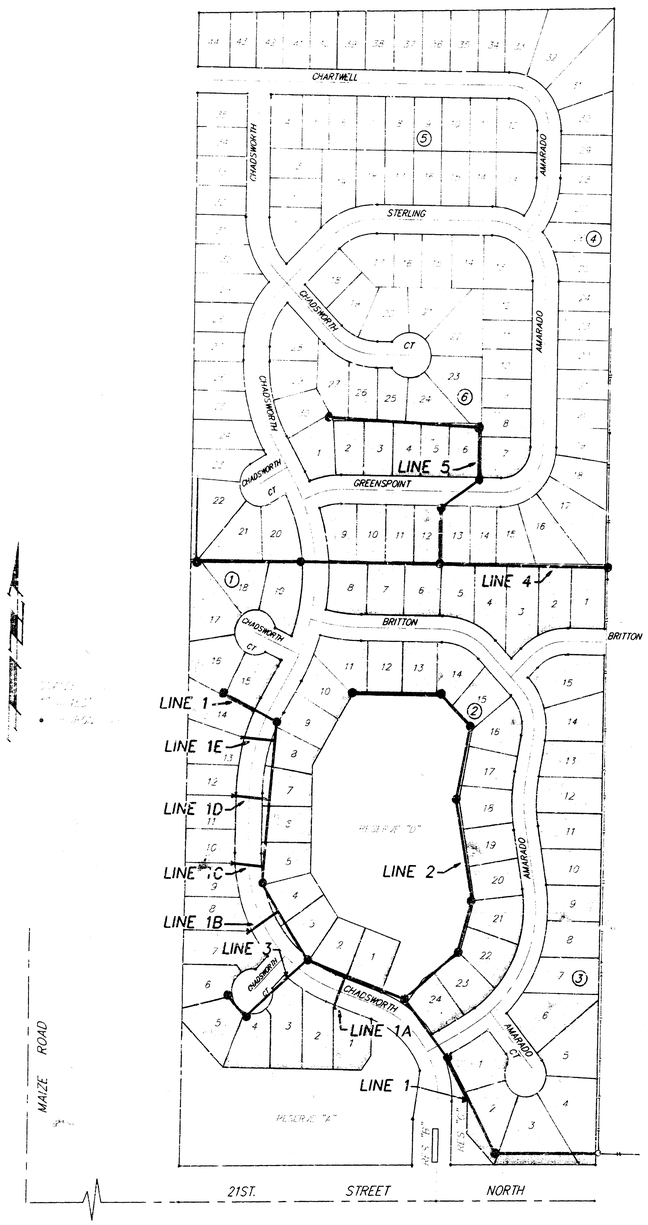


LATERAL 96, WESTLINK SEWER

Sanitary Sewer Extensions To Serve

CHADSWORTH ADDITION

Project No.

468-76-245-82093-000-000-001

CITY OF WICHITA, KANSAS

Michael E. Lindebak City Engineer

INDEX CODE 740696

Index

1. TITLE SHEET
2. LINE 1
3. LINE 1, LINE 1A AND LINE 1B
4. LINE 1, LINE 1C, LINE 1D AND LINE 1E
5. LINE 2
6. LINE 3
7. LINE 4
8. LINE 5
9.-10. SEWER EASEMENT GRADING PLAN
11. TYPICAL DETAIL SHEET
12. RISER DETAIL SHEET
13. CLEANOUT RISER ASSEMBLY DETAIL
14. PLAT CHADSWORTH ADDITION

1. 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.

2. 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.

3. 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.

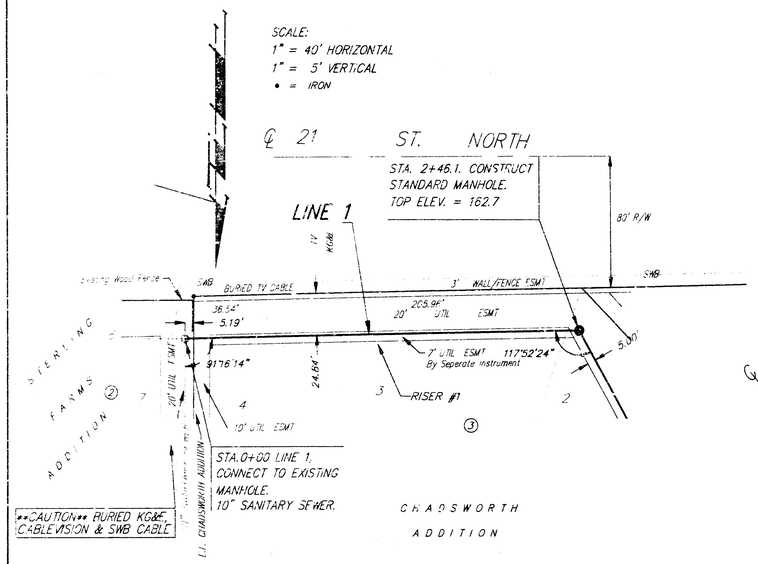
4. "Contractor shall grade the sanitary sewer alignment to the profile and elevation shown on the easement grading plan. All cost for grading shall be subsidiary to the project."

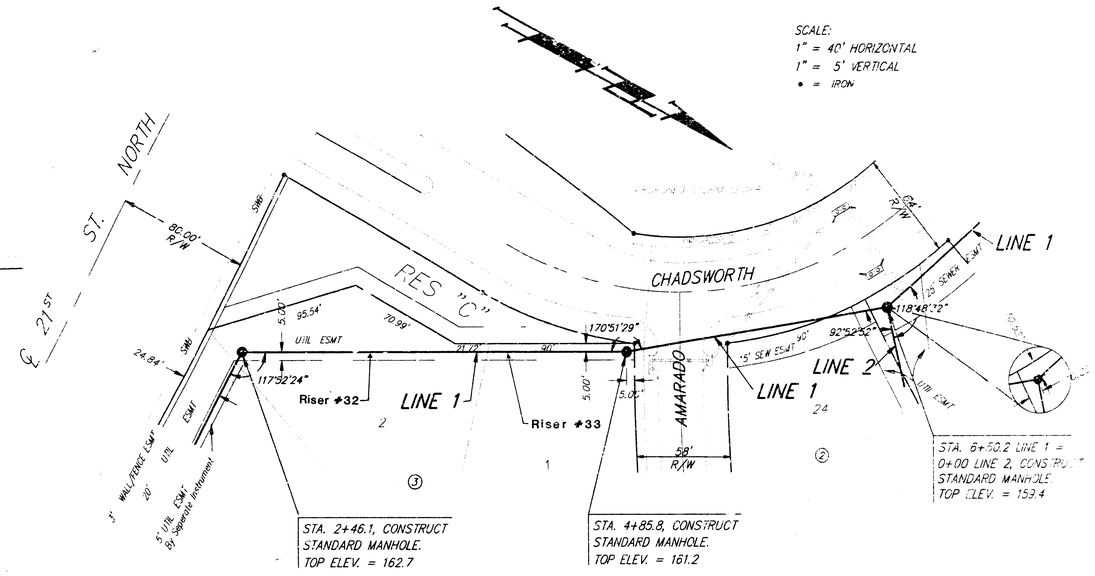
Booked per Plan 2-92

M. BRENT WOOTEN LICENSED 8470 KANSAS PROFESSIONAL ENGINEER

BAUGHMAN COMPANY P. A.

1

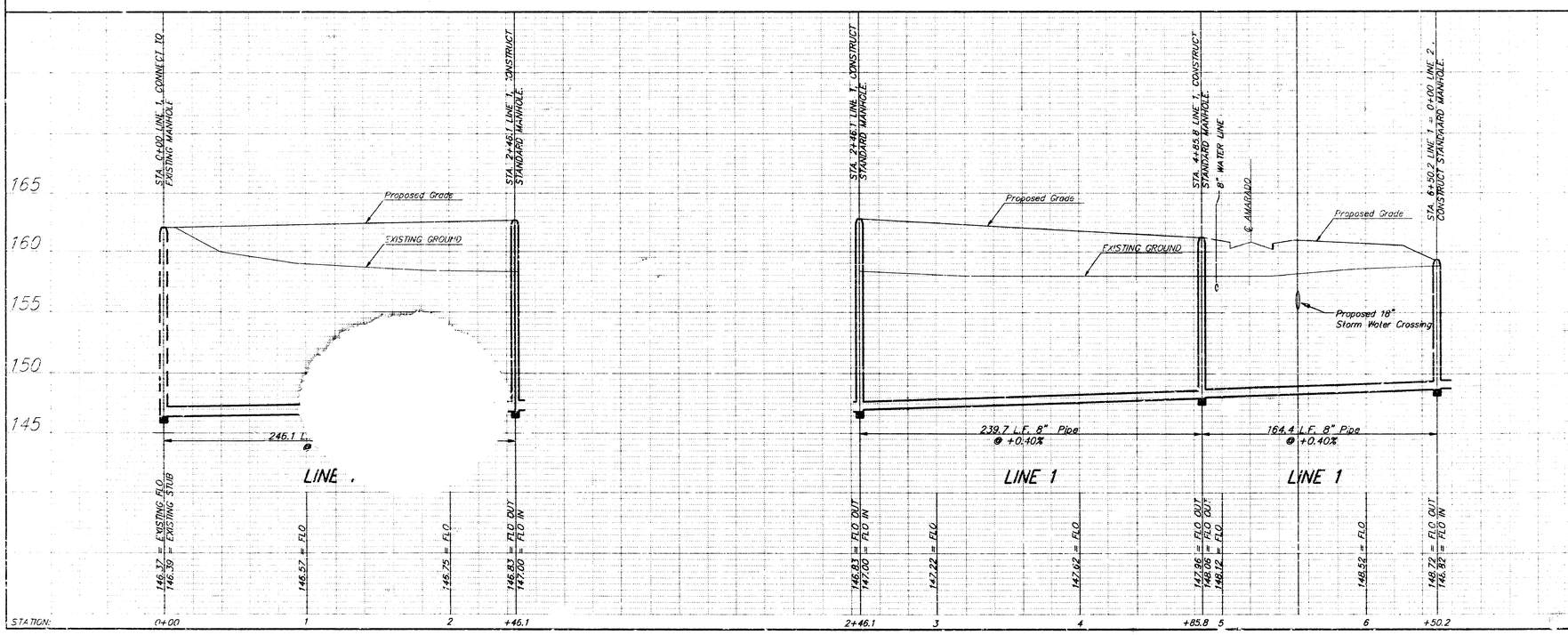




BENCH MARK: Step Bench in Corner Post Located 0.5'E & 2.5'N of the S.E. Corner Chadsworth Addition. Elev.= 161.57

BENCH MARK: Cross Cut in Top of Headwall at Center Line of Double 3hX5w RCBC located 251'E & 48'S of the S.W. Corner Chadsworth Addition. Elev.= 153.14

SEE RISER LOCATION TABLE, SHEET 6 AND DETAIL SHEET 10



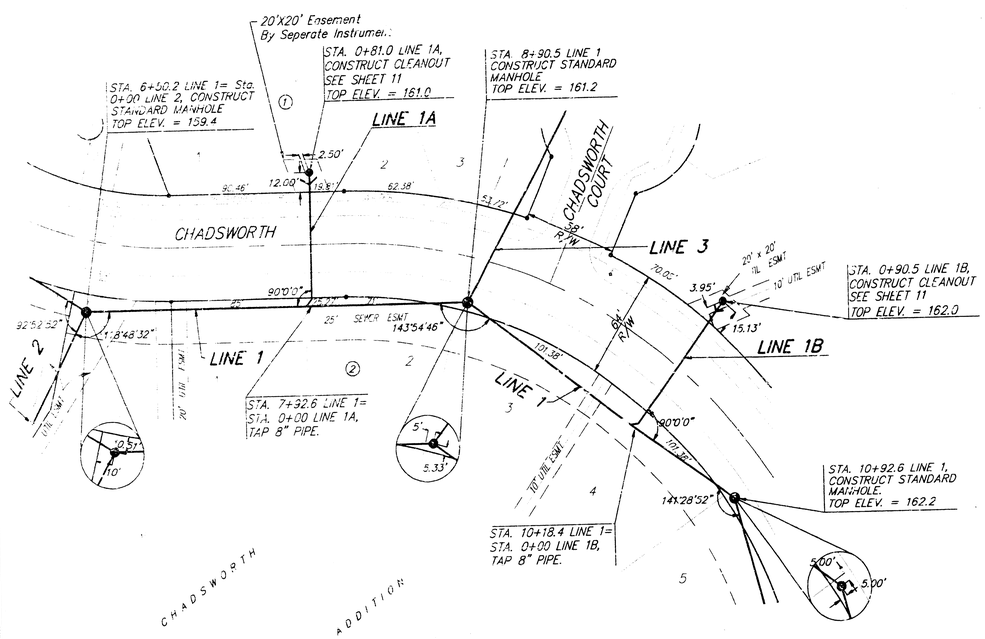
CHADVPLIA

LINE 1
Lateral 96, Westlink Sewer

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

PROJECT NUMBER
468-76-245-82093-000-000-001

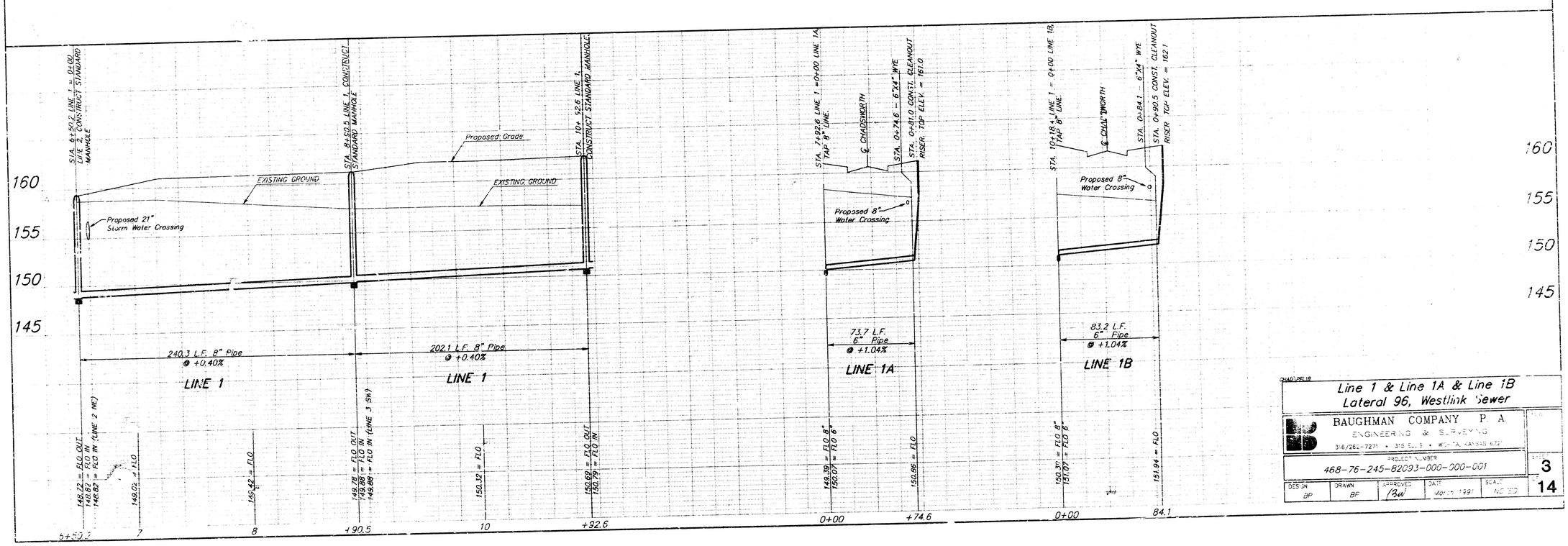
DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
BP	BP	PBW	March 199	NOTED	2 OF 14



SCALE:
1" = 40' HORIZONTAL
1" = 5' VERTICAL
• = IRON

BENCH MARK: Cross Cut in Top of Headwall at Center Line of Double Arch Culvert located 251'E & 48'S of the S.W. Corner Chadsworth Addition. Elev.= 159.14

BENCH MARK: Step Bench in Corner Post Located 0.5'E & 2.5'N of the S.E. Corner Chadsworth Addition Elev.= 161.57



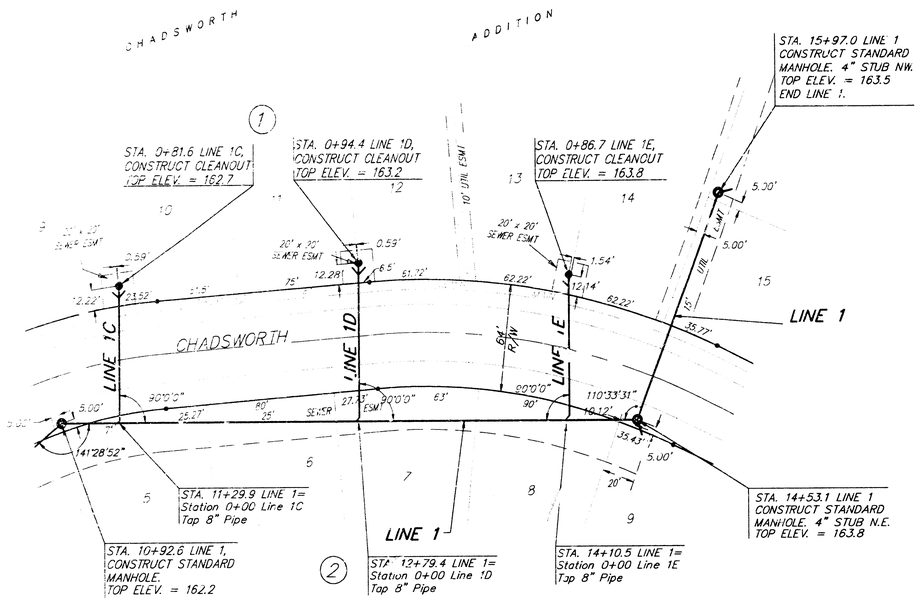
CHAD.DEL.18

Line 1 & Line 1A & Line 1B
Lateral 96, Westlink Sewer

BAUGHMAN COMPANY P. A.
ENGINEERING & SURVEYING
316/262-7271 • 315 Eng. S • WICHITA, KANSAS 6721

PROJECT NUMBER
468-76-245-82093-000-000-001

DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
BP	BF	BW	March 1991	NO SCALE	3 of 14

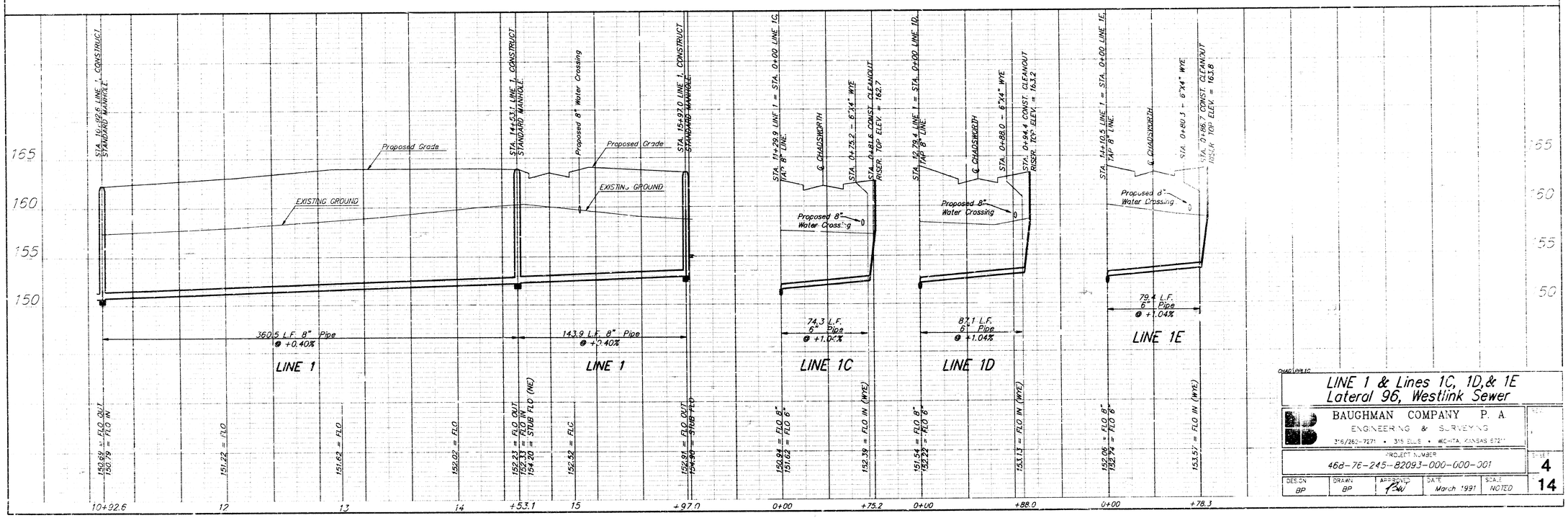


SEE CLEANOUT DETAIL, SHEET 11

SCALES:
1" = 40' HORIZONTAL
1" = 5' VERTICAL
• = IRON

BENCH MARK: Cross Cut in Top of Headwall at Center Line of Double 3mX5m RCBC located 251'E & 48'S of the S.W. Corner Chadsworth Addition. Elev.= 159.14

BENCH MARK: Cross Cut in the North Rim of S.S.M.H. Located 31.6'S & 5.3'E of the N.E. Corner Lot 1, Block 4 Chadsworth Addition. Elev.= 163.95

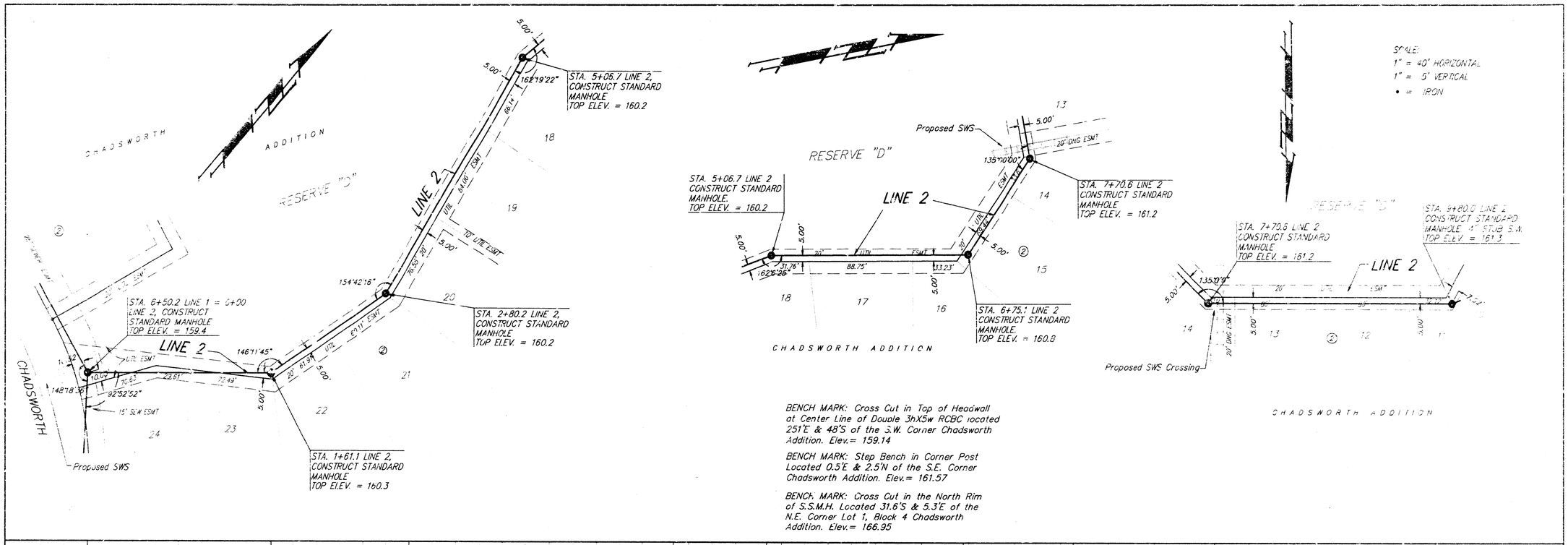


LINE 1 & Lines 1C, 1D, & 1E
Lateral 96, Westlink Sewer

BAUGHMAN COMPANY P. A
ENGINEERING & SURVEYING
316/263-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER: 468-76-245-82093-000-000-001

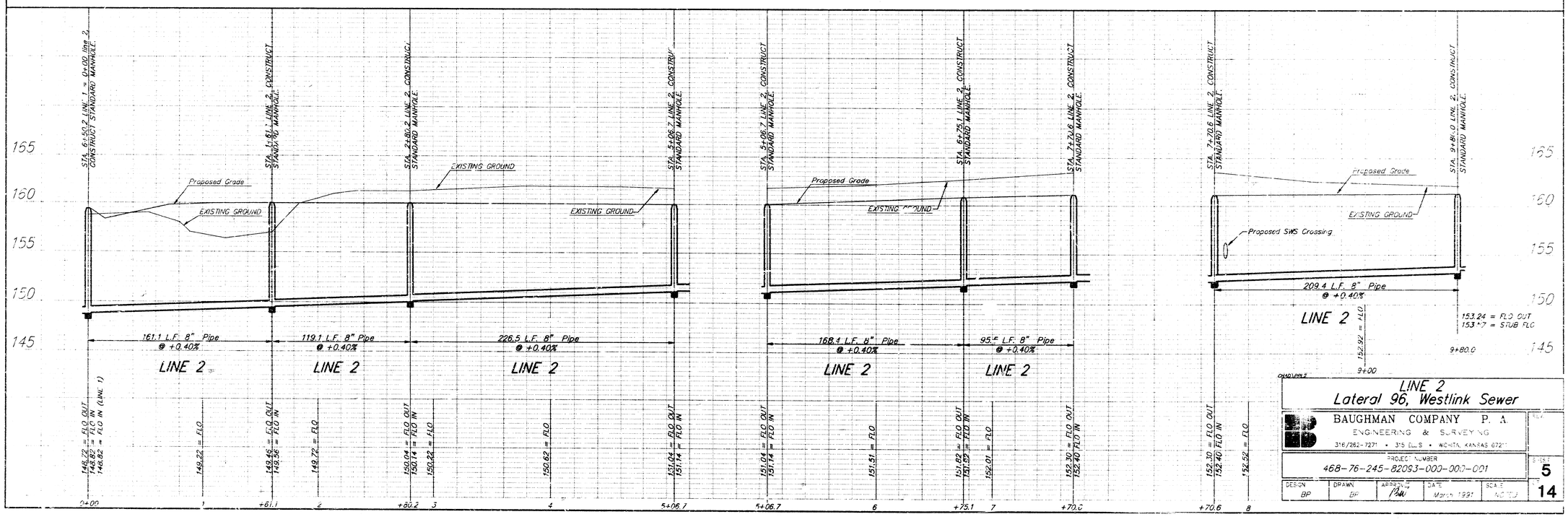
DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
BP	BP		March 1991	NOTED	4 / 14

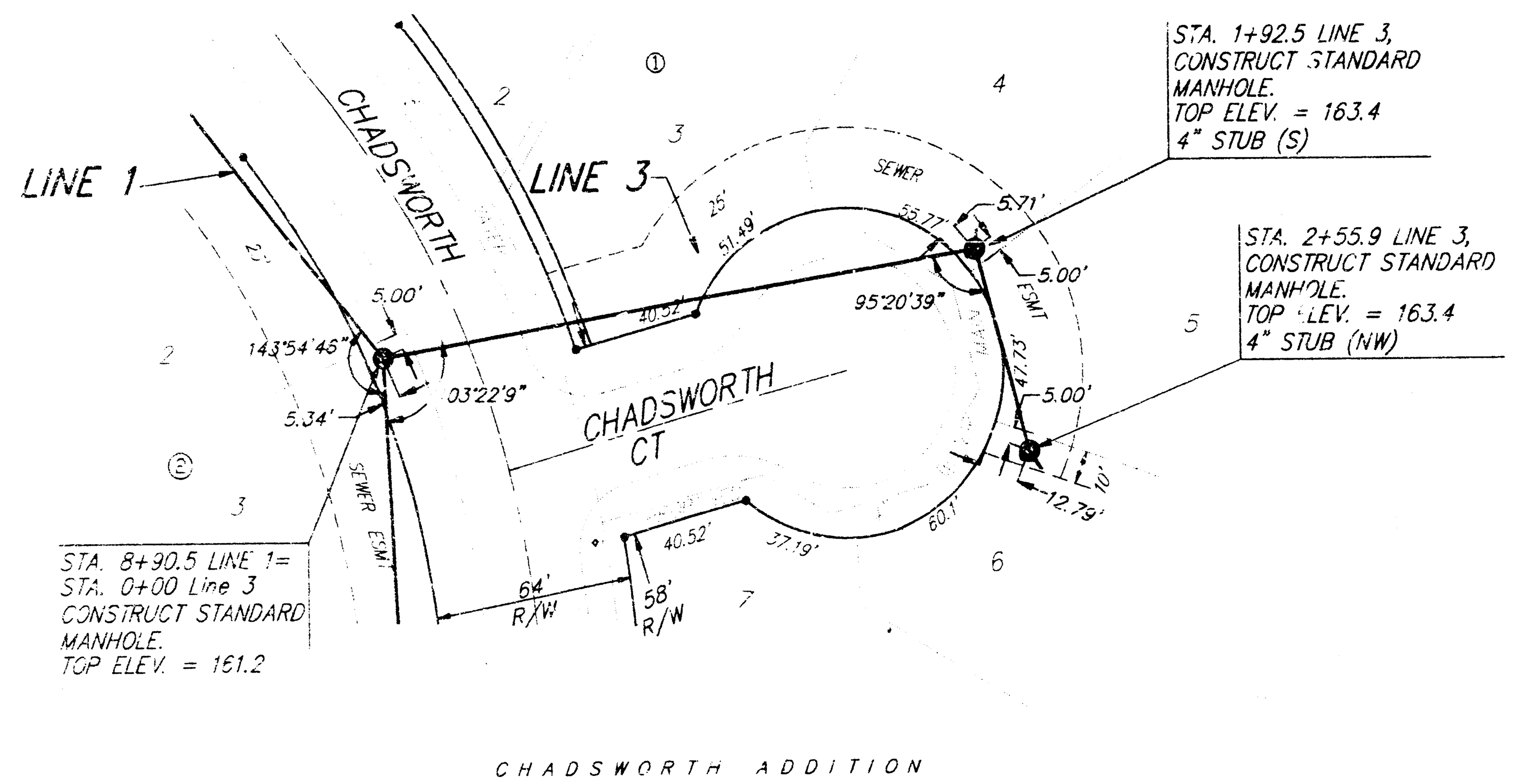


BENCH MARK: Cross Cut in Top of Headwall at Center Line of Double 3hX5w RCBC located 251'E & 48'S of the S.W. Corner Chadsworth Addition. Elev.= 159.14

BENCH MARK: Step Bench in Corner Post Located 0.5'E & 2.5'N of the S.E. Corner Chadsworth Addition. Elev.= 161.57

BENCH MARK: Cross Cut in the North Rim of S.S.M.H. Located 31.6'S & 5.3'E of the N.E. Corner Lot 1, Block 4 Chadsworth Addition. Elev.= 166.95





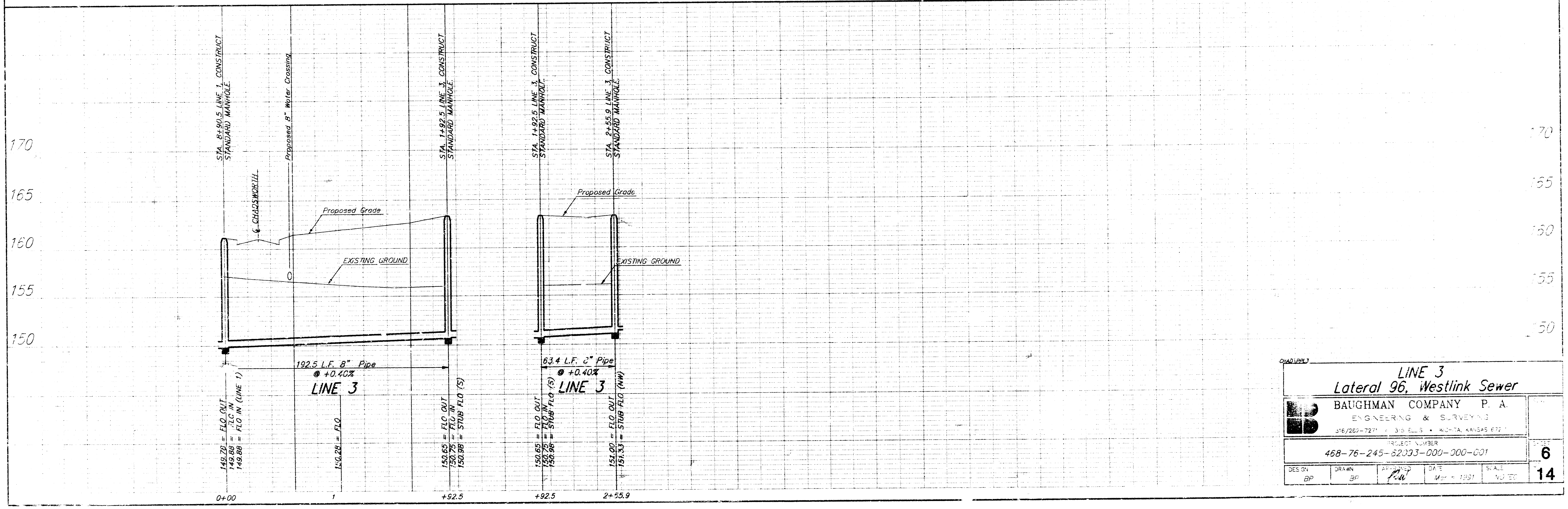
RISER LOCATION TABLE

NUMBER	LINE NO.	STATION	LOT	DIRECTION	L.F. 4 RISER	TOP ELEV.
1	1	1+20	3	RIGHT	8	154.6
2	4	0+30	1	LEFT	9	157.9
3	4	0+35	17	RIGHT	9	157.9
4	4	1+20	2	LEFT	8	157.1
5	4	1+25	16	RIGHT	8	157.1
6	4	1+80	3	LEFT	8	157.2
7	4	1+85	15	RIGHT	8	157.2
8	4	2+80	4	LEFT	8	157.3
9	4	2+85	14	RIGHT	8	157.3
10	4	3+45	5	LEFT	8	157.5
11	4	3+50	13	RIGHT	8	157.5
12	4	4+15	6	LEFT	8	157.6
13	4	4+20	12	RIGHT	8	57.6
14	4	4+90	7	LEFT	8	157.7
15	4	4+95	11	RIGHT	8	157.7
16	4	5+75	8	LEFT	8	157.9
17	4	5+80	10	RIGHT	8	157.9
18	4	6+00	9	RIGHT	7.5	157.4
19	4	7+40	19	LEFT	6	156.2
20	4	7+45	20	RIGHT	6	156.2
21	5	3+64	6	LEFT	6	157.4
22	5	3+69	23	RIGHT	6	157.4
23	5	4+32	5	LEFT	6	157.7
24	5	4+99	4	LEFT	6	158.0
25	5	5+04	24	RIGHT	6	158.0
26	5	5+64	3	LEFT	6	158.2
27	5	5+69	25	RIGHT	6	158.2
28	5	6+29	2	LEFT	6	158.5
29	5	6+34	26	RIGHT	6	158.5
30	5	2+71	7	RIGHT	6	156.9
31	5	3+43	8	RIGHT	6	157.2
32	1	3+26	2	RIGHT	7	154.3
33	1	4+11	1	RIGHT	6	153.7

SCALE:
1" = 40' HORIZONTAL
1" = 5' VERTICAL
• = RSN

BENCH MARK: Cross Cut in Top of Headwall at Center Line of Double 3hX5w RCBC located 251'E & 48'S of the S.W. Corner Chadsworth Addition. Elev.= 159.14

BENCH MARK: Step Bench in Corner Post Located 0.5'E & 2.5'N of the S.E. Corner Chadsworth Addition. Elev.= 161.57



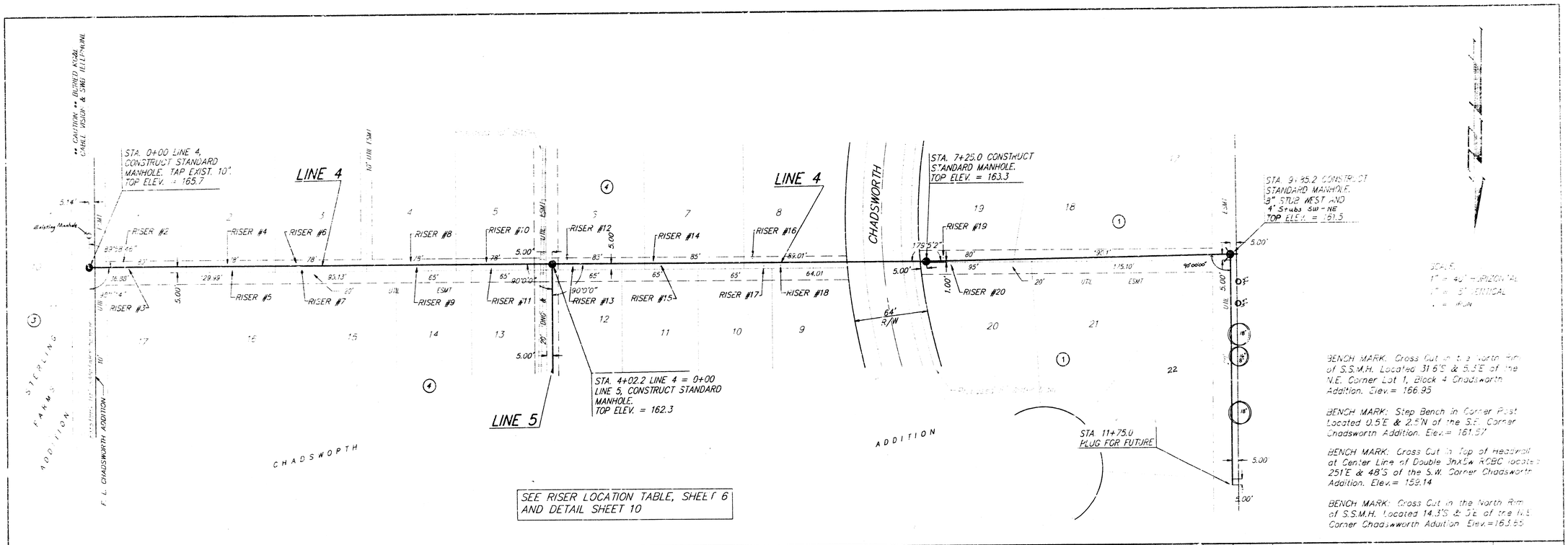
CHAD\PPL3

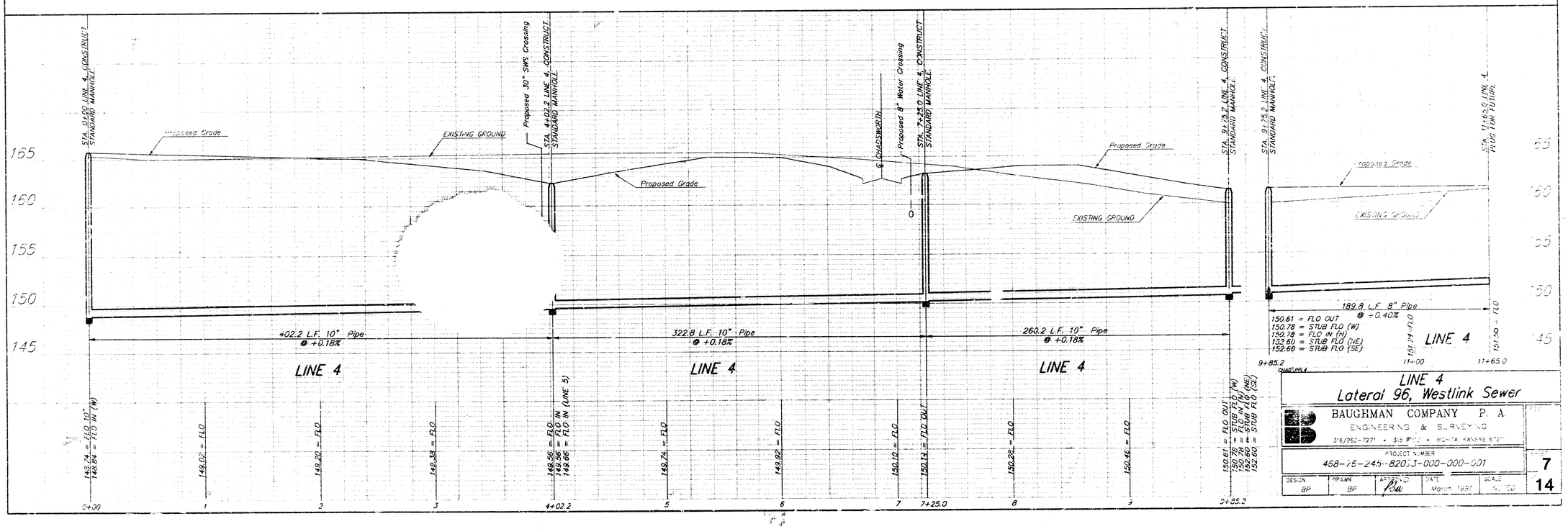
LINE 3
Lateral 96, Westlink Sewer

BAUGHMAN COMPANY P. A.
ENGINEERING & SURVEYING
316/262-7271 • 315 ELLIS • WICHITA, KANSAS 672

PROJECT NUMBER
468-76-245-62033-000-000-001

DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
BP	BP	Pad	March 1991	NOTED	6 OF 14



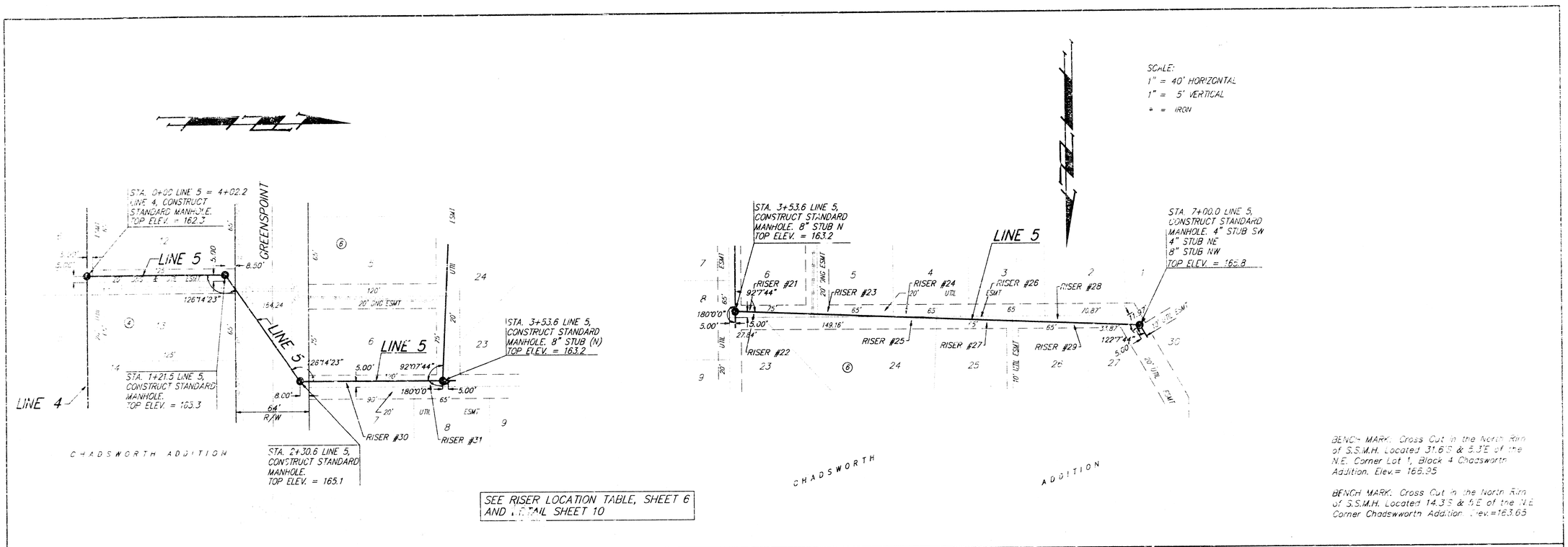


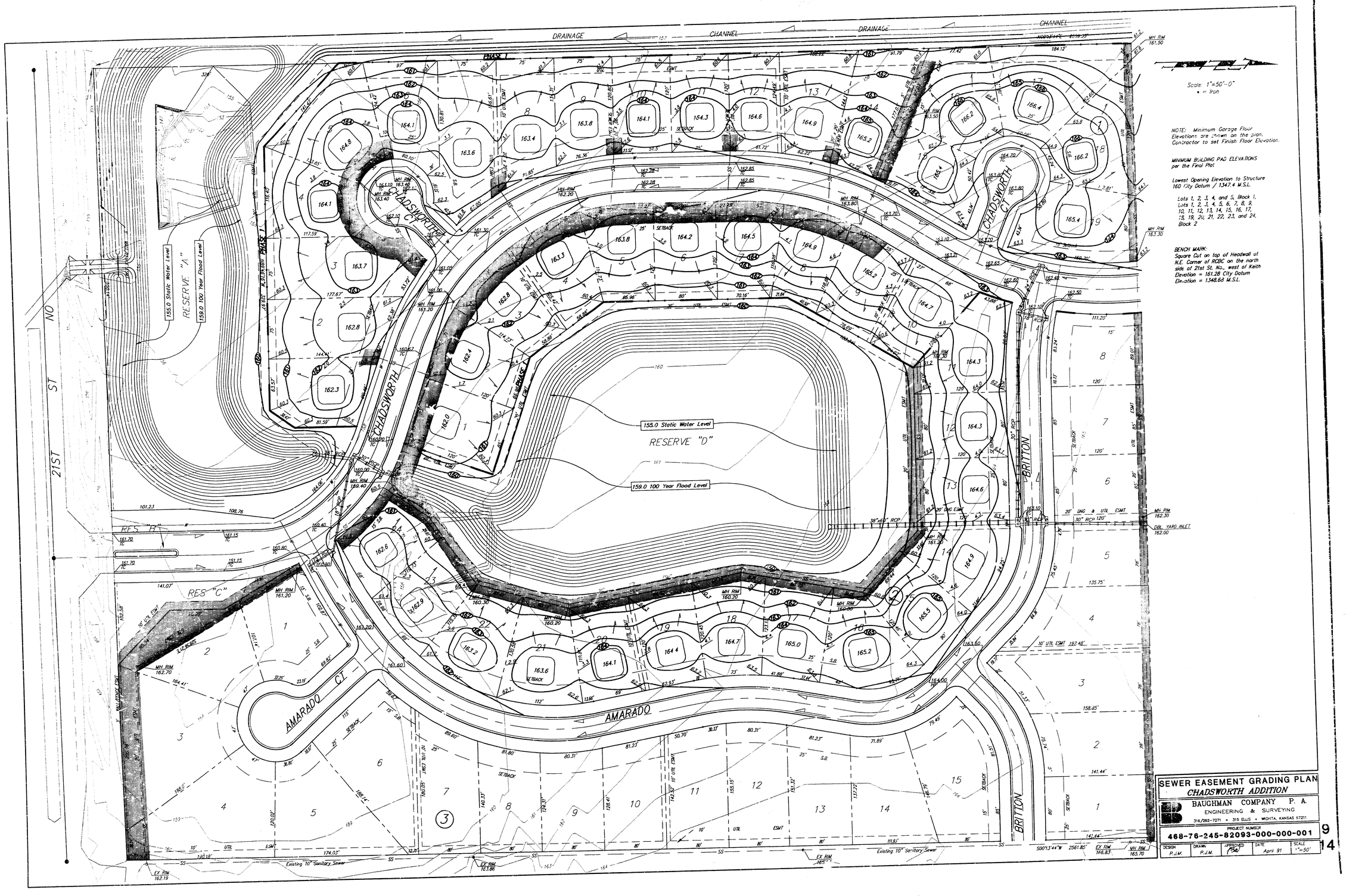
LINE 4
Lateral 96, Westlink Sewer

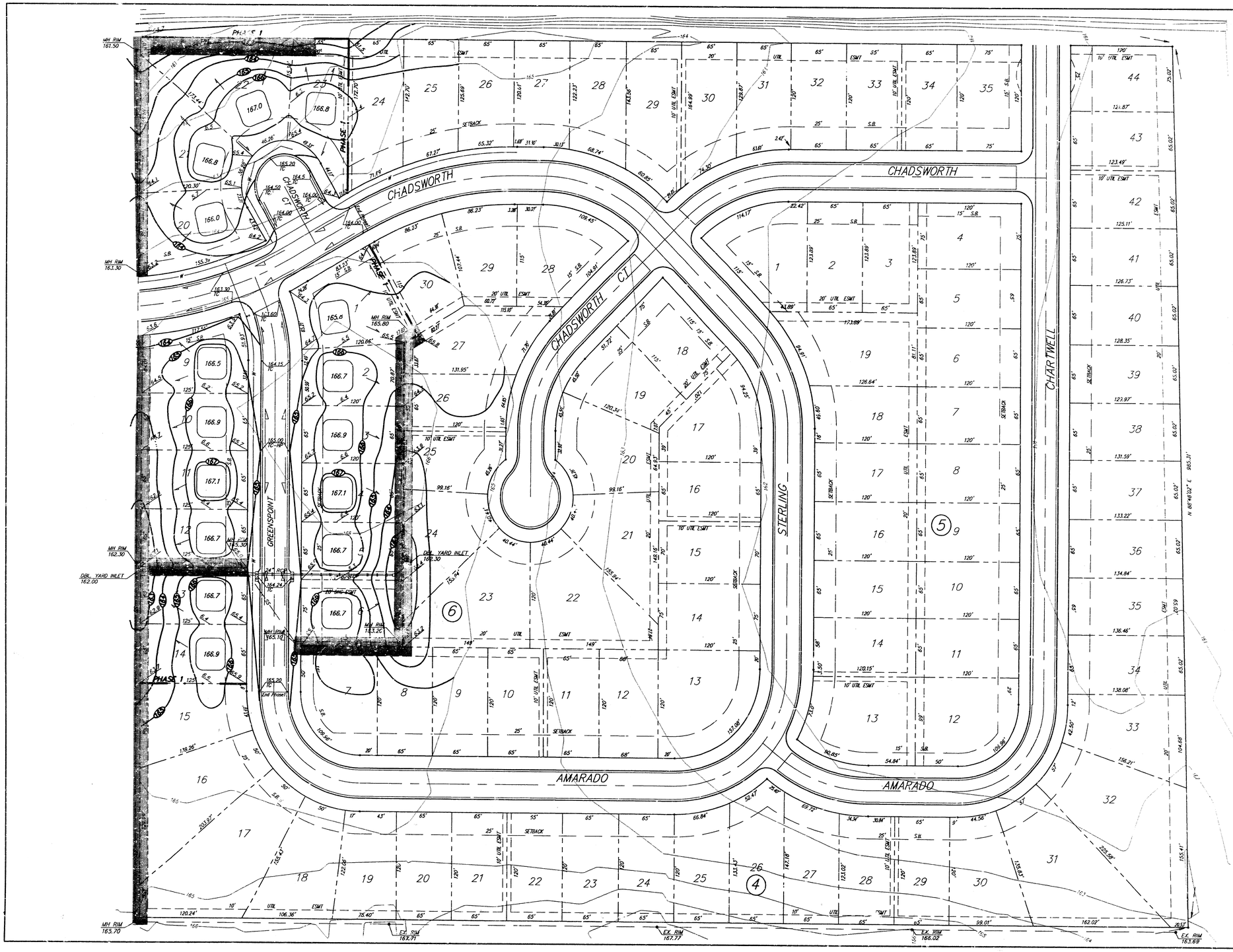
BAUGHMAN COMPANY P. A.
ENGINEERING & SURVEYING
316/262-7271 • 315 [illegible] • WICHITA, KANSAS 67[illegible]

PROJECT NUMBER
468-16-245--82053-000-000-001

DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
BP	BP	[illegible]	March 1991	N. T. S.	7 / 14


STA. 0+00 LINE 5 = 4+02.2
LINE 4, CONSTRUCT
STANDARD MANHOLE.
TOP ELEV. = 162.3
LINE 5
GREENSPOINT
STA. 1+21.5 LINE 5,
CONSTRUCT STANDARD
MANHOLE.
TOP ELEV. = 165.3
LINE 4
CHADSWORTH ADDITION
STA. 2+30.6 LINE 5,
CONSTRUCT STANDARD
MANHOLE.
TOP ELEV. = 165.1
RISER #30
RISER #31
STA. 3+53.6 LINE 5,
CONSTRUCT STANDARD
MANHOLE. 8" STUB (N)
TOP ELEV. = 163.2
SEE RISER LOCATION TABLE, SHEET 6
AND DETAIL SHEET 10
STA. 3+53.6 LINE 5,
CONSTRUCT STANDARD
MANHOLE. 8" STUB N
TOP ELEV. = 163.2
RISER #21
RISER #22
RISER #23
RISER #24
RISER #25
RISER #26
RISER #27
RISER #28
RISER #29
STA. 7+00.0 LINE 5,
CONSTRUCT STANDARD
MANHOLE. 4" STUB SW
4" STUB NE
8" STUB NW
TOP ELEV. = 166.8
CHADSWORTH ADDITION
SCALE:
1" = 40' HORIZONTAL
1" = 5' VERTICAL
* = IRON
BENCH MARK: Cross Cut in the North Rim of S.S.M.H. Located 31.6'S & 5.3'E of the N.E. Corner Lot 1, Block 4 Chadsworth Addition. Elev.= 166.95
BENCH MARK: Cross Cut in the North Rim of S.S.M.H. Located 14.3'S & 5'E of the N.E. Corner Chadsworth Addition. Elev.=163.65
Proposed Grade
EXISTING GROUND
Proposed 8" Water Crossing
Proposed SWS Crossing
121.5 L.F. 8" Pipe @ +0.40%
109.1 L.F. 8" Pipe @ +0.40%
123.0 L.F. 8" Pipe @ +0.40%
346.4 L.F. 8" Pipe @ +0.40%
LINE 5
LINE 5
Lateral 96, Westlink Sewer
BAUGHMAN COMPANY P. A.
ENGINEERING & SURVEYING
316/262-7271
WICHITA KANSAS 67202
PROJECT NUMBER
468-76-245-82093-000-000-001
DESIGN BP
DRAWN BP
APPROVED
DATE March 1991
SCALE
SHEET 8
OF 14


DRAINAGE CHANNEL
21ST ST NO
CHADSWORTH CT
AMARADO CT
AMARADO
BRITTON
RESERVE "A"
RESERVE "B"
RES "C"
RESERVE "D"
155.0 Static Water Level
159.0 100 Year Flood Level
Existing 10" Sanitary Sewer
Scale: 1"=50'-0"
• = Iron
NOTE: Minimum Garage Floor Elevations are shown on the plan. Contractor to set Finish Floor Elevation.
MINIMUM BUILDING PAD ELEVATIONS per the Final Plat
Lowest Opening Elevation to Structure 160 City Datum / 1347.4 M.S.L.
Lots 1, 2, 3, 4, and 5, Block 1, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, and 24, Block 2
BENCH MARK:
Square Cut on top of Headwall at N.E. Corner of RCBC on the north side of 21st St. No., west of Keith
Elevation = 161.28 City Datum
Elevation = 1348.68 M.S.L.
SEWER EASEMENT GRADING PLAN
CHADSWORTH ADDITION
BAUGHMAN COMPANY P. A.
ENGINEERING & SURVEYING
316/262-7271 • 315 ELLIS • WICHITA, KANSAS 67211
PROJECT NUMBER
468-76-245-82093-000-000-001
DESIGN P.J.M.
DRAWN P.J.M.
APPROVED PJM
DATE April 91
SCALE 1"=50'



Scale: 1"=50'-0"
• = Iron

NOTE: Minimum Garage Floor Elevations are shown on the plan. Contractor to set Finish Floor Elevation.

MINIMUM BUILDING PAD ELEVATIONS per the Final Plat

Lowest Floor Elevation of Structure
160 City Datum / 1347.4 M.S.L.

Lots 28, 29, 30, 31, 32, 33, 34, and 35, Block 1
Lots 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, and 44, Block 4,
Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, and 19, Block 5,
Lots 13, 14, 15, 16, 17, 18, 19, 20, and Lot 28, Block 6

BENCH MARK:
Square Cut on top of Headwall at N.E. Corner of RCBC on the north side of 21st St. No., west of Keith
Elevation = 181.28 City Datum
Elevation = 1348.98 M.S.L.

SEWER EASEMENT GRADING PLAN
CHADSWORTH ADDITION

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

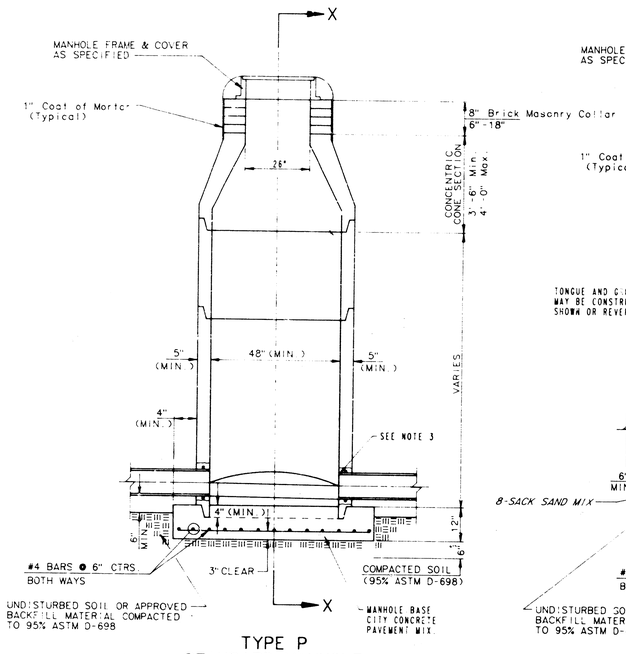
PROJECT NUMBER
468-76-245-82093-000-000-001

DESIGN	DRAWN	APPROVED	DATE	SCALE
P.J.M.	P.J.M.	BW.	April 91	1"=50'

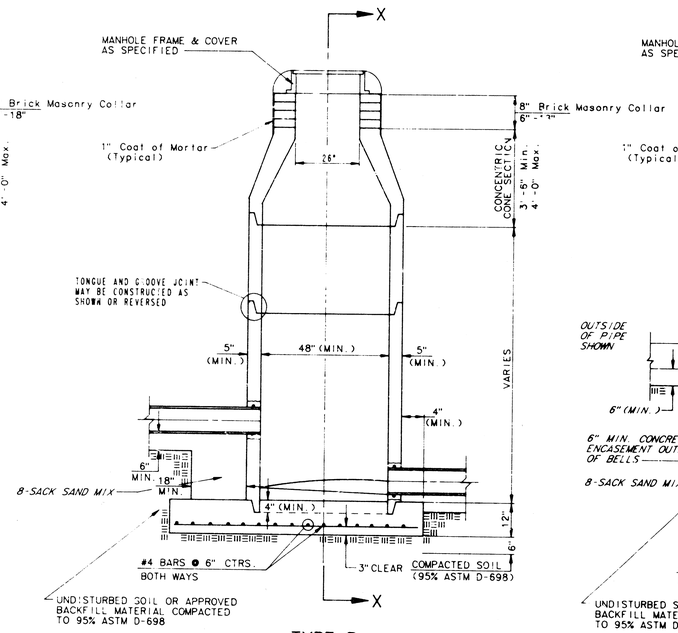
10
14

SEWER APPURTENANCES DETAILS

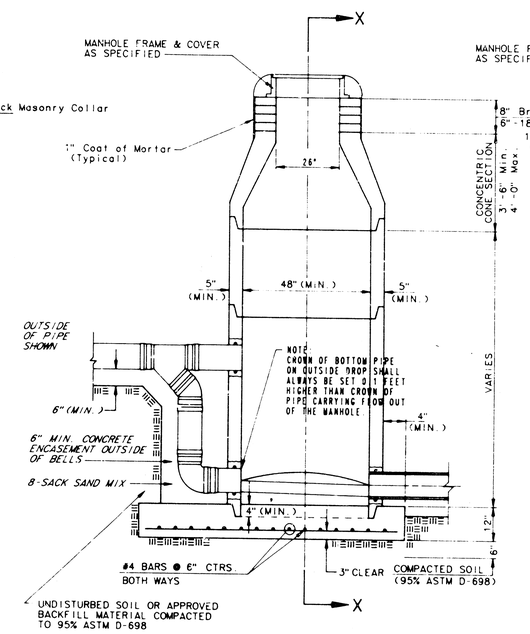
ADOPTED AS STANDARD DESIGN
BY
CITY OF WICHITA



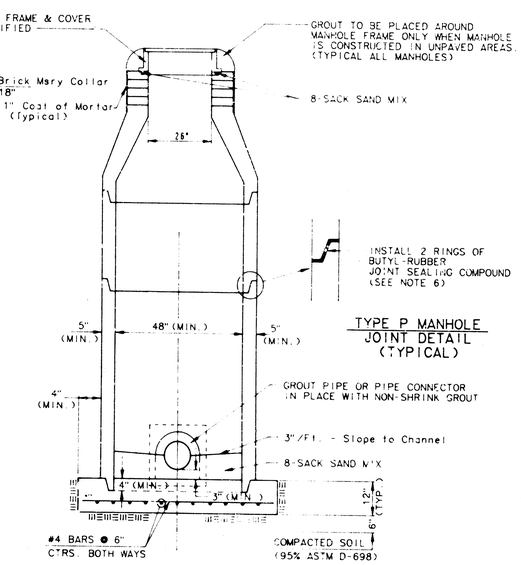
TYPE P
STANDARD MANHOLE



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 REVISION 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 IN 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.

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.

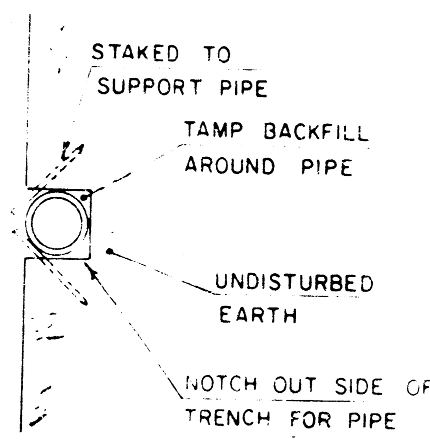
Revised: June 12, 1986

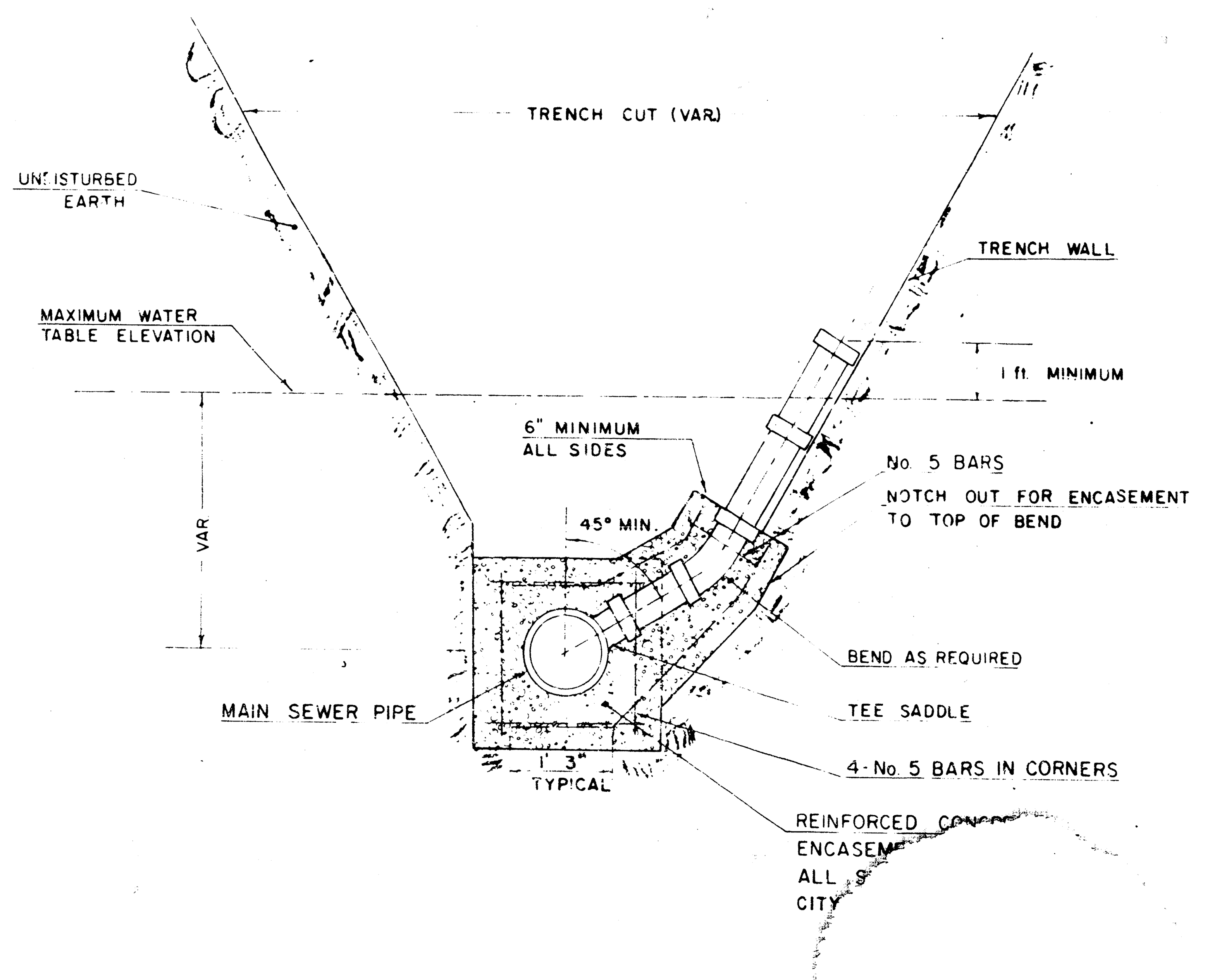
REVISED APRIL, 1990
REVISED SEPT. 1989

VERTICAL RISER DETAIL

ADOPTED AS STANDARD DESIGN BY

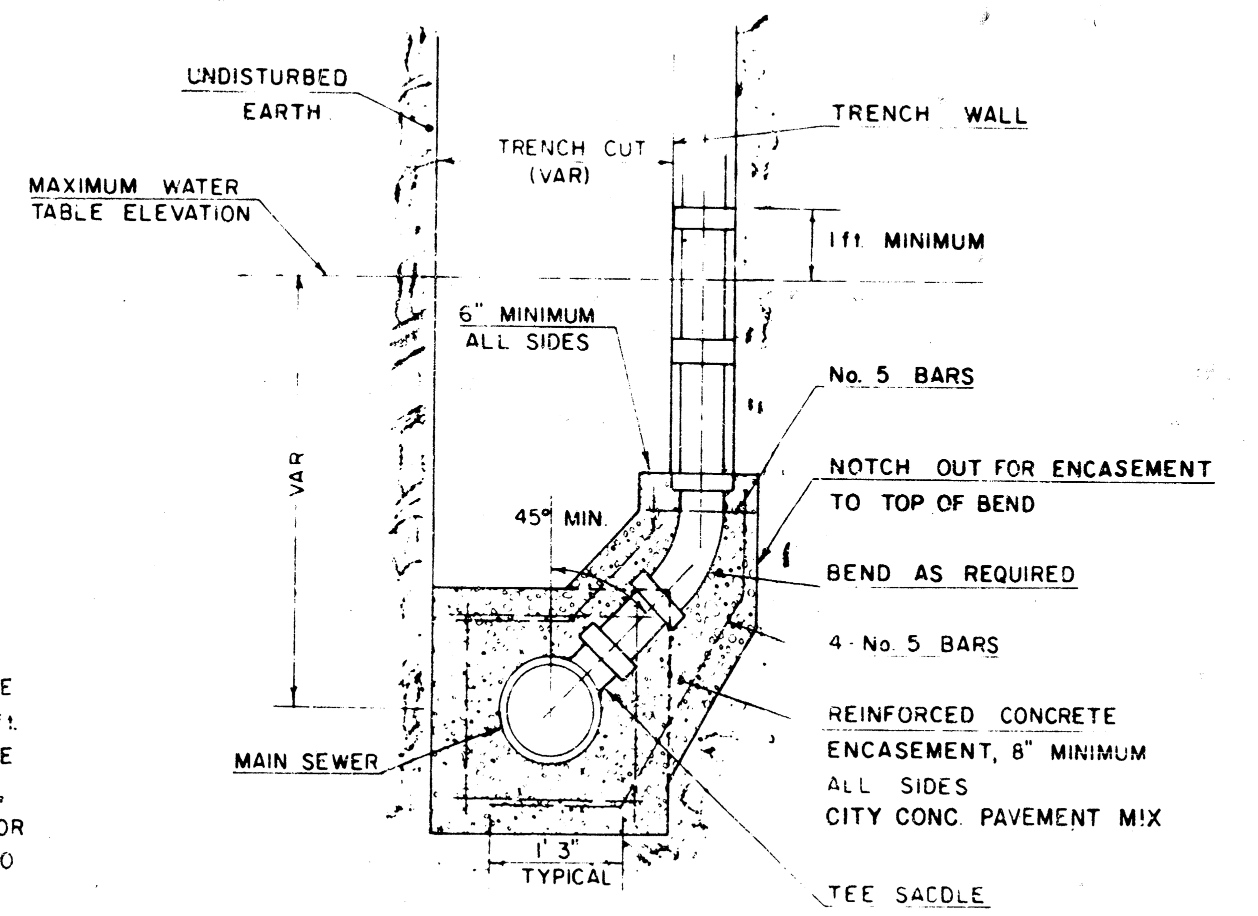
CITY OF WICHITA, KANSAS





TYPICAL RISER FOR SLOPING TRENCH

NOTE:
TOP OF 4" OR 6" RISER PIPE TO BE EXTENDED TO AN ELEVATION OF 1 ft. MINIMUM ABOVE THE WATER TABLE ELEVATION, WHEN WATER EXISTS, OR TO AN ELEVATION SUITABLE FOR PROVIDING SERVICE TO THE LOT TO BE SERVED AND THEN PLUGGED.



TYPICAL RISER FOR VERTICAL TRENCH WALLS

GENERAL NOTE

RISERS SHALL BE INSTALLED TO SERVE ALL LOTS OR TRACTS WHEN THE MAIN SEWER LINE IS BELOW THE WATER TABLE. RISERS SHALL ALSO BE INSTALLED TO SERVE ALL LOTS AND TRACTS WHEN THE MAIN SEWER LINE DEPTH IS SUCH THAT WOULD MAKE THE BUILDING SEWER LINE CONNECTION DIFFICULT. INSTALLATION OF RISERS BECAUSE OF MAIN LINE SEWER DEPTH SHALL BE AS APPROVED BY THE ENGINEER. THE LOCATION OF RISERS TO SERVE DEVELOPED PROPERTY SHALL BE APPROVED BY THE PROPERTY OWNER. PIPE STUBS SHALL BE INSTALLED IN MANHOLES WHERE LOCATIONS OF MANHOLES WILL PROVIDE SATISFACTORY SERVICE CONNECTIONS AS DETERMINED BY THE FIELD ENGINEER. THE VERTICAL DISTANCE BETWEEN THE FLOW LINE OF THE MANHOLE PIPE STUB AND THE FLOW LINE OF THE MAIN SEWER LINE SHALL NOT EXCEED [illegible] FT. MANHOLE PIPE STUBS SHALL NOT BE SET BELOW AN ELEVATION WHICH WILL PERMIT THE TOP OF THE INSIDE OF THE STUB TO MATCH THE TOP OF THE INSIDE OF THE MAIN SEWER PIPE. PIPE STUBS AND RISERS INSTALLED TO SERVE COMMERCIAL OR INDUSTRIAL PROPERTY SHALL BE 6 INCH. PIPE STUBS AND RISERS INSTALLED TO SERVE RESIDENTIAL PROPERTY MAY BE EITHER [illegible] INCH OR [illegible] INCH DEPENDING UPON THE AVAILABLE GRADE AND THE SIZE OF THE LOT AS DETERMINED BY THE FIELD ENGINEER. ENCASEMENT OF VITRIFIED CLAY MAIN SEWER PIPE SHALL EXTEND TO THE FIRST JOINT IN THE MAIN SEWER CLAY PIPE ON EACH SIDE OF THE RISER INSTALLATION. ENCASEMENT OF A.B.S. COMPOSITE OR P.V.C. MAIN SEWER PIPE SHALL EXTEND A MINIMUM OF [illegible] ON BOTH SIDES OF THE CENTERLINE OF THE RISER. FOUR INCH AND SIX INCH RISER PIPE SHALL BE ENCASED WITH CONCRETE TO THE TOP OF THE BEND AS INDICATED IN THE DRAWINGS. FOUR INCH AND SIX INCH CLAY PIPE USED FOR RISERS SHALL BE EXTRA STRENGTH PIPE CONFORMING TO THE REQUIREMENTS OF THE LATEST REVISION OF A.S.T.M. DESIGNATION C 200 WITH COMPRESSION JOINTS AS SPECIFIED FOR CLAY PIPE IN THE STANDARD SPECIFICATIONS. FOUR INCH AND SIX INCH A.B.S. OR P.V.C. PIPE SHALL BE TYPE APPROVED FOR USE IN THE CITY BY THE CHIEF PLUMBING AND MECHANICAL INSPECTOR FOR THE CENTRAL INSPECTION DIVISION OF THE DEPARTMENT OF HOUSING AND ECONOMIC DEVELOPMENT. LOCATIONS OF THE ENDS OF THE RISERS SHALL BE MARKED BY FASTENING GREEN COLORED PLASTIC TAPE TO THE END OF THE RISER WHICH SHALL BE EXTENDED TO THE GROUND SURFACE AS THE EXCAVATION IS BACKFILLED SUCH THAT THE COLORED TAPE WILL BE VISIBLE WHEN THE PROJECT IS COMPLETED. SUCH GREEN PLASTIC TAPE SHALL BE 4 MIL POLYETHYLENE FILM WITH A MINIMUM WIDTH OF 3" SPECIALLY MANUFACTURED FOR THE PURPOSE OF IDENTIFICATION OF UNDERGROUND SEWERS. THE ENDS OF THE RISER PIPE AND MANHOLE STUBS SHALL BE CAPPED OR PLUGGED USING FITTINGS FURNISHED BY THE MANUFACTURER OF THE PIPE. CONTRACTOR'S METHODS FOR SUPPORTING AND BACKFILLING RISER PIPE SHALL BE APPROVED BY THE ENGINEER.

FURNISHING AND INSTALLING RISERS SHALL BE PAID FOR AT THE UNIT PRICES BID FOR 4" PIPE, 6" PIPE AND REINFORCED CONCRETE ENCASEMENT FOR THE VARIOUS MAIN SEWER PIPE SIZES INDICATED; WHICH PRICE SHALL INCLUDE ALL COSTS FOR COMPLETION OF THIS ITEM INCLUDING SADDLES, BENDS, CONCRETE, REINFORCING STEEL, CAPS OR PLUGS, AND ALL OTHER NECESSARY MATERIALS OR WORK. CONCRETE ENCASEMENT OF THE RISER PIPE TO THE TOP OF THE BEND AS SHOWN BY THE DRAWINGS WILL NOT BE PAID FOR DIRECTLY AND THE COST FOR THIS WORK SHALL BE CONSIDERED AS SUBSIDIARY TO THE OTHER ITEMS OF WORK.

THE PROJECT INSPECTOR SHALL REPORT ON INSPECTOR CARDS THE LOCATION OF ALL RISERS CONSTRUCTED AS MEASURED FROM THE NEAREST MANHOLE, THE DIRECTION OF SERVICE, THE ELEVATION OF THE TOP OF THE RISER, AND THE PAY QUANTITIES INVOLVED. THE PROJECT INSPECTOR SHALL ALSO REPORT ON INSPECTOR CARDS THE LOCATION, DIRECTION OF SERVICE, AND SIZE OF ALL STUBS INSTALLED IN MANHOLES.