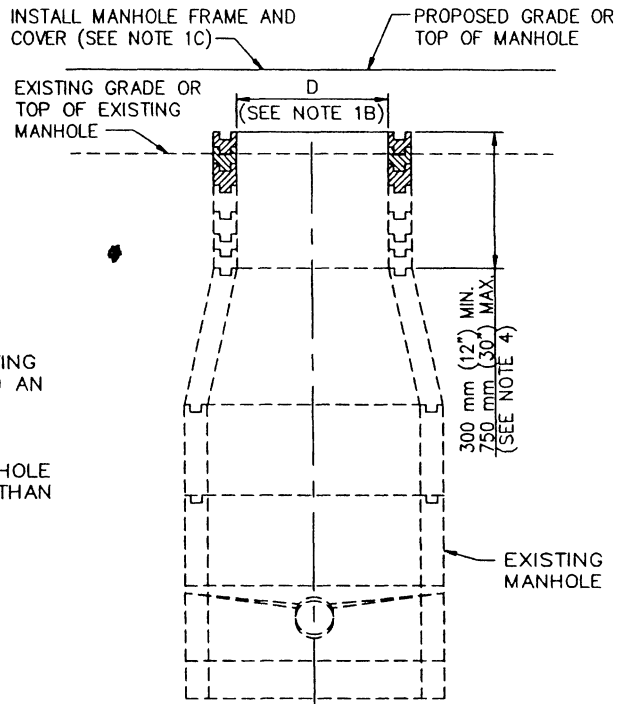
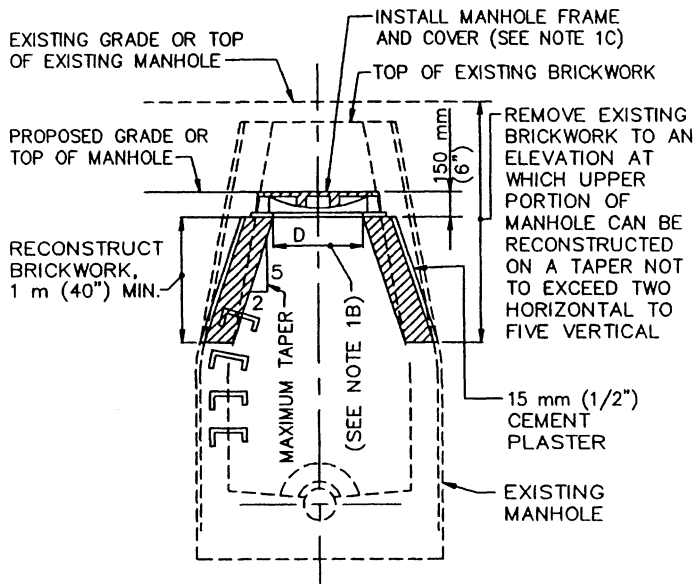


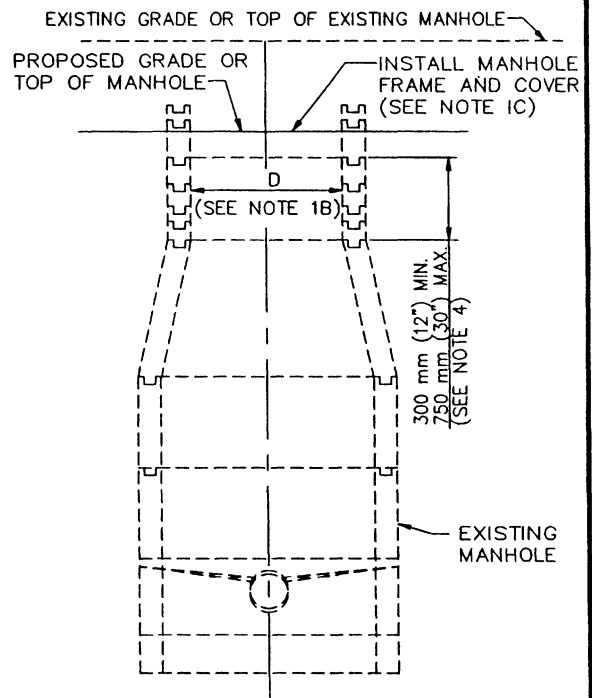
RAISING EXISTING BRICK MANHOLES



RAISING EXISTING PRECAST CONCRETE SEWER MANHOLES



LOWERING EXISTING BRICK MANHOLES



LOWERING EXISTING PRECAST CONCRETE SEWER MANHOLES

BRICK MANHOLES

PRECAST CONCRETE SEWER MANHOLES

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE
PUBLIC WORKS STANDARD, INC.
GREENBOOK COMMITTEE
1984
REV. 1996

SEWER MANHOLE ADJUSTMENT

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USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

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NOTES:

1. GENERAL

- A. EXCEPT AS INDICATED HEREON OR ON THE PLANS, MANHOLES SHALL CONFORM TO: SPPWC 200, PRECAST CONCRETE SEWER MANHOLE AND SPPWC 203, BRICK SEWER MANHOLE.
- B. DIMENSION "D" SHALL BE THE SAME AS THE SIZE OF MANHOLE FRAME AND COVER TO BE USED.
- C. THE CONTRACTOR MAY REUSE THE EXISTING MANHOLE FRAME AND COVER, UNLESS DAMAGED DURING THE WORK OR WHEN OTHERWISE SHOWN IN THE CONTRACT DOCUMENTS. ITEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED WITH IDENTICAL NEW ITEMS AT NO EXPENSE TO THE AGENCY.
- D. EXISTING STEPS LOCATED WITHIN REMOVAL LIMITS SHALL BE REPLACED. WHEN REMOVAL OF EXISTING STEPS BEYOND THE MANHOLE REMOVAL LIMITS IS SHOWN ON THE PLANS, THE STEPS SHALL BE REMOVED TO A DEPTH OF 50 mm (2") BEYOND THE INSIDE FACE OF THE BRICK MANHOLE AND THE HOLES SHALL BE FILLED WITH CLASS "D" MORTAR.

2. RAISING EXISTING BRICK MANHOLES

- A. BRICK MANHOLES TO BE RAISED LESS THAN 300 mm (1') MAY BE EXTEND VERTICALLY, PROVIDED THAT AT A DEPTH OF 750 mm (2 1/2') BELOW THE TOP OF THE MANHOLE AT ITS NEW ELEVATION, THE INSIDE DIAMETER OF THE MANHOLE IS 750 mm (30") OR GREATER.
- B. BRICK MANHOLES TO BE RAISED LESS THAN 90 mm (3 1/2") MAY BE RAISED BY APPLYING CLASS "D" MORTAR TO THE TOP OF THE EXISTING BRICKWORK. IF THE BRICK MANHOLE IS TO BE RAISED 90 mm (3 1/2") OR MORE, A NEW COURSE OR COURSES OF BRICKWORK SHALL BE PLACED ON TOP OF THE EXISTING BRICKWORK.

3. LOWERING EXISTING BRICK MANHOLES

- A. WHERE A BRICK MANHOLE IS TO BE LOWERED LESS THAN 300 mm (1'), THE FRAME MAY BE RESET ON THE EXISTING BRICKWORK AND THE 1 m (40") MINIMUM BRICKWORK RECONSTRUCTION OMITTED, PROVIDED THAT THE BASE OF THE FRAME DOES NOT OVERHANG THE BRICKWORK ON THE INSIDE SURFACE OF THE MANHOLE MORE THAN AN AVERAGE OF 35 mm (1 1/2") IN ANY QUADRANT NOR MORE THAN 50 mm (2") AT ANY POINT.

4. RAISING EXISTING PRECAST CONCRETE SEWER MANHOLES

- A. PRECAST CONCRETE MANHOLES TO BE RAISED LESS THAN 75 mm (3") MAY BE RAISED BY APPLYING CLASS "D" MORTAR TO THE TOP OF THE EXISTING MANHOLE, PROVIDED THE TOTAL HEIGHT OF MORTAR, EXISTING AND NEWLY APPLIED, DOES NOT EXCEED 75 mm (3").
- B. WHERE THE PRECAST CONCRETE MANHOLE IS TO BE RAISED 75 mm (3") OR MORE, OR WHERE THE TOTAL HEIGHT OF MORTAR, EXISTING AND NEWLY APPLIED, WOULD EXCEED 75 mm (3"), GRADE RINGS SHALL BE UTILIZED. CLASS "D" MORTAR MAY BE USED FOR FINAL ADJUSTMENT, BUT NOT MORE THAN 75 mm (3") IN HEIGHT. WHERE RAISING THE MANHOLE WOULD RESULT IN THE UPPER SEGMENT OF THE SHAFT BEING MORE THAN 750 mm (30") IN HEIGHT, REMOVE THE REDUCER AND THE UPPER SEGMENT OF THE SHAFT, INSTALL ADDITIONAL RINGS OR PIPE TO THE LOWER SEGMENT OF THE SHAFT, AND REINSTALL THE REDUCER AND GRADE RINGS AS REQUIRED.

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5. LOWERING EXISTING PRECAST CONCRETE SEWER MANHOLES
- A. REMOVE SUFFICIENT GRADE RINGS TO LOWER THE MANHOLES AS REQUIRED, APPLY CLASS "D" MORTAR TO A HEIGHT NOT EXCEEDING 75 mm (3") FOR ADJUSTMENT TO FINAL GRADE.
 - B. WHERE REMOVAL OF GRADE RINGS WOULD RESULT IN THE UPPER SEGMENT OF THE SHAFT BEING LESS THAN 300 mm (12") IN HEIGHT, REMOVE THE REDUCER AND SUFFICIENT SECTIONS OF THE LOWER SEGMENT OF THE SHAFT AND REINSTALL ANY NECESSARY SEGMENT OF THE LOWER SHAFT, THE REDUCER, AND THE GRADE RINGS TO CONFORM TO THE REQUIREMENTS OF THIS PLAN.
 - C. EXISTING GRADE RINGS NEED NOT BE REMOVED IF EXISTING MORTAR IS REMOVED, AND AT LEAST 35 mm (1 1/2") OF MORTAR MAY BE PLACED ON TOP OF THE EXISTING GRADE RINGS TO RESEAT THE FRAME.
6. REPLACEMENT OF BRICK REDUCER WITH PRECAST CONCRETE REDUCER AND SHAFT UNLESS OTHERWISE INDICATED ON THE PLANS, THE CONTRACTOR MAY INSTALL A PRECAST CONCENTRIC CONCRETE REDUCER, CONCRETE GRADE RINGS, AND CONCRETE PIPE IN LIEU OF RECONSTRUCTING A BRICK REDUCER, PROVIDED:
- A. THE MAXIMUM ID OF SEWER PIPE CONNECTED TO THE MANHOLE DOES NOT EXCEED 200 mm (8").
 - B. THE CONTRACTOR SECURES PRIOR APPROVAL FROM THE ENGINEER TO INSTALL THE CONCENTRIC REDUCER ONTO THE MANHOLE SHAFT. THE ENGINEER MAY, AS PART OF THE INSTALLATION REQUIREMENTS, REQUIRE THE CONTRACTOR TO COAT THE INSIDE OF THE REDUCER, RINGS, AND PIPE WITH AN APPROVED COATING.
 - C. THE CONCRETE GRADE RINGS, THE CONCRETE REDUCER, AND ANY CONCRETE PIPE SHALL BE JOINED TOGETHER AND BEDDED ONTO THE EXISTING BRICK MANHOLE WITH CLASS "D" MORTAR. THE DEPTH, WIDTH, AND THICKNESS OF THE MORTAR SHALL BE OF SUFFICIENT DIMENSIONS TO PROPERLY AND ADEQUATELY JOIN AND BED THE COMPONENT PARTS.

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