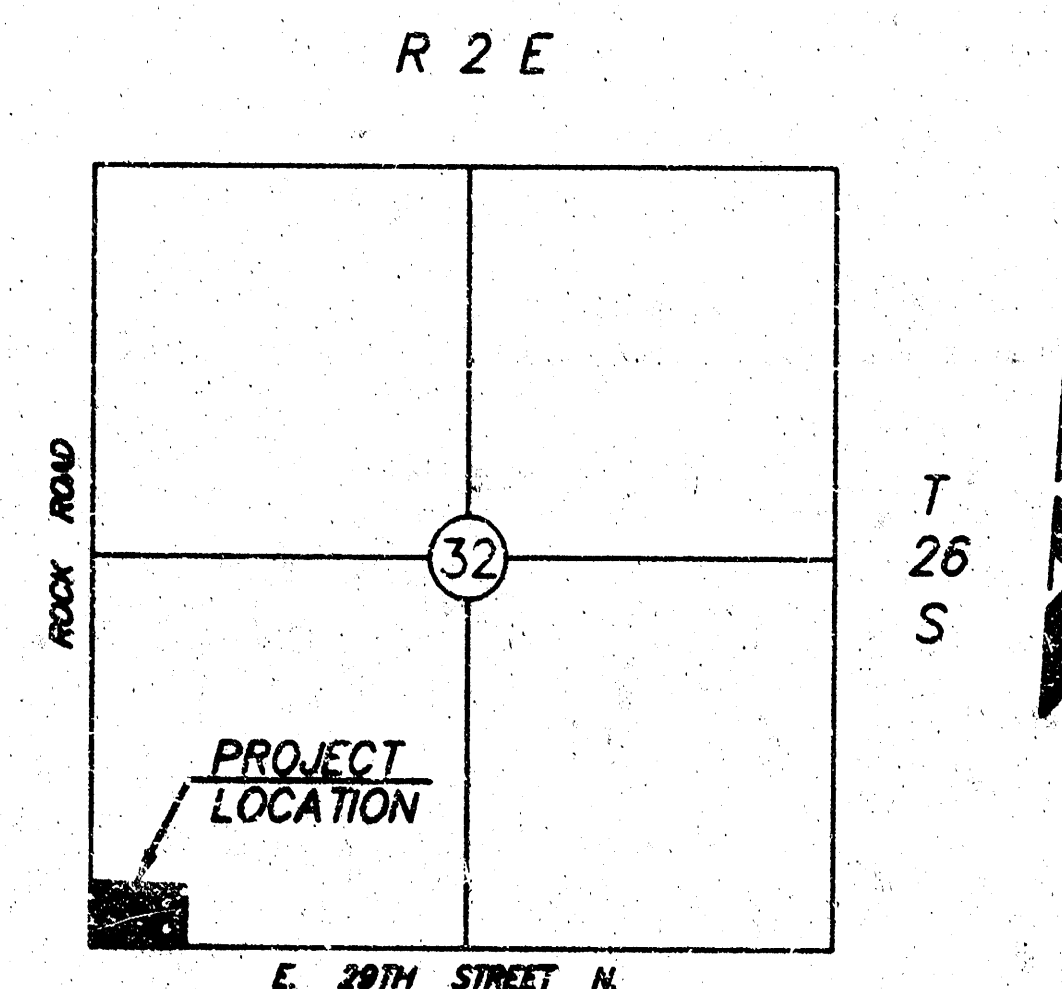


CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E., CITY ENGINEER
SANITARY SEWER IMPROVEMENTS
TO SERVE
WAL-MART #1507 EXPANSION
CITY OF WICHITA PRIVATE PROJECT NO. 664PPS (607861)

1596

INDEX OF SHEETS

1. Title Sheet
2. Sanitary Sewer Plan & Profile
3. Precast Sanitary Sewer Manholes & Details
4. Sanitary Sewer Details -B-



LOCATION MAP
SCALE: 1"=2000'

NOTE TO CONTRACTOR

INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM UNDER CONTRACT WITH THE OWNER/DEVELOPER. SAID INSPECTION TO BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD CONSTRUCTION ENGINEERING PRACTICES AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. NO WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER.

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 THEIR 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 RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED 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 BELOW.

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

CONTRACTOR SHALL SATISFY HIMSELF OF SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION.

CONTRACTOR SHALL PROVIDE A MINIMUM FORTY-EIGHT (48) HOUR ADVANCE NOTICE (EXCLUDING WEEKENDS AND HOLIDAYS) PRIOR TO BEGINNING ANY EXCAVATION TO KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE AT (316) 687-2470 TO REQUEST THE FOLLOWING UTILITY COMPANIES TO LOCATE ALL EXISTING LINES WITHIN THE PROJECT AREA: K.G.B.E. GAS, K.G.B.E. ELECTRIC, SOUTHWESTERN BELL TELEPHONE, MULTIMEDIA CABLEVISION, CITY OF WICHITA SEWER MAINTENANCE, AND CITY OF WICHITA WATER DEPARTMENT.

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

THE WATER DEPARTMENT SHALL FIELD LOCATE WATER VALVES ONE TIME DURING CONSTRUCTION WHEN REQUESTED BY THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESERVE SUCH FIELD LOCATIONS DURING THE CONSTRUCTION PROCESS. WATER VALVES, WATER VALVE BOXES, OR THE HYDRANTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

THE CONTRACTOR SHALL ADJUST WATER VALVE BOXES AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL SEED, FERTILIZE AND MULCH ALL DISTURBED GROUND IN CITY RIGHT-OF-WAY ACCORDING TO STANDARDS AND SPECIFICATIONS.

BY CITY ENGINEER OF WICHITA

Sanitary Sewers VRH 12/6/96

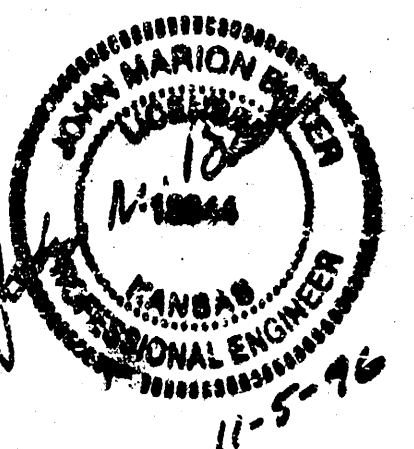
Sanitary Sewers _____

Approaches _____

Manholes _____

Booked
4/24/97
P-252
RCL

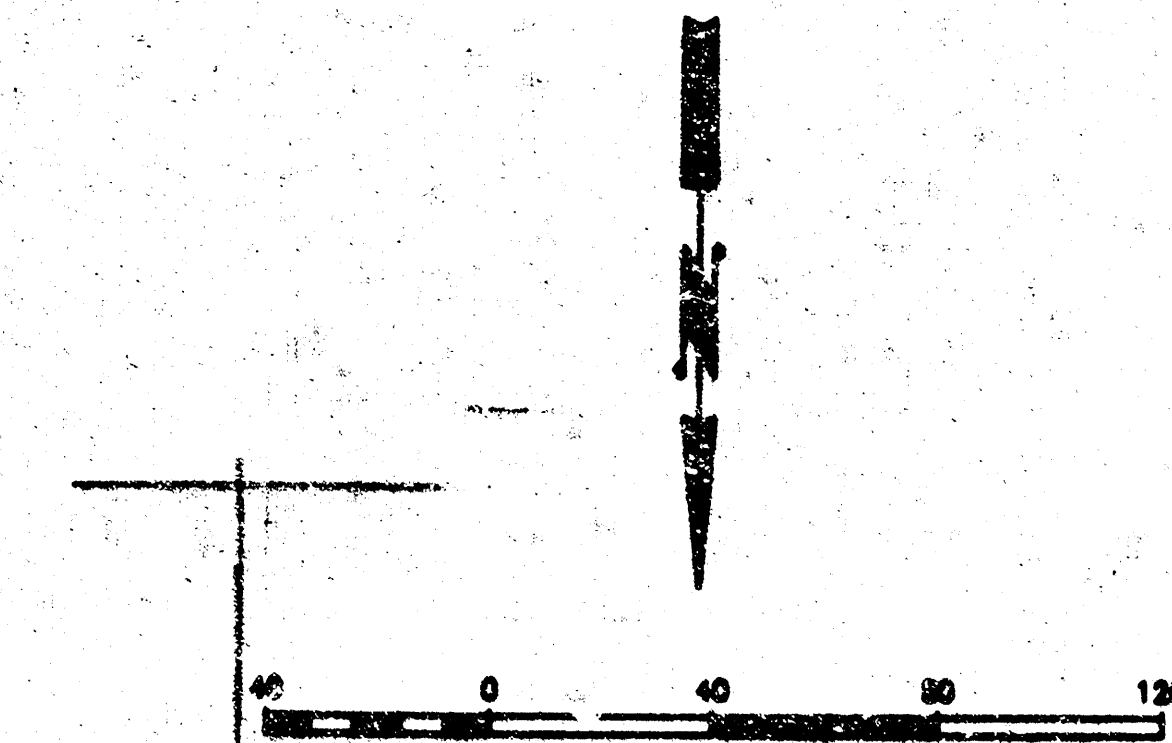
As Built
4-21-97



SMC

SPEAR & McCaleb CO., INC.
Consulting Engineers - Oklahoma City, Oklahoma
815 W. Main - 73106 (405)232-7715

REV 10/21/96		
SANITARY SEWER IMPROVEMENTS TO SERVE		
WAL-MART #1507 EXPANSION 3030 ROCK ROAD WICHITA, KANSAS		
SPEAR & McCaleb CO., INC. OKLAHOMA CITY, OKLAHOMA		
DATE: 10/26/96	SCALE: N/A	SHEET NO.
DRAWN BY: BB	BY: JMB	1
ENGINEER: JOHN M. BAKER P.E. # 12844		



NOTE: THE GENERAL CONTRACTOR IS RESPONSIBLE FOR MAKING ALL ADJUSTMENTS OF EXISTING UTILITIES TO ALLOW THE DESIGN TO BE BUILT.

ALL ELEVATIONS BASED ON CITY OF WICHITA DATUM. ADD 1000 FEET TO THE GIVEN ELEVATION TO MATCH SITE DEVELOPMENT PLAN ELEVATIONS. BENCHMARK INFORMATION BY SMITH-ROBERTS AND ASSOCIATES, INC., SURVEY DATED 5-15-96. SUBTRACT 1000 FEET FROM REFERENCED BENCHMARK ELEVATIONS TO COMPLY WITH CITY DATUM.

- BM #1
CUT "X"
CENTER OF STORM DRAIN
45' E & S. OF NW PROP. COR.
ELEV=1219.12
- BM #2
CUT "Y" T/C
NW P.I. OF SE ENTRANCE
ELEV=1225.52
- BM #3
CUT "X" T/C
W SIDE OF PENSTEMON
BY F.H. SE. COR. LOT 5
ELEV=1222.20

S.E. CORNER OF HOME
DESIGN CENTER ADDITION
LOT 2, BLOCK 2

STA. 10 + 00.00 LINE "A"
CONNECT TO EXIST. SEWER
T.R. = 224.04
P.L. = 212.30 (PROP. 8" W)
P.L. = 212.70 (EXIST. P.L. M)
P.L. = 212.70 (EXIST. P.L. S)

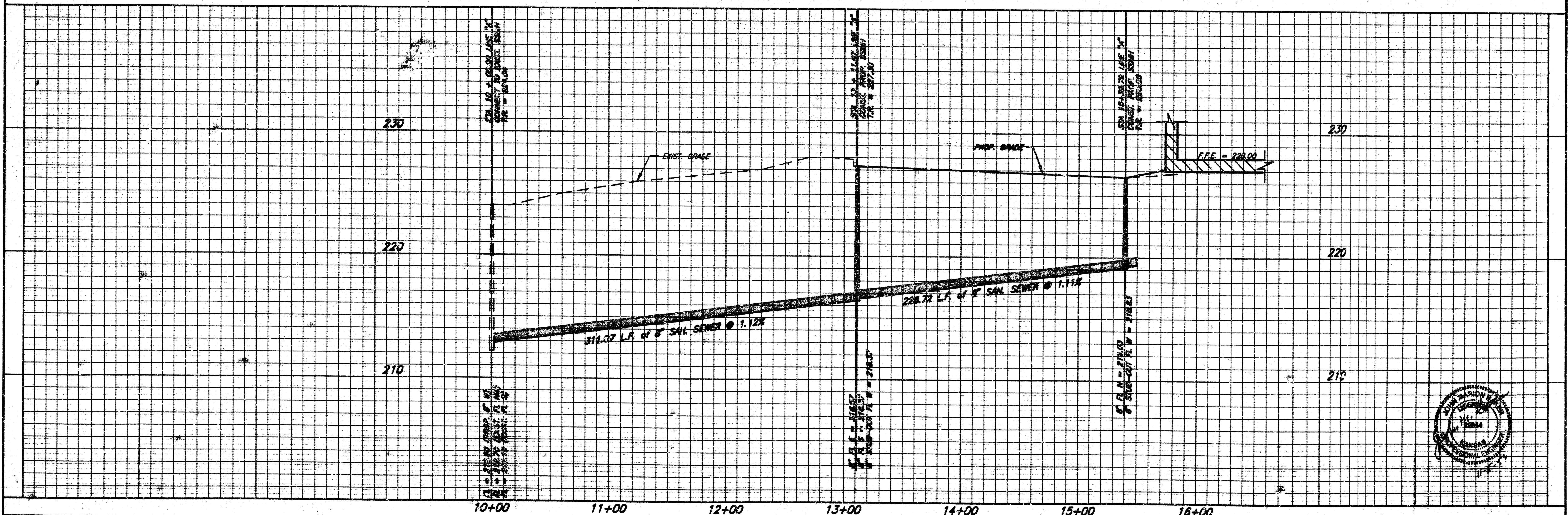
STA. 15 + 36.78 LINE "A"
CONST. PROP. SEWER
T.R. = 224.20
P.L. N = 218.03
8" STUB-OUT P.L. W = 218.83

STA. 17 + 11.07 LINE "A"
CONST. PROP. SEWER
T.R. = 227.30
8" P.L. E = 218.37
8" P.L. S = 218.57
8" STUB-OUT P.L. W = 218.37

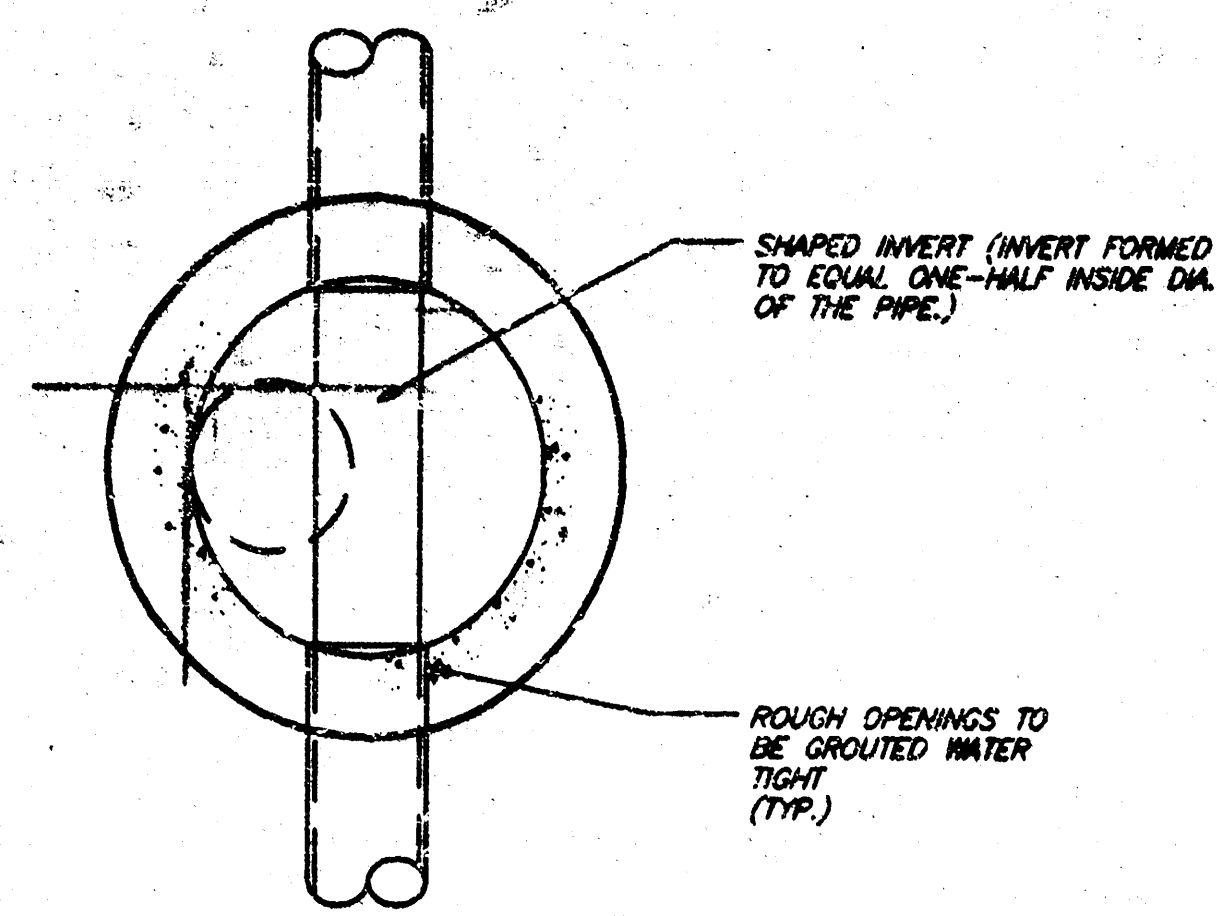
LINE "A"
311.07 L.F. OF 8" SAN. SEWER
S 89°07'40" W

LINE "A"
228.72 L.F. OF 8" SAN. SEWER
S 07°32'54" E

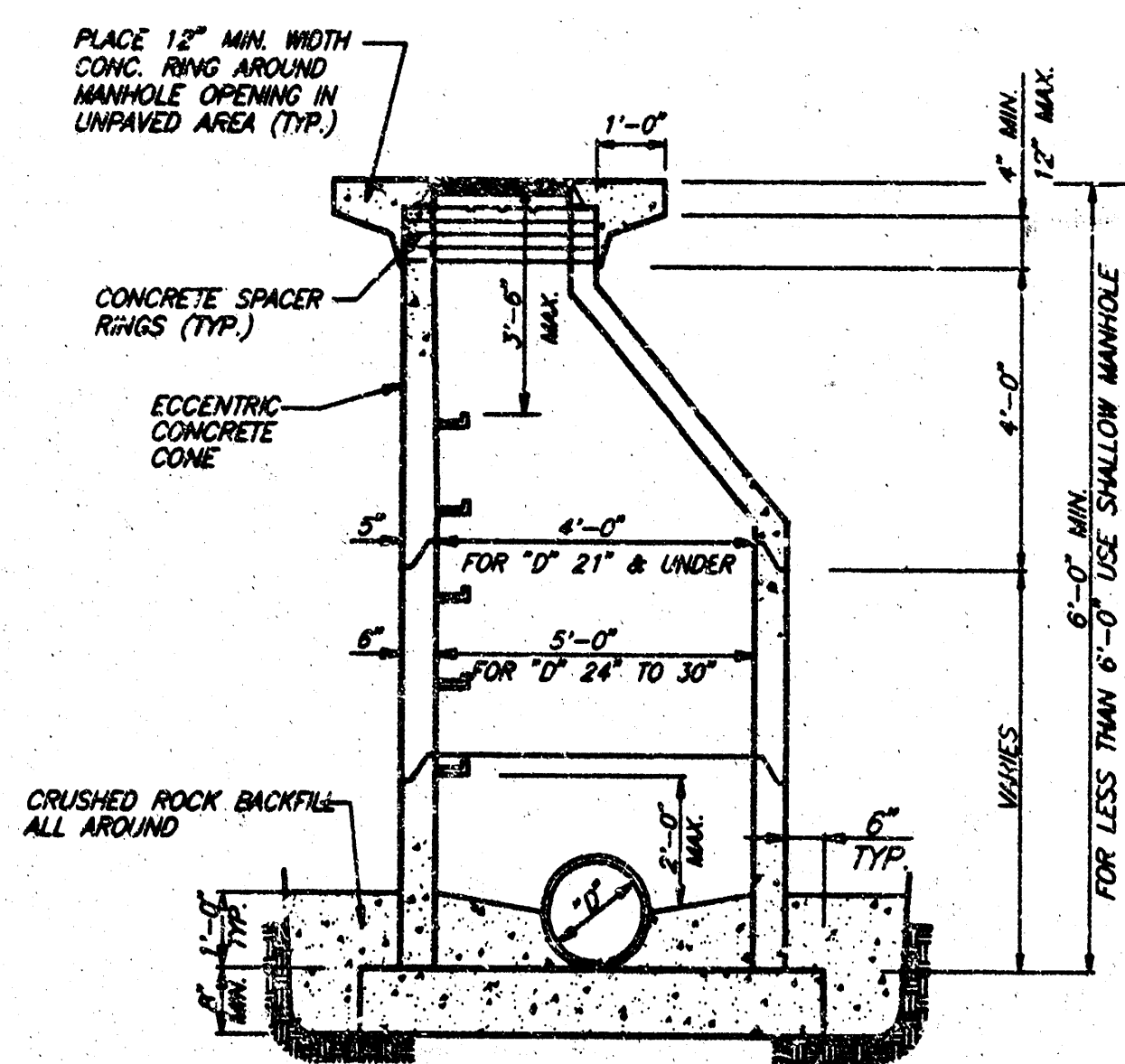
MEDITECH
SECOND ADDITION
PLAZA COMMERCIAL
BLOCK 1, LOT 7



D:\VMS\2740_00\2740PR21.F11 Rev 1 15:35:59 1998

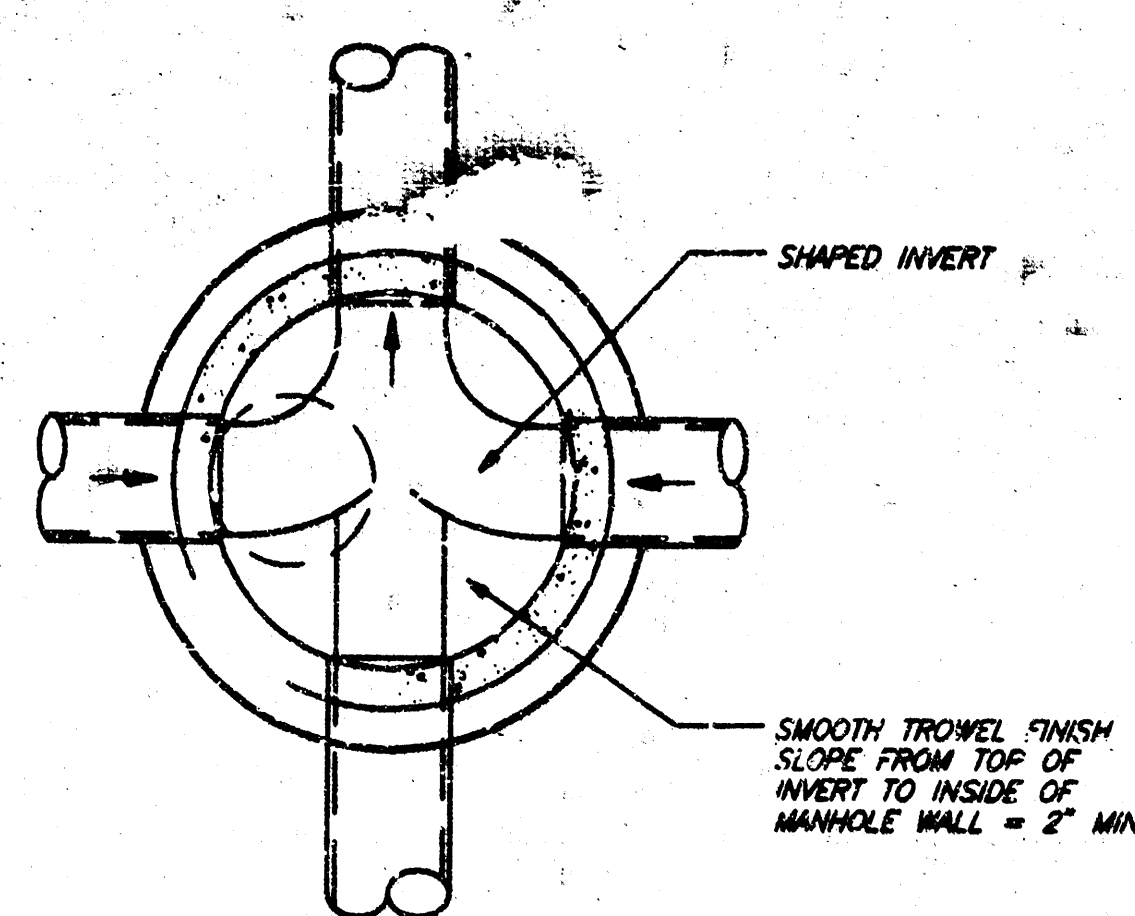


PLAN

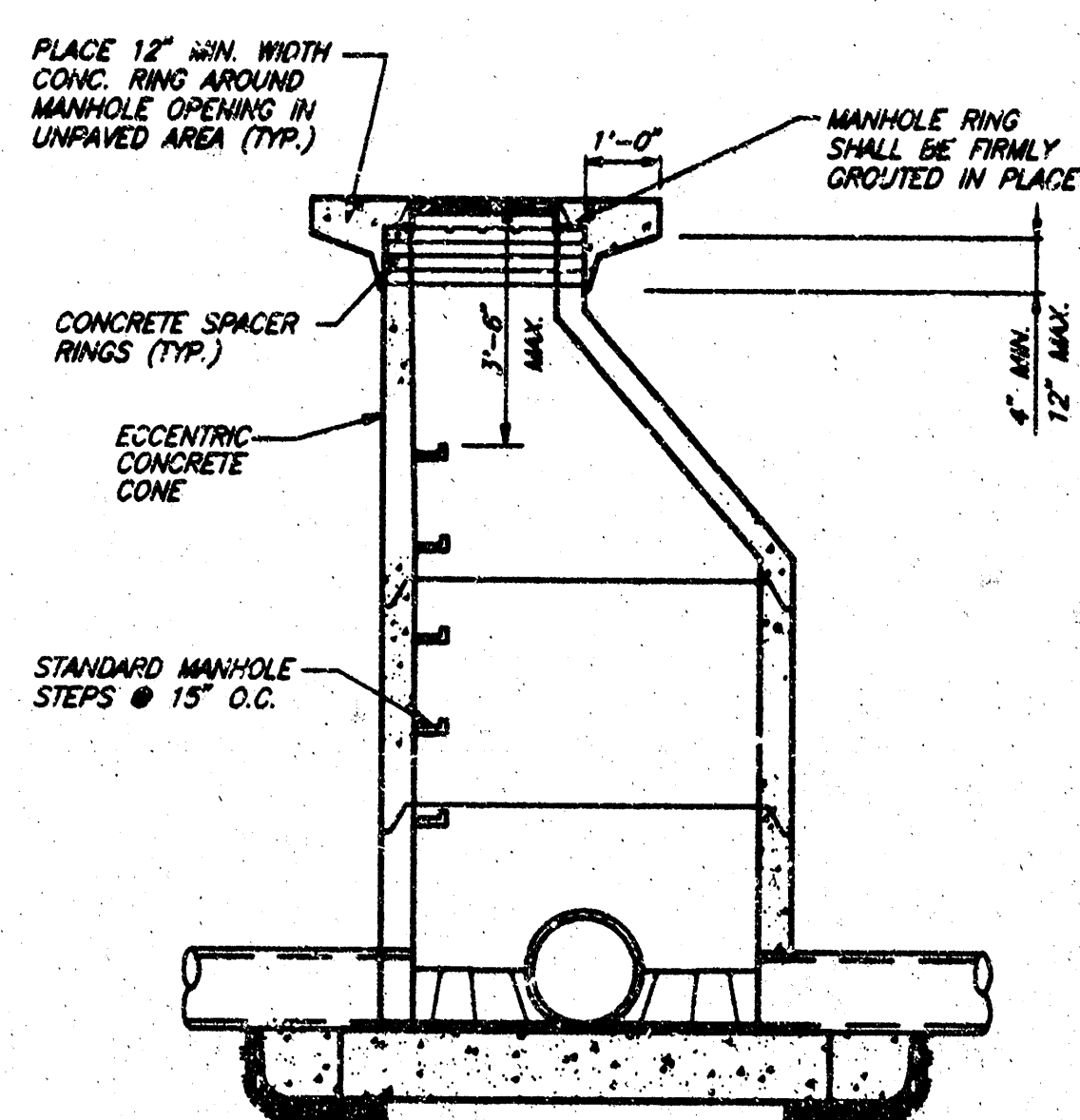


SECTION

THROUGH MANHOLE
NOT TO SCALE

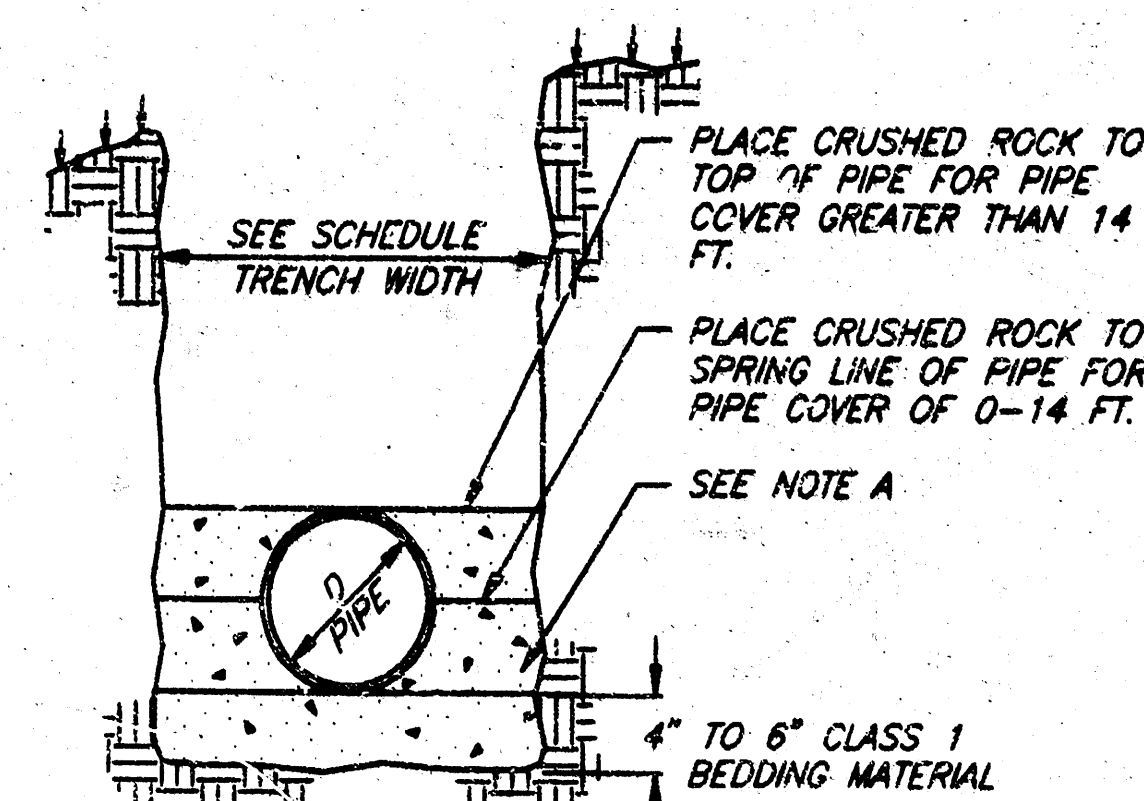


PLAN

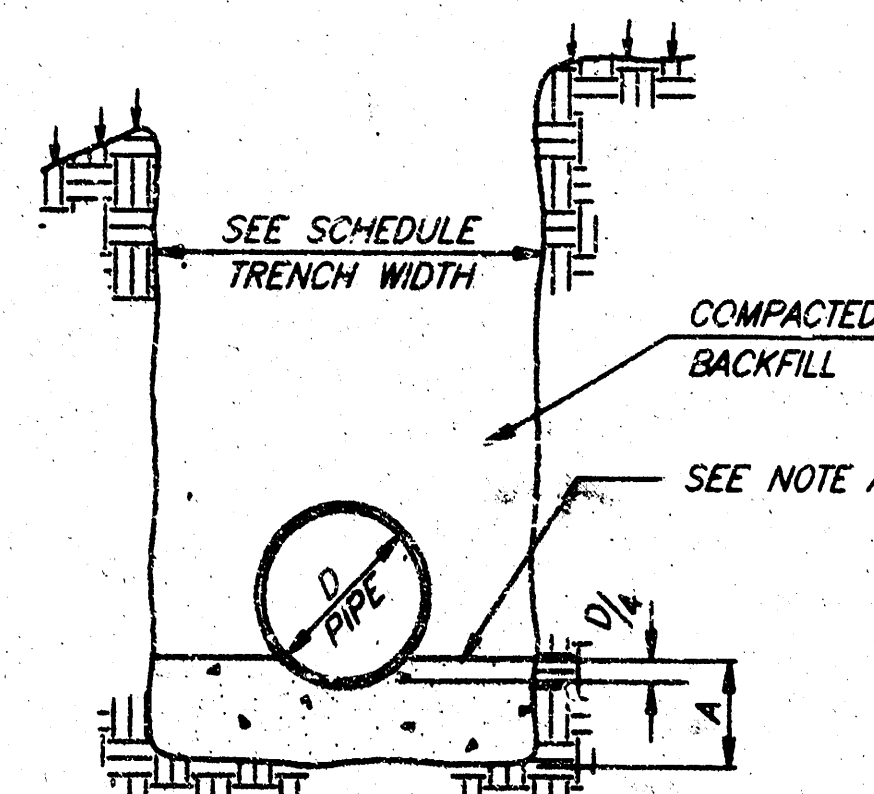


SECTION

JUNCTION MANHOLE
NOT TO SCALE



TYPICAL SECTION
CRUSHED ROCK CRADLE
FLEXIBLE PIPE



TYPICAL SECTION
CRUSHED ROCK CRADLE
RIGID PIPE

NOTE A: BEDDING MATERIAL SHALL BE WELL GRADED, CLEAN GRAVEL OR CRUSHED STONE WITH 85% PASSING THE 1/2" SIEVE, AND 5% PASSING THE NO. 4 SIEVE WITH A MAXIMUM SIZE OF 3/4".

GENERAL CONSTRUCTION NOTES: SEWER

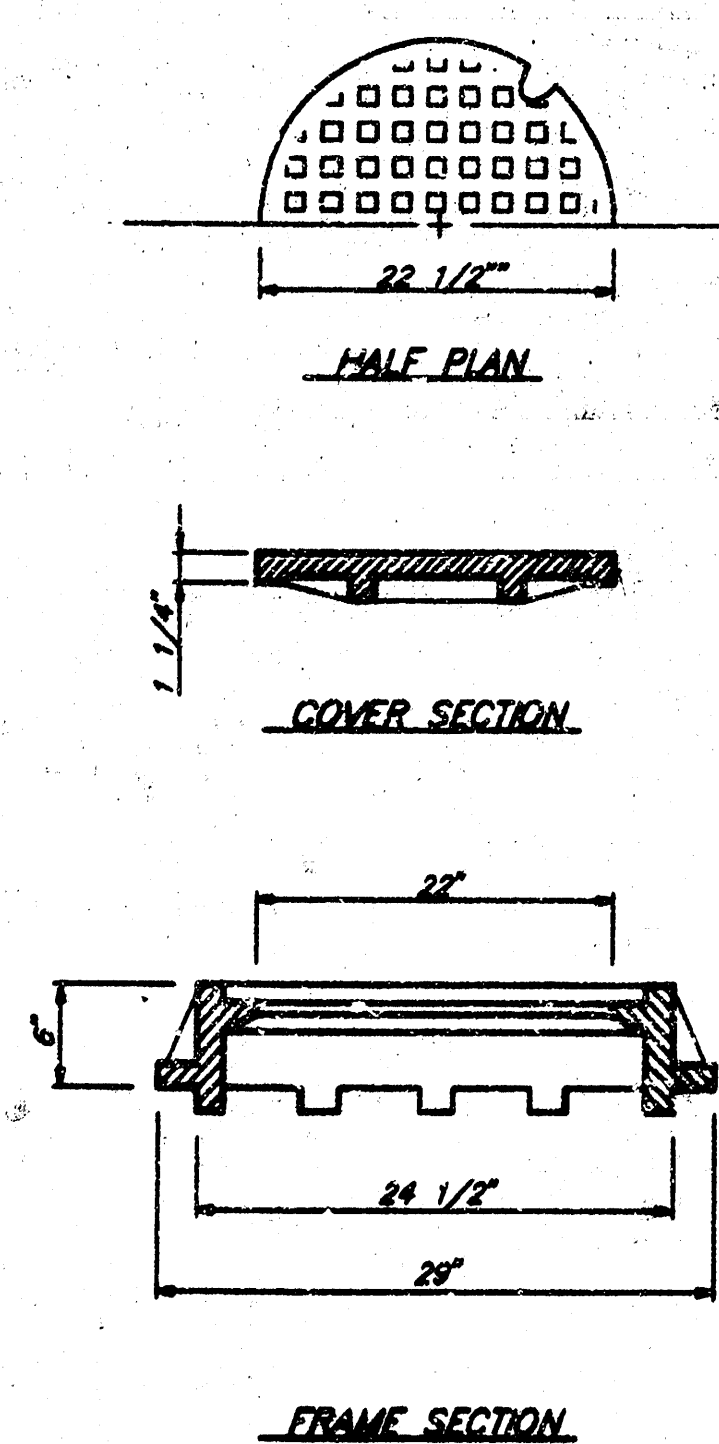
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS FOR CONSTRUCTION OF SANITARY SEWERS AND APPURTENANCES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL UTILITIES, EITHER PUBLIC OR PRIVATE.
- WATER-TAMP OR WATER-FLUSH ALL BACKFILL.
- BACKFILL WITH RIVERSAND AROUND ALL EXISTING WATER LINES EXPOSED DURING CONSTRUCTION.
- THE COST OF REMOVING OR MOVING AND REPLACING ALL FENCES, TREES, STRUCTURES OR OTHER OBSTRUCTION NECESSARY FOR CONSTRUCTION WILL NOT BE PAID FOR AS SUCH, BUT SHALL BE INCLUDED IN THE UNIT BID PRICES FOR OTHER ITEMS.
- ONLY THOSE ITEMS DETAILED ON THIS SHEET THAT ARE REQUIRED IN THE PLANS & SPECIFICATIONS SHALL BE USED.
- ALL SEWERS CONSTRUCTED OF RIGID OR SEMI-RIGID PIPE EXTENDING FROM ALL MANHOLES SHALL BE ENCASED WITH CONCRETE FOR A DISTANCE OF 3 FEET (0.9 M) FROM THE OUTSIDE WALL OF THE MANHOLE. THIS SUPPORT MAY BE DELETED IF A FLEXIBLE, WATERTIGHT GASKET IS USED TO CONNECT THE SEWER TO THE MANHOLE. NO SUPPORT IS REQUIRED FOR SEWERS CONSTRUCTED OF FLEXIBLE PIPE.
- THE MANHOLE RING AND LID SHALL BE CLAY & BAILEY 2008 BV (OR EQUAL) AND SHALL COMPLY WITH ASTM A-48.
- ALL SANITARY SEWER PIPE SHALL BE IN ACCORDANCE WITH ASTM D3034. THE JOINTS SHALL BE RUBBER GASKET TYPE IN ACCORDANCE WITH ASTM D3212 AND ASTM F477. THE MINIMUM WALL THICKNESS SHALL COMPLY WITH SDR-35.
- ALL SANITARY SEWER PIPE IS TO BE MARKED WITH WARNING TAPE.
- THE USE OF POURED IN PLACE MANHOLES IS NOT ACCEPTABLE. ALL SANITARY SEWER SEWER MANHOLES SHALL CONFORM TO ASTM C78. THE JOINTS SHALL BE RUBBER RING GASKET IN ACCORDANCE WITH ASTM C443. THE PIPE BLOCKOUTS SHALL BE FACTORY FABRICATED.
- MANHOLE STEPS SHALL BE M.A. PS2-PF, CLAY & BAILEY 2102, OR EQUAL.
- ALL MANHOLES SHALL BE VACUUM TESTED AS PER THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT RECOMMENDED METHODS.
- ALL SANITARY SEWER PIPE SHALL BE PRESSURE TESTED. IN ADDITION, A SEVEN SPINE MANDREL OF CORRESPONDING DIAMETER SHALL BE PULLED THROUGH ALL PVC SANITARY SEWER PIPE TO CHECK FOR PIPE DEFLECTION.

TRENCH WIDTH	D	A	C.Y. CRUSHED ROCK PER L.F.
2.2'	8"	8"	.052
2.2'	10"	9"	.058
2.2'	12"	10"	.063
2.6'	15"	11"	.082
2.9'	18"	12"	.099
3.3'	21"	13"	.121
3.8'	24"	14"	.149
4.2'	27"	15"	.175
4.5'	30"	16"	.199
4.9'	33"	17"	.229
5.2'	36"	18"	.256

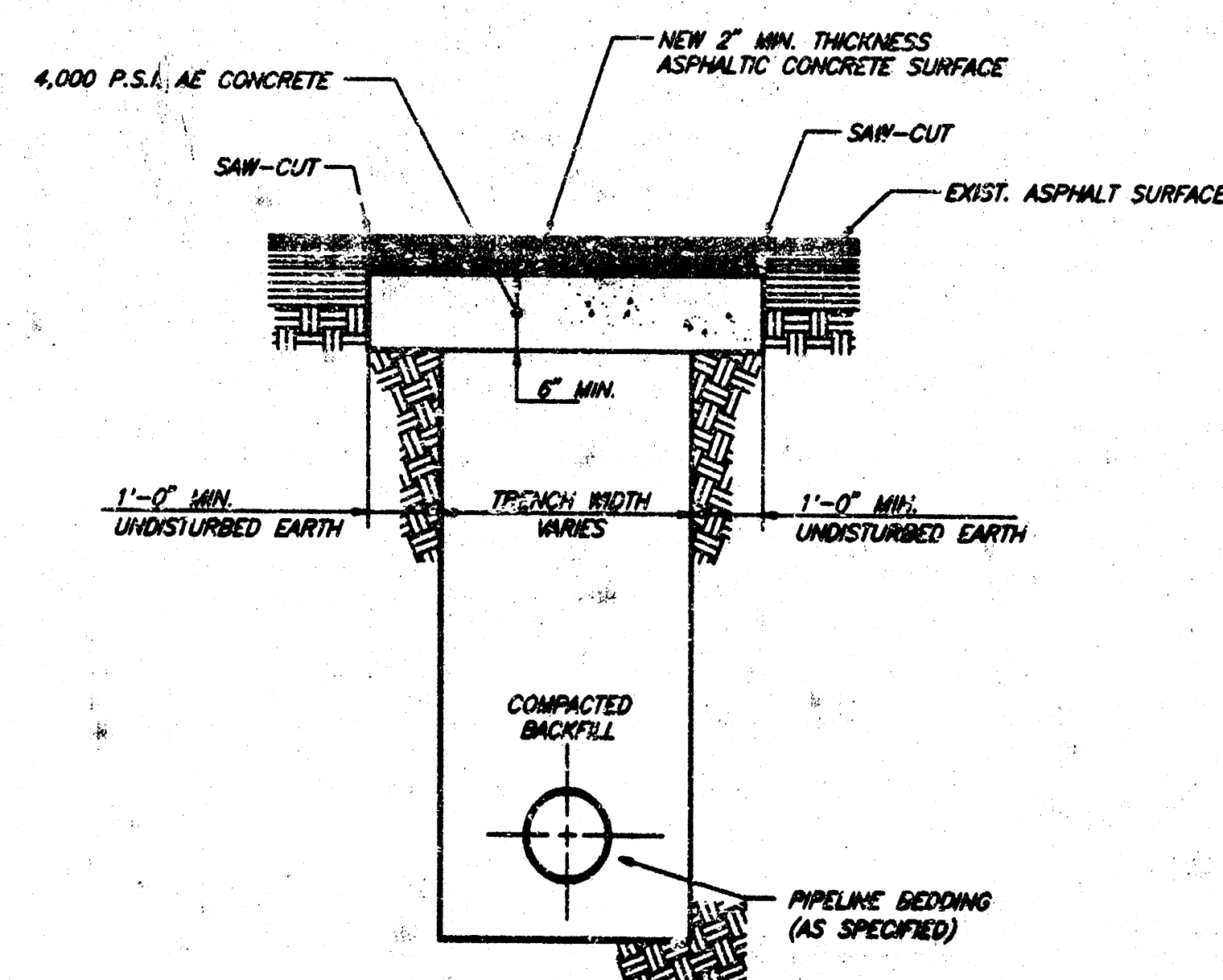
NOTE: STONE SHALL BE HAND OR MECHANICALLY TAMPED.

TRENCH WIDTH	D	C.Y. CRUSHED ROCK PER L.F. 0-14 FT.	C.Y. CRUSHED ROCK DEPTHS GREATER THAN 14 FT.
2.2'	8"	.062	.082
2.2'	10"	.065	.088
2.2'	12"	.070	.093
2.6'	15"	.086	.123
2.9'	18"	.102	.149
3.3'	21"	.124	.186
3.8'	24"	.153	.236
4.2'	27"	.180	.281
4.5'	30"	.242	.318
4.9'	33"	.230	.370
5.2'	36"	.254	.412

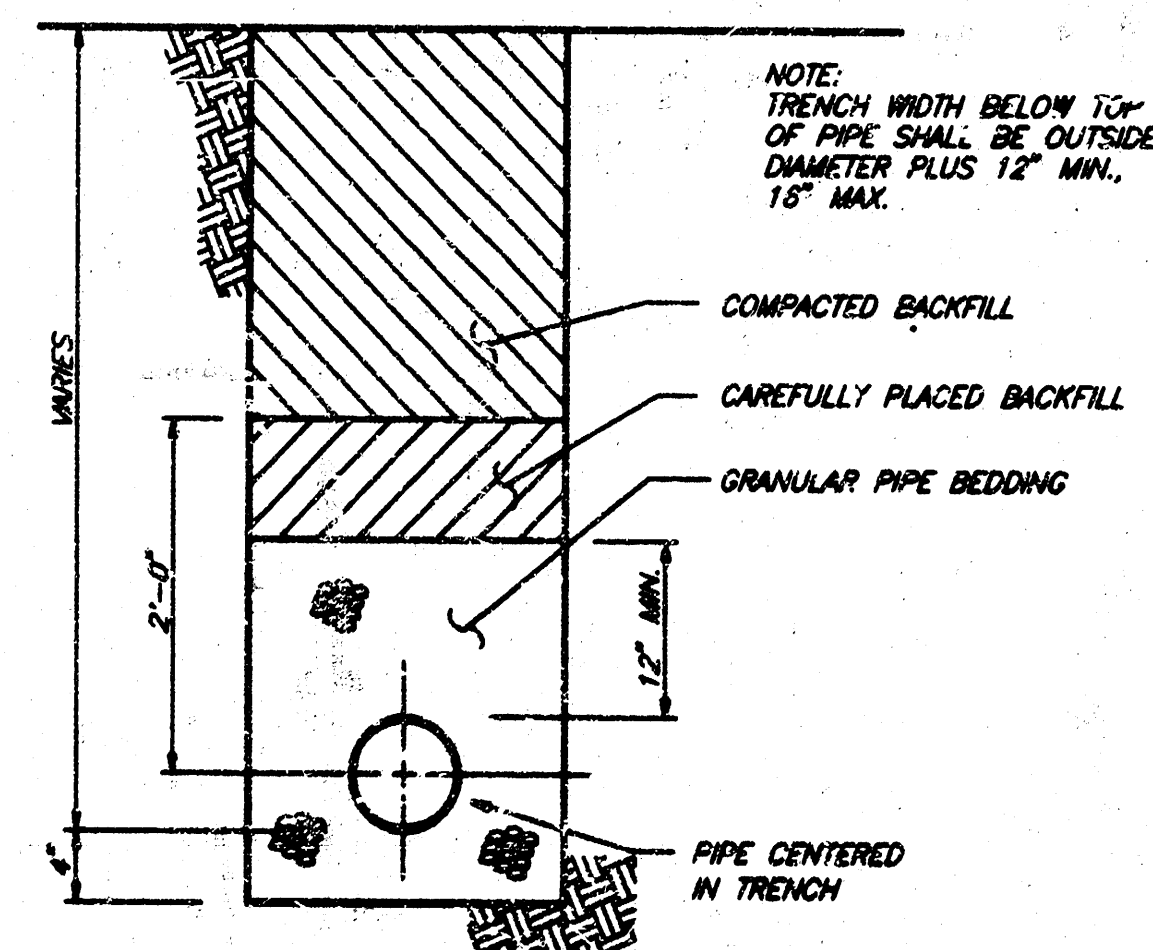
NOTE: STONE SHALL BE HAND OR MECHANICALLY TAMPED.



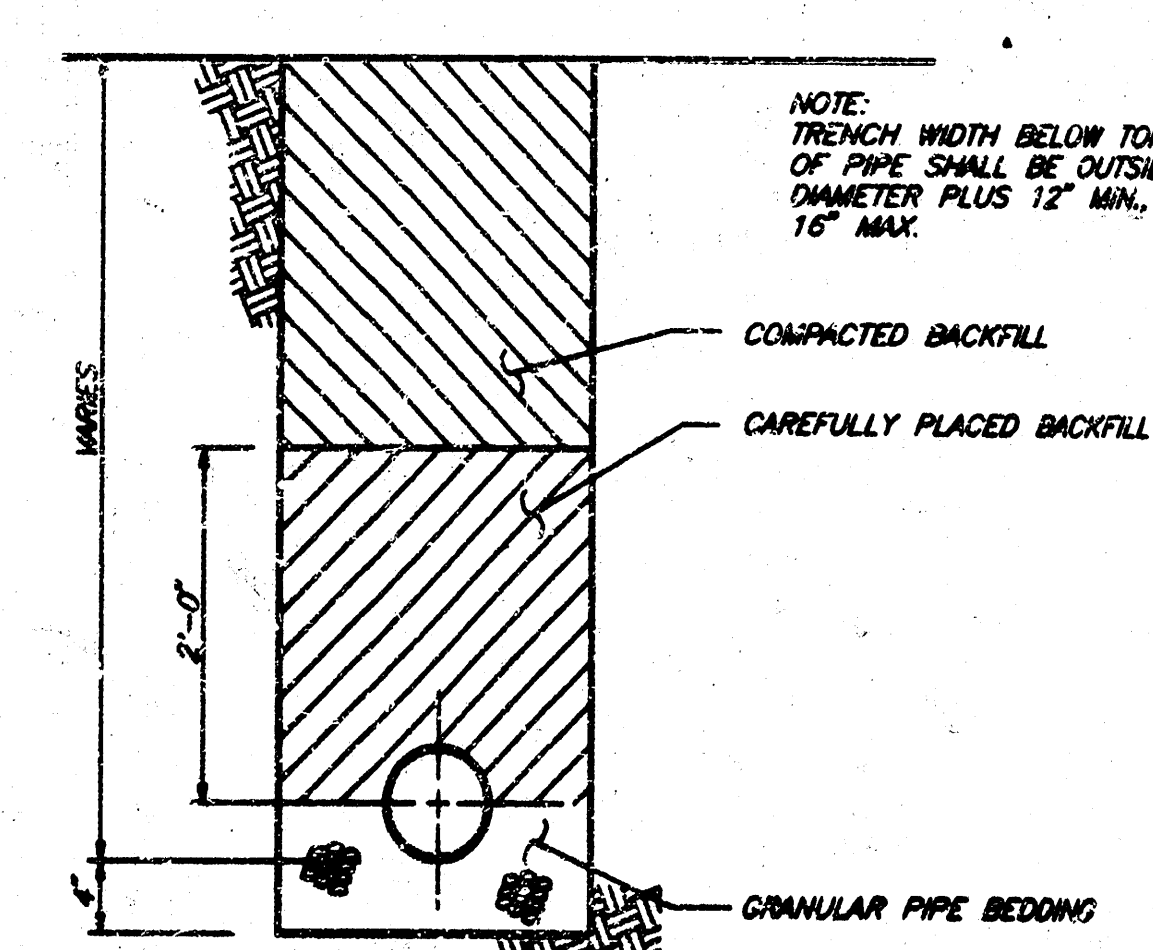
MANHOLE FRAME & COVER
NOT TO SCALE



TRENCH AT PAVEMENT
NOT TO SCALE

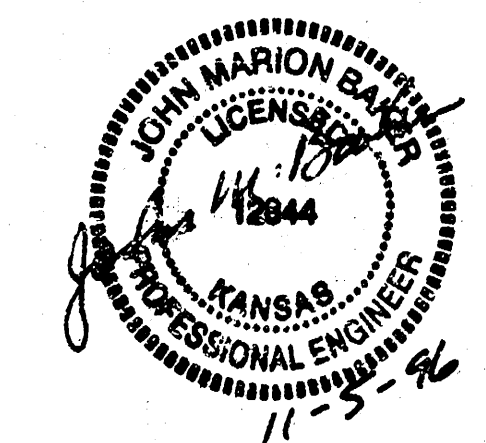


TRENCH DETAIL ~ PVC
NOT TO SCALE

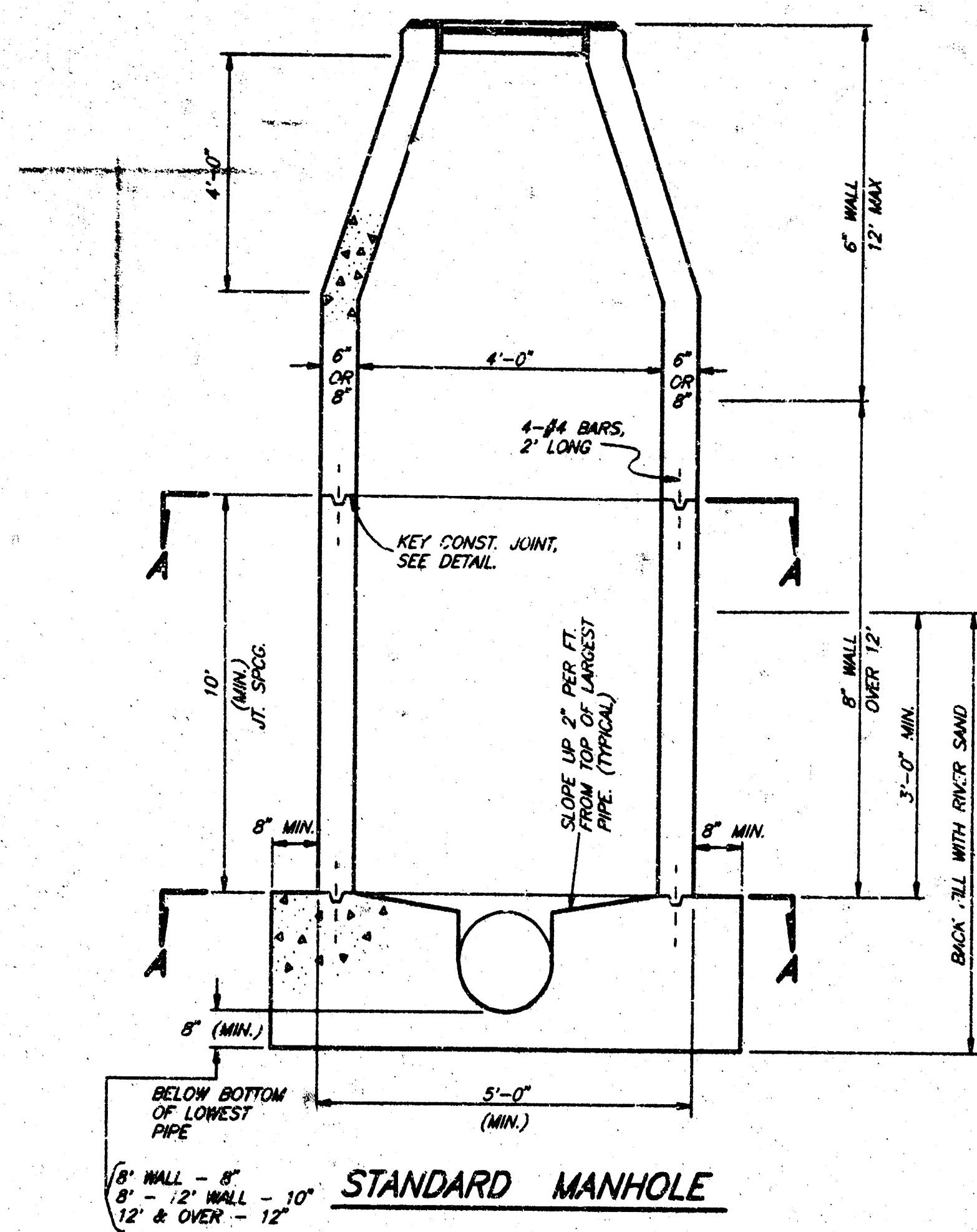


* HAND EXCAVATED AND SHAPED TRENCH BOTTOM OPTIONAL FOR DUCTILE IRON PIPE

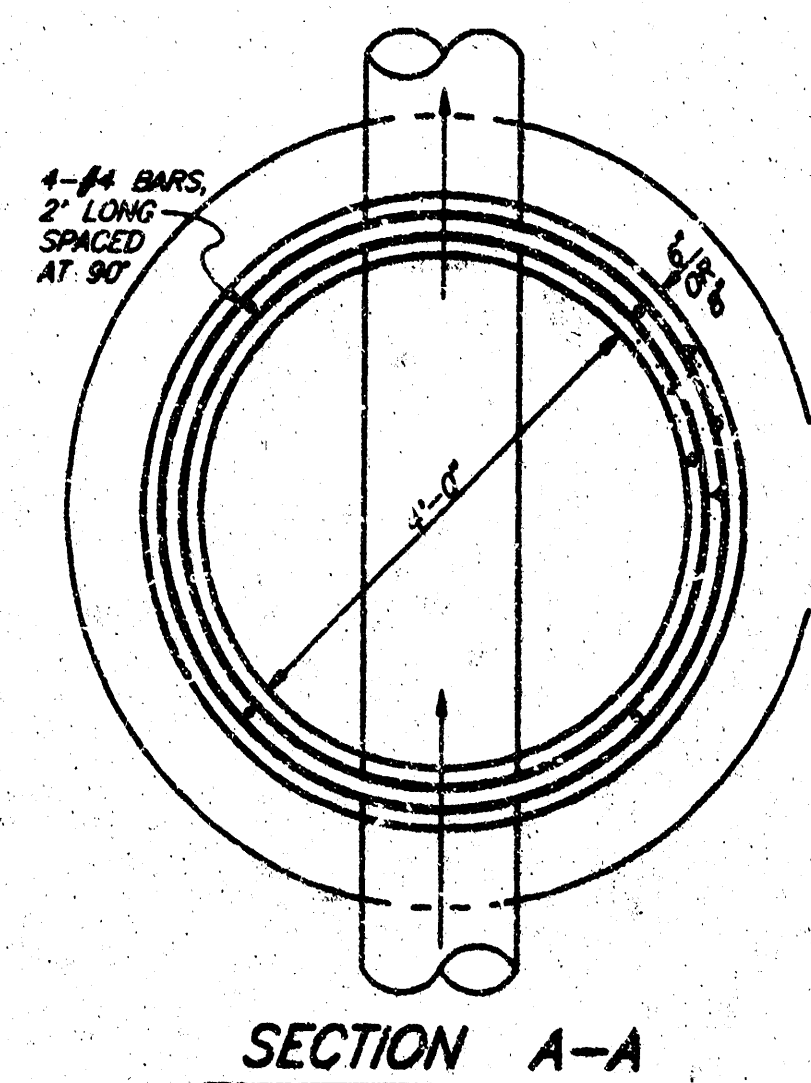
TRENCH DETAIL ~ DIP
NOT TO SCALE



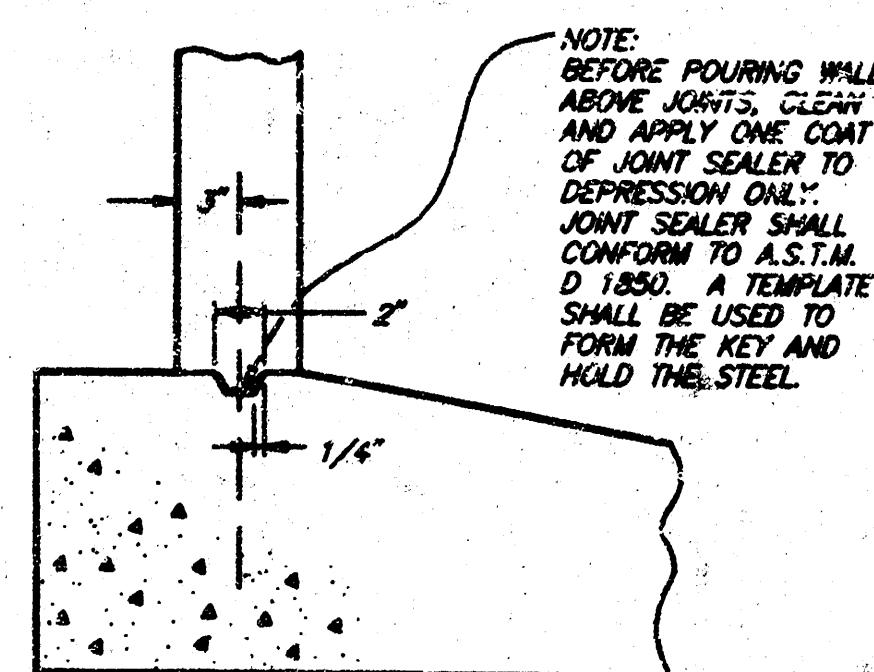
PRECAST SANITARY SEWER MANHOLES & DETAILS			
WAL-MART #1507 EXPANSION WICHITA, KANSAS			
SPEAR & McCALEB CO., INC. OKLAHOMA CITY, OKLAHOMA			
DATE: 9/23/98	SCALE: N/A	SHEET NO. 17	
DRAWN BY: SB		ENGINEER: JOHN N. BAKER P.E. # 12844	



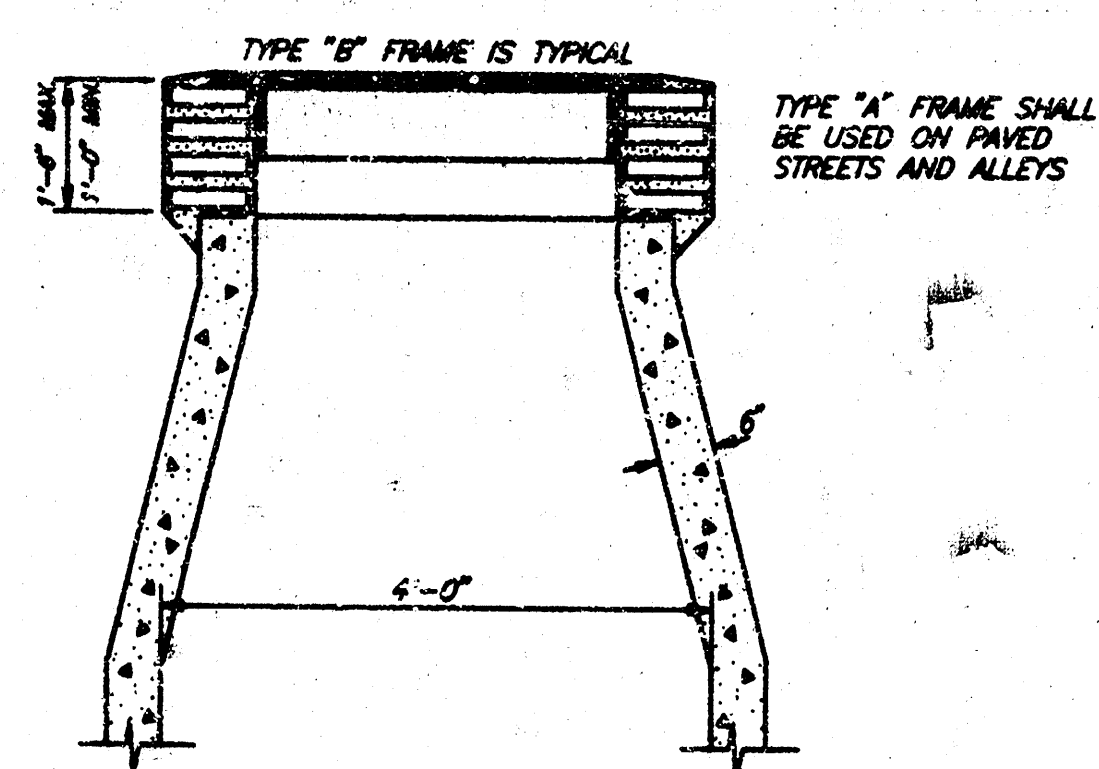
STANDARD MANHOLE



SECTION A-A



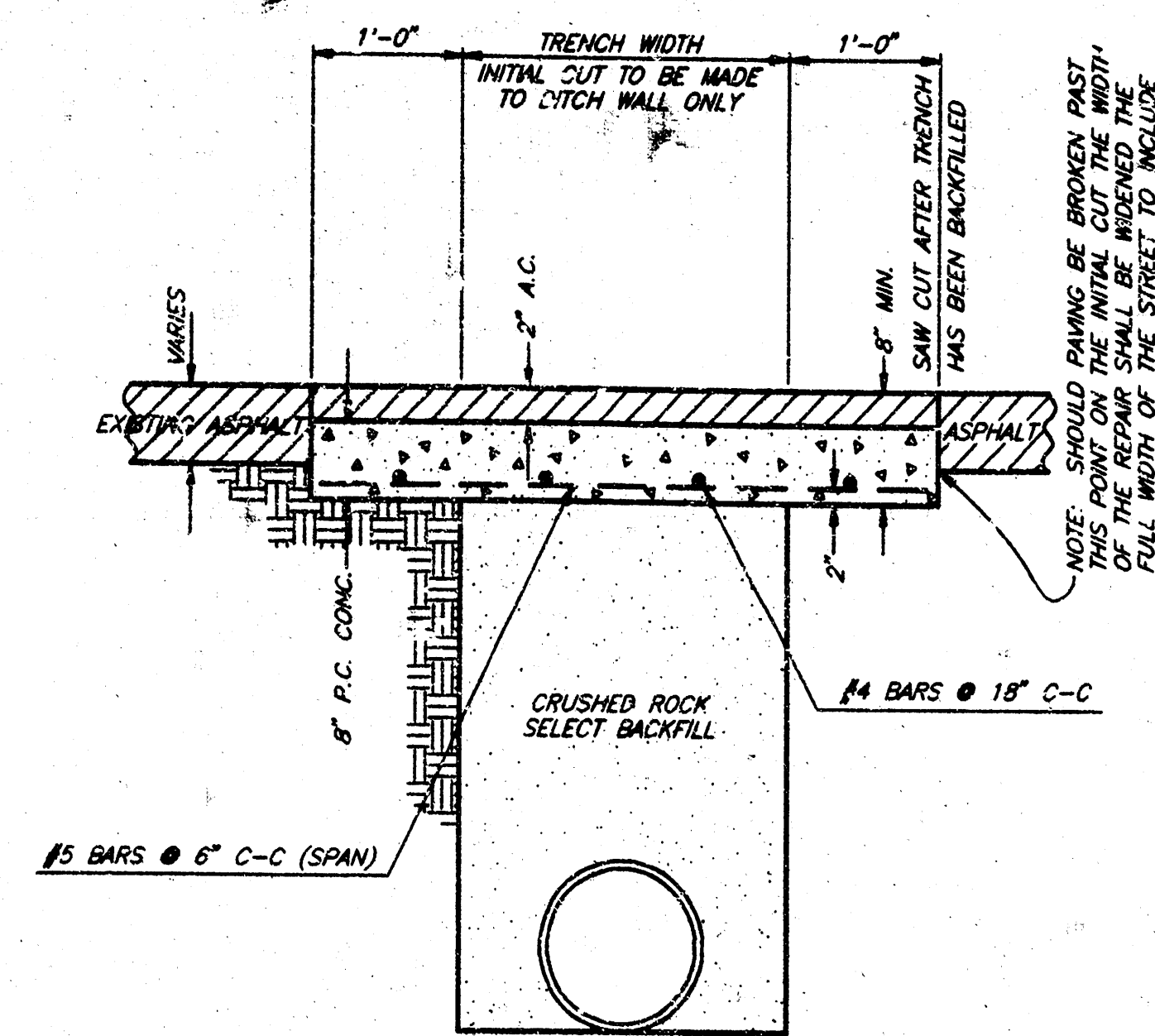
DETAIL KEY CONSTRUCTION JOINT FOR BOTTOM & WALLS



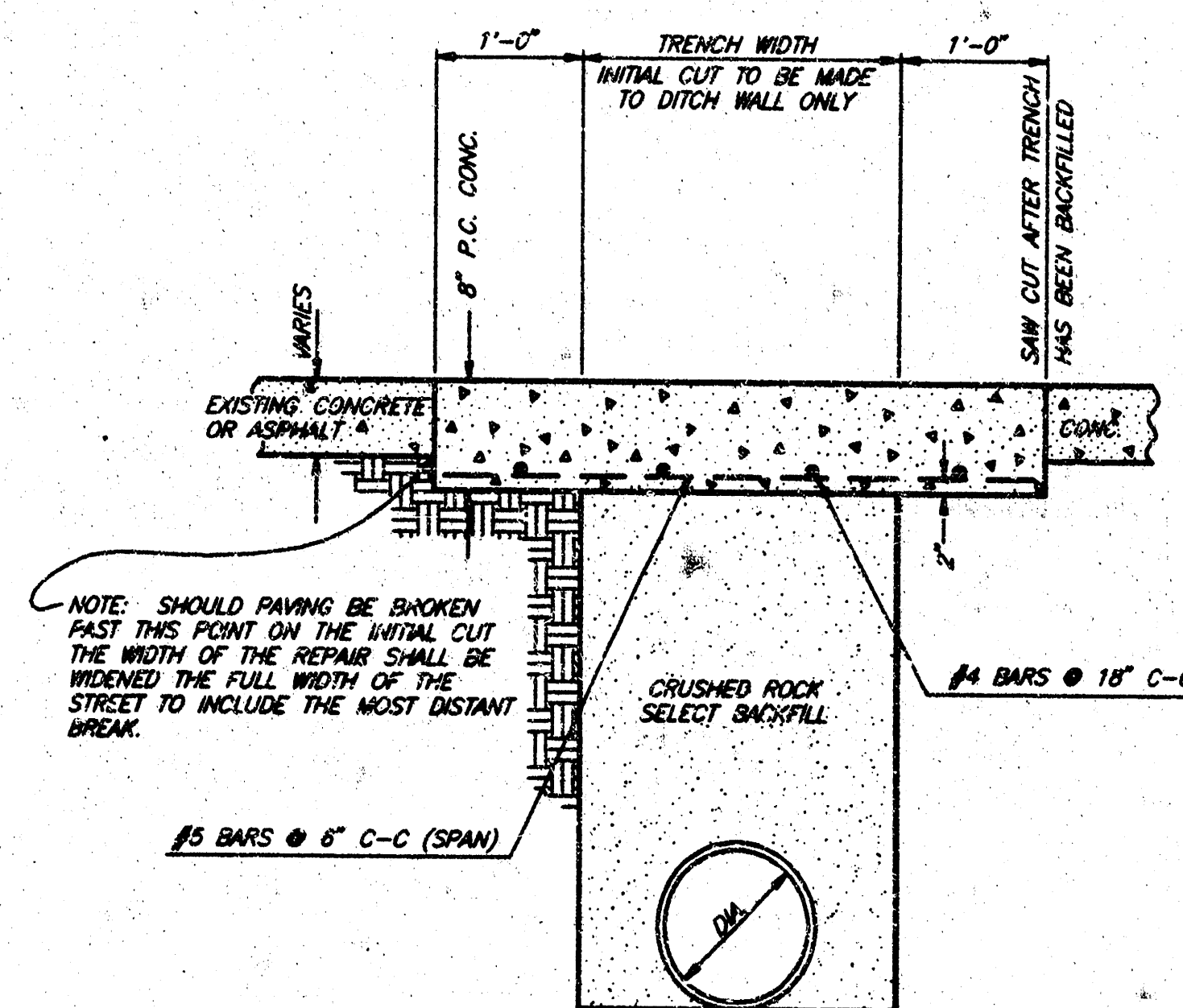
TYPICAL SECTION TO BE USED ON EXISTING AND FUTURE PAVING

POURED-IN-PLACE MANHOLE DETAILS

SPECIAL NOTE:
TEE & RISER SHALL BE INSTALLED IMMEDIATELY AFTER FORMS ARE REMOVED & P.C. CROUTED IN WHILE CONCRETE IS GREEN TO INSURE A WATER TIGHT JOINT.



TYPICAL SECTION PAVING REPAIR FOR ASPHALT STREETS NO SCALE



TYPICAL SECTION PAVING REPAIR FOR CONCRETE STREETS NO SCALE

NOTE: SAND BACKFILL SHALL EXTEND TO A POINT 5' BACK OF THE CURB, OR AS INDICATED ON THE PLAN AND PROFILE SHEETS.

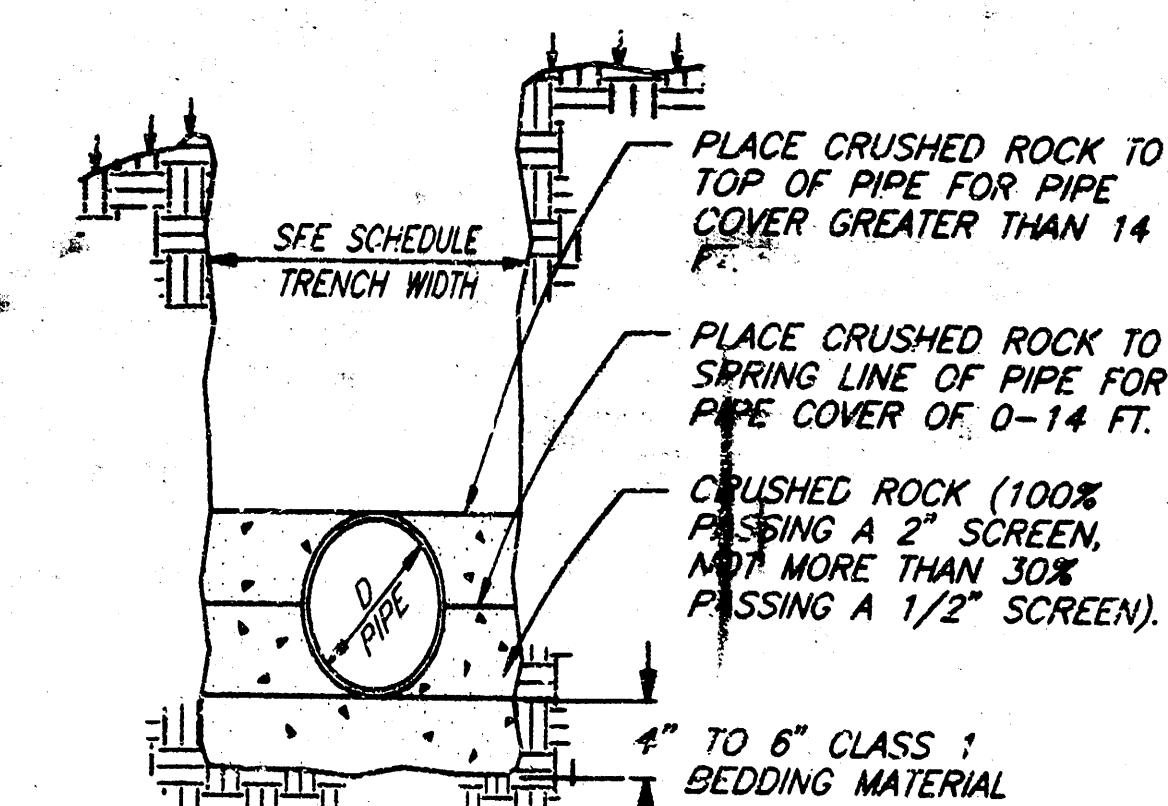
PIPE SIZE	TRENCH WIDTH	A (FT.)	B (FT.)	C.Y. CONC. PER L.F. ENCASEMENT
8"	2.2'	0.574	0.119	0.079
10"	2.2'	0.707	0.146	0.083
12"	2.2'	0.843	0.174	0.086
15"	2.6'	1.049	0.217	0.111
18"	2.9'	1.263	0.261	0.133
21"	3.3'	1.473	0.305	0.163
24"	3.8'	1.679	0.347	0.206
27"	4.2'	1.882	0.392	0.243
30"	4.5'	2.089	0.434	0.272
33"	4.9'	2.294	0.479	0.314
36"	5.2'	2.489	0.515	0.347

TRENCH WIDTH	D	C.Y. CRUSHED ROCK PER L.F. 6-14 FT.	C.Y. CRUSHED ROCK PER L.F. GREATER THAN 14 FT.
2.2'	8"	.062	.082
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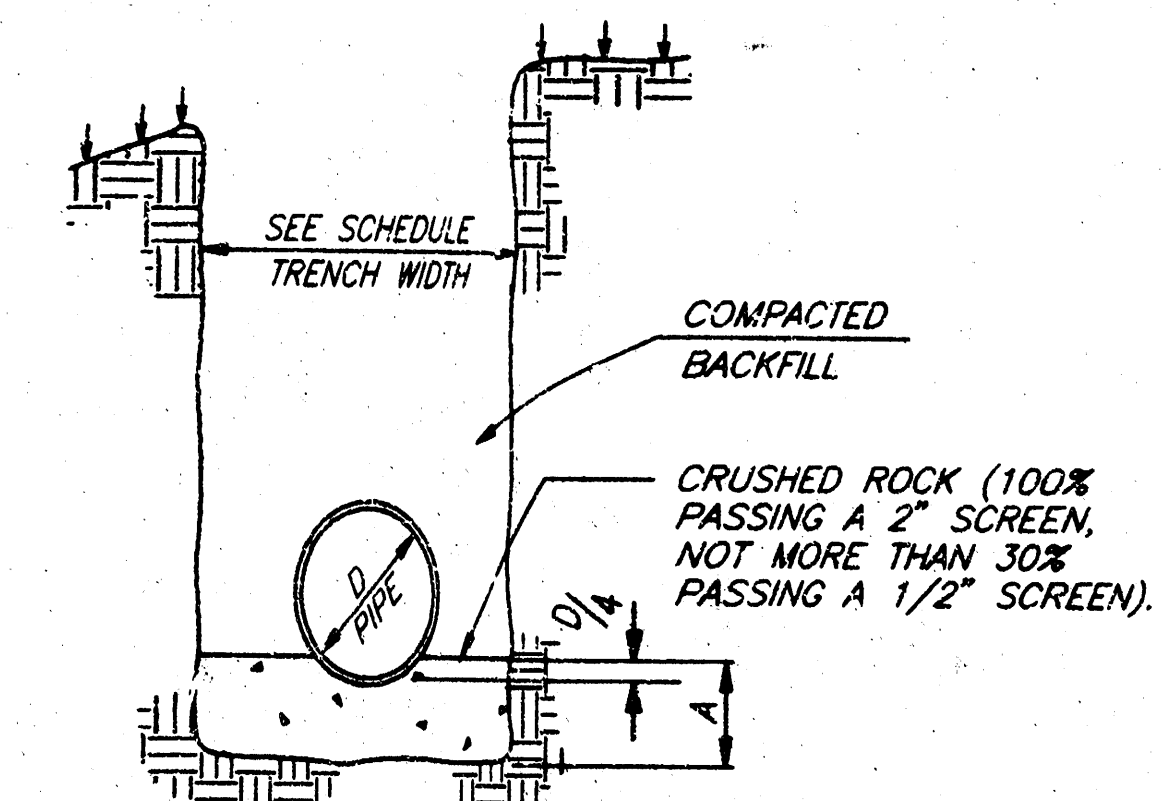
NOTE: STONE SHALL BE HAND OR MECHANICALLY TAMPED.

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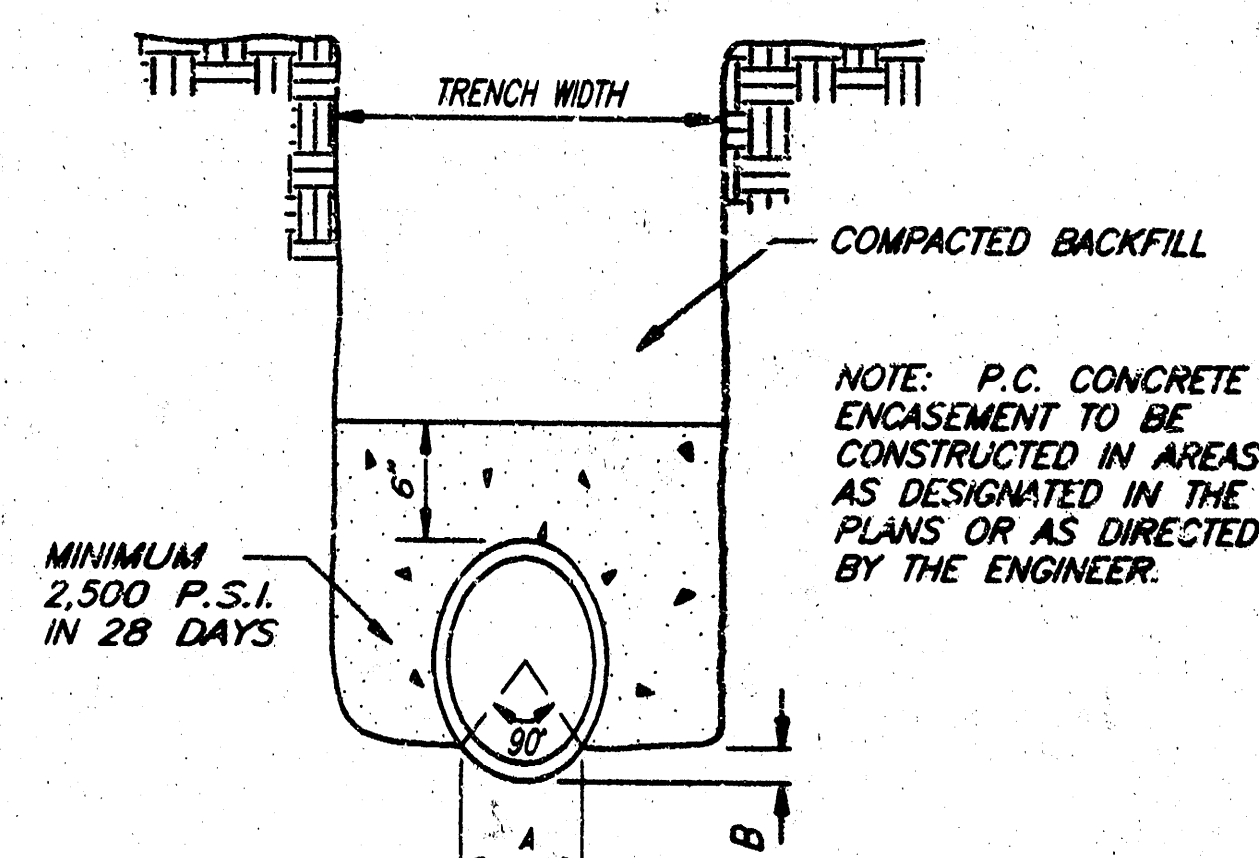
NOTE: STONE SHALL BE HAND OR MECHANICALLY TAMPED.



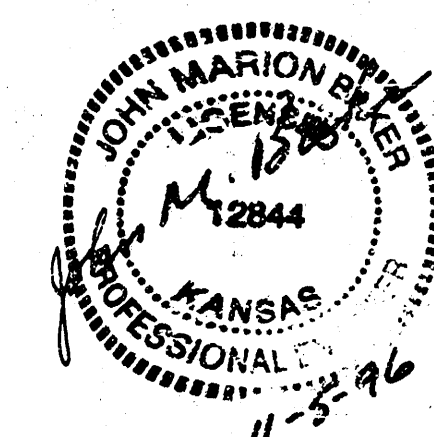
TYPICAL SECTION CRUSHED ROCK CRADLE FLEXIBLE PIPE



TYPICAL SECTION CRUSHED ROCK CRADLE RIGID PIPE



CONCRETE ENCASEMENT DETAIL



SANITARY SEWER DETAILS -B-

WAL-MART #1507 EXPANSION
WICHITA, KANSAS

SPER & McCALB CO., INC.
OKLAHOMA CITY, OKLAHOMA

DATE: 11/1/96 SCALE: N.T.S.
DRAWN BY: JMB
CHECKED BY: JMB
DESIGNED BY: JMB

JOHN M. BAKER
P.E. # 12844

11-5-96 SHEET 17