SECTION II

DRAWING REQUIREMENTS

A. GENERAL

1. The Professional Engineer, registered in the State of Texas, is required to seal, date and sign each sheet of the drawings in accordance with rules set forth by the Texas State Board of Registration for Professional Engineers. The seal must reproduce on all sheets.

B. CONSTRUCTION PLANS

1. All projects shall be tied to National Geodetic Survey (NGS) Datum adjustment which matches the Federal Emergency Management Agency (FEMA) rate maps or the most current NGVD which matches the FEMA rate maps. In the event GPS surveying is used to establish bench marks, at least two references to bench marks relating to the FEMA rate maps must be identified. Equations may be used to translate other datum adjustments to the required adjustment.

2. Indicate right-of-way widths, pavement widths and thickness, type of roadway materials, curbs, intersection radii, curve data, stationing, existing and proposed utilities - type, location, etc. on each plan sheet.

3. Stationing must run from left to right except for short streets or lines originating from a major intersection where the full length can be shown on one sheet.

4. A North arrow is required on all sheets and should be generally oriented either upward or to the right.

5. Identify all adjacent property and owners, show all lot lines, property lines and rights-of-way lines, etc.

6. A cover sheet shall be required for all projects involving three or more plan and profile sheets. All plan sheet numbers should be included on the cover sheet or area map. A vicinity map should always be included to show the project location.

7. If a roadway exists where drawings are being prepared to improve or construct new pavement or to construct a utility, this roadway should be labeled as to its existing width, type of surfacing and base thickness if available without destruction of pavement.

8. A copy of the final plat should be included with the final drawings when the design drawings are submitted for final approval.

9. Drawings submitted for Galveston County approval shall be on mylar or linen.

10. Do not place match lines in intersections.

11. All utility lines four inches (4") in diameter or larger within the right-of-way or construction easement should be shown in the profile view. All utility lines, regardless of size, should be shown in the plan view. Resolve all known conflicts of proposed utilities with existing utilities.

12. Show flow line elevations and direction of flow of all existing ditches.

13. Show natural ground profiles at each right-of-way or easement line.

    13.1 Center line profiles of natural ground will be satisfactory for rights-of-way or easements except where there is a difference of 0.50 feet or more from one right-of-way or easement line to the other; in which case, dual profiles will be required.

14. Drawings for street and/or public improvements shall be standard 24"x 36" overall dimensions for all design in rights-of-way or easements.

15. Details of special structures not covered by approved standard drawings, such as stream and gully crossings, special manholes, etc., should be drawn with the horizontal and vertical scales equal to each other.

16. Drawings shall be drawn to accurate scale, showing proposed pavement typical cross sections and details, lines and grades, and all existing topography within the street rights-of-way; and at intersections, the cross street shall be shown at sufficient distance in each direction along the cross street for designing adequate street crossings.

17. Grades should be labeled for the top of the curb except at railroad crossings. Gutter elevation shall be shown at Railroad Crossings. Center line elevations are acceptable only on streets without curb and gutters.

18. Curb return elevations for turnouts shall be shown in the profile.

19. Station all esplanade noses, both existing and proposed.

20. The design of both roadways is required on all pavement sections with an esplanade.

21. Station all P.C.'s, P.T.'s, radius returns and grade change P.I.'s in the plan view. Station all radius returns and grade change P.I.'s in the profile with their respective elevations.

22. The standard scales permitted for plans and profiles of paving and utility drawings are as follows:

    22.1 Major thoroughfares or special intersections/ situations:

    1" = 2' Vertical; 1" = 20' Horizontal

    22.2 Minor streets:

    1" = 5' Vertical; 1" = 50' Horizontal
    or
    1" = 4' Vertical; 1" = 40' Horizontal

    (for reconstruction on minor streets, a larger scale may be required to show detail)

23. The above scales of paragraph 22.1 are the minimum, and larger scales may be used to show details of construction.

24. Deviations to these scales can only be allowed with the specific approval of the County Engineer.

25. In addition to the plan and profile sheets described above, where applicable, each set of construction drawings shall contain a separate key paving and drainage drawing and a key utility drawing indexing specific plan and profile sheets.

26. It is preferable that key overall layouts be drawn at a scale of 1" = 100' or 1" = 200'. Smaller scale may be used where appropriate for the project with prior approval.

27. Drafting principals, conventions, techniques shall be those generally recognized int contemporary literature, and in common practice in the engineering practice.

28. Graphic standards shall be in accordance with those currently used in common engineering practice.