89660

Lat. 2, Main 11, Four Mile Creek Sewer

SANITARY SEWER IMPROVEMENTS TO SERVE

THE FAIRMONT - PHASE II

Proj. No.

468-83401

O.C.A. No.

743996

AND

WATER DISTRIBUTION SYSTEM TO SERVE

THE FAIRMONT - PHASE II

Proj. No.

448-89660

O.C.A. No.

735137

WATER:
Mieg Construction, Inc. -- Contractor
Bastin/Porter, City -- Inspector
Released 11/7/03
As-Built
JDL 9/1/05

CITY OF WICHITA, KANSAS

Neil D. Cable, P.E. City Engineer

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

89660

Lat. 2, Main 11, Four Mile Creek Sewer
SANITARY SEWER IMPROVEMENTS
to serve
THE FAIRMONT - PHASE II
CITY OF WICHITA, KANSAS

Michael E. Lindebak, P.E. City Engineer

Project Number
468-83401

O.C.A. Number
743996

Scale: 1" = 150'

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
Kansas Gas Service	1-888-482-4950
Westar Energy	383-8650
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.	529-6600
Phillips Pipeline Co.	1-800-766-8230

2. 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.

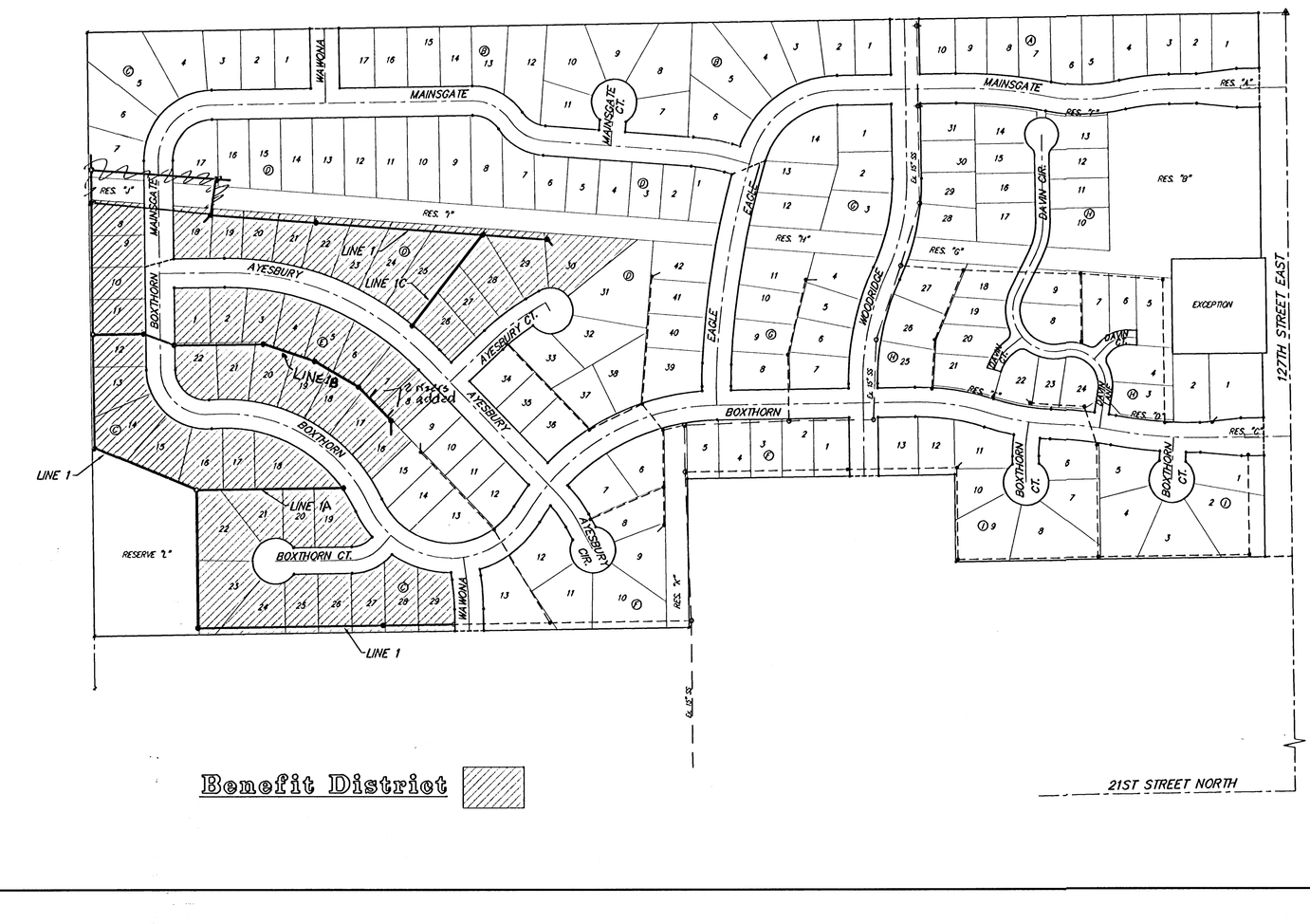
3. Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.

4. All Areas disturbed by construction shall be seeded as indicated on the Mass Grading Plan.

5. Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance on site location. Locations, in the opinion of the Engineer, will leave an unsightly appearance will not be approved. All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain would require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps. of Engineers permitting regulations. Any material buried or stockpiled beyond approved construction limits would require additional archaeological investigations unless buried in a previously approved borrow location.

6. 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.

7. 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 re-established by a licensed land surveyor in accordance with state laws



Benefit District

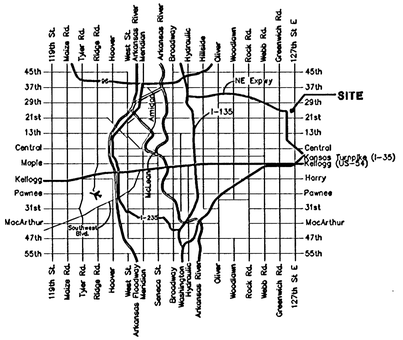
Benchmarks

BM #1: "□" Cut on T.C., 12' west of east end of N curb return on the north drive entrance of the Church of the Magdalen.
Elev. = 190.48 (City Datum)

BM #2: RR spike on the west face of PP on the east side of 127th Street East, adjacent to the south line of The Fairmont Addition.
Elev. = 187.25 (City Datum)

BM #3: RR spike on the east face of PP on the west side of 127th Street East, 37' N and 13' E of the NE corner of Lot 1, Block H, The Fairmont Addition.
Elev. = 189.19 (City Datum)

Sheet Index



Vicinity Map

AS BUILT
5/3/04
RDL
.PDF

BAUGHMAN COMPANY P.A.
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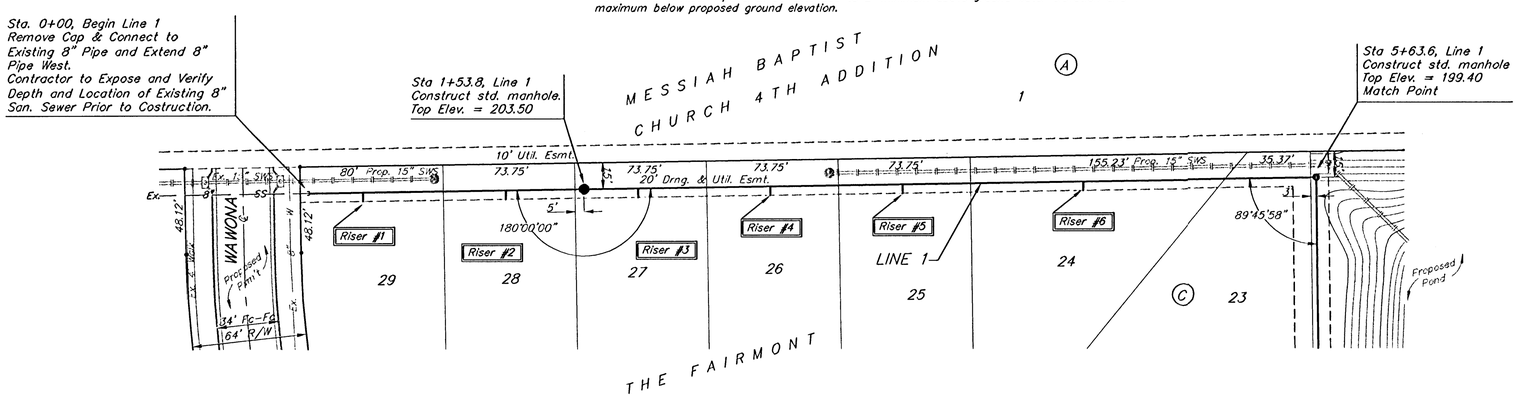
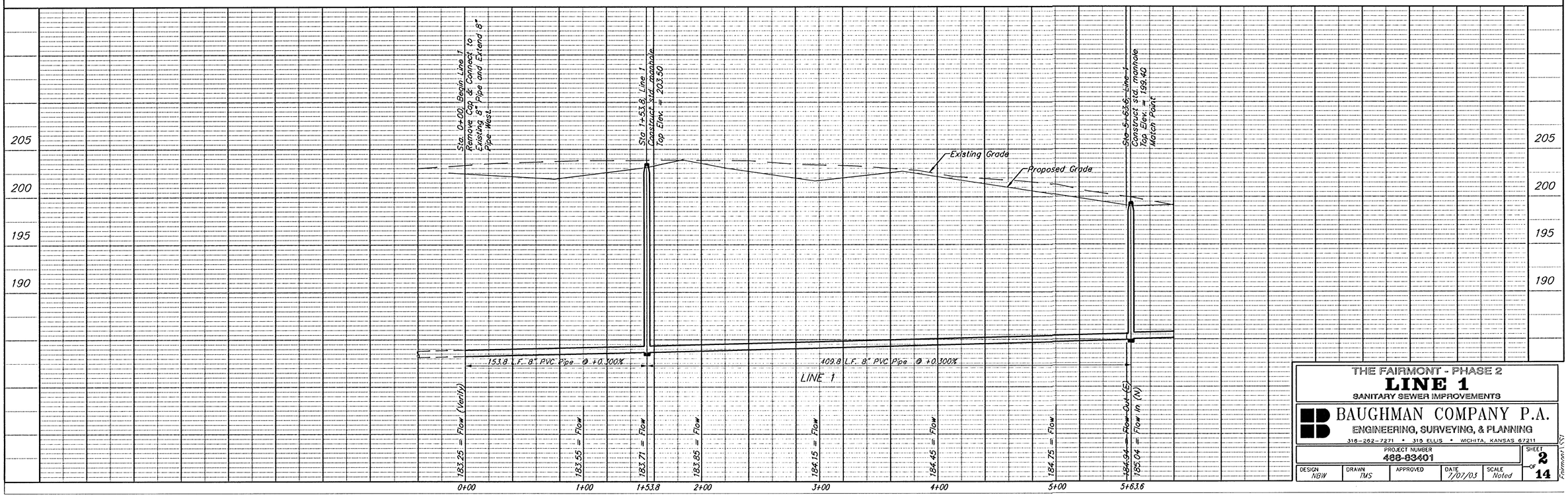
SEWER SERVICE TABLE

NUMBER	TYPE	LOCATION LOT NO.	LOCATION BLOCK NO.	LOCATION LINE NO.	STATION \ DIRECTION	FOR INFORMATION ONLY APPROXIMATE LENGTH 4" PIPE VERTICAL	FOR INFORMATION ONLY APPROXIMATE LENGTH 4" PIPE HORIZONTAL
1	8" X 4" Tee Saddle	29	C	1	0+30/Rt.	15.0'	5'
2	8" X 4" Tee Saddle	28	C	1	1+10/Rt.	15.0'	5'
3	8" X 4" Tee Saddle	27	C	1	1+84/Rt.	15.0'	5'
4	8" X 4" Tee Saddle	26	C	1	2+58/Rt.	13.5'	5'
5	8" X 4" Tee Saddle	25	C	1	3+32/Rt.	12.0'	5'
6	8" X 4" Tee Saddle	24	C	1	4+33/Rt.	9.5'	5'

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

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





THE FAIRMONT - PHASE 2
LINE 1
SANITARY SEWER IMPROVEMENTS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER 468-83401

DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
NBW	TMS		7/07/03	Noted	2 OF 14

Fairmont\SS

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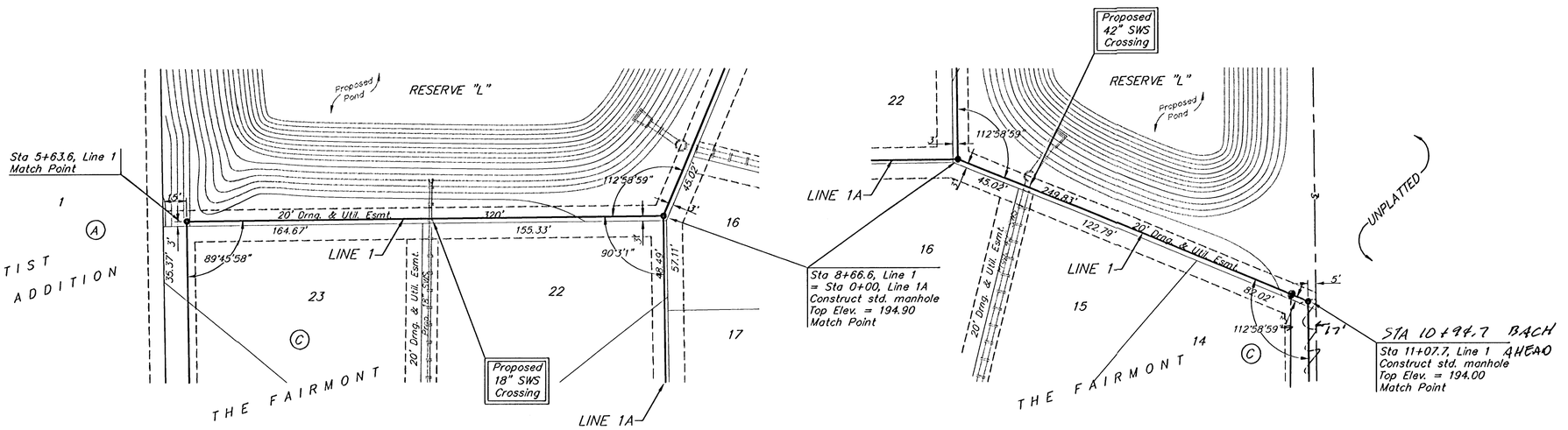

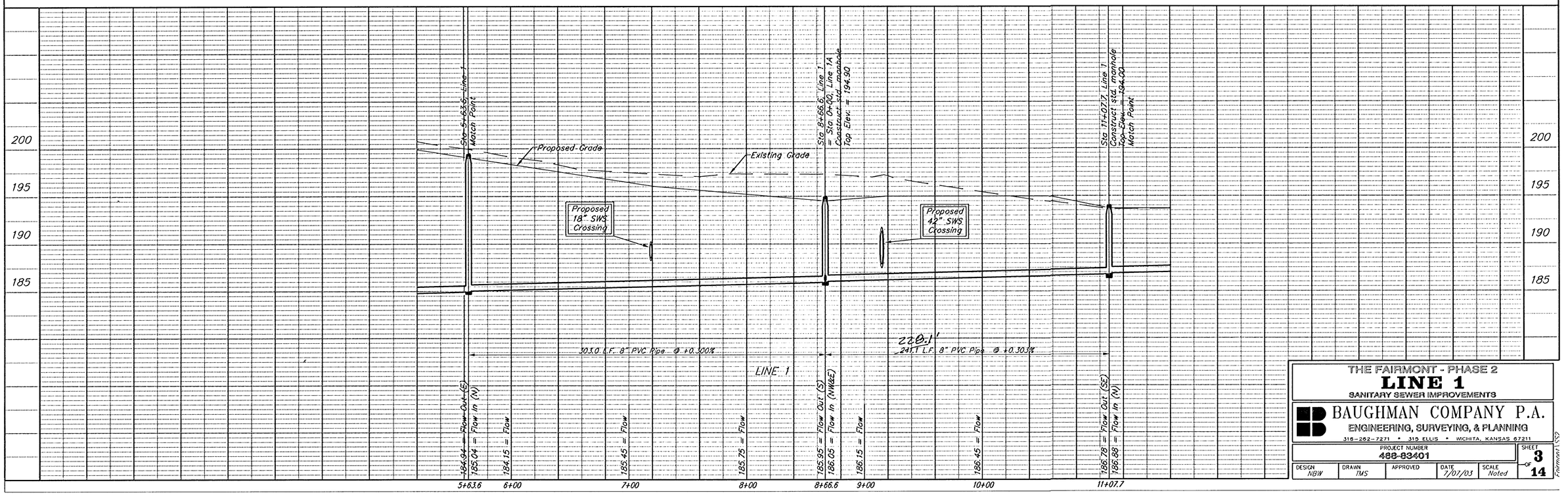

THE FAIRMONT - PHASE 2
LINE 1
SANITARY SEWER IMPROVEMENTS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER	SHEET
488-83401	3 OF 14

DESIGN	DRAWN	APPROVED	DATE	SCALE
NBW	TMS		7/01/03	Noted

Fairmont1.dgn

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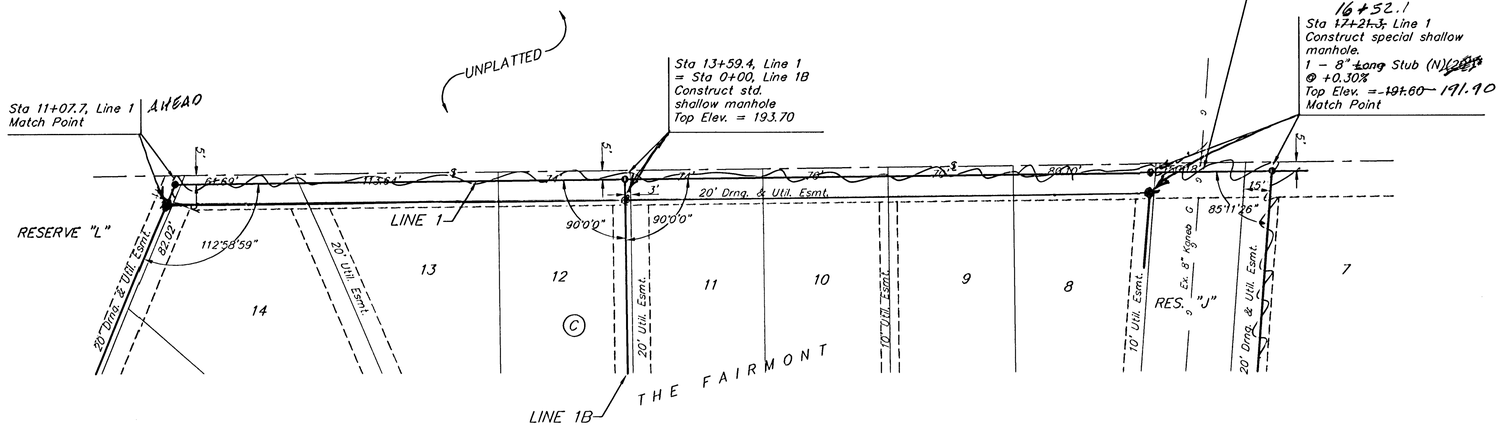

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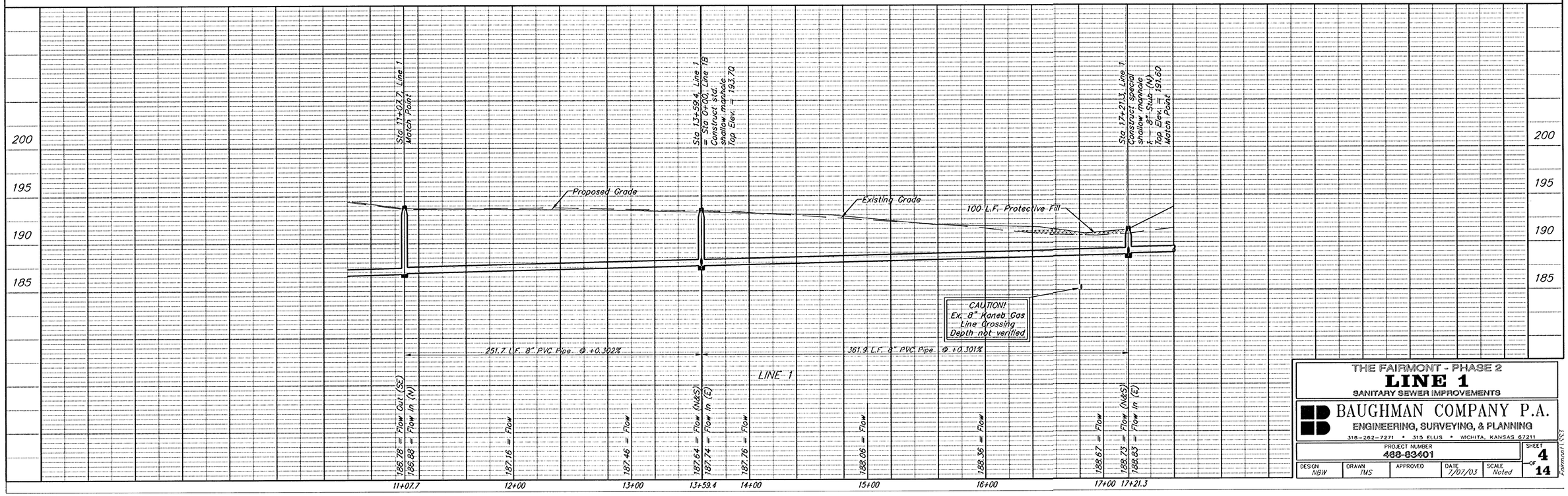

THE FAIRMONT - PHASE 2
LINE 1
SANITARY SEWER IMPROVEMENTS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER	SHEET
488-83401	4 OF 14

DESIGN	DRAWN	APPROVED	DATE	SCALE
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Fairmont_LS1

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*Note: Long Stub to be Paid as 1-8" Stub

Sta 18+49 to Sta 18+88
Install 39.0 L.F. Flowable Fill per standard specs.

Proposed 24" SWS Crossing

Sta 19+95.9, Line 1
Construct special shallow manhole.
1 - 8" Long Stub (E)(20')*
@ +0.40%
Top Elev. = 192.80

CAUTION!
Ex. 8" Kaneb Gas Line Crossing. Contractor to contact J.B. Smith with Kaneb (734-1223) at least 48 hours prior to construction

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

Sta 28+22.1, End Line 1
Construct standard manhole
1 - 4" Stub (SE)
Top Elev. = 205.80

Sta 17+21.3, Line 1
Match Point

STA 16+52.1

RES. "J"

RES. "I"

MAIN SCAIE

50' KANEB PIPE LINE EASEMENT

Ex. 8" Kaneb G

20' Util. Esmt.

10' Util. Esmt.

20' Drng. & Util. Esmt.

Prop. 18" SWS

Prop. 8" W

Prop. 24" SWS

14' Fc-Fc
64' R/W

85°11'26"
86°0'11"
180°00'00"
56°4'30"
123°55'30"
139°12'58"

100.08'
70.28'
67.83'
78.58'
79.90'
83.06'
88.37'
96.36'
110.84'
128.68'
88.93'

LINE 1

LINE 1C

THE FAIRMONT

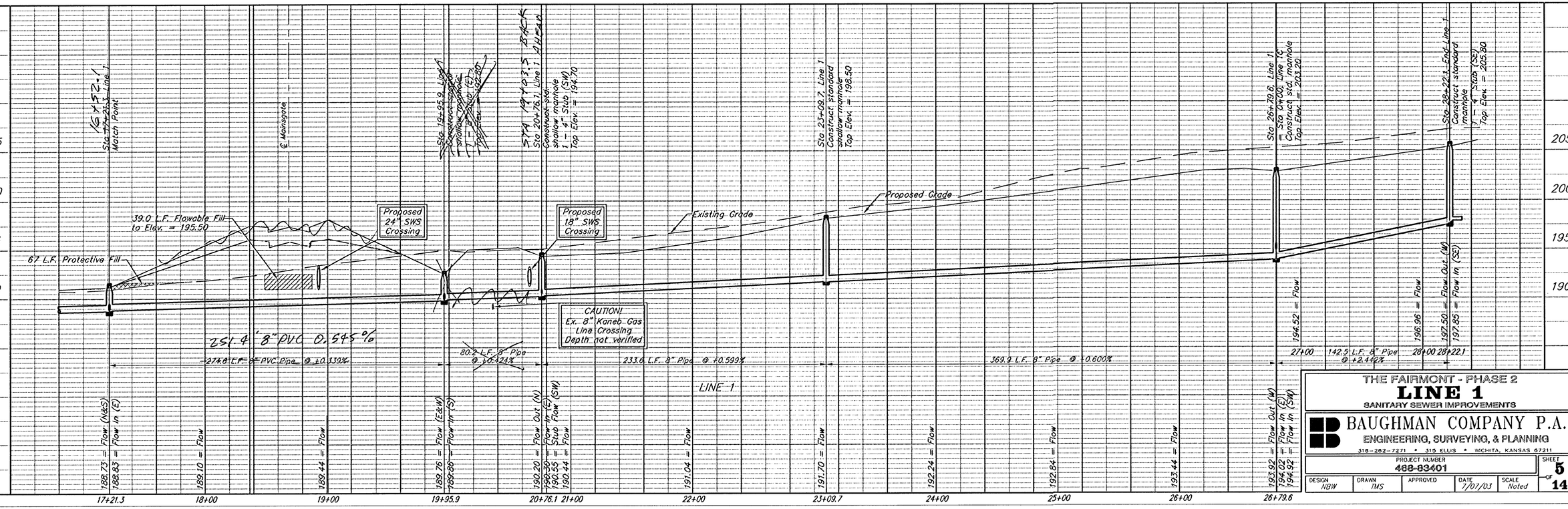
Proposed 18" SWS Crossing

STA 19+03.5 BACK
Sta 20+76.1, Line 1 AHEAD
Construct std. shallow manhole
1 - 4" Stub (SW)
Top Elev. = 194.70

Sta 23+09.7, Line 1
Construct standard shallow manhole
Top Elev. = 198.50

Sta 26+79.6, Line 1
= Sta 0+00, Line 1C
Construct std. manhole
Top Elev. = 203.20

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 28 29 30



THE FAIRMONT - PHASE 2
LINE 1
SANITARY SEWER IMPROVEMENTS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER	SHEET
488-83401	5 OF 14

DESIGN	DRAWN	APPROVED	DATE	SCALE
NBW	TMS		7/07/03	Noted

Fairmont1.dgn

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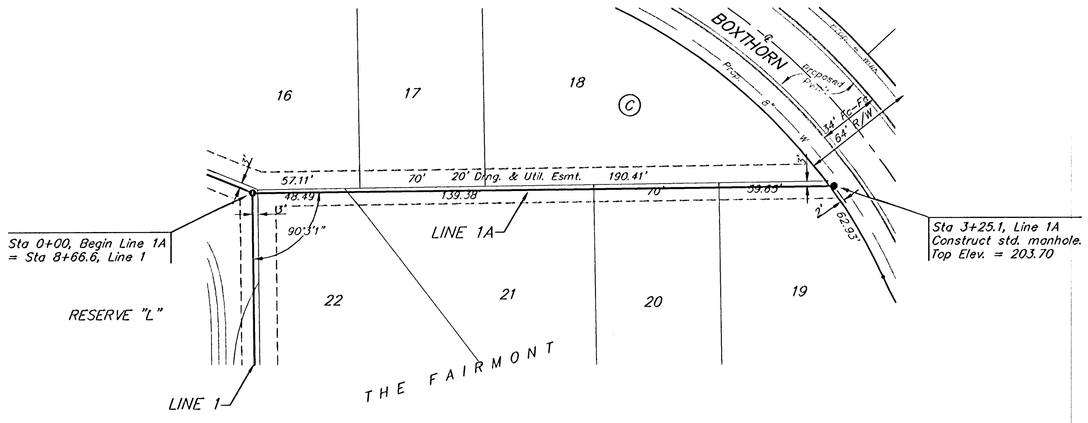

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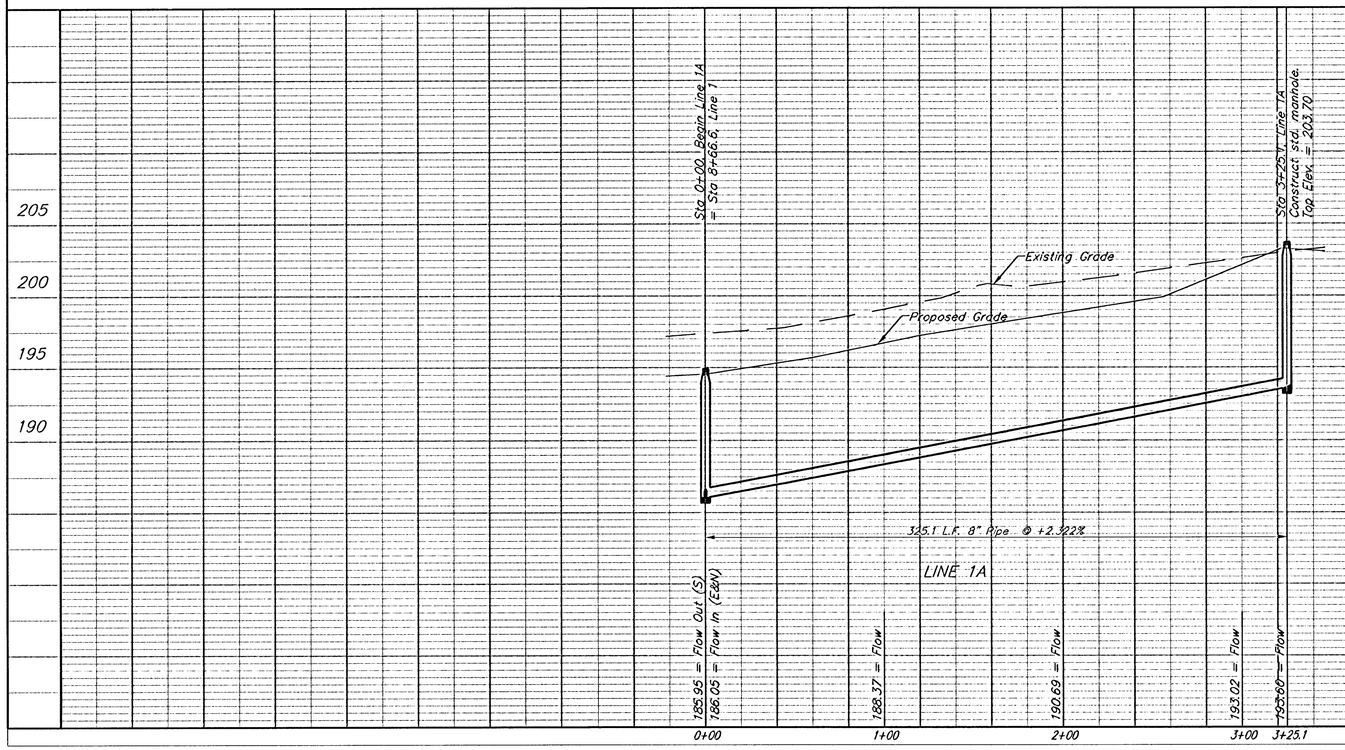

THE FAIRMONT - PHASE 2

LINE 1A

SANITARY SEWER IMPROVEMENTS

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PROJECT NUMBER					SHEET
488-83401					6 OF 14
DESIGN	DRAWN	APPROVED	DATE	SCALE	
NBW	TMS		7/01/03	Noted	

Fairmont\SSS

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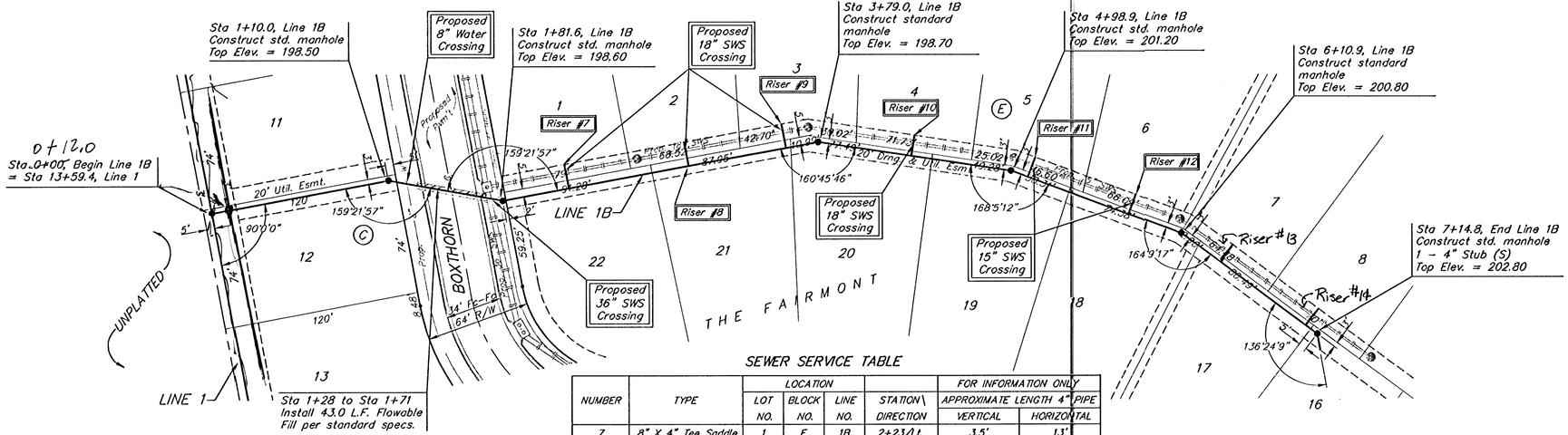


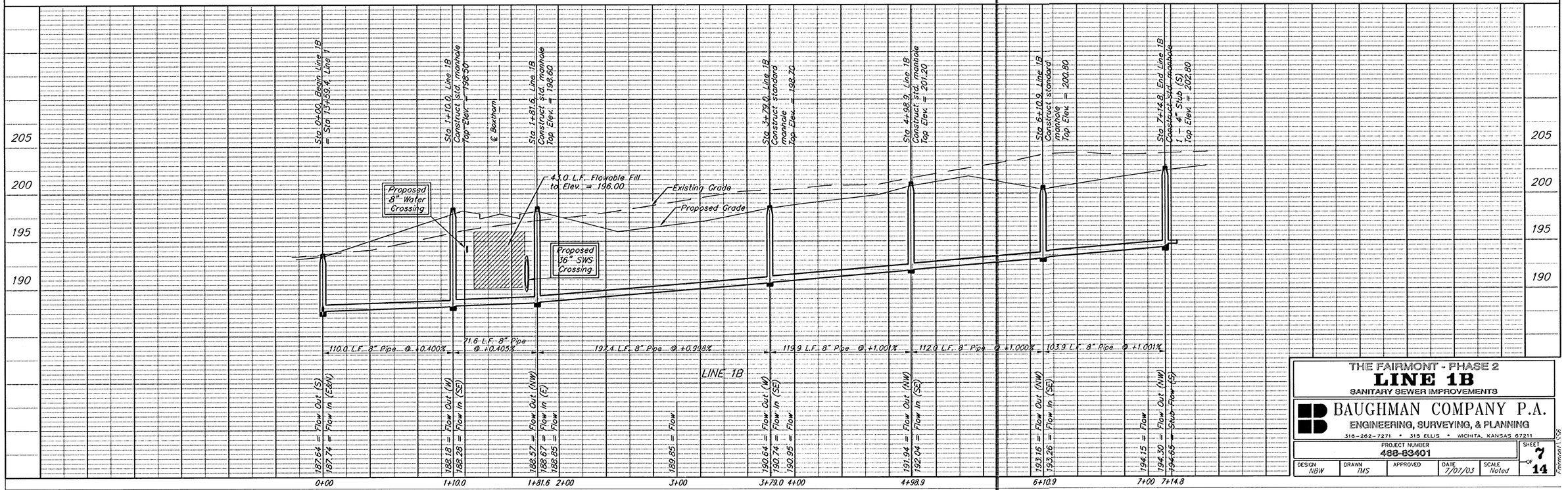
SEWER SERVICE TABLE

NUMBER	TYPE	LOCATION LOT NO.	LOCATION BLOCK NO.	LOCATION LINE NO.	STATION \ DIRECTION	FOR INFORMATION ONLY APPROXIMATE LENGTH 4" PIPE VERTICAL	FOR INFORMATION ONLY APPROXIMATE LENGTH 4" PIPE HORIZONTAL
7	8" X 4" Tee Saddle	1	E	1B	2+23/Lt.	3.5'	13'
8	8" X 4" Tee Saddle	2	E	1B	2+98/Lt.	2.5'	13'
9	8" X 4" Tee Saddle	3	E	1B	3+59/Lt.	2.5'	13'
10	8" X 4" Tee Saddle	4	E	1B	4+37/Lt.	3.0'	13'
11	8" X 4" Tee Saddle	5	E	1B	5+10/Lt.	3.5'	13'
12	8" X 4" Tee Saddle	6	E	1B	5+76/Lt.	3.0'	13'

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

SEWER SERVICE TABLE (Cont'd)

NUMBER	TYPE	LOCATION LOT NO.	LOCATION BLOCK NO.	LOCATION LINE NO.	STATION \ DIRECTION	FOR INFORMATION ONLY APPROX. LENGTH 4" PIPE VERTICAL	FOR INFORMATION ONLY APPROX. LENGTH 4" PIPE HORIZONTAL
13	8"X4" Tee Saddle	7	E	1B	6+92/Lt.	3.0'	13'
14	8"X4" Tee Saddle	8	E	1B	7+07/Lt.	3.0'	13'



THE FAIRMONT - PHASE 2
LINE 1B
SANITARY SEWER IMPROVEMENTS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER	SHEET
488-83401	7 OF 14

DESIGN	DRAWN	APPROVED	DATE	SCALE
NBW	TMS		7/07/03	Noted

Fairmont\1B6

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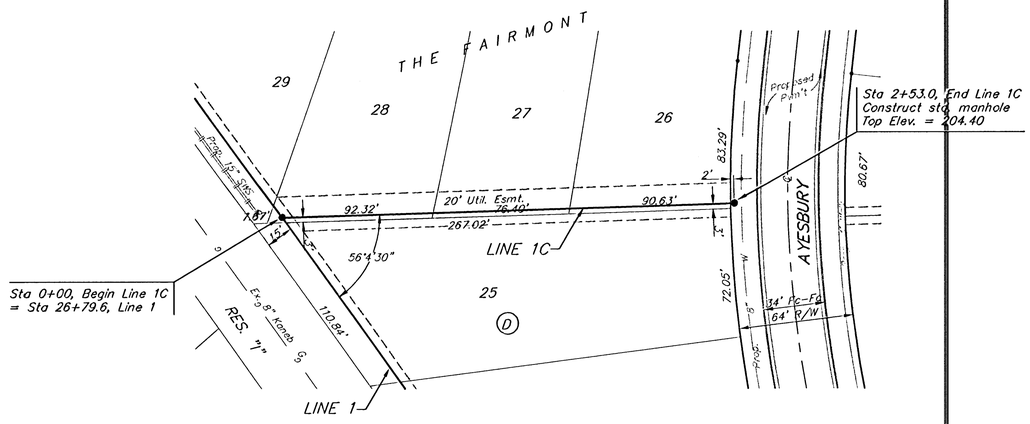

Scale: 1" = 40' Horizontal
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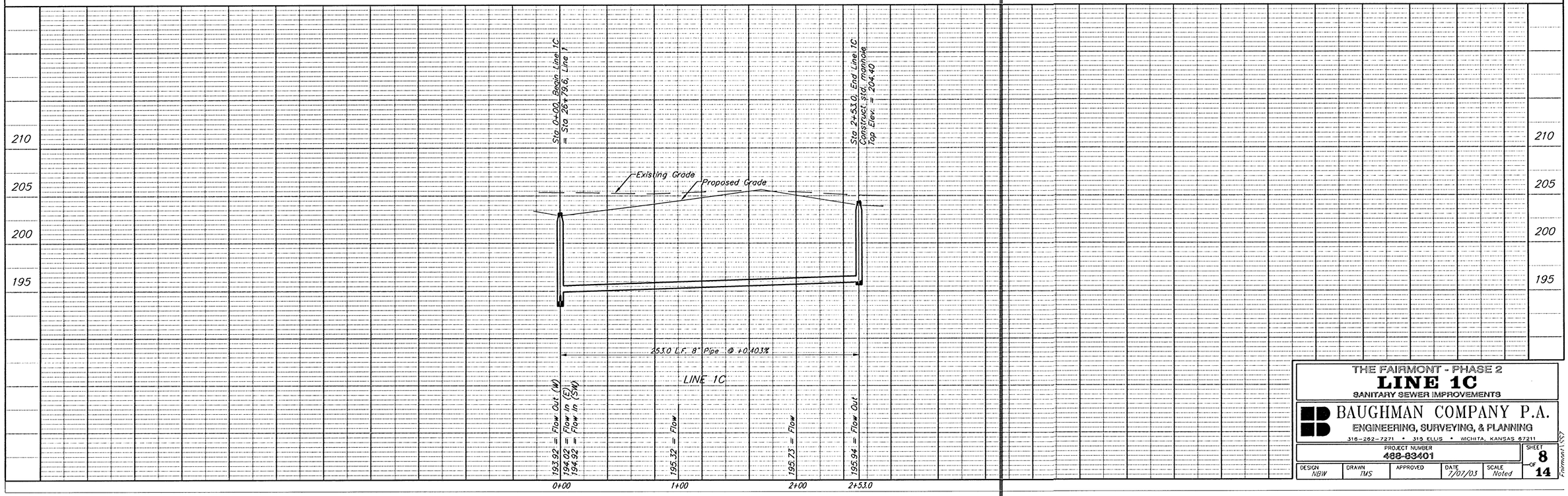

THE FAIRMONT - PHASE 2

LINE 1C

SANITARY SEWER IMPROVEMENTS

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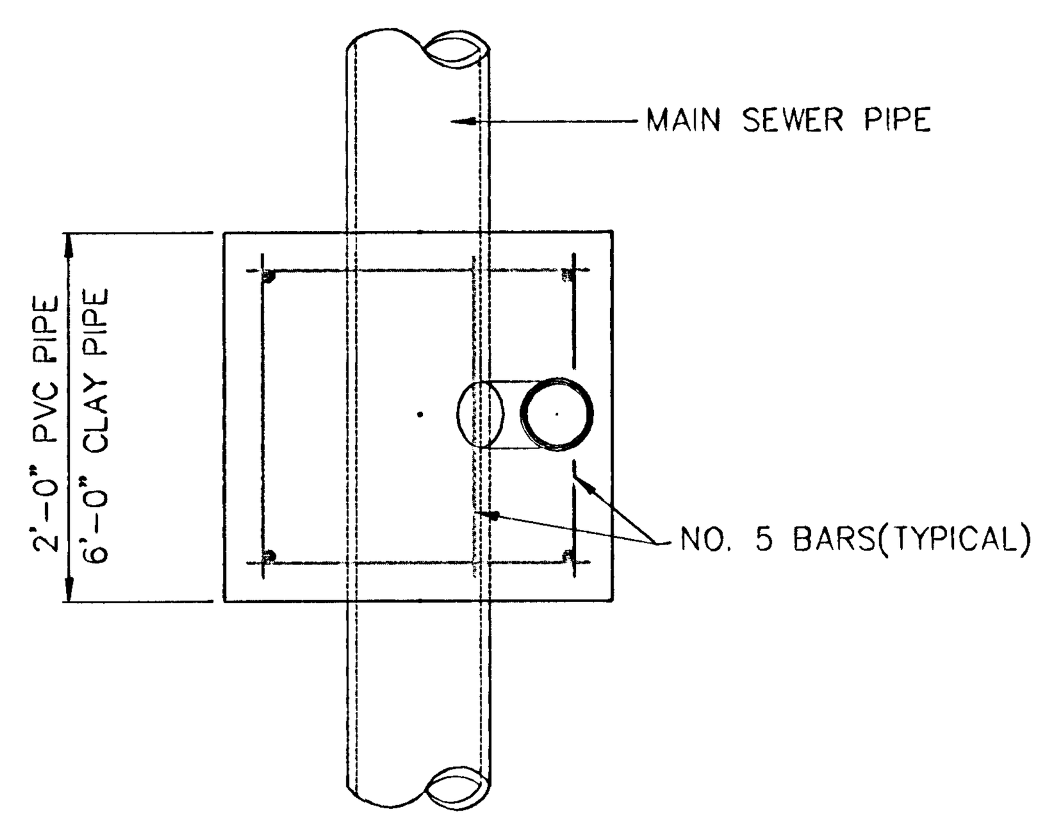
PROJECT NUMBER	SHEET
488-83401	8 OF 14

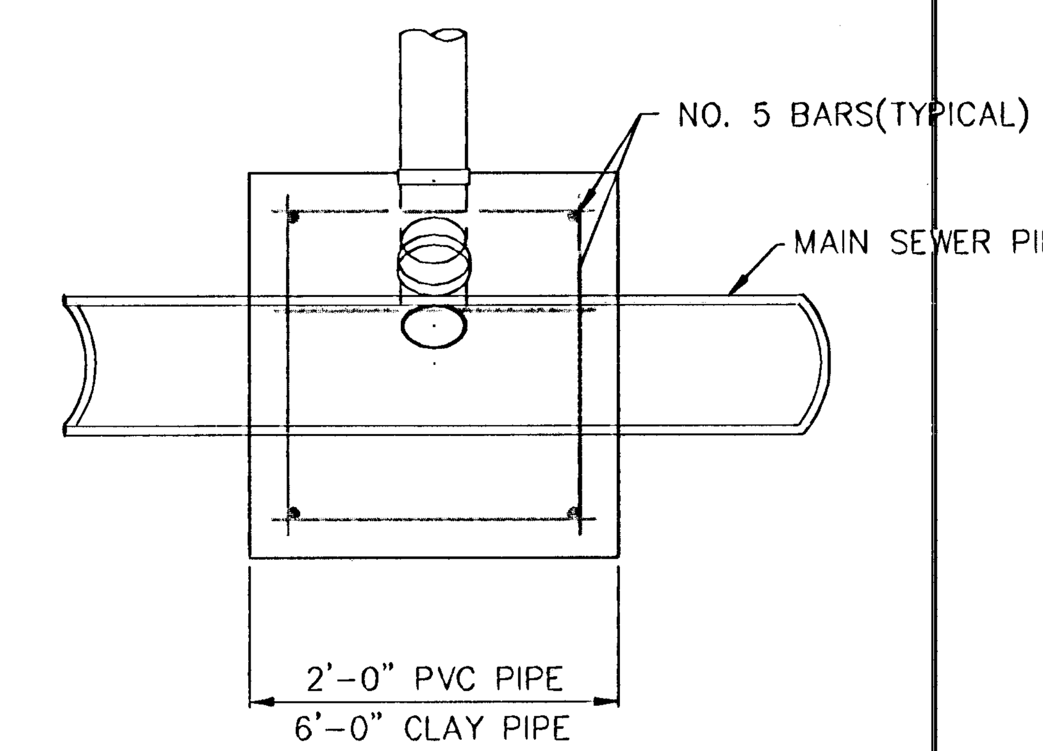
DESIGN	DRAWN	APPROVED	DATE	SCALE
NBW	TMS		7/01/03	Noted

Fairmont\1557

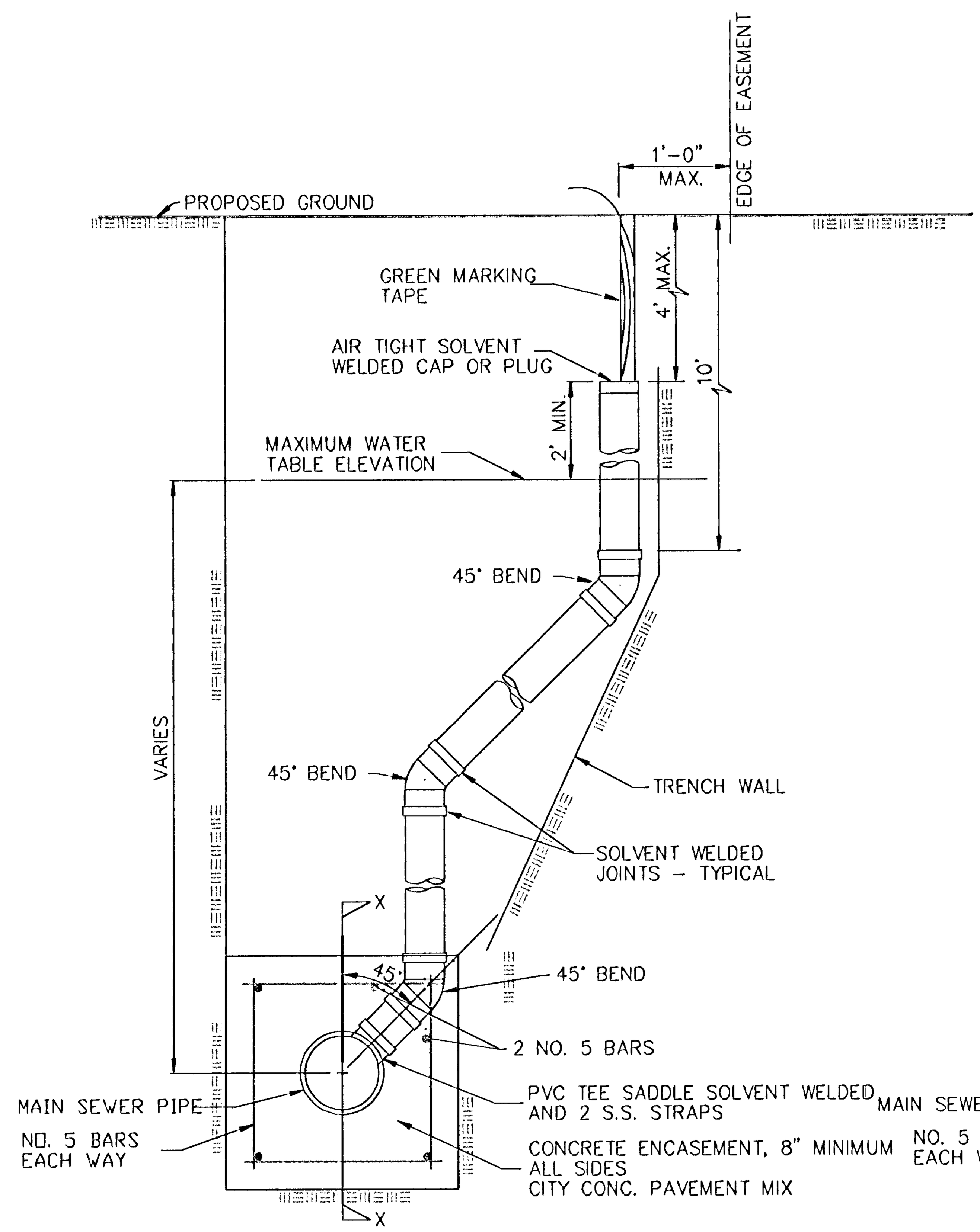
VERTICAL RISER DETAILS
ADOPTED AS STANDARD DESIGN BY CITY OF WICHITA, KANSAS OCTOBER 1992



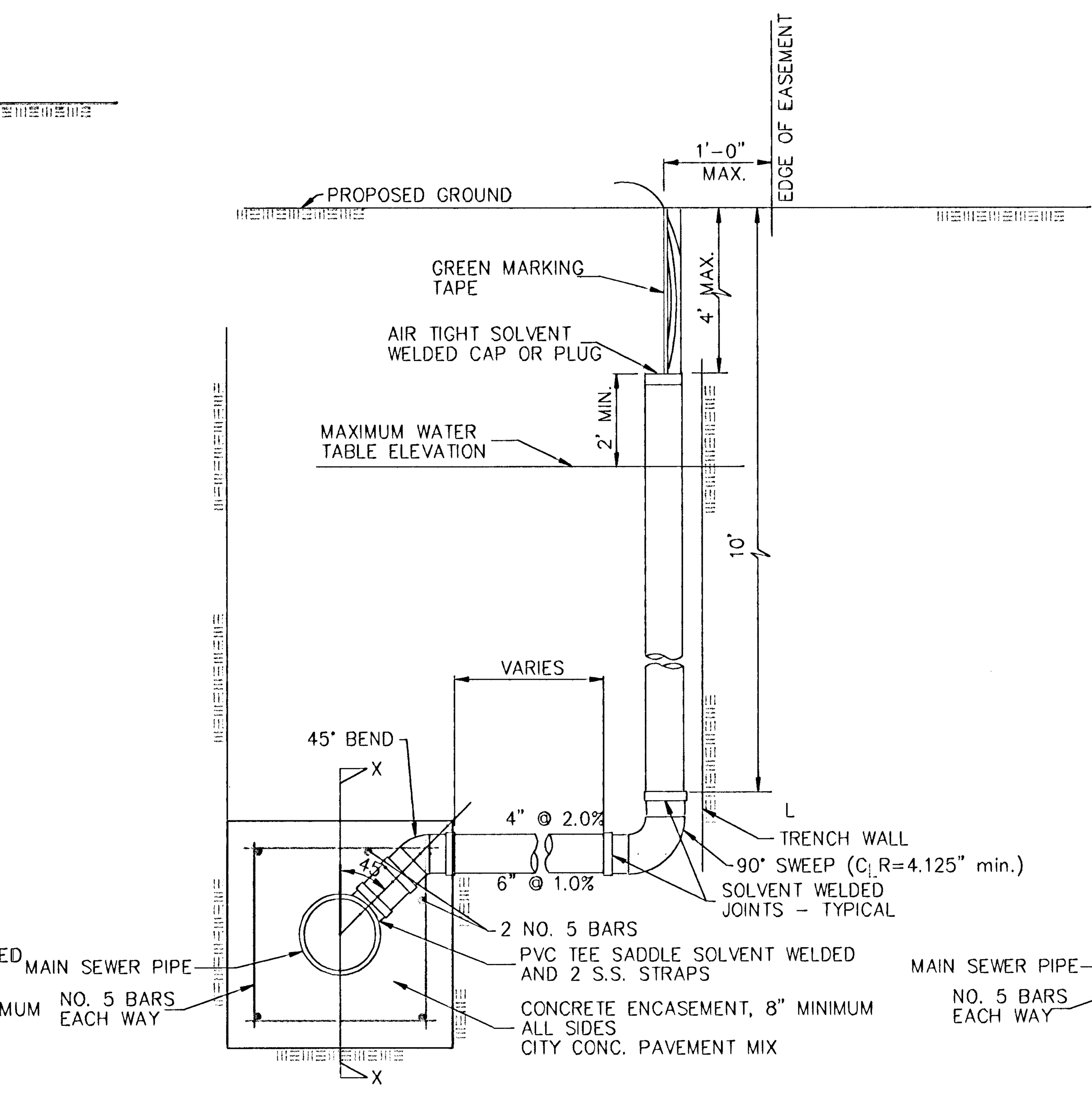
TYPICAL PLAN VIEW



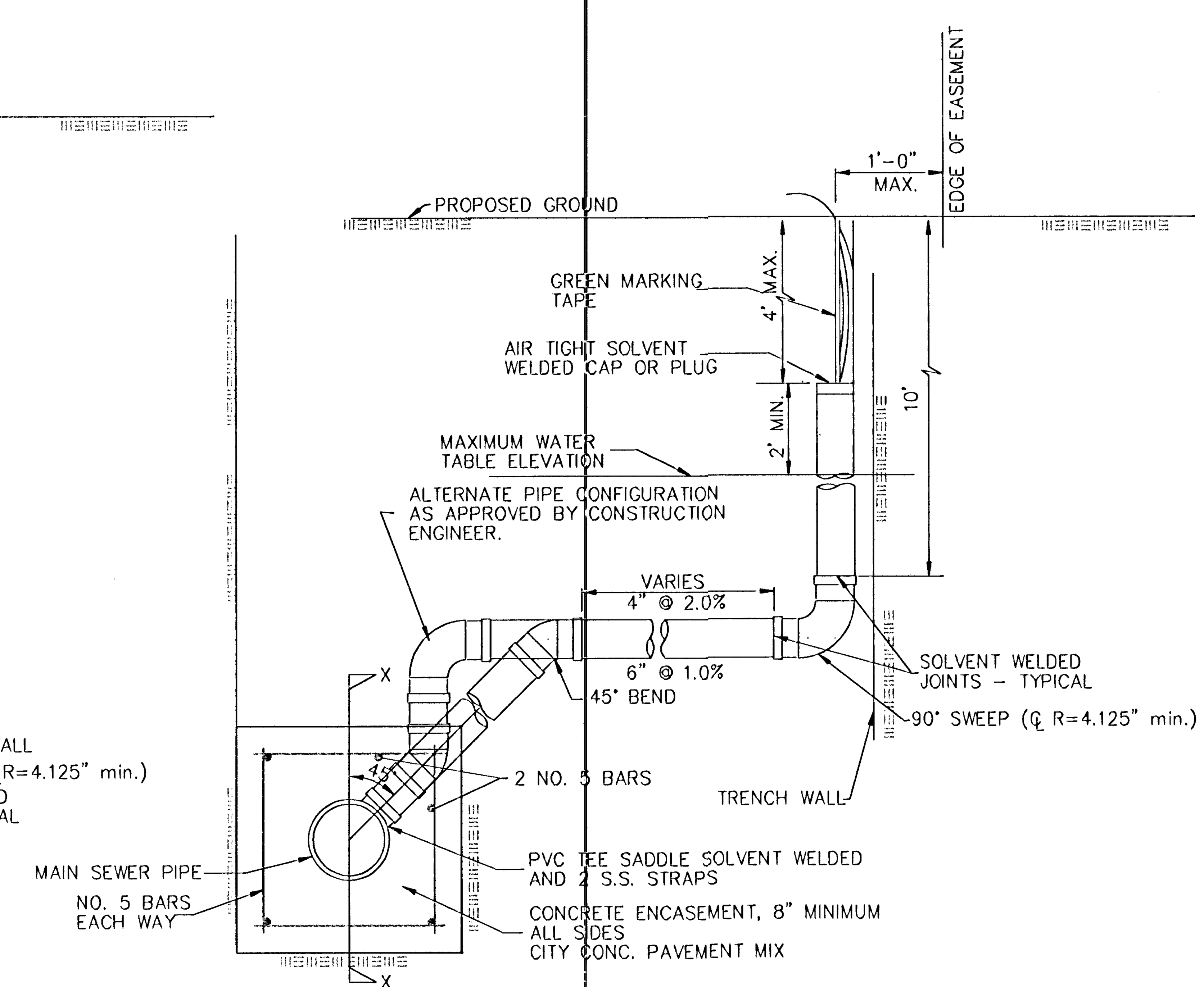
TYPICAL SECTION X–X



METHOD "A"



METHOD "B"



METHOD "C"

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

GENERAL NOTES

1. 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 because of 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.

2. 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. Risers 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.

3. 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.

4. RISER OR STUB MATERIAL. Risers 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.

5. 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.

6. 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.

7. 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.

8. 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.

9. 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.

10. 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.

11. 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.

12. 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.

13. 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 Risers".

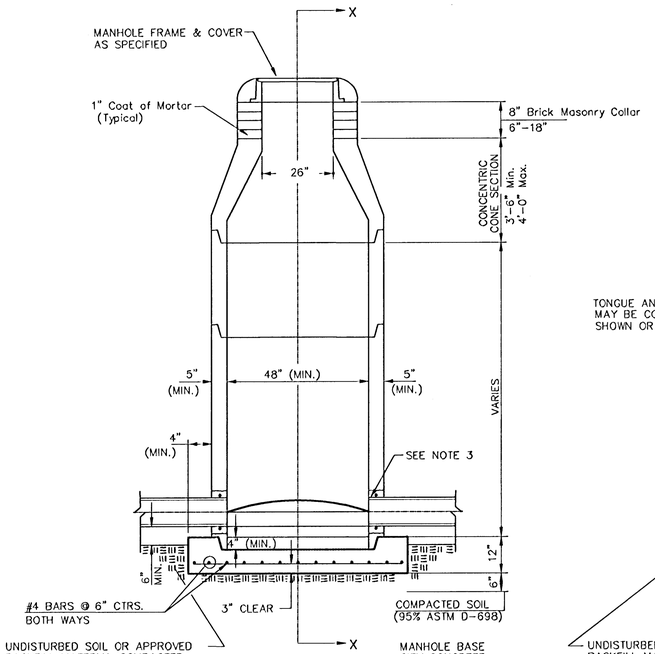
City of Wichita Standard
Riser Details

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 * 315 ELLIS * WICHITA, KANSAS 67211

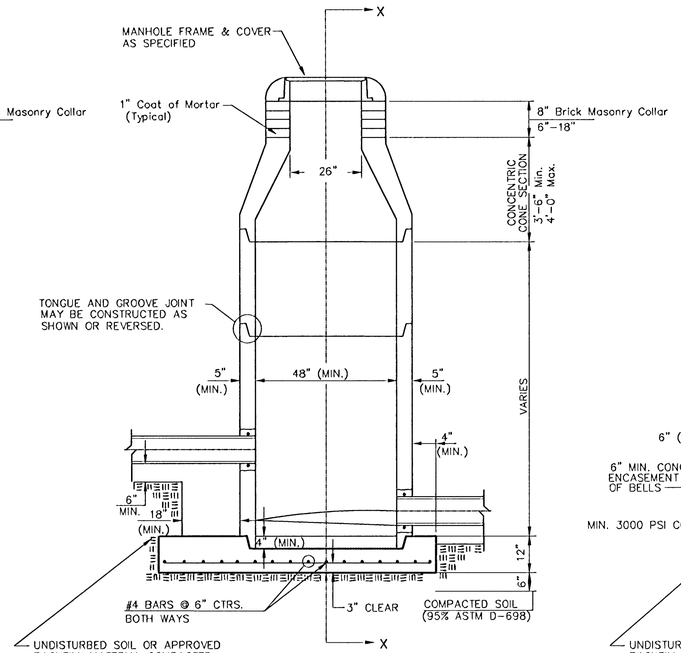
PROJECT NUMBER					SHEET
468-83401					9 OF 14
DESIGN	DRAWN	APPROVED	DATE 7/03	SCALE NONE	

Highspg2\Ph3\RiserDtl

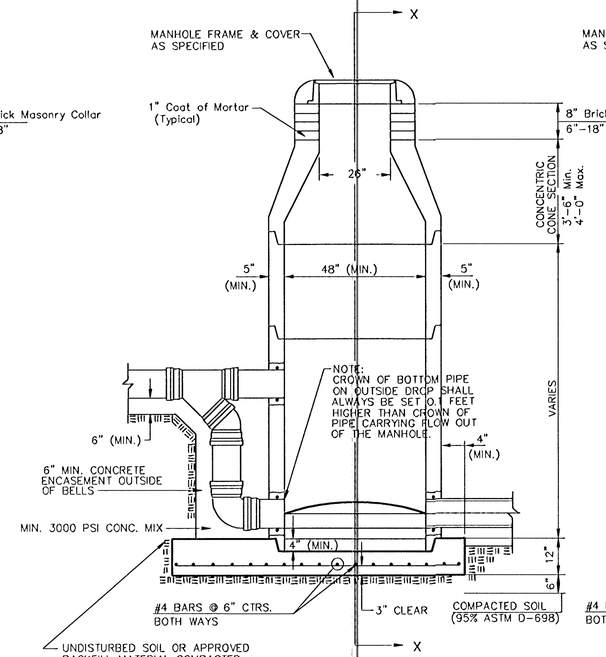
SEWER APPURTENANCES DETAILS



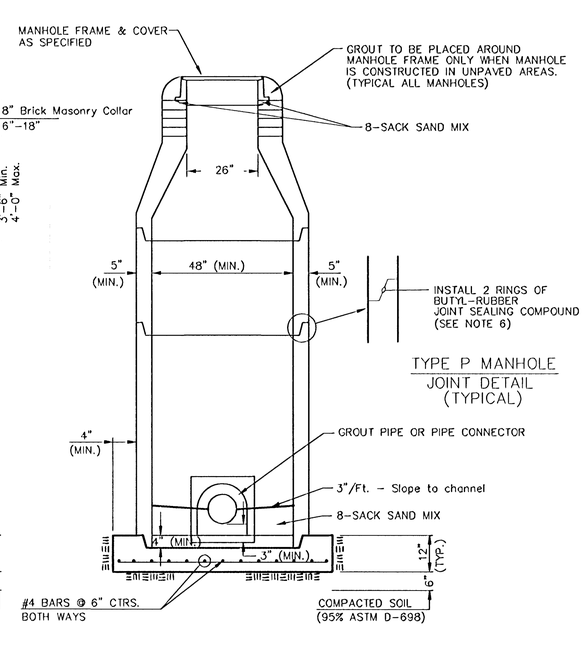
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE

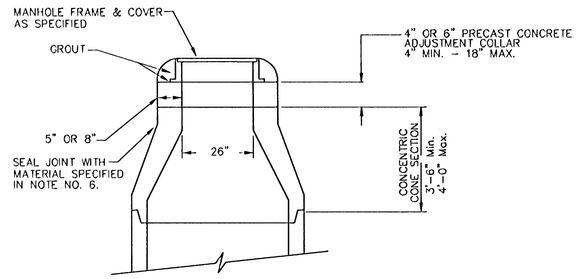


SECTION X
(TYPICAL)

GENERAL NOTES

PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. 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.
4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TNEMEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)
5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
6. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
8. 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.
9. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
10. 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.
11. 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.
12. 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 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.
13. 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.
14. 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.
15. 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.
16. 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.
17. 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.
18. 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.



ALTERNATE CONSTRUCTION
IN UNPAVED AREAS

THE FAIRMONT - PHASE II

STD. MANHOLE DETAILS

SEWER APPURTENANCES

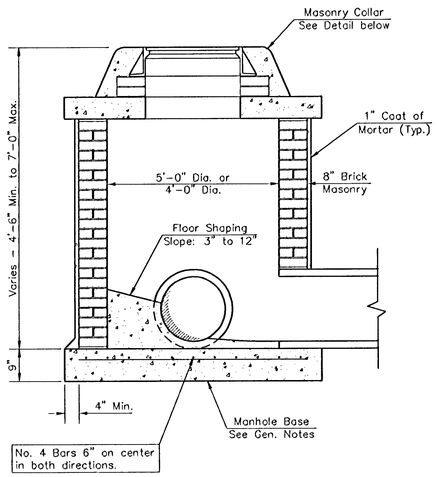
BAUGHMAN COMPANY P.A.

ENGINEERING, SURVEYING, & PLANNING

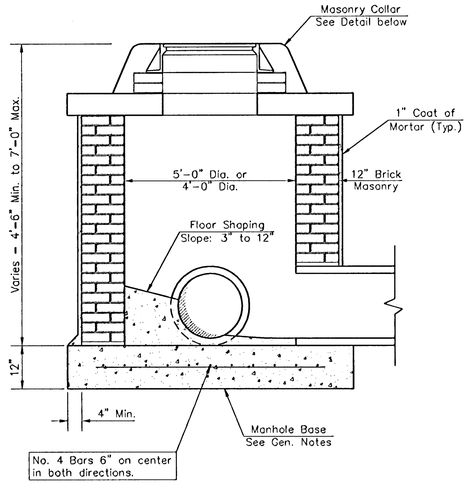
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER				SHEET
488-83401				10 OF 14
DESIGN: STAFF	DRAWN: STAFF	APPROVED	DATE	SCALE: NONE

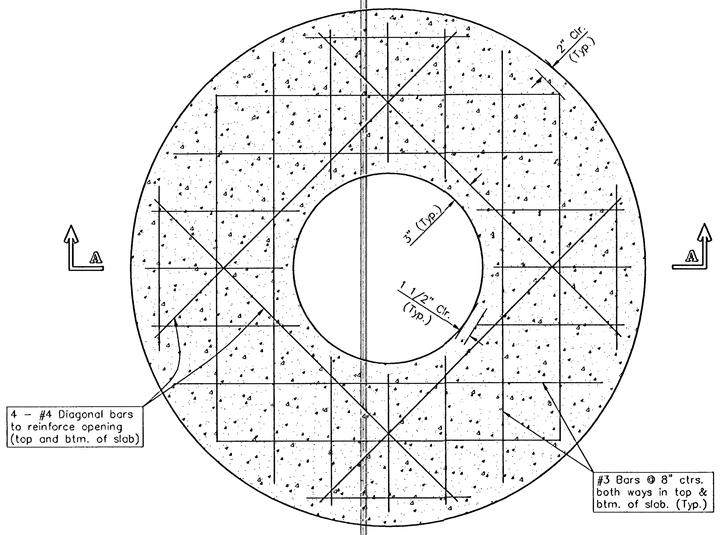
Std Manhole



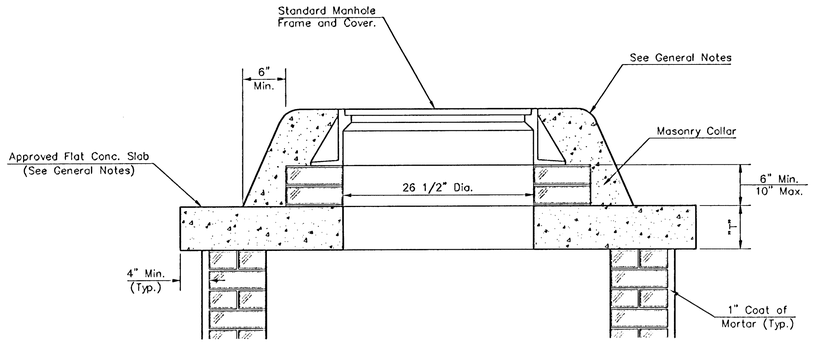
SHALLOW TYPE "A" MANHOLE



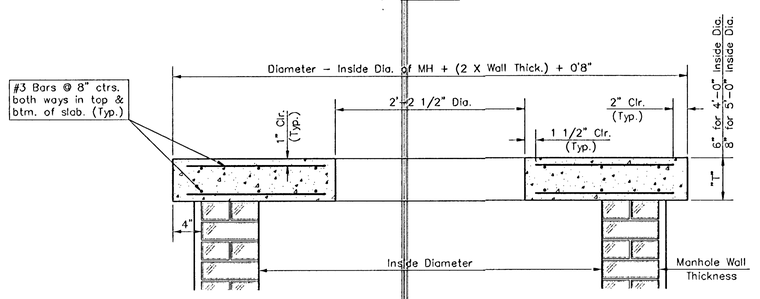
SHALLOW TYPE "B" MANHOLE



PLAN



MASONRY COLLAR DETAIL



SECTION A-A

FLAT CONCRETE SLAB DETAILS

GENERAL NOTES

1. 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 cement 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. Type "A" shallow manholes can be used on sewers when the manhole is not located within public street pavement. 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.

2. 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 6" 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.

3. 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. 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.

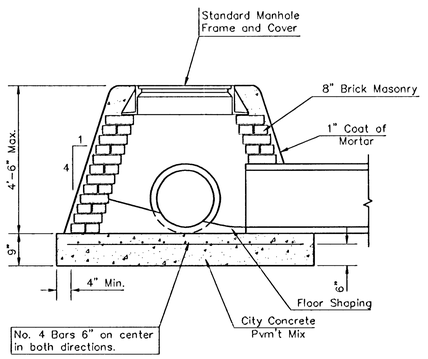
4. Pipes installed within the excavation made for the manhole shall be cradled with concrete to the limits of the manhole excavation. When clay pipe is used, the cradle shall extend to the first joint outside the manhole. The cradle shall be terminated at the clay pipe joint in a manner which will maintain 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.

5. 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 drawings.

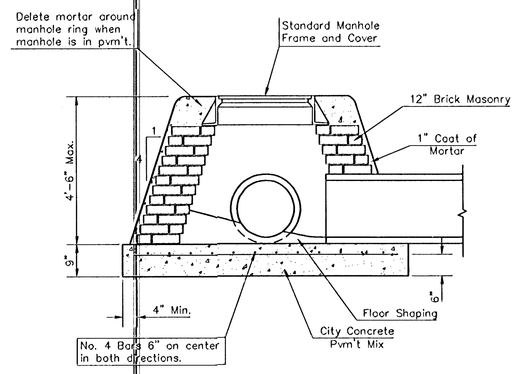
6. The crowns of inflowing pipes shall never be set lower than the crown of the outflowing pipe.

7. Standard shallow manholes type "A" and "B" shall be paid for at the unit price bid per each for the type and diameter indicated. Standard special shallow manholes type "A" and "B" shall be paid for at the unit price bid per each for the type indicated. All standard shallow manhole diameters will be 4' unless indicated otherwise.

8. All brick used in manhole construction shall meet Grade SW of ASTM C652 or C62-87.



SPECIAL SHALLOW TYPE "A" MANHOLE



SPECIAL SHALLOW TYPE "B" MANHOLE

CITY OF WICHITA, KANSAS

Std. Manhole Detail

TYPE "A" AND TYPE "B"

BAUGHMAN COMPANY P.A.

ENGINEERING, SURVEYING, & PLANNING

316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

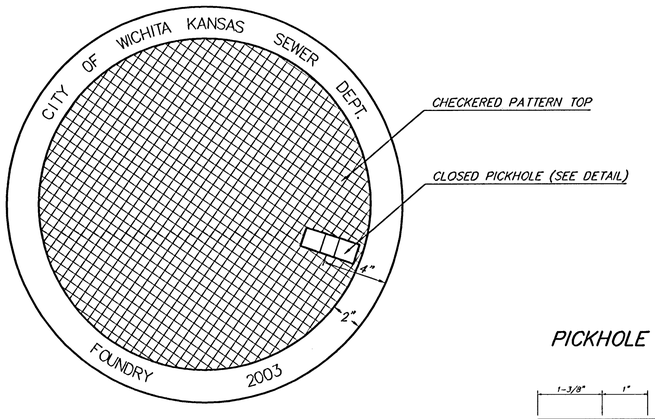
PROJECT NUMBER					SHEET
488-83401					11 OF 14
DESIGN	DRAWN	APPROVED	DATE	SCALE	
C.O.W.	Staff		7/03	NONE	

Detail\Shwmtn

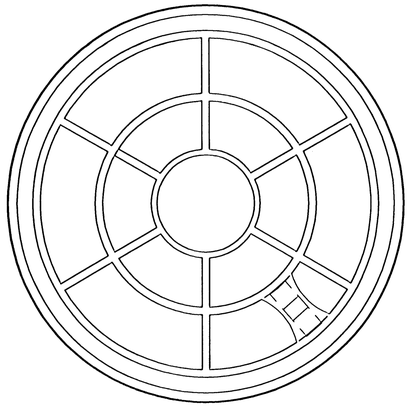
MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

MANHOLE COVER
Weight = 180 Lbs.

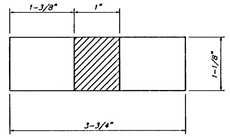


TOP VIEW

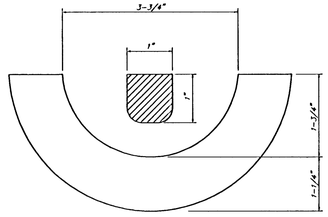


BOTTOM VIEW

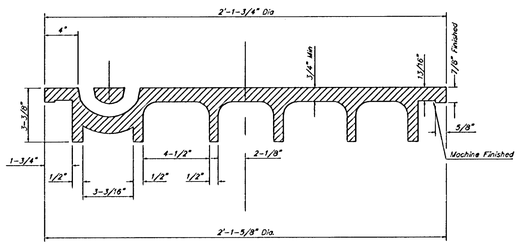
PICKHOLE DETAIL



TOP VIEW

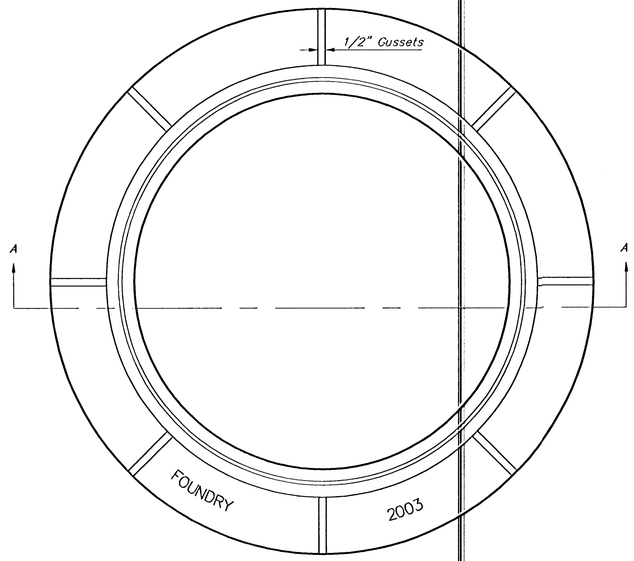


SECTION VIEW

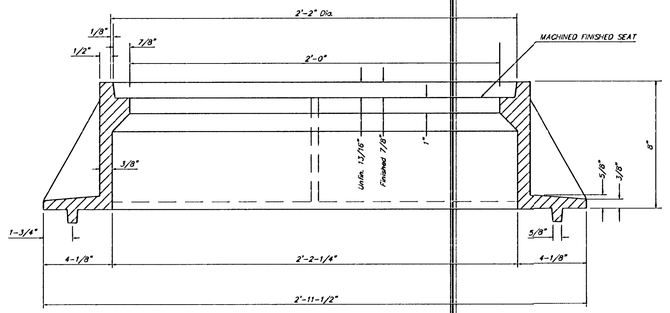


SECTION VIEW

MANHOLE FRAME
Weight = 145 Lbs.



TOP VIEW



SECTION A–A

GENERAL NOTES

MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.

MANHOLE CASTINGS SHALL BE COATED WITH AN ASPHALT PAINT RESULTING IN A SMOOTH, TOUGH AND TENACIOUS COATING WHICH IS NOT BRITTLE OR TACKY.

MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.

THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH AS THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.

THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1 INCH IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SEWER DEPARTMENT". THE WORD DEPARTMENT MAY BE ABBREVIATED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN A CHECKERED PATTERN DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.

MANHOLE FRAME AND COVER DETAIL
ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER					SHEET
488-83401					12 OF 14
DESIGN	DRAWN	APPROVED	DATE	SCALE	
STAFF	STAFF		7/03	NONE	

L:Details\Manhole

Easement to be Graded per Section B–B

Easement to be Graded per Section A–A

Easement to be Graded per Section B–B

Easement to be Graded per Section A–A

Easement to be Graded per Section A–A

Easement to be Graded per Section B–B

Easement to be Graded per Section B–B

Easement to be Graded per Section B–B

Easement to be Graded per Section B–B

MAINSCAPE

BOXTHORN

AYESBURY

AYESBURY CT.

AYESBURY CIR.

BOXTHORN CT.

WISHONA

RESERVE "L"

RES. "J"

RES. "K"

50' KANEQUIP PIPE LINE EASEMENT

20' UTIL. & ESM'T.

10' UTIL. & ESM'T.

10' UTIL. EASEMENT

10' DRNG. ESM'T.

20' DRNG. EASEMENT

20' MAINTENANCE, UTIL. & DRNG. ESM'T.

10' UTILITY EASEMENT

Static WS elev. = 189.6
100-yr Q_{in} = 157 cfs
100-yr Q_{out} = 87 cfs
100-yr WS elev. = 193.5

Scale: 1" = 60'

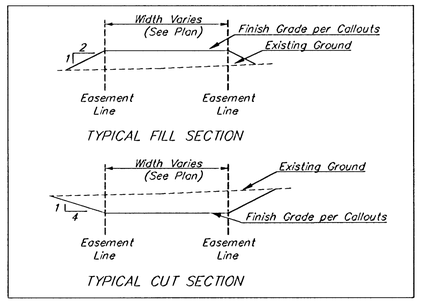
= Easements To Be Graded

Approximate Easement Grading Quantities:
(For Information Only)
Excavation: 3,164 C.Y.
Fill: 571 C.Y.

The contractor shall grade the easements as shown to the elevations given on the easement grading plan. All costs for grading shall be incidental to the Easement Grading Bid Item.

The contractor shall 'straight' grade the easements between the elevations given. Where a callout designates 'Match', the contractor will grade to the existing ground elevation.

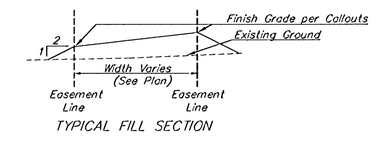
All excess excavation shall remain on site and be spread evenly on lots out of easements and street right-of-way



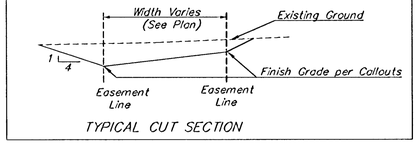
TYPICAL FILL SECTION

TYPICAL CUT SECTION

SECTION A–A



TYPICAL FILL SECTION



TYPICAL CUT SECTION

SECTION B–B

THE FAIRMONT - PHASE 2

EASEMENT GRADING

WICHITA, KANSAS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316–262–7271 • 313 ELLIS • WICHITA, KANSAS 67211

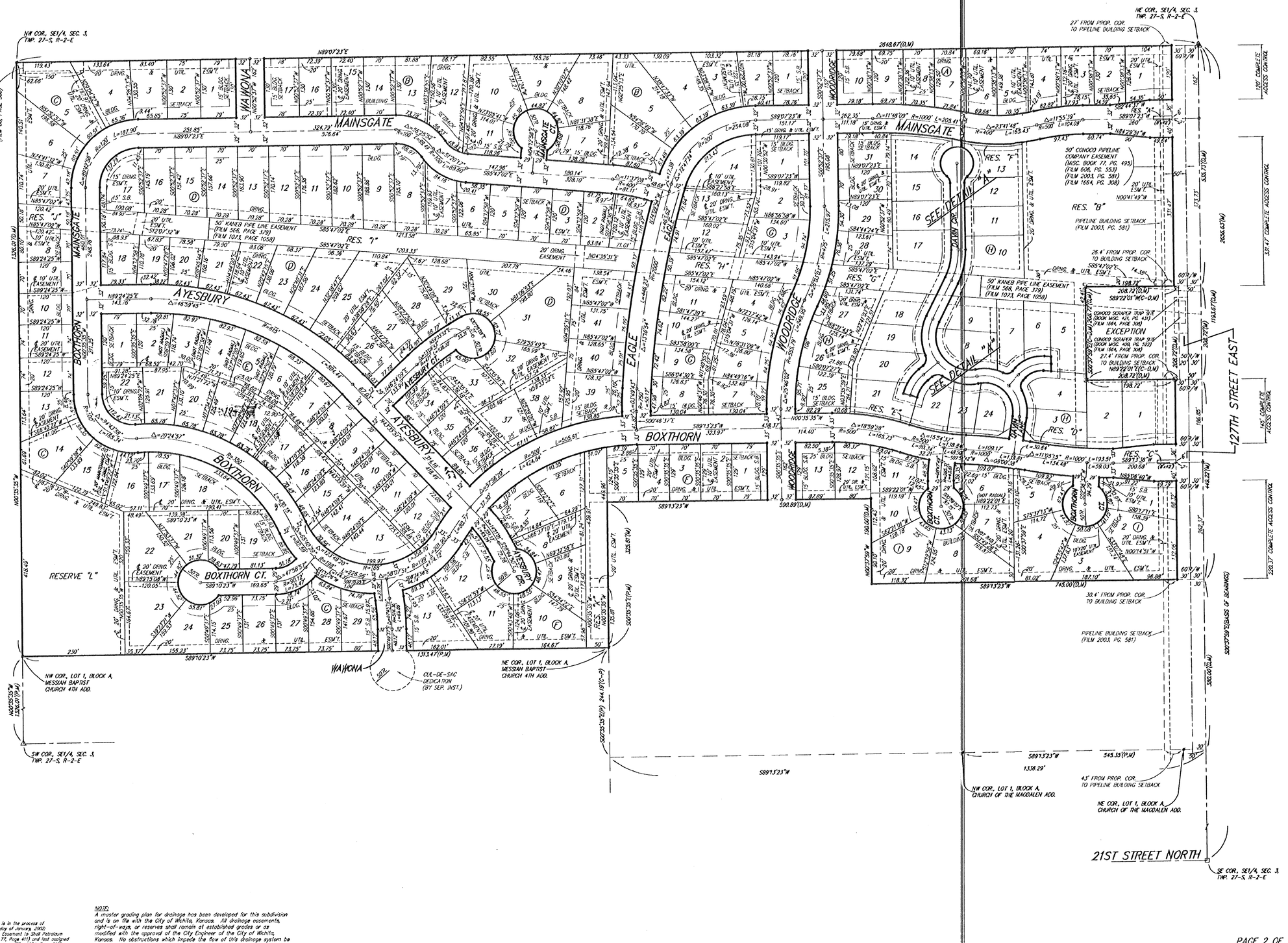
PROJECT NUMBER	SHEET
488-83401	13 OF 14

DESIGN	DRAWN	APPROVED	DATE	SCALE
NBW	JAK		07/02	Noted

Fairmont\1sesmt

THE FAIRMONT

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



- = #4 REBAR W/ "BAUGHMAN" CAP (SET)
- = #4 REBAR W/ "BAUGHMAN" CAP (FOUND)
- = 1/4" IRON (FOUND)
- = #5 REBAR W/ "FORGY" CAP (FOUND)
- = #4 REBAR OVER STONE (FOUND)
- = "X" NOTCH (SET)
- = 6" STEEL BRACE POST (FOUND)
- = #4 REBAR W/ "SRB" CAP (FOUND)

(M) = MEASURED
(P) = PLATTED
(O) = DESCRIBED
(C-O) = CALCULATED PER DESCRIBED INFO.
(C-P) = CALCULATED PER PLATTED INFO.

MINIMUM BUILDING PAD ELEVATIONS FOR LOWEST OPENING TO THE STRUCTURES

LOT(S)	BLOCK	ELEVATION	
		CITY DATUM	NGVD29
14,15,16,22,23	C	198.5	1,383.9
5-10	F	198.5	1,383.9
5-7, 9-13	H	188.0	1373.4

BENCHMARK:

GREENWICH AND 21ST NORTH
CITY OF WICHITA BENCHMARK DISC
41' SOUTH AND 58' WEST OF IRON CTR. LINE BOTH
17.0' SW OF ASPHALT, 14.2' EAST OF FACE P.P.
17.0' WEST OF FACE P.P.
ELEVATION = 1731.98 (CITY DATUM), 1,761.38 NGVD

COUNTY "D" CUT, SOUTH HEADWALL,
1/2 MILE WEST OF 127TH ST. EAST
ON 37TH STREET NORTH
ELEV. = 1185.83 (CITY DATUM), 1373.23 NGVD

TOP OF IRON - SE COR., SE1/4, SEC. 3, TWP. 27-S, R-2-E, (127TH ST. EAST & 21ST ST. NORTH)
ELEV. = 1198.01 (CITY DATUM), 1385.41 NGVD

Note:
The following instrument is in the process of being released this 7th day of January, 2002: Telephone and Telegraph Easement to Shell Petroleum Corporation (Misc. Book 77, Page 417) and last assigned to Conoco Pipe Line Company (Film 1664, Page 308).

NOTE:
A master grading plan for drainage has been developed for this subdivision and is on file with the City of Wichita, Kansas. All drainage easements, right-of-ways, or reserves shall remain at established grades or as modified with the approval of the City Engineer of the City of Wichita, Kansas. No obstructions which impede the flow of this drainage system be allowed.

BAUGHMAN COMPANY P. A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7371 • 313 ELM • WICHITA, KANSAS 67211

F:\PLAT\THE FAIRMONT\DWG\FAIRMONT2.DWG-MOD