

SANITARY SEWER IMPROVEMENTS

to serve

BAREFOOT BAY ESTATES

CITY OF WICHITA, KANSAS

Neil Cable, P.E. City Engineer

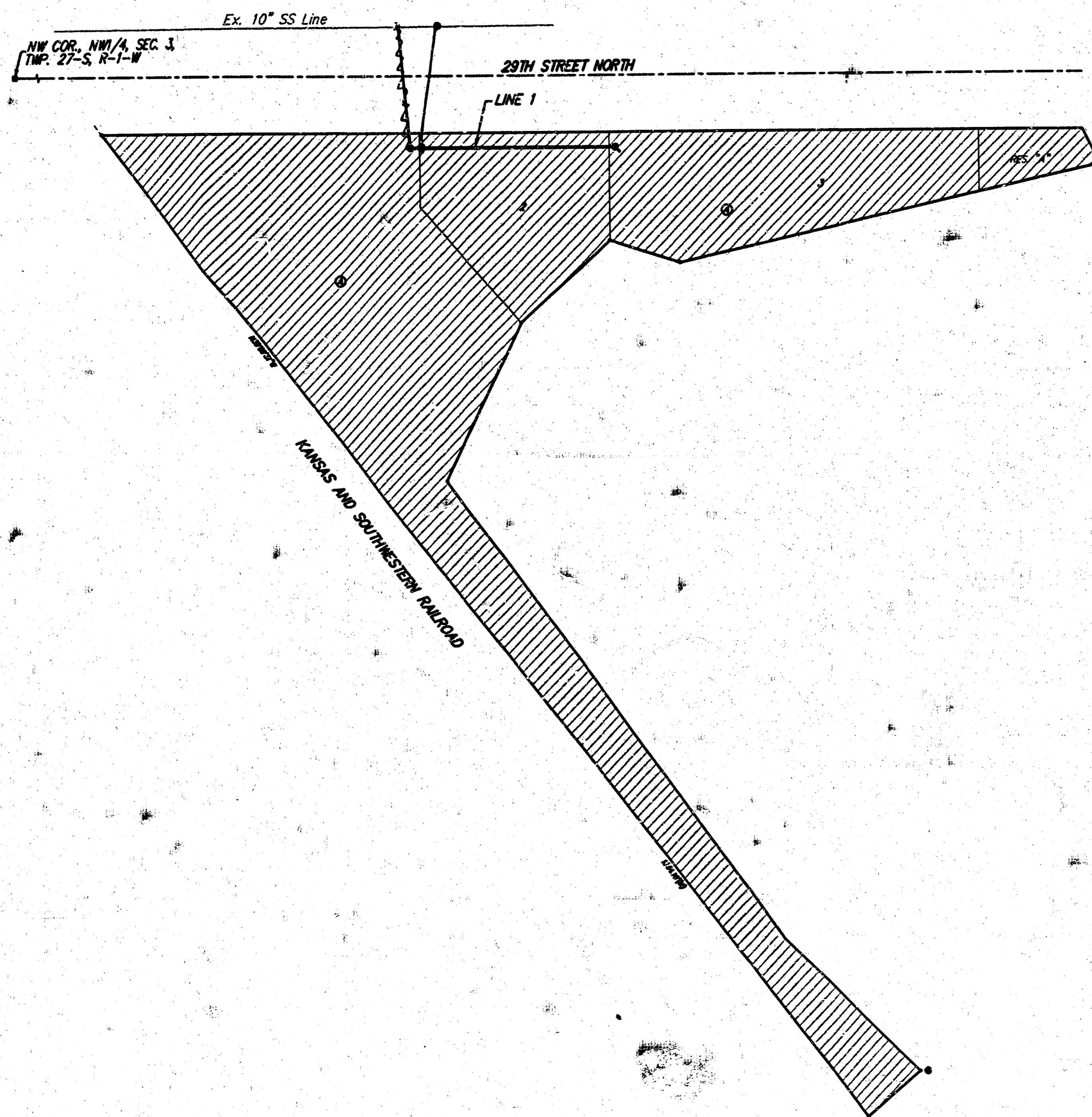
Private Project Number

1402 PPS (607861)

Sheet Index

| | |
|-------------------------|---|
| Title Sheet | 1 |
| Line 1 | 2 |
| Standard Manhole Detail | 3 |
| Manhole Ring Detail | 4 |
| Copy of Plat | 5 |

Scale: 1" = 200'



Benchmarks

0.4 MI. EAST OF RIDGE RD. ON 29TH ST. N. -
CITY OF WICHITA BENCHMARK DISC AT
NE CORNER OF CONCRETE BRIDGE ON
TOP OF HUBGUARD.
ELEV. = 142.51 CITY DATUM

GENERAL NOTES:

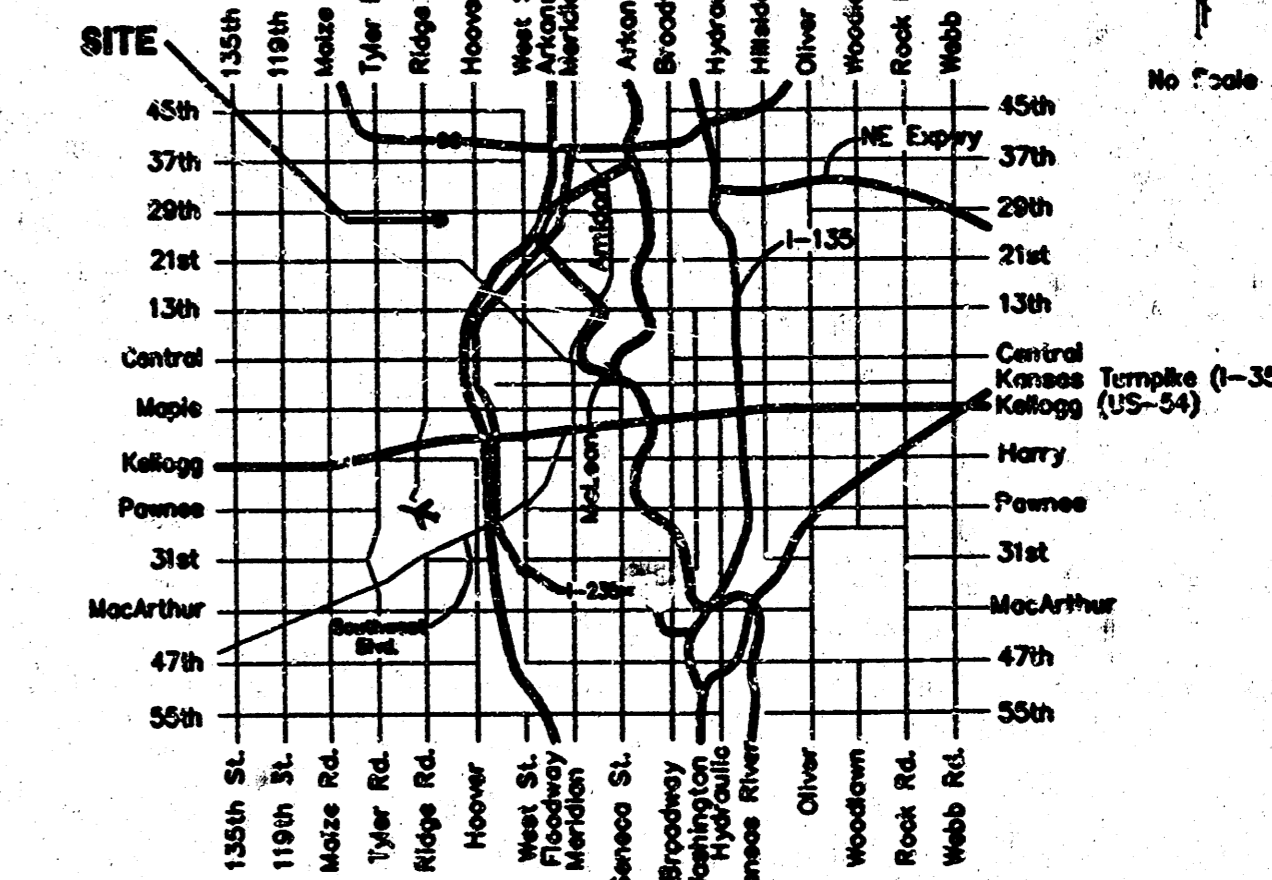
- Contractor will be required to provide notice to utility companies a minimum of twenty-four (24) hours prior to any excavation, as follows:

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| Kansas One-Call | 687-2470 |
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The Contractor must notify the following in case of an emergency:

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|------------------------------------|----------------|
| Cox Communications | 262-4270 |
| Kansas Gas Service | 1-888-482-4950 |
| Westar Energy | 393-8650 |
| Aquila Energy | 1-800-303-0357 |
| Southwestern Bell | 268-2245 |
| City of Wichita Water Dept. | 268-4563 |
| City of Wichita Sewer Maint. | 268-4024 |
| City of Wichita Storm Sewer Maint. | 268-4090 |
| City of Wichita Traffic Maint. | 268-4034 |
| Conoco Pipeline Co. | 1-800-231-2551 |
| Williams Pipeline Co. | 529-6500 |
| Phillips Pipeline Co. | 1-800-756-8230 |
- 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 or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. 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.
- The Contractor shall give all property owners and/or tenants of developed property abutting the construction of this project a minimum of ten (10) days advance notice prior to start of construction.
- The Contractor shall be responsible for preserving 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 reestablished by a licensed land surveyor in accordance with state laws.
- All existing and proposed erosion control measures including silt fencing, erosion control mat, straw bales, inlet barriers, and canal entrance shall be maintained throughout construction by the contractor and until project is accepted by the City of Wichita. The on-site engineer shall complete weekly reports on the status of erosion control measures. The contractor shall be required to comply with maintenance and/or replacement of erosion control measures as determined by the on-site engineer until project is accepted by City of Wichita. Maintenance and/or replacement of erosion control measures to be paid by L.S. but item "Erosion Control Budget".
- Easements will be graded by others with the mass grading plan, as part of the storm drain improvements. Easements shall be returned to original grade upon completion of construction.
- When connecting to existing manhole or stub, the contractor shall reshape manhole bottom or adjust the existing stub's alignment or elevation as necessary. Cost shall be subsidiary to project.
- The Contractor shall be responsible for maintaining continuous flow of sewage through construction. Contractor's proposed method for maintaining sewage flow shall be approved by the Engineer. Cost of maintaining flow of sewage through construction will not be paid for directly and this cost shall be considered as subsidiary to the other pay items of work.
- All areas disturbed during construction shall be seeded at 300 lbs./acre with Rye Grass immediately following construction in that area. Contractor shall prepare ground per City Specifications.
- Work shall begin on this project on the issued "Notice to Proceed" date. Mass Grading may or may not be complete at this time. Sanitary Sewer Construction shall be completed in accordance with that of the Mass Grading Contractor.
- Contractor shall keep one lane open to through traffic at all times. Contractor to use flagman, proper traffic control devices, etc. at all times. Cost of keeping through lane open is incidental to cost of new sewer pipe.

Benefit District



Vicinity Map

APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA

Public Works
Checked & Signed VRH 1/7/04

NOTE TO CONTRACTORS

Inspection, inspection and testing for this project is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection is 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 violation of the public right-of-way by the Contractor without such inspection and that any work be commenced without written authorization by the City Engineer. All Construction and Materials shall comply with the City of Wichita Specifications and Standards (on file and available in the City Engineer's Office).

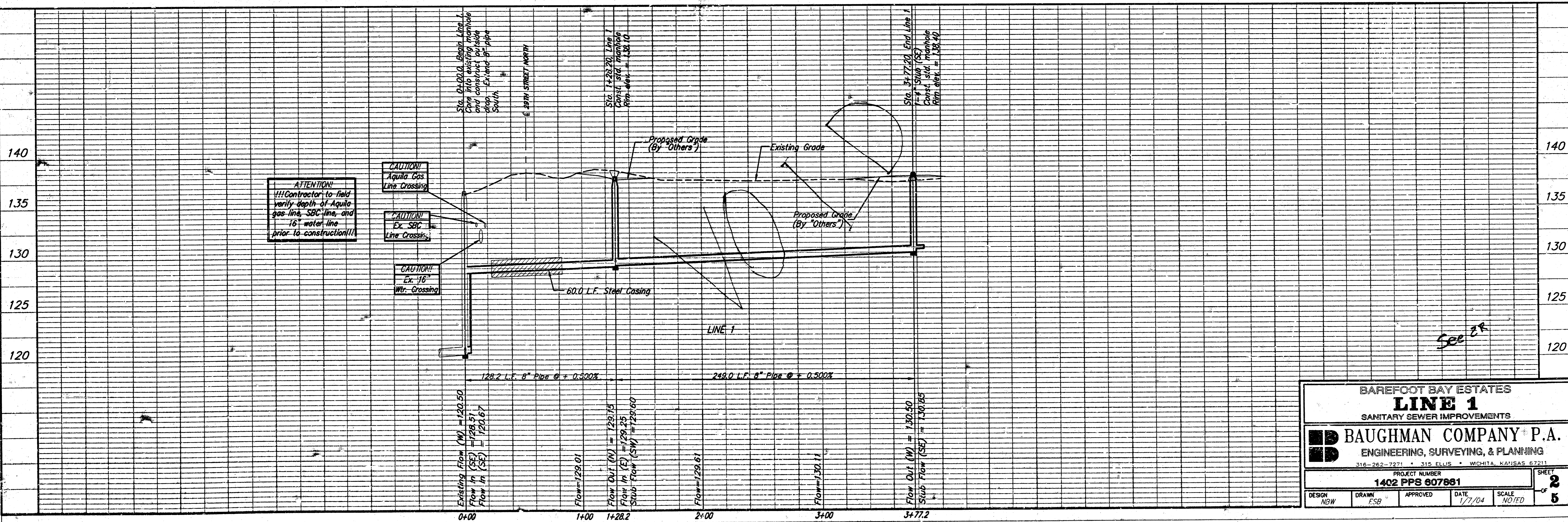
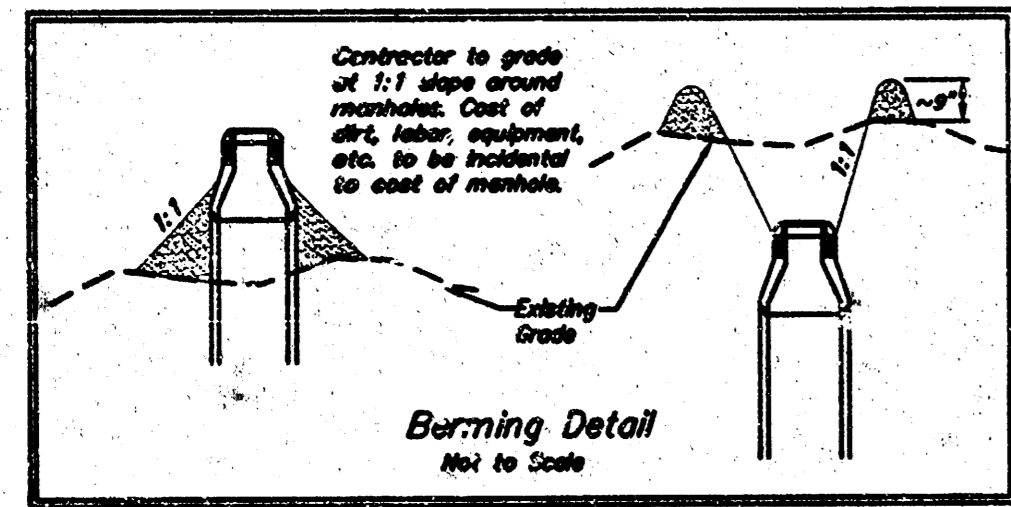
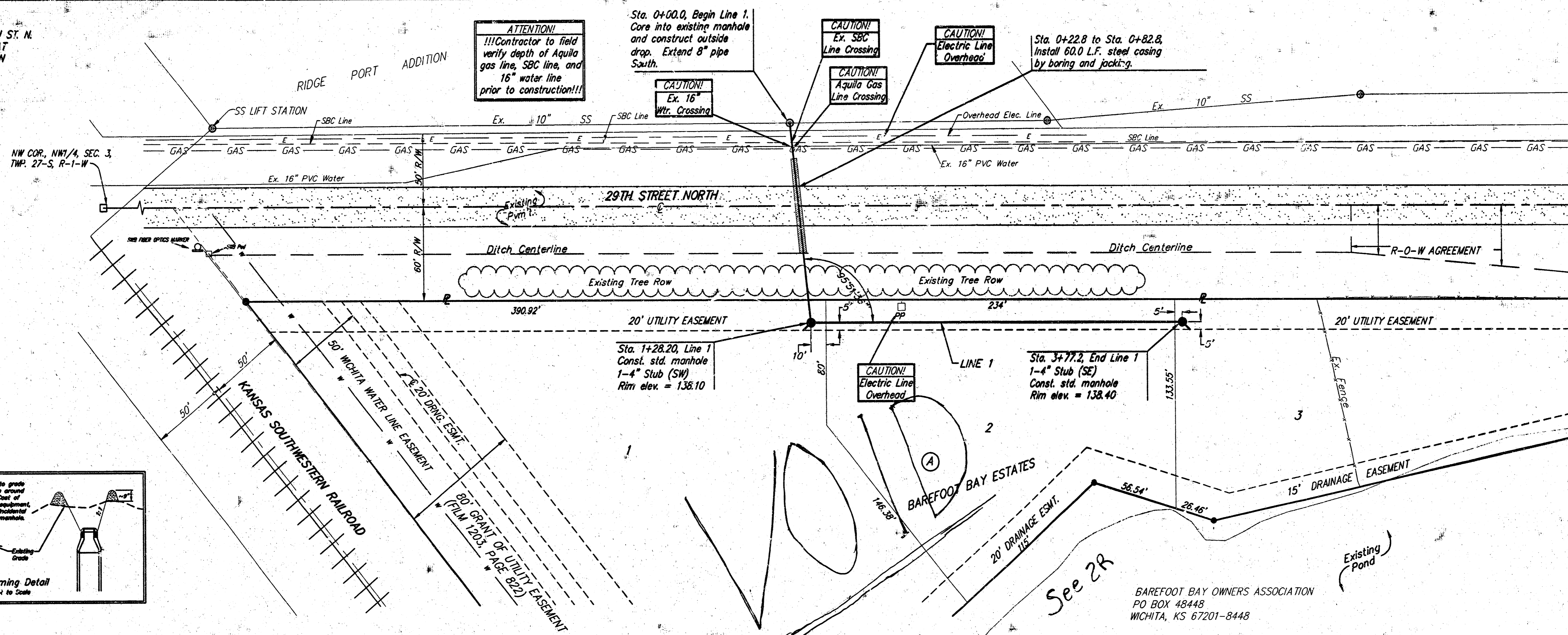


As Built - 2/18/04 KK
Jan 2004

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
318-262-2271 • 315 ELLIS • WICHITA, KANSAS 67211

As Built - San. Sewer to Serve Barefoot Bay Est. 1402 PPS

BENCHMARK:
0.4 MI. EAST OF RIDGE RD. ON 29TH ST. N.
CITY OF WICHITA BENCHMARK DISC AT
NE CORNER OF CONCRETE BRIDGE ON
TOP OF HUB-JARD
ELEV. = 142.51 CITY DATUM



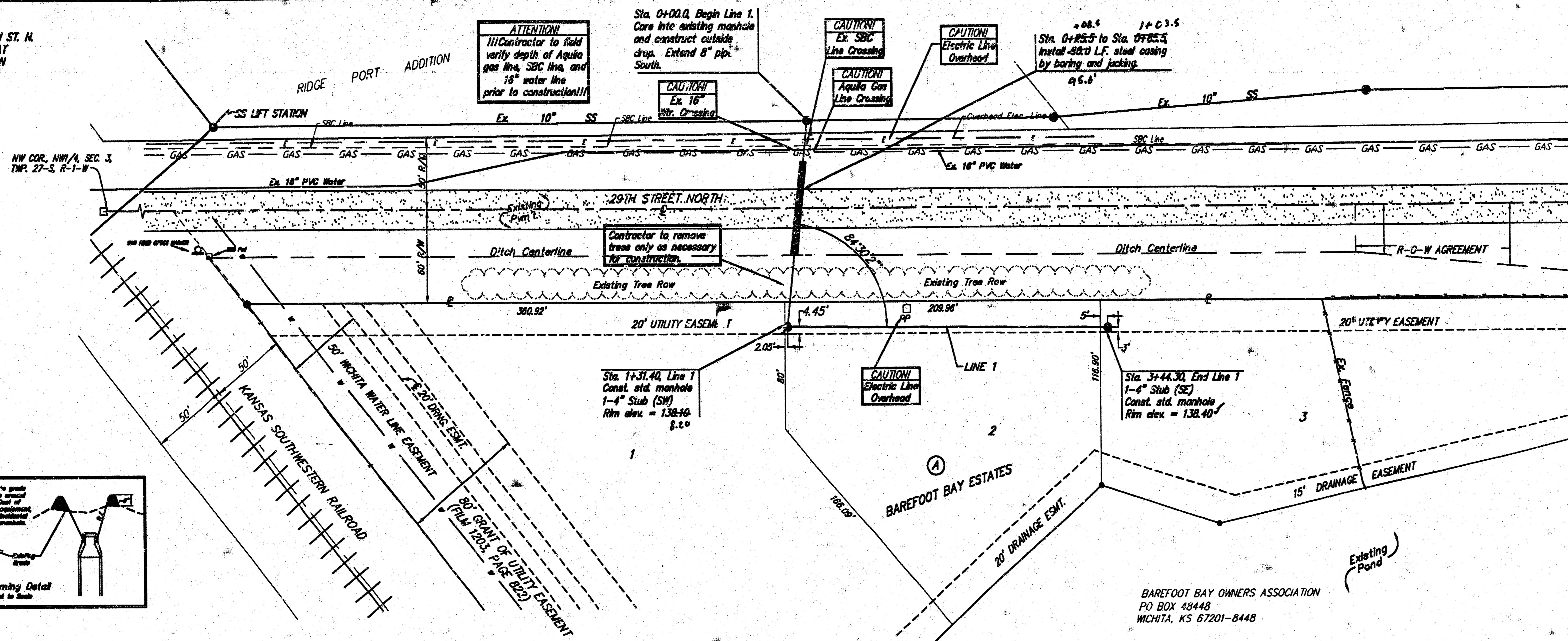
BAREFOOT BAY ESTATES
LINE 1
SANITARY SEWER IMPROVEMENTS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 316 ELLIS • WICHITA, KANSAS 67211

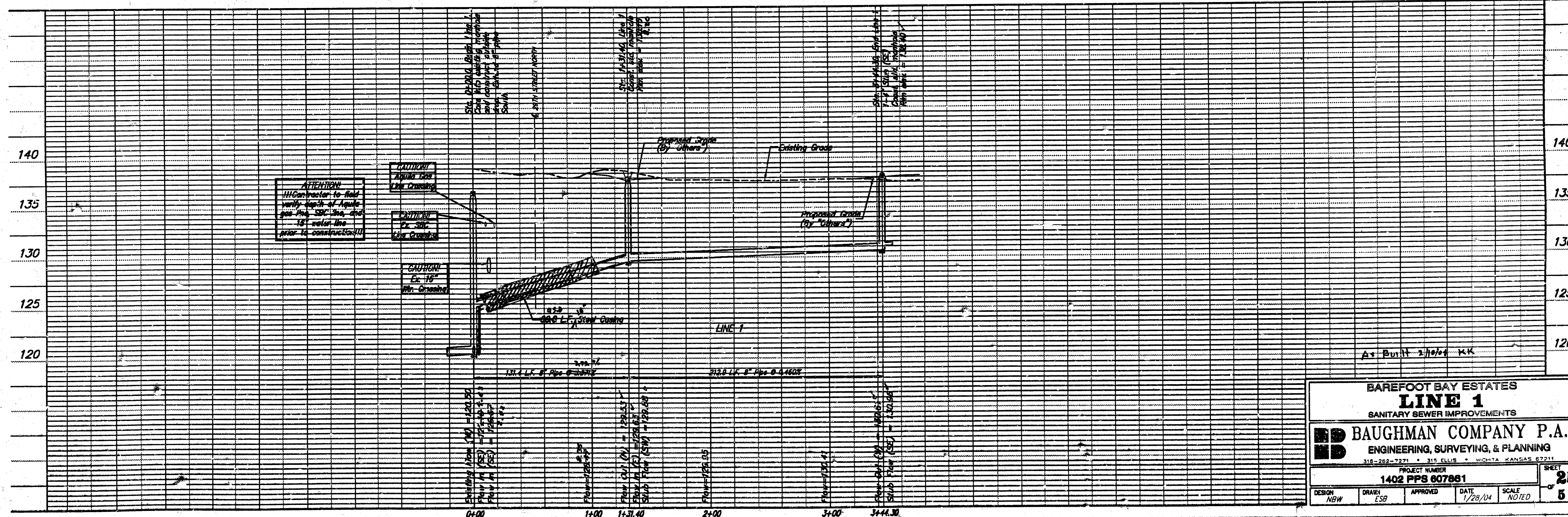
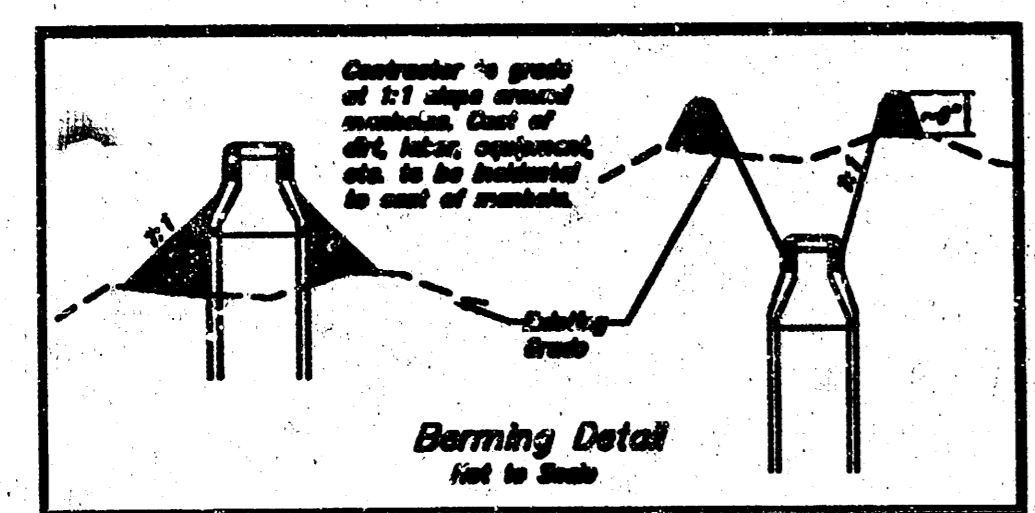
PROJECT NUMBER
1402 PPS 607861

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| DESIGN NSW | DRAWN ESB | APPROVED | DATE 1/7/04 | SCALE NOTED | SHEET 2 OF 5 |
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BENCHMARK:
 0.4 MI. EAST OF RIDGE RD. ON 29TH ST. N.
 CITY OF WICHITA BENCHMARK DISC AT
 NE CORNER OF CONCRETE BRIDGE ON
 TOP OF HARBARD
 ELEV. = 142.91 CITY DATUM



Scale: 1" = 40' Horizontal
 1" = 5' Vertical
 ● = Iron



BAREFOOT BAY ESTATES
LINE 1
 SANITARY SEWER IMPROVEMENTS

BAUGHMAN COMPANY P.A.
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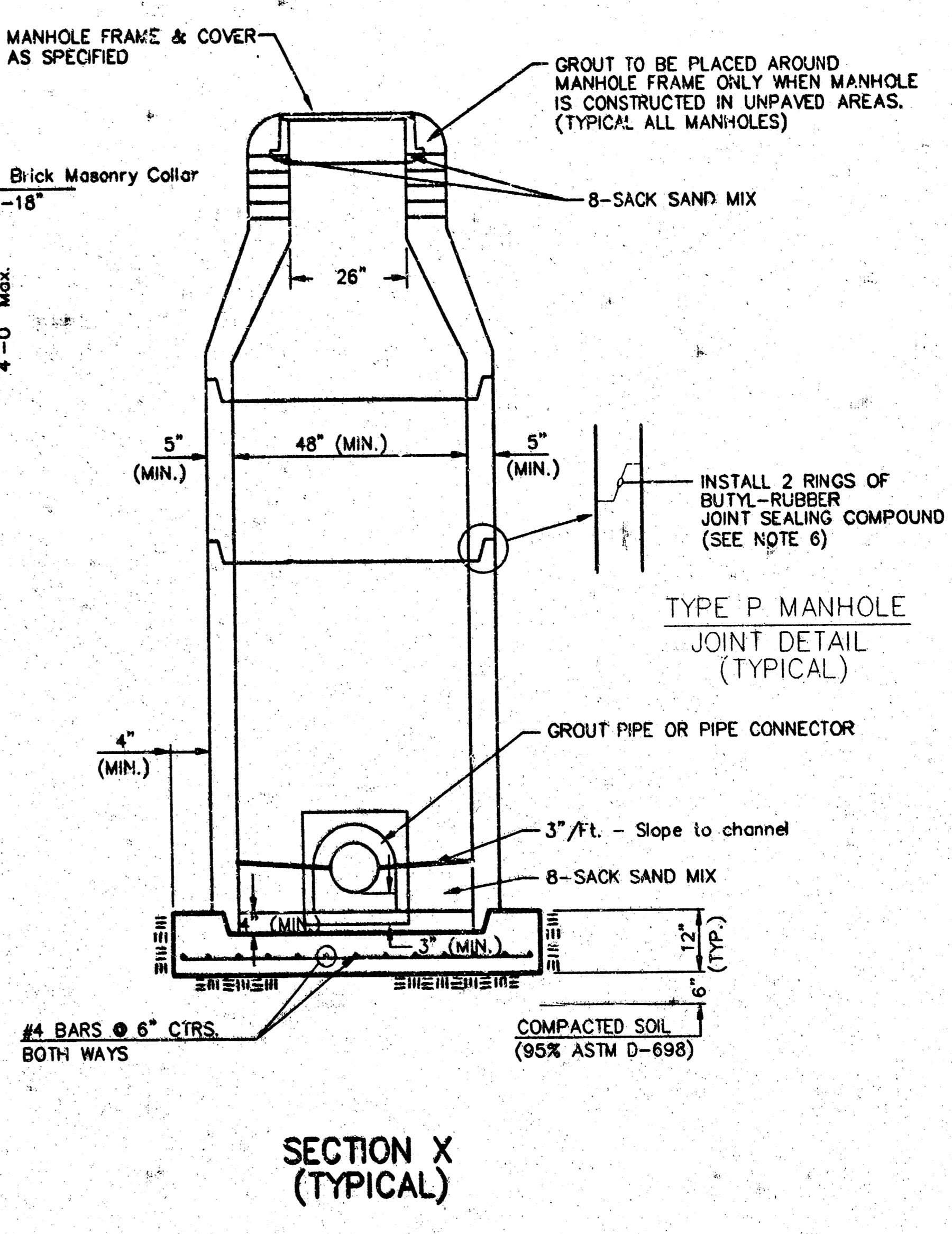
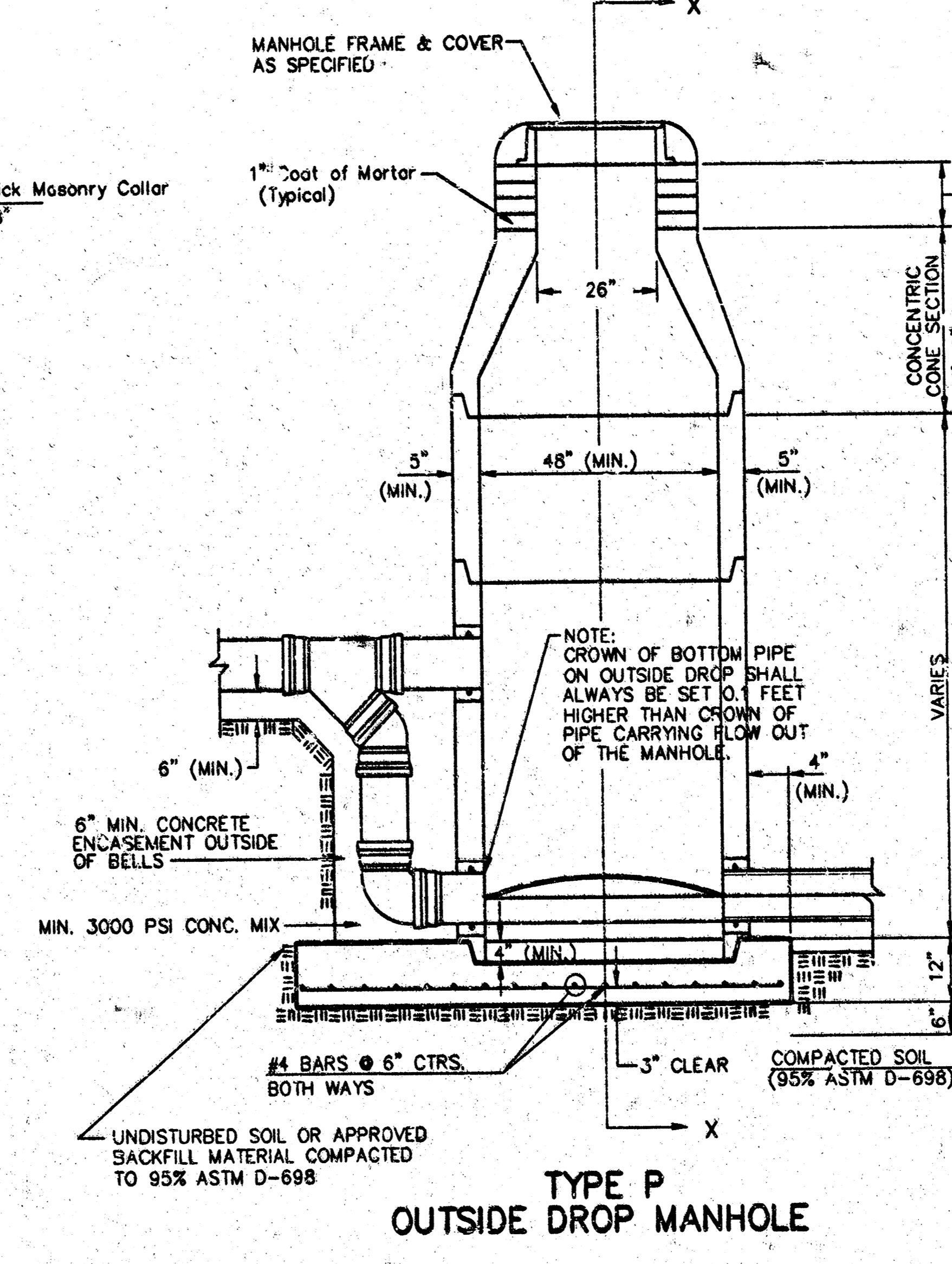
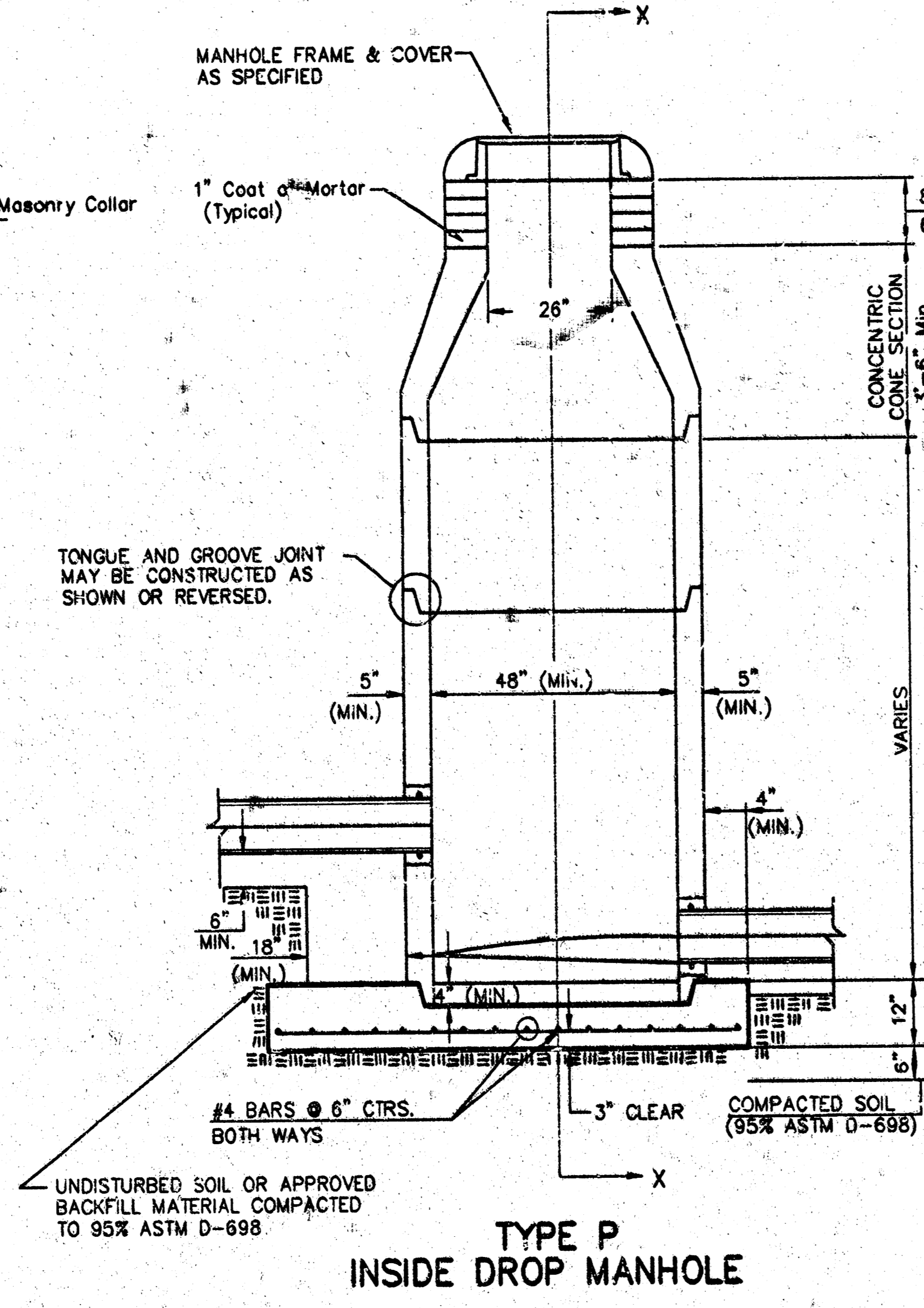
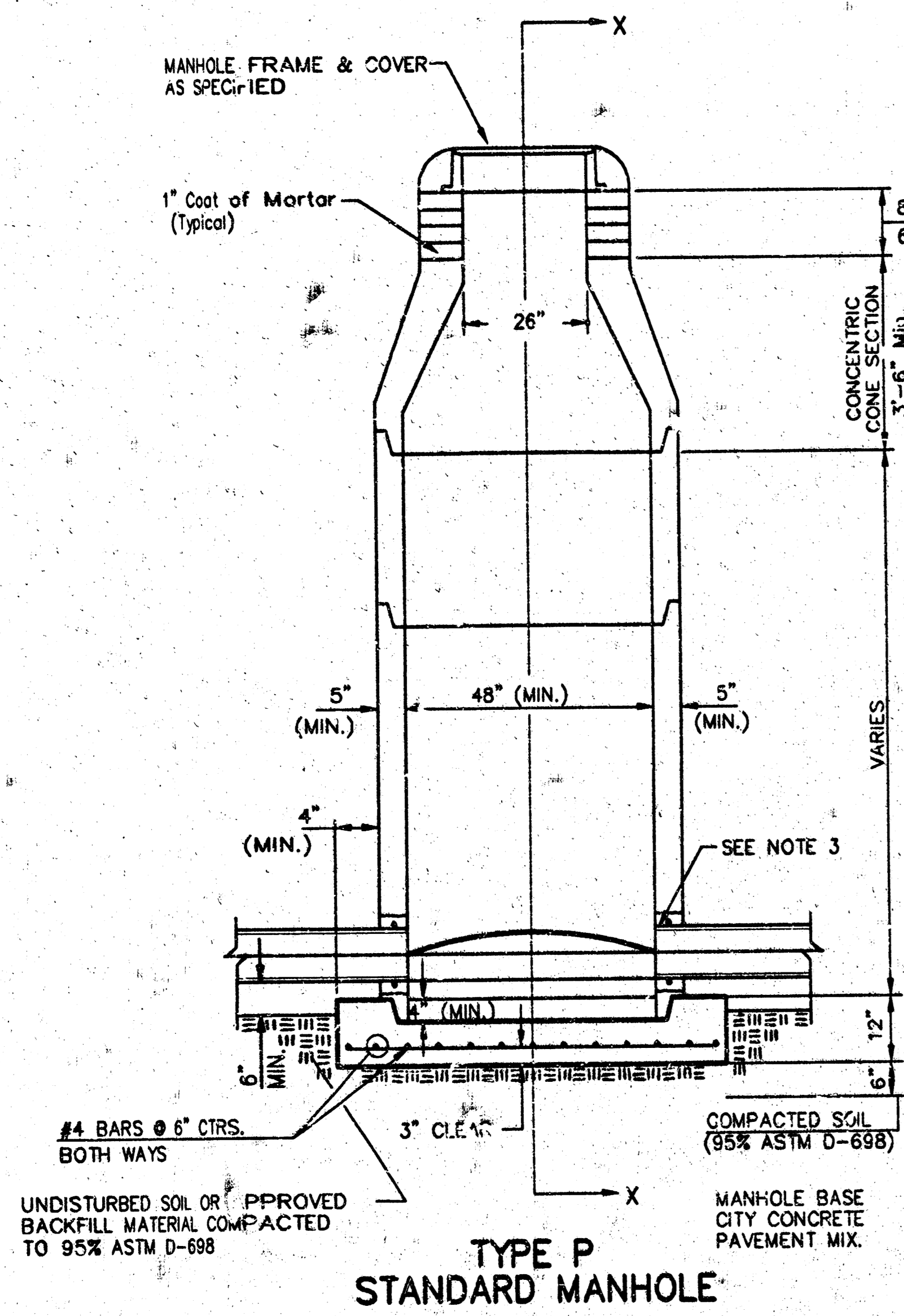
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1402 PPS 607861

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Barefoot Bay Estates 1/21/04

SEWER APPURTENANCES DETAILS

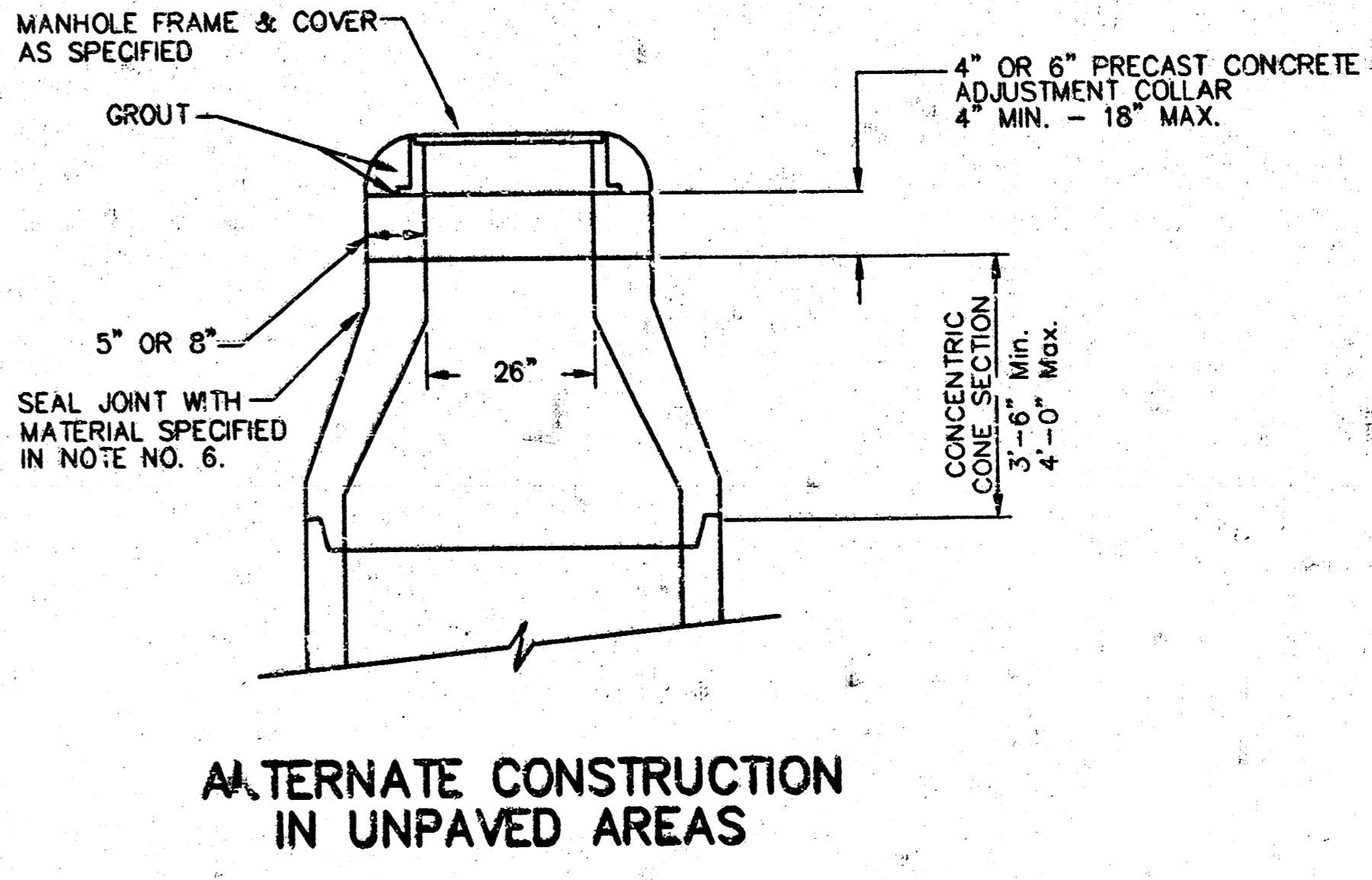


GENERAL NOTES
PRECAST MANHOLE NOTES

- 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 GASKETS 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 OF MECC SERIES 60 HI-BUILD EPOXY/UREA 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 GEMT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT 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 OUT 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 NON-SHRINK 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 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 NEAR 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 MANHOLE. 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.



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| STD. MANHOLE DETAILS | | | | SEWER APPURTENANCES | |
| ED BAUGHMAN COMPANY P.A. | | | | | |
| ENGINEERING, SURVEYING, & PLANNING | | | | | |
| 316-262-7721 • 1125 ELM • WICHITA, KANSAS 67211 | | | | | |
| PROJECT NUMBER: 1402 PPS 607861 | | | | | |
| DESIGN STAFF | DRAWN STAFF | APPROVED | DATE 1/7/04 | SCALE NONE | SHEET 3 OF 5 |

