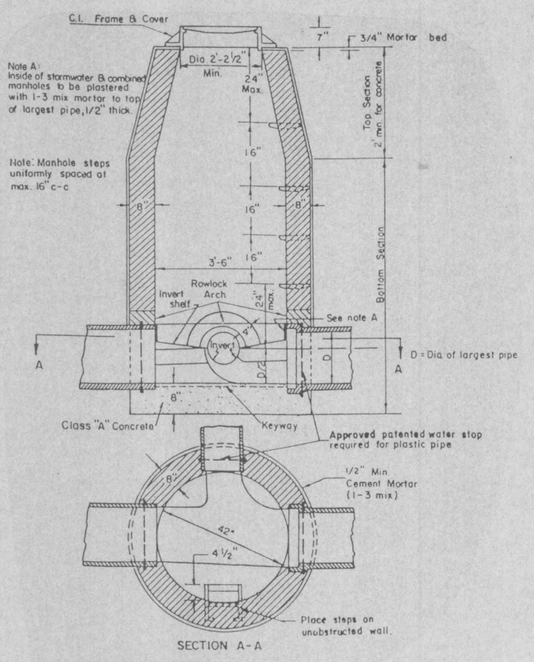
GBA
GEORGE BUTLER ASSOCIATES, INC.
Engineers / Architects / Landscape Architects / Planners
Kansas City, Mo. / Lenexa, Ks. / O'Fallon, Mo. / Ames, Ia. / Oklahoma City, Ok.

DATE:	APRIL, 1995
DESIGN BY:	STD.
DRAWN BY:	STD.
PROJECT NO.:	7391

SHEET NO.	TOTAL SHEETS
7	9

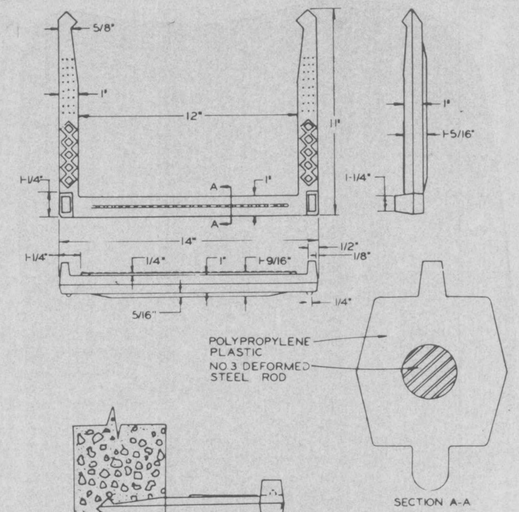
ROYAL OAKS PHASE 3C SANITARY SEWER CONSTRUCTION DETAILS

REVISIONS	BY	DATE
ADDED MANHOLE BOXING DETAIL	GJM	JUNE 1995

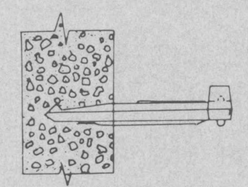


SECTION A-A

MANHOLE DETAIL
N.T.S.

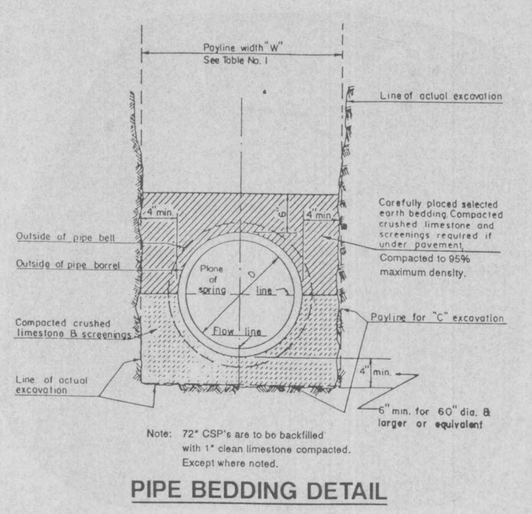


SECTION A-A



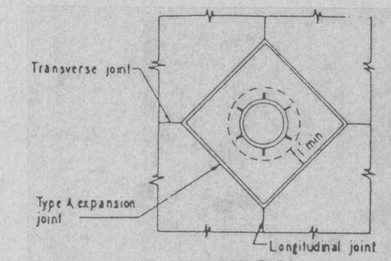
STEPS SHALL BE PLACED INTO WET CONCRETE WALL DURING MANUFACTURE OR MORTARED INTO HOLES AFTER CONCRETE HAS SET

MANHOLE STEP



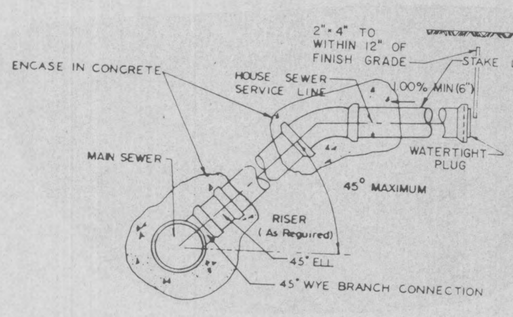
Note: 72" CSP's are to be backfilled with 1" clean limestone compacted. Except where noted.

PIPE BEDDING DETAIL

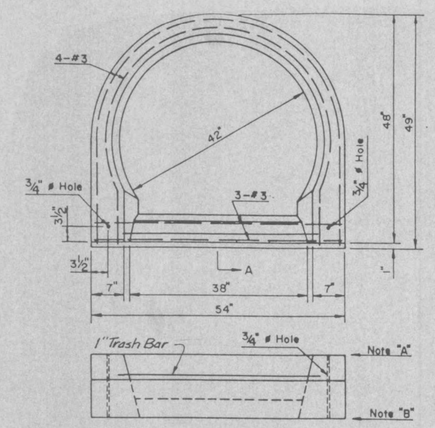


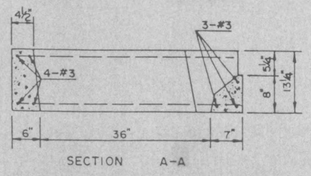
MANHOLE BOXING

NOTE Manhole castings within the pavement limits shall be boxed as shown.



SEWER SERVICE CONNECTION



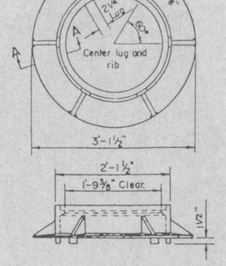


SECTION A-A

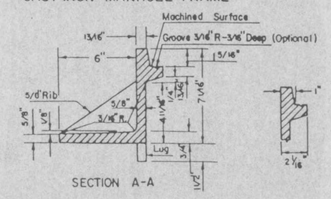
NOTES

A. Set standard inlet stone in 3/4" mortar bed and dowel with 5/8" ø 1'-0" long pins and grout.
B. Raise to final grade with courses of brick and 3/4" mortar bed.
C. This unit to be used with, 42" I.D., poured in place concrete or brick base.
D. 4000 P.S.I. concrete required.

PRE-CAST CONCRETE UNIT FOR SINGLE CURB INLET
N.T.S.



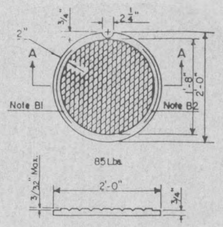
CAST IRON MANHOLE FRAME



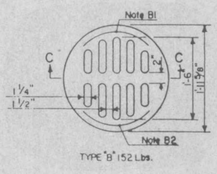
SECTION A-A

(240 lbs.)

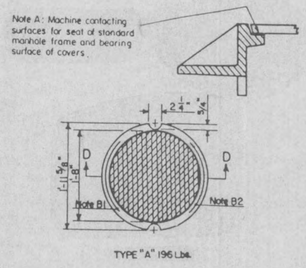
CAST IRON MANHOLE FRAME



STANDARD CAST IRON INLET COVER

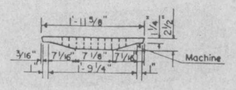


TYPE "B" 152 Lbs.

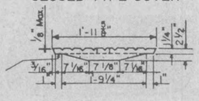


TYPE "A" 196 Lbs.

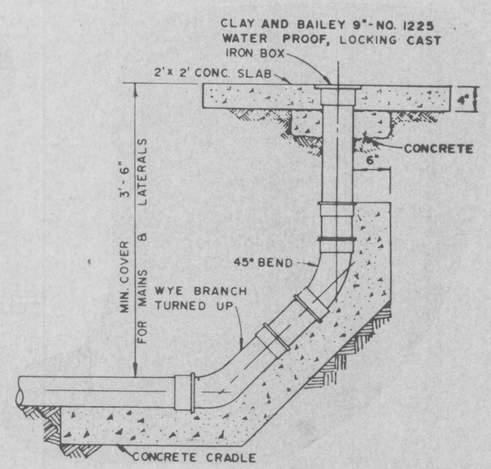
SLOTTED TYPE COVER



CLOSED TYPE COVER



CAST IRON COVERS MANHOLES AND INLETS



CLEAN - OUT END OF LINE

STATE OF MISSOURI
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