

CITY OF WICHITA, KANSAS

MICHAEL E. LINDEBAK, P.E., CITY ENGINEER

STORM WATER SEWER NO. 443

SHEET NO.	TOTAL SHEETS
1	3

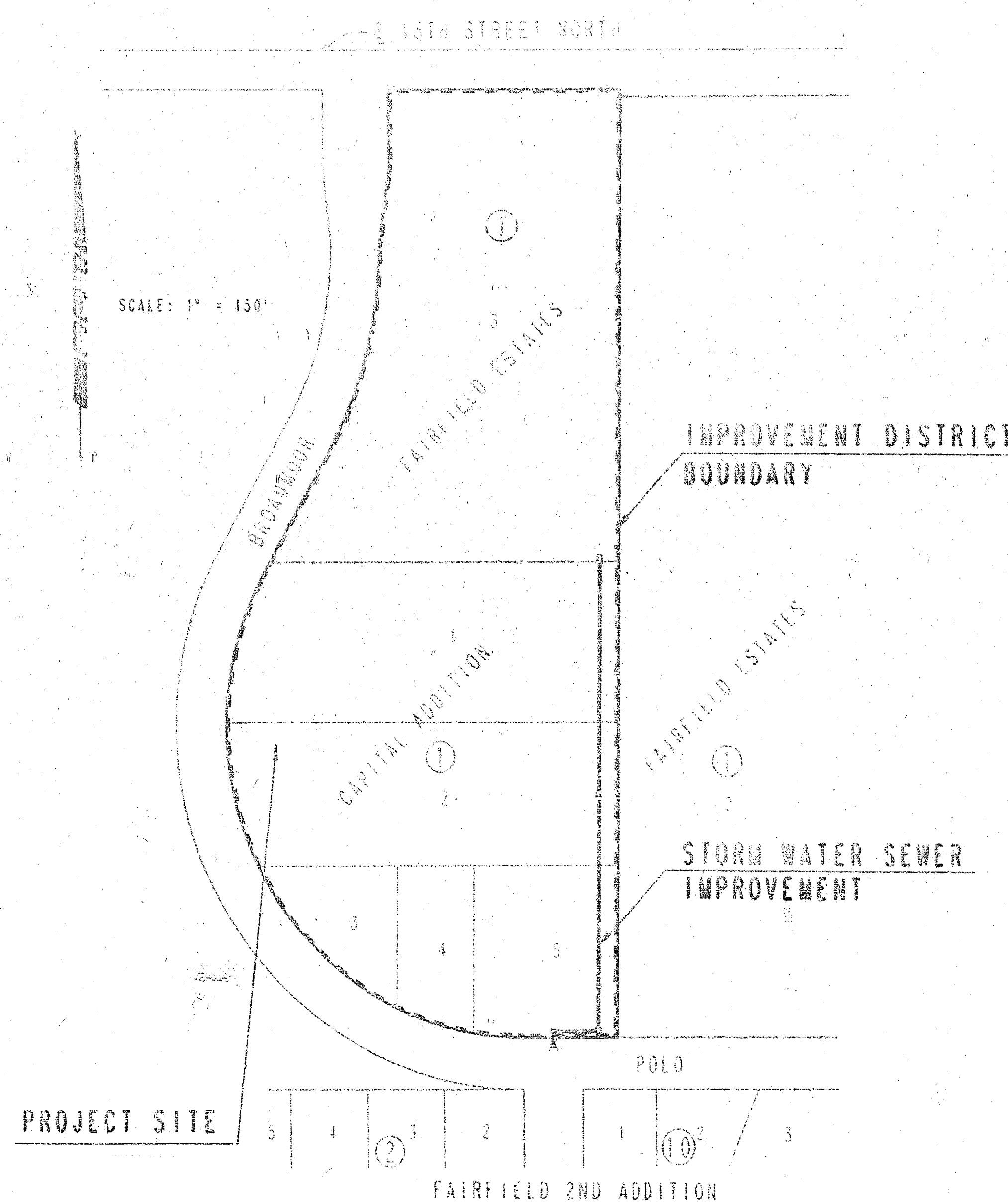
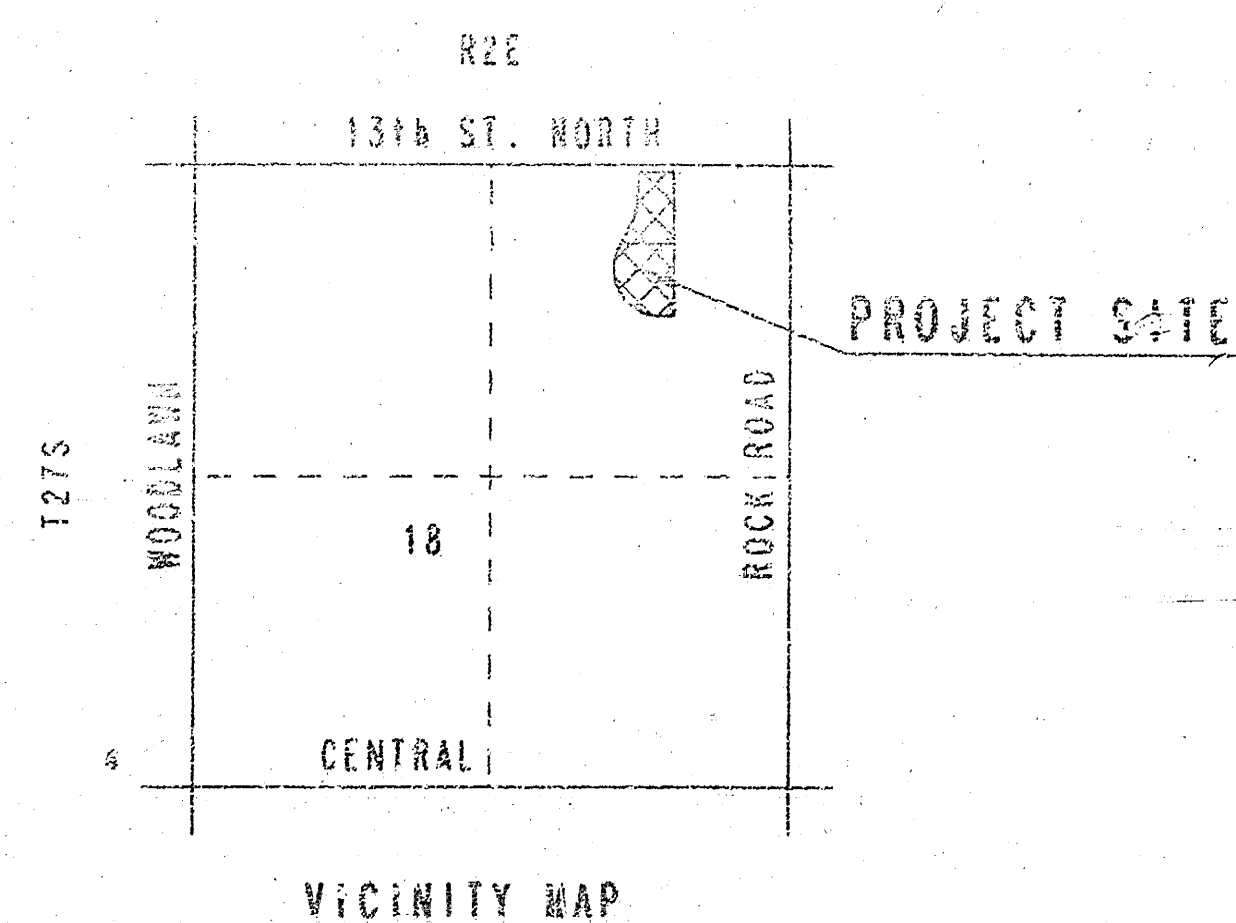
INDEX OF SHEETS

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2.	STORM SEWER PLAN AND PROFILE
3.	STORM SEWER DETAILS
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5.	STORM SEWER DETAILS
6.	STORM SEWER DETAILS
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9.	STORM SEWER DETAILS

IN
CAPITAL ADDITION
CITY OF WICHITA PROJECT NO. 469-76-245-82271-000-000-001
INDEX NO. 750612

PROJECT SURVEY CONTROL

BU - CHIS. "D" 24" CORR. CORR. INLET
NORTH SIDE POLO W. & BROADWOOD
EXTENDED NORTH. ELEV. #106.33



GENERAL NOTES

UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR T-EET ADJUSTMENT BY THE CONTRACTOR. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE 15'-0" R.O.W. WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION. CONTRACTOR SHALL SATISFY HIMSELF OF SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION.

TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.

RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR AND APPROVED AS NOTED ALLOW.

ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD HAZARD WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WATERS OF THE U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL GEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

BIDDER SHALL SATISFY HIMSELF OF SUBSURFACE CONDITIONS PRIOR TO BIDDING.

CONTRACTOR SHALL PROVIDE A MINIMUM FORTY EIGHT (48) HOUR ADVANCE NOTICE INCLUDING WEEKENDS AND HOLIDAYS PRIOR TO BEGINNING ANY EXCAVATION, TO KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT (816) 287-2410 TO REQUEST THE FOLLOWING UTILITY COMPANIES TO LOCATE ALL EXISTING LINES WITHIN THE PROJECT AREA: PEOPLES NATURAL GAS, K.C.M.F. GAS, K.C.M.E. ELECTRIC, SOUTHEASTERN BELL TELEPHONE, MULTIMEDIA CABLEVISION, CITY OF WICHITA SEWER MAINTENANCE AND CITY OF WICHITA WATER DEPARTMENT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY LINES. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY LINES WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH LINES SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.

THE CONTRACTOR SHALL PREVENT ANY DERRIS FROM ENTERING THE STORM SEWER DURING CONSTRUCTION.

UPON COMPLETION OF THE PROJECT, THE CONTRACTOR WILL BE REQUIRED TO SEED, FERTILIZE, AND MULCH ALL AREAS DISTURBED DURING CONSTRUCTION USING K-31 FESCUE. ALL SEEDING, FERTILIZING, AND MULCHING SHALL CONFORM TO CURRENT CITY OF WICHITA STANDARD SPECIFICATIONS (SUBSIDIARY).

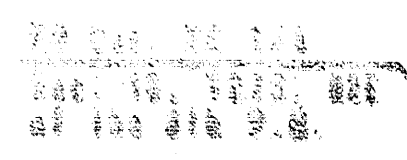
BOOKED
8-7-95
MCH
D-262



APRIL 1995
PLANS PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

DRAWING NO. 12-55-01 LITH. ON SHEET 11
CITY OF WICHITA, KANSAS
DATE LAST REVISED OR MOD. 23, 1995
VAN CROCK

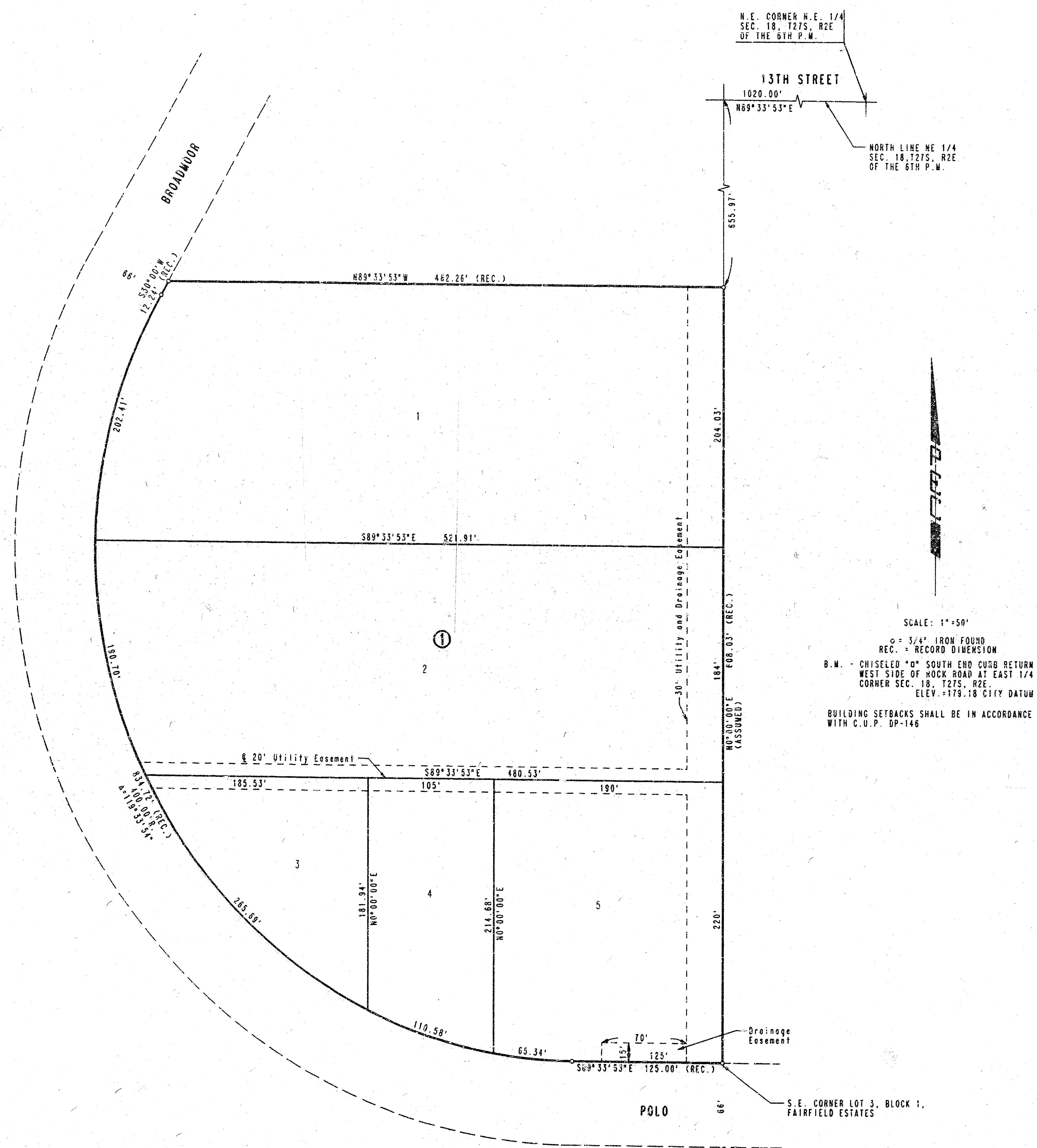
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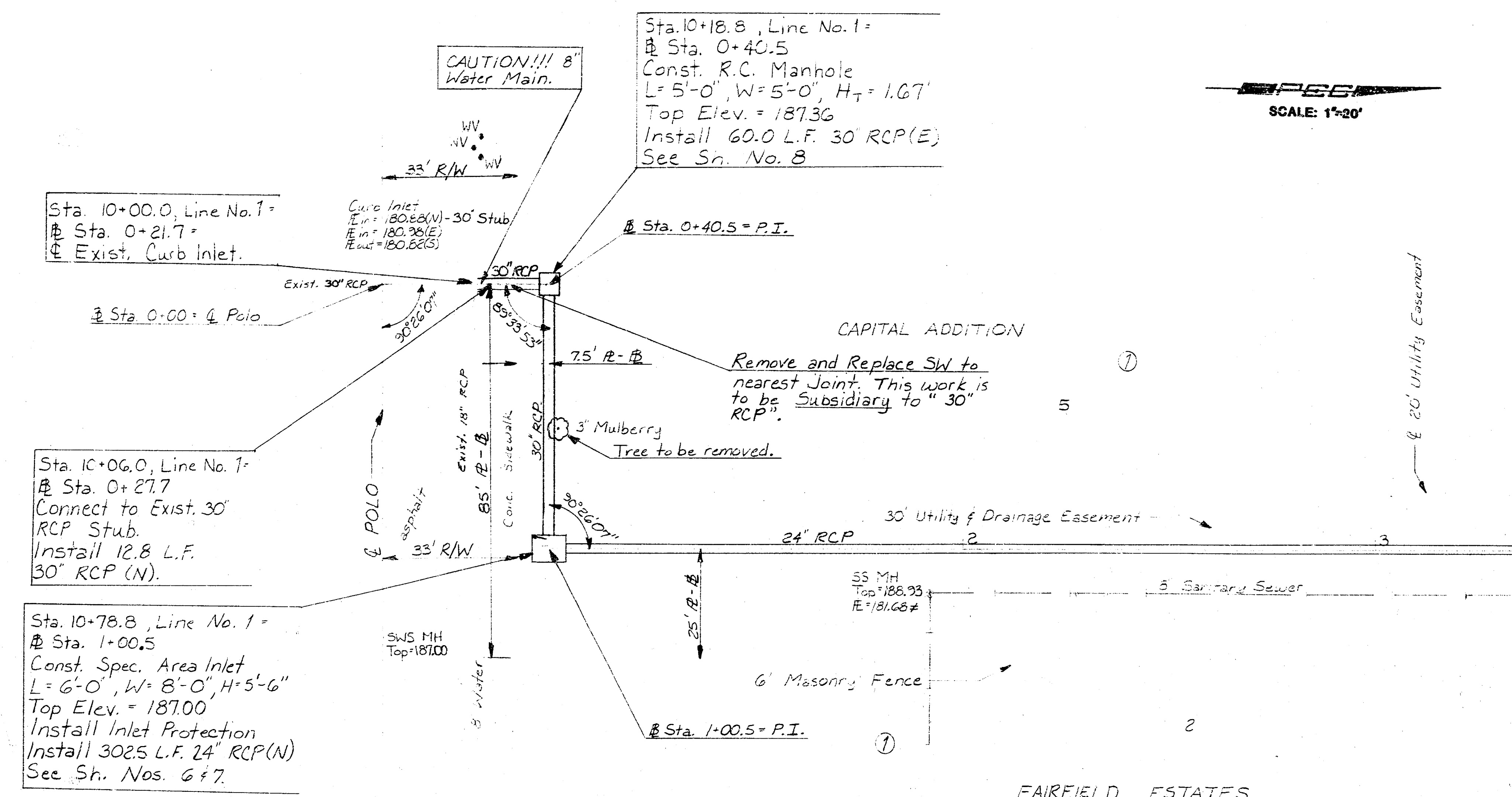
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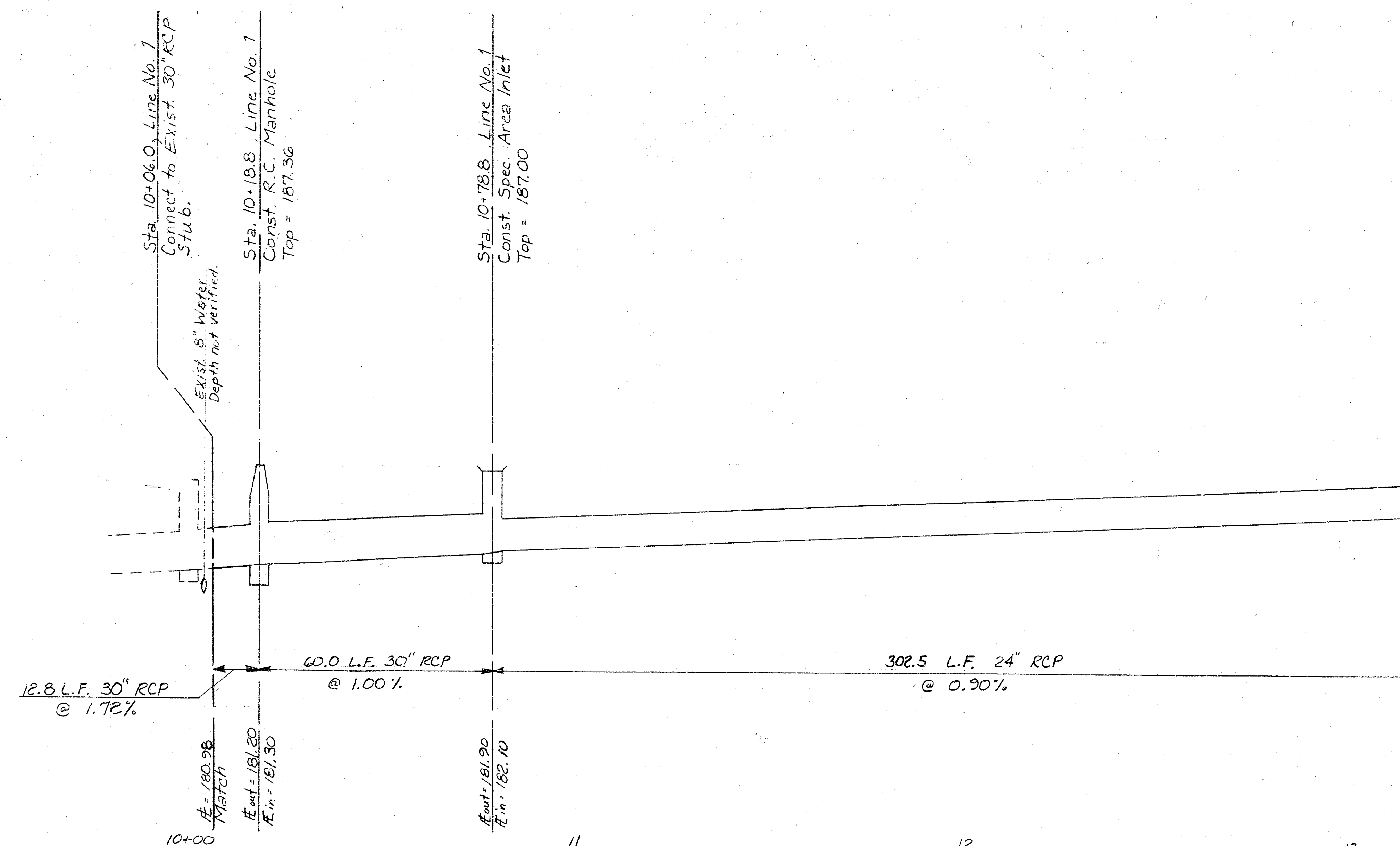


CAPITAL ADDITION SWS 443	
PLAT	
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS	
Designed by	Checked by
Drawn by DEP, BJS	Date APR, 1995 Job No. 32-95101

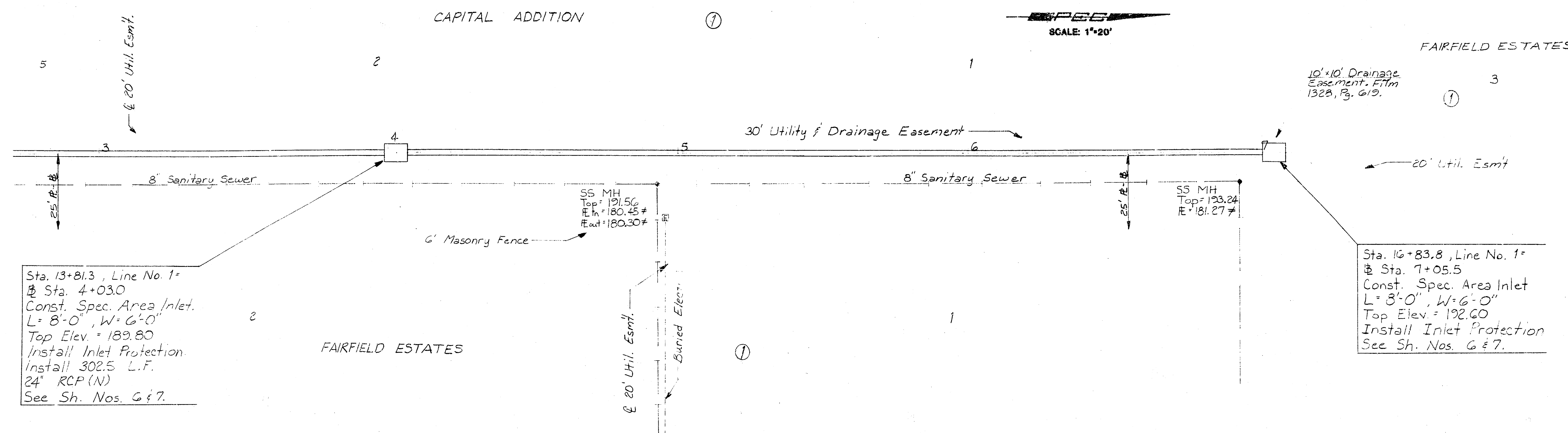
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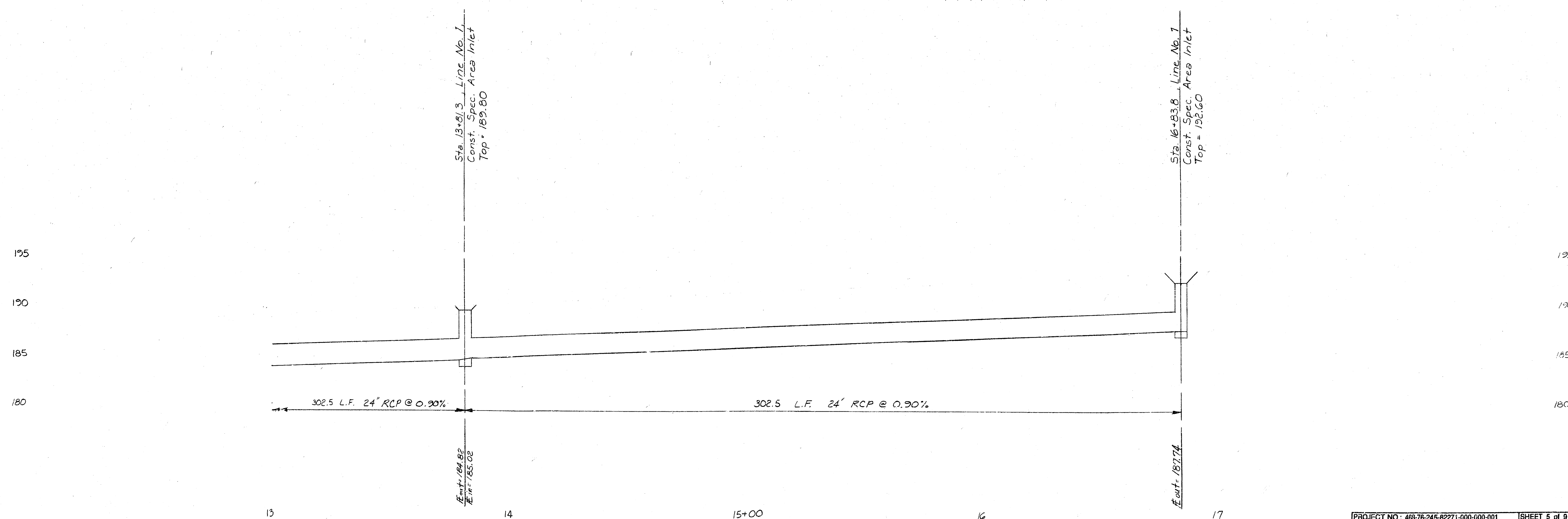
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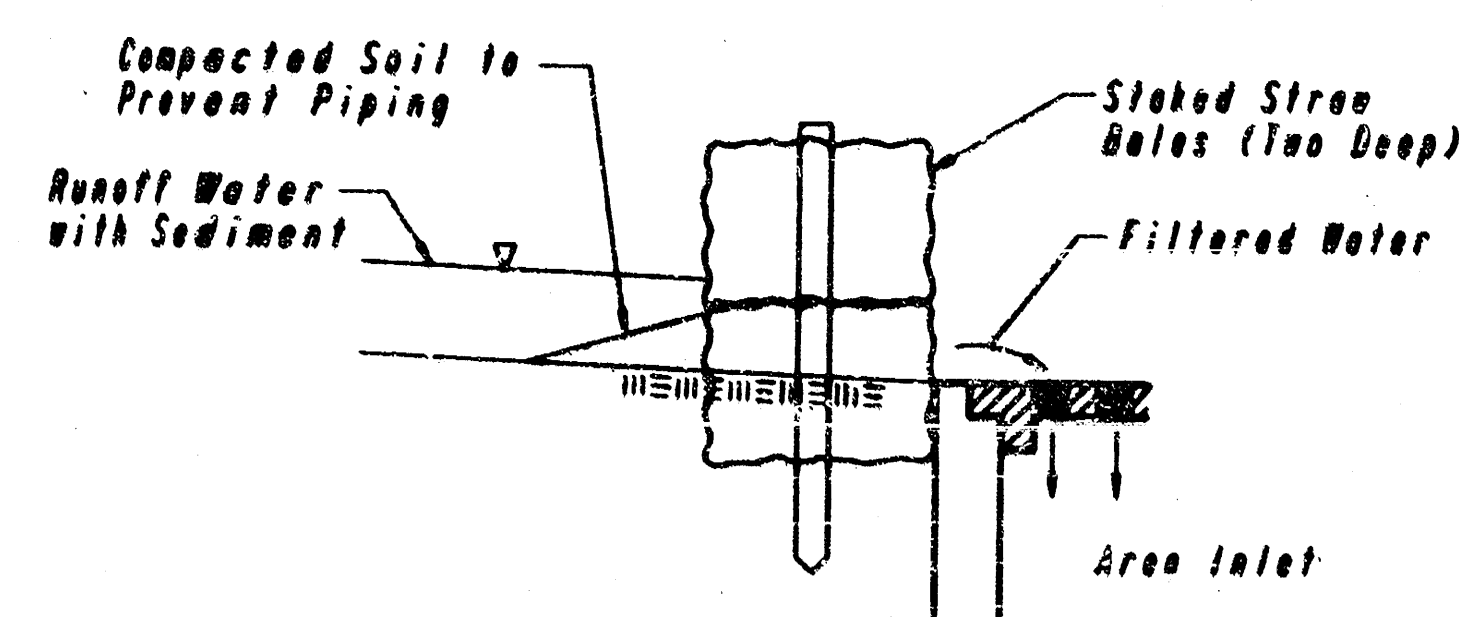
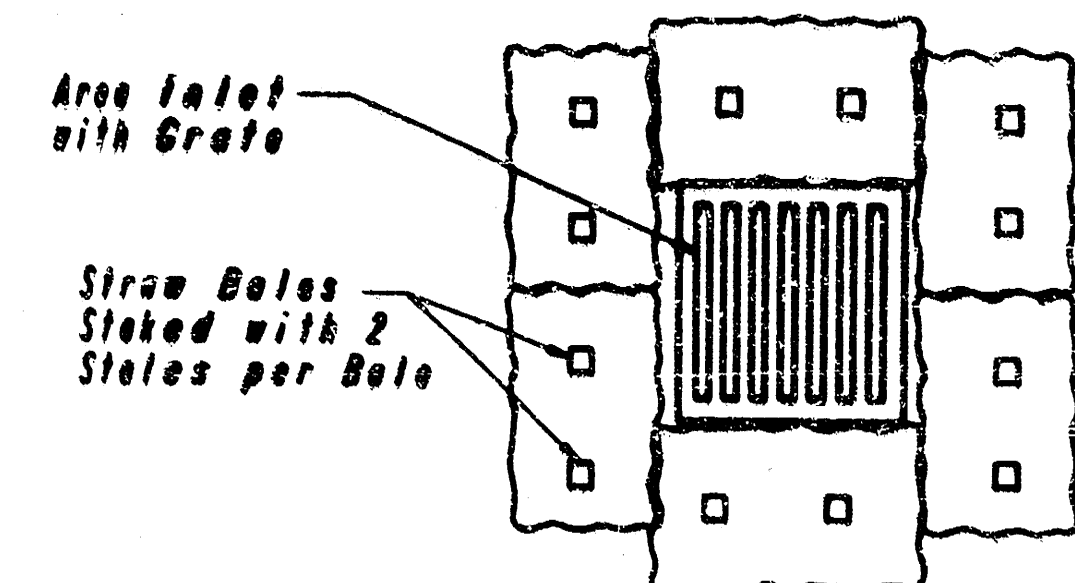
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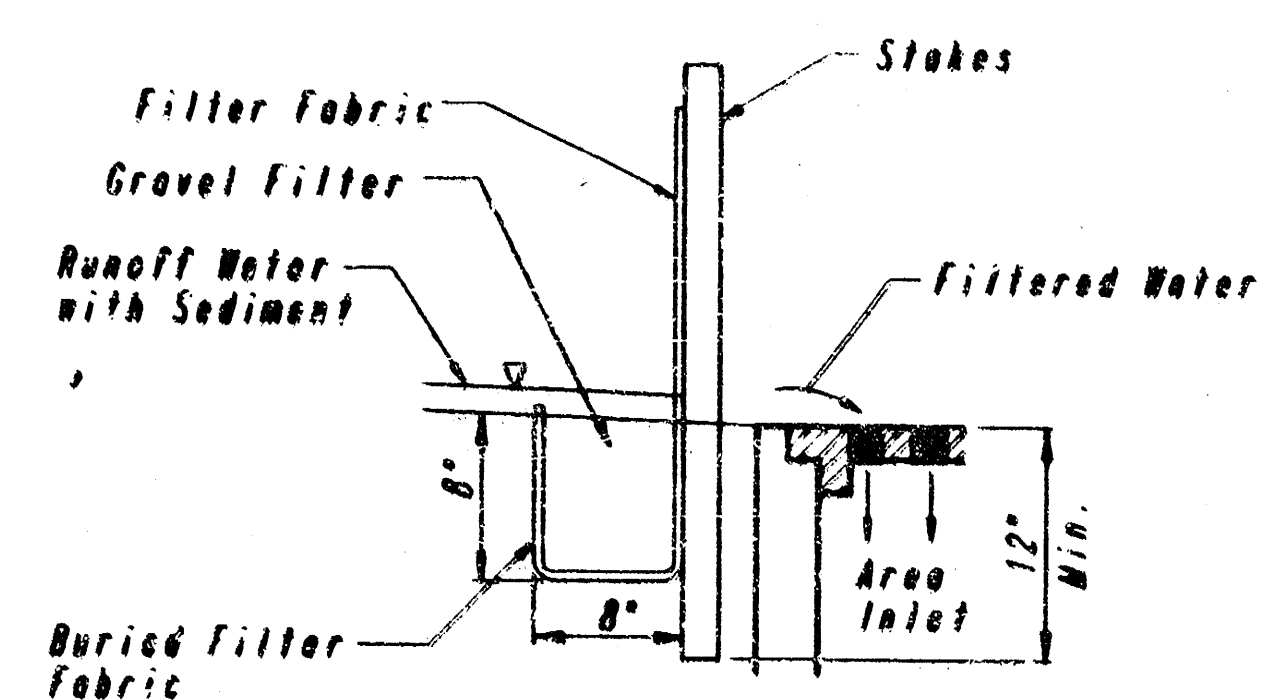
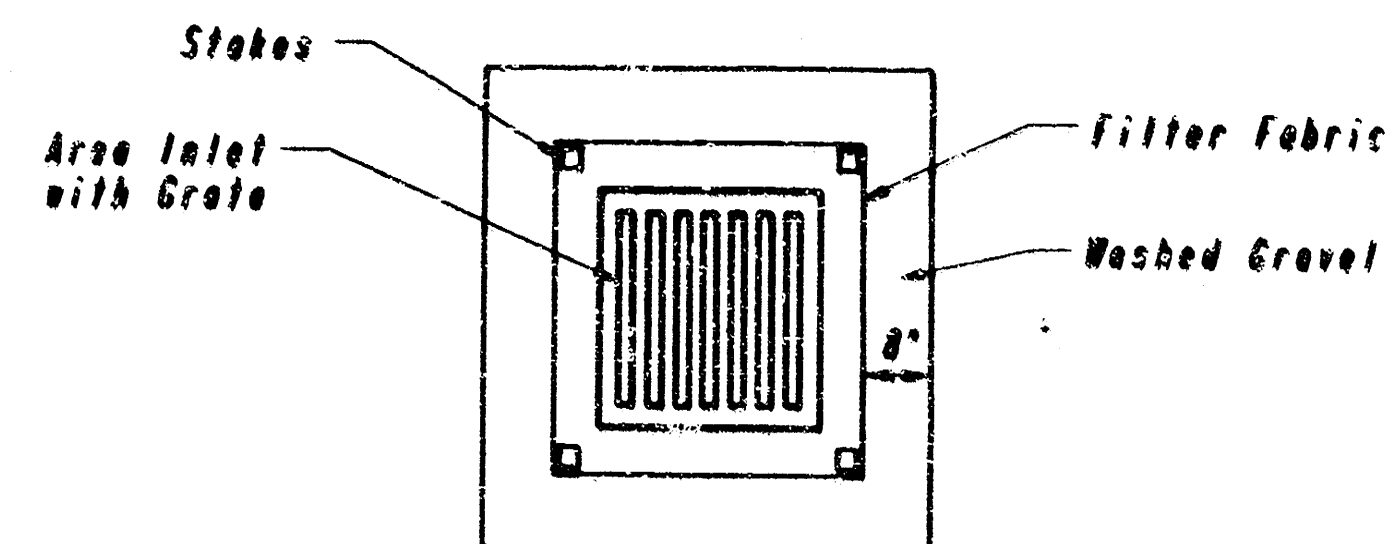
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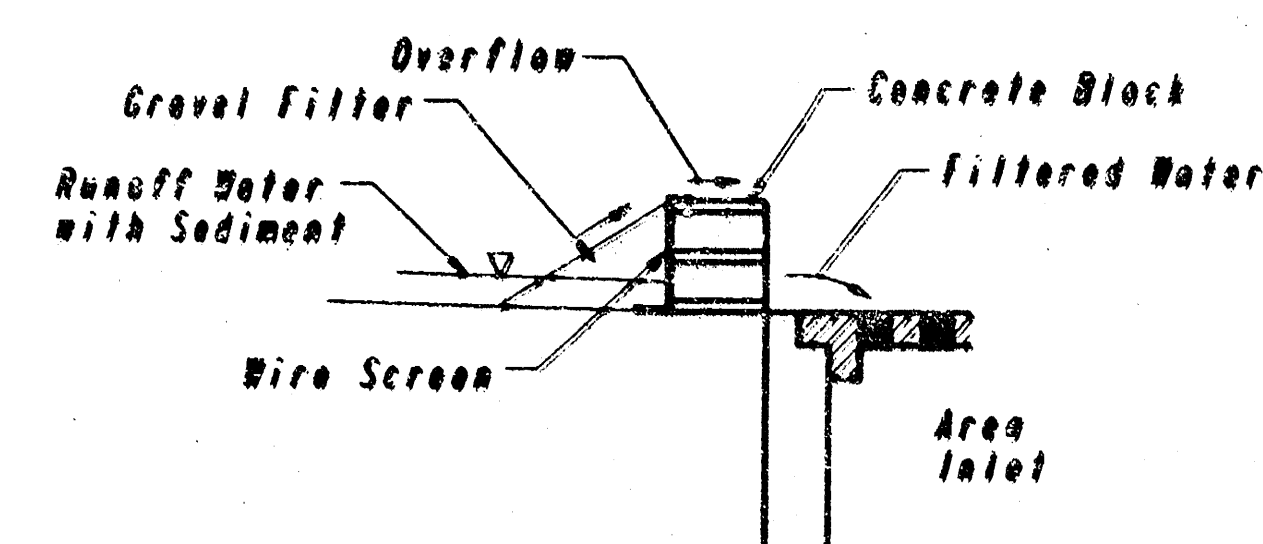
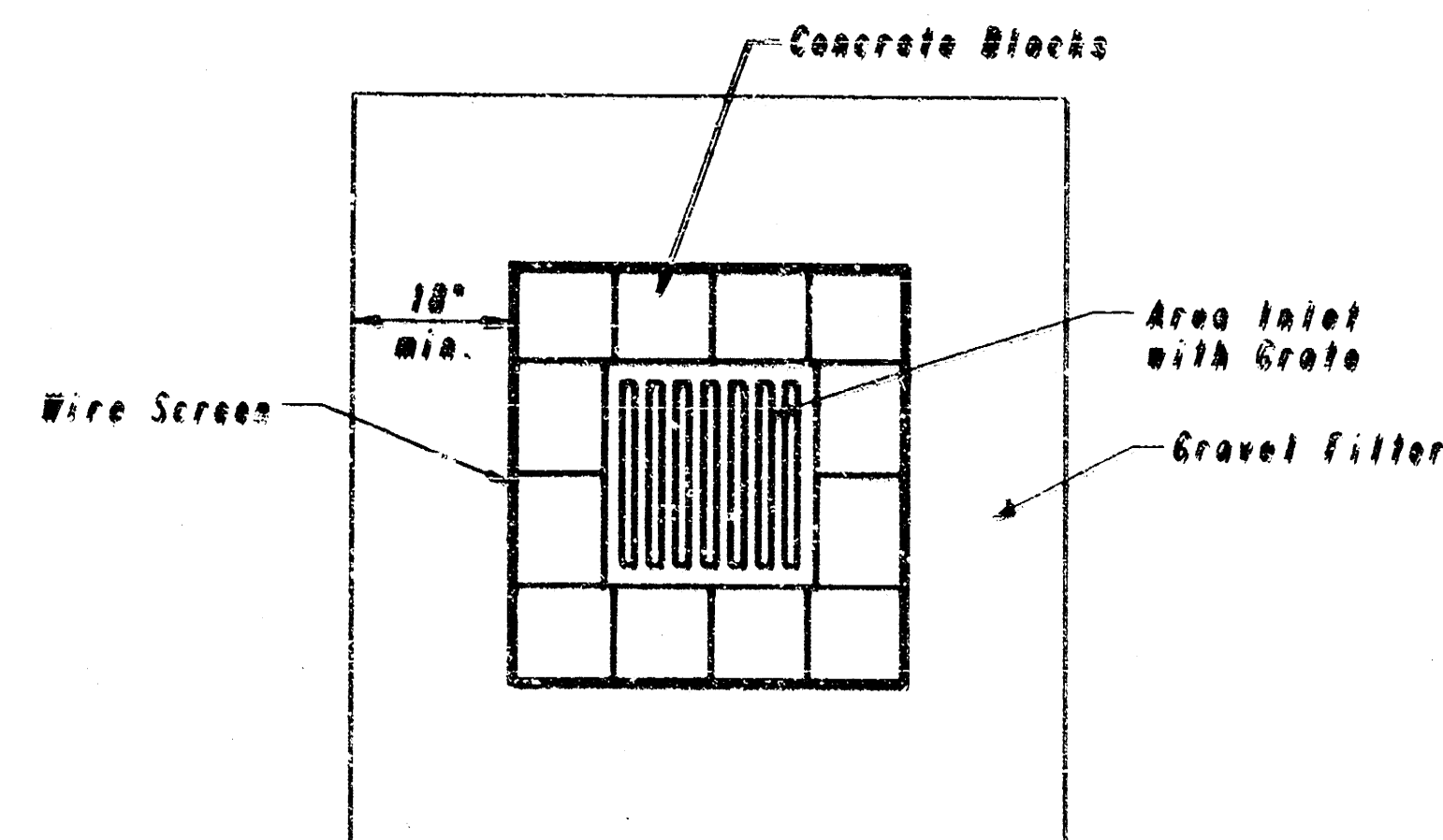
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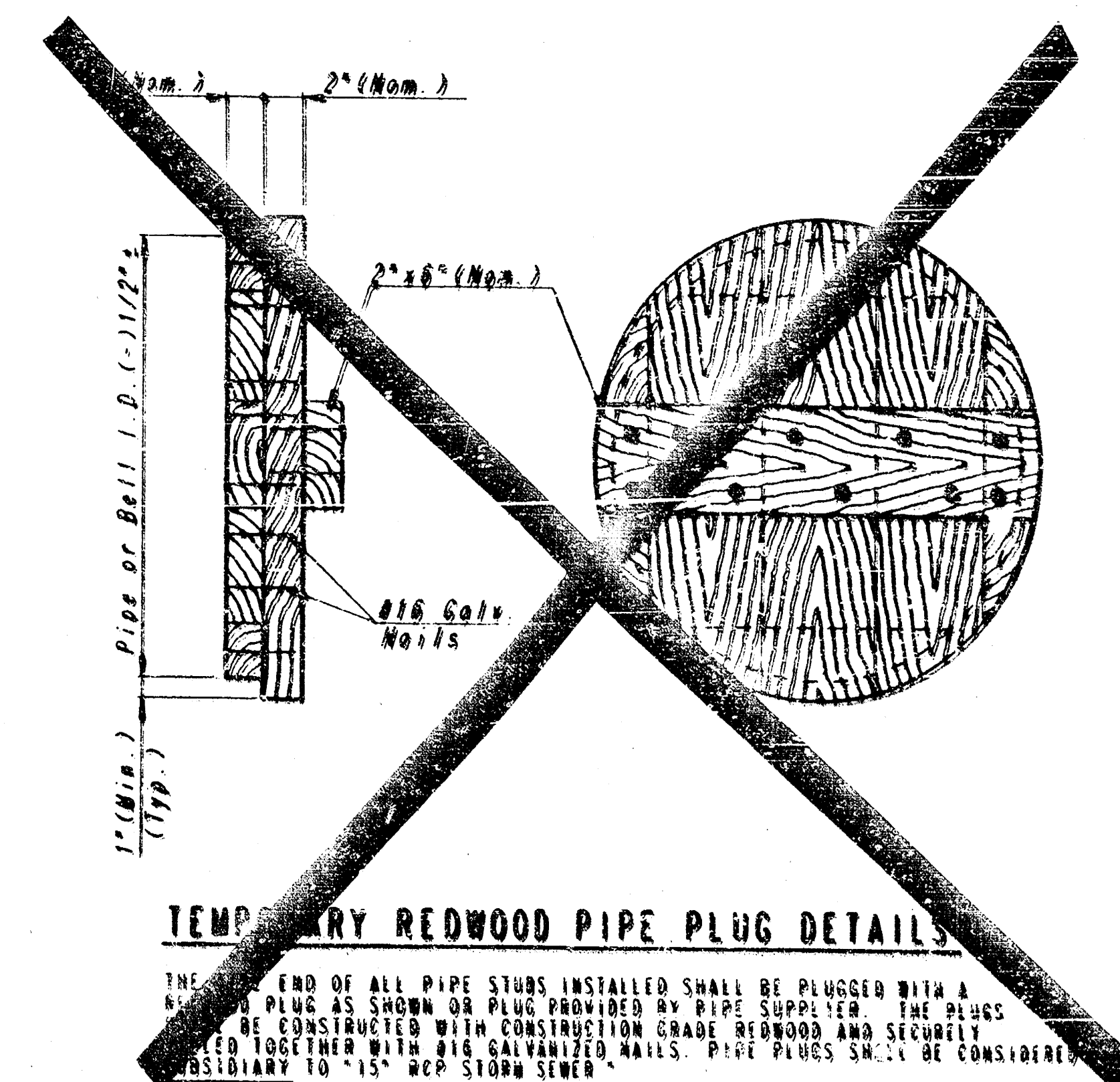
**AREA INLET PROTECTION
STRAW BALES**



**AREA INLET PROTECTION
FILTER FABRIC**

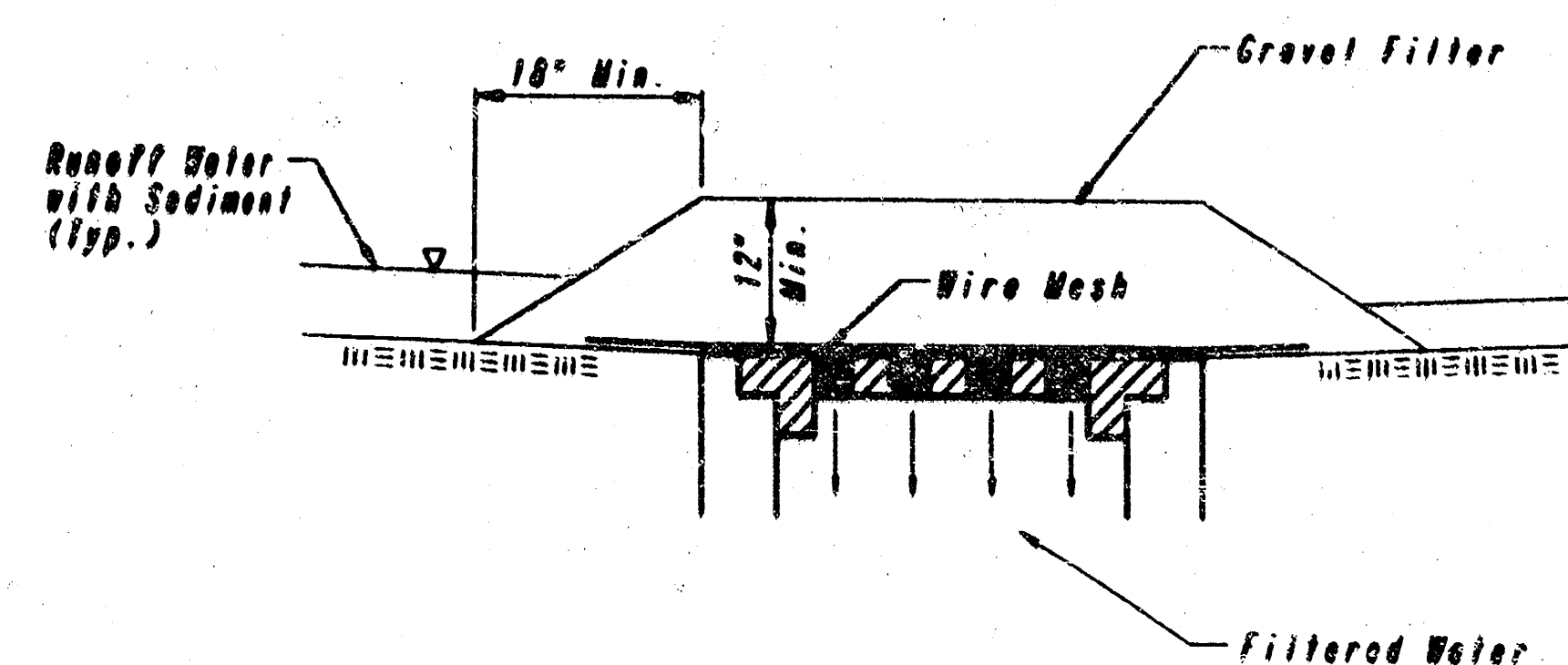


**AREA INLET PROTECTION
BLOCK AND GRAVEL FILTER**

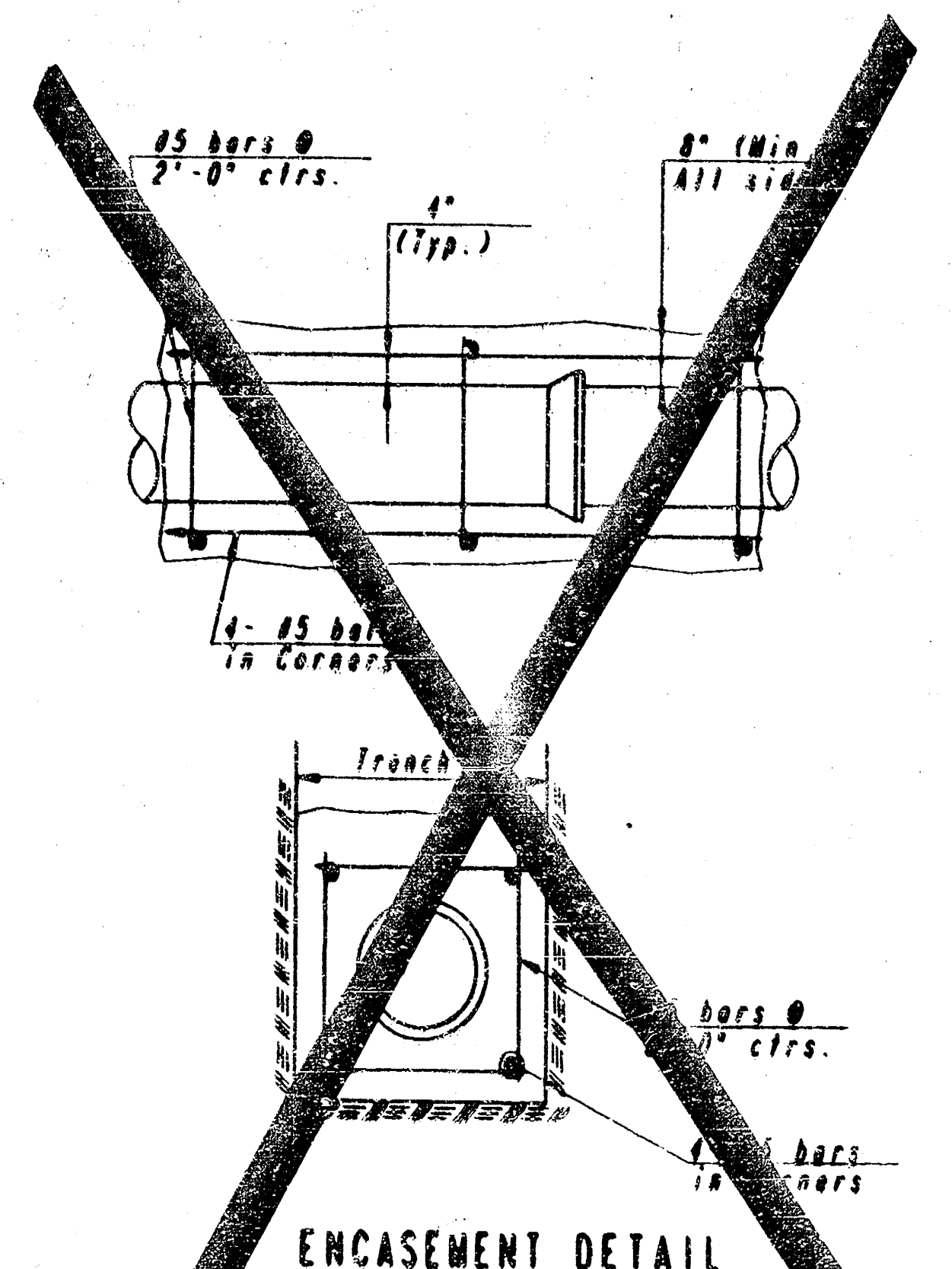


TEMPORARY REDWOOD PIPE PLUG DETAILS

THE END OF ALL PIPE STUBS INSTALLED SHALL BE PLUGGED WITH A REDWOOD PLUG AS SHOWN OR PLUG PROVIDED BY PIPE SUPPLIER. THE PLUGS SHALL BE CONSTRUCTED WITH CONSTRUCTION GRADE REDWOOD AND SECURED TOGETHER WITH 616 GALVANIZED NAILS. PIPE PLUGS SHALL BE CONSIDERED SUBSIDIARY TO "15" RCP STORM SEWER."



**AREA INLET PROTECTION
GRAVEL AND WIRE MESH**



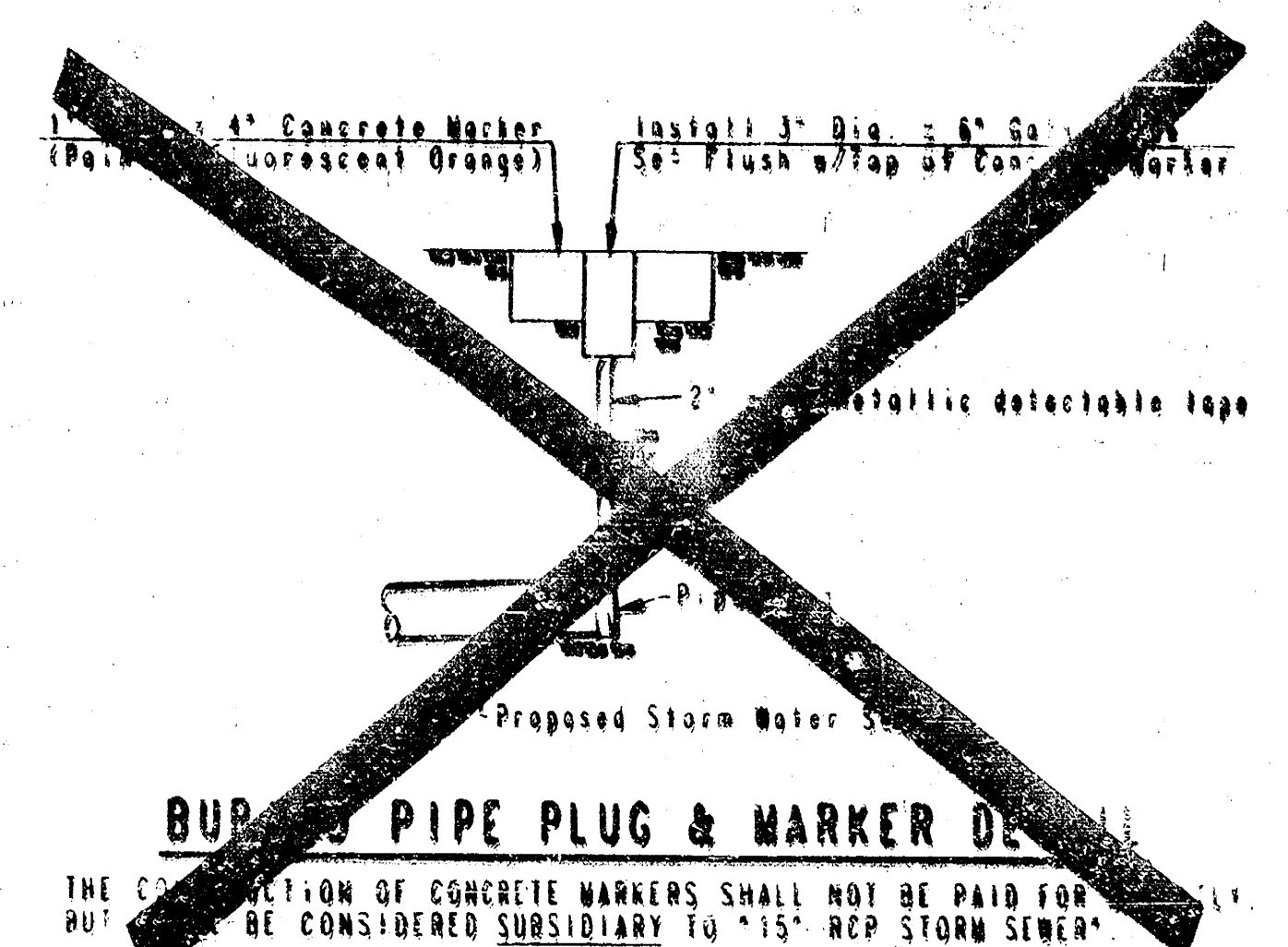
ENCASEMENT DETAIL

REINFORCED CONCRETE ENCASEMENT SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. AT THE CONTRACTOR'S OPTION, CLASS A CONCRETE (ACI 308) MAY BE USED IN CONCRETE. REINFORCEMENT SHALL NOT BE USED OR PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE "15" RCP STORM WATER SEWER.

1. INLET PROTECTION METHOD MAY BE ANY OF THE APPLICABLE TYPES SHOWN, AT THE CONTRACTOR'S OPTION.
2. GRAVEL FILTER SHALL BE A DURABLE, WELL-GRADED SAND-GRAVEL OR CRUSHED STONE, MAXIMUM 1-1/2 IN. SIZE. AS AN ALTERNATE GRAVEL FILLED BAGS OF BURLAP OR OTHER FABRIC MAY BE USED. WHERE BAGS ARE USED, THE WIRE SCREEN, WHERE SHOWN, WILL BE OMITTED.
3. FILTER FABRIC, WHERE USED, SHALL BE RESISTANT TO ULTRAVIOLET LIGHT. MATERIALS MAY BE SUPPLIED BY THE FOLLOWING MANUFACTURERS:
MIRAFI, INC. 100X
HOECHST FIBERS INDUSTRIES TRAVIRA 1115
EXXON TYPAR 3301 W

MATERIALS SUPPLIED BY THE ABOVE NAMED MANUFACTURERS SHALL BE ACCEPTED UPON VISUAL INSPECTION BY THE ENGINEER. OTHER COMPARABLE MATERIALS MAY BE USED IF APPROVED BY THE ENGINEER.

4. BALES USED FOR INLET PROTECTION MAY BE EITHER HAY OR STRAW, PROVIDED THEY ARE SOUND AND INTACT.
5. INLET PROTECTION SHALL BE ERECTED AS SOON AS THE STRUCTURE HAS BEEN BACKFILLED. MEASURES SHALL BE TAKEN TO PREVENT ENTRY OF SEDIMENT INTO THE STORM WATER SEWER SYSTEM DURING CONSTRUCTION OF THE STRUCTURE.
6. REMOVAL AND DISPOSAL OF ACCUMULATED SILT AND DEBRIS AND/OR REMOVAL AND RECONSTRUCTION OF INLET PROTECTION INSTALLATIONS SHALL BE PERFORMED THROUGHOUT THE PROJECT LIFE WHENEVER DEBRIS REACHES ONE-THIRD THE BARRIER HEIGHT, OR AS DEEMED NECESSARY BY THE ENGINEER. ULTIMATE REMOVAL AND DISPOSAL OF INLET PROTECTION AND DEBRIS WILL BE PERFORMED BY THE DEVELOPER.
7. MEASUREMENT AND PAYMENT: THE ITEM "INLET PROTECTION" SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE BID PER EACH FOR EACH INLET LOCATION PROTECTED REGARDLESS OF METHOD SELECTED BY THE CONTRACTOR. SAID PRICE SHALL BE CONSIDERED FULL COMPENSATION FOR EXCAVATION, COMPACTION, BACKFILL, SEDIMENT, AND DEBRIS REMOVAL AND DISPOSAL, AND ALL LABOR, MATERIALS, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. RECONSTRUCTION OF INLET PROTECTION INSTALLATION DUE TO DAMAGE BY WIND, FLOOD, FIRE, ETC. OR DUE TO ACTIONS BY THE CONTRACTOR OR OTHERS SHALL BE PERFORMED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.



BURIED PIPE PLUG & MARKER DETAIL

THE CONSTRUCTION OF CONCRETE MARKERS SHALL NOT BE PAID FOR BUT SHALL BE CONSIDERED SUBSIDIARY TO "15" RCP STORM SEWER".
NOTE: INLET PROTECTION FOR TYPE 15 CURB INLET AND FOR 15" MANHOLE BY GREENHILL GRATE CO. SHALL BE THE SAME AS FOR AREA INLETS.

ADAPTED FROM: VIRGINIA SOIL AND WATER CONSERVATION COMMISSION, 1985 AND DRAINAGE CRITERIA MANUAL, DENVER URBAN DRAINAGE AND FLOOD CONTROL DISTRICT 9-1-82

CAPITAL ADDITION
SWS NO. 449

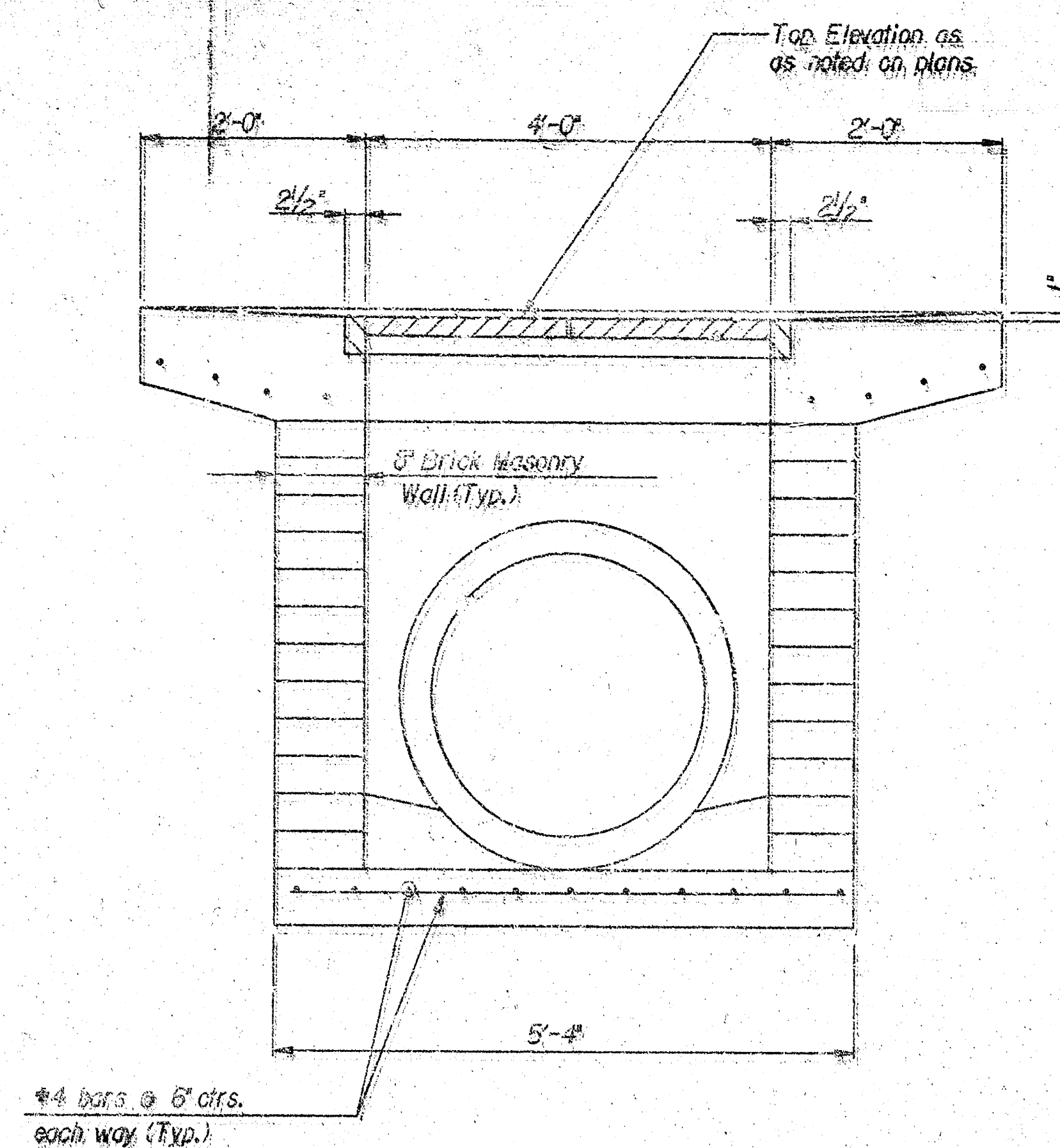
INLET PROTECTION DETAILS

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS
Designed by: MBB
Drawn by: DEP, RJS
Checked by: [blank]
Date: APR. 1995
Job No. 06101

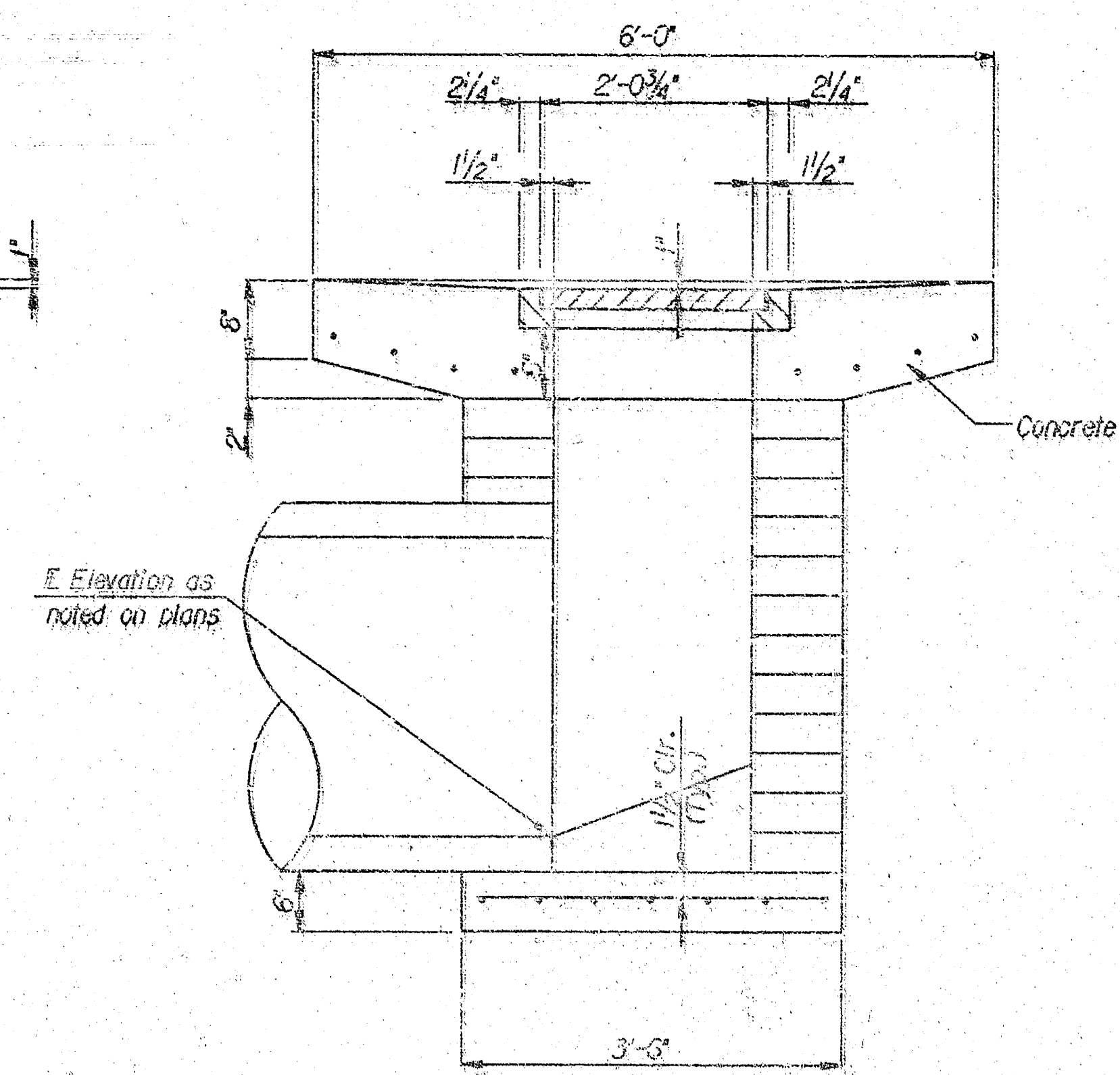
PLAN	DATE	BY
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CHANGED		
BY		
DATE		
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DATE		

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DATE LAST MODIFIED: MAR. 3, 1995
BAR CODE

PROJECT NO.	SHEET NO.	TOTAL SHEETS
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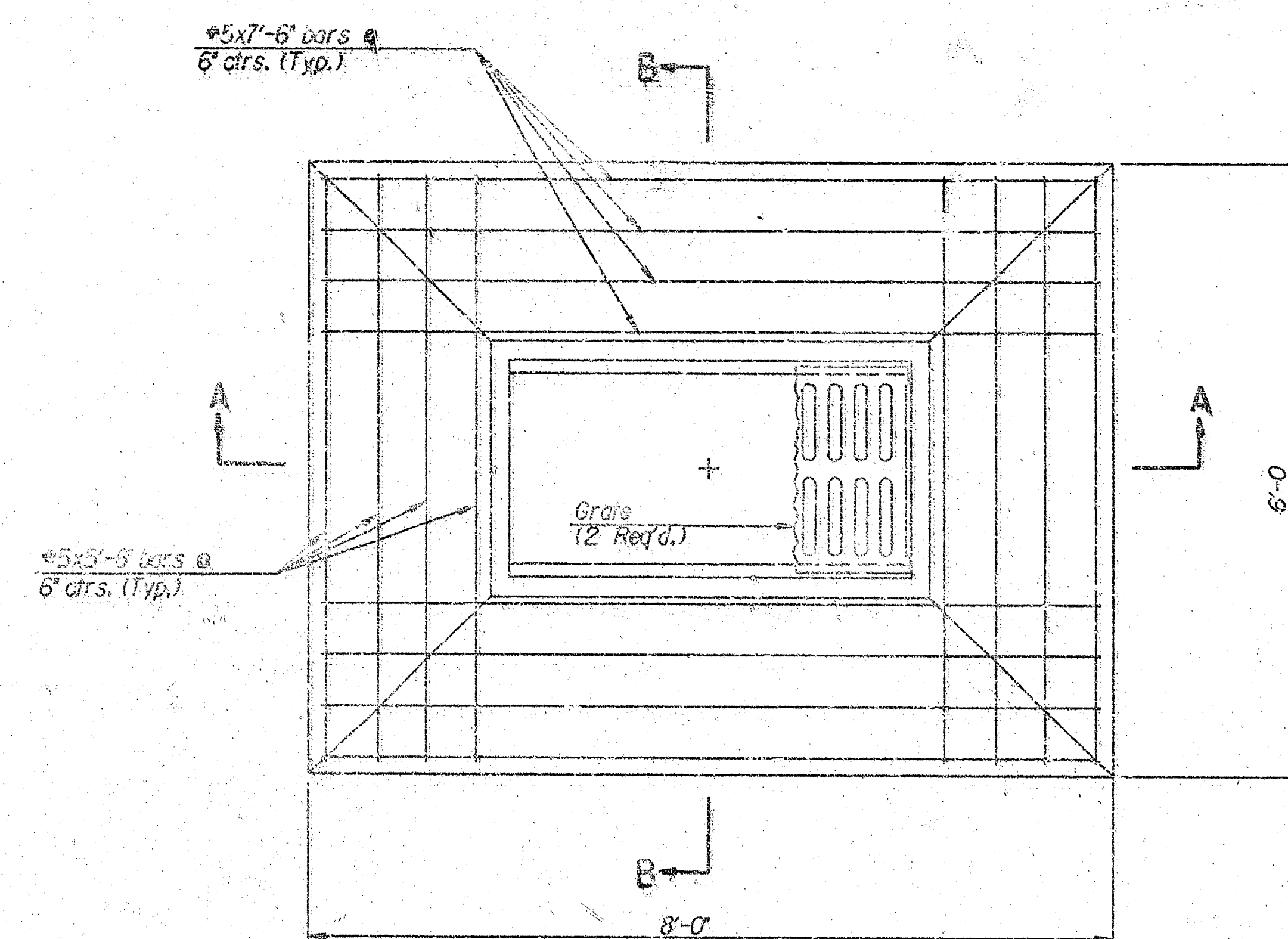


SECTION A-A

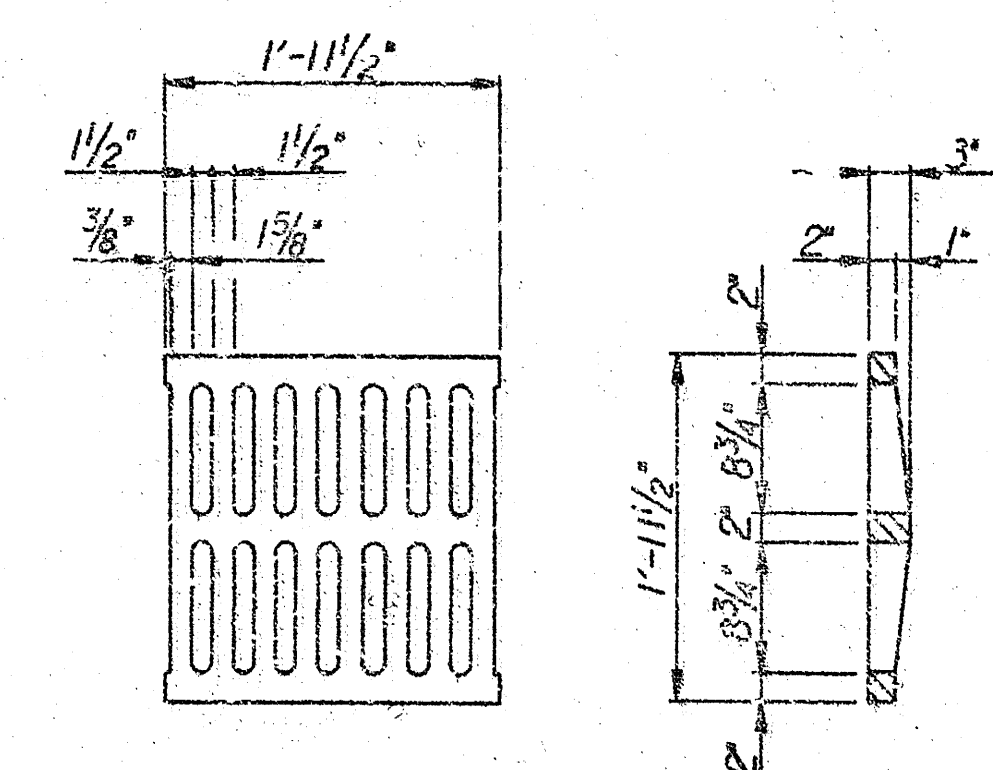


SECTION B-B

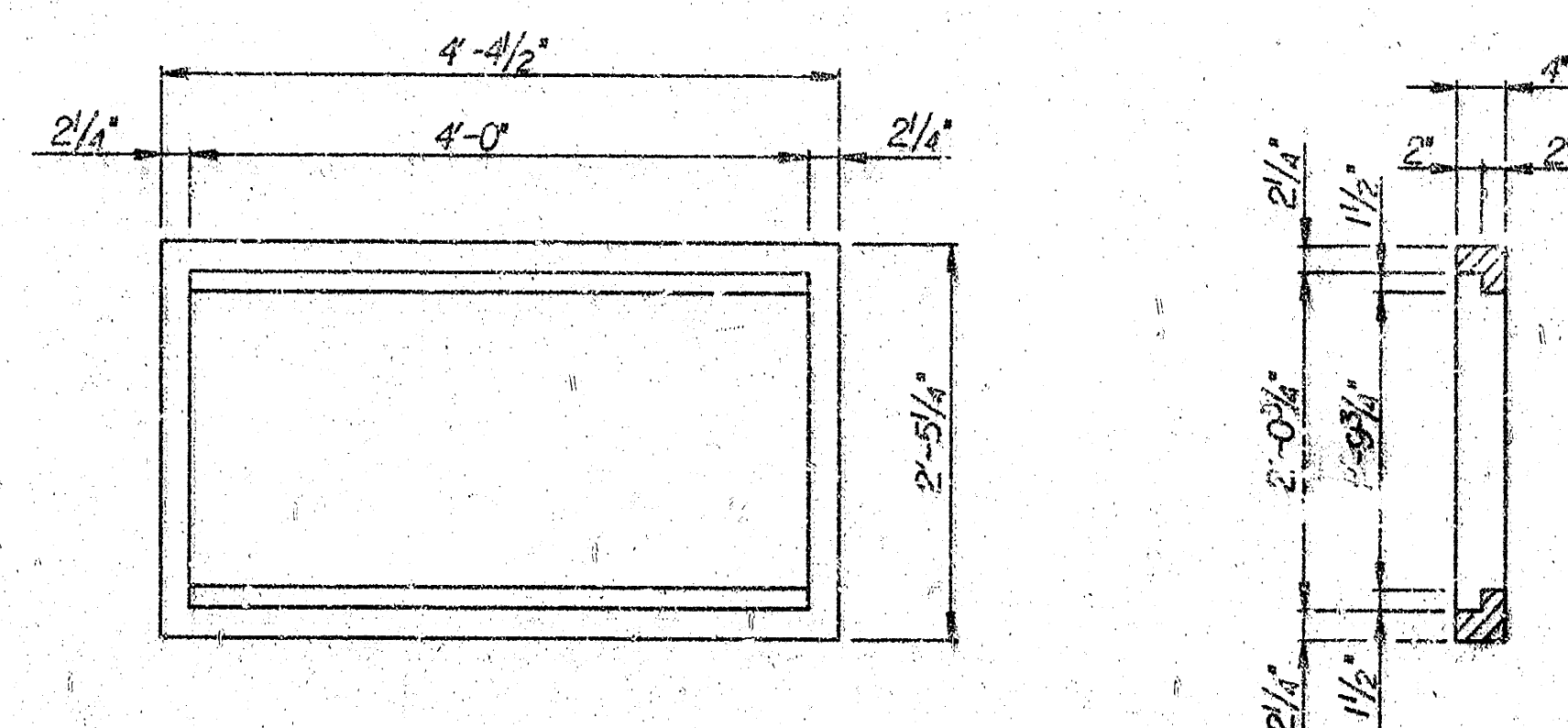
STANDARD AREA INLET



PLAN



GRATE DETAIL
(Wt. - 190 lbs.)
(12 Required)



FRAME DETAIL
(Wt. - 460 lbs.)

GENERAL NOTES

CONCRETE SHALL BE C.O.W. STANDARD PAVING MIX. ALL EXPOSED EDGES SHALL BE FINISHED WITH AN APPROVED EDGING TOOL.

REINFORCING STEEL SHALL BE A MINIMUM GRADE 40, A.S.T.M. A615. ALL DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO THE CENTERLINE OF BARS UNLESS OTHERWISE NOTED.

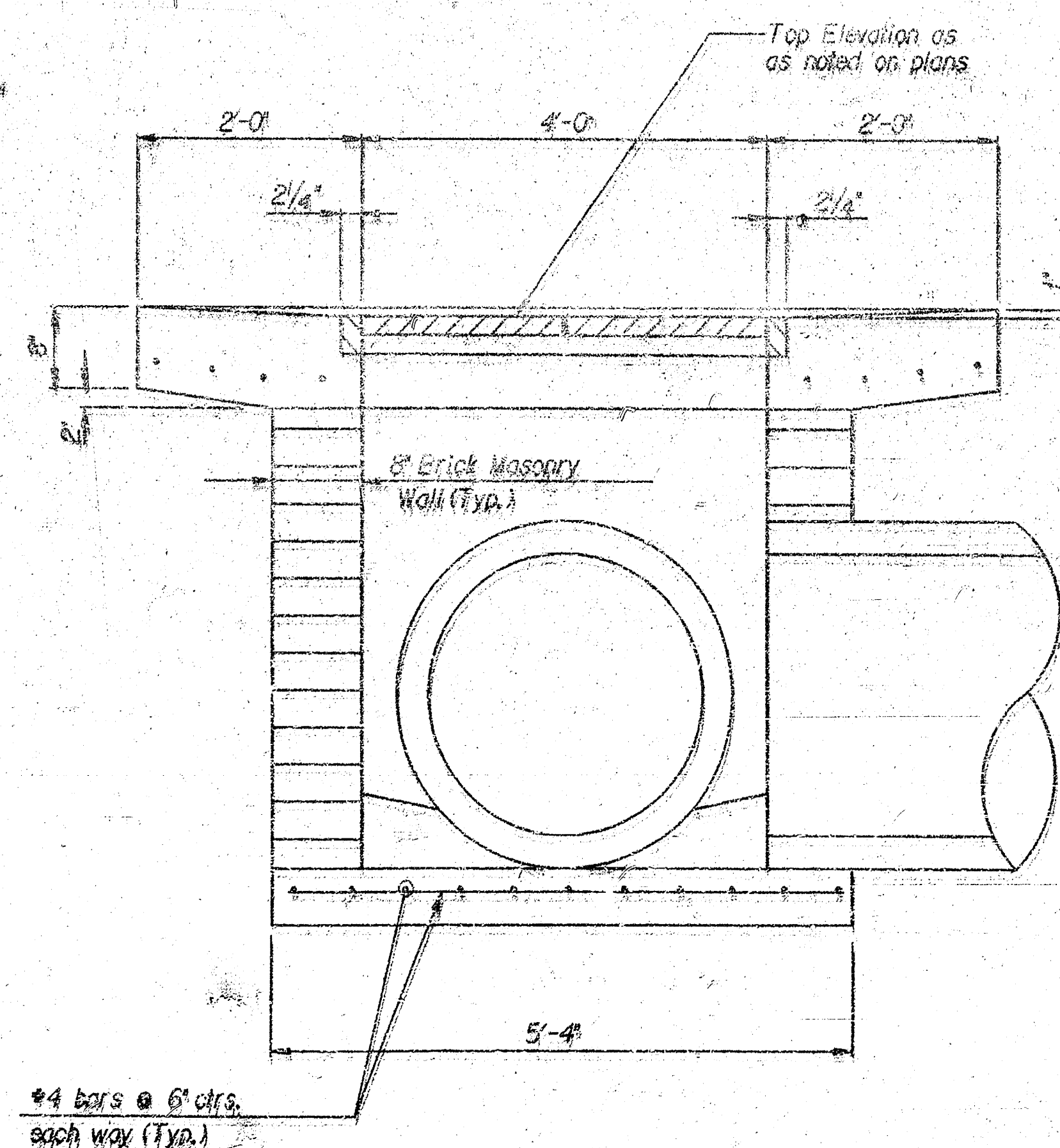
INLET CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER EFFECTS.

CONSTRUCTION REQUIREMENTS AND MATERIALS FOR MASONRY WALLS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

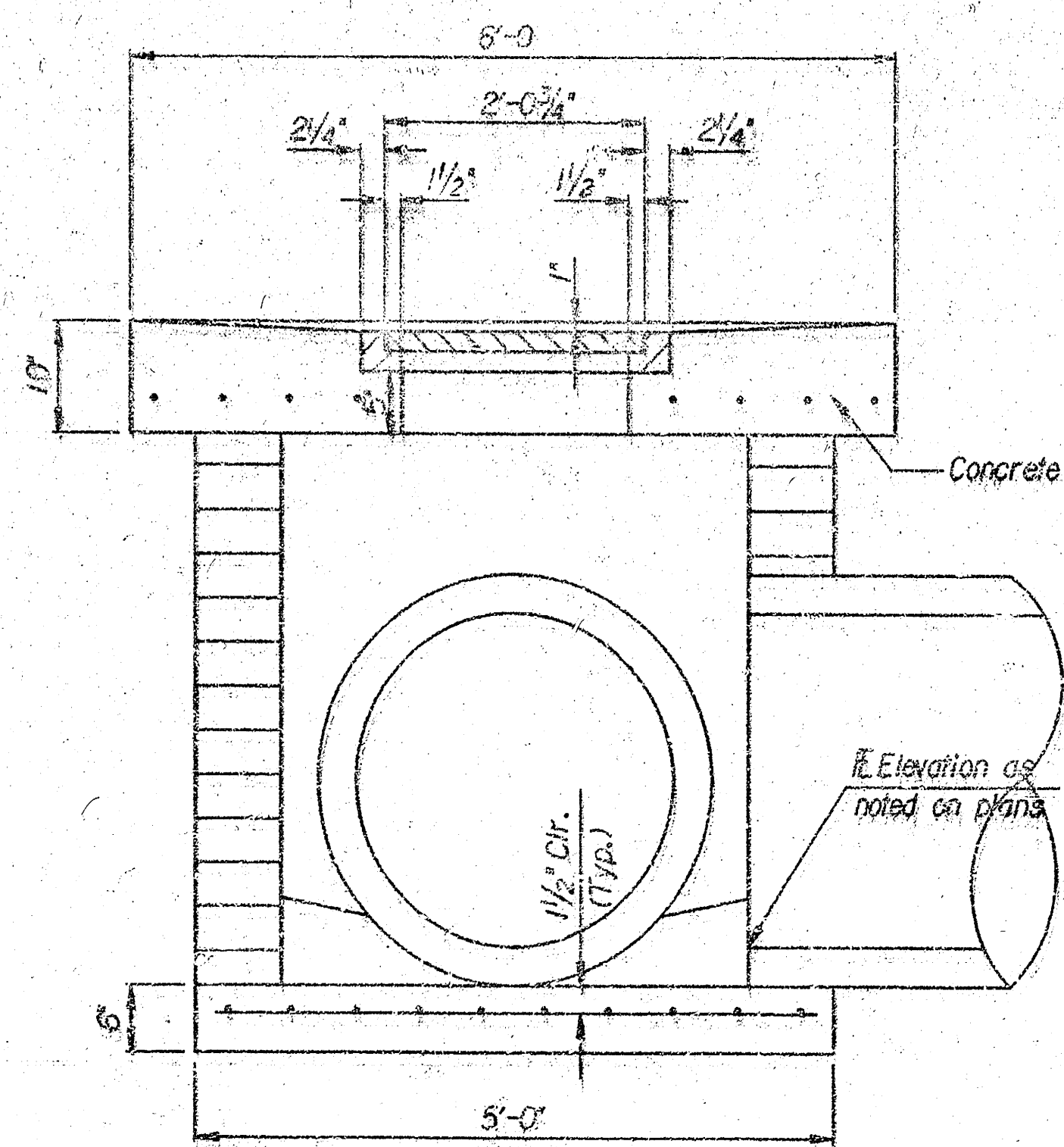
INLET FLOOR SHALL BE SHAPED WITH UNREINFORCED CONCRETE (8 SACK SAND MIX) TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.

AREA INLETS (STANDARD AND SPECIAL) SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE BID PER EACH. THIS SHALL BE CONSIDERED FULL COMPENSATION FOR ALL EXCAVATION, BACKFILLING, MATERIALS, LABOR, CONNECTION TO EXISTING STRUCTURES OF REQUIRED EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

PIPES ENTERING EXISTING STRUCTURE SHALL BE CENTERED ON INSIDE FACE OF WALL.

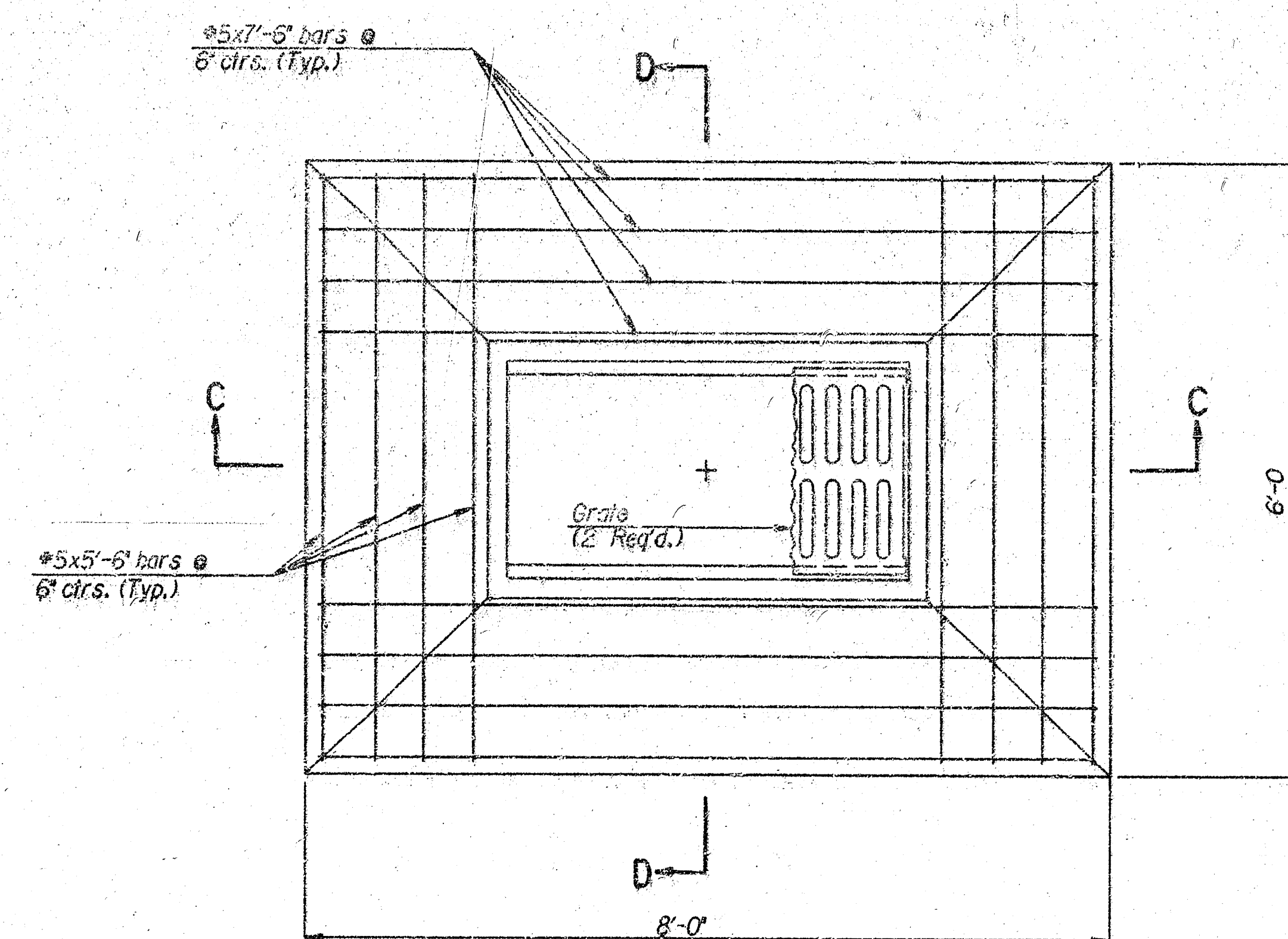


SECTION C-C



SECTION D-D

SPECIAL AREA INLET



PLAN

AREA INLET DETAILS

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

Designed by	MWB, GDD	Checked by	
Drawn by	DEP	Date	APR. 1995

Job No. 95101

MANHOLE FRAME AND COVER DETAIL

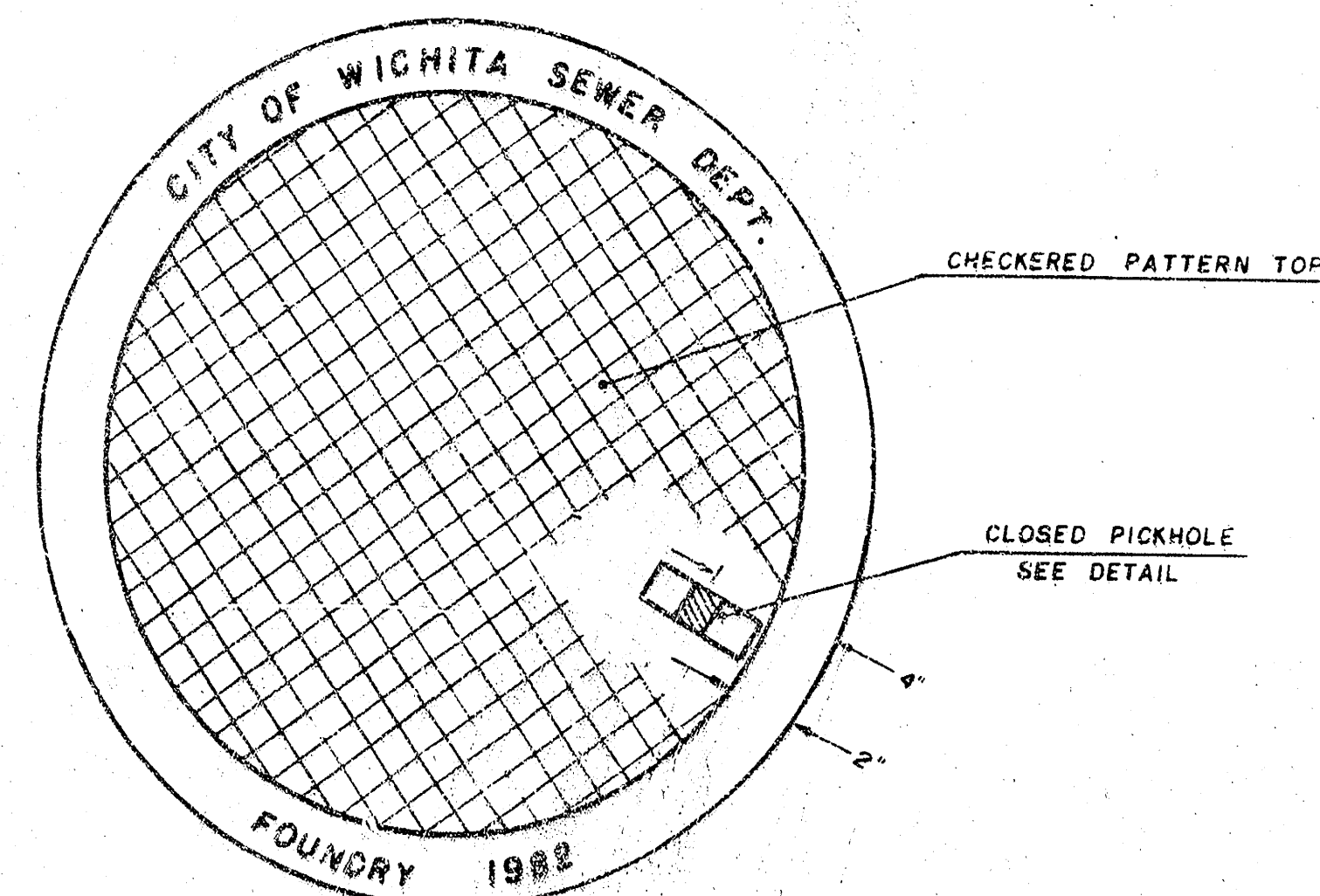
ADOPTED AS STANDARD DESIGN

BY

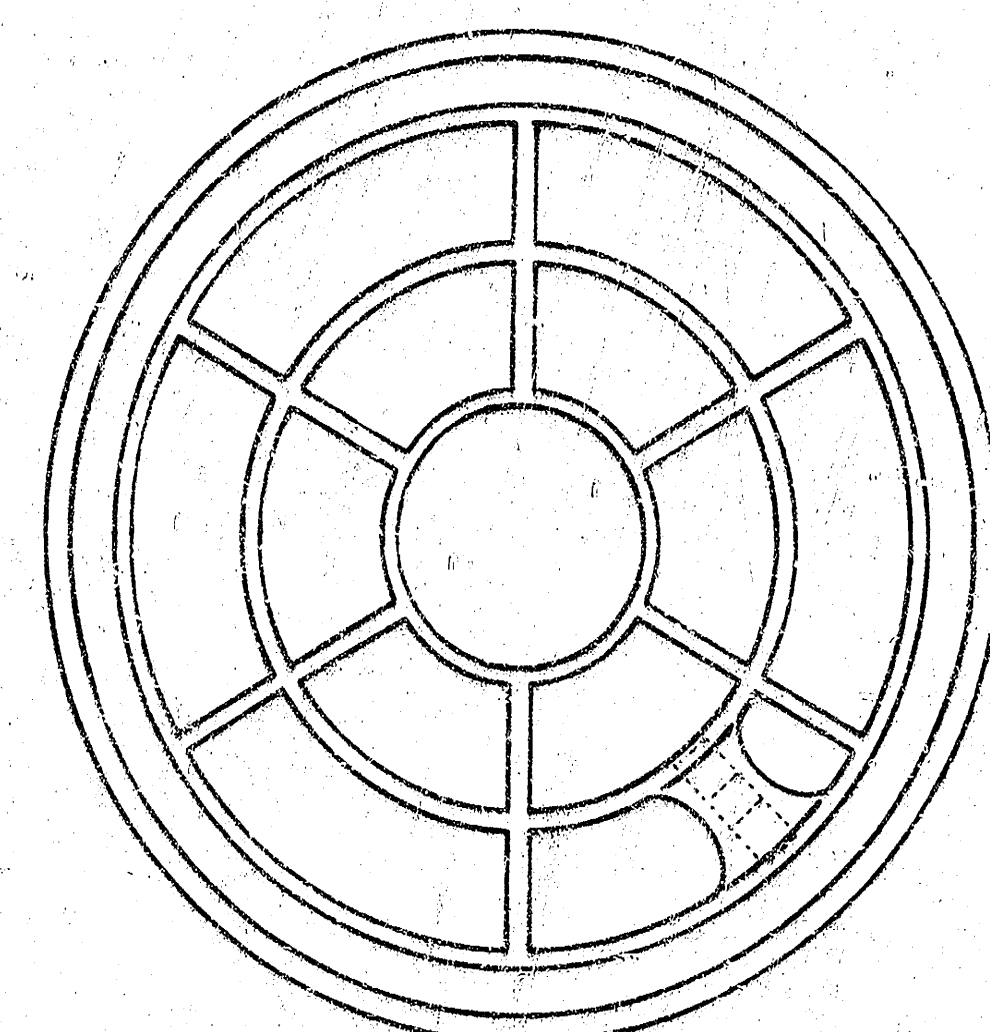
City of Wichita, Kansas

MANHOLE COVER

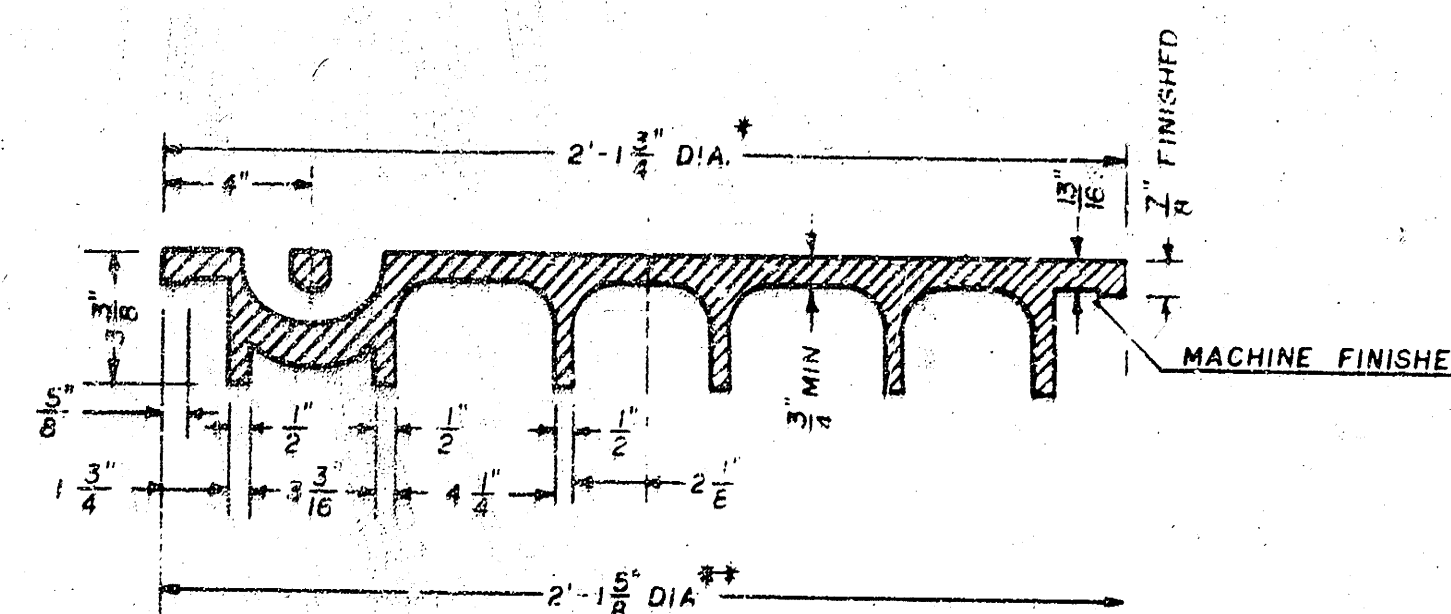
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TOP VIEW



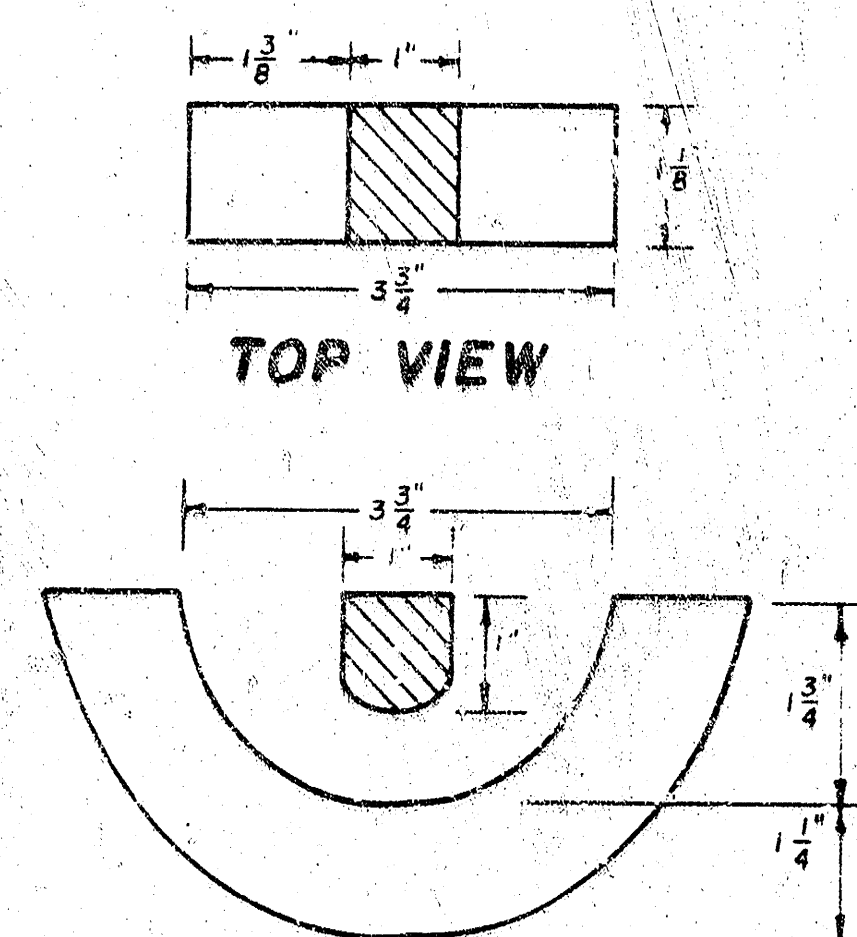
BOTTOM VIEW



SECTION VIEW

* OUTSIDE DIA. TOP OF COVER
** OUTSIDE DIA. BOTTOM OF COVER

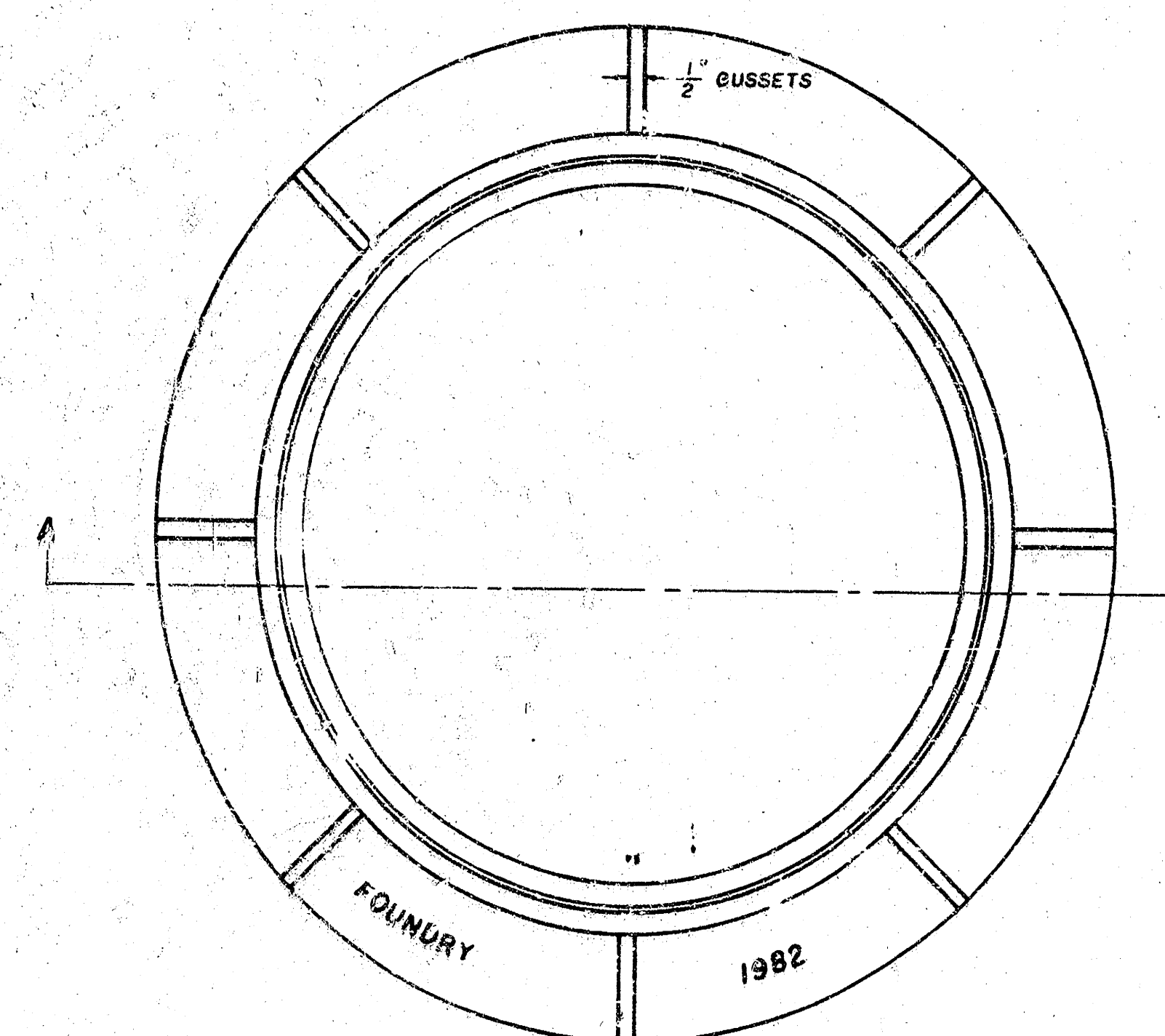
PICKHOLE DETAIL



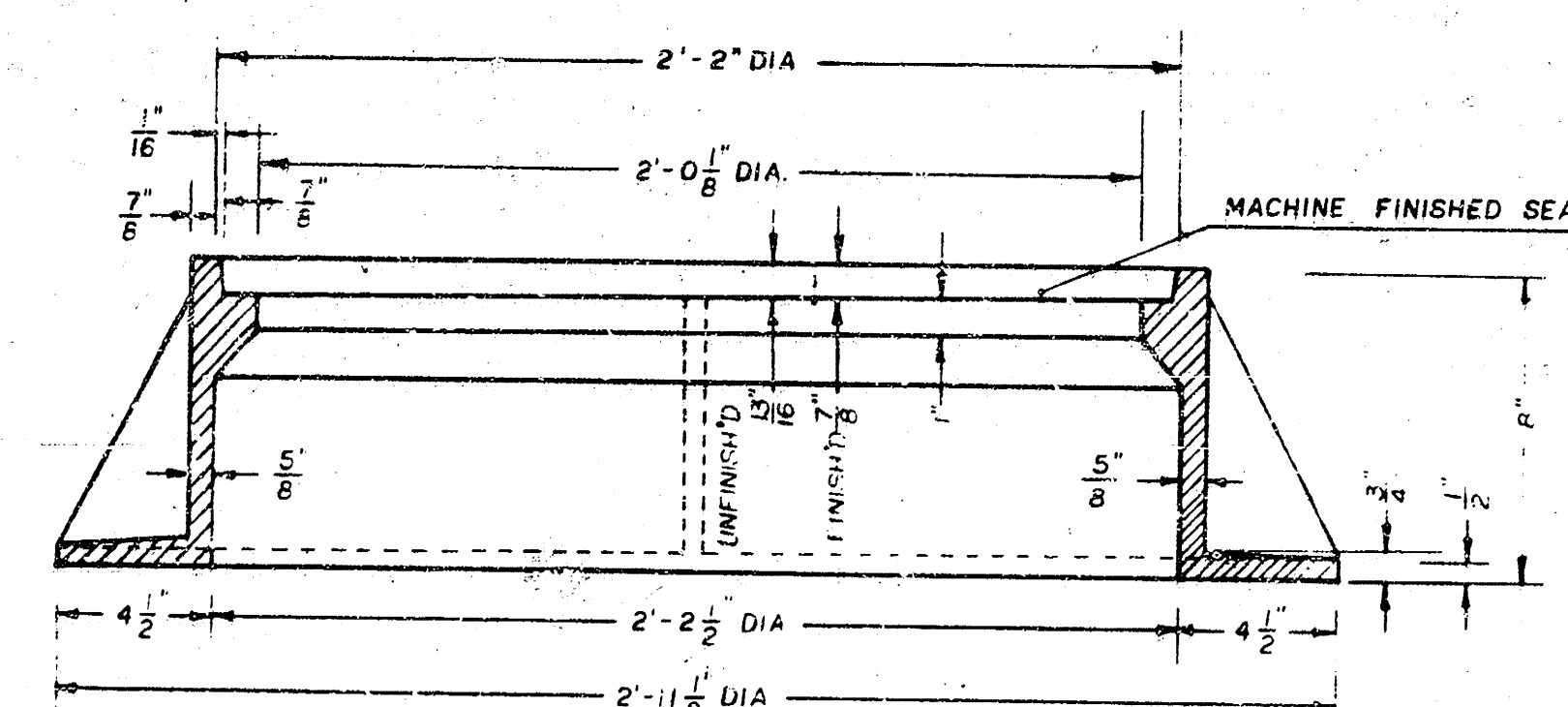
SECTION VIEW

MANHOLE FRAME

Weight: 240 Lbs.



TOP VIEW



SECTION A-A

GENERAL NOTES

1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.
2. MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.
3. THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.
4. THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1" IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SEWER DEPARTMENT". THE WORD DEPARTMENT MAY BE ABBREVIATED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN A CHECKERED PATTERN DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.