CITY OF WICHITA, KANSAS

STREET IMPROVEMENTS

WACO, FROM 32ND STREET NORTH TO 33RD STREET NORTH

PROJECT NO. 472-82899

INDEX CODE : 764753

GENERAL NOTES:

1. Utility service lines, poles, valve boxes, meters, etc. 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. Contractor is solely responsible to notify and to make any necessary arrangements with utility companies for any needed adjustments of utility facilities prior to start of work.

3. Contractor will be required to provide as minimum advance notice of forty-eight (48) hours to utility companies prior to starting any excavation as follows:

Kansas One Call	687-2470
Southwestern Bell Telephone Company	1-316-571-2611
Cablevision	262-4270 or 283-2061
KPL Gas Service	263-7511
Kansas Gas and Electric	264-1141
City of Wichita Water Department	268-4308
City of Wichita Sewer Department	268-4071
Peoples Natural Gas	942-8811

4. 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 or a licensed professional engineer in accordance with state laws.

5. Limits of earthwork shall match existing ground elevations at the right-of-way line unless otherwise noted on the plans. Where the new finished grade elevations do not match the existing ground elevations, the earthwork shall extend one foot beyond the right-of-way line and then sloped up or down using permissible slopes to match the existing ground surface.

6. Contractor will be required to obtain properly executed driveway request forms signed by property owners or their authorized representatives verifying driveway widths and locations. Such forms shall be submitted to the Engineer for his review and approval.

7. The Contractor shall give all property owners and/or tenants of developed property abutting the project limits a minimum of ten (10) days advance notice prior to start of construction.

8. The Contractor must examine the construcion site prior to bidding and be satisfied as to the work shown for completion. After bids have been received, the Contractor shall not assert that there was a misunderstanding of the quantities of work or of the nature of the work to be completed.

9. All construction and materials, unless otherwise noted, to comply with City of Wichita specifications and standards.

10. Contractor shall give property owners abutting this project, whose yards will be lower than the new finished grade elevations at the right-of-way line, an opportunity to utilize excess excavated material from the project to regrade their yards to drain to the new pavement. Contractor will be required to dump and spread the excess material as required by the specifications when requested by the property owner. The Contractor shall ascertain that a dirt order form has been properly executed by the property owner before any such excess material is delivered to such properties.

11. Any fence removed for construction shall be repaired in a condition equal to, or better than original, at no additional cost to the owner. This cost shall be considered as subsidiary to other bid items.

12. Rubble Removal – 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 and site location. Locations that, 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 will require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to US 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. The cost of disposing of rubble from the removal of miscellaneous structures and excess excavation, including loading and hauling shall be subsidiary to the other bid items.

13. Mailboxes within the limits of the project shall be removed and replaced by the Contractor as approved by the Engineer. Contractor will be required to make satisfactory provisions for mail delivery to properties affected by this project during its construction. This cost is subsidiary to other bid items.

14. 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. This cost is subsidiary to other bid items.

15. All entrance and cross road pipe within the project limits shall be removed by the Contractor unless otherwise noted on the plans. Removal of such pipes shall conform to the applicable section of the standard specifications. This cost is subsidiary to other bid items.

16. A saw cut of at least one-half the depth of existing surface courses or one-fourth the depth of the existing total pavement thickness shall be provided where proposed abuts an existing surface course or pavement removal. Sawed joint to facilitate removal within three (3) feet of existing joints will not be permitted and for such instances the limits of removal shall extend to the existing joint. Such saw cuts will not be paid for directly and this cost shall be considered as subsidiary to the other bid items.

17. The Contractor shall adjust water valve boxes and fire hydrants as directed by the Engineer. This cost is subsidiary to other bid items. The Water Department shall field locate water valves one time during construction when requested by the Contractor. It shall be the Contractor's responsibility to preserve such field locations during the construction process. Water valves, water valve boxes or fire hydrants damaged during construction shall be repaired by the Contractor at his own expense.

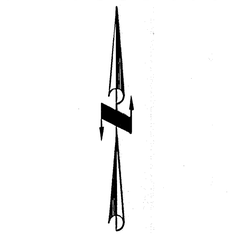
18. The project limits may have underground sprinkler systems which conflict with new construction. Contractor will be required to remove such improvements should they not be removed by their owner prior to the time of construction of the project. The Contractor will be required to salvage all sprinkler heads and/or valves and give such material to their owner. Portions of underground sprinkler systems not in conflict with new construction shall be protected from damage and shall remain in place. All work in connection with underground sprinkler systems shall be considered as subsidiary to the contract pay items of work.

19. Street to be closed during construction except for temporary access coordinated with the adjacent properties. The Contractor shall use construction methods which shall minimize inconvenience to residents in the project area. Contractor will be required to make special access provisions for any handicapped residents within the project area whose normal access would otherwise be impaired.

20. Earthwork computation for both alternates are based on alternate 1 which is to the bottom of the 5" reinforced crushed rock base.

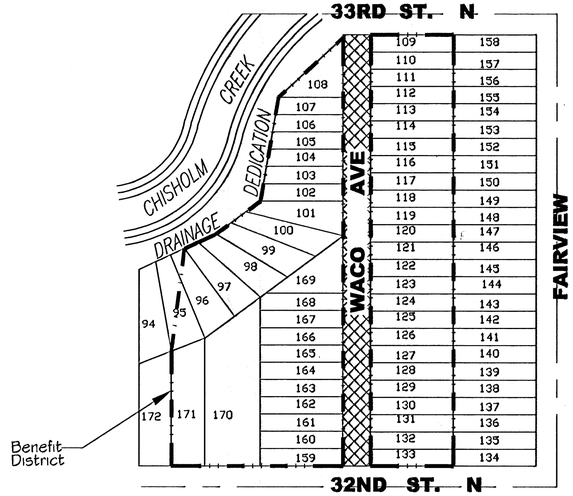
21. Railroad ties and yard decorations within the limits of this project are to be stockpiled for their owner. This cost is subsidiary to the site preparation and restoration bid item.

22. The street R/W shall be seeded with temporary Rye grass at a rate of 200 lbs/acre. Unless it's in a developed area which is to conform to City's policy AR-78.



SCALE : 1" = 100'

0' 100' 200' 300'



LOCATION MAP

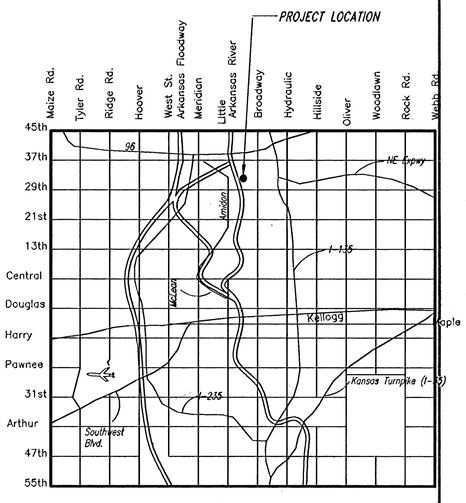
EARTHWORK SUMMARY

Waco Street

Excavation = 978 C.Y.

INDEX:

SHEET	1	TITLE SHEET
SHEET	2	TYPICAL PAVEMENT SECTION
SHEET	3	MANHOLE – TYPE P
SHEET	4	STD. INLET – TYPE II
SHEET	5-6	PLAN SHEETS
SHEET	7	X-SECTIONS



KEYMAP

PROJECT LENGTH:

STREET	LENGTH
Waco Street	624.09'

DRAINAGE BOOKED 3-10-00 MGS D-451

BENCH MARKS:

BM # 1.
City Benchmark Disc, 32' South and 22' East of centerlines, 33rd St. N. & Arkansas.
Elev. = 129.81

BM#2.
Square cut on the E. end at the south hubguard ot bridge over canal, 150' W. of Waco on 33rd St. N.
Elev. = 131.87

BM#3.
R.R. Spike in PP, 50' N. of 32nd St. N. on the west side of Waco.
Elev. = 129.54

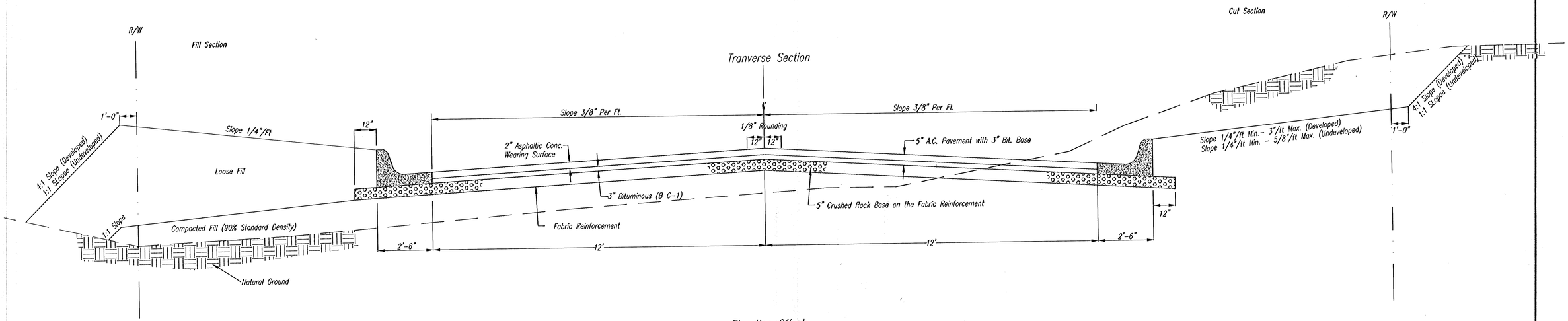
BAZAR M. KHAN LICENSED PROFESSIONAL ENGINEER STATE OF KANSAS 11/14/00

TITLE SHEET

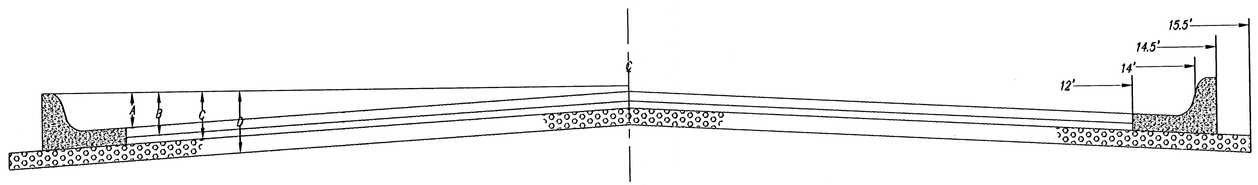
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DATE:		CHECKED: B. K.
PROJECT NO: 98-102 (MUNICIPAL)		SHEET NO.: 1 OF 7

MUNICIPAL ENGINEERS
254-LAURA, SUITE 201
WICHITA, KANSAS 67211
316-262-3842

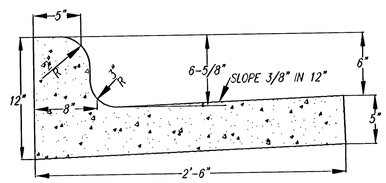
TYPICAL 29' PAVEMENT DETAILS



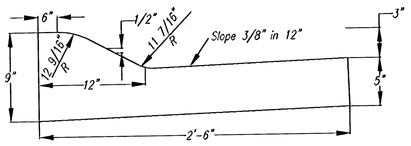
Elevation Offsets



	Distance from centerline (Lt. or Rt.)									
	0'	2'	4'	6'	7'	8'	10'	12'	14'	14.5'
A. Top of curbs to top of surface Lift	0.13	0.18	0.24	0.30	0.33	0.36	0.43	0.49	0.49	–
B. Top of curbs to top of base lift	0.30	0.35	0.41	0.47	0.50	0.53	0.60	0.66	0.65	–
C. Top of curbs to top of rock base	0.55	0.60	0.66	0.72	0.75	0.78	0.85	0.91	0.91	1.00
D. Top of curbs to top of subgrade										



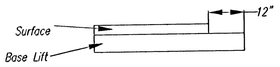
COMBINED CURB & GUTTER



ROLL TYPE COMBINED CURB & GUTTER

Fabric base reinforcement shall be B x 1100 by Tensar corporation or approved equal. Fabric base reinforcement shall be installed in accordance with manufactures recommendations. Crushed rock shall be uniformly graded from 1-1/2" max. six to not more than 10% passing a no. 200 sieve. Rock quality shall be the same as specified for coarse aggregate for concrete mixes.

TRANSVERSE CONSTRUCTION JOINTS



Transverse construction joints shall be constructed in flexible base pavement at locations where pavement joints existing flexible base pavement as shown of the transverse joint shall be included in the bid price for square yards 5" asphaltic concrete pavement (3" bituminous base.)

GENERAL NOTES

Rock base is to be compacted and smoothed with a steel faced roller prior to placement of asphalt. Tack coat will not be applied to rock base.

A tack coat of emulsified asphalt (SC-1H or CSS-1H) shall be applied at an approximate rate of 0.05 gallons per square yard between each lift of asphaltic material.

Bituminous base and asphaltic concrete wearing surface shall be placed with a laydown machine having automatic controls for line and grade.

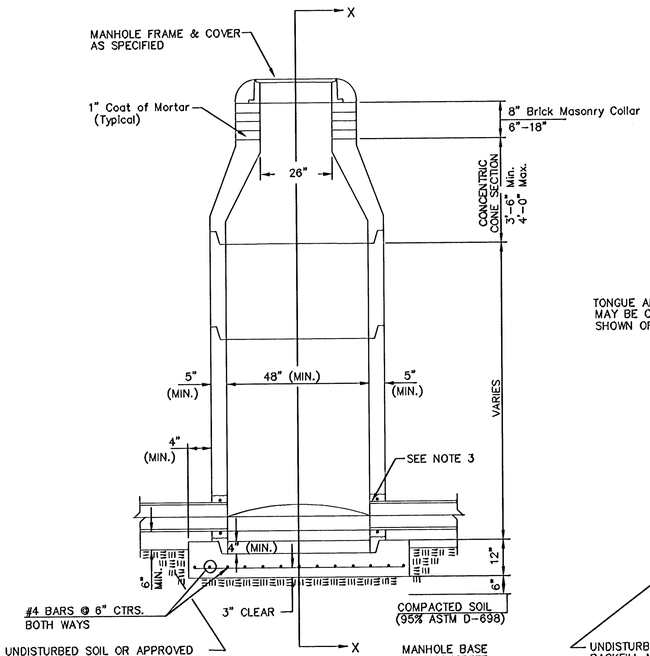
Construction joint in each lift shall be staggered a minimum distance of one (1) foot from joints in preceding lifts and placed so that a joint will be constructed on the centerline of the top lift.

5" Residential Asphaltic Concrete Pavement with Crushed Rock Base on Fabric Reinforcement

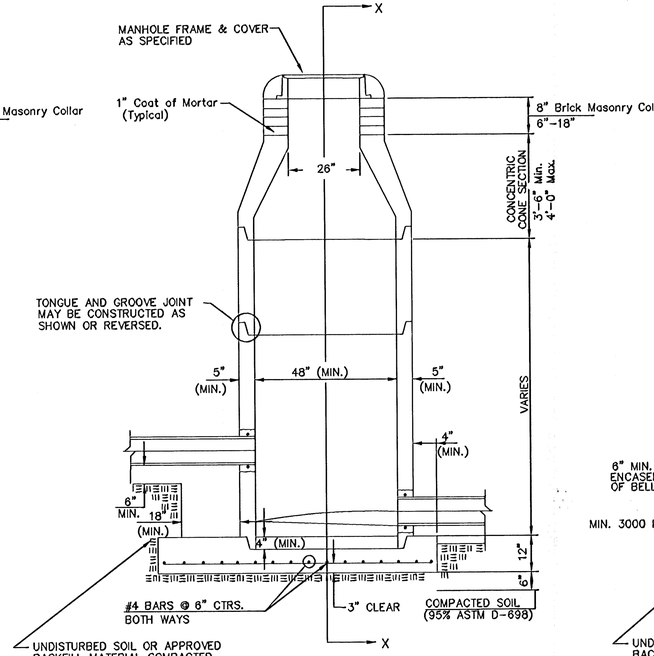
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DATE:		CHECKED:
PROJECT NO: 472-82899		SHEET NO.: 2 OF 7

MUNICIPAL ENGINEERS
254-LAURA, SUITE 201
WICHITA, KANSAS 67211
316-262-3842

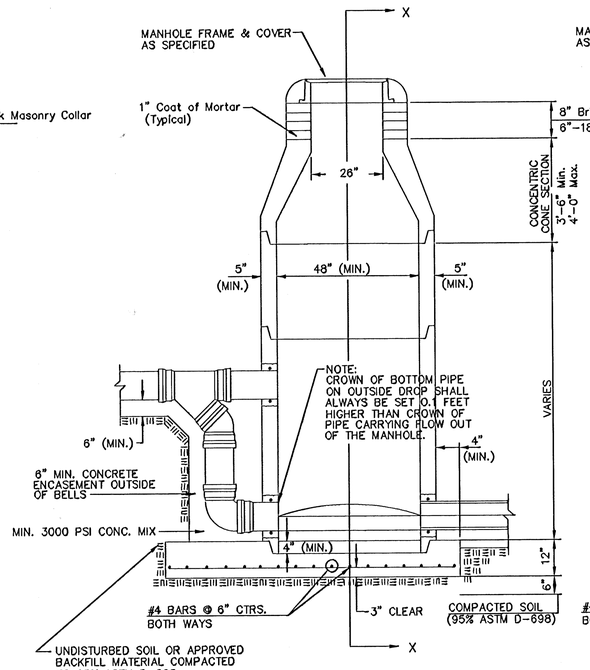
SEWER APPURTENANCES DETAILS



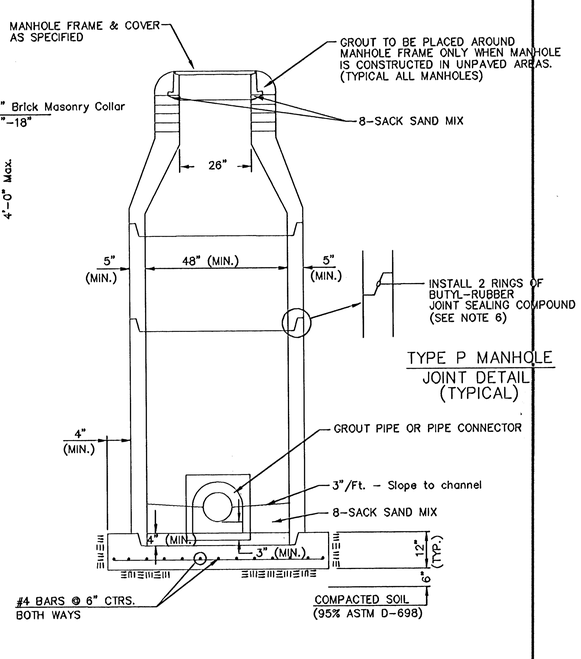
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



TYPE P MANHOLE
JOINT DETAIL
(TYPICAL)

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 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 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.
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 DRAWNG.
16. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWNG 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 OTHERWSE.
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.

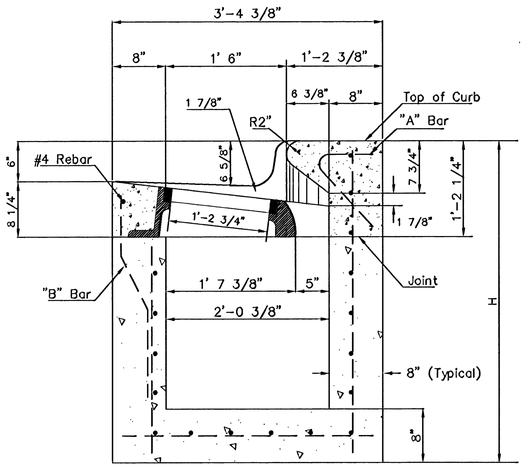
THE CITY OF WICHITA
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4507
(316) 268-4519 FAX

STANDARD TYPE 'P' MANHOLES

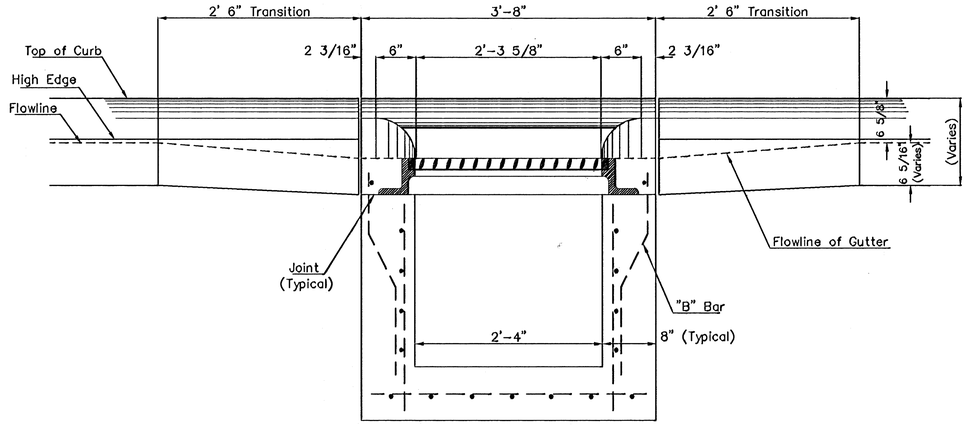
M. E. LINDEBAK P.E. - CITY ENGINEER

PROJECT NUMBER	INDEX CODE
472-82899	
DATE	SHEET 3 OF 7

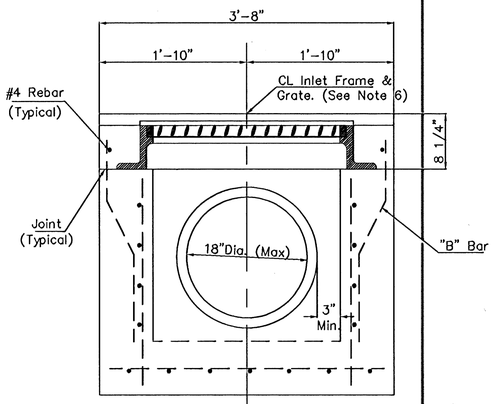
PMH.DWG



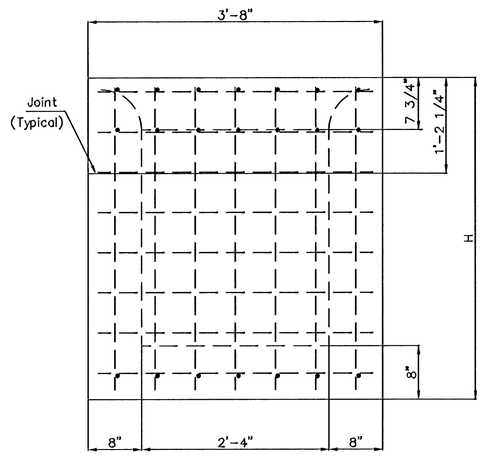
SECTION A–A



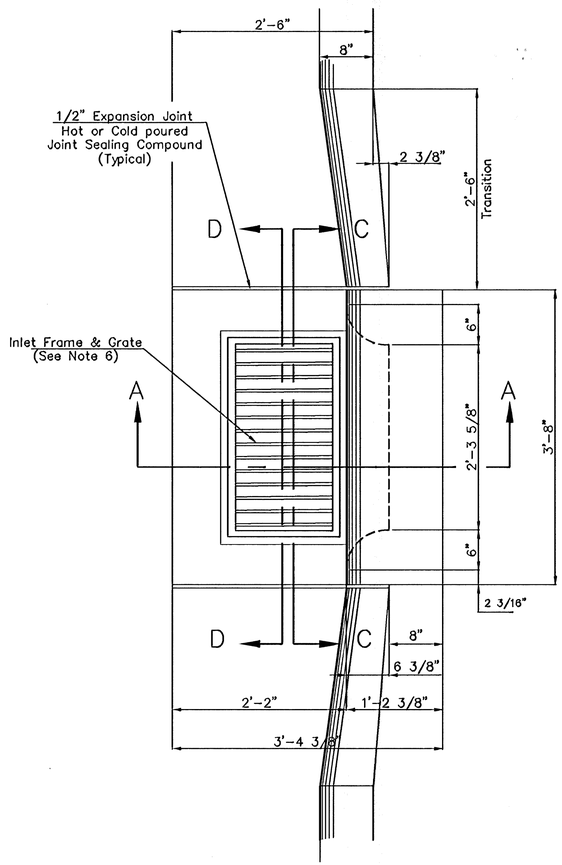
SECTION C–C

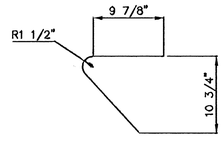


SECTION D–D

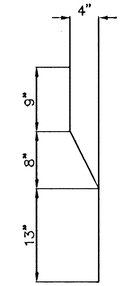


REAR WALL





"A" Bar



"B" Bar

General Notes

1. Use the concrete mix specified for the City of Wichita concrete pavement throughout. All exposed edges shall be finished with an edging tool. Reinforcing bars shall be bent around pipe.

2. Inlet invert shall be shaped with 8 sack mix concrete to create flow channels and to increase hydraulic efficiency such that the inlet will be self cleaning between all inlet and/or outlet pipes.

3. All bars are #4 with 6" spacing and shall have a minimum clearance of 1 1/2" inches unless otherwise noted on the plans.

4. When directed by the Engineer, a small opening may be required in the back of the inlet in order to drain a low area. Reinforcing bars will extend through the openings. No deductions in concrete quantities will be made for these openings.

5. No deductions will be made in pay length of curb, gutter, or curb and gutter through the inlet area.

6. Use Neenah R–3289 HV Single Inlet Frame and Grate or approved equal. Inlet frame to be proof load tested to 40,000 lbs. on unsupported side.

7. Reinforcing bars shall be cut or bent around pipes. No deduction in concrete quantities shall be made for pipe openings.

8. The vanes of the grate shall be oriented with respect to the flow arrows shown on the plans.

THE CITY OF WICHITA
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(316) 268-4114 FAX

STANDARD TYPE II CURB INLET INLET OPENING = 6" x 2'-3 5/8"

M. E. LINDEBAK P.E. – CITY ENGINEER

PROJECT NUMBER	INDEX CODE
472-82899	
DATE: MAR 96	SHEET 4 OF 7

LEGEND

- TREE
- I.P./PIPE — Iron Pin or Rebar
- P.P. — Power Pole
- Sign
- F.H. — Fire Hydrant
- W.V. — Water Valve
- T.B. — Telephone Box
- M.B. — Mail Box
- G.M. — Gas Meter
- W.M. — Water Meter
- x — x — Fence
- G — G — Gas Line
- W — W — Water Line
- Remove Existing Pavement

SCALE : 1" = 20'

0' 20 40 60

-0.50% +0.32%

Sta. 10+45.91
TC=129.00

PVI, No VC
Sta. 12+00.00
TC=128.23

Sta. 15+00
TC=129.19

2" Plastic Gas Line

30" San. Sewer

Telephone Pole to be Relocated prior to Conctruction

Sta. 10+33.40, 13.68' Lt.
Install Manhole, Type P
Over Existing 30" Storm Sewer
Install 15" RCP, 166.6 L.F. (N)

See Note 1 & 2.

Sta. 12+00.00, Lt.
Install Std. Inlet-Type II
Install 15" RCP, 29 L.F. (E)

MATCH LINE
SEE SHEET NO. 5

Regrade Area as Necessary

Sta. 10+45.91
Begin Construction

Adjust Water Valve to Grade

Sta. 12+00.00, Rt.
Install Std. Inlet-Type II

See Note 1 & 2.

WACO AVE

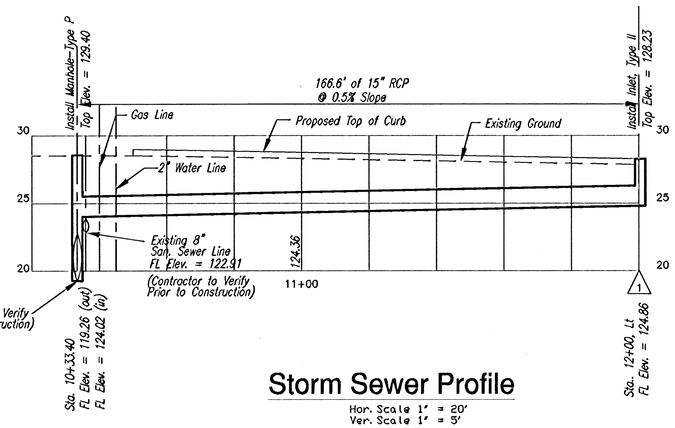
Comb. C & G (G-5/6) # 1-1/2'

5" AC Pavement (1" Surface, 4" Base) Over Compacted Rock Base

Q 32ND ST N

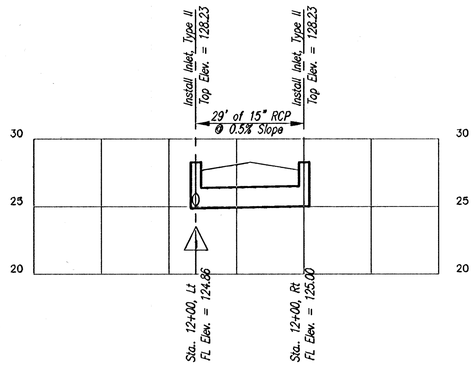
NOTE:

1. Gas Line to be adjusted by others prior to Construction. Call Charlene Lawless of Kansas Gas Service (832-3121) for adjusted location.
2. Water Line to be adjusted by others prior to Construction. Contact Bill Perkins of Wichita Water Department (268-4555) for adjusted locations.



Storm Sewer Profile

Hor. Scale 1" = 20'
Ver. Scale 1" = 5'



Storm Sewer Profile

Hor. Scale 1" = 20'
Ver. Scale 1" = 5'

Plan Sheet
Waco St.

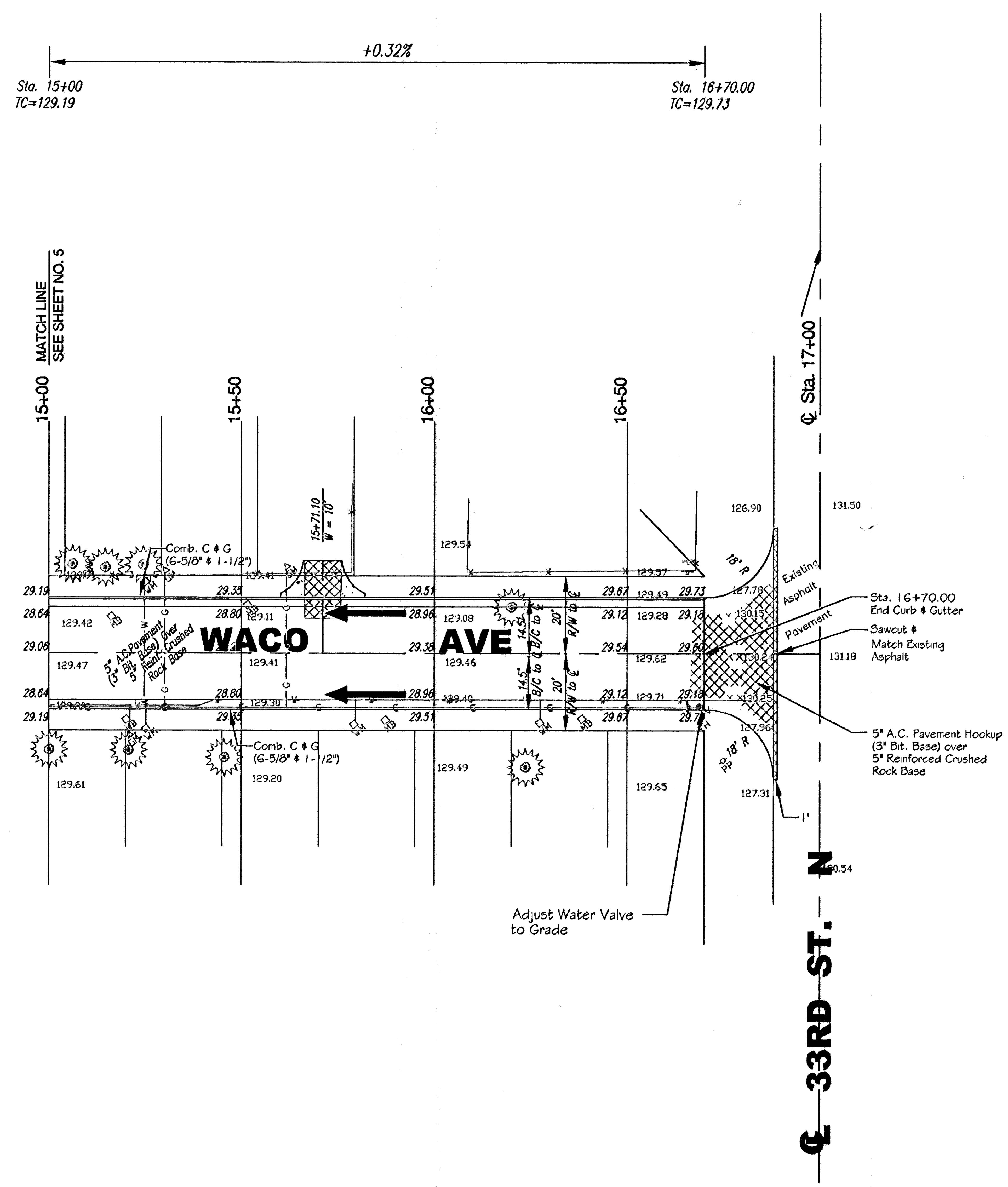
SCALE:	APPROVED:	DRAWN BY:
DATE:		CHECKED:
PROJECT NO. 98-102		SHEET NO.: 3 OF 7

MUNICIPAL ENGINEERS
254-LAURA, SUITE 201
WICHITA, KANSAS 67211
316-262-3842

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SCALE : 1" = 20'

0' 20 40 60

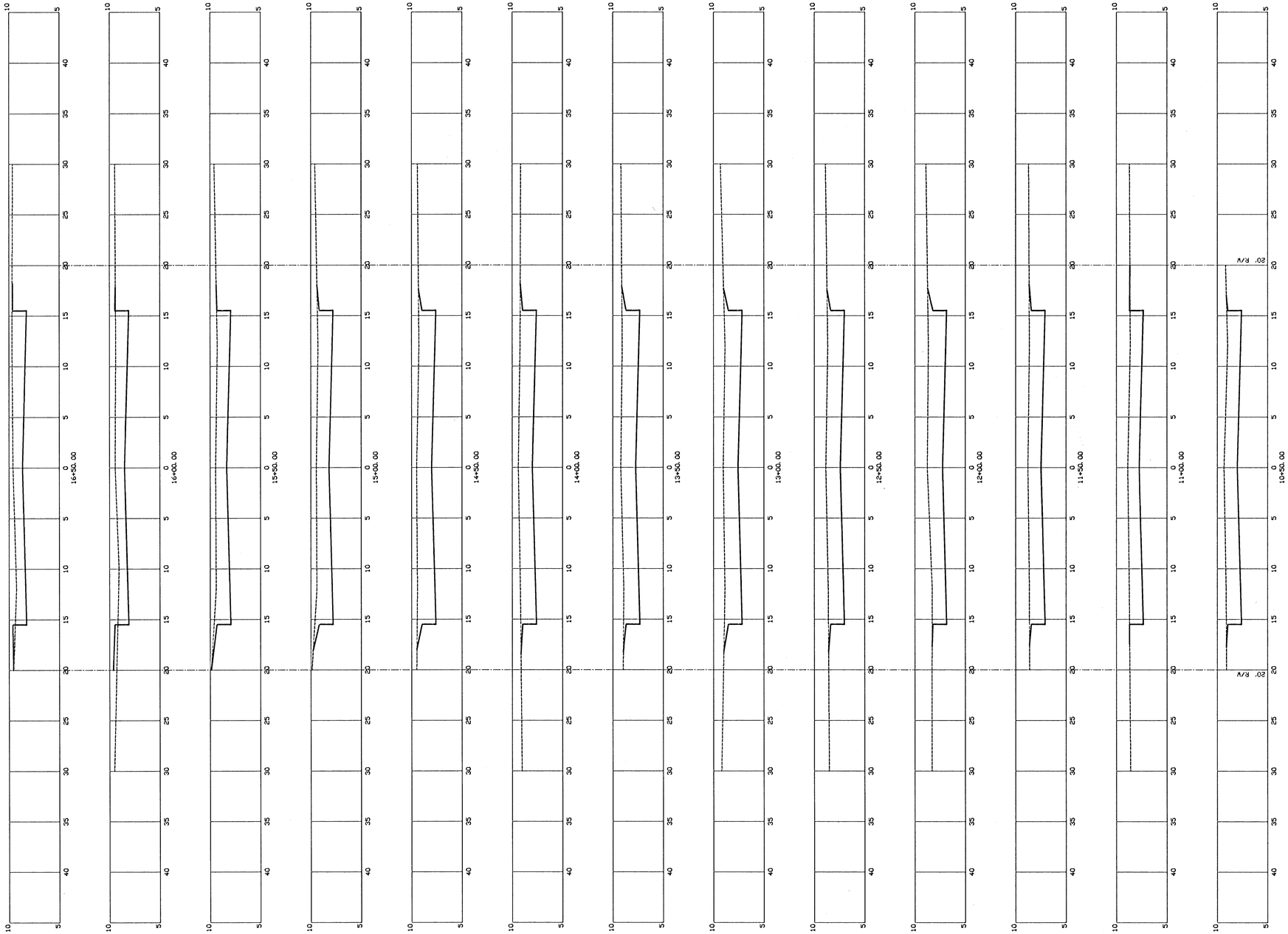


	Plan Sheet *Waco St.*
SCALE:	APPROVED:
DATE:	
PROJECT NO: 98-102	
DRAWN BY:	
CHECKED:	
SHEET NO.: 6 OF 7	

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WICHITA, KANSAS 67211
316-262-3842

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Horizontal Scale 5
Vertical Scale 5



Cross Sections
Waco Street

SCALE:	APPROVED:	DRAWN BY:
DATE:		CHECKED:
PROJECT NO: 98-102		SHEET NO.: 7 OF

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