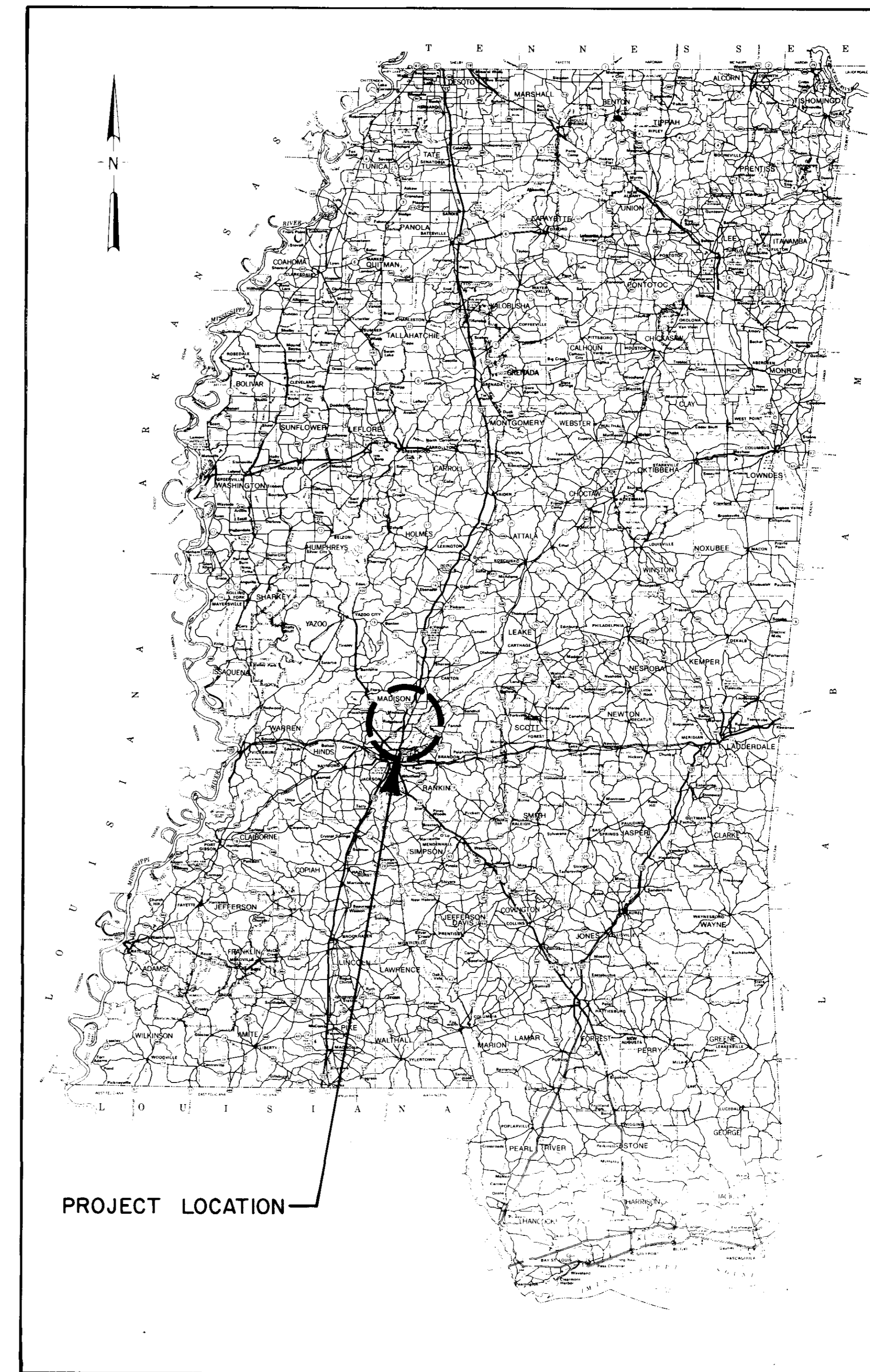
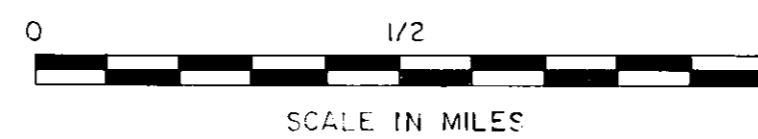
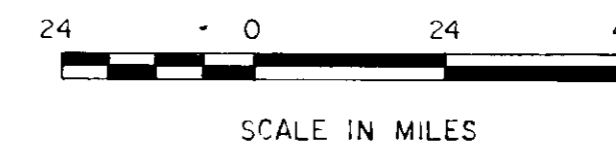


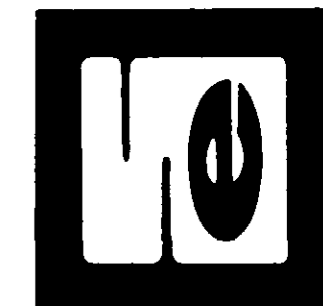
PROJECT LOCATION MAP



VICINITY MAP



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SUNNYVALE SUBDIVISION  
 PROJECT LOCATION MAPS

RIDGELAND, MISSISSIPPI

Revisions

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 Checked By J.J.F.  
 Date OCT. 3, 1990

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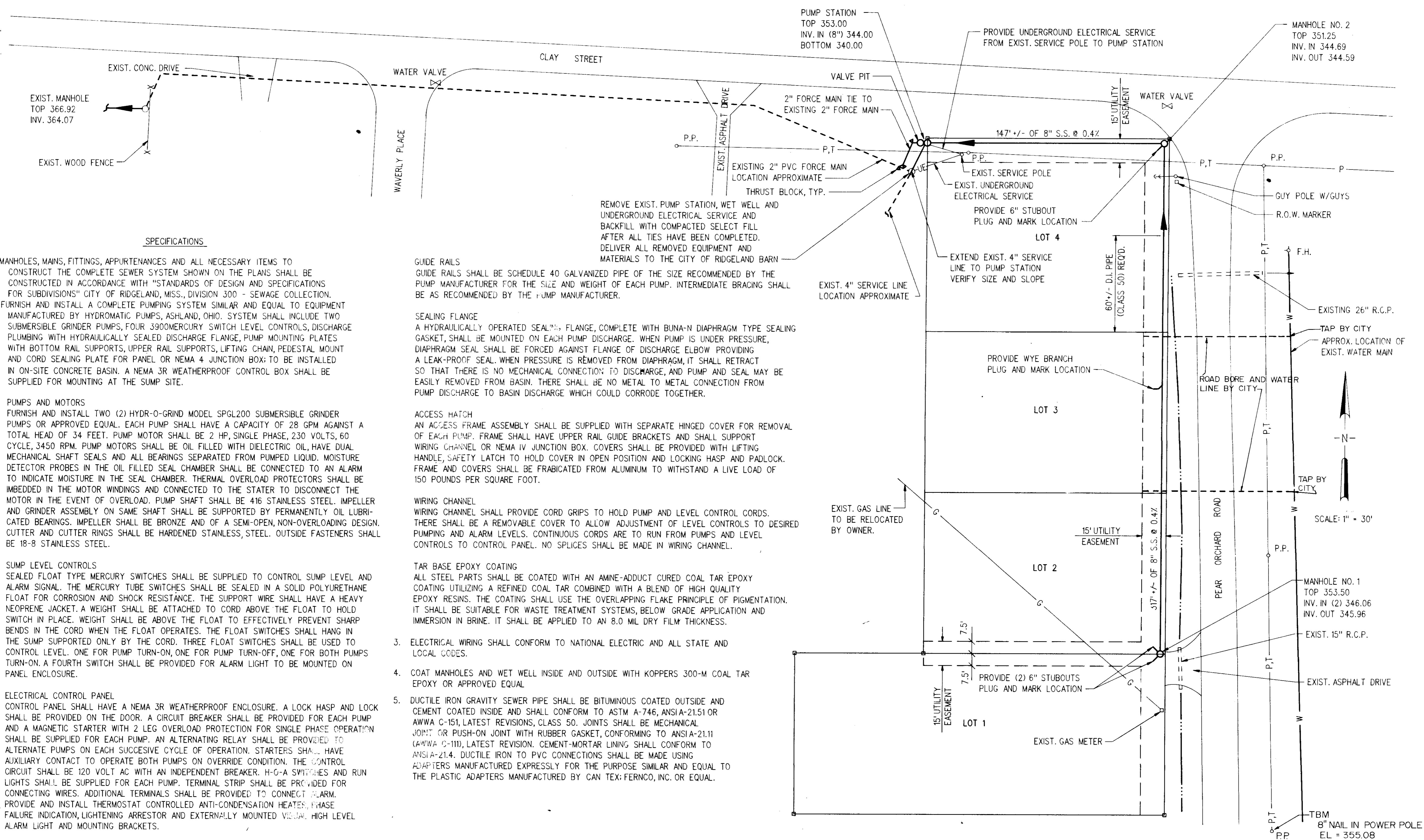
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SUNNYVALE SUBDIVISION  
 SANITARY SEWER PLAN AND PROFILE  
 RIDGELAND, MISSISSIPPI

Revisions

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**SPECIFICATIONS**

- MANHOLES, MAINS, FITTINGS, APPURTENANCES AND ALL NECESSARY ITEMS TO CONSTRUCT THE COMPLETE SEWER SYSTEM SHOWN ON THE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH "STANDARDS OF DESIGN AND SPECIFICATIONS FOR SUBDIVISIONS" CITY OF RIDGELAND, MISS., DIVISION 300 - SEWAGE COLLECTION.
- FURNISH AND INSTALL A COMPLETE PUMPING SYSTEM SIMILAR AND EQUAL TO EQUIPMENT MANUFACTURED BY HYDRAMATIC PUMPS, ASHLAND, OHIO. SYSTEM SHALL INCLUDE TWO SUBMERSIBLE GRINDER PUMPS, FOUR 3900MERCURY SWITCH LEVEL CONTROLS, DISCHARGE PLUMBING WITH HYDRAULICALLY SEALED DISCHARGE FLANGE, PUMP MOUNTING PLATES WITH BOTTOM RAIL SUPPORTS, UPPER RAIL SUPPORTS, LIFTING CHAIN, PEDESTAL MOUNT AND CORD SEALING PLATE FOR PANEL OR NEMA 4 JUNCTION BOX; TO BE INSTALLED IN ON-SITE CONCRETE BASIN. A NEMA 3R WEATHERPROOF CONTROL BOX SHALL BE SUPPLIED FOR MOUNTING AT THE SUMP SITE.

**PUMPS AND MOTORS**  
 FURNISH AND INSTALL TWO (2) HYDR-O-GRIND MODEL SPGL200 SUBMERSIBLE GRINDER PUMPS OR APPROVED EQUAL. EACH PUMP SHALL HAVE A CAPACITY OF 28 GPM AGAINST A TOTAL HEAD OF 34 FEET. PUMP MOTOR SHALL BE 2 HP, SINGLE PHASE, 230 VOLTS, 60 CYCLE, 3450 RPM. PUMP MOTORS SHALL BE OIL FILLED WITH DIELECTRIC OIL, HAVE DUAL MECHANICAL SHAFT SEALS AND ALL BEARINGS SEPARATED FROM PUMPED LIQUID. MOISTURE DETECTOR PROBES IN THE OIL FILLED SEAL CHAMBER SHALL BE CONNECTED TO AN ALARM TO INDICATE MOISTURE IN THE SEAL CHAMBER. THERMAL OVERLOAD PROTECTORS SHALL BE IMBEDDED IN THE MOTOR WINDINGS AND CONNECTED TO THE STATOR TO DISCONNECT THE MOTOR IN THE EVENT OF OVERLOAD. PUMP SHAFT SHALL BE 416 STAINLESS STEEL. IMPELLER AND GRINDER ASSEMBLY ON SAME SHAFT SHALL BE SUPPORTED BY PERMANENTLY OIL LUBRICATED BEARINGS. IMPELLER SHALL BE BRONZE AND OF A SEMI-OPEN, NON-OVERLOADING DESIGN. CUTTER AND CUTTER RINGS SHALL BE HARDENED STAINLESS STEEL. OUTSIDE FASTENERS SHALL BE 18-8 STAINLESS STEEL.

**SUMP LEVEL CONTROLS**  
 SEALED FLOAT TYPE MERCURY SWITCHES SHALL BE SUPPLIED TO CONTROL SUMP LEVEL AND ALARM SIGNAL. THE MERCURY TUBE SWITCHES SHALL BE SEALED IN A SOLID POLYURETHANE FLOAT FOR CORROSION AND SHOCK RESISTANCE. THE SUPPORT WIRE SHALL HAVE A HEAVY NEOPRENE JACKET. A WEIGHT SHALL BE ATTACHED TO CORD ABOVE THE FLOAT TO HOLD SWITCH IN PLACE. WEIGHT SHALL BE ABOVE THE FLOAT TO EFFECTIVELY PREVENT SHARP BENDS IN THE CORD WHEN THE FLOAT OPERATES. THE FLOAT SWITCHES SHALL HANG IN THE SUMP SUPPORTED ONLY BY THE CORD. THREE FLOAT SWITCHES SHALL BE USED TO CONTROL LEVEL. ONE FOR PUMP TURN-ON, ONE FOR PUMP TURN-OFF, ONE FOR BOTH PUMPS TURN-ON. A FOURTH SWITCH SHALL BE PROVIDED FOR ALARM LIGHT TO BE MOUNTED ON PANEL ENCLOSURE.

**ELECTRICAL CONTROL PANEL**  
 CONTROL PANEL SHALL HAVE A NEMA 3R WEATHERPROOF ENCLOSURE. A LOCK HASP AND LOCK SHALL BE PROVIDED ON THE DOOR. A CIRCUIT BREAKER SHALL BE PROVIDED FOR EACH PUMP AND A MAGNETIC STARTER WITH 2 LEG OVERLOAD PROTECTION FOR SINGLE PHASE OPERATION SHALL BE SUPPLIED FOR EACH PUMP. AN ALTERNATING RELAY SHALL BE PROVIDED TO ALTERNATE PUMPS ON EACH SUCCESSIVE CYCLE OF OPERATION. STARTERS SHALL HAVE AUXILIARY CONTACT TO OPERATE BOTH PUMPS ON OVERRIDE CONDITION. THE CONTROL CIRCUIT SHALL BE 120 VOLT AC WITH AN INDEPENDENT BREAKER. H-O-A SWITCHES AND RUN LIGHTS SHALL BE SUPPLIED FOR EACH PUMP. TERMINAL STRIP SHALL BE PROVIDED FOR CONNECTING WIRES. ADDITIONAL TERMINALS SHALL BE PROVIDED TO CONNECT ALARM. PROVIDE AND INSTALL THERMOSTAT CONTROLLED ANTI-CONDENSATION HEATERS, PHASE FAILURE INDICATION, LIGHTNING ARRESTOR AND EXTERNALLY MOUNTED VISUAL HIGH LEVEL ALARM LIGHT AND MOUNTING BRACKETS.

**CHECK VALVE AND PIPING**  
 THE DISCHARGE PIPING SHALL INCLUDE A HYDRAMATIC BALL CHECK VALVE WITH HYDRAULICALLY SEALED DISCHARGE FLANGE AND A GATE VALVE FOR EACH PUMP. DISCHARGE FROM STATION SHALL BE FITTED WITH TWO NPT COUPLINGS. ALL PIPING EXTERNAL TO THE STATION SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

**PUMP BASE PLATE**  
 A SEPARATE MOUNTING PLATE SHALL BE FURNISHED FOR EACH PUMP. THESE SHALL INCLUDE ADJUSTABLE GUIDE RAIL SUPPORTS AND PUMP DISCHARGE ELBOW TO ALIGN WITH HYDRAULIC SEALING FLANGE ON PUMP DISCHARGE. PLATES AND FITTINGS SHALL BE HEAVILY COATED WITH ZINC TO PROVIDE A SMOOTH CORROSION RESISTANT SURFACE.

**PUMP CARRIER**  
 THE PUMP CARRIER SHALL BE FABRICATED FROM STEEL AND COATED WITH TAR BASE EPOXY. CARRIER SHALL BE MOUNTED ON EACH PUMP SO THAT LIFTING IS DONE FROM THE CARRIER AND NO STRAIN IS PLACED ON THE PUMP OR THE GUIDE RAILS. FASTENERS SHALL BE 18-8 STAINLESS STEEL. CARRIER SHALL BE DESIGNED TO LIFT FROM A CENTERED LOOP SO AS TO PREVENT BINDING ON GUIDE RAILS. PUMP WEIGHT SHALL NOT BE PLACED ON GUIDE RAILS.

**GUIDE RAILS**  
 GUIDE RAILS SHALL BE SCHEDULE 40 GALVANIZED PIPE OF THE SIZE RECOMMENDED BY THE PUMP MANUFACTURER FOR THE SIZE AND WEIGHT OF EACH PUMP. INTERMEDIATE BRACING SHALL BE AS RECOMMENDED BY THE PUMP MANUFACTURER.

**SEALING FLANGE**  
 A HYDRAULICALLY OPERATED SEALING FLANGE, COMPLETE WITH BUNA-N DIAPHRAGM TYPE SEALING GASKET, SHALL BE MOUNTED ON EACH PUMP DISCHARGE. WHEN PUMP IS UNDER PRESSURE, DIAPHRAGM SEAL SHALL BE FORCED AGAINST FLANGE OF DISCHARGE ELBOW PROVIDING A LEAK-PROOF SEAL. WHEN PRESSURE IS REMOVED FROM DIAPHRAGM, IT SHALL RETRACT SO THAT THERE IS NO MECHANICAL CONNECTION TO DISCHARGE, AND PUMP AND SEAL MAY BE EASILY REMOVED FROM BASIN. THERE SHALL BE NO METAL TO METAL CONNECTION FROM PUMP DISCHARGE TO BASIN DISCHARGE WHICH COULD CORRODE TOGETHER.

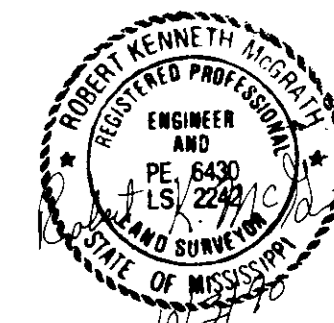
**ACCESS HATCH**  
 AN ACCESS FRAME ASSEMBLY SHALL BE SUPPLIED WITH SEPARATE HINGED COVER FOR REMOVAL OF EACH PUMP. FRAME SHALL HAVE UPPER RAIL GUIDE BRACKETS AND SHALL SUPPORT WIRING CHANNEL OR NEMA IV JUNCTION BOX. COVERS SHALL BE PROVIDED WITH LIFTING HANDLE, SAFETY LATCH TO HOLD COVER IN OPEN POSITION AND LOCKING HASP AND PADLOCK. FRAME AND COVERS SHALL BE FABRICATED FROM ALUMINUM TO WITHSTAND A LIVE LOAD OF 150 POUNDS PER SQUARE FOOT.

**WIRING CHANNEL**  
 WIRING CHANNEL SHALL PROVIDE CORD GRIPS TO HOLD PUMP AND LEVEL CONTROL CORDS. THERE SHALL BE A REMOVABLE COVER TO ALLOW ADJUSTMENT OF LEVEL CONTROLS TO DESIRED PUMPING AND ALARM LEVELS. CONTINUOUS CORDS ARE TO RUN FROM PUMPS AND LEVEL CONTROLS TO CONTROL PANEL. NO SPLICES SHALL BE MADE IN WIRING CHANNEL.

**TAR BASE EPOXY COATING**  
 ALL STEEL PARTS SHALL BE COATED WITH AN AMINE-ADDUCT CURED COAL TAR EPOXY COATING UTILIZING A REFINED COAL TAR COMBINED WITH A BLEND OF HIGH QUALITY EPOXY RESINS. THE COATING SHALL USE THE OVERLAPPING FLAKE PRINCIPLE OF PIGMENTATION. IT SHALL BE SUITABLE FOR WASTE TREATMENT SYSTEMS, BELOW GRADE APPLICATION AND IMMERSION IN BRINE. IT SHALL BE APPLIED TO AN 8.0 MIL DRY FILM THICKNESS.

- ELECTRICAL WIRING SHALL CONFORM TO NATIONAL ELECTRIC AND ALL STATE AND LOCAL CODES.
- COAT MANHOLES AND WET WELL INSIDE AND OUTSIDE WITH KOPPERS 300-M COAL TAR EPOXY OR APPROVED EQUAL.
- DUCTILE IRON GRAVITY SEWER PIPE SHALL BE BITUMINOUS COATED OUTSIDE AND CEMENT COATED INSIDE AND SHALL CONFORM TO ASTM A-746, ANSIA-21.51 OR AWWA C-151, LATEST REVISIONS, CLASS 50. JOINTS SHALL BE MECHANICAL JOINT OR PUSH-ON JOINT WITH RUBBER GASKET, CONFORMING TO ANSIA-21.11 (AWWA C-111), LATEST REVISION. CEMENT-MORTAR LINING SHALL CONFORM TO ANSIA-21.4. DUCTILE IRON TO PVC CONNECTIONS SHALL BE MADE USING ADAPTERS MANUFACTURED EXPRESSLY FOR THE PURPOSE SIMILAR AND EQUAL TO THE PLASTIC ADAPTERS MANUFACTURED BY CAN TEX; FERNCO, INC. OR EQUAL.

NOTE: EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY. OTHER UTILITIES MAY BE PRESENT BUT NOT SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE ALL UTILITIES LOCATED AND MARKED IN THE FIELD PRIOR TO COMMENCING WORK.



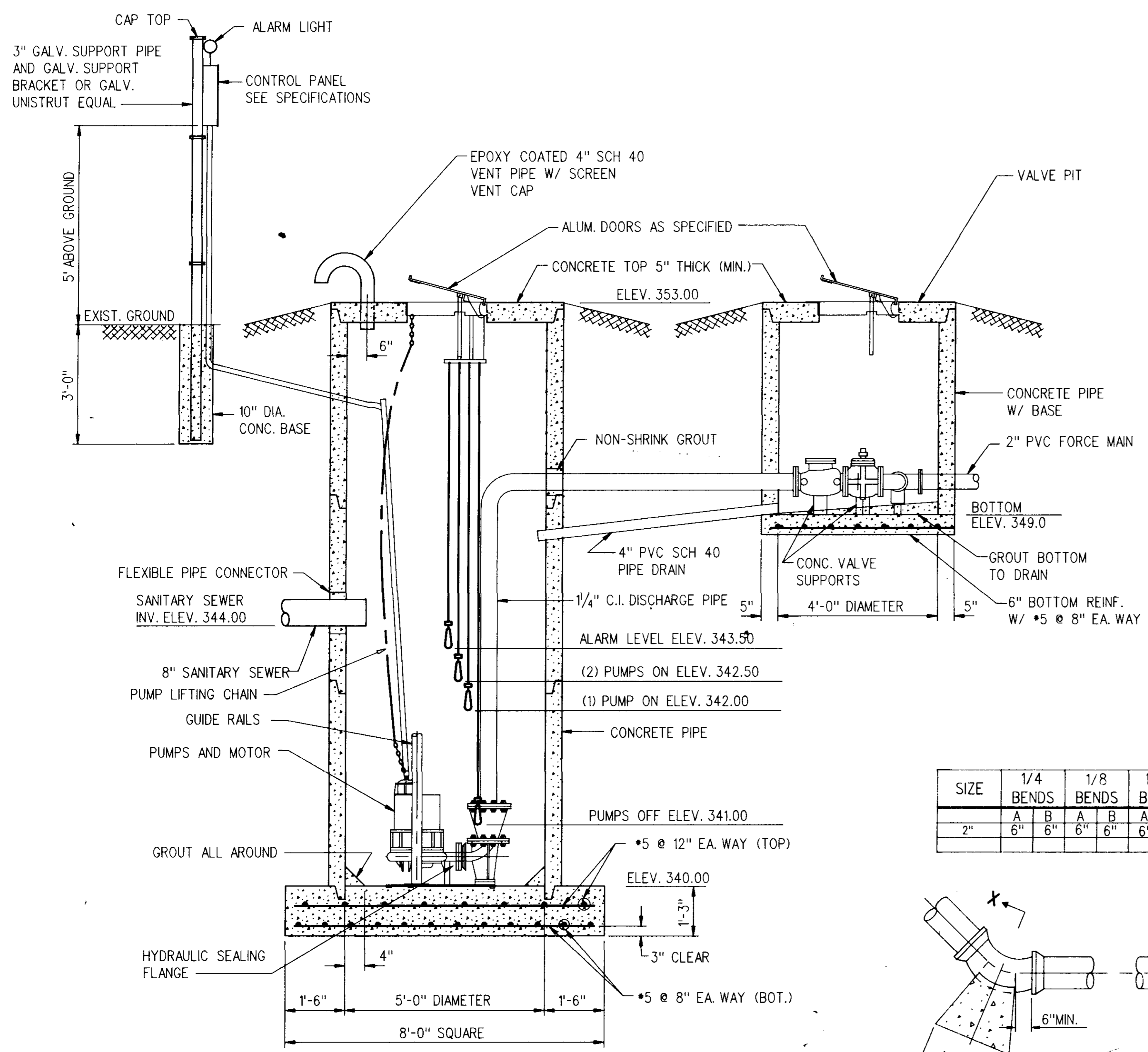
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SUNNYVALE SUBDIVISION  
 PUMP STATION AND MANHOLE DETAILS  
 RIDGELAND, MISSISSIPPI

Revisions

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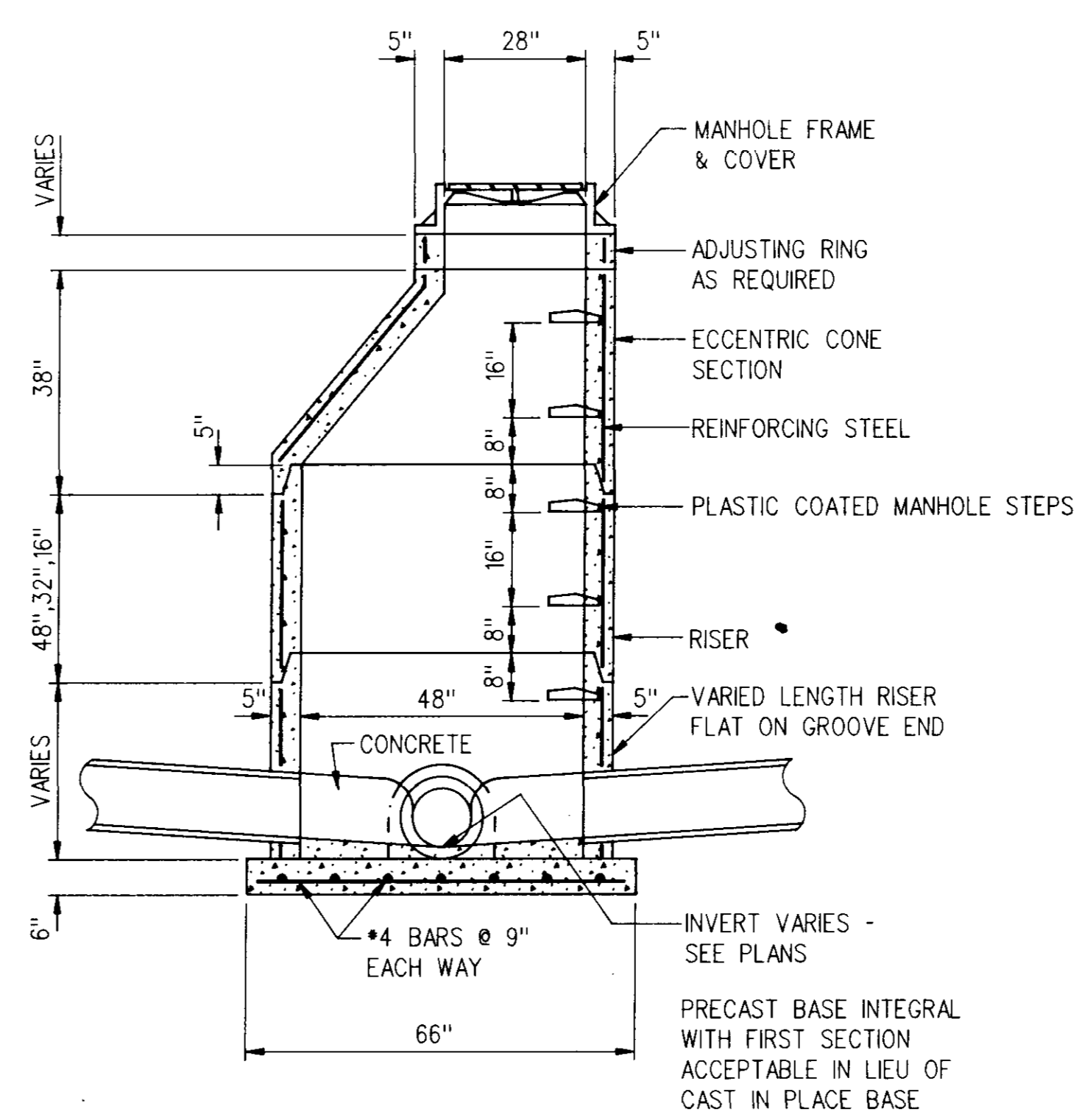
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**PUMP STATION DETAILS**  
 NOT TO SCALE

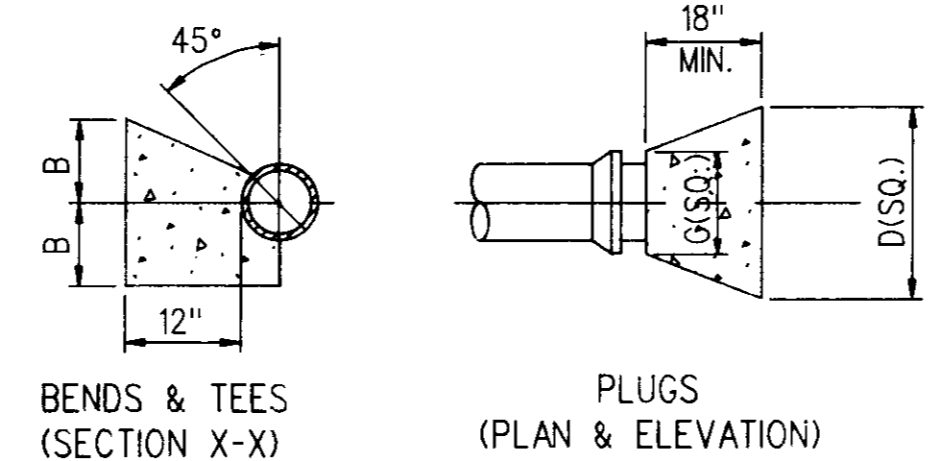
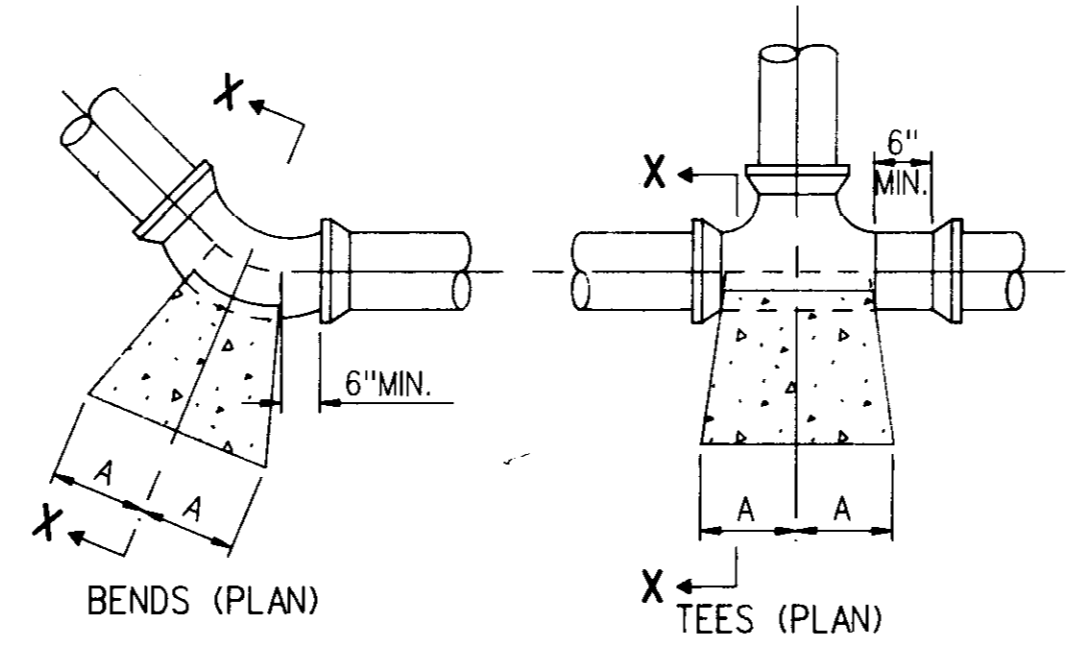
**GENERAL NOTES**

- SANITARY SEWER MAINS SHALL BE PVC PIPE UNLESS SPECIFIED OTHERWISE.
- CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 28 DAYS.
- REINFORCING SHALL CONFORM TO A.S.T.M. A-615, AND SHALL BE GRADE 60.
- PROVIDE ALL NECESSARY REINFORCING STEEL ACCESSORIES TO HOLD BARS IN PROPER POSITION.
- WHERE NOT SPECIFICALLY COVERED, REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH ACISTANDARD 315.



**PRECAST CONCRETE STANDARD MANHOLE SECTION**  
 NOT TO SCALE

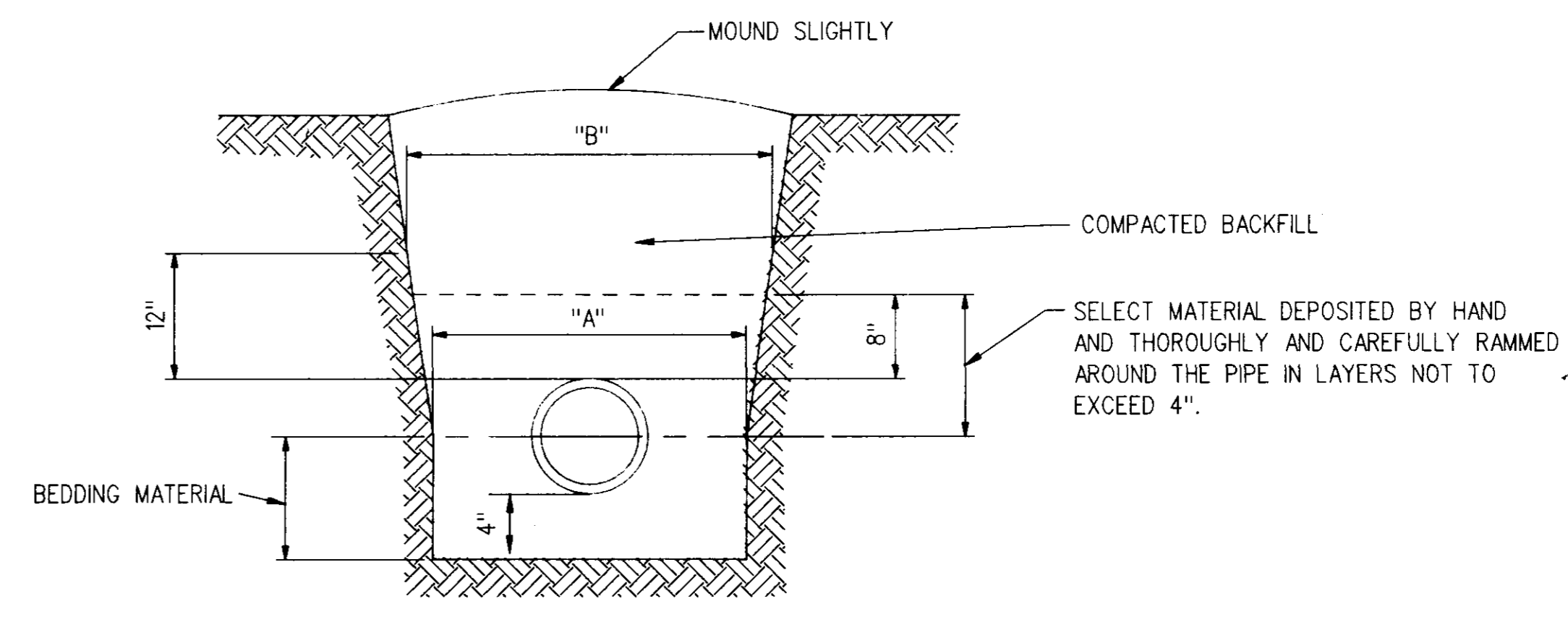
SIZE	1/4 BENDS		1/8 BENDS		1/16 BENDS		TEES		PLUGS	
	A	B	A	B	A	B	A	B	C	D
2"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"



**TRUST BLOCKS**  
 NO SCALE

NOTE:  
 PROVIDE THRUST BLOCKS AT ALL BENDS IN FORCE MAIN.

PIPE DIAMETER	MAX. "A"	MAX. "B"
"D"		
6 - 8"	24"	30"
10 - 12"	28"	36"
15 - 18"	36"	42"
21" AND LARGER	O.D. PIPE + 24"	O.D. PIPE + 36"

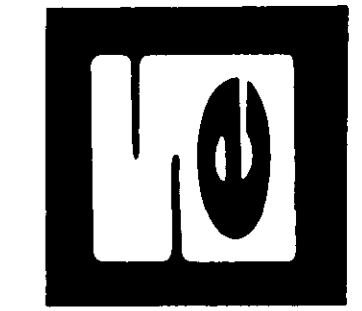


**GRAVITY SEWER PIPE TRENCH BEDDING DETAIL**  
 NO SCALE





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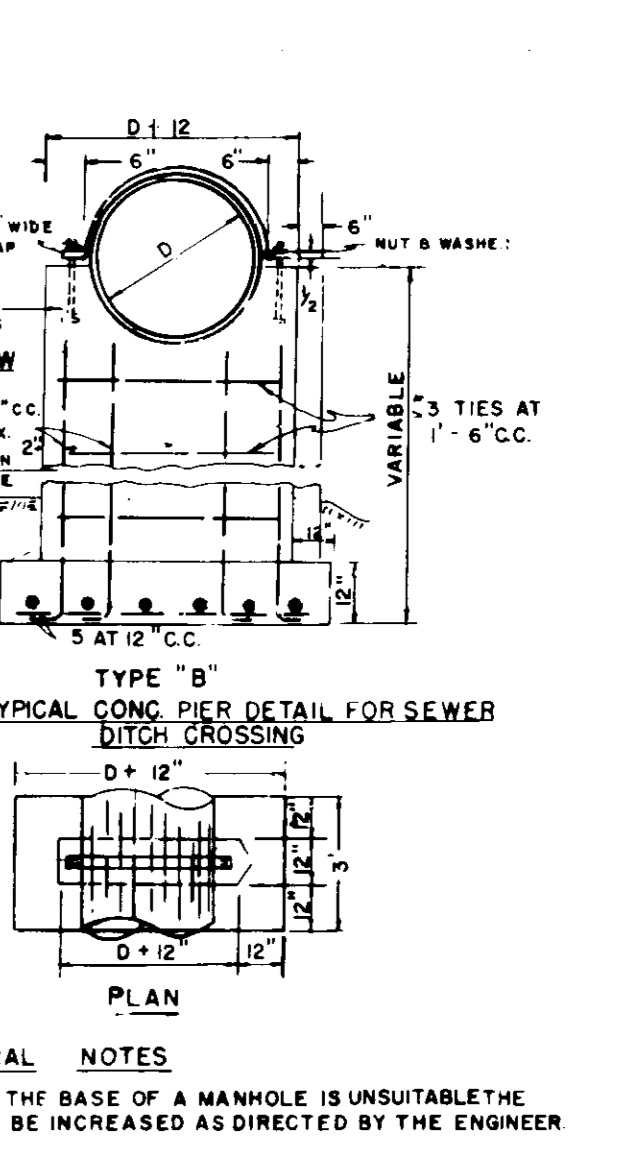
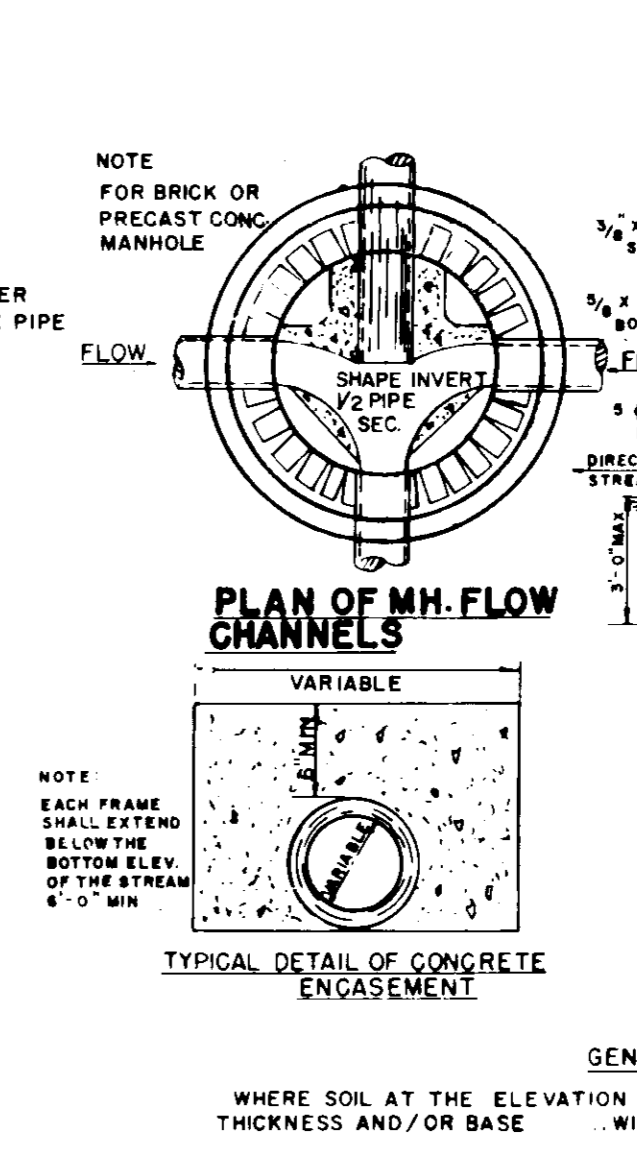
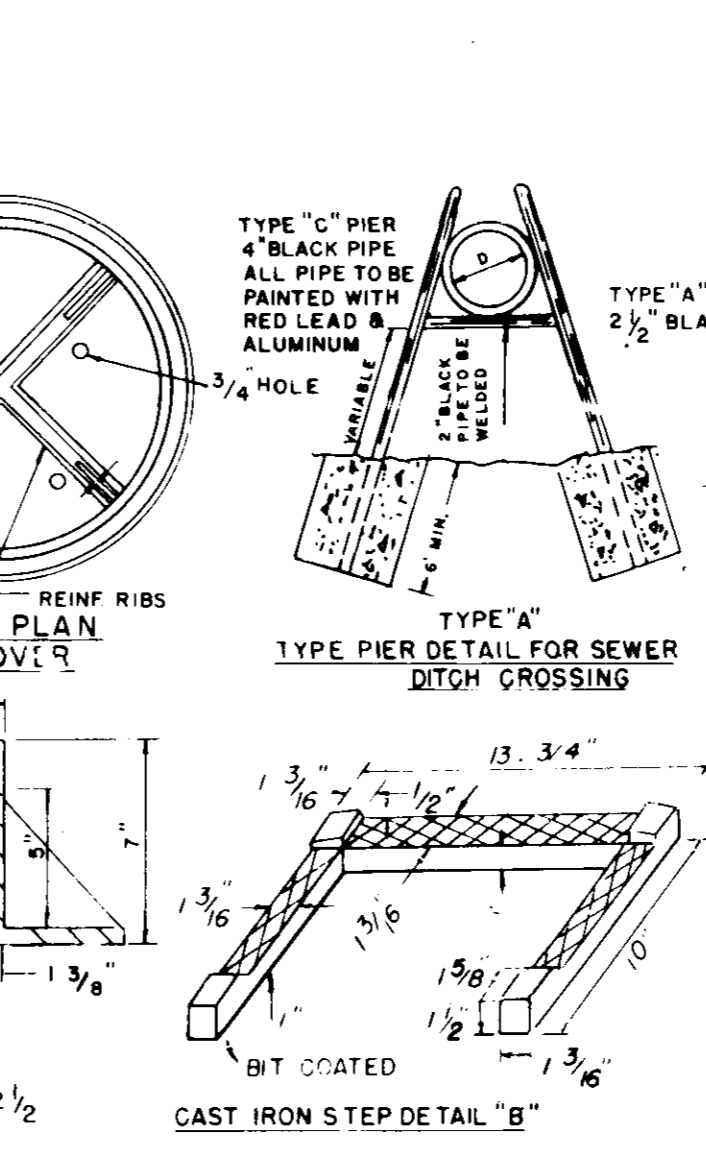
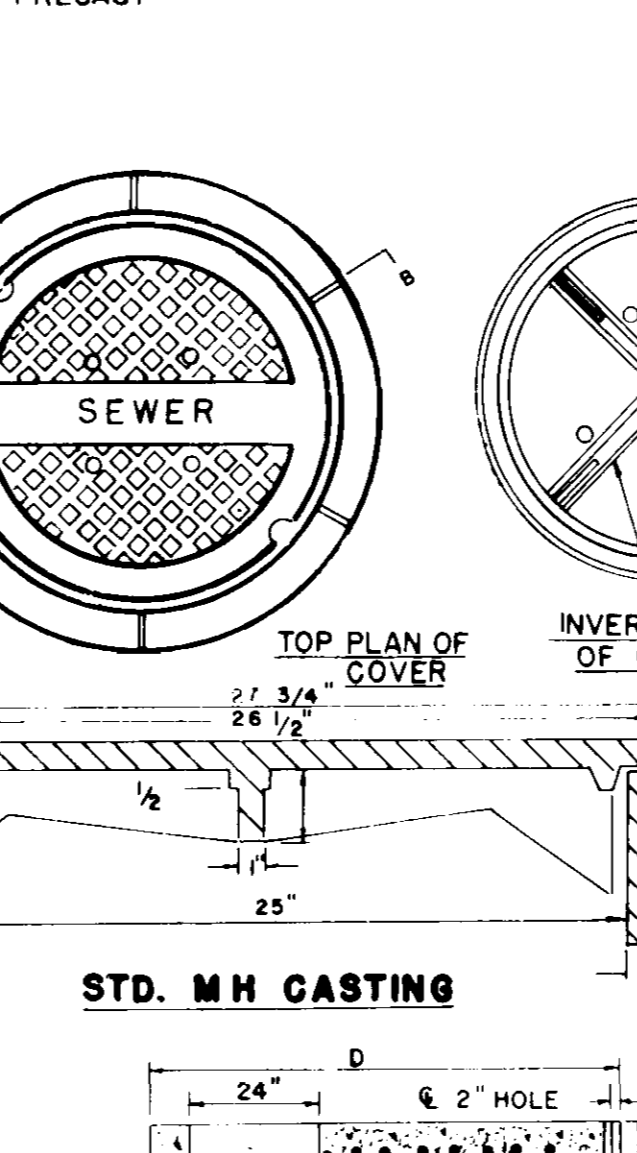
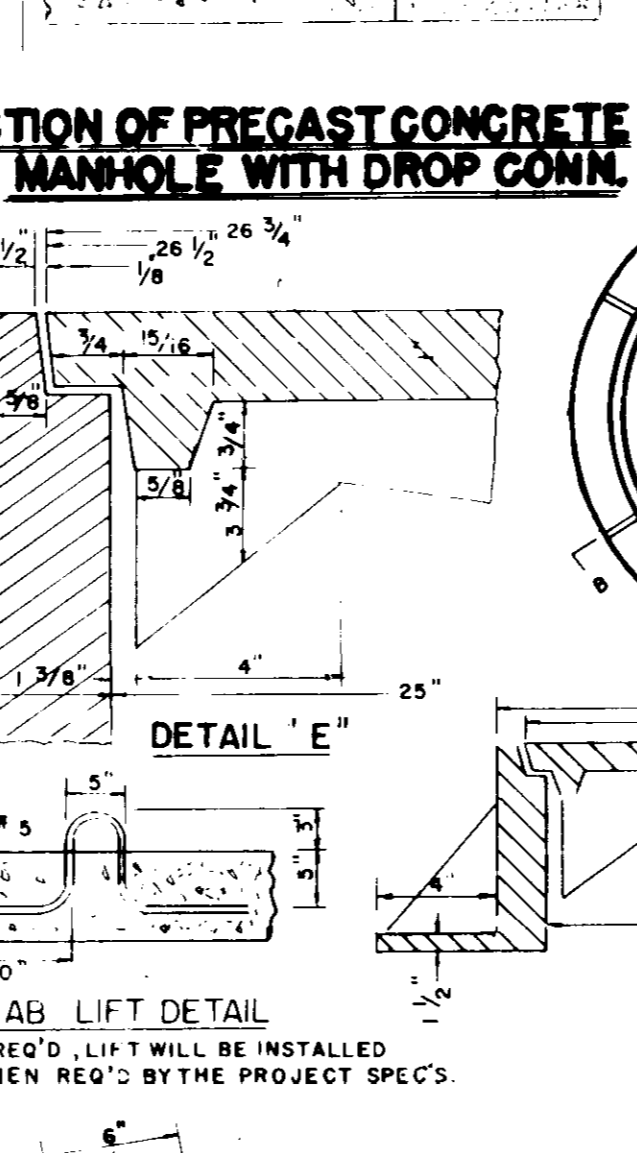
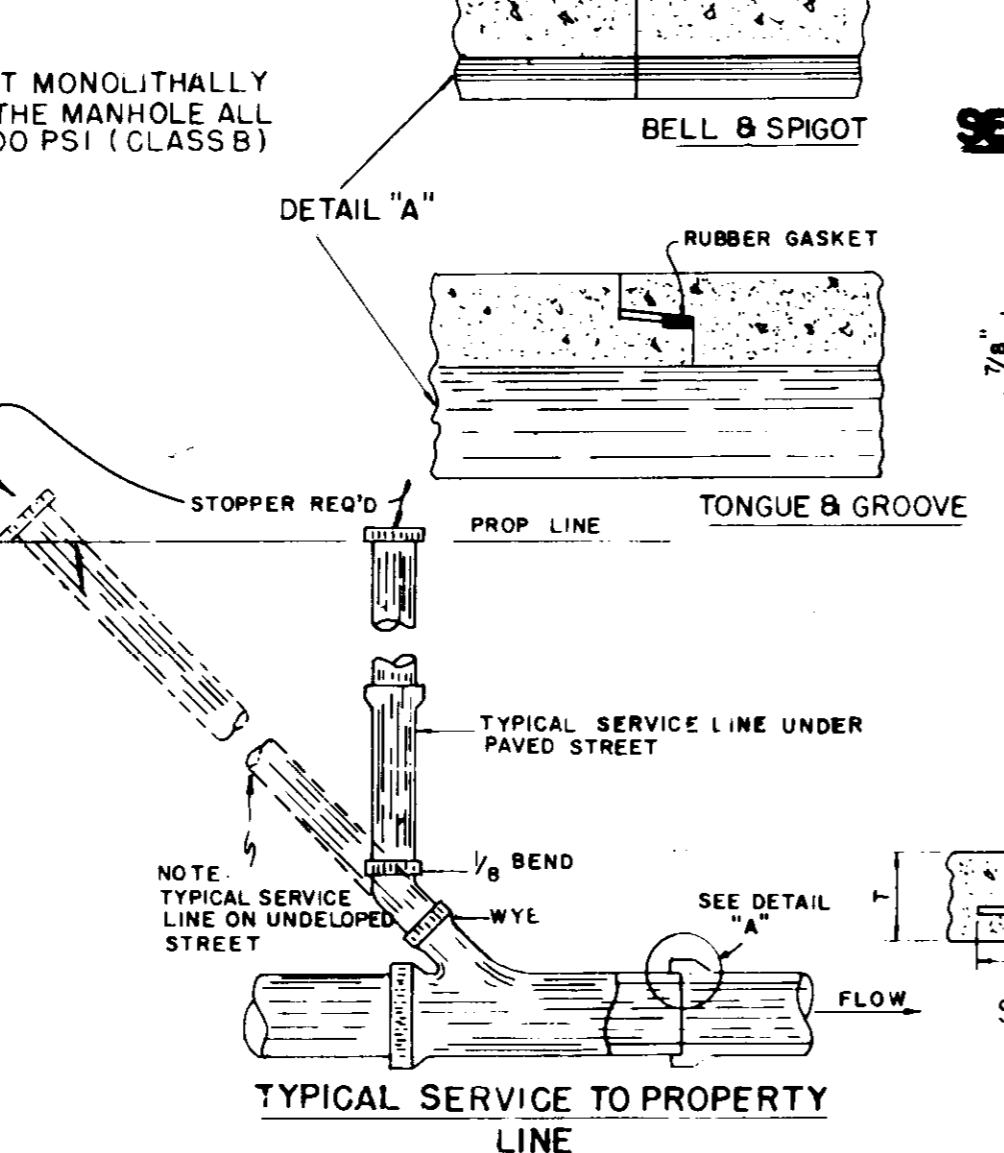
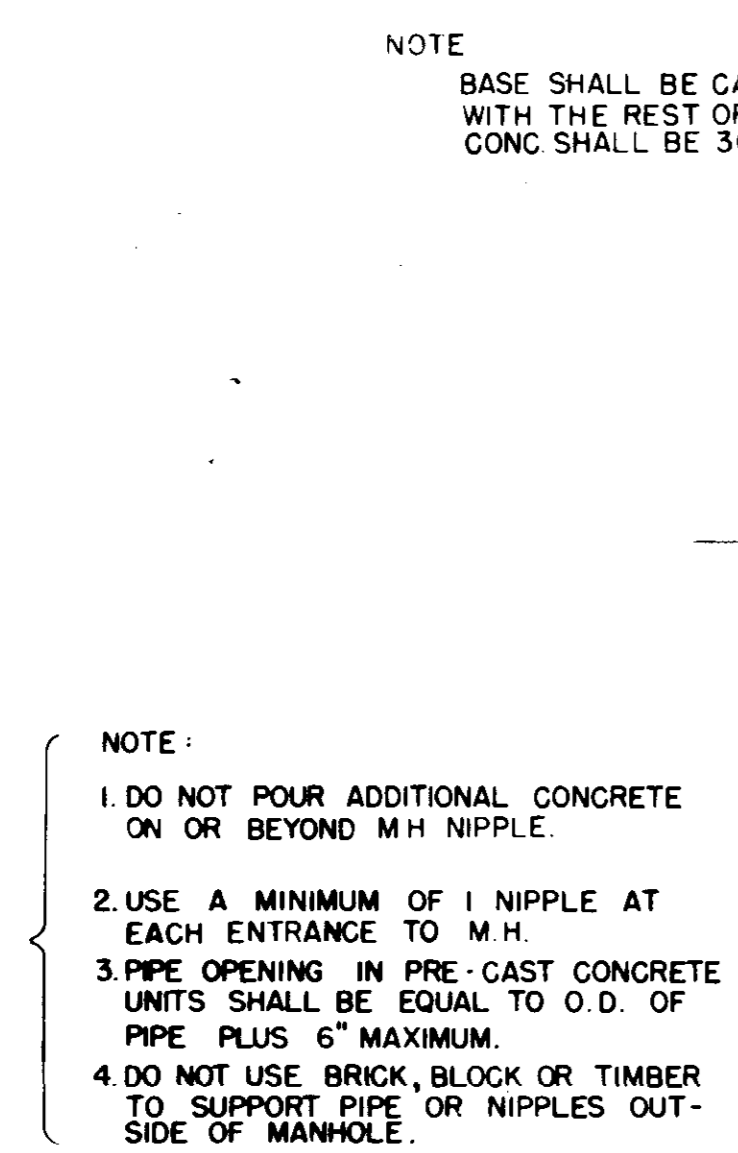
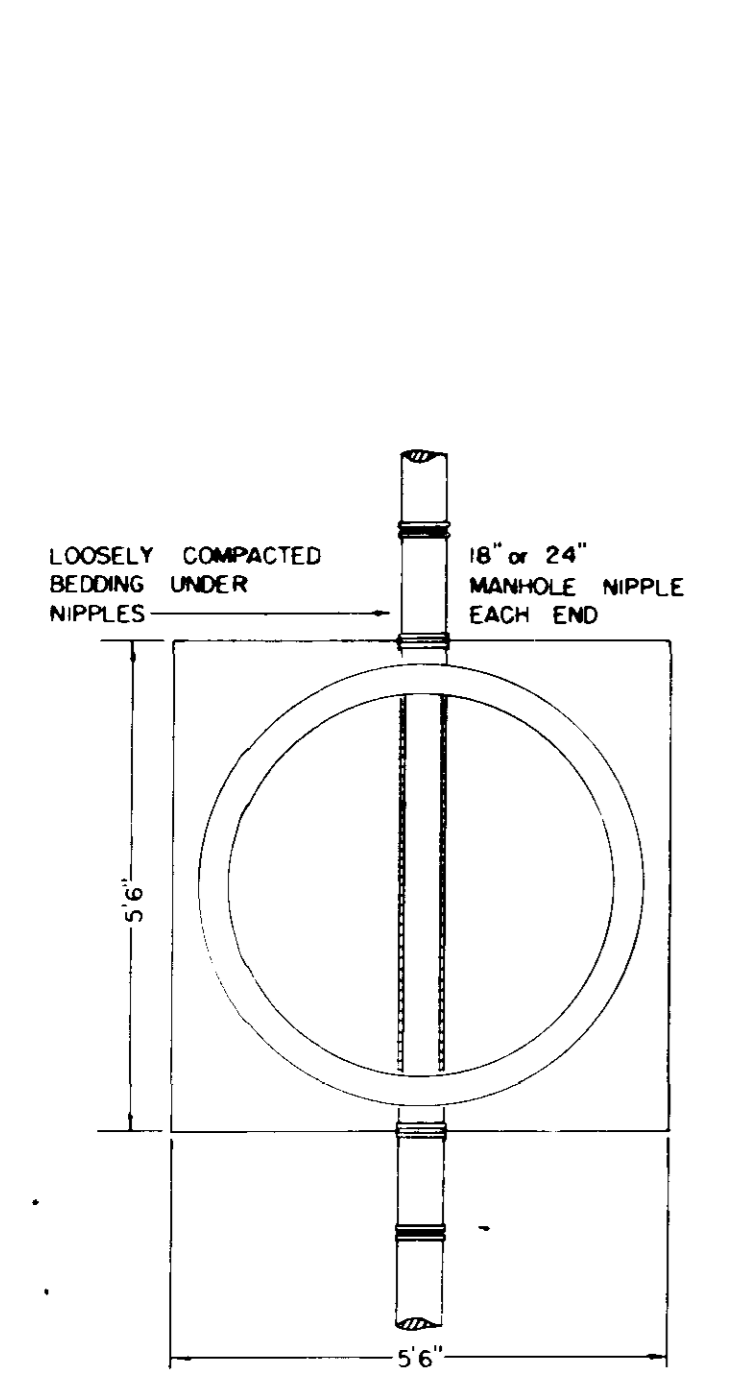
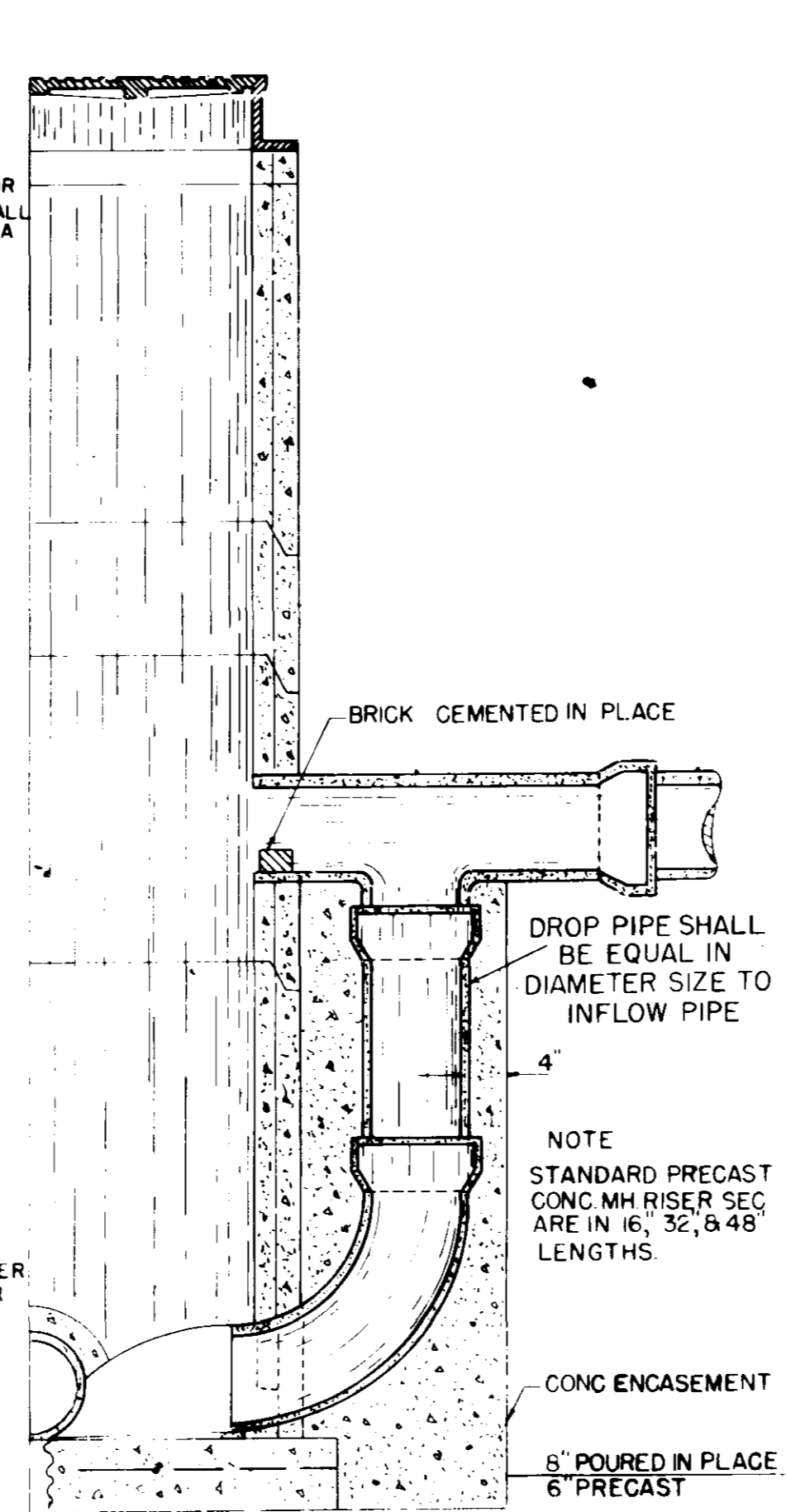
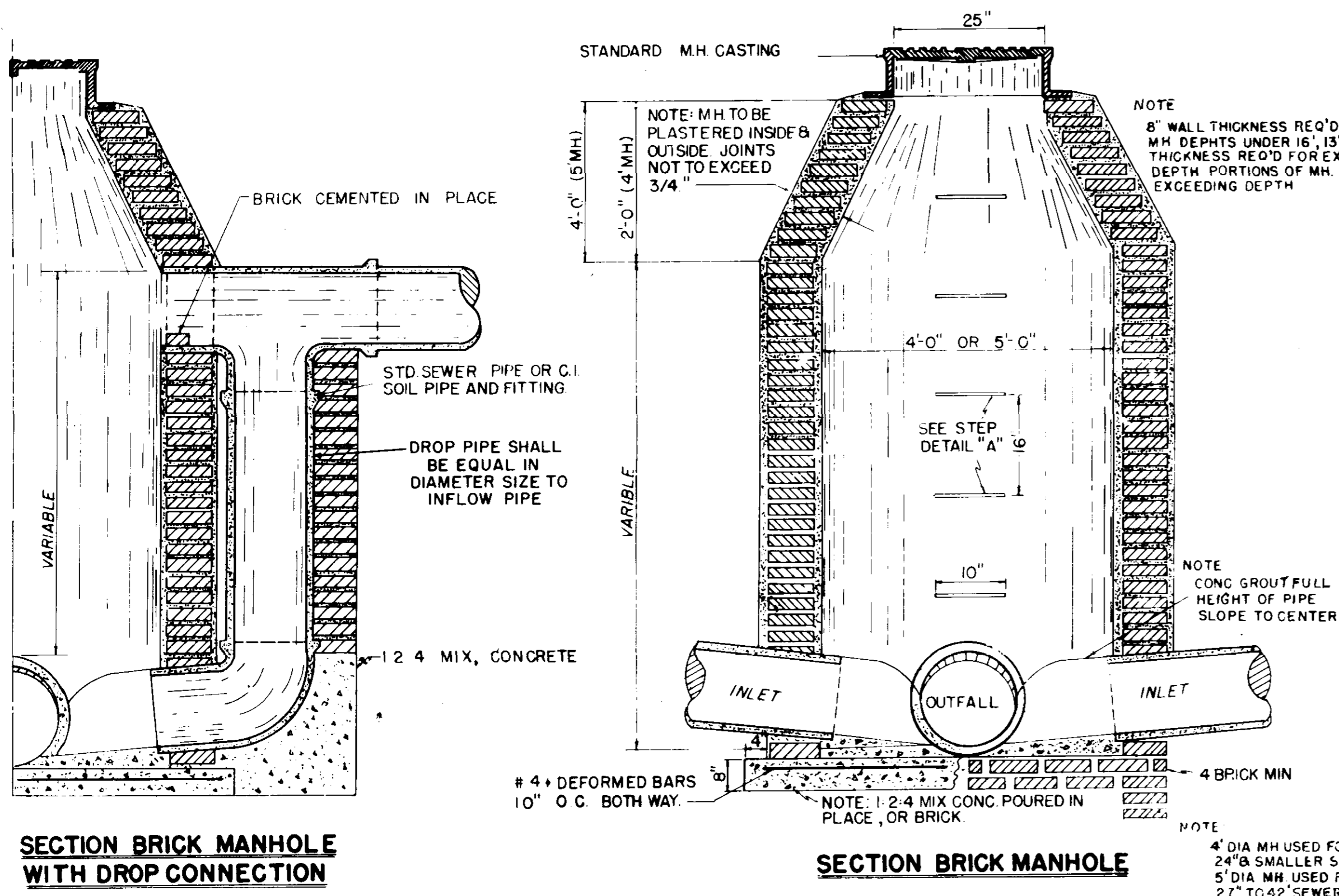


SUNNYVALE SUBDIVISION  
 STANDARD DETAILS  
 RIDGELAND, MISSISSIPPI

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**DIMENSION AND WEIGHT TABLE**

PIPE DIA.	W	D	T	EST. WT.
48"	5"	58"	6"	1,145 LBS.
54"	5 1/2"	65"	8"	1,990 LBS.
60"	6"	72"	8"	2,515 "
65"	6 1/2"	79"	8"	3,090 "
72"	7"	86"	8"	3,720 "
84"	8"	100"	8"	5,140 "
96"	9"	114"	8"	6,775 "
108"	9"	126"	8"	8,345 "

**SECTION OF PRECAST CONCRETE MANHOLE**

DIA.	A	B	C	T	APPROX. CONC. WEIGHT LBS.	APPROX. EST. WT. LBS./FT.
48"	38"	3 1/2"	5"	5"	2075	870
60"	36"	5"	9"	6"	3,455	1250

