



ONTARIO COLLEGE OF TRADES

ORDRE DES MÉTIERS DE L'ONTARIO

Apprenticeship
Training Standard

General Carpenter

Trade Code: 403A

Development Date: April 2010

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COMPETENCY ANALYSIS PROFILE
General Carpenter – 403A

(All unshaded skill sets must be demonstrated/completed)

SKILL SETS

SKILLS

PROTECT SELF AND OTHERS 1451.0	Apply safety legislation 1451.01	Use personal protective equipment 1451.02	Apply safety measures in the shop and on the job site 1451.03	Apply prescribed procedures at an accident or a hazard 1451.04	Apply fire safety practices 1451.05
	Construct ladders 1451.06	Set up ladders 1451.07	Work on ladders 1451.08	Maintain ladders 1451.09	Use rigging equipment 1451.10
	Use swing stages 1451.11	Use powered elevated work platforms 1451.12	Use spiders and bosun chairs 1451.13		
OPERATE TOOLS AND EQUIPMENT 1452.0	Use hand tools 1452.01	Operate portable power tools 1452.02	Operate stationary power tools and equipment 1452.03	Design jigs and templates 1452.04	Use pre-fabricated and fabricated jigs and templates 1452.05

SKILL SETS

SKILLS

ESTABLISH BUILDING PROCEDURES 1453.0	Perform trade-related calculations	Prepare sketches	Uses plans and sketches	Communicate with co-workers, supervisors and other tradespersons	Apply trade-related written and spoken information
	1453.01	1453.02	1453.03	1453.04	1453.05
	Establish procedures for installing pre-manufactured materials or equipment	Manage work site	Estimate material		
	1453.06	1453.07	1453.08		

PREPARE SITE FOR BUILDING 1454.0	Prepare site for layout	Lay out buildings according to plot and foundation plans	Lay out piling and caissons for foundations and shore protection	Install piling and caissons for foundations and shore protection	Install shoring for trench, road and building stabilization
	1454.01	1454.02	1454.03	1454.04	1454.05
	Prepare ground for preserved wood foundation (PWF) and slab on grade	Install underpinning	Plan access and egress on job site		
	1454.06	1454.07	1454.08		

SKILL SETS

SKILLS

EXECUTE FORM WORK	Lay out embedded steel	Construct embedded steel	Install embedded steel	Lay out footing forms	Construct footing forms
1455.0	1455.01	1455.02	1455.03	1455.04	1455.05
	Install footing forms	Lay out forms for columns, piers and capitals	Construct forms for columns, piers and capitals	Install forms for columns, piers and capitals	Lay out wall forms
	1455.06	1455.07	1455.08	1455.09	1455.10
	Construct wall forms	Install wall forms	Lay out templates to receive dowels and anchor bolts	Build templates to receive dowels and anchor bolts	Lay out beam and girder forms
	1455.11	1455.12	1455.13	1455.14	1455.15
	Construct beam and girder forms	Install beam and girder forms	Lay out shoring	Construct shoring	Install shoring
	1455.16	1455.17	1455.18	1455.19	1455.20
	Lay out suspended slab forms	Install suspended slab forms	Lay out slab-on-grade	Install slab-on-grade	Lay out stair forms
	1455.21	1455.22	1455.23	1455.24	1455.25
	Construct stair forms	Install stair forms	Lay out forms for ramps and runways	Construct forms for ramps and runways	Install forms for ramps and runways
	1455.26	1455.27	1455.28	1455.29	1455.30
	Lay out slip forms	Construct slip forms	Install slip forms	Lay out various movable wall form systems	Construct various movable wall form systems
	1455.31	1455.32	1455.33	1455.34	1455.35

SKILL SETS

SKILLS

<p>EXECUTE FORM WORK - <u>Cont'd</u></p> <p>1455.0</p>	<p>Install various movable wall form systems</p> <p>1455.36</p>	<p>Lay out forms to encase structural steel</p> <p>1455.37</p>	<p>Build forms to encase structural steel</p> <p>1455.38</p>	<p>Install forms to encase structural steel</p> <p>1455.39</p>	<p>Lay out insulated concrete forms</p> <p>1455.40</p>
	<p>Construct insulated concrete forms</p> <p>1455.41</p>	<p>Install insulated concrete forms</p> <p>1455.42</p>	<p>Strip concrete forms</p> <p>1455.43</p>	<p>Perform slump test on concrete</p> <p>1455.44</p>	<p>Re-shore completed structures</p> <p>1455.45</p>
	<p>Store forms</p> <p>1455.46</p>	<p>Place concrete</p> <p>1455.47</p>	<p>Consolidate concrete</p> <p>1455.48</p>	<p>Finish concrete</p> <p>1455.49</p>	<p>Control rate of curing concrete</p> <p>1455.50</p>
	<p>Lay out locations of pre-cast systems and pre-stressed concrete</p> <p>1455.51</p>	<p>Install pre-cast systems and pre- stressed concrete</p> <p>1455.52</p>	<p>Lay out grout forms</p> <p>1455.53</p>	<p>Construct grout forms</p> <p>1455.54</p>	<p>Install grout forms</p> <p>1455.55</p>

SKILL SETS

SKILLS

<p>FRAME FLOORS AND WALLS</p> <p>1456.0</p>	<p>Lay out preserved wood foundation (PWF)</p> <p>1456.01</p>	<p>Construct preserved wood foundation (PWF)</p> <p>1456.02</p>	<p>Install preserved wood foundation (PWF)</p> <p>1456.03</p>	<p>Lay out floor framing</p> <p>1456.04</p>	<p>Install floor framing</p> <p>1456.05</p>
	<p>Lay out walls for platform-style framing</p> <p>1456.06</p>	<p>Construct walls for platform-style framing</p> <p>1456.07</p>	<p>Install walls for platform-style framing</p> <p>1456.08</p>	<p>Lay out walls for balloon-style framing</p> <p>1456.09</p>	<p>Construct walls for balloon-style framing in</p> <p>1456.10</p>
	<p>Install walls for balloon-style framing</p> <p>1456.11</p>	<p>Lay out energy-efficient framing</p> <p>1456.12</p>	<p>Lay out modular factory prefabricated units</p> <p>1456.13</p>	<p>Construct modular factory prefabricated units</p> <p>1456.14</p>	<p>Install modular factory prefabricated units</p> <p>1456.15</p>
	<p>Construct acoustic fire cavity and party walls</p> <p>1456.16</p>	<p>Frame allowances for building services and utilities</p> <p>1456.17</p>			

SKILL SETS

SKILLS

CONSTRUCT HEAVY FRAMING 1458.0	Lay out heavy floor framing	Construct heavy floor framing	Install heavy floor framing and lay floor planking	Lay out wood post and beam components	Construct wood post and beam components
	1458.01	1458.02	1458.03	1458.04	1458.05
	Install wood post and beam components	Lay out roof frame for post and beam structure	Construct roof frame for post and beam structure	Install roof frame for post and beam structure	Lay out wall fill-in for post and beam structure
	1458.06	1458.07	1458.08	1458.09	1458.10
	Construct wall fill-in for post and beam structure	Install wall fill-in for post and beam structure	Lay out timber trusses	Construct timber trusses	Install timber trusses
	1458.11	1458.12	1458.13	1458.14	1458.15
Lay out position of trusses on a wall	Lay out ramps, runways, chutes, splash-boards, and bents (trestles)	Construct ramps, runways, chutes, splash-boards, and bents (trestle)	Install ramps, runways, chutes, splash-boards, and bents (trestles)	Lay out pole barns	
1458.16	1458.17	1458.18	1458.19	1458.20	
Construct pole barns					
1458.21					

SKILL SETS

SKILLS

BUILD STAIRS 1459.0	Lay out straight stairs	Construct straight stairs	Install straight stairs	Lay out landings for stairs	Construct landings for stairs
	1459.01	1459.02	1459.03	1459.04	1459.05
	Install landings for stairs	Lay out winder stairs	Construct winder stairs	Install winder stairs	Lay out pre-fabricated stairs
	1459.06	1459.07	1459.08	1459.09	1459.10
	Construct pre-fabricated stairs	Install pre-fabricated stairs	Lay out newel posts, handrails and balustrades	Construct newel posts, handrails and balustrades	Install newel posts, handrails and balustrades
	1459.11	1459.12	1459.13	1459.14	1459.15

INSTALL DOORS, FRAMES AND HARDWARE 1460.0	Lay out frames and movable partitions.	Construct frames and movable partitions.	Install frames and movable partitions	Lay out door systems	Construct door systems
	1460.01	1460.02	1460.03	1460.04	1460.05
	Install door systems	Lay out overhead doors, rollup shutters and roll-up doors	Install overhead doors, rollup shutters and roll-up doors	Lay out manual and electrical-activated hardware	Install manual and electrical-activated hardware
	1460.06	1460.07	1460.08	1460.09	1460.10

INSTALL WINDOWS 1461.0	Install exterior window systems	Lay out interior windows	Construct interior windows	Install interior windows	
	1461.01	1461.02	1461.03	1461.04	

SKILL SETS

SKILLS

INSTALL EXTERIOR FINISHING MATERIALS 1462.0	Lay out exterior siding and trim	Construct siding components	Install siding components	Construct trim components	Install exterior siding and trim
	1462.01	1462.02	1462.03	1462.04	1462.05
	Lay out cornice components	Construct cornice components	Install cornice components	Lay out roof coverings, roof vents and flashing	Construct roof coverings, roof vents and flashing
	1462.06	1462.07	1462.08	1462.09	1462.10
	Install roof coverings, roof vents and flashing	Lay out exterior decks	Construct exterior decks	Install exterior decks	
	1462.11	1462.12	1462.13	1462.14	

INSTALL FINISHED MATERIALS TO WALLS AND CEILINGS 1463.0	Lay out wall and ceiling for finishes	Construct wall and ceiling for finishes	Prepare wall and ceiling for finishes	Install acoustic and thermal insulation and vapour barriers	Apply energy-efficient construction techniques
	1463.01	1463.02	1463.03	1463.04	1463.05
	Lay out wall and ceiling coverings	Construct wall and ceiling coverings	Install wall and ceiling coverings	Lay out suspended ceiling systems	Construct suspended ceiling systems
	1463.06	1463.07	1463.08	1463.09	1463.10
	Install suspended ceiling systems				
	1463.11				

SKILL SETS

SKILLS

<p>INSTALL INTERIOR FINISHING MATERIALS AND HARDWARE</p> <p>1464.0</p>	<p>Lay out vertical trim</p> <p>1464.01</p>	<p>Construct horizontal and vertical trim</p> <p>1464.02</p>	<p>Install horizontal and vertical trim</p> <p>1464.03</p>	<p>Lay out millwork</p> <p>1464.04</p>	<p>Construct millwork</p> <p>1464.05</p>
	<p>Install millwork</p> <p>1464.06</p>	<p>Lay out pre-fabricated kitchens, bathrooms, vanities and countertops</p> <p>1464.07</p>	<p>Install pre-fabricated kitchens, bathrooms, vanities and countertops</p> <p>1464.08</p>	<p>Lay out wood, composite and other manufactured finished and unfinished floors and accessories, underlay, and special base preparations</p> <p>1464.09</p>	<p>Construct wood, composite and other manufactured finished and unfinished floors and accessories, underlay, and special base preparations</p> <p>1464.10</p>
	<p>Install wood, composite and other manufactured finished and unfinished floors and accessories, underlay, and special base preparations</p> <p>1464.11</p>	<p>Lay out demountable wall systems</p> <p>1464.12</p>	<p>Construct demountable wall systems</p> <p>1464.13</p>	<p>Install demountable wall systems</p> <p>1464.14</p>	<p>Dismantle demountable wall systems</p> <p>1464.15</p>
	<p>Lay out arena seating</p> <p>1464.16</p>	<p>Construct arena seating</p> <p>1464.17</p>	<p>Install arena seating</p> <p>1464.18</p>	<p>Select materials to receive finishes</p> <p>1464.19</p>	<p>Lay out interior hardware</p> <p>1464.20</p>
	<p>Install interior hardware</p> <p>1464.21</p>				

SKILL SETS

SKILLS

PERFORM LANDSCAPE AND SITE WORK 1465.0	Lay out fences, guard rails, blast walls, protective barriers, sound barriers and retaining walls 1465.01	Construct fences, guard rails, blast walls, protective barriers, sound barriers and retaining walls 1465.02	Install fences, guard rails, blast walls, protective barriers, sound barriers and retaining walls 1465.03	Lay out benches and timber steps 1465.04	Construct benches and timber steps 1465.05
	Install benches and timber steps 1465.06	Lay out docks, piers, bridges and gazebos 1465.07	Construct docks, piers, bridges and gazebos 1465.08	Install docks, piers, bridges and gazebos 1465.09	Lay out traffic and pedestrian control 1465.10
	Construct traffic and pedestrian control 1465.11	Install traffic and pedestrian control 1465.12	Lay out recreational site components 1465.13	Construct recreational site components 1465.14	Install recreational site components 1465.15

PERFORM RENOVATIONS 1466.0	Protect existing structures 1466.01	Remove interior finishes and exterior finishes 1466.02	Alter existing structures 1466.03	Lay out new structural components 1466.04	Construct new structural components 1466.05
	Install new structural components 1466.06				

SKILL SETS

SKILLS

ERECT AND DISMANTLE SCAFFOLDS 1467.0	Lay out wood scaffolds	Construct wood scaffolds	Install wood scaffolds	Dismantle wood scaffolds	Lay out sectional frame access scaffolding
	1467.01	1467.02	1467.03	1467.04	1467.05
	Construct sectional frame access scaffolding	Install sectional frame access scaffolding	Dismantle sectional frame access scaffolding	Lay out rolling scaffolding	Construct rolling scaffolding
	1467.06	1467.07	1467.08	1467.09	1467.10
	Dismantle rolling scaffolding	Lay out tube and clamp scaffolding	Construct tube and clamp scaffolding	Install tube and clamp scaffolding	Dismantle tube and clamp scaffolding
	1467.11	1467.12	1467.13	1467.14	1467.15
	Lay out system scaffolding	Construct system scaffolding	Install system scaffolding	Dismantle system scaffolding	Construct hanging scaffolds
	1467.16	1467.17	1467.18	1467.19	1467.20

CUT AND WELD MILD STEEL 1468.0	Cut mild steel using quick cut, grinder, metal cut-off saw and reciprocating saw	Set up oxy-fuel cutting equipment	Cut mild steel with oxy-fuel equipment	Set up shielded metal arc welding equipment	Prepare for welding
	1468.01	1468.02	1468.03	1468.04	1468.05
	Weld with the shielded metal arc welding (SMAW) process				
	1468.06				

PREFACE

This training standard was developed by the Ministry of Training Colleges and Universities (MTCU), in partnership with the Provincial Advisory Committee and in consultation with representatives from the industry. This document is intended to be used by apprentice, supervisor/trainer and sponsor/employer as a "blueprint" for training and as a prerequisite for completion and certification.

This training document becomes the apprentice's only record of workplace training performance. Supervisor/trainer and apprentice are required to sign off and date the skills following each successful acquisition, unless a skill is shaded (optional).

The care and maintenance of this training document are the joint responsibility of the apprentice and the sponsor/employer. By signing off the skill, the supervisor/trainer and the apprentice are indicating that the apprentice has demonstrated competence in the skill. This training standard has been developed specifically for documenting the apprentice's acquisition of skills in the trade.

The technical and work processes that this trade performs have been reviewed to include requirements for emerging "green" technologies, managing surplus, or scrap materials, conservation and preventing spills or escape of contaminated, toxic or hazardous gases and waste.

As apprenticeable trades and occupations are more mindful of the need for environmental sustainability, they are adopting materials, tools and procedures that offer environmental harm reduction.

Please Note: Apprenticeship Training and Curriculum Standards were developed by the Ministry of Training, Colleges and Universities (MTCU). As of April 8th, 2013, the Ontario College of Trades (College) has become responsible for the development and maintenance of these standards. The College is carrying over existing standards without any changes.

However, because the Apprenticeship Training and Curriculum Standards documents were developed under either the Trades Qualification and Apprenticeship Act (TQAA) or the Apprenticeship and Certification Act, 1998 (ACA), the definitions contained in these documents may no longer be accurate and may not be reflective of the Ontario College of Trades and Apprenticeship Act, 2009 (OCTAA) as the new trades legislation in the province. The College will update these definitions in the future.

Meanwhile, please refer to the College's website (<http://www.collegeoftrades.ca>) for the most accurate and up-to-date information about the College. For information on OCTAA and its regulations, please visit: <http://www.collegeoftrades.ca/about/legislation-and-regulations>

DEFINITIONS**ACA**

Apprenticeship and Certification Act, 1998

Certificate of Apprenticeship (C of A)

Certification issued to individuals who have demonstrated that they have completed an apprenticeship in Ontario.

Certificate of Qualification (C of Q)

Certification issued to C of Q applicants who have achieved a passing grade on the certification exam for their trade.

Competency Analysis Profile

A document that identifies the training needs of an individual trade and details the skills/skill sets that must be demonstrated.

Competence

The ability of an individual to perform a skill repeatedly and without assistance in the workplace to the standard set out in the Training Standard or Schedule of Training.

General Performance Objective (On-the-job Skill Set)

Describes set of skills, which include all performance objectives under that skill set.

Industry Committee (IC) - under the ACA and Provincial Advisory Committee (PAC) under the TQAA

Under the ACA and TQAA, the Minister may appoint a provincial committee in any trade or group of trades to advise the Minister in matters relating to the establishment and operation of apprenticeship training programs and trades qualifications.

Journeyman or Equivalent

A person who has acquired the knowledge and skills in a trade, occupation or craft as attested to by a provincial or territorial authority.

Mandatory

Status assigned to unshaded individual skills, skill sets or general performance objective which must be signed off for the apprentice to complete their program.

Optional

Status assigned to shaded individual skills, skills sets or general performance objective for which sign-off is not required for the apprentice to complete the program.

Sign-off

Signature of the sponsor/employer of record or an individual to whom, that sponsor or employer has delegated signing authority, indicating an apprentice's achievement of competence.

Skill

Individual skill described in the Training Standard (note: does not mean the larger skill groups referred to in the Training Standard as Skill Sets, Training Units, or General Performance Objective, but the individual skills that make up those groups).

Skill Sets

Group of individual skills found in the Training Standard (may also be called Training Unit or General Performance Objective)

Skill Set Completion Form

Lists all skill sets and includes space for sign-off by sponsor/employer of record.

Sponsor/Employer

Means a person that has entered into a registered training agreement under which the person is required to ensure that an individual is provided with workplace-based training in a trade, other occupation or skill set as part of an apprenticeship program approved by the Director.

Sponsor/Employer of Record

Refers to the sponsor or employer documented as the signatory to the current training agreement or contract. In order for an sponsor/employer to be considered for the training of apprentices, they must identify that the workplace has qualified journeypersons or equivalent on site and can identify that the workplace has the tools, equipment, materials, and processes which have been identified by Provincial Advisory Committees (PACs) or Industry Committees (ICs) to be required for the trade.

Supervisor

An individual, who oversees the execution of a task; oversees the actions or work of others.

Trainer

A qualified trainer in a compulsory trade is a journeyperson with a Certificate of Qualification or in a voluntary trade is an individual who is considered equivalent to a journeyperson with a Certificate of Qualification.

TQAA

Trades Qualification and Apprenticeship Act.

Training Standard

A document that has been written in concise statements, which describe how well an apprentice must perform each skill in order to become competent. In using the document, trainers will be able to ensure that the apprentice is developing skills detailed for the occupation.

IMPORTANT DIRECTIONS

Apprentice

1. All complete skills or skill sets must be signed and dated by both the apprentice and sponsor/employer when either all terms of the contract have been completed or the apprentice leaves the employ of the employer.
2. It is the responsibility of the apprentice to inform the apprenticeship staff at the local Ministry of Training, Colleges and Universities office regarding the following changes:
 - change of sponsor/employer address
 - change of apprentice name or address
 - transfer to a new sponsor/employer.
3. The Skill Set Completion Form must be completed and signed by the current sponsor/employer and presented to the local Apprenticeship Client Services Office at the fulfillment of all terms of a Contract of Apprenticeship/Training Agreement.
4. The apprentice completion form with the Completed and Authorized Training Standard must be presented to the local Apprenticeship Client Services Unit.

Sponsors/Employers and Supervisors/Trainers

The Training Standard identifies skills required for this trade/occupation and its related training program.

This Training Standard has been written in concise statements, which describe how an apprentice must perform each skill in order to become competent. Competence means being able to perform the task to the required standard.

In using this Training Standard, supervisors/trainers will be able to ensure that the apprentice is developing the skills detailed for the trade/occupation.

Supervisors/Trainers and apprentices are required to sign off and date the skills following each successful acquisition.

Sponsors/Employers participating in this training program will be designated as the Signing Authority and are required to attest to successful achievement by signing the appropriate box included at the end of each skill set.

NOTICE OF COLLECTION OF PERSONAL INFORMATION

1. At any time during your apprenticeship training, you may be required to show this training standard to the Ministry of Training, Colleges and Universities (the Ministry). You will be required to disclose the signed Apprenticeship Completion form to the Ministry in order to complete your program. The Ministry will use your personal information to administer and finance Ontario's apprenticeship training system, including confirming your completion and issuing your certificate of apprenticeship.
2. The Ministry will disclose information about your program completion and your certificate of apprenticeship to the Ontario College of Trades, as it is necessary for the College to carry out its responsibilities.
3. Your personal information is collected, used and disclosed by the Ministry under the authority of the Ontario College of Trades and Apprenticeship Act, 2009.
4. Questions about the collection, use and disclosure of your personal information by the Ministry may be addressed to the:

Manager, Employment Ontario Contact Centre
Ministry of Training, Colleges and Universities
33 Bloor St. E, 2nd floor, Toronto, Ontario M7A 2S3
Toll-free: 1-800-387-5656; Toronto: 416-326-5656
TTY: 1-866-533-6339 or 416-325-4084.

ROLES & RESPONSIBILITIES OF APPRENTICE, SPONSOR/EMPLOYER AND SUPERVISOR/TRAINER

Apprentice “Apprenticeship is Learning On-the-Job”

- Practice safe work habits.
- Use your apprenticeship training standard as a journal to keep track of which skills you have achieved.
- Talk over your training plan with your Training Consultant, Employer, Union, or Sponsor.
- Know what tools are required for your trade and how to use them.
- Ask questions and keep asking.
- Talk to your employer about your training needs.
- Demonstrate enthusiasm and good work habits.
- Ensure that you and your supervisor/trainer sign off skill/skill sets upon demonstration of competency.

Sponsor/Employer “Training is an Investment”

- Demonstrate safe work habits.
- Attest to successful achievement by signing the skill/skills sets.
- Provide opportunities and time for the apprentice to learn the trade.
- Offer practical trade training experiences that cover all of the skill sets.
- Foster work ethics that support training while minimizing productivity losses.
- Set out clear expectations, then recognize or reward performance excellence.
- Involve both the apprentice and supervisor/trainer in developing the training plan.
- Use the Training Standard as a monitoring tool and part of regular performance evaluations.
- Select supervisors/trainers with good communication skills and who work well with others.
- Encourage supervisors/trainers to take upgrading courses - (e.g. Train the Trainer, Mentor Coach, etc).
- Complete the Skill Set Completion Form once the apprentice has demonstrated competency in the training.
- Ensure that the apprentice always works under the direction of or has access to a qualified supervisor/trainer.
- Vary the apprentice’s exposure to all the skills set out in the training standard.

Supervisor/Trainer

- Demonstrate safe work habits.
- Treat apprentices fairly and with respect.
- Use the Training Standard as a guide to evaluating competence in each skill area. In using the Training Standard, supervisors/trainers will be able to ensure that the apprentice is developing skills detailed for the trade/occupation.
- Review the Training Standard with the apprentice and develop a training plan.
- Respond fully to all questions.
- Be patient. Explain what is to be done, then show how it is done, and then let the apprentice demonstrate the task.
- Provide continuous feedback.
- Sign off individual skills/skill sets once the apprentice demonstrates competence in the skill.

Suggestions for Assessing the Progress of the Apprentice in the Workplace

- Use informal daily observation.
- Provide constructive feedback to build confidence.
- Allow the supervisor/trainer time to teach and demonstrate the skills.
- Take prompt action wherever problems occur.
- Conduct regular performance reviews involving the apprentice, supervisor/trainer and sponsor/employer.
- Use the Training Standard as the reference for establishing the competency of the apprentice.

SKILL SET COMPLETION FORM

SKILL SET	TITLE	SIGNING AUTHORITY
1451.0	PROTECT SELF AND OTHERS	
1452.0	OPERATE TOOLS AND EQUIPMENT	
1453.0	ESTABLISH BUILDING PROCEDURES	
1454.0	PREPARE SITE FOR BUILDING	
1455.0	EXECUTE FORM WORK	
1456.0	FRAME FLOORS AND WALLS	
1457.0	FRAME ROOFS AND CEILINGS	
1458.0	CONSTRUCT HEAVY FRAMING	
1459.0	BUILD STAIRS	
1460.0	INSTALL DOORS, FRAMES AND HARDWARE	
1461.0	INSTALL WINDOWS	
1462.0	INSTALL EXTERIOR FINISHING MATERIALS	
1463.0	INSTALL FINISHED MATERIALS TO WALLS AND CEILINGS	
1464.0	INSTALL INTERIOR FINISHING MATERIALS AND HARDWARE	
1465.0	PERFORM LANDSCAPE AND SITE WORK	
1466.0	PERFORM RENOVATIONS	
1467.0	ERECT AND DISMANTLE SCAFFOLDS	
1468.0	CUT AND WELD MILD STEEL	
1469.0	PROTECT THE ENVIRONMENT	

NOTE ON SHADED PERFORMANCE OBJECTIVES AND SKILLS:

- Shaded performance objectives and skill sets are optional. The shaded skills do not have to be demonstrated or signed-off for completion of the on-the-job component of the apprenticeship
- The in-school curriculum learning outcomes will cover all of the skill sets, both shaded and unshaded.
- The Certificate of Qualification examination will test the whole of the trade and may test both shaded and unshaded performance skill sets.

1451.0 PROTECT SELF AND OTHERS

GENERAL PERFORMANCE

OBJECTIVE

Protect self and others by applying safety legislation, using personal protective equipment, applying safety measures in the shop and on the job site, applying prescribed procedures at an accident or a hazard, applying fire safety practices, constructing, setting up, working on and maintaining ladders, using rigging equipment, swing stages, powered elevated work platforms and spiders and bosun chairs.

PERFORMANCE OBJECTIVES

SKILLS

1451.01 **Apply safety legislation** including the *Worker-s Compensation Act* and the *Occupational Health and Safety Act* including WHMIS and other government legislation by accessing workplace safety documentation in the workplace in accordance with work site policies and procedures.

Date Completed	Apprentice	Supervisor/Trainer
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1451.02 **Use personal protective equipment** by selecting, wearing and maintaining various types of respirators, Scot-Air Pak, hard hat, goggles, glasses and face shields, safety shoes and gloves, hearing protectors, special protective clothing, and fall-arrest systems to safeguard eyes, ears, feet, head, lungs and body from injury, and making sure of proper fit and optimum protection in accordance with manufacturer-s specifications, Canadian Standards Association (CSA) standards, and the *Occupational Health and Safety Act* and work site policies and procedures.

Date Completed	Apprentice	Supervisor/Trainer
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1451.0 PROTECT SELF AND OTHERS...cont'd

1451.07 Set up ladders by using the required type and size of materials, leaving them unpainted, inspecting for defects, selecting the appropriate length, positioning for required height and correct angle, and tying off as required, all according to the *Occupational Health and Safety Act* and work site policies and procedures.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1451.08 Work on ladders by ascending and descending safely, assuring three-point contact at all times, assuring proper position, tying off with required fall-arrest harness, ensuring legal projection at step-off point of upper level, and avoiding obstructions (heat sources, electrical power source, piping and venting, physical obstructions, rotating equipment, etc.) in accordance with the *Occupational Health and Safety Act* and work site policies and procedures.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1451.09 Maintain ladders by inspecting for defects and damage before, during and after use, and repairing site-built ladders immediately, cleaning grease and dirt from ladders, removing from service and reporting defects to co-workers and supervisor and storing ladders safely in accordance with the *Occupational Health and Safety Act* and work site policies and procedures.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1451.10 Use rigging equipment (slings, chokers, ropes, safety hooks, clevis, block and tackle, ratchet straps) for slinging and hoisting, keeping in mind equipment safety factors and using international hoisting signals, in accordance with manufacturer's specifications, Construction Safety Association rigging procedures, the *Occupational Health and Safety Act* and work site policies and procedures.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1451.0 PROTECT SELF AND OTHERS...cont'd

1451.11 Use swing stages by extending outriggers, installing booms and counterweights, installing tie backs, attaching independent lifelines, visually inspecting lines, attaching appropriate guard rails and netting, ensuring proper loading of stage, ascending and descending safely (e.g., using separate ladder from end frame) working correctly from platforms, and attaching to proper fall-arrest system, according to manufacturer-s instructions, *Occupational Health and Safety Act* and work site policies and procedures.

Date Completed

Apprentice

Supervisor/Trainer

1451.12 Use powered elevated work platforms by inspecting machine before use and documenting findings, extending outriggers, attaching independent lifelines, visually inspecting lines, attaching appropriate guard rails and netting, ensuring proper loading, ascending and descending safely (e.g. Using separate ladder from end frame) working correctly from platforms, and attaching to proper fall-arrest system, according to manufacturer-s instructions, *Occupational Health and Safety Act* and work site policies and procedures.

Date Completed

Apprentice

Supervisor/Trainer

1451.13 Use spiders and bosun chairs by extending outriggers, installing booms and counterweights, installing tie backs, attaching independent lifelines, visually inspecting lines, attaching appropriate guard rails and netting, ensuring proper loading of stage, ascending and descending safely (e.g. Using separate ladder from end frame) working correctly from platforms, and attaching to proper fall-arrest system, according to manufacturer-s instructions, *Occupational Health and Safety Act* and work site policies and procedures.

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1452.0 OPERATE TOOLS AND EQUIPMENT

GENERAL PERFORMANCE OBJECTIVE

Operate tools and equipment by using hand tools, operating portable power stools, stationary tools and equipment, designing jigs and templates, and using pre-fabricated and fabricated jigs and templates.

PERFORMANCE OBJECTIVES

SKILLS

1452.01 Use **hand tools** for drawing and layout, pounding and impelling, shaving and paring, tooth-cutting, holding and supporting, scraping and abrading, drilling, boring and tapping, by selecting the correct tool for specific application, maintaining and working within the tools' limitations in a safe manner and in accordance with manufacturer-s specifications and industry best practices.

 Date Completed

 Apprentice

 Supervisor/Trainer

1452.02 Operate **portable power tools** including saws (circular, chain, cut-off, reciprocating), drills, routers, planes, sanders, nailers (air nailers, staples, screws), powder-actuated (nailing), screw guns, gasoline-powered tools, mortising machines, grinders, welding equipment and accessories (generators, propane heaters and compressors) by selecting, using, inspecting, maintaining and storing tools in accordance with manufacturer-s specifications, the *Occupational Health and Safety Act* and industry best practices.

 Date Completed

 Apprentice

 Supervisor/Trainer

1452.03 Operate **stationary power tools and equipment** such as jointers, planers, drill presses, grinders, saws (table, band, radial arm, mitre), and sanders and their accessories by selecting, using, inspecting, maintaining and storing tools in accordance with manufacturer-s specifications, the *Occupational Health and Safety Act* and industry best practices.

 Date Completed

 Apprentice

 Supervisor/Trainer

1452.0 OPERATE TOOLS AND EQUIPMENT...cont'd

1452.04 Design jigs and templates in accordance with plans, manufacturer-s specifications and industry best practices.

Date Completed

Apprentice

Supervisor/Trainer

1452.05 Use pre-fabricated and fabricated jigs and templates in accordance with manufacturer-s specifications and industry best practices.

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1453.0 ESTABLISH BUILDING PROCEDURES

GENERAL PERFORMANCE OBJECTIVE

Establish Building Procedures by performing trade-related calculations; preparing sketches; using plans and sketches; communicating with co-workers, supervisors and other tradespersons; applying trade-related written and spoken information; establishing procedures for installing pre-manufactured materials or equipment, organizing work site, and estimating material requirements.

PERFORMANCE OBJECTIVES

SKILLS

1453.01 Perform trade-related calculations using fractions, decimals, ratios, percentages, involving measurement of lines, area and volumes (in both metric and imperial), and including angles, triangles, and the Pythagorean theorem, and apply the principles of basic geometry (lines, angles, triangles, polygons, circles, ellipses) to trade-related problems.

Date Completed

Apprentice

Supervisor/Trainer

1453.02 Prepare sketches with necessary views, dimensions, and other relative information from oral/written instructions, formal drawings, and inspection of job location in order to clarify details and communicate information to others.

Date Completed

Apprentice

Supervisor/Trainer

1453.03 Use plans and sketches including survey or plot plan, architectural, structural, mechanical, electrical, sections, specification and schedules (door, room-finish, anchor bolts, hardware, etc.) to determine build requirements and procedures in accordance with architectural standards, and take off dimensions in both metric and imperial measurements, paying particular attention to as-built drawings, contemplated change notices and addenda, and change orders.

Date Completed

Apprentice

Supervisor/Trainer

1454.0 PREPARE SITE FOR BUILDING

GENERAL PERFORMANCE OBJECTIVE

Prepare site for building by preparing site for layout; laying out buildings according to plot and foundation plans; laying out piling and caissons for foundations and shore protection; installing piling and caissons for foundations and shore protection; installing shoring for trench, road and building stabilization; preparing ground for preserved wood foundation (PWF) and slab on grade; installing underpinning; and planning access and egress on job site.

PERFORMANCE OBJECTIVES

SKILLS

1454.01 Prepare site for layout by assessing soil conditions, water problems and shoring requirements and modifying plans as needed, requesting utility locations, locating surveyor-s points, erecting barricades and hoarding, arranging for top soil removal and excavation, recognizing and identifying suitable soil conditions, managing and controlling surface and ground waste, and making arrangements for waste removal in accordance with the Ontario Building Code, workplace documentation such as site instructions, and WHMIS and environmental legislation.

Date Completed

Apprentice

Supervisor/Trainer

1454.02 Lay out buildings according to plot and foundation plans by establishing base line, locating corner points, and staking sidelines (including offsets and insets), using layout and survey equipment (builders’ levels, water levels, laser levels, transits, GPS, and total station), building and placing batter boards, and transferring building lines and elevations to batter boards from benchmarks, making sure all measurements are within specified tolerances and conform to local zoning by-laws.

Date Completed

Apprentice

Supervisor/Trainer

1454.03 Lay out piling and caissons for foundations and shore protection by interpreting plans, marking locations using equipment including transit, total station, GPS and laser levels in accordance with plans and specifications and the Ontario Building Code and local zoning by-laws.

Date Completed

Apprentice

Supervisor/Trainer

1454.0 PREPARE SITE FOR BUILDING...cont'd

1454.04 Install piling and caissons for foundations and shore protection by cutting off to given elevations and anchoring with tie rods and walers to prevent lateral movement, guiding the pile driving machine, and adjusting the angle, strength and depth of drive according to engineering specifications and the *Occupational Health and Safety Act*.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1454.05 Install shoring for trench, road and building stabilization by selecting specified materials, placing required lagging, walers, needles, T posts, cribbing, jacks, tie backs and scaffolding, bracing and anchoring to prevent slippage, placing forms and shims, pouring concrete/grout, and providing protection for bracing in accordance with engineering specifications, and identifying and reporting hazards in soil-conditions and shoring according to *Occupational Health and Safety Act*.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1454.06 Prepare ground for preserved wood foundation (PWF) and slab on grade by grading and levelling ground by using shovels and directing excavations in accordance with plans, manufacturers' specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1454.07 Install underpinning by selecting required materials, placing needles and shores, pocket excavating at appropriate centres, placing forms, and pouring concrete in accordance with engineering specifications and industry best practices.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1454.0 PREPARE SITE FOR BUILDING...cont'd

Plan access and egress on job site for materials, equipment, parking and personnel in accordance with site conditions, industry best practices, and the *Occupational Health and Safety Act*.

1454.08

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1455.0 EXECUTE FORM WORK

GENERAL PERFORMANCE OBJECTIVE

Execute form work by laying out, constructing and installing embedded steel; laying out, constructing and installing footing forms; laying out, constructing and installing forms for columns, piers and capitals; laying out, constructing and installing wall forms; laying out and building templates to receive dowels and anchor bolts; laying out, constructing and installing beam and girder forms; laying out, constructing and installing shoring; laying out, constructing and installing suspended slab forms; laying out and installing slab-on-grade; laying out, constructing and installing stair forms; laying out, constructing and installing forms for ramps and runways; laying out, assembling and installing flip forms; laying out, constructing, and installing various movable wall form systems; laying out, constructing, and installing forms to encase structural steel; laying out, constructing, and installing insulated concrete forms; stripping concrete forms; performing slump test on concrete; re-shoring completed structures; storing forms, placing consolidating and finishing concrete; controlling rate of curing concrete, laying out locations of pre-cast systems and pre-stressed concrete; installing pre-cast systems and pre-stressed concrete; and laying out, constructing and installing grout forms.

PERFORMANCE OBJECTIVES

SKILLS

1455.01 Lay out embedded steel including reinforcing steel, stirrups, welded wire mesh, and anchor bolts, angle iron, structural plates, non slip nosing, sleeves, hand rail components and chairs by tying or fastening with fasteners and welding in accordance with engineering drawings and specifications.

Date Completed

Apprentice

Supervisor/Trainer

1455.02 Construct embedded steel including reinforcing steel, stirrups, welded wire mesh, and anchor bolts, angle iron, structural plates, non slip nosing, sleeves, hand rail components and chairs by bending and cutting in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1455.0 EXECUTE FORM WORK...cont'd

1455.03 Install embedded steel including reinforcing steel, stirrups, welded wire mesh, and anchor bolts, angle iron, structural plates, non slip nosing, sleeves, hand rail components and chairs in accordance with engineering drawings and specifications.

Date Completed Apprentice Supervisor/Trainer

1455.04 Lay out footing forms by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.05 Construct footing forms in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.06 Install footing forms by visually identifying and reporting obvious soil problems, driving support stakes, cutting and installing sideboards, aligning and bracing, installing spreaders, ties, keyway, and water barrier, as required by specifications and building codes, and using reinforcing steel in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.07 Lay out forms for columns, piers and capitals by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.0 EXECUTE FORM WORK...cont'd

1455.08 Construct forms for columns, piers and capitals in accordance with plans, manufacturers' specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.09 Install forms for columns, piers and capitals by placing base template where required, cutting and building form side with necessary cut-outs and falsework or erecting pre-fab forms (e.g. Sonotube), erecting column or pier sides, placing column clamps at proper spacing, and plumbing and bracing as specified in accordance with drawings, specification, and the *Occupational Health and Safety Act*.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.10 Lay out wall forms by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.11 Construct wall forms in accordance with plans, manufacturers' specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.12 Install wall forms by placing templates, bottom plates, wall studs and form sheathing, creating beam pockets, placing embedded accessories, installing wall ties, walers, and falsework, installing inner wall sheathing, studs, and walers to wall ties, aligning, plumbing, and bracing wall, installing bulkheads and bucks for pour stops and joints, and installing prefabricated panel systems in accordance with drawings, specifications, and the *Occupational Health and Safety Act*.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.0 EXECUTE FORM WORK...cont'd

1455.13 Lay out templates to receive dowels and anchor bolts by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.14 Build templates to receive dowels and anchor bolts by assembling templates, placing the templates over the forms in relation to grid lines, and setting anchor bolts to height as required by specifications and engineering drawings.

Date Completed Apprentice Supervisor/Trainer

1455.15 Lay out beam and girder forms by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.16 Construct beam and girder forms in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.17 Install beam and girder forms by erecting scaffold shoring with stringers and joists to appropriate heights or Tee-head shores at specified spacing, building and placing beam bottom and sides, installing ties, walers, and inserts, and aligning, plumbing, and bracing in accordance with drawings, specifications and industry best practices.

Date Completed Apprentice Supervisor/Trainer

1455.18 Lay out shoring using layout equipment in accordance with engineering drawings and specifications.

Date Completed Apprentice Supervisor/Trainer

1455.0 EXECUTE FORM WORK...cont'd

1455.19 Construct shoring in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1455.20 Install shoring using hand and mechanical tools in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1455.21 Lay out suspended slab forms by transferring building lines from designated points using layout equipment in accordance with plans, manufacturers' specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1455.22 Install suspended slab forms including fly form systems by erecting scaffold shores or screw jacks with stringers and joists and adjusting to height, placing sheathing, building and installing falsework, installing required bulkheads for expansion or construction joints, and setting screed pipes to elevation in accordance with drawings, specifications, and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1455.23 Lay out slab-on-grade by transferring building lines from designated points using layout equipment in accordance with plans, manufacturers' specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1455.0 EXECUTE FORM WORK...cont'd

1455.24 Install slab-on-grade by installing vapour barriers and rigid insulation on perimeter as required, setting grades, placing perimeter form, aligned and braced, setting expansion joints, screeds, reinforcing steel, grade stakes and water stop, laying out walls, installing anchor bolts and other embedment, and laying out control joints in accordance with drawings, specification and the *Occupational Health and Safety Act*.

Date Completed Apprentice Supervisor/Trainer

1455.25 Lay out stair forms by calculating unit rise and run in accordance with by-law limitations and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.26 Construct stair forms in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.27 Install stair forms by installing shoring, bracing, and soffit, laying out and installing stringers and risers allowing for nosing and tread inserts, making required provisions for hand railing, placing stiffeners and braces in accordance with the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.28 Lay out forms for ramps and runways by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.29 Construct forms for ramps and runways in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.0 EXECUTE FORM WORK...cont'd

1455.30 Install forms for ramps and runways by using sidewall forms to given slope ratio and installing forms for curbs with provision for hand railing, in accordance with drawings, specification, the Ontario Building Code and standards for the disabled (in reference to slopes and handrails)

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.31 Lay out slip forms by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.32 Construct slip forms in accordance with plans, engineering specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.33 Install slip forms as per engineering design, positioning and securing specialized hardware by installing hydraulic lift jacks, attaching working platforms and other scaffolds as required, and supervising form move as directed by site engineer in accordance with drawings, specifications, and the *Occupational Health and Safety Act*.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.34 Lay out various movable wall form systems using layout equipment in accordance with engineering drawings and specifications.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.0 EXECUTE FORM WORK...cont'd

1455.35 Construct various movable wall form systems by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.36 Install various movable wall form systems by using engineering design, rigging to hoisting equipment (including attachment of tagline), attaching working platforms and other scaffolds as required, placing form by bolting into previous pour, plumbing and bracing, and installing embedded hardware in accordance with drawings, specifications and the *Occupational Health and Safety Act*.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.37 Lay out forms to encase structural steel by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.38 Build forms to encase structural steel in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.39 Install forms to encase structural steel in concrete by installing hanger ties as required, shoring, placing beam forms, walers, plates and stiffeners, and aligning and bracing in accordance with engineering drawings, specifications, and industry best practices.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.0 EXECUTE FORM WORK...cont'd

1455.40 Lay out insulated concrete forms by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.41 Construct insulated concrete forms in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.42 Install insulated concrete forms in accordance with manufacturers' specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.43 Strip concrete forms, after the concrete reaches the required strength, by detaching braces, strongbacks, tie hardware, walers, studs and sheathing panels, rigging to hoisting equipment, removing shore and underside sheathing, falsework and scaffold in accordance with drawings, specifications and industry best practices.

Date Completed Apprentice Supervisor/Trainer

1455.44 Perform slump test on concrete in accordance with drawings, specifications and industry best practices.

Date Completed Apprentice Supervisor/Trainer

1455.45 Re-shore completed structures by re-installing jacks in accordance with drawings, specifications, and the *Occupational Health and Safety Act*.

Date Completed Apprentice Supervisor/Trainer

1455.0 EXECUTE FORM WORK...cont'd

1455.46 Store forms by placing in designated lay down areas in accordance with drawings, engineering specifications, the *Occupational Health and Safety Act* and industry best practices.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.47 Place concrete in accordance with drawings, engineering specifications, and the *Occupational Health and Safety Act*.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.48 Consolidate concrete using electrical consolidation tools or hand tools in accordance with drawings, specifications and the *Occupational Health and Safety Act*. and manufacturer's specifications.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.49 Finish concrete using hand or power finishing tools in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.50 Control rate of curing concrete by considering environmental conditions and by heating, hoarding, and insulating and using additives in accordance with plans, CSA standards and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.51 Lay out locations of pre-cast systems and pre-stressed concrete by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1455.0 EXECUTE FORM WORK...cont'd

1455.52 Install pre-cast systems and pre-stressed concrete using mechanical equipment such as cranes and boom trucks in accordance with engineering drawings and specifications.

Date Completed Apprentice Supervisor/Trainer

1455.53 Lay out grout forms in accordance with engineering drawings and specifications.

Date Completed Apprentice Supervisor/Trainer

1455.54 Construct grout forms in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1455.55 Install grout forms by mechanical fastening using powder-actuated tools and concrete screws and nails in accordance with engineering drawings and specifications.

Date Completed Apprentice Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1456.0 FRAME FLOORS AND WALLS**GENERAL PERFORMANCE OBJECTIVE**

Frame floors and walls by laying out, constructing and installing preserved wood foundation (PWF) ; laying out and installing floor framing; laying out, constructing and installing walls for platform-style framing; laying out, constructing and installing walls for balloon-style framing; laying out energy-efficient framing; laying out, constructing and installing modular factory prefabricated units; constructing acoustic fire cavity and party walls; and framing allowances for building services and utilities.

PERFORMANCE OBJECTIVES**SKILLS**

1456.01 Lay out preserved wood foundation (PWF) by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.02 Construct preserved wood foundation (PWF) in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.03 Install preserved wood foundation (PWF) by placing walls on laid out footings in accordance with drawings, specifications and the *Occupational Health and Safety Act*.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.04 Lay out floor framing by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.0 FRAME FLOORS AND WALLS...cont'd

1456.05 Install floor framing by using gaskets, sills and beams (laminated, built-up, steel, solid timber), supporting beams, placing joists (wood I joists, truss joists, pre-fab, web systems, etc.) hangers and bridging and blocking, trimming openings, and laying sheathing using specified fasteners and adhesives, in accordance with plans, specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.06 Lay out walls for platform-style framing by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.07 Construct walls for platform-style framing in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.08 Install walls for platform-style framing by laying out top and bottom plates, laying out wall positions on sub-floor, laying out and installing metal and wood studs, installing sheathing, raising, plumbing and bracing walls, and backing and blocking the installation in accordance with plans, specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.09 Lay out walls for balloon-style framing by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.0 FRAME FLOORS AND WALLS...cont'd

1456.10 Construct walls for balloon-style framing in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.11 Install walls for balloon-style framing by laying out top and bottom plates, laying out wall positions on sill plate, installing wood studs, inseting ledger boards in studs at ceiling of first floor and fire stopping between floors, raising, plumbing and bracing, sheathing walls, and backing and blocking the installation in accordance with plans, specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.12 Lay out energy-efficient framing by using layout equipment in accordance with engineering drawings and specifications.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.13 Lay out modular factory prefabricated units including structural insulated panels (SIP) by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.14 Construct modular factory prefabricated units including structural insulated panels (SIP) in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.15 Install modular factory prefabricated units including structural insulated panels (SIP) by matching sections to locations, installing and bracing units, securing units, and finishing the interior and exterior in accordance with plans.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1456.0 **FRAME FLOORS AND WALLS...cont'd**

1456.16 **Construct acoustic fire cavity and party walls** according to blueprints, the Ontario Building Code, the fire code and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1456.17 **Frame allowances for building services and utilities** according to building plans, specifications, and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1457.0 FRAME ROOFS AND CEILINGS**GENERAL PERFORMANCE OBJECTIVE**

Frame roofs and ceilings by laying out, constructing and installing equal slope roofs; laying out and installing ceiling joists and backing; laying out, constructing and installing unequal pitch roofs; laying out and constructing pre-engineered site-built trusses; laying out and installing manufactured trusses; laying out a roof system for dormer openings; constructing and installing dormer openings; laying out, constructing and installing dormers; laying out a roof system for skylight openings; constructing and installing skylight openings; laying out, constructing and installing flat roofs; laying out, constructing and installing out ornamental roofs; and installing roof substrate components.

PERFORMANCE OBJECTIVES**SKILLS**

1457.01 Lay out equal slope roofs by calculating and measuring for rafter length, line length, shortening, dropping, and angle cuts by using the framing square, the Pythagoras' theorem, the step-off method, and the full scale method in accordance with plan specifications, the Ontario Building Code and industry best practices.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1457.02 Construct equal pitch roofs in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1457.03 Install equal pitch roofs in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1457.04 Lay out ceiling joists and backing by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1457.0 FRAME ROOFS AND CEILINGS...cont'd

1457.05 Install ceiling joists and backing in accordance with plans, specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.06 Lay out unequal pitch roofs by determining the amount to raise wall plates and the location of splices and braces using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.07 Construct unequal pitch roofs in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.08 Install equal and unequal pitch roofs by placing rafters (common, hip, jack, valley) for a given slope, cutting and installing collar ties and ribbon, and installing framing for gables and soffit in accordance with the Ontario building code.

Date Completed

Apprentice

Supervisor/Trainer

1457.09 Lay out pre-engineered site-built trusses by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.10 Construct pre-engineered site-built trusses by confirming the quality of the lumber being installed and nailing gussets over joints, in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.0 FRAME ROOFS AND CEILINGS...cont'd

1457.11 Lay out manufactured trusses including intersecting roof systems by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1457.12 Install manufactured trusses including intersecting roof systems by hoisting trusses into position, ensuring correct alignment and locating and placing strongbacks, bracing and blocking, and installing framing for soffits and gable ends, and ensuring all trusses are aligned in accordance with manufacturers' specifications and the *Occupational Health and Safety Act*.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1457.13 Lay out a roof system for dormer openings using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1457.14 Construct dormer openings in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1457.15 Install dormer openings by framing the opening, installing studs, lintels, rafter plates, laying out, cutting and installing rafters, installing wall sheathing, and framing for soffit in accordance with the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1457.16 Lay out dormers using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1457.0 FRAME ROOFS AND CEILINGS...cont'd

1457.17 Construct dormers in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.18 Install dormers by framing the opening, installing studs, lintels, rafter plates, rafters, wall sheathing, and framing for soffit in accordance with the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.19 Lay out a roof system for skylight openings by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.20 Construct skylight openings in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.21 Install skylight openings by framing the opening and installing lintels and rafters in accordance with the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.22 Lay out flat roofs by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.0 FRAME ROOFS AND CEILINGS...cont'd

1457.23 Construct flat roofs in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.24 Install flat roofs by installing framing for soffit and trussed joists, framing openings, and reinforcing as specified, installing bracing, parapet walls and cant strips as required, making sure that the installation is in accordance with building and fire codes.

Date Completed

Apprentice

Supervisor/Trainer

1457.25 Lay out ornamental roofs including gazebo roofs, cupola roofs, eyebrow roofs, and Dutch hip roofs by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.26 Construct ornamental roofs including gazebo roofs, cupola roofs, eyebrow roofs, and Dutch hip roofs in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.27 Install ornamental roofs including gazebo roofs, cupola roofs, eyebrow roofs, and Dutch hip roofs by placing rafters (hip, common, jack) and framing for soffits and fascia in accordance with the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1457.0 **FRAME ROOFS AND CEILINGS...cont'd**

1457.28 **Install roof substrate components** including sheathing, S.I.P.S., solid sawn lumber, insulation, strapping in accordance with the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1458.0 CONSTRUCT HEAVY FRAMING**GENERAL PERFORMANCE OBJECTIVE**

Construct heavy framing by laying out and constructing heavy floor framing; installing heavy floor framing and lay floor planking; laying out, constructing and installing wood post and beam components; laying out, constructing and installing roof frame for post and beam structure; laying out, constructing and installing wall fill-in for post and beam structure; laying out, constructing and installing timber trusses; laying out position of trusses on a wall; laying out, constructing and installing ramps, runways, chutes, splash-boards, and bents (trestles); and laying out and constructing pole barns.

PERFORMANCE OBJECTIVES**SKILLS**

1458.01 Lay out heavy floor framing by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1458.02 Construct heavy floor framing in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1458.03 Install heavy floor framing and lay floor planking by cutting, and placing stock for sills, girders and joists, and installing specified flooring materials on beams and/or joists in accordance with engineering and manufacturer-s specifications and building codes.

Date Completed

Apprentice

Supervisor/Trainer

1458.0 CONSTRUCT HEAVY FRAMING...cont'd

1458.04 Lay out wood post and beam components by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1458.05 Construct wood post and beam components in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1458.06 Install wood post and beam components by cutting frame members, joining where required, erecting and placing corner, intermediate girts, plates, and permanent bracing, and plumbing and aligning vertical members using cables, turnbuckles, come-alongs and jacks, in accordance with engineering and manufacturer-s specifications and building codes.

Date Completed Apprentice Supervisor/Trainer

1458.07 Lay out roof frame for post and beam structure by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1458.08 Construct roof frame for post and beam structure in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1458.09 Install roof frame for post and beam structure by cutting, and installing roof members, cutting and placing purlins, and installing roof decking including structurally insulated panels (SIPs) in accordance with engineering and manufacturer-s specifications and building codes.

Date Completed Apprentice Supervisor/Trainer

1458.0 CONSTRUCT HEAVY FRAMING...cont'd

1458.10 Lay out wall fill-in for post and beam structure by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1458.11 Construct wall fill-in for post and beam structure in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1458.12 Install wall fill-in for post and beam structures such as tongue-and-groove planking, logs, and conventional framing to receive windows, doors, and utilities in accordance with manufacturer's specifications and building codes.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1458.13 Lay out timber trusses in accordance with engineering specifications.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1458.14 Construct timber trusses using jigs by assembling chords, struts and webs and using split rings and shear plates in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1458.15 Install timber trusses by using temporary and permanent bracing and selecting and arranging for the appropriate rigging and hoisting equipment in accordance with engineering specifications and the *Occupational Health and Safety Act*.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1458.0 CONSTRUCT HEAVY FRAMING...cont'd

1458.16 Lay out position of trusses on a wall in accordance with engineering specifications.

Date Completed Apprentice Supervisor/Trainer

1458.17 Lay out ramps, runways, chutes, splash-boards, and bents (trestles) by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1458.18 Construct ramps, runways, chutes, splash-boards, and bents (trestles) in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1458.19 Install ramps, runways, chutes, splash-boards, and bents (trestles) by cutting individual members, placing prefabricated components for temporary or permanent usage, and arranging for the appropriate rigging and hoisting equipment in accordance with plans, specifications, the *Occupational Health and Safety Act*, and other regulations.

Date Completed Apprentice Supervisor/Trainer

1458.20 Lay out pole barns by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1458.0 CONSTRUCT HEAVY FRAMING...cont'd

1458.21 Construct pole barns by cutting frame members, joining where required, erecting and placing corner, intermediate girts, plates, and permanent bracing, and plumbing and aligning vertical members using cables, turnbuckles, come-alongs and jacks, in accordance with engineering and manufacturer's specifications and building codes.

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1459.0 BUILD STAIRS

GENERAL PERFORMANCE OBJECTIVE

Build stairs by laying out, constructing and installing straight stairs; laying out, constructing and installing landings for stairs; laying out, constructing and installing winder stairs; laying out, constructing and installing pre-fabricated stairs; and laying out, constructing and installing newel posts, handrails and balustrades.

PERFORMANCE OBJECTIVES

SKILLS

1459.01 Lay out straight stairs with closed and open stringers by calculating the number or risers and treads, laying out and cutting stringers, and by transferring building lines from designated points using layout equipment in accordance with plan specifications and the Ontario Building Code.

_____	_____	_____
Date Completed	Apprentice	Supervisor/Trainer

1459.02 Construct straight stairs with closed and open stringers in accordance with plan specifications and the Ontario Building Code.

_____	_____	_____
Date Completed	Apprentice	Supervisor/Trainer

1459.03 Install straight stairs with closed or open stringers by placing stringers, risers and treads in accordance with the Ontario Building Code.

_____	_____	_____
Date Completed	Apprentice	Supervisor/Trainer

1459.04 Lay out landings for stairs by using layout equipment in accordance with plan specifications and the Ontario Building Code.

_____	_____	_____
Date Completed	Apprentice	Supervisor/Trainer

1459.0 BUILD STAIRS...cont'd

1459.05 Construct landings for stairs in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1459.06 Install landings for stairs in accordance with plans, the Ontario Building Code and industry best practices.

Date Completed Apprentice Supervisor/Trainer

1459.07 Lay out winder stairs by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1459.08 Construct winder stairs in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1459.09 Install winder stairs in accordance with plans and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1459.10 Lay out pre-fabricated stairs by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1459.11 Construct pre-fabricated stairs in accordance with plan specifications and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1459.0 BUILD STAIRS...cont'd

1459.12 Install pre-fabricated stairs in accordance with manufacturers' specifications, plans and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1459.13 Lay out newel posts, handrails and balustrades by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1459.14 Construct newel posts, handrails and balustrades in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1459.15 Install newel posts, handrails and balustrades in accordance with plans and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1460.0 INSTALL DOORS, FRAMES AND HARDWARE**GENERAL PERFORMANCE OBJECTIVE**

Install doors, frames and hardware by laying out, constructing and installing frames and movable partitions; laying out, constructing and installing door systems; laying out and installing overhead doors, rollup shutters and roll-up doors; and laying out and installing manual and electrical-activated hardware.

PERFORMANCE OBJECTIVES**SKILLS**

1460.01 Lay out frames and movable partitions within masonry, concrete, steel and wood frame construction by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1460.02 Construct frames and movable partitions masonry, concrete, steel and wood frame construction in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1460.03 Install frames and movable partitions within masonry, concrete, steel and wood frame construction by building and installing door bucks, wall penetrations and arch centres in accordance with specifications from drawings and manufacturer's units.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1460.04 Lay out door systems including double-action, patio, specially designed units, shop-built, site-built, pre-hung, over-sized, freezer, terrace, revolving, glass, Dutch, double, fire-rated, pocket, bi-fold and transom by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1460.0 INSTALL DOORS, FRAMES AND HARDWARE...cont'd

1460.05 Construct door systems including double-action, patio, specially designed units, shop-built, site-built, pre-hung, over-sized, freezer, terrace, revolving, glass, Dutch, double, fire-rated, pocket, bi-fold and transom in accordance with plan specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1460.06 Install door systems including double-action, patio, specially designed units, shop-built, site-built, pre-hung, over-sized, freezer, terrace, revolving, glass, Dutch, double, fire-rated, pocket, bi-fold and transom in accordance with plans, manufacturer-s specifications, and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1460.07 Lay out overhead doors, rollup shutters and roll-up doors in accordance with plans and manufacturers' specifications.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1460.08 Install overhead doors, rollup shutters and roll-up doors in accordance with plans and manufacturers' specifications.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1460.09 Lay out manual and electrical-activated hardware including door closers and openers, mechanical stops, hold-opens, kick and push plates, pulls, panic bars and special locks, weatherstrip, thresholds, brushed seals and sweeps, automatic door bottoms, dock seals, bumpers, bollards, pipe railings (for overhead doors on loading docks) hinges and pivots, strikers and strike plates, flush and dead bolts, mortise and board locks, viewers, mullion posts, astragals and coordinators by using layout equipment in accordance with plans, manufacturers' specifications and the Ontario Building Code.

Date Completed_____
Apprentice_____
Supervisor/Trainer

1460.0 INSTALL DOORS, FRAMES AND HARDWARE...cont'd

1460.10 Install manual and electrical-activated hardware including door closers and openers, mechanical stops, hold-opens, kick and push plates, pulls, panic bars and special locks, weatherstrip, thresholds, brushed seals and sweeps, automatic door bottoms, dock seals, bumpers, bollards, pipe railings (for overhead doors on loading docks) hinges and pivots, strikers and strike plates, flush and dead bolts, mortise and board locks, viewers, mullion posts, astragals and coordinators in accordance with plans, manufacturers' specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1461.0 INSTALL WINDOWS

GENERAL PERFORMANCE OBJECTIVE

Install windows by installing exterior window systems; and laying out, constructing and installing interior windows.

PERFORMANCE OBJECTIVES

SKILLS

1461.01 Install exterior window systems including prefabricated (wood, vinyl, metal, fibreglass), double and single hung, casement, bow, bay, slider, awning, hopper, louver, fixed, skylight and screens, by using special hardware, sealants, fasteners (screws, nails, anchors, shims, adhesives), flashing and trim in accordance with manufacturer-s specifications, drawings and the Ontario Building Code.

 Date Completed

 Apprentice

 Supervisor/Trainer

1461.02 Lay out interior windows including reception desk by using layout equipment in accordance with plan specifications and the Ontario Building Code.

 Date Completed

 Apprentice

 Supervisor/Trainer

1461.03 Construct interior windows including reception desk by fabricating jambs and stops in accordance with plan specifications, the Ontario Building Code and the *Occupational Health and Safety Act*.

 Date Completed

 Apprentice

 Supervisor/Trainer

1461.0 **INSTALL WINDOWS...cont'd**

1461.04 **Install interior windows** including reception desk by installing glazing and selecting, placing, fastening and adjusting windows and components in accordance with plans, manufacturer-s specifications, and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1462.0 INSTALL EXTERIOR FINISHING MATERIALS

GENERAL PERFORMANCE OBJECTIVE

Apply exterior finishing materials by laying out exterior siding and trim; constructing and installing siding components; constructing trim components; installing exterior siding and trim; laying out, constructing and installing cornice components; laying out, constructing and installing roof coverings, roof vents and flashing; and laying out, constructing and installing exterior decks.

PERFORMANCE OBJECTIVES

SKILLS

1462.01 Lay out exterior siding and trim including aluminium, vinyl, wood, steel, composite products, concrete, flashings, cladding and brick mould using layout equipment in accordance with plan specifications, the Ontario Building Code and industry best practices.

Date Completed

Apprentice

Supervisor/Trainer

1462.02 Construct siding components including aluminium, vinyl, wood, steel, composite products, concrete, flashings, cladding and brick mould in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1462.03 Install siding components including aluminium, vinyl, wood, steel, composite products, concrete, flashings, cladding and brick mould in accordance with manufacturer-s specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1462.04 Construct trim components using an aluminium brake in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1462.0 INSTALL EXTERIOR FINISHING MATERIALS...cont'd

1462.14 Install exterior decks including stairs, ramps and handrails in accordance with drawings, manufacturers' specifications, and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1463.0 INSTALL FINISHED MATERIALS TO WALLS AND CEILINGS

GENERAL PERFORMANCE OBJECTIVE

Install finished materials to walls and ceilings by laying out, constructing and preparing wall and ceiling for finishes; installing acoustic and thermal insulation and vapour barriers; applying energy-efficient construction techniques; laying out, constructing and installing wall and ceiling coverings; and laying out, constructing and installing suspended ceiling systems.

PERFORMANCE OBJECTIVES

SKILLS

1463.01 Lay out wall and ceiling for finishes by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1463.02 Construct wall and ceiling for finishes in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1463.03 Prepare wall and ceiling for finishes by installing wood or metal strapping and furring, acoustic channels, metal-stud and track and wall systems, movable partitions, folding and sliding partitions (accordion walls, etc.) bulkheads, and support backing for folding partitions and sliding doors, according to plans, specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1463.0 INSTALL FINISHED MATERIALS TO WALLS AND CEILINGS...cont'd

1463.04 Install acoustic and thermal insulation and vapour barriers such as flexible insulation, polyurethane insulation where permitted by local building codes, rigid insulation, loose insulation, polyethylene, lead baffles, double partitions, sound attenuation batts, and resilient furring channels in accordance with manufacturer's specifications, the Ontario Building Code and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1463.05 Apply energy-efficient construction techniques including constructing super-insulated walls, floors and roofs; installing vapour barriers; applying various methods of controlling air leakage; constructing active and passive solar structures; providing for the installation of mechanical systems (e.g., heat recovery ventilators); and building according to the specifications of energy-efficient systems, all work being performed in accordance with plans, specifications, building codes, manufacturer's instructions, and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1463.06 Lay out wall and ceiling coverings including moisture- and fire-rated gypsum board, metal lath, finished sheets, panels and battens, solid wood and slat walls, ceiling tiles, and wainscoting by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1463.07 Construct wall and ceiling coverings including moisture- and fire-rated gypsum board, metal lath, finished sheets, panels and battens, solid wood and slat walls, ceiling tiles, and wainscoting in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1464.0 INSTALL INTERIOR FINISHING MATERIALS AND HARDWARE

GENERAL PERFORMANCE OBJECTIVE

Apply interior finishing materials by laying out vertical trim, constructing and installing horizontal and vertical trim, laying out, constructing and installing millwork; laying out pre-fabricated kitchens, bathrooms, vanities and countertops; laying out, constructing and installing wood, composite and other manufactured finished and unfinished floors and accessories, underlay, and special base preparations; laying out, constructing, installing and dismantling demountable wall systems; laying out, constructing and installing arena seating; selecting materials to receive finishes; and laying out and installing interior hardware.

PERFORMANCE OBJECTIVES

SKILLS

1464.01 Lay out vertical trim including baseboard, chair rail, crown, cove, casing, skirts, stools, sills, chases, valances and other mouldings, special handrails (for hospitals and homes for the aged), and jamb extensions by using layout equipment in accordance with plan specifications and the Ontario Building Code.

 Date Completed

 Apprentice

 Supervisor/Trainer

1464.02 Construct horizontal and vertical trim including baseboard, chair rail, crown, cove, casing, skirts, stools, sills, chases, valances and other mouldings, special handrails (for hospitals and homes for the aged), and jamb extensions in accordance with plan specifications and the Ontario Building Code.

 Date Completed

 Apprentice

 Supervisor/Trainer

1464.03 Install horizontal and vertical trim including baseboard, chair rail, crown, cove, casing, skirts, stools, sills, chases, valances and other mouldings, special handrails (for hospitals and homes for the aged), and jamb extensions by installing backers in accordance with drawings, specifications, and building codes.

 Date Completed

 Apprentice

 Supervisor/Trainer

1464.0 **INSTALL INTERIOR FINISHING MATERIALS AND HARDWARE**
...cont'd

1464.10 **Construct wood, composite and other manufactured finished and unfinished floors and accessories, underlay, and special base preparations** in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1464.11 **Install wood, composite and other manufactured finished and unfinished floors and accessories, underlay, and special base preparations**, using adhesives and materials in accordance with manufacturer-s specifications, drawings, local building codes, and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1464.12 **Lay out demountable wall systems** in sequence by using layout equipment in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1464.13 **Construct demountable wall systems** in sequence in accordance with plan specifications and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1464.14 **Install demountable wall systems** in sequence by using fastening devices and techniques and by cutting, fitting, fastening, aligning and plumbing components in accordance with plans, manufacturer-s specifications, the Ontario Building Code, and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1464.15 **Dismantle demountable wall systems** in sequence in accordance with plans, manufacturer-s specifications, the Ontario Building Code, and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1464.0 INSTALL INTERIOR FINISHING MATERIALS AND HARDWARE
...cont'd

1464.20 Install interior hardware including chalkboards, corkboards, white boards, dividers, privacy walls, toilet partitions, signs, overhead displays and fire extinguisher brackets and cabinets in accordance with plans, manufacturer-s specifications, and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1465.0 PERFORM LANDSCAPE AND SITE WORK

GENERAL PERFORMANCE OBJECTIVES

Perform landscape and site work by laying out, constructing and installing fences, guard rails, blast walls, protective barriers, sound barriers and retaining walls; laying out, constructing and installing benches and timber steps; laying out, constructing and installing docks, piers, bridges and gazebos; laying out, constructing and installing traffic and pedestrian control; and laying out, constructing and installing recreational site components.

PERFORMANCE OBJECTIVES

SKILLS

1465.01 Lay out fences, guard rails, blast walls, protective barriers, sound barriers and retaining walls by establishing lines from designated points using layout equipment in accordance with plan specifications, local building codes and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1465.02 Construct fences, guard rails, blast walls, protective barriers, sound barriers and retaining walls in accordance with plan specifications, local building codes and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1465.03 Install fences, guard rails, blast walls, protective barriers, sound barriers and retaining walls in accordance with plans, local building codes and the Ontario Building Code and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1465.04 Lay out benches and timber steps by using layout equipment in accordance with plan specifications, local building codes and the Ontario Building Code.

Date Completed

Apprentice

Supervisor/Trainer

1465.0 PERFORM LANDSCAPE AND SITE WORK...cont'd

1465.05 Construct benches and timber steps in accordance with plan specifications, local building codes and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1465.06 Install benches and timber steps in accordance with plans, local building codes, the Ontario Building Code and the *Occupational Health and Safety Act*.

Date Completed Apprentice Supervisor/Trainer

1465.07 Lay out docks, piers, bridges and gazebos by establishing building lines from designated points using layout equipment in accordance with plan specifications, local building codes and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1465.08 Construct docks, piers, bridges and gazebos in accordance with plan specifications, local building codes and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1465.09 Install docks, piers, bridges and gazebos in accordance with plans, local building codes, the Ontario Building Code and the *Occupational Health and Safety Act*.

Date Completed Apprentice Supervisor/Trainer

1465.10 Lay out traffic and pedestrian control (hoarding, safety, barriers) including sign bases and signs by establishing building lines from designated points using layout equipment in accordance with plan specifications, local building codes and the Ontario Building Code.

Date Completed Apprentice Supervisor/Trainer

1465.0 PERFORM LANDSCAPE AND SITE WORK...cont'd

1465.11 Construct traffic and pedestrian control (hoarding, safety, barriers) including sign bases and signs in accordance with plan specifications, local building codes and the Ontario Building Code.

_____ Date Completed _____ Apprentice _____ Supervisor/Trainer

1465.12 Install traffic and pedestrian control (hoarding, safety, barriers) including sign bases and signs in accordance with plan specifications, local building codes and the Ontario Building Code.

_____ Date Completed _____ Apprentice _____ Supervisor/Trainer

1465.13 Lay out recreational site components by establishing building lines from designated points using layout equipment in accordance with plan specifications, local building codes and the Ontario Building Code.

_____ Date Completed _____ Apprentice _____ Supervisor/Trainer

1465.14 Construct recreational site components in accordance with plan specifications, local building codes and the Ontario Building Code.

_____ Date Completed _____ Apprentice _____ Supervisor/Trainer

1465.15 Install recreational site components in accordance with plans, local building codes and the Ontario Building Code.

_____ Date Completed _____ Apprentice _____ Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1466.0 PERFORM RENOVATIONS**GENERAL PERFORMANCE OBJECTIVE**

Perform renovations by protecting existing structures, removing interior finishes and exterior finishes; altering existing structures; and laying out, constructing and installing new components.

PERFORMANCE OBJECTIVES**SKILLS**

1466.01 **Protect existing structures** including foundations, utilities, interior finishes, exterior finishes, contents and surrounding structures using hoarding techniques and safety barriers and by maintaining the health and safety of occupants and the general public in accordance with the *Occupational Health and Safety Act* and industry best practices.

Date Completed

Apprentice

Supervisor/Trainer

1466.02 **Remove interior finishes and exterior finishes** by using controlled procedures to accommodate new construction and re-installation in accordance with plans, the Ontario Building Code, and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1466.03 **Alter existing structures** including roofs, foundations, beams, girders, columns, floors and ceilings by supporting loads and utilities and removing existing structures in accordance with job site requirements, plans, the Ontario Building Code, the *Occupational Health and Safety Act* and industry best practices.

Date Completed

Apprentice

Supervisor/Trainer

1466.04 **Lay out new structural components** including roofs, foundations, beams, girders, columns, floors and ceilings for connection to existing structures in accordance with plans, the Ontario Building Code, manufacturers' specifications and industry best practices.

Date Completed

Apprentice

Supervisor/Trainer

1466.0 PERFORM RENOVATIONS...cont'd

1466.05 Construct new structural components including roofs, foundations, beams, girders, columns, floors and ceilings for connection to existing structures in accordance with plans, the Ontario Building Code, manufacturers' specifications and industry best practices.

Date Completed

Apprentice

Supervisor/Trainer

1466.06 Install new structural components including roofs, foundations, beams, girders, columns, floors and ceilings by connecting to existing structures in accordance with plans, the Ontario Building Code, manufacturers' specifications and industry best practices.

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1467.0 ERECT AND DISMANTLE SCAFFOLDS...cont'd

1467.15 Dismantle tube and clamp scaffolding in reverse order in accordance with manufacturer-s specifications and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1467.16 Lay out system scaffolding by establishing lines from designated points using layout equipment in accordance with plan specifications, the Ontario Building Code and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1467.17 Construct system scaffolding in accordance with plan specifications, the Ontario Building Code and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1467.18 Install system scaffolding by erecting standards, transoms and ledgers, bracing at node points, guard rails, cantilevers and drops, determining proper spans with diagonal and horizontal bracing and tie-ins, and installing clamps and safety clamps, wiring down planks, providing additional tie-ins if hoarding scaffold in accordance with manufacturers instructions and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1467.19 Dismantle system scaffolding in reverse order in accordance with manufacturer-s specifications and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1467.0 ERECT AND DISMANTLE SCAFFOLDS...cont'd

1467.20 Construct hanging scaffolds by checking cables for soundness, installing platform appropriate to load, placing proper size and number of clamps, and dismantling in reverse order, in accordance with engineering specifications, Ministry of Labour notification requirements, the *Occupational Health and Safety Act* and work site policies and procedures..

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1468.0 CUT AND WELD MILD STEEL**GENERAL PERFORMANCE OBJECTIVE**

Cut and weld mild steel by cutting mild steel using quick cut, grinder, metal cut-off saw and reciprocating saw; setting up oxy-fuel cutting equipment; cutting mild steel with oxy-fuel equipment; setting up shielded metal arc welding equipment; and welding carbon-steel joints.

PERFORMANCE OBJECTIVES**SKILLS**

1468.01 Cut mild steel using quick cut, grinder, metal cut-off saw and reciprocating saw in accordance with industry best practices.

Date Completed

Apprentice

Supervisor/Trainer

1468.02 Set up oxy-fuel cutting equipment in accordance with the Canadian Welding Bureau (CWB) procedures and manufacturers' specifications.

Date Completed

Apprentice

Supervisor/Trainer

1468.03 Cut mild steel with oxy-fuel equipment in accordance with manufacturer's specifications, the Canadian Welding Bureau (CWB) procedures and the *Occupational Health and Safety Act*.

Date Completed

Apprentice

Supervisor/Trainer

1468.04 Set up shielded metal arc welding equipment in accordance with Canadian Welding Bureau (CWB) procedures and the equipment manufacturer's specifications.

Date Completed

Apprentice

Supervisor/Trainer

1468.0 CUT AND WELD MILD STEEL...cont'd

1468.05 Prepare for welding by cleaning, bevelling, and preparing edges, and securing materials to prevent distortion by use of clamps, strong backs and tack welding in accordance with specifications, plans, CSA standards, CWB procedures.

Date Completed

Apprentice

Supervisor/Trainer

1468.06 Weld with the shielded metal arc welding (SMAW) process including butt, lap, and tee joints in the flat, horizontal and vertical positions by selecting power source and setting up welding equipment; installing appropriate electrode; adjusting welding process parameters; fillet welding; groove welding; cleaning welds and measuring welds so that processes are correctly completed in accordance with manufacturer's instructions and the applicable standard.

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

1469.0 PROTECT THE ENVIRONMENT

GENERAL PERFORMANCE OBJECTIVE

Protect the environment by reducing waste production; reusing materials; recycling waste materials; and preventing toxic spills and emissions.

PERFORMANCE OBJECTIVES

SKILLS

1469.01 Reduce waste production by pre-job planning and by cutting, shaping, grinding, grading and drilling to minimize residual materials in accordance with company policies and procedures and industry best practices.

Date Completed

Apprentice

Supervisor/Trainer

1469.02 Reuse materials including lumber, plywood, metal and fibreglass by cleaning, inspecting, storing and protecting used materials for the next use in accordance with company policies and procedures and industry best practices.

Date Completed

Apprentice

Supervisor/Trainer

1469.03 Recycle waste materials by placing materials in designated containers including bins and bags in accordance with municipal legislation and company policies and procedures.

Date Completed

Apprentice

Supervisor/Trainer

1469.0 PROTECT THE ENVIRONMENT...cont'd

1469.04 Prevent toxic spills and emissions to protect human, animal and plant life by selecting environmentally friendly materials and by controlling, using, storing and disposing of hazardous materials in accordance with government legislation, company policies and procedures and industry best practices.

Date Completed

Apprentice

Supervisor/Trainer

Sponsor/Employer Name

Sponsor/Employer Signature

APPRENTICE RECORD

APPRENTICE NAME (Print):

SPONSOR/EMPLOYER INFORMATION	
Training Agreement #	
Name	
Address	
Telephone	
E-mail Address	

SUMMARY OF TRAINING	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	

 Date Completed

 Apprentice

 Supervisor/Trainer

APPRENTICE RECORD

APPRENTICE NAME (Print):

SPONSOR/EMPLOYER INFORMATION	
Training Agreement #	
Name	
Address	
Telephone	
E-mail Address	

SUMMARY OF TRAINING	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	

 Date Completed

 Apprentice

 Supervisor/Trainer

APPRENTICE COMPLETION FORM

APPRENTICE INFORMATION	
Name (Print)	
Signature	
Client ID	

Skill Sets when completed should be signed by the Supervisor/Trainer and presented with this completion form to your local Apprenticeship Client Services Office. Any supporting documentation should also be attached.

In-school Completed Yes () No () Not applicable ()
(Proof to be Provided)

Hours completed as Yes () No () Not applicable ()
Per Contract:

SPONSOR/EMPLOYER INFORMATION	
Name (Print)	
Address	
Telephone	
E-mail Address	
Signature of Signing Authority	

You will be required to disclose this signed form to the Ministry of Training, Colleges and Universities in order to complete your program. The Ministry will use your personal information to administer and finance Ontario's apprenticeship training system.

For further information please see the notice/declaration for collection of personal information that is referenced in the table of contents of this training standard.