

Andrew Cooper

Cooper Commissioning (CCx)

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Cx Experience - Owner, Lead Cx Agent, Cooper Commissioning

2018 - present

I have spent 17 years solely doing Cx work on over 8 million square feet of new and existing construction in the healthcare, education (Pre-K, K-12, Higher Ed.), military, government, and public/private buildings. I have extensive experience commissioning HVAC and electrical systems and building envelope components. I pride myself on delivering the working buildings that my clients expect.

My greatest strengths are attention to detail, knowledge of various building systems and components, building codes, communication skills, and project management.

While I do run a family business, being family isn't enough to be part of my team. I hire based on the ability of a team member to work to my level of dedication and detail. We are honest, work hard, and most importantly, we get things right.

I see a need for awareness about what commissioning as a process can deliver. One of my goals for the future is to share my process and knowledge with others.

My current certifications include:

BSC (Building Systems Commissioning from NEBB)

BCxA CCP (Certified Commissioning Professional from Building Cx Association.)

BECxP (Building Envelope Commissioning Provider from University of Wisconsin, Madison)

CxA+BE (Commissioning Authority + Building Envelope from University of Wisconsin, Madison)

BEC-2 (Building Envelope Commissioning Level 2 from Building Science Institute)

Previous Industry Experience, Obermiller-Nelson Engineering (ONE)

2001 - 2018

2006 - 2018: I was selected to head the new-at-the-time commissioning division at ONE. I grew this division from myself to a team of 6. My team and I provided Cx services initially for Mechanical, Electrical, and Plumbing, and later included Building Envelope Cx in our service offerings.

2002 - 2006: HVAC Designer

2001 - 2002: HVAC Drafter

Andrew A. Ross

Cx EXPERIENCE

Cx Specialist 2 - Jan 2024 - Present

Cx Specialist 1 - Jan 2023 - Dec 2023

My responsibilities include organizing projects in Bluerithm and writing prefunctional checks and functional tests specific to individual projects. I spend much of my time on job sites performing prefunctional checks and functional tests. Data management and record keeping are critical parts of my position.

Qualified Cx Process Provider (QCxP) - received January 2024 from the University of Wisconsin, Madison.

RESEARCH EXPERIENCE

RESEARCH SPECIALIST

March 2021-Dec 2022

North Dakota State University Pulse Crops Projects

I assisted in running all aspects of the Pea, Chickpea, and Lentil Breeding Projects. I hired, scheduled, and supervised a small team of student workers who carried out much of the work of these projects. I was in charge of data collection for a number of sites, which involved using a ground drone (TerraSentia) to collect data and AGROBASE software to manage data. We were involved in the development of algorithms for data collection in different crops with ground and air drones.

RESEARCH SPECIALIST

May 2012- March 2021

North Dakota State University Oilseed Project

My responsibilities were to run all aspects of the Canola Breeding Project and assist with the Flax Breeding Project. The goal was to develop the highest-yielding, best-performing cultivars for the canola and flax-growing areas of North Dakota. Extensive field trials were used across the state: we planted and harvested three locations every year. The breeding work and other studies were done in the greenhouse.

GREENHOUSE EXPERIENCE

- Maintained a **clean, organized** work area and kept current logbooks of all plants.
- Used four different rooms and one temperature chamber in two complexes, approx. 1600 sq ft total.
- Planned, planted, prepared pots, fertilized, watered, recorded data, and harvested thousands of plants every year, primarily to produce seed for the field nursery.
- Frequently supervised 1-3 workers during peak times.
- Coordinated with the greenhouse manager, followed best practices, and used pesticides to safely control pests such as aphids, spider mites, and thrips.
- Assembled, installed, and modified racks and lighting systems in a temperature chamber and a clean room.
- Supported graduate student and postdoctoral research, allocating space, purchasing supplies, assisting with planting, data taking, and phenotyping.
- Conducted disease trials on three major diseases: blackleg, *Sclerotinia*, and clubroot.
- Planted, inoculated, recorded data, and properly disposed of all diseased material.
- Designed and undertook diallel crossing projects of the highest performing types of canola cultivars every year, usually ten to fifteen different types.
- Maintained records of all crosses and inventories of seed from crosses.
- Certified pesticide applicator in North Dakota.

Andrew A. Ross, cont.

PROFESSIONAL EXPERIENCE

- Proficient in Microsoft Office, particularly Excel and Word.
- Proficient with both R and SAS statistical packages.
- Maintained and backed up all data taken and records of crosses.
- Maintained an accurate log of all seed stocks in the program.
- Used a Microsoft Surface for logs and data taking in the field.
- Created all 2D field maps for harvesting field plots.
- Submitted all hiring paperwork for workers.
- Maintained an hourly logbook for all workers and submitted all hours to payroll.
- Kept track of all purchases and submitted records to accounting as necessary.

COLLABORATIVE EXPERIENCE

- Worked and coordinated with graduate students, research specialists, and faculty members to undertake projects both within the Plant Sciences department and with other departments such as Plant Pathology and other organizations such as USDA.
- Coordinated with personnel at all field stations to plan for planting and harvesting and any other issues.
- Coordinated the use of facilities in the Pilot Plant and the Northern Crops Institute on the NDSU campus and coordinated bulk seed storage with the Casselton agronomy seed farm.

EDUCATION

Masters of Science in Ecology and Conservation Science

May 2012

North Dakota State University (NDSU), Fargo, ND

- Masters Thesis: Population Genetics of the Western Prairie Fringed Orchid (*Platanthera praeclara*).
- GPA 3.6

Bachelors of Arts in Biology

May 2009

Minnesota State University, Moorhead (MSUM), Moorhead, MN

- Emphasis in Ecology and Evolutionary Biology
- GPA 3.47 (3.9 grade point average in all biology courses)

MILITARY EXPERIENCE

Regular Army

2000-2005

- Operated, maintained, and repaired vehicles, communications, and GPS systems (MOS 25C).
- Performed security and convoy operations.
- Secured, accounted for, and transported secret-level COMSEC materials.
- Field and combat experience, often in adverse conditions.

PUBLICATIONS

The genetic consequences of rarity in the western prairie fringed orchid (*Platanthera praeclara*). Ross, A. and Travers, S. Conservation Genetics, Volume 17 (1) 69-76. 2016

Association mapping in *Brassica napus* (L.) accessions identifies a major QTL for blackleg disease resistance on chromosome A01. Rahman, M. Mamidi, S. del Rio, L. Ross, A. Kadir, M. Rahaman, M. and Arifuzzaman, M. Molecular Breeding, Volume 36 (7) article 90. 2016

The Establishment of Genetically Engineered Canola Populations in the US. Schafer, M. Ross, A. Londo, J. Burdick, C. Lee, E. Travers, S. PLoS ONE 6(10): e25736. <https://doi.org/10.1371/journal.pone.0025736>. 2011.

Adriane Cooper

Cx Experience

Project Manager/Commissioning Specialist 1. Cooper Commissioning. Jan 2024 - Present

Responsibilities: Continued work as a Technical Commissioning technician with the added responsibilities of managing all details of projects from proposal to close-out. Use a cloud-based platform to facilitate clear and efficient communication among all project members.

Commissioning Specialist 1/Admin. Assist. Cooper Commissioning. March 2018 - Dec 2023

Responsibilities: Technical Commissioning technician working as part of a team to ensure all mechanical systems function per the design intent. Bookkeeping/accounting, HR, writing and editing of employee handbook, website content, and project proposals.

Qualified Cx Process Provider (QCxP) - received January 2024 from the University of Wisconsin, Madison.

Educator Experience

Consultant/Owner. A.S. Cooper Consulting, LLC., Moorhead, MN. March 2014 - Dec 2023

Responsibilities: Organizing individualized curriculum for high school-aged students. Teaching math and science and editing of writing for grammar, organization, and style. Writing and editing curriculum and staff materials for a private school.

Science Teacher. Moorhead High School, Moorhead, MN. Fall 2005 - May 2014

Responsibilities: Teaching and developing curriculum for Chemistry, Chemistry in the Community, Biology, Basic Biology, Forensic Science, and Environmental Science. Coaching Science Club. Using student-centered, research-based approaches in all aspects of teaching, from curriculum development to lesson delivery to classroom management.

Adjunct Professor. Biology Department, MSUM, Moorhead, MN. Fall 2004 - Spring 2005

Responsibilities: Organization of materials and instruction of non-majors undergraduate biology courses 'Human Biology' and 'Matter and Life' and teaching Human Physiology Laboratories; short-term substitute lecturer for Human Physiology course.

GraSUS (NSF) Teaching Fellow. NDSU and Ben Franklin Jr. High School. Fall 2002-Summer 2003

Responsibilities: Working with middle school teachers to develop science curricula that made use of NDSU resources.

Teaching Assistant. Biosciences Department, NDSU. Fall 2001-Spring 2002 and Fall 2003

Responsibilities: Preparation, instruction, and assessment of laboratory courses in General Biology and Human Anatomy and Physiology.

Adriane Cooper, cont.

Research and Lab Experience:

Lab Assistant. Biosciences Department, NDSU, Fargo, ND. Summer 2010, 2012

Responsibilities: Extraction of DNA from plant tissue; PCR analysis and preparation of samples for microsatellite analysis. Careful and accurate record keeping; safe handling of liquid nitrogen; field collection of tissue samples from endangered orchid.

Research Assistant. Biosciences Department, NDSU. Summer 2001 and 2002

Responsibilities: Cloning and mutation of three proteins peripheral to Photosystem II. DNA and protein isolation and purification. Supervision of undergraduate and high school students.

Lab Assistant. Biology Department, Bemidji State University. Fall 1998 - Spring 2001

Responsibilities: Assisting in the preparation, instruction, and take-down of undergraduate laboratories in cell biology and immunology. Assisting with research relating to, and maintenance of, immortalized mouse fibroblast cell cultures.

Intern. Hawaii Volcanoes National Park. Summer 2000

Responsibilities: Compiling 10 years of survival and reproductive data on the endangered Hawaiian Goose, *Branta sandvicensis*, in Hawaii Volcanoes National Park and surrounding areas. Maintaining trap lines to reduce populations of non-native mammal predators. Recording field data. Co-author of the resulting publication.

Current/Past Professional Involvement:

Facilitating, presenting, and participating in numerous workshops and conferences related to every position held since 2001.

Education:

B.S. Chemistry Education	Minnesota State University, Moorhead	May 2005
B.S. Life Science Education	Minnesota State University, Moorhead	Dec 2004
M.S. Botany	North Dakota State University	Dec 2004
B.S. Biology, Magna Cum Laude	Bemidji State University	May 2001

Current/Past Volunteer Work:

Prairie Wetlands Learning Center: board member, grant and newsletter writing, assisting with student groups.

University of MN Master Gardener: developed new partnerships between Master Gardeners and local colleges.

Smiley's Rescues (cat and dog rescue): board member, content writer, business coach.

The Red River Valley Academy: secretary of parent committee, classroom volunteer, curriculum editor.

Assorted volunteer work at: **Churches United for the Homeless, YWCA, Great Plains Food Bank.**

Engineer on Call

Cx Specialist and Advising PE

Cooper Commissioning 2019 - Present

Serves as a second set of eyes on particularly tricky issues that are encountered during design review or functional testing during new or retro-commissioning. This engineer brings with him 38 years of expertise in the design of HVAC systems, he founded a well-respected mid-size engineering firm that was one of the first to bring commissioning services to the area.

Joe Cooper

Cx Specialist 1

2021 - present

On-site: performing prefunctional checks and functional testing as part of a team. Problem solving while taking readings at terminal equipment with direction via radio communication.

Using Bluerithm platform: writing prefunctional checklists using plans and specifications from individual projects, using MS Excel to write configuration forms for interfacing with Bluerithm, data entry, and file management.

Education

High School Diploma - May 2024

Graphic Design Diploma (2-yr program) - expected May 2025

Volunteer Work

Creation of various posters, logos, and design elements for local theater projects and a small animal shelter.