INSTRUCTIONAL NOTES

1. This index (ITM&G) is for use in preparing signalization plans when monotube assemblies are required. This standard establishes the requirements of monotube components listed on the Qualified Products List (QPL). If using components on the QPL, the span length and heights of each pole will be the only information required in the Contract Plans, and Shop Drawings are not required.

2. If a monotube configuration does not meet the requirements stated below, special design and shop drawing substantiation is required.

3. Four standard monotube configurations are provided. The standard span length and the signal locations used for design of the arm are shown on the monotube design loading tree on this sheet. If the same arrangement of signals is used with one or more signs closer to the nearest pole, the standard monotube may be used. If the same arrangement is used but one or more signs are further from the nearest pole, or if a different configuration of signs is used, a special design is required.

4. Standard monotube span between L1=20'-0" and L2=40'-0" is shown. If other required span lengths with the same configuration of signals in the same location or closer to the pole, the standard monotube design with the next larger standard span length may be used. The difference in length shall be rounded to the nearest horizontal segment of the span. If a span longer than L2=40'-0" is to be used, a special design is required.

5. The standard monotube is valid for an arm height between H1=9'-0" and H2=12'-9". A special design is required for all heights greater than H2. If an arm height of less than 9' is to be utilized with the same configuration of signs in the same location or closer to the poles, the standard monotube may be used, provided that minimum required clearances to the roadway are maintained.

6. The foundations for the standard monotube are pre-designed and are based upon the following approximate soil criteria which covers the great majority of soil types found in Florida:

Classification = Cohesive
Friction Angle = 30 Degrees (120°)
Unit Weight = 100 lb/ft^3 as determined lab or field

Only in cases where the Designer calculates the specific site location to be of lesser strength properties should an analysis be required. Auger borings, SPT borings or CPT borings may be utilized as needed to verify the assumed soil properties, and at relatively infrequent sites, a single boring or sounding may cover several locations. Furthermore, borings in the area that were performed for other purposes may be used to confirm the assumed soil properties.

DESIGN LOADING TREE FOR MONOTUBE SPAN SIGNAL STRUCTURE

Note: Samped backtops on 4 of the 8 signs are included in the design of Standard Area.

Note: For referenced dimensions see Index ITM&G Sheet 4 of 4.