



LEADING THE WAY
Structural Engineering Firm
NC License No. C-2499

168 Quade Drive
Cary, North Carolina 27513
www.rbengineering.com

Phone: 919-677-9662 / Cell: 919-280-2695 / Fax: 919-677-9663

E-mail: rbittler@rbengineering.com

Jim McCown, AIA
PowerLift Foundation Repair
E-mail: jmccown@nc.rr.com

May 10, 2021

Subject: Residential structural (foundation) repairs
128 Riverwalk Circle
Cary, North Carolina 27511

File No.: RB-216985

Dear Mr. McCown:

RB Engineering, Inc. is pleased to provide the following summary engineering letter concerning the subject project. We performed a site visit to observe the existing conditions on site. This letter is to confirm that we have evaluated the number and locations of the proposed support piles for the subject project as shown on the attached PowerLift sheet. Based on our experience, calculations, site observations, and engineering judgment, RB Engineering, Inc. recommends that these proposed underground piles be installed to stabilize a section of the subject residence. The proposed piles will adequately support the applicable vertical design loads from the building at the installed locations.

This letter is also to confirm that RB Engineering, Inc. is available to perform any necessary third party evaluation of the pile installation data and will also provide an engineering letter at the completion of the project.

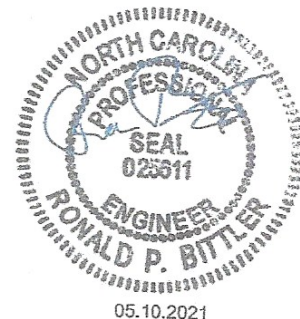
Our services were provided in accordance with the standard of practice for structural engineering and within the limits imposed by scope, schedule, and budget. If you have any questions, or if I can be of further assistance to you on this project, please contact me at (919) 677-9662.

Respectfully submitted,

Ron Bittler, PE
President | Structural Engineer
RB Engineering, Inc.

Ron
Bittler,
PE

Digitally signed by
Ron Bittler, PE
DN: cn=Ron Bittler,
PE, o=RB
Engineering, Inc., ou,
email=rbittler@rben
gineering.com, c=US
Date: 2021.05.10
12:58:52 -04'00'





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E-mail: rbittler@rbengineering.com

Jim McCown, AIA
PowerLift Foundation Repair
E-mail: jmccown@nc.rr.com

July 2, 2021

Subject: Residential structural (foundation) repairs
128 Riverwalk Circle
Cary, North Carolina 27511

File No.: RB-216985

Dear Mr. McCown:

Based upon experience, site observations, pier installation data and locations, the piers that were installed for the subject project will support the vertical loads from the subject building and stabilize the foundation in the locations of installation. As with any foundation repair, continue to monitor the foundation system on a routine basis for any additional movement.

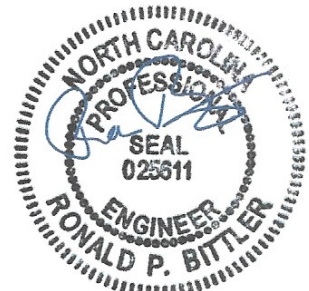
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Respectfully submitted,

Ron Bittler, PE
President | Structural Engineer
RB Engineering, Inc.

Ron
Bittler,
PE

Digitally signed by
Ron Bittler, PE
DN: cn=Ron Bittler,
PE, o=RB Engineering,
Inc., ou,
email=rbittler@rbengi
neering.com, c=US
Date: 2021.07.02
14:52:20 -04'00'



07.02.2021

POWERLift

FOUNDATION REPAIR

A Division of Bolin Enterprises, Inc.

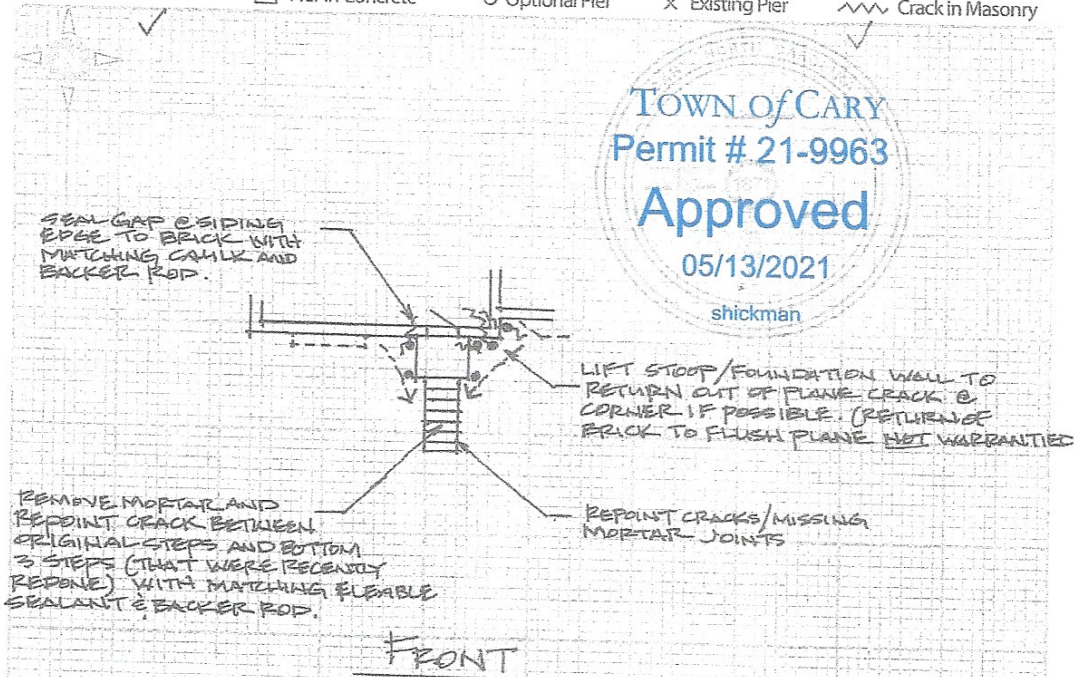
Call for Scheduling
800-562-5438

Proposal/Contract #
LTS 76817

Date of Proposal 5/4/2021

Owner's Name: ELIZABETH BEHRNS Home Phone: ()
Address of Structure: 122 RIVER WALK CIRCLE Work Phone: ()
City: CARY State: NC Zip: 27511 Contact: ☐ EMAIL grammybettybeep@hotmail.com
Billing or Mailing Address: _____

Legend: ☒ Pier ☐ Pier in Concrete ☐ Optional Pier ☒ Existing Pier ☒ Crack in Masonry



TOWN OF CARY
Permit # 21-9963

Approved

05/13/2021

shickman

SOLD 5/9/21
SCHED 4-6 WKS +/-

Notes: - PERMIT FEE (\$76 +/-) IS REIMBURSABLE TO POWERLIFT



Limited Perimeter Steel Pier Warranty

	PROPOSED	ACCEPTED
Number of Piers Needed - Option 1: <u>6</u>	@ \$1000 ea. <u>\$6000</u>	<u>\$6000</u>
Number of Piers Needed - Option 2: _____	@ \$ _____ ea.	_____
Number of Piers Needed - Option 3: _____	@ \$ _____ ea.	_____
Concrete Removal / Replacement for Pier Access: _____	@ \$ _____ ea.	_____
Additional Concrete Demolition: _____	_____	_____
Wood Floor Adjustment: _____	_____	_____
Mud-Jacking / Pressure Grouting: _____	_____	_____
High Density Polyurethane Foam Injection: _____	_____	_____
Tuck-Pointing & Masonry Repair: _____	<u>\$ 300</u>	<u>\$ 300</u>
Additional Work Items: <u>ENGINEERING INSPECTION + PERMIT FEE</u>	<u>\$ 400 + PERMIT FEE</u>	<u>\$ 400 + P.F.</u>
PAYMENT IS DUE IN FULL UPON COMPLETION OF THE WORK		
Interest at the state allowed rate will be assessed on all amounts outstanding over fifteen (15) days.		
This proposal may be withdrawn if not accepted within 60 days.		
*The terms printed on the back are part of this proposal. The owner has read, understands, and agrees to these terms.		
Total	<u>\$6700 + PERMIT FEE</u>	<u>\$6700 + P.F.</u>

Date: 5/9 20 21

Elizabeth J. Behrens
Customer Signature
Signature must be present to validate warranty

[Signature]
Power Lift Representative

Leading the Industry in Residential & Commercial Foundation Repair

Corporate Headquarters Mailing Address: P.O. Box 758 - Ada, OK 74821 • 580-332-5438 • Fax 580-332-5402



© 2017 Bolin Enterprises, Inc.

TOWN of CARY

Permit # 21-9963

Approved

05/13/2021

shickman



Twin Hydraulic Cylinders - Patented Power Lift System with driving and lifting capacities of up to 300,000 lbs. per pier.

Brick Veneer

Interior Wall Stud

Pier Column Clamping Assembly

Foundation

Floor Slab

Excavation - By hand digging a small excavation (approx. 2' x 2') at each pier location, damage to the lawn & landscape is minimized.

Foundation Bracket - (Residential & light commercial brackets are fabricated from 6" x 10" x 1/2" web I-Beam and have a load capacity of over 105,000 lbs.) Special bracket attachments are designed in the field to correct foundation deformities assuring proper load distribution at each pier. Brackets are designed for easy adjustments.

Support Sleeves - Used to maximize the load carrying and lifting capacity of the pier.

Piling Section - Made from medium carbon steel for extra strength with a life expectancy of over 50 years. Having a compressive yield strength rated at over 110,000 P.S.I. and a 29,000,000 P.S.I. modulus of elasticity, the steel conforms to SAE Standard 1536, Class 70 as per ASTM A-181 making it the finest quality pier available in the steel pier industry today. Pier sizes range from 2 1/2" dia. with a 1/4" wall thickness to a 4 1/2" dia. with a 1/2" wall thickness.

Piling Section Connectors - 12" long

Pier Plug

Piling Starter

Friction Collar (Where required)

Bed Rock or Load Bearing Strata

POWER LIFT SYSTEM

The patented Power Lift piling system has been tested at the University of Oklahoma, Fears Structural Engineering Laboratory to determine the driving and lifting arm load capacities.

Our residential system has a driving and lifting capacity of over 105,000 lbs. per pier ensuring that every pier is driven to a true load bearing strata.

Power Lift utilizes a synchronized lifting system with the capacity to lift over 100 piers simultaneously. Synchronized lifting insures that maximum elevation recovery and permanent stabilization are achieved, while minimizing stress to the structure.

The Power Lift commercial magnum grade pier utilizes a 4 1/2" dia. x 1/2" wall steel pile capable of over 300,000 lbs. of drive force. This makes it the strongest commercial pier system of its type.

Power Lift
Patented Systems

TERMS AND CONDITIONS

It is **POWER Lift's** intent to provide our customers with the highest quality work possible. **POWER Lift's** professional installation crews and the use of our patented state-of-the-art foundation repair systems, combined with years of experience, allows us to enjoy the most respected reputation in the industry. Our evaluation of the repairs to be performed under this proposal will be in accordance with accepted construction practices.

These repairs are designed to regain elevation and control vertical settlement. Perimeter Pier installation will be as follows: A small hole approximately 2'x2' is excavated adjacent to the structure to a depth approximately twelve (12) inches below the existing footing. The footing is prepared and shaped, the foundation support bracket is set and the hydraulic piling system is attached. Piers are driven individually, and then can be connected for a synchronized lifting operation, if needed. Lifting will be controlled at each location by the opening or closing of valves located in the hydraulic lines that connect each pier. After the desired elevation is reached, piers are individually set at designated loads, then secured to the foundation support bracket. After removing hydraulic driving equipment, the pier is cut off approximately three (3) inches above the foundation support bracket. All excavations are then backfilled.

- **POWER Lift** disclaims responsibility for hidden or latent defects with the property or structure. Proper site drainage is the responsibility of the Owner. Maintaining proper drainage pertaining to the foundation shall be the responsibility of the Owner.
 - **POWER Lift** does not guarantee that any shrubs, flowers, trees, grass, etc. removed for the recommended repairs will not die. Any replacement of such items shall be the responsibility of the Owner.
 - **POWER Lift** will endeavor to achieve practical elevation recovery during the lifting process. No guarantee of absolute elevation correction or crack closure is provided or implied.
 - **POWER Lift** will not be responsible for distortion or cracking of windows, doors, mirrors, floor covering, wall covering, drywall, plaster, or similar items.
 - **POWER Lift** employees will endeavor to match masonry and concrete repairs as closely as possible; however, due to inconsistencies and varying availability of concrete and masonry materials, **POWER Lift** does not guarantee an exact match.
 - **POWER Lift** will not be responsible for existing or repair-related damage to plumbing lines, sprinkler lines & components, electrical lines, gas lines, water lines, duct work, or any other utility or mechanical component for any reason. Furthermore, **POWER Lift** will not be responsible for consequential damages, any such repair, modification, or adjustment, as required, or as a result of the proposed work, is not part of this proposal, and any such subsequent expense shall be the responsibility of the Owner.
 - **POWER Lift** recommends that a plumbing test be performed when interior slab movement has occurred or when interior slab repairs have been made. Plumbing test and repairs are the responsibility of the owner.
 - **POWER Lift** will not be responsible for water leaks through basement walls or any other portion of the structure.
 - **POWER Lift** employees will endeavor to keep job sites as clean and free of debris as possible. However, it shall be the Owner's responsibility to familiarize themselves, their family members, friends, guests, or persons on the premises, with all areas where work is being performed. The Owner should keep them away from these areas in order to prevent accidents, such as stepping into open excavations or falling over hydraulic equipment, tools, disturbed soils, both during and after working hours. The Owner shall provide a place for **POWER Lift** equipment during the work process. **POWER Lift** will not be responsible for damage caused to drive and parking areas.
- If excessive excavation (depths beyond 42 inches) or rock, concrete, tree roots, or similar substances are encountered which interferes with the normal excavation and pier installation process, an additional excavation fee may be required. Additional charges will be discussed prior to execution of the work. These additional expenses shall be charged to the Owner at **POWER Lift's** current hourly rate, and may also include equipment rental expenses.
 - In the event that pier installation goes beyond a 30 foot depth, an additional charge of \$15 per foot shall apply.
 - If the Owner chooses not to continue the work due to the extra expenses which may occur, the Owner shall be responsible for paying **POWER Lift's** current hourly rate for all work performed to that point plus materials and mobilization.
 - The Owner or an authorized representative shall be available upon completion of the work for a walk-through inspection with the crew supervisor to discuss any questions or concerns, and to make payment for the repairs.
 - The Owner shall pay **POWER Lift** for all costs of collecting the amounts due hereunder, including interest and attorney fees, if the Owner fails to pay for the repairs in a timely manner.

This proposal shall become the sole agreement of the parties effective upon execution by the Owner and an authorized representative of **POWER Lift**, and authorizes **POWER Lift** to begin the repairs. A copy of this signed agreement shall be good as an agreement with original signatures. This agreement shall be interpreted in accordance with the laws of the State of Oklahoma. It is the exclusive agreement between the parties and supercedes all prior understandings, writings, proposals, representations, and communications, oral or written. This agreement may only be amended by a writing executed by authorized representatives of both parties; furthermore, the 'Terms and Conditions' and/or 'Warranty' cannot be amended by anyone other than a corporate officer.



Perimeter Steel Pier Warranty

1. LIFETIME LIMITED WARRANTY:

POWER Lift will provide adjustments to, repair or replace its foundation bracket assembly and/or steel pilings provided under this agreement if defects in material or workmanship in these items occur during the life of the structure being piers subject to the limitations and exclusions set forth below. This warranty extends only to **POWER Lift's** steel piers, and only to work performed by **POWER Lift**. This warranty is the sole and exclusive remedy available to the Owner.

2. PERIMETER STEEL PIER ADJUSTMENT CLAUSE:

Perimeter steel pier installations: for five (5) years following the installation of perimeter steel piers, **POWER Lift** will make pier adjustments where Vertical Settlement has re-occurred in the immediate area where piers were installed at no charge.

2.1 All pier adjustments made after five (5) years will be charged an hourly rate for such adjustments plus a reasonable mobilization fee.

3. **THIS WARRANTY IS TRANSFERABLE:** In order to transfer this warranty to a new owner, **POWER Lift** must be notified of any change of ownership to the structure within 30 days. A transfer fee of \$150 will be charged for all transfers made beyond one year after the work completion date. This warranty cannot be transferred to the new owner until this fee is paid to **POWER Lift** and all warranty transfer paperwork is completed.

4. EXCLUSIONS: The following are excluded from the above warranty:

4.1 The foundation repair/pier installation work performed by **POWER Lift** is only for the purpose of preventing vertical settlement. The repairs are not intended to be an exclusive remedy concerning the current or future need for additional work in other areas associated with the structure. This warranty excludes foundation or floor movement due to "heave." Heave is defined as that condition caused by excess moisture in expansive soils which causes the soil to swell, resulting in differential uplift to the structure. Excess moisture can be caused by plumbing leaks, poor drainage (both surface and subsurface), rising water table, flooding, etc. This warranty excludes lateral movement of the foundation such as that which occurs on hillsides, slopes, mud slides, sink holes and similar situations. Areas not supported by **POWER Lift** steel piers are specifically excluded from this warranty.

4.2 The interior floor of the structure is excluded from this warranty. Interior floor repairs will be covered under a separate warranty certificate if such repairs are performed. Interior slab piers are not covered under this warranty.

4.3 This warranty does not apply if major changes are made to the structure in the immediate area where piers are installed. Having additional piers installed or foundation repairs by others will void this warranty.

4.4 DAMAGES DUE TO CATASTROPHIC EVENTS, ACTS OF GOD, EARTHQUAKE, SEVERE WIND, FLOODING, OR MAN-MADE CONDITIONS ARE EXCLUDED FROM THIS WARRANTY.

5. LIMITATIONS:

5.1 Any concrete removal, replacement and/or excessive excavations needed for access to repair, replace, or adjust the piers will be charged to the Owner at the current rate.

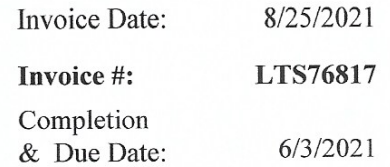
5.2 Maintaining proper drainage will be the responsibility of the Owner. Failure of the Owner to maintain proper drainage pertaining to the foundation will void this warranty.

5.3 **POWER Lift's** sole obligation under the warranty will be as provided in the numbered paragraph 1 above, and Line item under 2 through 2.1, and will be further limited to the amount paid to **POWER Lift** hereunder by the Owner under the original agreement between the parties.

5.4 IN NO EVENT WILL **POWER Lift** BE LIABLE TO ANY OWNER FOR ANY INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES (INCLUDING CRACKS IN SHEET ROCK, WALLPAPER REPLACEMENT, FLOOR COVERING, PAINT, OR SIMILAR ITEMS) OR LOST PROFITS ARISING OUT OF OR RELATED TO THIS AGREEMENT OR THE PERFORMANCE OR BREACH THEREOF. IN NO EVENT WILL **POWER Lift** BE LIABLE FOR ANY FAILURE OR DELAY BY **POWER Lift** IN THE DELIVERY OR INSTALLATION OF THE PIERS, EXCEPT AND TO THE EXTENT EXPRESSLY PROVIDED IN PARAGRAPH 1 ABOVE. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO ORAL STATEMENTS AT ANY TIME WILL MODIFY THIS WARRANTY.

6. This warranty is not effective until **POWER Lift** receives full and timely payment for work performed, subject to the foregoing provisions. Payment is due upon completion. Interest at the state allowed rate will be assessed on all amounts outstanding over fifteen (15) days. Failure to pay for the work in accordance with the terms of this contract will alter or void this warranty.

Setting The Standard for Quality Foundation Repair!



PAID
09/02/2021

Elizabeth Behrns
128 Riverwalk Circle
Cary, NC 27511

Due Upon Receipt

[illegible]

Total	\$6,626.00
Amount Paid	<u>-\$6,626.00</u>
Balance Due	\$0.00

OWNER



BUILDING PERMIT PLAN REVIEW

Town of Cary

316 N. Academy St. | Cary, NC 27513

P: (919) 469-4046

dro@townofcary.org

May 14, 2021

James McCown
120 Armory Road
Ada, OK 74820

RE: Plan Review Comments for: Foundation Repair for 128 Riverwalk Circle

Project Number(s): Town of Cary Project Number: 21-BP-9963

Review Number: 2

Please refer to these plan review comments for important information about your project. Contact the Development Services Department at (919) 469-4046 with general questions, or the trade-specific reviewer for technical questions about any of the comments below.

Expiration of Building Permits

A building permit issued pursuant to this Article shall expire by limitation six months, or any lesser time fixed by ordinance of the city council, after the date of issuance if the work authorized by the permit has not been commenced. If, after commencement, the work is discontinued for a period of 12 months, the permit therefore shall immediately expire. No work authorized by any building permit that has expired shall thereafter be performed until a new permit has been secured. (2019-111, s. 2.4; 2020-3, s. 4.33(a); 2020-25, s. 51(a), (b), (d).)

One (1) hard copy set of approved plans bearing the Town's approval stamp must be available on-site at the time of inspection.

Your project is not complete until all inspections have been scheduled and passed. Once that has occurred a Certificate of Occupancy or Certificate of Compliance will be issued.

In compliance with the requirements of NC House Bill 252 and G.S. 160A-412, a procedure to review code decisions is available. Information on this procedure and supervisor contacts are available on our [website](http://www.townofcary.org) (search "NC Building Codes" at www.townofcary.org).

Review Comments:

Closed Issues: 1

Inspections & Permits (Building-Residential)

General Issues

1. Interior Alteration

Town of Cary
Susan Hickman
(919) 462-2009
susan.hickman@townofcary.org
5/13/21 10:47 AM
Review 1

Plan Review Approval

Comment: install 6 helical piers to stabilize front stoop & corner of house.
Ronald P Bittler PE 25611

Standard Comments

Required to provide 3rd party verification at final inspection stating that all work was performed and installed per approved engineered design.

Inspections

***Helical piers:
BX30 FINAL BUILDING

Town of Cary
Susan Hickman
(919) 462-2009
susan.hickman@townofcary.org
5/13/21 10:48 AM
Review 1

Issue Closed

Open Issues: 0

No open Issues Found



INSPECTIONS AND PERMITS DEPARTMENT

PREPARED 5/14/21, 8:42:05
Town of Cary

PAYMENTS DUE RECEIPT
PROGRAM BP820L

APPLICATION NUMBER: 21-00009963 128 RIVERWALK CIR
FEE DESCRIPTION AMOUNT DUE

RESIDENTIAL STRUCTURAL REPAIR	66.00
HOMEOWNERS RECOVERY FUND	10.00
TOTAL DUE	76.00

Please present this receipt to the cashier with full payment.

TOWN of CARY

316 North Academy Street • Cary, NC 27513 • PO Box 8005 • Cary, NC 27512-8005
tel 919-469-4046 • fax 919-462-3840 • www.townofcary.org