



CODES CANADA  
Build on expertise



# Canadian National Master Construction Specification (NMS)

Development Guide



National Research  
Council Canada

Conseil national de  
recherches Canada

Canada

# Table of Contents

1	Preface.....	2
1.1	Copyright Notice .....	2
1.2	Disclaimer.....	2
1.3	Limitations of Use .....	2
1.4	National Research Council of Canada.....	2
1.5	Contact Information .....	2
2	Development Framework.....	3
2.1	Objective .....	3
2.2	Contributors.....	3
2.3	Types of Specifications .....	3
2.4	Structure and Conventions.....	4
3	Development Criteria .....	5
3.1	General Principles .....	5
3.2	Technical Content.....	5
3.3	Environmental Content .....	6
3.4	Reference Standards .....	8
3.5	SPEC NOTES .....	9
4	Language and Style.....	11
4.1	General Writing Principles and Reference Materials.....	11
4.2	NMS Writing Conventions .....	11

# 1 Preface

## 1.1 Copyright Notice

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## 1.3 Limitations of Use

NMS is not a substitute for the Project Manual or the Contract specifications.

The appropriate NMS sections must be edited and adapted to suit the requirements of individual construction projects. The responsibility for determining the suitability of NMS sections for use in a particular project and for the selection of options rests with the NMS user.

NMS is based on the requirements of the National Model Construction Codes and does not include all possible regional and municipal variations concerning materials, systems, assemblies, accessories, their availability and their method of construction. It may not list or describe every material, system, assembly or accessory required for an individual project. It may not describe the entire execution of the required work in detail.

## 1.4 National Research Council of Canada

NRC is the Government of Canada's premier organization for research and development (R&D). NRC partners with Canadian industry to take research results from the lab to the marketplace, where the public can experience the benefits. With its market-driven focus, NRC is responsive, creative, and uniquely placed to partner with Canadian industry and to invest in strategic R&D programming that will address critical issues for the future.

NRC is the custodian of NMS. NRC facilitates the development and updating of NMS sections to provide the most comprehensive master specification in Canada, which serves as an easy-to-use framework for writing construction project specifications.

## 1.5 Contact Information

For enquiries related to NMS, refer to [www.nrc-cnrc.gc.ca/nms](http://www.nrc-cnrc.gc.ca/nms).

## 2 Development Framework

### 2.1 Objective

This Guide is intended to assist NMS content developers in writing and updating master construction specifications that serve as a comprehensive compilation of construction, renovation and demolition materials, systems, assemblies, accessories, test methods, processes, services, etc. for defined work results or performance criteria.

### 2.2 Contributors

The main contributors involved in the development and updating of NMS are described in the following table.

Contributor	Description	Role
NMS National Advisory Board	A board of representatives from the principal NMS funding partners	To determine the overall priorities and direction of NMS
NMS National Technical Committee	A committee of representatives from industry and professional associations	To identify priorities and subject matter expert volunteers for NMS task groups
NMS Technical Team	Staff members of the Built Environment Regulations and Specifications (BERS) of the NRC Construction Research Centre	To provide technical and administrative support for the development and updating of NMS
NMS content developers	Industry experts, specification writers, manufacturers, etc.	To develop and update technical content for NMS

### 2.3 Types of Specifications

In NMS, two types of specifications are used:

- Prescriptive specifications: These describe exact materials or systems to be used on a particular project and the detailed installation process to be executed without the use of individual trade names.
- Performance specifications: These describe a “statement of required results, verifiable as meeting stipulated criteria and free of unnecessary process limitations” (Construction Specification Canada, Principles of Construction Documents 2.0). Performance specifications can also be used to convey design intent (or basis of design) and can document the Owner requirements and objectives, as well as those of the design team.

#### 2.3.1 Prescriptive Specifications

Each prescriptive NMS technical section describes a construction, renovation or demolition objective referred to as a “work result.”

As defined in ISO 12006-2:2015, “Building construction – Organization of information about construction works – Part 2: Framework for classification,” work results “are permanent or temporary aspects, of a partial or complete construction project, achieved in the production stage or by subsequent alteration, maintenance, or demolition processes, through the application of a particular skill or trade and the construction resources used. Work results can also include temporary work or other preparatory or completion work thus arising.”

A work result represents a completed entity that exists after all the required raw materials, human and machine efforts, and processes have been implemented. Content developers are expected to specify contractual requirements and provide minimal details about how to achieve that result.

Specifications of this type require comprehensive research of materials and installation procedures by the specification writer, and in most cases assistance from manufacturer's technical representatives or manufacturing associations, as well as literature published by trade associations and material manufacturers.

### 2.3.2 Performance Specifications

Each performance NMS technical section describes the requirements for functional elements of a project design. Performance specifications are often used to meet stipulated criteria free of unnecessary process limitation. It is also used to specify minimum performance requirements for products, systems, workmanship, quality and services to meet the Owner requirements or objectives. Currently, performance specifications are particularly used for two types of construction contracts: design-builds and public-private partnerships.

Performance specifications require that the Contractor use their experience to interpret the project deliverables. They can present a higher risk to the Contractor if the consultant or specification writer does not provide sufficient detail on expected performance. Nevertheless, performance specifications can provide the Owner with a more innovative construction solution.

## 2.4 Structure and Conventions

NMS follows the recommendations of:

- Construction Specifications Canada (CSC) for the textual improvement of construction specifications, including their language and style
- CSC/CSI MasterFormat™ for the numbering and naming of prescriptive specification divisions and sections
- CSC/CSI UniFormat™ for the numbering and naming of performance specifications group of elements and levels
- CSC/CSI SectionFormat™ for the organization of information within prescriptive sections according to a structure of three parts:

PART 1 – GENERAL

PART 2 – PRODUCTS

PART 3 – EXECUTION

Each part of an NMS section is further divided into consistently named articles and paragraphs presented in a specific order.

- Construction Specification Institute (CSI) PPDFormat™ for part of the organization of information within performance sections.

In addition, NMS facilitates the use of PageFormat™ for page layout by the publisher.

Where the use of a particular part is not required, the heading of the unused part is included and the first article and paragraph numbers of that part are followed by the words “not used” to clarify that the unused part has been intentionally omitted.

Where a new section is required that is not listed in the current edition of MasterFormat™, a proposed section number and title must be submitted, together with a supporting rationale, to the NMS Technical Team for review by the MasterFormat™ Maintenance Task Team. A similar process can apply for the UniFormat index.

This framework allows content developers to focus their efforts on writing the requirements relevant to the topic of each section.

## 3 Development Criteria

### 3.1 General Principles

NMS follows the guidelines for specification writing that have been accepted by the North American construction industry, some of which are described in detail in documents published by CSC.

To be useful, NMS sections must reference the latest and/or most appropriate construction practices and materials, such as:

- new and/or appropriate reference standards
- modern materials, products, and systems
- sustainable materials, work practices, and design criteria
- current or innovative products and installation methods
- current environmental considerations
- new decontamination and abatement procedures

As such, when developing or updating an NMS technical section, content developers must review, analyze and consider all relevant information, while keeping in mind regional diversities:

- acts, regulations, codes, reference standards, test methods, and guidelines
- environmental issues and concerns
- manufacturers' literature and product data
- product evaluations and listings

### 3.2 Technical Content

#### 3.2.1 Generic specification

Technical content should indicate a reasonable range of performance expectations and should be developed from information for a range of available products; descriptions based on a single source are not acceptable.

In NMS, materials, products, and systems are specified in a generic manner in accordance with the recommendations of the CSC Manual of Practice for non-restrictive specifications. The use of manufacturer names, product numbers, and trade names is prohibited. Generic content should be consistent with the manufacturers' information used to develop the specification and should describe criteria that are achievable by a wide range of market solutions.

Examples of commonly used proprietary names and the preferred generic terms:

- Drywall: This term is commonly used, but the preferred generic term is "gypsum board."
- Firecode® C, Firecode® X, and Fireguard X® drywall: These are trade names. The preferred generic term is "fire-resistant Type X gypsum board," which is used in the NBC and in reference standards.
- Styrofoam: This is a trade name. The preferred generic term is "rigid extruded foam insulation."

#### 3.2.2 Project Options

Project options (e.g., material, component and assembly selections) must be provided throughout the text of a section to assist the specification writer in the development of the project specification. These options, which are presented as editable fields in square brackets or in a drop-down list, are retained, deleted or modified by the specification writer according to the needs of the project. Blank editable fields must be preceded or followed by words or symbols clarifying their purpose.

Example showing project options presented as editable fields in square brackets:

From NMS Section 09 58 00 – Integrated Ceiling Assemblies:

- .2 Acoustic units for [suspended ceiling system]: to [CAN/CGSB-92.1] [ASTM E1264].
  - .1 Type [\_\_\_\_].
  - .2 [Ecolabel certified] [Cellulose fibre with minimum [75]% recycled content] [Glass fibre with minimum [35]% recycled content].
  - .3 Pattern [\_\_\_\_] [, Class [A]].

### 3.2.3 Use of SectionFormat™ for Prescriptive Specifications Sections

#### PART 1 – GENERAL:

Part 1 describes general administrative and procedural requirements unique to the section and expands on subjects covered in Divisions 00 and 01, without duplicating information.

#### PART 2 – PRODUCTS:

Part 2 presents a selection of systems, assemblies, equipment, products, materials, fabrications mixes, manufactured units, equipment, components, accessories, mixes, shop fabrication, factory finishing prior to installation, etc. that are suitable for the intended work result. This Part may also include information about products supplied for incorporation into work described in other sections and about software and special tools.

Each NMS work result section must include up-to-date information on the products, materials, etc. required for the work covered by the section. If different levels of quality or performance are available, the options must be clearly stated and guidance must be provided in a SPEC NOTE (see Section 3.5 of this Guide).

The description of all the components of a complete system may require several sections. As explained in the 2006 edition of the CSC Manual of Practice, “[i]n instances where an integration of separate components [is] required and cannot be adequately or effectively specified in one section, it is easier to specify those portions in several related sections. These individual sections can be related to one another by a reference statement under the article title ‘Related [Requirements],’ in Part 1 of each of the respective sections. Care must be taken to co-ordinate all aspects of an integrated system or assembly to avoid conflicts.”

#### PART 3 – EXECUTION:

Part 3 describes all work to be done on site, that is to say, the on-site installation or application of the items described in Part 2, including preparatory actions, and post-installation or -application cleaning and protection. It establishes the steps required to execute the work, but not necessarily the means, which will be at the contractor’s discretion. In some instances, however, the execution will require a detailed description of the means required to achieve the work result (e.g., a specific method for cleaning period masonry).

This Part can also include information on temporary resources (e.g., a temporary means of access to the site) and tools that are used for execution but do not become part of the work result.

Site-built assemblies and site-manufactured products and systems are also described in this Part.

When the execution of the work results in one section involves work results from other sections, those sections should be clearly referenced.

## 3.3 Environmental Content

Content developers should consider the environmental impacts of the work results, i.e., the impacts of the products and execution (human activity) on the natural world, and vice versa. These considerations can focus on sustainability or resiliency to climate change, for example.

Environmental performance requirements and environmental best practices should be included alongside other product information. Content developers should not rely on submittals of product information in compliance with a single environmental rating system, but should take a variety of rating systems into account (e.g., the Canadian Green Building Council (CaGBC) Leadership in Energy and Environmental Design® (LEED®) system, the Green Building Initiative (GBI) Green Globes® system, the International Living Future Institute (ILFI) Living Building Challenge® system).

Content developers can also include SPEC NOTES about the broader environmental topics to be considered, such as the environmental attributes of a product or process, environmentally responsible methods of application, use or disposal, environmental impacts on particular ecosystems, best practices for achieving environmental sustainability, and options for improving resilience to climate change.

Content developers should also compare traditional reference standards with environmental standards (e.g., a new raw material manufacturing standard with a recycled material standard). They may want to reference these environmental standards, in addition to traditional material or test method standards, to support environmentally responsible and sustainable design. Another option is to give direction via a SPEC NOTE; however, content developers must always verify the feasibility of their recommendations by contacting industry or contractor associations, for example. Wherever the use of recycled materials is specified, content developers should identify whether or not the recycled materials are made from post-consumer waste.

Example of a section with environmental content:

From NMS Section 04 03 43.16 – Period Stone Replacing:

**SPEC NOTE: ENVIRONMENTAL:** Co-ordinate the following paragraph with Section 01 35 21 – LEED Requirements. Use the following paragraph to ensure Construction Waste Management Plan or Waste Reduction Workplan is specified and include in Article titled ACTION AND INFORMATIONAL SUBMITTALS.

#### PART 1 – GENERAL

1.09.6 Develop [Construction Waste Management Plan] [Waste Reduction Workplan] related to Work of this Section and in accordance with Section [01 35 21 – LEED Requirements].

.1 Divert 50% of packaging waste from landfill. Co-ordinate with Section [01 35 21 – LEED Requirements].

.2 Divert 75% of packaging waste from landfill. Co-ordinate with Section [01 35 21 – LEED Requirements].

1.09.7 Packaging Waste Management: remove for reuse [and return] [by manufacturer] of [pallets,] [crates,] [padding,] [and] [packaging materials] as specified in [Construction Waste Management Plan] [Waste Reduction Workplan] in accordance with Section [01 74 19 – Waste Management And Disposal] [and] [Section 01 35 21 – LEED Requirements].

#### PART 2 – PRODUCTS

**SPEC NOTE:** When feasible, the use of existing stone salvaged from another part of the site for small replacement stones (Dutchman repairs) helps reduce the need to quarry new stone, and provides materials of the same age, and level of patina.

2.06.1 Use hard, sound, and clean existing stone [salvaged on site] [supplied by [Departmental Representative] [DCC Representative] [Consultant] [Owner's] only with [Departmental Representative's] [DCC Representative's] [Consultant's] approval.



2.09.3 Sealant and backer rod: non-staining type, in accordance with Section [07 92 00 – Joint Sealants].

**SPEC NOTE:** Use the following paragraph for LEED projects.

.1 Sealant: maximum VOC limit [\_\_\_\_\_] g/L.

#### PART 3 – EXECUTION

3.12.6 Waste Management: separate waste materials for [reuse] [and] [recycling] in accordance with Section [01 74 19 – Waste Management and Disposal] [01 35 21 – LEED Requirements].

.1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

### 3.4 Reference Standards

NMS can contain reference standards as compliance criteria for materials, test methods, processes, installation methods, administrative procedures, etc. Most of the reference standards are consensus standards developed by recognized public or private standard development organizations (SDOs) through a consensus process, often with public input. NMS references standards issued by Canadian SDOs wherever possible, as well as standards issued by American and international SDOs that are recognized by the Standards Council of Canada.

The content of the reference standards directly affects the development of the content, so it must be reviewed to ensure the correctness and completeness of the section's text.

#### 3.4.1 Particularities of Prescriptive Specifications

Standards referenced in the text of a prescriptive section are listed in the REFERENCE STANDARDS article in Part 1, in accordance with SectionFormat™. The currently applicable edition of the reference standard should be listed with its correct title. The standard's date of issue is included in square brackets to allow specification writers to modify it to correspond to the applicable edition for the jurisdiction at the time of the project.

In the text of a section, standards are indicated by the initials or acronym of the SDO and the number of the standard. The date and title of the standard are only provided in the REFERENCE STANDARDS article in Part 1.

Examples showing how standards are listed in the REFERENCE STANDARDS article and how they are referenced within the body of a section:

From NMS Section 08 14 16 – Flush Wood Doors:

#### 1.2 REFERENCE STANDARDS

**SPEC NOTE:** Edit the following paragraphs for this specific project.

.1 Architectural Woodwork Manufacturers Association of Canada (AWMAC).

.1 Architectural Woodwork Standards, 2nd Edition [2014].

.2 Canadian General Standards Board (CGSB).

.1 CAN/CGSB-71.19-[M88], Adhesive, Contact, Sprayable.

.2 CAN.CGSB-71.20-[M88], Adhesive, Contact, Brushable.

.3 Canadian Standards Association (CSA International).

.1 AAMA/WDMA/CSA 101/I.S.2/A440[-11(R2016)], NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights.

.2 CAN/CSA-O132.5-[M1992(R1998)], Stile and Rail Wood Doors.

From NMS Section 08 14 16 – Flush Wood Doors:

### 2.3 STILE AND RAIL DOORS

**SPEC NOTE:** Stile and rail wood doors may also be specified to CAN/CSA-O132.5, modify following paragraphs accordingly.

- .1 Fabricate doors as indicated to [AWMAC] [CAN/CSA-O132.5].
- .2 Construction:
  - .1 Residential grade to [AWMAC] [CAN/CSA-O132.5], [exterior] [interior] [solid] [veneered] construction.

## 3.5 SPEC NOTES

SPEC NOTES are brief statements located at the beginning of sections and paragraphs that are intended to provide the specification writer with additional information and guidance in developing a project specification. They can serve the following purposes:

- to provide cautionary advice on the use, application or installation of a product, material or system
- to provide sufficient technical guidance to allow the specification writer to make appropriate selections and modifications to satisfy general project preferences
- to guide the specification writer to appropriate options for particular regions of the country and for public and private sector projects

They should be based on sound engineering or scientific data, not on opinions.

SPEC NOTES should only convey information necessary for editing an NMS section to fit a specific project; they are not intended to convey design guidance.

### 3.5.1 Mandatory SPEC NOTES

Every section includes a mandatory SPEC NOTE: DESCRIPTION at the top of its first page, which is intended to give the specification writer general information about the content or use of the section.

Example of a SPEC NOTE: DESCRIPTION:

From NMS Section 03 30 00.09 – Cast-in-Place Concrete Short Form:

**SPEC NOTE: DESCRIPTION:** This Section specifies the choice of two alternatives for cast-in-place concrete, either performance or prescriptive criteria, and includes materials, reinforcing bars, wire fabric, waterstops, fillers, sealers and the mix.

### 3.5.2 Optional SPEC NOTES

A SPEC NOTE: SUPPORT acknowledges organizations that have assisted in the review or development of the section: examples include manufacturers, specialized trade associations, professional associations, and government organizations. When included, these acknowledgements are located at the top of the first page of the section, directly below the SPEC NOTE: DESCRIPTION. A SPEC NOTE: SUPPORT should only be included with the permission and consent of the supporting organization.

Example of a SPEC NOTE: SUPPORT:

From NMS Section 06 05 73 – Wood Treatment:

**SPEC NOTE: SUPPORT:** This section has been revised and updated with the assistance of Wood Preservation Canada.

A SPEC NOTE: ENVIRONMENTAL can be provided at the top of the first page and added throughout any section to notify the specification writer that the section specifies environmentally responsible choices regarding products, design and execution. (See Section 3.3 of this Guide for more information.)

Example of a SPEC NOTE: ENVIRONMENTAL:

From NMS Section 01 56 00 – Temporary Barriers and Enclosures:

**SPEC NOTE: ENVIRONMENTAL:** The specification of lumber that has been harvested from sustainable managed forests encourages the development of forestry practices such as those certified by the Forestry Stewardship Council (FSC) and CSA Group that provide certified reduced environmental impacts.

A general SPEC NOTE introduces certain articles and paragraphs to provide specification writers with background or related information, or with instructions on the actions required on their part (e.g., on choices to be made).

Example of a general SPEC NOTE:

From NMS Section 34 43 05.39 – Airfield Approach Light Support Structures:

**SPEC NOTE:** Approach light support structures to be installed in areas that require frangibility are designed to be frangible. Guidance on the frangible design is given in the ICAO Aerodrome Design Manual (Doc 9157), Part 6.

## 4 Language and Style

### 4.1 General Writing Principles and Reference Materials

To communicate effectively and to avoid potential disputes about meaning, specifications must be written using the five fundamental principles of good specification writing (the 5 “C”s): clarity, conciseness, completeness, correctness, and consistency.

NMS content developers should consult the following reference materials for questions on spelling, grammar, style, usage and word choice:

- the Canadian Oxford Dictionary
- standard industry terminology and the recommendations of CSC
- The Canadian Style
- Oxford Modern English Grammar
- Fowler's Dictionary of Modern English Usage

### 4.2 NMS Writing Conventions

#### 4.2.1 Commonly Confused Words

Some words are similar in spelling but different in meaning. These and other commonly confused words should be carefully chosen according to the context.

Examples of commonly confused words:

- affect versus effect
- ensure versus insure
- balance versus remainder

#### 4.2.2 Defined Words

Certain words have their own definition in the context of a construction contract. It is of the utmost importance to be aware of these terms and well informed of their meaning (for example by referring to definitions included in published documents of the Canadian Construction Documents Committee (CCDC))

Examples of words with a precise meaning in a construction contract context:

- *provide*
- *supply*
- *warranty*
- *guaranty*

#### 4.2.3 Canadian Spelling

Canadian spelling is to be used.

Examples of Canadian spelling:

- caulk not calk
- colour not color
- labour not labor

#### 4.2.4 Abbreviations and Acronyms

The abbreviation or acronym of an organization's name should be placed in parentheses after the first occurrence of the full name in each section.

Examples of the proper placement of abbreviations:

- Canadian Nursery Landscape Association (CNLA)
- Standards Council of Canada (SCC)
- Canadian General Standards Board (CGSB)

#### 4.2.5 Imperative Mood

The imperative mood should be used when addressing the end reader.

Examples using the imperative mood:

Use	Avoid
➤ Spread adhesive with notched trowel.	➤ Adhesive shall be spread with notched trowel.
➤ Install equipment plumb and level.	➤ Equipment shall be installed plumb and level.
➤ Apply two coats of paint.	➤ Two coats of paint shall be applied.

However, in Division 00 and 01 sections, the word "shall" is to be used in connection with the actions of a contractor, and the word "will" is to be used in connection with the actions of an owner or a consultant. The word "must" is to be avoided in these sections.

#### 4.2.6 Premodifiers

Sentences should be shortened by using nouns as premodifiers instead of prepositional phrases.

Examples of the use of a noun as a premodifier:

Use	Avoid
➤ Platform top	➤ Top of platform

#### 4.2.7 Unnecessary Wordiness

The definite article "the" and the indefinite articles "a" and "an" can be omitted in many instances, as can redundant and superfluous words.

Examples of the omission of unnecessary words:

Use	Avoid
➤ Apply oil paint to walls with brush.	➤ Apply the oil paint to the walls with a brush.
➤ Cut sheathing so joints occur at supports.	➤ Cut the sheathing so that the end joints occur at the supports.

#### 4.2.8 Short Sentences and Paragraphs

Sentences should be short by including only one thought per sentence whenever possible.

Paragraphs should be limited to a single subject. This approach will ensure that SPEC NOTES are directly related to the paragraph below them. Nested options should be restricted to one level deep.

Example of a section with nested options one level deep:

From NMS Section 03 10 00 – Concrete Forming and Accessories:

- .1 Leave formwork in place for following minimum periods of time after placing concrete.
  - .1 [Two (2)] days for walls and sides of beams.
  - .2 [Two (2)] days for columns.
  - .3 [Five (5)][Fourteen (14)] days for beam soffits, slabs, decks and other structural members, or [Three (3)] days when replaced immediately with adequate shoring to standard specified for falsework.
  - .4 [Two (2)] days for footings and abutments.

#### 4.2.9 Plain, Clear Language

Content developers should choose words and construct sentences to avoid confusion. In particular, they should avoid vague wording and legalese.

Examples of wording to be avoided:

Vague	Legalese
➤ etc.	➤ wherein
➤ as indicated	➤ thereafter
➤ any/all	➤ herein
➤ such	➤ hereinbefore
➤ to the satisfaction of the Consultant	➤ hereinafter

#### 4.2.10 Plural Form

The plural form of product terms should be used when specifying products, as it is generally understood that a plural term can also refer to one unit.

Example of the use of the plural form of product terms:

From NMS Section 26 33 16 – Battery Racks:

#### 2.06 BATTERY RACKS

- .1 [\_\_\_\_\_] tier, size as indicated. Bottom tier minimum [120] mm above floor, top of battery cells on highest tier not more than [2] m above floor.
- .2 Frames: angle iron with welded joints ground smooth.
- .3 Rails: steel channels, bolted to frames.
- .4 Strips: [Rubber][Plastic], to insulate rails from cells.

#### 4.2.11 Positive Statements

Positive statements should be used in place of negative statements whenever possible.

Example of the use of a positive statement:

Use	Avoid
➤ Divert packaging materials to appropriate on-site bin for recycling.	➤ Do not dispose of packaging materials into landfill.

#### 4.2.12 Comma Use

Punctuation is used very carefully in NMS, since misplacing or omitting a punctuation mark could change the meaning of a statement. The comma is especially problematic: a misplaced, omitted or extra comma can easily change the intended message. In a series of three or more items, a comma should be placed immediately before the conjunction “and” or “or”.

Examples of comma use:

Comma before last item in a list	Comma that changes the intended message
➤ Roof is free of ice, snow, standing water, and accumulations of dirt and debris.	➤ “Eats, shoots, and leaves” versus “Eats shoots and leaves”

#### 4.2.13 Capitalization

Certain nouns (e.g., Section, Contract, Work, Owner, Contractor, and Consultant) should be capitalized when used in a specific sense, especially when they are defined in the General Conditions or Supplementary Conditions of a construction contract.

Examples:

➤ Agreement: This term should be capitalized when referring to the signed portion of the contract between an owner and a contractor.
From NMS Section 10 21 16 – Shower and Dressing Compartments:
➤ Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for shower and dressing compartment installation in accordance with manufacturer's written instructions.

#### 4.2.14 SI Units

All measurements in NMS are based on the International System of Units (SI).

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