



FALLS FROM HEIGHTS IN CONSTRUCTION – BLITZ 2.0

Project findings report - 1 to 30 October 2019

OVERVIEW

Falls from heights is the number one cause of death on NSW construction sites. The most serious and fatal falls are from roofs, ladders and scaffolds, and from a height of between 2.1 and 4 metres.

SafeWork NSW Inspectors visited 348 construction sites in October 2019 as part of a falls from heights blitz to secure compliance and talk with site supervisors, principal contractors, HSR's and workers about how to work safely from heights.

During the blitz, inspectors issued 467 notices, including 48 falls related on-the-spot fines totalling \$155,520.

Inspectors checked compliance with managing falls from heights risks including work from roofs, edges, scaffolds, ladders, voids and formwork.

Overall, managing the risks of voids and edges are of particular concern in both Sydney and regional NSW. However Sydney inspectors observed lower safety compliance levels than the state average for all but three critical checklist questions.

SafeWork will continue to focus on working at heights safety as a key priority under the Building and Construction Work Health and Safety Sector Plan to 2022.

BACKGROUND

In the three years to 2015/16 workers compensation costs for falls from heights in construction were in excess of \$90 million.

SafeWork NSW commenced a dedicated campaign on falls from heights in November 2017, focussing on work from roofs, edges, scaffolds, ladders, voids and formwork. In 2017 and 2018, Inspectors observed a large number of sites where workers were at risk of falls, with the highest levels of non-compliance being inadequate edge protection and scaffolds with missing planks, ledgers or hop-ups.

Inspectors observed some improvement in many of the compliance categories between 2017 and 2018, however, overall compliance levels were still unacceptably low, therefore a continued focus on falls from heights risks into 2019 and beyond was warranted and critical to reduce workplace incidents and fatalities.

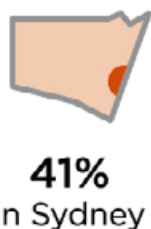
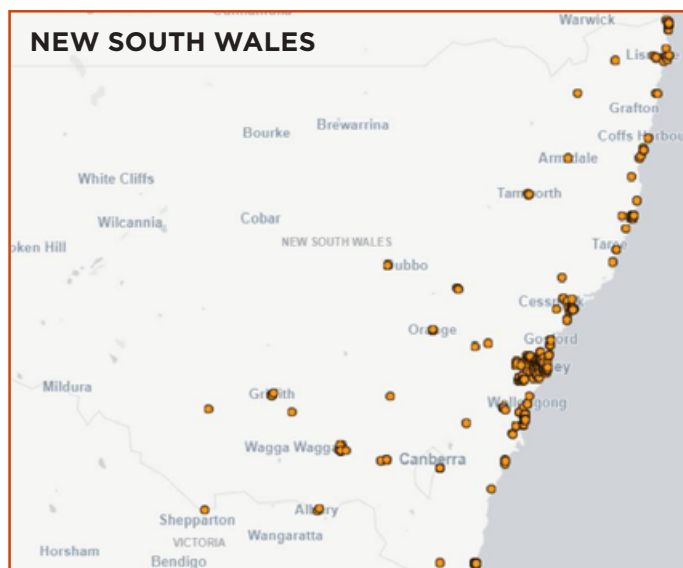
Previous [falls from heightsⁱ](#) blitz and [scaffolding safetyⁱⁱ](#) project findings can be viewed on the SafeWork NSW website.

2019 BLITZ SITE VISITS

As part of the October 2019 falls from heights blitz, SafeWork inspectors visited 348 construction sites state-wide.

SafeWork NSW has three teams of inspectors covering Greater Sydney, northern NSW and southern NSWⁱⁱⁱ. The Sydney team inspected 142 sites, with NSW North visiting 104 and NSW South visiting 102.

Most sites visited were house construction (58%), followed by mid-high rise (22%), “other” (11%) such as schools, warehouses, sheds, solar installations, then commercial (6%).



i <https://www.safework.nsw.gov.au/hazards-a-z/working-at-heights>

ii <https://www.safework.nsw.gov.au/hazards-a-z/scaffolding>

iii Sydney team - metropolitan Sydney, Blue Mountains and Central Coast.

NSW North team - Ballina, Coffs Harbour, Narrabri, Newcastle, Port Macquarie, Tamworth.

NSW South team - Albury, Bega, Dubbo, Goulburn, Griffith, Nowra, Orange, Wagga Wagga, Wollongong.

The below table provides a breakdown of the type of site visited. A similar number of house construction sites were observed by each of the three teams.

Unsurprisingly, there were three times the number of mid to high rise sites visited by the Sydney team when compared to the regional NSW teams.

Table 1: Type of site visited, from 1-31 October 2019, as part of the Falls from Heights Blitz broken down by SafeWork NSW team.

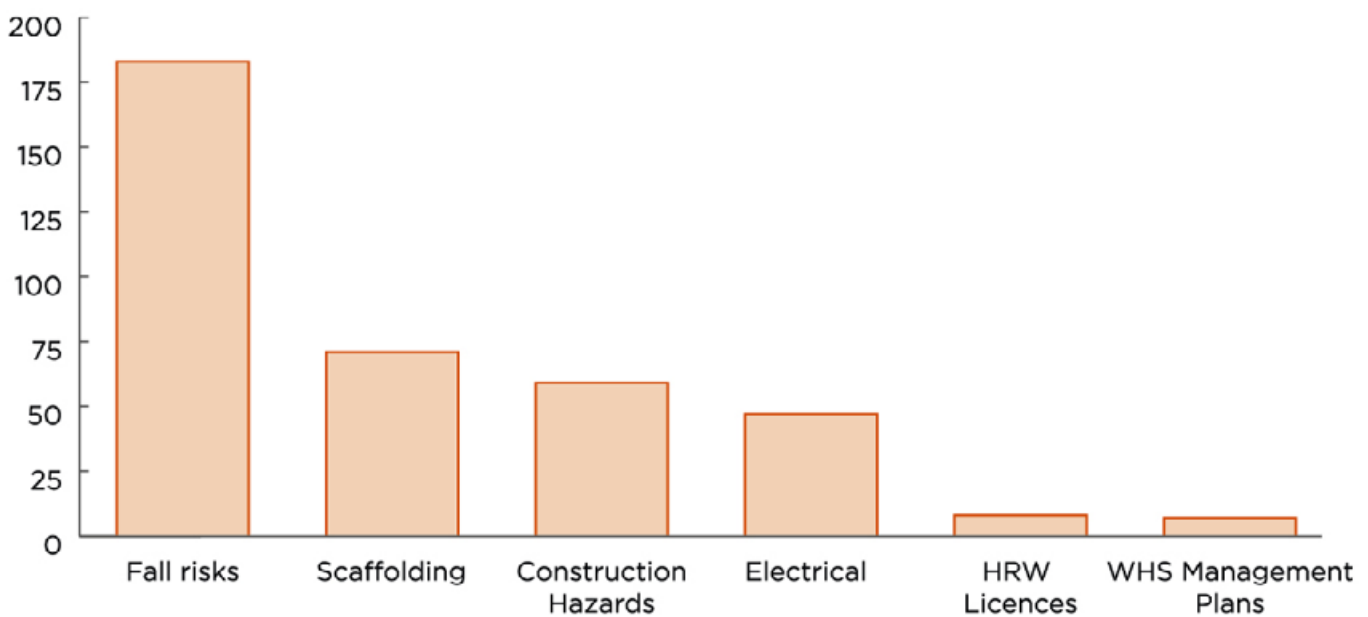
TYPE OF SITE	SYDNEY TEAM	NSW NORTH TEAM	NSW SOUTH TEAM	TOTAL TYPE OF SITE
House construction	65	56	62	183
Mid-high rise	44	13	10	67
Demolition	3	1	0	4
Commercial	1	7	7	15
Other (eg schools, warehouses, sheds, solar installations)	23	14	8	45
Not noted	6	13	15	34
Total visits by team	142	104	102	348

NOTICES ISSUED

Inspectors issued 467 notices including 48 falls related on-the-spot fines totalling \$155,520.

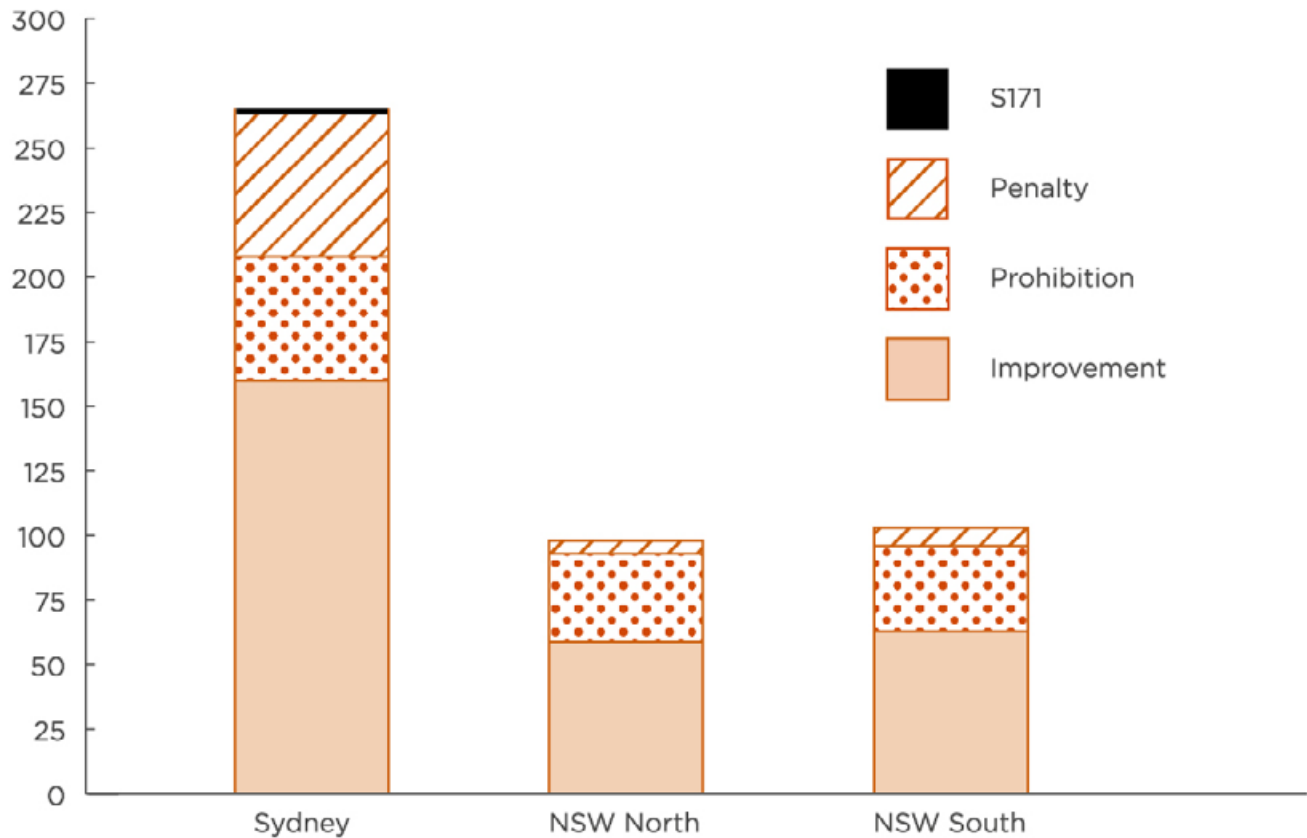
Most notices were issued for falls risks, followed by scaffolding, construction hazards (such as site security and safe work method statements), electrical risks, high risk work licensing and work health and safety management plans.

Graph 1: Notices issued, from 1-31 October 2019, as part of the Falls from Heights Blitz broken down by non-compliance issue.



The majority of notices were issued by the Sydney team (265), followed by NSW South (103) and then NSW North (98). This is an average of 1.9 notices per Sydney site, and on average 1 notice per site for each NSW North and NSW South sites.

Graph 2: Notices issued, from 1-31 October 2019, as part of the Falls from Heights Blitz broken down by team and type of notice.



Improvement notices (that require a non-compliance to be rectified in a given timeframe) made up approximately 60% of the notices issued. Prohibition notices (requiring the activity to cease immediately due to immediate risk to health and safety) and penalty notices (mostly on-the-spot fines for the most serious of breaches) made up the remainder of the notices issued (40%).

INSPECTOR OBSERVATION CHECKLIST

Sydney compliance levels were lower than the overall state average for all but three of the safety checklist questions.

NSW North observed higher compliance levels for all but five checklist questions, and NSW South observed higher compliance for all but two checklist questions, when compared to the overall state average.

Voids and edges had some of the lowest compliance levels measured overall.

This report does not provide detailed scaffold observations analysis. Details of previous scaffold visit findings can be found on the [SafeWork NSW website](https://www.safework.nsw.gov.au/hazards-a-z/scaffolding)^{iv}.

iv <https://www.safework.nsw.gov.au/hazards-a-z/scaffolding>

Safety topic and issue - percentage of compliant sites

The below table provides a breakdown of the percentage of compliant sites observed by inspectors for key checklist questions. Compliance percentages are broken down by the overall state-wide observations and team observations.

The average number of checklist questions answered for each section is also listed, noting that due to site circumstances not all checklist questions could be answered for every site.

Table 2: Percentage of sites observed as compliant by the inspector from 1-31 October 2019, broken down by team area and checklist question.

Scaffold

	OVERALL STATE-WIDE COMPLIANCE %	SYDNEY TEAM	NSW NORTH TEAM	NSW SOUTH TEAM
<i>Average number of checklist questions answered</i>		67	39	21
Gaps between hop-ups/decks and building edges less than 300mm (vertical)	69%	74%	81%	84%
Scaffold is appropriately supported on ground and tied into building	85%	77%	91%	96%
PC has communicated that scaffold components must not be removed by unlicensed workers	60%	52%	64%	81%
Scaffold has ONLY been altered by licenced (and not unlicensed) workers	64%	61%	71%	60%
PC knows what needs to be in the handover certificate?	83%	82%	85%	85%
Loads placed on the scaffold are within its rated capacity	98%	97%	97%	100%

Voids and Edges

	OVERALL STATE-WIDE COMPLIANCE %	SYDNEY TEAM	NSW NORTH TEAM	NSW SOUTH TEAM
<i>Average number of checklist questions answered</i>		65	38	24
Voids are covered, secured and marked, or physical barriers are in place	58%	45%	73%	67%
There are adequate system in place for access/egress between levels	69%	57%	82%	79%
Edges are adequately protected to prevent falls (scaff or guarding)	45%	35%	61%	49%
Controls are in place to prevent falls through fragile/brittle roofs (such as roof mesh, physical exclusion zone etc)	70%	80%	33%	100%
Excavations and pits adequately secured to prevent falls	68%	50%	100%	70%

Formwork

	OVERALL STATE-WIDE COMPLIANCE %	SYDNEY TEAM	NSW NORTH TEAM	NSW SOUTH TEAM
<i>Average number of checklist questions answered</i>		19	7	8
Formwork components are in good order	94%	95%	100%	83%
There is adequate access/egress to formwork decks	72%	50%	87%	100%
Adequate systems are in place to prevent falls from formwork edges	51%	33%	62%	60%
Systems are in place for construction/dismantling of formwork from below	73%	54%	100%	83%

Ladders

	OVERALL STATE-WIDE COMPLIANCE %	SYDNEY TEAM	NSW NORTH TEAM	NSW SOUTH TEAM
<i>Average number of checklist questions answered</i>		71	52	51
Ladders are used for appropriate activities	88%	81%	91%	95%
Ladders are in good condition and rated for commercial use	96%	93%	96%	98%
Ladders are set up correctly (1:4/grounded/tied at top/etc)	86%	79%	87%	96%

Mobile Scaffold and Fall restraints

	OVERALL STATE-WIDE COMPLIANCE %	SYDNEY TEAM	NSW NORTH TEAM	NSW SOUTH TEAM
<i>Average number of checklist questions answered</i>		12	15	6
Harness, lanyards and associated equipment meet Australian standards, are in good order and within manufacturers remove from service date	83%	91%	69%	100%
There is evidence of training for use of harnesses and associated equipment	76%	62%	76%	100%
Mobile scaffolds or elevating work platform (EWP)s are rated industrial and in good order	91%	91%	90%	92%
Relevant WP HRW licence held by EWP operators	89%	88%	88%	100%

Documentation and consultation

	OVERALL STATE-WIDE COMPLIANCE %	SYDNEY TEAM	NSW NORTH TEAM	NSW SOUTH TEAM
<i>Average number of checklist questions answered</i>		74	45	31
Safework method statements are available for high risk work	78%	70%	86%	83%
There are induction records for site (including induction into SWMS)	76%	69%	80%	87%
Toolbox meetings and site meetings are occurring in relation to high risk work activity that affects multiple subcontractors	89%	84%	94%	91%
Emergency control plan in place	78%	81%	94%	91%

SPOTLIGHT ON VOIDS AND EDGES

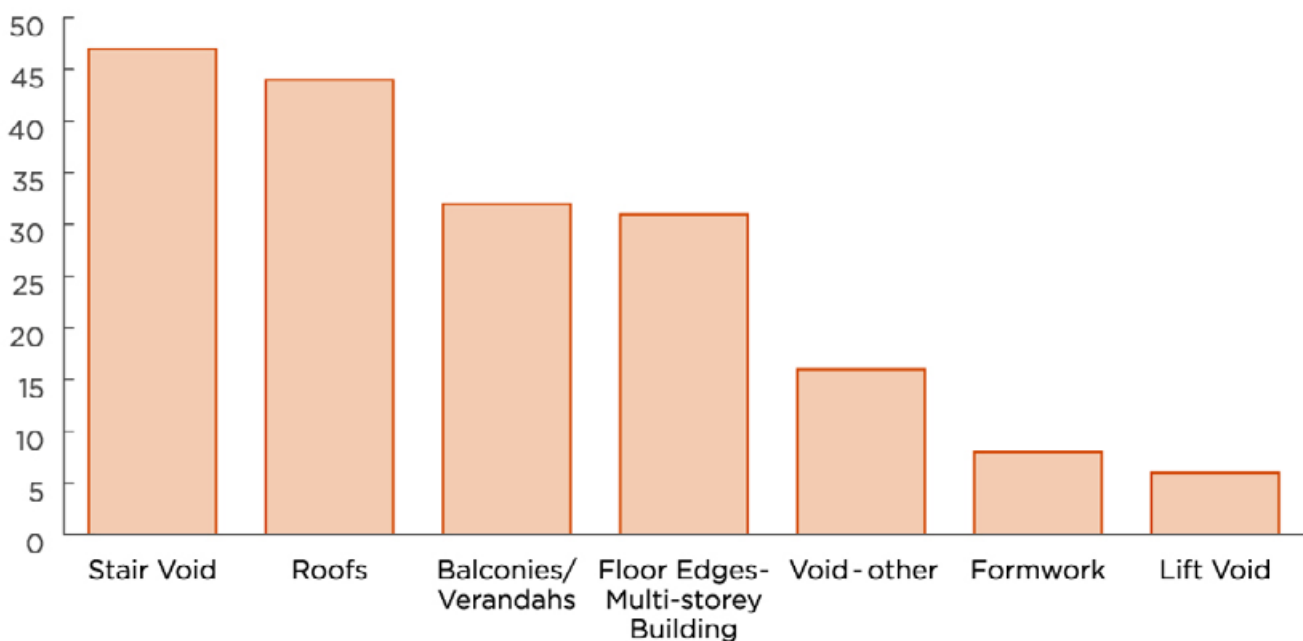
As voids and edges have the lowest recorded levels of compliance observations generally, a further analysis of notice details and reasons for non-compliance was undertaken.

Notice descriptions

Of the 348 notices issued, 191 (or 55%) were issued for falls risks associated with voids and edges.

The below table indicates the categorised risk areas for voids and edges, with most notices being issued for risks associated with stair voids and roof work.

Graph 3: Notices issued for voids and edges – excluding scaffolds - from 1-31 October 2019, as part of the FFH Blitz, broken down by type of risk.



The height risk was noted on 140 of the 191 voids and edges notices. The majority (73%) of notices were issued for a risk of 2.1 to 4 metres, which is consistent with approximately one floor level, noting that most serious and fatal falls from heights are from a height of 4 metres or less.

73% of notices were issued for a height of 2.1-4 metres
Most fatal and serious falls are from 2.1-4 metres



Reason's cited for non-compliance

The following table breaks down the reasons provided by 76 site supervisors/managers as to why the edge or void was not adequately protected.

Almost half stated “they had no excuse”, followed by “poor planning”, “they thought it was ok”, and “they didn’t know it was non-compliant”.

Table 8: Reasons as to why the void or edge was not adequately protected, as provided to the inspector by the site supervisor from 1-31 October 2019, as part of the FFH Blitz.

VOID AND EDGE PROTECTION EXCUSES	TOTAL
They had no excuse	29
Poor planning, such as scheduling issues and timing	9
They thought it was ok	7
They don't know why it was non-compliant	7
A worker or contractor tampered with the protections in place	4
Contractor, such as leaving it up to the contractor, or them not following the SWMS	4
Building design, such as nothing to attach a handrail to	3
Time pressures, such as rushing to get the job done	2
Cost	2
Access to job/building	2
Couldn't source scaffolder	1
Site access	1
Administrative controls	1
Scaffold dispute	1
Weather protection	1
Formwork stripped	1
Inexperience	1
Grand Total	76

CONCLUSION

Working at heights remains the biggest risk on NSW construction sites, and inspector observations indicate a continued focus is required to secure compliance, particularly in the Sydney area as well as an increased focus on voids and edges – including roofs and building edges.

The reasons given by site supervisors for non-compliance, such as “no excuse”, “poor planning” etc, are not acceptable when it comes to ensuring the safety of workers.

Work at heights can be done safely if businesses and workers plan the job well, have good supervision in place, use the right safety equipment and don't take risks. Further, injuries and deaths can be prevented through the use of properly built scaffolds, installing edge protection and void covers, using work platforms instead of ladders, and fall arrest systems that are attached to an appropriate anchor point with a correctly adjusted lanyard.

SafeWork released its first *Falls from Heights Data Insights and Action Plan* in 2018 to guide and support our approach to tackling this long-standing issue that is particularly significant in the building and construction sector. This blitz report, in conjunction with other falls from heights project findings, provides valuable insights that will be analysed and evaluated in conjunction with incident datasets and in consultation with industry stakeholders to revise and re-release the *Falls from Heights Data Insights and Action Plan* - due out in early 2021.

SafeWork will continue to work with major stakeholders and key influencers in industry through its state-wide dedicated construction teams, to increase awareness and improve overall standards and commitment to working at heights safety.

More safety information is available on the [SafeWork NSW website](https://www.safework.nsw.gov.au).

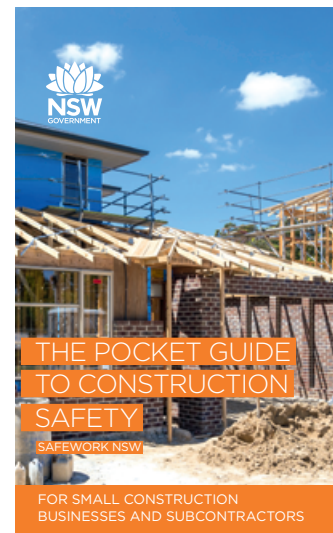
GUIDE FOR SMALL CONSTRUCTION BUSINESSES AND SUBBIES

The Pocket guide to construction safety is a great tool for small businesses and subbies, designed to make safety simple.

It covers all major safety obligations, including working at heights, is small enough to fit in your back pocket, and is QR code enabled so you can link electronically to the relevant code of practice for detailed guidance.

The (free) hard copy version is available from our publications hotline on 1300 799 003, or you can view it on the SafeWork NSW website.

For more information on working at heights safely, see www.safework.nsw.gov.au or call 13 10 50.



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SafeWork NSW, 92-100 Donnison Street,
Gosford, NSW 2250
Locked Bag 2906, Lisarow, NSW 2252
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CONSTRUCTION FALLS FROM HEIGHTS BLITZ CHECKLIST

This simplified checklist from our construction blitz on falls from heights can be used by principal contractors and site supervisors to conduct basic inspections to look for common working at heights hazards.

Falls from heights is the biggest killer on NSW construction sites.

Working at heights could mean working as high up as a multi-storey building, or as low down as the second rung of a ladder.

In fact, most fatal and serious falls occur from a height of four metres or less.

Principal contractors and builders have a duty to provide and maintain a working environment that is safe and without risks to health and safety, so far as is reasonably practicable. This includes the provision of safe systems of work and safety equipment when working at heights. If there is a risk of a person falling more than two metres you also need a safe work method statement.

On-the-spot fines of up to \$3,600 may be issued to those placing workers lives at risk by not adequately protecting them when working at heights.

Name: _____ Date: _____ Time: _____

Site Address: _____

Principal Contractor: _____

Scaffold		Y / N	N/A
1	Evidence of scaffolding licence, where workers or materials could fall 4 metres or more		
2	All planks and hopups in place (no gaps in decks/platforms)		
3	Edge protection is complete (no missing top rails, mid rails or toe boards)		
4	Adequate access/egress to scaffold decks		
5	Gaps between hopups/decks and building edges no greater than 225mm (horizontal)		
6	Gaps between hopups/decks and building edges no greater than 300mm (vertical)		
7	Scaffold is appropriately supported on ground and tied to the building		
8	Workers have been advised the scaffold must not be altered by unlicensed persons		
9	An adequate <u>handover certificate</u> has been provided by the scaffolder		
10	Loads placed on the scaffold are within its duty rating		
Voids and edges		Y / N	N/A
11	Voids covered, secured and marked, or physical barriers in place		
12	Adequate system in place for access/egress between levels		
13	Roof rails or perimeter scaffolding in place for roofing works		
14	Edges adequately protected to prevent falls (scaffold or guarding)		
15	Excavations and pits adequately secured to prevent falls (fencing, covers, barriers)		
16	Controls in place to prevent falls through fragile/brittle roofs such as asbestos, plastic roof sheeting and skylights (eg roof mesh, barriers, exclusion zones)		

Formwork	Y / N	N/A
17 Formwork components in good order		
18 Adequate access/egress to formwork decks		
19 Adequate systems in place to prevent falls from formwork edges		
20 Systems in place for construction/dismantling of formwork from below		
Ladders	Y / N	N/A
21 Ladders used for appropriate activities		
22 Ladders in good condition and rated for industrial use		
23 Set up correctly (1:4/grounded/tied at top/etc)		
Mobile scaffolds, EWPS and fall arrest/restraints	Y / N	N/A
24 Mobile scaffolds located on firm ground with no missing components		
25 Elevating work platforms (EWP) are suitable and maintained in good working order		
26 Boom type elevating work platform (WP) high risk work licence held, where boom length is 11 metres or more		
27 Anchorages, harnesses and lanyards meet Australian standards, are in good order and within the manufacturers remove from service date		
28 Evidence of training for use of harnesses and associated equipment		
Documentation	Y / N	N/A
29 Safe work method statements (SWMS) available for high risk work		
30 Induction records for site (including induction of SWMS)		
31 Plant maintenance records are available		
32 Emergency control plan in place		
Consultation	Y / N	N/A
33 Toolbox talks and site meetings are occurring in relation to work health and safety matters that affect those workers		

FURTHER INFORMATION

GUIDANCE:

- [Pocket guide to construction safety](#) - or order your weatherproof flip book with safety checklists from the publications hotline 1300 799 003
- [Scaffold handover certificate example template](#)
- [Scaffold safety checklist](#) for site supervisors
- [Falls from heights poster](#) - Arabic, Chinese simplified
- [Erecting, altering and dismantling scaffolds](#)

CODES OF PRACTICE:

- [Managing the risk of falls at workplaces](#)
- [Managing the risks of falls in housing construction](#)
- [Construction work](#)
- [Work near overhead powerlines](#)

For further information see www.safework.nsw.gov.au or call 13 10 50

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Gosford, NSW 2250
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