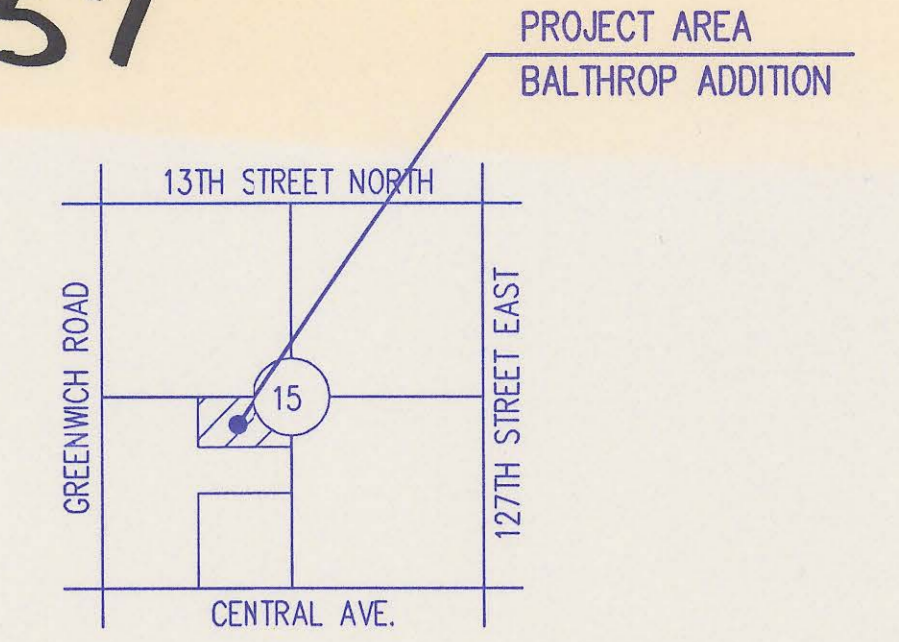


4MC-057

# SEDGWICK COUNTY PUBLIC WORKS



LOCATION MAP  
NOT TO SCALE

### INDEX OF SHEETS

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	KEY MAP
SHEET NO. 3-4	PLAN
SHEET NO. 5	PRECAST MANHOLE DETAILS
SHEET NO. 6	BACKFILL DETAILS
SHEET NO. 7	SERVICE CONNECTION DETAILS
SHEET NO. 8-10	PLAN/PROFILE



## CONSTRUCTION PLANS FOR SANITARY SEWER IMPROVEMENTS IN

### BALTHROP ADDITION (PHASE 3B)

TO SEDGWICK COUNTY, KANSAS

JUNE 2000

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.  
ENGINEERS  
WICHITA, KANSAS

**RECORD DRAWING**



APPROVED:

*David C. Spears*  
DAVID C. SPEARS, P.E.  
DIRECTOR OF PUBLIC WORKS/COUNTY ENGINEER  
DATE: 6/27/00

APPROVED:

*James D. Smith*  
CHAIRMAN, BOARD OF COUNTY COMMISSIONERS  
DATE:

FILED IN THE OFFICE OF  
THE SEDGWICK COUNTY CLERK

*Annmarie M. ...*  
COUNTY CLERK  
DATE: 6/27/00

4MC-057

- ALL ELEVATIONS SHOWN ARE USGS DATUM.
- ALL CONSTRUCTION AND MATERIALS TO COMPLY WITH SEDGWICK COUNTY SANITARY SEWER STANDARD SPECIFICATIONS.
- AT LEAST 72 HOURS PRIOR TO BEGINNING ANY EXCAVATION (EXCLUDING WEEKENDS AND HOLIDAYS), THE CONTRACTOR SHALL CONTACT THE KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT 687-2470 TO REQUEST THE FOLLOWING UTILITY COMPANIES TO LOCATE ANY EXISTING LINES WITHIN THE PROJECT AREA: COX COMMUNICATIONS, WICHITA WATER, SOUTHWESTERN BELL TELEPHONE, K G S GAS, AND K G & E ELECTRIC.
- THE BURIED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE LOCATIONS ONLY. IT SHOULD BE NOTED THAT OTHER UTILITIES ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING TRENCHING OPERATIONS TO AVOID DAMAGING THESE LINES. ANY LINES DAMAGED SHALL BE REPLACED OR REPAIRED IMMEDIATELY AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- AT LEAST 24 HOURS BEFORE CONNECTING NEW SEWER PIPE TO THE EXISTING SEWAGE SYSTEM, THE CONTRACTOR SHALL CONTACT THE SEDGWICK COUNTY EASTERN SEWER DISTRICT (733-0202). THE CONTRACTOR SHALL KEEP ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION. TO PREVENT WATER OR DEBRIS FROM ENTERING THE EXISTING SEWER, A MECHANICAL PLUG SHALL BE INSTALLED AND MAINTAINED TO ISOLATE THE EXISTING SEWER FROM THE NEW CONSTRUCTION UNTIL THE NEW CONSTRUCTION IS CLEANED, TESTED, AND HAS BEEN ACCEPTED. THE WATER USED FOR CLEANING SHALL NOT BE ADDED TO THE FLOW OF THE EXISTING SEWER. THE CLEANING OR OTHERWISE ACCUMULATED WATER SHALL BE PUMPED OR OTHERWISE REMOVED PRIOR TO TRENCHING.
- ALL PIPE JOINTS SHALL BE LAID AND PUSHED "FULL HOME", WITH THE BEVELED END OF THE SPIGOT MAKING FULL CONTACT WITH THE CHAMFERED AREA AT THE THROAT OF THE BELL OR SOCKET, WITH NO SEPARATION BETWEEN THEM. IF SEPARATION IS DETERMINED, THE PIPE SHALL BE EXCAVATED AND RE-LAID ACCORDING TO SPECIFICATIONS AT THE CONTRACTOR'S EXPENSE.
- EXCESS EXCAVATED MATERIAL AND OTHER DEBRIS SHALL BE WASTED ON SITES TO BE PROVIDED BY THE CONTRACTOR AS APPROVED BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL CONTAIN HIS OPERATIONS TO PERMIT TRAFFIC THROUGH AND ACROSS CONSTRUCTION AT EXISTING ROADWAYS AT ALL TIMES. THE CONTRACTOR SHALL ERECT WARNING SIGNS, FLASHING LIGHTS, AND BARRICADES IN COMPLIANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES TO ENSURE SAFETY AS DIRECTED IN THE GENERAL CONDITIONS. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR HIS DESTRUCTION BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS. PRIOR TO START OF CONSTRUCTION THE CONTRACTOR SHALL FLAG AND REFERENCE ALL PROPERTY CORNERS THAT MAY BE DISTURBED BY CONSTRUCTION OPERATIONS, AND VERIFY THESE IN THE FIELD IN THE PRESENCE OF THE ENGINEER AND THE CONTRACTOR'S SURVEYOR. AFTER CONSTRUCTION AND BEFORE THE FINAL INSPECTION, A LETTER SIGNED AND SEALED BY THE LICENSED LAND SURVEYOR CERTIFYING REPLACEMENT OF ALL DISTURBED PROPERTY CORNERS SHALL BE SUBMITTED TO THE ENGINEER.
- THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, AND BANKS TO THEIR ORIGINAL SLOPES AND GRADES. WHERE EXISTING ENTRANCE PIPE, DRAINAGE PIPE, SIGNS, FENCES, ETC., CONFLICT WITH THE PROPOSED WORK, THEY SHALL BE REMOVED AND REPLACED OR RESET UNLESS OTHERWISE INDICATED ON THE PLANS. THE REPLACEMENT OF ALL THE AFORESAID ITEMS, INCLUDING SEEDING, FERTILIZER, AND MULCHING SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING AND RESTORATION".
- EASEMENTS AND RIGHTS-OF-WAY PROVIDED BY THE OWNER FOR THE PROJECT ARE SHOWN IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACQUISITION OF ANY ADDITIONAL TEMPORARY EASEMENTS OR RIGHTS-OF-WAY THAT HE DESIRES TO USE IN COMPLETING THE WORK.
- POSITIVE DRAINAGE SHALL BE PROVIDED FOR ALL AREAS ON OR NEAR SPOIL AREAS. NATURAL DRAINAGE WAYS SHALL BE MAINTAINED.
- THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
- THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY ADJACENT TO THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF 10 DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION IN THE VICINITY OF THE AFFECTED PROPERTY.
- ALL TRENCH BACKFILL SHALL BE EITHER TYPE I OR TYPE III UNLESS NOTED OTHERWISE. TYPE I BACKFILL SHALL BE USED AT ALL EXISTING AND PROPOSED STREET CROSSINGS, SEE SHT. 6 OF 10.
- THE CONTRACTOR SHALL CONTACT THE FOLLOWING AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION TO ADVISE THEM OF THE INTENDED WORK AND OF HIS PROPOSED SCHEDULE:  
SEDGWICK COUNTY PUBLIC WORKS  
1144 S. SENECA  
WICHITA, KS 67213  
MR. TAYLOR Paul  
(316) 660-3020
- THE CONTRACTOR SHALL AVOID REMOVAL OR TRIMMING OF ANY TREES WHERE POSSIBLE. WHERE THE CONTRACTOR BELIEVES THE REMOVAL OR TRIMMING IS UNAVOIDABLE, HE SHALL OBTAIN THE CONCURRENCE OF THE ENGINEER BEFORE PROCEEDING WITH SUCH WORK.
- RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED, TREE TRIMMINGS, AND EXCESS EXCAVATION WHICH IS TO BE WASTED, SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL ALSO BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOODPLAIN WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT AND A FLOODPLAIN DEVELOPMENT PERMIT FROM SEDGWICK COUNTY. ANY MATERIALS DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIALS BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS MAY REQUIRE ARCHEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED DISPOSAL LOCATION.
- EACH BIDDER SHALL VISIT THE SITE OF THE PROJECT BEFORE SUBMITTING THE PROPOSAL FOR THIS WORK SO THAT HE WILL BE FULLY INFORMED OF THE EXISTING FIELD CONDITIONS AND THE OBSTACLES WHICH MIGHT BE ENCOUNTERED. UPON AWARD OF THE CONTRACT, THE CONTRACTOR WILL NOT BE GRANTED ANY ADDITIONAL COMPENSATION WITH REGARDS TO TIME AND MONEY FOR CONDITIONS THAT MAY HAVE BEEN EVALUATED DURING AN INSPECTION OF THE SITE.
- ALL GRASSED AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE REPLANTED WITH GRASS AND FERTILIZED IN ACCORDANCE WITH THE SPECIFICATIONS FOR SUCH WORK. ALL COSTS FOR SEEDING AND FERTILIZING SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING AND RESTORATION".
- PROPERTIES WITHIN THE PROJECT LIMITS MAY HAVE UNDERGROUND SPRINKLER SYSTEMS IN PUBLIC RIGHT-OF-WAY WHICH CONFLICT WITH NEW CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REMOVE SUCH IMPROVEMENTS SHOULD THEY NOT BE REMOVED BY THEIR OWNER AT THE TIME OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SALVAGE ALL SPRINKLER HEADS AND/OR VALVES AND GIVE SUCH MATERIAL TO THEIR OWNER. PORTIONS OF UNDERGROUND SPRINKLER SYSTEMS NOT IN CONFLICT WITH NEW CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE AND SHALL REMAIN IN PLACE. ALL WORK IN CONNECTION WITH UNDERGROUND SPRINKLER SYSTEMS SHALL BE CONSIDERED AS SUBSIDIARY TO PRICE BID FOR PIPE IN PLACE.
- APPROVED EXCESS EXCAVATED MATERIAL FROM CONSTRUCTION ACTIVITIES SHALL BE WASTED AT A LOCATION APPROVED BY THE DEVELOPER AND IN ACCORDANCE WITH NOTE 17.
- THE CONTRACTOR SHALL NOT BURY MANHOLES THAT HAVE RIM ELEVATIONS WHICH ARE LOWER THAN EXISTING GROUND AT THE MANHOLE. THE GROUND AROUND THE MANHOLE AND ALONG THE SEWER ALIGNMENT SHALL BE BACKFILLED TO THE APPROXIMATE ELEVATION OF THE PROPOSED GROUND ELEVATION SHOWN ON THE PLAN/PROFILE SHEETS. THE CONTRACTOR SHALL PROVIDE DRAINAGE AWAY FROM THESE MANHOLES AND SEWER LINES BY CONSTRUCTION OF TEMPORARY DITCHES OR SLOPING THE GROUND AS REQUIRED. ALL COSTS FOR THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE INSTALLED BID PRICE FOR MANHOLES OR PIPE.
- WORK SHALL BE SCHEDULED SUCH THAT STREET CROSSINGS ARE COMPLETE PRIOR TO OTHER WORK. THESE CROSSINGS SHALL INCLUDE CONSTRUCTION FROM (EXISTING MH 71-2-4 TO 71-16-1, AND EXISTING MH 71-2-3 TO 71-15-1).

THE PAVING CONTRACTOR AND STORM SEWER CONTRACTOR FOR PHASE 3B IMPROVEMENTS AT BALTHROP ADDITION WILL BE PERFORMING OVERALL SITE GRADING. EASEMENT GRADING WILL NOT BE REQUIRED BY THE SANITARY SEWER CONTRACTOR.

**RECORD DRAWING**



November 21, 2000  
Balthrop Phase 3B  
MH "As Built" State Plane Coordinates

"AS BUILT" MH COORDINATES*		
Manhole No.	Northing	Easting
71-13-4	1691026.9762	1688773.4819
71-13-5	1691417.7361	1688770.8270
71-14-3	1690989.8633	1688478.5458
71-14-4	1691169.1966	1688477.7437
71-2-3	1691336.8129	1687812.6952
71-15-1	1691325.5417	1688037.1258
71-15-2	1691327.7388	1688474.6755
71-2-4	1691625.6067	1687810.1300
71-16-1	1691627.1561	1688034.7602
71-16-2	1691629.2457	1688349.7285
71-16-3	1691417.7360	1688770.8270

\*Kansas State Plane Coordinates  
South Zone, North American Datum 1983  
English units, U.S. Survey Foot definition

- BENCH MARKS**
- BM #B2 - RAILROAD SPIKE IN SOUTH FACE OF 24' HEDGE TREE 50 FEET EAST OF SANITARY SEWER MANHOLE 71-2-2. ELEV. = 1363.47
  - BM #C2 - RAILROAD SPIKE IN SOUTH FACE OF 28' HEDGE TREE AT INTERSECTION OF HEDGEROWS ALONG NORTH PROPERTY LINE OF LOT 63, BLOCK 1, BALTHROP ADDITION SUBDIVISION. ELEV. = 1366.88
  - BM #D2 - RAILROAD SPIKE IN SOUTH FACE OF 28' HEDGE TREE 36 FEET WEST OF NORTH-EAST CORNER OF SOUTHWEST QUARTER OF SECTION 15, TOWNSHIP 27S, RANGE 2E. ELEV. = 1376.54
  - BM #E2 - RAILROAD SPIKE IN NORTH FACE OF 12' HEDGE TREE SOUTH OF NORTH GAP IN THE EAST HEDGE ROW NEAR SOUTHEAST CORNER OF LOT 12, BLOCK 4, BALTHROP ADDITION SUBDIVISION. ELEV. = 1375.00
  - BM #F2 - RAILROAD SPIKE IN SOUTH FACE OF 24' HEDGE TREE AT SOUTHEAST CORNER OF LOT 10, BLOCK 6, BALTHROP ADDITION SUBDIVISION. ELEV. = 1369.80

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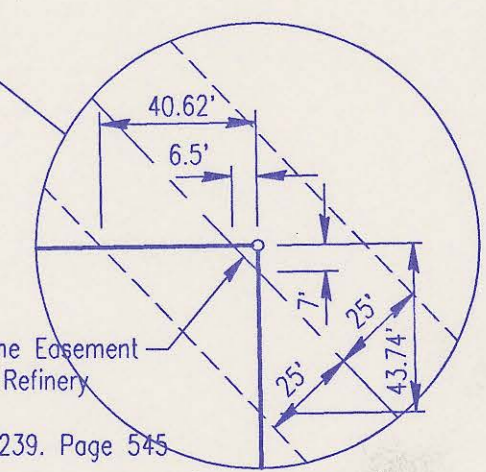
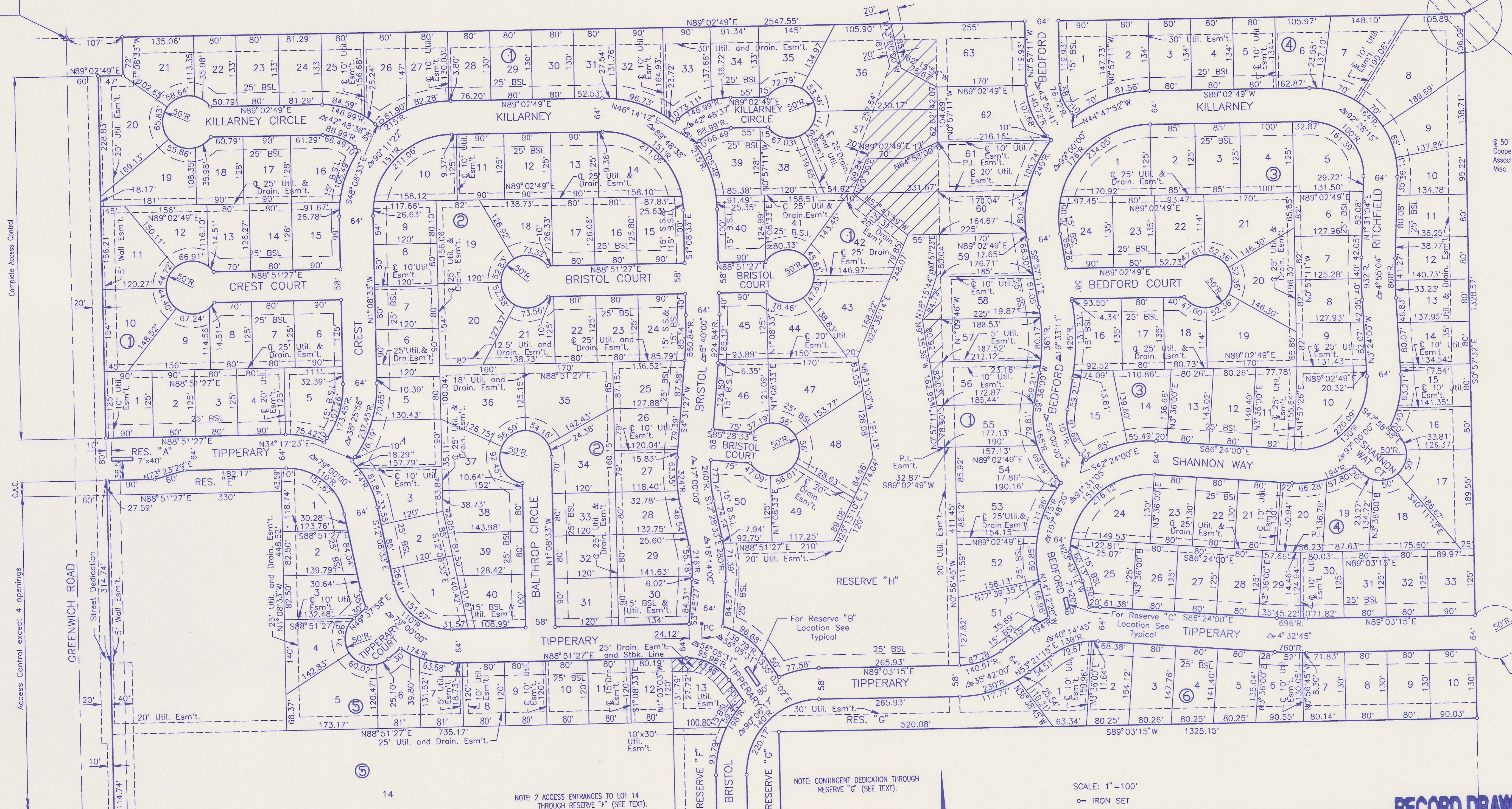


No.	Revision	By	Date
SEDGWICK COUNTY PUBLIC WORKS DAVID C. SPEARS, P.E. DIRECTOR, PUBLIC WORKS/COUNTY ENGINEER			
<b>SANITARY SEWER KEY MAP</b> SANITARY SEWER IMPROVEMENTS BALTHROP ADDITION - PHASE 3B			
<b>Professional Engineering Consultants, P.A.</b> 303 S. TOPEKA • WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-3003			
Designed by	MCK	Job No.	34-00268-3
Drawn by	TLS	Date	May 2000
			Sht. 2 of 10

# BALTHROP ADDITION TO SEDGWICK COUNTY, KANSAS

N.W. Corner, S.W. 1/4  
Sec. 15, T27S, R2E  
of the 6th P.M.  
Fd. 1" I.P.

N.E. Corner, S.W. 1/4  
Sec. 15, T27S, R2E  
of the 6th P.M.  
Fd. 3/4" I.P.



Complete Access Control

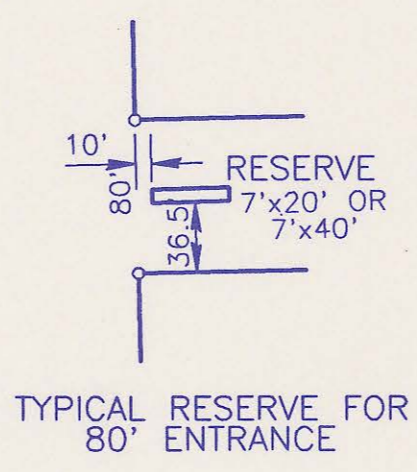
C.A.C.

Access Control except 4 openings

Temporary Cul-de-sac by Separate Instrument

NOTE: 2 ACCESS ENTRANCES TO LOT 14 THROUGH RESERVE "F" (SEE TEXT).

NOTE: CONTINGENT DEDICATION THROUGH RESERVE "C" (SEE TEXT).



SCALE: 1"=100'

- = IRON SET
- BSL = BUILDING SETBACK LINE
- C.A.C. = COMPLETE ACCESS CONTROL
- S.S. = SANITARY SEWER
- [Hatched Box] DRAINAGE EASEMENT

B.M. - CHISELED "□" IN CENTER CONCRETE HEADWALL TO R.C.B. 24.5' SOUTH AND 56.7' WEST OF THE INTERSECTION OF THE CENTERLINES OF CENTRAL AND GREENWICH. ELEV. 188.828 CITY DATUM

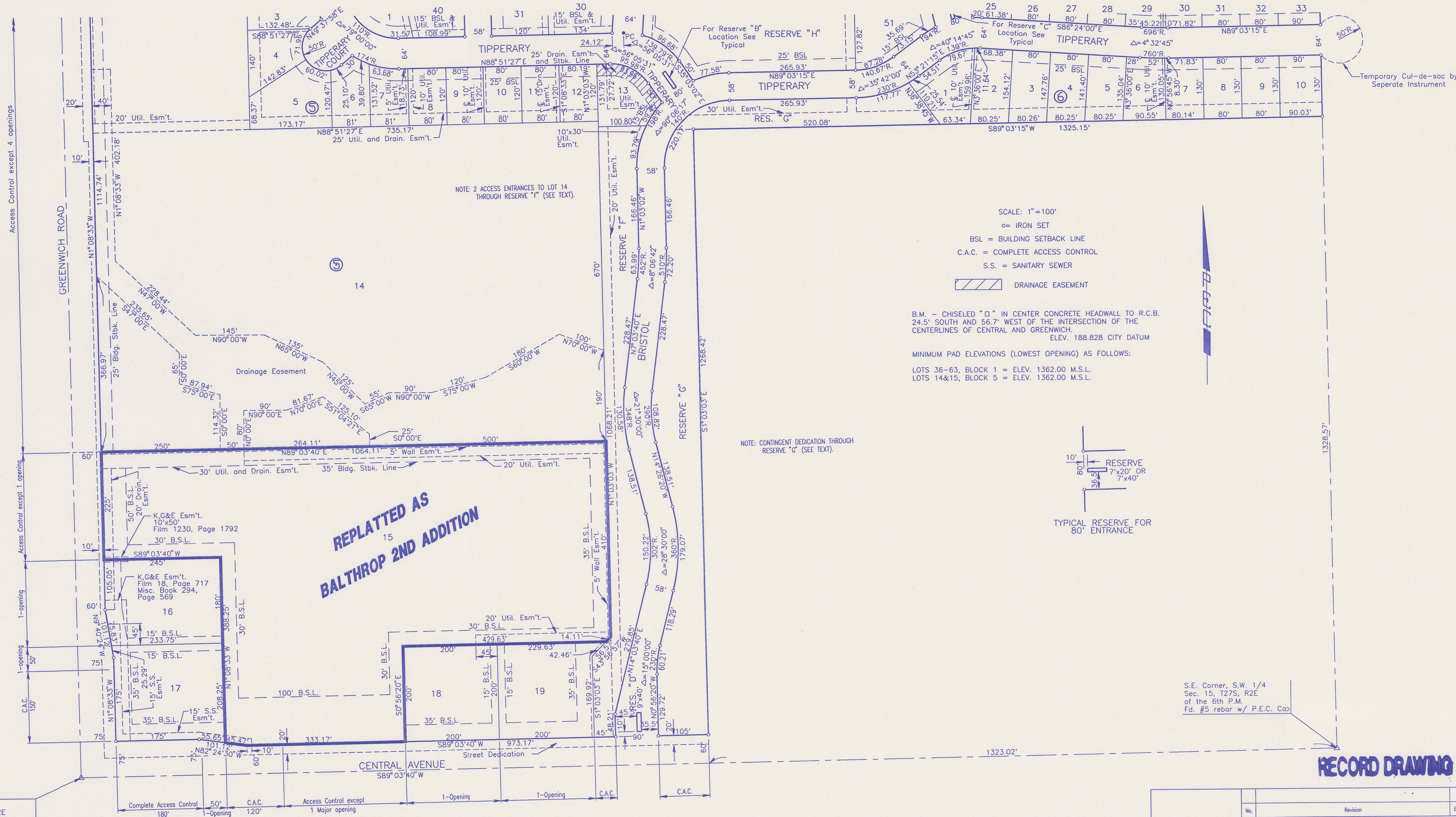
MINIMUM PAD ELEVATIONS (LOWEST OPENING) AS FOLLOWS:  
LOTS 36-63, BLOCK 1 = ELEV. 1362.00 M.S.L.  
LOTS 14&15, BLOCK 5 = ELEV. 1362.00 M.S.L.

## RECORD DRAWING

DSNR, MDK OPER: ILS SCALE: 1"=100.00  
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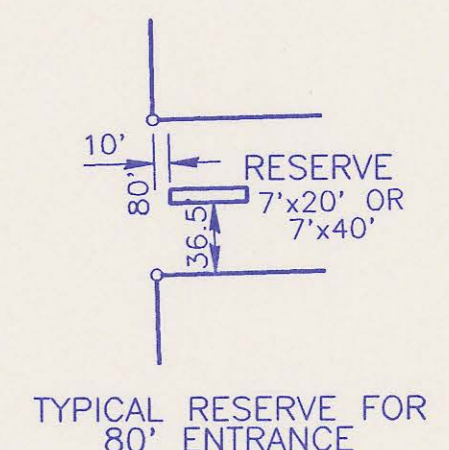
Revision		By		Date	
SEDGWICK COUNTY PUBLIC WORKS DAVID C. SPEARS, P.E. DIRECTOR, PUBLIC WORKS/COUNTY ENGINEER					
<b>PLAT</b> SANITARY SEWER IMPROVEMENTS BALTHROP ADDITION - PHASE 3B					
Professional Engineering Consultants, P.A. 303 S. TOPEKA • WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-3003					
Designed by	Job No. 34-00268-3		Date		Sht. 3 of 10
Drawn by	Date		MAY 2000		

# BALTHROP ADDITION TO SEDGWICK COUNTY, KANSAS



SCALE: 1"=100'  
 ○ = IRON SET  
 BSL = BUILDING SETBACK LINE  
 C.A.C. = COMPLETE ACCESS CONTROL  
 S.S. = SANITARY SEWER  
 DRAINAGE EASEMENT

B.M. - CHISELED "D" IN CENTER CONCRETE HEADWALL TO R.C.B. 24.5' SOUTH AND 56.7' WEST OF THE INTERSECTION OF THE CENTERLINES OF CENTRAL AND GREENWICH. ELEV. 188.828 CITY DATUM  
 MINIMUM PAD ELEVATIONS (LOWEST OPENING) AS FOLLOWS:  
 LOTS 36-63, BLOCK 1 = ELEV. 1362.00 M.S.L.  
 LOTS 14&15, BLOCK 5 = ELEV. 1362.00 M.S.L.



S.E. Corner, S.W. 1/4 Sec. 15, T27S, R2E of the 6th P.M. Fd. #5 rebar w/ P.E.C. Cap

NOTE: CONTINGENT DEDICATION THROUGH RESERVE "G" (SEE TEXT).

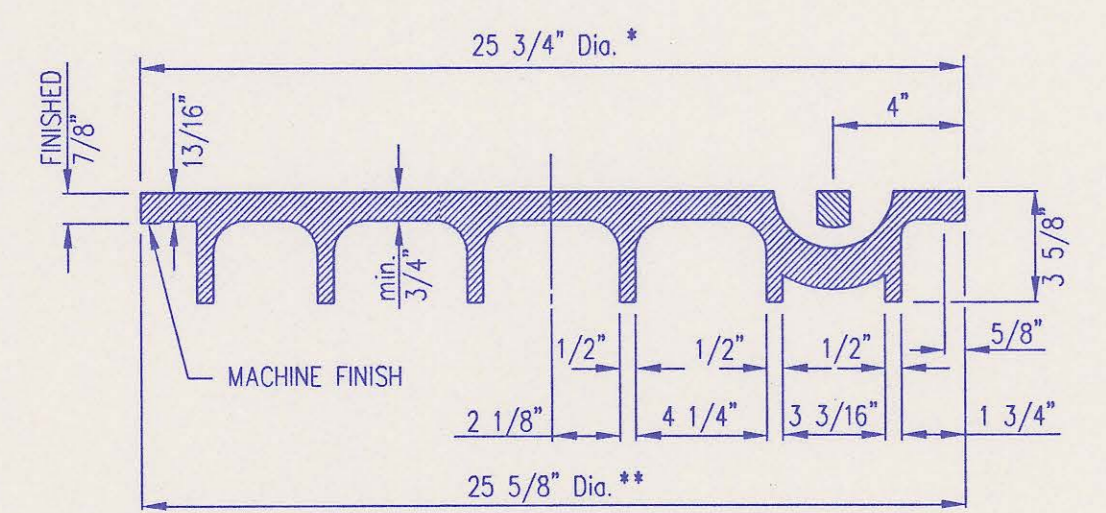
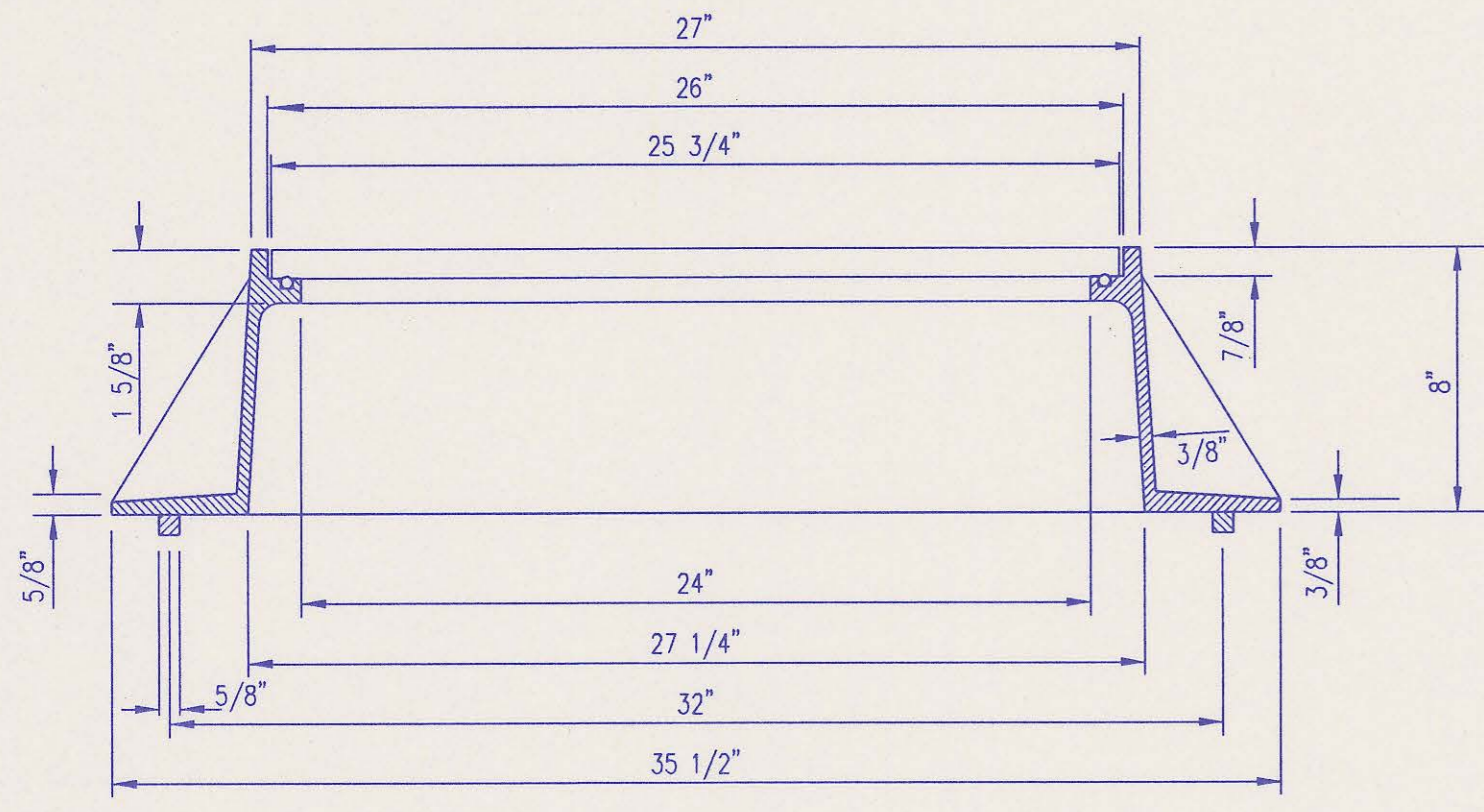
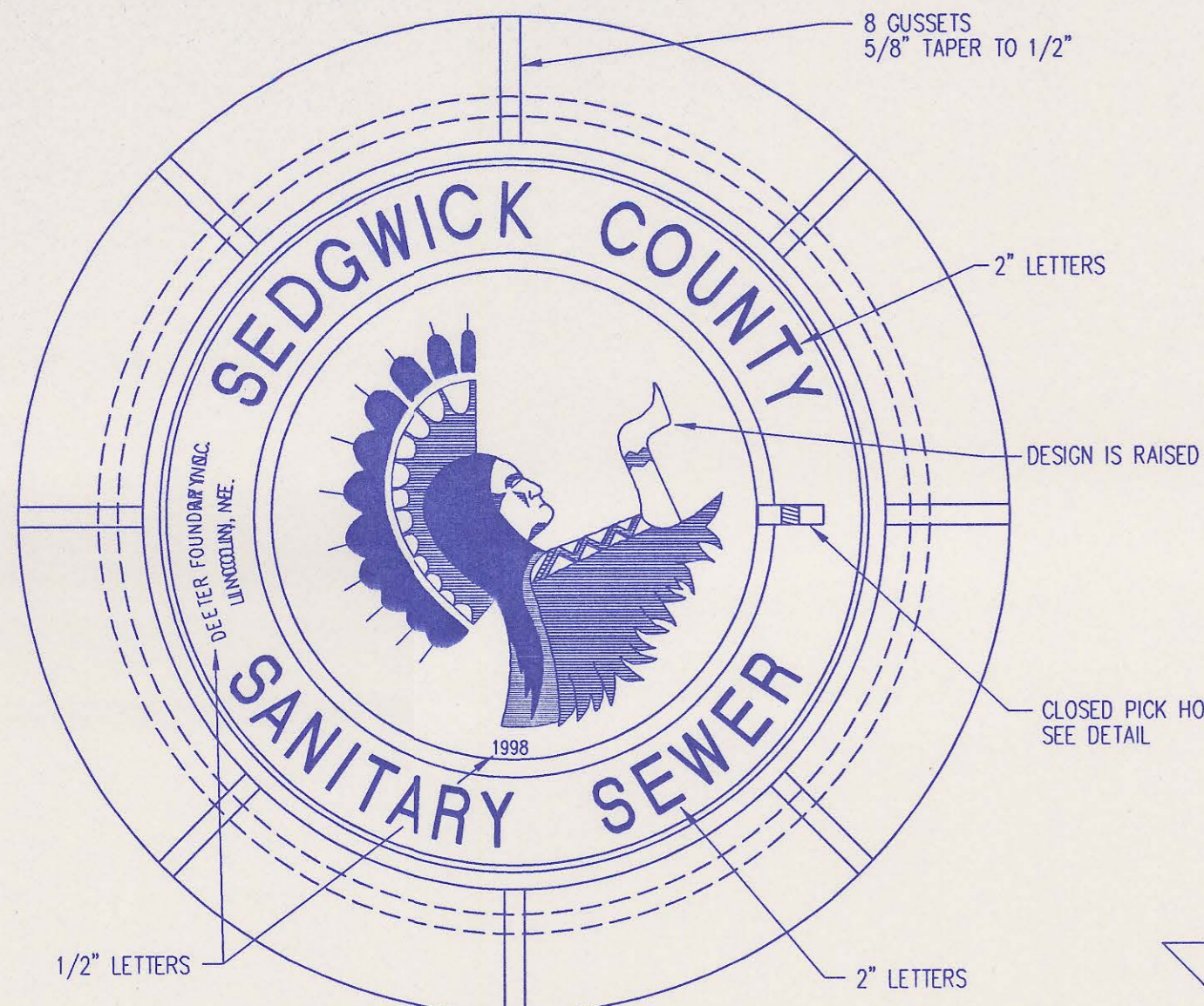
NOTE 2 ACCESS ENTRANCES TO LOT 14 THROUGH RESERVE "F" (SEE TEXT).

**RECORD DRAWING**

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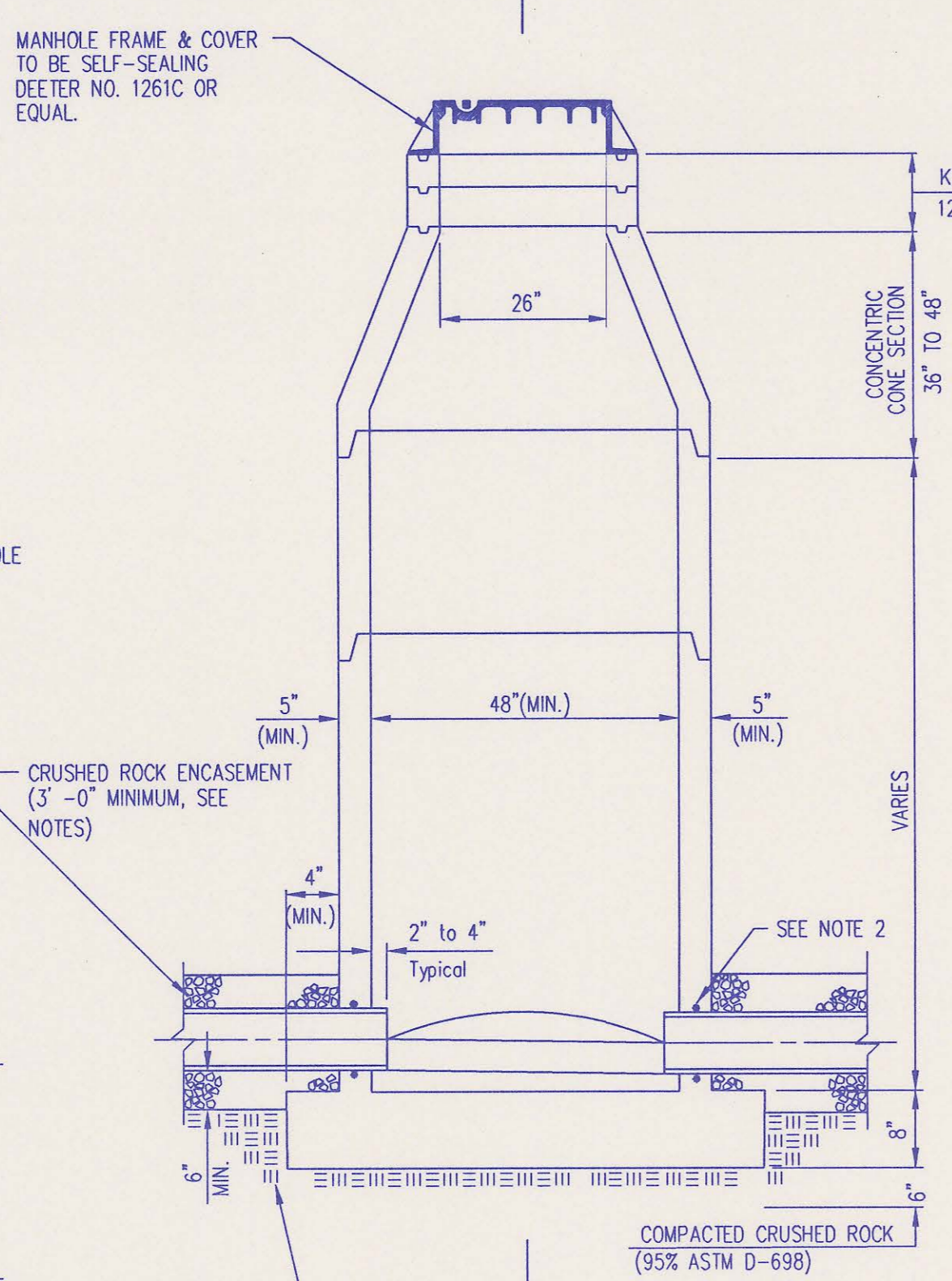
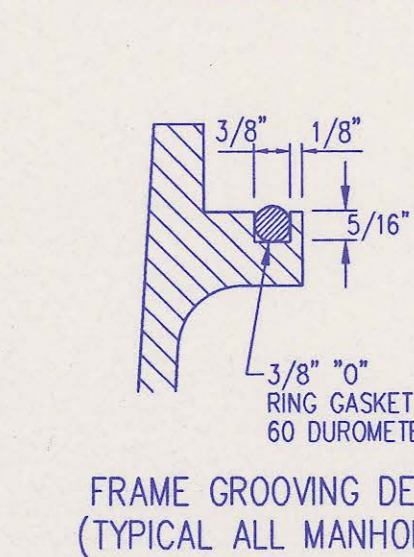
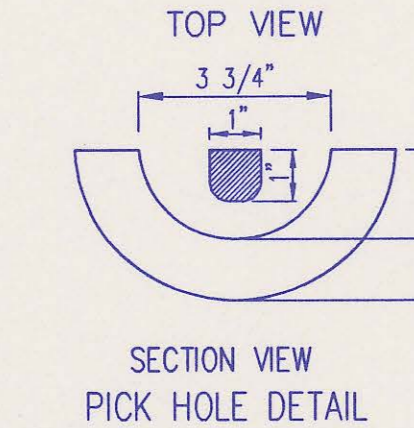
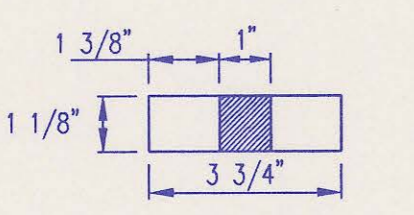
S.W. Corner Sec. 15, T27S, R2E of the 6th P.M. Fd. 1/2" I.P. in Thimble

No.	Revision	By	Date
SEDGWICK COUNTY PUBLIC WORKS DAVID C. SPEARS, P.E. DIRECTOR, PUBLIC WORKS/COUNTY ENGINEER			
<b>PLAT</b> SANITARY SEWER IMPROVEMENTS BALTHROP ADDITION - PHASE 3B			
<b>Professional Engineering Consultants, P.A.</b> 303 S. TOPEKA • WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-3003			
Designed by	Job No.	34-00268-3	Sht. 4 of 10
Drawn by	Date	MAY 2000	

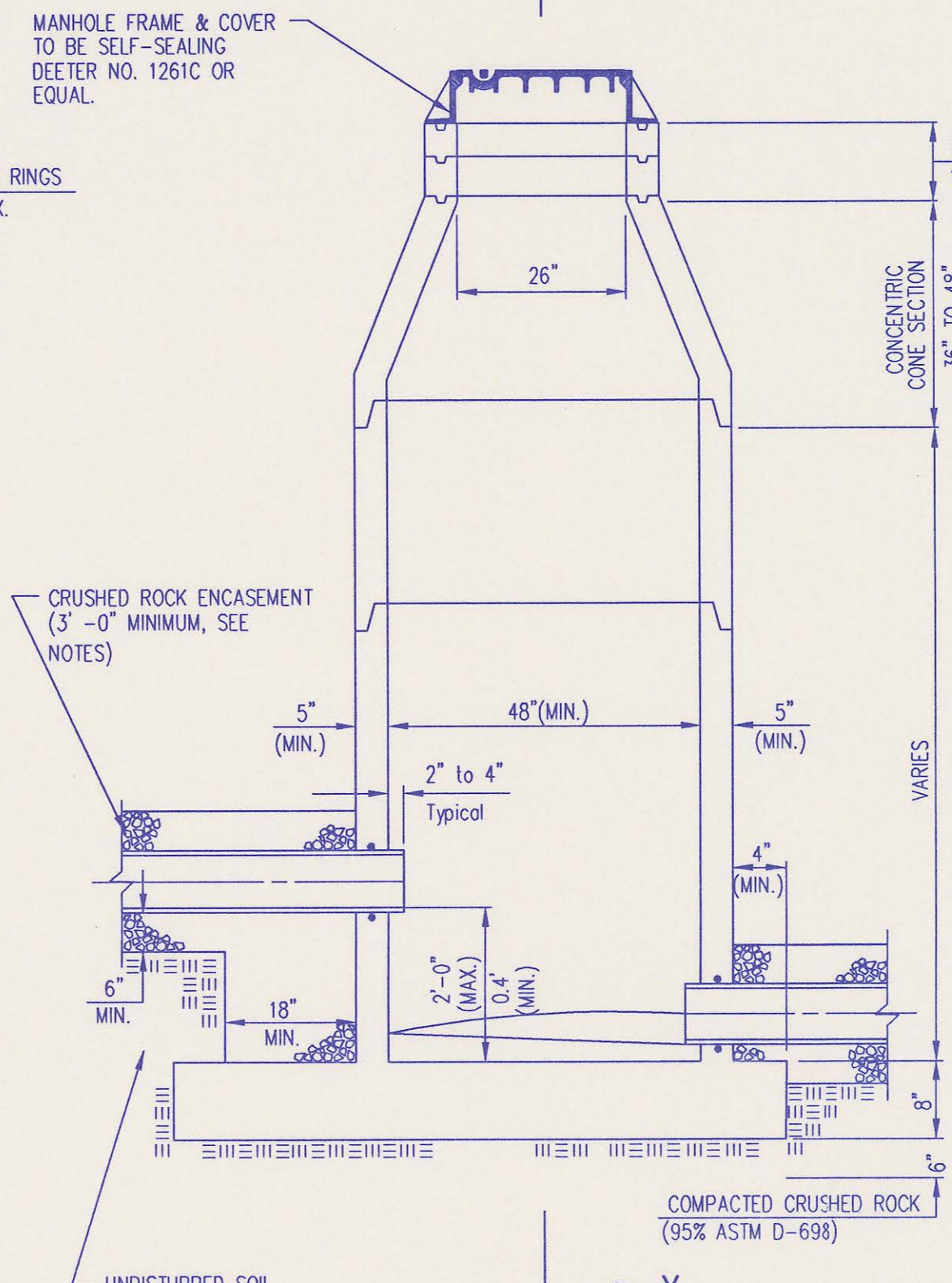


**MANHOLE FRAME AND COVER**  
(TOTAL WEIGHT = 325 LBS.)

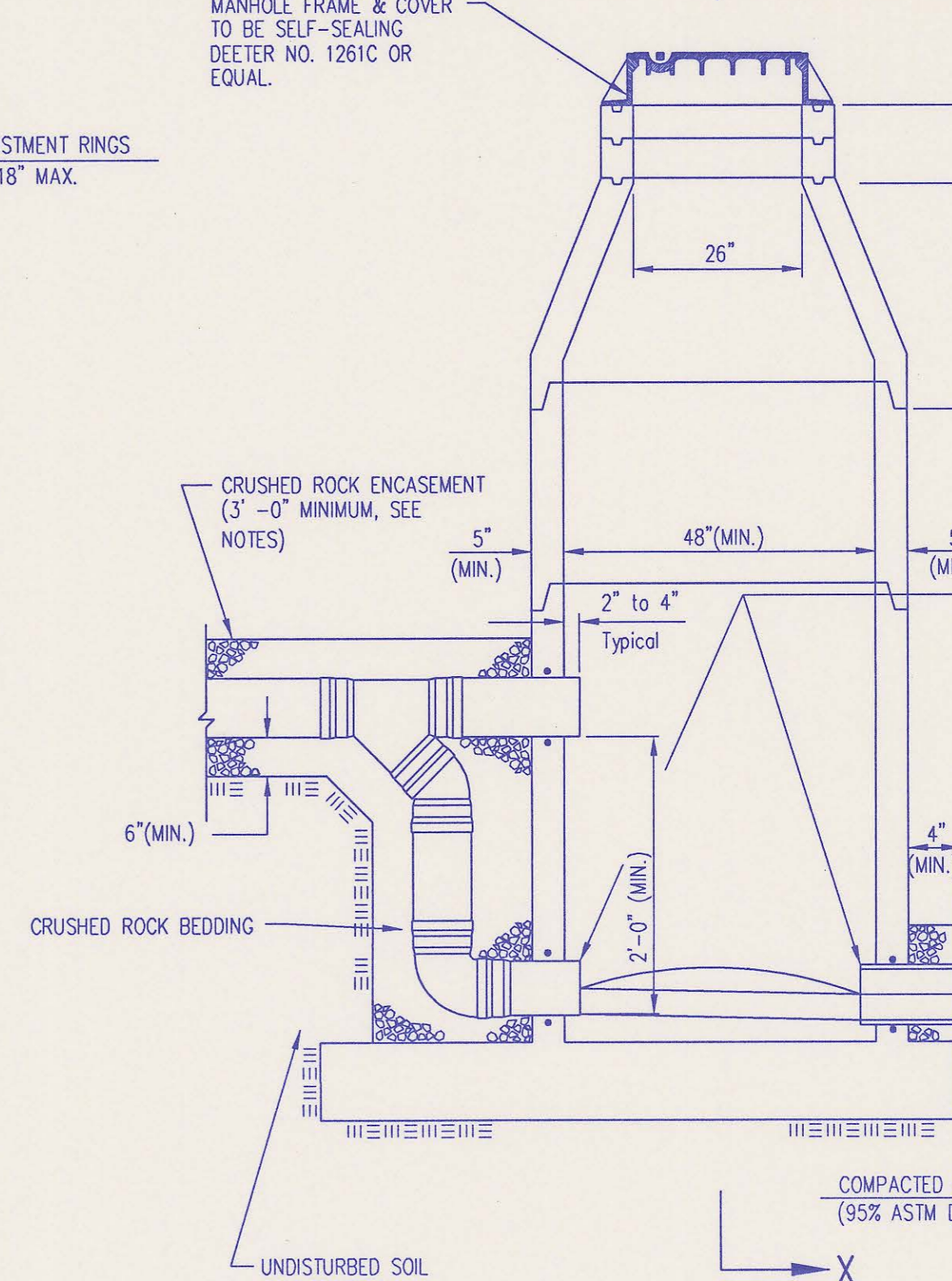
- MANHOLE FRAME AND COVER NOTES**
- CAST IRON MANHOLE FRAME AND COVER SHALL CONFORM TO ASTM A-48, CLASS 35B, OR BETTER.
  - CASTINGS ARE TO BE MANUFACTURED TRUE TO PATTERN AND WITH SATISFACTORY FIT OF COMPONENT PARTS. CASTINGS SHALL BE FREE OF DEFECTS AND ALL BURRS SHALL BE GROUND SMOOTH. DIMENSIONS AS DETAILED ON PLAN SHALL NOT DEVIATE BY 1/16" PER FOOT.
  - NO OTHER LETTERING OR MARKINGS OTHER THAN THOSE DETAILED ON PLAN WILL BE PERMITTED ON CASTINGS.
  - CASTINGS MUST BE DOMESTICALLY MANUFACTURED IN THE UNITED STATES OF AMERICA.
  - THE FRAMES AND COVERS SHALL BE FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACES SO FITTING PARTS WILL NOT RATTLE OR ROCK UNDER TRAFFIC.
  - MANHOLE CASTINGS SHALL BE SELF-SEALING DEETER FOUNDRY INC. NO. 1261C OR APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED IN THE SPECIAL CONDITIONS. (MINIMUM WT. = 325 LBS.) ALL MANHOLE CASTINGS SHALL BE CONSIDERED SUBSIDIARY TO THE UNIT PRICE BID FOR THE VARIOUS MANHOLE TYPES.
  - THE MANUFACTURER SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO MANUFACTURE. THE ENGINEER SHALL RETAIN THE RIGHT TO REJECT CASTINGS NOT CONFORMING TO THE SPECIFICATIONS OR THE APPROVED SHOP DRAWINGS.
  - THE MANHOLE FRAME SHALL BE FURNISHED WITH AN APPROVED CONTINUOUS "O" RING GASKET GROOVED INTO THE BEARING SURFACE OF THE MANHOLE FRAME. (PER DETAIL). THE "O" RING GASKET SHALL BE FACTORY INSTALLED IN THE MANHOLE FRAME WITH 100% SILICON SEALANT-DOW CORNING OR EQUAL.



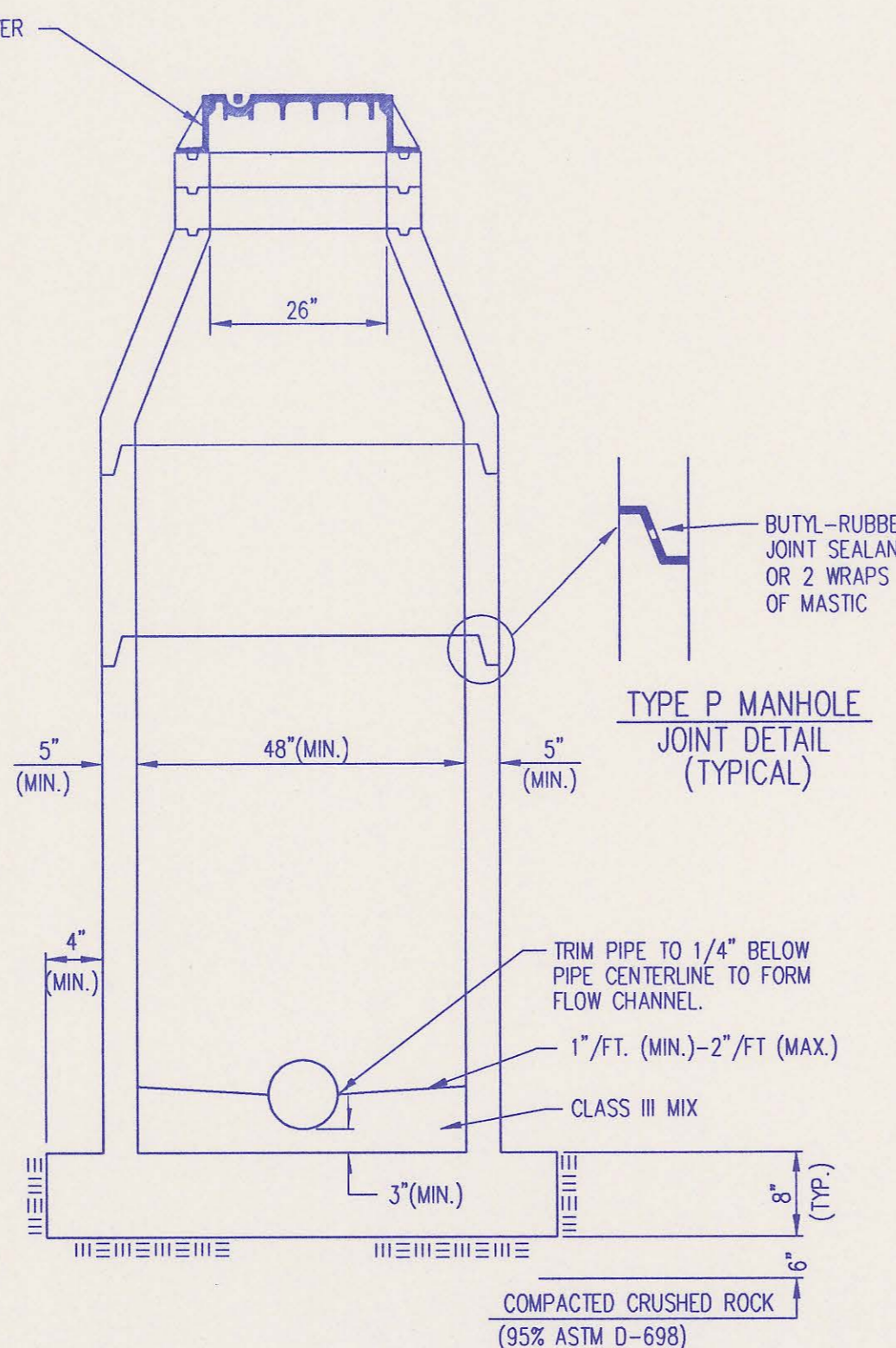
**PRECAST STANDARD MANHOLE TYPE "A"**



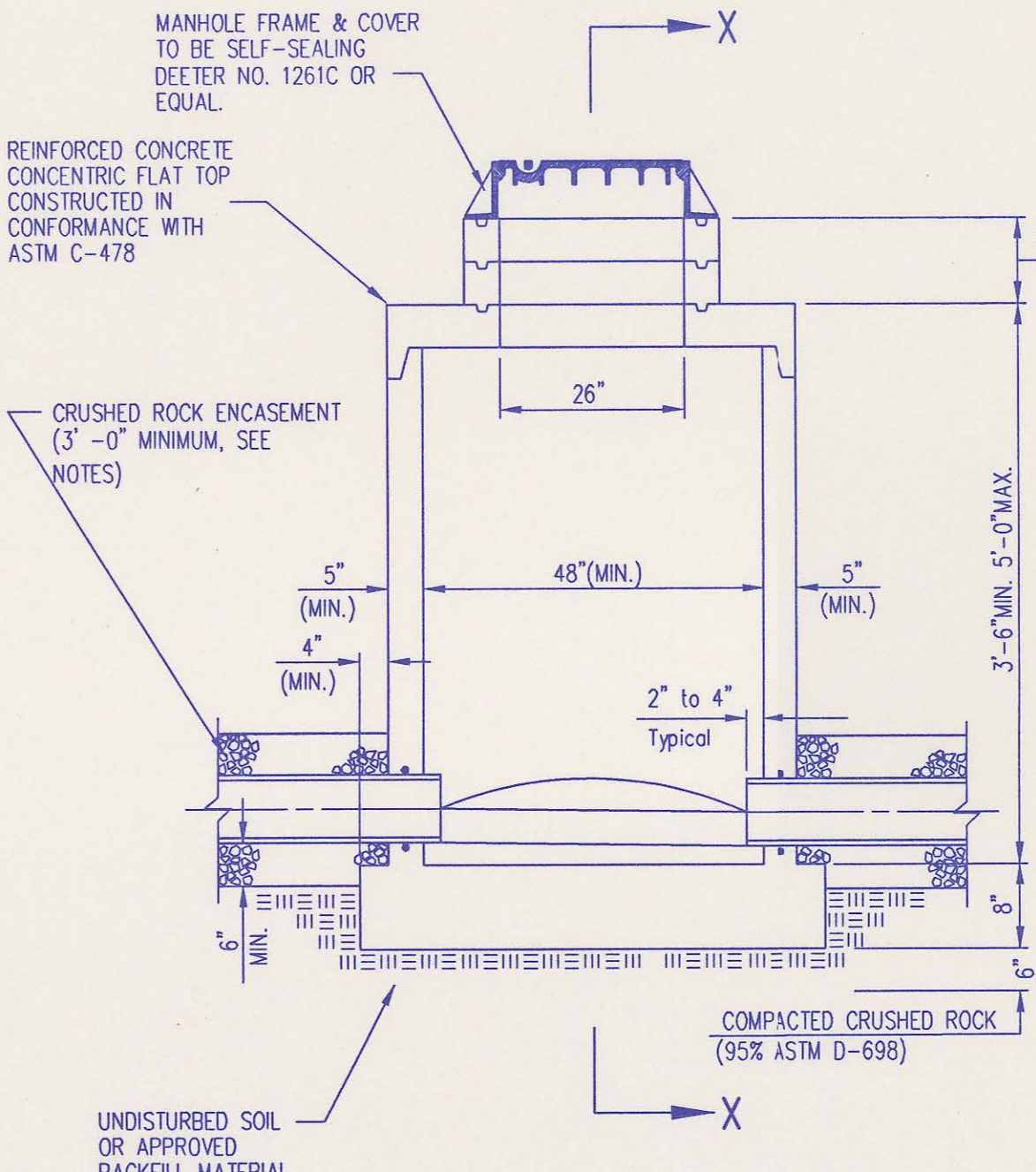
**PRECAST INSIDE DROP MANHOLE TYPE "B"**



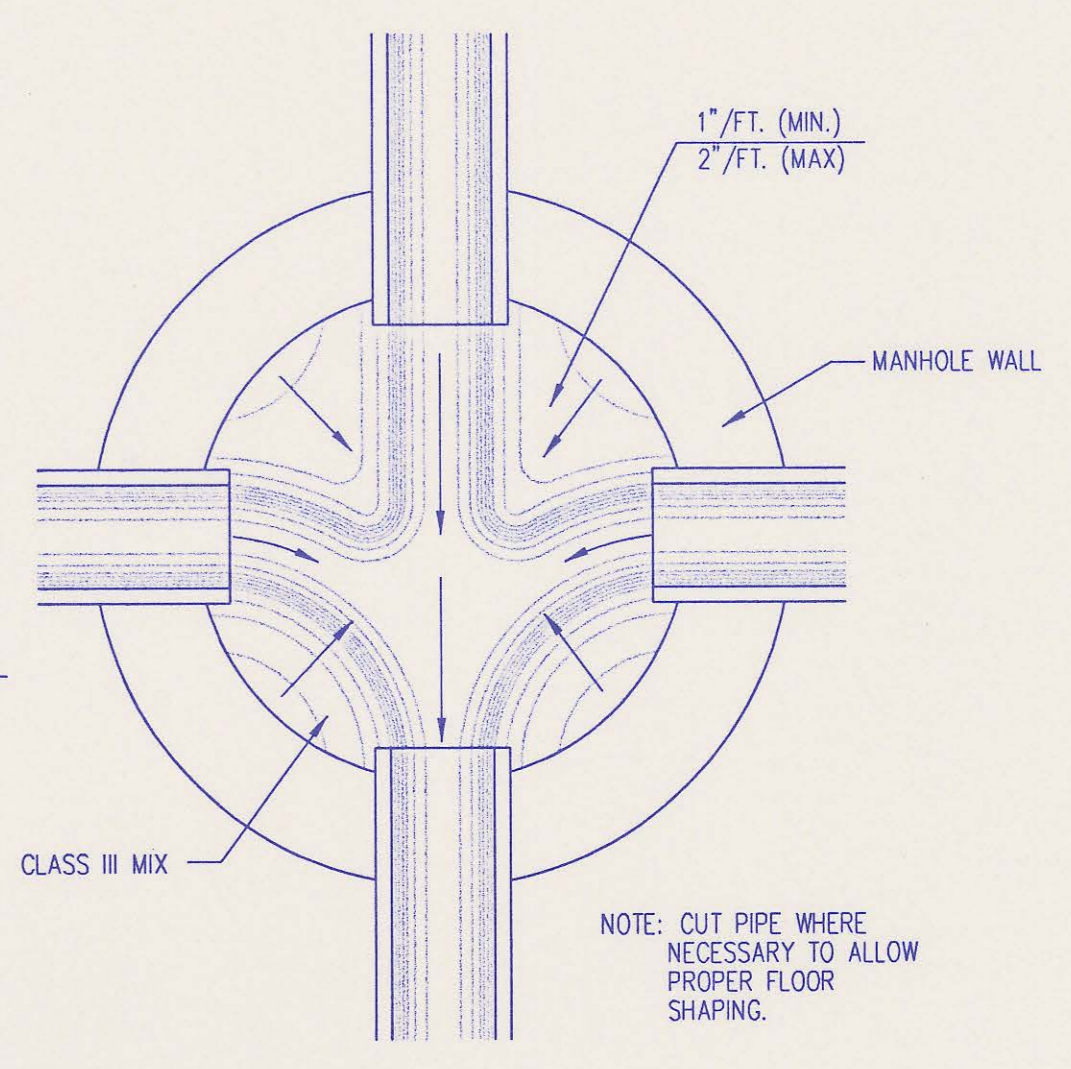
**PRECAST OUTSIDE DROP MANHOLE TYPE "C"**



**SECTION X (TYPICAL)**



**PRECAST SHALLOW MANHOLE TYPE "D"**



**TYPICAL MANHOLE FLOOR SHAPING**

**NOTE:** TOP OF BOTTOM PIPE ON OUTSIDE DROP SHALL ALWAYS BE SET 0.1 FEET HIGHER THAN TOP OF PIPE CARRYING FLOW OUT OF THE MANHOLE.

- PRECAST MANHOLE NOTES**
- IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL OVEREXCAVATE TO A SUITABLE SUBGRADE CONDITION AND CRUSHED ROCK SHALL BE PLACED AND COMPACTED TO THE REQUIRED GRADE.
  - "ALOK" OR APPROVED EQUAL FLEXIBLE WATER-STOP GASKETS WHICH MEET OR EXCEED THE TEST REQUIREMENTS OF ASTM C-933 SHALL BE INSTALLED TO CONNECT THE SEWER TO THE MANHOLE WALL.
  - THE MANHOLE FRAME SHALL BE SEATED ON AN APPROVED BUTYL-RUBBER OR MASTIC SEALANT TO PROVIDE WATER-TIGHT SEAL BETWEEN THE MANHOLE ADJUSTMENT RING AND THE MANHOLE FRAME.
  - GASKETED PIPE CAPS SHALL BE PROVIDED BY THE PIPE SUPPLIER. GROUT OR CEMENTED CAPS WILL NOT BE ACCEPTED.
  - ALL MANHOLE CONSTRUCTION SHALL BE WATER TIGHT.
  - TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
  - MANHOLES WITH PIPE SIZES 24" AND LARGER SHALL HAVE 5" INSIDE DIAMETER (MIN.).
  - INSIDE DIAMETER OF FIVE-FOOT DIAMETER PRECAST MANHOLES SHALL REMAIN CONSTANT TO THE LOCATION OF THE REDUCING FLAT TOP WHICH CONNECTS THE FOUR-FOOT DIAMETER CONE SECTION TO THE FIVE-FOOT DIAMETER MANHOLE BARREL.
  - MANHOLES SHALL BE SUPPLIED WITH PRECAST BASE SECTIONS UNLESS OTHERWISE APPROVED. ALL PRECAST CONCRETE MANHOLE SECTIONS AND BASES SHALL CONFORM TO THE LATEST REVISION OF ASTM C478 AS MODIFIED BY THE SPECIFICATIONS. ALL MANHOLES WITH PRECAST BASES SHALL INCLUDE A-LOK GASKETS FOR ALL PIPE PENETRATIONS INTO THE MANHOLES.
  - WHERE MANHOLE STUBS ARE SHOWN ON THE PLANS, THE STUB SHALL EXTEND AT LEAST 5 FEET FROM THE INSIDE WALL OF THE MANHOLE. 4" STUBS SHALL BE SET AT 2.0% GRADE. 6" STUBS SHALL BE SET AT 1.0% GRADE.
  - MANHOLE SECTIONS SHALL BE SUPPLIED WITH RECESSED LIFTING EYES. LIFTING EYE RECESSES SHALL BE GROUTED FLUSH TO THE MANHOLE WALL WITH HYDRAULIC CEMENT AFTER THE MANHOLE IS IN PLACE. LIFTING HOLES THRU THE MANHOLE WALL WILL NOT BE ACCEPTED.
  - WHERE A-LOK GASKETS ARE REQUIRED, THE CONTRACTOR SHALL UTILIZE A CRUSHED ROCK BEDDING MATERIAL. THE ROCK BEDDING MATERIAL SHALL EXTEND TO 3 FEET FROM THE MANHOLE WALL AND SHALL BE COMPACTED IN PLACE FROM THE BOTTOM OF THE DISTURBED AREA TO 1 FOOT ABOVE THE TOP OF PIPE. THE CRUSHED ROCK WHICH IS PLACED BELOW THE PIPE BEDDING ZONE SHALL BE COMPACTED TO 95% ASTM D-698(MIN).
  - WHERE MANHOLES ARE TO BE BUILT OVER EXISTING SANITARY SEWER LINES, SEWER PIPES SHALL BE SUPPORTED WITH CLASS I CONCRETE ENCASEMENT A MINIMUM OF 3 FEET OUTSIDE THE MANHOLE WALL.
  - CRUSHED ROCK SHALL MEET THE REQUIREMENTS FOR GRANULAR BEDDING MATERIAL, AS OUTLINED IN THE SPECIFICATIONS.

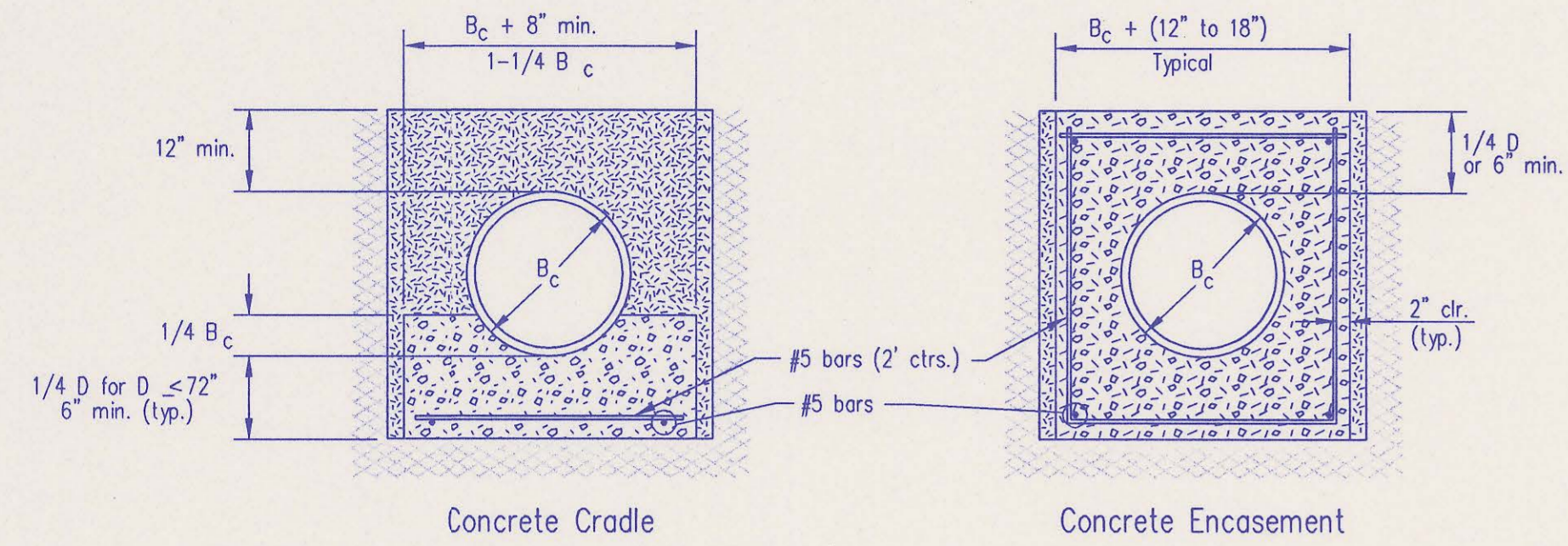
**RECORD DRAWING**

**PRECAST MANHOLE DETAILS**  
ADOPTED AS STANDARD DESIGN JANUARY 1998  
BY  
SEDGWICK COUNTY PUBLIC WORKS  
DAVID C. SPEARS, P.E. DIRECTOR, PUBLIC WORKS/COUNTY ENGINEER

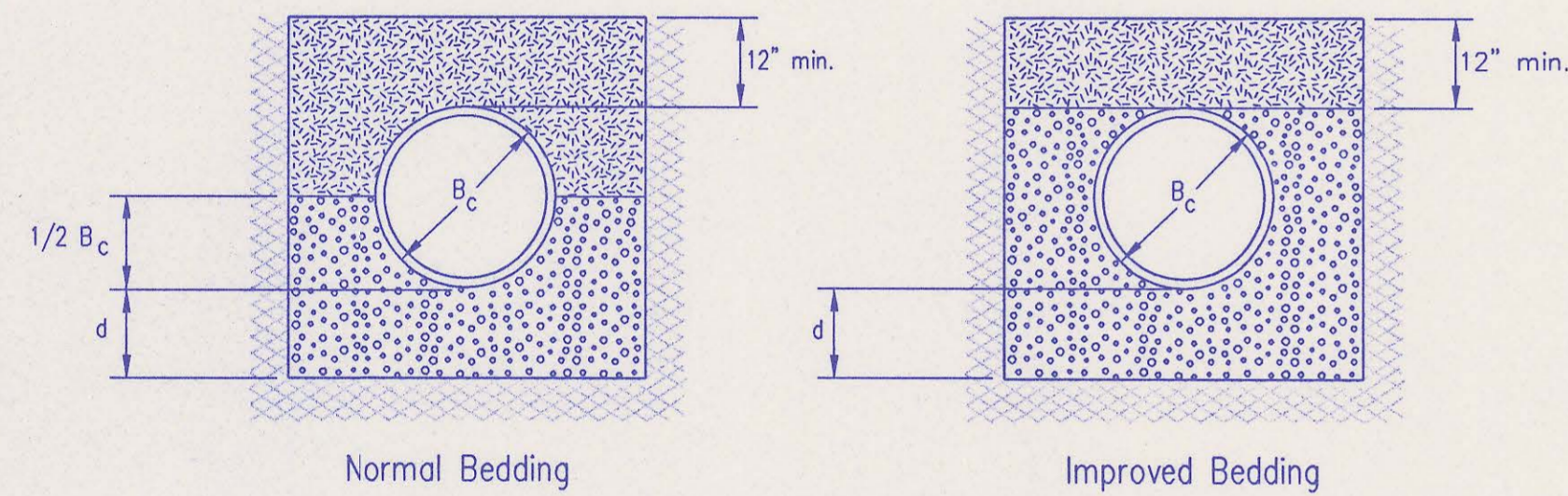
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DATE  
BY  
CHECKED  
CHECKED  
PLAN

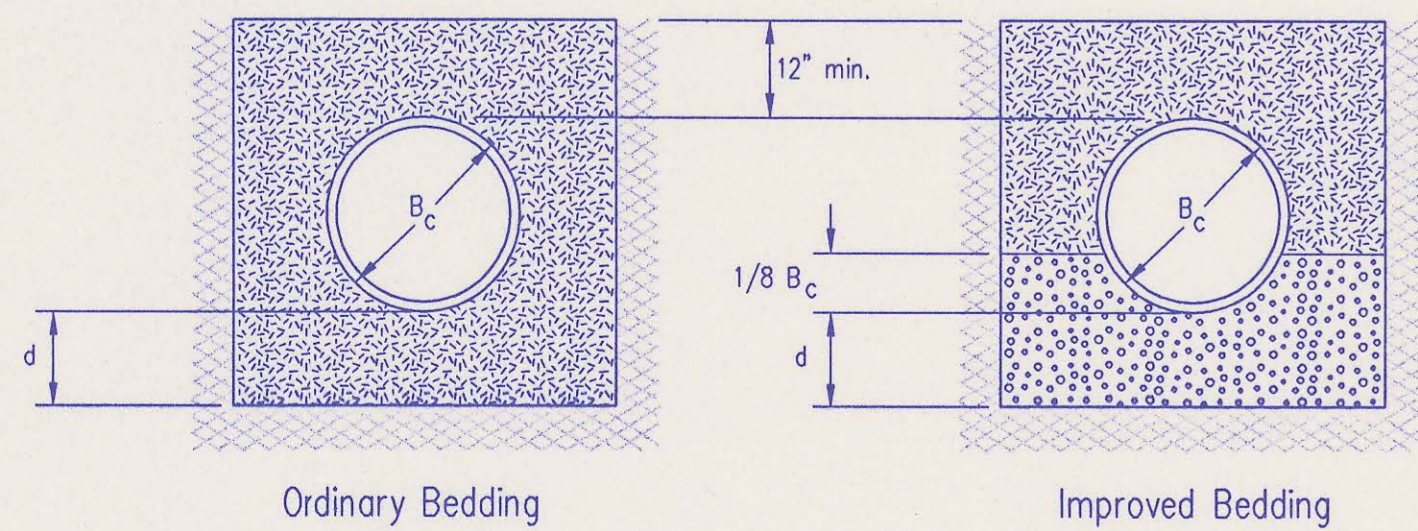
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CLASS A



CLASS B



CLASS C

PIPE ZONE BACKFILLING

- $B_c$  = Outside Pipe Diameter
- H = Backfill from Top of Pipe to Existing Ground
- D = Inside Pipe Diameter
- d = Depth of Bedding Material Below Pipe
- = Granular Bedding Material or Sand-Gravel Bedding
- = Compacted Embedment
- = Concrete

Depth of Bedding Material Below Pipe		
D	d(min) Soil	d(min) Rock
27" & smaller	4"	6"
30" to 60"	5"	9"
66" & larger	6"	12"

Granular Bedding Material shall be an approved material consisting of durable crushed rock conforming with the requirements of the latest revision of ASTM C-33 Size No. 67 (3/4" to No. 4); to be placed in not more than 6" layers and compacted by slicing with a shovel or vibrating. Soundness, abrasion, and absorption limits shall be as required for coarse aggregates in Section 03010-Concrete Work in the specifications.

Sand-Gravel Bedding Material - sand-gravel mix meeting Type UD-1 of the 1990 Kansas Standard Specifications for State Road and Bridge Construction.

Compacted Embedment shall be an approved sand material free from debris, organic material, and stones with 100% passing the 3/4" sieve to be placed in uniform layers not more than 6" thick and compacted to 95 percent maximum density as determined by ASTM D698. Granular Bedding Material may be substituted for all or part of Compacted Embedment Materials.

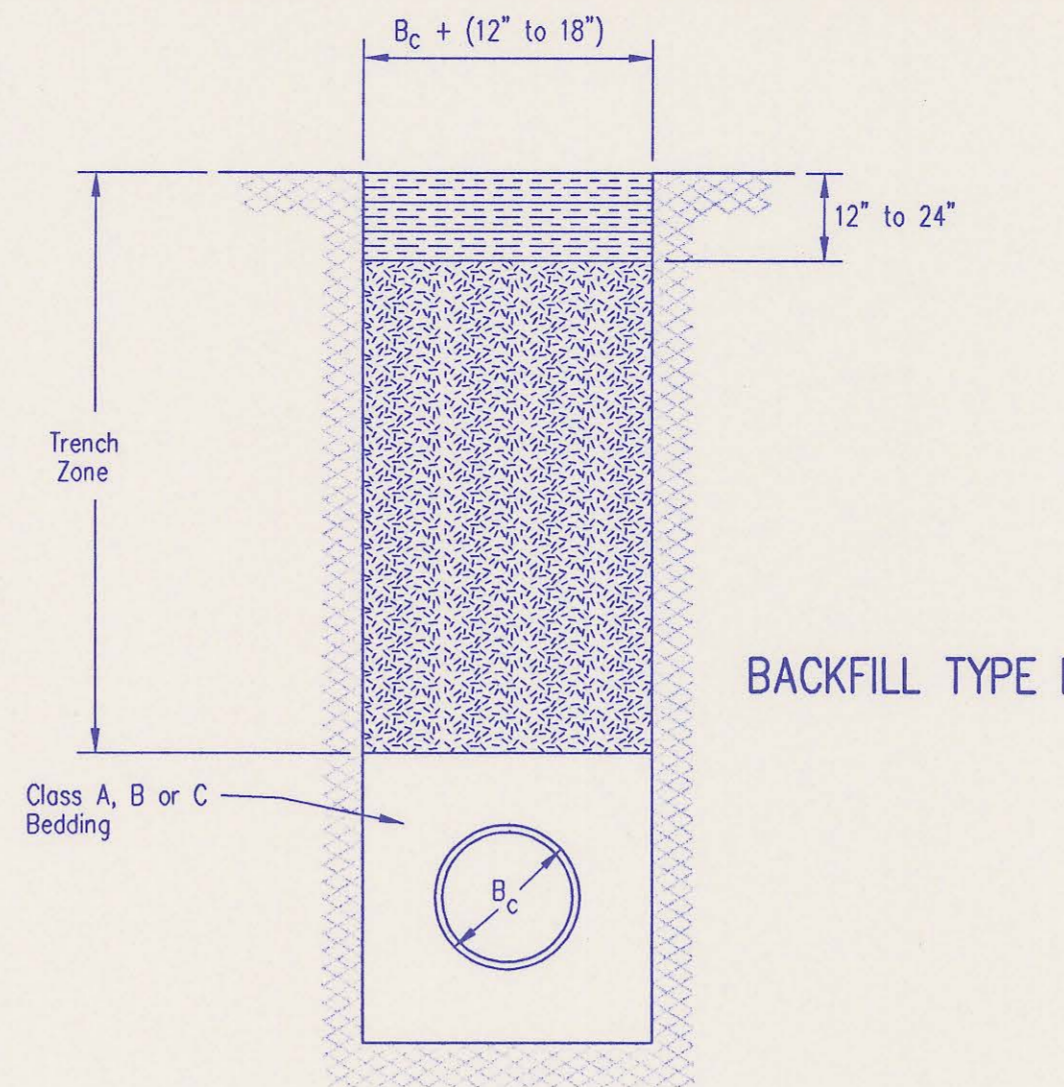
Class A "Concrete Cradle" and/or Class A "Concrete Encasement" is not required unless specified on the plans. However, where unexpected trench conditions exist or improper trenching is performed Class A Bedding may be required as determined by the Engineer.

Class B Bedding shall be used for all flexible pipe.

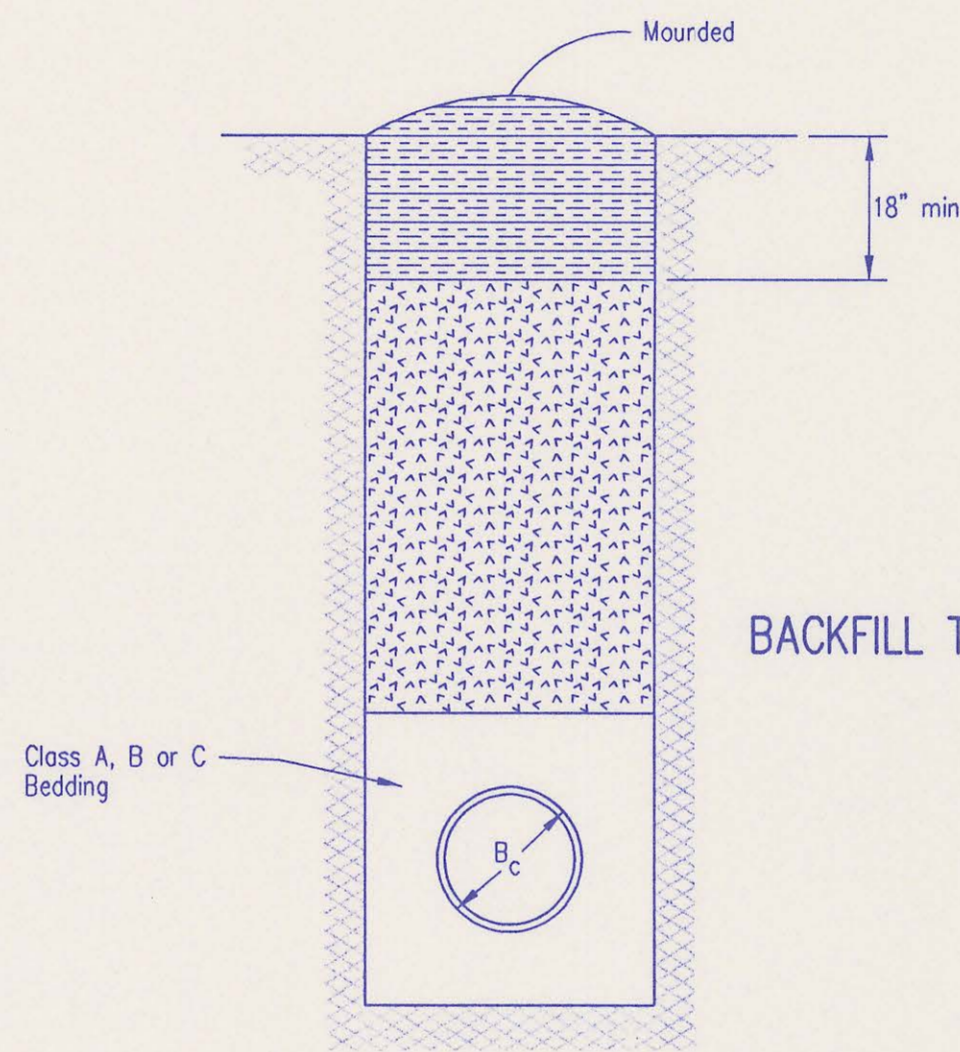
- a. Class B Normal Bedding shall be used for PVC Pipe unless wet conditions are encountered.
- b. Class B Improved Bedding shall be used for other flexible pipe, and for PVC pipe in wet conditions.

Class C Bedding shall be used for all rigid pipe.

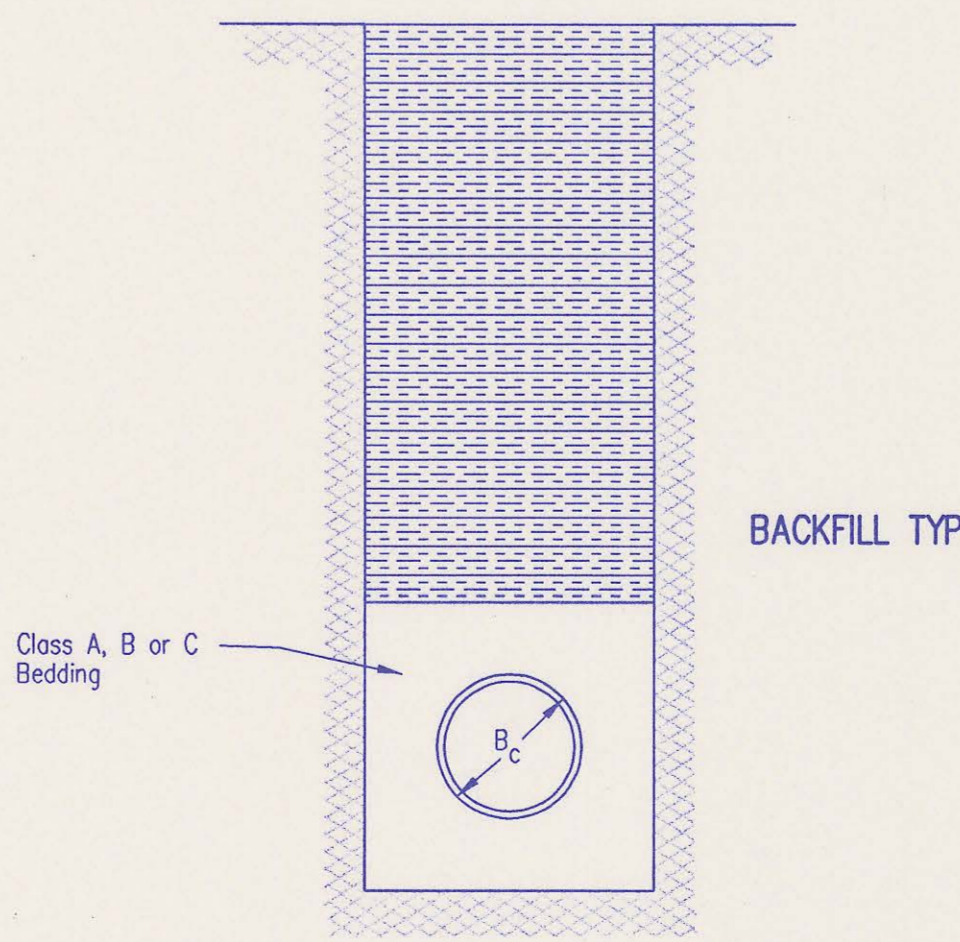
- a. Class C Ordinary Bedding shall be used for all rigid pipe unless wet conditions are encountered.
- b. Class C Improved Bedding shall be used for wet conditions existing in the trench, as directed by the Engineer, at no additional cost to the Owner. The dimensions shall be equal to that required for "rock" excavation (see specifications).



BACKFILL TYPE I



BACKFILL TYPE II



BACKFILL TYPE III

- $B_c$  = Outside Pipe Diameter
- = Compacted Granular Backfill
- = Uncompacted Earth Backfill
- = Compacted Earth Backfill

Compacted Granular Backfill material shall be an approved sand material free from debris, organic material and stones with 100% passing the 3/4" sieve and not more than 15% passing a No. 200 sieve; to be jetted and mechanically vibrated into place and compacted to 95% density as determined by ASTM D698.

Uncompacted Earth Backfill material may be natural soil free from large clods or stones, brush, roots more than 2 inches in diameter, debris, and junk. Flooding with water shall be provided as directed by the Engineer.

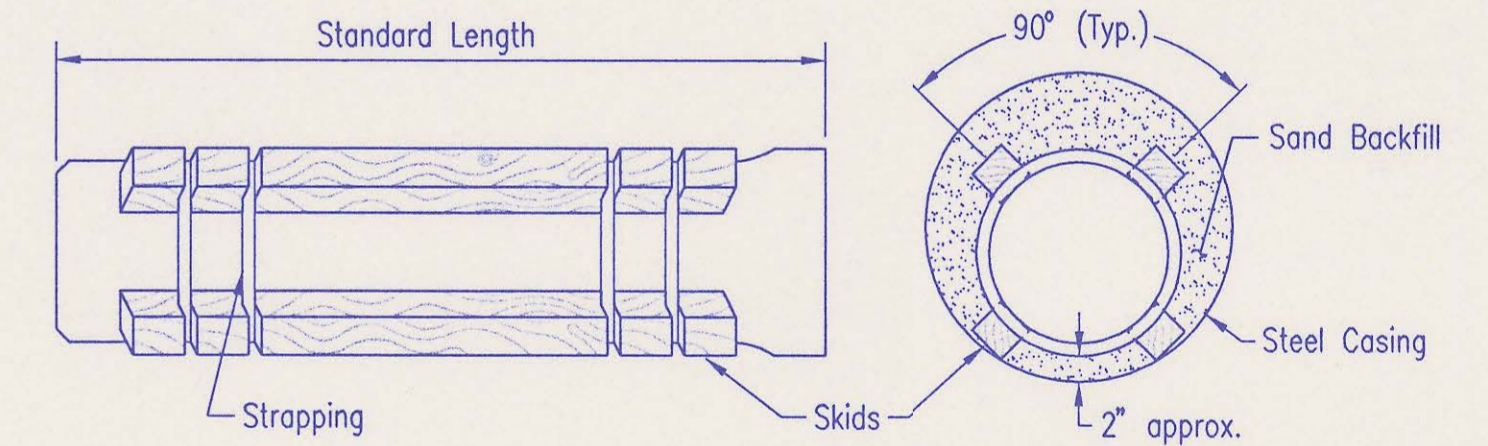
Compacted Earth Backfill shall consist of material existing prior to trenching or selected material as directed by the Engineer, and shall be compacted to 90% density as determined by ASTM D698.

Backfill: Backfill material and compaction requirements shall conform to either Type I, Type II or Type III as specified in the plans. One years maintenance will be required on all backfill.

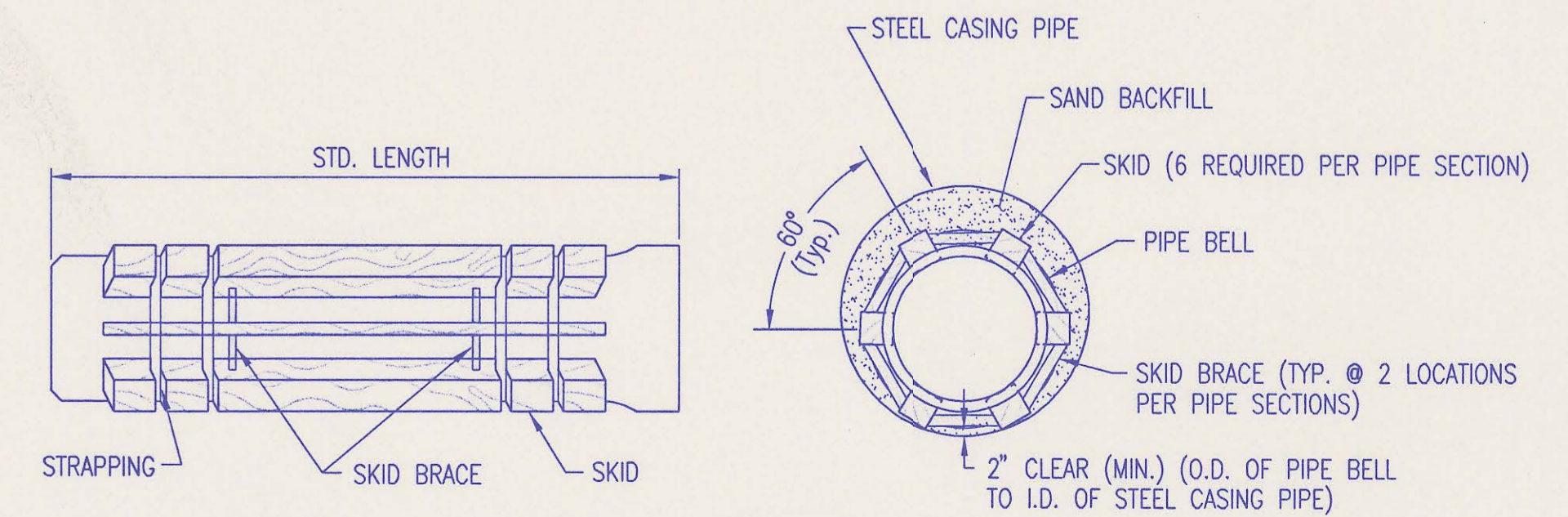
Backfilling Through Rock: Backfilling through rock shall be performed as specified in the paragraph Backfill above, except that the Pipe Zone is increased to provide eighteen (18) inches of cover over the pipe. When approved by the Engineer the remainder of the backfill may be excavated rock provided the excavated rock has been broken up so that earth and rock will thoroughly mix and not result in voids around the larger pieces of rock. Any excess rock remaining after the trench has been backfilled shall be removed or wasted as directed by the Engineer.

Backfilling Under Pavement: Backfilling under existing or proposed pavement shall be performed as Backfill Type I to a level of two (2) feet from the bottom of the pavement. The remainder of the trench shall be backfilled with selected material, sufficiently damp to be properly compacted in layers not exceeding six (6) inches in depth, compaction shall be performed with mechanical tampers and continued until a relative density of 100 percent of standard density, in conformance with ASTM D698 is attained.

Backfilling Under Gravel Streets: Where the trench crosses or is in existing gravel surfaced streets, the backfill shall be compacted as provided in the paragraph "Backfilling Under Pavement".



STEEL ENCASEMENT DETAIL  
SEWER MAIN 12" AND UNDER

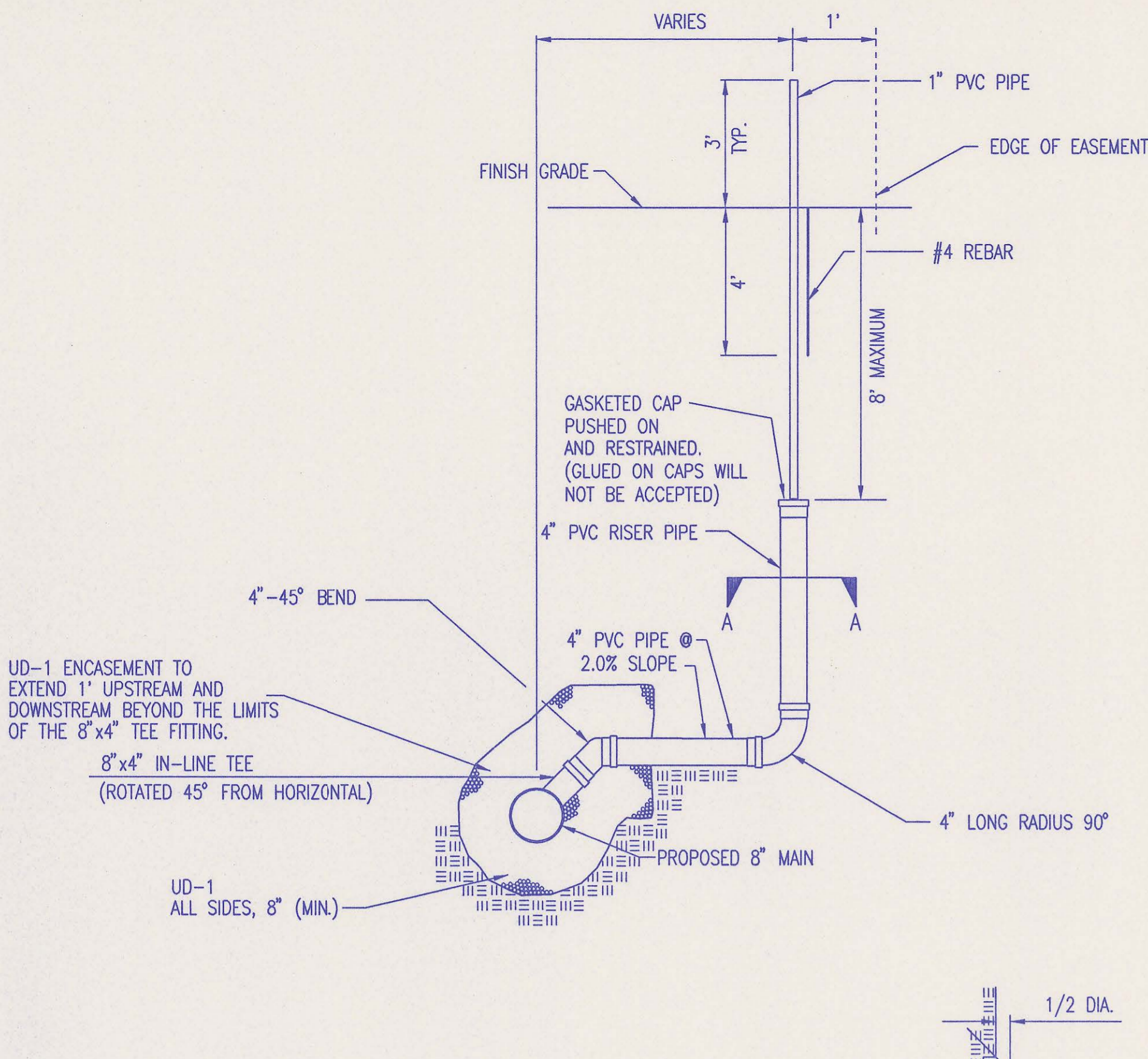


STEEL ENCASEMENT DETAIL  
SEWER MAIN OVER 12"

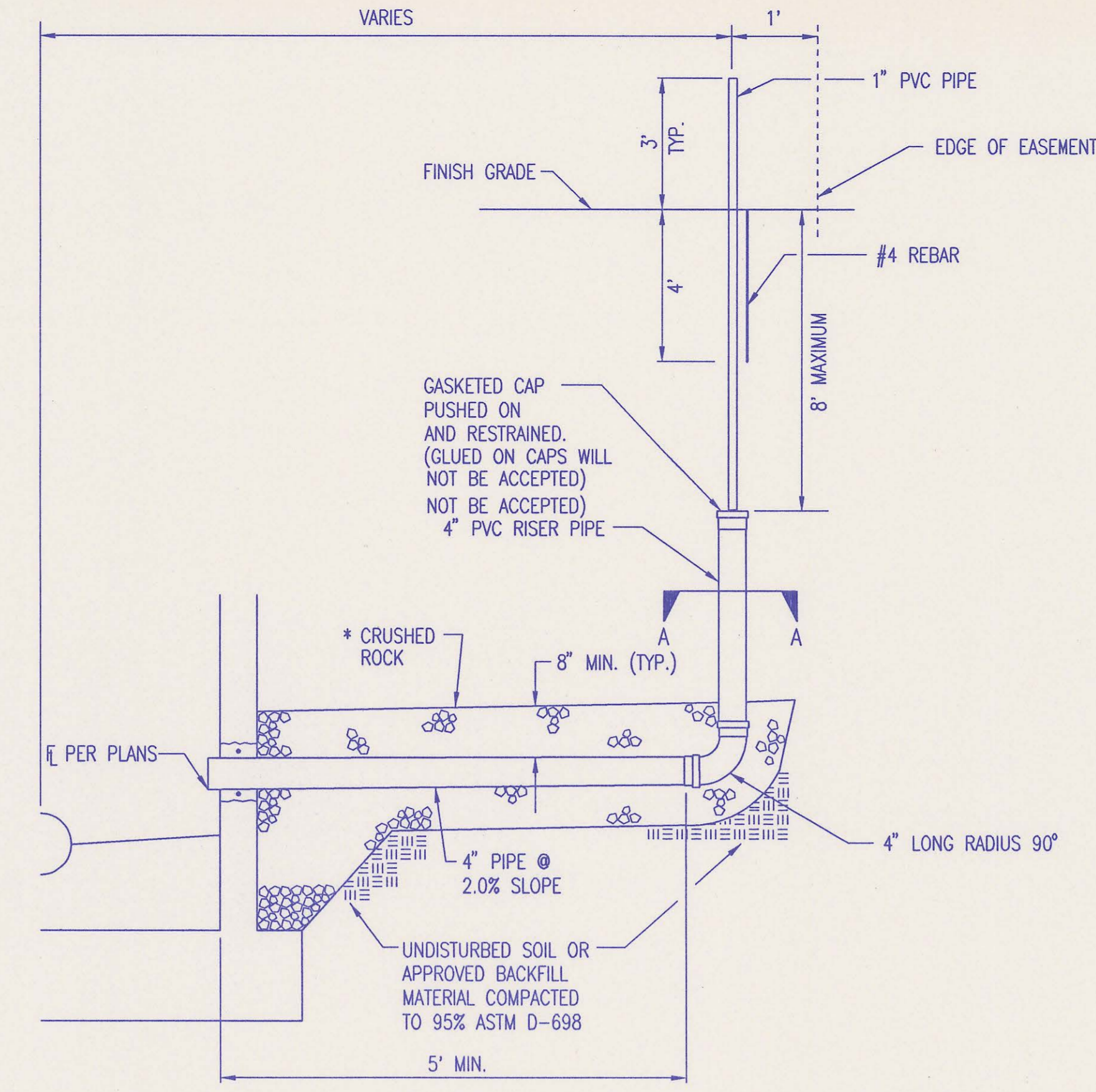
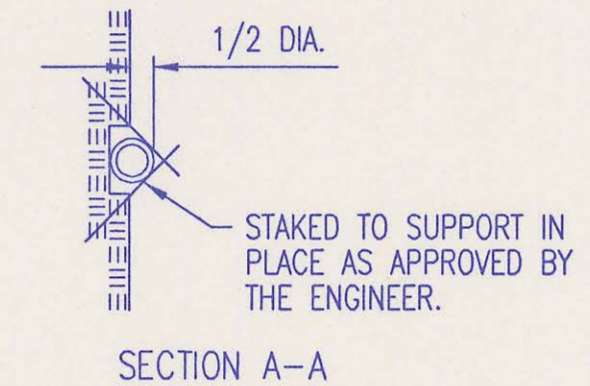
RECORD DRAWING

TRENCH AND BACKFILL DETAILS

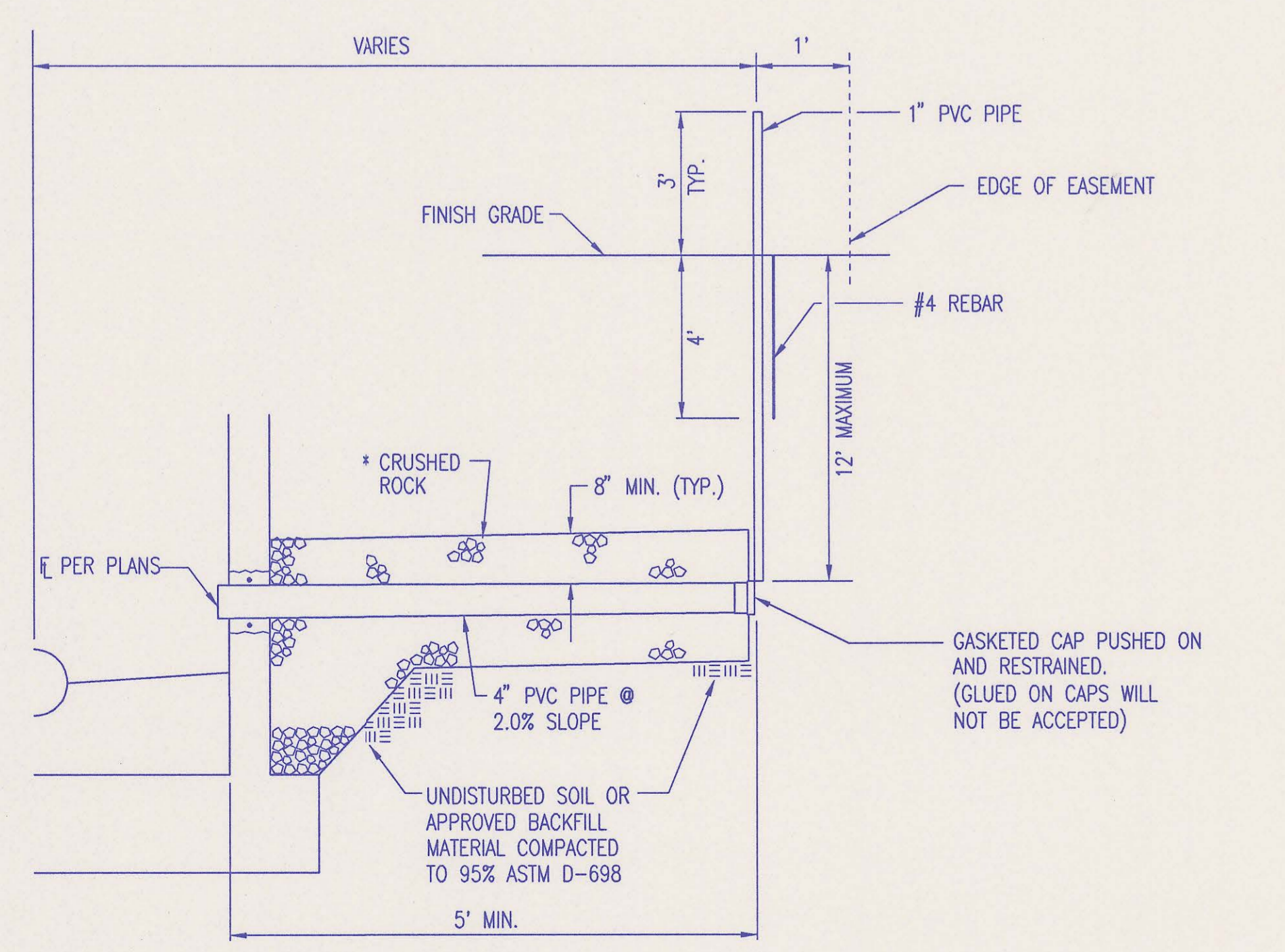
ADOPTED AS STANDARD DESIGN JANUARY 1998  
BY  
SEGWICK COUNTY PUBLIC WORKS  
DAVID C. SPEARS, P.E. DIRECTOR, PUBLIC WORKS/COUNTY ENGINEER



TEE SERVICE CONNECTION



MH SERVICE CONNECTION



4" STUB

\* CRUSHED ROCK SHALL MEET THE REQUIREMENTS FOR GRANULAR BEDDING MATERIAL, AS OUTLINED IN THE SPECIFICATIONS.

SERVICE CONNECTIONS ARE TO BE INSTALLED WHERE PROPOSED SEWER MAIN IS 12" OR MORE BELOW PROPOSED GROUND OR AS SHOWN IN THE PLANS.

SEWER SERVICE TABLE										
NO.	TYPE	LOCATION				FOR INFORMATION ONLY APPROXIMATE LENGTH 4" PIPE	RECORD INFORMATION (TO BE COMPLETED BY PROJECT INSPECTOR)			
		LOT NO.	BLOCK NO.	LATERAL NO.	STATION/DIRECTION		DISTANCE FROM NEAREST MANHOLE		NO.	
1	TEE SERVICE CONNECTION	24	3	71-15	2+55/RT	2+52/RT	22'	412' FM MH 7-15-2	27' FM MH 7-15-1	1
2	TEE SERVICE CONNECTION	1	3	71-15	2+75/LT	2+73/LT	12'	391' FM MH 7-15-2	48' FM MH 7-15-1	2
3	TEE SERVICE CONNECTION	23	3	71-15	3+40/RT	3+36/RT	21'	328' FM MH 7-15-2	111' FM MH 7-15-1	3
4	TEE SERVICE CONNECTION	2	3	71-15	4+15/LT	4+14/LT	12'	250' FM MH 7-15-2	190' FM MH 7-15-1	4
5	TEE SERVICE CONNECTION	22	3	71-15	4+25/RT	4+24/RT	21'	240' FM MH 7-15-2	190' FM MH 7-15-1	5
6	TEE SERVICE CONNECTION	1	4	71-16	2+50/RT	2+51/RT	8'	288' FM MH 7-16-2	21' FM MH 7-16-1	6
7	TEE SERVICE CONNECTION	2	4	71-16	3+35/RT	3+37/RT	9'	202' FM MH 7-16-2	113' FM MH 7-16-1	7
8	TEE SERVICE CONNECTION	3	4	71-16	4+20/RT	4+20/RT	9'	110' FM MH 7-16-2	196' FM MH 7-16-1	8
9	TEE SERVICE CONNECTION	4	4	71-16	4+95/RT	4+95/RT	8'	44' FM MH 7-16-2	87' FM MH 7-16-1	9
10	TEE SERVICE CONNECTION	5	4	71-16	5+70/RT	5+67/RT	8'	312' FM MH 7-16-2	28' FM MH 7-16-1	10
11	TEE SERVICE CONNECTION	6	4	71-16	6+50/RT	6+44/RT	9'	235' FM MH 7-16-2	105' FM MH 7-16-1	11
12	TEE SERVICE CONNECTION	7	4	71-16	7+60/RT	7+59/RT	8'	120' FM MH 7-16-2	220' FM MH 7-16-1	12
13	4" STUB	9	4	71-13	17+33.21/NW		4'	6' NW FM MH 71-13-5	390' FM MH 71-13-4	13
14	4" STUB	7	3	71-14	8+44.13/ENE		8'	8' ENE FM MH 71-14-4	170' FM MH 71-14-3	14
15	4" STUB	5	3	71-15	6+64.07/NE		9'	0' NE FM MH 7-15-4	439' FM MH 7-15-1	15
16	4" STUB	6	3	71-15	6+64.07/SE		6'	0' SE FM MH 7-15-2	490' FM MH 7-15-1	16
17	4" STUB	8	4	71-16	8+79.28/S		4'	6' S FM MH 7-16-3	340' FM MH 7-16-2	17

DSNR: MDK OPRF: ILS SCALE: 1"=1.00  
 C:\2000\00268\003\servdts 06-20-2000 01:25:16 pm

**RECORD DRAWING**

SERVICE CONNECTION DETAILS  
 ADOPTED AS STANDARD DESIGN JANUARY 1998  
 BY  
 SEDGWICK COUNTY PUBLIC WORKS  
 DAVID C. SPEARS, P.E. DIRECTOR, PUBLIC WORKS/COUNTY ENGINEER



PLAN	CHECKED	CHECKED
BY		
DATE		

PROFILE	CHECKED	CHECKED
BY		
DATE		

N-379,035.3550, E-2,375,873.7290  
Sta. 0+00.00  
Existing MH 71-2-3\*  
Core concrete MH wall and install new 8" pipe. Seal new 8" pipe to MH with an approved waterstop gasket and quick-set hydraulic cement. Construct a minimum of 3' reinforced concrete encasement from MH wall with dowels per specifications. Reshape invert to provide smooth flow. This work shall be considered subsidiary to the price bid for pipe in place.

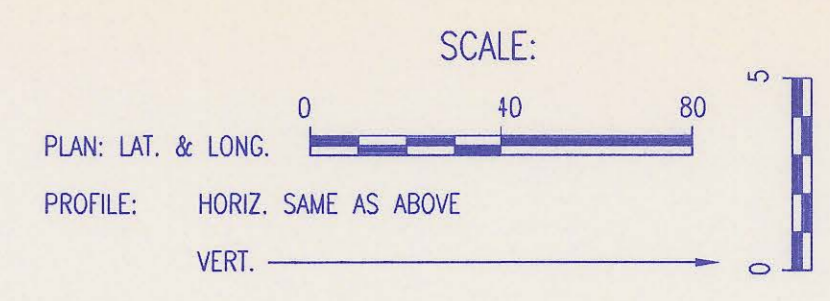
CAUTION!!!  
Telephone Box (SWB)  
Contractor shall support in place and protect from damage.

CAUTION !!!  
Prop. 15" RCP SWS & Curb Inlets (by others)

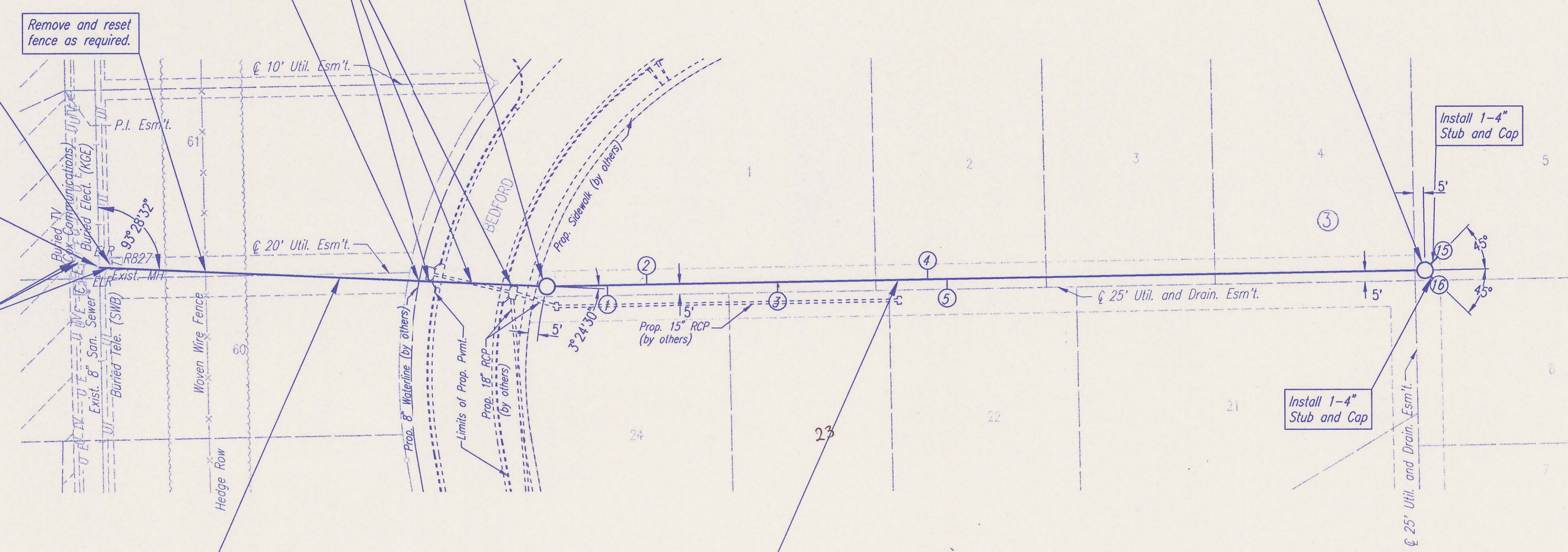
CAUTION !!!  
Prop. 8" Waterline (by others)

N-379,025.7304 E-2,376,098.1838  
Sta. ~~2+24.66~~ 2+24.71  
Const. MH 71-15-1  
Type A

N-379,033.0382 E-2,376,537.5371  
Sta. ~~6+64.07~~ 6+62.27  
Const. MH 71-15-2  
Type A



CAUTION !!!  
Buried Telephone (SWB)  
Buried Electric (KGE)  
Buried CATV (Cox Communications)



\*THE CONTRACTOR SHALL COAT THE INTERIOR OF THE EXISTING MANHOLE WITH RAVEN 405 ULTRA HIGH BUILD EPOXY COATING AS MANUFACTURED BY RAVEN LINING SYSTEMS, INC., TULSA, OK (800) 324-2810. SURFACES OF MANHOLES SHALL BE PREPARED BY A 3500 TO 5000 PSI WATER BLAST CLEANING. ALL CONTAMINANTS INCLUDING FORM OIL, GREASE, MASTICS, OR ANY OTHER FOREIGN MATERIALS SHALL BE REMOVED FROM THE MANHOLE WALLS PRIOR TO APPLICATION OF COATING. THE COATING SHALL BE APPLIED BY A CERTIFIED APPLICATOR OF THE COATING MANUFACTURER. THE FINAL THICKNESS OF THE COATING SHALL BE A MINIMUM OF 100 MILS.

Install 224.66 L.F. 8" Pipe

Install 439.47 L.F. 8" Pipe

LATERAL 71-15

SANITARY SEWER PIPE SLOPES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

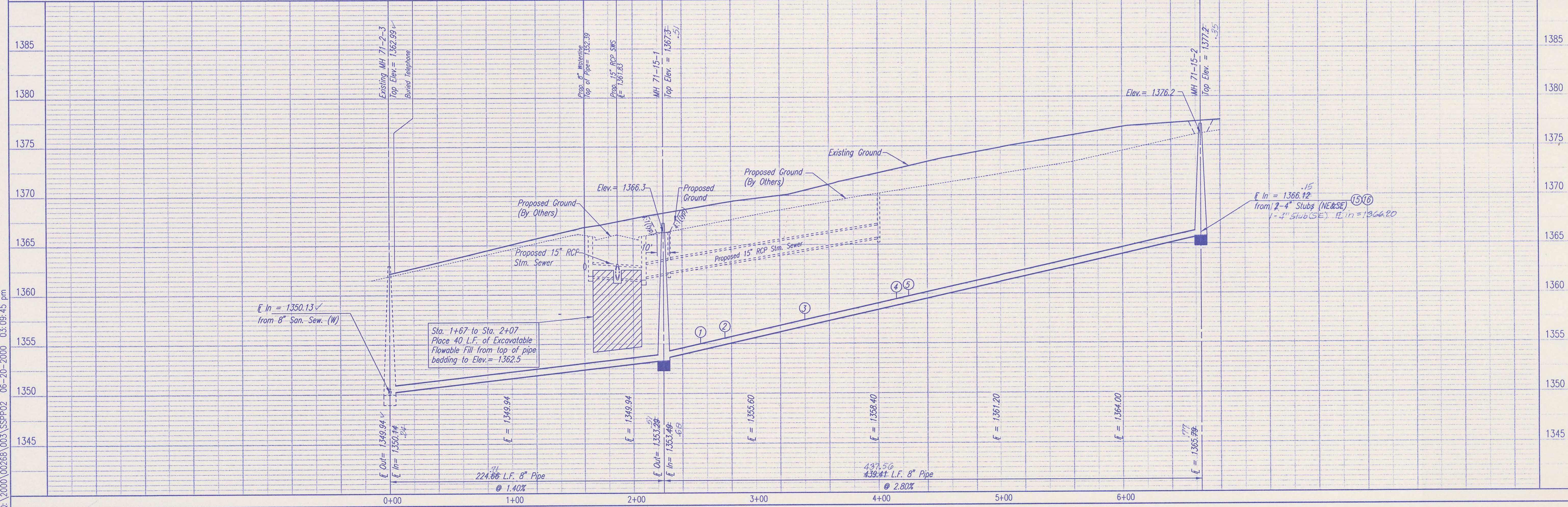
ALL PIPE INSTALLED IS PVC PIPE.

DENOTES SEWER SERVICE SEE SHEET NO. 7 FOR SEWER SERVICE SCHEDULE AND DETAILS

**RECORD DRAWING**



DSNR: MDK OPER: TJS SCALE: 1"=40.00  
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SEDGWICK COUNTY PUBLIC WORKS  
DIRECTOR, PUBLIC WORKS/COUNTY ENGINEER

**LATERAL 71-15**  
SANITARY SEWER IMPROVEMENTS  
BALDROOP ADDITION - PHASE 3B

Professional Engineering Consultants, P.A.  
303 S. TOPICKA AVENUE, TULSA, OK 74106  
516-262-2691 • FAX 516-262-3003

Designed By: MDK  
Drawn By: TJS

Job No: 34-00268-3  
Date: May 2000

Sheet 9 of 10

PLAN	CHECKED	DATE
	CHECKED	

PROFILE	CHECKED	DATE
	CHECKED	

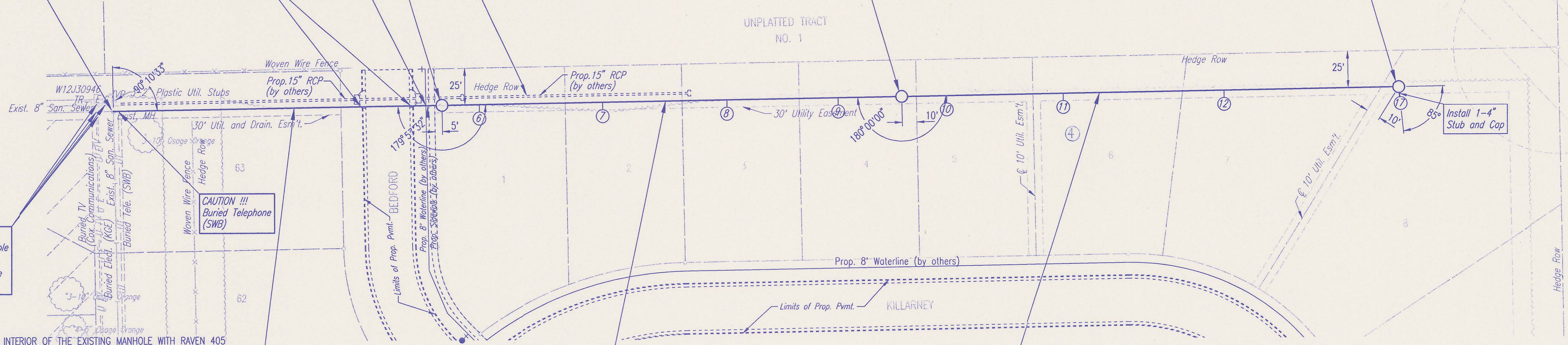
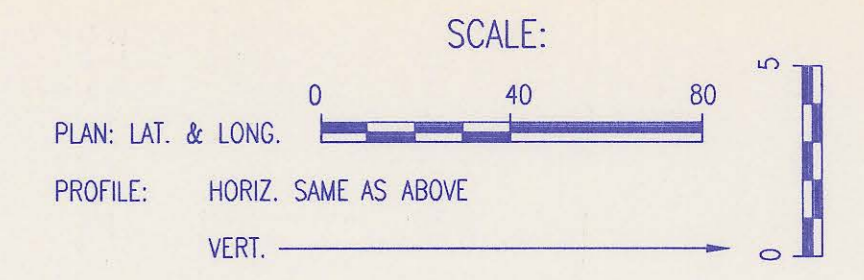
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N-379,324.1080 E-2,375,868.2460  
 Sta. 0+00.00  
 Existing MH 71-2-4\*  
 Core concrete MH wall and install new 8" pipe. Seal new 8" pipe to MH with an approved waterstop gasket and quick-set hydraulic cement. Construct a minimum of 3' reinforced concrete encasement from MH wall with dowels per specifications. Reshape invert to provide smooth flow. This work shall be considered subsidiary to the price bid for pipe in place.

N-379,327.6789 E-2,376,092.5755  
 Sta. 2+24.36 2+24.64  
 Const. MH 71-16-1  
 Type A

N-379,332.9176 E-2,376,407.5319  
 Sta. 5+39.36 5+39.62  
 Const. MH 71-16-2  
 Type A

N-379,338.5706 E-2,376,747.4004  
 Sta. 8+79.28 8+79.59  
 Const. MH 71-16-3  
 Type A



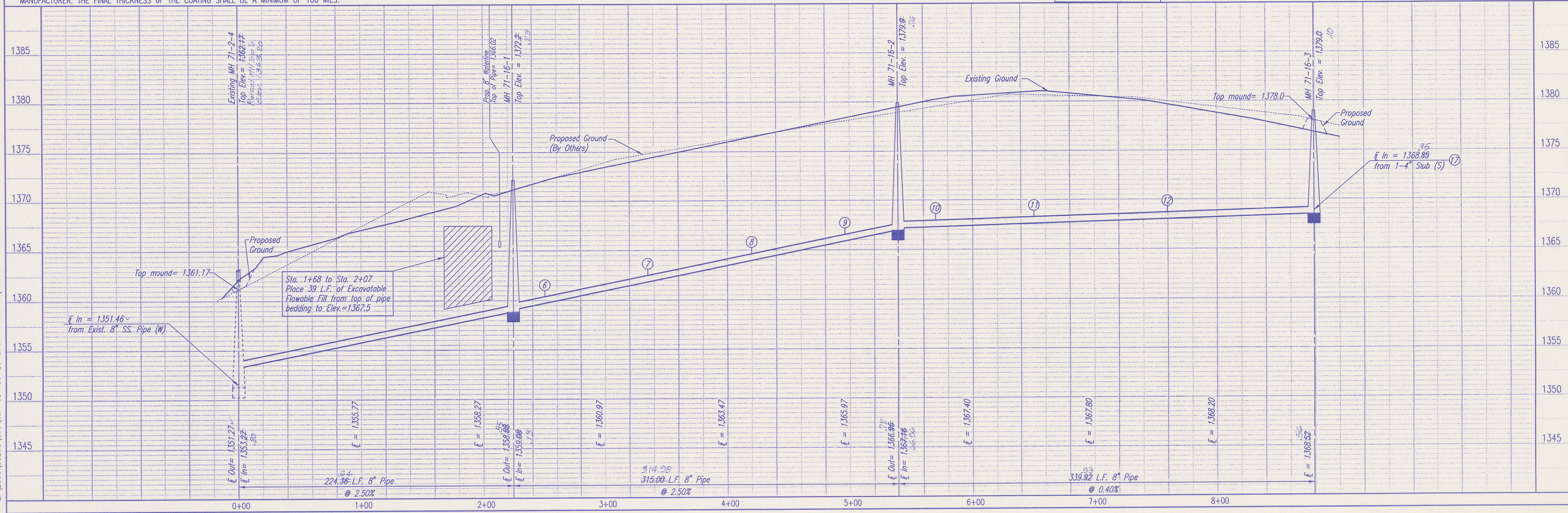
CAUTION !!!  
 Cable TV Box & Buried Cable (Cox Communications)  
 Electric Box & Buried Cable (KGE Electric)

\*THE CONTRACTOR SHALL COAT THE INTERIOR OF THE EXISTING MANHOLE WITH RAVEN 405 ULTRA HIGH BUILD EPOXY COATING AS MANUFACTURED BY RAVEN LINING SYSTEMS, INC., TULSA, OK (800) 324-2810. SURFACES OF MANHOLES SHALL BE PREPARED BY A 3500 TO 5000 PSI WATER BLAST CLEANING. ALL CONTAMINANTS INCLUDING FORM OIL, GREASE, MASTICS, OR ANY OTHER FOREIGN MATERIALS SHALL BE REMOVED FROM THE MANHOLE WALLS PRIOR TO APPLICATION OF COATING. THE COATING SHALL BE APPLIED BY A CERTIFIED APPLICATOR OF THE COATING MANUFACTURER. THE FINAL THICKNESS OF THE COATING SHALL BE A MINIMUM OF 100 MILS.

SANITARY SEWER PIPE SLOPES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

**RECORD DRAWING**

DENOTES SEWER SERVICE. SEE SHEET NO. 7 FOR SEWER SERVICE SCHEDULE AND DETAILS



SEDGWICK COUNTY PUBLIC WORKS  
 DIRECTOR, PUBLIC WORKS/COUNTY ENGINEER

**LATERAL 71-16**  
 SANITARY SEWER IMPROVEMENTS  
 BACHTOP ADDITION - PHASE 3B

Professional Engineering Consultants, P.A.  
 303 S. TOPEKA • WICHITA, KANSAS 67202  
 316-262-2691 • FAX 316-262-3003

Designed By: MDK  
 Drawn By: TJS

Job No. 34-00268-3  
 Date: May 2000

Sheet 10 of 10