

REGIONAL

Foundation Solutions

Restore. Protect. Stabilize.

Prepared by:
cam@regionalwaterproofing.com
Regional Foundations Solutions
www.regionalwaterproofing.com
TF (800) 536-6260
F (919) 269-6788

Prepared on:
1-28-19

Prepared for:
Cheryl Vacay *Vacay*
H (910) 292-0315

Job location:
204 E F St,
Erwin, NC 28339

Project Summary

Permanently Stabilize Floors

Total Investment	\$20,130.00
Same Day Savings	\$1,948.00
Total Contract Price	\$18,182.00
Deposit Required - 20%	\$3,636.40
Deposit Paid	\$3,636.40
Amount Due Upon Installation	\$14,545.60

Customer Consent

Any alteration from the above specifications and corresponding price adjustment (if necessary) will be made only at the Customer's request or approval. Completing the work in this Proposal at the time scheduled is contingent upon accidents or delays beyond our control. This Proposal is based primarily on the Customer's description of the problem. Engineering services are used as required by companies such as SFA Engineering and StoneWall Engineering. This Proposal may be withdrawn if not accepted by the Customer within 20 days.

Authorized Signature Signed electronically Date 1/28/2019 11:59AM

Acceptance of Contract— I am/we are aware of and agree to the contents of this Proposal, the attached Job Detail sheet(s), and the attached Limited Warranty, (together, the "Contract"). I am/ we are aware of and agree to the 60 day window that Regional has to remedy any service issues that are covered under the attached Limited Warranty. You are authorized to do the work as specified in the Contract. However, field adjustments may be made if deemed vital by project Foreman or Production Manager. I/we will make the payment to crew the day project is completed.

Customer Signature Cheryl Vacay Date 1/28/2019 11:59AM
204 E F St. Erwin, NC 28339 Signed Electronically

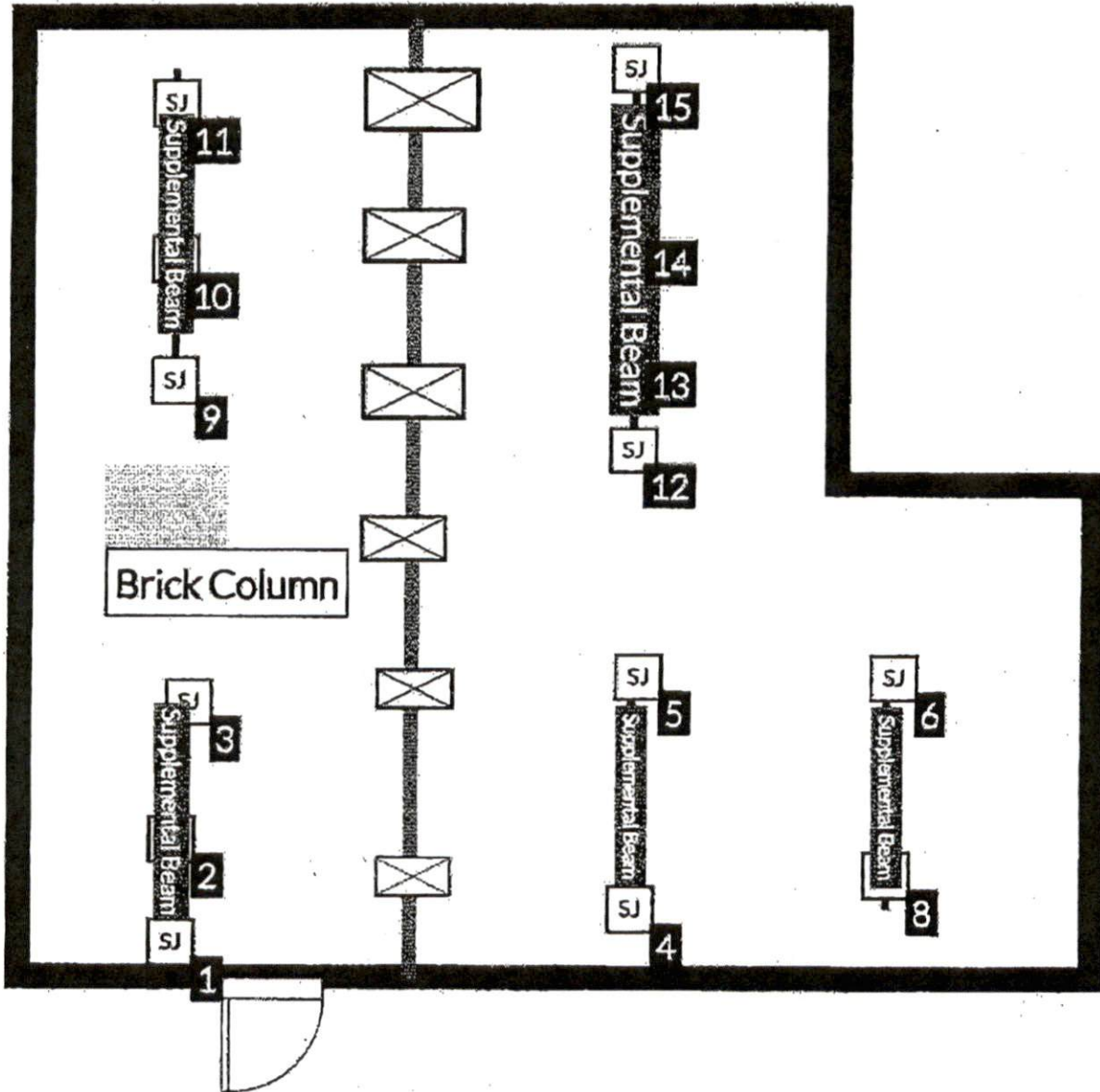
Customer to have financing in place one week prior to installation date.

Initial CV

Customer understands after three days all deposits are final.

Initial CV

Job Details



Job Details (Continued)

Specifications

Install SmartJack supports as indicated on job drawing to support the floor joist system above. Install a supplemental beam as indicated on job drawing. Installation of driven piers with SmartJack top plate that will permanently stabilize girder. Acquire appropriate permits and engineering per local building code. All Engineering requires a Letter of Completion.

Contractor Will

- 1.) Permit Project.
- 2.) Remove and replace excavated soils. Customer is responsible for final landscaping (pavers, plants, re-seeding, mulch, retaining walls, etc)
- 3.) Attempt to lift the foundation, floors, or concrete. but is not responsible for cosmetic damage that may result. (Achieving lift is not guaranteed)
- 4.) Contact utility locator service

Customer Will

- 1.) Make Regional aware of any open permits on the property work is being performed.
- 2.) Will be transferring warranty to new owner at conclusion of project.
- 3.) Mark any private lines that may be hidden underground, and assumes all liability if damage should occur to such lines.
- 4.) Pay an additional charge as shown for piers installed beyond the expected depth.
- 5.) Make payment of remaining balance to foreman of crew the same day installation is complete.

Additional Notes

All recommendations are based on customers descriptions of the problem. While inspection tools such as hygrometers and laser levels are used, no deconstruction or original house plans are available to review for the recommendation. Some unforeseen factors may impact project, despite best inspectors best efforts.

Product List

Permanently Stabilize Floors

SmartJack, 1-3'	14
Supplemental Beam	70 ft
Concentric SmartJacks, Floor Stabilization	6
Permits & Engineering	1



GILES FLYTHE
ENGINEERS

Raleigh Office:
7334 Chapel Hill Road
Suite 200
Raleigh, NC 27607
919.465.3801

Charlotte Office:
8819 University East Drive
Suite 200
Charlotte, NC 28213
704.810.1808

June 21, 2019

Regional Foundation Solutions
c/o Von Bullock Jr.

Re: Limited Structural Inspection
204 East F Street
Erwin, NC

Dear Mr. Bullock:

At your request, a limited structural inspection of the above property was performed on June 19, 2019. The report that follows has been prepared based on that inspection. The inspection was performed by Matt Carroll of Giles Flythe Engineers.

The scope of this project was limited to inspection and evaluation of visible foundation components and visible floor framing components in the crawlspace. The report is intended to cover only those premises that may be examined visually without excavation, removing surface materials, and disassembling components.

No tests, measurements, or calculations have been made except as described in this report. We have not investigated for toxic materials or wastes, or examined public records regarding this property. The scope of the inspection does not assure that the property conforms to any regulations, restrictions, or building codes that may be in effect at its location.

DESCRIPTION

The one-story wood-framed home (with a crawlspace) is constructed on a masonry pier and perimeter curtain wall foundation. The house was built in 1905 according to Harnett County Real Estate Tax Records. For purposes of this report, all directions (left, right, rear, etc.) are taken from the viewpoint of an observer standing outside and facing the front door of the home.

Upon our arrival, access to the interior was provided by the homeowner. A limited section of the interior walls, and conditions in the crawl space were subsequently inspected.

Note that the builder was not interviewed and no plans for construction of this home were provided. The information presented in this report is gathered from the conditions visible at the site, as they existed at the time of the inspection. A limited photo log is included with this report.

OBSERVATIONS

1. In the interior, minor cracks (less than 1/16" wide) were noted in the drywall finish materials in multiple locations. Minor separations in the ceiling finish materials were also observed. Floor slope was noted at the transition between the living room and kitchen. Per the homeowner, the home had recently been remodeled.
2. In the crawl space, drop girders generally comprised of a wide flange beam and smart jacks supported by an engineered fill were installed at multiple locations at the mid-span below floor joists. Separations were typically observed between the existing floor joists and new drop girders and the drop girders were noted out of plumb in the front right section of the crawlspace. Several of the drop girders were noted supporting damaged floor framing members and individual smart jacks were installed below damaged floor framing members in multiple locations.
3. Multiple additional observations were noted in the crawlspace. Refer to the attached sketch for locations of damages observed.
 - a. Multiple partially sistered and damaged floor joists were observed throughout the crawlspace.
 - b. A damaged ledger board was observed at the rear left of the crawlspace. Note, a wooden auxiliary girder was installed adjacent to the damaged ledger. No physical damage to the perimeter band or floor joists was observed.
 - c. The central girder contained significant damage and was cut to accommodate plumbing piping near the rear of the crawlspace and was sistered on one side. Note, a cut floor joist was also observed at this location.
 - d. The central girder was damaged for an approximate 6'-0" span at the front of the crawlspace.
 - e. The perimeter band along the right perimeter wall was previously sistered to the rear of the re-entrant corner.
 - f. The perimeter band along the right perimeter wall was damaged. Note, the rear section of the perimeter band had been previously sistered.
 - g. Several piers were noted damaged or with deteriorated mortar at multiple locations throughout the crawlspace.
 - h. Multiple auxiliary girders and supports generally comprised of 6x6 wooden members and/or CMU blocks without concrete footings were installed throughout the crawlspace.
 - i. A partial vapor barrier was installed and free standing water was observed at the rear of the crawlspace.
 - j. Newer aged floor framing was observed at the rear of the crawlspace.
 - k. Note, visual inspection of all floor framing components was limited due to the installation of insulation. Visual inspection of the right section of crawlspace was limited due to the numerous installed temporary supports. Several of the damages observed to the floor joists and girders appeared to be a result of wood destroying insect damage.

DISCUSSION

The floor slope and drywall cracks noted above are likely the result of prolonged elevated moisture levels in the framing in combination with damaged floor framing noted above. Several of the previous repairs (wooden drop girders and CMU blocks) under the locations of concern are not structurally adequate in



several locations. The drop girders comprised of smart jacks and wide flange beams and individual smart jacks were likely installed to help alleviate deflection of the central girders and at the mid-span of the floor joists and stiffen up the floor framing system. The drop girders appear to be generally installed per manufacturer's specifications. The moisture and insect infestation damage noted in the floor joists and subfloor are structural concerns and have likely contributed to the floor slope and finish material separations noted above. The moisture and insect damages to the floor framing in the crawl space are considered significant structural concerns. We have provided recommendations below to help further dry out the crawl space and address these issues.

The framing observed is predominately of original construction (1905) (exceptions noted above). The newer aged framing was likely installed during the recent re-model. The spans and spacing of many of the original framing components do not meet current building code requirements for 40 PSF live loads. The home recently had a significant re-model and is likely the reason the drop girders and smart jacks were installed as noted above. Further structural repairs may be required in the future if the moisture and insect infestation concerns are not addressed. If further damage is discovered during repairs that is not noted explicitly in this report, the engineer should be contacted to determine a solution.

The deteriorated and damaged piers noted above are a significant structural concern. We have provided recommendations below to address these issues.

The recommendations presented in this report are based on our experience and understanding of the concerns to provide a reasonable solution based on the conditions that were visible and/or known to us on the date of inspection. As this report is based on the circumstances at one point in time, conditions may change which may result in additional repair recommendations. Further, the recommendations are the opinion of the Engineer to address significant structural-related concerns and may not rectify cosmetic issues.

RECOMMENDATIONS

If there are any questions or concerns regarding location or method of repair contact the engineer prior to construction. All repairs are to be conducted in accordance with the current 2018 NC Residential Code.

1. We recommend fully sistering the damaged, partially sistered, and cut floor joists for the full length (bearing point to bearing point). The new sistered member should match the size of the existing joist and be attached with (3) 16d nails at 16" on-center.
2. At the damaged ledger board, we recommend attaching the floor joists to the perimeter band with Simpson Steel Clip Angles (or equivalent).
3. We recommend replacing the perimeter band along the right perimeter wall with a new pressure treated 3-2x8 member.
4. We recommend replacing the damaged sections of central girder with new pressure treated 2-2x8 members.
 - At the girder central girder spanning front to rear (approximate 7'-6" span) located approximately 20'-0" from the rear perimeter wall, we recommend centering the smart jack directly below the splice to support both ends of the girders. We also recommend installing a new mortared 8"x16" CMU pier at the mid-span supported by a new 12"x20"x8"-thick concrete footing installed a minimum of 8" below grade on firm, dry soils. Note, a smart jack may also be installed per manufacturer's specifications at the mid-span.

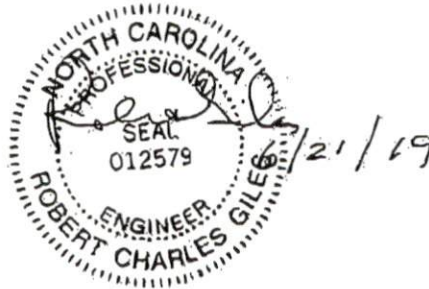


5. At the piers noted "REPOINT PIER" on the attached sketch, we recommend re-pointing the piers or we recommend installing a fibrous cement coating on the piers.
6. At the piers noted "REBUILD PIER" on the attached sketch, we recommend replacing the damaged piers with new mortared 8"x16" CMU block piers. The new piers are to be supported by a minimum 12"x20"x8"-thick concrete footings on firm, dry soils. Note, all exterior footings are to be installed a minimum 12" below grade to the bottom of the footing and all interior footings are to be installed a minimum 8" below grade to the bottom of the footing.
7. We recommend re-plumbing the leaning drop girders (comprised of smart jacks and beams) and tightening the smart jacks to ensure all affected floor joists are bearing on the new beams.
8. To help further reduce and regulate moisture levels in the crawl space, we recommend installing a new vapor barrier that covers 100% of the soils in the crawl space. Also, we recommend opening the foundation vents and ensuring the vents are clear of debris to allow air circulation in the warm seasons. If moisture levels remain high, an appropriately sized dehumidification system or powered ventilation fan may be required.

CONCLUSION

We trust that this report provides the information you require. Please contact us 919-465-3801 if you have any questions. Thank you for the opportunity to be of assistance to you.

Sincerely,



Matt Carroll
Project Engineer
Giles Flythe Engineers Inc.
NC Lic. No. C-2871

Robert C. Giles, PE
President
Giles Flythe Engineers Inc.
NC Lic. No. C-2871

Enclosed: Limited Photo Log





GILES & FLYTHE
ENGINEERS

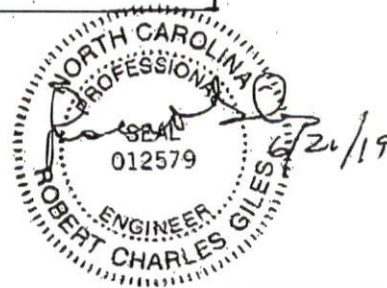
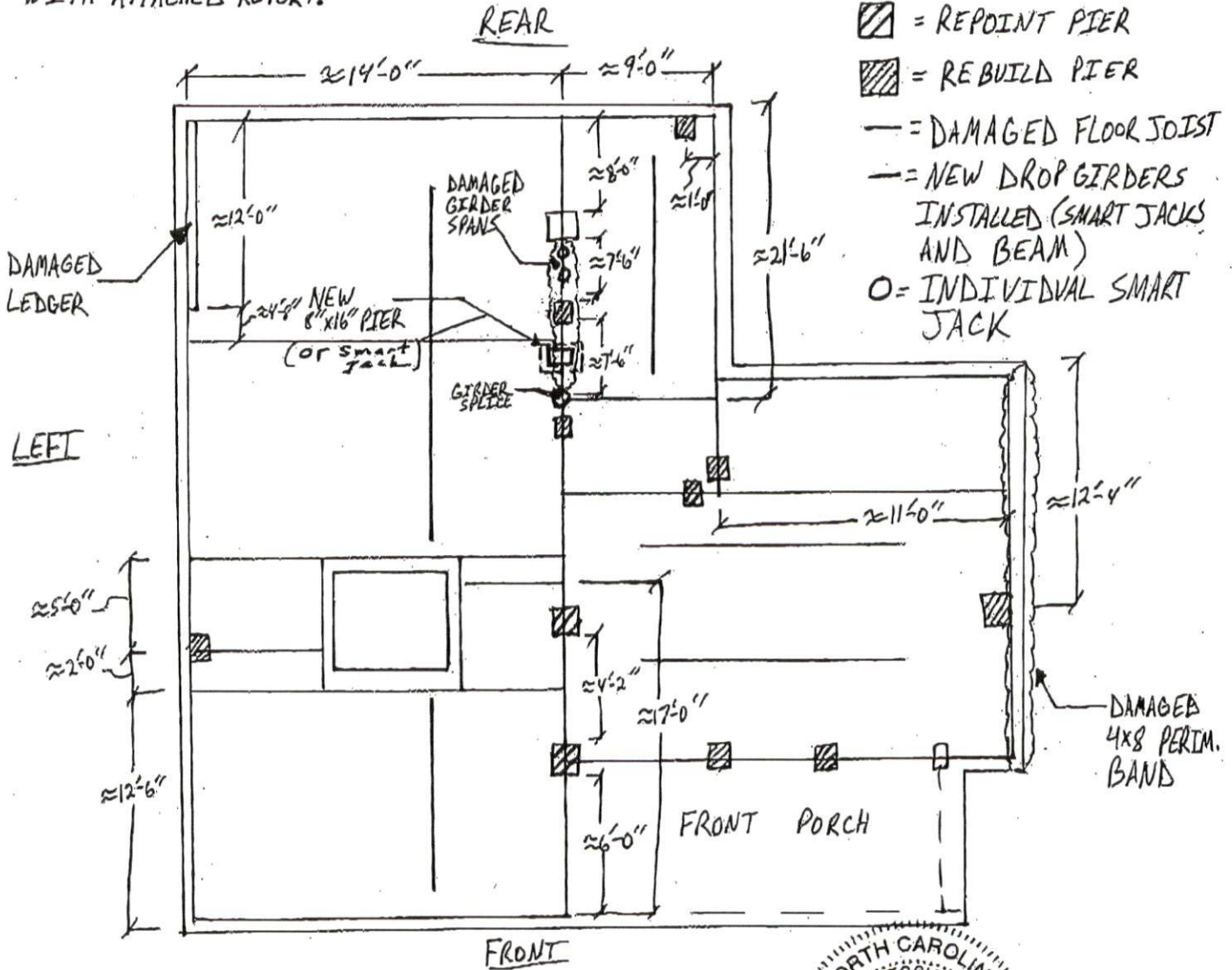
Raleigh Office:
7334 Chapel Hill Road
Suite 200
Raleigh, NC 27607
919.465.3801

Charlotte Office:
8819 University East Drive
Suite 200
Charlotte, NC 28213
704.810.1808

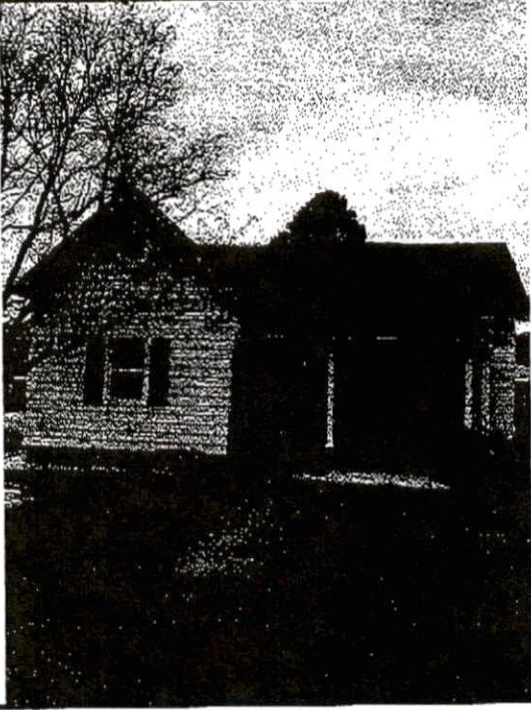
NC Lic. No.: C-2871
www.gfengineers.com

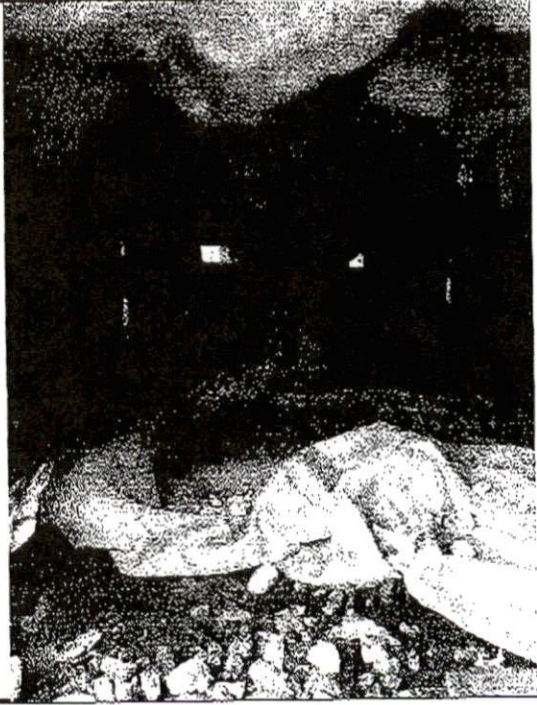
- ALL REPAIRS TO BE
CONDUCTED IN ACCORDANCE
WITH ATTACHED REPORT.

- DIMENSIONS SHOWN ARE
APPROXIMATE

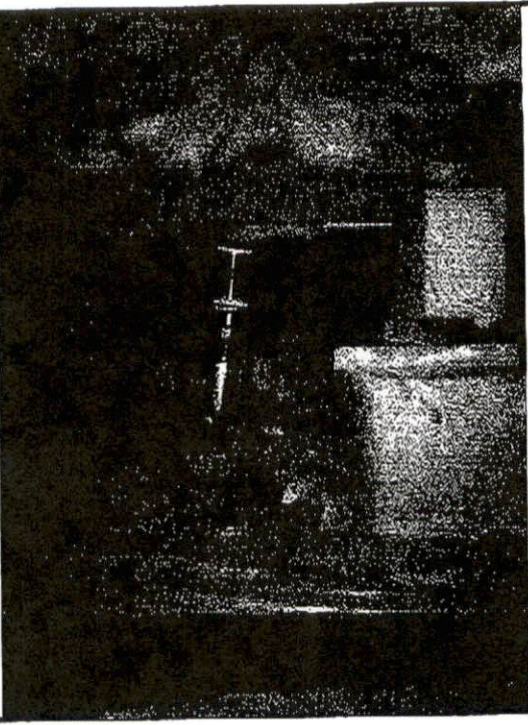


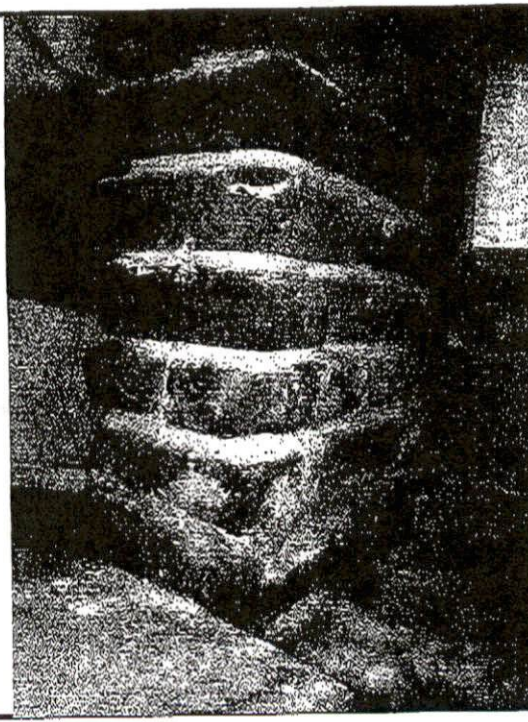
204 EAST F STREET, ERWIN (REPAIR PLAN)
SCALE: NTS

<p>Description A general view of the front of the home.</p>			
<p>Photo No. 1</p>			

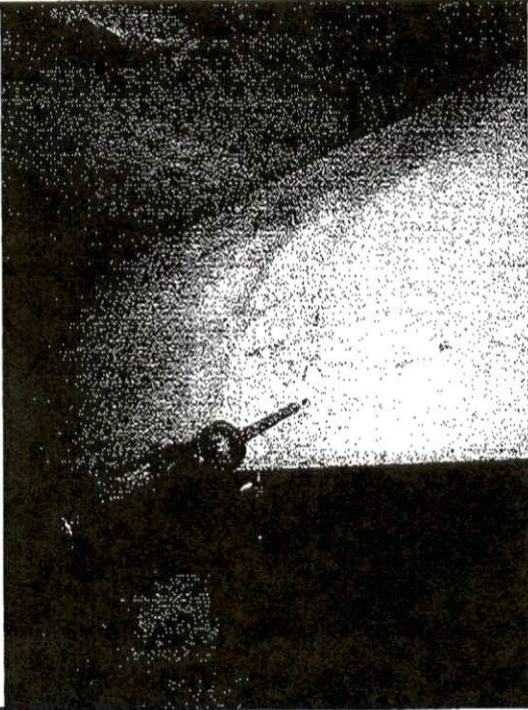
<p>Description A typical view of a smart jack and steel beam drop girder.</p>			
<p>Photo No. 2</p>			

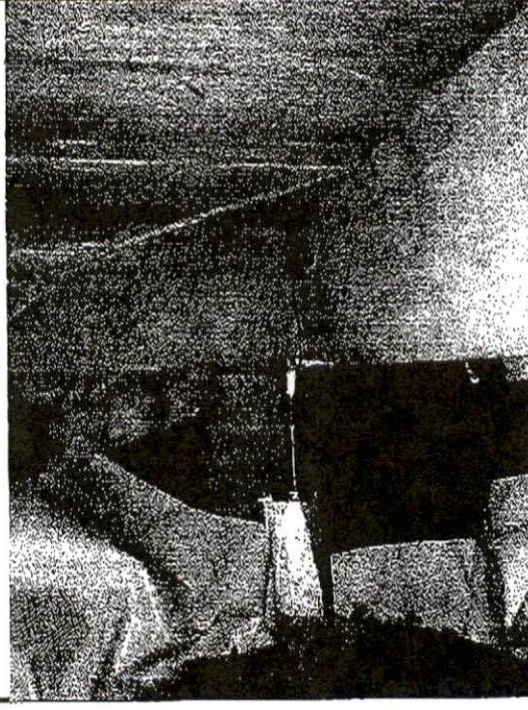


<p>Description A view of an out of plumb smart jack and steel beam drop girder.</p>			
<p>Photo No. 3</p>			

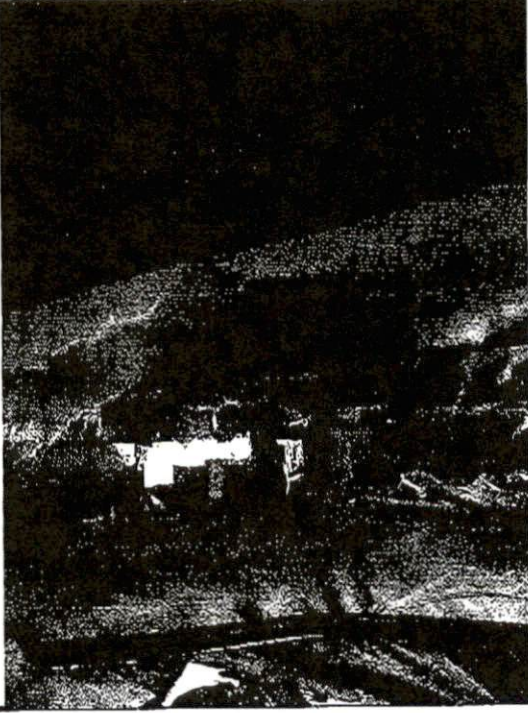
<p>Description A view of a pier with deteriorated mortar to be re-pointed.</p>			
<p>Photo No. 4</p>			

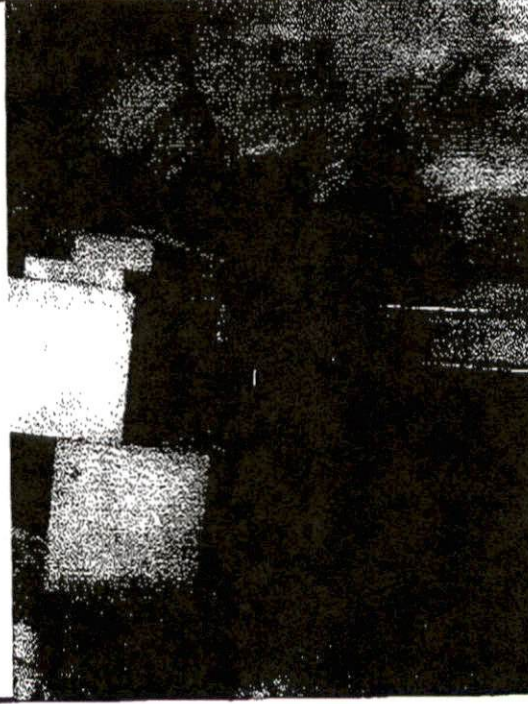


<p>Description A view of a damaged floor joist.</p>			
<p>Photo No. 5</p>			

<p>Description A view of damaged floor joists to the rear of the masonry boxout.</p>			
<p>Photo No. 6</p>			



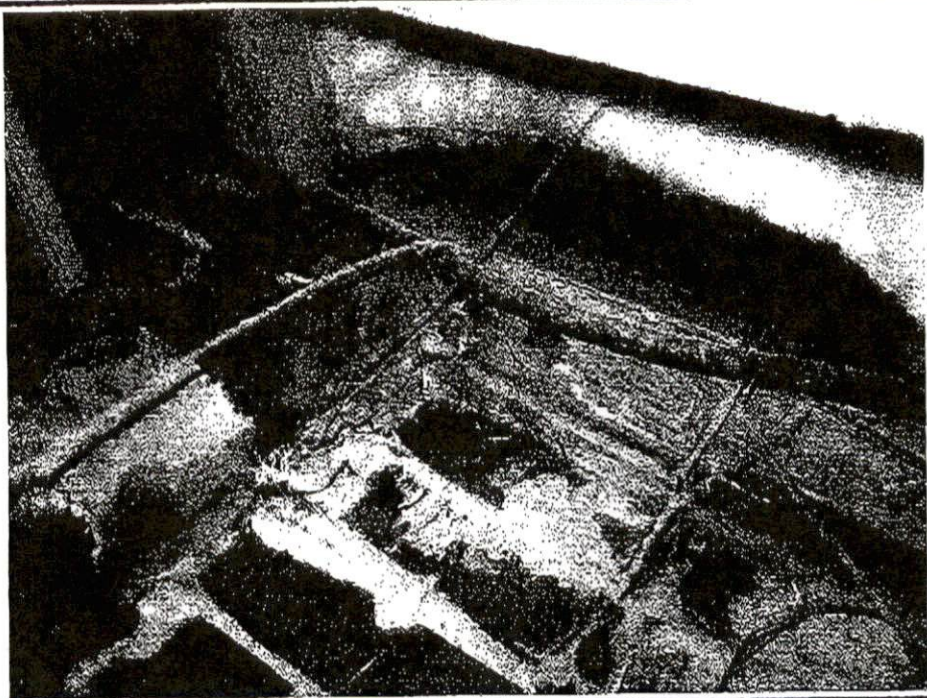
<p>Description A view of a damaged floor joist.</p>			
<p>Photo No. 7</p>			

<p>Description A typical view of floor joists not bearing on the new smart jack and steel beam drop girders.</p>			
<p>Photo No. 8</p>			



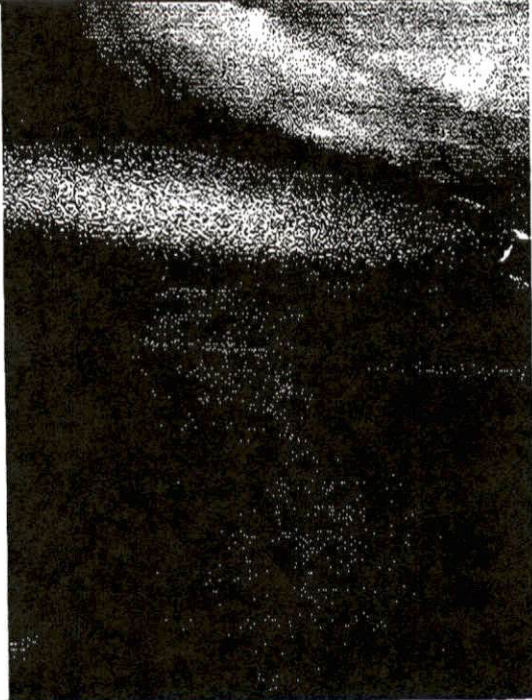
Description
A view of a damaged ledger board at the rear left of the crawlspace.


Photo No.
9

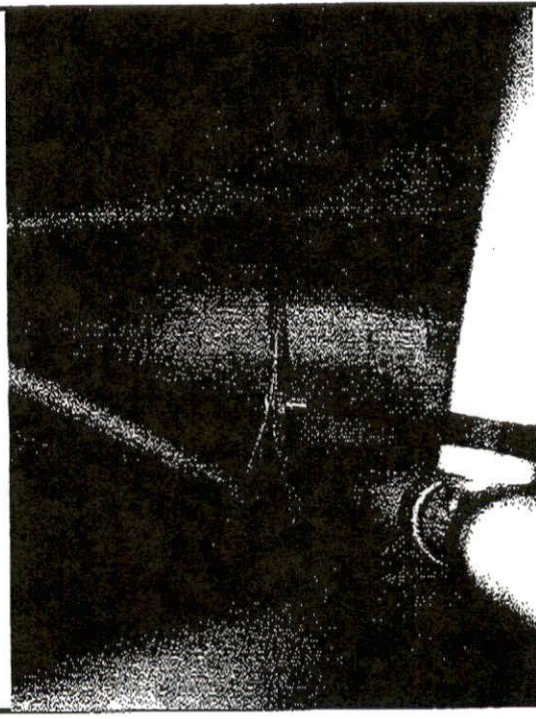


Description
A view of a pier with deteriorated mortar.


Photo No.
10





<p>Description A view of a damaged girder span.</p>	
<p>Photo No. 11</p>	

<p>Description A view of a cut section of central girder.</p>	
<p>Photo No. 12</p>	



<p>Description A view of a cut floor joist.</p>			
<p>Photo No. 13</p>			

<p>Description A view of a damaged pier to be re-built.</p>			
<p>Photo No. 14</p>			

<p>Description A view of damaged right perimeter band.</p>			
<p>Photo No. 15</p>			

