

## **21. Adjusting Manhole Frames and Covers.**

### **a. General.**

- 1) When the design requires the elevation of an existing frame and cover or hatch to be adjusted, the method of adjustment depends upon the material of the existing manhole (brick, precast concrete, or cast in place).

### **b. Adjusting Existing Precast Concrete Manholes.**

- 1) Provide the elevation of the top of the existing precast concrete manhole section (cone section or top slab) and new rim elevation, see requirements for setting frame and covers or hatches under Part Two, Section 11 (Design of Structures).
- 2) Method of manhole adjustment: In most cases the existing frame and covers can be adjusted by adding or removing bricks or concrete grade rings; this area is called the "transition". The transition is a minimum of 4-inches to a maximum of 18-inches, see Standard Details S/4.2 and S/4.3. If the transition cannot be adjusted, determine the vertical length of an existing precast manhole section that must be removed and the vertical length of a new precast manhole section that will be required to make the transition.

### **c. Adjusting Existing Brick Manholes.**

- 1) Determine the shape of the existing brick manhole (round, pear, square, etc.); the "H" dimension (rack/taper) of the existing manhole [see Standard Detail S/3.0 and Table "17", under Part Two, Section 18 (Manhole Depth Design)]; the elevation of the top of rack/taper; and the depth from the existing grade to invert of the existing manhole.
- 2) Method of brick manhole adjustment.
  - a) If the transition cannot be adjusted, the design must call for the reconstruction of the brick rack/taper or replacing the existing brick manhole with a new precast concrete manhole. In most cases, the existing brick manhole will have to be removed and a new manhole will have to be installed. Provide design calculations and details for adjusting existing brick manholes.
  - b) Review the depth of the manhole with Table "17", Part Two, Section 19 (Manhole Depth Design). If the manhole depth exceeds the allowable depth for a given wall thickness for brick manholes, as shown on Table "17", the design must include the removal of the manhole or replacement of the existing brick manhole with a new precast concrete manhole.
  - c) In most cases, the existing frame and cover can be adjusted by adding or removing the brick transition area. The transition is a minimum of 4-inches to a maximum of 18-inches, see Standard Details S/4.2 and S/4.3.

### **d. Adjusting Existing Cast in Place Manholes.**

- 1) The Designer will be required to verify that the existing cast in place manhole can be adjusted.
- 2) If cast in place manhole can be adjust, see requirements for Adjusting Existing Precast Concrete Manhole in this section.

