**Section 370.530 Plant Details**

a) Installation of Mechanical Equipment

The specifications shall be so written that the installation and initial operation of major items of mechanical equipment will be inspected and approved by a representative of the manufacturer.

b) Bypasses

Properly located and arranged bypass structures and piping shall be provided so that each unit of the plant can be removed from service independently. The bypass design shall facilitate plant operation during unit maintenance and emergency repair so as to minimize deterioration of effluent quality and insure rapid process recovery upon return to normal operational mode.

c) Unit Bypass and Wastewater Pumpage During Construction

Final plans and specifications for upgrading or expanding existing treatment plants shall include construction scheduling of any unit bypassing, and appropriate temporary wastewater pumpage acceptable to the Agency to minimize temporary water quality degradation. Refer to Section 370.260.

d) Drains and Buoyancy Protection

1) Means shall be provided to dewater each unit. Pipes subject to clogging shall be provided with means for mechanical cleaning or flushing.

2) Due consideration should be given to the possible need for hydrostatic pressure relief devices to prevent flotation of structures.

e) Construction Materials

Due consideration should be given to the selection of materials which are to be used in sewage treatment works because of the possible presence of hydrogen sulfide and other corrosive gases, greases, oils, and similar constituents frequently present in sewage. This is particularly important in the selection of metals and paints. Dissimilar metals should be avoided to minimize galvanic action.

f) Painting

The use of paints containing mercury should be avoided. In order to facilitate identification of piping, particularly in the large plants, it is suggested that the different lines be color coded. The following color scheme is recommended for purposes of standardization:

1) Sludge line – brown

2) Gas line – orange

3) Potable water line – blue

4) Non-potable water line - blue with 3 inch yellow band spaced 30 inches apart

5) Chlorine line – yellow

6) Sewage line – gray

7) Compressed air line – green

8) Water lines for heating digesters or buildings – blue with a 6-inch red band spaced 30 inches apart

9) Sulfur dioxide line – yellow with red bands.

10) The contents shall be stenciled on the piping, labeling the contents in a contrasting color.

g) Operating Equipment

A complete outfit of tools, accessories (such as portable pump and ventilation blowers, etc.), and spare parts necessary for the plant operators use shall be provided. Readily accessible storage space and work bench facilities shall be provided. Consideration shall be given to provision of a garage storage area for large equipment storage, maintenance, and repair.

h) Erosion Control During Construction

Effective site erosion control shall be provided during construction.

i) Grading and Landscaping

Upon completion of the plant, the ground should be graded and seeded. Concrete or gravel walkways should be provided for access to all units. Where possible, steep slopes should be avoided to prevent erosion. Surface water shall not be permitted to drain into any unit. Particular care shall be taken to protect trickling filter beds, sludge beds, and intermittent sand filters from storm water runoff. Landscaping shall be provided when a plant must be located near residential areas.

j) Confined Spaces

The number of confined spaces should be minimized for safety purposes.

(Source: Amended at 21 Ill. Reg. 12444, effective August 28, 1997)