BP006U01 **Harnett County** 8/04/17
Edit Narrative 10:15:06

Application number, type . . : 17 50040951 CP NEW RESIDENTIAL (SFD)
Property address . . . . . : 94554 *UNASSIGNED

Type information, press Enter.

T/S: 08/04/2017 10:15 AM KSLATTUM ----------
As stated in the engineer's report, additional items may arise once repairs are conduted. Additionally, not addressed in the letter are the multitude of violations with the electrical, plumbing and mechanical trades. For, example, the third floor has a bathroom that does is open to the bedroom area and does not afford the proper privacy. Insulation for the walls, ceiling and crawl space are unknown. Proper installation of the electrical wiring was not inspected nor has any of the plumbing been inspected and tested as required by code. HVAC system and ductwork never inspected for proper installation.

More...

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SQ.FT.

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June 21, 2017

Rayford McCloud
107 4th St.
Erwin, NC 28339
Ph: 919-658-3699

Re: Engineering Services
2665 Ash Ave.
Dunn, NC

HARNETT COUNTY CENTRAL PERMITTING
APPLICATION # 17500409 51
JOB NAME Rayford McCloud
DATE PLANS RECEIVED 6-3-17
SITE PLANS APPROVED Approved w/ exception
APPROVED BY

Tyndall Project No.: 1701-020196

To Whom It May Concern:

As requested by the client, representatives of Tyndall Engineering & Design, PA (TE&D) were on-site to observe the existing residential structure which had been constructed without permits or inspections by the municipality. Visual observations were only made in readily accessible areas. Therefore, conditions may be present that were not readily visible, not in readily accessible areas, or not part of the representative sample of components observed at the time of our site-visit. Any repairs implemented after our site-visit may reveal defects that were not apparent at the time when our visual observations were conducted. Should defects be discovered it is recommended that TE&D be contacted to evaluate the existing conditions etc. In areas where repairs are required, we recommend that all work be performed in accordance with applicable sections of the NC Residential Building Code or other applicable codes and that all work be performed by properly licensed contractors. TE&D should not be considered as liable for any defects or deficiencies which could not be reasonably discovered during the limited visual observations. The following items were noted as being deficient:

1) Floor joists associated with the ground floor were noted as being approximately 8" above the existing crawlspace grade. The existing floor joists were noted as being untreated 2x8 SYP joists placed at 16" O.C.
2) Untreated wooden girder members placed in direct contact with masonry associated with the girder support.
3) No means of foundation ventilation provided for crawlspace.
4) Minimum head height requirements (6'-8") not met at steps leading from 1st floor To 2nd floor.
5) Minimum head height requirements not met at 2nd landing encountered during ascension to 2nd floor.
6) Header not installed at single car garage door opening.
7) 1st floor wall studs 2x4 @ 16" O.C. in-lieu of code 2x6 for 3-story residential structure.

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8) 4ft. Cantilever (2x10 floor joists) @ 3rd floor balcony.
9) Can't confirm roof support beam at covered porch roof located on right side of dwelling.

The following conclusions and recommendations were noted:

1) The joists' proximity to the finished grade does not meet the intent of the NC Residential Building code. TE&D recommends that this condition be addressed with the implementation of one (1) of the following options:
   a) Remove the existing subfloor to allow access to the floor joist. Apply a wood sealant/preservative product (such as Woodlife Coppercoat Wood Preservative) in accordance with all manufacturer recommendations.
   b) Remove the existing untreated floor joists and replace them with treated members.
2) Provide metal flashing between the bottom of the floor joists and the top of the masonry units so that no direct masonry/wood contact remains.
3) The foundation should be provided with a means of foundation ventilation. Non-typical vents (such as soffit vents) may be installed through the masonry foundation block. Based on our observations and analysis, approximately 64 sq. in. of ventilation is required. The recommended foundation vents should be installed on at least two (2) sides of the existing foundation.
4) This condition occurs at multiple points within the stair corridors. TE&D recommends rebuilding the staircases as necessary to provide minimum head height clearances (6'-8"). Note: Installing a spiral staircase may be an option that could be considered for this item.
5) Based on our observations and analysis, TE&D recommends that a (2) 2x10 (spf) header be installed at the location in question. Provide one (1) Jack stud and one (1) king stud at each end.
7) Based on our observations and analysis, 2x4 wall studs (approx. 7' height) are adequate to support the anticipated loading conditions. No action required.
8) TE&D recommends that the backspan and supporting framing be field confirmed so that the joists may be properly analyzed.

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9) TE&D recommends that the beam be field confirmed so that it may be properly analyzed. Our load estimates indicate that the beam should be on the order of a 3-1/2"x14" Parallam to adequately support the anticipated loading conditions.

We appreciate the opportunity to assist you during this phase of the project. Should you need further assistance or require additional information, please do not hesitate to contact us.

Sincerely,

Tyndall Engineering & Design

Lloyd W. Jones
1701-020196

Prentice A. Tyndall Jr., P.E.

NORTH CAROLINA PROFESSIONAL SEAL 024899 ENGINEER PRENTICE A TYNDALL JR

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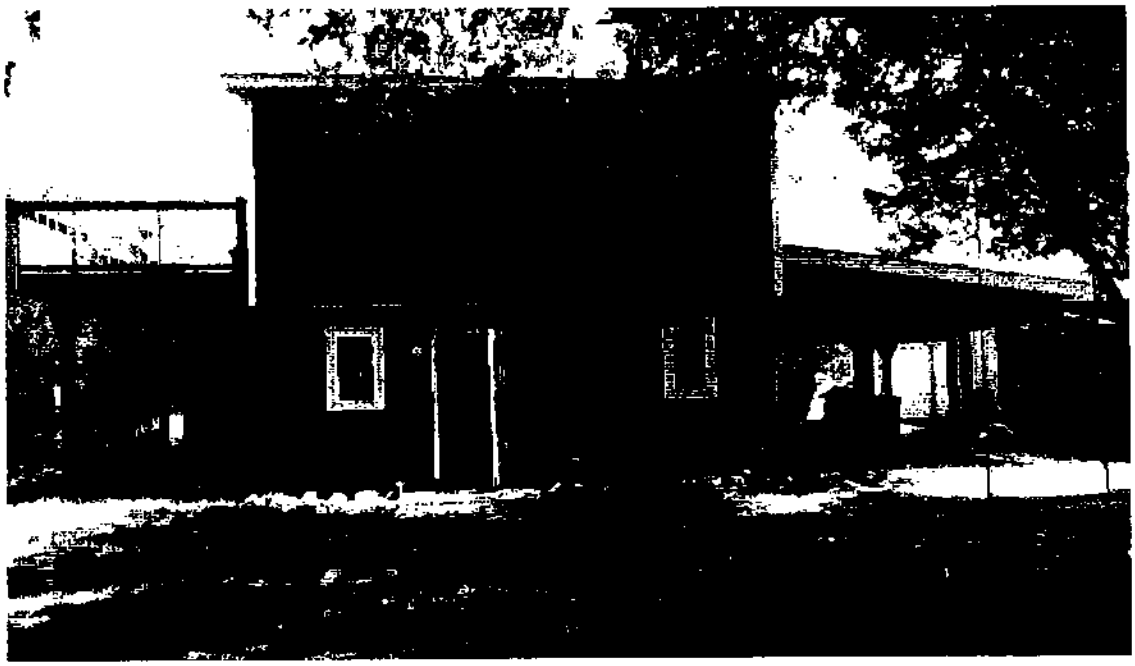

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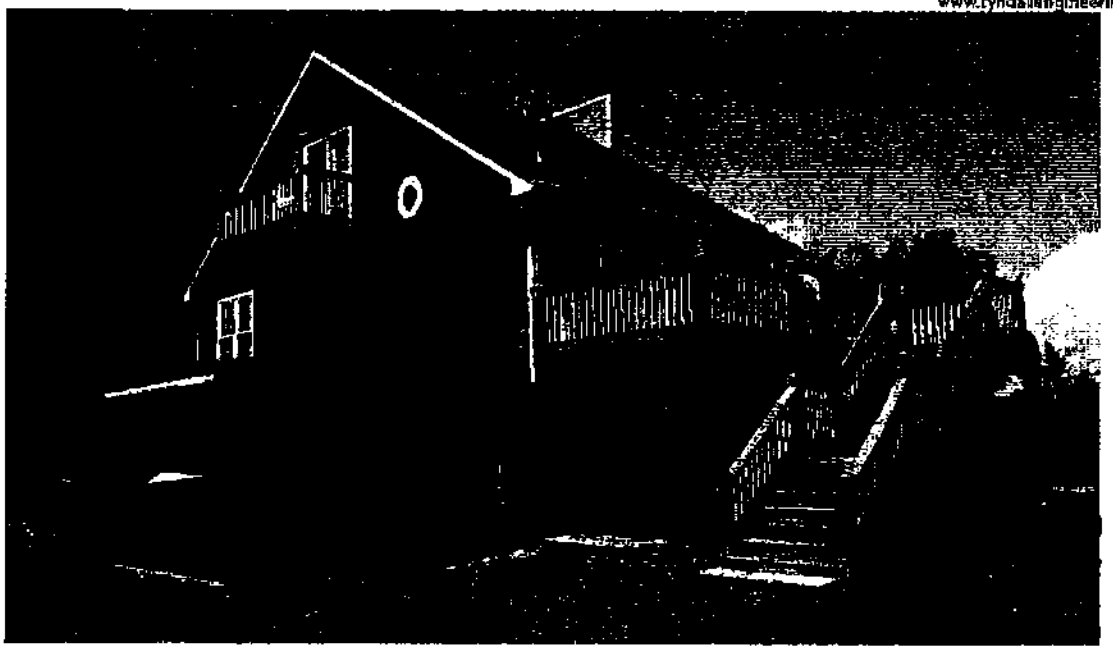
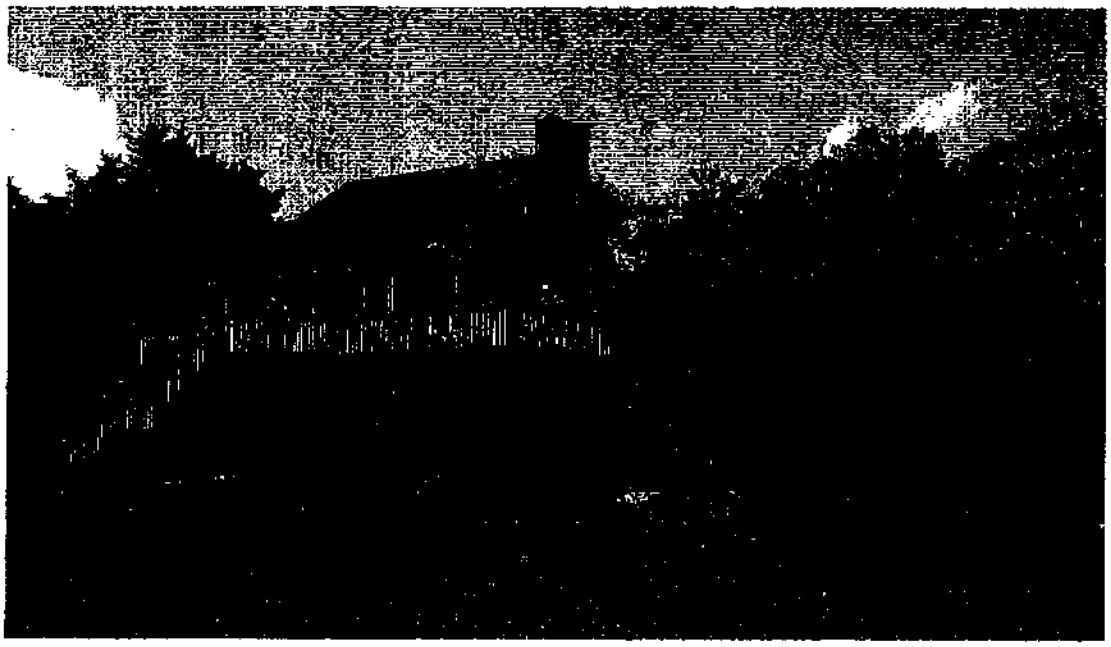




R311.4 Vertical egress. Egress from habitable levels including habitable attics and *basements* not provided with an egress door in accordance with Section R311.2 shall be by a ramp in accordance with Section R311.8 or a stairway in accordance with Section R311.7.

R311.5 Construction. Deleted.

R311.5.1 Attachment. Deleted.

R311.6 Hallways. The minimum width of a hallway shall be not less than 3 feet (914 mm) measured from the finish surface of the walls.

R311.6.1 Interior doors. All doors providing egress from habitable rooms shall have nominal minimum dimensions of 2 feet 6 inches (762 mm) width by 6 feet 8 inches (2032 mm) height.

R311.7 Stairways.

R311.7.1 Width. Stairways shall not be less than 36 inches (914 mm) in clear width at all points above the permitted handrail height and below the required headroom height. Handrails shall not project more than 4.5 inches (114 mm) on either side of the stairway and the minimum clear width of the stairway at and below the handrail height, including treads and landings, shall not be less than 31 1/2 inches (787 mm) where a handrail is installed on one side and 27 inches (698 mm) where handrails are provided on both sides.

Exception: The width of spiral stairways shall be in accordance with Section R311.7.9.1.

R311.7.2 Headroom. The minimum headroom in all parts of the stairway shall not be less than 6 feet 8 inches (2032 mm) measured vertically from the sloped line adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway.

Exception: Where the nosings of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of 4 3/4 inches (121 mm).

R311.7.3 Walkline. Deleted.

R311.7.4 Stair treads and risers. Stair treads and risers shall meet the requirements of this section. For the purposes of this section all dimensions and dimensioned surfaces shall be exclusive of carpets, rugs or runners.

R311.7.4.1 Riser height. The maximum riser height shall be 8 1/4 inches (210 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/4 inch (9.5 mm). The top and bottom riser of interior stairs shall not exceed the smallest riser within that stair run by more than 3/4 inch (19 mm). The height of the top and bottom riser of the interior stairs shall be measured from the permanent finished surface (carpet excluded). Where the bottom riser of an exterior stair adjoins an exterior walk, porch, driveway, patio, garage floor, or finish grade, the height of the riser may be less than the height of the adjacent risers.

R311.7.4.2 Tread depth. The minimum tread depth shall be 9 inches (229 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Winder treads shall have a minimum tread depth of 9 inches (229 mm) measured as above at a point 12 inches (305 mm) from the side where the treads are narrower. Winder treads shall have a minimum tread depth of 4 inches (102 mm) at any point. Within any flight of stairs, the greatest winder tread depth at the 12 inch (305 mm) walk line shall not exceed the smallest by more than 3/8 inch (9.5 mm).

R311.7.4.3 Profile. The radius of curvature at the nosing shall be no greater than 9/16 inch (14 mm). A nosing not less than 3/4 inch (19 mm) but not more than 1 1/4 inches (32 mm) shall be provided on stairways with solid risers. The greatest nosing projection shall not exceed the smallest nosing projection by more than 3/8 inch (9.5 mm) between two stories, including the nosing at the level of floors and landings. Beveling of nosings shall not exceed 1/2 inch (12.7 mm). Risers shall be vertical or sloped under the tread above from the underside of the nosing above at an angle not more than 30 degrees (0.51 rad) from the vertical. Open risers are permitted, provided that the opening between treads does not permit the passage of a 4-inch diameter (102 mm) sphere.

Exceptions:

1. A nosing is not required where the tread depth is a minimum of 11 inches (279 mm).
2. The opening between adjacent treads is not limited on stairs with a total rise of 30 inches (762 mm) or less.

R311.7.4.4 Exterior wood/plastic composite stair treads. Wood/plastic composite stair treads shall comply with the provisions of Section R317.4.

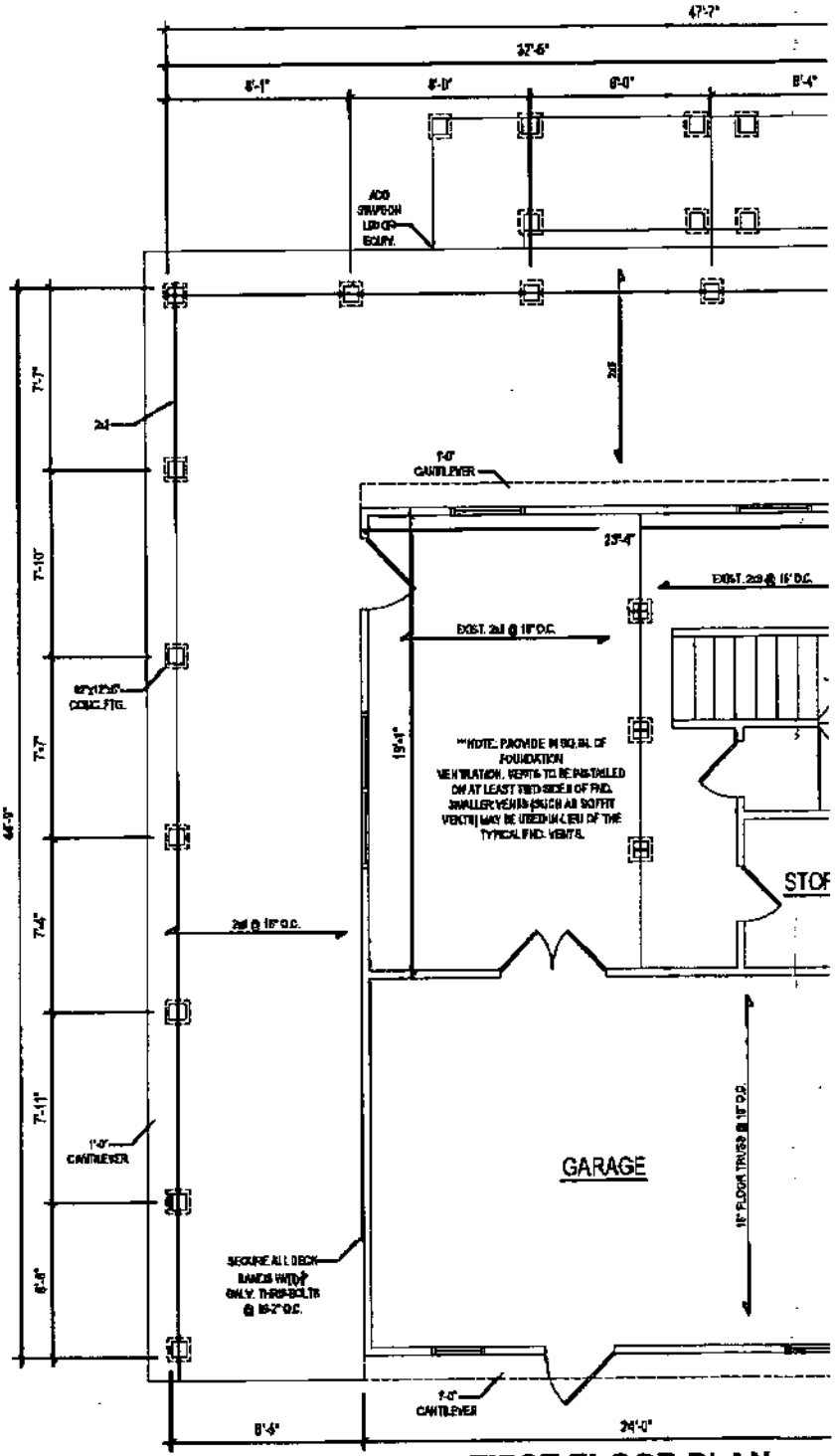
R311.7.5 Landings for stairways. There shall be a floor or landing at the top and bottom of each stairway. A flight of stairs shall not have a vertical rise larger than 12 feet (3658 mm) between floor levels or landings. The width of each landing shall not be less than the width of the stairway served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel.

Exception: A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided a door does not swing over the stairs.

R311.7.6 Stairway walking surface. The walking surface of treads and landings of stairways shall be sloped no steeper than one inch vertical in 48 inches horizontal (2-percent slope).

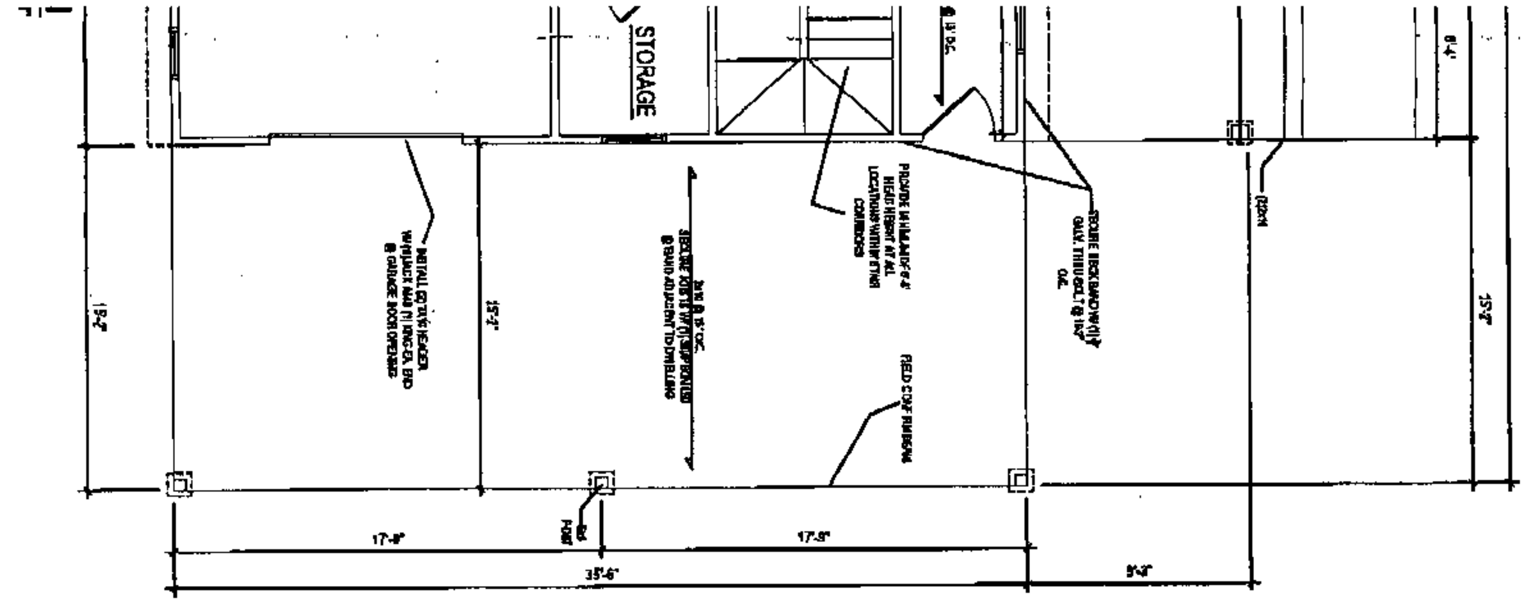
R311.7.7 Handrails. Handrails shall be provided on at least one side of each continuous run of treads or flight with four or more risers.

R311.7.7.1 Height. Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or



FIRST FLOOR PLAN

1/8" = 1'-0" CEILING HT. = 7'-4"



Project #: F201-0200196
Date: 6/21/2017
Drawn/Design By: UE
DWG Checked By: PAT
Scale: SEE PLAN

REVISIONS

No.	Date	Remarks
1		
2		
3		
4		

Sheet Number

7 of 8

FIRST FLOOR PLAN

Client:

RAYFORD MCCLOUD
107 4TH ST.
ERWIN, NC 28339

Plan:

2665 ASH AVE.
DUNN, NC 28334

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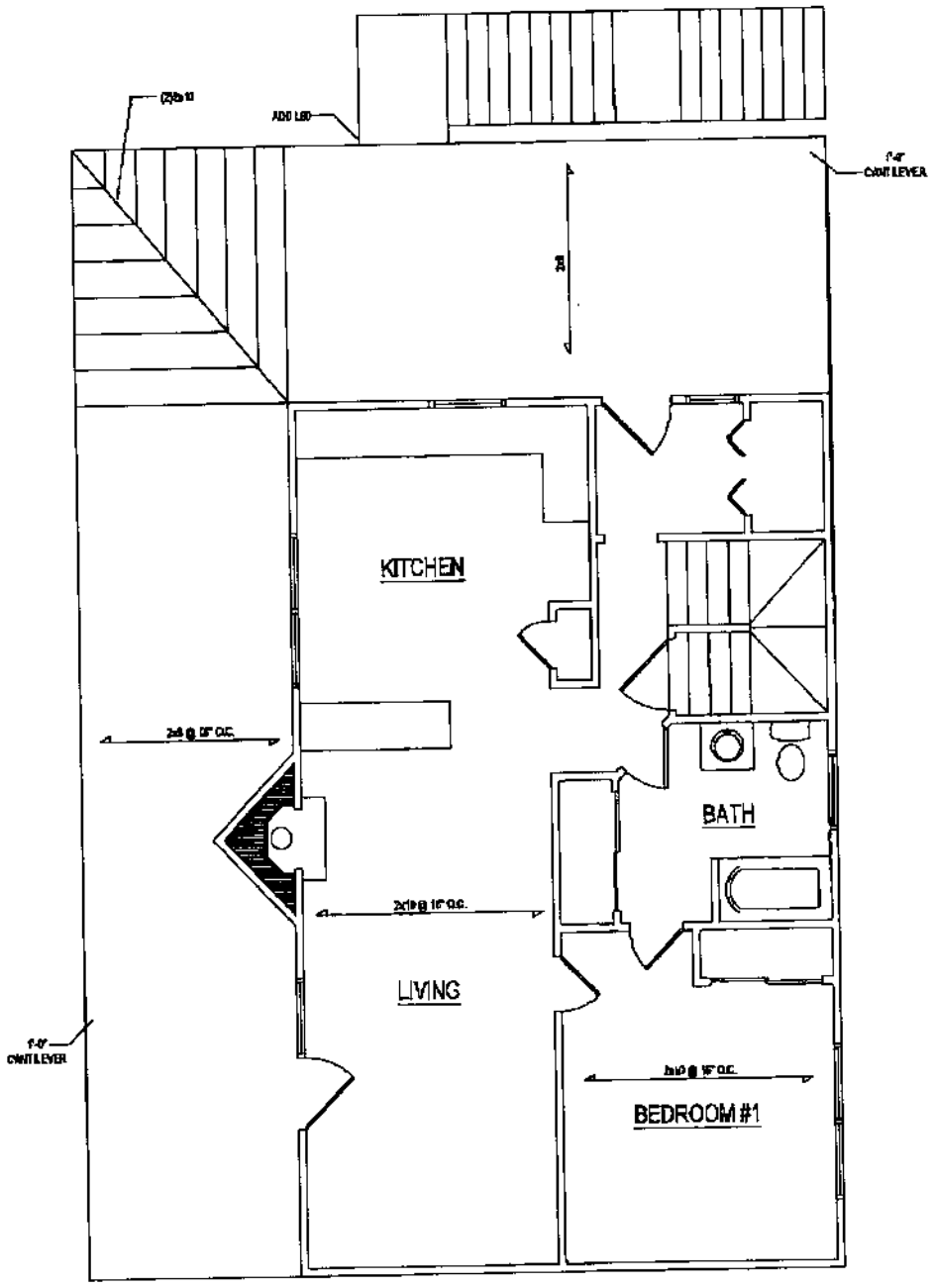
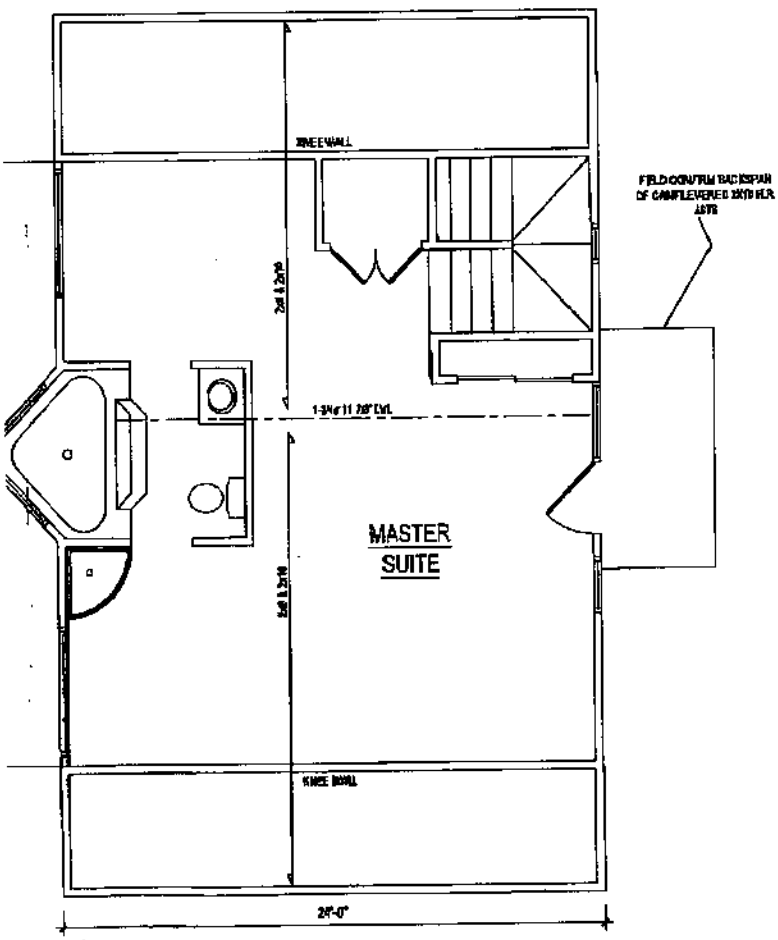


SECOND FLOOR PLAN

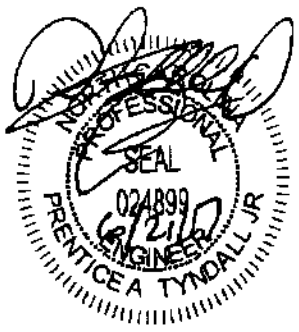
1/8" = 1'-0" CEILING HT. = 7'-11"

[2]



THIRD FLOOR PLAN

1/8" = 1'-0" CEILING HT. = 8'-10"



- Engineer seal does not include construction means, methods, techniques, equipment, procedures or safety precaution.
- Any deviations or discrepancies on plans are to be brought to the immediate attention of Tyndall Engineering & Design, P.A. Failure to do so will void Tyndall Engineering & Design, P.A. liability.
- Please review these documents carefully. Tyndall Engineering & Design, P.A. will interpret that all dimensions, recommendations, etc. presented in these documents were deemed acceptable upon construction begins.

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Client:
RAYFORD MCCLOUD
107 4TH ST.
ERWIN, NC 28339

Plan:
2665 ASH AVE.
DUNN, NC 28334

SECOND & THIRD FLOOR PLAN

Project #: 1701-020196
Date: 6/21/2017
Drawn/Design By: DB
SWG. Checked By: PAT
Scale: SEE PLAN

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Sheet Number: 8 of 8