



Drafting Technique and Plan Symbols

One of the leading reasons why plans are returned for corrections during the Building Department plan review process is poor quality drafting. Plans must be drawn to scale on appropriate sized paper sheets and must use easily identifiable architectural graphic symbols, line weights, labeling, referencing, notations, schedules, dimensioning and detailing to help the plan reader quickly and efficiently understand the exact nature and scope of the proposed work. Plans must be accurate, crisply drawn (no freehand), well organized and fully coordinated between the plan sheets and must provide sufficient information to describe the work. .

Conversely, plans that are messy, inaccurate, missing information, not coordinated or don't utilize appropriate drafting techniques, symbols or easily readable text, are almost always rejected and returned for corrections. This adds time and frustration during the building permit plan review process which is not beneficial to anyone.

The following is a basic checklist of items that should be considered when preparing plans:

- **Sheet Size and Orientation**

- Typically, residential plans should be drawn on 36"x 24" sized sheets (ANSI "D"). All plan sheets should be the same size, be sequentially numbered and be oriented to read in landscape orientation. The minimum size plan sheet is typically 17" x 11" (ANSI "B").

- **Drafting Tools you will need**

- Computer aided drafting (CAD) program (if drafting with a computer);
or
- Architectural Drafting Scale (Engineering Scale is also recommended).
- Either a parallel rule or a T-square, a 45 and 60 degree triangle.
- Fixture and basic shape Templates.

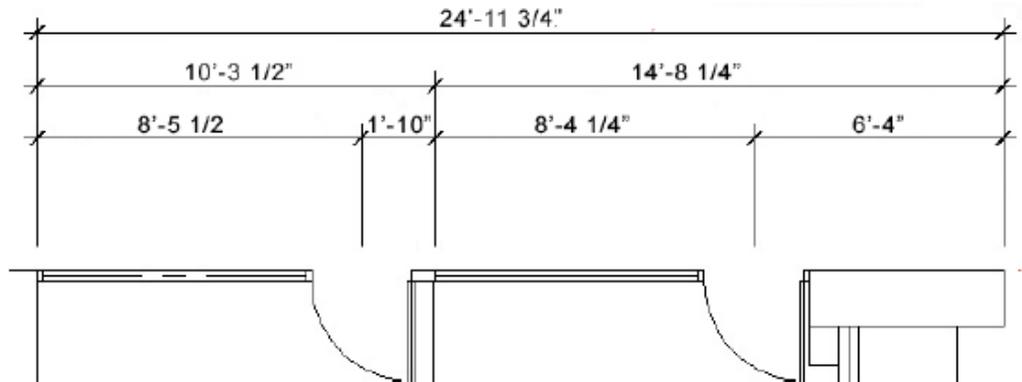


- **Drawing Scale** - Typical scales for drawings are as follows:

- Site Plan, Grading Plan, and Roof Plan: 1" = 20'-0" or 1/8" = 1'-0"
- Foundation Plan, Floor Plan, Electrical, Plumbing and Mechanical Plans, Framing Plans and Elevations: 1/4" = 1'-0"
- Building Sections: 3/8"- 1/2" = 1'-0"
- Construction and Structural Details: 3/4"- 3" = 1'-0"

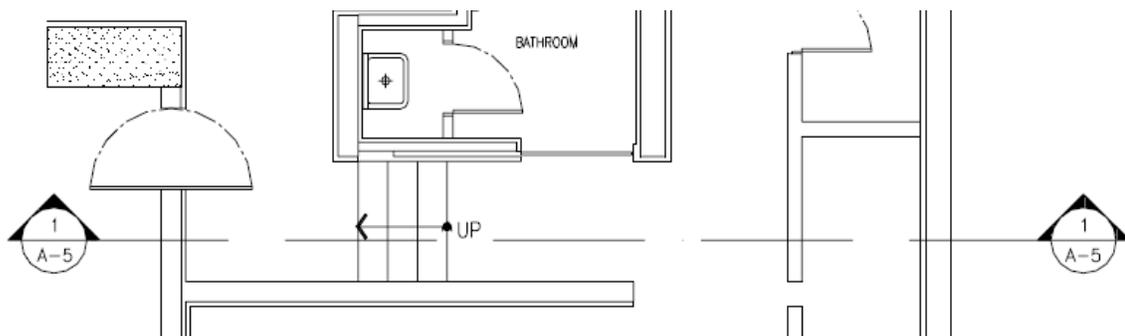
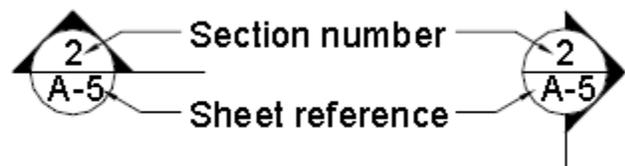
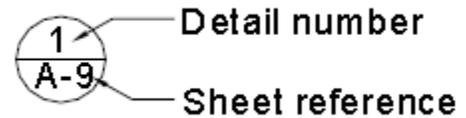
- **Graphic Symbols** –Architectural graphic symbols should be used when drafting floor plans. A sample of some typical residential plan symbols are provided on the last two pages of this handout.

- **Line Weight** - Line weight is important to properly convey the information on the drawings. All lines should be crisp true and easily readable.
 - Lines depicting primary objects of construction such as walls, structural framing members, details and elevation outlines should be **bold line weight**.
 - Lines depicting secondary objects such as doors, windows, counters and cabinets should be drawn with a **medium line weight**.
 - Lines depicting supplemental information such as dimension lines, center lines and callout lines should be drawn with **light weight lines**.

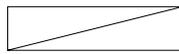
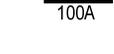


- **Labeling, Lettering, Notations and Referencing**

- Each plan, section, detail or elevation should be uniquely labeled and numbered.
- The size of the text or font must not be less than 1/8" height for hand lettering and 3/32" height for computer generated text.
- Notes and callouts describing the work or drawn components must be provided.
- For alteration projects, elements shown should be labeled new (N) or existing (E).
- All new doors and windows should be identified with size and type information or a unique symbol referencing the door or window in the door or window schedule.
- Cross-References to specific details should be provided.



Residential Plan Symbol Legend

 Incandescent ceiling light fixture  High Efficacy ceiling light fixture  Incandescent wall light fixture  High Efficacy wall light fixture  High Efficacy & Water Resistant wall light fixture  Fluorescent ceiling light fixture  Undercabinet fluorescent light fixture  Recessed incandescent ceiling light fixture  High Efficacy recessed ceiling light fixture  High Efficacy - Water Resistant recessed fixture  120v smoke detector w/ battery backup  120v carbon monoxide (CO) alarm w/ bat. backup  120v smoke & CO alarm w/ battery backup  Ceiling fan/light combination  Photocell  Motion sensor  Duplex receptacle (AFCI protected)  Duplex receptacle (GFCI protected)  Duplex receptacle (waterproof & GFCI protected)  Duplex GFCI protected receptacle - specified ht.  Duplex receptacle (AFCI protected)  Special purpose receptacle (dishwasher)  240v receptacle  Wall junction box  Floor mount receptacle (AFCI protected)  Quadruple receptacle (AFCI protected)  Data, Phone & TV jack  Phone, Data jack  Data jack  CATV jack  Data and electrical outlet	 Single pole switch  2 pole switch  3-way switch  4-way switch  Single pole dimmer switch  3-way dimmer switch  Vacancy sensor switch  Concealed switch conductors  Main service panel (amperage)  Sub panel (amperage)  Security camera  Doorbell transformer  Doorbell chime  Doorbell pushbutton  Thermostat  Exhaust fan  Exhaust fan w/ Humidistat control  HVAC supply air register  Under cabinet HVAC register  Return air grill  Gas outlet  Hose bibb w/ anti siphon  Ice supply valve  Instant hot water heater  Low flow shower head
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For alteration projects add subscripts:
 (N) for New
 (E) for Existing

Residential Plan Symbol Legend

	New wall		Refrigerator
	Existing wall		Dishwasher
	Existing wall to be removed		Range/Cooktop w/ Hood
	4 x 12" #1 D.F. New beam (size and material)		Oven
	Window (window schedule reference)		Compactor
	Swinging door (door schedule reference)		Washer
	Pocket door (door width)		Dryer
	Bypass door (door width)		Sink / Lavatory (GPM)
	Byfold door (door width)		Tub
	Sliding glass door (door width)		2.0 Shower (GPM)
	Detail Number		1.28 Water Closet (GPF)
	Detail Reference		50 gal Storage type Water Heater (Gal)
	Page Number		188,000 Tankless water heater (BTU/H)
	Referenced Section Number		66,000 Forced-Air Furnace (BTU/H)
	Section Reference		Air-Conditioner Condensor
	Referenced Page Number		
	Elevation Reference Number		
	Elevation Reference		
	Referenced Page Number		
	Window schedule reference		
	Door schedule reference		
	Drawing revision number		

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