

# Code Violations in New Home Construction

A Joint Research Study

by

National Association of Home Builders, International Code Council & ICC Foundation

**DRAFT 6.0**

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## **Executive Summary**

In January 2006 the International Code Council (ICC) and National Association of Home Builders (NAHB) surveyed code officials across the US to determine the most prevalent code violations in new home construction. The purpose was to generate findings that will help stakeholders build better and safer homes, and arm consumers with key information as they make important home-buying decisions. The effort represents a continuation of a broad annual survey of code officials that ICC undertakes each spring as part of Building Safety Week.

ICC emailed invitations to code officials and invited them to take the survey online. A pretest was run to ensure no problems occurred. Then we took “opt-in” lists of ICC members, including those who took the 2005 Building Safety week survey, and sent out 6,265 emails. 4,895 emails went through successfully, and ultimately 1,260 respondents completed the survey, representing a response rate of 26%. This response rate compares favorably to previous ICC efforts, and by marketing research industry standards represents a strong showing.

The study focuses on measuring the extent of code violations in new home construction, including custom build homes, tract housing, condominiums and conversions. Respondents from jurisdictions of various sizes were invited to take part in a 10 minute survey online hosted by ICC. The survey ran from January 5 to January 27, 2006.

## **Background**

The home building industry has seen a dramatic increase in construction defect litigation over the past decade. Initially, major construction defect litigation was for the most part limited to a few states and mostly condominium or town home projects, however, today communities of detached single-family homes are experiencing an incidence of construction defect litigation nearly as high as attached projects and this litigation trend is national in scope.

Litigation is an inefficient means for resolving construction defect disputes. While efforts are under way to try and change the way disputes are resolved, such as Notice and Opportunity to Repair legislation, more needs to be done to address the underlying causes of construction defect disputes. Consequently, NAHB, ICC and the ICC Foundation conducted this survey to identify the most prominent building code violations cited by code officials in the course of their inspections of new homes.

NAHB members are committed to building quality, affordable homes and the members of the ICC are committed to protecting the health, safety, and welfare of people by creating better buildings and stronger communities. Builders and code officials, and ultimately consumers, will benefit from this focus on quality construction.

Goals of the survey include:

- Explore ways to improve building safety throughout the United States
- Provide builders with another tool to help them continue building quality, affordable homes for their customers
- Minimize construction defect lawsuits

- Make builders more attractive to insurers by identifying those areas within the design and construction process that most often result in building code violations
- Form the basis for focusing public awareness and training
- Provide clearer guidance for manufacturers in the preparation of their specifications and building designers in the preparation of their design documents

### **Respondent Profile**

Broadly speaking, the typical respondent in our study is a code official employed by a city or town with a population under 50,000. Breaking the numbers down further, the respondent profile includes mainly building officials (48%) or building inspectors (27%), although a significant number of plan reviewers (8%) took part in our study. Fire officials (4%) and fire officials (3%) represent smaller segments, with 11% falling under "other" job titles - with a number of people echoing this comment: "(I am a) one man show here except for fire (inspection)."

We received input from jurisdictions of all sizes. Most (56%) respondents work for jurisdictions with less than 50,000 population, with 21% reporting from mid-size jurisdictions of from 50,000 to 150,000 people. We received 8% of responses from large jurisdictions – with 1 million or more people. The majority of respondents work at the city, town or township level (over 73%), while 18% represent counties and 8% states. 16 total respondents, or about 1% of the total, work at the federal level. Several respondents represent tribes and act in the capacity of consultants to various jurisdictions.

### **Key Findings**

- Respondents indicate violations occur in new homes of all types, from manufactured homes to custom high end homes. Some officials (from 9 to 15% depending on type of home) find violations in 100% of new homes.
- Flashings – officials say the predominant problem area for flashings centered on roofs and windows (44% each) and chimneys (41%). Respondents predominantly cite installation problems (78%) as the root cause of these violations, with 16% indicating a combination of flaws in products and installation as the cause.
- Grading and site drainage violations center on “grading” (62%) and “downspouts and drainage” (60%) officials say, with backfilling violations (48%) occurring frequently.
- Foundation-related code violations stem from improper reinforcement or support of rebar (55%), improper anchor bolts (53%), and incorrect installation (38% each).
- Wall-related framing problems occur as a result of studs cut or notched to an impermissible depth (77%), missing fire-blocking (75%) and missing hold-downs, straps, etc. (59%).
- Floors suffer from “notches in areas not permitted” in 71% of cases, and “sheathing nails missing joist(s)” (45%) and missing anchor bolts (71%).

- Officials say roof coverage violations center on lack of nails or too much force applied: “missing nails or fasteners” occurs 60% of the time and “over-driving of nails through shingles” in 52% of cases.
- “Bracing not installed” predominates truss-related violations in 80% of the time, say respondents. With “impermissible alteration (of trusses) leading to additional load” occurring in 65% of cases. Improperly connections to wall plate occur 62% of the time.
- Window- or door-related code violations have to do with “improper flashing” in 57% of cases and “inadequate fire rating” 22% of the time.
- The most common handrail-related code violations cited stem from “improper height or spacing” (76%), “missing handrails” and “improper graspable surface” (64% each).
- Guardrails suffer from “opening(s) too large” in 69% of occurrences, “height criteria not met” (60%), “not properly fastened or installed” (49%), or simply “missing” (45%).
- The most common stair-related code violations seen are “stair rise and run violations,” say 84% of officials, with 67% indicating “stair headroom” violations as next most prevalent.

We gave officials an opportunity to give examples of problems they see in new home construction. These help to illustrate the percentages cited above, and lend insight into the challenges the industry faces in order to mitigate the number of violations.

We asked about causal factors in these violations. Contractors appear to bear the brunt of the responsibility, with 77% of officials agreeing strongly that “contractor’s lack of code knowledge” causes “a large number of violations.” A “lack of coordination between trades” and that “workers ignore manufacturer’s installation instructions” are seen by respondents as contributors to violations. 70% indicate that “cost-cutting shortcuts” are a problem too. While 24% believe “inadequate manufacturer’s installation instructions” are behind violations, 47% agree this rarely or never causes violations.

## **Conclusions [this section to be critiqued by Dom and NAHB]**

Respondents find violations occur frequently in new homes of all types. It is apparent that the range of violations on key home structural and safety components is broad. Officials cite example after example of problems that potentially impact the integrity of the structure and safety of its occupants. In the opinion of officials, responsibility appears to lie at the feet of workers and contractors, who either fail to follow manufacturer instructions, engage in sub-standard work or fail to include critically important components, such as flashing. What is most important in these findings is that the problems are identified and that pragmatic steps are taken by industry leaders to address the situation and provide a roadmap for improving the climate in new home construction. NAHB, ICC and ICC Foundation are committed to supporting the construction trade and providing guidance and programs that promote building the world’s finest and safest structures. It is with this in mind that we take the lessons learned from this survey and proactively move forward toward favorable solutions.

## Flashing

Flashings – the predominant problem area for flashings centered on roofs and windows (44% each) and chimneys (41%). Wood decks, brick veneers and doors were cited by respondents as having relatively frequent problems. When asked for specific examples, respondents commonly

cited “missing flashing” as the problem, with “incorrect installation” occurring about as frequently. “Chimney flashing not counter-flashed, or only caulked against the brick,” cited one official as an example.

Where on the home are flashings most apparent? Select all that apply. N=1193	
Windows	47%
Roofing	46%
Chimney	43%
Wood Deck	39%
Brick Veneer	27%
Doors	25%
Siding	20%
Other	4%

We looked at the data from the standpoint of jurisdictional size. We found statistical variance in a few instances. For example, flashing violations for roofing were cited in only 39% of cases in smaller jurisdictions, compared to about 50% of cases in mid-size, large and major jurisdictions. With siding, wood decks and veneers, other discrepancies are evident – for example, siding violations were cited by 1 in 5 respondents from smaller jurisdictions, but only 1 in 6 from mid-size jurisdictions. On the whole, the data appear to be generally consistent across all jurisdictional sizes, as the following chart shows (note yellow highlights were statistically significant variations occur):

Where are flashing violations on the home most apparent? Select all that apply. N=1193		Jurisdictional Population			
	Total	Under 50,000 Group A “Small”	50,000 to 149,999 Group B “Mid-Size”	150,000 to 999,999 Group C “Large”	1,000,000 or more Group D “Major”
Base	1251	697	259	189	94
Doors	24%	23%	23%	28%	20%
Windows	45%	43%	47%	48%	45%
Chimney	41%	40%	44%	37%	45%
Siding	19%	20% B	13% AC	22% B	17%
Roof	44%	39% BC d	51% A	50% A	49% a
Wood Deck	37%	43% BC D	32% AD	31% Ad	20% ABc
Brick Veneer	26%	25% C	25% c	33% Ab	24%
Other	5%	5%	5%	7%	6%

Note on highlighted figures: The letters represent a “significant” difference, meaning that given the sample size the difference between a set of numbers is too large to be explained by chance. The upper case represents a 95% confidence level (the standard level) and lower case represents a 90% confidence level.

Respondents predominantly cite installation mistakes (78%) as the root cause of these violations, with 16% indicating a combination of flaws in products and installation as the problem. Interestingly,

Are most flashing violations you see related to problems with products, installation or both? N=1191	
Products	1%
Installation	82%
Both	17%
Products	1%

## Grading and Site Drainage

Grading and site drainage violations center on “grading” (62%) and “downspouts and drainage controls” (60%), with backfilling violations (48%) also occurring frequently. Looking at the data more closely, we find that there are some differences between major jurisdictions and smaller jurisdictions with respect to the incidence of soil condition violations (25% for major jurisdictions, but only 14% for smaller jurisdictions) and sidewalks (12% for major jurisdictions, but only 4% for smaller ones). On the whole, the incidence of violations is consistent across jurisdictional sizes. We asked for an explanation as to the conditions that lead to these violations. The entire list is available at the end of this document (see **Appendix .0** below).

“Failure to divert water away from the house,” is perhaps the most commonly cited example, with “negative grade” at the home allowing for “ponding” of water a common example given of the cause and effect.

Please select the <u>three</u> grading and site drainage violations you see most often. N = 1260	
Grading	62%
Downspouts/ drainage controls	60%
Backfilling	48%
Grade too high	42%
Soil conditions	18%
Driveways	15%
Sidewalks	7%
Stoops	5%
Other (please specify)	5%

## Foundations

Foundation-related code violations stem from improper reinforcement or support of rebar (55%), improper anchor bolts (53%), and incorrect installation (38% each).

Please select the three most common foundation-related code violations you see. N=1132	
Improper reinforcement or support of rebar	55%
Improper anchor bolts	53%
Incorrect drain installation	38%
Incorrect footing depth	37%
Missing vapor barrier	28%
Improper foundation size	18%
Other (please specify)	11%
Incorrect fasteners	8%



## Wall-Related Framing Violations

Please select the three most common wall-related framing violations you see. N=1208	
Stud cut or notched to an impermissible depth	77%
Missing fire-blocking	75%
Missing hold-downs, straps, etc.	59%
Installation of sheathing	31%
Other (please specify)	11%
Improper spacing	10%
Missing studs	9%

## Floor-related Framing Violations

Please select the three most common floor-related framing violations you see.

Notches in areas not permitted	71%
Sheathing nails missing joist	45%
Missing anchor bolts	34%
Inadequate splices	27%
Wrong joist size	22%
Improperly installed sheathing	18%
Wrong joist grade	12%
Other	11%
Not Applicable	8%

## Truss-related Violations

Please select the three most common truss-related violations you see.

Bracing not installed	74%
Impermissible alteration leading to additional load	60%
Improperly connected to wall plate	57%
Specific truss not approved	21%
Metal plates not secured	20%
Other (please specify)	12%
Not Applicable	8%

## Roof Coverage Violations

Please select the three most common roof coverage violations you see.

Missing nails or fasteners	49%
Over-driving of nails through shingles	43%
Absence of felt, or incorrect type	35%
Inadequate overlap of tiles, shingles or asphalt	27%
Not Applicable	17%
Improper materials	13%
Improper course spacing	13%
Other (please specify)	13%
Broken roof tiles	9%
Product not approved or listed	8%

## Window- or Door-related Code Violations

Please select the single most common window- or door-related code violation you see

Improper flashing	57%
Inadequate fire rating	22%
Egress	7%
Other	6%
Safety Glazing	6%
Footings	1%

## Handrail-related Code Violations

Please select the three most common handrail-related code violations you see

Improper height or spacing	71%
Missing handrails	60%
Improper graspable surface	60%
Not properly fastened or installed	44%
Other (please specify)	9%
Not Applicable	6%

## Guardrail-related Code Violations

Please select the three most common guardrail-related code violations you see

Guardrail opening too large	69%
Height criteria not met	60%
Not properly fastened or installed	49%
Missing guardrail	45%
Improper placing	21%
Not Applicable	8%
Other (please specify)	3%

## Stair-related Code Violations

Please select the **three** most common stair-related code violations you see.

Stair rise and run violations	78%
Stair headroom	63%
Stair geometry issues	36%
Improper stair tread	35%
Improper stair construction	31%
Not Applicable	7%
Other (please specify)	5%



Using the scale of 1 to 5 below, please rate how often you feel each of the following result in code violations.

<b>Never causes violations</b>	1	0%	1%	9%	1%	0%	0%
	2	7%	13%	38%	4%	4%	9%
	3	23%	26%	25%	13%	17%	19%
	4	31%	28%	14%	27%	26%	27%
<b>Causes a large number of violations</b>	5	37%	31%	10%	53%	51%	43%
	9	2%	2%	4%	2%	2%	2%
<b>Don't Know</b>							

**Q29**

**In your experience, what percent of each type of new home would you estimate have code violations? Enter a number for each between 0 and 100. Please leave blank answer choices for which you have no experience or do not know the answer.**



Here are the results of the pretest...  
Invites sent: 249  
Invites delivered: 195  
Percent of addresses that are "good": 78%  
Number of response after seven hours: 22  
Response rate so far: 11%  
Percent of respondents completing the survey: 91%

Grading would include a whole range of violations relative to grading, which could include, but not limited to slope, elevation, swales, compaction, material properties, drainage, etc. Of course, grade too high is specific to the finish grade being higher than allowed in relation to adjacent structures.



## Appendices

### Appendix 1.0 Flashing

Where on the home are flashing violations most apparent?

Windows	44%	
Roofing	44%	
Chimney	41%	Elevational changes
Wood Deck	37%	Entrance platforms
Brick Veneer	26%	
Doors	24%	
Siding	19%	
Not Applicable	5%	
Other	3%	

Aluminum flashing between concrete and wood

At electric meter

At low roof/high roof wall intersections

Concrete porches

EDPM used as flashing - tucked into mortar joint

EFIS

EFIS systems

EIFS and stucco

Electrical

ICC/NAHB/ICC Foundation

*Survey of Common Code Violations*

Exterior Plaster/Stucco

Flat deck to pitch roof connections

Floor slab at adjacent grade

Foundation- Terminal Shield

Framing

Hanging gutters and down spouts

Higher end homes, really not a problem.

HVAC panning, draft stopping in walls

I have had no problems  
Joint between siding or brick and foundation  
at op  
Lathing penetrations  
Only occasionally, but could be any of above  
Other wall penetrations.  
OVER GARAGE DOORS AND OTHER  
CUSTOM OPENINGS  
Parapets on roofs.  
Perimeter insulation  
Permits not required=UCC  
Plumbing  
Porch roofs and overhangs  
Porches and stoops  
POURED CONCRETE PORCH  
Roof siding transitions  
Roof top windows, Exhaust fans  
Skylights

Stucco  
Stucco  
Stucco  
Stucco lath  
Stucco to wood  
Trade penetrations e.g., plumbing, electrical,  
etc  
Valleys and at intersections of vertical and  
roof c  
Water table  
We do not conduct home inspections  
Weep screed  
Weep screed at the base of exterior lath.  
Wood frame wall with concrete abutting at  
higher l  
Wood leders attached to hose for deck  
support

## Appendix 2.0

### Are most flashing violations you see related to problems with products, installation or both?

Products	1%
Installation	78%
Both	16%
Not Applicable	5%

### Please give an example of a common flashing violation that you see.

A COMMON VIOLATION FOR FLASHING IS IN REROOFING APPLICATIONS, THE ROOFER USES ROOFING TAR

A new deck is added to an existing home and not flashed under the door between deck and house.

A reglet is not provided typically and the flashing is caulked to the surface of the substrate.

After the cricket is built, the flashing is not of size to cover the area of cricket/valley.

All types it isn't just one.

Aluminum flashing against ACQ

Aluminum flashing between concrete and PT wood

Aluminum flashing fastened with galvanized nails and copper flashing fastened w/ al. or galv. nails.

Aluminum in contact with treated wood

Around a chimney

Around chimney's and vent pipes to bath rooms.

Around the chimney

Around windows in walls that are to be stuccoed.

As stated above I often see aluminum flashing installed between concrete and the structure.

At chimney and above brick and siding intersections.

At roof where a wall is above, often flashing is not interwoven with shingles

At shed roof connection to second story wall. Around window and door openings. At side walls/roof

At the application of Styrofoam build out details around windows, proper materials to eliminate water

At the cricket no flashing was installed

At the termination of a stucco system and an exterior balconies rim joist.

At the transition between siding and veneer, not all manufacturers indicate that flashing is require

At the wall to roof intersection

Base flashing at brick veneer installed incorrectly, head flashing at windows & doors not installed

Base flashing of roof not sufficiently extended up the parapet to terminate beneath the cap flashing.

Bent incorrectly, not installed far enough up a wall section, one part application instead of two

Between deck ledger,

Between the existing home and the treated deck there needs to be a Z bend flashing.

BIG PROBLEM is inappropriate flashing material in contact with treated wood, along with no flashing

Bottom Kraft needs to be between the stucco and the stucco paper and it is usually behind the paper.

Brick flashing not being installed properly.  
Deck flashing, missing under door at ledger board.  
Brick layer are not installing it or they are just piecing it in with scrap metal.  
Brick veneer & garage door openings  
Brick veneer chimneys that are being placed on the roof decking in residential.  
Builders thinking that 'house wrap' is flashing material  
Chimney flashing not counter flashed or only caulked against the brick.  
Chimney flashing not cut into brick or stone  
Chimney most leaking complaints - woods decks most common - valley in cold areas most misunderstood  
Chimney not flashed since roof is completed prior to the chimney being built.  
Chimney not properly flash  
Chimney step flashing not properly manufactured and installed at corners.  
Chimney to roof flashing is not properly installed  
Chimneys  
Chimneys that are placed in a position to catch water  
Chimneys windows  
Chimneys, corners and seats.  
Chimneys, valleys. Decks attached to the housing unit. And almost always for brick veneer and around  
Code req. Step flashing and the installer is not aware or has a diff. of opinion.  
Common sense approach as to water flow and what is needed to stop intrusion  
Composite walls where mortar is allowed to fall on the flashing between the block and brick  
Concrete bottom seal flashings and headers at garage doors.  
Concrete slabs for entries being placed in direct contact to the boxing and framing.  
Concrete stoops being poured directly against siding or other wood products.

Continuously lapping, at the intersection with parapet walls  
Contractor adds new deck to single family home but does not install flashing at siding/ledger board  
Contractor installing flashing around chimney without counter flashing  
Contractors do not follow the manufactures recommendations, or fail to use the correct materials.  
Contractors generally forget to install it more so on windows than doors.  
Corners not properly lapped  
Counter flashing improperly installed  
Counter flashing.  
Counter flashings are not used where brick veneer meets siding  
Damaged flashing  
Deck are attached directly to exterior without flashing allowing water to weep into screw holes  
Deck attachment to house.  
Deck attachment.  
Deck flashing at the house wall  
Deck flashing is not installed in a manner that provides a barrier preventing water from ledger.  
Deck flashing on ACQ framing - requires copper  
Deck ledger  
Deck ledger attached on top of exterior finish material and roof eave edge gaps  
Deck ledger attached with flashing improperly installed or completely missing.  
Lacks design standards.  
Deck ledger flashing missing or not installed properly.  
Deck ledger is installed to structure without clearance from wall finish  
Deck ledger plate fasteners not covered, permitting water to follow fastener into the untreated wood  
Deck ledgers; architectural horizontal trim changes in siding covered without counter flashing

Deck roof attached structures, deck plates attached to structure, valleys of roofs and chimney  
Deck to house connection  
Deck to main structure transition, over the ledger  
Decks  
Decks attached directly to the siding with no flashing  
Decks on a home  
Decks the type of flashing  
Decks with no flashing along ledger board  
Delamination  
Depending on roof line formation and the direction of weather, insufficient (height) flashing is app  
Dilapidated porches, peeling paint, decayed wood frames on windows  
Dimensions, location and/or non-existent  
Do not have enough dimensions that code requires  
Do not use step flashing and use non-approved product  
Don't properly lap flashing with building paper at windows and doors or roof to wall intersections.  
Door sills, and window head flashing.  
Doors and windows not wrapped properly  
Doors and windows that have plastic mounting strips are installed without flashing.  
No drip caps.  
Drip edge and window  
Drip edge overlap  
Drip edge, windows, and chimney  
Drip flashing on roof edge over gutters not installed.  
Either improper material or improper installation  
Either no flashing or flashing that is too small for the correct application or not enough overlap  
Either not installed at all, or not lapped properly  
Either the wrong material or no flashing at all.

EQUIPMENT ROOF LEAKS. CONDUITS, GAS PIPES LINE OPENINGS STC, ARE CREATED AT THE METAL FLASHING  
Extended exposure leading to degradation in materials. Too many fasteners penetrating material.  
Exterior doors, basement metal window bucks, using ice shield in lieu of metal flashing for brick  
Failing to flash around windows. Generally installing windows without flashing at sill  
Failure to adequately lap & secure flashing at its juncture with more flashing  
Failure to apply flashing and failure to install correctly  
Failure to flash and counter flash where needed  
Failure to flash around windows. Failure to flash above lintels.  
Failure to flash correctly under exterior doors.  
Failure to flash on the roof correctly resulting in leakage on the inside  
Failure to flash, or to properly flash roofs, chimneys, and siding in remodels.  
Failure to follow manufacturers' installation instructions  
Failure to install all weather barriers in a shingle lap fashion, regardless of underlying layers.  
Failure to install flashing at all  
Failure to install flashing properly over windows an at deck connections  
Failure to install it  
Failure to install through-wall flashing (and weep holes) at the base course of brick veneer and at  
Failure to properly flash an entrance platform where it abuts the building.  
Failure to provide adequate/effective flashing around openings w/ regard to stucco installations  
Failure to provide flashing

Failure to provide flashing at lintels above windows. Improper installation of counter flashing.  
Failure to provide flashing at the base of masonry veneer  
Failure to step flash and inadequate flashing for deck.  
Fastening and laps  
Fiber Cement Siding to Horizontal Band/Trim Board. And above any window or door w/ wood brick mold  
First story roof to wall of second story, flashing, counter flashing.  
Flash not tucked properly  
Flashing (sheet metal) around the chimney that was poorly sealed or peeling away from the structure  
Flashing above windows. Step flashings or finish flashing on roof.  
Flashing and counter flashing at parapets and roof junctures.  
Flashing and weep holes not installed as required for brick veneer.  
Flashing around chimneys  
Flashing around chimneys failing and water intrusion into dwellings.  
Flashing around doors and windows not correctly performed with stucco and masonry exterior walls  
Flashing around fireplaces  
Flashing around masonry chimneys, lack of head flashing about doors and windows exposed to the wet  
Flashing around the chimney  
Flashing around the chimney, brick veneer, wrong type of flashing material on deck ledgers  
Flashing around upper portion of windows prior to the lath or siding is being installed incorrectly.  
Flashing around windows  
Flashing around windows. Wall to roof flashing. Weep screed installation.  
Flashing at brick ledger improbably installed or not installed

Flashing at decks and patio doors incorrectly installed.  
Flashing at decks level with, not above, the drainage from the deck. Water enters behind the siding  
Flashing at doors and windows is ripped, torn or installed without proper lap.  
Flashing at porch slab and band sill  
Flashing at the drip edge on roofing, around venting through the roof area.  
Flashing at the starter course on the brick and on brick dormers located on the roof.  
Flashing behind gutter often missing  
Flashing behind siding with out an exit flashing  
Flashing between ledger on house and deck missing or not properly installed  
Flashing does not allow water to exit building envelope  
Flashing does not meet requirement of being heavy enough (Thick)  
Flashing ends short of the edge of the window/door; or is not installed.  
Flashing for a deck attached to the house.  
Flashing for chimneys and vents on reroofing jobs.  
Flashing improperly done. Mostly with shingles.  
Flashing improperly installed leaving gaps/openings for water penetration.  
Flashing improperly installed on roofs, due to lack of adequate fasteners.  
Flashing improperly installed where ledger board attaches to dwelling.  
Flashing in valleys between levels, around chimneys, and vent stacks.  
Flashing installed around chimneys  
Flashing installed improperly, not well fixed, not the right size and overlapping.  
Flashing installed incorrectly  
Flashing installed under sheathing.  
Flashing is forgotten between the house and the deck, or nailed in the valley.

Flashing is installed after chimneys are completed and not set properly into the mortar joints.  
Flashing is just not being installed as required in a lot of the cases by owner/builders.  
Flashing is missing  
Flashing is missing at deck ledgers  
Flashing is not installed at all or is improperly installed.  
Flashing is not installed behind/under the weather barrier.  
Flashing is not large enough or installed properly  
Flashing is not secure before roofing is put on  
Flashing is penetrated with fasteners, aluminum in direct contact with PT wood  
Flashing is placed on roof after shingles have been installed  
Flashing is putting backward so the water is going back to the building.  
Flashing laid in place but no fastening. Mix of Alum. & Copper flashing (dis-similar metals)  
Flashing Material Incompatible with ACQ Wood  
Flashing may be installed improperly where a lower roof ties into a wall and at window sills.  
Flashing missing over doors and windows. Also, valley flashing not properly installed.  
Flashing not applied in correct places, materials not suitable for the application being used.  
FLASHING NOT BE CUT BACK INTO BRICK VENEER FLASHING NOT INSTALLED, AT ALL  
Flashing not being installed or installed not in accordance to manufacturer's specs.  
Flashing not being properly installed over or behind ledger boards for decks.  
Flashing not compatible with pressure treated lumber on deck attachments to residences  
Flashing not correctly attached to brick face

Flashing not correctly 'shingle-lapped' and interlaced with lath paper around windows and doors.  
FLASHING NOT INSTALL PROPER IN BRICK VENEER CONSTRUCTION  
Flashing not installed  
Flashing not installed  
Flashing not installed  
Flashing not installed against house where deck meets with the structure.  
Flashing not installed and wrong type of flashing  
Flashing not installed at all vertical terminations (roofs)  
Flashing not installed between the house and the deck or above a door.  
Flashing not installed correctly or not at all.  
Flashing not installed or flashing is part of a product and is not sufficient  
Flashing not installed or improperly nailed.  
Flashing not installed when deck is attached to house.  
Flashing not installed, flashing is not put in behind the wall covering as it should be.  
Flashing not installed.  
Flashing not lapped properly around windows and step flashing not installed properly at chimneys  
Flashing not overlapped by siding, simply butted  
Flashing not overlapped properly.  
Flashing not properly installed  
Flashing not properly installed at roof around chimney  
Flashing not properly secured or caulked  
Flashing not stepped properly on pitched roofs abutting structure. No flashing on decks abutting sill  
Flashing not terminated properly or counter flashed  
Flashing omitted.  
Flashing on bi-level roof where fascia meets roof  
Flashing on decks problems can't use the aluminum with the new treated wood



Flashing on raked roof not installed correctly and minimum 1 1/2 inch gap not maintained.  
Flashing on windows(doors) are not overlapped properly  
Flashing placed in a fashion that allows moisture to weep behind the flashing  
Flashing relating to stucco work  
Flashing removed from chimney and not replaced when reroofing. Improper valley flashing.  
Flashing separated from structure  
Flashing terminating behind siding. Flashing missing at concrete pad/siding.  
Flashing that is too short. Flashing that has not been installed.  
Flashings made on the job are not tucked up behind the siding far enough and not diverting water off  
Flashings not properly layered in weather board fashion particularly around openings.  
Framing contractors didn't know flashing was required for decks attached to homes.  
From porch roof to wall and roof to parapet.  
Gaps at perpendicular seams  
Gaps between separate runs. Inadequate fastening.  
Gaps in flashing, especially at corners, above brick veneer  
Gas line installations with no shut off valves  
Haphazardly installed  
Have not had any violations in 2005  
Haven't seen step-flashing yet and drip edge not nailed to code  
Holes  
House wrap at top of windows installed UNDER top of window flashing. Window corners w/ vert, splice  
House wrap behind a window top nailing flange last piece of step flashing at a roof to wall intersection.  
House wrap is generally being placed behind the tops of windows and doors  
House wrap not properly lapped over brick flashing.

House wrap under the flashing for an area where an exterior wall abuts a roof area.  
I am happy to say that with the multiple units we have just completed there were no violations.  
I have had no problems and new home construction is limited because I work in Villages.  
I have not had any flashing violations  
I have not seen flashing violations myself.  
I only do plans checks and inspections for fire sprinkler and fire alarm systems.  
I rarely see one  
I see various instances of shingles being mortared into brick lines rather than flashing.  
Ice guard-Non-existent step flashing at valleys or chimneys  
Improper application of window & door flashing. Flashing missing for brick veneer & wood decks.  
Improper attachment, Improper sealing  
IMPROPER ATTACHMENTS OR UNDERSIZED  
Improper flashing around windows. Poor workmanship at eaves/facing in wrong direction.  
Improper flashing at bay window on brick veneer.  
Improper flashing installation and caulking at horizontal siding joint.  
Improper flashing installation on valleys  
Improper flashing installations at chimney  
Improper flashing not cut into the stone work  
. No counter flashing or caulking use in place of flashing  
Improper flashing of an exterior deck/entrance which is attached to a residence  
Improper flashing of brick around doors and windows, flashing at brick/siding joints, flashing at roof.  
Improper flashing techniques at openings, failure to properly flash roof eave/wall intersections

Improper head flashing for windows and doors  
Improper inst. of flashing. Deck ledger and house, allowing water to continue down behind siding  
Improper installation  
Improper installation  
Improper installation  
Improper installation - lack of knowledge of water travel paths  
Improper installation around chimney  
Improper installation at wall intersections w/roofs, chimneys, any type penetration and also, window.  
Improper installation in that lapping was reversed which would allow water to run under or behind.  
Improper installation including not following the manufactures instructions around windows and decks  
Improper installation of flashing  
Improper installation of flashing around roof penetrations, or any vertical to horizontal transition  
Improper installation of flashing at outside bottom of interior wall.  
Improper installation of flashing of brick veneer at foundation wall; lack of flashing; unapproved f  
Improper installation of flashing or not installing the required flashing  
Improper installation of flashing. Improper drainage plane. Missing flashing.  
Improper installation of most products. Not sealing the top a flashing to sheathing terminating.  
Improper installation of so-called self-flashing windows  
Improper installation of step flashing on chimneys  
Improper installation of step-flashing on roofs and not using the correct material for the job  
Improper installation of vinyl windows in homes were some type of house wrap is used.

Improper installation or in some cases the lack flashing  
Improper installation or no flashing install  
Improper installations of plumbing stack 'boot flashing' units. Shingles over bottom flashing.  
Improper integration of the flashing material with the weatherproofing material.  
Improper lap under shingle course above flashing.  
Improper lapping of materials.  
Improper Lapping. Use of improper materials in exposed horizontal applications.  
Improper materials for the use. Galvanic action with the new wood treatment materials  
Improper materials used with non CCA decking and joists, improper flashing around windows  
Improper method of flashing to masonry  
Improper placement of flashing material on roof.  
Improper placement of size or inadequate caulking used to close seams.  
Improper positioning  
Improper sealing, gaps  
Improper sequencing of the flashing material  
Improper 'shingling' of the weather barrier and flashing.  
Improper step flashing around chimney that results in leak  
Improper step flashing installations.  
Improper step flashing.  
Improper use and installation of Z flashing  
Improper valley flashing material. Improper flashing techniques around fenestrations  
Improper width and overlaps.  
Improper width of window flashing materials.  
Improper width of valley flashing for clay tiles.  
Improper window and door installation. As to shim space between frame and buck.  
Improper window flashing  
Improper window wrap.  
Improper window/door facings

Improper, or non-existent, flashing at deck ledgers and at top of windows where required  
Improperly applied flashing materials  
Improperly applied step flashing at siding/roof juncture. Lack of pan flashing on windows.  
Improperly flashed chimneys where masonry meets house and/or roof. Omitted flashings where required  
Improperly flashed doors, windows, chimneys or roof to wall assemblies with new installations.  
Improperly flashed windows & doors  
IMPROPERLY INST. OR NO INST. AT ALL  
Improperly installed and caulking not done properly  
Improperly installed flashing around and particular above doors and windows  
Improperly installed flashing around windows using wrong materials or no flashing at all.  
Improperly installed flashing, lack of adequate overlap.  
Improperly installed j channel around windows and doors  
Improperly installed or not installed at all  
Improperly installed step flashing, not sized correctly.  
Improperly installed.  
Improperly placed with vertical surfaces or cut to improper size for the slope of the roof  
Improperly sealed and attached  
In proper use or application of products.  
Inadequate cricket at roof valley ending in chimney.  
Inadequate flashing of building-deck and chimney-roof interfaces  
Inadequate or missing flashing at deck ledgers  
Inadequate or poorly installed flashing on any sort of roof penetration. Product used may be fine but  
Inadequate, or non flashing on masonry veneer walls.

Incomplete flashing and not stepped when needed. Fastening inadequate.  
Incomplete flashings at inside/outside corners.  
Incomplete installation, typically with the flashing connections  
Incorrect install or no counter flashing  
Incorrect installation around doors and windows  
Incorrect installation of step flashing, undersized counter-flashing at deck to house transition.  
Incorrect installation practices and workmanship  
Incorrect lapping  
Incorrect step flashing or no crickets behind chimneys  
Incorrect valley flashing (incorrect width)  
incorrect ice dam flashing under shingles (none put in)  
Incorrectly done where deck meets house  
Installation is incorrect. Lapped the wrong way and/or no diverter at the end.  
Installation is usually done very poorly in which the exposed surface is at risk of damage.  
Installation of counter flashing  
Installation of roof vents  
Installed improperly  
Installed reversed of how it should be, not installed at all  
Installer just plain doesn't install it.  
Installer not familiar with the product  
Installer use to short of a piece  
Installers do not have the correct knowledge in good flashings practices.  
Installers do not know how to install  
INSTALLERS OF ROOF SKYLITES HOME OWNERS INSTALLATION FOR WOOD DECKS  
Installing the correct flashing around windows and decks  
Insufficient overlap of sections  
Insufficient size/coverage around chimneys and @ decks

Insufficient width of flashing.  
Intersections at parapet walls  
Inverted overlap wrong fastening material  
cedar/copper  
IT IS MOSTLY WHEN HOMEOWNERS ARE  
DOING THEIR OWN WORK.  
It's not installed at all.  
It's not installed properly to conceal seams or  
openings and could cause damage to  
framing below.  
Just not following the areas specified by the  
2003 IRC for brick veneer  
Kick out flashing  
Kick out flashing on the roofs  
Kick-out flashing not utilized where upper  
roofs meet walls.  
Lack flashing at sills and angle irons.  
Lack of  
LACK OF  
Lack of acceptable flashing materials at roof  
valleys and eaves.  
Lack of cement where required, lack of  
skilled labor.  
Lack of continuity. Substandard materials.  
Inadequate fastening.  
Lack of counter flashing at windows... lack of  
flashing at deck edges abutting buildings  
Lack of counter flashing or kick out flashing  
Lack of counter flashing.  
Lack of counter flashing; lack of effective  
crickets and flashing around chimneys.  
Lack of experience and knowledge of proper  
flashing installation  
Lack of fasteners, sealant, and improper  
installation.  
Lack of flashing  
Lack of flashing  
Lack of flashing  
Lack of flashing  
Lack of flashing above windows and doors.  
Lack of flashing around brick mold Garage  
doors etc. Aluminum used with treated  
lumber  
Lack of flashing around windows

LACK OF FLASHING AT DECK LEDGER  
BOARDS  
Lack of flashing at joints between dissimilar  
materials at siding.  
Lack of flashing at joist support ledger bolted  
to house  
Lack of flashing at window heads.  
Lack of flashing behind and over deck  
ledgers. Most installers side up to and  
around ledger.  
Lack of flashing deck / siding. Contractor  
using caulk only.  
Lack of flashing over doors and windows  
wrong materials behind ledger of ACQ  
lumber  
Lack of flashing where required  
Lack of flashing, wrong application and  
wrong size  
Lack of flashing.  
Lack of installation  
Lack of installation or improper placement.  
Lack of knowledge on installation.  
Lack of knowledge on the installer's side of  
installation and use. Inexperience in training.  
Lack of knowledge to do a leak free flashing  
Lack of or not properly installed on roof  
Lack of quality workmanship of installation  
Lack of step flashing in the proper locations,  
also the lack of flashing on roof rip off jobs.  
Lack of through the wall flashing for brick  
veneer  
Lack of through wall flashing above openings  
allowing moisture to be trapped in the wall  
cavity.  
Lack of use, improper placement and  
attachment  
Lack of, improper joints that leak, no seam  
sealer or proper bending of joints  
Lack of.  
Lap mistakes, punctures through membrane  
Lapp in wrong direction or penetrations not  
sealed properly  
Lapped wrong way or no flashing present  
Lapping  
Lapping flashings in the wrong direction.

Laps on top are not layered properly  
 Lath and Brick Tie inspections fail often for failure to flash doors and windows.  
 Ledger attachment to rim joist without flashing  
 Location and material  
 Lower and upper roof intersection / vapor barrier wrapped inside window.  
 Lower corners of windows are not properly flashed to return water to the exterior of the siding  
 Lower window flashing installed under the weatherproof barrier  
 Many contractors believe that the nailing flange on windows acts as a proper flashing, however from  
 Many decks, porches or entries may have no flashing or improper materials such as aluminum to treat  
 Many use the self flashing types but do not install them correctly in relation to the type of siding  
 Masonry flashing missing especially at lintels, flashings clogged with mortar, Material and seal coverage not sufficient  
 Material not compatible with new treated lumber. Flashing around window and door openings.  
 Membrane deck coatings without flashing at vertical wall intersection, or flashing not extended properly  
 Metal flashing installed behind ledger board instead of on top. I recommend ice & water shield behind  
 Metal roofing installed improperly  
 Meter bases installed before the EFIS and no flashing installed around it  
 Minimal fasteners, missing flashing & wrong material installed  
 Mis-installed at roof mainly with a tile roof assembly.  
 Missed installation from the builder  
 Missing  
 Missing  
 Missing

Missing  
 Missing  
 Missing at cantilevered deck joist, wall to roof joints, roof penetrations  
 Missing flashing  
 Missing flashing or improper sealing of flashing  
 Missing flashing. Not sealed properly.  
 Missing head flashing at vinyl sided walls with wood brick mold trim.  
 Missing improperly installed flashing for brick on wood installations.  
 Missing or incomplete loose torn or damaged signs of water penetration  
 Missing or mis-installed  
 Missing roof flash at side walls, chimney flash not 'let in' but caulked  
 Missing, Improper Coverage, Wrong Material  
 Moisture block flashing paper installed from the top down instead of from the bottom up.  
 Mortar back drop into cavity  
 Most are at windows at the top  
 Most builders use ice & water shield as their flashing, without adding flashing above the ledger.  
 Most common flashing not installed and when installed wrong type  
 Most flashing for chimneys is not truly counter flashed and cut into the masonry.  
 Most often not properly installed, ie; gaps at edges, etc.  
 Most product are not installed to specs.  
 Mostly flashing pulling away at chimneys.  
 MOSTLY IMPROPER INSTALLATION OR MISSING INSTALLATION.  
 Mostly missing on veneers  
 Must are not installed.  
 N/A  
 Nailed improperly. No flashing caps  
 Nailed too close to the seam  
 Nailing flange not continuous around corners of windows.  
 Nailing pattern to insure a tight fit around chimneys. Flashing width used on building are short.

Nails through the flashing. Using off the shelf flashing instead of the type recommended by the manufacturer.

Never countered

No base flashing or improper base flashing on brick veneer walls.

No counter flashing at chimneys brick flashing not installed in ship lap fashion (Tyvek) behind flash

No counter flashing over flashing attached to parapets by reglets.

No Cricket when required.

No cut-in counter flashing at brick veneer.

No deck flashing at the band member

No drip cap over door casings

No drip cap over doors and windows, no flashing between structure and connected deck.

No end dams

No flashing

No flashing above doors and windows. No

kick out flashing where roof ends at a wall

No flashing above doors non-self-flashed doors

No flashing above entry doors and garage doors

No flashing around windows and doors.

Using vinyl siding as flashing for decks, not installing z fl

No flashing at all between the foundation and the brick or stone. Masonry contractors complain!

No flashing at all!

No flashing at concrete porches placed against wood frame construction.

No flashing at deck ledger.

No flashing at exterior doors. Many tradesmen don't understand why and how flashing is installed.

NO flashing at first course no flashing at connection of deck to wall no flashing above windows

No flashing at roof to wall areas. No counter flashing

No flashing at Roof/Wall intersections, no flashing at top of windows

No flashing at wall openings and exterior deck to wall intersections.

No flashing at windows on homeowner projects when siding is installed before window installation.

No flashing being installed

No flashing below required weep holes

No flashing between brick and deck ledger or siding and roof--baby tins not big enough

No flashing between concrete slab and house

No flashing between deck ledger board and house band board. No flashing around windows and doors.

NO FLASHING BETWEEN HOUSE SIDING AND DECK

No flashing between stucco and brick. No window flashing. No flashing on top of foundation

No flashing in masonry walls at lintel areas above windows

No flashing in valleys.

No flashing installed @ deck ledger.

No flashing installed above windows and doors on brick veneer.

No flashing installed at all

No flashing installed at all.

No flashing installed at brick ledge or lintels or wrong product used for flashing.

No flashing installed at the base of masonry walls. No weep holes installed at the flashing.

No flashing installed at the deck ledger. The house wrap over top of the window sill flashing.

No flashing installed or improper installation No flashing installed.

No flashing on ledger board on attached decks

No flashing on windows

No flashing or flashing installed on top of the shingles or siding.

No flashing or improper flashing where porch roof ties into main structure  
 No flashing or insufficiently installed  
 No flashing over ledger boards for decks attached directly to band board  
 No flashing over top of doors and windows, or over deck ledgers  
 No flashing placed  
 No flashing present on brick mold windows and doors.  
 No flashing provided at top of window.  
 No flashing used at deck ledger.  
 No flashing used for decks.  
 No flashing used in connection with waterproof membrane behind masonry exterior veneers  
 No flashing used,  
 No flashing was required behind brick  
 No flashing, improperly installed  
 No flashings on roof penetrations of pipe, wiring, vents etc.  
 No ice shield and overlap also around skylights  
 No kick out flashing at base of wall/roof  
 No kick-out flashing on roofs, inadequate ledger board flashing, some window flashing but getting be  
 No kick-out flashing where roofs intersect with walls.  
 No paper behind brick veneer, no allowance for water seepage.  
 No shingles installed on a roof where the 2nd story wall meets the 1st story roof.  
 No step flashing  
 No step flashing on Chimney's and at different roof elevations.  
 No step flashing used around the chimney, ice shields not installed, no vapor barrier behind siding  
 No turn outs at bottom of stucco.  
 No weep screed or not a proper height  
 No weep screens in the stucco stop  
 No window drip cap  
 None  
 NONE IN PLACE

None installed  
 None or very limited overlap used. Flashings do not extend far enough to conform to field condition  
 None provided at wood deck connection to building wall. Single strip of flashing provided where ste  
 Non-existent around chimneys through floor penetrations  
 Not applicable  
 Not applied correctly  
 Not being installed  
 Not being installed  
 Not being installed per manufacture's information  
 NOT CAULKED, WRONG GAGE, SHORT  
 Not counter flashed or cut into masonry  
 Not cutting flashing into chimney masonry and not properly flashing under siding at roof lines.  
 Not cutting in regget properly  
 Not doing flashing  
 Not enough overlap at chimney.  
 Not enough overlap, or nonexistent  
 Not far enough under the siding  
 Not flashed right  
 Not flashing above windows / doors.  
 Not flashing between the deck and house.  
 Not flashing where railings and ledgers frame into the walls  
 Not flashing windows because they are 'self-flashing and deck-to-house connections.  
 Not following manufacture recommendation  
 Not following manufacturer's installation instructions.  
 Not following manufactures installation specs.  
 Not having a correct span for the type of wood used for decks.  
 Not in place or on the job site.  
 Not in place.  
 Not installed  
 Not installed  
 Not installed  
 Not installed

Not installed and / or bent and mutilated  
Not installed at all  
Not installed correctly at 2nd story wall to lower roof and at valleys. Walls to porch single slope  
Not installed or contractor doesn't place it there  
Not installed or not installed correctly  
Not installed or not installed properly.  
Not installed per manufacturer's literature.  
Not installed per mfg instructions  
Not installed properly  
Not installed properly  
Not installed properly around the windows - leaks inside  
Not installed properly under eaves  
Not installed properly.  
Not installed under siding at wall to roof on re-roof. Installer then places 1 x 4 to cover  
Not installed where required  
NOT INSTALLED, NOT SPECIFIC TO PRODUCT, NOT RELIEF CUT INTO CHINNEYS, DOESN'T FULLY PROTECT APPLICANT  
Not installed.  
Not installing  
Not installing counter flashing  
NOT INSTALLING IT NOT PROPER SIZE  
NOT EXTENDING IT THE FULL LENGTH OF VALLEY OR CRICKET  
NOT INSTALLING IT ON ALL SIDES OF THE WINDOW  
Not lapped over right  
Not lapping one layer over the other sufficiently  
Not nailed correctly, not imbedded right  
Not nailed properly to a substrate. Insufficient fasteners and length of fastener.  
Not overlapping in correct direction, missing flashing, and not extending flashing far enough.  
Not placed properly and not sealed properly.  
Not present  
Not proper coverage  
Not proper laps

Not properly applied  
Not properly attached to the chimney area with roof shingles under the flashing  
Not properly fastened  
Not properly installed  
NOT PROPERLY INSTALLED AND ALLOWING RAINWATER RUNOFF INTO THE STRUCTURE.  
Not properly installed and sealed  
Not properly installed caps and collars  
Not properly installed in horizontal adjacent to vertical applications.  
Not properly installed or omitted  
Not properly installed to manufactures specifications  
Not properly sealed or nailed  
Not properly seated or loose  
Not reading the installation procedures. Not placing the products accordingly with code provisions.  
Not sealed  
Not sealed properly  
Not sealed properly  
Not stepping the roof flashing. Flashing not getting out from behind siding or finish.  
Not there  
Not there- NOT installed  
Not there, improper fit, poorly installed, damaged  
Not using a flashing above an added wood casing surround @ a window or door.  
Not using it at all and relying on caulking only.  
Not using the proper flashing for the roof materials. Creating an improper seal.  
Off set roofs and windows  
Often, ext. doors are not flashed at all and if they are, they are often not flashed correctly  
Old vent a flashing on shed type roofs  
Old, worn out its useful life  
Omission  
Omission of diverter flashing or various roof flashings  
Omission of flashing  
Omitting flashing on top of windows



On commercial buildings  
On piers  
On stucco finishes and acrylic stucco finishes, flashing around windows and doors not per mfr. spec.  
On the chimney to the roof.  
On the vinyl windows the flashing trim has holes in it to attach to the wood frame allowing water to  
On windows-Not following manufactures specs. On decks-they flash behind the ledger but don't counter  
One is people won't use flashing where needed or not enough.  
Only installed on bottom  
Open valley flashing does not meet width requirements of 24', IRC 905.2.8.2.  
Overlapping  
Overlapping flashing does not extend past the drip edge of the next piece.  
Parapet walls  
Perimeter insulation is not cover. Window flashing does not overlap stucco paper  
Placement of flashing too short from the edge.  
Placing the flashing between the brick and the base of the brick. Although required, this is poor co  
Plumbing risers  
Poor flashing methods  
Poor installation  
Poor Installation  
Poor installation. Products not intend for the location used.  
Poor workmanship  
Poor workmanship  
Poor workmanship and lack of knowledge are the top reasons for failure  
Poor workmanship, not understanding the importance of flashing. Thinking the nailing flange is flash  
Poor workmanship/improper sequence of installation steps

Porches being poured over weep screeds and trapped water behind the porch bet. The porch and stucco.  
Pouring concrete decks against siding.  
Flashing and counter flashing at windows. Product used without the ICC listing approval. Product installation incorrect and poor construction,  
Products not being installed to manufacturer specs and just poor workmanship  
Proper lapping of sisal craft paper around windows  
Proper placement of proprietary self adhesive materials around window openings.  
Proper width and type of flashing material used is not correct.  
PVC penetrations at the floor or ceiling, roof flashings where a change in direction or at valleys  
Quite often they are not installed prior to roofing. The flashings are then **installed afterwards an**  
Railings not built to code.  
Re-roof jobs side wall flashing that require counter flashing  
Reroofing is especially problematic  
Reverse laps, short laps, and improper use of products, not installed per manufactures specs  
Reversed application of flashing around the windows.  
Roof  
Roof areas and chimneys  
Roof edge  
Roof flashing at change in roof pitches and chimneys  
Roof jack not property lapped. Flashing and counter flashing at roof to wall intersection missing.  
Roof penetrations for plumbing and exhaust vents  
Roof shingles  
Roof shingles touching b-vents  
Roof to wall flashing not installed far enough behind the existing siding.

Roof to wall on the exterior of building paper,  
or over stucco on re-roofs,  
Roof to wall or deck to siding.

ROOF TO WALLS, DECK TO WALLS.

Roof/wall intersection, water is not directed  
to the outside of the exterior cladding  
Roofers choosing not to replace existing  
flashing on re-roofing jobs.

Roofing

Roofing contractors using one piece of 3'  
flashing, run it from top of rake to bottom.

Roofing materials used as flashing, step  
flashing not directed on top of siding

Roofing:Valley/Step-flashing.Gable-end/eave  
drip edge. Brick chimney's:Crickets/wallstep-  
flashing.

Roof-to-wall

See the flashing put on last over the paper  
Self-flashing windows being placed under  
sheathing with out additional flashing. No  
flashing @ doors

Sequence of installation and caulking of  
joints

Sequencing of flashing at windows. Improper  
valleys laps. Installers do not know proper  
use of new p

Short on material for the weather in the  
northeast.

Side wall meeting roof

Siding butt jointed w/o flashing behind the  
joint and no moisture relief to bottom course.

Siding not installed properly, shingles not  
installed properly around chimney

Siding used as trim around windows not  
properly sealed.

Siding---deck

Sill plate with brick veneer and steel lintels

Since, as a Fire Marshal, I deal with fire and  
life safety issues, I usually differ these issues  
to

Sloppy work. Inadequate overlaps and gaps.

Soldered joints in a galvanized flashing that  
crack during installation

Splicing w/o proper overlap, not installed to  
manufacturer's recommendations

Step flashing

Step flashing (tin shingles)at the dormers  
Counter flashing at the rollock for brick Head  
flashing

Step flashing and crickets missing at  
chimneys. No flashing at decks Windows  
missing Z flashing

Step flashing at roof to wall juncture and  
chimney flashing

Step flashing covered by brick work @ roof  
line instead of on the outside & counter  
flashed

Step flashing improperly installed

Step flashing improperly installed on  
chimneys, etc.

Step flashing is installed incorrectly or roof  
flashing is installed with not enough overlay

Step flashing not done correction especially  
at transitions to siding, corners, other roofs;  
chimney

Step flashing not done properly. No flashing  
at the brick ledge.

Step flashing not let into brick

Step flashing not overlapping enough to  
prevent water from backing up under  
flashing/roofing material

Step flashing omitted from around a chimney  
and replaced with plastic cement only

Step flashing on roofs and around windows  
and doors at top corners on siding.

Stepped flashing not installed at slopes  
parallel to wall.

Stucco wall where it meets with a lower level  
roof.

That the weather resistive barrier does not  
overlap the top of the step or head wall  
flashing

The bell area of the chimney incorrectly  
flashed allows water to seep in by the  
fireplace.

The building envelope not properly flashed  
over top of windows

The city does not have any problem with  
flashing violations.

The common error is neglecting to flash along the porch stoop prior to pouring concrete. This allows

The connection of a deck to the home is by far the biggest problem I have found.

The counter flashing covering the step flashing on the side of a wall will not be cut into the wall.

The flashing is either missing or incomplete.

The flashing is short and leaves the very end unprotected.

The flashing not installed correctly with asphalt shingles; adhesive not used.

The installer fails to install flashing around doors and windows

The interface between the wall and wood deck or porch.

The lack of diverter flashing and wall to roof corners of a wall.

The lack of flashing and improper installation.

The lack of flashings installed above windows and doors

THE LACK OF INSTALLING FLASHING OR IMPROPERLY INSTALLED FLASHING

The lack of knowledge to install all types and applications of flashing the correct way.

The lack of sill flashing for openings in brick veneer and siding. Proper edge flashing at the roof.

THE LEAD ON THE CHIMNEY IS NOT FLASHED PROPERLY

The most common flashing violation I see pertains to roof flashing.

The most common is the use of aluminum flashing with pressure treated wood.

The most common problem we see improper flashing at the deck.

The use of flashing to act both as flashing and to cover larger than acceptable gaps in sheathing

They are not installed the right way. They are not over lapping enough.

They do not even install

They do not take the time to properly seal valley flashings...

They don't flash over windows or doors

They forget to install flashing

They forget to install it.

Thresholds at exterior doors.

Thru-wall flashing at grade for brick veneer.

Tile roofs at rake and fascia.Ridge boards also not being flashed. Above doors and windows with stucco

Too short along roof intersections

Too small. Penetrations. Not overlapped correctly.

Top of exterior wood trimmed doors, counter flashing for masonry chimneys

Top paper above window placed under side-vertical paper

Total lack of it

Totally improper window/door flashing, using nailing flanges for flashing and **no flashing at other w**

Transition between deck attachment to the home and the siding

Trying to use a light grade of polyethylene instead of an approved material.

Turn back flashing not installed properly

Typically where an exterior wall, possibly second story, terminates into a lower level roof.

Tyvec Tape and Duct Tape used as window flashing & no caulking behind nail flange

Unapproved flashing being used. Not to code

Under siding, at the connection points of roofs and where the two meet.

Use of caulk in place of flashing, no flashing, too short of a return, exposed fastener/penetrations

Use of improper material, material not properly applied

Uses 'Duct Tape' around windows and doors.

Has never seen flashing used for decks.

Using Aluminum Flashing at deck/brick veneer intersections.

Using aluminum instead of approved vinyl or galvanized components

Using galvanized nails with aluminum flashing

Using PE plastic in lieu of PVC where required  
Using thin alum in contact with masonry to wood. Differential movement will split the alum. Quickly.  
Using wrong flashing  
Usually when the homeowner does his own reroof .  
Usually, an absence of flashing but most common problem is incorrect installation at joints  
Valley flashing too narrow  
VALLEY FLASHING, PATIO COVER ATTACHED TO HOUSE, OR ROOM ADDITION  
Valleys terminating at a wall require special care lack of flashing at roof and wall intersections  
Varies with each job.  
Vertical wall to roof flashing and flashing around windows  
Very bad around the chimney.  
Very rare  
Vinyl or aluminum windows set in CMU openings with no sills designed to shed water. No flanges.  
Vinyl siding around windows. Using proper flashing material with pressure treated wood  
Wall roof connection where flashing is installed over existing siding, not behind.  
We do not conduct home inspections  
We see a lot of violations with installers of windows and doors not installing per manufactures spec  
We see railings of decks solidly mounted to the structure, but then not carefully detailed to prevent  
Weatherboard fashion relating to Z-flash around doors and windows  
Weep screed ending above level of sole plate  
Weep screed for exterior plaster walls without the required clearance to grade.  
Weep screed installation at the base of a wall in exterior stucco wall applications.

Weep screeds at base of stucco wall coverings not properly installed.  
Weep screeds at the foundation above grade requires 4' and 2' at walk areas this is missed  
When attaching deck to residence, flashing is not pushed up wall far enough to prevent water damage.  
Where deck meets house  
Where decks or stairs attach to a wall.  
Where required for brick veneers  
WHERE ROOFING SHINGLES MEET A WALL  
Where roofs meet brick veneer  
Where the roof ply and the fascia should meet, there in most cases seams' to be a gap of 1-1/4'  
Where two roofs meet  
Window buck attachment. Masonry at garage door overhead. Foundation at bottom of wall.  
Window flanges - no flashing over flanges, using house wrap as flashing, & house wrap w/no tape.  
Window flanges not taped or counter flashed ditto for door headers.  
Window flashing -lower behind stucco lsth.  
Skylight- hop mop skylight installed on a pitched roof  
Window flashing missing or cut short, No step flashing or one long l bend  
Window flashing not installed.  
Window flashing not properly inner laced, the side flashing not tucked under the top.  
Window flashing under stucco.  
Window flashings not lapped over dry-in.  
Window flashings not 'shingled' properly or behind stucco paper at bottom. Improper roof flashings  
Window tops/caps---Under siding over decks  
Window using the flange as the flashing.  
Windows  
Windows and doors installation with out a Building Permit  
Windows and doors installed over house wrap (Tyvek) improperly - water is directed right to the inte

Windows and doors not properly flashed causing water and wind leakage, chimneys not properly on reroof  
Windows have improperly installed or no flashing at all. Flashing is damaged during installation or  
Windows incorrectly flashed at top and sides  
Windows installed in a one-coat stucco environment  
Windows installed with flange over T1-11 siding.  
Windows leak, etc.  
Windows not flashed properly  
Windows not flashed, doors not flashed, weeps and flashing not in brickwork.  
Windows that are not self flashing  
Windows with **a fin installed** in an oversize opening,  
Windows/flashing put on incorrectly. Also, some do not realize wood doors require flashing  
With brick veneer-1.roofs @wall intersections, 2.flashings @ windows, 3.flashings @ brick ledge  
Wood deck on sleepers over modified roof at adjacent doors and windows.  
Wood decks are rarely flashed properly. Installers are unaware of new products that make it easier  
Wood decks attached directly to the structure without flashing  
Workman overlap incorrectly on occasion, and not correctly formed

Worn or installed incorrectly  
WRAP UNDER FLASHING NO WEEP HOLES IN BRICK.  
Wrong gage. Wrong material used.  
Wrong gauge material and material improperly installed (channels water towards window or chimney)  
Wrong height or width, length of overlap between sections.  
Wrong material or improper installation  
Wrong material used for flashing in some cases not following the manufacturers specifications  
Wrong material used in contact with PT lumber. Forgotten over doors/windows  
Wrong materials for the applications, improperly attached.  
Wrong materials or attempting to utilize material of insufficient size.  
Wrong nailing/securing of decks improper clearances to combustibles for woodstoves  
Wrong size used.  
Wrong type of material used, and not adhered to surface properly.  
Wrong type or deleted altogether  
Wrong type or installation  
Z-flashing at horizontal brick to wood and **required u flashing** at seconds (frame) inspection  
Z-flashing will not be installed between two vertical pieces of t-111

## Appendix 3.0 Grading and Site Drainage

**Please select the three grading and site drainage violations you see most often.**

**N = 1260**

Grading	57%
Downspouts/ drainage controls	55%
Backfilling	44%
Grade too high	38%
Soil conditions	17%
Driveways	14%
Not Applicable	8%
Sidewalks	7%
Stoops	5%
Other (please specify)	5%

Actual Conditions just not in conformance w/  
plan  
Area around garage  
Back-slope toward structure  
Building pad too low relative to street/ road  
Bulkheads  
Concentrated discharge (sump pumps)  
Compaction to low  
Contrary to approved grading plan  
Crawl space drainage - Footing drain  
disbursements  
Cross-lot drainage  
Decorative curbing or mow strips or planter  
strips  
Densification of materials  
Discharge of sumps next to foundations  
Distance from slopes  
Drainage device usage  
Drainage through neighbor's property.  
Elevations set to high or to low for new  
house  
Engineering handles most drainage issues  
Erosion control  
Fall away from basement walls  
Fill soil, expansive soils and soils reports  
Final grade vs. septic system  
Final grading and seeding.

Finish elevation too low in comparison to  
street  
Finish grade not high enough to allow for  
drainage  
Fire access grades  
Foundation elevation  
Foundation Perimeter Drain System  
Grade certificate required before C of O,  
Grade to low and no swales  
Grading does not slope away from the  
structure.  
Grading does not take water away from  
building  
Home set to deep, into seasonal ground  
water  
Improper slope away from foundation  
Inadequate slope from dwelling and bad  
drainage  
Insufficient berm at top of slopes  
Lack of 2% slope away from building  
Lack of ground cover  
Lack of proper erosion control  
Lack of proper swales between houses.  
Landscaping  
Landscaping impacting finish grades  
Landscaping/mulch too high on siding or  
masonry  
Local and site conditions not considered

Low spots in grading dumping onto another or stand  
Maintain designed lot drainage through out const.  
Negative grade at foundation  
Newly developed lot drains to adjacent (existing) lot  
No drainage control between sloping lots  
No major problems  
No runoff protection on the site  
Not falling away 6' in first 10'.

Not pitching away from the building  
Not proper slope from home  
Not reading approved grading plans  
Not pitched away  
On site retention not provided

Our engineer handles it no problem  
Overall poor lot conditions  
Planters  
Please see my comments in the next question.  
Retaining Walls  
Retention ponds  
Roof drainage within 5' from the foundation  
Standing water around houses  
Sump pumps draining to surface grade.  
SUMP PUMP DISCHARGE  
Swimming pools placed in swale  
The city's engineer handles all site plans and The slope away from the house.  
Unpermitted grading  
Water entrapment behind bulkheads

## Appendix 4.0

Please give an example ...

**Please explain what conditions are leading to these violations (i.e., negative grade at house leading to water ponding against foundation wall).**

Lots adjacent to new home divert their water towards the new home- #2 inadequate side lot line swale #3 failure to make grade nearest the house slope away from the foundation  
\*downspouts design not directing water away from foundations \*insufficient grade extending away from structure \*lack of or improper footer drains  
0 lot lines and installing retaining walls along property lines.  
EXCAVATING CONTRACTOR WILL ESTABLISH, IN ERROR, THE SUBGRADE ELEVATION FOR THE FOOTINGS AND WALL OF A STRUCTURE. 2 EXCAVATOR WILL NOT FOLLOW PLAN DETAIL FOR POSITIVE DRAINAGE AWAY FROM STRUCTURE  
The floor elevation is frequently too low on slab on grade houses. This makes it difficult to achieve proper drainage away from the house when the land is not very level.

Failure to install proper erosion control measures prior to site grading.  
Failure to slope away from foundation wall a minimum of 6'/foot (5%).  
Grade not properly completed  
Homeowner changes grade  
Drainage trapped by sidewalks.  
Improper slope at foundation, or no slope.  
Downspouts drain into areas that are improperly drained. Such as number 1.  
Grading plans not required on a single family building permit nor for land development.  
Residential constructors are not cognizant of the compaction process.  
Improper grading.  
Downspouts and sump discharges not properly terminated.  
not installed according to plans not graded in accordance with approved grading plan not graded in accordance to approved grading plan and too high up around the perimeter of the house

Back fill in the garage areas with minimal to no compaction. Final grading is too close to the bottom edge of the siding.  
Drainage away from house.  
Slope of back fill  
Steep drive ways without proper culverts  
Excavating too much initially and back filling with saturated material. Mis-cuts. disturbing the water table and natural flow of subsurface water.  
Sump pump discharge located in area that doesn't facilitate proper discharge.  
Landscaping companies changing final grade after C of O issuance. 3. Poor master grading plan for subdivision.  
GRADING TOO FLAT  
NEGATIVE GRADE  
HOUSES SET TO LOW  
2% SLOPE AWAY FROM FOUNDATION  
Slope is wrong  
downspouts installed improperly,  
backfill is spoils and will not retain or drain.  
addition built into an existing higher grade  
additions final backfilling  
adjacent lots, back to back, one grade higher than the other causing lower lot to flood in heavy rain.  
Failure to install proper underground drainlines to handle run off from down spouts.  
After backfilling, the grade around the foundation always settles because the builder has not properly compacted the fill.  
After grading, ground does not slope away from home, instead it slopes back to house.  
Contractors do not tie in gutters to foundation drains.  
After the CO has been issued the owner or landscaper changes the approved grade to cause ponding and negative flow.  
After the subdivision is completed the regrading of individual lots.  
After-the-fact (post final inspection) landscaping installations/alterations

Again on residential. We have seen side entry garages that are backfilling into garage when drive is poured.  
A lot of backfilling is done improperly, so settlement occurs after a few years.  
AS you state, negative grade is the most common due to settlement, Junk in backfill.  
At current time we require a proposed Topography and a 'as built' topography.  
Attention to detail.  
Back fill above waterproofing, Insufficient slope, Negative slope  
Back fill too soon. Downspout exits too close to structure. Grading past damp-proofing level. (machine)  
Back fill not tapered away from foundation  
Back pitching towards house; grading too high at foundation.  
Backfill not properly sloped  
backfill around foundation not high enough  
Backfill around the home settles with first good rain and down spouts dump right into house- new ordinance for down spout tubing here.  
backfill before CMU is braced  
backfill before first floor deck is framed leading to cracked foundation walls  
Backfill is above the floor level or weep hole in the brick. Driveway grade causes water to run in the garage.  
Backfill next to foundation wall is not compacted. Final grade is completed without compaction of backfill next to foundation wall.  
Final grading is not done around stoops and under decks.  
Backfill not compacted as it is placed against the foundation.  
Backfill not properly compacted creating settlement after time. Engineered swales around homes being modified after final inspections  
backfill on new foundations  
Backfill settling at foundations after one or two years; resulting in ponding at the foundation wall.



backfill so high it covers lower portion of siding.  
backfilling before the foundation is stabilized with floor diaphragm  
backfilling- contractors wishing to backfill with material that was removed from hole.  
Backfilling foundation before foundation has first floor deck on  
backfilling to high along foundation  
backfilling with clay soil  
Backfilling without compacting, settling over time causes negative grade.  
backfilling-without soils engineer soil conditions-heavy red clay soils present-heaving  
Stoops-fill too high contractor flashes wood and pours stoops against flashing therefore wood rot may occur  
Bad seal at sidewalk foundation junctions , improper grade pooling water against foundation

#### BASEMENT LEAKS

Basically it's because contractors/developers are trying to utilize every possible parcel of land available without proper drainage studys.

Because most new development is on sloping lots, the violation most common is that the final grading is not done when the house is completed.

Bringing the extra dirt from excavation of walks and driveway and piling on top of pads and placing in swales between lots. Creates conditions mentioned above.

Builders raising elevations of home sites after development plan and site elevations approved. This creates drainage problems on surrounding sites and driveway/sidewalks too steep

Builder cuts corners with sitework subcontractor who uses too little, or wrong fill material or poorly grades finish elevations. This results in washouts or severe settlement after rains.

Builders do not want to spend the money in concrete to get the foundation up high

enough or spend the money on dirt around the house.

Builder not taking flat lot a into account  
Builders are not aware of New Jersey Code and many other Towns are not enforcing it, but the state officials made it clear what they wanted.

Builders are not using best management practices to keep runoff out of the street and storm water system

builders are unaware of foundation heights relative to sidewalks and curbs until the problem presents itself.

Builders at not placing the foundation at the correct elevation causing driveways to be too steep and required drainage swales being impossible to install correctly.

Builders backfilling without adequate bracing, or loads applied to wall. Downspouts and leaders too short - do not lead far enough away from house. Too many contractors are not aware of what soil con.

Builders did not provide proper elevations for any type of runoff.

building garages on floating slabs are big problem, and grading of landscaping round house, planting trees to close to housses and later penetrating masonry foundations.

Building houses on stepped lots, thenhouses with ponding water and driveways too low garages having water coming into house.

Building on steep slopes amd in granite bedrock.

#### Carelessness

carelessness - drainage onto adjoining properties, no compaction so driveways settle, and dirt up on siding

Carelessness of contractor / subcontractor changes due to field conditions and lack of familiarity with existing grades, etc.

Cities or Townships should have professional engineering reviews performed prior to construction.

City of Mesa has alot of carports (open on 2 sides) converting to garages. One of the

common violations is the 6' separation between wood (siding) and soil, because grade was set up for a slab on grade comment above in particular!, and not draining away from house  
Concrete flat work after homes have been finished being done by landscape workers are too high against homes as well as planting area soils.  
Conditions where the grade conflicts with ADA requirements.  
Construction debris dumped in porch foundations Negative grade at house Rain conductor discharges of only elbow type 'B' used instead of also type 'A' for side discharge.  
contractors in a rush to form the foundation, before their grading is complete. Downspouts not installed.  
Contractor not backfilling all low areas under homes. Landscaper installing beds against home and causing water to pond.  
Contractor not knowing or caring.  
Contractor not paying close attention to the slope of area.  
contractor not taking responsibility for drainage issues  
Contractor placing the house at improper elevation on the lot  
contractor tries to lose basement dirt on the lot -fills in drainage way backfill at house settles leaving negative grade towards hose  
Contractors and homeowners alike do not take into consideration that the bushes they plant will grow and cause drainage problems.  
contractors don't know what they are doing  
Contractors fail to grade so that water drains away from the structure and grades so that the water drains onto neighboring property  
contractors failure to address the soil and drainage problems during construction and after the final grade.  
contractors in a hurry  
contractor's lack of experience and grading during unfavorable weather conditions

contractor's negligence/education  
Contractors not grading correctly  
Cracked foundations and differential settlement  
Curb grade is higher than house foundation.  
Depth of footing (monolithic) does not meet the code. Failure to backfill against monolithic forms. Failure to conduct water away from termite treated area.  
Descending driveways from sloped lot exceed the 5' grade slope away from structure with no provision for drainage (ie. French drain).  
Designed landscapes after certificate of occupancy has been issued.  
desire to to quickly backfill, failure to check the civil/site drawings for elevations, finish grading for aesthetics not drainage deviation from approved plan that requires draining through landscaped areas via natural swales, by installing catch basins and piping runoff to curb cores, without city approvals.  
difficulty of appreciation of how water acts do not have many issues pertaining to or associated with grading/drainage violations.  
do not inspect grade and drainage issues  
Does not follow grading plans  
Don't back fill with proper material. Most set home to high out of the ground because they don't want to haul fill away, forget to extend downspouts away from building  
Down spouts and drainage controls not installed properly  
down spouts are not leading far enough away creating ponding by foundations, soil is of poor grade for back filling which creates the ponding near the foundation  
Down spouts not connected to piping in ground and grade too level or pitched toward house.  
Down spouts not using property length of extensions away from the foundation wall.

downspout extension may need installed, backfilling poorly installed causing the grading next to the foundation to hold water. downspouts and footer drains and grade sloop from house

Downspouts and footing drains not required to terminate into storm drain.

Downspouts are not installed to the storm drains, that cause runoff problems with neighbors and become a public nuisance. Downspouts are not properly run away from foundation

Downspouts being aimed to trouble prone areas

Downspouts do not have proper extensions on them to carry water away from structure. Reverse pitch on driveways along side of house. Concrete has dropped (sunk).

Downspouts do not lead away from building, soil conditions are not considered in drainage plan, building is backfilled with inappropriate material

Downspouts do not move water far enough away from foundation. Poor grading allows water to enter into foundation walls.

Downspouts draining across sidewalks (safety) Forcing walkouts creating water runoff issues erosion, and back fill settling, excess stormwater runoff to adj property downspouts leading water to driveway or sidewalk causing ice build up and run off to street

downspouts left to drain straight down and not taken way from structure, grading not take away from structure

Downspouts not being properly directed away from the house, grades that settle after time, thus producing reverse grades due to lack of compaction or improper fill being used.

**DOWNSPOUTS NOT DIRECTED AWAY FROM FOUNDATION AND THE SLOPE OF THE GRADE NEXT TO THE HOME DIRECTED BACK TO THE FOUNDATION**

downspouts not directing water away from the foundation. grade too high against foundation and yard not properly graded to allow runoff

Downspouts not drained properly. Grading not sloped properly. Backfilling not enough - settles too much later.

Downspouts not draining away from house, driveways not sloped away from house, not enough slope and grading from foundation. downspouts not extended far enough cause water ponding around foundations. backfilling and improper grading leads to erosion and drainage problems.

Downspouts not piped to seepage bed.

Downspouts not properly installed and the grading not properly completed.

Downspouts not taken far enough away from house and draining on to lot next door.

Negative slope toward home.

Downspouts run into dry well that was improperly sized based on soil drainage characteristics.

Downspouts simply dump at footing. Soils too close to siding

downspouts that drain too close to foundation leading to water infiltration into basement or crawl space negative grade around foundation

downspouts that terminate at the foundation. downspouts, gutters

drainage from one parcel of land to other

Drainage of lot affects adjoining lot

Drainage on to the lot next to new job site

Drainage onto neighboring property

Drainage swales from downspouts leading off site and onto another property. Soil

conditions being such that very little percolation taking place, causing surface storm-water flows that were unplanned

Drainage systems not draining away from building causing erosion near foundation.

Draining towards the house instead of away.

driveways sloped towards garage without drains. Drainage not diverted away from foundations

Driveways are too steep. Downspouts run to grade but grade does not fall away from house.

Driveways pitched toward dwellings and garages and settling around foundations. driveways running on to side walks and roads

Driveways to low allowing water to pocket in some areas.

driveways with lack of design in the swell to prevent water to advance to the structure

Due too the geographic area we are restricted by a 100 year flood plain that in composes over 30% of the Villages residential land.

Dumping water on neighbor's property.

Either backfill not placed properly or little or no grade away from structure.

elbows missing on downspouts, allowing water to decay soil. landscaping retaining water or blocking the flow

Elevations are not set properly, too much fill or grading is not accurate and caused drainage to flow improperly, other structures/objects obstructing flow.

Ero.controll is allways a problem.

erosion control, site drainage

Erosion control. Grading to prevent water from going into house.

Even with the proper grading without the final grade - settling of backfill is still a problem.

Larger roof areas without drainage control will be a continued problem w/grades.

Exactly, negative grade at house. Also lack of compacting the backfill around the foundation, which leads to settling which in turn leads to ponding of water.

Excavators are usually on to other projects, owner can't get them back for a final grade.

expansive soil here requires extensive soil conditioning. extremely important to have no ponding near the structure.

Expansive soils, roof drainage not being properly routed to an approved location and ponding at foundations.

Expansive soils. Accessibility for commercial sidewalk slopes. Drip screed covered.

Failure of contractor to grade the lot to conform with subdivision grading plan or attending to grading principles of drainage

Failure to account for actual site condition in the design.

Failure to account for settlement at or near foundation.

failure to compact backfill, short leads on downspouts

failure to follow approved construction documents, lines and grades plans

failure to keep water flow away from structure

Failure to plan for grading at the beginning of a project.

Failure to properly settle/compact soil before final grade

Failure to provide appropriate grade around the entire home.

Failure to remove unsuitable soil from site and then reuse as backfill material.

Falure to keep water on one's own property and allowing it to run off into neighbor's property

Filling gutter line w/concrete to create a smooth entry flooding street, sidewalks raised then sloped toward adjacent yard, downspouts landing in an improper grade.

FIN. GRADE TO PRESS. TREATED MATERIAL CLOSE.

final finish grading not sloped correct

Final grades are not sloping from residential backyards towards the front yards. With subsequent heavy rains, ponding issues occur in backyards.

Final grading done poorly.

Final grading fails to comensate for settlement especially from the foundation to about 5 feet.

Final grading not completed in the field as per the approved grading plan. Also, no

common sense when placing the downspouts.  
Final inspection prior to loam & seeding.  
Settling beneath bulkhead enclosure.  
Final lot grading to divert water away from foundation walls  
Finish elevation too low in comparison to street  
finish grade done without adequate compaction causing excessive settling and poor drainage, blocks and or tile not in, sidewalks set in to high causing ponding between foundation wall and walk.  
Finish grade not sloped away from the building.  
Flat lots - 6 in 10 requirement not met. Roof drainage not installed where soils conditions require gutters and downspouts.  
flat or negative grade along foundation  
flat to negative grade leading to house.  
flat work not taking into account drainage from existing areas.  
Flatwork and landscaping added after final inspection.  
Footing drain not installed properly, clay does not drain well in this area.  
Foundation backfill settlement  
Foundation drains a not installed properly. As mentioned above the proper slope away from the home is not enough. The soil conditions a very different from lot to lot and backfilling has is a problem.  
foundation elevation not check at start of job and final grade not finsih to code requirements  
foundation elevations to low leading to ponding in crawl space  
Foundation not exposed for 6' above grade  
Foundation too low  
Foundation wall not poured to correct elevation.  
Frozen dirt used for backfill during winter, non compaction of soil  
Gading is not sloped properly.Slopes toward home .

garages under  
Generally the grade around a structure is too high and not sloped away from the foundation or to drain inlets.  
GOOD EXAMPLE! negative grade at house leading to water ponding against foundation wall  
GRAD TOO HIGH.  
Grade abutting the house wall is too high & does not provide the 8 inches of foundation wall above grade. Also not enough slope away from the building as well as ponding at various spots on the site.  
Grade being to flat.  
Grade changes from new to existing houses  
Grade flat at foundation - not sloped  
grade gets finished topped w/ topsoil and results in contact of soils and wood  
grade height not maintained  
grade is generaly to close to framing or non treated lumber  
grade is left too high at top of foundation (not within 6 inches of top of foundation)  
Grade is not really finished because of the lag between the contractor and the landscaper.  
Grade is too high next to the building during backfilling. Some times covering up the Mechanical equipment drains or exhaust vents for the dryer.  
Grade less than 8' below sill plates.  
Driveways graded to steep.  
grade levels to high resulting in diversion of water to adjacent property, ponding in downspout areas.  
Grade must match approved site plan  
grade not 6' in 10' not going to a storm water system. Group III soil water ponding in yards.  
Landscapers/home owners creating negative grades.  
grade not corrected after settling,  
downspouts are not terminated 5' from wall,  
backfilling at walk out basement doors is not sufficient to run water away during heavy rain

Grade not properly sloped away from building. Soil eroding from the property.  
grade not sloped away from house, hills in area directing large amounts of water toward home, backfill not compacted  
Grade or sidewalk back pitched. Grade between foundation and walk or driveway too low.

grade slop away from home, down spots not having splash blocks and extensions, ditch line grading problems.

grade sloped toward structure, runoff routed to close to foundation, grade lower at origination than at termination of runoff route. Grade sloping toward house.

Grade starts to close to siding, Grade is not sloped away from foundation enough, and no tip out's or splash blocks below downspout's. grade to close to the siding and not pitching away from the house

grade to high and insufficient slope.

grade to high at foundation walls and voids created with backfill material being to recky. also lack of backfill being tampted

grade to high not have required clearance for untreated wood products. Backfilling with wet soils cracking foundation walls. Not grading for proper fall away from house causing water to pond at walls

GRADE TO HIGH, BUILDERS WANT HOUSE HIGHER THAN EXISTING GRADE

Grade to low at waal line allowing ponding. Not enough grade slope away from foundation. No roof gutters or down spouts. Downspout extensions not installed.

grade too close to siding

Grade too high

Grade too high at structure, do not have minimum six inches from soil to untreated wood.

grade too high to brick, grade not matching final drainage surveys

GRADE TOO HIGH, NOT ENOUGH CLEARANCE FROM GRADE TO FRAMING; TRASH & DEBRI IN THE BACKFILL.

grade towards house, grade too high, or down spouts not taken to approved disposal grades slope toward house after backfill has settled. Grade to close to OSB sheathing  
Grades too high result in wicking after the landscaper fills-in.

Grade-usually when individuals want to locate a new building at the top of a hill Fire access roads allow 10% However current day Fire Engines are capable of negotiating higher grades.

Grading and down spout violations are the most common and are addressed at final inspection before occupancy is issued.

Grading and site plans not detailed enough. Grading at the yard from rear to front after fencing or pool construction where the fill to be removed is not taken off site or incorrectly graded because of the wishes of the home owner.

grading away from home but grading water to side or rear of lot and not to street or other means of discharge.

grading conditions from no soil test. Down spouts with no proper angle, flow of land going in wrong direction after grading.

Grading in general is not considered to the extent nessary at planning and excavation time.

grading incorrectly done or home owner changes

grading is not sloping away from house a 3' min. pad surrounds the house but does not slope

Grading lots too level and creating ponding water around the home. Sometimes the rough grade will work but the final grade with mulch, grass and other landscaping the grade no longer works.

Grading not complete before final and backfilling too early.

grading not done at proper time making footing coverage incorrect and or incorrect siding clearance.

grading not flowing towards the front.

grading not pitched from house enough  
where land pitches toward house  
Grading not properly diverted away from the foundation  
grading occurs too high with the dirt too close to the siding.  
Grading pitch toward the foundation. Field installers cannot read a site plan/grading elevations.  
Grading so water drains to neighboring properties. Backfill placed too high at foundations.  
Grading that diverts water to adjacent property. Expansive soils that are not compacted properly  
Grading to another property instead of to public drainage.  
Grading too high, inadequate swale, negative grade at house.  
Grading where the residence is close to a property line and there is an elevation change to the adjacent property.  
Grading which will not allow rain water to move away from structure.  
Ground slope back to house, ponding water, gutters draining by slab, insf. drainage between lots  
Hatchway bulk heads @ finish grade. swails not maintained, yard drainage not maintained  
High ground water table in area, builders are reluctant to set houses at proper elevation and finish grade is not established or maintained when landscape contractors finish  
high shrink/swell soils  
homeowners landscaping next to house without consideration of positive drainage away from house  
Homeowners using dedicated drainage easements with no regard to others properties affected by the one drainage easement. Poor locations of structures too small to be code regulated.  
homes built close to property line (3 to 5 ft) leave little room for proper slope away from

the foundation. Often creates non-compliance with soils report requirement of 1:12 slope for 10 feet.  
Homes not being 'set up' high enough to allow for proper grading.  
Homes that are built on steep slopes making proper grading difficult.  
Honestly- stupidity and indifference to items the customer probably will not notice until too late.  
house elevation too low - cannot get positive drainage away from it. - poor backfill material  
House foundations and grading not high enough to allowing grading to curb  
HOUSE IS NOT RAISED UP HIGH ENOUGH POOR GRADING  
house not positioned correctly to allow the best chance for storm drainage to flow away from the structure.  
house started too low on site  
Houses are being built too quickly for the proper settlement of the backfill and inspections are needed right away for the property to be sold. No one going back after a spring thaw to redo site grade  
Houses are being designed with first floor elevations too low.  
Houses are set too close to grade, and water is not directed around the building, but at the structure. Swales need to be constructed to direct the water to the street or an approved drainage location  
Houses being built so close to each other and lack of supervision  
Houses too close to properly grade.  
I only do plans checks and inspections for fire sprinkler and fire alarm systems.  
Improper grading.  
Improper backfill by contractor's.  
Improper Backfill Material, Either no french type drainage systems being utilized or improper systems  
Improper backfill materials create settling close to structure.

Improper backfill materials or lack of perimeter drains.  
 improper backfill, not taking time to properly bed drainage in  
 improper backfilling, against foundation wall leads to soil settling and grade then drains against foundation, instead of away from, downspout drains often slope towards the foundation.  
 Improper backfilling, improper grading to allow water to flow away from structure  
 improper clearance from siding materials due to poor grade planning before landscaping is completed and the proper use of grading to protect adjoining properties.  
 Improper compaction  
 Improper compaction around and over structures (foundations, utilities, stoops).  
 Improper materials used in backfill -trash, rubble, scrap lumber, etc.  
 Improper compaction at backfill around the house and no coordination between builders on site grading of the lots  
 improper compaction grade not accounting for flat work, blocking flow  
 Improper compaction of backfill along with not grading the entire site properly causing settling around foundation and later creating water collection areas at foundation.  
 Improper compaction of fill next to the house.  
 Improper compaction or improper fill materials used for the situation.  
 Improper compliance with IRC Section R403.1.7.3.  
 improper cut and fill practices  
 Improper design and lay out of the building based on the elevations of the property. Not meeting the minimum grade slope requirement of the code.  
 improper drainage after 10' from house wall  
 improper drainage, exterior grade higher than interior crawl space grade, grade onto adjacent property..  
 Improper drawings showing existing grade and proposed grade.

improper fall due to waterproofing being placed to low or basement slab poured to close to existing grade.  
 Improper fill compaction, grades/slopes in the negative, garbage/construction waste in drainage tranches  
 Improper finish grading at foundation wall  
 Storm water not discharged appropriately  
 Improper finished grading due to topography of the existing site  
 improper foundation elevations  
 Improper grade and installation  
 improper grade away from structure  
 improper grade not sloping away from structure like code requires, weep holes missing, down spouts not installed properly  
 Improper grade on all three site drainage violations.  
 Improper grade, no gutters at eave...  
 improper grades and steep terrain where it makes it nearly impossible to get good drainage  
 Improper grading around structure  
 foundation and lack of minimum clearances to stucco weep-screed.  
 improper grading at house elevation too low or high  
 improper grading at house leading to ponding and improper drainage  
 Improper grading away from dwelling. Not backfilling to meet frost depth.  
 Improper grading of backfill. No control of water distribution at down spouts.  
 Improper grading of property. Settling of soils no compaction  
 Improper grading or landscaping leading to water flow toward neighbor or structure. Poor soils conditions outside the pad resulting in extensive vertical movement resulting in damage and drainage issue  
 Improper grading resulting in water retention, but improper installation of site drainage in which the corrugated underground is missing filtering process.



improper grading to allow water to drain away from house.

#### IMPROPER GRADING, DOWN SPOUTS NOT EXTENDED FAR ENOUGH FROM HOUSE

improper gutter routing leading to large amount of water either being dumped onto the foundation or causing the septic tank failure (septic tank failure is what I see the most) due to improper drain

#### Improper landscaping after CO issued IMPROPER MAINTENANCE OF DOWNSPOUTS

improper material or backfill prior to masonry cure

Improper or inaccurate elevation measurements

Improper or no compaction of backfill.

Downspout not properly extended to approved location.

Improper perimeter drains. No rain gutters or downspouts installed

improper pitch

Improper placement of backfill on sloping lots, poor grading techniques

Improper separation from wood siding and top of foundation. Improper or no compaction of backfill 5' extensions missing

improper slope away from dwelling. Outside grade higher than crawl space grade

Improper slope away from structure Lack of compaction for backfill Slope and direction for roof drains

Improper slope away from structure, etc.

Improper slope away from the structure

Improper slope from buildings. Contractor trying to make walk out basement home on a lot that was not graded for it, leaving home in a bowl.

Improper slope from structure, downspouts not terminating 1 foot from structure, sidewalks not sloping

Improper slopes away from foundation, downspouts directed too close to property

line, swimming pools placed in drainage swale.

Improper sloping away from structure, improper drainage from subfloor area to exterior of building.

Improper soil compaction, negative grades. improper soil conditions grading not according to code or plans

Improperly installed soil erosion controls that lead to soil erosion. Improper grading causing ponding at the house, resulting in interior water damage.

Improperly poured concrete

In Alaska during the freeze/thaw cycles ponding due to catch basins not properly draining roadways along curbs are a problem with this type of climate the cause significant ponding along curbs.

in many cases roof runoff causes water to stand near foundation walls due to not having positive drainage away from the house

in soil

In the county, we don't require grading plan for any addition, patio, landscaping, pools that disturb the drainage flow at the back and sides. not following the soils report recommendation, no qaa.

Inability to remove water from building foundation naturally.

Inadequate amount of foundation wall showing between the grade level (sod or walk) and the lowest point of the wall cladding (brick or siding).

Inadequate control of storm water runoff from roof drains leads to wet foundations. Our expansive soils require a good drainage system and control of ground water.

Inadequate initial height of foundations with respect to curbs/gutters.

inadequate slope

Inadequate slope away from foundation and backfill to high against foundation.

inadequate slope away from the structure  
inadequate wood to earth separation

inadequate slope from foundation to street  
uninformed homeowners and contractors  
inadequate slope of grade away from structure.  
Inadequate sloping away from house. Piping or extension of downspouts away from foundations. Inappropriate erosion controls during construction.  
Inadequate storm water control measures, properties draining to neighboring properties or on to the public way.  
Inadequate compaction of back fill.  
landscaping contractor flattens out slope next to foundation, lays sod and waters, 2 months later back fill next to house has settled 4 to 6 inches.  
Inappropriate backfill being placed against unbraced poured concrete walls, producing cracks  
inappropriate backfill material and grading so as to shed water to neighboring properties  
inattention to proper slope away from building  
Incompetent contractor or owner.  
incomplete landscaping installation leads to grade instability  
Incorrect downspout placement. Negative grade, causes bad septic problems and poor drainage.  
incorrect grade  
Incorrect grading at building foundations.  
Roof water runoff poorly designed.  
Incorrect grading, not in accordance with plans, basically ignoring both horizontal and vertical controls specified on drawings. Field changes that are not coordinated with the designer.  
incorrect starting heights lead to house too low relative to site  
inexperience of 'builder' and grading contractor. Not considering the surrounding conditions of the area around the lot  
inexperience personal for the grading of the project and elevations incorrect on site plans.

inexperienced housing contractors. Not knowing how to set a house on a lot. We do not require licensed building contractors in this whole area because of the NAHB and MOBA!  
Inexperienced site personnel.  
Infiltration tests are taken in dead of dry season, not wet season and poor soil conditions related to slow or no infiltration ability of soil.  
improper grading  
Improper grading leading to water seepage.  
Foundation walls not parge properly after demolition of adjoining property.  
improper or non-existent soil reports leading to improper drainage control issues  
improper soil using fill instead of soil  
downspouts drainage into neighbors property  
INSTALLATION OF LANDSCAPING CURB AROUND HOUSE THAT CONTAINS RAIN WATER RUN OFF.  
Installation error  
Installing flatwork prior to establishing proper final grade.  
Insufficient care in setting final grades (as shown on approved plans) around house.  
Insufficient clearance from grade to bottom plate negative or inadequate grading  
Insufficient clearance from grade to frame construction; reverse grades at house wall; backfill before foundation walls braced  
insufficient grade away from home, floor slab too low.  
Insufficient/inadequate foundation drains inward slope toward the property  
It is usually because negative grade at the house.  
just ponding on site  
KNOWLEDGE AND EXPERIENCE OF CONTRACTOR.  
lack of adequate compaction in excavated areas and drainage systems set to flat.  
Lack of attention to overall grading effects of many properties concentrating drain onto an adjoining property

Lack of backfill compaction and settling of soil  
Lack of compaction and negative drainage over highly expansive soils  
Lack of compaction, improper grade after lawn sprinkler installation.  
Lack of contractor following up on final grade, on his punch list items.  
Lack of forthought in setting house in relation to final grade  
Lack of guttering, too short of splash block on downspout, negative slope to the house, no foundation drain system in place  
Lack of knowledge on the builders part on how to correctly grade for homes. Lack of sustainable green measure to address the problem in a permanent nature.  
Lack of knowledge regarding proper grading and slopes  
Lack of knowledge of grading requirements  
lack of planning at the grading stage. Lack of policy and procedure of Building Department  
lack of planning by the contractors  
lack of planning, site crew drainage designs. Topo maps absent from plans.  
Lack of planning to meet code grade and elevation requirements  
Lack of proper backfill compaction.  
Lack of proper compaction and contractors are rushing jobs due to a lack of man power.  
Lack of proper compaction when backfilling around foundation which causes settlement leading to ponding around foundation. Grade too high and close to sill.  
Lack of proper erosion controls.  
Lack of proper lot prep creates drainage issues and water moving to create problems on adjacent lots.  
lack of proper slope away from house, pitched in sidewalks, driveways, causing negative grade at foundation, lack of gutter extensions, stoops that settle against the foundation causing damage.

Lack of proper survey. Plans do not reflect true site conditions.  
lack of slope away from structure  
lack of supervision in respect to following the grading plan  
Lack of training/skill...poor workmanship  
Lack of understanding for a need to have grade slope away from the foundation.  
lack or inadequate perimeter drainage in poor soils  
Lack site grading or proper slope causing water to pond against foundation and causing erosion or flooding.  
Landscape after final grade approval.  
Landscape raising grade to cause violation  
Landscapers mounding their finish material so you have negative grade away from structure  
Landscaping after fact brings grade too high  
landscaping alters planned drainage  
Landscaping being placed after the final inspection  
Landscaping contractors unaware of building code requirements placing mulch and soil in built up areas directly against house or reconfiguring existing drainage.  
landscaping slopes to house  
Landscaping too close to untreated wood  
landscaping usually tries to hide the foundation. grading and berms many times places the water draining toward the house or up against the wood siding. 99.9 % of these problems occur after final occ.  
lazy contractors  
Lazy landscaping!  
leads to water against foundation wall  
Less than 6 inches separation from top of foundation to grade.  
little to no grade from home to adjoining yard  
LOTS ARE TOO SMALL FOR ADEQUATE PERMEABLE FOR DRAINAGE AND ARE RUNNING OVER INTO NEIGBORS LOTS.  
Lots draining to one another, downspouts adjacent to window wells, not grading to approved engineered grading plans.

Lots improperly graded, sidewalks placed on grade not recessed, swales are filled or not sloped properly

Lots not graded according to survey or site plans allowing water to pond before getting to the drainage easement. Backfill material settlement causing negative grade at house. Low compaction at foundation edges, which leads to ponding water several months after CO issue.

Making sure the addition or house is not built in the water table or have the ability to drain water away from foundation.

Maintenance of property by property owners material backfilled not suitable material and any structure placed (stoop) over the backfilled area settles

minimum grading and setbacks at side yards with no real room to effectively get water off lots.

Minimum slopes / grades Lack of quality control methods for compaction.

Incompatible fill materials where applicable.

Misunderstanding as to the purpose of sloping grade away from the structure.

Moisture under the house

Monolithic slab finished floor elevations too close to finished exterior grade, nowhere to go with drainage. Driveways at same grade as top of floor slab, no allowance for drainage.

Most are caused by lack of good planning prior to setting the house foundation elevations.

Most people don't understand their are retention codes

most problems occur in zero lot line of small PUD lots. Future landscape alters original grade

mostly grading the pitch towards building

Mostly negative grade near the house.

Commonly caused by landscapers performing work after final inspection.

mostly negative grading

Mostly no splash guards

Mostly not enough slop to grade from building.

mostly same as above

Mulch and dirt to high next to house foundation

narrow lots without area to grade away from home. Short foundation walls, frost coverage and exposer.

NEG GRADE; NEG SLOPE ON DRIVE; IMPROPER FILL

NEG. GRADES. POOR SITE

PREPARATION SO GRAVITY DRAINAGE DOESN'T WORK, POORLY

ENGINEERED CATCH BASIN/RETENTION BASINS

neg. grading creating ponding. and grading not to the master plan

negative at house

Negative drainage and ponding in specific areas of the yards

Negative drainage and required on-lot ponding.

Negative drainage around permanent structures should not occur if proper design and constr practices are maintained, along with adequate inspection and enforcement.

negative grade

negative grade

negative grade

negative grade

negative grade

negative grade

negative grade - ponding of water against

house backfilling to create drainage

problems on site and on adjacent site lack of control for run off at downspouts along with negative grading

negative grade & ponding as a result

Negative grade (reverse slope); insufficient grade or slope away from house; downspout leader not diverted away from house or not properly connected to boot or underground drain

negative grade against foundation walls,

downspouts not carried away from structure

negative grade allowing foundation wall ponding, lack of splash devices and improper compaction of backfill  
negative grade and lack of downspouts leading to severe degradation of foundation and wood components  
Negative grade and ponding due to inadequate drain system  
negative grade and poor soil conditions leading to ponding in crawlspace  
negative grade and settlement  
Negative grade around the home, too short of downspout extensions and general lack of attention to detail  
negative grade at foundation(s) walls and driveways  
Negative grade at foundation, drainage not properly carried away from foundations  
Negative grade at home, driveways and walks draining into steps or yard.  
Negative grade at house  
negative grade at house  
negative grade at house  
negative grade at house  
negative grade at house  
negative grade at house  
negative grade at house  
Negative grade at house  
Negative grade at house and failure to install control to direct drainage away from house at downspouts  
Negative grade at house and lack of gutters/downspouts create water ponding against foundation wall. Turf establishment not complete leads to erosion.  
negative grade at house and lack of proper drainage in yard.  
Negative grade at house due to initial construction grade not back filled and graded.  
Negative grade at house is #1. Along with grade starting too close to top of foundation.  
Negative grade at house leading to ponding.

negative grade at house leading to water ponding against foundation wall  
negative grade at house leading to water ponding against foundation wall  
negative grade at house leading to water ponding against foundation wall  
negative grade at house leading to water ponding against foundation wall. Back filling without compaction causing settlement.  
Negative grade at house leading to water ponding against foundation wall. Diverting water on to neighbors property. No downspouts to divert water away from foundations.  
negative grade at house leading to water ponding against foundation wall  
negative grade at house leading to water ponding against foundation wall; downspout incorrectly installed (angle or direction); grade too high above slab line  
negative grade at house leading to water ponding against foundation wall).  
Negative grade at house leading to water ponding against foundation wall. Rocks in backfill material placed next to utility lines.  
Downspouts terminating where water will not drain away from building  
negative grade at house leading to water ponding against house or going into basement, sometimes ponding against a neighboring house  
Negative grade at house leads to water ponding against foundation wall. Also, leads to water accumulation in crawl spaces.  
negative grade at house most often  
negative grade at house or water being shed to neighboring buildings  
negative grade at house ponding next to foundation wall grade not steep enough to 10 feet away  
negative grade at house results in ponding, grade too high resulting in not enough block exposed.  
negative grade at house, downspout next to window well

negative grade at house, downspouts not run out properly/far enough away, landscaping trapping water between sidewalk and foundation causing wet soil conditions and infiltration into basements/crawl space

negative grade at house, improper backfilling, and improperly placed downspouts or lack of needed backsplashes.

Negative grade at house, improper slab placement

negative grade at house, poor compaction and grades too high to scimp on concrete.

negative grade at house, sidewalk grade too high -- holds water

negative grade at house. This condition also tends to occur after backfilled soil has settled (i.e. clay soils) inadequate % grades along lot lines and within swales leads to ponding and grade saturation

Negative grade at house; back filling with unsuitable materials; footing and downspout drains not being run independently; roof and footing drains not directed to a proper point of dispersment.

negative grade at the house, not enough slope from fence line

negative grade causing water under house

Negative grade Downspouts not connected to drywells Drainage Capacity not meeting min. requirements Backfilling with unacceptable material

negative grade due to settling of backfill.

Negative grade exterior of building. Crawl space grading improper.

negative grade from street to house, floor level too low

Negative grade is a contributor, Contractor negligence, soil settlement over short period of time

Negative grade is most commonly found and needs to be readjusted.

Negative grade is the greatest cause

Negative grade largely due to size and shape of lots.

Negative grade leading to ponding against foundation, water trapped between house and sidewalks or driveway, unprotected swales or downspout drainage paths.

Negative grade leads to ponding negative grade next to the foundation, generally from the advanced settlement as a result of foundation backfill

Negative grade on downspouts

Negative grade on driveways causing water to run into garage

negative grade or to slight a grade change for proper drainage

Negative grade Ponding on stocco and wicking up wall

negative grade to house

negative grade to house --- developer, landscape company and contractors not working together

Negative grade toward house, positive grade toward neighbor's driveway

Negative grade towards the dwelling and leaving flat or ponding conditions

Negative grade, bad slopes, clay soil.

Negative grade, improper compaction

negative grade, improper backfill, not in lifts

negative grade, low driveway, downspout extensions not installed or improper location of downspouts

Negative grade, no gutters, short leadouts, no compaction of backfill.

negative grade, vinyl siding down to low and mulch to high, no leaders on the downspouts

Negative grade, water does not flow away, or to a drain

Negative grade; poor soil conditions (tight soils) in this area

negative grade; settlement; planting beds/landscaping

negative grading, downspout termination

negative grades

negative grades and improperly drainage away from the home.

#### NEGATIVE GRADES AND PITCH

negative grades are the biggest problems  
 negative grading  
 negative grading  
 negative grading around foundation  
 Negative grading at foundation, grade too high from foundation to street  
 Negative grading at house compounded by downspouts deadending at the foundation without splash blocks.  
 Negative grading at house, engineered elevations incorrect.  
 Negative grading that comes from poor backfilling  
 negative grading toward house, lack of downspout extensions, no splash blocks  
 negative grading, berm up landscaping material next to foundation, etc.  
 negative grading, grading adjacent to driveway's sloping towards the drive.  
 Negative grading, proper backfilling - not compacted  
 Negative grading. Ommision of downspout extensions.  
 negative greade leading to ponding  
 negative or insufficient grading away from house  
 Negative or no grading at all causing ponding water around structure.  
 Negative pitch in driveway, grade pitched toward foundation  
 negative/flat grade  
 NEGETAVE GRAD AT BUILDING  
 negitive grade i agree and also downspots not extended far enough  
 Negitive grade on final inspections Backfilling to soon  
 Negitive grading that tends to hold and contain water. Excessive grades on driveways that if left along would create a excessive slope fro parking cars or entering the garages.  
 neglected gutter maintenance and volunteer tree growth.

New landscaping for a new house that the owner or contarctor back fill with a lot of soil without proper drainage design  
 No compaction of grd-work/broken walks & drives.PIP Fdn-early bkfill=fractured walls.Grading:Supt/Contr.onlylook@immediate site area;not overall master grd plan.Long term effect.  
 No compaction, leading to settlement around the foundation and the resulting water ponding.  
 No condsideration to merging neighbors yards  
 No consideration for their neighbor. Water flows away from their house toward neighbors.  
 No downspout drain pipe, Grade too high on up hill side  
 no downspout extension  
 no drainage plan in place. drainage plan not followed.  
 No fall away from foundation  
 no gettinhg drainage away from buildings, or keeping water on the same lot  
 No grade or reverse grade.  
 No landing, stairs immediately at outside of door. Driveways with little or no slope away from the garage door opening.  
 No plan for proven drainage. Improper placement of DI's. Landscaping goes in with no regard to drainage.  
 no positive fall away from foundation  
 NO POSTIVE DRAINAGE ALSO NEW HOMEOWER NEED TO KNOW THE IMPORTANCE  
 no removal of storm water; lack of proper grade angle  
 No roof drainage system installed at all.  
 Failure to extend downspouts away from the foundation. Negative grade at foundations.  
 Bulkheads set too low/grade too high.  
 No slope  
 No slope away from structure. If no storm water system is available then the home

owner can discharge the water to the lawn in one and two family dwellings.

No soil report - Plan checker did not look at grading carefully - Site drainage including downspout always not included in the contractor bid.....

no swell between homes, violation of angle of repose(45% from foundation bottom) usually around retention area. excessive aggregate in foundation back fill.

no thought process for run off water

No where to go with it grade

Non Compaction

Non-qualified individuals trying to conduct drainage without proper layout to ensure positive drainage.

Normally, builder unwilling to build up pad to obtain proper flows away from house.

not applicable

not being aware or contractors not concerned. Also not allowing for finished landscaping and then it becomes a problem when it is installed.

Not compacting backfill, not grading to plans, clay conditions in the area

not compacting the backfill against house usually the trenches for utilities

Not considering grade between residences when making initial cuts/fills. Grading/slope issues seem to be an afterthought rather than integral to initial lot planning.

Not controlling the excessive amount of water from a roof allowing it to puddle at the foundation

Not enough attention is given to to grade or sloppy grade work.

not enough extension from down spouts

Not enough slope away from building.

Not enough slope, Nothing installed to carry water away from house

Not establishing 6' below slab in the first 10'

Having inadequate clearance on dryer vents not extending downspout far enough away from foundation

Not following approved grading plan.

Not routing downspouts to proper approved location.

not following code or drawings

Not following final grade plans, Proper cut-out at garage and not following top of foundation set by our engineer

not following site plans

Not following the official survey

Not following the plans, or plans are wrong

Not following the subdivision drainage plan.

Not grading according to plan and grading that allows cross lot drainage

Not Grading correctly to divert water from house

Not having proper fall away from home.

not knowing the code requirements

Not looking at grading plans to start with. No grade at house.

not moving water away from foundation

not paying attention to grading around structure. Leaving low spots or grading the wrong way.

Not pitched from house, downspout drainage not carried away for house

Not proper compaction around foundation leading to settlement and water infiltrating into crawl space or basement. Simple noncompliance with grading plans

Gutter downspouts terminating at foundation not proper grade, proper type of soil and erosion control not in place

not properly backfilled, soil settles and ponds water @ foundation, elevation incorrectly established for sidewalk/driveway then retains water @ foundation

Not properly graded or discharging storm water to proper means.

not properly grading

not properly grading surface at building.

Not providing positive drainage away from the structure during construction and after CofO

Not reading plans. Skipping compaction requirements. Lack of active participation with appropriate engineer of record.



Not removing excess dirt at end of construction.  
NOT SLOPED 5' FROM FOUNDATION  
Not sloped away from house  
Not thinking thru existing site with proposed improvement.  
Not using clean backfill mat.  
Not using good fill dirt or not using clean sand around plumbing.  
old site plans with poor (outdated) water control plans and the builder having little options  
Omission of G&D plan in landscape planning. Poor pad construction planning.  
Ignorance of drainage or retention requirements  
On home additions sometimes the grade ends up too high because of the original grade of the lot and has to be regraded  
Our City has a storm water maintenance permit along with the building permit. Before a C.O. not only for the home, the grade under and around the home and lot must meet the storm water requirements.  
Our jurisdiction sits on a plain and grading with the correct percentage of slope is critical or the stormwater will not flow.  
outside of your example, extensions being added to the downspouts which are directed onto adjacent properties or not extended at all away from the foundation.  
Owner unaware of what he is doing.  
OWNER WANTING A NICE FLAT YARD AND BASEMENTS TO LOW FOR THE AREA  
Owners after occupancy have landscapers modify the site and this creates many problems.  
People always wanting to be higher than the next house  
People not checking with the local building department.  
perimeter lot grades incorrect, settling of backfill, other improvements installed to

create ponding issues ie sidewalks, landscaping, driveways  
placing large stones, no compaction in lifts, pitch back towards house, too much pitch away from house creating water run off to adjoining property, shallow areas under decks  
ponding  
Ponding  
ponding  
Ponding against foundation  
ponding against foundation, dryrot  
Ponding around the structures. Improper backfilling and compaction, first rain down-pour and the backfill is gone. Expansive soils being ignored or overlooked by the builder or project designer.  
Ponding at downspouts leading to water ponding against foundation wall-no splash block provided. Light top soils that drain off into storm drain system with first heavy rain(new subdivision  
ponding between two lots and in rear of lot.  
Ponding from negative grades, failure to compact backfill resulting in lower grades when fill compacts naturally, driveways that slope toward the garage causing water flow into the garage.  
Ponding next to foundation. ponding on 'High sides of walks and drives.  
Ponding water against house.  
Ponds @ the foundation Backfill not compacted in trenches and excavations near the foundation Final grade not set with planting material in mind  
poor attention to detail by finish graders.  
Poor attention to laying out the formwork and existing grade. When the existing factors create issues, there is a hesitancy to correct the problem with installation of driveway crocks properly tied i  
Poor backfill materials. Graded too high on house foundation.  
Poor backfilling and incorrect form work

Poor compaction of backfill leading to negative grading.  
Poor controls on grading.  
Poor design  
poor drainage from gutters to dry well on zero lot lines water staying still between homes  
poor excavation controls and resulting negative grade  
poor fill material available  
Poor final grading near structure; normally must be done by hand or with bobcat or other small dozer. Therefore, can't properly grade away from building.  
Poor final grading results in ponding water, improper drainage  
Poor foundation waterproofing, and negative grading at foundation walls  
Poor grade or soil control causing water to accumulate under the structure.  
poor grade work  
poor grading for a complete drainage plan  
Poor grading for proper drainage away from the house. incorrect drainage to an adjacent site  
poor installation  
Poor lots with ponding in locations or excessive slopes with use of non code retaining walls or terracing.  
poor maintenance  
Poor maintenance, the pace at which to get the job done and trying to get the best price for not so good work.  
Poor or inadequate grading practices of sub contractor personell performing work.  
poor planing  
poor planning  
poor planning of elevations for: walkways, flower beds, garage floors and breezeways  
poor planning related to finished elevations and the site  
poor roof drainage, omission of gutter systems  
Poor rough grading.

Poor site design on high density developments  
Poor site planning during design Cuts/fills creating excess 2:1 slopes  
Poor soil condition and garbage next to the foundation. I have also seen improper house elevations that create too much or too little slope for water control.  
Poor soil conditions, non-supported foundations at the time of backfill- (the carpenters union will not allow framing on a foundation that is not backfilled), failure to jet the fill and compact it  
poor training of contractors' employees. You could say that the large developers do not care as much about certain issues. The proof of this is that the same mistakes are constantly repeated.  
poor workman ship, lack of supervision.  
poor workmanship. Contractor too eager to get his money and run to the next job.  
Poor backfilling.  
poor construction practices  
Pouring foundation too high or low and then changing grade to account for mistake.  
Attempt to eliminate gutters or downspout terminations too close to foundation.  
Precisely the example given.  
premature backfilling  
Pressure against foundation wall causing cracks, water leaking in on basement floors  
Probably the number one problem is improper grading at the foundation. Pitched towards the house rather than away.  
production homes with 10' separation with walls between and long runs from back yard draining to front yard to maintain slope. not compacting backfill material near home especially in utility trenches  
Production, production, production!!!!!!  
proper grade sloping away from structure not maintained  
Providing a positive grade away from the foundation. Winter conditions we don't require a finished grade as long as there is

positive grade. Also failure to get good compaction when backfilling.  
regrading negatively impacting neighbors  
Required retention areas on single family home sites.  
Reverse grade and grade starts to high to begin with. Contractors don't know how to deal with it.  
Reverse grading, causing ponding at house end. No splash relief at leader pipe terminations, which again, causes some ponding at the foundation. Real attention to the soils conditions escape most.  
same as example given  
same as i.e. example and piping to downspouts get damage or pulled loose during backfill  
Same as your comment water Pooling  
San Francisco code requires all drainage from roofs or ground to be directed to a sewer or storm drain  
Settlement and landscaping  
settlement around house creates negative grade  
settlement from poorly compacted backfill  
settlement ponding  
Settlement, lack of compaction and use of expansive clay soils for backfill.  
settling after the construction is completed  
settling along foundation  
Settling around foundation walls cause a backpitch towards the house. Improper downspout extensions prevent proper watershed.  
settling encourages ponding. Also, sidewalks damming of water prohibiting action of swale  
Settling of backfill and sump discharge lead to recycling of same storm water.  
settling of soil, excessive rain causes back flow to the foundation walls neighbors filling in a common swale  
sever settling of backfill, elevation of structure too low for surrounding grade conditions, practice of adding to street

surfaces by public works departments in repaving.  
Shallow rock under soils, improper compaction of trenches, insufficient grade separation between slab and street.  
Shedding water onto adjacent properties shoddy workmanship.  
shrubs at front of house downspouts flowing up hill general contours of surrounding areas  
sidewalks and driveways creating dams  
Sidewalks and driveways on site that block the flow of drainage as they are too high with no way for the runoff to drain as designed by the grading plan.  
sidewalks and driveways places too high which causes the grade to be too close to sill plate.  
Sidewalks at driveways that don't satisfy slopes for accessibility per ICC/ANSI 117.1.  
sidewalks block the flow to the street  
sidewalks higher than grade next to house causing water ponding; downspouts not directed away from house far enough; sidewalks poured too high, negative grade; ponding at drive  
sidewalks put in after final which create nuisance to adjoining homeowner, or sloped back towards home without proper flashing.  
Lack of leaders to convey storm drainage to front of houses. Grade  
Site being back graded to the foundation  
Site contractor not following approved site plans. Settling of soils after placement.  
Site contractors are unaware of grading requirements in the code. Contractors in a hurry and just push it in without compacting and settlement occurs  
Site grading finish work that doesn't take entire site into consideration to properly remove water from the house foundation.  
site landscaping affecting drainage toward house  
sites graded to rear and front yards; water ponding in easements.

slabs are poured too low. Closing in carports with inadequate slope of existing driveway for drainage.

slabs below street level n hilly sites

Slope away from building and foundation drainage

Slope away from house not adequate

Slope away from house, driveways too steep slope of grade

sloped back to house. downspouts not

discharging 12' away or grade not

established at final

sloped lots with min. setbacks

Sloping lot conditions without appropriate grading to remove the water from the structure

sloppy final grading

soil condition , not letting the water out and

away from foundation wall; not applying

sealant or french drain to allow water to

move away from wall

#### SOIL CONDITIONS

Soil conditions too wet to work soil so it

slopes away from foundation at final

inspection.

Soil conditions, compaction, stabilization

Soil conditions-improper compaction or

bearing capacity of soil. Improper lifts of

backfill, no compaction of backfill, improper

material used for backfill.

soil placed too high against the foundation,

insufficient clearance to siding (inadequate

extension of the foundation), no slope or

negative slope of grade at the foundation.

Soil too close to the bottom of the siding.

Soils conditions for area /contain high Sulfate

levels. Stoops not installed for final. Minimal

grade level distances from flashing and

negative grade back to foundations

soils not set up for drainage controls, no

compaction, spaces too narrow on retaining

walls

Some common sence issues.

Some soil conditions or low lying areas

where drainage is a problem or not possible.

Sorry landscapers. Negative grading to accommodate an owner not wishing to have a slope. Failure to plan for the next lot.

Splash blocks improperly installed -grading to close to untreated sheathing and siding

and soil not properly compacted during

backfill allowing settelment ro backpitch

grade and cause leaking basements

Standing water at the foundation or in crawl space.

steep lots

Stoops not being filled with proper fill. Grade

too high, blocking weep holes, also effecting

sill plates.

Stoops not installed and driveways do not

match approved plans.

stoops-back fall Downspourts-not far enough

fron building Drainage-improper elevations

Subdivision is approved by zoning without

consideration for drainage/flood control. Final

inspection being called for before they are

finished with grading.

Such things as premature backfilling, not

compacting soil and not placing all the

drainage controls in seem to stem from poor

workmanship and avoiding legitimate

expenses to do the job properly.

Sump pumps and downspouts discharged

onto adjoining properties.

surrounding flat topography, desire to have

flat driveway slopes so foundation elevation

above curb & grade are kept at a minimum

Surrounding grade pitched toward the house

Swales leading away from foundation with no

outlet or left to pond, Roof drain tile left to

drain to unstable soil causing erosion.

Negative drainage at gas meter bases & heat

pumps near foundation.

swales not properly cut from the rear of the

house to the front. Also screen blocks in cmu

fences for drainage installed to high thus

allowing water to pond against the block wall.

swales not properly graded. Grading

inconsistant with approved subdivision

grading plans.

Swells not properly installed to control water within a site. Downspouts not installed or improperly installed.  
temporary backfills not seeded  
The above situation is common and the finished grade is often too close to the bottom of the siding/sheathing.  
The builder does not follow the grading and drainage plan when onsite retention is needed. Swimming pools are added after the C of O for the house and the onsite retention is compromised.  
The building of 'Hillside' homes  
The City of Rock Island has a grading and drainage/stormwater ordinance, so these issues are handled almost immediately.  
The condition that I have found to occur in most of the grading violations is that the contractor does not complete a positive drainage away from the structure. The second violation would be that the contractor sets initial grade wrong, ie adjacent property not taken into consideration  
The contractors are not spending the 'time' to make grading & backfilling right the first time they attempt. They don't like to waste time tamping around the foundation.  
The creation of small lot subdivisions with 3-4 foot sideyards  
The example above is the most common but most of the time this is due to improper lot drainage.  
The example is appropriate. Also, commercial buildings with downspouts that empty onto handicap access areas and by stairwells.  
The example is my most common violation. Negative grade at house leading to water ponding against foundation wall.  
The excavator backfills the foundation too high. When the sod installer comes to install the topsoil and sod, he is too close to the bottom of the siding.

the excavator doesn't get the foundation above soil line around home  
The final grade has not provided enough slope away from buildings. Downspouts are too close to building. Final grade only leaves a couple inches from siding.  
The grading is not being done right. The initial lot has a lot to do with the final grade if you are building on a hill for example, not getting a negative grade from the house.  
The lack of proper compaction with fill material. The contractor backfills and grades per the code and the plans and within thirty days the soils settle, creating a negative slope.  
The largest cause is not putting the house close enough to original grade to try and save hauling away excess material.  
The leading cause of drainage problems that I see is lack of or improper soil compaction  
The listed above are most common  
The minimum code slope away from wall soon disappears after settling of the soil around a basement foundation  
Drives sometimes do not have adequate pitch away from the building, no min slope in code  
The Pad begins flat but after excavation for plumbing etc. the grade becomes incorrect  
The problems are with the site contractor backfilling with unacceptable material rather than clean gravel  
The wrong materials used for back fill -- will not drain. Graded toward building.  
Downspouts connected to foundation drain which is not connected to anything.  
they always forget to extend out 12'  
They do not grade properly around the house to promote adequate drainage away from the structure  
They don't seem to get it on grading around a building foundation. Not 6' in 10' to achieve positive fall, grade too close to unprotected framing, not tamping backfill causing settlement after customer moves in.

Too much dirt in the fill.  
Too much house, too little lot.  
too often the finish grade is too high and the landscaping crews trap excessive mulch/planting materials between the house, and the sidewalks trapping the flow of water.  
Trying to exceed the angle of repose to accommodate grade differences between lots.  
It appears that costs are trying to be avoided to install retention walls  
Trying to get final inspections before work is completed. Using weather as a factor for poor planing. Grade land has enough fall that it is hard to keep from washing out.  
typical negative gading.  
uncompacted fills; grading in sensitive habitats  
Unconsolidated (compacted) backfill.  
Downspouts not properly connected to off-site drainage and not able to handle storm flows. Grading not sloped away from structure or to adjacent property.  
uncontrolled backfill operation, incomplete compaction of backfill material allowing settling at foundation perimeter  
Unsafe under storm conditions  
Unscrupulous contractor; takes advantage of ignorance of clients in relation to construction.  
Unskilled labor or do not want to spend the money to do it correctly.  
using a soil not suitable for drainage  
Using heavy clay soils for backfill and then having improper drainage around perimeter of foundation  
Using wet backfill, covering water shutoffs, overall grading around home. Improper soil erosion controls.  
very bad grading  
Waiting until the house is finished to provide approved drainage. Thus allowing the soil under the footr to become flooded.  
waste  
Water commonly directed into an area. Sheet flow is preferred to avoid a focused flow of

water which leads to increased erosion. Also, outflow pipes from detention ponds not installed at proper level  
water flow onto street causes icing water directed to neighbor erosion  
water is not being directed away from the home, alot of yard work is done in a hurry and you end-up with poor drainage.  
water is ponding near the house  
Water migration to adjacent properties  
water not being directed away from the home  
Water ponding against foundation wall. The grade too high and the runoff on the adjacent property.  
water ponding against house.  
water ponding against the crawlspace and water in the crawlspace  
Water ponding at foundation wall, grading above waterproofing ie brick, and not compacting backfill causing settling and water to go toward the house foundation.  
water ponding at foundation, lack of dirt against block foundation  
Water ponding in the back setbacks.  
Water ponding in the yard or against the house.  
water ponding or erosion caused by improper grade away from structure  
Water running from one property to another due to changes in grade because of new landscaping or fencing  
WE (building official, engineering, zoning,) have over the years, found that we needed to have control over site conditions. We get a class 2 survey plot plan, foundation as-built, and a final asbuilt.  
we are a beach, mostly keeping water off adjoining lots. 6 in clearance grade to siding  
We are in a vacation area, homes build are built in places that are very extreme.  
We do not conduct home inspections  
WE have found that the elevation of new buildings do not necessarily have these problems. In fact the drainage causes

problems to adjacent properties since the new buildings are higher for FEMA regs. We have highly expansive clay soil, which can cause cracks in the building. The backfill is not properly compacted and graded away from the structure to minimise water getting under the footing.

Weather conditions in this region final grade not completed yet.

weather, not measure correct grade for even distribution of cement

What you said

When backfilling the contractor is not compacting the fill prior to installing sidewalk, porches, etc. Not extending downspouts adequately or terminating in the ground and not to daylight.

When backfilling, sometimes there is no compaction and the grade settles afterwards.

When landscaping including sprinkler systems are installed after the job is finished and C/O issued.

Wood earth separation Negative grade Rear yard does not drain to storm drain

Workmanship

Workmanship and ignorance

workmanship errors

Wrong grading causing ponding areas.

yes negative grades, driveways too high (house set wrong)

YES TO ABOVE.

Yes to example above. Also creation of dam effect to neighbors yard.

Yes, the grades are not sloped away from the structures.

Yes. All the condition examples you mentioned are appropriate.

your example is very common. also downspouts where not extended to run away from the foundation. basements where the backfill material and/or perimeter drainage system is poorly or incorrectly installed your example is correct

## Appendix **.0**

Q10 Please select the three most common foundation-related code violations you see.

Incorrect footing depth	14%	
Incorrect drain installation	14%	
Incorrect fasteners for use below grade to attach plywood	3%	
Improper reinforcement or support of rebar	21%	
Improper anchor bolts	20%	
Improper foundation size	7%	
Missing vapor barrier	11%	
Not Applicable	4%	
Other (please specify)	6%	
12 inches into undisturbed soil		Cracking due to premature backfill placement
Aggregate size in ICF foundation walls		Damaged or missing post tension cables
All of the above		Damp-proof submittal vs. waterproof where red's
Anchor bolt installation		Debris and loose soil in footings
Anchor bolt spacing at plate splices,		Debris in trench
Anchor bolts placed at studs		Deviation from plans
Anchors not spaced right, or within 12' of corner		Drain not connected to storm system
Attachment to existing foundations		ELECTRICAL GROUNDING
Backfill too early or without bracing		Engineering of poor soil conditions
Backfilling to quickly		Excessive Water present upon inspection
Backfilling too soon.		Failure of foundation piers
Beam cave-ins		Failure to have hardware in place
Black dirt under footings instead of clay		Failure to properly space anchor bolts
Bottom of footing not clean.		Failure to read approved plans and apply
Braced wall panel hold downs improperly installed		Footer step-downs poorly poured.
Bridging		Footing width, missing point load footings.
Broken areas		Footings not properly sloped
Cities engineer handles all drainage concerns		Foundation wall bearing on footer; inadequate project
Clearances		Foundation walls hanging over footings
Cold weather protection		Foundations are out of square with the house.
Collapsing foundations		Frost lips on the foundation causing a lifting
Concrete placed prior to inspection		Frozen mortar and concrete.
CONNECTION BETWEEN EXISTING & NEW FOUNDATION		Hold down bolts improperly set
Continuous laps on reinforcement		Hold downs improperly installed causing spalling
Contractor or owner unaware of drainage issues		Hold down type and placement
Corner bars and bar splices; tying of laps		Hold downs exposed improper installation
		Hold downs for lateral wind applications



Hold downs improperly installed  
 Holes in vapor barrier  
 Improper anchor bolt placement and loose nuts  
 Improper anchor strap spacing.  
**IMPROPER BOLT SPACING**  
 Improper brick ledges  
 Improper compaction  
 Improper damp-proofing  
 Improper footing projection from foundation wall  
 Improper footing width  
 Improper hold down application; or sizing.  
 Improper installation and size of rebar.  
 Improper installation of hold downs  
 Improper insulation  
 Improper perforated drain laid outside foundation  
 Improper place anchor bolts  
 Improper reinforcement placement  
 Improper slump of concrete. Too much water added.  
 Improper soil conditions Frozen/saturated sub grade  
 Improper spacing of anchor bolts  
 Improper spacing of anchor bolts  
 Improper spacing of anchor bolts.  
**IMPROPER USE OF ANCHOR STRAPS**  
 Improper waterproofing  
 Inadequate footing projection (less than 2')  
 Inadequate foundation waterproofing/damp proofing  
 Inadequate rebar clearances to forms and earth  
 Inadequate slab depth  
 Inadequate soils  
 Incorrect fasteners being used with treated wood.  
 Incorrect fasteners for strap to non cca treated  
 Incorrect installation of damp and water proofing  
 Incorrect lap splices and vertical dowel length  
 Incorrect location on the lot

Incorrect plumbing pass throughs.  
 Incorrect reinforcement at jumps.  
 Incorrect reinforcing steel and layout  
 Incorrect soils  
 Improper anchor bolt spacing  
 Improper clearances from soil  
 Insufficient foundation vents.  
 Insufficient overlap of reinforcing steel  
 Insufficient tie to existing footings (doweling/ke  
 Insufficient Waterproofing  
 Insulation  
 Insulation  
 Insuring compact for the footing has been done  
 Jumps in elevation between house and garage (2')  
 Lack of a footer at all.  
 Lack of consolidation of concrete causing honeycomb  
 Lack of D-1 awareness as it relates to foundation  
 Lack of damp proofing  
 Lack of proper waterproofing  
 Lack of quality plan review  
 Lack of water barrier on outside surface  
 Lack of waterproofing  
 Location of foundation according to site plan  
 Location of hold downs in shear areas  
 LRP at front of garages too small for IRC req.  
 Main problems are waterproofing and drainage system  
 Misaligned/ off-sets of wall over the footing  
 Mislocated pier footings  
 Mislplaced anchor bolts and not following eng. sp  
 Missing damp proofing  
 Missing footings  
 Missing foundation support locations  
 Missing mortar and loose brick  
 Missing nuts on bolts  
 Missing post tension cables  
 Missing required steel and protect copper  
 Missing soil treatment for wood boring organisms

Missing washers on anchor bolts  
 Most is plumbing issues with in the foundation  
 Most try to install rebar after pouring  
 Mud on steel  
 Nailing of sill straps per mfg.  
 No access to foundation forms  
 No major problems.  
 No reinforcement of block basement walls.  
 No 'seat' in slab/footing for CMU wall  
 No soil poisoning or termite protection  
 None engineered foundations on expansive soils  
 Not bracing the foundation properly before back filling  
 Not built per plan  
 Not cleaning out footings and trying to use water  
 Not cleaning the footing, allowing water ponding  
 Not curing properly  
 Not filling all the joints with mortar  
 Not following design engineers prints for rebar  
 Not following the details on the plans.  
 Not prepared for cold weather concrete  
 Not ready for inspection  
 Not removing grass or vegetation  
 Not to plans.  
 Not verifying the lowest opening /floor elevations  
 Oil and/or mud on rebar  
 Organic debris not removed  
 Out of square foundations (wall doesn't fit)  
 Over excavation for footings  
 Perimeter insulation not provided properly  
 Poor application of damp proofing  
 Poor application of foundation coating.  
 Poor or improper water/damp proofing  
 Poor sealant and the foundation  
 Poor workmanship  
 Pouring concrete in wet conditions.  
 Pouring in improper weather conditions- wet soil  
 Quality control on slump

REBAR CLEARANCE TO FORM, OIL ON REBAR  
 Rebar in contact with the soil  
 Rebar too close to earth  
 Rebar touching underground plumbing  
 Reinforcement not placed in the correct location  
 Revisions made in the field w/o plan approval  
 Seismic connections  
 Seldom see violations  
 Setbacks from ascending / descending slopes.  
 Sill plate over cut or notched, wrong size  
 Slab edge and foundation wall insulation  
 Sleeving of sewer and water pipe thru foundation w  
 Soft or loose /wet soil  
 Soil bearing pressure  
 Soil conditions  
 Soil conditions  
 Soil conditions are not checked for each site.  
 Soil conditions supporting foundations  
 Soil conditions, frozen ground (winter conditions)  
 Soil issues  
 Soil not compacted. 95% / 2000psi  
 Soil not properly compacted for foundation.  
 Soils reports.  
 Spalling at hold downs  
 Step footings not poured as continuous footings.  
 Stepped footers not continuous  
 The rebar have sprayed with oil  
 Their not deep enough/width, properly flash  
 To much h2O in trench footings  
 TOP OF THE FOUNDATION WALL NOT LEVEL  
 Trying to use cut nails instead of anchor bolts  
 User ground improperly installed (vapor barrier)  
 Vapor barrier not lapped and sealed  
 Vegetation in crawl  
 Water infiltration and damp proofing misapplication  
 Waterproofing foundation walls

Waterproofing not sufficient  
We do not conduct home inspections  
We do not inspect foundations  
We use City of Wichita basement standard.  
Few problems

Weep devices and termite stops  
weep screed too close to grade  
Wrongly placed HD bolts.

## Appendix 5.0

Please select the three most common wall-related framing violations you see.

Stud cut or notched to an impermissible depth	74%
Missing fire-blocking	72%
Missing hold-downs, straps, etc.	57%
Installation of sheathing	30%
Other (please specify)	10%
Improper spacing	9%
Missing studs	8%
Not Applicable	4%

3 stud corners not in; bearing under girders not i  
 absense of wood protection from concrete  
 all of the above  
 ALL of the above are common!  
 all the above  
 Alternate bracing improperly applied/not used  
 Anchor straps incorrectly embedded in fdn. wall.  
 barrow wall bracing compiance  
 Beam support on raked ceiling/roof assemblies  
 bearing continuity  
 Blocking seams on shear walls  
 connection of header to pole barn column  
 Continuous load path not maintained  
 corner nailing and missed sheathing nails  
 corner studs missing and nailing  
 Critical load path not continuous,supports missed  
 Diaphragm nailing of roof sheathing and Drags  
 direct bearing to foundation from girders  
 Double top plate installation and tall walls  
 double top plate notched for ac lines  
 Double top plate splice spacing  
 DOUBLED STUDS FOR DRAIN PIPE INSTILATION.  
 drilling of engineered products  
 earthquake bracing not installed or not installed

engineered top plate splice detail ignored  
 Exterior nailing  
 failure to continue shearwalls to roof sheathing  
 Failure to read, interpret follow approved plans  
 fasteners for treated wood  
 Field change = excessive span length  
 Field installed components for trusses not done.  
 FIRE STOPPING  
 fire/draft caulking of penetrations  
 Firestopping holes in top and bottom plates.  
 firewall installation, inadequate headers  
 Foundation anchor straps improperly installed  
 Framing details missing on plans,headers,supports  
 gable end blocking and plywood joint blocking  
 gable end wall stud size incorrect for heighth  
 hardware placed in the wrong location  
 headers  
 headers not per approved plans  
 her than single story construction area of open  
 Hinged and tall wall construction framed improper  
 hips, ridges and valleys; rafters not adjacent  
 Holes drilled in framing for piping.  
 Improper bearing  
 Improper bracing  
 Improper corner framing

improper fastening or nailing  
Improper fire resistive rating  
Improper header size and jack stud installation.  
Improper Header Support  
improper length to width ratio  
improper load transfer  
Improper loading to foundation  
improper nailing  
improper nailing and spacing of BWP's  
improper plate laps  
IMPROPER REPAIR OF CUT PLATES  
improper size  
Improper stud bearing, toenailing, infills  
Improper wind sheathing/ bracing  
inadequate nailing  
loose anchor bolt nuts  
lumber grade incorrect  
Micro-lams drilled or notched improperly  
Missing 4x's called out on plans  
missing jack studs  
Missing jack-studs/full studs @ point loads.  
missing nailing at corner and intersecting walls  
missing or non-conf. nails in metal hangers  
missing studs under bearing points  
missing termite shields  
Misunderstanding of IRC section 602 Narrow wall  
most construction in Miami is CBS.  
nail guards for plumbing  
Nailing  
Nailing  
nailing not correct  
nailing of sheathing  
no moisture vapor barrier  
no shield plates for plumbing pipes  
no support bottom plate, header size  
not adding extra studs under girders  
not built according to approved plans  
not enough nails  
NOT ENOUGH STUDS UNDER GIRDERS AND BEAMS  
not posting point loads to the foundation  
notching and boring

incorrect headers for snow load  
incorrect quantity of cripple studs  
Incorrect spacing and installation of anchor strap  
Incorrect wind bracing  
installations not complying w/U.L. listings  
insufficient bracing  
insufficient bracing  
Insufficient nailing, nails miss studs.  
interlocking top plates  
King & jack studs are not cut to fit tigh.  
Lack of plates to protect pipes.  
lack of supports for beams  
lack of workmanship  
LOAD PATH NOT CONTINUOUS

Notching of wall plates  
notching/boring of floor joists & roof struct.  
NOY ENOUGH NAILS AT CORNERS AND WALL INTERSECTIONS  
nuts missing from foundation bolts  
over driven fasteners  
over driven fastners and hold down placement  
over penetration of power-driven nails  
Plans and specs with not enough detail  
point loads / double studs missing  
Poor installation of hold-downs  
re:manufacturer re  
poor nailing of fire blocks ie 1 nail each side  
Poorly secured wall furring strips  
posting under beams to foundation  
sealing of penetrations in top plates.  
draftstops  
Shear panel sizes.  
shear panels missing not nailed correctly  
shear wall connection to sill plate  
SHEAR WALL NAILING INCOMPLETE,  
HOLDOWNS NOT INSTAL  
Sheathing edges not blocked  
shields on plumbing or electrical  
Short jack studs  
short walls not properly braced  
slender stud  
Stud spacing under windows improper

Stud/post requirements at hold-downs for lateral .  
substitution of species of lumber  
taking point loads to foundation through floors.  
Tall walls not framed properly.  
TGI floor joist are cut and notched during mech.  
top plate laps and splices  
Top plates cut out for plumbing pipes  
Topplates  
Trusses, cut members, bearing, etc.  
undersized headers over wide spans  
un-supported lower top plate

Untreated base plate in contact with concrete.  
Use of only 1 jack below headers over 6 feet on BW  
Wall bracing  
Wall bracing.  
walls not connected properly ( panelized systems)  
We do not conduct home inspections  
Wet Wood  
wrong headers and trimmers  
Wrong plating/studs for Braced Wall requirements  
you name it...

## Appendix .0 Floor-related Framing Violations

Please select the three most common floor-related framing violations you see.

Notches in areas not permitted	71%
Sheathing nails missing joist	45%
Missing anchor bolts	34%
Inadequate splices	27%
Wrong joist size	22%
Improperly installed sheathing	18%
Wrong joist grade	12%
Other	11%
Not Applicable	8%

addition of a second sill plat, notches around  
all of the above

ALL of the above are common!

allowed to be exposed to rain for a long  
period

anchor bolts not tightened

attachment/anchoring of floor joists

Attic platforms

Beam & header sizing. Engineered wood  
products.

bearing surface

Blocking

blocking load to the foundation

blocking under point loads

blocking/bridging not provided

bored hole loc. size

boring holes in excess

bridging/blocking not installed

Bridging;wrong nail size used and cracked

Change in I-joist brand from that spec'd on  
plans.

clearance from dirt to joist or girder

cross supports between joists and lack of fire  
blo

cutting or notching engineered wood trusses.

Damaged joists due to plumbing, hvac, etc.

Damaged, wrong bearing, upside down floor  
trusses

doubles missing and install details missing

ICC/NAHB/ICC Foundation

*Survey of Common Code Violations*

draft stopping

draftstoppingt

drilled holes too close to bottom of joist

engineered joist not according to design

engineered trusses not installed properly

exposure to weather

failure to comply w/i joist manu. requirements

failure to follow indicated structural details

fastener spacing

fastening

floor assembly damaged by water or drywall

stacks

floor to wall connections

Floor truss or I-joists not installed properly.

floor trusses with damaged top cords from

hvac ect

framing brackets improperly installed or

missing

framing headouts at trade penetrations

Girders ends against concrete

hangars missing where req'd

hanger nailing and proper bearing

Hangers

hangers not nailed properly

headers at openings

I JOIST SQUASH BLOCKING

I-Joist destruction & missing squash blocks

i-joists altered

I-joists cut by plumbing or HVAC contractors

I-joists specified differant than product used

improper baring  
Improper bearing points  
improper drilling and notching of pre-fab members  
improper fastener type  
Improper fire resistive rating  
improper floor truss bearing  
improper framing at floor holes  
improper girder size; blocking load path not in  
improper hangers  
improper headers at floor openings  
improper installation of engineered I joist  
improper installation of I joists  
improper joist bearing  
improper joist spacing  
improper nailing to sill plates  
improper panel span rating  
improper spacing of floor joists  
improper stair opening framing  
improper TJI's installed per plans  
improper use and notching of I joists  
inadequate bearing  
inadequate joist/block nailing  
inadequate nailing  
Inadequate support - missing joist hangers  
incorrect boring & notching of I-joist  
Incorrect installation/ nailing off strapping  
Incorrect tension strapping/nailing from 2nd story  
Incorrect trimmer joist sizes  
installation of engineered joist  
insufficient bearing length  
insufficient bearing points  
joist hangers  
joist hangers not installed per listing  
Joist not positioned for load transfer  
joist ot header connect requies hangar  
joists drilled too large  
Joists not having enough bearing rest  
Joists not properly attached to sill plates  
lack of blocking  
lack of continuity for shear transfers  
Lack of cross bracing.  
lack of glue

Lack of hangers or block9nd at bearing points  
Lack of joist hangers; inadequate nailing.  
lack of ventilation  
lacking joist hangers; perimeter joist nailing  
ledger attachment  
loadbearing point blocking and jack studs missing  
missed floor to sheathing nailing  
missed nailing of joists to outside plates or sill  
Missing 3x plates called out on plans.  
missing adequate support at floor framing  
missing blocking above girders  
MISSING BLOCKING AND SUPPORTS  
Missing blocking under point loads.  
missing blocking/bridging  
Missing bracing  
missing double joists  
missing hangers  
missing joist  
Missing Joist hangers  
Missing joists where multiples are required  
missing nailing of joist and rim  
Missing or inadequate hanger nailing  
missing or undersized shear straps 2nd floor  
Missing squash blocks  
missing strapping and bridging  
Missing/ removed fire stopping above carry'g beam  
most floors in Miami are concrete.  
Nailing of floor diaphragm (sheathing).  
nailing, hole locations, blocking  
Nails over-penetrated.  
none  
none or improper support  
Not doubled up under load bearing walls.  
not enough screws and glue  
not following manufacturers requirements  
Not following TJI instructions.  
not per plan  
Not using material approved on plans.  
Offset bearing points, Point loads not blocked  
open web installed backwards / upside down



over driven fasteners  
over sized borings  
overhanging joists & flr truss not const to specs  
oversized holes or holes in wrong locations!!!  
overstretch span  
plywood or osb de-laming due to standing water  
poorly installed joist hangers  
Product change, poor weather control  
rain-damaged sheathing  
Sill place seal  
smoke and fire blocks. Strapping

spacing and placement of tji's - following prints  
Stacking loads through interior bearing walls  
Straps specified on plans not installed.  
substitutions of engineered lumber not called out  
support for crawl access opening  
support of floor joists  
There isn't a lot of problems with floor joists.  
truss joists used wrong  
We do not conduct home inspections  
wrong fastener type  
Wrong joist spacing

## Appendix Truss-related Violations

Please select the three most common truss-related violations you see.

Bracing not installed	74%
Impermissible alteration leading to additional load	60%
Improperly connected to wall plate	57%
Specific truss not approved	21%
Metal plates not secured	20%
Other (please specify)	12%
Not Applicable	8%

Alertation on pre-engineered trusses  
 all of the above  
 ALL of the above are common!  
 altering the design  
 Attic acces@22'x30' when 16'o.c. spacing is used..  
 bearing on wall not at the truss panel point!  
 bearing points location  
 bearing support  
 BRACING BRACING BRACING, NEEDS TO BE DONE PROPERLY  
 bracing not connected properly to wall diaphragm  
 Bracing not installed as per engineering  
 bracing not installed per sealed design  
 BRACING NOT INSTALLED PROPERLY  
 bracing not to engineered spec.  
 bracing, cut truss  
 Broken truss  
 Broken trusses  
 broken trusses and not tied together  
 buildier not following truss layout and calcs  
 Care and handling of trusses before installation.  
 changing truss mfg. after submittals due to costs  
 Clear Span Truss resting on interior partition.  
 cut or drilled floor trusses  
 Cut or notched trusses  
 cut, notch or holes drill  
 Cuting, Drilling and broken trusses

Cutting , notching, and boring engineered wood.  
 cutting and repairing without design detail  
 cutting into truss by outside trades (elec., plumb  
 Cutting of engineered truss  
 cutting of truss , and metal plates  
 cutting or altering  
 cutting or notching of a truss  
 cutting/boring  
 damage  
 Damaged / Altered  
 damaged and poor installation  
 damaged truss  
 damaged truss due to transportation  
 damaged trusses  
 Damaged trusses do not have an engineered repair  
 damaged trusses from stacking prior to installatio  
 damaged trusses installed  
 damaged trusses not repaired  
 Damaged trusses not repaired according to engineer  
 Damaged trusses with field repairs  
 drilled or notched  
 drilling of bottom chord  
 each truss not stamped  
 Engineered sealed drawings not submitted.  
 engineered truss from out of the area, being used.  
 Excessive loading/Reactions not addressed

excessive warping due to exposure to elements  
failure to follow mfg instructions  
Failure to provide complete set of truss diagrams  
field alterations without engineering approval  
field cut structural members  
field cutting compromising truss.  
Field cutting of engineered products  
Field repairs with out engineer approval.  
Full support under girder trusses  
Girder (multi ply) trusses not nailed correctley  
girder nailing pattern not followed  
girder truss bearing not accommodated over windows  
Girder truss fastening to each other not followed.  
girder trusses ( 2 Or 3 not nailed/bolted together  
handleing of trusses  
hangers  
hangers nailed wrong  
h-straps are not adequate for uplift. h-2.5  
413lbs  
hurricane straps not istalled  
I had no problems I explain ahead of time  
Impermissible alteration / modified and-or cut  
**IMPROPER HANGER AND/OR NAILS  
USUALLY IN GIRDER AT**  
improper repair of damaged truss  
improper repair to broken members  
improper size strapping for uplift  
improperly nailed girder trusses  
inadequate bearing surface  
Inadequate nailing of girder trusses and hangers  
inproper handling  
Installation not per design  
installed backwards  
installed backwards  
insufficient truss data provided for inspection  
Intermixing of non-system materials  
Job site fixes  
lack of quality plan review  
Lack of studs/posts to carry point loads

Location of bearing points  
Mis handling on delivery & installation.  
missed strapping or bearing blocks  
missing clips / blocking  
Missing State of Michigan approval  
Missing trusses and Broken trusses  
modification made to truss with out engineers  
revi  
Modified truss's.  
modifying trusses on site/ cutting trusses  
nailing/bolting of multiple girder trusses/  
nails missing on hangers and bracing of roof  
truss  
no tie down on girder trusses  
no wind bracing  
none  
non-engineered fix  
Not approved by Designer of Record  
not fastening multiple member girders  
together  
not following prints (details) ect.  
not having engineered drawings  
not installed per spec by engineer  
not installed per truss schedule  
not installed properly  
Not sitting flush on header  
Not to plans.  
Not understanding imposed loads @  
headers.  
notched for plumbing; unengineered repairs  
notched or cut truss members and damaged  
trusses  
notching / cutting  
**ON REMODELS ROOF NOT ATTACHED  
TO BUILDING.**  
overspan of spacing for trusses  
Poor truss plan - unspecific code req. (bot  
chd LL)  
prints not on site for installation instructions  
proper hardware for wind loads  
proper nailing of multi ply trusses  
properly prepared/ desiged drawings not  
provided  
quality control with manufactures!  
Repairing broken or damaged trusses

Rough handling  
Split wood  
Strapping  
straps too far from lintel pour to side of truss  
temperary bracing durring erection & incorrect lift  
they modify the trusses  
truss altered without design professional approval  
truss being field altered  
truss blocking, improper overframing on trusses  
truss calcs are defered, so getting them in time i  
truss damage due to improper site storage/handling  
truss damaged by nailing  
truss desing not at site  
truss information not on site  
Truss not designed for drag force/equipment  
Truss over builds that do not tranfer loads evenly  
truss paperwork not on site  
Truss specs not on site for inspection  
Trusses cut or damaged during handling.  
Trusses cut or notched  
trusses installed backwards-reversed  
trusses installed in the wrong orientation  
trusses installed in wrong location per set diagra

trusses not per engineered layout  
Trusses not placed in the correct locations  
trusses placed in wrong locations  
trusses rolled to wrong locations  
Trusses with cracked boards or broken in places  
unauthorise modification  
unapproved alteration  
unapproved field alteration or repair  
unapproved field modified - often by other trade  
unapproved field repairs  
unconfirmend truss repair  
Unrepaired damage to trusses  
Uplift brackets not installed  
Uplift loads not per correct category (B / C)  
Use of proper hangers and brackets for attachment  
We do not conduct home inspections  
We request eng. drawings on about everything.  
Who designs load requirements. Eng or truss compan  
wrong brace patterns  
Wrong code, wrong snow load  
Wrong connectors for hangers, Missing details  
wrong nails used in truss straps

## Appendix \_\_.0 Roof Coverage Violations

Please select the three most common roof coverage violations you see.

Missing nails or fasteners	49%
Over-driving of nails through shingles	43%
Absence of felt, or incorrect type	35%
Inadequate overlap of tiles, shingles or asphalt	27%
Not Applicable	17%
Improper materials	13%
Improper course spacing	13%
Other (please specify)	13%
Broken roof tiles	9%
Product not approved or listed	8%
absence of ice gaurd on rakes	Flashing
absence of ice guard	flashing
absence of protection requirements in cold areas	flashing
applying materials over wet sheathing	flashing at valleys, chimneys and vents
Asphalt shingles installed on a low slope roof.	Flashing installation
Asphalt shingles on inadequate slope.	Flashing not being replaced on roof replacements.
City of Mesa does not inspect roofing material.	flashing not installed properly or not at all
Decking not secured	High wind areas should not staple
Drip edge going up the gable should be over the fe	I had no problems pre meeting with contractor
Exposed fasteners	Ice & water not 3' behind heated wall
exposed fasteners on flashings	ice & weather shield
Expsloed nails in shingles	ice and water
Failure to place felt in the valleys as specified.	Ice and water barrier not being used or used impro
Failure to replace bad sheathing.	ice block material not installed
felt < 4:12 19' lap	Ice dam flashing
first row bottom and edge missing and missing nail	Ice dam not provided at edge of roof
flashing	Ice dam protection missing
flashing	Ice dam protection not installed
Flashing	Ice guard not installed
flashing	ice sheild missing
Flashing	ice shield missing
	Ice shield missing
	ice shield no doing proper coverage
	ice shields missing
	Ice shields not installed

improper / inadequate flashing of penetrations  
 improper crimp standing seam metal  
 Improper drain inst'n, inadequate flashings.  
 Improper fasteners.  
 Improper Flashing  
 improper flashing  
 IMPROPER FLASHING  
 Improper flashing details at abutting walls.  
 improper flashing in valleys  
 improper flashing, improper ice dam protection  
 Improper ice/water shield.  
 improper installation of felt  
 Improper installation of ice and water guard  
 Improper installation of ice guard, roof vents  
 Improper installation of ice shield  
 improper installation of ice shield  
 improper installation of tar floodcote  
 improper installation, laps and end joints located  
 Improper installation in the valleys.  
 Improper nail placement  
 improper nailing - shingles not laying flat  
 improper or miss installed underlayment for tile  
 Improper or non-use of ice barrier  
 Improper overlap over flashing  
 Improper slope for material, Valley termination  
 improper starter row, nails not flush impeded  
 adhere  
 Improper type of fasteners  
 Improper type roofing on low pitched roof.  
 Improper valley installations.  
 improper valley underlayment  
 Improper valleys  
 improperly installed membrane roofing (PVC)  
 inadequate ventilation, wrong fasteners  
 incorrect and/or missing flashing  
 Incorrect or missing flashing at walls or chimneys  
 Incorrect starter course  
 incorrectly designed & installed ice/water shield

improper or inadequate flashing-chimneys, valleys  
 installation of drip edge, ice/water shield  
 INSTALLING WHEN WET  
 insufficient roof pitch for roof type  
 Lack of flashings, ice guard and attic ventilation.  
 Lack of hand tabbing  
 lack of ice & water material  
 Lack of proper B-vent clearance  
 last course missing, skylights not secured  
 Membrane roofing at eaves and valleys not put on.  
 Missed inspections! Working without permits!  
 missing cap  
 Missing drip edge per manufacturers instructions  
 Missing drip-edge and flashing  
 missing flashing  
 missing flashings  
 missing ice & snow shield  
 missing ice and water protection, ventilation prob  
 Missing Ice Dam Protection (Northern Indiana)  
 Missing ice dam shield  
 Missing ice protection  
 missing ice shield  
 Missing ice shield or width  
 missing ice/water shield  
 missing mastic at edges  
 Missing required ice-shield  
 missing roof edge flashing  
 missing roof jacks at plumbing vents  
 missing vents  
 missing vents/ no drip edge  
 modified base sheets 'never' fastened properly  
 more layers than code allows  
 My region does not perform roof inspections  
 nails not properly sized  
 nails, staples not set far enough into sheathing  
 missing ice/frost barriers  
 no gaps at sheathing edges

No Ice Shield  
No ice shield applied.  
NO ICE/WATER SHIELD  
no or not enough ice and water protection  
no overflow drains  
no permit  
NO USE OF ICE DAM MATERIAL  
No valley flashing  
Noncompliance with ICC low slope roof requirements  
not covering in a timely fashion, leaving exposed  
not enough ice and water eave protection  
not enough ice shield  
not enough ventilation; water/ice shield not installed  
not flashed properly  
not following manufacturer's instructions  
not hand tabbed, product not approved for wind speed  
not inspected  
not installed per manufacturer instructions  
Not installed per manufacturer's specs.  
not nailed per manufacturer's instruction  
Not providing the correct # of fasteners in high wind  
not tarred in at eaves  
omission of ice barrier  
Our jurisdiction does not inspect roofing.  
over driven nails in sheathing.  
poor workmanship  
product not recommended for low slope  
roof covered without inspection  
Roof covered without sheathing inspection  
roof deck spacing  
Roof felts run vertically

roof sheathing to be minimum of 5/8" plywood for 24"  
Roof ventilation, Not following manufacturer's instructions  
Roofing at undesirable time of year  
roofing felt not flat before installing shingles  
sealing penetrations  
shiners (Florida)  
SHINGLES - DON'T SEAL DOWN PROPERLY  
Shingles applied contrary to product specs.  
slope too low for asphalt shingles.  
SLOPPY INSTALLATION OVERALL  
Smearing and damaging shingles during application  
STAPLES  
step flashing and end wall flashing.  
step flashing not being used on asphalt shingles  
These are things that are hard to inspect.  
too low pitch application, voids warranty  
too many layers  
under driving of nails  
under-driving nails  
Use of ice guard on eaves  
using too short of nail  
valley shingle 'lacing' installation  
Valleys not covered with adequate material  
We do not conduct home inspections  
we do not inspect covering. Framing & Sheathing  
wind clips at eaves.  
Winter applications not sealing properly  
workmanship  
WRONG COVERING FOR ROOF PITCH

## Appendix .0 Window- or Door-related Code Violations

Please select the single most common window- or door-related code violation you see

Improper flashing	57%
Inadequate fire rating	22%
Egress	7%
Other	6%
Safety Glazing	6%
Footings	1%

secondary egress too small and not tempr'd where rqd  
 3 ft. door to house does not self close.  
 absense of safety glazing  
 ATTACHMENTS  
 Bed room window egress dementions  
 Bedroom egress not 5.7 ft.sq.  
 Bedroom rescue/egress size.  
 BEDROOM WINDOW TOO SMALL  
 Bedroom windows not meeting minimum openings.  
 buck spacing too large  
 compliance with energy provisions  
 deficient sizing  
 do not comply with egress requirements  
 Door size for egress or accessibility  
 door to window clearence  
 Doors not properly aligned =gaps &latch problems  
 egress  
 egress not met.  
 egress size  
 egress size issues with some window manufactures  
 egress window problems  
 egress window sized improperly  
 egress window sizing  
 egress windows are incorrect  
 egress windows at basement area  
 egress windows not the right size  
 Egress windows that don't meet code

emergency egress  
 emergency egress opening for windows.  
 energy code violations for windows  
 energy rating wrong  
 failure to meet egress size  
 Failure to provide egress windows where required.  
 Failure to recognize need for tempered glass  
 Fasteners missingor not installed properly  
 fire rating  
 garage, personnel door not rated or self-closing  
 Glass not tempered where required.  
 Glazing  
 glazing hazerdous location  
 Glazing not tempered in required areas  
 Glazing- tempered issues  
 hardware not rated for door  
 hardware prevents egress  
 headers  
 height to threshold  
 high wind ratings  
 hole not prep right  
 imoproper anchoring of window and door frames  
 improper calking  
 improper door between garage and living area.  
 improper door hardware to meet exiting requirement  
 improper egress opening size



Improper egress size  
improper egress window size for sleeping room  
improper emergency egress  
improper emergency egress size  
improper escape size  
improper fasteners  
Improper fastening  
Improper fastening, products  
improper glazing in hazardous locations.  
IMPROPER HEADER SIZE  
Improper installation  
improper installation  
improper installation (structural and flashing)  
Improper installation / not squared into opening  
Improper installation of Unit products  
Improper installation, not following manuf. instru  
improper location of tempered units  
improper NFSR label for energy efficient window  
improper or lack of insulation around windows  
Improper rough buck attachment/Wind compliance  
Improper sill installation  
improper size  
Improper size  
improper size (egress)  
Improper size for bedroom emergency egress  
improper size of egress  
Improper size, tempered glass  
improper U-value  
improper u-value & improper flashing  
inadequate attachment spacing  
inadequate headers  
inadequate size  
inadequate size for egress  
Inadequate size for egress reqmnts  
Inadequate size for emergency escape  
incorrect DP rating for windzone  
Incorrect egress size  
incorrect hardware

incorrect installation.  
incorrect size for egress required rooms.  
incorrect U- factor  
Incorrect U value  
incorrect U-value based on compliance statement  
improperly secured with nail spacing and caulking  
install as per manufactors instructions and insul  
installation  
installation out of square  
Installation with out Building Permit  
Insufficient fastner legenth/ spacing  
insulation/sealing  
lack of emergancy egress  
lack of self closing doors at garage/house seperat  
Lack of tempered glazing in ext. walls @ tubs  
Light & Ventilation/Egress  
Location of temp. glass  
Missing 5.7sf window for fire  
Missing fasteners  
Missing fasteners  
missing weather-stripping-doors  
no header installed  
No safety glazing where required.  
noncompliance with energy code  
non-compliant u-factor (windows)  
non-safety glazing too close to doors  
non-tempered glass in hazardous location  
non-tempered installed where tempered required  
not correctly fastened to house  
Not egress compliant  
not egress compliant  
not fastened correctly, tapcons etc  
not fastened per manufacturers specs.  
Not flashed per mfr's. instructions.  
Not in accordance with product approvals  
Not installed per listed specs  
not installed per manufacturers instructions  
not labeled  
Not meeting the light & vent. area or egress  
not properly insulated and sealed

not properly sized for the application  
Not rated for proper wind loads  
not sealed at wall joint  
not sealed properly for energy  
Not tempered where required.  
Not using tempered glass when needed.  
Not using temper glass where it is required  
out of plumb  
pool barrier  
Poor installation which affects performance  
removing window stickers prior to energy  
inspecti  
required safety glazing installed  
req. safety glazing  
Safety / tempered glazing locations.  
Safety Galzing not used where needed  
safety glass in proper locations  
Safety glass within 2 feet  
safety glass, energy rating  
Safety glazing  
safety Glazing  
safety glazing  
safety glazing  
safety glazing  
safety glazing as required in areas  
safety glazing due to location  
Safety glazing not installed in hazardous  
location  
Safety glazing not installed in required  
location.  
Safety glazing violation  
safety glazing violations  
safety glazing where required  
Safety glazing where required, <18' & baths,  
doors  
safety tempered locations  
safty glazing not installed  
safyt glazing  
self closer at gar door.  
self closing to garage  
sill height.  
size concerning egress requirements  
size of replacement emergency escape  
windows  
sizing

sizing for egress  
sizing of egress components  
sleeping room egress window violations  
some headers under sized or installed flat  
Temper glass or flashing  
temper requirements  
tempered  
Tempered glass in hazardous locations  
Tempered glass missing in required locations  
tempered glass must be over tub.  
tempered glass not installed at required  
locations  
Tempered glass not installed next to doors/  
stairs  
tempered glass not installed or in the wrong  
local  
Tempered glass not used where required  
Tempered glass requirements  
tempered glass requirements  
tempered glass requirements  
tempered glass requirements  
tempered glass where required  
TEMPERED OVER TUBS AND SHOWERS  
Tempered window in hazardous locations  
TEMPERED WINDOWS AND EMERGENCY  
EGRESS  
tempered windows not installed where  
required  
tempering  
the wrong sizes  
to small  
too small for Type B units  
Too small header in load bearing walls over  
window  
undersized egress windows  
undersized egress/rescue window openings  
untempered glass  
U-value or no poly seal  
u-value wrong  
very poor quality of windows  
We do not conduct home inspections  
Weep holes, egress size, and tempered  
glass  
What do you mean be footings here??  
window - hazardous location glazing

Window size different than specified  
windows - inadequate size for egress regs  
windows aren't tempered where applicable  
Windows do not meet egress requirements.  
windows not having safety glazing within tub  
space  
Windows/ doors not shimmed or blocked  
properly.  
Wrong egress window size.  
wrong emergency egress size  
WRONG HEADERS INSTALLED  
wrong location or omission of safety glazing  
wrong size door, too small  
Wrong size of windows  
Wrong size window or not low enough for  
escape  
wrong U value  
Wrong U-Factor and SHGC  
wrong window-not egress size or not tempered

**Please select the three most common handrail-related code violations you see**

<input type="checkbox"/> 01 Not properly fastened or installed	1	44%	0%	0%	18%
<input type="checkbox"/> 02 Missing handrails	2	36%	29%	0%	24%
<input type="checkbox"/> 03 Improper graspable surface	3	10%	52%	11%	24%
<input type="checkbox"/> 04 Improper height or spacing	4	4%	18%	78%	28%
<input type="checkbox"/> 05 Not Applicable	5	6%	0%	1%	2%
<input type="checkbox"/> 06 Other (please specify)	6	1%	2%	10%	4%

12' extension on commercial  
 4' spacing of verticals  
 Accessibility returns  
 accessible handrail extensions  
 accessible terminations  
 balluster spacing  
 cannot hold required load  
 Cloeser than 1 1/2 inches to a wall  
 closed ends/turns not provided  
 Continous rail  
 continuation  
 Continuity  
 continuity along winders and terminations.  
 continuous  
 continuous at different levels and landings  
 continuous length of stairway  
 does not continue, gaps on stairs  
 does not extend past top/bottom  
 end not returned to wall or newell post  
 ends don't return  
 Ends not curved  
 Ends not returned  
 ends not returned  
 ends not returned  
 ends not returned  
 ends not returned into adj. wall  
 ends not returned or blocked off  
 extensions missing  
 extensions past wall.

Exterior handrails for decks, not graspable.  
 failure to extend at top & botton  
 Failure to return to wall or newel post  
 Handrail ends not returned  
 Handrail not returning to wall  
 handrail wall returns  
 Handrails not continuous  
 Handrails not turned back to wall  
 handrails that do not run the full lengthh of  
 stai  
 Improper end termination  
 Improper lateral force ( too weak).  
 Improper length  
 Improper length of handrail  
 improper location  
 improper returns  
 improper spacing from the wall  
 Improper termination at ends  
 improper termination  
 Inadequate finger space to wall or finish trim  
 incorrect spacing between spindels  
 Insufficient handrail length  
 intermediate openings too large  
 intermediate rail spacing  
 interuption of rail at locations other than  
 qualif  
 lack of 1.5' clearance to side wall  
 lacking ballusters  
 length, top to bottom

location  
material too light to meet load requirements.  
Missing End Returns  
missing returns  
no return at ends of handrails  
no returns  
no returns and ends  
no returns at the ends  
no returns or newells  
no returns to wall  
no returns to wall  
no returns to wall  
No returns to wall.  
non compliant ADA extensions  
non-continuous where required  
none  
not a continuous hanrail from top to bottom  
NOT CONTINUOUS TOP TO BOTTEM  
Not continues around landings  
not continuos  
not continuous  
not continuous  
not continuous  
NOT CONTINUOUS  
not continuous  
not continuous  
not continuous  
not continuous  
not continuous  
Not continuous.  
Not designed.  
Not extended  
Not extended to bottom riser  
NOT EXTENDING FAR ENOUGH AT  
BOTTOM OF STEPS  
Not extending far enough up or down.  
not full length of stairway  
not returned  
Not returned  
Not returned into wall.  
not returned to wall --not extended @  
top,bottom  
Not returned to wall or ending in newel post  
not returned to wall or ground  
not returned to wall or guard

Not returned to wall to prevent snagging  
Not returned to walls correctly.  
Not returned.  
not returning to wall  
Not terminating at a newel post or wall  
Not turned back to wall at ends.  
Rail not continuous  
required extension past tread - termination  
returns  
returns  
returns  
seldom observe violations  
Sharp corners & edges of railing  
spacing of spindles  
spindle spacing  
spindle spacing  
terminates before bottom nosing  
terminations either unsafe or not handicap  
too big a distance between rails  
too wide guard spacing  
TOOLOW  
top and bottom terminations improper  
Trying to use a guardrail as a handrail  
We do not conduct home inspections  
weak. unable to withstand lateral load.  
width of stair casing for proper access

**Please select the three most common guardrail-related code violations you see**

<input type="checkbox"/> 01 Guardrail opening too large	27%
<input type="checkbox"/> 02 Improper placing	8%
<input type="checkbox"/> 03 Not properly fastened or installed	19%
<input type="checkbox"/> 04 Missing guardrail	18%
<input type="checkbox"/> 05 Height criteria not met	24%
<input type="checkbox"/> 06 Not Applicable	3%
<input type="checkbox"/> 07 Other (please specify)	1%

**Q24 -7 Other (please specify)**

152.79.205.38  
 6' triangle shape at rise and run  
 68.46.114.4  
 building code conflict with Life Safety  
 climbability issues  
 Design loads.  
 design of pickets  
 Does not meet strength requirements.  
 fastening & use of ornamental or ladder-type  
 gap between deck and bottom plate  
 guardrail is not sturdy enough  
 Guardrail strength  
 'Guards' still being called 'guardrails'  
 I'm a PLANS EXAMINER not an Inspector!  
 improper material  
 IMPROPER SPACING OF BALUSTER  
 improper termination of railing/guard  
 Inadequate strength  
 inadequate structural strength  
 improper spacing  
 intermediates not spaced properly  
 Lack of design/attachment details  
 Lack of lateral strength.  
 ladder effect  
 lateral strength  
 Load requirements inadequate  
 ICC/NAHB/ICC Foundation  
*Survey of Common Code Violations*

lower edge at stair treads openings  
 Lower rail not at proper height.  
 Meeting 200psf rule  
 Meeting structural lateral support base  
 connection  
 meets historic district requirement(too low).  
 no guards at all on basement stair sides  
 no intermediate rail  
 not installed where req'd for rooftop mech.  
 equip.  
 not structurally sound  
 seldom observe violations  
 strength is not adequate  
 Unapproved materials  
 We do not conduct home inspections  
 We need to ban cable rails  
 weak  
 Will not support required loads

**Please select the three most common stair-related code violations you see.**

01 Improper stair construction 12%

all above  
 all of the above  
 All the above  
 blocking along stringer, landing as req'd  
 consistent steps  
 Exterior stairs and landings not correct.  
 Failure to provide/meet nosing requirements  
 fire blocking at cavities and dead air spaces  
 Fire protection under stairs.  
 floor finishes affecting finished rises on top & bottom  
 Guardrailing/handrail issues  
 hand rails  
 Handrails do not continue  
 HBA convince PA legislator to amend ICC  
 IRC to ame  
 I'm a PLANS EXAMINER not an Inspector!  
 Improper fire rating of enclosure  
 improper illumination requirements  
 improper landing size  
 improper landings  
 IMPROPER SUPPORT OF STAIR HORSES  
 improper treads specifically on winding stairs  
 Improper winders. (Number 1 violation.)  
 Improperly marked top and bottom tread for disabled  
 improperly sized landings  
 inadequate connection to floor system  
 Inadequate tread fastening/support  
 ICC/NAHB/ICC Foundation  
*Survey of Common Code Violations*

- 02 Stair rise and run violations 31%
- 03 Stair geometry issues 14%
- 04 Stair headroom 25%
- 05 Improper stair tread 14%
- 06 Not Applicable 3%
- 07 Other (please specify) 2%

**Q25 -7 Other**

Insufficient stringer support  
 Insufficient tread depth on winding stairs  
 lack of disabled access compliance  
 lack of firestopping at stringers  
 lack of handrails  
 Landing area too close to walls  
 landing requiremnts at egress doors  
 Landings  
 Landings at base of stairs too small.  
 landings to small  
 Layout not per plans -plans deficient  
 missing doors at top/bottom where required  
 Missing gyp board on bottom of stair, storage  
 non compliant with ADA  
 Not code approved glazing at stair ways  
 not consistant riser height  
 not drywalling underside for fire safety  
 Not installed per manufacture's instructions  
 not planning for floor finish in rough  
 Not properly attached at top  
 open riser  
 open risers  
 open risers  
 Open risers  
 open risers greater than 4'  
 open rises  
 Pa State code adobted 8.25/9 into law  
 rise and run being different at top/bottom  
 step  
 Riser height not uniform with the other risers  
 risers not within 3/8' overall  
 stair rise on decks not backed when required  
 Stair stringers in contact with concrete.

Stair width and landing width  
stringer attachment to landing or floor  
Stringer spacing not corresponding with plans  
stringers hung from damaged scrap wood  
STRIPING FOR THE VISUALLY IMPAIRED  
too narrow  
top step not in lign with the rest  
Uneven riser dimensions.

uniform steps  
We do not conduct home inspections  
width for egress...  
Width of stair not to code  
winder dimensions  
winder geometry  
winders  
Windows without safety glazing in stairwells.



Appendix

**Using the scale of 1 to 5 below, please rate how often you feel each of the following result in code violations.**

**Never causes violations**

1	0%	1%	9%	1%	0%	0%
2	7%	13%	38%	4%	4%	9%
3	23%	26%	25%	13%	17%	19%
4	31%	28%	14%	27%	26%	27%
5	37%	31%	10%	53%	51%	43%
9	2%	2%	4%	2%	2%	2%

**Causes a large number of violations**

**Don't Know**

**Q29**

**In your experience, what percent of each type of new home would you estimate have code violations? Enter a number for each between 0 and 100. Please leave blank answer choices for which you have no experience or do not know the answer. (Please do not enter percent signs or decimal points.)**

## Appendix \_\_.0 Survey Questionnaire

[Programmer: use embedded password to ID each response]

### **Code Violations Survey:**

An assessment of common defects in new housing construction

*Sponsored by International Code Council and the National Association of Home Builders*

10. Please take a few minutes to carefully review and answer the questions contained in this survey. Your individual responses are confidential. Please skip any questions that do not apply to you.

20. Where on the home are flashing violations most apparent? (Select all that apply.)  
[rotate]

1. Doors
2. Windows
3. Chimney
4. Siding
5. Roof
6. Wood Deck
7. Brick Veneer
8. Other (please specify) \_\_\_\_\_

30. Are most flashing violations you see related to problems with products, installation or both?

1. Products
2. Installation
3. Both [this will needed cleaning after fielding]

40. Please give an example of a common flashing violation that you see.

---

50. Please select the three grading and site drainage violations you see most often.  
[rotate]

1. Grade too high
2. Grading
3. Backfilling
4. Soil conditions

5. Downspouts/drainage controls
6. Driveways
7. Sidewalks
8. Stoops
9. Other (prompt and specify) \_\_\_\_\_

60. Please select the three most common foundation-related code violations you see.

[rotate]

1. Incorrect footing depth
2. Incorrect drain installation
3. Incorrect fasteners for use below grade to attach plywood (i.e., wood foundations)
4. Improper reinforcement or support of rebar
5. Improper anchor bolts
6. Improper foundation size
7. Missing vapor barrier
8. Other (please specify) \_\_\_\_\_

70. Please select the three most common wall-related framing violations you see.

[rotate ]

1. Stud cut or notched to an impermissible depth
2. Missing fire-blocking
3. Missing studs
4. Missing hold-downs, straps, etc.
5. Improper spacing
6. Installation of sheathing
7. Other (please specify) \_\_\_\_\_

80. Please explain what conditions are leading to these violations (i.e., negative grade at house leading to water ponding against foundation wall).

---

90. Please select the three most common floor-related framing violations you see.

[rotate ]

1. Notches in areas not permitted
2. Missing anchor bolts
3. Improperly installed sheathing
4. Sheathing nails missing joist
5. Wrong joist size
6. Wrong joist grade
7. Inadequate splices
8. Other (please specify) \_\_\_\_\_

100. Please select the three most common truss-related violations you see. [rotate ]

1. Improperly connected to wall plate
2. Impermissible alteration leading to additional load
3. Specific truss not approved
4. Bracing not installed
5. Metal plates not secured
6. Other (please specify) \_\_\_\_\_

110. Please select the three most common roof coverage violations you see. [rotate ]

1. Absence of felt, or incorrect type
2. Over-driving of nails through shingles
3. Broken roof tiles
4. Inadequate overlap of tiles, shingles or asphalt
5. Improper materials
6. Improper course spacing
7. Missing nails or fasteners
8. Product not approved or listed
9. Other (please specify) \_\_\_\_\_

120. Please select the single most common window- or door-related code violation you see. [rotate ]

1. Inadequate fire rating
2. Footings
3. Improper flashing
4. Other (please specify) \_\_\_\_\_

130. Please select the three most common handrail-related code violations you see. [rotate ]

1. Not properly fastened or installed
2. Missing handrails
3. Improper graspable surface
4. Improper height or spacing
5. Other (please specify) \_\_\_\_\_

140. Please select the three most common guardrail-related code violations you see. [rotate ]

1. Guardrail opening too large
2. Improper placing
3. Not properly fastened or installed
4. Missing guardrail

5. Other (please specify) \_\_\_\_\_

150. Please select the three most common stair-related code violations you see.

[rotate ]

1. Improper stair construction
2. Stair rise and run violations
3. Stair geometry issues
4. Stair headroom
5. Improper stair tread
6. Other (please specify) \_\_\_\_\_

170. Using the scale of 1 to 5 below, please rate how often you feel each of the following result in code violations. [1 represents 'Never causes violations' and five represents 'Causes a large number of violations'; rotate list ]

1. A lack of coordination between trades
2. One trade's work is damaged by another
3. Inadequate manufacturers' installation instructions
4. Workers ignore manufacturers' installation instructions
5. Contractor's lack of code knowledge
6. Cost-cutting shortcuts

160. In your experience, what percent of each type of new home would you estimate have code violations? Please leave the spaces blank for home types that you do not have experience with.

1. starter-level tract homes \_\_\_\_\_
2. mover-upper-level production homes \_\_\_\_\_
3. custom high-end homes \_\_\_\_\_
4. apartments, townhouses, condominiums \_\_\_\_\_
5. change of occupancy condominiums, loft apartments \_\_\_\_\_
6. manufactured homes \_\_\_\_\_

180. Which of the following choices best describes your department's level of authority?

1. City level
2. County level
3. State level
4. Federal level
5. Other (please specify) \_\_\_\_\_

190. Which of the following choices best describes your position at your building department? (Select one.)

1. Building Official
2. Building Inspector
3. Plan Reviewer
4. Fire Inspector
5. Fire Official
6. Other (please specify) \_\_\_\_\_

200. What is the approximate population of the jurisdiction in which you work?

1. Under 50,000
2. 50,000 to 149,999
3. 150,000 to 999,999
4. 1,000,000 or more

210. What is your office zip code? \_\_\_\_\_

220. Great. That concludes our survey. Thank you for your time!

[CLICK HERE](#) if you would like to proceed to the ICC Web site.

## Appendix .0

### Email Invitation to Participate in Survey

**From:** Dominic Sims  
**Sent:** Wednesday, January 11, 2006 8:14 AM  
**To:** Duncan Millar  
**Subject:** ICC/NAHB Survey on Code Violations



Dear Duncan,

The International Code Council, in conjunction with the National Association of Home Builders, invites you to participate in a survey concerning code violations common to new home construction. This is part of our ongoing 2005 Building Department Research Project.

We need your valuable insight into this topic, so please take a few minutes to answer the important questions contained in this survey. **We will be pleased to share with you an Executive Summary of the survey's results as a way of thanking you for your time.**

**To take the survey, please [CLICK HERE](#).**

(or visit <http://www.surveyssoftware.net/hostcr/CodeViolations.htm> and enter in the password 99961)

The survey...

- Takes only about 7 minutes to complete
- Is **completely confidential**
- Ends January 27th, so please don't delay!

Please reply to this email if you have any questions or comments. We value your privacy and will not sell or rent your personal information to anyone.

We appreciate your help with our research.

Thank You,

Dominic Sims CBO  
Deputy Chief Operating Officer  
International Code Council, Inc  
900 Montclair Road  
Birmingham, AL 35213-1206  
USA

ICC/NAHB/ICC Foundation  
*Survey of Common Code Violations*



*To opt out of future ICC research communications, please reply to this message with "UNSUBSCRIBE" in the subject line.*

Appendix .0

Email Reminder to Participate in Survey

**From:** Dominic Sims [survey-code@iccsafe.org]

**Sent:** Monday, January 23, 2006 9:53 AM

**To:** Duncan Millar

**Subject:** January 27 Deadline



Dear Duncan,

This is a friendly reminder that the last day to participate in our survey is this Friday. All participants will be sent an Executive Summary of the survey's results.

The survey...

- Concerns code violations common to new home construction
- Takes only about 7 minutes to complete
- Is completely confidential
- Ends January 27th, so please hurry!

**To take the survey, please CLICK THIS LINK.**

(or visit <http://www.surveyssoftware.net/hostcr/CodeViolations.htm> and enter in the password 99980)

We appreciate your help with our research.

Thank You,

Dominic Sims CBO  
Deputy Chief Operating Officer  
International Code Council, Inc  
900 Montclair Road  
Birmingham, AL 35213-1206  
USA

PS Please reply to this email if you have any questions or comments. We value your privacy and will not sell or rent your personal information to anyone. *ICC and its affiliates and subsidiaries respect your right to privacy. If you no longer wish to receive e-mail from us, please visit here.*



### Pretest

Here are the results of the pretest...

Invites sent: 249

Invites delivered: 195

Percent of addresses that are "good": 78%

Number of response after seven hours: 22

Response rate so far: 11%

Percent of respondents completing the survey: 91%

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We mailed the remaining 5,970 addresses this morning and 4,700 didn't bounce. We now have 525 completed surveys.