

LATERAL 310, FOUR MILE CREEK SEWER SANITARY SEWER SYSTEM IMPROVEMENTS TO SERVE SMITHMOOR 10TH ADDITION, PHASE 2 WICHITA, KANSAS

MICHAEL E. LINDEBAK, P.E., CITY ENGINEER
PROJECT NO.: 468-83282
OCA# 743915

GENERAL NOTES

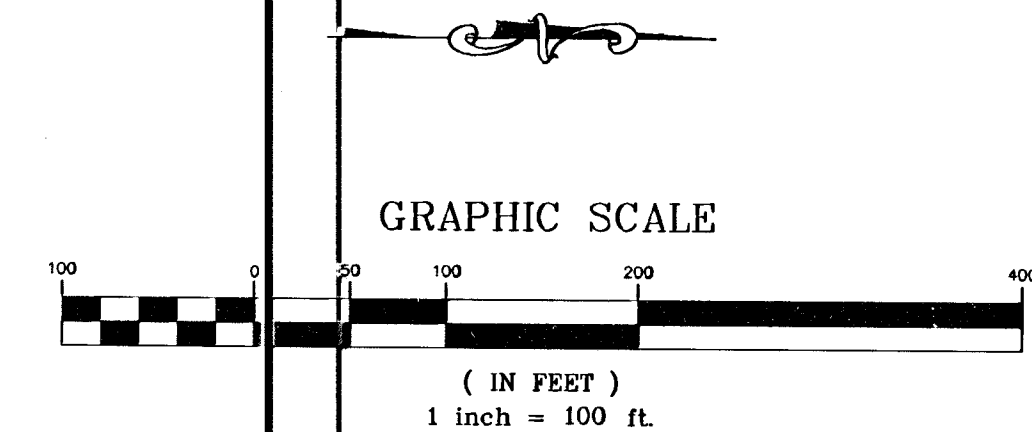
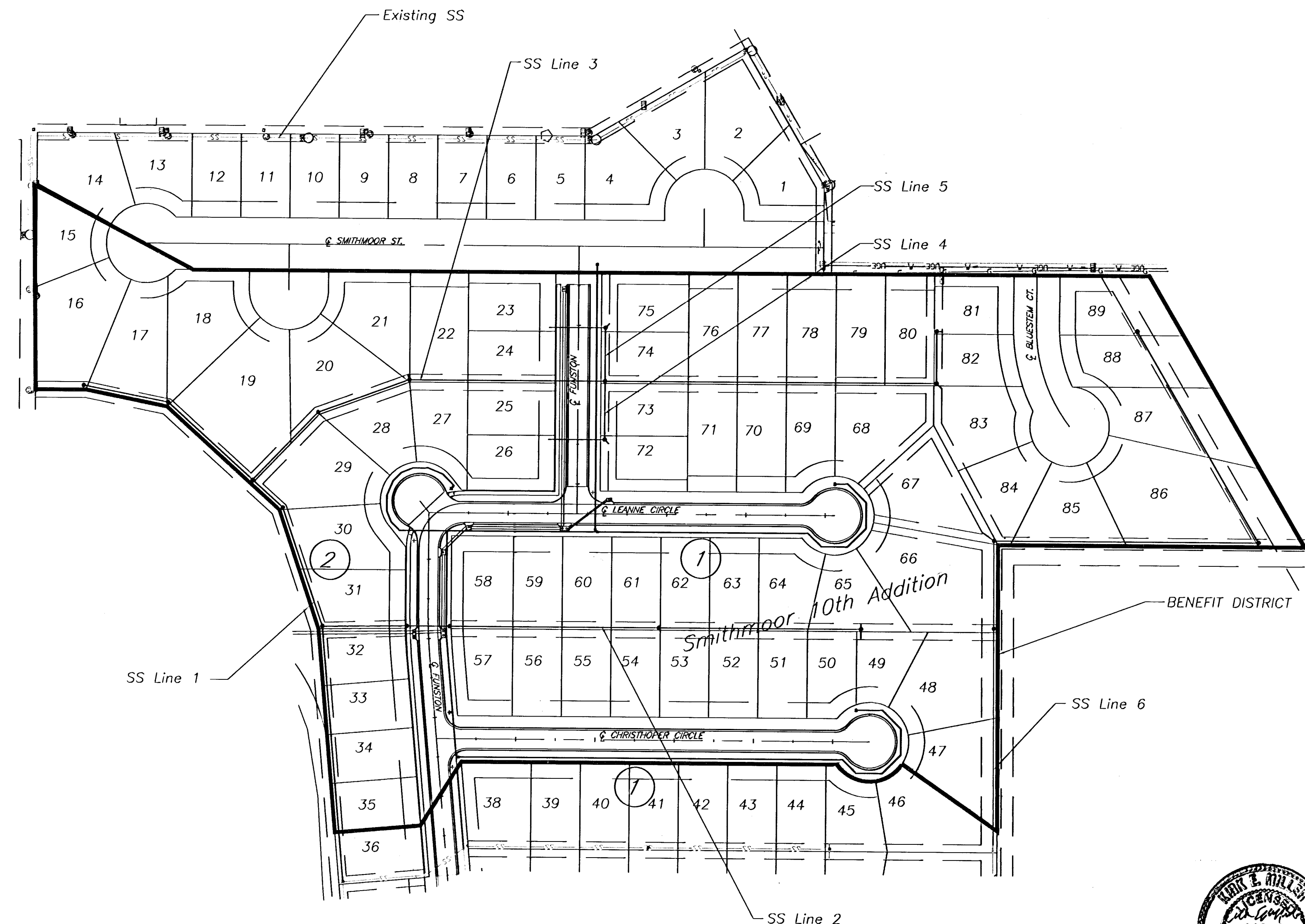
1. Contractor will be required to provide notice to utility companies a minimum of twenty-four (24) hours prior to any excavation, as follows:

Kansas One-Call	687-2470
-----------------	----------

The Contractor must notify the following in case of an emergency:

Cox Communications	262-4270
or	263-2061
K.P.L. Gas Service Company	383-8650
Kansas Gas & Electric Company	383-8600
Arkla Gas Company	942-8350
Southwestern Bell Telephone Company	1-571-2611
City of Wichita Water Department	268-4908
City of Wichita Sewer Department	268-4071
Kansas Gas Service	832-3168
or	832-3167
Peoples Natural Gas	942-8811
or	1-800-303-0357
2. Exist. utilities and their locations, 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 which do not conflict with proposed construction.
3. The Contractor to verify utility locations prior to construction of this project.
4. Utility service and installation shall be coordinated with the respective utility owners. Contacts are:

Kansas Gas Service	James Stoltz	831-3122
K.G.E.	Russ Chitwood	261-6251
Peoples Natural Gas	John Stark	942-8811
Wichita Water	Paul Bryant	268-4555
	Steve Palmer	268-4908
Southwestern Bell	Jim Tobin	268-2759
Cox Communications	Mark Anaya	262-4270
5. All lawn/turf areas disturbed by construction of proposed improvements shall be restored with sod. All sodding work shall be in accordance with the City of Wichita standard specifications and the City of Wichita administrative regulation No. AR78 which governs cleanup and replacement following construction. All costs for this work shall be subsidiary to the lump sum price bid for "Site Restoration."
6. Traffic affected by the construction of this project shall be handled in accordance with the latest edition of the Manual on Uniform Traffic Control Devices.
7. All commercial signs to be moved by others prior to construction.
8. All areas disturbed by construction operations shall be seeded with rye grass at a rate of 300 lbs/acre immediately following construction in that area. Ground shall be prepared per City of Wichita specifications prior to seeding.



Index of Sheets:

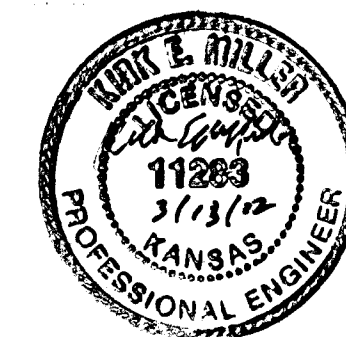
1. Title
2. Type 'P' Manholes Detail
3. Vertical Riser Detail
4. 8" Cleanout Riser Detail
5. Line 1
6. Line 2
7. Line 3
8. Line 4
9. Line 5
10. Easement Grading Plan
11. BMP Details
12. Plat

BENCHMARKS:

BM#1 City disc on the SW corner traffic signal base on the NE corner of the intersection of Harry St. and Greenwich Rd.
Elev. = 1343.49 USGS

BM#2 "I" cut on the SW corner of the N. Headwall at the east end of pond on the W. side of Greenwich Rd., approx. 1000' S. of Harry St.
Elev. = 1341.87 USGS

Booked
P-233
RVL
8/9/02
Per P121

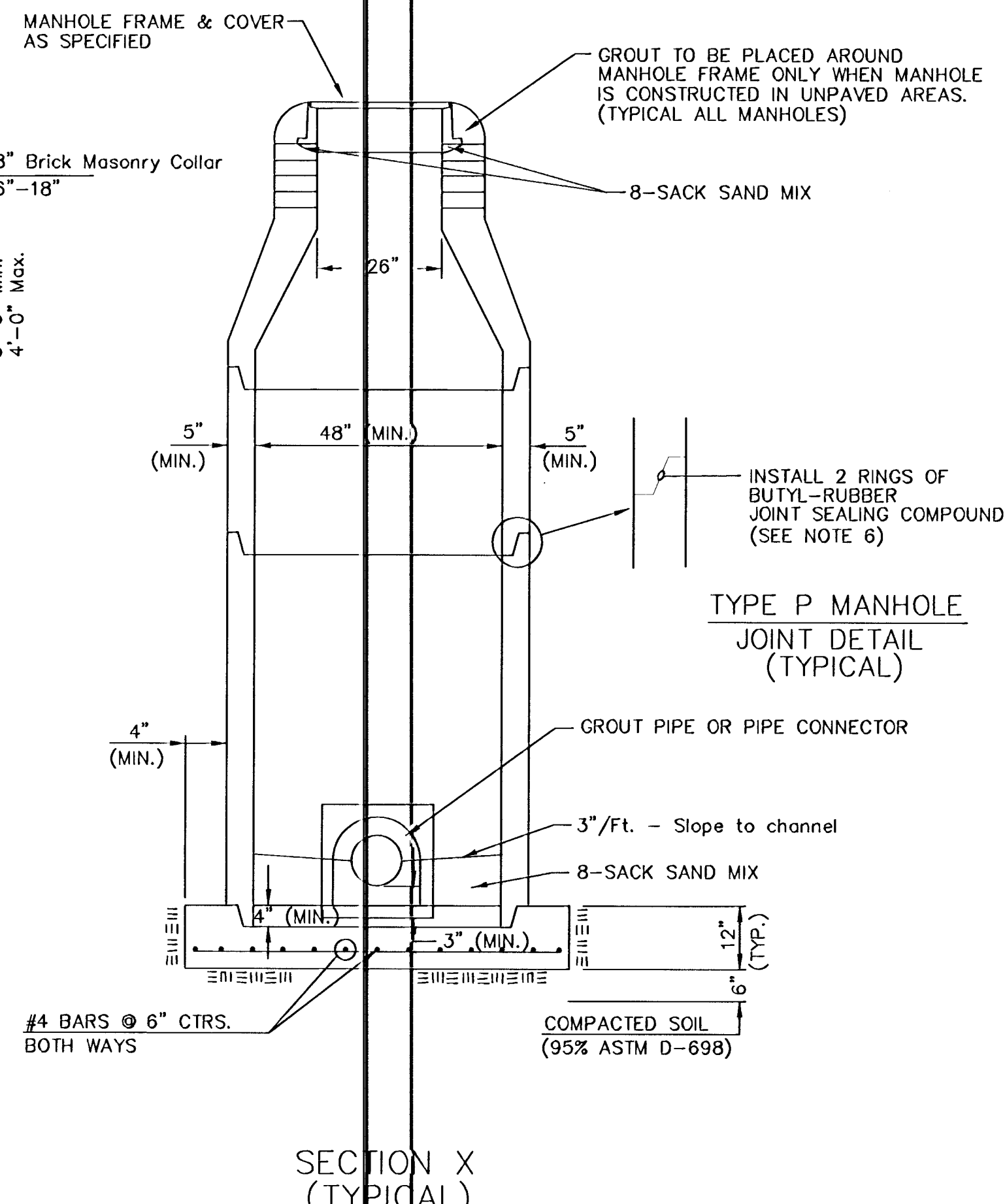
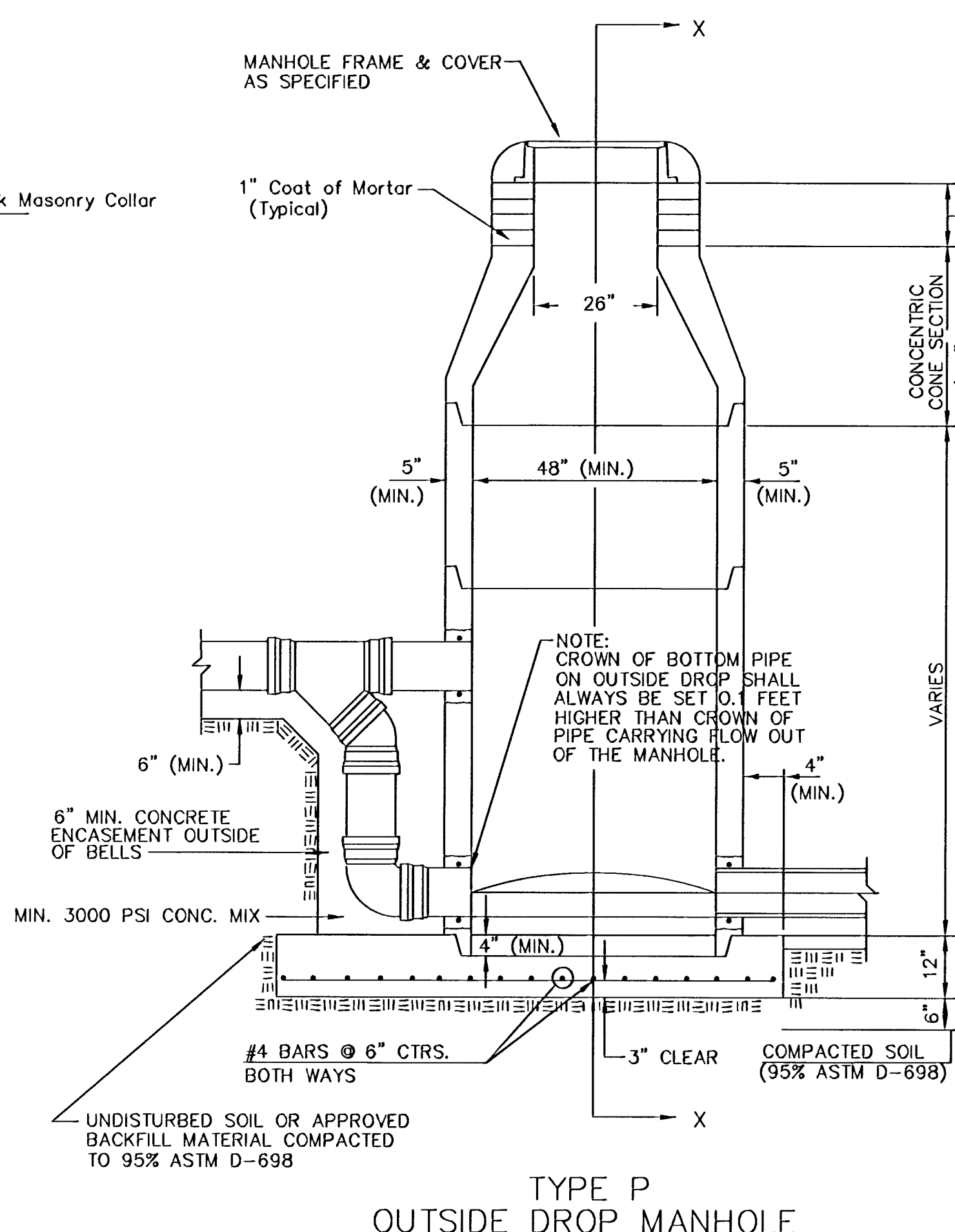
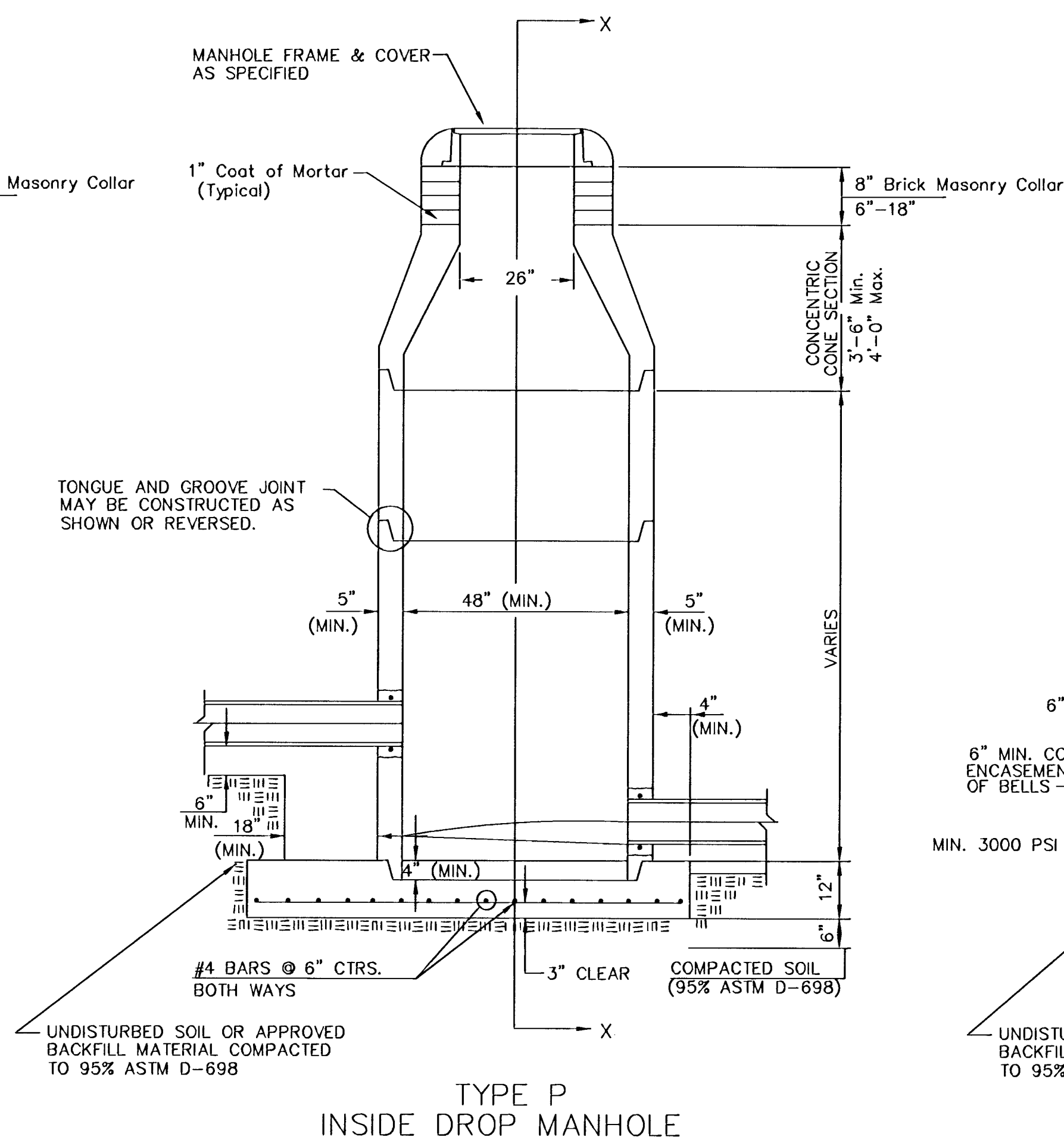
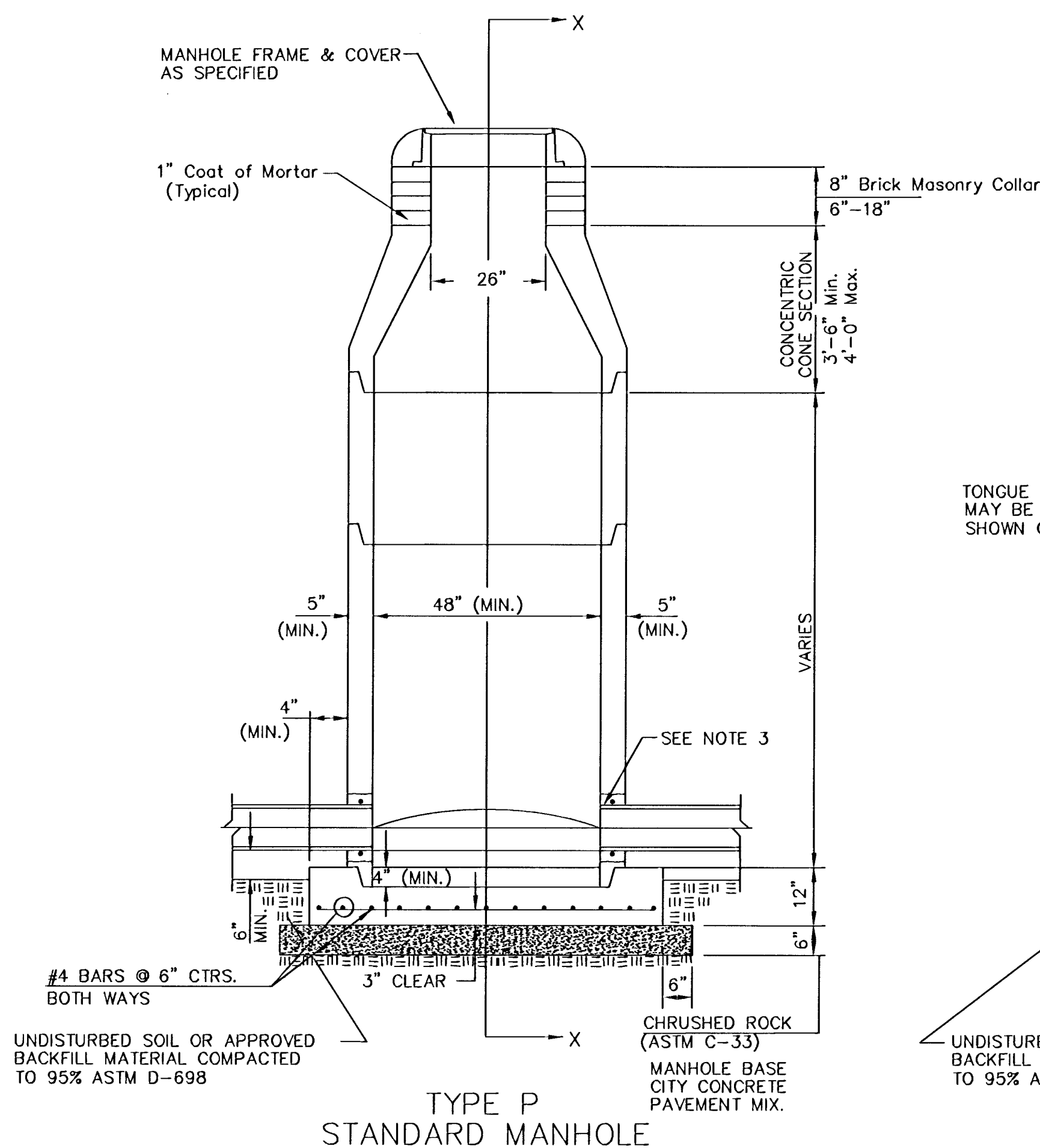


kemiller
engineering

516 S. Market,
Wichita, KS 67202

316/264-0242

SEWER APPURTENANCES DETAILS



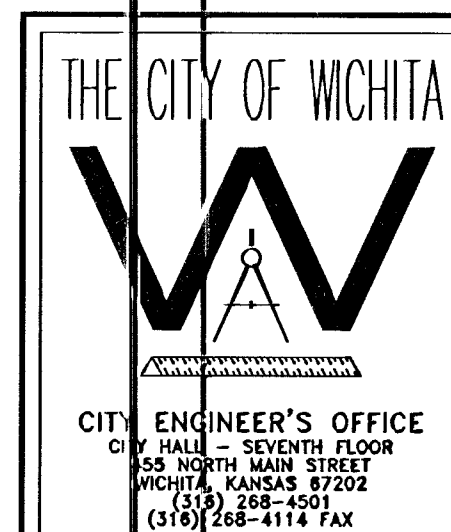
GENERAL NOTES

PRECAST MANHOLE NOTES

- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
- NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
- APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
- ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TNEDEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)
- EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
- JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
- PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
- 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.
- LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4". MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5". COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.

- REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
- OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
- THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
- PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MAHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

- MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
- THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
- STANDARD MANHOLES AND STANDARD INSIDE DROP MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.
- A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.
- CHRUshed ROCK CONFORMING TO ASTM C-33 WITH A GRADATION OF NO. 67 SHALL BE INSTALLED AT THE BASE OF THE MANHOLE TO A DEPTH OF NO LESS THAN 6", AND SHALL EXTEND NO LESS THAN 6" OUTSIDE THE DIAMETER OF THE CONCRETE FLOOR OF THE MANHOLE.



CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
60 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501
(316) 268-4114 FAX

STANDARD TYPE 'P' MANHOLES

M. E. LINDEBAK P.E. - CITY ENGINEER

PROJECT NUMBER
468-83281

INDEX CODE
743877

DATE
JANUARY 02

SHEET 2 OF 12

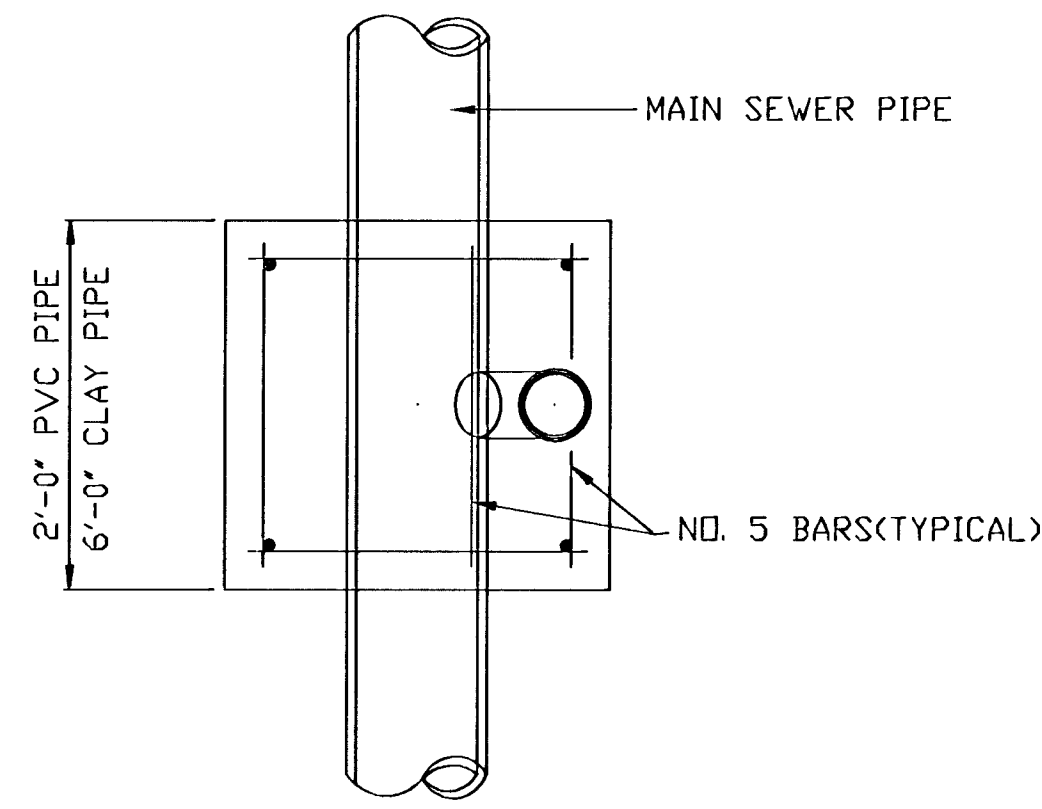
VERTICAL RISER DETAILS
ADOPTED AS STANDARD DESIGN
BY
CITY OF WICHITA, KANSAS
OCTOBER 1992

NUMBER	TYPE	LOCATION				FOR INFORMATION ONLY	
		LOT NO.	BLOCK NO.	LINE NO.	STATION/DIRECTION	APPROXIMATE LENGTH OF 4" PIPE	
1	8" x 4" Tee Saddle	46	1	6	0+09/Lt.	8.0'	15'
2	8" x 4" Tee Saddle	47	1	6	1+00/Lt.	8.0'	15'
3	8" x 4" Tee Saddle	48	1	6	2+18/Lt.	8.0'	15'
4	8" x 4" Tee Saddle	49	1	6	3+33/Lt.	8.0'	15'
5	8" x 4" Tee Saddle	50	1	6	4+85/Lt.	8.0'	15'
6	8" x 4" Tee Saddle	51	1	6	5+90/Lt.	8.0'	15'

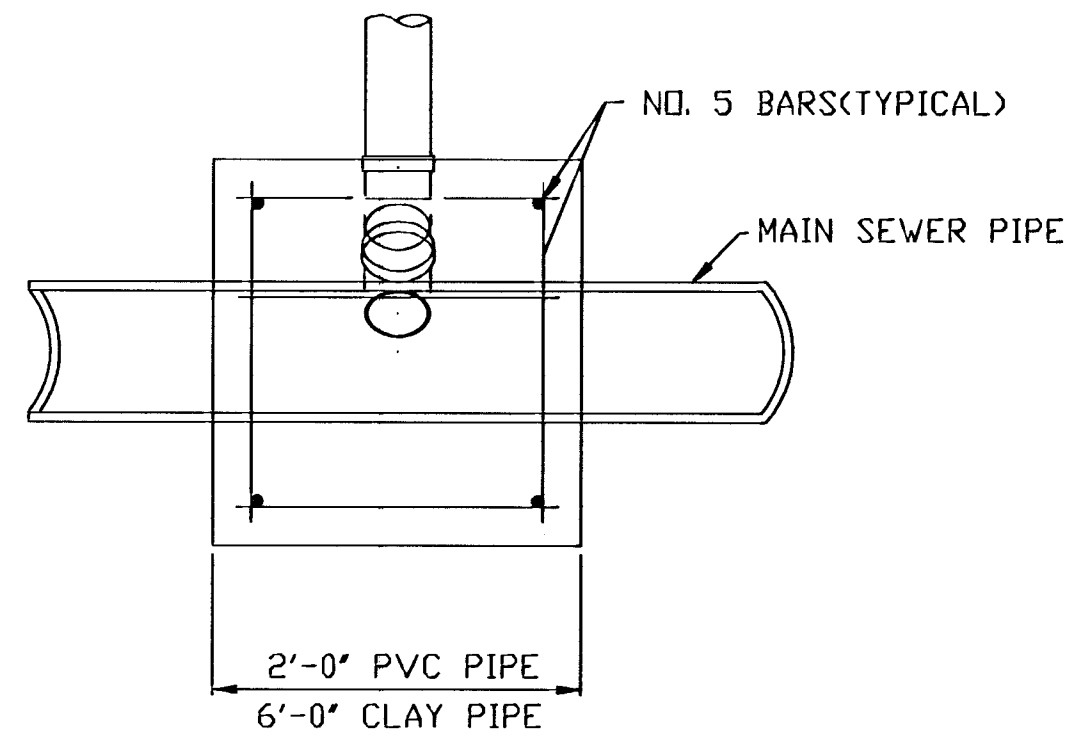
NOTE: Vertical Riser Pipe shall be extended to 2' minimum above ground water elevation and 4' maximum below proposed ground elevation.

GENERAL NOTES

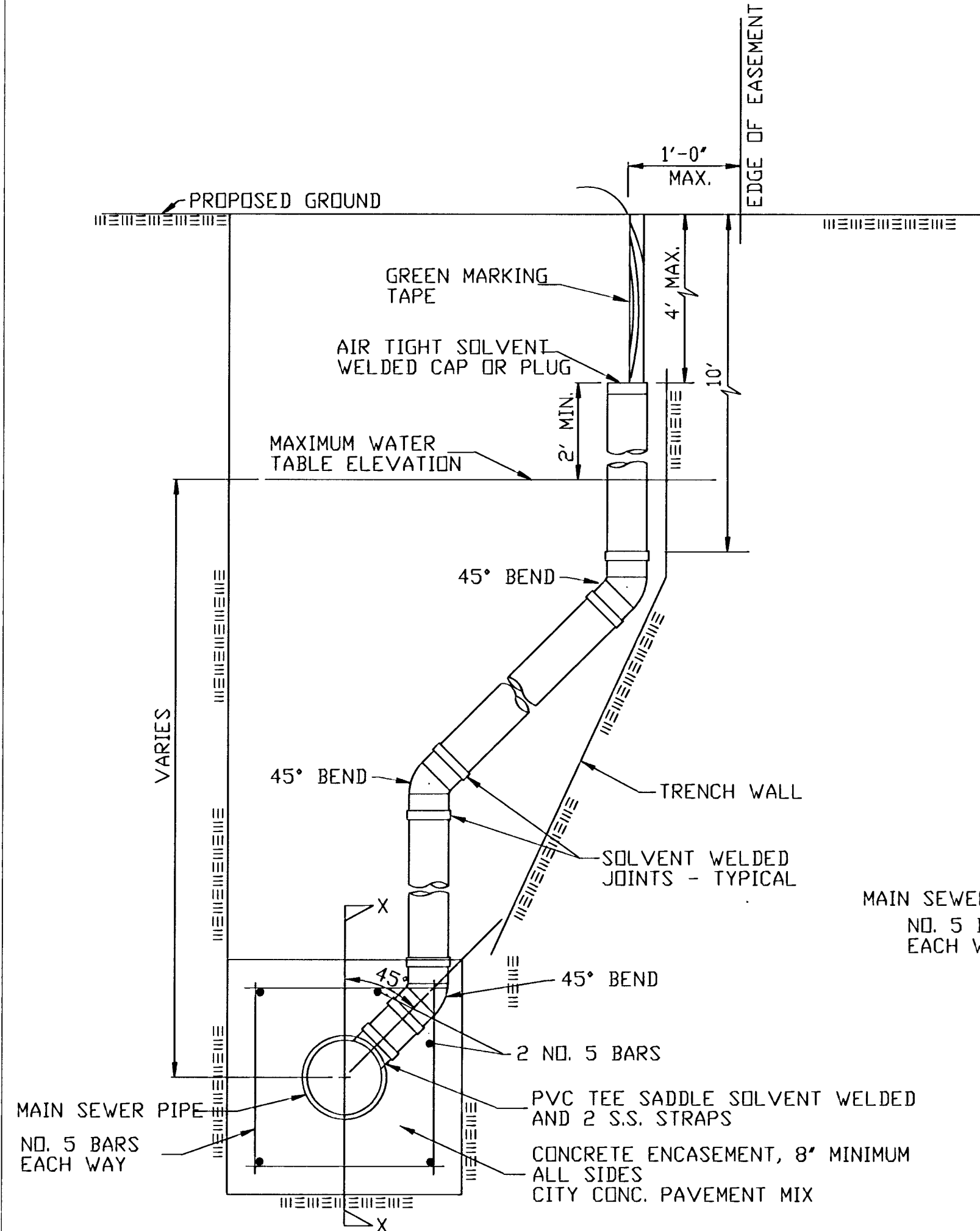
- RISERS.** Risers shall be installed to serve all lots or tracts where the sanitary sewer main is below the water table. Risers shall also be installed to serve all lots and tracts where the sanitary sewer main depth is greater than 12 feet below the proposed ground elevation. Installation of risers based on field conditions shall be as approved by the Construction Engineer. The location of the risers to serve developed property shall be approved by the property owner and the Construction Engineer.
- PIPE STUBS.** Pipe stubs shall be installed in manholes where locations of manholes will provide satisfactory service connection as determined by the Construction Engineer. The vertical distance between the flowline of the manhole pipe stub and the flowline of the sanitary sewer main out of the manhole shall not exceed 2 feet. Riser stubs shall be utilized at manhole pipe stubs as indicated in Note 1. Manhole pipe stubs shall be set such that the top of the stub is not lower than the top of the sanitary sewer main.
- SIZING.** Pipe stubs and risers shall be sized according to the plans and riser table where risers are indicated by the plans. Where risers or pipe stubs are required because of field conditions, the risers and stubs shall be six-inch diameter for commercial or industrial properties and 4" or 6" diameter for residential properties, based on lot size and sanitary sewer main depth. Sizing of risers and stubs shall be approved by the Construction Engineer prior to installation.
- RISER OR STUB MATERIAL.** Riser and stubs shall be constructed of Schedule 40 PVC Pipe, meeting the requirements of the latest revision of A.S.T.M. All pipe joints shall be solvent welded.
- REINFORCED CONCRETE ENCASEMENT.** Riser connections to clay pipe sanitary sewers shall be reinforced concrete encased both ways from the riser centerline. The reinforced concrete encasement shall extend three feet from the riser centerline or stop at the first sanitary sewer pipe joint within three feet of the riser centerline. Riser connections to PVC Sanitary Sewer mains shall be reinforced concrete encased one foot each way from the riser centerline. The concrete encasement shall be reinforced using reinforcing steel as shown in the appropriate drawing. The concrete shall conform to the City Standard Specifications for concrete pavement.
- BEDDING.** Bedding around the sanitary sewer riser shall be compacted Pipe Bedding Type 1 or 2. The bedding shall be placed and compacted from the depth of the sanitary sewer main to the top of the sanitary sewer riser pipe. Compacted Pipe Bedding Type 1 or 2 shall be required for all risers whether constructed in vertical wall or sloped wall trenches. Bedding material and construction practices shall be approved by the Construction Engineer prior to installation.
- SUPPORT OF RISERS.** Sanitary sewer riser pipe shall be supported during trench backfill. The riser pipe shall be held in a vertical position at all times until trench backfill and compaction has been completed. Contractor's methods for supporting and backfilling the riser pipe shall be approved by the Construction Engineer.
- PLUGGING.** The ends of the riser pipes and manhole stubs shall be plugged using an airtight solvent welded cap or plug. Cap or plug fittings shall be approved by the Construction Engineer prior to installation. Caps or plugs which do not provide an airtight seal will not be accepted.
- TOP OF THE RISER PIPE.** The top elevation of the sanitary sewer riser pipe shall be built per plan elevations, unless otherwise directed by the Construction Engineer. Where riser elevations are not shown on the plans, the top of the risers shall be set at an elevation four feet below the proposed ground surface. If ground water is encountered, the top of the riser pipe shall be set at an elevation two feet (min.) above the maximum water table elevation, regardless of the riser elevation shown on the plans.
- MARKING.** Locations of the ends of the sanitary sewer riser pipe shall be marked by fastening green colored plastic tape to the end of the riser. The tape shall be supported by a length of wooden 2 x 4, extending from the top of the riser pipe to the proposed ground surface. The green tape shall be visible and extend one foot above the proposed ground surface. The green tape shall be 4 mil Polyethylene film with a minimum width of three inches, specifically manufactured for the purpose of identification of underground sewers.
- LOCATION MEASURES.** The project inspector shall record and document the location of all risers constructed as measured from the nearest manhole, indicating the direction from the manhole, the direction and distance from the main, riser size, and elevation of the top of the riser.
- RISER LOCATION.** The riser shall be located per plan if shown. If not shown on the plan, the riser shall be located at the center of the lot, within one foot of the property side of the easement. For the lot being served. All riser locations shall be approved by the Construction Engineer prior to installation.
- PAYMENT.** "Sanitary sewer risers" shall be paid for at the contract unit price per each, which price shall be full compensation for all pipe, fittings, marking tape, length of wooden 2 x 4, reinforced concrete encasement, support during backfill, backfill, labor, site restoration, and any other items necessary to complete the work.
"Manhole stubs" shall be paid for at the contract unit price per each, which shall be full compensation for all labor, material, and incidentals necessary to complete the work including all pipe, fittings, reinforced concrete encasement, and all other items as required and listed for "Sanitary Sewer Riser".



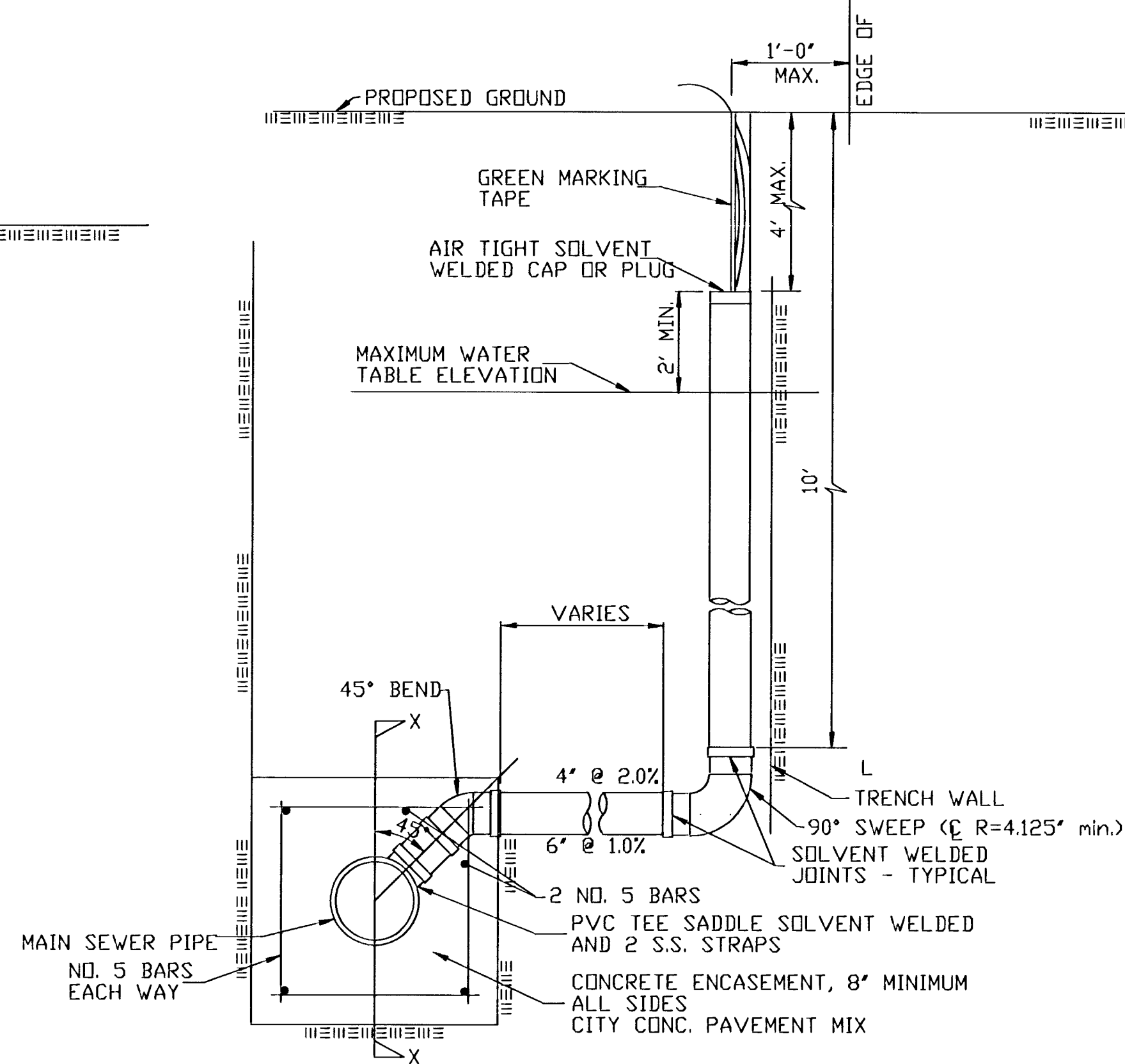
TYPICAL PLAN VIEW



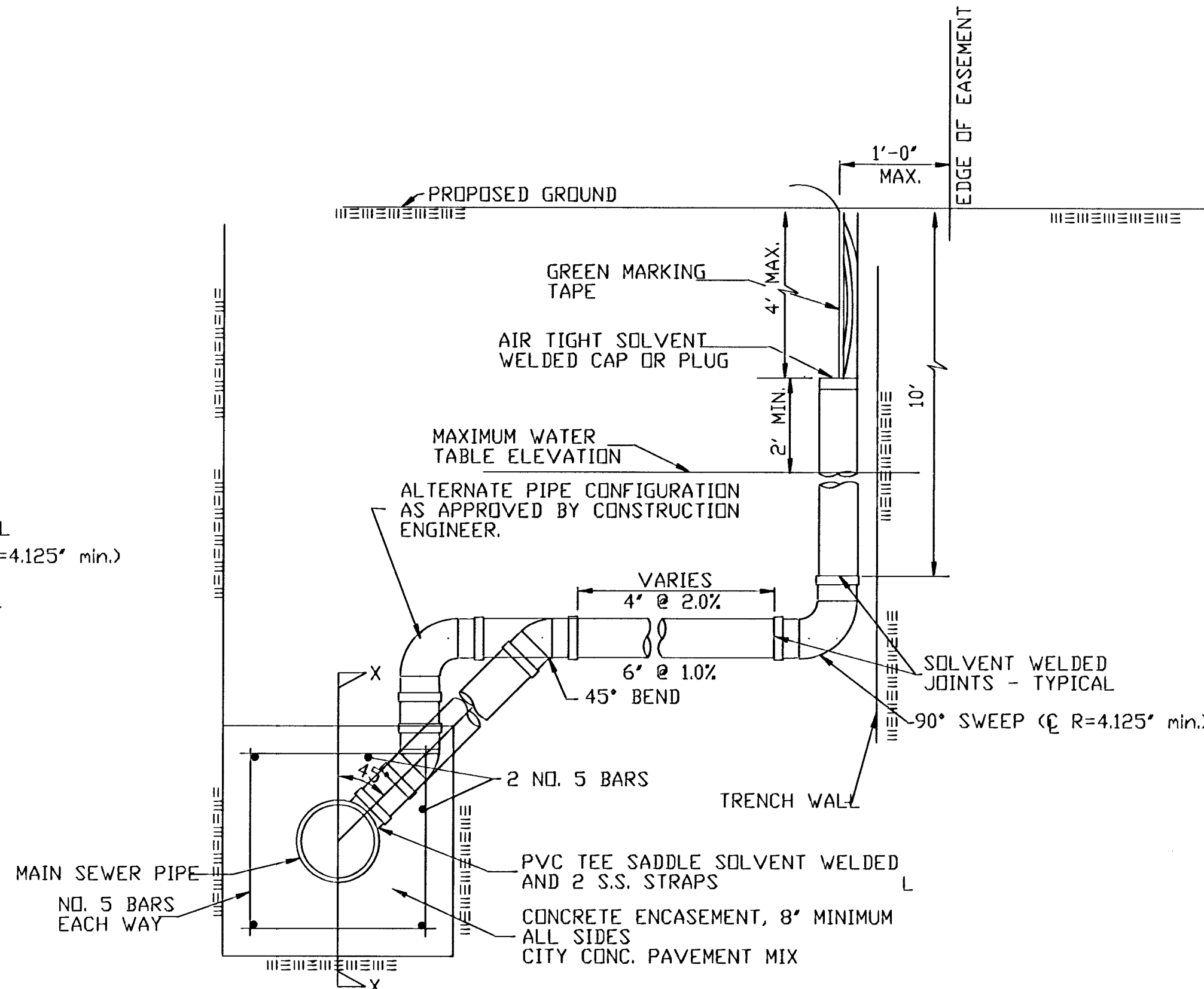
TYPICAL SECTION X-X



METHOD "A"

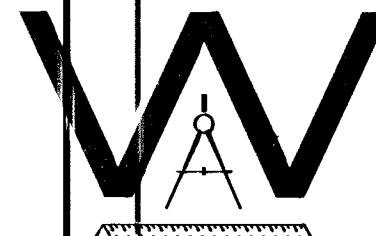


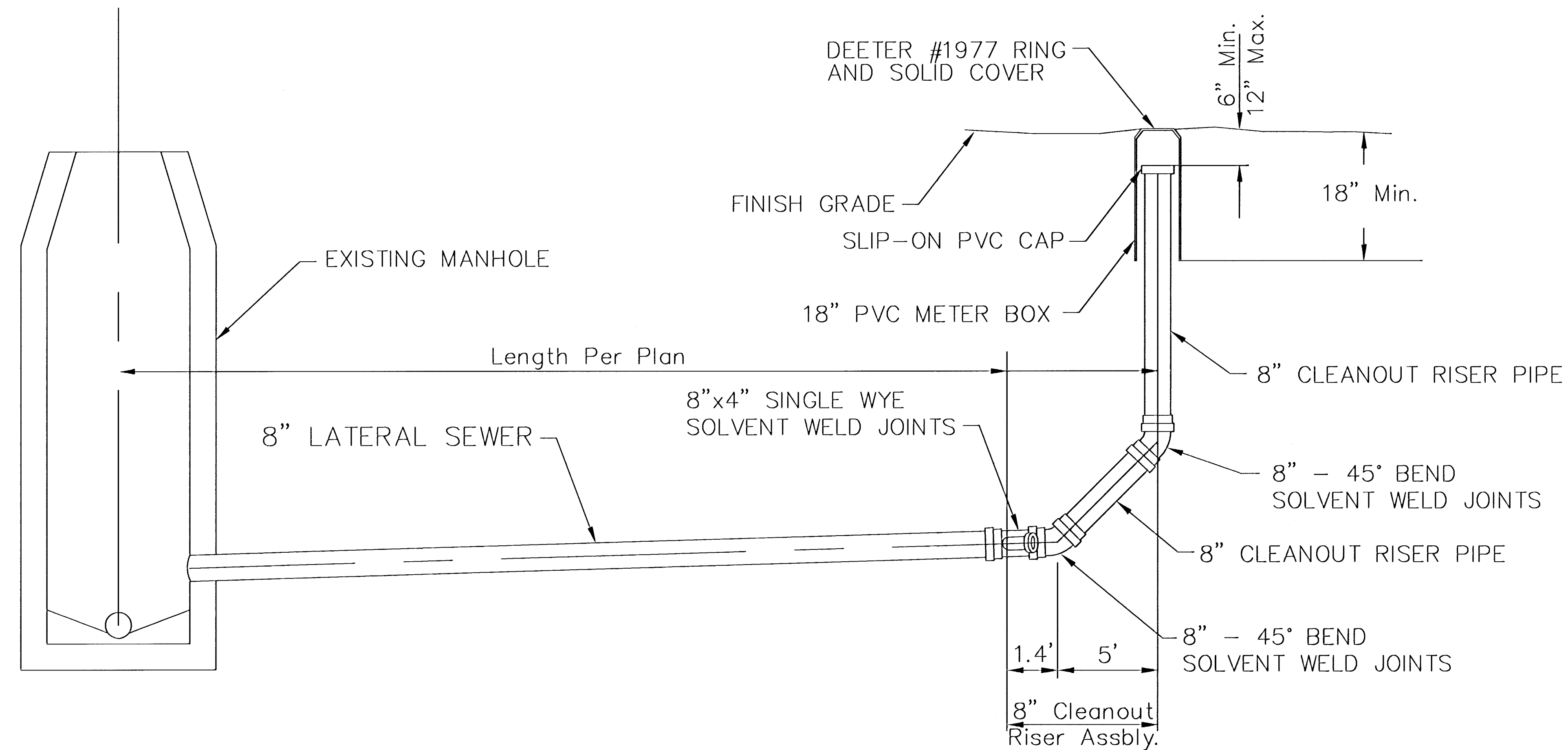
METHOD "B"



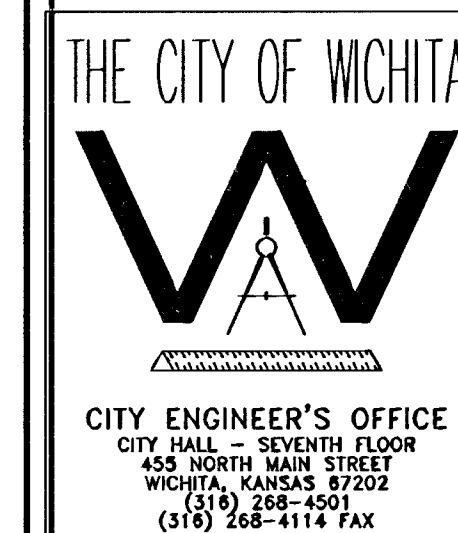
METHOD "C"

NOTE: RISER PIPE REQUIREMENTS AT MANHOLE STUBS SHALL BE SIMILAR TO THOSE SHOWN ABOVE.

THE CITY OF WICHITA		VERTICAL RISER DETAIL	
		M. E. LINDEBAK P.E. - CITY ENGINEER	
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 425 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4501 (316) 268-4114 FAX		PROJECT NUMBER 468-83281	INDEX CODE 743877
DATE JANUARY 02		SHEET 3 OF 12	



8" CLEANOUT RISER
ASSEMBLY DETAIL



8" CLEANOUT
RISER ASSEMBLY
DETAIL

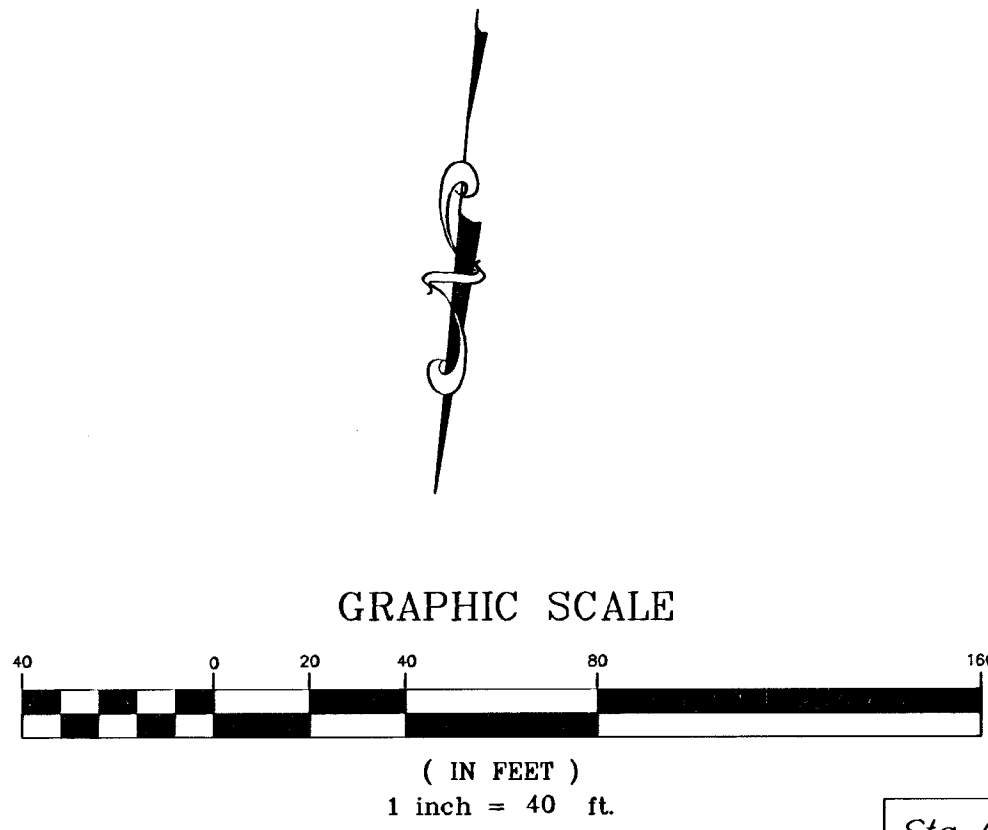
M. E. LINDEBAK P.E. - CITY ENGINEER

PROJECT NUMBER
468-83282

DATE
MAR 96

INDEX CODE
SHEET 4 OF 12

CLEANOUT.DWG



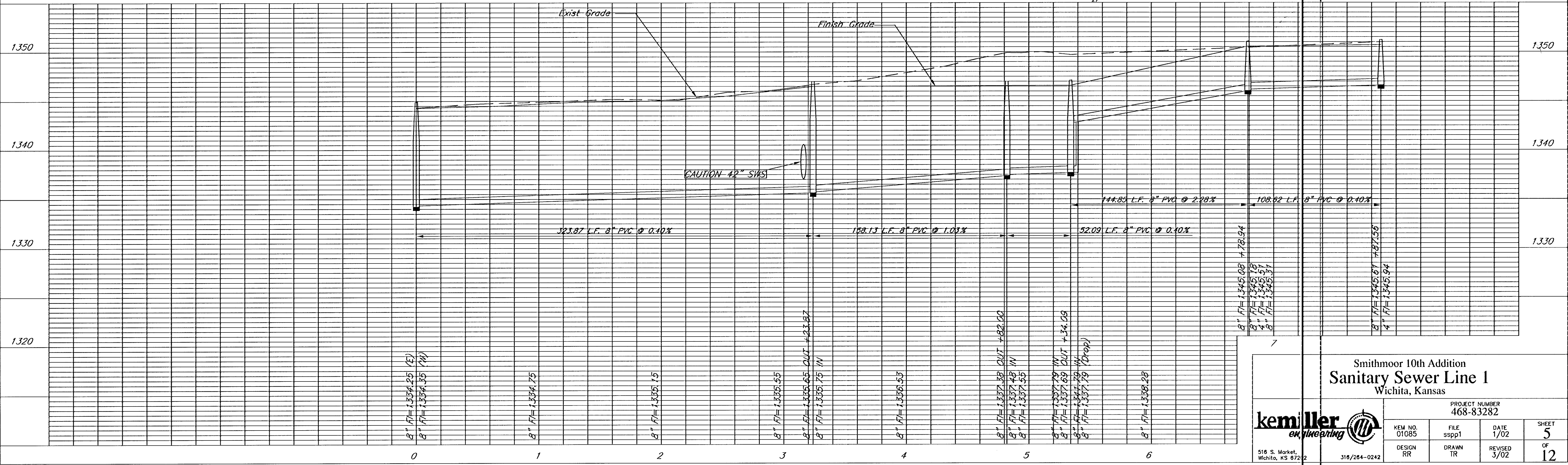
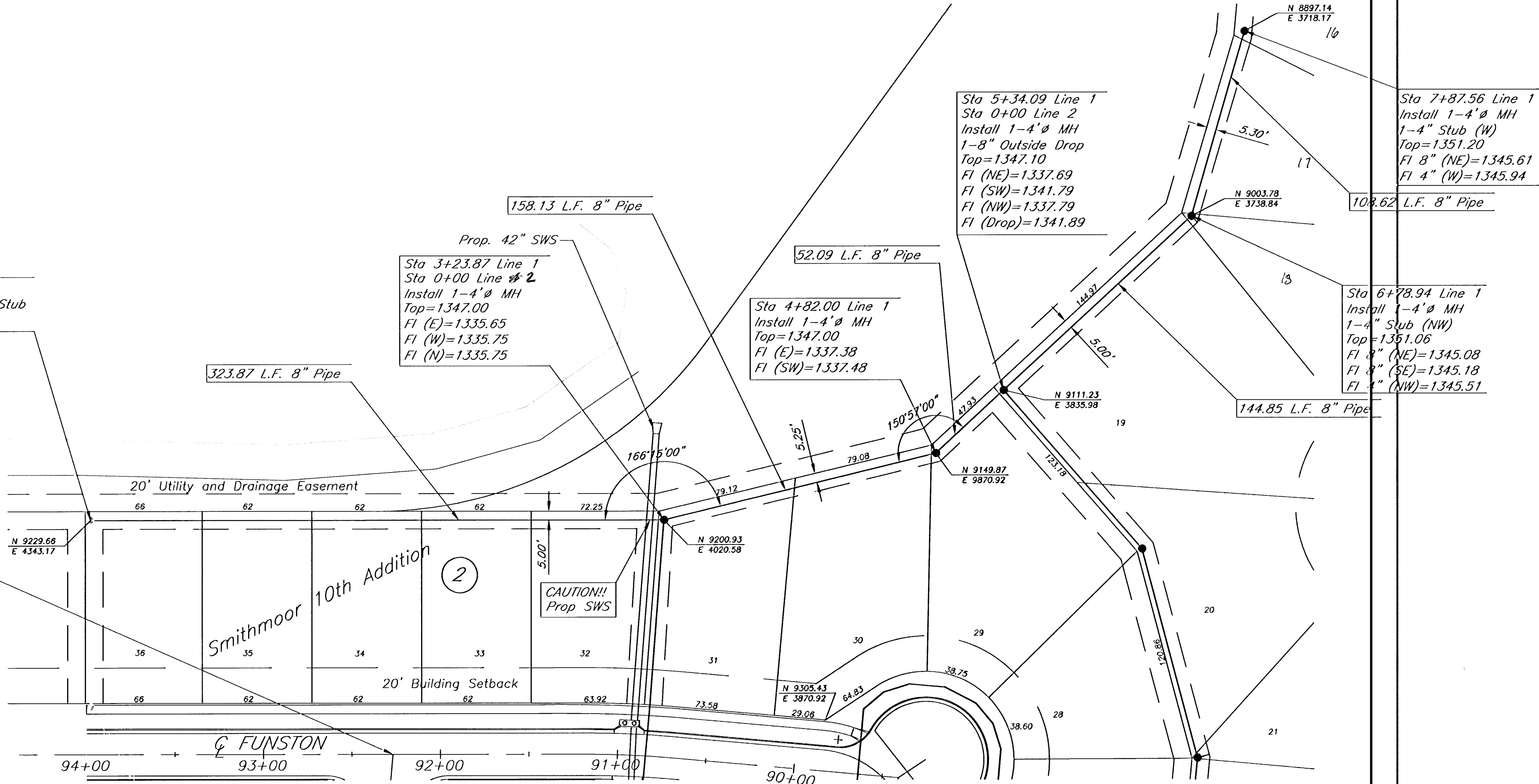
Sta 0+00 Line 1
Connect to Exist. Stub
FI (W)=1334.35

B.L. Sta. 92+26.75 @ Pierce Circle
B.L. Sta. 50+00 @ Funston

BENCHMARKS:

BM#1 City disc on the SW corner traffic signal
base on the NE corner of the intersection
of Harry St. and Greenwich Rd.
Elev. = 1343.49 USGS

BM#2 "I" cut on the SW corner of the N. Headwall
at the east end of pond on the W. side of
Greenwich Rd., approx. 1000' S. of Harry St.
Elev. = 1341.87 USGS



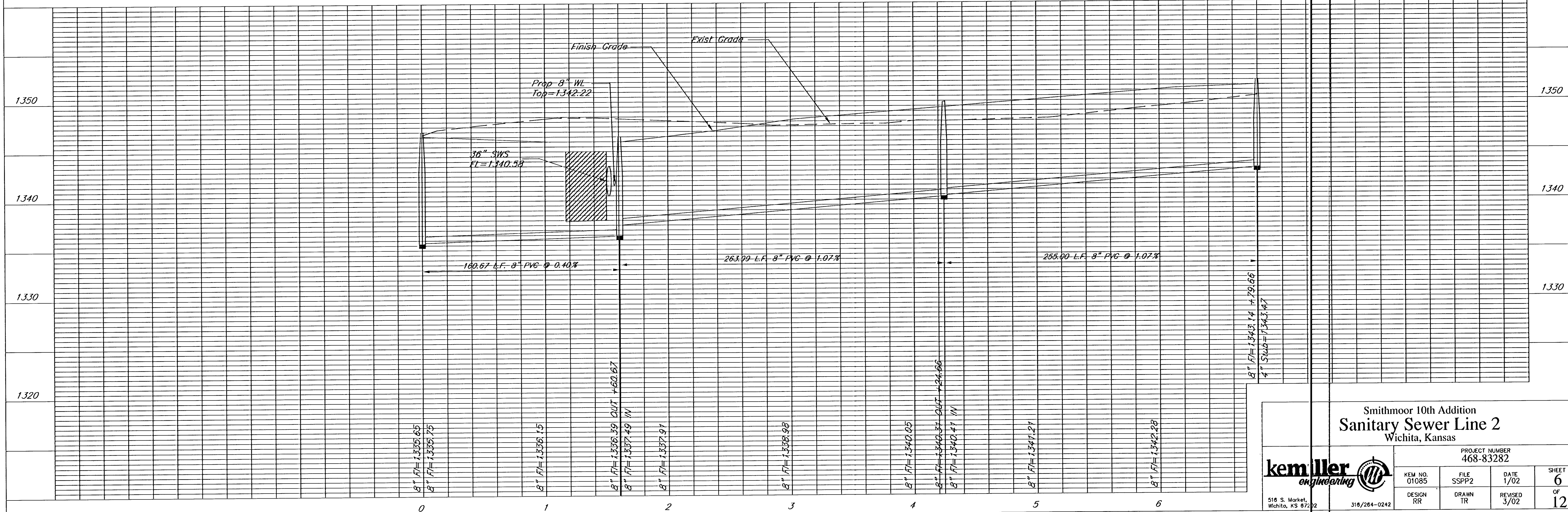
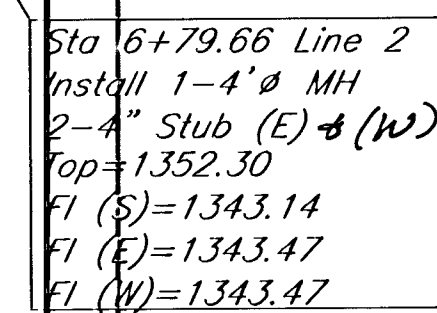
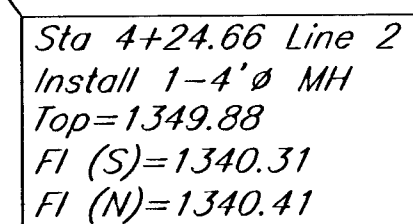
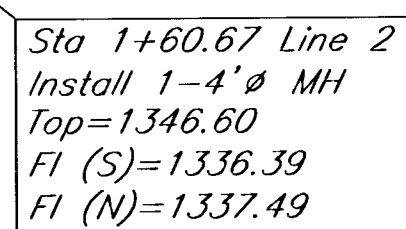
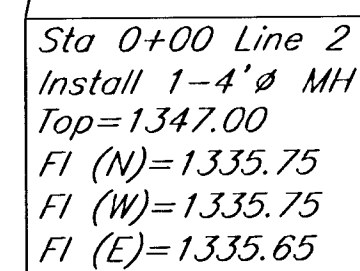
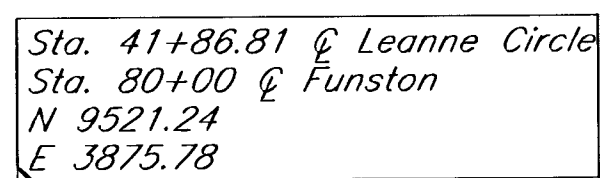
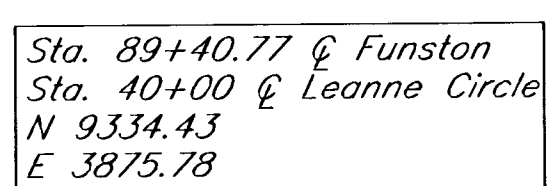
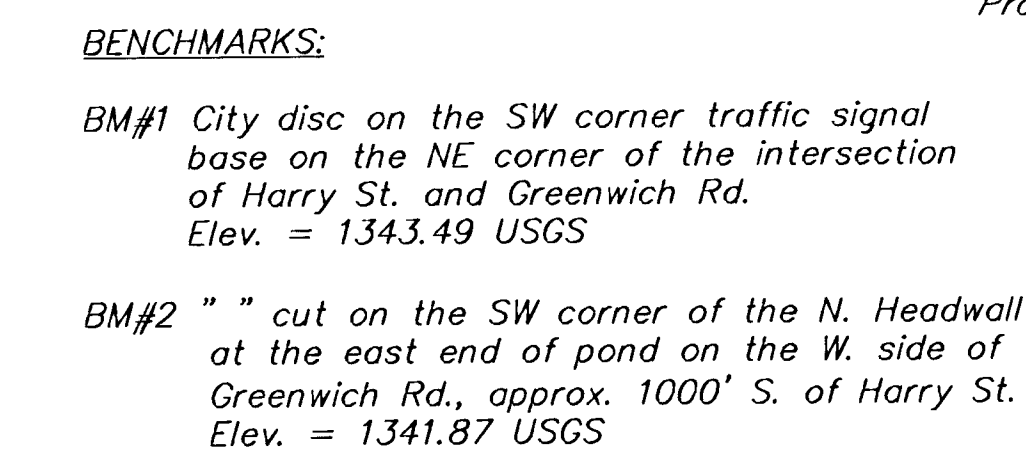
**Smithmoor 10th Addition
Sanitary Sewer Line 1
Wichita, Kansas**

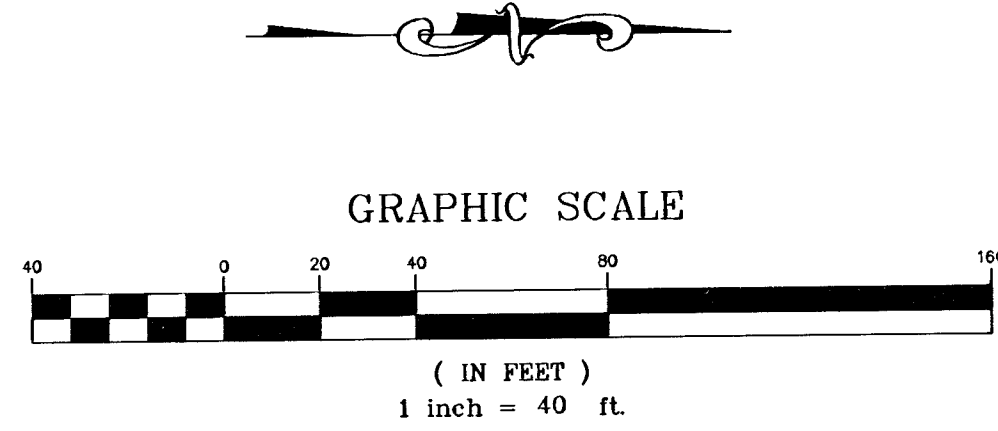
kemiller
engineering

518 S. Market,
Wichita, KS 67202

PROJECT NUMBER
468-83282

KEM NO. 01085	FILE sspp1	DATE 1/02	SHEET 5 OF 12
DESIGN RR	DRAWN TR	REVISED 3/02	





BENCHMARKS:

BM#1 City disc on the SW corner traffic signal base on the NE corner of the intersection of Harry St. and Greenwich Rd. Elev. = 1343.49 USGS

BM#2 "I" cut on the SW corner of the N. Headwall at the east end of pond on the W. side of Greenwich Rd., approx. 1000' S. of Harry St. Elev. = 1341.87 USGS

118.96 L.F. 8" Pipe

Sta 0+00 Line 3
Install 1-4' Ø MH
Top=1347.00
FI (NW)=1337.79
FI (NE)=1337.69
FI (SW)=1341.79

Sta 1+18.96 Line 3
Install 1-4' Ø MH
Top=1348.20
FI (NW)=1338.36
FI (SE)=1338.26

122.08 L.F. 8" Pipe

Sta 2+41.04 Line 3
Install 1-4' Ø MH
Top=1349.42
FI (N)=1338.95
FI (SE)=1338.85
1-4" Stub (SW)
FI=1339.18

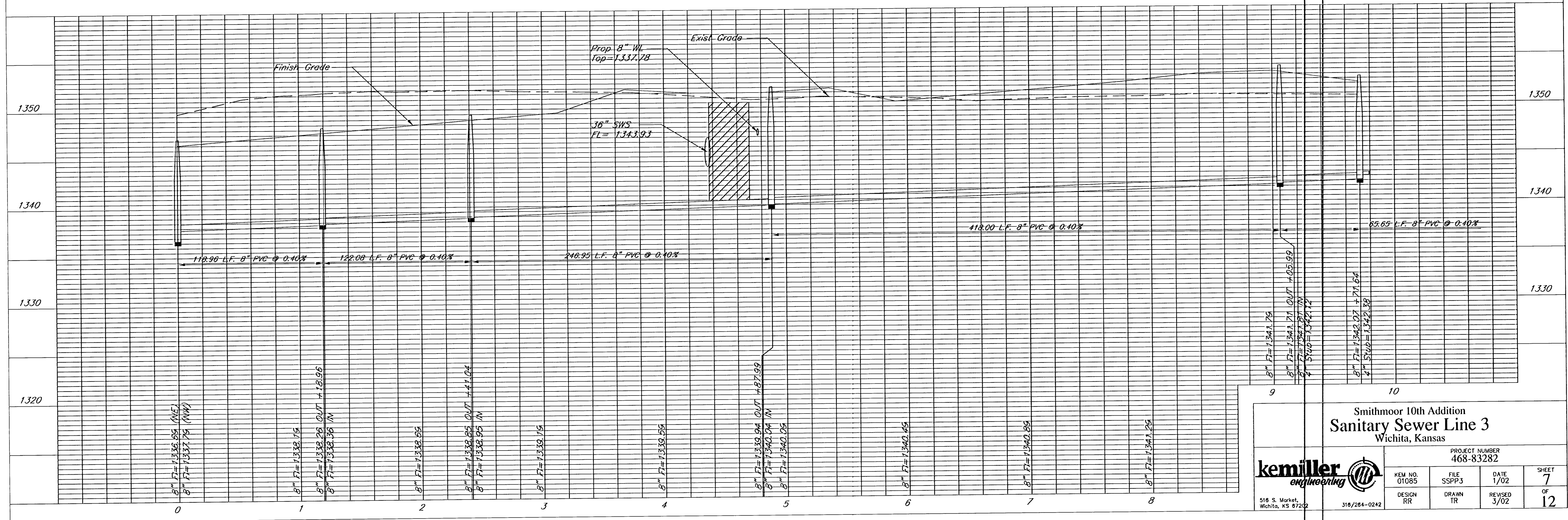
246.95 L.F. 8" Pipe

Sta 4+87.99 Line 3
Sta 0+00 Line 4 & 5
Install 1-4' Ø MH
Top=1352.06
FI (N)=1340.04
FI (S)=1339.94
FI (W)=1340.04
FI (E)=1340.04

418.00 L.F. 8" Pipe

Sta 9+71.64 Line 3
Install 1-4' Ø MH
1-4" Stub (N)
Top=1352.70
FI (E)=1342.07
FI (N)=1342.38

Sta 9+05.99 Line 3
Install 1-4' Ø MH
1-4" Stub (NE)
Top=1353.80
FI (W)=1341.81
FI (S)=1341.71
FI (NE)=1342.12

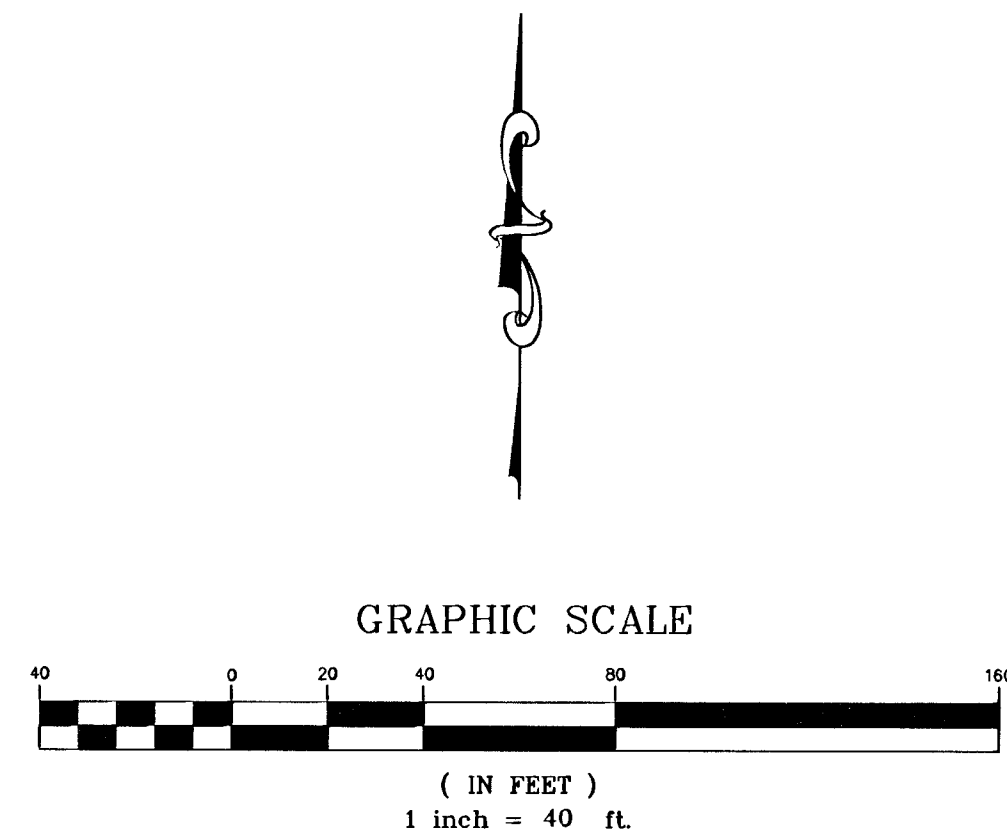


Smithmoor 10th Addition Sanitary Sewer Line 3 Wichita, Kansas			
PROJECT NUMBER 468-83282			
KEM NO. 01085	FILE SSPP3	DATE 1/02	SHEET 7
DESIGN RR	DRAWN TR	REVISED 3/02	OF 12

kemiller engineering

518 S. Market
Wichita, KS 67202

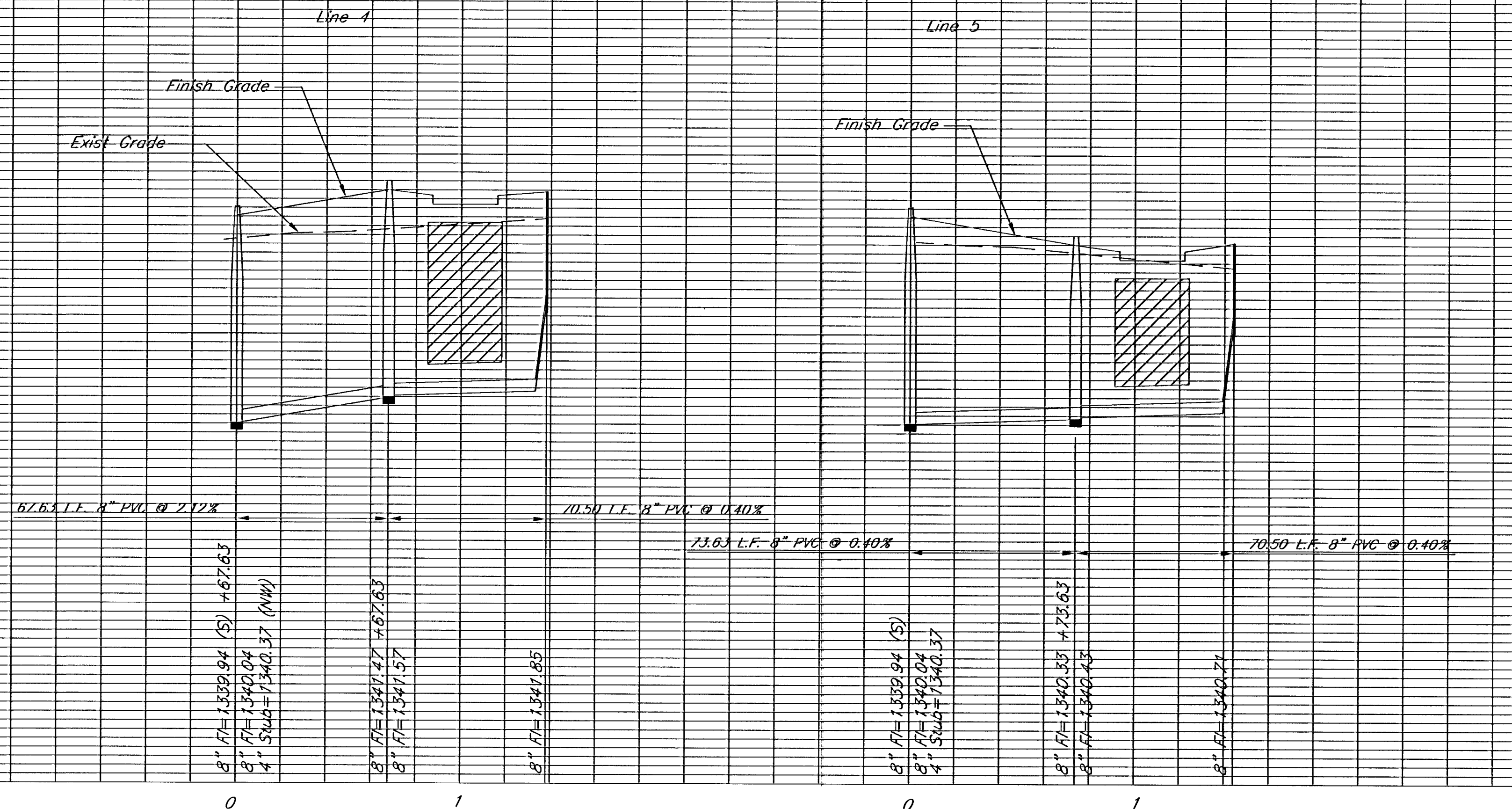
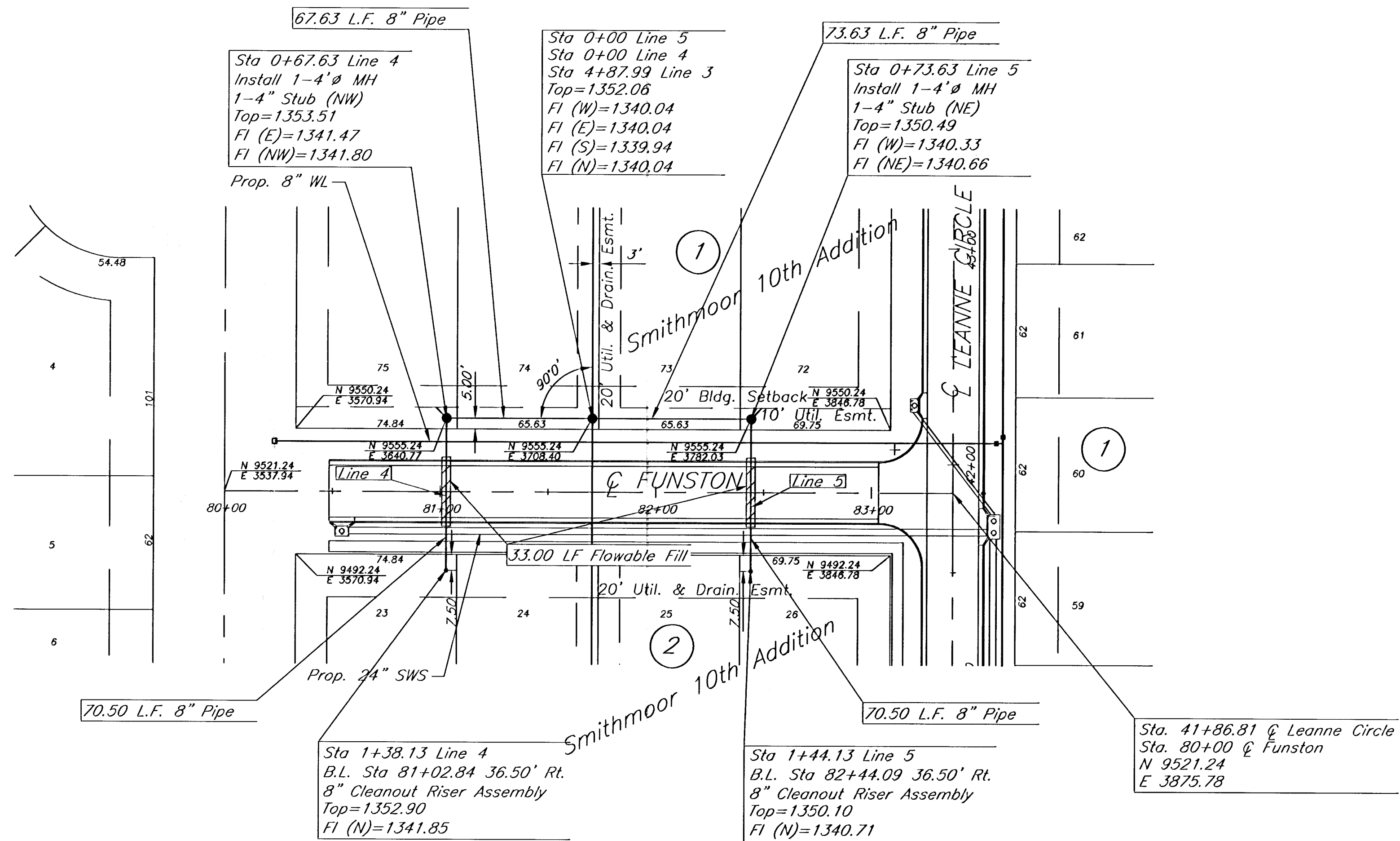
316/284-0242



BENCHMARKS:

BM#1 City disc on the SW corner traffic signal base on the NE corner of the intersection of Harry St. and Greenwich Rd.
Elev. = 1343.49 USGS

BM#2 "C" cut on the SW corner of the N. Headwall at the east end of pond on the W. side of Greenwich Rd., approx. 1000' S. of Harry St.
Elev. = 1341.87 USGS



Smithmoor 10th Addition
Sanitary Sewer Lines 4 & 5
Wichita, Kansas

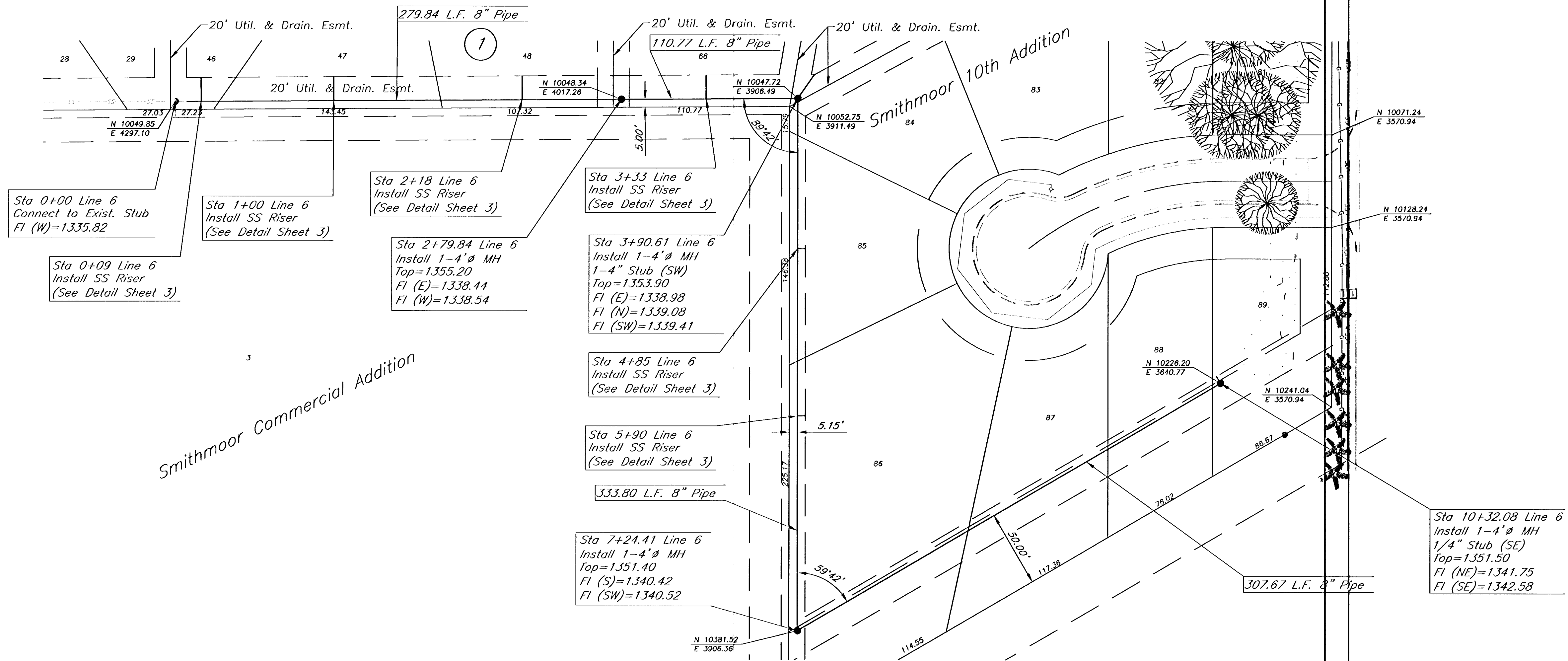
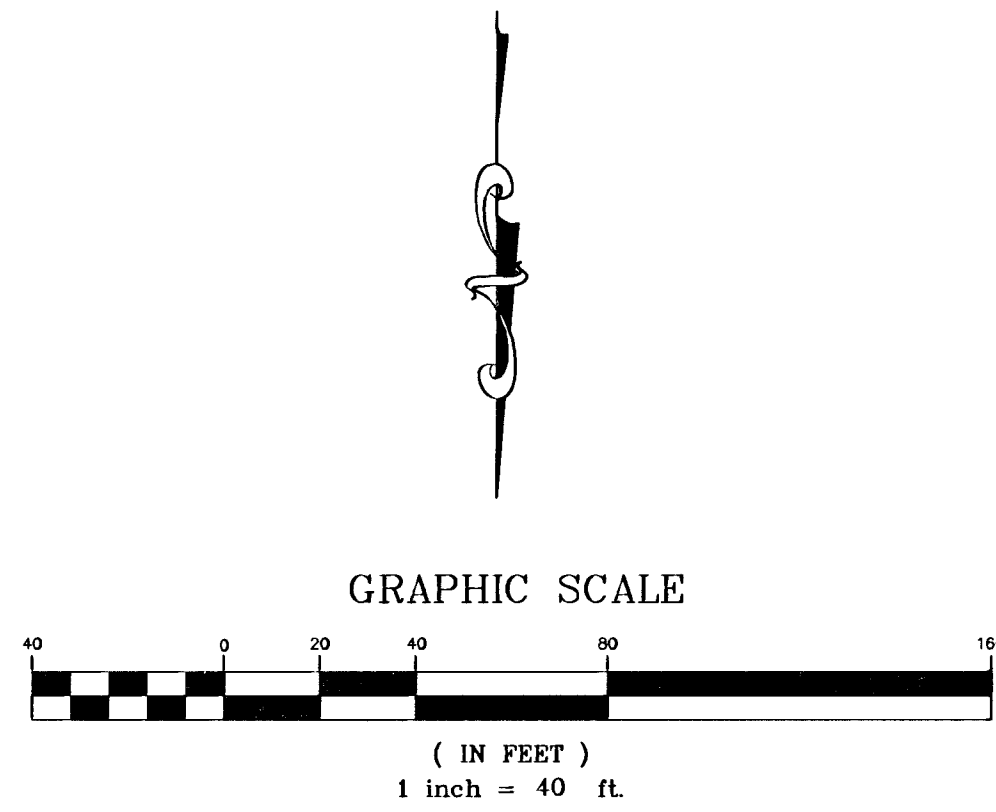
kemiller
engineering

PROJECT NUMBER
468-83282

KEM NO. 01085	FILE SSPP4	DATE 1/02	SHEET 8
DESIGN RR	DRAWN TR	REVISED 3/02	OF 12

518 S. Market,
Wichita, KS 67202

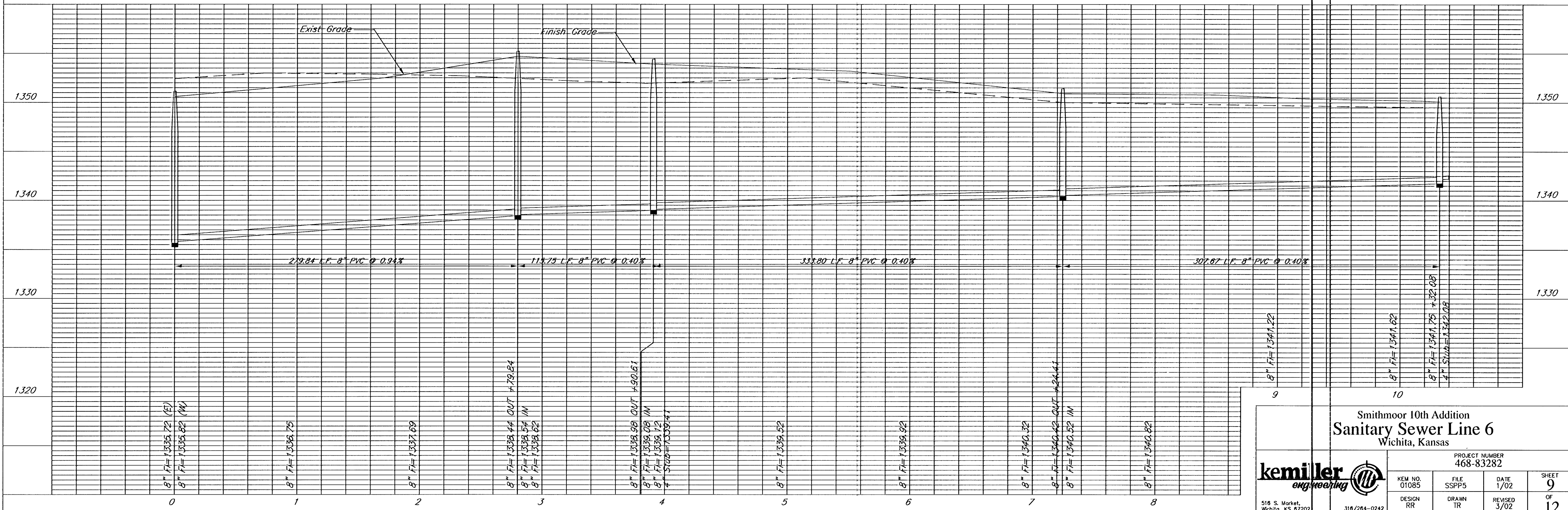
316/264-0242



BENCHMARKS:

BM#1 City disc on the SW corner traffic signal base on the NE corner of the intersection of Harry St. and Greenwich Rd.
Elev. = 1343.49 USGS

BM#2 "I" cut on the SW corner of the N. Headwall at the east end of pond on the W. side of Greenwich Rd., approx. 1000' S. of Harry St.
Elev. = 1341.87 USGS



Smithmoor 10th Addition Sanitary Sewer Line 6 Wichita, Kansas			
PROJECT NUMBER 468-83282			
KEM NO. 01085	FILE SSPP5	DATE 1/02	SHEET 9 OF 12
DESIGN RR	DRAWN TR	REVISED 3/02	

kemiller
engineering

516 S. Market,
 Wichita, KS 67202

316/264-0242

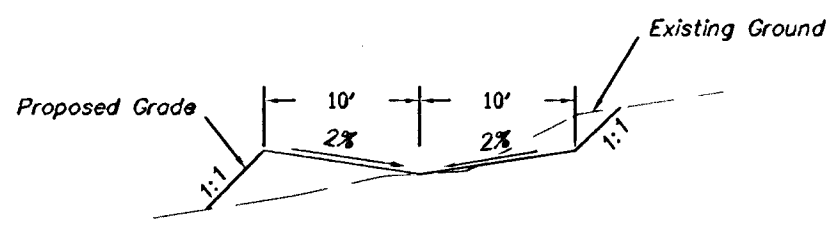
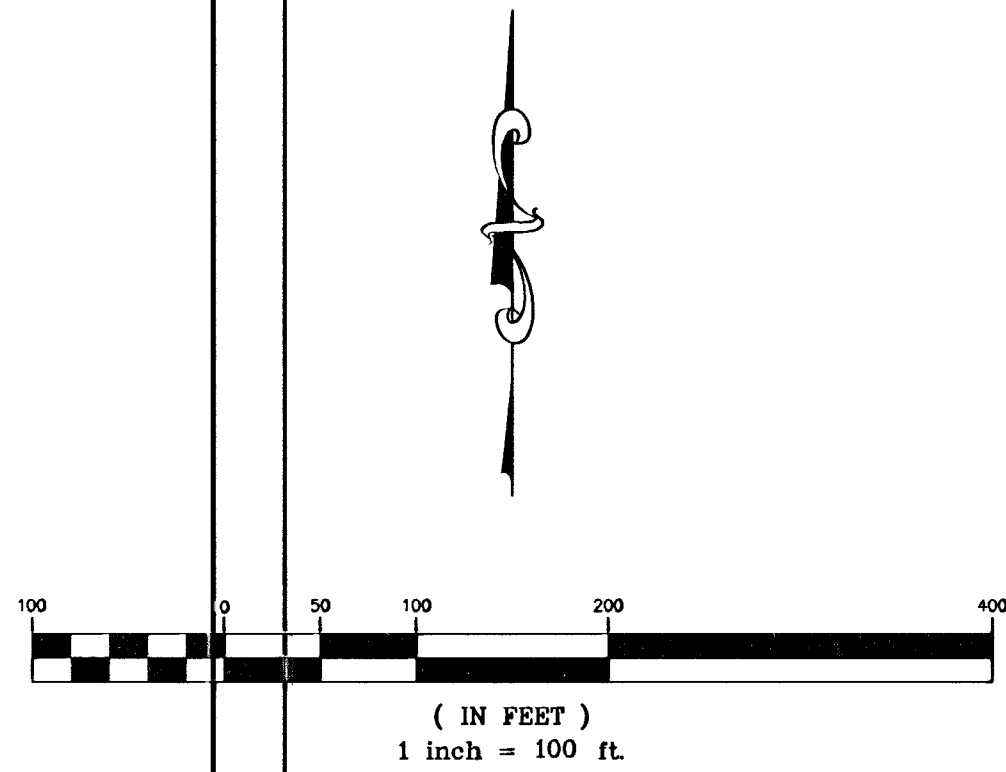
NE Cor. NE 1/4
Sec. 33-27S-2E

SMITHMOOR 10TH ADDITION

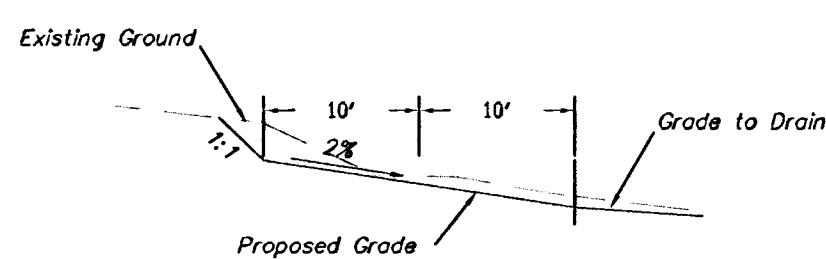
EASEMENT GRADING PLAN

HARRY

CURVE NO.	LENGTH	RADIUS	DELTA
1	44.41'	500.00'	5° 5' 21"
2	133.17'	200.00'	38° 8' 58"



Typical Section



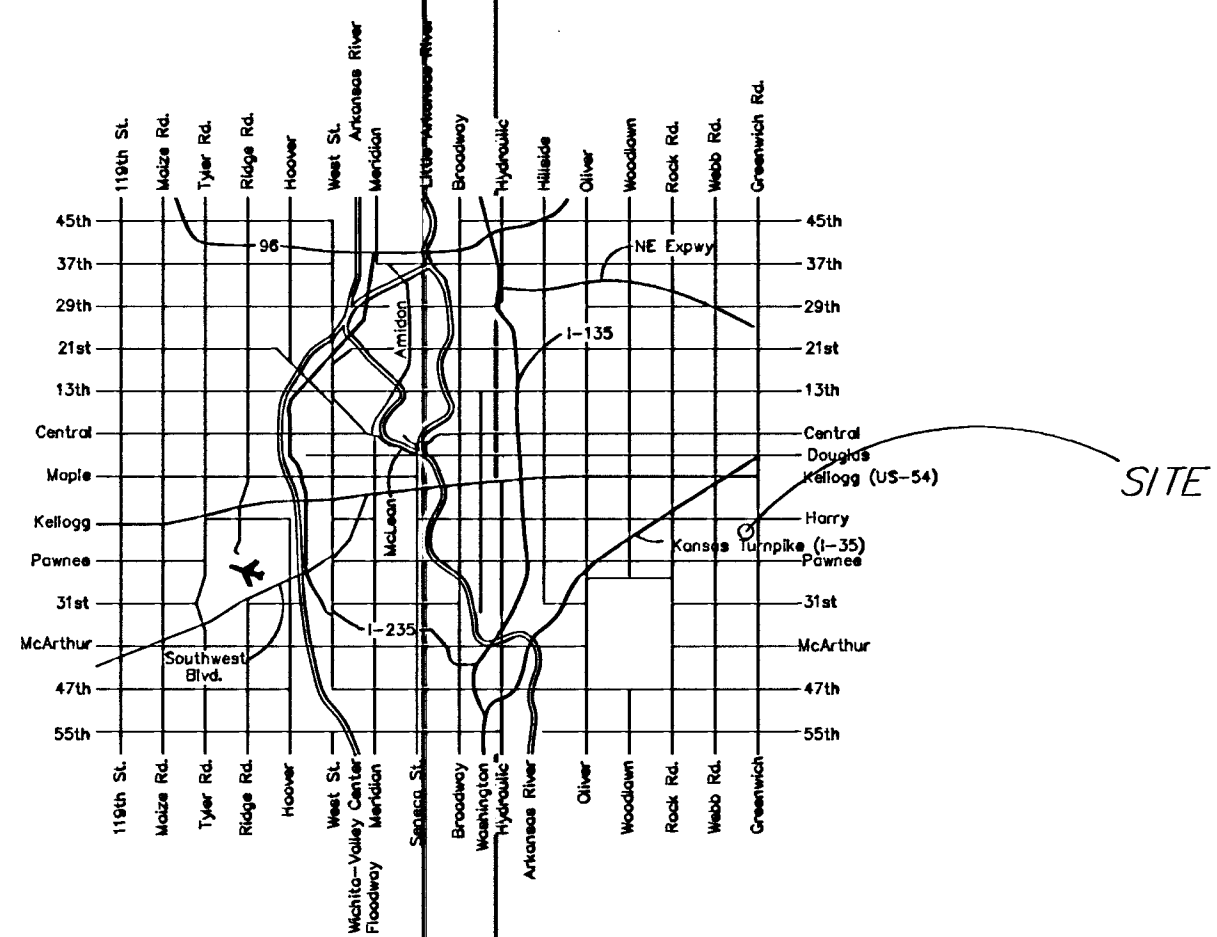
Typical Section South Line

Excavation	1368 CY
Compaction	1593 CY

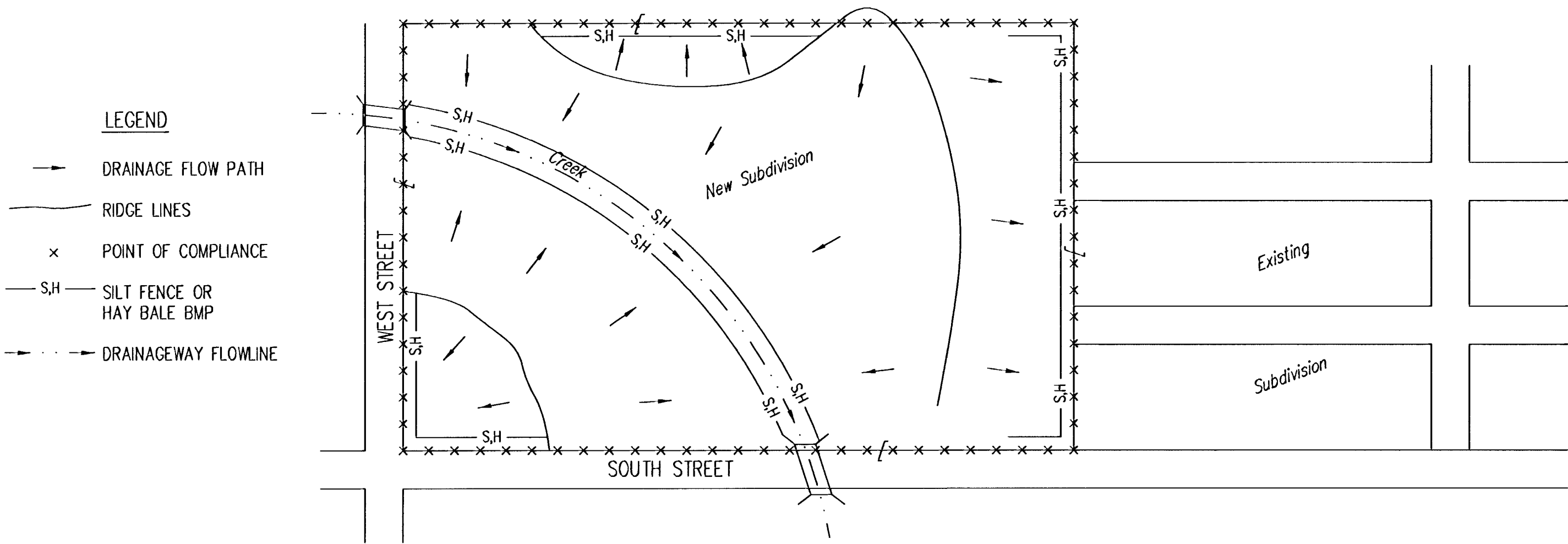
For Information Only

- LEGEND**
- Manhole
 - Sign
 - Telephone Pedestal
 - Cable TV Pedestal
 - Tree
 - Power Pole
 - Guy Wire
 - Fire Hydrant
 - Waterline
 - Underground Electric
 - Overhead Electric
 - Gas Line
 - Underground Cable TV
 - 5/8" Rebar (found) AMPA
 - 5/8" Rebar (found) MEPA
 - 40d Nail (found)
 - 5/8" Rebar (set) B.WARD

- TF Top of Foundation
VF Top of View Out
WF Top of Walk Out
A2.9 Proposed Grade

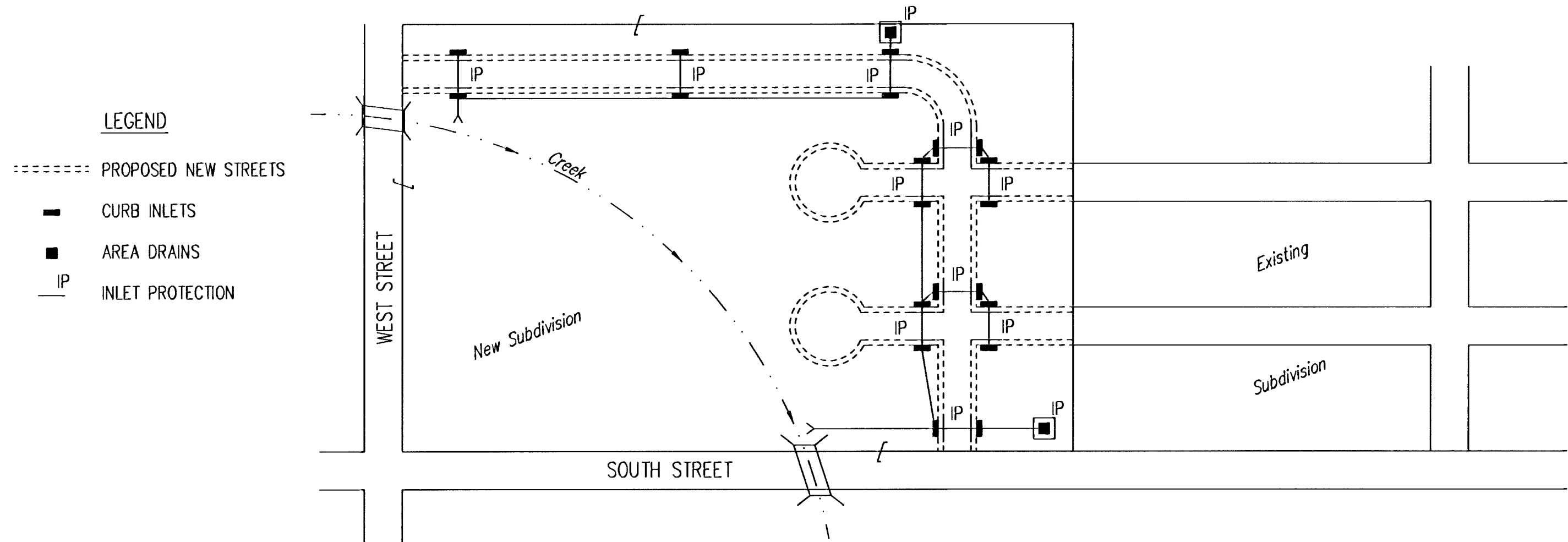


PHASE 1 – INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



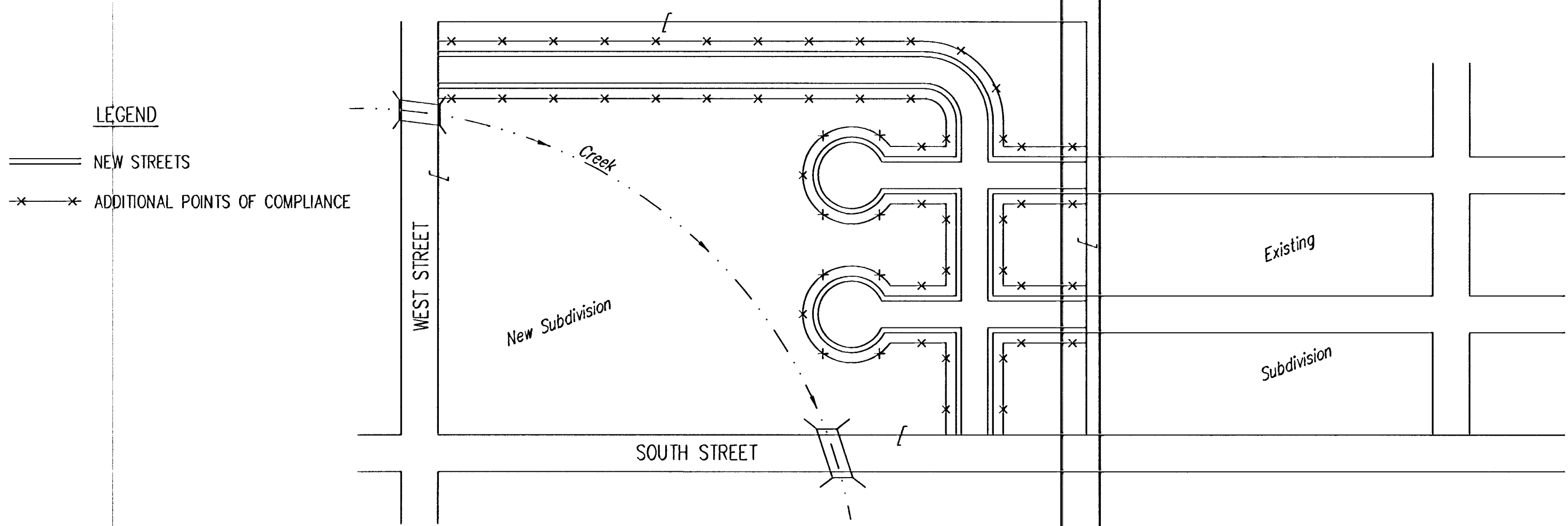
1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
2. HAYBALES OR SILT FENCE MUST BE CONSTRUCTED ALONG THE PROPERTY LINE WHERE ON SITE WATER CAN DRAIN OFF THE PROPERTY. THESE BMP'S WILL ALSO BE INSTALLED ALONG ANY DRAINAGE DITCH OR LAKE THAT CAN DISCHARGE.
3. SHOULD SILT OR SEDIMENT ENTER THE DITCHES OR GUTTERLINES ON THE ADJACENT BOUNDARY STREETS, APPROPRIATE BMP'S WILL BE PLACED WITHIN THE SUBDIVISION TO PREVENT THIS.
4. ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED AT THE END OF EACH WORK DAY.
5. CONTRACTORS WORKING WITHIN THE SITE WILL NOT BE REQUIRED TO USE INDIVIDUAL BMP'S AS LONG AS THOSE SPECIFIED ABOVE ARE IN PLACE AND EFFECTIVE. CONTRACTORS WORKING ON THE BOUNDRY LINE STREETS OR ON ADJACENT PROPERTIES TO EXTEND UTILITIES ARE EXPECTED TO USE BMP'S AT THEIR WORK LOCATIONS, AS NEEDED.
6. UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
7. THE SUBDIVISION DEVELOPER (OWNER) SHALL INSTALL AND MAINTAIN THE ON-SITE BMP'S.

PHASE 2 – INSTALLATION OF STORM SEWER



1. DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL BMP'S REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
2. AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
3. AREA DRAINS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAYBALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
4. CURB OPENING INLETS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, INLET PROTECTION BMP'S MUST BE INSTALLED. SEE PHASE 3 – STREET CONSTRUCTION.
5. THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE BMP'S. IF WATER CANNOT FLOW INTO CURB INLETS UNTIL STREET CONSTRUCTION IS COMPLETE, THEN STREET CONTRACTOR WILL INSTALL INLET PROTECTION.
6. THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE BMP'S ONCE INSTALLED.
7. ONCE ALL DISTURBED GROUND DRAINING TO AN INLET HAS BEEN RESTABILIZED WITH GRASS OR SOD, THE SUBDIVISION DEVELOPER WILL BE RESPONSIBLE FOR PERMANENTLY REMOVING THE INLET PROTECTION.

PHASE 3 – STREET CONSTRUCTION

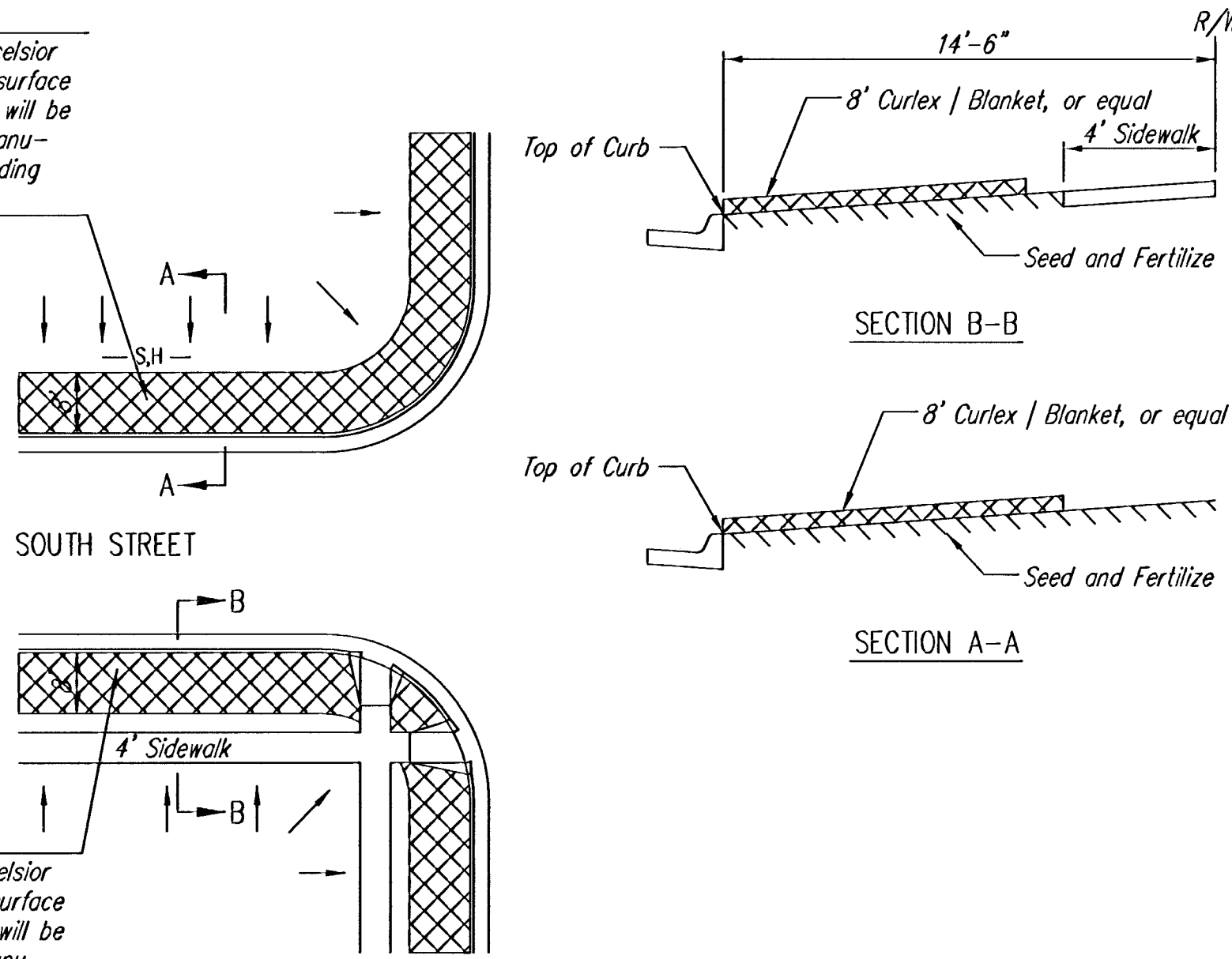


1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL BMP'S INSTALLED DURING PHASE 1 AND 2 MUST STILL BE MAINTAINED. THE POINT OF COMPLIANCE NOW SHIFTS TO THE BACK OF CURB ALONG EACH STREET.
2. CURB OPENING INLET PROTECTION:
 - A. SUMP AREAS – INLET PROTECTION SHALL BE PROVIDED WHEN STREET SUBGRADE WORK IS COMPLETED.
 - B. NON-SUMP LOCATIONS – PROVIDE INLET PROTECTION AS SOON AS BASE COURSE ASPHALT IS INSTALLED, BEFORE THE SURFACE COURSE LIFT.
3. BMP'S WILL BE REQUIRED BACK OF CURB WHEREVER WATER CAN FLOW OVER THE CURB AND THE CURB HAS BEEN BACKFILLED TO WITHIN 3" OR LESS OF THE TOP OF CURB (SEE CURB BACKFILL DETAIL). FOR CURBS NOT YET ENTIRELY BACKFILLED (3" OR MORE BELOW TOP OF CURB), BMP'S WILL BE REQUIRED AT POINTS WHERE WATER BREAKS OVER CURB WHICH COULD RESULT IN THE PLACEMENT OF SEDIMENT IN THE GUTTER.
4. SEE DETAIL THIS SHEET ON BACK OF CURB PROTECTION.
5. THE BACK OF CURB PROTECTION SPECIFIED ON THIS PLAN MAY HAVE TO BE SUPPLEMENTED WITH HAYBALE OR SILT FENCE BMP'S AT LOCATIONS WHERE CONCENTRATED FLOW RESULTS IN SEDIMENT BEING CARRIED OVER THE EXCELSIOR MATS.
6. THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB BMP'S.
7. THE INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR MAINTAINING THE BACK OF CURB BMP'S IN FRONT OF THEIR LOTS UNTIL SUCH TIME AS ADJACENT DISTURBED EARTH IS STABILIZED WITH GRASS OR SOD.

GENERAL NOTES:

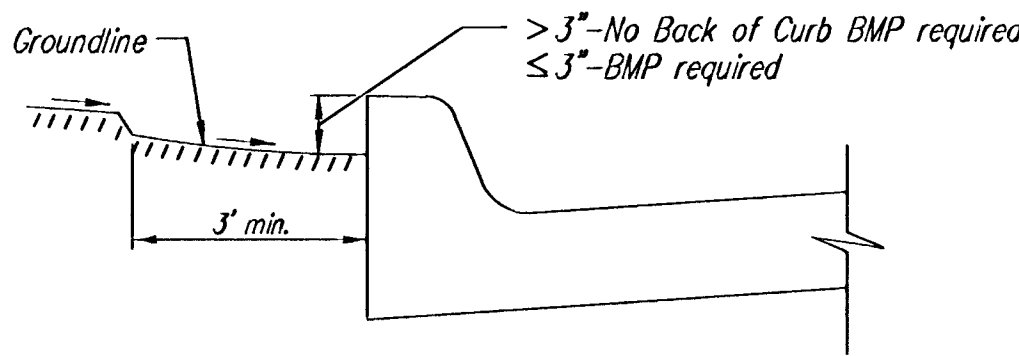
1. THE INTENT OF ALL BEST MANAGEMENT PRACTICES (B.M.P.'S) IS TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, OR ANY OTHER DRAINAGE FEATURE.
2. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF BMP'S WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
3. BMP'S SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS TO REMAIN EFFECTIVE. MAINTENANCE SHALL BE AS INDICATED ON THE BMP DETAIL SHEETS.
4. PERSONS DESTROYING BMP'S SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT BMP'S.
5. THE DEVELOPMENT OF ANY SUBDIVISION THAT DISTURBS 5 ACRES OR MORE WILL REQUIRE A FEDERAL/STATE NPDES STORMWATER PERMIT. THE PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED. EROSION CONTROL BMP'S ARE REQUIRED. THE DETAILS SHOWN ON THIS SHEET ARE THE MINIMUM STANDARDS TO BE SHOWN ON POLLUTION PREVENTION PLAN.
6. FOR SUBDIVISIONS SMALLER THAN 5 ACRES, SOIL EROSION BMP'S ARE REQUIRED. ALSO, DEVELOPERS AND CONTRACTORS ARE ENCOURAGED TO DEVELOP POLLUTION PREVENTION PLANS FOR EACH PROJECT PRIOR TO CONSTRUCTION.
7. FAILURE TO USE AND MAINTAIN BMP'S IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE SUBDIVISION DEVELOPER AND CONTRACTORS TO THE PENALTIES PROVIDED THEREIN.
8. THE APPLICATION OF BMP'S SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT BMP OTHER THAN THAT SHOWN. BMP'S, OTHER THAN THOSE SHOWN, MAY BE UTILIZED SO LONG AS THEY ARE EFFECTIVE AND MAINTAINED.
9. A STABILIZED EARTH SURFACE IS DEFINED AS ONE THAT IS HARD SURFACED WITH CONCRETE, ASPHALT, OR THE LIKE, OR ONE ON WHICH 70% OF THE GRASS HAS GERMINATED ON THE ENTIRE SURFACE.

BMP-Install 8' wide Curlex / Excelsior Blanket, or equal, on prepared surface back of curb. Edge of blanket will be at back of curb. Install per manufacturer recommendation, including staples.



BMP-Install 8' wide Curlex / Excelsior Blanket, or equal, on prepared surface back of curb. Edge of blanket will be at back of curb. Install per manufacturer recommendation, including staples.

BACK OF CURB PROTECTION DETAIL



CURB BACKFILL DETAIL



SOIL EROSION BMP'S
SUBDIVISION
DEVELOPMENT
PROCESS

CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

PROJECT NUMBER
468-83282

OCA NO.
743915

DATE
MAY 2001

SHEET 11 OF 12

HARRY STREET

NE Cor. NE 1/4
Sec. 33-27S-2E
Found 1/2" Iron

SMITHMOOR 10TH ADDITION TO SEDGWICK COUNTY, KANSAS

Northeast Quarter of Section 33, Township 26 South, Range 2 East of the 6th. P.M.

CURVE NO.	Δ	RADIUS	LENGTH	CHORD	CHORD BEARING
1	5° 5' 21"	500.00'	44.41'	44.40'	S 87°27'20" W
2	38° 8' 58"	200.00'	133.17'	130.72'	N 70°58'21" E

State of Kansas } ss
Sedgwick County }

I, Bradley C. Ward, the undersigned licensed land surveyor in aforesaid county and state, do hereby certify that, under the supervision of the undersigned, we have surveyed and platted Smithmoor 10th Addition, Sedgwick County, Kansas and that the accompanying plat is a true and correct exhibit of the property surveyed, being described as follows:

LEGAL DESCRIPTION

Commencing at the SE corner of the NE 1/4, Sec. 33-27S-2E, on an assumed bearing of N0°00'00"E, on the east line of said NE 1/4, a distance of 1019.77'; thence S84°54'39"W, a distance of 60.24'; to the POB, also being the NE corner of Smithmoor 9th Addition; thence S84°54'39"W, on the north line of said Smithmoor 9th Addition, a distance of 691.43'; thence on a curve to the left with a delta of 54°00'11" and a radius of 230', on a chord bearing of S57°54'34"W, a distance of 208.85'; thence S30°54'28"W, on the north line of said Smithmoor 9th Addition, a distance of 306.72'; thence S90°00'00"W, on the north line of said Smithmoor 9th Addition, a distance of 449.38'; to the east line of Smithmoor 8th Addition; thence N0°00'00"E, on the east line of said Smithmoor 8th Addition, a distance of 702.11'; thence N30°17'40"W, on the east line of said Smithmoor 8th Addition, a distance of 220.99'; to the south line of Smithmoor 3rd Addition; thence N59°42'20"E, on the south line of said Smithmoor 3rd Addition, a distance of 200'; thence N90°00'00"E, on the south line of said Smithmoor 3rd Addition, a distance of 110.77'; to the SE corner of said Smithmoor 3rd Addition; thence N0°00'00"E, on the east line of said Smithmoor 3rd Addition, a distance of 411'; to the SW corner of Smithmoor Commercial Addition; thence N59°42'20"E, on the south line of said Smithmoor Commercial Addition, a distance of 394.60'; thence S0°01'25"W, on the south line of said Smithmoor Commercial Addition, a distance of 387.34'; thence N89°41'28"E, on the south line of said Smithmoor Commercial Addition, a distance of 960.05'; to the southeast corner of said Smithmoor Commercial Addition; thence S0°00'00"W, parallel to the east line of said NE 1/4, a distance of 786.25'; to the POB.

State of Kansas } ss
Sedgwick County }

Know all men by these presents, that we, the undersigned, have caused the land described in the surveyor's certificate to be platted into Lots, Blocks, Streets and Reserves to be known as Smithmoor 10th Addition, Sedgwick County, Kansas. The utility easements are hereby granted as indicated for constructing, maintaining, operating, and repairing public utilities. The drainage easements as indicated are hereby dedicated for the purpose of drainage within said addition. The well easement is hereby granted for construction and maintenance of a well. The land contained herein is held and shall be conveyed subject to any restrictions, reservations, and covenants on file or hereafter filed in the office of the Register of Deeds of Sedgwick County, Kansas.

Reserve "A" is hereby platted for drainage, drainage structures, utilities and retention/detention ponds. Said reserve shall be owned and maintained by the Smithmoor 10th Addition Home Owner's Association. Reserve "A" shall also be a flood reserve. A drainage plan has been developed for the plat. All drainage easements, rights-of-way, or reserves shall remain at established grades, or as modified with the approval of the applicable public agency, and unobstructed to allow for the conveyance of stormwater.

Access Control is hereby granted as follows:

1. There shall be complete access control to and from Greenwich road, over and across the East lines of Lots 1-8 (inclusive), Block 1, and Lot 44, Block 2.

Date: _____

By: _____

owners
Ron Smith, President
Smith and Company, Inc.

State of Kansas } ss
Sedgwick County }

This instrument was acknowledged before me on this _____ day of _____, 2001, by Ron Smith as President of Smith & Company.

Notary Public

My Commission Expires: _____

Bradley C. Ward, L.S. #920
Date: March 6, 2001

State of Kansas } ss
City of Wichita }

This plat of Smithmoor 10th Addition, Wichita, Sedgwick County, Kansas, has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.
Dated this _____ day of _____, 2001. Wichita-Sedgwick County Metropolitan Area Planning Commission.

_____, Acting Chair

J.D. Michaels

_____, Secretary

Marvin S. Krout

State of Kansas } ss
City of Wichita }

This plat approved and all dedications shown hereon accepted by the City Council of the City of Wichita, Kansas, this _____ day of _____, 2001.

At the Direction of the City Council

_____, City Manager

Chris Cherches

_____, City Clerk

Pat Burnett

Entered on transfer record this _____ day of _____, 2001.

_____, County Clerk

Don Brace

Reviewed in accordance with K.S.A. 58-2005 on this _____ day of _____, 2001.

Tricia L. Robello, L.S. #1246
Deputy County Surveyor
Sedgwick County, Kansas

Sheet 12 of 12



19-03-01-09