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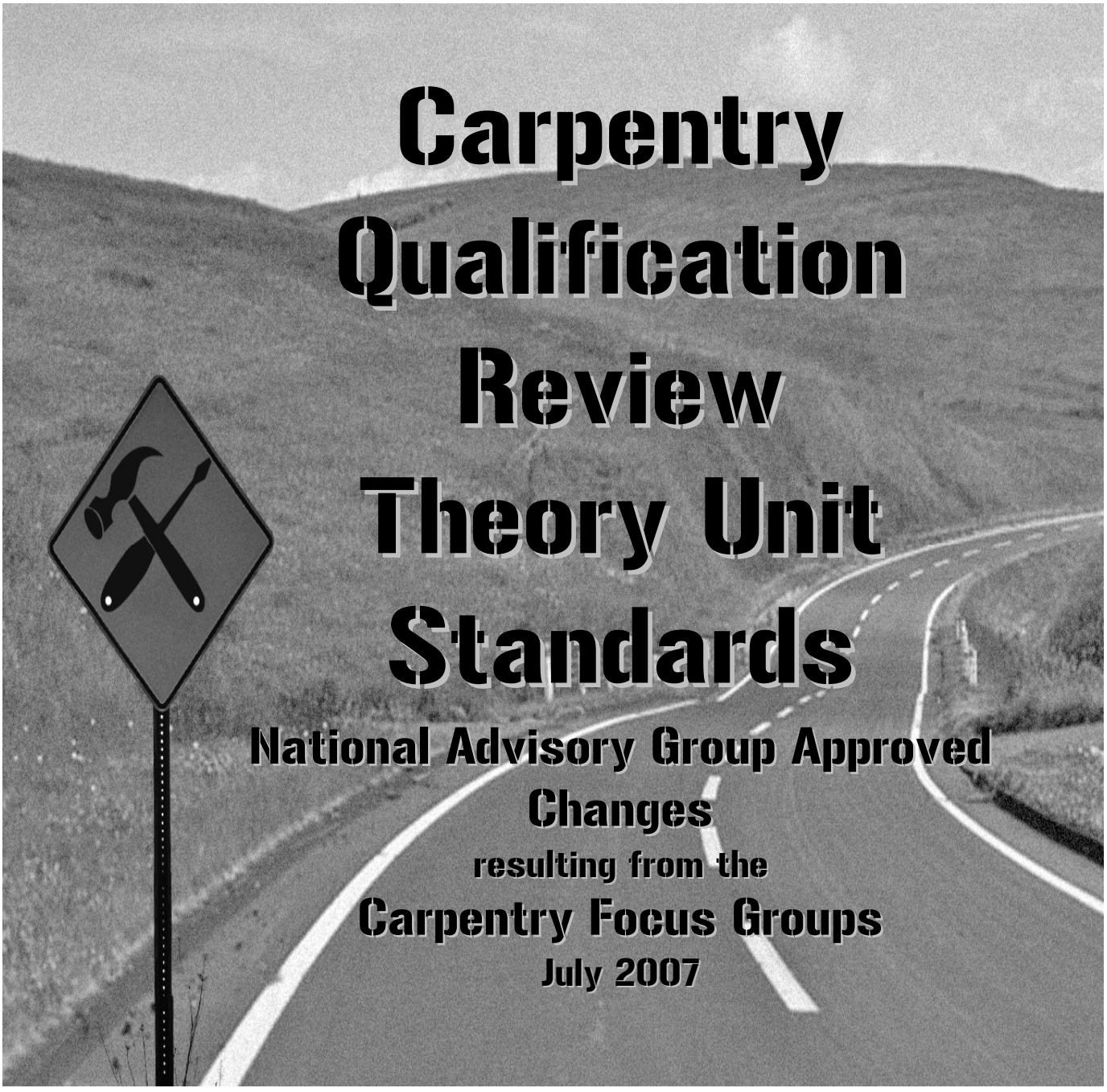

Carpentry Qualification Review Theory Unit Standards

National Advisory Group Approved Changes

resulting from the

Carpentry Focus Groups

July 2007

CARPENTRY THEORY UNIT STANDARDS

1.	12997	Demonstrate knowledge of safe working practices on construction sites
2.	12998	Demonstrate knowledge of carpentry hand tools
3.	12999	Demonstrate knowledge of timber machining equipment used on construction sites
4.	13000	Demonstrate knowledge of portable power tools used on construction sites
5.	DKOPLANS	Demonstrate knowledge of working drawings and specifications
6.	13001	Demonstrate knowledge of building calculations
7.	13002	Demonstrate knowledge of timber used in construction
8.	21211	Demonstrate knowledge of weatherproofing methods used in buildings
9.	XXXX	Demonstrate knowledge of compliance with building legislation
10.	13003	Demonstrate knowledge of preliminary work needed for construction
11.	13004	Demonstrate knowledge of setting out a building
12.	13005	Demonstrate knowledge of spot levels and contour plans
13.	13006	Demonstrate knowledge of residential and/or light commercial slab on ground construction
14.	13007	Demonstrate knowledge of residential and/or light commercial foundation construction
15.	13008	Demonstrate knowledge of formwork for walls up to 1.2 metres
16.	13009	Demonstrate knowledge of fabricating of, and placing reinforcing steel and steel mesh
17.	13010	Demonstrate knowledge of making and placing concrete
18.	13011	Demonstrate knowledge of sub-floor framing and flooring construction
19.	13012	Demonstrate knowledge of setting out and erecting wall frames
20.	13013	Demonstrate knowledge of equal pitch gable, and hip roof construction
21.	13014	Demonstrate knowledge of construction of alternative roof structures
22.	13015	Demonstrate knowledge relating to the work of construction subcontractors
23.	13016	Demonstrate knowledge of timber and metal scaffolds up to five metres
24.	13017	Demonstrate knowledge of fixing exterior claddings and timber weatherboards
25.	13018	Demonstrate knowledge of construction and installation of exterior and interior joinery
26.	13019	Demonstrate knowledge of the installation of metal and translucent roof coverings and roof lights
27.	13020	Demonstrate knowledge of alternative roof cladding materials
28.	13021	Demonstrate knowledge of thermal insulation and sound control
29.	13022	Demonstrate knowledge of fixing interior linings and trim
30.	13023	Demonstrate knowledge of installing building hardware
31.	13024	Demonstrate knowledge of pole frame and pole platform construction
32.	13025	Demonstrate knowledge of timber stair and ramp construction
33.	13026	Demonstrate knowledge of retaining wall construction to 1.5 metres high
34.	13027	Demonstrate knowledge of the construction of concrete masonry structures and paving
35.	13028	Demonstrate knowledge of adhesives and sealants in construction work
36.	13029	Demonstrate knowledge of erecting high wall, column, suspended beam, slab, and stair formwork
37.	13030	Demonstrate knowledge of residential alterations and additions
38.	13031	Demonstrate knowledge of demolition of a single storey building
39.	13032	Demonstrate knowledge of construction equipment used on site
40.	13033	Demonstrate knowledge of alternative building construction methods
41.	13034	Demonstrate knowledge of prefabricated beams used in construction
42.	SUSFLORTH	Demonstrate knowledge of proprietary suspended concrete floor systems

Notes When Reading the Carpentry National Advisory Group Approved Changes for Carpentry Theory Unit Standards

- Contents page shows existing unit standard titles and numbers
- Changes in titles or credits is highlighted at the top of each table
- Existing unit standard content (as registered on the NQF) is in the left hand column of each table
- Reviewed unit standard content (where there have been changes made) is in the right hand column of each table with changes either:
  - **Bolded**
  - Highlighted in Green
  - Highlighted in Yellow
- All theory unit standards are deemed compulsory as part of the National Certificate in Carpentry
- 13035 (Plans and Specs) will be removed from the qualification altogether and replaced with DKOPLANS – which is at a lower level and from a learning perspective comes early on in the picture

Unit Standard No: **12997** Level: **3** Credits: **3**	Unit Standard Title: **Demonstrate knowledge of safe working practices on construction sites**	**1**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Outline safety legislation and regulations relevant to the construction industry.	Outline safety legislation, **Codes of Practice and best Practice Guidelines** and regulations relevant to the construction industry.
PC1.1	The Health and Safety in Employment Act 1992 and Health and Safety in Employment Regulations 1995, (plus amendments) are described in terms of their safety requirements relevant to the construction industry. Range: **includes but is not limited to -** roles and responsibilities, hazard identification, accident investigation and reporting, emergency procedures.	The Health and Safety in Employment Act 1992 and Health and Safety in Employment Regulations 1995, (plus amendments) are described in terms of their safety requirements relevant to the construction industry. Range: roles and responsibilities, hazard **management**, accident investigation and reporting, emergency procedures**, notifiable work, training and supervision, employee participation, certificates of competency**.
PC1.2	The Building Act 1991 is described in terms of its safety requirements for on site construction.	Update legislation and add dates, full titles. Change PC and range to read: **Other legislation** is described in terms of its safety requirements for on site construction. **Range: Building Act 2004, Building Regulations, Resource Management Act, HSNO.** **New PC 1.3** **Approved Codes of Practice and Industry Best Practice Guidelines are described in terms of their place in managing hazards.**
E2	Outline principles of safe working practices on construction sites.	
PC2.1	Site specific safety plans are described in terms of site management and hazard controls.	Site specific safety plans are described in terms of **their content and on site implementation**. Range: responsibilities, training and supervision, hazard management, monitoring, safety meetings, notifiable work, emergency plans
PC2.2	Hazard**s** identification, **and procedures** for avoiding accidents are described **in terms of a standard** construction site **specific safety plan.** Range: **includes but is not limited to –** house keeping, hand tools, portable power tools, scaffolding, excavations, working at heights, ladders, chemicals, noise, compressed air, electrical, demolition, machinery.	Hazard identification, and **control methods** are described for a construction site. Range: house keeping, hand tools, portable power tools, scaffolding, excavations, working at heights, ladders, chemicals, noise, compressed air, electrical, demolition, machinery, **powder actuated power tools**.

PC2.3	Selection and use of items of personal **and job safety** equipment are described i**n terms of a standard** construction site **specific safety plan.** Range: **includes but is not limited to –** clothing, **loose hair**, safety footwear, **ear muffs and plugs**, eye protection, UV protection, dust masks and **breathing apparatus**, hard hats, **appropriate fire extinguishers**, gloves, fall **arrest**, **safe conducts**, safety signs.	Selection and use of items of personal **protective** equipment **(PPE)** are described for a construction site. Range: **protective** clothing, safety footwear, **hearing protection**, eye **and face** protection, UV protection, dust masks and **respirators**, hard hats, **hi-visibility clothing**, gloves, fall **restraint/arrest equipment**, safety signs.
PC2.4	Lifting techniques to avoid personal injury are described. Range: **includes but is not limited to –** handling materials and equipment, posture, and work area layout.	**Manual handling controls are described for a construction site.** Range: **correct lifting technique, mechanical aids**, work area layout.

Unit Standard No: **12998** Level: **3** Credits: **4**	Unit Standard Title: **Demonstrate knowledge of carpentry hand tools**	**2**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Demonstrate knowledge of carpentry hand tools. Range: folding rule, measuring tapes, carpenter's pencil, combination square, sliding bevel, spirit level, marking gauge, butt gauge, steel square, plumb bob, chalk line, string line, dividers, panel saw, cross cut saw, wall board saw, hacksaw and blades, coping saw, chisels, planes, drill bits, end cutting nipper, tinsnips, **bits**, cutting knife, oilstone, hand drill, brace, claw hammer, nail punch set, wrecking bar, screwdrivers, sanding block, apron, adjustable spanner, pliers.	Range: folding rule, measuring tapes, carpenter's pencil, combination square, sliding bevel, spirit level, marking gauge, butt gauge, steel square, plumb bob, chalk line, string line, dividers, panel saw, cross cut saw, wall board saw, **rip saw, combination saw,** hacksaw and blades, coping saw, chisels, planes, drill bits, end cutting nipper**s**, tinsnips, cutting knife, oilstone, hand drill, brace **and bits**, claw hammer, nail punch set, **pinch bar (**wrecking bar**)**, screwdrivers, sanding block, apron, adjustable spanner, pliers**, cramps and clamps, straight edge**, **pop riveter, socket set**.
PC1.1	Use of tools is described in terms of the work operations to be completed.	
PC1.2	Care and maintenance of tools are described as recommended by manufacturer. Range: cutting edges, required maintenance.	Care and maintenance of tools are described **in accordance with manufacturer's recommendations.** Range stays the same.
PC1.3	Use of tools is described in terms of safety requirements. Range: includes but is not limited to – hazards and risks, injury to users and others, damage to materials and tools.	Range: work methods, plant, equipment, identification of hazards **and controls**.

Unit Standard No: **12999** Level: **3** Credits: **3**	Unit Standard Title: **Demonstrate knowledge of timber machining equipment used on construction sites**	**3**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Demonstrate knowledge of timber machining equipment used on construction sites. Range: bench saw**s**, mitre saw **(**drop saw**)**, radial arm saw, surface plan**n**er, thicknesser.	Range: **table** saw, mitre saw**,** drop saw, radial arm saw, surface planer, thicknesser, **sliding compound mitre saw**.
PC1.1	Use of woodworking machinery is described in terms of work operations to be completed. Range: set up, guarding, cleanliness of machinery and work area, manufacturer's instructions.	
PC1.2	Care and maintenance of woodworking machinery is described **as recommended by the manufacturer's instructions.** Range: blades, knives, cutting edges, adjustment, cleaning, power source, guarding.	Care and maintenance of woodworking machinery is described **in accordance with manufacturer's instructions.** Range: blades, knives, cutting edges, adjustment, cleaning, power source, guarding.
PC1.3	Use of woodworking machinery is described in terms of health and safety requirements **and site specific safety plan.** Range: **includes but is not limited to –** identification of hazards and **risk**, prevention of injury to users and others; damage to materials and machinery.	Use of woodworking machinery is described in terms of health and safety requirements. Range: identification of hazards and **controls**, prevention of injury to users and others; damage to materials and machinery.

Unit Standard No: **13000** Level: **3** Credits: **4**	Unit Standard Title: **Demonstrate knowledge of portable power tools used on construction sites**	**4**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Demonstrate knowledge of portable power tools used on construction sites. Range: circular saw, jig-saw, sabre saw, planer, drill **and/or** screw driver, hammer drill, belt sander, orbital sander, router, disc grinder, compressed air nail gun, powder actuated fastening tool, gas powered nail gun, bench grinder.	Demonstrate knowledge of portable power tools used on construction sites. Range: circular saw, jig-saw, **reciprocating** saw, planer, drill**/**screw driver, hammer drill, belt sander, orbital sander, router, disc grinder, compressed air nail gun, powder actuated fastening tool, gas powered nail gun, bench grinder, **hammer drill/breaker**.
PC1.1	The use of portable power tools is described in terms of the manufacturer's instructions.	
PC1.2	The setting up of portable power tools is described in accordance with manufacturer's instructions.	
PC1.3	Care and maintenance of portable power tools is described as recommended by the manufacturer's instructions. Range: blades, knives, bits, cutting edges, adjustment, cleaning, power source, guards.	
PC1.4	Portable power tools are described in terms of their health and safety requirements. Range: identification of hazards and **risks**, injury to users and others, damage to materials and portable power tools.	Portable power tools are described in terms of their health and safety requirements. Range: identification of hazards and **controls**, **testing and tagging, any required certificates of competency,** injury to users and others, **electrical protection,** damage to materials and portable power tools.

Unit Standard No: **DKOPLANS** Level: **3** Credits: **3**	Unit Standard Title: **Demonstrate knowledge of working drawings and specifications**	**5**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Demonstrate knowledge of working drawings.	There are no suggested changes as this is a brand new unit standard drafted for inclusion in the qualification
PC1.1	Identify and describe the purpose of documents that make up a set of working drawings Range: site plan, floor plans, elevations, sectional elevations, detail drawings, reflective ceiling plans, three dimensional pictorial.	
PC1.2	PC Abbreviations and symbols are explained in terms of their use on working drawings. Range: site symbols, scales, electrical symbols, plumbing and drainage symbols, reduced levels, finished levels, bracing units, fire resistance rating units, sound control units, building material symbols, joinery symbols, communication services symbols.	
E2	Demonstrate knowledge of specifications.	
PC2.1	The purpose of the sections that make up a specification are described. Range: abstract, scope of work, preliminary and general, excavation, concrete, pre cast concrete, steel worker, carpentry, aluminium windows, internal partitions and linings, suspended ceilings, metal roofer, drain layer, plumber, electrician, painter.	
E3	Interpret working drawings and specifications.	
PC3.1	Materials to be used in the building process are identified from given working drawings and specifications. Range: structural materials, cladding materials, interior lining materials.	
PC3.2	Working drawings are interpreted in terms of size, scale and position of building elements.	
PC3.3	Scope of work of the carpenter is determined from given specifications.	
PC3.4	Subcontractors required, and the work to be undertaken in preparation for subcontractors, are identified from given specifications.	
PC3.5	Preliminary and general work is identified from given specifications.	

Unit Standard No: **13001** Level: **3** Credits: **4**	Unit Standard Title: **Demonstrate knowledge of building calculations** Change to: **Perform** building calculations	**6**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Describe linear measurement methods for building calculations.	**Perform building calculations based on linear measurement.**
PC1.1	Linear measurement methods are described in terms of their application to the building industry.	
PC1.2	Running dimensions are explained in relation to calculating the length of a building.	**The length of a building is calculated from running dimensions.**
PC1.3	Overall and individual dimensions are **explained in relation to calculations required** from given working drawings.	Overall and individual dimensions are **calculated** from given working drawings.
PC1.4	The principle of 'one for nothing' is explained in terms of its application to spacings.	The principle of 'one for nothing' is explained **and demonstrated** in terms of its application to spacings.
PC1.5	Methods used to calculate spacings are explained in terms of 'centre to centre' or 'in and over' measurements.	Methods used to calculate spacings are explained **and demonstrated** in terms of 'centre to centre' or 'in and over' measurements.
PC1.6	Methods used to calculate equal spaces between framing members are explained in terms of 'in between' measurements.	Methods used to calculate equal spaces between framing members are explained **and demonstrated** in terms of 'in between' measurements.
E2	Describe the methods used to calculate diagonal measurements from given working drawings.	Calculate diagonal measurements from given working drawings.
PC2.1	Method used to calculate the diagonal length is explained in terms of the formula for right-angled triangles.	Diagonal length is calculated using the formula for right angled triangles
PC2.2	Method used to calculate the internal diagonal length of a rectangular prism is explained in terms of the given information.	**Internal diagonal length of a rectangular box is calculated from given information.**
E3	**Describe the methods used to** calculate areas and volumes from given working drawings.	Calculate areas volumes **and percentages** from given working drawings.
PC3.1	Method used to calculate area is explained in terms of formula for areas.	**Area is calculated from given information.** **Range: circle, triangle, rectangle, square**
PC3.2	Method used to calculate volumes is explained in terms of formula for volume.	Volume is calculated from given information Range: cylinder, rectangular **box,** cube. **New pc 3.3** **Percentages are calculated from given information.**

Unit Standard No: **13002** Level: **3** Credits: **2**	Unit Standard Title: **Demonstrate knowledge of timber used in construction**	**7**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Identify timbers and describe their uses. Range: indigenous, exotic, imported timbers.	
PC1.1	Timbers are described in terms of their species, characteristics and common usage.	Timbers are described in terms of their species, characteristics, common usage **and resource sustainability**.
PC1.2	Timber is described in terms of its length, size and finish. Range: **includes but is not limited to –** rough sawn, gauged, dressed, finger jointed, profiles.	Timber is described in terms of its length, size and finish. Range: rough sawn, gauged, dressed, finger jointed, profiles.
E2	Describe features of timber grading.	
PC2.1	Grades of indigenous and exotic timber are defined in terms of NZS 3631:1988 New Zealand timber grading rules, and its application in the building industry. Range: visual **assessment of timber**, machine stress grade.	Grades of indigenous and exotic timber are defined in terms of **New Zealand Standard** timber grading rules, and **their** application in the building industry. Range: visual**ly stress graded**, machine stress graded.
PC2.2	Common defects in indigenous and exotic timbers are described in terms of how these affect timber use.	Common defects in indigenous, exotic **and imported** timbers are described in terms of how these affect timber use. **Range – knots, splits, checks, shakes, warps.**
E3	Describe features of timber seasoning.	
PC3.1	Terms are defined in relation to timber seasoning. Range: fibre saturation point, equilibrium moisture content, moisture content.	
PC3.2	Methods used to determine moisture content of timber are described. Range: oven dry method, moisture meter.	
PC3.3	The seasoning of timber is explained in terms of the method used. Range: stacking methods; seasoning methods including - air, forced air, low and high temperature kilns.	
E4	Identify causes of timber deterioration and describe preventative measures. Range: **includes but is not limited to -** common house borer, two tooth long horn borer, pin hole borer, dry rot, wet rot.	Identify causes of timber deterioration and describe preventative measures. Range: common house borer, two tooth long horn borer, pin hole borer, dry rot, wet rot, **environmental conditions.**
PC4.1	Common forms of insect attack are identified and described in terms of the resulting deterioration of timber.	
PC4.2	Common forms of fungal attack are identified and described in terms of the resulting deterioration of timber.	

PC4.3	Causes of timber deterioration are identified and described. Range: ultra violet light, mechanical abrasion, moisture fluctuations, bacteria, chemicals, storage and stacking.	**Environmental** causes of timber deterioration are identified and described. Range: ultra violet light, mechanical abrasion, moisture fluctuations, bacteria, chemicals, storage and stacking
PC4.4	Actions required to prevent deterioration in timber are identified and described. Range: **includes but is not limited to** deterioration caused by – insect attack, fungal attack, environmental conditions.	Actions required to prevent deterioration in timber are identified and described. Range: deterioration caused by – insect attack, fungal attack, environmental conditions.
E5	Explain timber preservation.	
PC5.1	Preservative treatment of timber and associated health and safety requirements for handling and disposal are explained. Range: includes but is not limited to – boron salts, creosote, copper–chrome–arsenate, copper base chrome and arsenic free, light organic solvent, chemical free.	Preservative treatment of timber and associated health and safety requirements for handling and disposal are explained. Range: boron salts, creosote, copper–chrome–arsenate, copper base chrome and arsenic free, light organic solvent, chemical free.
PC5.2	Treated timber is described in terms of its identification, use, care and handling.	

Unit Standard No: **21211** Level: **3** Credits: **4**	Unit Standard Title: **Demonstrate knowledge of weatherproofing methods used in buildings** Change to: Demonstrate knowledge of t**he principles of and methods used in** weatherproofing buildings	**8**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Demonstrate knowledge of processes and effects of water penetration into buildings. Range: **includes but is not limited to –** capillary action, hydrostatic pressure, gravity, wind pressure, surface tension, airflows; **evidence is required of each process.**	Range: capillary action, hydrostatic pressure, gravity, wind pressure, surface tension, airflows.
PC1.1	The penetration processes are described in terms of water entering buildings.	**The processes of water penetration into buildings are described.**
PC1.2	The effects of water penetration into buildings are described.	
PC1.3	Methods of preventing water penetration into buildings are described.	
E2	Describe the purpose, function and limitations of WPPS used in buildings. Range: **includes but is not limited to –** flashings and trim, weather grooves, concrete WPPS, building wraps/membranes, overhangs, vapour barriers, coatings, cladding, roofing, chases, sealants, caulking, air space, sub-floor drainage and tanking membranes, drained cavity design.	Range: flashings and trim, weather grooves, concrete WPPS, building wraps/membranes, overhangs, vapour barriers, coatings, cladding, roofing, chases, sealants, caulking, air space, sub-floor drainage and tanking membranes, drained cavity design, **rigid air barrier**.
PC2.1	Methods by which WPPS prevent water entering buildings are described.	Methods by which WPPS prevent water entering buildings are described **in accordance with E2/AS1.**
PC2.2	The limitations of each WPPS are described.	
PC2.3	Preparation requirements for the installation of each WPPS are described.	

Unit Standard No: **XXXX** Level: **3** Credits: **3**	Unit Standard Title: **Demonstrate knowledge of compliance with building legislation**	**9**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Demonstrate knowledge of building industry legislation.	There are no suggested changes as this is a brand new unit standard drafted for inclusion in the qualification
PC1.1	The laws that govern building in New Zealand are are identified and their relationship to the building process is described. Range: The Building Act 2004, Building Regulations 1992, and Building (Forms) Regulations 2004, Resource Management Act 1991, Health and Safety in Employment Act 1992, Hazardous Substances and New Organisms Act 1996, Fire Service Act 1975, Historic Places Act, Fencing of Swimming Pools Act 1987.	
PC1.2	Schedule One of the Building Act is described in relation to the building process. Range: four types of building work that do not require a Building Consent are described.	
PC1.3	The purpose and function of the New Zealand Building Code is described.	
E2	Demonstrate knowledge of obtaining a Building Consent and compliance with legislation.	
PC2.1	The roles and responsibilities of controlling Authorities are described in relation to the requirements for constructing a building or structure. Range: Building Consent Authorities, Territorial Authorities, Regional Authorities, Department of Labour.	
PC2.2	Documentation requirements for a building consent application are described. Range: plans and specifications, application forms, resource consents, certificate of title, structural calculations, PIM, easements, supporting documents.	
E3	Demonstrate knowledge of the building process in relation to legislative requirements.	
PC3.1	Documentation to be received prior to work commencing is described. Range: Building Consent, approved plans, specifications, Project Information Memorandum.	

PC3.2	Inspections required throughout the building process are described. Range: drainage, foundation, slab, preclad, preline, plumbing, postline, cavity, waterproofing, final inspection.	
PC3.3	Notices to Fix, and the effects of non compliance, are explained.	
PC3.4	The final inspection and the Code Compliance Certificate are explained.	
E4	Demonstrate knowledge of consumer protection in the building industry.	
PC4.1	Warranties under the Building Act are explained. Range: expressed and implied warranties.	
PC4.2	Other forms of consumer protection are described in relation to their implications to building projects. Range: Fair Trading Act, Construction Contracts Act, Contractors all risk insurance.	
E5	Demonstrate knowledge of builder licensing.	
PC5.1	The Licensed Building Practitioners scheme is described in terms of the key features. Range: licence classes, restricted building work, accountability to the Building Practitioners Board.	
PC5.2	Key people, trades, and organisations involved in the design and building process are described in terms of their roles and responsibilities under Builder Licensing.	

Unit Standard No: **13003** Level: **4** Credits: **2**	Unit Standard Title: **Demonstrate knowledge of preliminary work needed for construction**	**10**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Identify documentation applicable to the construction of a building or structure.	
PC1.1	Documentation used in the construction of buildings or structures is **described**. Range: **evidence is required for a minimum of two references and can include but is not limited to** – drawings, specifications, Project Information Memorandum, **Land Information Memorandum**, **Code Compliance Certificate, Building Warrant of Fitness.**	Documentation used in the construction of buildings or structures is **identified**. Range: drawings, specifications, Project Information Memorandum, **Certificate of Public Use**.
PC1.2	The Building Act, Building Code and handbook are described in terms of application to a building or structure.	**Remove this pc.**
PC1.3	Alternate means of compliance are described in terms of the documentation requirements of the Building Code. Range: **evidence is required for a minimum of one reference but is not limited to -** acceptable solutions, Producer Statement, NZ Standards.	Alternate means of compliance are described in terms of the documentation requirements of the Building Code. Range: acceptable solutions, Producer Statement, **expert opinions**.
E2	Outline the procedures for obtaining a building consent and the associated functions of controlling authorities.	**Remove this entire element and its pcs.**
PC2.1	The roles and responsibilities of controlling authorities are described in relation to the requirements for constructing a building or structure. Range: **Building Industry Authority**, **Territorial Authority, Building Certifier,** Department of Labour.	
PC2.2	The Resource Management Act is described in terms of its application to a building or structure.	
PC2.3	Easements on development of a site are described in terms of consent requirements and their effects.	
E3	Describe how to identify land intended for a construction site.	Describe how to identify land and services intended for a construction site **and calculate total land and site coverage area.**
PC3.1	Land identification is described in terms of the use of a Deposited Plan, Certificate of Title, **and Easement**.	Land identification is described in terms of the use of a **Lot number,** Deposited Plan **and** Certificate of Title.
PC3.2	Methods of identifying a construction site are described. Range: **may include but is not limited to -** site plans and boundary markers.	Methods of identifying a construction site are described. Range: site plans and boundary markers, **datum points**, **survey marks, gridlines**.

PC3.3	Calculations are made in relation to the total land and site area of a typical construction site.	**Add new pc 3.3:** **Methods of identifying existing services are described.** **Range: PIM, lodged existing plans, service providers, visual inspection** **Existing 3.3 becomes 3.4:** Calculations are made in relation to the total land and site **coverage** area of a typical construction site.
E4	Describe how to set up temporary construction site facilities.	
PC4.1	Required actions are described in relation to setting up a building site. Range: **includes but is not limited to –** provision of access, installation of water, power, sewage and tele**phone** services, set up of temporary site accommodation, ablutions, storage for plant and materials, security, measures to protect adjoining properties and trees, measures to protect site personnel and the public.	Required actions are described in relation to setting up a building site. Range: provision of access, installation of temporary water, power, sewage, **stormwater** and tele**communication** services, set up of temporary site accommodation, ablutions, storage for plant and materials, security, measures to protect adjoining properties and trees, measures to protect site personnel and the public, **plant wash down areas, confirmation of issue of building and related consents**.
E5	Describe time activity programming **for a residential building.** Range: start date, finish date, operations dates, subcontractors dates, materials delivery dates, inspections	Describe time activity programming for a residential building **and prepare a sample time activity programme.** Range: **the following dates must be noted** – start date, finish date, operations dates, subcontractors dates, materials delivery dates, inspections, **specialist plant dates.**
PC5.1	A time activity programme is explained in terms of work activity and job progress.	
PC5.2	A time activity programme is prepared **to meet job requirements.**	A time activity programme is prepared **from given examples of plans and specifications.**

Unit Standard No: **13004** Level: **4** Credits: **3**	Unit Standard Title: **Demonstrate knowledge of setting out a building**	**11**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Describe the **positioning** of a building on site.	Describe the **set out** of a building on site.
PC1.1	The method of **positioning** a building on site is described in terms of Territorial Authority approved documents.	The method of **setting out of** a building on site is described in terms of **Building Consent** Authority approved documents.
PC1.2	**Positioning** is described in terms of the setting up of building profiles. Range: **includes but is not limited to –** location, erection, rigidity, stability, plumb, level.	**Set out** is described in terms of the setting up of building profiles. Range: location, erection, **reduced level**, stability, plumb, level, **datum**.
PC1.3	Levelling equipment and methods are described in terms of achieving a level surface within a specified tolerance. Range: **includes but is not limited to –** straight edge and spirit level, water level, builder's level, laser level.	Levelling equipment and methods are described in terms of achieving a level surface within a specified tolerance. Range: straight edge and spirit level, water level, builder's level, laser level, **theodolite**.
E2	Describe the **placement** of building lines.	Describe the **setting out** of building lines.
PC2.1	Methods used to determine where lines are to be placed are explained in relation to size, shape, and squareness.	
PC2.2	Squaring methods are described in terms of placing lines within a specified tolerance. Range: **includes but is not limited to** – use of pythagoras, use of diagonal measurements.	Squaring methods are described in terms of placing lines within a specified tolerance. Range: use of pythagoras, use of diagonal measurements, **use of squaring devices**.
PC2.3	Marking of profile boards is explained in relation to meeting the requirements of the working drawings. Range: **includes but is not limited to –** position and size of footings and walls, reinforcing, fixings.	Marking of **set out points on** profile boards is explained in relation to meeting the requirements of the working drawings. Range: position and size of footings and walls**, beams, columns, gridlines**, reinforcing, **reduced level,** fixings.

Unit Standard No: **13005** Level: **4** Credits: **3**	Unit Standard Title: **Demonstrate knowledge of spot levels and contour plans**	**12**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	**Outline** features of levelling instruments. Range: **includes but is not limited to** - builder's levels and laser level.	**Describe** features of levelling instruments. Range: builder's level, laser level, **theodolite, water level**.
PC1.1	Levelling instruments are described in terms of their set up, adjustment and safety requirements.	
PC1.2	Levelling instruments are described in terms of the requirements for achieving accuracy.	
E2	Describe how to take and use spot levels.	
PC2.1	Methods of taking levels are described in accordance with instruments used. Range: reading at level or stadia graticules, calculation of height and distance, reading and recording horizontal angles.	Methods of taking **spot** levels are described in accordance with instruments used. Range: reading at level or stadia **lines**, calculation of height and distance, reading and recording horizontal angles.
PC2.2	Measuring and recording systems are described in terms of levelling instruments used.	
PC2.3	Spot levels obtained are described in relation to datum point **and** profile heights.	Spot levels obtained are described in relation to datum point **or** profile heights.
E3	Explain the purpose and features of a contour plan.	
PC3.1	The purpose and methods used to interpret contour plans on a construction site are described. Range: grid height, contour heights, gradient.	

Unit Standard No: **13006** Level: **4** Credits: **2**	Unit Standard Title: **Demonstrate knowledge of residential and/or light commercial slab on ground construction** Change to: Demonstrate knowledge of **preparation for footings and** slab on ground construction	**13**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Describe factors relating to the excavation of a site for footings **or** slab. Range: position, size, line, depth, stepped.	Describe factors relating to the excavation of a site for footings **and** slab. Range: position, size, line, depth, stepped.
PC1.1	**Working drawings and specifications** are interpreted in terms of setting out and excavating a site for footings and slab.	**Site documents** are interpreted in terms of setting out and excavating a site for footings and slab. **Range: plans, specifications, service location drawings from utility suppliers**
PC1.2	Methods of excavation are described in terms of requirements for footings **or** slab. Range: includes but is not limited to – work methods, plant, equipment, identification of hazards, **injury prevention and personal protection**.	Methods of excavation are described in terms of requirements for footings **and** slab. Range: work methods, plant, equipment, identification of hazards **and controls**.
PC1.3	Methods of dealing with excavated **soil** are **identified** in terms of **job** and safety requirements.	Methods of dealing with excavated **spoil** are **explained** in terms of **site** and safety requirements.
PC1.4	Methods of calculating quantity of excavated material, including allowances for bulking, are **demonstrated** in terms of job specifications or industry practices.	Methods of calculating quantity of excavated material including allowances for bulking are **described**, **and sample calculations performed.**
E2	Describe factors relating to placing hardfill and blinding layer on a construction site.	
PC2.1	Methods of calculating quantities of material needed are described in terms of given examples of job specifications. Range: hardfill, blinding layer.	
PC2.2	Methods of placement are described in terms of the material concerned. Range: placing, spreading, levelling, compacting **where required.**	Methods of placement are described in terms of the material concerned. Range: placing, spreading, levelling, compacting.
E3	**Outline** factors relating to laying damp proof membrane and/or applying emulsion on a construction site. **Range: manufacturer's and job specifications.**	**Explain** factors relating to laying damp proof membrane and/or applying emulsion **in accordance with manufacturer's and site documents.**
PC3.1	Methods of calculating quantity of damp proof membrane needed are **demonstrated in terms of given examples of job specifications**.	Methods of calculating quantity of damp proof membrane needed are **described and sample calculations performed**.
PC3.2	Methods of laying damp proof membrane are explained **in terms of specifications**.	Methods of laying damp proof membrane are explained in terms of **accordance with NZS 3604: 1999, manufacturer's recommendations and site documents**.
PC3.3	Methods of sealing joints and penetrations are described in terms of specifications.	Methods of sealing joints and penetrations are described in terms of **site documents**.
PC3.4	Methods of applying emulsion are described in terms of specifications and health and safety requirements.	Methods of applying emulsion are described in terms of **manufacturer's recommendations and site documents**, and health and safety requirements.

Unit Standard No: **13007** Level: **3** Credits: **4**	Unit Standard Title: **Demonstrate knowledge of residential and/or light commercial foundation construction** Change to: Demonstrate knowledge of **construction of pile foundations**	**14**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	**Outline** the requirements for the construction of pile foundations.	**Explain** the requirements for the construction of pile foundations.
PC1.1	Types of piles are identified in terms of their use**s**. Range: anchor, braced, cantilever, driven, ordinary.	Types of piles are identified in terms of their use. Range: anchor, braced, cantilever, driven, ordinary.
PC1.2	Methods of calculating quantities of material required for pile foundations are **explained in terms of job specifications**.	Methods of calculating quantities of material required for pile foundations are **described**, **and sample calculations performed**.
PC1.3	Placement of piles is described in **terms of the requirements of the sub-floor bracing schedule**.	Placement of piles is described in **accordance with NZS 3604:1999 Timber Framed Buildings or specific design**. Range: **line, level and plumb, height, centres, requirements of the sub-floor bracing schedule.**
PC1.4	Provision for permanent fixings to different pile types is described in terms of the requirements of NZS 3604:1999 Timber Framed Buildings.	Provision for permanent fixings to different pile types is described in terms of the requirements of NZS 3604:1999 Timber Framed Buildings, or **specific design.** **New pc 1.5:** Provision **for ventilation** is described in terms of the requirements of NZS 3604:1999 Timber Framed Buildings, or **specific design.**
E2	Outline the construction of corner and continuous wall foundations.	**Remove this element 2 completely**
PC2.1	Requirements are identified in terms of the construction of corner and continuous wall foundations. Range: plumb to line and level, fixings, sub-floor ventilation.	
PC2.2	Methods of calculating quantities of material required for construction of foundations are explained in terms of job specifications.	
E2		**New Element 2** **Explain the purpose, requirements and construction methods for bearers, stringers and bracing used in pile foundations**
PC2.1		**2.1 The purpose and requirements of bearers and stringers are described in terms of NZS 3604:1999 Timber Framed Buildings or specific design.**
PC2.2		**2.2 The methods of installing and fixing bearers and stringers are described in accordance with NZS 3604:1999 Timber Framed Buildings or specific design.**
PC2.3		**2.3 The requirements and purpose of sub floor bracing is described in terms of NZS 3604:1999 Timber Framed Buildings or specific design.**
PC2.4		**2.4 Bracing methods are described in accordance with the requirements of the sub-floor bracing schedule.**

Unit Standard No: **13008** Level: **3** Credits: **4**	Unit Standard Title: **Demonstrate knowledge of formwork for walls up to 1.2 metres** Change to: Demonstrate knowledge of formwork for **footings, foundations, beams and** walls up to 1.2 metres	**15**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Demonstrate knowledge of formwork for walls up to 1.2 metres. Range: shutters, stud **and** sheathing.	Demonstrate knowledge of formwork for **footings, foundations, beams and** walls up to 1.2 metres Range: shutters, stud, sheathing, **proprietary systems**.
PC1.1	Procedures for the construction and erection of formwork are described. Range: line, level and plumb specified tolerances, openings, chases, pipes, wires, joints and fixing materials.	Range: line, level and plumb; specified tolerances; openings; chases; pipes; wires; joints; fixing materials; **height; bracing, ties**.
PC1.2	Procedure for maintaining health and safety requirements when erecting formwork is described. Range: includes but is not limited to – work methods, plant, equipment, identification of hazards**, injury prevention and personal protection**.	**Make this pc the last in element – pc 1.6** Procedure for maintaining health and safety requirements when erecting formwork is described. Range: work methods, plant, equipment, identification of hazards **and controls**.
PC1.3	Preparation of formwork is described **in terms of finishes** required.	**Becomes 1.2** Preparation of formwork is described **in accordance with the finish** required.
PC1.4	Methods **used to** calculate quantities for formwork are described **to meet given work site specifications.**	**Becomes 1.3** Methods **of calculating** quantities for formwork are described**, and sample calculations performed**.
PC1.5	Methods of preventing concrete adhering to **sheathing** are described in terms of treatments available.	**Becomes 1.4** Methods of preventing concrete adhering to **formwork** are described in terms of treatments available.
PC1.6	Safe dismantling of formwork is described in terms of ease of dismantling, minimum damage to concrete, and maximum re-use.	**Becomes 1.5**

Unit Standard No: **13009** Level: **3** Credits: **1**	Unit Standard Title: **Demonstrate knowledge of fabricating of, and placing reinforcing steel and steel mesh** Change to: Demonstrate knowledge of **fabrication and placing of** reinforcing steel and steel mesh	**16**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Explain factors relating to reinforcing steel and its use in construction.	
PC1.1	Different types of reinforcing steel are **identified** in terms of their properties and uses. Range: round bars, deformed bars, high yield bars, mesh, fibre.	Different types of reinforcing steel are **described** in terms of their properties and uses. Range: round bars, deformed bars, high yield bars, mesh, fibre, **mild steel**.
PC1.2	Placement of reinforcing steel is described in terms of achieving maximum strength by location and position. Range: footings and pads, **foundations wall**, columns, beams, retaining walls, cantilevers, floor slabs.	Placement of reinforcing steel is described in terms of achieving maximum strength by location and position. Range: footings and pads, **foundation walls**, columns, beams, retaining walls, cantilevers, floor slabs.
PC1.3	Methods of calculating material lengths and quantities are described **in terms of given working drawings**.	Change to: Methods of calculating material lengths and quantities are **described, and sample calculations performed.**
PC1.4	NZS 3109:1997 Concrete construction, is described in terms of its application to fabricating and placing reinforcing steel.	
PC1.5	Reinforcing steel schedules are described.	
PC1.6	Methods for storing reinforcing steel to prevent damage or deterioration are described.	
E2	Explain factors relating to placing reinforcing steel and steel mesh on site.	
PC2.1	Placement factors for reinforcing steel are described in terms of given examples of job specifications. Range: cutting and bending, tying into position, support **and** preventing displacement during construction.	Range: cutting and bending, tying into position, support, preventing displacement during construction **and placement of concrete**.
PC2.2	Procedures for maintaining health and safety requirements when placing reinforcing steel are described. Range: **includes but is not limited to –** work methods, identification of hazards, injury prevention and personal protection.	Procedures for maintaining health and safety requirements when placing reinforcing steel are described. Range: work methods, identification of hazards **and controls**.

Unit Standard No: **13010** Level: **3** Credits: **3**	Unit Standard Title: **Demonstrate knowledge of making and placing concrete**	**17**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	**Outline** the principles of concrete mix design and manufacture.	**Explain** the principles of concrete mix design and manufacture.
PC1.1	Concrete is described in terms of its ingredients. Range: water, cement, aggregates.	Concrete is described in terms of its ingredients. Range: water, cement, aggregates, **admixtures**.
PC1.2	Proportions of the ingredients are described in terms of workability and maximum strength.	
PC1.3	Ingredients are described in terms of batching and mixing.	
PC1.4	Methods of testing are described in terms of consistency and compression of concrete.	**Slump and compression testing of concrete is described.**
E2	**Describe** features of concrete admixtures.	**Explain the** features of concrete admixtures.
PC2.1	Admixtures are explained in terms of their classification. Range: water reducers, accelerators, expanders, retarders, air entrainers, super plasticisers, colouring agents, corrosion inhibitors.	Admixtures are **described** in terms of their classification, uses and advantages. Range: water reducers, accelerators, expanders, retarders, air entrainers, super plasticisers, colouring agents, corrosion inhibitors, **fibre reinforcing**.
PC2.2	Admixtures are differentiated according to their uses and advantages.	**Delete PC 2.2**
E3	Outline the method of calculating quantities of concrete.	**Explain** the method**s** of calculating quantities of concrete.
PC3.1	Methods of calculating quantities of set concrete are described in terms of job specifications. Range: ready mix, site mix.	Methods of calculating quantities of concrete are described, **and sample calculations performed**. **Remove range**
PC3.2	Methods of calculating quantities of ingredients for site mixed concrete are described in terms of job specifications.	Methods of calculating quantities of ingredients for site mixed concrete are described, **and sample calculations performed**.
E4	Describe factors relevant to the **laying** and finishing of concrete.	Describe factors relevant to the **placing** and finishing of concrete.
PC4.1	Transport of concrete is described in terms of factors **which** need to be considered. Range: distance, time, method.	Transport of concrete is described in terms of factors **that** need to be considered. Range: distance, time, method.
PC4.2	Factors relevant to the **placement** and finish of wet concrete are described in terms of its final condition. Range: compaction, maximum density, screed and float, surface finish including imprint.	Factors relevant to the **placing** and finish of wet concrete are described in terms of its final condition. Remove 'including imprint' from the range. Range: compaction, maximum density, screed and float, surface finish including imprint.
PC4.3	Methods of building in services and fixings are described in terms of their placement and protection.	
PC4.4	Concrete joints are described in terms of their formation and installation. Range: expansion joints, construction joints, isolation joints, contraction joints, **control joints**.	Concrete joints are described in terms of their formation and installation. Range: expansion joints, construction joints, isolation joints, contraction joints, **shrinkage joint**.

PC4.5	Curing of **concert** is described in terms of time and treatment.	Curing of **concrete** is described in terms of time and treatment. **Add range - ponding, covering, curing compound.**
PC4.6	Procedures for maintaining health and safety requirements when placing and finishing concrete are described. Range: includes but is not limited to – work methods, identification of hazards, **injury prevention and personal protection.**	Procedures for maintaining health and safety requirements when placing and finishing concrete are described. Range: includes but is not limited to – work methods, identification of hazards **and controls**.

Unit Standard No: **13011** Level: **3** Credits: **4 change to 3**	Unit Standard Title: **Demonstrate knowledge of sub-floor framing and flooring construction** Change to: Demonstrate knowledge of **floor** framing and flooring construction	**18**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Describe the requirements for the construction of sub-floo**ring** framing. Range: i**ncludes but is not limited to –** floor framing, bracing, insulation, flooring, fixings.	Describe the requirements for the construction of **floor** framing. Range: floor framing, **diaphragm** bracing, insulation, flooring, fixings.
PC1.1	The requirements and purpose of sub-floor and flooring components are described in terms of NZS 3604:1999 Timber Framed Buildings and job specifications.	The requirements and purpose of **floor framing**, and flooring components, are described in terms of NZS 3604:1999 Timber Framed Buildings **or specific design**.
PC1.2	Methods of calculating quantities **required** of sub-flooring framing and flooring **required** are explained in terms of **working drawings and specifications.**	Methods of calculating quantities of floor framing and flooring are described**, and sample calculations performed**.
E2	**Outline** the requirements of a foundation bracing schedule.	**Remove this element altogether as it is dealt with in 13007.**
PC2.1	Foundation bracing schedule is completed to comply with **the drawings, specifications, and** NZS 3604:1999 Timber Framed Buildings.	
PC2.2	Bracing methods are **identified** in accordance with the requirements of the sub-floor bracing schedule.	
E3	Describe the requirements for setting out and installing sub-floor framing and flooring.	Describe the requirements for setting out and installing **floor** framing and flooring.
PC3.1	The methods of setting out sub-floor framing and flooring are described in accordance with NZS 3604:1999 Timber Framed Buildings **and job specifications**.	The methods of setting out **floor** framing and flooring are described in accordance with NZS 3604:1999 Timber Framed Buildings **or specific design.**
PC3.2	The methods of installing and fixing sub floor framing and flooring are described in accordance with NZS 3604:1999 Timber Framed Buildings **and job specifications**.	The methods of installing and fixing **floor** framing and flooring are described in accordance with NZS 3604:1999 Timber Framed Buildings, **manufacturer's recommendations or specific design.**
PC3.3	Procedures for maintaining health and safety requirements when installing sub floor framing and flooring are described. Range: **includes but is not limited to –** work methods, plant, equipment, identification of hazards**, injury prevention and personal protection.**	Procedures for maintaining health and safety requirements when installing **floor** framing and flooring are described. Range: work methods, plant, equipment, identification of hazards **and controls.**

Unit Standard No: **13012*** Level: **4** Credits: **5** *** Will be allocated new number as a combination of 20887 (steel frame) and 13012 (timber frame)**	Unit Standard Title: **Demonstrate knowledge of setting out and erecting wall frames** Change to: Demonstrate knowledge of setting out, **assembling** and erecting **timber and steel** wall frames	**19**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Describe the requirements for the construction of wall framing.	Describe the requirements for the construction of **timber and steel** wall framing.
PC1.1	Wall framing members are identified in terms of their location and purpose. Range: **includes but is not limited to –** plates, including raking plates; studs and jacks studs; trimmers, lintels, beams, noggings (dwangs), ribbon boards, posts, bracing.	Wall framing members are identified in terms of their location and purpose. Range: plates, including raking plates; studs and jacks studs; trimmers, lintels, beams, **dwangs (noggings)**, ribbon boards, posts, bracing.
PC1.2	**Wall bracing schedule is completed to comply with the drawing, specifications and** NZS 3604:1999 Timber Framed Buildings.	**Methods of achieving bracing requirements are described in accordance with industry standards and manufacturer's recommendations.** **Range: sheet diaphragm, metal angle, proprietary systems.**
E2	Outline methods used to calculate lengths and quantities of wall framing members.	**Explain** methods used to calculate lengths and quantities of **timber and steel** wall framing members.
PC2.1	**Methods used to calculate** lengths of material required for wall framing are described **from given working drawings.**	**Methods of calculating** lengths and quantities of material required for wall framing are **described, and sample calculations performed.**
E3	Describe factors relating to setting out wall framing. Range: single and two storey.	Describe factors relating to setting out**, assembling and erecting** wall framing. Range: single and two storey.
PC3.1	Methods of setting out wall framing members are described in accordance with the requirements of NZS 3604:1999 Timber Framed Buildings **and job specifications**.	Methods of **cutting and** setting out wall framing members are described in accordance with the requirements of **industry standards or specific design.** **Range: plates, including** raking plates; studs and jack **studs; trimmers, lintels, beams, dwangs (noggings), ribbon boards, posts, bracing.**
PC3.2	The methods of assembling and erecting wall framing members are determined and described in accordance with NZS 3604:1999 Timber Framed Buildings **and job specifications.**	The methods of assembling and erecting wall framing members are determined and described in accordance with NZS 3604:1999 Timber Framed Buildings **or specific design.** **Range: Use of connectors, provision for bracing elements, temporary bracing.**
PC3.3	Procedures for maintaining health and safety requirements when constructing and erecting wall framing are described. Range: includes but is not limited to – work methods, plant, equipment, identification of hazards, injury prevention and personal protection.	Range: work methods, plant, equipment, identification of hazards **and controls**.

Unit Standard No: **13013** Level: **4** Credits: **5** *** Will be allocated new number as a combination of 20888 (steel frame) and 13013 (timber frame)**	Unit Standard Title: **Demonstrate knowledge of equal pitch gable, and hip roof construction** Change to: Demonstrate knowledge of equal pitch gable, and hip **timber and steel** roof construction	**20**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	**Outline** the requirements for equal pitch gable roofs and hip roofs. Range: NZS 3604:1999 Timber Framed Buildings, **job specifications.**	**Explain** the requirements for **timber and steel** equal pitch gable roofs and hip roofs **in accordance with industry standards**, **or specific design**.
PC1.1	Gable and hip roofs are described in terms of their differences.	
PC1.2	Roof and ceiling framing members are **identified** in terms of their location and purpose. Range: **includes but is not limited to –** rafters, valley rafters, hip rafters, purlins, valley boards, ceiling joists, ceiling runners, ceiling battens.	Roof and ceiling framing members are **described** in terms of their location and purpose. Range: rafters, valley rafters, hip rafters, purlins, valley boards, ceiling joists, ceiling runners, ceiling battens, **ridge, panels**.
PC1.3	Roof bracing and support systems are **identified** in terms of their location and purpose. Range: **includes but is not limited to –** under purlins, struts, strutting beams, collar ties and cleats, roof space braces, roof plane braces including sarking.	Roof bracing and support systems are **described** in terms of their location and purpose. Range: under purlins, struts, **dragon ties,** strutting beams, collar ties and cleats, roof space braces, roof plane braces including sarking.
PC1.4	Framing and trim features are identified in terms of their location and purpose. Range: **eaves,** verges, fascia boards, barge boards, linings and trim, ceiling and roof penetrations.	Penetration framing is **described** in terms of its location and purpose. Range: **eaves (soffits)**, verges, fascia boards, barge boards, linings and trim, ceiling and roof penetrations.
E2	Outline methods used to calculate **material required for** equal pitch gable and hip roofs.	**Explain** methods used to calculate **lengths and bevels for timber and steel** equal pitch gable and hip roofs.
PC2.1	Principles of roof geometry are explained in terms of obtaining roof member lengths and bevels.	
PC2.2	Methods used to calculate the lengths and bevels of roof framing **members** are explained in terms of given **working drawings**.	Methods of calculating lengths and bevels of roof framing are described **and sample calculations performed.**
E3	Describe the construction of gable and hip roofs.	Describe the construction of **timber and steel** gable and hip roofs.
PC3.1	Methods for the set out and cutting of roof framing members to correct lengths and bevels are explained **in accordance with working drawings.** Range: **includes but is not limited to –** rafters, valley rafters, hip rafters, purlins, valley boards, ceiling joists, ceiling runners, ceiling battens.	Methods for the set out and cutting of roof framing members to correct lengths and bevels are explained. Range: rafters, valley rafters, hip rafters, purlins, valley boards, ceiling joists, ceiling runners, ceiling battens, **ridge, panels**.

PC3.2	The erection and fixing in position of roof framing members is explained **in accordance with working drawings.** Range: **includes but is not limited to –** rafters, valley rafters, hip rafters, purlins, valley boards, ceiling joists, ceiling runners, ceiling battens.	The erection and fixing in position of roof framing members is explained. Range: rafters, valley rafters, hip rafters, purlins, **under purlins, struts, strutting beams, collar ties and cleats, roof space braces, roof plane braces including sarking,** valley boards, ceiling joists, ceiling runners, ceiling battens, **ridge, panels.**
PC3.3	The construction of framing and trim is explained **in accordance with given working drawings.** Range: fascia boards, barge boards, **eaves** and verges, linings, ceiling and roof penetrations.	The construction of framing and trim is explained. Range: fascia boards, barge boards, **eaves (soffits)** and verges, linings, ceiling and roof penetrations.
PC3.4	Procedures for maintaining health and safety requirements when erecting roof framing are described. Range: **includes but is not limited to –** work methods, plant, equipment, identification of hazards**, injury prevention and personal protection**.	Procedures for maintaining health and safety requirements when erecting roof framing are described. Range: work methods, plant, equipment, identification of hazards **and controls.**
E4	Describe the construction of gable and hip roofs using roof trusses.	Describe the construction of gable and hip roofs using **timber and steel** roof trusses.
PC4.1	Handling and storage of roof trusses without damage is described in accordance with work site practices.	Handling and storage of roof trusses without damage is described in accordance with **truss manufacturer's instructions.**
PC4.2	Set out, erection and fixing in position of roof trusses using fastenings, is described in accordance with manufacturer's layout and given specifications.	Set out, erection and fixing in position of roof trusses using fastenings, is described in accordance with **truss** manufacturer's layout and given specifications.
PC4.3	The required bracing system is described in accordance with NZS 3604:1999 Timber Framed Buildings.	**Remove this pc.**
PC4.4	Trimming of penetrations in roof space is described in accordance with truss manufacturer's design.	
PC4.5	Procedures for maintaining health and safety requirements when erecting roof trusses are described. Range: **includes but is not limited to –** work methods, plant, equipment, identification of hazards**, injury prevention and personal protection.**	Range: work methods, plant, equipment, identification of hazards **and controls**.

Unit Standard No: **13014** Level: **4** Credits: **3 change to 4**	Unit Standard Title: **Demonstrate knowledge of construction of alternative roof structures**	**21**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	**Outline features** of roof construction for roofs other than standard gable and hip. Range: **includes but is not limited to –** flat roofs, single plane roofs, skillion roofs, mansard roofs, curved roofs, roof dormers, unequal pitch, splayed ends.	**Explain requirements** of roof construction for roofs other than standard gable and hip. Range: flat roofs, mono pitch roofs, skillion roofs, mansard roofs, curved roofs, roof dormers, unequal pitch, splayed ends.
PC1.1	Roofs are described in terms of their characteristics and differences.	
PC1.2	Methods used for the erection and fixing in position of roof framing members are explained in accordance with working drawings and specifications.	**Roof and ceiling framing members are described in terms of their location and purpose.**
PC1.3	Procedures for maintaining health and safety requirements when erecting roof framing are described. Range: includes but is not limited to – work methods, plant, equipment, identification of hazards, injury prevention and personal protection.	**Roof and ceiling bracing and support systems are described in terms of their location and purpose.** **Add new pc 1.4 Penetration framing is described in terms of its location and purpose.**
E2	**Outline** the method used to determine the dimensions and material required for unequal pitch and splayed end roofs.	**Explain** the method used to determine the dimensions and material required for unequal pitch and splayed end roofs.
PC2.1	Principles of roof geometry are described in terms of obtaining roof member lengths and bevels.	
PC2.2	Length and bevels of roof framing members are calculated **in accordance with** given examples of job **drawings and** specifications **using roof geometry principles.**	**Methods of calculating lengths and bevels of roof framing are described, and sample calculations performed.**
PC2.3	Methods used for the erection and fixing in position of roof framing members are explained in accordance with given working drawings. Range: manufacturer's specifications, work site practices.	**Delete pcs 2.3 and 2.4**
PC2.4	Procedures to ensure surplus materials are dealt with are explained in terms of work site practices.	
		Add new Element 3 **Describe the construction of roofs other than standard gable and hip.** **Range: flat roofs, mono pitch roofs, skillion roofs, mansard roofs, curved roofs, roof dormers, unequal pitch, splayed ends.**
		PC 3.1 Methods for the set out and cutting of roof framing members to correct lengths and bevels are explained.
		PC 3.2 The erection and fixing in position of roof framing members is explained.
		PC 3.3 The construction of penetration framing is explained.

		PC 3.4 Procedures for maintaining health and safety requirements when erecting roof framing are described. **Range: work methods, plant, equipment, identification of hazards and controls.**

Unit Standard No: **13015** Level: **3** Credits: **1**	Unit Standard Title: **Demonstrate knowledge relating to the work of construction subcontractors** Change to: Demonstrate knowledge **of construction subcontractors' work, and main contractor's responsibilities**	**22**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Describe the work of construction subcontractors on building sites.	
PC1.1	Work of subcontractors is described in terms of their activities and responsibilities on site. Range: **includes but is not limited to -** excavator, block and bricklayer, reinforcing steel**worker**, roofer, plumber, drainlayer, joiner, glazier, electrician, mechanical services, interior plasterer, **painter and interior decorator,** floor sander, insulation installer, concrete placer, solid plasterer, specialist coatings applicator, scaffolder, tiler, structural steel fabricator, metal worker.	Work of subcontractors is described in terms of their activities and responsibilities on site. Range: excavator, brick and block layer, reinforcing steel **fixer**, roofer, **structural steel fabricator,** mechanical services, plumber, drain layer, joiner, glazier, **window installer,** electrician, interior plasterer, **interior decorator, painter,** solid plasterer, specialist coatings applicator, tiler, **scaffolder,** concrete placer, floor sander, insulation installer, metal worker, **floor covering contractor, suspended ceilings contractor, proprietary partitions contractor, lift installer, fire protection contractor, data technician, concrete cutter.**
PC1.2	Subcontractors health and safety responsibilities are described in terms of **their on site activities**.	Subcontractors' health and safety responsibilities are described in terms of **the main contractor's safety requirements**.
E2	**Outline** the main **construction** contractor's responsibilities to the subcontractor.	**Explain** the main contractor's responsibilities to subcontractor**s**.
PC2.1	Responsibility and work required of main contractor is described in terms of subcontractor's needs. Range: **includes but is not limited to -** work prior to arrival, cutting and framing required, 'making good' after work, temporary protection, site cleanliness, coordination of activities, monitoring of performance in relation to specifications, and health and safety requirements.	Responsibility and work required of main contractor is described in terms of subcontractor's needs. Range: work prior to arrival, cutting and framing required, 'making good' after work, temporary protection, site cleanliness, coordination of activities, monitoring of performance in relation to specifications, and health and safety requirements.

Unit Standard No: **13016** Level: **3** Credits: **2**	Unit Standard Title: **Demonstrate knowledge of timber and metal scaffolds up to five metres** Change to: Demonstrate knowledge of erecting, **altering, maintaining, inspecting and dismantling** scaffolds up to five metres	**23**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Describe the legislative requirements for erecting scaffolds up to five metres. Range: **includes but is not limited to –** Health and Safety in Employment Act, Health and Safety in Employment Regulations, Approved Code of Practice for the Safe Erection and Use of Scaffolding 1995 and manufacturer's instructions.	Describe the legislative requirements for erecting**, altering, maintaining, inspecting and dismantling** scaffolds up to five metres. Range: Health and Safety in Employment Act, Health and Safety in Employment Regulations, Approved Code of Practice for the Safe Erection and Use of Scaffolding 1995 and manufacturer's instructions, **Scaffolding Association of New Zealand Best Practice Guideline**.
PC1.1	Types of scaffolds are identified and described in terms of their uses and limitations. Range: includes but is not limited to – stools and trestles, ladders, brackets, timber pole, metal frame, **metal tube**, modular systems.	Range: stools and trestles, ladders, brackets, timber, metal frame, **tube and clip**, modular systems. Range: includes but is not limited to – stools and trestles, ladders, brackets, timber pole, metal frame, **metal tube**, modular systems.
PC1.2	Scaffolds are described in terms of their safe erection, maintenance and alteration requirements. Range: **includes but is not limited to –** decking and loading, bracing, spacing of all members, guardrails, manufacturer's instructions.	Scaffolds **components** are described in terms of their safe erection, **alteration,** maintenance and **inspection** requirements. Range: decking and loading, bracing, spacing of all members, guardrails, toe boards, manufacturer's instructions.
E2	Describe the procedures for dismantling scaffolds **in timber, metal, tube and frame.**	Describe the procedures for dismantling scaffolds **up to five metres.**
PC2.1	The procedures are described for the safe dismantling of scaffolding. Range: **includes but is not limited to –** stools and trestles, ladders, brackets, timber pole, metal frame, **metal tube**, modular systems.	Range: stools and trestles, ladders, brackets, timber, metal frame, **tube and clip**, modular systems.

Unit Standard No: **13017** Level: **4** Credits: **3**	Unit Standard Title: **Demonstrate knowledge of fixing exterior claddings and timber weatherboards** Change to: Demonstrate knowledge of fixing exterior claddings	**24**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	**Identify** the requirements relating to the installation of exterior cladding. **Range: NZS 3604:1999 Timber Framed Buildings and manufacturer's specifications.**	**Describe** requirements relating to the installation of exterior claddings **in accordance with manufacturer's specifications, and NZS 3604:1999 Timber Framed Buildings, or specific design**. **Remove range**
PC1.1	Exterior claddings are described in terms of their properties and uses. Range: includes but is not limited to – timber vertical boards, timber and PVC weatherboards, plywood, fibre cement, masonry veneers, reinforced plaster exterior insulation and finishing systems, **stucco**, metal.	Range: timber vertical boards, timber and PVC weatherboards **(timber, fibre cement, PVC)**, plywood, fibre cement **sheet**, masonry veneers, reinforced plaster exterior insulation and finishing systems, **stucco (solid plaster)**, metal, **proprietary panels**.
PC1.2	The requirements for the installation of exterior cladding underlay and flashings are described in terms of job specifications **and NZS 3604:1999 Timber Framed Buildings.**	The requirements for the installation of exterior cladding underlay**, cavity systems** and flashings are described in terms of **E2/AS1**.
PC1.3	Wall framing members are described in terms of specified cladding requirements. Range: placement, fixings and tolerances.	Change to 'Construction of wall framing members is described in terms of specified cladding requirements. Range: **centres**, fixings and tolerances
PC1.4	Methods of calculating required quantity of underlay and wall cladding are described **in terms of given examples and job specifications.**	Methods of calculating required quantity of underlay and wall cladding are **described, and sample calculations performed**.
E2	**Explain** the methods of installing exterior claddings. Range: **requirements of NZS 3604:1999 Timber Framed Buildings, job specifications and manufacturer's specifications and includes but is not limited to –** timber vertical boards, timber and PVC weatherboards, plywood, fibre cement, masonry veneers, reinforced plaster exterior insulation and finishing systems, **stucco**, metal.	**Describe** the methods of installing exterior claddings **in accordance with manufacturer's specifications, and NZS 3604 or specific design.** Range: timber vertical boards, weatherboards **(timber, fibre cement, PVC)**, plywood, fibre cement **sheet**, masonry veneers, reinforced plaster exterior insulation and finishing systems, **stucco (solid plaster)**, metal, **proprietary panels**.
PC2.1	Methods used to set out, cut and fix exterior claddings are **explained**.	Methods used to set out, cut and fix exterior claddings are **described**.
PC2.2	Methods used to cut and fix joints **and scribers** are explained.	Methods used to cut, **fit** and fix joints are **described in terms of the interface between different building elements.**
PC2.3	Procedures for maintaining health and safety requirements when installing exterior wall cladding are described. Range: includes but is not limited to – work methods, plant, equipment, identification of hazards, injury prevention and personal protection.	Procedures for maintaining health and safety requirements when installing exterior wall cladding are described. Range: work methods, plant, equipment, identification of hazards **and controls**.

Unit Standard No: **13018** Level: **3** Credits: **2**	Unit Standard Title: **Demonstrate knowledge of construction and installation of exterior and interior joinery** Change to: Demonstrate knowledge of construction **principles** and installation of exterior and interior joinery**, showers and baths**	**25**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	**Outline** the principles of the construction and installation of exterior joinery.	**Explain** the principles of the construction and installation of exterior joinery. **Range – timber, aluminium, steel, PVC**
PC1.1	Components of exterior **timber and aluminium** windows and doors are described. Range: jambs, sills, heads, mullions, transom, sashes.	Components of exterior windows and doors are described. Range stays the same.
PC1.2	**Weatherproofing principles for the installation** for exterior timber windows and doors are described. Range: **includes but is not limited to –** grooves, throatings, drip grooves **and** flashings.	Change to '**Weatherproofing and installation principles** for exterior timber windows and doors are described' Range: grooves, throatings, drip grooves, flashings.
PC1.3	**Weatherproofing principles for the installation** of aluminium windows and doors are described. Range: **includes but is not limited to –** head, jamb and sill flashings.	**Weatherproofing and installation principles** for **exterior** aluminium, **PVC and steel** windows and doors are described. Range: **air seal,** head, jamb and sill flashings.
PC1.4	Temporary protection for exterior joinery is described in accordance with work site practice.	Temporary protection for exterior joinery is described in accordance with work site practice **and manufacturer's instructions**.
PC1.5	Procedures for maintaining health and safety requirements when installing exterior joinery are described. Range: **includes but is not limited to –** work methods, plant, equipment, identification of hazards, **injury prevention and personal protection**.	Range: work methods, plant, equipment, identification of hazards **and controls**.
E2	Outline the principles of installation of interior joinery.	**Explain** the principles of installation of interior joinery**, showers and baths**.
PC2.1	The installation and fixing of joinery units are described **in accordance with given working drawings.** Range: **includes but is not limited to –** cabinetry, bench tops, shelving	The installation and fixing of joinery units are described. Range: cabinetry, bench tops, shelving, **stairs.** **Add new pc2.2 'The installation and fixing of showers and baths are described.'**
PC2.2	Hanging and installation of interior doors are described **in accordance with given working drawings**.	**Becomes 2.3** Hanging and installation of interior doors are described.

PC2.3	Procedures for maintaining health and safety requirements when installing interior joinery are described. Range: **includes but is not limited to –** work methods, plant, equipment, identification of hazards, **injury prevention and personal protection**.	**Becomes 2.4** Range: work methods, plant, equipment, identification of hazards **and controls**.

Unit Standard No: **13019** Level: **3** Credits: **2**	Unit Standard Title: **Demonstrate knowledge of the installation of metal and translucent roof coverings and roof lights** Change to: Demonstrate knowledge of the installation of metal and translucent roof **claddings** and roof lights	**26**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Demonstrate knowledge of the installation of metal and translucent roof **coverings** and roof lights. Range: includes but is not limited to – pre finished and zincalume, corrugated, profiled tray.	Demonstrate knowledge of the installation of metal and translucent roof **claddings** and roof lights. **Remove range.**
		Add new pc: **Compatibility of dissimilar materials used for roof claddings is described.**
PC1.1	The requirements **are described** for receiving, storing and handling of roof cladding materials and roof lights.	The requirements for receiving, storing and handling of roof cladding materials and roof lights **are described in accordance with manufacturer's instructions.**
PC1.2	Roof trim framing members are described in terms of the requirements of metal and translucent roof **coverings**. Range: timber and metal fascia and barge boards, **battens, purlins,** underlay, **opening trim.**	Roof trim framing members are described in terms of the requirements of metal and translucent roof **claddings**. Range: timber and metal fascia and barge boards, underlay.
PC1.3	The installation of translucent and metal roof **coverings** is described in terms of NZS 3604:1999 Timber Framed Buildings **and manufacturer's specifications**	The installation of translucent and metal roof **claddings** is described in **accordance with manufacturer's instructions,** NZS 3604:1999 Timber Framed Buildings, **or specific design.**
PC1.4	The installation of roof lights is described **in terms of** manufacturer's specifications.	The installation of roof lights is described **in accordance with** manufacturer's specifications **and E2/AS1.**
PC1.5	Accessories are described in terms of their function and installation in relation to metal roof **coverings**. Range: **flashings,** ridging **and** hip caps, barge covers, valleys, **fixings**.	Accessories are described in terms of their function and installation in relation to metal roof **claddings and the interface between building elements, in accordance with E2/AS1.** Range: ridging, hip caps, barge covers, valley **gutters**, **penetration flashings, apron flashings**.
PC1.6	Methods of calculating quantities of roofing materials are described **to meet job specifications.**	Methods of calculating quantities of roofing materials are **described, and sample calculations performed.**
PC1.7	Procedures for maintaining health and safety requirements when installing roof coverings are described. Range: includes but is not limited to – work methods, plant, equipment, identification of hazards, injury prevention and personal protection.	Range: work methods, plant, equipment, identification of hazards **and controls**.

Unit Standard No: **13020** Level: **3** Credits: **1**	Unit Standard Title: **Demonstrate knowledge of alternative roof cladding materials** Change to: Demonstrate knowledge of alternative roof cladding materials **and their installation requirements**	**27**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Demonstrate knowledge of alternative roof cladding materials. Range: includes but is not limited to – concrete, clay and metal tiles; fibre cement; roofing membranes; timber, asphalt and slate shingles.	Demonstrate knowledge of alternative roof cladding materials **and their installation requirements.** Range: concrete, clay and metal tiles; fibre cement; **rubber roofing membranes, torch and paint on** roofing membranes; timber, asphalt and slate shingles; **composite corrugated sheet**.
PC1.1	The requirements **are described** for receiving, storing and handling of roof cladding materials.	The requirements for receiving, storing and handling of roof cladding materials **are described in accordance with manufacturer's specifications.**
PC1.2	Type of roofing and the main contractors work is identified from working drawings and specifications.	Type of roofing and the main contractor's work is identified from working drawings and specifications.
PC1.3	Roof framing members are described in terms of the requirements for alternative roof coverings. Range: timber and metal fascia and barge boards, sarking, underlay, opening trim.	
PC1.4	Accessories are described in terms of their function and the installation of alternative roof cladding. Range: **flashings,** ridging **and** hip caps, barge covers, valleys, **fixings**.	Accessories are described in terms of their function **and requirement**s, for the installation of alternative roof cladding. Range: ridging, hip caps, barge covers, valley **gutters**, **penetration flashings, apron flashings.**
PC1.5	Procedures for maintaining health and safety requirements when installing roof coverings are described. Range: includes but is not limited to – work methods, plant, equipment, identification of hazards, injury prevention and personal protection.	Range: work methods, plant, equipment, identification of hazards **and controls**.

Unit Standard No: **13021** Level: **4** Credits: **3 change to 2**	Unit Standard Title: **Demonstrate knowledge of thermal insulation and sound control** Change to: Demonstrate knowledge of thermal insulation and sound control **for buildings**	**28**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Describe factors relating to thermal insulation.	Describe factors relating to thermal insulation **for buildings**.
PC1.1	Principles relating to thermal insulation are described in terms of heat transference, conduction, radiation, and convection.	Principles relating to thermal insulation are described in terms of heat transference, conduction, radiation, convection **and thermal mass**.
PC1.2	**The** thermal insulation requirements are described **for residential and light commercial buildings**. Range: **includes but is not limited to –** concrete floor, timber floor, walls, ceilings, glazed areas.	Thermal insulation requirements for buildings are described. Range: concrete floor, timber floor**s**, walls, ceilings, **roof,** glazed areas.
PC1.3	Thermal resistance values **are explained in terms of specified** insulating materials.	**Material properties and** thermal resistance values of insulation materials **are explained**. **Range: polystyrene, glass fibre, foil, wool, polyester, cellulose fibre, double glazing**
PC1.4	Requirements for the safe installation of thermal insulation in residential and light commercial buildings are described. Range: concrete floor, timber floor, walls, ceilings, glazed areas.	**Procedures for maintaining health and safety requirements when installing thermal insulation are described.** **Range: work methods, plant, equipment, identification of hazards and controls.**
E2	Describe factors relating to sound control.	Describe factors relating to sound control **for buildings**.
PC2.1	Principles **of** sound **insulation** are described in terms of **residential and light commercial construction**.	Principles **relating to** sound **control** are described in terms of **reflection, absorption and transmission.**
PC2.2	**Principles of sound absorption** are described **in terms of residential and light commercial construction.**	**Sound control requirements** are described **for buildings.** **Range: concrete floor, timber floor, walls, ceilings, glazed areas.** **Add pc 2.3 Material properties and sound control ratings of sound control systems are explained.** **Range: walls, ceilings, floors, doors, intertenancy systems.** **Add pc 2.4 Procedures for maintaining health and safety requirements when installing sound control are described.** **Range: work methods, plant, equipment, identification of hazards and controls.**

Unit Standard No: **13022** Level: **4** Credits: **4 change to 5**	Unit Standard Title: **Demonstrate knowledge of fixing interior linings and trim** Change to: Demonstrate knowledge of **cutting, fitting and** fixing interior linings and trim	**29**

	Existing Elements and Performance Criteria (PC's)	**Suggested Changes to Elements and PC's**
E1	Describe factors relating to the fixing of interior linings to walls and ceilings. Range: plaster board, pre-finished boards, timber panelling, plywood, softboard, ceiling tiles, fibreboard, particle board, fibre cement.	Describe factors relating to the **cutting, fitting and** fixing of interior linings to walls and ceilings. **Remove element range.** **Add new pc 1.1 'Interior linings are described in terms of their function and differences.'** **Range: plaster board, pre-finished boards, timber panelling, plywood, softboard, ceiling tiles, fibreboard, particle board, fibre cement, rigid polypropylene sheets, metal profiled sheets.**
PC1.1	The suitability of interior lining is described for a specific purpose. Range: **includes but is not limited to –** water resistance, fire resistance, impact resistance, bracing, **noise** control.	**Change to 1.2** **Selection of interior lining for a specific purpose is described.** Range: water resistance, fire resistance, impact resistance, bracing, **sound** control.
PC1.2	Elements to be checked prior to fixing interior linings are described in accordance with manufacturer's specifications. Range: **specifications, inspection reports**, framing, tolerances, insulation, services, moisture content.	**Add new 1.3** The requirements for receiving, storing and handling interior linings **are described in accordance with manufacturer's instructions.** **Change to 1.4** **The requirements of a pre-line inspection are described in accordance with Building Consent Authority, NZS 3604:1999 Timber framed buildings or specific design, and manufacturer's specifications.** Range: framing **and substrate**, tolerances, insulation, **in-built** services and fixtures, moisture content, **air seal**
PC1.3	Methods used to measure, cut and fit linings are explained in accordance with manufacturer's **specifications**. Range: fixings, adhesives, jointing, moulding, sub-strates, edges.	Change to 1.**5** Methods used to measure, cut, **fit** and fix interior linings are explained in accordance with manufacturer's **instructions.** Range: **mechanical fixings,** adhesives, jointing, moulding, substrates, edges, sound or fire seal.
PC1.4	Methods **are described for** calculating quantities of interior linings from given **drawings and** specifications.	**Change to 1.6** Change to: Methods **of** calculating quantities of materials **required fo**r interior linings are **described, and sample calculations performed.** **New pc 1.7: Procedures for maintaining health and safety requirements for installing interior linings are described.** **Range: work methods, plant, equipment, identification of hazards and controls.**

		Add New Element: **Describe factors relating to the fixing of interior lining bracing elements.** **PC Interior lining bracing elements are described in accordance with NZS 3604: 1999 Timber Framed Buildings or specific design and manufacturer's specifications.** **PC The requirements of a bracing schedule are described in accordance with NZS 3604: 1999 Timber Framed Buildings or specific design, and manufacturer's specifications.** **PC Fixing requirements for braced interior linings are described.**
E2	Describe methods of cutting, fitting and fixing **of** interior trim.	Describe methods of cutting, fitting and fixing interior trim. **Range: architrave, cornice, skirting, corner and joint mouldings, dado, scotia.**
PC2.1	Items of interior trim are described in terms of their **purpose**, and differences.	Items of interior trim are described in terms of their **function** and differences.
PC2.2	Methods used to cut, fit and fix trim are explained **in accordance with working drawings and specifications.** Range: includes but is not limited to – architrave, cornice, skirting, corner and joint mouldings, dado.	Methods used to cut, fit and fix trim are explained. **Remove range**
PC2.3	Methods are described for calculating quantities of interior trim **from drawings and** specifications.	Methods of calculating lengths of interior trim **and fixings** are **described, and sample calculations performed**.
PC2.4	Procedures for maintaining health and safety requirements for installing interior **linings and** trim are described. Range: work methods, plant, equipment, identification of hazards, injury prevention and personal protection.	Procedures for maintaining health and safety requirements for installing interior trim are described. Range: work methods, plant, equipment, identification of hazards **and controls.**

Unit Standard No: **13023** Level: **3** Credits: **2**	Unit Standard Title: **Demonstrate knowledge of installing building hardware** Change to: Demonstrate knowledge of **selection and installation of mechanical fixings and** building hardware	**30**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Outline the procedures for **selecting and installing fasteners and joint connectors.**	**Explain** the procedures for **selection and installation of mechanical fixings.**
PC1.1	**Fasteners** are identified and described in terms of their specific uses in construction. Range: nails, screws, bolts.	**Mechanical fixings** are identified and described in terms of their specific uses in construction. Range: nails, screws, bolts, **nail plates, nail on plates, joint brackets, hangers, framing anchors, metal fittings, expansion bolts, powder actuated fasteners.**
PC1.2	Joint connectors are identified and described in terms of their specific uses in construction. Range: nail plates, nail on plates, joint brackets.	**Combine this with pc 1.1**
PC1.3	Methods used to select and install fasteners and joint connectors are described in accordance with job requirements. Range: manufacturer's specifications, working drawings, NZS 3604:1999 Timber Framed Buildings.	**Becomes 1.2** Methods used to select and install **mechanical fixings** are described in accordance with **NZS 3604:1999 Timber Framed Buildings or manufacturer's instructions and specific design.** **Remove range**
PC1.4	Methods **for** calculating quantities of **building fasteners and joint connectors** are **described from working drawings and** specifications.	**Becomes 1.3** Methods **of** calculating quantities of **mechanical fixings** are **described, and sample calculations performed**.
E2	Outline the procedures for **selecting and installing** building hardware.	**Explain** the procedures for **selection and installation of** building hardware.
PC2.1	Items of building hardware are identified and described in terms of their specific uses **and finish in residential and light commercial construction.** Range: **includes but is not limited to –** door hinges, latches and locks, single swing door closers, window hinges, stays, catches, service room hardware.	Items of **interior and exterior** building hardware are identified and described in terms of their specific uses. Range: door hinges, latches and locks, single swing door closers, window hinges, stays, catches, bathroom hardware, **door pivot systems, egress door hardware, security door and window hardware, fire door and window hardware, disability hardware.**
PC2.2	Items of building hardware are identified and described in terms of their specific uses and finish in commercial construction. Range: includes but is not limited to – door pivot systems, egress door hardware, security door and window hardware, fire door and window hardware.	**Remove this pc as it will be combined in 2.1**
PC2.3	Methods used to select and safely install building hardware are described in accordance with job requirements. Range: manufacturer's specifications, working drawings.	**Procedures for maintaining health and safety requirements when installing building hardware are described.** **Range: work methods, plant, equipment, identification of hazards and controls.**
PC2.4	Methods used to calculate required quantities of building hardware are **described in accordance with** specifications.	Methods of calculating quantities of building hardware are **described, and sample calculations performed**. **(Swap order of 2.4 and 2.5)**

Unit Standard No: **13024** Level: **4** Credits: **1**	Unit Standard Title: **Demonstrate knowledge of pole frame and pole platform construction** Change to: Demonstrate knowledge of **features and construction of** pole frames and pole platforms	**31**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Describe features of pole frame and pole platform construction.	
PC1.1	The structural principles of pole frame and pole platform construction are described.	
PC1.2	NZS 3604:1999 Timber Framed Buildings is described in terms of its requirements for pole frame and pole platform construction.	**Requirements for pole frame and pole platform construction are described in accordance with specific design.** **Range: timber type and treatment, size of structural members, type and protection of mechanical fixings, setout of poles, bracing requirements.**
PC1.3	Methods are described for calculating quantities of materials **from working drawings and specifications.**	Methods of calculating quantities of materials are explained **in terms of given examples of job specifications, and sample calculations performed**.
E2	Describe **the** method of pole frame and pole platform construction.	Describe methods for **constructing pole frames and pole platforms.**
PC2.1	Setting out and excavating for poles **is described in terms of job specifications.**	Setting out and excavation for poles **are described in accordance with a specific design**
PC2.2	Positioning of poles is described in terms of line and plumb.	
PC2.3	Poles and platforms are described in terms of the construction process. Range: encasing poles, attachment of bearers and permanent braces, **weatherproofing poles and bearers,** fixings and their finishes.	**The construction process for poles and platforms is described.** Range: encasing pole, attachment of bearers and permanent braces, **mechanical** fixings and their protective finishes, **placement of poles, temporary bracing, re-treatment of cuts**.
PC2.4	Procedures for maintaining health and safety requirements when erecting pole platforms and pole frames, are described. Range: includes but is not limited to – work methods, plant, equipment, identification of hazards, injury prevention and personal protection.	Range: work methods, plant, equipment, identification of hazards **and controls**.

Unit Standard No: **13025** Level: **4** Credits: **3 change to 4**	Unit Standard Title: Demonstrate knowledge of **timber** stair and ramp construction Change to: **Demonstrate knowledge of stair and ramp construction**	**32**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Describe requirements relevant to the construction of **steps and** stairs.	Describe requirements relevant to the construction of **timber** stairs.
PC1.1	Types of stairs are identified and described in terms of their features and uses. Range: includes but is not limited to – straight flights, quarter turn, dog-leg, three-quarter turn, geometrical.	Range: straight flights, quarter turn, dog-leg, three-quarter turn, geometrical**, spiral, open riser, tread and riser**.
PC1.2	Technical terms are identified as they relate to the construction of stairs.	Technical terms are **explained** as they relate to the construction of stairs. **Range: stringers, risers, treads, pitch, going, nosing, headroom, landing, wedges and blocks, machining of stair components, balustrades, handrails, winders, newel posts, accessible stairs.**
PC1.3	Construction of timber stairs is described in terms of the requirements of the Building Code.	
PC1.4	Step and stair materials are calculated in terms of working drawings and specifications.	Methods of calculating quantities of materials for stair construction are **described, and sample calculations performed**.
PC1.5	Methods are described for calculating quantities of materials required from working drawings and specifications.	**This pc becomes unnecessary and will be deleted.**
E2	Describe the safe construction of open riser or tread and riser stair.	**This element to be completely replaced as it is now incorporated into element 1.** **New element: Describe requirements relevant to the construction of formwork for in situ concrete stairs.** **Range: stairs on ground, suspended stairs.**
PC2.1	Methods used to set out and machine stair components are explained.	**Pc 2.1 Technical terms are identified as they relate to the construction of formwork for concrete stairs.** **Range: stairs on ground – risers, waist, reinforcing, footings, required going, finish, bracing, hardfill; suspended stairs – soffits, bracing, bearers, falsework, risers, waist, reinforcing, required going, finish.** **2.2 Construction of formwork for concrete stairs is described in terms of design requirements.** **2.3 Methods of calculating quantities of materials for concrete stair formwork construction are described, and sample calculations performed.**
PC2.2	Methods used to assemble and finish stairs are explained.	

E3	Describe requirements relevant to the **safe** construction of ramps.	Describe requirements relevant to the construction of **timber** ramps.
PC3.1	Features of ramps are explained in terms of their construction. Range: **slope**, footings, timber framing, decking, balustrades, handrails.	**Technical terms are explained as they relate to the construction of timber ramps.** Range: **gradient**, footings, timber framing, decking, balustrades, handrails, **landings, slip resistance, upstands, accessible ramps**.
PC3.2	Requirements of the Building Code are described as they relate to access by exterior ramps.	**Construction of timber ramps is described in terms of the requirements of NZS 3604: 1999 Timber Framed Buildings or specific design.** **Add new element 4:** **Describe requirements relevant to the construction of formwork for in situ concrete ramps.** **Range: suspended ramps, ramps on ground.** **Pc 4.1 Technical terms are explained as they relate to the construction of formwork for concrete ramps.** **Range: suspended ramps – falsework, gradient, footings, reinforcing, finish, bearers, bracing, soffits;** **ramps on ground – gradient, footings, reinforcing, finish, bracing, hardfill.** **both – slip resistance, handrails, upstands.** **Pc 4.2 Construction of formwork for concrete ramps is described in terms of design requirements.**
E4	Describe procedures for completing work operations on site.	**Replace this element with new Element 5** **Describe procedures for maintaining health and safety requirements when constructing stairs and ramps**
PC4.1	Procedures to ensure all operations are completed without damage to plant and materials are explained in terms of work site practice.	**New PC 5.1** **Procedures for maintaining health and safety requirements when constructing stairs and ramps are described.** **Range: work methods, plant, equipment, identification of hazards and controls**
PC4.2	Procedures to ensure all activities comply with the requirements of Health and Safety in Employment Act 1992 (HSE) and Health and Safety in Employment Regulations 1995 are explained in terms of a site specific safety plan.	**All these pcs to be removed.**
PC4.3	Procedures to ensure all plant is used, maintained, repaired, cleaned and stored are explained in terms of given specifications. Range: manufacturer's specifications, work site practices.	**All these pcs to be removed.**
PC4.4	Procedures to ensure surplus materials are dealt with are explained in terms of work site practices.	**All these pcs to be removed.**

Unit Standard No: **13026** Level: **3** Credits: **2**	Unit Standard Title: Demonstrate knowledge of retaining wall construction **to 1.5 metres high** Change to: **Demonstrate knowledge of retaining wall construction**	**33**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Demonstrate knowledge of retaining wall construction **to 1.5 metres high.**	Demonstrate knowledge of retaining wall construction. **New PC 1.1** **Regulatory requirements for retaining walls are described.**
PC1.1	Types and shapes of walls are described in terms of their features and uses. Range: **includes but is not limited to –** gravity, cantilever.	**Change to PC 1.2** Types and shapes of **retaining** walls are described in terms of their features and uses. Range: gravity, cantilever.
PC1.2	Retaining wall construction is described in terms of materials used. Range: includes but is not limited to – timber, concrete, masonry, block.	**Change to PC 1.3** Retaining wall construction is described in terms of materials used. Range: timber, concrete, **proprietary**, block.
PC1.3	Retaining wall construction is described in terms of waterproofing, protection, drainage, and backfilling requirements.	**Change to PC 1.4**
PC1.4	Procedures for maintaining health and safety requirements when constructing retaining walls are described. Range: includes but is not limited to – work methods, plant, equipment, identification of hazards, **injury prevention and personal protection.**	**Change to PC 1.5** Range: work methods, plant, equipment, identification of hazards **and controls.**

Unit Standard No: **13027** Level: **3** Credits: **1 change to 2**	Unit Standard Title: **Demonstrate knowledge of the construction of concrete masonry structures and paving**	**34**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Demonstrate knowledge of the construction of concrete masonry structures **and paving**.	Demonstrate knowledge of the construction of concrete masonry structures.
PC1.1	Types of concrete **blocks and pavers** are described in terms of their features and uses.	Types of concrete **masonry structures** are described in terms of their features and uses. **Range: pointed, flush, stack bond, stretcher bond, size, finish**
PC1.2	The requirements for setting out concrete masonry structures are described in accordance with **working drawings and specifications.** Range: **includes but is not limited to –** foundations, position, reinforcing, plumb, level, height.	The requirements for the setting out **and construction** of concrete masonry structures are described in accordance with **specific** design. Range: foundations, position, reinforcing, plumb, level, height, **wash out ports**.
PC1.3	The requirements for setting out and laying paving are described in accordance with working drawings and specifications.	**Delete this PC**
PC1.4	Methods are described for calculating materials required for the construction of masonry structures and paving from drawings and specifications. Range: **includes but is not limited to –** blocks, **pavers**, reinforcing, grout, sub course.	**Now PC 1.3** **Methods of calculating materials required for construction of masonry structures are described and sample calculations performed.** **Range: blocks, reinforcing, grout, sub course.**
PC1.5	Methods of storing material are described in terms of **industry or work site practice**.	**Now PC 1.4** Methods of storing materia**ls** are described in terms of **manufacturer's recommendations**.
		New Element 2 **Demonstrate knowledge of the construction of paving.** **Range: concrete, exposed aggregate, pavers, asphalt** **PC 2.1** **Types of paving are described in terms of their features and uses.** **PC 2.2** **The requirements for the setting out and construction of paved areas are described in accordance with specific design.** **Range: excavation, substrate, foundations, position, reinforcing, levels, falls, drainage.** **PC 2.3** **Methods of calculating materials required for construction of paving is described and sample calculations performed.** **PC 2.4** **Methods of storing materials are described in terms of manufacturer's recommendations.**

Unit Standard No: **13028** Level: **4** Credits: **2**	Unit Standard Title: **Demonstrate knowledge of adhesives and sealants in construction work** Change to: Demonstrate knowledge of adhesives and sealants **used** in construction work	**35**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Describe types and uses of adhesives for construction work.	
PC1.1	Construction adhesives are described in terms of their types and **their** uses. Range: timber, timber based products; plastics, glass, metals, plasterboard, masonry, concrete.	Construction adhesives are described in terms of their types and uses **in accordance with manufacturer's instructions.** Range: **adhesives used for –** timber, timber based products; plastics, glass, metals, plasterboard, masonry, concrete, **polystyrene, fibre cement**.
PC1.2	Fillers and extenders are described in terms of their use with resin adhesives.	**Remove this PC.**
PC1.3	Hazards **are identified from manufacturer's product** Material Safety Data Sheets **in terms of possible health risks.**	**Becomes PC 1.2** Hazards **and controls are explained in accordance with** manufacturer's Material Safety Data Sheets **or Environmental Resource Management Authority approval**.
E2	Describe types and uses of sealants for construction work.	
PC2.1	Sealants are described in terms of their uses.	Sealants are described in terms of their types and uses **in accordance with manufacturer's instructions**. **Add range: timber, timber based products; plastics, glass, metals, plasterboard, masonry, concrete, polystyrene, fibre cement, primers.**
PC2.2	Sealants are selected from manufacturer's data sheets consistent with the requirements of given situations.	**Delete PC 2.2**
PC2.3	Hazards **are identified from manufacturer's product** Material Safety Data Sheets **in terms of possible health risks.**	**PC 2.3 becomes PC 2.2** Hazards **and controls are explained in accordance with** manufacturer's Material Safety Data Sheets **or Environmental Resource Management Authority approval**.

Unit Standard No: **13029** Level: **4** Credits: **3**	Unit Standard Title:	Demonstrate knowledge of erecting high wall, column, suspended beam, slab, and stair formwork Change to: Demonstrate knowledge of erecting in situ high wall, column, beam, and slab **falsework and** formwork	**36**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Describe factors relating to formwork. Range: high wall, column, **suspended** beam, slab **and stair**.	Describe factors relating to **falsework and** formwork **for in situ concrete**. Range: high wall, column, beam, slab.
PC1.1	Formwork is described in terms of its purpose and uses. Range: **includes but is not limited to –** fixed shuttering, slip forms, jump forms, permanent formwork.	**Falsework and** formwork is described in terms of its purpose and uses. Range: **formwork –** fixed shuttering, slip forms, jump forms, permanent formwork; **falsework – timber propping, proprietary systems.**
PC1.2	Formwork is described in terms of its erection requirements. Range: line, level, plumb, tolerances, manufacturer's specifications.	**Falsework and** formwork is described in terms of its erection requirements. Range: line, level, plumb, **specified** tolerances, manufacturer's specifications, **use of release agents**.
PC1.3	Formwork is described in terms of striking and maintenance.	**Falsework and** formwork is described in terms of striking and maintenance.
PC1.4	New Zealand Standards are described as they relate to formwork. Range: NZS 3109:1997 Concrete construction, **NZS 3124:1987 Specification for concrete construction for minor works.**	New Zealand Standards are described as they relate to formwork. Range: NZS 3109:1997 Concrete construction.
E2	Describe the erection of formwork for walls, columns, beams, slabs and stairs.	Describe the erection of **falsework and** formwork for **high** walls, columns, beams and slabs.
PC2.1	Methods used to erect falsework and formwork to line, level, plumb and **required** tolerances are described in accordance with **working drawings, specifications and design requirements.**	Methods used to erect falsework and formwork to line, level, plumb and **specified** tolerances are described in accordance with **manufacturer's specifications and instructions**.
PC2.2	Methods used to strut, brace and tie, false work and formwork are explained in accordance with the **given specification requirements.**	Methods used to strut, brace and tie falsework and formwork are described in accordance with **design requirements and manufacturer's specifications**.
PC2.3	Methods used to strike **false work and formwork** without damage to any component are explained.	Methods used to strike **formwork and falsework** without damage to any component are described **in accordance with design requirements or manufacturer's specifications.**
PC2.4	Procedures for maintaining health and safety requirements when erecting false work and formwork are described. Range: **includes but is not limited to –** work methods, plant, equipment, identification of hazards, **injury prevention and personal protection.**	Change range to: Range: work methods, plant, equipment, identification of hazards **and controls**

Unit Standard No: **13030** Level: **4** Credits: **3**	Unit Standard Title: **Demonstrate knowledge of residential alterations and additions** Change to: Demonstrate knowledge of alterations and additions	**37**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Describe requirements of an on site pre construction investigation.	
PC1.1	The information requirements are described for an on site investigation. Range: includes but is not limited to – clear space available; slope of the ground; bearing capacity of the ground; position of services; area taken up by drives and paths; existing trees and other items to be retained; position, area and details of existing buildings; hazardous materials; insurance responsibilities.	**Information requirements for an on site pre construction investigation are described** Range: clear space available; slope of the ground; bearing capacity of the ground; position of services; area taken up by drives and paths; existing trees and other items to be retained; position, area and details of existing buildings; hazardous materials; insurance responsibilities, **occupancy**.
PC1.2	The use of the on site investigation information is described in relation to the construction process **and finish of the building.**	The use of on site **pre construction** investigation data, **in conjunction with design documents,** is described in terms of determining the construction process.
E2	Describe **requirements of the territorial authority** for additions and alterations.	**Remove this element and its pcs as they are covered in a new unit**
PC2.1	The documentation required for building alterations and additions is described in terms of territorial authority requirements. Range: **includes but is not limited to** – land information memorandum, project information memorandum, building consent, resource management consent.	
E3	Describe the construction of timber decks.	**Becomes element 6**
PC3.1	Members of a timber deck are described **in terms of their purposes.** Range: piles, post, bearers, beams, joist, bracing, decking, balustrades, fixing.	**Functions** of members of a timber deck are described. Range: piles, post, bearers, beams, joists, bracing, decking, balustrades, **mechanical** fixings.
PC3.2	Decks are described in terms of their construction requirements. Range: NZS 3604:1999 Timber Framed Buildings.	**Construction requirements of decks are described** Range: NZS 3604:1999 Timber Framed Buildings **or specific design**.
E4	Describe the construction process when making an alteration or addition at the same or a split level.	**Becomes element 2**
PC4.1	Methods are described for opening up existing **structures** and joining up to match.	Methods are described for opening up existing **buildings** and joining up to match.
PC4.2	Options for temporary weather protection are described in terms of job requirements.	
PC4.3	Methods used to maintain existing services are described in terms of minimum disruption. Range: **includes but is not limited to –** electricity, gas, communications systems, water, stormwater, sewerage.	Range: electricity, gas, communications systems, water, stormwater, sewerage.

E5	Describe raising an existing **house** and adding a bottom storey.	**Becomes element 3** Describe raising an existing **building** and adding a bottom storey.
PC5.1	Preparatory work is described in terms of the requirements of raising a house.	**Preparatory work for raising a building is described**
PC5.2	Methods of **lifting** and supporting are described in terms of raising an existing house.	Methods of **raising** and supporting an **existing building** are described
PC5.3	Excavation and construction are described in terms of adding a bottom storey.	Excavation and construction are described in terms of adding a bottom storey **to an existing building**.
PC5.4	Final work is described in terms of adding a bottom storey. Range: lowering, fixing, 'making good'.	
E6	Describe the methods of adding a top storey to an existing **structure**.	**Becomes element 4** Describe the methods of adding a top storey to an existing **building**.
PC6.1	Methods of strengthening an existing structure are described in terms of adding a new top storey.	Methods of strengthening an existing **building** are described in terms of adding a new top storey.
PC6.2	Access stairs are described in terms of their location, construction and installation according to the requirements of the Building Code.	Location, construction and installation of access stairs are described in accordance with the requirements of the Building Code.
PC6.3	Methods of construction and temporary weatherproofing are described in terms of adding a new top storey.	Methods of construction and temporary weatherproofing are described in terms of adding a new top storey **to an existing building**.
E7	Describe excavating under an existing **house** to form a new **bottom storey**.	**Becomes element 5** Describe excavating under an existing **building** to form a new **basement**.
PC7.1	The methods of excavation and temporary support of an existing building are described in terms of excavating under it.	
PC7.2	Installation of beams, beam supports and retaining walls is described in terms of forming a new bottom storey under an existing **house**.	Installation of beams, beam supports and retaining walls is described in terms of forming a new bottom storey under an existing **building**.
PC7.3	Construction of a bottom storey and access stairs is described in terms of adding a bottom storey under an existing **house**.	Construction of a bottom storey and access stairs is described in terms of adding a bottom storey under an existing **building**.
E8	Describe procedures for completing work operations on site.	**Becomes element 7**
PC8.1	Procedures for maintaining health and safety requirements when constructing alterations and additions are described. Range: i**ncludes but is not limited to** – work methods, plant, equipment, identification of hazards, **injury prevention and personal protection.**	Range: work methods, plant, equipment, identification of hazards **and controls**

Unit Standard No: **13031** Level: **3** Credits: **1**	Unit Standard Title: Demonstrate knowledge of demolition of a single storey building Change to: Demonstrate knowledge of **regulations and precautions for demolition work**	**38**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Describe regulations and documentation relating to the demolition of single storey buildings.	**Describe regulations and documentation relating to demolition work.**
PC1.1	Procedures for maintaining health and safety **requirements during demolition of a single storey building are described.** Range: **includes but is not limited to –** work methods, plant, equipment, identification of hazards, **injury prevention and personal protection**.	Procedures for maintaining health and safety **during demolition work are described.** Range: work methods, plant, equipment, identification of hazards **and controls**.
PC1.2	**Territorial authority** consents are described in terms of the requirements for demolition. Range: **includes but is not limited to –** traffic control, noise, dust, working hours, waste disposal, disposal of hazardous materials.	**Building Consent Authority** consents are described in terms of the requirements for demolition **work.** Range: traffic control, noise, dust, working hours, waste disposal, disposal of hazardous materials.
E2	Explain the precautions to be taken during **the safe demolition of single storey buildings**.	Explain the precautions to be taken during **demolition work.**
PC2.1	Preparatory procedures are described in terms of the demolition of structures. Range: condition and position of existing buildings and services, notifiable work, hazardous materials.	Preparatory procedures for demolition work are described. Range: condition, position and support of existing buildings and services, notifiable work, hazardous materials, **support of remaining structure**.
PC2.2	The demolition is described in terms of safety requirements **when using equipment and following procedures.** Range: personal, public, adjacent property, underground and overhead services.	Demolition work is described in terms of safety requirements. Range: personal **and** public **protection**, adjacent property, underground and overhead services.

Unit Standard No: **13032** Level: **3** Credits: **1**	Unit Standard Title: **Demonstrate knowledge of construction equipment used on site** Change to: Demonstrate knowledge of **non-mechanical and mechanical** construction equipment	**39**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Identify items of non-mechanical construction equipment **to be used on site**. Range: includes but is not limited to – spade, shovel, pick, grubber, sledge hammer, crow bar, rake, bull float, screeds, wheelbarrow, bolt cutter, ladder, floats and trowels, steel bender, saw stools, planks, fire extinguisher, earth leakage circuit breakers, power cables.	Identify **and describe** items of non-mechanical construction equipment. **The range will be removed and replaced with the following special note:** **'There will be a specific range of construction equipment for each trade.** **Construction equipment lists are obtainable from the Building and Construction Industry Training Organisation for various trades.'** **This would allow this unit to then be used by other building and construction trades (eg Concrete Construction).** **Suggested equipment list for Carpentry: spade, shovel, pick, grubber, sledge hammer, crow bar, rake, bull float, screeds, wheelbarrow, bolt cutter, ladder, floats and trowels, steel bender, saw stools, planks, fire extinguisher, earth leakage circuit breakers, power cables.**
PC1.1	Construction equipment is identified in terms of its purpose and safe use.	**Non–mechanical** construction equipment is identified **and described** in terms of its purpose and safe use.
E2	Identify items of mechanical construction equipment **to be used on site**. Range: includes but is not limited to – excavators, compactors, cranes, truck, front-end loaders, elevating work platforms, concrete pumps, concrete mixers, power floats, mechanical screeds, compressors, generators, water pumps, concrete cutters and drills, mechanical pavers, conveyers, barrow hoists, helicopters.	Identify **and describe** items of mechanical construction equipment **and programming of its use**. Same statement as above in relation to the range Suggested equipment list for Carpentry: excavators, compactors, cranes, **personnel hoists, forklifts, water blasters**, trucks, front-end loaders, elevating work platforms, concrete pumps, concrete mixers, power floats, mechanical screeds, compressors, generators, water pumps, concrete cutters and drills, jackhammer, mechanical pavers, conveyers, barrow hoists, helicopters.
PC2.1	Mechanical construction equipment is identified in terms of its purpose and safe use.	Mechanical construction equipment is identified **and described** in terms of its purpose and safe use.
PC2.2	Work requiring mechanical construction equipment is identified from working drawings.	**Programming of mechanical construction equipment is described.**

Unit Standard No: **13033** Level: **4** Credits: **1**	Unit Standard Title: **Demonstrate knowledge of alternative building construction methods**	**40**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Demonstrate knowledge of alternative building construction methods.	
PC1.1	Alternative building construction methods are described in terms of their features. Range: **includes but is not limited to -** solid timber, steel frame, straw bale, polystyrene block, log **and** earth buildings.	Alternative building construction methods are described in terms of their **properties and** features. Range: solid timber, steel frame, straw bale, polystyrene block, log, **rammed** earth, **adobe brick, aerated concrete, expanded polystyrene metal clad panels.**

Unit Standard No: **13034** Level: **4** Credits: **1**	Unit Standard Title: **Demonstrate knowledge of prefabricated beams used in construction**	**41**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Demonstrate knowledge of pre fabricated beams used in construction. Range **includes but is not limited to –** precast concrete, steel, timber.	Demonstrate knowledge of prefabricated beams used in construction. Range: precast concrete, steel, timber, **composite**.
PC1.1	Pre fabricated beams are **identified from working drawings and specifications.**	Prefabricated beams are **described in terms of their purpose and uses.**
PC1.2	The **safe** fixing of pre fabricated beams is described in terms of the **working drawings and** specifications.	**This pc becomes 1.3** The **erection and** fixing of pre fabricated beams is described **in accordance with** the **manufacturer's** specifications. **Range: plumb, level, line, camber, propping.**
PC1.3	On site delivery, cranage, storage and protection of pre fabricated beams is described in accordance with manufacturer's specifications.	**This pc becomes 1.2** On site delivery, cranage, storage and protection of pre fabricated beams is described in accordance with manufacturer's specifications. **New pc 1.4** **Procedures for maintaining health and safety requirements when erecting and fixing prefabricated beams are described.** **Range: work methods, plant, equipment, identification of hazards and controls**

Unit Standard No: SUSFLORTH Level: 4 Credits: 2	Unit Standard Title: **Demonstrate knowledge of proprietary suspended concrete floor systems**	**42**

Existing Elements and Performance Criteria (PC's)		**Suggested Changes to Elements and PC's**
E1	Demonstrate knowledge of proprietary suspended concrete floor systems. Range: pre cast systems – hollow core, pre cast beams with timber infill, flat slab, beam and slab; permanent formwork	There are no suggested changes as this is a brand new unit standard drafted for inclusion in the qualification
PC1.1	Proprietary suspended concrete floor systems are identified and described in terms of purpose, components and differences between types.	
PC1.2	Proprietary suspended concrete floor support systems are identified in terms of their location and purpose in a building.	
PC1.3	On site delivery, cranage, storage and protection of proprietary suspended concrete floor systems is described in accordance with manufacturer's specifications.	
PC1.4	Placing and fixing of proprietary suspended concrete floor systems are described in accordance with manufacturer's specifications	
PC1.5	Placing and setting out of reinforcing for concrete topping is described in accordance with manufacturer's specifications.	
PC1.6	Formation of formwork for edges, joints and penetrations is described in accordance with manufacturer's specifications.	
PC1.7	Procedures for maintaining health and safety requirements when setting up and dismantling proprietary suspended concrete floor systems are described. Range: work methods, plant, equipment, identification of hazards and controls.	