



1.0 Layer Name Format

1.1 HIERARCHY OF DATA FIELDS

The layer name format is organized as a hierarchy. This arrangement allows users to select from a number of options for naming layers according to the level of detailed information desired. Layer names consist of distinct data fields separated from one another by dashes. A detailed list of abbreviations, or field codes, is prescribed to define the content of layers. Most field codes are mnemonic English abbreviations of construction terminology that are easy to remember.

There are four defined layer name data fields: **Discipline Designator**, **Major Group**, two **Minor Groups**, and **Status**. The Discipline Designator and Major Group fields are mandatory. The Minor Group and Status fields are optional. Each data field is separated from adjacent fields by a dash ("-") for clarity.

The complete NCS layer name format, showing the Discipline Designator, the Major Group, two Minor Groups, and the Status fields.

A I - W A L L - F U L L - D I M S - N

1.2 BEFORE YOU BEGIN

The NCS allows you to select from a number of format options for creating layer names. It is recommended that you select the options that you wish to use for layer names on a given project, and then apply the resulting format consistently for all layer names on that project.

NOTE: For *conceptual conformance* to ISO 13567, *Organization and Naming of Layers for CAD*, the layer name format and length must be the same for all layers on a given project. See [CLG Appendix C - Complying with NCS and ISO 13567, CLG section 6.0](#) for information about ISO conformance.

1.3 DISCIPLINE DESIGNATOR, LEVEL 1

The Discipline Designator denotes the category of subject matter contained on the specified layer. The Discipline Designator is a two-character field. The first character is the discipline character, and the second character is an optional modifier. The Discipline Designator is described in greater detail in UDS Section 1.3. For a complete list of Discipline Designators see [CLG Appendix A - Discipline Designators, CLG section 4.1](#) and [UDS Appendix A - Discipline Designators, UDS section 1.6](#).

A typical layer name showing the required data fields only.

Note that only the mandatory discipline character is shown, creating a Level 1 Discipline Designator.

A - W A L L

| LEVEL 1 DISCIPLINE DESIGNATORS | |
|--------------------------------|---------------|
| A | Architectural |
| B | Geotechnical |
| C | Civil |
| D | Process |

| | |
|---|----------------------------|
| E | Electrical |
| F | Fire Protection |
| G | General |
| H | Hazardous Materials |
| I | Interiors |
| L | Landscape |
| M | Mechanical |
| O | Operations |
| P | Plumbing |
| Q | Equipment |
| R | Resource |
| S | Structural |
| T | Telecommunications |
| V | Survey / Mapping |
| W | Distributed Energy |
| X | Other Disciplines |
| Z | Contractor / Shop Drawings |

1.4 DISCIPLINE DESIGNATOR, LEVEL 2

The optional second character is used to further define the discipline character. As an example, the Level 2 Discipline Designators for Architectural are shown:

| Designator | Description |
|------------|--------------------------|
| A | Architectural |
| AD | Architectural Demolition |
| AE | Architectural Elements |
| AF | Architectural Finishes |
| AG | Architectural Graphics |
| AI | Architectural Interiors |
| AS | Architectural Site |
| AJ | User Defined |
| AK | User Defined |

A typical layer name showing the required data fields only.

Note that the mandatory Level 1 discipline character is supplemented by the optional discipline modifier to create a Level 2 Discipline Designator.

A D - W A L L

For a complete list of Discipline Designators see [CLG Appendix A - List of Discipline Designators, Major and Minor Groups, and Status Fields, CLG section 4.1](#) and [UDS Appendix A - Discipline Designators, UDS section 1.6](#).

1.5 MAJOR GROUP

The major group is a four-character field that identifies a major building system. The prescribed Major Group field codes (four-character abbreviations) shown on the Layer List are logically grouped with specific discipline designators. However, any Major Group may be combined with any prescribed Discipline Designator, provided that the definition of the Major Group remains unchanged. Therefore, any reasonable combination of the prescribed Discipline Designators and Major Groups is permitted.

A typical layer name showing the required data fields only. The mandatory Major Group field is highlighted:

A - **W** A L L

NOTE: The NCS recognizes that there will be instances where user-defined Major Group field codes will be required. The NCS set of Major Group field codes is not intended to be all inclusive. There will be instances when project specific Major Groups will need to be created. In these cases Major Group field codes are allowed, however, they must contain four alphabetic and/or numeric characters and/or "~", and must be fully documented on the NCS Compliance Disclosure Statement for the project or identified as project specific in the standard supplement in which they are used.

NOTE: For *conceptual conformance* to ISO 13567, *Organization and Naming of Layers for CAD*, the use of the Major Group "ANNO" is not permitted. See [CLG Appendix C - Complying with NCS and ISO 13567, CLG section 6.0](#) for information about ISO conformance.

1.6 MINOR GROUP

This is an optional, four-character field to further define the Major Groups. For example, A-WALL-FULL denotes *Architectural, Wall, Full-height*. A second minor group may be used for still further delineation of the data contained on a layer. For example, A-WALL-FULL TEXT indicates *Architectural, Wall, Full-height, Text*.

The prescribed Minor Group field codes (four-character abbreviations) shown on the Layer List are logically grouped with specific Major Groups. However, any Minor Group may be used to modify any Major Group, provided that the definition of the Minor Group remains unchanged. Therefore, any reasonable combination of the prescribed Major and Minor Groups is permitted.

NOTE: User-defined Minor Group field codes are permitted. They must contain four alphabetic and/or numeric characters and/or "~", and must be fully documented on the NCS Compliance Disclosure Statement for the project on which they are used.

NOTE: For *conceptual conformance* to ISO 13567, *Organization and Naming of Layers for CAD*, the use of certain Minor Group field codes is restricted. See [CLG Appendix C - Complying with NCS and ISO 13567, CLG section 6.0](#) for information about ISO conformance.

1.7 STATUS (PHASE)

The status field is an optional single-character field that distinguishes the data contained on the layer according to the status of the work or the construction phase. The prescribed field codes for this field are as follows:

| STATUS FIELD CODES | |
|--------------------|----------------------|
| A | Abandoned |
| D | Existing to demolish |
| E | Existing to remain |
| F | Future work |
| M | Items to be moved |
| N | New work |
| T | Temporary work |
| X | Not in contract |
| 1-9 | Phase numbers |

NOTE: For *conceptual conformance* to ISO 13567, *Organization and Naming of Layers for CAD*, this field may be used to denote either "Status" OR "Phase," but not BOTH. See [CLG Appendix C - Complying with NCS and ISO](#)

A typical layer name showing one optional Minor Group field:

A - W A L L - F U L L

A typical layer name showing two optional Minor Group fields:

A - W A L L - F U L L - T E X T

A typical layer name showing the location of the optional Status field:

A - W A L L - F U L L - T E X T - N

[13567, CLG section 6.0](#) for information about ISO conformance.



Plotting Guidelines

2.0 LINE WIDTH PLOTTING

Most commercial CAD software products provide an extensive number of line widths. For the majority of drawings, the line widths defined in the table below are considered sufficient. However, it is assumed listed line widths would decrease proportionally if the plotted drawing were reduced to half size. Use of extra fine line widths should be avoided if the drawing will be plotted half size. See [Drafting Conventions, UDS section 4.2](#) for recommended line types.

| Line Thickness | Plotted Line Width | |
|----------------|--------------------|-------|
| | mm | in |
| Extra Fine* | 0.13 | 0.005 |
| Fine | 0.18 | 0.007 |
| Thin | 0.25 | 0.010 |
| Medium | 0.35 | 0.014 |
| Wide | 0.50 | 0.020 |
| Extra Wide | 0.70 | 0.028 |
| XX Wide | 1.00 | 0.039 |
| XXX Wide | 1.40 | 0.055 |
| XXXX Wide | 2.00 | 0.079 |

*Incorporated to reflect ISO 128-20, 1996 Edition addition



Module 1 - Drawing Set Organization

1.3 SHEET IDENTIFICATION

The sheet identification format has its roots in traditional construction drawing techniques. However, the advent of systems methods, overlay drafting, and CAD has demanded more consistency in labeling and organizing sheets. These technologies have also provided an opportunity to expand the role of the sheet identifier. Accordingly, the sheet identification format is a key part of UDS.

1.3.1 Standard Sheet Identification

The sheet identification format is applicable to both manual and CAD drawing production. It is consistent, yet flexible enough for a wide range of project scopes. The UDS sheet identification format depicted here includes the following components:

- the **discipline designator**, consisting of one alphabetical character and a hyphen or two alphabetical characters.
- the **sheet type designator**, consisting of one numerical character
- the **sheet sequence number**, consisting of two numerical characters

The one- or two-character discipline designator identifies the sheet as a member of a subset. A sheet type designator that identifies the type of information on the sheet is followed by the sheet sequence number.

Recognizing the wide variance in project complexity, UDS allows two levels of sheet identification. Either of these or a combination of the two can be used to suit the project or the intended use of the drawings. Level 1 offers the simplest identification format and would be suitable for all but the most complex projects. Level 2 provides guidance for complex or special types of projects. Refer to [UDS Appendix A - Discipline Designators, UDS section 1.6](#) for examples of the two levels of sheet identification.

Note that the hyphen in the Level 1 discipline designator is a required place holder in the absence of the second character. The hyphen is preferred rather than a decimal point due to the use of the "dot" in electronic file names. Alternatively, an underscore may be used to replace the hyphen when a particular operating system does not accept hyphens in file names.

1.3.2 Discipline Designator

The first component of the sheet identification format, the discipline designator, is based on the traditional system of alphabetical discipline designators, using either a single alphabetical character with a hyphen (Level 1) or two alphabetical characters (Level 2).

The discipline designator denotes the category of subject matter contained in the file or on the layer designated. A dash always

Sheet ID Name Format

A A N N N

Discipline Designator

A A N N N

Sheet Type Designator

A A N N N

Sheet Sequence Number

A = alphabetical character

N = numerical character

Discipline Designator Name Format

A - N N N

Level 1 Discipline Designator

follows the Level 1 discipline designator; a dash is not used when the Level 2 discipline designator is used.

| LEVEL 1 DISCIPLINE DESIGNATORS | |
|--------------------------------|--------------------------|
| G | General |
| H | Hazardous Materials |
| V | Survey/Mapping |
| B | Geotechnical |
| C | Civil |
| L | Landscape |
| S | Structural |
| A | Architectural |
| I | Interiors |
| Q | Equipment |
| F | Fire Protection |
| P | Plumbing |
| D | Process |
| M | Mechanical |
| E | Electrical |
| W | Distributed Energy |
| T | Telecommunications |
| R | Resource |
| X | Other Disciplines |
| Z | Contractor/Shop Drawings |
| O | Operations |

A A N N N

Level 2 Discipline Designator

A

Discipline Character

A

Modifier Character

A = alphabetical character

N = numerical character

For example, the electrical engineer may be the designer for a telephone system. The drawings required may be included on the **E** (**E**lectrical) sheets along with the rest of the drawings produced by that designer. If the level of detail demands it, the electrical engineer may decide to segregate the telephone system information onto sheets with the Level 2 designator **ET** (**E**lectrical **T**elecommunications).

For an even more complex project involving voice, data, security, and signal systems, separate drawings for each communications system may be required, perhaps even produced by a network specialist. In this case the discipline designator **T** (**T**elecommunications) could be used, combined with specific modifier characters to create the Level 2 discipline designators **TN** (**T**elecommunications **N**etwork), **TT** (**T**elecommunications **T**elephone), or **TY** (**T**elecommunications **S**ecurity).

In order to differentiate among multiple buildings on a "campus" or among multiple features on a large civil works project the use of **Δ** user-defined Level 2 Discipline Designators will be allowed so long as an alphabetic character is used and is clearly defined on the same sheet as the index of drawings.

Example Text:

Sheets are numbered using Level 2 Discipline Designator to denote buildings within the overall project and do not correlate to discipline-specific sub content.

| Building Feature | Designation | Example |
|------------------|-------------|--|
| Building #1 | A | AA101 - Architectural Floor Plan for Building #1 |
| Building #2 | B | AB101 - Architectural Floor Plan for Building #2 |
| Building #3 | C | AC101 - Architectural Floor Plan for Building #3 |

Multi-discipline projects should coordinate building designations when possible to avoid confusion (i.e. "A" would be

the designation for the same building regardless of the discipline for the sheet).

Use of Level 2 Discipline Designators is to be consistent for the entire project. Level 2 Discipline Designators may be used as campus building identifiers **OR** discipline modifiers but **NOT** both.

For additional examples of discipline designators for other disciplines, refer to [UDS Appendix A - Discipline Designators, UDS section 1.6](#). A detailed example of discipline designators based on the Telecommunications discipline follows.

| Designator | | Description of Suggested Names | Content |
|------------|---------|--------------------------------|---|
| Level 1 | Level 2 | | |
| T | - | Telecommunications | |
| - | TA | Audio Visual | Cable, music, and closed-circuit television (CCTV) sytems |
| - | TC | Clock and Program | Time generators and bell program systems |
| - | TI | Intercom | Intercom and public address systems |
| - | TM | Monitoring | Monitoring and alarm systems |
| - | TN | Data Networks | Network cabling and equipment |
| - | TT | Telephone | Telephone systems, wiring, and equipment |
| - | TY | Security | Access control and alarm systems |
| - | TJ | User Defined | |
| - | TK | User Defined | |

1.3.3 Sheet Type Designator

The sheet type designator is a single numerical character that identifies the sheet type. All sheet types may apply to all discipline designators. It is not necessary to use all the sheet types for a project or within a discipline.

| SHEET TYPE DESIGNATORS | |
|------------------------|---|
| 0 | General (symbols legend, notes, etc.) |
| 1 | Plans (horizontal views and combination Plan & Profile) |
| 2 | Elevations and Profiles (vertical views) |
| 3 | Sections (sectional views, wall sections) |
| 4 | Large-Scale Views (Scaled up reproductions of plans, elevations, Δ or sections that are not details) |
| 5 | Details |
| 6 | Schedules and Diagrams |
| 7 | User Defined (for types that do not fall in other categories, including typical detail sheets) |
| 8 | User Defined (for types that do not fall in other categories) |
| 9 | 3D Representations (isometrics, perspectives, photographs) |

Sheet Type Name Format

| | | | | |
|---|---|---|---|---|
| A | A | N | N | N |
|---|---|---|---|---|

Sheet Type Designator

A = alphabetical character
N = numerical character

The use of sheet type designators does not preclude combining different types of drawings on the same sheet for simplicity. For instance, it is acceptable to

- Place profile drawings on sanitary sewer or road plan sheets
- Place same scale sections on the same sheet as large-scale plans of stairs or escalators
- Place schedules on a plan sheet when the information is closely associated

- Combine different types of drawings on the same sheet on small projects

Refer to discussion on [Sheet Title Blocks, UDS section 2.3](#) for information about naming sheet titles.

1.3.4 Sheet Sequence Number

The sheet sequence number is a two-digit number that identifies each sheet in a series of the same discipline and sheet type. Sequence numbering starts with 01; sheet number 00 is not permitted. The first sheet of each series is numbered **01**, followed by **02** through **99**. Sequence numbers need not be sequential, to permit future insertion of sheets during design. While many projects may not require more than a single digit, standardization of a two-digit sequence number allows for efficient electronic file sorting and facility management databases.

On plan sheets, it may be desirable to replicate the floor name within each discipline. This makes sheets **A-102**, **M-102**, and **E-102** the second floor plan for each of the various disciplines. This system may become cumbersome when basements and mezzanines or split-level plans are involved. Evaluate each project carefully before deciding to implement this option.

Additional drawings inserted in a set of drawings after a sheet identification organization has already been established can be identified with a suffix. This suffix may be comprised of three user-defined designators.

1.3.5 Supplemental Drawings

Small changes on a drawing are normally accomplished with the use of revision clouds and numbers accompanied with a brief description in the revision block. Occasionally an entire drawing must be altered and reissued for supplementary work involving a change in scope. When this occurs, a user-defined suffix character to the sheet identifier may be introduced. Descriptors include **R** for revised issues of similar scope, **X** for complete changes, and **A**, **B**, **C**,... for phased work where multiple versions of the same drawing are expected. A dash always follows the sheet sequence number to separate it from the numbering for supplemental drawings.

Sheet Sequence Name Format

A A N N N

Sheet Sequence Number

A A N N N - U U U

User-Defined Designators

A - 1 0 2 - R 1

A-102-R1 for a partially revised floor plan.

A - 1 0 2 - X 1

A-102-X1 for a totally revised floor plan.

A - 1 0 2 - A 1

A-102-A1 for Phase 1 of a sequenced construction floor plan.

A = alphabetical character

N = numerical character

U = user-defined character



Module 2 - Sheet Organization

2.4 MOCK-UP SHEETS

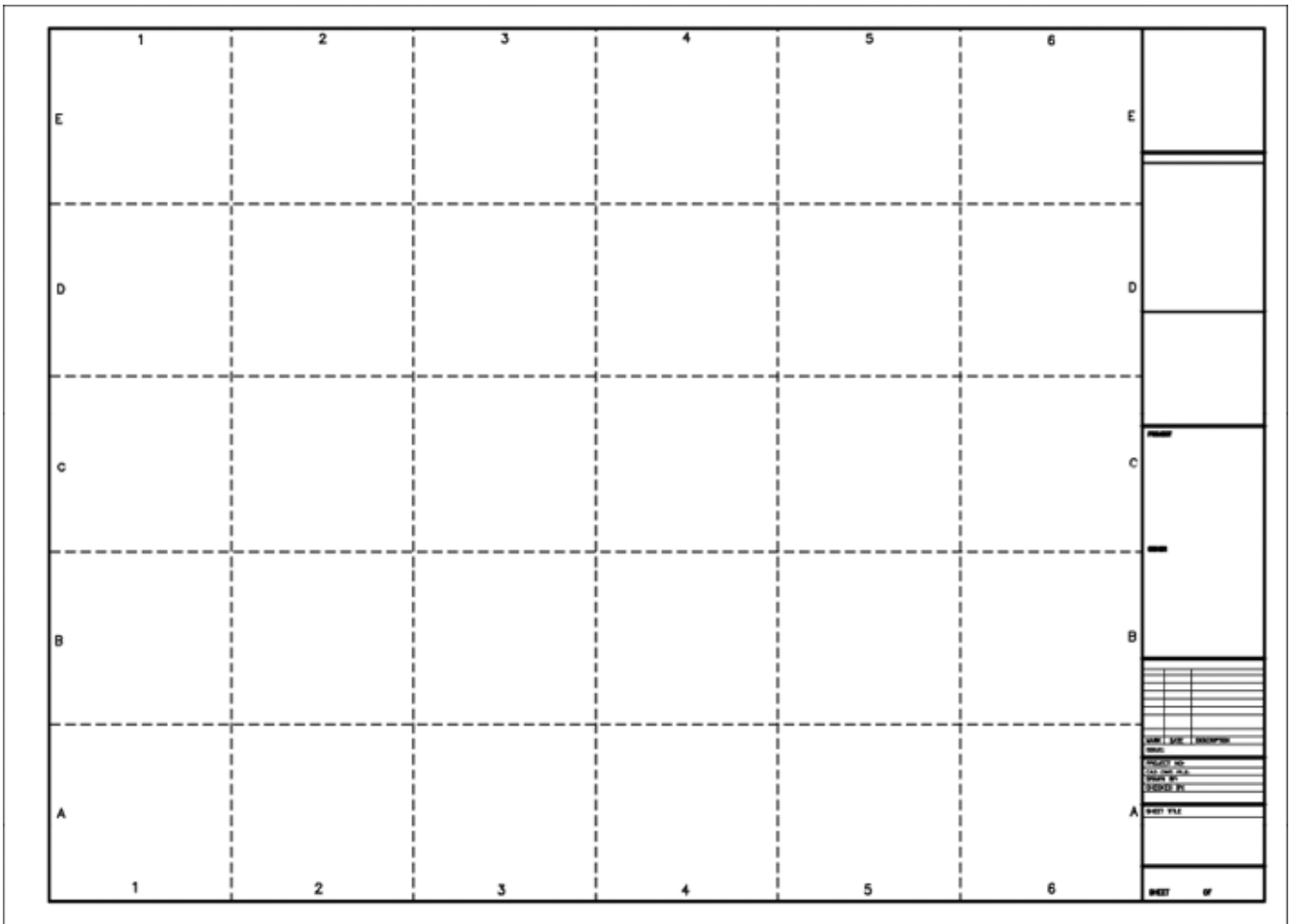
Mock-up sheets are often developed to assist in the layout and production of the drawing set. Individual mock-up sheets are developed as a miniature of each proposed sheet, prior to production. Drawings, schedules, notes, and other data are located on the mock-up sheets within the drawing area modules. Planning with mock-up sheets enables one or more persons to work on a drawing set at the same time, while maintaining a coordinated effort.

Mock-up sheets are normally 216 mm x 279 mm (8-1/2 inches x 11 inches) or 279 mm x 432 mm (11 inches x 17 inches). A scaling factor is used to determine the size of the drawing or drawings to be located on the completed sheet. The drawing area module grid also assists in placing drawings on the mock-up sheet and determining the number of drawings that will fit on the sheet.

Scale factors for mock-up sheets are:

| | |
|--------------------|---------------|
| • Full size scale: | 3" = 1'-0" |
| • 3" scale: | 3/4" = 1'-0" |
| • 1-1/2" scale: | 3/8" = 1'-0" |
| • 1" scale: | 1/4" = 1'-0" |
| • 3/4" scale: | 3/16" = 1'-0" |
| • 1/2" scale: | 1/8" = 1'-0" |
| • 1/4" scale: | 1/16" = 1'-0" |
| • 1/8" scale: | 1/32" = 1'-0" |
| • 1/16" scale: | 1/64" = 1'-0" |

The **UDS Figure 2.4-1** is included below for use as a template for preparing scaled mock-up sheets.



UDS Figure 2.4-1 11" x 17" Mock-up sheet of a full size ANSI D 34" x 44" sheet.

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Module 3 - Schedules

3.2 FORMAT

Information should be organized in every schedule in a similar format. Schedules may be a simple format containing limited information about a subject, or they may be expanded to contain more detailed and specific information depending on the scope of the project.

The format of schedules on drawings is limited by the size of the sheet. Likewise, schedules included in the specifications are limited by the page size of the project manual. Consider the following when determining the format of schedules:

- Client requirements
- Size
 - Drawing block, to fit within the grid of the drawing area
 - Drawing area, if the whole sheet is used for the schedule
 - Project Manual page size
- Method of creation
 - Generated by CAD or other computer software
 - Manually produced
- Reproduction method
- Degree of reduction or enlargement
- Minimum size of text used to remain legible
- End use
 - Office
 - Job site

3.2.1 Parts of a Schedule

3.2.1.1 Heading

The main subject or title of a schedule is described by the schedule heading.

3.2.1.2 Mark Column

Schedules have a Mark column as the first identifier column at the far left of the schedule. The mark may be alphanumeric, or can include a graphic symbol relating to the item's use on the drawings. In a large or wide schedule, an additional mark column located on the right side of the schedule can improve readability.

3.2.1.3 Item Description Column

The item description is the name or identification of each item provided with a separate mark in the schedule.

3.2.1.4 Distinguishing Feature Column(s)

Distinguishing features are distinct, different, or defining characteristics that specifically describe special information related to the items contained in the schedule. Depending on the schedule's complexity, each schedule may

contain multiple distinguishing feature columns.

3.2.1.5 Notes Column

The notes column is a special type of distinguishing feature column used to locate special remarks about items in the schedule that do not necessarily warrant their own separate column identifier. It is usually located at the far right side of the schedule.

The notes column usually contains a unique or special description about a specific item in the identifier row. A note may be written as a complete sentence or just descriptive words. A note may also be a key letter or number that cross-references a general note located elsewhere. The note can also cross-reference other drawings or specification items. Refer to **UDS Figure 3.2.1.5-1**.

| HEADING | | | |
|---------|------------------|------------------------|-------|
| MARK | ITEM DESCRIPTION | DISTINGUISHING FEATURE | NOTES |
| | | | 1, 2 |
| | | | 3 |
| | | | 5 |
| | | | 2, 3 |
| | | | 4 |

Notes Legend:

- 1 Note A
- 2 Note B
- 3 Note C
- 4 Note D
- 5 Note E

UDS Figure 3.2.1.5-1 Schedule with notes column.

The advantage of using a key letter or number in the notes column is the reduction in column width. With extensive written remarks, the notes column is often too small or the text becomes confusing when abbreviated or edited to fit within the available width of the column.

All schedules included in [UDS Appendix B - Schedule Formats, UDS section 3.8](#) include a notes column.



Module 4 - Drafting Conventions

4.4 MOCK-UP DRAWING SET

[DOWNLOAD SPREADSHEET](#)

Mock-Up Set, Cartoon Set, Story Book Set, and Mini-Set are names referring to drawings (or sketches) usually reproduced at 1/4-size representing all the project sheets required for a phase of the construction drawings. The mock-up is either manually sketched or CAD generated.

The mock-up set assists in the planning of the entire drawing set by assigning graphic and textual information to specific sheets in the construction document set. It uses standards provided by *Drawing Set Organization*, *Sheet Organization*, and other UDS modules.

It is preferable that this reduced set of drawings be started at the onset of the design development phase or before. The step-by-step procedures for producing a mock-up follow.

4.4.1 Mock-Up Set Procedures

Step 1: Compile a sheet list based on the Sheet Type Designators described in the [Drawing Set Organization, UDS section 1.3](#). Identify each sheet using the designators described under [Sheet Identification, UDS section 2.3](#). Format the sheets as prescribed in the *Sheet Organization Module*.

Step 2: Create in CAD a blank project sheet at 1/4-size and make a number of copies on which to draw the mock-up.

Step 3: Reduce the drawings from the preceding phase of the project and paste on the sheets either by using CAD or manually. Augment with added drawings from the sheet list.

Step 4: Circle items that require detailing. Eliminate repetition by identifying typical details. Enlarge these circled areas to the appropriate scale, refer to [Scale, UDS section 4.2](#) and place in the subdivided sheets. Add bubbles containing the number of each detail to the sheets from which the details were enlarged.

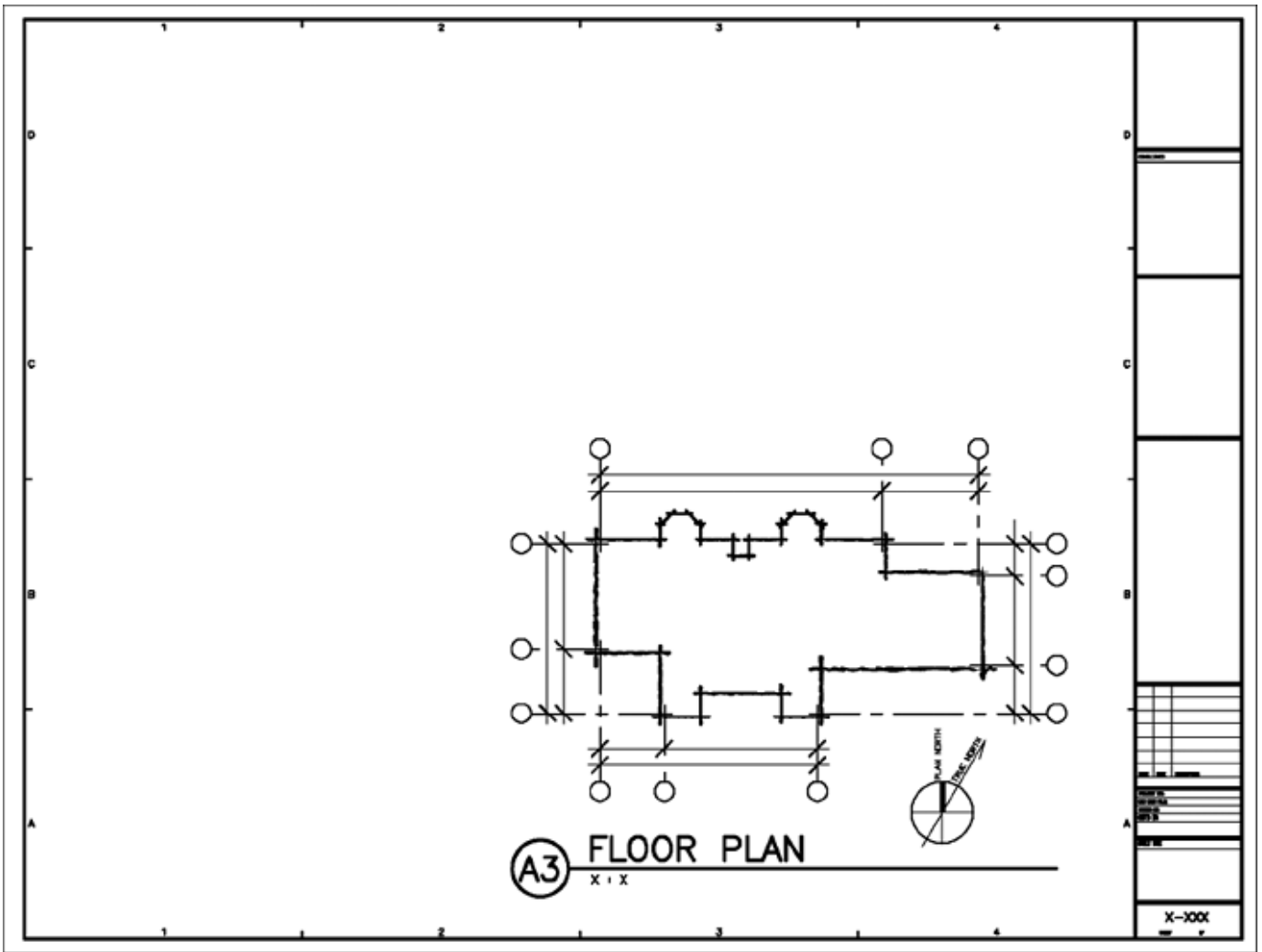
Step 5: Identify rooms that require interior elevations using the symbols shown in Symbols. Sketch each elevation on the appointed sheet(s).

Step 6: If the schedules are to be included in the drawings rather than in the specifications, estimate the size of schedules by counting the number of items to be included in them.

Step 7: Sketch diagrams representing partition, door, window, etc. Refer to [Sheet Types, UDS section 4.3](#). The sketching should show only the space requirement at this early stage in the project.

Step 8: Allocate space for 3D representations if required for the project. Also assign one sheet for miscellaneous details.

The mock-up must convey as much relevant information to the project team as necessary to show organization, numbering, and outline content. If CAD is used, enlarge or reduce the drawing from the preceding phase to generate details. After the drawing is generated, paste on the detail sheet. Refer to the [UDS Appendix C - Influences Table, UDS section 1.8](#) for sheet groupings, format, subdivisions, and numbering. Also, identify standard details to be retrieved from the firm's standard details library, reduce to 1/4-size, and paste on their respective sheets. Refer to **UDS Figures 4.4.1-1** and **4.4.1-2**.



UDS Figure 4.4.1-1 Mock-up of a plan sheet.

| SHEET NUMBER | SHEET NAME | NUMBER OF VIEWS | LIST OF VIEWS (Include All Disciplines) | SCALED SIZE | NUMBER OF HOURS PER SHEET | ASSIGNED TO: | COST PER SHEET |
|-----------------|---------------|--------------------|--|----------------|------------------------------|-----------------|-------------------|
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Module 5 - Terms and Abbreviations

5.1 INTRODUCTION

The *Terms and Abbreviations Module* establishes guidelines for consistent terminology used in the construction industry. Consistent terms ensure clear and concise communication among the architect, owner, contractor, and consultants. The purpose of this Module is to provide a standard for construction document terms and abbreviations.

The *Terms and Abbreviations Module* provides the following:

- A consistent standard of communication in construction documents.
- A searchable list of common terms and abbreviations used in the construction industry.
- Consistent spelling of terms and abbreviations.
- Notes on common use and non-preferred terminology.

5.1.1 Uses

The Module provides a standard for the use of terms and abbreviations. A standard gives the professional office an efficient way to quickly determine the proper term and its abbreviation. It also helps intern architects and designers become familiar with the industry standards.

5.1.2 Objectives

The objective of the Module is to provide a standardized resource for construction terms and their abbreviations. It is not the objective of the Module to encourage the use of abbreviations. *The Project Resource Manual - CSI Manual of Practice* states that, whenever possible, terms should be spelled out and abbreviations should be used only to reduce time and space or where appropriate to improve clarity. The increased use of computer-aided drafting (CAD) has reduced the time required for writing text and notes on drawings, and the need for abbreviations. The use of obscure or undefined abbreviations results in a flawed project. When the meaning of an abbreviation is in doubt, spell it out!

5.1.3 Methodology

The terms included in this Module were selected using the following criteria:

- The term has six or more letters. Terms with five letters or fewer should not be abbreviated. However, certain commonly used terms (such as "build" and "center") have been included.
- Trade association acronyms, such as UL, ASTM, and NFPA, have been included if the organization publishes standards likely to be referenced on drawings.
- Common English language terms have not been included. Some examples are "afternoon" (PM) and "Central Standard Time" (CST).
- Abbreviations representing professional licenses, certifications, or memberships associated with a person's name are not included. It is assumed that the professional, whose name is on the documents, will define and control the proper format of his name. American Institute of Architects (AIA), Professional Engineer (PE), and Certified Construction Specifier (CCS) are examples.
- Terms in conflict with industry-accepted terminology do not have abbreviations. The proper term is shown in

the "Notes" column and its abbreviation is in the Module.

- Symbols that contain letters are not abbreviations.

5.1.4 Guidelines

- Do not abbreviate words of five letters or fewer, except in schedules. A schedule column heading may need an abbreviation to reduce the size of the column and the overall size of the schedule.
- Avoid the use of abbreviations with more than one meaning. Generally the shared abbreviations in [Abbreviations, UDS section 5.3](#) are from different disciplines. Therefore, the context or the location within the drawing set should make the intended term obvious. However, if it does not, spell out the term.
- Show the source or a list of abbreviations on the General sheets. Two ways to accomplish this are:
 - Reference the *Terms and Abbreviations* Module.
 - Include a selected list derived from the Terms and Abbreviations Module. The organization and location of the General sheets are included in [UDS Appendix B - Sheet Identification Examples, UDS section 1.7](#)
- If any doubt or confusion exists about the meaning of the abbreviation, do not use the abbreviation. Clarity is paramount and must not be sacrificed.

5.1.5 Organization of Terms and Abbreviations

Terms and abbreviations are presented in two easily accessible formats. The first format is in alphabetical order by term and the second in order by abbreviation. Terms, and their abbreviations, are listed with any other term that shares the same abbreviation. Terms that should be avoided are also included with a listing of the preferred term in the "Notes" column. These terms do not have an abbreviation because they should not be used.



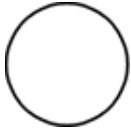
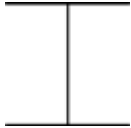

Module 6 - Symbols

6.4 SYMBOLS




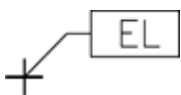



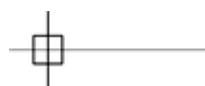
Organized by:










- *MasterFormat™* (2004 Edit.) Division, Number, 3 Digit Extension Number (MF NO-3)
 - Symbol Type - ID = identity; LINE = line; MATL = material; OBJ = object; REF = reference; TEXT = text (alphabetized)
 - Symbol Description (alphabetized)
 - Unique Symbol Drawing File Name (hyperlinked)
 - Symbol

6.4.1 Division 01 - General Requirements

| MF NO-3 | TYPE | DESCRIPTION AND DRAWING NAME | SYMBOL |
|---------------|------|--|--|
| DIV 01 | | GENERAL REQUIREMENTS | |
| 01 00 00-001 | OBJ | column, circular symbol 010000-001-OBJ COL CIRC |  |
| 01 00 00-002 | OBJ | column, I beam symbol 010000-002-OBJ COL I BEAM |  |
| 01 00 00-003 | OBJ | column, square symbol 010000-003-OBJ COL SQ |  |
| 01 00 00-004 | TEXT | and 010000-004-TEXT & | & |
| 01 00 00-005 | TEXT | at 010000-005-TEXT AT | @ |
| 01 00 00-006 | TEXT | center line 010000-006-TEXT CNT LINE | ⌚ |
| 01 00 00-007 | TEXT | degree(s) 010000-007-TEXT DEG | ° |
| 01 00 00-008 | TEXT | divide by, per 010000-008-TEXT DIV BY PER | / |

| | | | |
|--------------|------|---|----------|
| 01 00 00-009 | TEXT | dollar (USD) 010000-009-TEXT USD | \$ |
| 01 00 00-010 | TEXT | equals, equal to 010000-010-TEXT EQS EQ TO | = |
| 01 00 00-011 | TEXT | foot, feet 010000-011-TEXT FOOT FEET | X' |
| 01 00 00-012 | TEXT | greater than 010000-012-TEXT GREATER THAN | > |
| 01 00 00-013 | TEXT | greater than or equal to 010000-013-TEXT GREATER THAN OR EQ TO | ≥ |
| 01 00 00-014 | TEXT | inch(es) 010000-014-TEXT INCH | X" |
| 01 00 00-015 | TEXT | less than 010000-015-TEXT LESS THAN | < |
| 01 00 00-016 | TEXT | less than or equal to 010000-016-TEXT LESS THAN OR EQ TO | ≤ |
| 01 00 00-017 | TEXT | minus 010000-017-TEXT MINUS | — |
| 01 00 00-018 | TEXT | multiply by, by 010000-018-TEXT MULT BY | X |
| 01 00 00-019 | TEXT | number, pound 010000-019-TEXT NO LB | # |
| 01 00 00-020 | TEXT | percent 010000-020-TEXT PCT | % |
| 01 00 00-021 | TEXT | plus 010000-021-TEXT PLUS | + |
| 01 00 00-022 | TEXT | plus or minus 010000-022-TEXT PLUS OR MINUS | +/- or ± |

| | | | |
|--------------|------|--|--|
| 01 00 00-023 | TEXT | property line 010000-023-TEXT PROP LINE |  |
| 01 40 00-001 | ID | elevation level indicator, fine line, 6mm (1/4") diameter, 2.5 mm (3/32") high text 014000-001-ID EL LEVEL INDICATOR |  |
| 01 40 00-002 | ID | Δ boring indicator, fine line, 4 mm (5/32") diameter with lines extending 1 mm (1/32") beyond circle 014000-002-ID BORING INDICATOR |  |
| 01 40 00-003 | ID | Δ elevation indicator in plan, finish grade or finish floor level 014000-003-ID EL INDICATOR IN PLAN FIN GRADE OR FIN FLR LEVEL |  |
| 01 40 00-005 | ID | Δ property line corner indicator, existing, 5 mm (3/16") diameter, typical at all property line corners 014000-005-ID PL CORNER INDICATOR EXST-TYP AT ALL PL CORNERS |  |
| 01 40 00-006 | ID | Δ property corner indicator, new, 5 mm (3/16") diameter, typical at all new property line corners 014000-006-ID PROP CORNER INDICATOR NEW-TYP AT ALL NEW PL CORNERS |  |
| 01 40 00-004 | ID | survey monument indicator, in plan 014000-004-ID SURV MON INDICATOR IN PLAN |  |
| 01 40 00-007 | ID | Δ temporary ground point indicator, existing, 4 mm (5/32") square, typical 014000-007-ID TEMP G POINT INDICATOR EXST |  |

| | | |
|-------------------|---|--|
| 01 40 00-008 ID | <p> ▲ temporary ground point indicator, new, 4 mm (5/32") square, typical </p> <p> 014000-008-ID TEMP G POINT INDICATOR NEW </p> |  |
| 01 42 00-001 LINE | <p> center line indicator; thin line, 2 mm (5/64") short dash, 2 mm (5/64") space, 10 mm (3/8") long dash </p> <p> 014200-001 CNT LINE INDICATOR </p> |  |
| 01 42 00-002 LINE | <p> contract limit line; wide line with dot, 1 mm (1/16") diameter dot, 3 mm (1/8") space </p> <p> 014200-002 CONTR LIMIT LINE </p> |  |
| 01 42 00-003 LINE | <p> demolition line; medium line, 4 mm (5/32") dash, 2 mm (5/64") space </p> <p> 014200-003 DEMO LINE </p> |  |
| 01 42 00-004 LINE | <p> existing to remain line; thin line </p> <p> 014200-004 EXST TO REMAIN LINE use CONTINUOUS LT </p> |  |
| 01 42 00-005 LINE | <p> features above line indicator; thin dashed line </p> <p> 014200-005 FEATURES ABOVE LINE INDICATOR use DASHED LT </p> |  |
| 01 42 00-006 LINE | <p> fire resistive rated line, 1 hour; fine line, 2.5 mm (3/32") diamond, 14 mm (9/16") repeat </p> <p> 014200-006 FIRE RESISTIVE RATED LINE 1 HOUR </p> |  |
| 01 42 00-007 LINE | <p> fire resistive rated line, 2 hour; fine line, 2.5 mm (3/32") diamond, 12 mm (29/64") repeat </p> <p> 014200-007 FIRE RESISTIVE RATED LINE 2 HOUR </p> |  |
| 01 42 00-008 LINE | <p> fire resistive rated line, 3 hour; fine line, 2.5 mm (3/32") diamond, 8 mm </p> |  |

(21/64") repeat

[014200-008 FIRE
RESISTIVE RATED LINE 3
HOUR](#)

fire resistive rated line, 4
hour; fine line, 2.5 mm
(3/32") diamond, 7 mm
(9/32") repeat

01 42 00-009 LINE



[014200-009 FIRE
RESISTIVE RATED LINE 4
HOUR](#)

fire-rated, smoke barrier
line, 1 hour; fine line, 2.5
mm (3/32") diamond, 2.5
mm (3/32") text, 3.2 mm
(1/8") space, 14 mm (9/16")
repeat

01 42 00-010 LINE



[014200-010 FIRE-RATED
SMK BARRIER LINE](#)

fire-rated, smoke barrier
line, 2 hour; fine line, 2.5
mm (3/32") diamond, 2.5
mm (3/32") text, 3.2 mm
(1/8") space, 12 mm
(29/64") repeat

01 42 00-011 LINE



[014200-011 FIRE-RATED
SMK BARRIER LINE 2
HOUR](#)

fire-rated, smoke barrier
line, 3 hour; fine line, 2.5
mm (3/32") diamond, 2.5
mm (3/32") text, 3.2 mm
(1/8") space, 8 mm (21/64")
repeat

01 42 00-012 LINE



[014200-012 FIRE-RATED
SMK BARRIER LINE 3
HOUR](#)

fire-rated, smoke barrier
line, 4 hour; fine line, 2.5
mm (3/32") diamond, 2.5
mm (3/32") text, 3.2 mm
(1/8") space, 7 mm (9/32")
repeat

01 42 00-013 LINE



[014200-013 FIRE-RATED
SMK BARRIER LINE 4
HOUR](#)





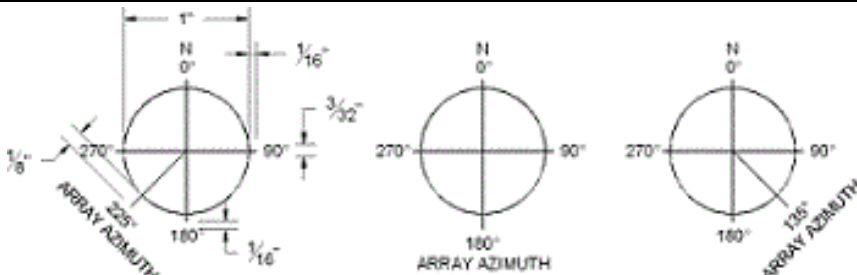

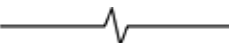
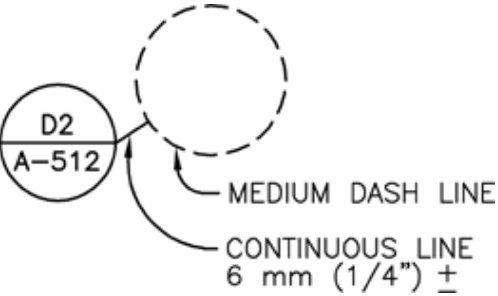
hidden features line; thin
line

01 42 00-014 LINE



[014200-014 HIDDEN
FEATURES LINE use](#)

HIDDEN LT

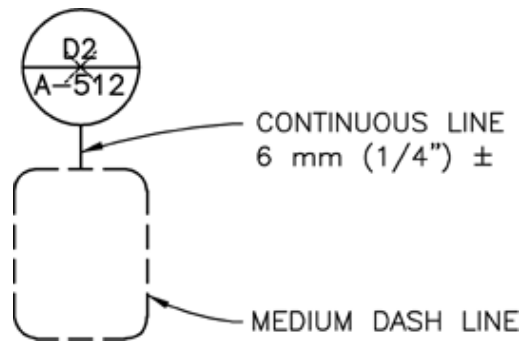
| | | |
|-------------------|--|--|
| | new line; medium line | |
| 01 42 00-015 LINE | 014200-015 NEW LINE use CONTINUOUS LT |  |
| 01 42 00-016 LINE | property line; wide line, 5 mm (3/16") dash, 3 mm (1/8") space |  |
| | 014200-016 PROP LINE | |
| 01 42 00-084 LINE | resist the passage of smoke = RPS; wide line, 3/32" text 014200-084 RESIST PASSAGE OF SMK |  |
| 01 42 00-017 LINE | smoke barrier line; fine line, 2.5 mm (3/32") text, 14 mm (9/16") repeat 014200-017 SMK BARRIER LINE |  |
| 01 42 00-082 REF | azimuth indicator, 1 inch diameter, medium line, 2.5 mm (3/32") text 014200-082-REF AZIMUTH INDICATOR |  |
| 01 42 00-018 REF | break, round (user defines size) 014200-018-REF BREAK RND |  |
| 01 42 00-019 REF | break, straight (see section indicators, building, with break standards) 014200-019-REF BREAK STR |  |
| 01 42 00-020 REF | detail indicator, dashed circle, 2.5 mm (3/32") text, typical 014200-020-REF DETAIL INDICATOR 014200-020-REF DETAIL INDICATOR DASHED CIR Example |  |

detail indicator, dashed
rectangle, 2.5 mm (3/32")
text, typical

01 42 00-021 REF

[014200-021-REF DETAIL
INDICATOR](#)

[014200-021-REF DETAIL
INDICATOR DASHED
RECT Example](#)



detail indicator for small
conditions, 45 degree
arrow, 2.5 mm (3/32") text,
medium line

01 42 00-022 REF

[014200-022-REF DETAIL
INDICATOR FOR SMALL
COND](#)



dimension line: continuous,
thin line with medium line
for terminator

01 42 00-023 REF

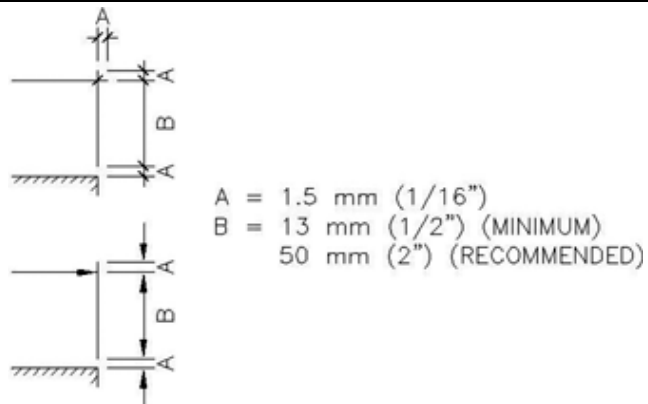
[014200-023-REF DIM LINE](#)



dimension line: continuous,
thin line with medium line
for slash terminator or thin
line with 3:1 filled arrows
for arrow terminators,
typical

01 42 00-024 REF

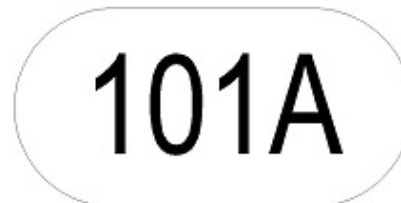
[014200-024-REF DIM LINE](#)

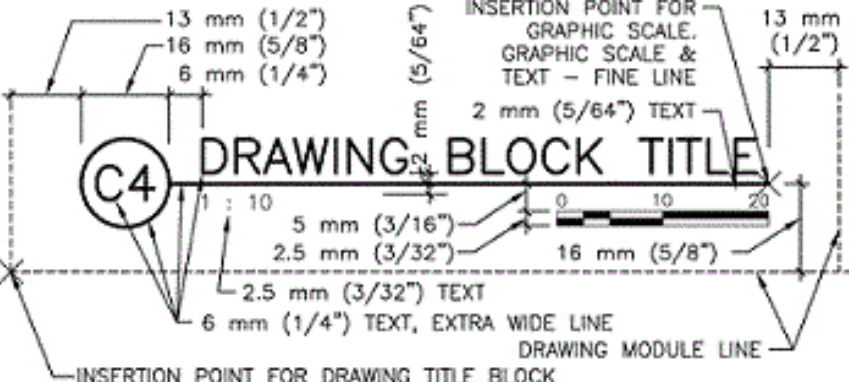

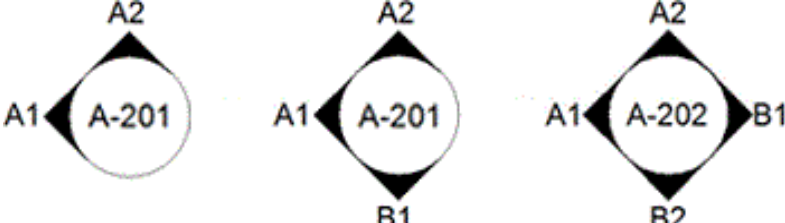

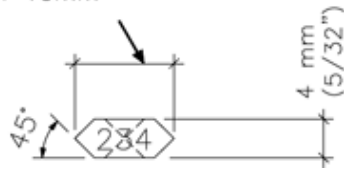


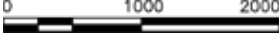


door mark symbol, 2.5 mm
(3/32") text, medium line,
elongated circle, 10 mm
(3/8") wide X 5 mm (3/16")
high with door number
inside

01 42 00-025 REF

[014200-025-REF DR MKR
SYM](#)



| | | |
|-------------------------|--|--|
| <p>01 42 00-026 REF</p> | <p>drawing block title, typical</p> <p>014200-026-REF DWG BLOCK TITLE TYP</p> <p>014200-026-REF DWG BLOCK TITLE TYP Example</p> |  |
| <p>01 42 00-027 REF</p> | <p>elevation indicator, exterior, 12.7 mm (1/2") diameter</p> <p>014200-027-REF EL INDICATOR EXT</p> |  |
| <p>01 42 00-028 REF</p> | <p>elevation indicator, interior, multiple view, 9.5 mm (3/8") diameter; for two, three or four views</p> <p>014200-028-REF EL INDICATOR INT</p> |  |
| <p>01 42 00-029 REF</p> | <p>elevation indicator, interior, single view, 9.5 mm (3/8") diameter</p> <p>014200-029-REF EL INDICATOR INT</p> |  |
| <p>01 42 00-031 REF</p> | <p>furniture, fixture, & equipment indicator, medium line, typical</p> <p>014200-031-REF FURN FIXT & EQUIP INDICATOR TYP</p> <p>014200-031-REF FURN FIXT & EQUIP INDICATOR TYP Example</p> | <p>USER DEFINED MINIMUM WIDTH 10mm (13/32")</p>  |
| <p>01 42 00-032 REF</p> | <p>graphic scale, 1:5000</p> <p>014200-032-REF GRAPHIC SCALE 1 TO 5000</p> |  |
| <p>01 42 00-033 REF</p> | <p>graphic scale, 1:2000</p> <p>014200-033-REF GRAPHIC SCALE 1 TO 2000</p> |  |
| <p>01 42 00-034 REF</p> | <p>graphic scale, 1:1000</p> <p>014200-034-REF GRAPHIC SCALE 1 TO 1000</p> |  |

[1000](#)

graphic scale, 1:500

01 42 00-035 REF [014200-035-REF](#)
[GRAPHIC SCALE 1 TO](#)
[500](#)



graphic scale, 1:200

01 42 00-036 REF [014200-036-REF](#)
[GRAPHIC SCALE 1 TO](#)
[200](#)



graphic scale, 1:100

01 42 00-037 REF [014200-037-REF](#)
[GRAPHIC SCALE 1 TO](#)
[100](#)



graphic scale, 1:50

01 42 00-038 REF [014200-038-REF](#)
[GRAPHIC SCALE 1 TO 50](#)



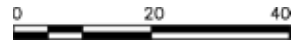
graphic scale, 1:30

01 42 00-039 REF [014200-039-REF](#)
[GRAPHIC SCALE 1 TO 30](#)



graphic scale, 1:20

01 42 00-040 REF [014200-040-REF](#)
[GRAPHIC SCALE 1 TO 20](#)



graphic scale, 1:10

01 42 00-041 REF [014200-041-REF](#)
[GRAPHIC SCALE 1 TO 10](#)



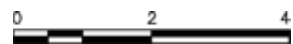
graphic scale, 1:5

01 42 00-042 REF [014200-042-REF](#)
[GRAPHIC SCALE 1 TO 5](#)



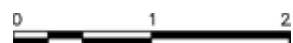
graphic scale, 1:2

01 42 00-043 REF [014200-043-REF](#)
[GRAPHIC SCALE 1 TO 2](#)



graphic scale, 1:1

01 42 00-044 REF [014200-044-REF](#)
[GRAPHIC SCALE 1 TO 1](#)



graphic scale, 1" = 1000'-0"

01 42 00-045 REF [014200-045-REF](#)
[GRAPHIC SCALE 1in EQ](#)
[1000ft](#)



graphic scale, 1" = 500'-0"

01 42 00-046 REF [014200-046-REF](#)
[GRAPHIC SCALE 1in EQ](#)
[500ft](#)



graphic scale, 1" = 200'-0"

01 42 00-047 REF [014200-047-REF](#)
[GRAPHIC SCALE 1in EQ](#)
[200ft](#)



graphic scale, 1" = 100'-0"

01 42 00-048 REF [014200-048-REF](#)
[GRAPHIC SCALE 1in EQ](#)
[100ft](#)



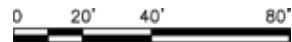
graphic scale, 1" = 50'-0"

01 42 00-049 REF [014200-049-REF](#)
[GRAPHIC SCALE 1in EQ](#)
[50ft](#)



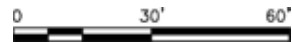
graphic scale, 1" = 40'-0"

01 42 00-050 REF [014200-050-REF](#)
[GRAPHIC SCALE 1in EQ](#)
[40ft](#)



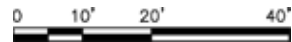
graphic scale, 1" = 30'-0"

01 42 00-051 REF [014200-051-REF](#)
[GRAPHIC SCALE 1in EQ](#)
[30ft](#)



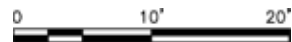
graphic scale, 1" = 20'-0"

01 42 00-052 REF [014200-052-REF](#)
[GRAPHIC SCALE 1in EQ](#)
[20ft](#)



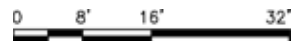
graphic scale, 1" = 10'-0"

01 42 00-053 REF [014200-053-REF](#)
[GRAPHIC SCALE 1in EQ](#)
[10ft](#)



graphic scale, 1/16" = 1'-0"

01 42 00-054 REF [014200-054-REF](#)
[GRAPHIC SCALE 1-16in](#)
[EQ 1ft](#)



graphic scale, 1/8" = 1'-0"

01 42 00-055 REF [014200-055-REF](#)
[GRAPHIC SCALE 1-8in](#)
[EQ 1ft](#)



graphic scale, 1/4" = 1'-0"

01 42 00-056 REF [014200-056-REF](#)
[GRAPHIC SCALE 1-4in](#)
[EQ 1ft](#)



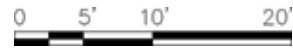
graphic scale, 3/8" = 1'-0"

01 42 00-057 REF [014200-057-REF](#)
[GRAPHIC SCALE 3-8in](#)
[EQ 1ft](#)



graphic scale, 3/32" = 1'-0"

01 42 00-081 REF [014200-081-REF](#)
[GRAPHIC SCALE 3-32in](#)
[EQ 1ft](#)



graphic scale, 1/2" = 1'-0"

01 42 00-058 REF [014200-058-REF](#)
[GRAPHIC SCALE 1-2in](#)
[EQ 1ft](#)



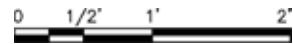
graphic scale, 3/4" = 1'-0"

01 42 00-059 REF [014200-059-REF](#)
[GRAPHIC SCALE 3-4in](#)
[EQ 1ft](#)



graphic scale, 1" = 1'-0"

01 42 00-060 REF [014200-060-REF](#)
[GRAPHIC SCALE 1in EQ](#)
[1ft](#)



graphic scale, 1 1/2" = 1'-0"

01 42 00-061 REF [014200-061-REF](#)
[GRAPHIC SCALE 1 1-2in](#)
[EQ 1ft](#)



graphic scale, 3" = 1'-0"

01 42 00-062 REF [014200-062-REF](#)
[GRAPHIC SCALE 3in EQ](#)
[1ft](#)



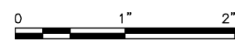
graphic scale, 6" = 1'-0"

01 42 00-063 REF [014200-063-REF](#)
[GRAPHIC SCALE 6in EQ](#)
[1ft](#)



graphic scale, 1" = 1"

01 42 00-064 REF [014200-064-REF](#)
[GRAPHIC SCALE 1in EQ](#)
[1in](#)



identification device
indicator, 2 mm (5/64") text,
3 mm (1/8") sides

01 42 00-065 REF [014200-065-REF ID](#)
[DEVICE INDICATOR](#)



insertion point, 4 mm
(5/32") wide/high hidden
line

01 42 00-066 REF [014200-066-REF](#)
[INSERTION POINT](#)



01 42 00-083 REF [keynote indicator for](#)
[MasterFormat™-based](#)
[keynotes, 2.5 mm \(3/32"\)](#)

04 20 00.A1

text, medium line 5/32"
high x 3/4" long rectangle
with MasterFormat number
tagging the material
indicated

[014200-083 KEYNOTE
INDICATOR FOR
MASTERFORMAT-BASED
KEYNOTES](#)

keynote indicator for
sequentially numbered (not
MasterFormat™ labeled)
keynotes, 2.5 mm (3/32")
text, 6 mm (1/4") high
hexagon, medium line

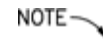
01 42 00-067 REF



[014200-067-REF
KEYNOTE INDICATOR
FOR SEQUENTIALLY
NUMBERED-\(NOT
MASTERFORMAT
LABELED\) KEYNOTES](#)

leader, curved, 3:1 filled
arrow, 2.5 mm (3/32") text,
medium line

01 42 00-068 REF



[014200-068-REF LDR
CURVED](#)

leader, straight, 3:1 filled
arrow, 2.5 mm (3/32") text,
medium line

01 42 00-069 REF



[014200-069-REF LDR STR](#)

louver type identifier, L =
louver, 3 = type, similar to
window type identifier,
medium line

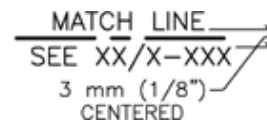
01 42 00-070 REF



[014200-070-REF LVR
TYPE IDENTIFIER](#)

match line indicator, extra
wide center line, 3 mm
(1/8") text, medium line,
typical

01 42 00-071 REF



[014200-071-REF MATCH
LINE INDICATOR TYP](#)

north indicator,
user-defined diameter
(optional symbol may be
replaced by user-defined
north indicator symbol or
north arrow)

01 42 00-072 REF



[014200-072-REF NORTH
INDICATOR](#)

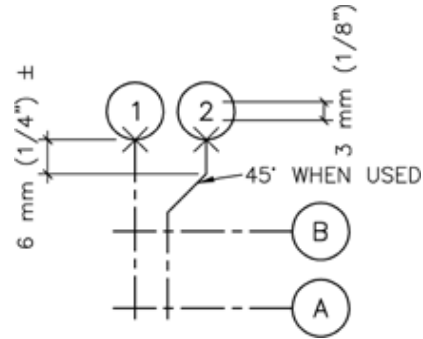
reference column line grid indicator with 9.5 mm (3/8") diameter circles, center lines, center linetype, medium line weight

01 42 00-073 REF

[014200-073-REF REF GRID INDICATOR - ALPHA](#)

[014200-073-REF REF GRID INDICATOR - NUM](#)

[014200-073 REF COL LINE GRID INDICATOR Example](#)

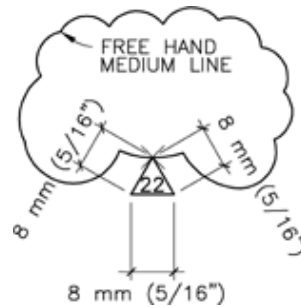


revision indicator (shown with revision cloud), typical

01 42 00-074 REF

[014200-074-REF REV INDICATOR](#)

[014200-074-REF REV INDICATOR - SHOWN WITH REV CLOUD Example](#)

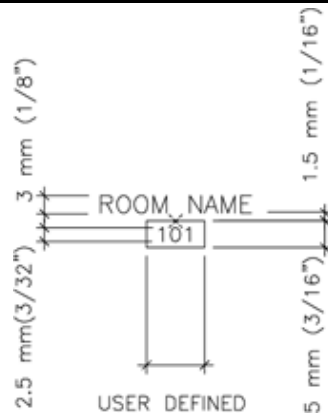


room identifier with room name and number, medium line, typical

01 42 00-075 REF

[014200-075-REF RM IDENTIFIER WITH RM NAME & NO](#)

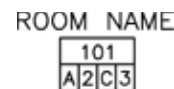
[014200-075-REF RM IDENTIFIER WITH RM NAME & NO Example](#)



room identifier with room name and number, optional finishes A = floor finish type 2 = base finish type C = wall finish type 3 = ceiling finish type

01 42 00-076 REF

[014200-076-REF RM IDENTIFIER WITH RM NAME & NO](#)

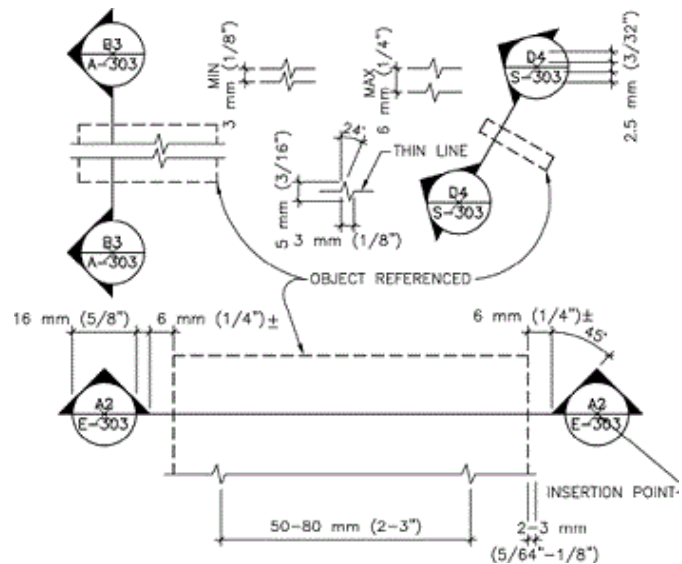


section indicators for building with break standards, 12.7 mm (1/2") diameter circle, typical

01 42 00-077 REF

[014200-077-REF SECT INDICATORS FOR BLDG WITH BREAK STD](#)

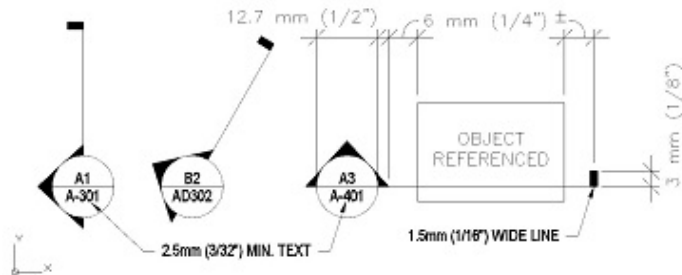
[014200-077-REF SECT INDICATORS FOR BLDG WITH BREAK STD](#)
[Example](#)



section indicators for partial building, 12.7 mm (1/2") diameter circle, typical

01 42 00-078 REF

[014200-078-REF SECT INDICATORS FOR PARTIAL BLDG](#)
[Example](#)



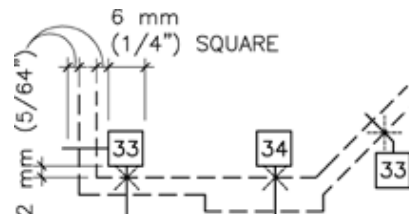
wall type indicator, medium line, typical

01 42 00-079 REF

[014200-078-REF SECT INDICATORS FOR PARTIAL BLDG](#)

[014200-079-REF WALL TYPE INDICATOR](#)

[014200-079-REF WALL TYPE INDICATOR](#)
[Example](#)

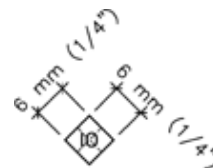


window type identifier, 2.5 mm (3/32") text, medium line, typical

01 42 00-080 REF

[014200-080-REF WDW TYPE IDENTIFIER](#)

[014200-080-REF WDW TYPE IDENTIFIER](#)
[Example](#)





Module 7 - Notations

7.2 NOTATIONS

7.2.1 Purpose of Notes

Construction documents include both drawings and specifications, which are meant to be complementary documents. **Drawings** convey design intent and may show multiple views, either of the whole project or its parts. **Specifications** provide detailed information and instructions concerning the project by setting requirements for the physical qualities, chemical properties, performance requirements, and standards of workmanship associated with the manufacture and installation of systems, assemblies, and components.

Drawings: Graphic and textual information organized on a two-dimensional surface for the purpose of conveying data about a specific portion of a project.

Specifications: Define the qualitative requirements for products, materials, and workmanship on which the construction contract is based.

To more fully understand the drawings, text—in the form of notes—is added to the illustrations. The notes may provide:

- information
- identification
- instruction

Drawing notes, as part of the contract documents, have important legal consequences. Just as in creating a specification section, care must be taken to ensure that drawing notes do not establish a subdivision of the work; assign portions of the work to subcontractors; or create unintended obligations between the parties to the design and construction of the work. Terms used within notes should be consistent with terms used within the specifications. Notes should not include vague references such as "SEE SPECIFICATIONS." They should be specific as discussed later under Reference Keynotes.

7.2.2 Historical Progression

Drawings produced during the late 19th and early 20th centuries were primarily graphic. These graphics used notes sparingly to identify building components and provide general instruction while requiring the designing architect or engineer to provide supplemental instruction in the field. This "master builder" method of practice has changed rapidly over the years and today has been replaced by the use of highly detailed and specific construction contract documents.

During the post World War II era, "keying" became a standard method for improving drawing clarity through text reduction within the **drawing block**. A "keyed" note consisted of an alphanumeric indicator symbol and leader line with a legend of those symbols and the full text notes located elsewhere on the drawing sheet. The keying legend provided users with a single reference point for keyed notes and allowed a single note, written once, to be used in multiple drawing locations through repetition of the alphanumeric keyed symbols. As the information required on drawings became denser, the use of keyed notes improved drafting efficiency, resulting in clearer, more concise drawings.

Drawing Blocks: Drawing modules containing graphic or textual information. Refer to [Sheet Organization, UDS section 2.3](#) for additional information.

"Keynoting" developed into a technique for "tying" keyed drawing notes to related specification sections more

closely. While these "keynotes" might be organized by **MasterFormat™**, there was little consistency among design firms or the documents produced by those firms.

MasterFormat™: A master list of numbers and titles classified by work results or construction practices that is primarily used to organize project manuals and detailed cost information, and relate drawing notations to specifications.



Module 8 - Code Conventions

8.5 THE DESIGN PROCESS

Identification of the applicable regulatory issues is an integral part of the planning/pre-design and design phase of the project. When determining the viability of a project for a given site or site selection, the zoning ordinances and codes must be reviewed to decide if the project complies with the local authority's planning objectives for development. Federal agencies such as FEMA (e.g., flooding considerations) or the EPA (e.g., environmental emissions) may have specific legislation that governs the project.

The type of project may also impact design considerations. In fact, the project may be beyond the scope and enforceability of the local jurisdiction. For example, projects being designed for the federal government (e.g., post offices, military bases, government offices, Native American jurisdictions) are exempt from local regulations. However, these projects must comply with local zoning requirements. With a common goal of protecting the public safety, the federal government often requires that projects be designed in conformance with applicable local codes, even though the projects are not subject to enforcement by local authorities. Such projects often occur with the local jurisdiction given the opportunity to be involved in the project, but with limited input. Ultimately, the applicable governing authority sets the project regulations.

On the building side of the project, identification of the applicable code(s) and their respective editions must occur as part of the design of the building. This applies to both new construction and additions, alterations, and changes of occupancy relative to existing buildings. Identification of local amendments that affect the design is also important. As is discussed in the Plan Review Process section of this Module, some jurisdictions may use an electronic plan review process, which may impact how the design professional packages and submits the construction documents.

Identification of the applicable regulations may require a review of not only the applicable regulations of the building department but other jurisdictions as well. Coordination among the building department, fire department, water and sewer utilities, and the design professional is crucial to determine if there is any regulatory overlap among departments that may affect the design. Similarly, the design and enforcement may be governed by multiple agencies such as a board of education (schools), board of health (hospitals), historical preservation, environmental requirements, or local utility.

The final goal in the development of construction documents is the completion of the project coupled with the issuance of the certificate of occupancy (sometimes called the certificate of completion). The issuance of the certificate of occupancy is the last stage of the regulatory process. The first stage in the regulatory process is identification and analysis of applicable regulations. The second stage is implementation of applicable regulations into the construction documents. These two stages lead to an application for permission to construct (referred to as a building permit). One of the most critical, time-sensitive aspects of the process is reviewing the construction documents for code compliance.

*In all cases, the design professional is encouraged to **contact the local authority(ies)** in the early design phases of the project to determine local regulatory requirements.*