at the proposed center of tower staked by the project surveyor. The findings and additional recommendations from the second exploration are detailed below.

Subsurface Conditions

The second boring was advanced to a depth of approximately 21 feet below the existing ground surface. Auger refusal was encountered below approximately one foot of soil overburden. Rock coring techniques were used to advance the borehole beyond one foot. Limestone was encountered below the soil overburden to a termination depth of about 21 feet below the existing ground surface. The limestone was light to medium gray, close to moderately closely jointed, moderately weathered to fresh and hard. The bedrock at the boring location appears to be relatively continuous based on core recoveries ranging from 88 to 97 percent. However, a mud seam was encountered from about 14½ to 15½ feet below the surface. The quality of the rock is rated at good based on RQD values ranging from 75 to 82 percent. Considering the height of the tower and the quality of the bedrock, coring operations were terminated at a depth of about 21 feet below grade.

Additional Recommendations

In general, our original findings and recommendations remain the same with the exception of the following:

Geotechnical Considerations

It should be noted that the site is underlain by a limestone formation that is highly susceptible to dissolution along joints and bedding planes in the rock mass. This results in voids and solution channels within the rock strata and a highly irregular bedrock surface. The weathering of the bedrock and subsequent collapse or erosion of the overburden into these openings results in what is referred to as a karst topography. Any construction in karst topography is accompanied by some degree of risk for future internal soil erosion and ground subsidence that could affect the stability of the proposed structures. Our review of the available topographic and geologic mapping indicated that karst type topography is located within a 1-mile radius of the property. Furthermore, the boring drilled at the site did contain a mud seam within the limestone from about 14½ feet to 15½ feet below the existing grade.

Tower Foundations – Drilled Pier Design Parameters

Based on the results of the second boring, the following drilled pier foundation design parameters have been developed and should be used in place of the drilled pier recommendations contained in the geotechnical report:

Drilled Pier Foundation Design Parameters

Depth * (feet)	Description **	Allowable Skin Friction (psf)	Allowable End Bearing Pressure (psf)	Allowable Passive Pressure (psf)	Internal Angle of Friction (Degree)	Cohesion (psf)	Lateral Subgrade Modulus (pci)	Strain, ϵ_{50} (in/in)
0 - 1	Overburden	Ignore	Ignore	Ignore	-	-	Ignore	Ignore
1 - 5	Limestone	3,000 ***	20,000	6,000 ***	0	60,000***	3,000	0.00001
5 - 10	Limestone	4,000	40,000	8,000	0	80,000	3,000	0.00001
10 - 21	Limestone	5,000	50,000	10,000	0	100,000	3,000	0.00001

* Pier inspection is recommended to adjust pier length if variable soil/rock conditions are encountered.

** A total unit weight of 150 pcf can be estimated for the limestone.

*** The parameters have been reduced to take into account the shallow overburden. The pier should be embedded a minimum of 3 feet into competent limestone to mobilize these higher rock strength parameters. Furthermore, it is assumed the rock socket will be extended using coring techniques rather than blasting/shooting.

Tower Foundations - Mat Foundation Alternative

If desired, a mat foundation can be used to support the proposed tower. The mat foundation can be designed using the following natural rock/engineered fill parameters.

These parameters are based on the findings of the boring, a review of published correlation values and Terracon's experience with similar rock conditions. These design parameters also assume that the base of the mat foundation will rest on limestone or well-graded crushed stone that is compacted and tested on a full time basis. The relatively shallow overburden will likely result in excavation difficulties to achieve a level bearing pad. These difficulties will include bedrock excavation.

Mat Foundation Design Parameters

Depth (feet)	Description	Allowable Contact Bearing Pressure (psf)	Allowable Passive Pressure (psf)	Coefficient of Friction, Tan δ	Vertical Modulus of Subgrade Reaction (pci)
0 - 2	Overburden & Limestone	Ignore	Ignore	-	
≥ 2	Limestone or Crushed Stone Fill	4,000	Ignore	0.5	150


Equipment Building Foundations

The proposed equipment shed may be supported on shallow footings bearing on the stiff natural soil, underlying bedrock, or engineered fill placed over these materials after stripping any topsoil. The net allowable soil bearing pressure of 2,000 psf provided in the original geotechnical report dated October 21, 2005, should be used to dimension the footings.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this addendum, or if we may be of further service to you in any way, please feel free to contact us.

Sincerely,
Terracon

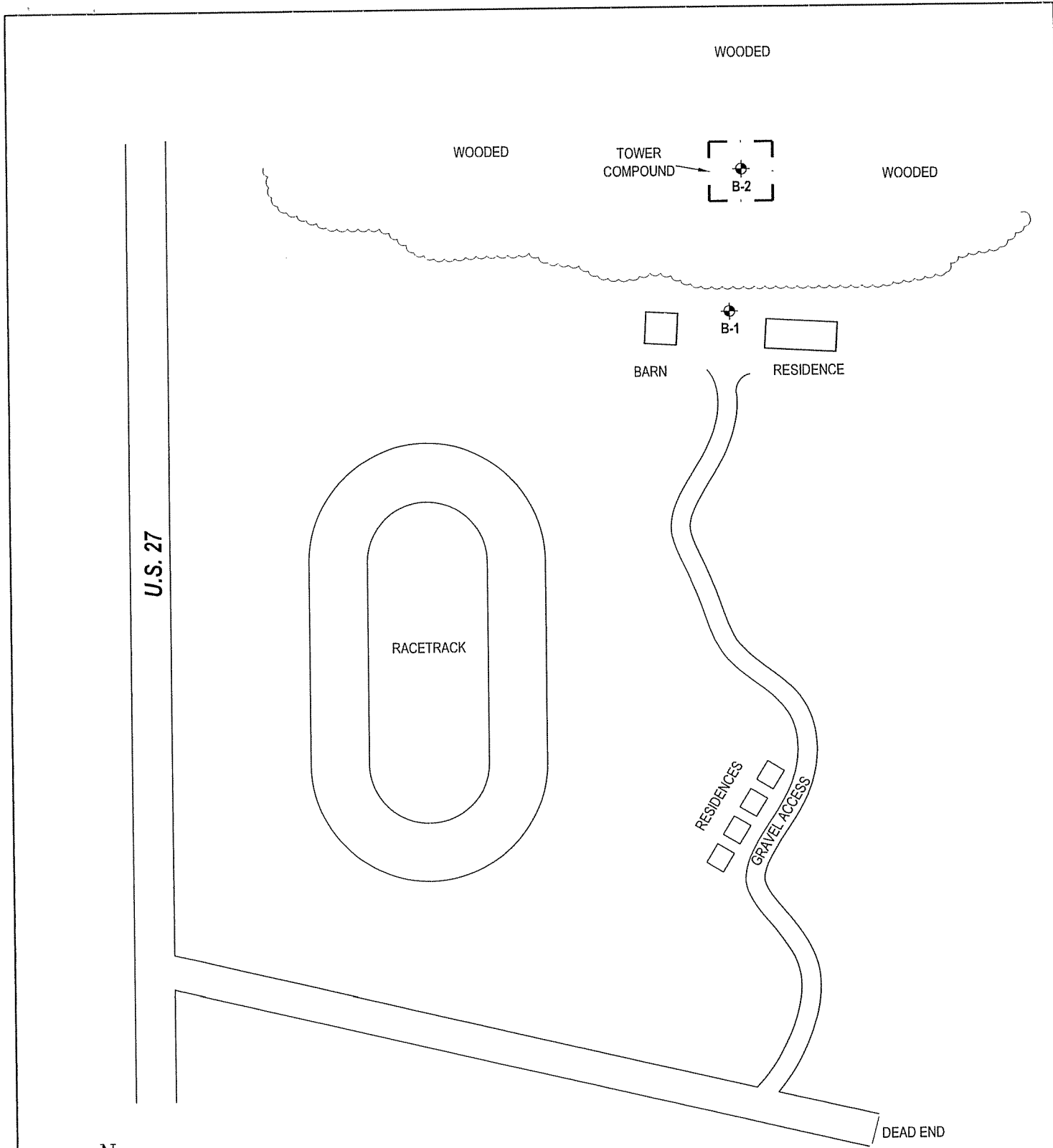

 Jason L. Thompson, EIT
 Staff Engineer


 Timothy G. LaGrow, P.E.
 Regional Manager

n:\projects\2005\towers\570577351Burnsidell\geo\addendum.doc

Attachments: Boring Location Diagram
 Boring Logs

Copies: (4) RSB Design



LEGEND

- · — SUBJECT SITE
- ◆ BORING LOCATION

NOT TO SCALE

THIS DIAGRAM IS FOR GENERAL LOCATION ONLY. AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

BORING LOCATION PLAN			
BURNSIDE 2			
U.S. 27			
Project Mngr:	EJH	Terracon 2855 Premiere Parkway, Suite C Duluth, Georgia 30097	Project No.
Designed By:			Scale:
Drawn By:	MRF		File No.
Checked By:	EJH		Date:
Approved By:	EJH		Figure No.
			57057351
			NOT TO SCALE
			57057351-1
			OCTOBER 2005
			1

LOG OF BORING NO. B-1

CLIENT RSB Design										
SITE Burnside, Kentucky		PROJECT Burnside II Communication Tower								
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	SAMPLES					TESTS		
			USCS SYMBOL	NUMBER	TYPE	RECOVERY, in.	SPT - N * BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf
9	<p>FAT CLAY, orangish brown, brown and tan, stiff to very stiff</p>	5	CH	1	SS	18	11	31		
			CH	2	SS	14	12	23		
			CH	3	SS	16	16	29		
9	<p>Auger Refusal at 9 feet, Began Coring</p>		CH	4	SS	3	50/3	28		
	<p>LIMESTONE, close to moderately closely jointed, moderately weathered to fresh, brownish gray to gray, hard</p>	10		5	DB	90%	RQD 74%			
19	<p>Boring Terminated at 19 feet</p>									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. *Manual Hammer

WATER LEVEL OBSERVATIONS, ft		Terracon		BORING STARTED 10-18-05	
WL	▽			BORING COMPLETED 10-18-05	
WL	▽			RIG Acker	FOREMAN GT
WL	Dry upon auger completion			APPROVED EJH	JOB # 57057351

BOREHOLE 99 LOGS.GPJ TERRACON.GDT 11/21/05

LOG OF BORING NO. B-2

CLIENT RSB Design		PROJECT Burnside II Communication Tower									
SITE Burnside, Kentucky		PROJECT Burnside II Communication Tower									
GRAPHIC LOG		DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES				TESTS		
					NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf
1	1	SOIL OVERBURDEN Auger Refusal at 1 foot, Began Coring LIMESTONE , close to moderately closely jointed, moderately weathered to fresh, brownish gray to gray, hard	1	CL							
			5		2	DB	97%	RQD 82%			
			10		3	DB	93%	RQD 75%			
		Clay seam from 14.5 feet to 15.5 feet	15		4	DB	95%	RQD 82%			
			20		4	DB	88%	RQD 75%			
	21	Boring Terminated at 21 feet									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

WATER LEVEL OBSERVATIONS, ft

WL	▽	▽			
WL	▽	▽			
WL	Dry upon auger completion				



BORING STARTED		11-17-05	
BORING COMPLETED		11-17-05	
RIG	CME-550	FOREMAN	MW
APPROVED	JLT	JOB #	57057351

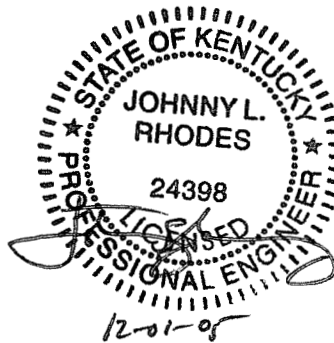
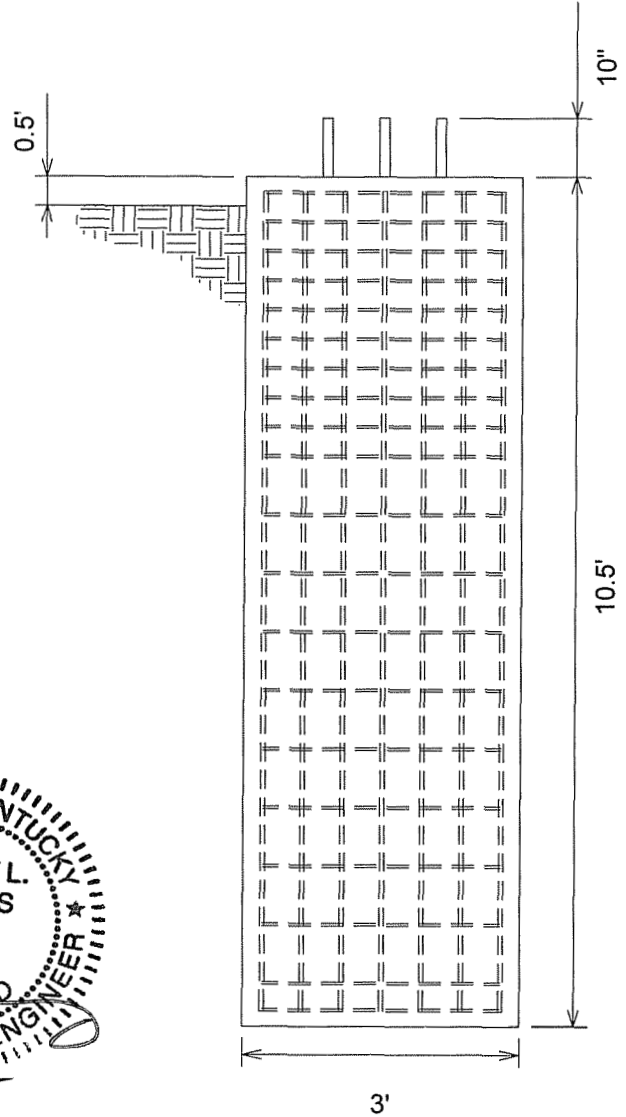
BOREHOLE 99 LOGS.GPJ TERRACON.GDT 11/21/05

DRILLED PIER FOUNDATION DESIGN

Vertical Bars	(12) #8 bars, 10' long
Ties	#5 bars @ 6" c/c for the first 6.5' then 16" c/c thereafter

General Notes

1. Concrete shall be placed in accordance with ACI318-02, latest revision.
2. Concrete shall have a minimum 28 day compressive strength of 3000 PSI.
3. Rebar to conform to ASTM A615 grade 60.
4. Rebar used for ties may be A615 grade 40.
5. All rebar to have a minimum of 3" clear cover.
6. All exposed concrete corners to have 3/4" chamfer.
7. Bottom and side surfaces to rest on undisturbed soil.
8. Contractor shall be responsible to review and follow all recommendations of the geotechnical report.



Supplemental Notes

Soil values obtained from Terracon soils report #57057351G Addendum 1 Dated 11/18/05

EASTPOINTE ENGINEERING GROUP, LLC		Client: Bluegrass Cellular	
4020 Tull Ave. Muskogee, OK 74403--Phone 918.683.2169--Fax:918.682.7618		Site: Burnside:Revision 1	
		Job: 2077	Drawn by: JLR
		Scale: NTS	Date: 12/01/05