Career Guide for Pipeline Inspectors

A Road Map to Navigate the Pipeline Industry

Centre for Pipeline Knowledge

GPCI Career Entry Guide

What is a Pipeline Inspector?

General Pipeline Construction Inspectors (GPCIs) oversee a range of activities during pipeline construction. This includes conducting inspections during site preparation, pipe installation, and other activities through to restoration. The GPCI helps promote safe work practices, environmental stewardship, and adherence to technical requirements by observing and monitoring all activities.

Basic Entry Requirements

If you are considering this career, you should be aware of these typical requirements:

- High school diploma or equivalent
- Valid class 5 driver's license
- Equipment
    - Vehicle (pick-up truck or SUV recommended)
    - Laptop computer or tablet (data enabled)
    - Smart mobile phone (connected to a major network)
    - Personal protective equipment (e.g., hard hat, steel toed boots)
- Independent business requirements (e.g., business number, liability insurance, and workers compensation insurance or equivalent)

Technical Skills

When considering this career, review the skills that are important for success:

- Canadian Language Benchmark (CLB) level 7 for listening, speaking, reading, and writing
- Comfortable opening, writing, and sending email with attachments
- Beginner skills with Microsoft Word and Excel, or equivalent
- Ability to use Google Maps or equivalent to navigate to a worksite
- Competent with the required equipment listed above

GPCI Career Entry Guide (Continued)

Transferrable Skills and Qualities

	Examples
Time management	Arrive at the jobsite on time in the morning
Attention to detail	Inspect the equipment for small details
Pattern recognition	Notice there is a crack in a material
Responsibility	Flag the problem once you identify it
Assertive	Inform the appropriate personnel of the problem
Listening	Take direction from your supervisor
Speaking	Explain problems clearly, concisely, and respectfully
Reading	Comprehend written procedures
Writing	Complete daily reporting as requested by employer
Due diligence	Ask questions for clarity
Leadership	Make recommendations where appropriate
Ethical	Resist pressure to ignore the problem
Integrity	Ensure the problem is addressed
Commitment	Complete all of your tasks before going home

Explore Your Future Career

While you may enter your new career with the above requirements, there is more to explore! In the future you can consider different specializations. Find out more by navigating the Pipeline Construction Inspector Career Roadmap.

Explore Your Future Career

How to Use this Career Roadmap

1. Once you have read the basic entry requirements, begin at the "Start" sign on page 5.

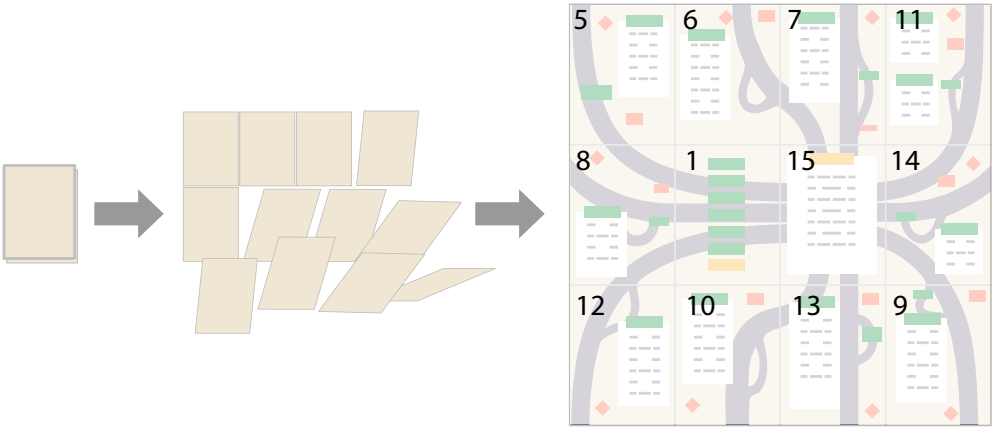
2. Follow the road to become a certified General Pipeline Construction Inspector (GPCI).

3. Choose a specialization from the road signs to learn more.

4. Follow the path for this specialization to find out about the education, experience, and certification milestones. Some of these milestones are required, others are recommendations.

5. If you want to continue to progress in your career, consider the specialization of Chief Inspector found on page 15.

To assemble this booklet into a poster, you can arrange the pages according to the figure below.



CAREER ROAD MAP

1 General Pipeline Construction Inspector (GPCI)

Description

This industry certification provides inspectors with the fundamental knowledge and skills to oversee a range of foundational activities across the typical pipeline construction process starting with survey and ending with cleanup & restoration. For more information on the entry requirements to the role of General Pipeline Construction Inspector, refer to the GPCI Career Entry Guide.

1. 2 year degree in engineering, technology, a technical discipline OR experience equivalency per API requirements
2. 2-8 years of experience in pipeline inspection, general oil and gas inspection, non-inspection pipeline industry, general oil and gas industry, other heavy industry, or military per API requirements
3. CPK API 1169 Pipeline Construction Inspector Exam Preparation Course
4. CPK Importance of Inspection
5. CPK Introduction to Cathodic Protection
6. API 1169 Pipeline Construction Inspector Certification

Education Experience Certification

CAREER ROAD MAP

2 Environmental Inspector

Description

This specialization provides inspectors with the knowledge and skills to oversee a range of activities associated with environmental management as it relates to pipeline construction and maintenance. Specific topic areas are to be aligned to the extent possible with ECO Canada National Occupation Standards. These milestones are in addition to API 1169 certification.

- 7 Recognized college diploma or university degree
- 8 FERC Environmental Review and Compliance for Natural Gas Facilities Seminar (US; no CA equivalent beyond hiring company/project specific training)
- 9 Environmental work experience (US: 9 years; CA: 5 years)
- 10 Environmental Professional Certification (US: ABCEP; CA: ECO Canada)
- 11 CPK Inspection Requirements for Environmental Protection Level 1
- 12 CPK Inspection Requirements for Environmental Protection Level 2

Education Experience Certification

CAREER ROAD MAP

3 Earthworks Inspector

Description

This CPK defined specialization provides inspectors with the knowledge and skills to oversee earthworks activities associated with pipeline construction and maintenance. This includes an understanding of clearing/grading, ditching/ excavation, backfilling, as well as cleanup and restoration. These milestones are in addition to API 1169 certification.

13 CPK Inspection Requirements for Clearing and Grading

14 CPK Inspection Requirements for Ditching (New Construction)

15 CPK Inspection Requirements for Environmental Protection Level 1

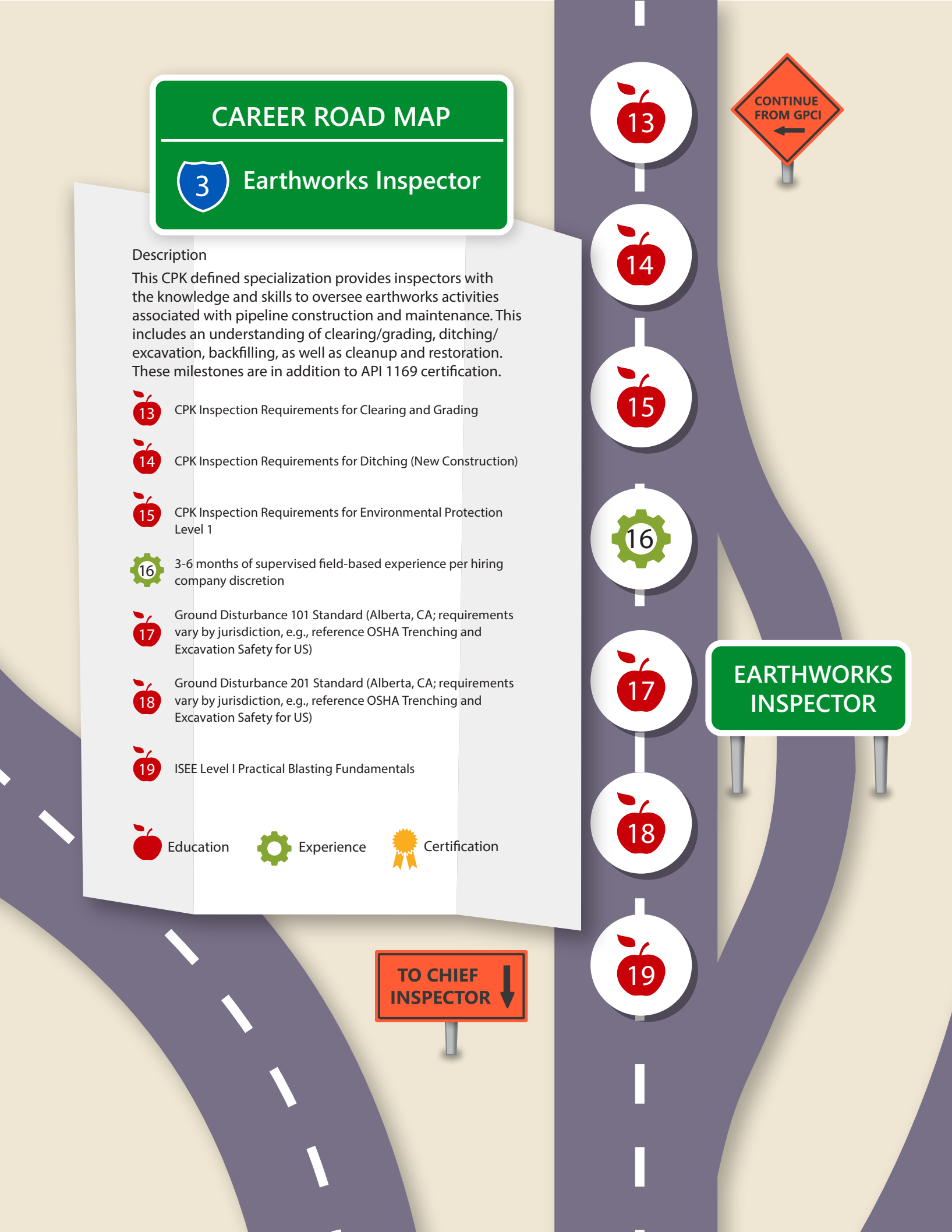
16 3-6 months of supervised field-based experience per hiring company discretion

17 Ground Disturbance 101 Standard (Alberta, CA; requirements vary by jurisdiction, e.g., reference OSHA Trenching and Excavation Safety for US)

18 Ground Disturbance 201 Standard (Alberta, CA; requirements vary by jurisdiction, e.g., reference OSHA Trenching and Excavation Safety for US)

19 ISEE Level I Practical Blasting Fundamentals

Education Experience Certification



CAREER ROAD MAP

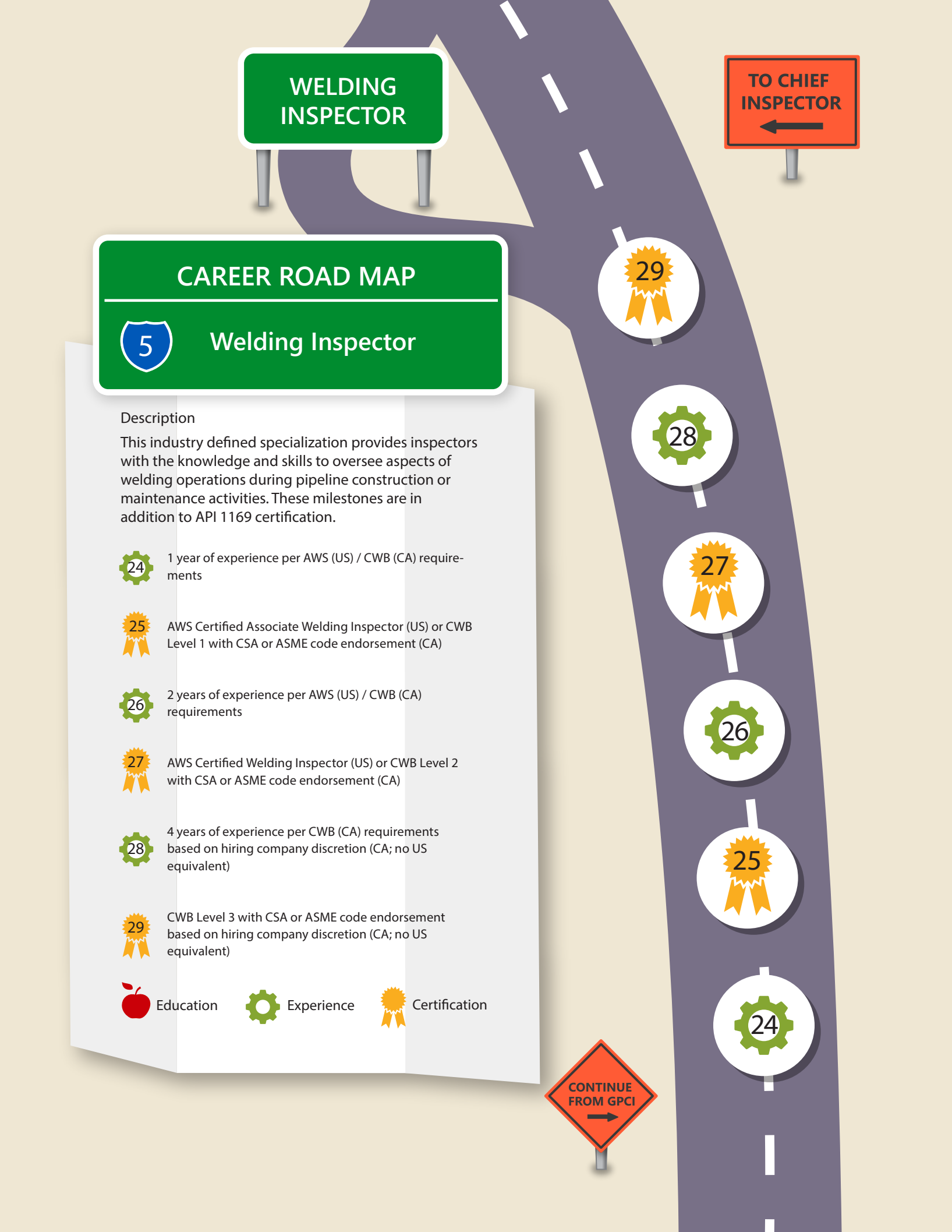
4 Pipe Handling Inspector

Description

This CPK defined specialization provides inspectors with the knowledge and skills to oversee pipe handling activities associated with pipeline construction and maintenance. This includes an understanding of stockpiling, stringing, field bending, as well as lowering-in. These milestones are in addition to API 1169 certification.

- 20 CPK Inspection Requirements for Stockpiling
- 21 CPK Inspection Requirements for Stringing and Lowering-In
- 22 CPK Inspection Requirements for Field Bending
- 23 3-6 months of supervised field-based experience per hiring company discretion

Education Experience Certification


WELDING INSPECTOR
TO CHIEF INSPECTOR
CAREER ROAD MAP
5
Welding Inspector
Description
This industry defined specialization provides inspectors with the knowledge and skills to oversee aspects of welding operations during pipeline construction or maintenance activities. These milestones are in addition to API 1169 certification.
24 1 year of experience per AWS (US) / CWB (CA) requirements
25 AWS Certified Associate Welding Inspector (US) or CWB Level 1 with CSA or ASME code endorsement (CA)
26 2 years of experience per AWS (US) / CWB (CA) requirements
27 AWS Certified Welding Inspector (US) or CWB Level 2 with CSA or ASME code endorsement (CA)
28 4 years of experience per CWB (CA) requirements based on hiring company discretion (CA; no US equivalent)
29 CWB Level 3 with CSA or ASME code endorsement based on hiring company discretion (CA; no US equivalent)
Education
Experience
Certification
29
28
27
26
25
24
CONTINUE FROM GPCI

CAREER ROAD MAP

6 Coating Inspector

Description

This industry defined specialization provides inspectors with the knowledge and skills to oversee aspects of coating operations during pipeline construction or maintenance activities. These milestones are in addition to API 1169 certification. Specific requirements may vary per hiring company discretion.

30 NACE Pipeline Coating Applicator Training Course

31 Manufacturer's Qualified Application Procedure (MQAP) Training per hiring company discretion

32 NACE Coating Inspector Program (CIP) Level 1

33 2 years of experience per NACE requirements

34 NACE CIP Level 2

35 5 years of experience per NACE requirements

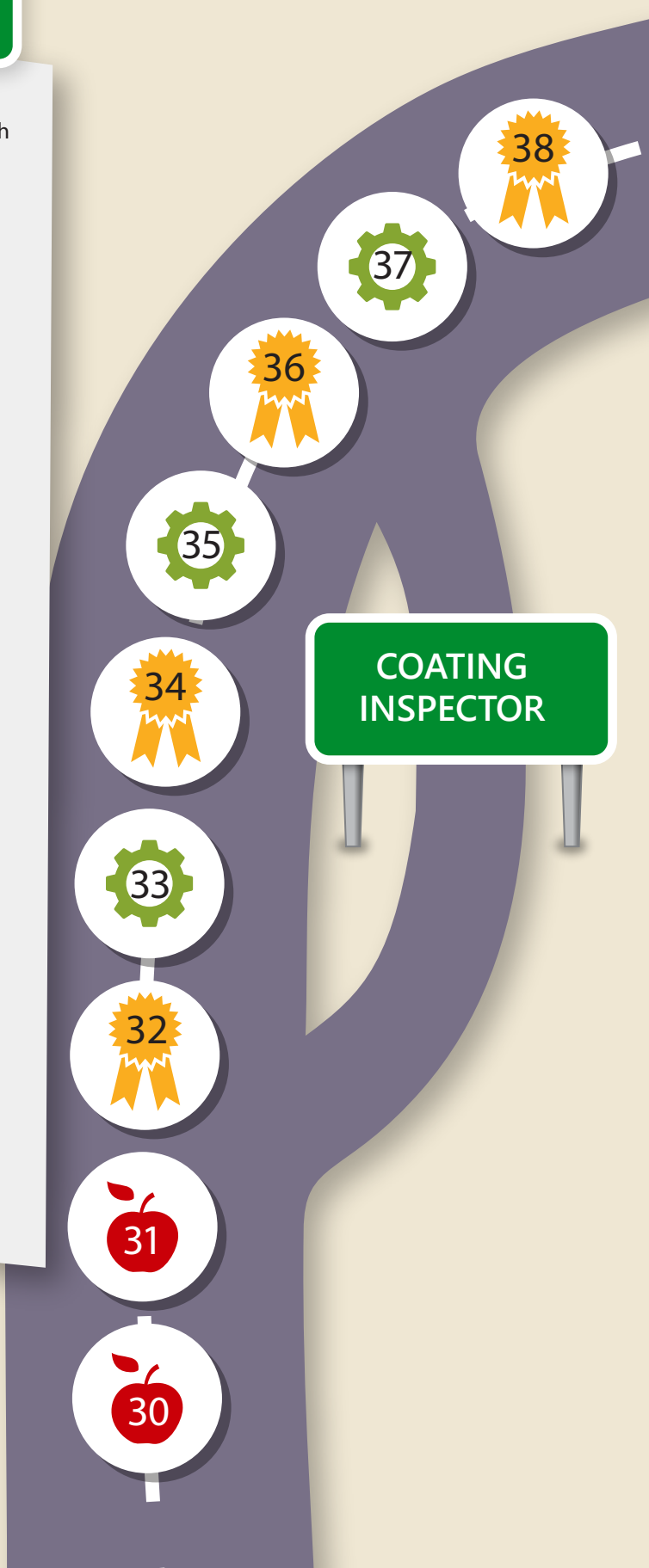
36 NACE CIP Level 3 Peer Review

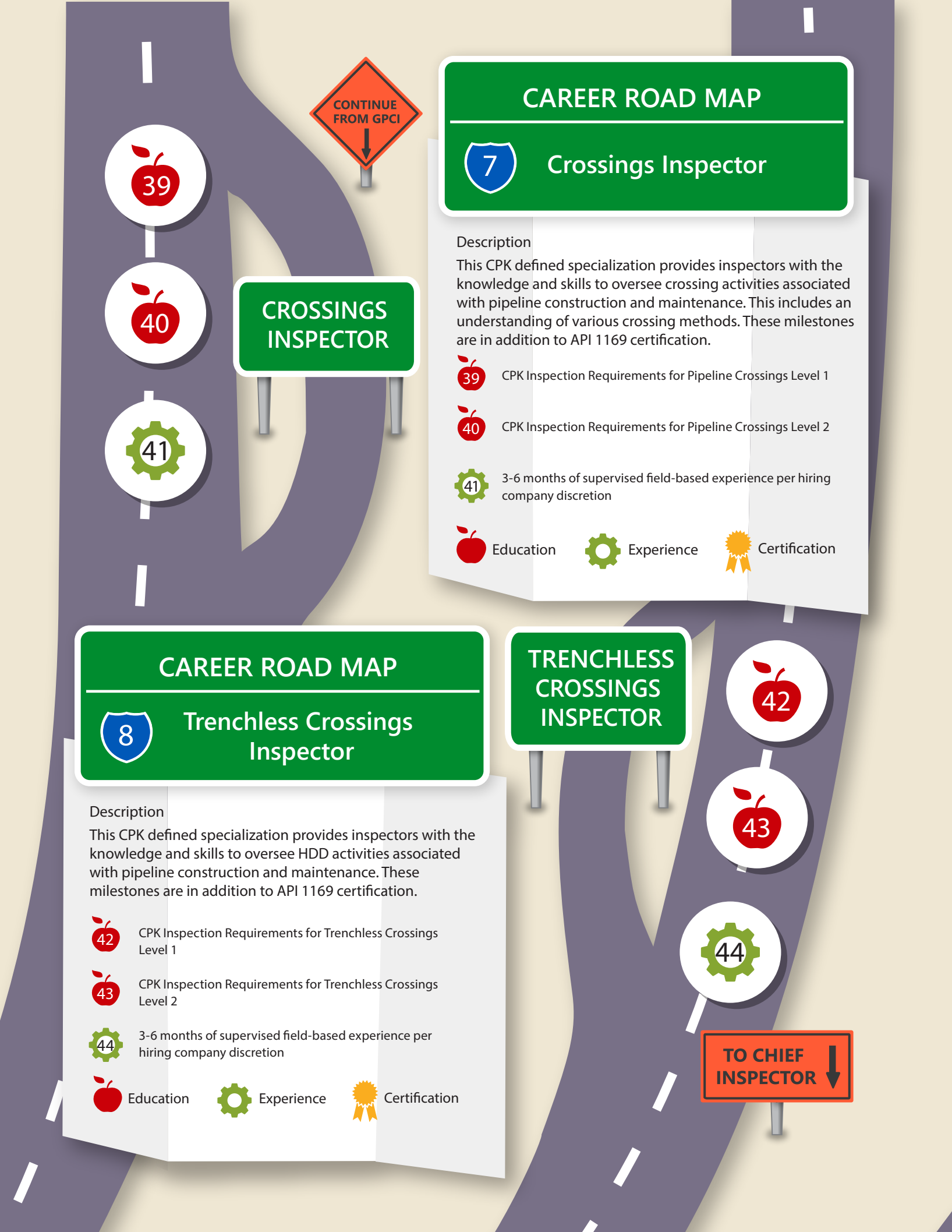
OR

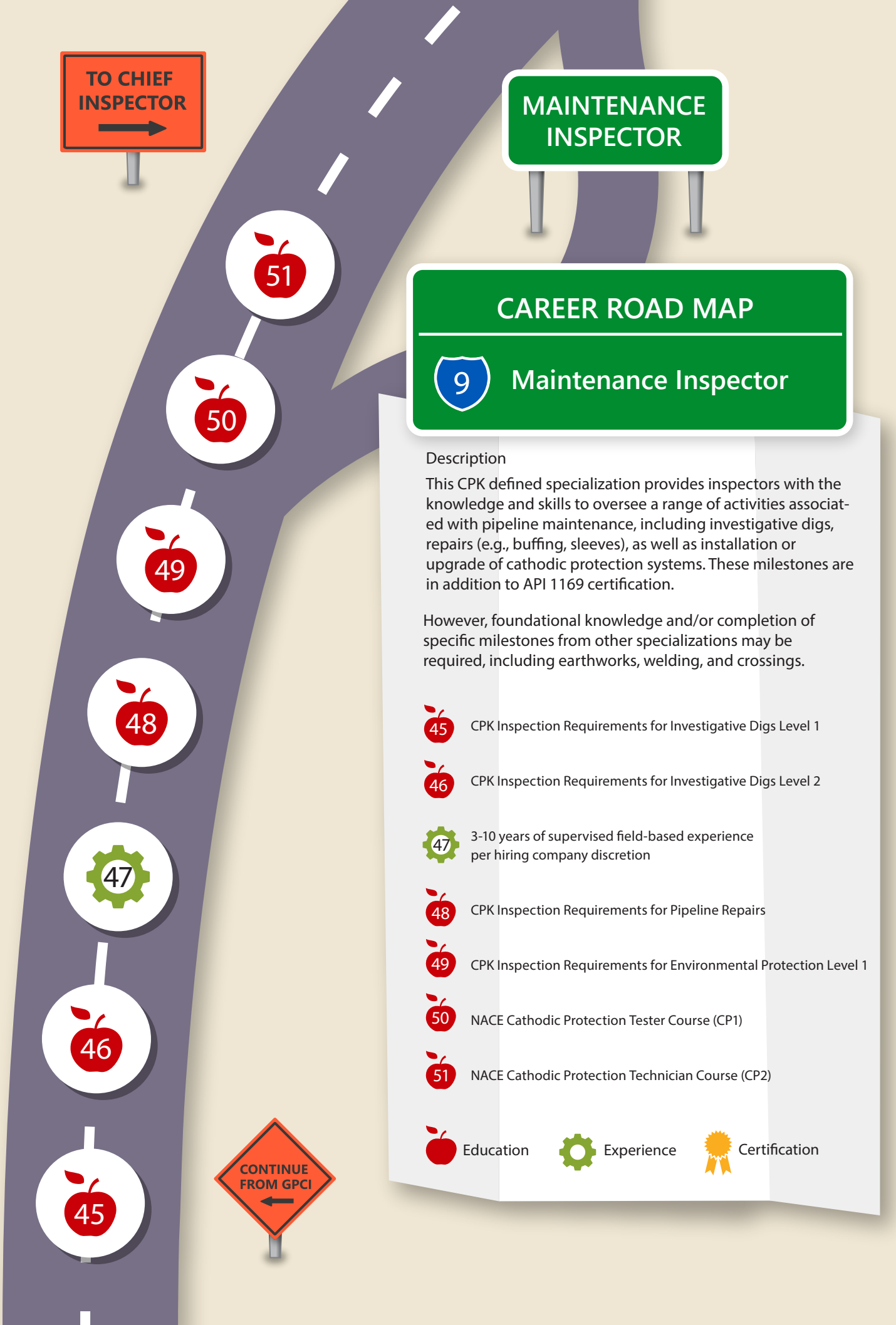
37 8 years of experience per NACE requirements

38 NACE Protective Coating Specialist

Education Experience Certification




CONTINUE FROM GPCI
39
40
41
CROSSINGS INSPECTOR
CAREER ROAD MAP
7
Crossings Inspector
Description
This CPK defined specialization provides inspectors with the knowledge and skills to oversee crossing activities associated with pipeline construction and maintenance. This includes an understanding of various crossing methods. These milestones are in addition to API 1169 certification.
39 CPK Inspection Requirements for Pipeline Crossings Level 1
40 CPK Inspection Requirements for Pipeline Crossings Level 2
41 3-6 months of supervised field-based experience per hiring company discretion
Education
Experience
Certification
CAREER ROAD MAP
8
Trenchless Crossings Inspector
Description
This CPK defined specialization provides inspectors with the knowledge and skills to oversee HDD activities associated with pipeline construction and maintenance. These milestones are in addition to API 1169 certification.
42 CPK Inspection Requirements for Trenchless Crossings Level 1
43 CPK Inspection Requirements for Trenchless Crossings Level 2
44 3-6 months of supervised field-based experience per hiring company discretion
Education
Experience
Certification
TRENCHLESS CROSSINGS INSPECTOR
42
43
44
TO CHIEF INSPECTOR



CAREER ROAD MAP

9 Maintenance Inspector

Description

This CPK defined specialization provides inspectors with the knowledge and skills to oversee a range of activities associated with pipeline maintenance, including investigative digs, repairs (e.g., buffing, sleeves), as well as installation or upgrade of cathodic protection systems. These milestones are in addition to API 1169 certification.

However, foundational knowledge and/or completion of specific milestones from other specializations may be required, including earthworks, welding, and crossings.

- 45 CPK Inspection Requirements for Investigative Digs Level 1
- 46 CPK Inspection Requirements for Investigative Digs Level 2
- 47 3-10 years of supervised field-based experience per hiring company discretion
- 48 CPK Inspection Requirements for Pipeline Repairs
- 49 CPK Inspection Requirements for Environmental Protection Level 1
- 50 NACE Cathodic Protection Tester Course (CP1)
- 51 NACE Cathodic Protection Technician Course (CP2)

Education Experience Certification

CAREER ROAD MAP

10 Pressure Testing Inspector

Description

This CPK defined specialization provides inspectors with the knowledge and skills to oversee pressure testing activities associated with pipeline construction and maintenance. This includes an understanding of key requirements associated with hydrostatic testing both from a theoretical and practical perspective. These milestones are in addition to API 1169 certification.

- 52 CPK Fundamentals of Pressure Testing
- 53 CPK Inspection Requirements for Hydrostatic Testing - Theory
- 54 CPK Inspection Requirements for Hydrostatic Testing - Practicum
- 55 CPK Inspection Requirements for Hydrostatic Testing Repairs
- 56 CPK Inspection Requirements for Environmental Protection Level 1
- 57 CPK Inspection Requirements for Environmental Protection Level 2
- 58 Hiring company specific training (highly recommended)
- 59 3-6 months of supervised field-based experience per hiring company discretion

Education Experience Certification

CAREER ROAD MAP

11 Safety Inspector

Description

This CPK defined specialization provides inspectors with the knowledge and skills to oversee a range of activities associated with pipeline construction and maintenance. These milestones are in addition to API 1169 certification.

- 60 — OSHA 510 (US; CA equivalent may be offered through a number of academic institutions per CCOHS referral)
- 61 — 4 years of experience per BCSP requirements
- 62 — Bachelor's degree
- 63 — Credentials for Safety Professional Certification per BCSP requirements (US: ACRC; CA: CRSP)
- 64 — Certified Safety Professional (CSP)

Education Experience Certification

CHIEF INSPECTOR

Description

While this is an industry defined specialization, INGAA Foundation and CEPA Foundation members have deemed the profile for this role to be company specific once an inspector is API 1169 certified. However, foundational knowledge may be required for advancement beyond the other specializations listed. These modules include (but are not limited to) more advanced technical knowledge in areas such as contracts, tie-ins, stakeholder relations, and best practices.

65 CPK Fundamentals of Contracts for Construction

66 CPK Inspection Requirements for Pipeline Tie-Ins

67 CPK Fundamentals of Stakeholder Relations for Inspectors

68 CPK Inspection Professionalism

69 CPK Environmental Topics for Chief Inspectors

70 CPK Safety Topics for Chief Inspectors

71 CPK Leading Inspection Non-Technical Skills

72 10 years of experience in at least 2 specializations per hiring company discretion

73 OSHA 30-Hour Training for Construction (US); ESC Supervisor Leadership for Health and Safety in the Workplace (CA)

74 HAZWOPER 24 Training (US; no CA equivalent)

Education Experience Certification

Not all CPK courses may be available at time of publishing. Please contact the Centre for Pipeline Knowledge (403-245-1140, courses@jivaconsulting.com) for further course information.

All milestones anticipated to be relevant for both US and CA unless otherwise indicated.