



SECTION 3 DRAFTING STANDARDS

3.1 PURPOSE

For any connection, regardless of size, to the Board's water distribution or sanitary sewer collection systems, the Board shall require construction plans to be submitted for review and approval. Construction shall not proceed until written approval by the Board has been obtained. The following section presents the guide lines to which all construction plans shall adhere.

3.2 DRAWING REQUIREMENTS

3.2.1 SHEET SIZE

Full size construction plans shall be submitted in the preferred American National Standard sheet size of 24.00" x 36.00" ("D" size).

3.2.2 TITLE BLOCK INFORMATION

In an effort to streamline project tracking and facilitate the review process, the Board requires a title block (of the design engineer's choosing) be located on each sheet of the drawing package. At a minimum, the title block shall contain the following information:

- Engineering Firm's Name, Address, and Telephone Number
- Professional Engineer's Seal/Signature and date of issuance
- Project Title
- Project Address (if available)
- Drawing Title
- Sheet Number (in "Sheet _ of _" Format)
- Scale (indicate "NA" in block if not applicable)

3.2.3 HORIZONTAL AND VERTICAL SCALES

3.2.3.1 Plans and Profiles

The appropriate scales for original plans are 1"=50' horizontal with vertical scale of 1"=5' and 1"=20' horizontal with vertical scale of 1"=2'. For the purposes of clarity other scales may be allowed with the approval of the Board's Engineer.

3.2.3.2 *Plat*

The appropriate scale for plat sheets shall vary to accommodate the project scope. It is recommended that the scale chosen by the engineer be rounded to the nearest 100' increment (i.e. 1" = 100', 1" = 200', 1" = 500', etc.).

3.2.4 GRAPHIC SCALE

A graphic scale shall be required on each sheet. The purpose of the graphic scale is to allow for the reduction of the plans while maintaining an accurate reference to scale.

3.2.5 SHADING

The use of shading to indicate areas of interest will not be allowed. Cross-hatching or dot patterns are acceptable techniques to highlight areas of interest. Shading is not permitted due in part to the difficulties in reproducing the documents for archival purposes. Shaded areas tend to produce either a dark block (obscuring items of interest) or no shading at all with the current reproducing process employed by the Board.

3.2.6 LETTERING

Lettering shall be of a size and clarity that the document will remain legible when reduced 50%. Drawings that are rendered illegible at 50% reduction shall be re-formatted and re-submitted. Stick-on notes and title blocks will not be permitted on final drawings. All general notations shall be lettered in upper case; however, any lengthy sentence or phrase may be lettered in upper and lower case.

3.3 DRAWING PACKAGE

In general the drawing package shall consist of a Title Sheet, Plat Layout, Plan and Profile Sheet(s), and Detail Sheet(s).

3.3.1 TITLE SHEET REQUIREMENTS

The following information shall be supplied on the Title Sheet of the design documents submitted to the Board for review:

Name of Project

Index of Drawings, Vicinity Map, Legend, Graphic Scale, and North Arrow.

General notes applicable to the complete set of plans shall be shown on the Title Sheet if space permits or the first sheet, if necessary.

The following note shall be placed on the Title Sheet or other appropriate sheet near the front of the plans:

“CAUTION EXISTING UTILITIES: UNDERGROUND UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. LOCATION, SIZE, AND MATERIAL TYPE WERE OBTAINED FROM AVAILABLE RECORDS SUPPLIED BY THE RESPECTIVE UTILITY COMPANY. ALABAMA LINE LOCATORS MUST BE NOTIFIED 48 HOURS PRIOR TO ANY EXCAVATION FOR VERIFICATION OF LOCATION. CALL 1-800-292-8525”

3.3.2 PLAT/LOTING LAYOUT

The Plat/Lotting layout shall include, but not be limited to, the following:

- All existing property lines, including their corners
- Bearing and distance of all proposed property lines
- Proposed property corners
- Lot numbers
- Street names
- Building offset dimensions
- Location of all existing water and sewer laterals
- Existing and proposed sanitary and water easements
- Existing and proposed utility easements
- Bearing and distance to the nearest Section corner

3.3.3 PLAN AND PROFILE SHEET REQUIREMENTS

3.3.3.1 Plan View

The plan view shall include, but not be limited to, the following:

- Existing and proposed sewer utilities, size, direction of flow, manholes, sewer laterals, and appurtenances.
- Existing and proposed water utilities, size, valve locations, lateral locations in congested areas, and appurtenances.
- Existing and proposed topographic features within a 50-foot radius of the construction.
- All gas, electric, telephone conduits, fiber optic cables, and any other underground or overhead utilities within a 50-foot radius of the construction area.
- All existing pipes, culverts, conduits, and utilities of any nature crossing the proposed improvements, plotted and labeled.
- North Arrow and Graphic Scale.

Stations shall be shown above each 100-foot station on 50-scale (i.e. 1+00, 2+00, etc.) and 20-scale plans and above each 500-foot station on 100-scale plant (i.e. 5+00, 10+00, etc.).

Plans covering more than one sheet shall be cross-referenced on each sheet to identify the location of the adjacent profile or plan sheet. Match lines are acceptable in plan view with proper referencing station or adjacent sheet number.

Center lines of the installed water or sewer utility shall be referenced by dimensions to the easement boundary and/or associated property boundary.

Bench Marks shall be accurately plotted and labeled on the plans.

Street names, houses, fences, and drives shall be shown for a minimum of 50 feet beyond right-of-way or the fronts of the houses for lines located in the street or rights-of-way.

Trees, steps, walks, and other topographic features shall be shown to the extent that they may be pertinent to the improvement location or construction.

Existing property lines, lot lines, easements, and other boundary lines shall be shown a minimum of 75 feet beyond any proposed or existing right-of-way. In instances where additional information is required, the limit shall be extended.

Existing ditches having a bottom width of 4 feet or less shall be indicated by drawings the center line of the ditch. Ditches and channels having a bottom width greater than 4 feet shall be shown by drawing each side of the ditch and noting its width.

Street right-of-way widths shall be shown adjacent to and after the street name. For example: CHRISTOPHER ROBIN ROAD 50' R/W (if uniform width).

CHRISTOPHER ROBIN ROAD (R/W varies) – with dimension if the width is not uniform.

The phrase, “DO NOT DISTURB” , shall be used to indicate existing conditions or facilities which are to remain in place during construction.

3.3.3.2 Profile View

The information to appear in the profile view shall include, but not be limited to, the following:

The grid shall be set up on a 1-inch square basis. The vertical scale for 50-scale plans shall be 1”=5’ and for 20-scale plans shall be 1” = 2’.

The limits, by station, shall be shown for all encasements, tunnels, and bored segments. The type of backfill used, when not identified in the general notes, shall be placed directly above the profile grid with leader and arrow defining the limits of each type of backfill.

The ASTM designation of pipe classification shall be shown below the pipe profile if different from the designation and classification shown in the General Notes, or Standard Specifications.

The pipe material, size, and grade shall be indicated between all manholes. This information shall be parallel to and shown above smaller pipes; however, on pipes of

sufficient diameter, this information should be placed inside the pipe. Grades shall be shown as a percent (i.e., 0.50%).

Invert elevation shall be shown to the nearest hundredth of a foot and at the following locations:

- All breaks in the grade.
- Breaks necessary for profile continuation onto another sheet.
- Center line of standard manholes with continuous grade.
- Conduits that are critical to the pipe gradient.
- Intersecting pipe.
- All locations necessary to substantiate the profile grade.
- Both pipe invert edges when there is a drop or slant inlet.

Proposed manhole rim elevation shall be shown to the nearest tenth (e.g. Rim El. 424.9+/-), in earth areas and to the hundredth in paved areas.

The water surface elevations of ponding and/or 100 year flooding areas shall be shown.

The flow line of all ditches deeper than one foot having impact on sewer depth or location shall be plotted and labeled.

Existing and proposed ground profile.

The finished floor elevation for the lowest point of a building to be drained via gravity flow to the sewer (i.e., basement) shall be shown on the plans. When an elevation cannot be obtained, the engineer shall estimate an elevation and duly note this fact by using the work “*ASSUMED*” adjacent to the elevation.

Any underground telephone conduit, water lines, gas lines, etc., shall be shown when crossing the proposed facility.

3.3.4 DETAIL SHEET

Standard drawings are drawings prepared by the Board and furnished to the design engineer to incorporate into the final construction contract documents. These drawings illustrate typical items of work (e.g. hydrant installations, deadman layout, etc.) and their requirements. These standard drawings are typically presented on a Detail Sheet at the end of the set of drawings.

It is not practical to expect a “Standard Detail” to be applicable for every situation that might arise. Therefore, for any proposed construction that is not covered in the “Standard Details”, the Board shall request “Special Details”. The “Special Details” shall be produced by the engineer and shall have sufficient detail to accurately depict the proposed construction. Junction chambers, special pipe bedding and railroad crossings are typical examples of items which might require Special Details.



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