



VERTICAL SECTION

NOTES

1. STEPS SHALL CONFORM WITH SHEET 4 AND SHALL BE UNIFORMLY SPACED AT A MAXIMUM OF 17 INCHES. WHERE THE DISTANCE FROM TOP STEP IN THE SHAFT IS GREATER THAN 12 INCHES BELOW FINISH GRADE, A STEP SHALL BE INSTALLED BELOW THE MANHOLE FRAME. THE TOP STEP AND THOSE IN THE 24 INCH DIAMETER SECTION SHALL PROJECT 3 INCHES INSIDE THE MANHOLE; ALL OTHERS SHALL PROJECT 5 INCHES.
2. THE PRECAST CONCRETE SHALL BE 564-B-3000 CONCRETE.
3. ALL MORTAR SHALL BE CLASS "B".
4. EXCEPT AS NOTED HEREON, PRECAST UNIT SHALL BE MANUFACTURED AND TESTED IN ACCORDANCE WITH A.S.T.M. C-478. THE CURING OF THE PRECAST UNITS SHALL CONFORM TO SECTION 207-2.7 OF STANDARD SPECIFICATIONS.
5. RISER SECTIONS AND ECCENTRIC CONE MAY BE REINFORCED OR NONREINFORCED. REINFORCED SECTIONS SHALL BE REINFORCED IN ACCORDANCE WITH A.S.T.M. C-478 AND SHALL HAVE A MINIMUM WALL THICKNESS OF 4 INCHES. MINIMUM WALL THICKNESS FOR NONREINFORCED SECTIONS SHALL BE 6 INCHES.
6. JOINTS MAY BE KEY TYPE OR TONGUE AND GROOVE AND SHALL CONFORM WITH A.S.T.M. C-478, SECTION 14.

LONG BEACH WATER DEPARTMENT

PRECAST REINFORCED CONCRETE MANHOLE SHAFT

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| DESIGNED BY | RECOMMENDED |
| CHECKED BY JUNIER | <i>Abu Khreis</i> |
| DATE 5-25-89 | BUREAU ENGINEER C.E. NO. 19113 |
| SCALE NONE | APPROVED |
| SUPERSEDES DWG. NO. | <i>W.D. McMillan JR</i> |
| S-SD-7 | GENERAL MANAGER C.E. NO. 10644 |
| DRAWN BY GONZALEZ | SHEET 1 OF 4 |
| | WDS-505 |