CONSTRUCTION PLANS FOR

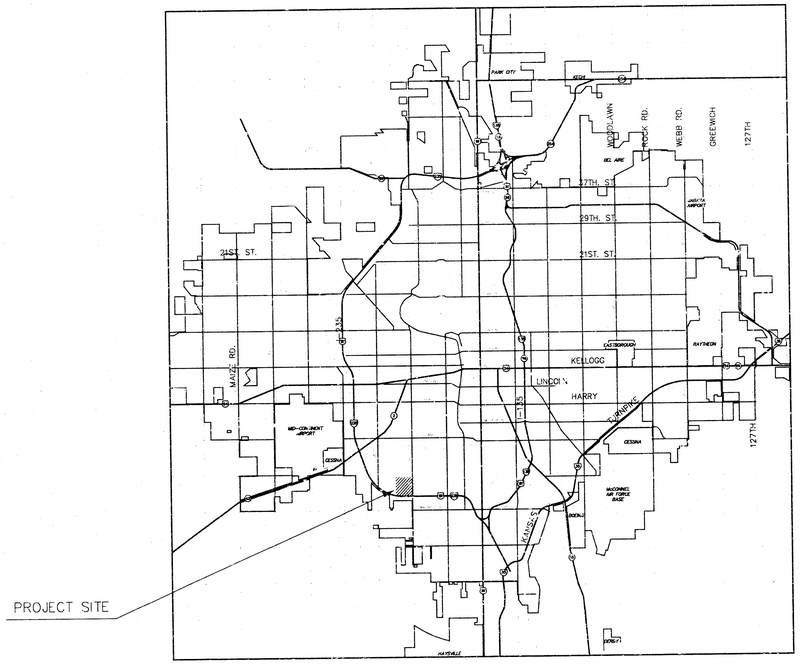
DRAINAGE IMPROVEMENTS (SWD163), WATER DISTRIBUTION SYSTEM
AND SANITARY SEWER LATERAL 470, SWI

TO SERVE

THE SOUTH 450 FEET OF LOT 1, BLOCK 1, AND LOT 2, BLOCK 1 YMCA SOUTH ADDITION

THE CITY OF WICHITA
SEDGWICK COUNTY, KANSAS

MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER



PROJECT SITE

N

SS Booked
P-183
8/30/01
RAC
per Plan

CITY OF WICHITA PROJECT NO.
468-83234 (SOUTH RCB & SANITARY SEWER)
448-89591 (WATER)

OCA 751298

JUNE 2001

PLANS PREPARED BY

MKEC ENGINEERING CONSULTANTS INC.

WICHITA, KANSAS

JEFFREY T. CARTWRIGHT
LICENSED
14371
KANSAS
PROFESSIONAL ENGINEER
6-21-01

G:\CIVIL\00149\DWG\WTR\00149-C1.dwg

G:\CIVIL\00149\DWG\WTR\00149-C1.DWG Thu Jun 21 09:06:54 2001

GENERAL NOTES

1. CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:
   KANSAS ONE-CALL 1-800-344-7233
   OR LOCAL (WICHITA) 687-2419

   THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF EMERGENCY:

COX CABLEVISION	1-316-262-0661
KG&E (ELECTRIC)	1-316-383-8890
KANSAS GAS SERVICE	1-316-383-8600
SOUTHWESTERN BELL TELEPHONE COMPANY	1-800-286-8313
CITY OF WICHITA WATER & SEWER MAINT.	1-316-262-6000
WILLIAMS NATURAL GAS	1-800-324-9696

2. CONTRACTOR SHALL NOT START WORK ON THE PROJECT UNTIL THE PROJECT INSPECTOR IS ASSIGNED TO THE PROJECT AND IS PRESENT ON THE SITE. ANY WORK DONE WITHOUT INSPECTION WILL BE REQUIRED TO BE UNCOVERED FOR INSPECTION.

3. 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. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.

4. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ABUTTING CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS NOTICE PRIOR TO START OF CONSTRUCTION.

5. 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. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO SITE RESTORATION.

6. THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, ENTRANCES AND BANK LINES TO THEIR ORIGINAL SLOPES AND GRADES EXCEPT AS SHOWN OTHERWISE.

7. INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA, AND LOCAL BUSINESS OR RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA ARE TO BE CARRIED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY PROJECT SPECIAL PROVISIONS.

8. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED AND TREE TRIMMINGS 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 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.

9. ALL LAWN/TURF AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE RESTORED WITH THE SAME GRASS/SOD AS EXISTING. RESTORATION OF DISTURBED AREAS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOP SOIL PREPARATION, SEEDING, MULCH, AND/OR RE-SEEDING. ALL SEEDING/SODDING WORK SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS AND THE CITY OF WICHITA ADMINISTRATIVE REGULATION NO. ARDP WHICH GOVERNS CLEAN-UP AND RESTORATION OR REPLACEMENT FOLLOWING CONSTRUCTION. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "SITE RESTORATION".

10. ALL WATER MAINS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF WICHITA, KANSAS STANDARD SPECIFICATIONS FOR WATER MAIN INSTALLATIONS NO. 14533.

11. THE WATER MAIN SHALL BE CONSTRUCTED ON THE ALIGNMENT SHOWN ON THE PLANS. 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, AND SHALL BE INCLUDED IN THE PRICE BID FOR THE INSTALLED WATER PIPE. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.

12. OPENING AND CLOSING WATER VALVES SHALL BE DONE SLOWLY TO PREVENT DAMAGE TO THE WATER DISTRIBUTION SYSTEM FROM WATER HAMMER. ALL VALVES CLOSED BY THE CONTRACTOR MUST BE REOPENED AS NEW CONSTRUCTION PERMITS. PROJECT INSPECTOR MUST ASCERTAIN THAT ANY VALVE CLOSED BY THE CONTRACTOR IS REOPENED. CONTRACTOR WILL BE PERMITTED TO OPERATE WATER VALVES ONLY WHEN THE PROJECT INSPECTOR ASSIGNED TO THE PROJECT IS PRESENT.

13. THE CONTRACTOR SHALL LAY A TRACER WIRE & SET TEST STATIONS ALONG ANY NONMETALLIC WATER LINE PIPE THEY INSTALL IN ACCORDANCE WITH CITY OF WICHITA SPECIFICATIONS & TRACER WIRE DETAIL ON DETAIL SHEET. INSTALLATION COST WILL BE BID ON A LINEAL FOOT BASIS.

14. NO SERVICES WILL BE INSTALLED AS PART OF THIS PROJECT.

15. A PORTION OF EXCESS EXCAVATED MATERIAL SHALL BE MOUNDED AROUND MANHOLES WHICH EXTEND MORE THAN ONE (1) FOOT ABOVE THE EXISTING GROUND. SUCH MOUNDS SHALL BE CONSTRUCTED WITH A SIX (6) FOOT DIAMETER FLAT TOP WITH 4 TO 1 SIDE SLOPES DOWN TO THE ORIGINAL GROUND. THE ELEVATION OF THE FLAT TOP OF THE MOUND SHALL BE 0.4 FOOT BELOW THE TOP OF THE MANHOLE.

16. ALL STUBS AND PLUGGED PIPES SHALL BE LOCATED WITH GREEN PLASTIC TAPE IN THE SAME MANNER AS RISERS.

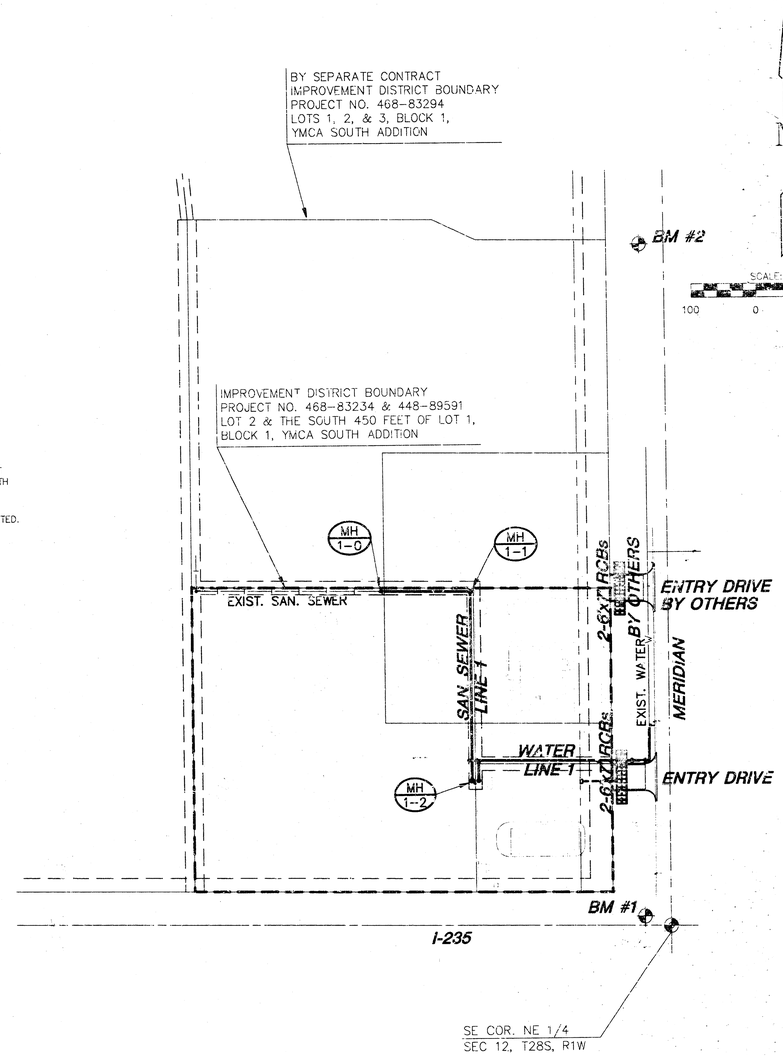
17. CONNECTING TO EXISTING MANHOLES:
    PRIOR TO LAYING SEWER LINES USING EXISTING STUBS IN EXISTING MANHOLES, THE CONTRACTOR SHALL EXPOSE AND VERIFY THE ELEVATION GRADE AND ALIGNMENT OF EXISTING STUBS AND NOTIFY THE ENGINEER OF ANY DEVIATION FROM THE PLAN. WHERE CONNECTION TO AN EXISTING MANHOLE THAT DOES NOT HAVE AN EXISTING STUB OR THE STUB IS UNUSABLE DUE TO ELEVATION GRADE OR ALIGNMENT, THE CONTRACTOR SHALL BORE CUT INTO EXISTING MANHOLE WALL TO MAKE CONNECTION USING APPROVED WATER STOP GASKET, AND RESHAPE THE EXISTING MANHOLE INVERT TO PROVIDE SMOOTH FLOW. THE COST OF CONNECTING TO EXISTING MANHOLES IS INCIDENTAL TO THE PROJECT.

18. THE TOPS OF INLETS AND MANHOLES AS NOTED ON THE PLANS MAY VARY SO AS TO MEET PROPOSED TOP OF CURB ELEVATIONS OR PAVEMENT ELEVATIONS. THE FIELD ENGINEER SHALL LOCATE INLETS AND MANHOLES WITH REFERENCE TO PROPOSED PAVING PLANS OF THE PERTINENT STREETS.

19. ALL CONCRETE SHALL BE STANDARD PAVING MIX UNLESS OTHERWISE NOTED.

20. TRANSITION CURB FROM FULL HEIGHT COMBINATION CURB AND GUTTER TO ROLL TYPE COMBINATION CURB AND GUTTER IS TO BE PAID AS BID FOR LINEAL FEET COMBINED CURB AND GUTTER (3 5/8" ROLL).

21. A SAW CUT OF AT LEAST ONE-HALF THE DEPTH OF THE EXISTING SURFACE COURSES OR ONE-FOURTH THE DEPTH OF THE EXISTING TOTAL PAVEMENT THICKNESS SHALL BE PROVIDED AT LOCATIONS WHERE PROPOSED CONSTRUCTION ABUTS AN EXISTING SURFACE OR PAVEMENT FOR WHICH PARTIAL REMOVAL OF THAT SURFACE OR PAVEMENT IS REQUIRED. SAW 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 REMOVAL OF SURFACE OR PAVEMENT.



INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	KEY MAP
3	WATER LINE DETAILS
4	WATER LINE PLAN/PROFILE
5-6	SANITARY SEWER DETAILS
7	SANITARY SEWER PLAN/PROFILE
8-9	STORM WATER SEWER DETAILS
10	STORM WATER SEWER PLAN/PROFILE
11-13	DITCH CROSS SECTIONS
14	PAVING ENTRY DETAILS
15-16	PAVING ENTRY PLANS
17	FINAL PLAT

As Built Sent to W.W.D.

LEGEND

- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER

BENCHMARKS

BM #1 – "□" BRASS DISC @ W HUBGUARD RCBC, NORTH OF I-235 ON MERIDIAN
ELEV. = 100.15 (1287.55)

BM #2 – "□" CUT TO W SIDE MERIDIAN E OF NE COR. LOT 1, BLK. 1, YMCA SOUTH ADDITION
ELEV. = 96.48 (1283.86)

NOTE:
WATER LINE VALVES TO BE OPERATED BY CONTRACTOR ONLY IF WATER INSPECTOR IS ON SITE.

MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-634-9600

YMCA SOUTH ADDITION
WENDY'S AND VILLAGE INN
PROJECT NAME

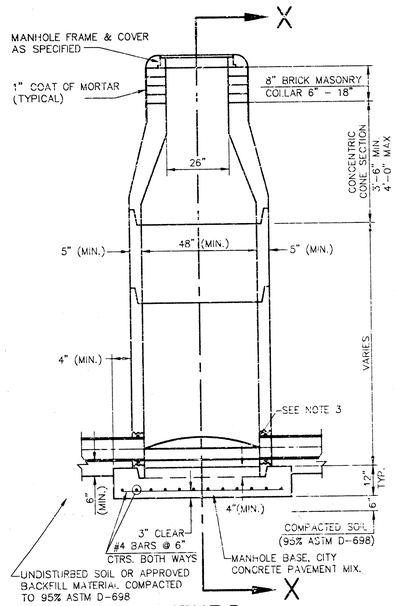
KEY SHEET
SHEET TITLE

JTC	GJR	JTC
DESIGN BY:	DRAWN BY:	CHECKED BY:
JUNE 2001	00149	2 / 17
DATE	JOB NO.	SHEET / OF

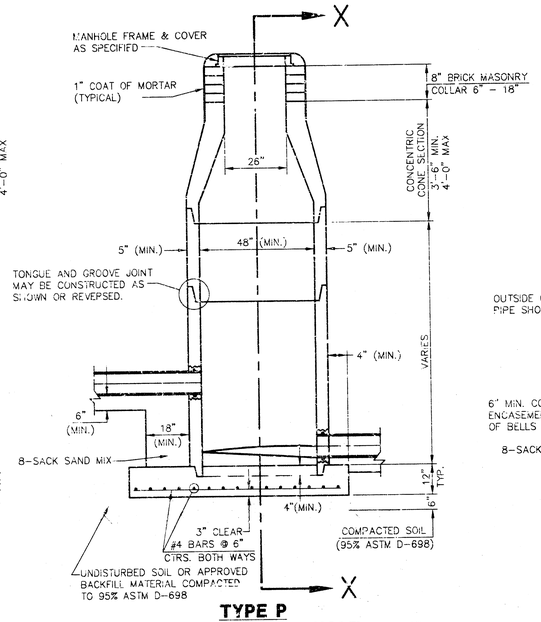
G:\CIVIL\00149\DWG\WTR\00149-CK.DWG Thu Jun 21 09:05:17 2001

SEWER APPURTENANCES DETAILS

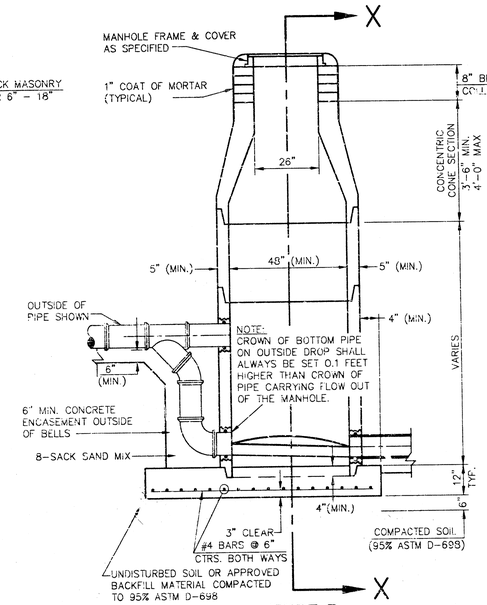
ADOPTED AS STANDARD DESIGN BY CITY OF WICHITA



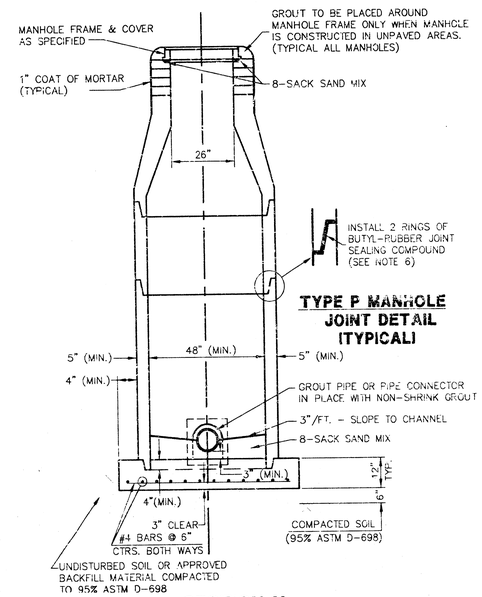
TYPE P
STANDARD MANHOLE



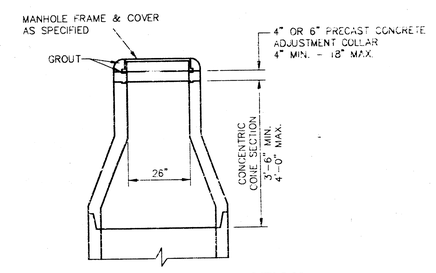
TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



SECTION X
(TYPICAL)



ALTERNATE CONSTRUCTION IN UNPAVED AREAS

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 BITUMINUS 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 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. 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: 6-12-86

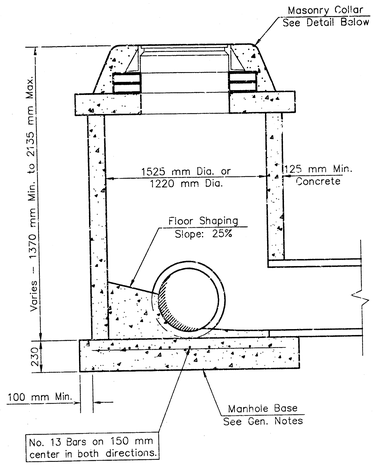
MANHOLE DETAILS

CITY OF WICHITA, KANSAS

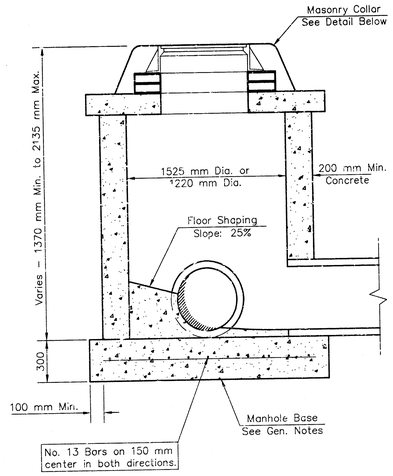
Design C.O.W.	Checked by	Checked by	SHEET 5/17
Drawn by	Date	Date JUNE 2001	Job No. 00149B01

G:\CIVIL\00149\DWG\SAN\00149B01.dwg

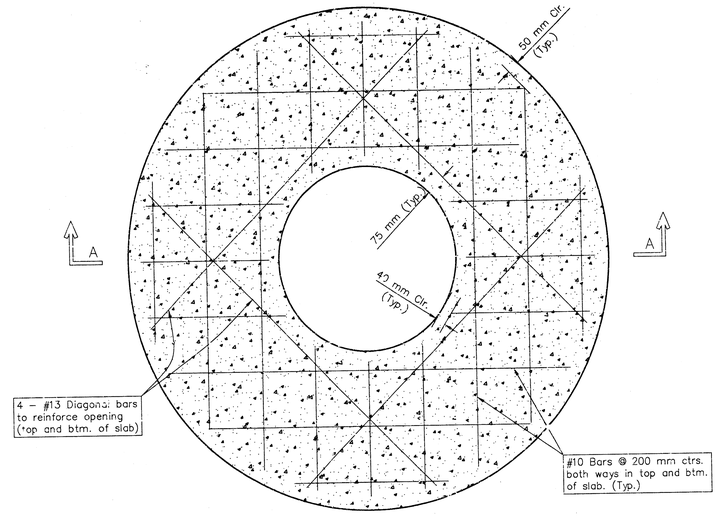
G:\CIVIL\00149\DWG\SAN\00149B01.DWG Mon Jun 18 13:24:39 2001



SHALLOW TYPE "P" MANHOLE



SHALLOW TYPE "C" MANHOLE



PLAN

GENERAL NOTES

1. Mortar used in masonry construction shall contain 10.5 sacks of cement per cubic meter. Concrete used in manhole cases 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. Manholes constructed where pipe sizes are smaller than 600 mm shall have an inside diameter of 1220 mm. Manholes constructed where pipe sizes are 600 mm or larger shall have an inside diameter of 1525 mm. Completed manhole shall be without leaks and water tight.

2. Reinforcing steel shall be installed in the manhole bases and shall consist of no. 13 bars placed on 150 mm centers in both directions. The manhole base reinforcement shall be placed 150 mm 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 pipes as shown by the drawings. Manhole floors shall have slopes of 25% 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.

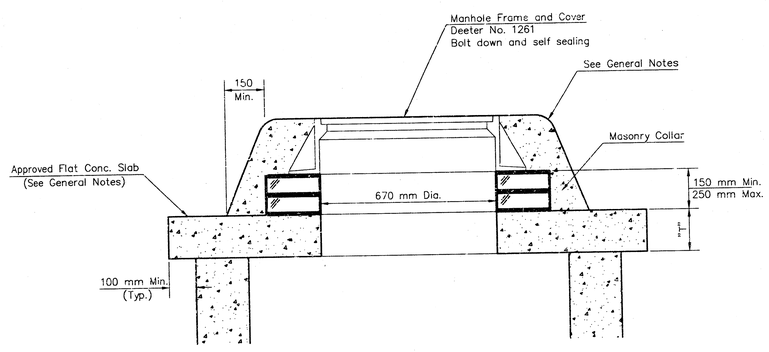
5. Manhole cover castings and manhole frame castings shall conform to the requirements as indicated in the standard specifications and as shown in the standard detail drawings.

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

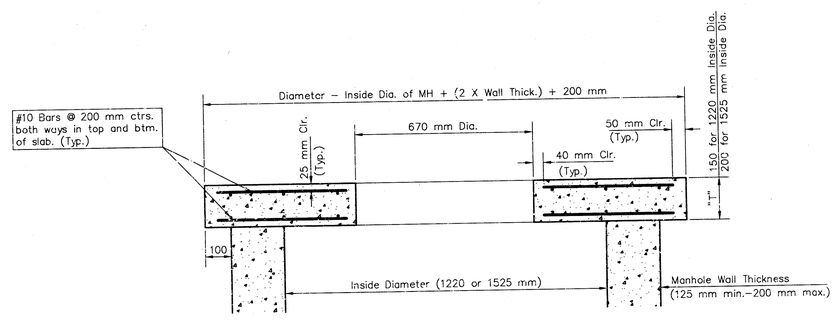
7. Standard shallow manholes type "P" and "C" shall be paid for at the unit price bid per each for the type and diameter indicated. All standard shallow manhole diameters will be 1220 mm unless indicated otherwise.

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

9. 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 mls. (min.)



MASONRY COLLAR DETAIL



SECTION A–A

FLAT CONCRETE SLAB DETAILS

REV. 1/05/02, MCG

THE CITY OF WICHITA

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

SHALLOW MANHOLES

TYPE 'P' & 'C'

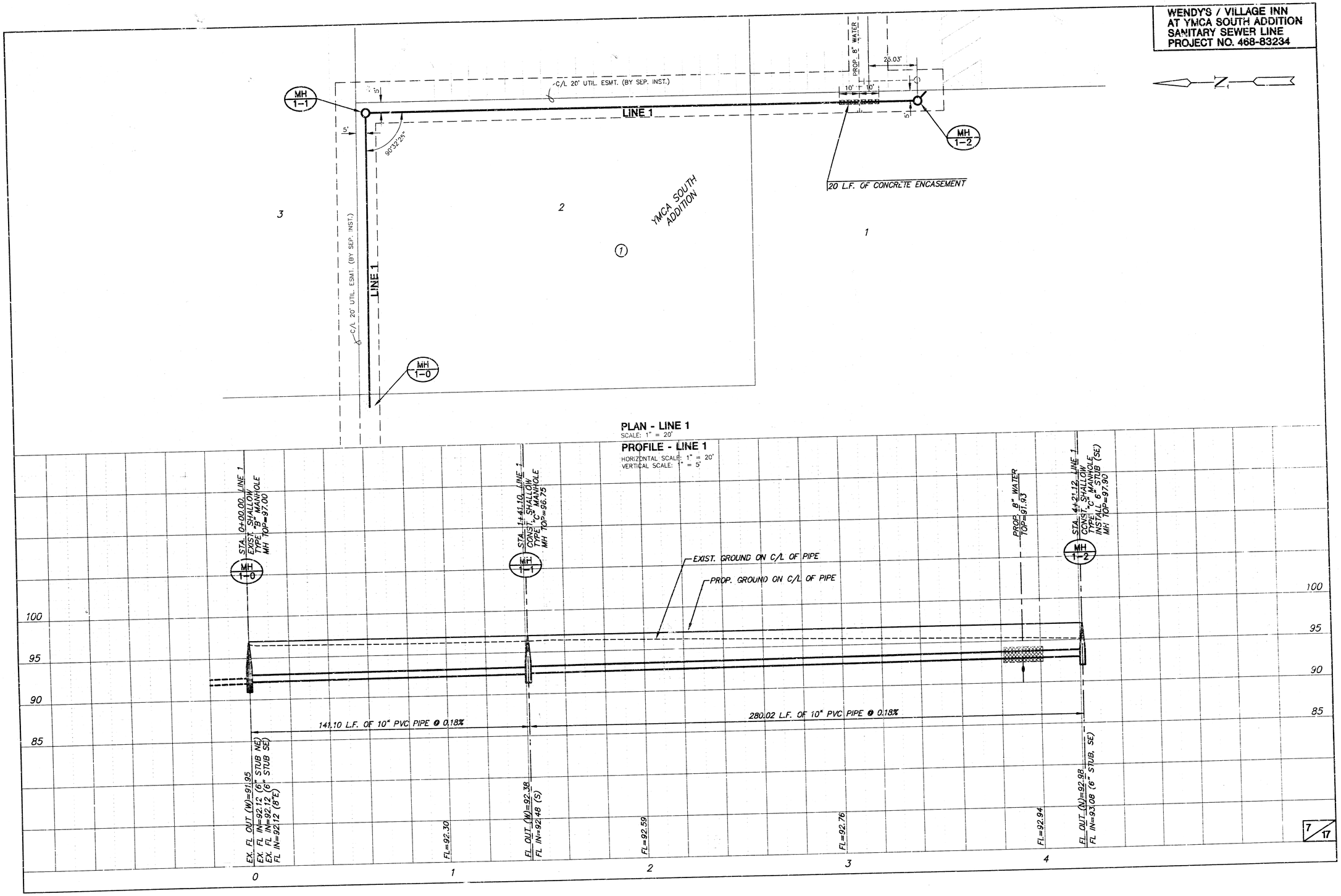
M. E. LINDEBAK P.E. – CITY ENGINEER

PROJECT NUMBER	INDEX CODE
468-83234	
DATE JUNE 01	SHEET 6 OF 17

G:\CIVIL\00149\DWG\SAN\00149BR2.DWG: Wed Jun 20 09:21:20 2001

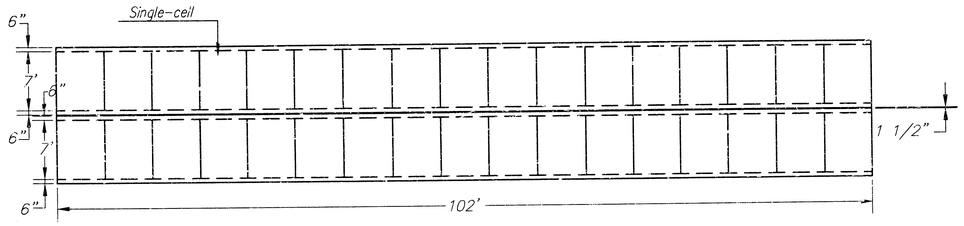
G:\CIVIL\00149\DWG\SAN\00149BR2.dwg

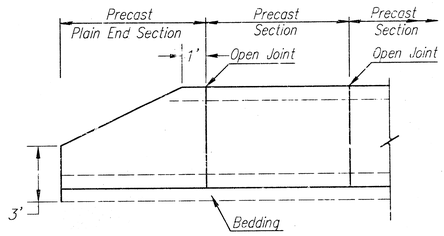
WENDY'S / VILLAGE INN
AT YMCA SOUTH ADDITION
SANITARY SEWER LINE
PROJECT NO. 468-83234



G:\CIVIL\00149\DWG\SAN\00149-B1.DWG Wed Jun 20 08:49:15 2001

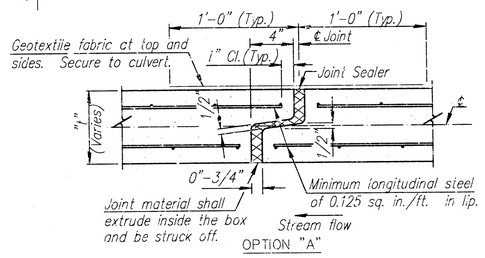
PLAN

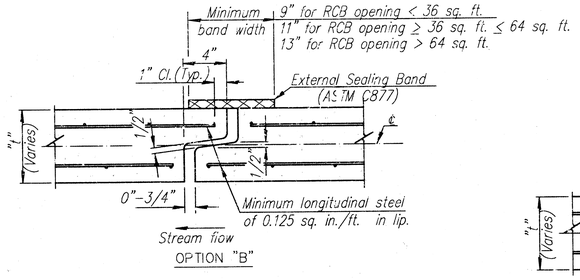




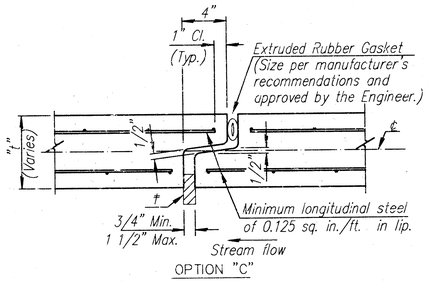
ELEVATION AT PRECAST END SECTION

(Precast End Sections are permitted where straight wings are shown in the plans or at the downstream end for single cell RCB with a rise of six feet or less.)

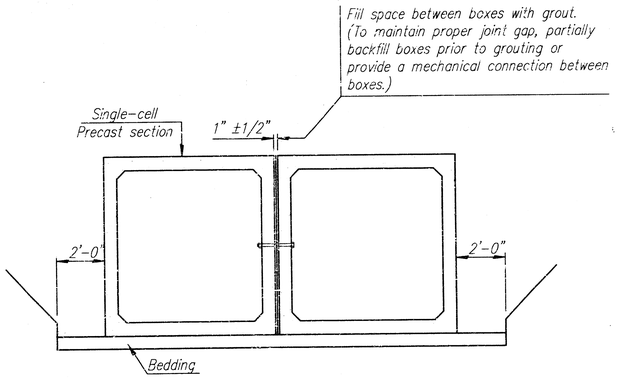




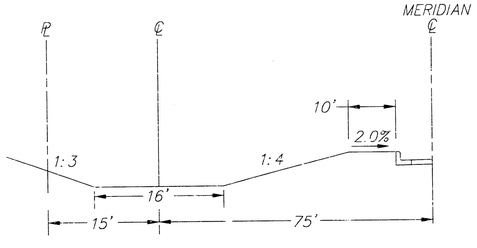
OPEN JOINT DETAIL



† Insert temporary, 3/4"-1" wide, hardwood wedges to prevent over-compressing gasket.



TYPICAL INSTALLATION DETAILS



TYPICAL DITCH SECTION

GENERAL NOTES

PRECAST BOX CULVERTS: If precast box culverts are specified, they shall be constructed at the locations shown in the plans and according to the requirements shown on this sheet. When approved by the Engineer, cast-in-place box culverts may be constructed in lieu of precast box culverts. When the cast-in-place option is chosen by the Contractor, the precast quantities shall be used as the basis of payment which shall include all labor, equipment, materials, and incidentals necessary to complete the installation.

Unless otherwise approved by the Engineer, cast-in-place collars shall be required at horizontal and vertical changes in RCB alignment. Cast-in-place end sections and wingwalls are required except as noted on this sheet. Cast-in-place sections may be required at the direction of the Engineer at junctions of drainage structures.

Cast-in-place concrete work shall be done in accordance with the KDOT Specifications and KDOT's "Guidelines for Structural Design and Detail of Reinforced Concrete Box Culverts". Class AAA Concrete and Grade 60 Reinforcing Steel shall be used for the cast-in-place construction.

SPECIFICATIONS: Single-cell Precast Concrete Box Culverts shall conform to the requirements of the following specifications except as noted in the KDOT Specifications. Multiple-cell Precast Boxes shall be designed in accordance with the criteria used to develop the single-cell precast boxes. (See Appendices of ASTM Specifications C789 and C850 and the latest AASHTO Specifications.)

Condition	Min. Fill	AASHTO	Equiv. ASTM
2 Ft. or more fill	2 Ft.	M259, Table 2	C789, Table 2
Less than 2 Ft. fill	0 Ft.	M273, Table 2	C850, Table 2

FABRICATION: Prior to fabrication, the Contractor shall furnish shop drawings to the Engineer for review. Shop drawings shall detail all phases of construction including layout, joint details, lifting devices, casting methods, construction placement and details of any cast-in-place segments or transitions that may be required. Copies of overheight and overload permits, when required, shall be submitted with the shop drawings.

The following information shall be legibly marked on an inside face of each box section by waterproof paint or other approved means:

a) Date of manufacture
b) Name or trademark and location of the manufacturer
c) Weight of box section in tons
d) Piece mark
e) The top of the box

CONSTRUCTION REQUIREMENTS: Foundation preparation shall be in accordance with KDOT Specifications except that a minimum 6 inch thickness of crushed stone for backfill or 3 inch seal course shall be provided. Choice of bedding shall be at the Contractor's option and approved by the Engineer.

Precast concrete box culvert shall be laid with the groove end of each section up-grade, and the sections shall be tightly joined. Joint shall be sealed with an approved bituminous mastic material and geotextile or sealing band or an extruded rubber gasket, installed in accordance with the recommendations of the manufacturer. Lifting holes shall be plugged with a precast plug, sealed and covered with mastic or mortar.

MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

YMCA SOUTH ADDITION
PROJECT NAME

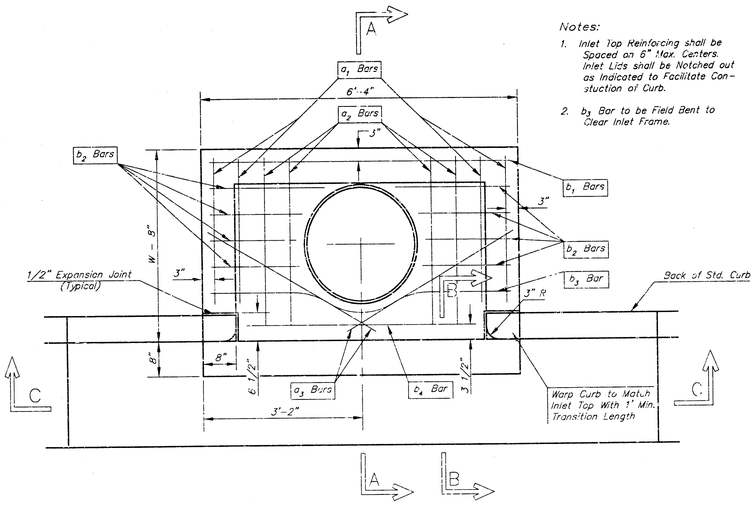
BOX CULVERT/TYPICAL DITCH SECTION
SHEET TITLE

JTC	GJR	JTC
DESIGN BY:	DRAWN BY:	CHECKED BY:
JUNE 2001	00149	8 / 17
DATE	JOB NO.	SHEET/OF

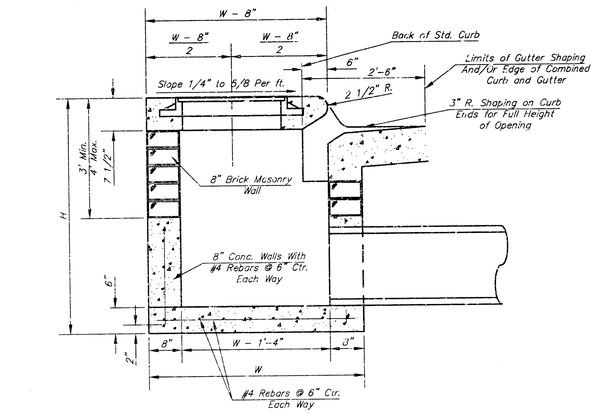
G:\CIVIL\GI149\DWG\SHS\00149001.DWG Mon Jun 18 15 27:19 2001

Notes:

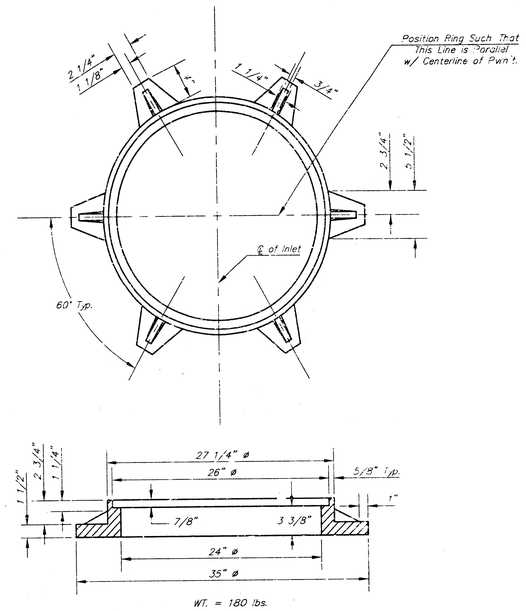
1. Inlet Top Reinforcing shall be Spaced on 6" Max. Centers. Inlet Lids shall be Notched out as Indicated to Facilitate Construction of Curb.
2. b_3 Bar to be Field Bent to Clear Inlet Frame.



PLAN

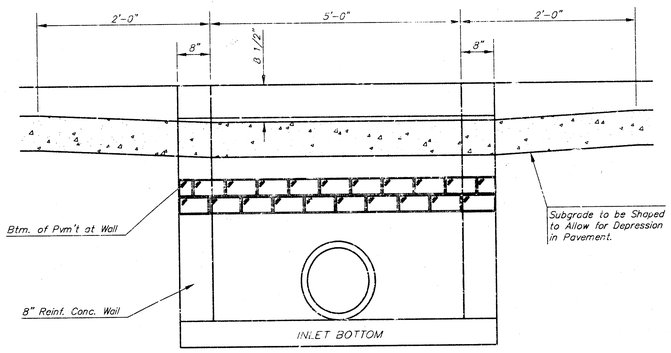


SECTION A-A

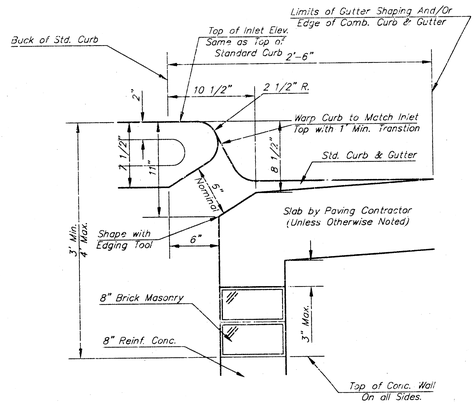


MANHOLE RING AND COVER

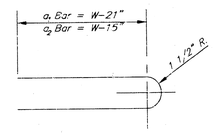
*See City of Wichita Standard Manhole Ring and Cover Detail Sheet for Cover Details to Be Used With Inlet Frame.



SECTION C-C



SECTION B-B



BENDING DIAGRAM

STEEL SCHEDULE

BAR		a_1	a_2	a_3	b_1 W=4'-4"	b_1 W=5'-4"	b_1 W=6'-4"	b_1 W=7'-4"	b_1 W=8'-4"	b_2	b_3	b_4	Wt. Lbs.
NUMBER		4	4	2	1	3	5	7	9	6	1	1	
SIZE		#4	#4	#4	#4	#4	#4	#4	#4	#4	#4	#6	
LENGTH	W=4'-4"	5'-7"	6'-7"	4'-0"	6'-1"	–	–	–	–	1'-9"	6'-2"	4'-8"	60±
	W=5'-4"	7'-7"	8'-7"	5'-0"	–	6'-1"	–	–	–	1'-9"	6'-2"	4'-8"	81±
	W=6'-4"	9'-7"	10'-7"	6'-0"	–	–	6'-1"	–	–	1'-9"	6'-2"	4'-8"	101±
	W=7'-4"	11'-7"	12'-7"	7'-0"	–	–	–	6'-1"	–	1'-9"	6'-2"	4'-8"	121±
	W=8'-4"	13'-7"	14'-7"	8'-0"	–	–	–	–	6'-1"	1'-9"	6'-2"	4'-8"	141±

Note: a_3 Bars to be Placed Approx. 2" Below Top of Inlet Cover.

STANDARD CURB INLET PRECAST TOPS			
W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
4'-4"	3'-8" 6'-4" 7 1/2"	21" & SMALLER	0.38±
5'-4"	4'-8" 6'-4" 7 1/2"	24" & 30"	0.51±
6'-4"	5'-8" 6'-4" 7 1/2"	36" & 42"	0.64±
7'-4"	6'-8" 6'-4" 7 1/2"	48" & 54"	0.77±
8'-4"	7'-8" 6'-4" 7 1/2"	60" & 66"	0.90±

GENERAL NOTES

1. Concrete tops to be installed on thin mortar cushion to insure full support along brick walls. Concrete tops may be cast in place or precast. Concrete used for inlet construction shall be concrete pavement mix.
2. Contractor shall have the option of constructing 8" brick masonry walls between the concrete inlet base and top on this inlet when W=6'-4" and H=7'-0" or less.
3. Inlet invert shall be shaped with 8 sack sand 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.
4. The ends of all pipes installed in inlets shall be cut off flush with the inside face of the inlet wall.

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

STANDARD TYPE 1 CURB INLET

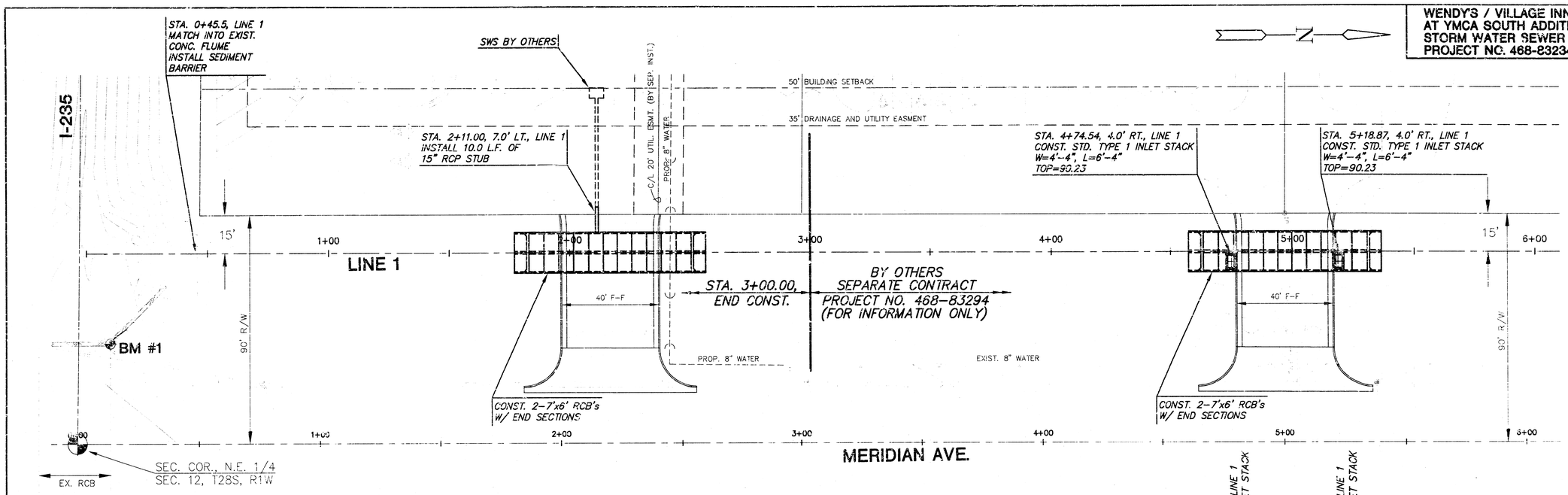
OPENING = 6" x 5'-0"

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

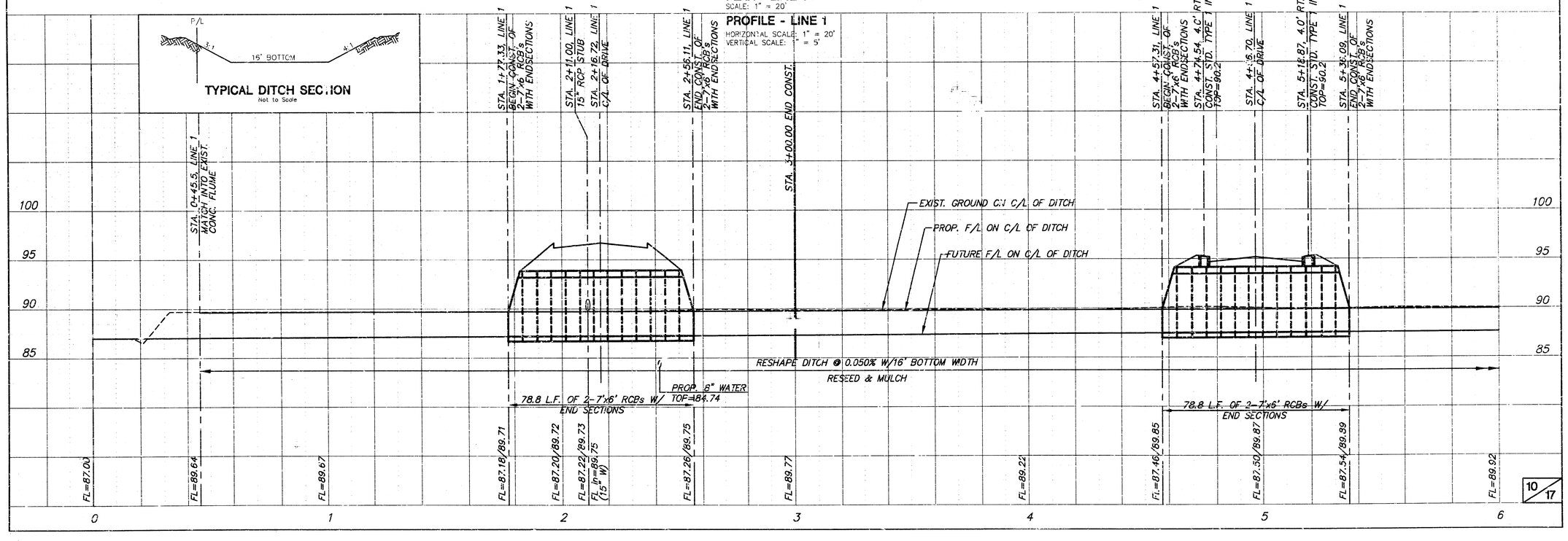
PROJECT NUMBER	OCA
468-83234	751298
DATE JUNE 01	SHEET 9 OF 17

G:\CIVIL\00149\DWG\SHS\00149DL2.DWG Mon Jun 18 16:28:19 2001

WENDY'S / VILLAGE INN
AT YMCA SOUTH ADDITION
STORM WATER SEWER
PROJECT NO. 468-83234

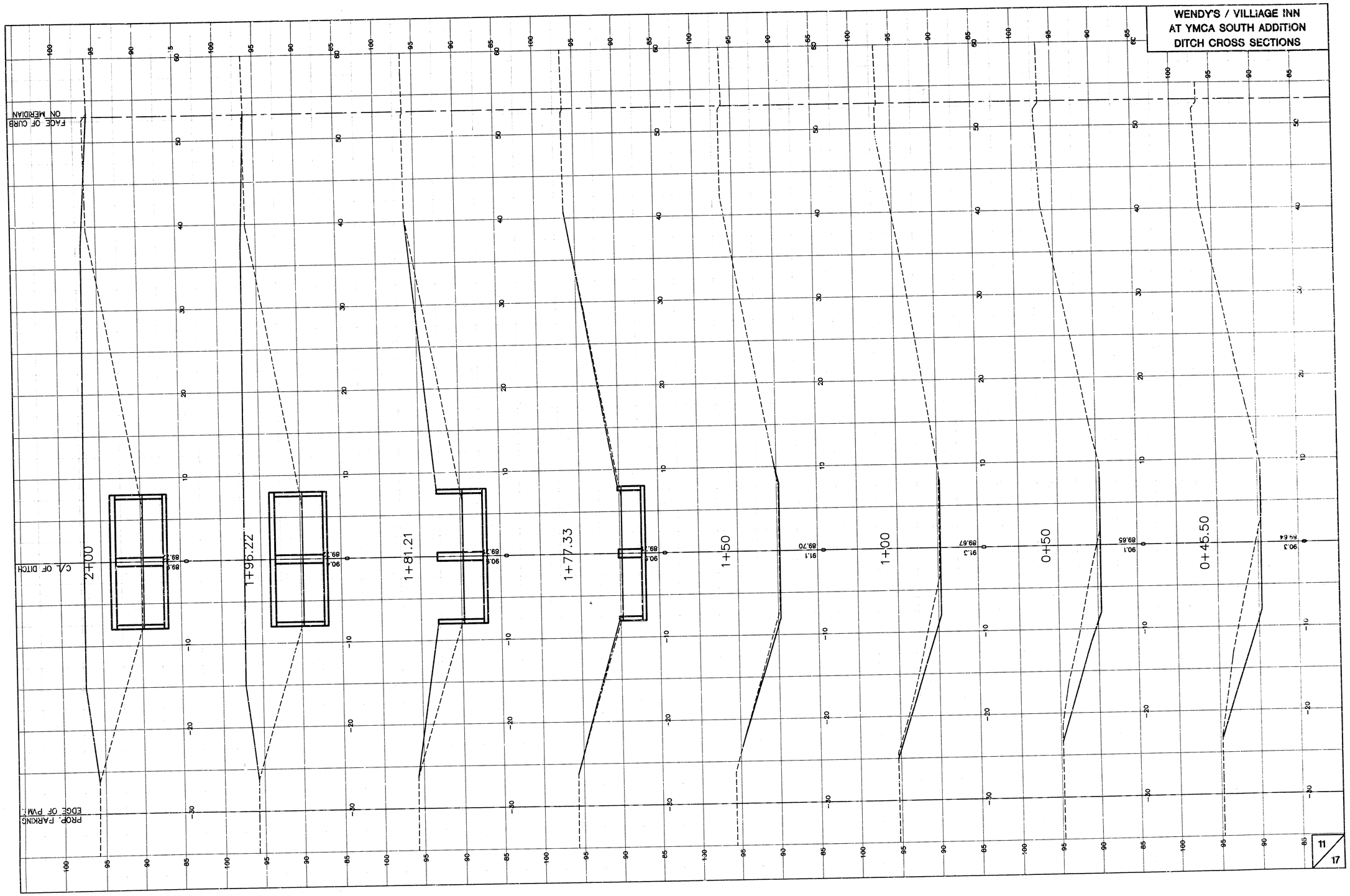


PLAN - LINE 1
SCALE: 1" = 20'

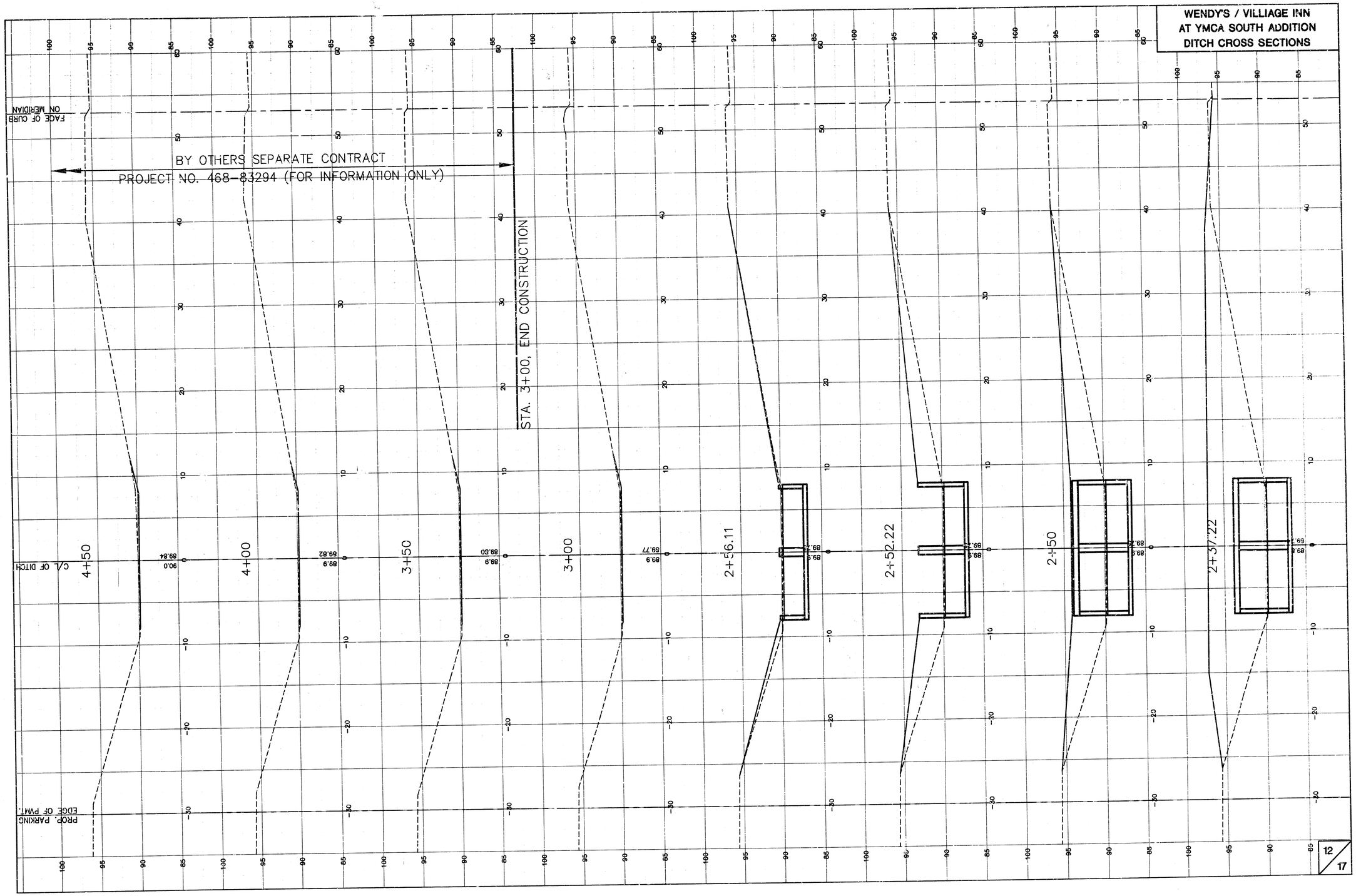


G:\CIVIL\00149\DWG\SHEET\00145-01.DWG Thu Jun 21 09:47:47 2001

WENDY'S / VILLIAGE INN AT YMCA SOUTH ADDITION DITCH CROSS SECTIONS

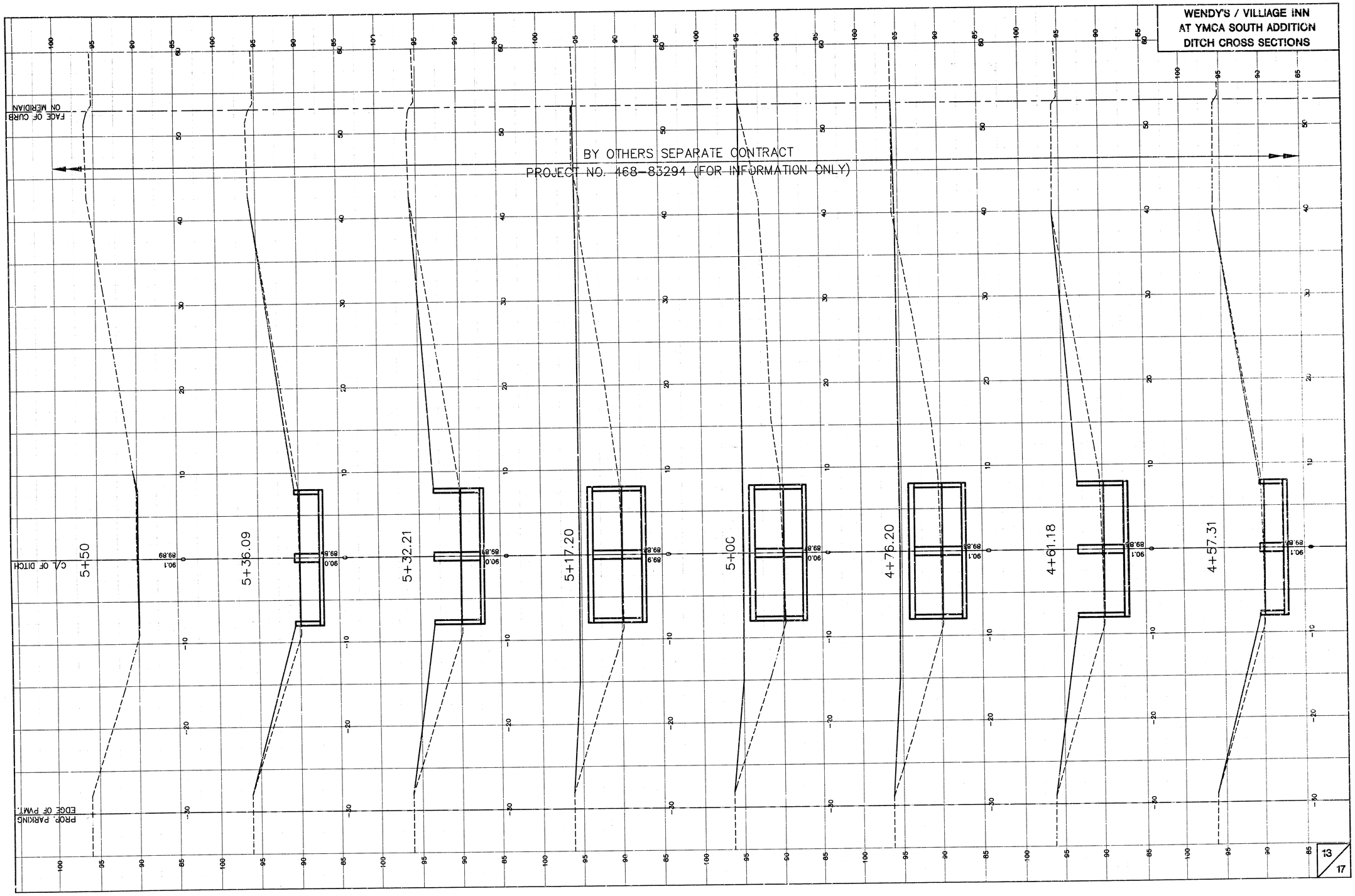


G:\CIVIL\00:49\DWG\DRS\XSEC.DWG Tue Jun 19 09:54:14 2001



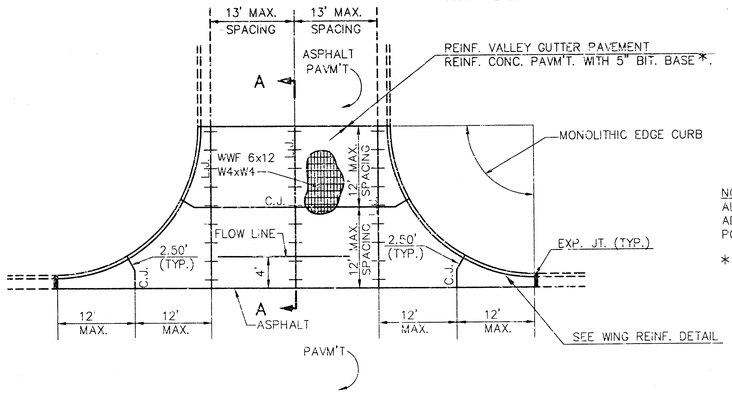
G:\CIVIL\0014P\DWG\S-XSEC.DWG Thu Jun 21 09:41:51 2001

WENDY'S / VILLIAGE INN AT YMCA SOUTH ADDITION DITCH CROSS SECTIONS



G:\CIVIL\0049UMO\SWS\XSEC.DWG Thu Jun 21 09:44:00 2001

6"x12" W4xW4 WIRE FABRIC REINFORCING SHALL BE PLACED SUCH THAT THE WIRES WITH THE 6" SPACING WILL RUN PARALLEL WITH THE LONGITUDINAL JOINT.

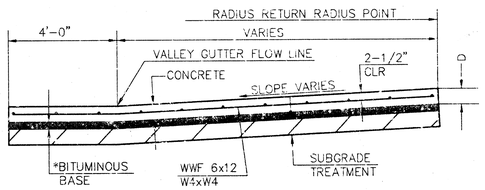


NOTE:
ALL CONCRETE VALLEY GUTTER REINFORCEMENT SHALL BE ADEQUATELY SUPPORTED BY BAR CHAIRS IN THE REQUIRED POSITION UNLESS APPROVED OTHERWISE BY THE ENGINEER.

*NOT TO BE USED WITH CRUSHED ROCK BASE.

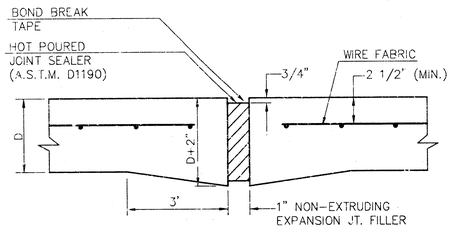
PLAN

REINFORCED VALLEY GUTTER
SCALE: NONE



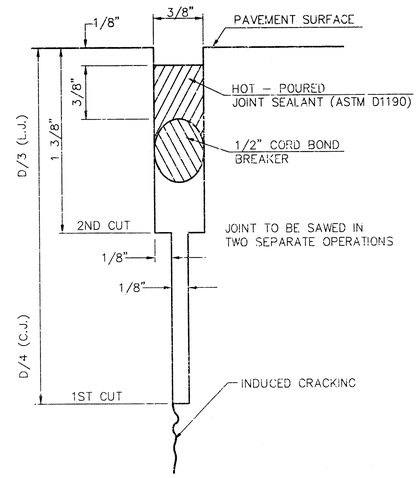
SECTION A-A
SCALE: NONE

*NOT TO BE USED WITH CRUSHED ROCK BASE

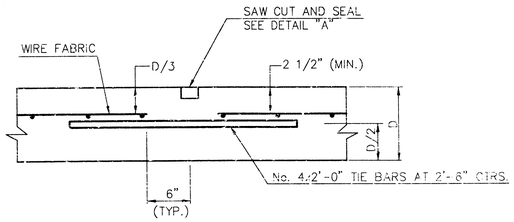


NOTE:
EXTRA THICKNESS TO BE SUBSIDIARY TO PRICE OF SQ. YDS. PAVEMENT.

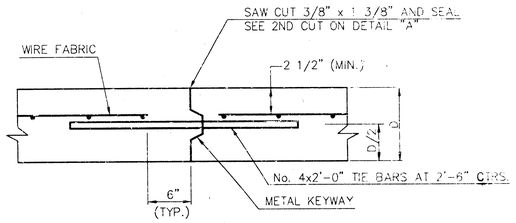
EXPANSION JOINT
SCALE: NONE



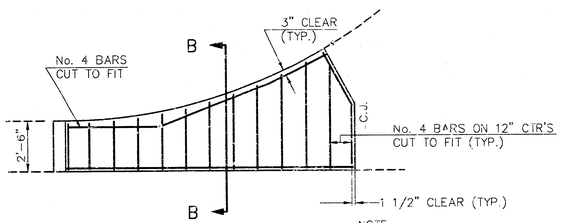
DETAIL "A"
SCALE: NONE



LONGITUDINAL JOINT DETAIL (L.J.)
SCALE: NONE

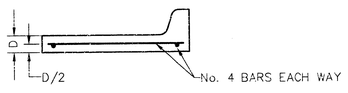


OPTIONAL LONGITUDINAL CONSTRUCTION JOINT (L.J.)
SCALE: NONE (Alternate L.J.)

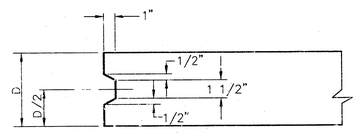


NOTE:
OMIT WIRE FABRIC REINFORCING IN THIS SECTION.

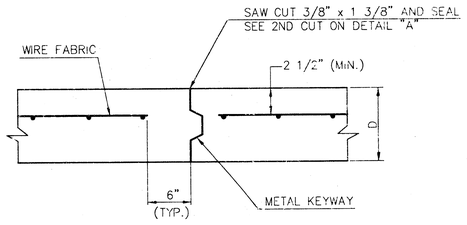
WING REINFORCING DETAIL
SCALE: NONE



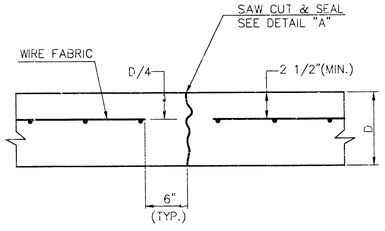
SECTION B-B
SCALE: NONE



KEYWAY DETAIL
SCALE: NONE



OPTIONAL CONTRACTION CONSTRUCTION JOINT (C.J.)
SCALE: NONE (Alternate C.J.)



CONTRACTION JOINT DETAIL (C.J.)
SCALE: NONE

LEGEND

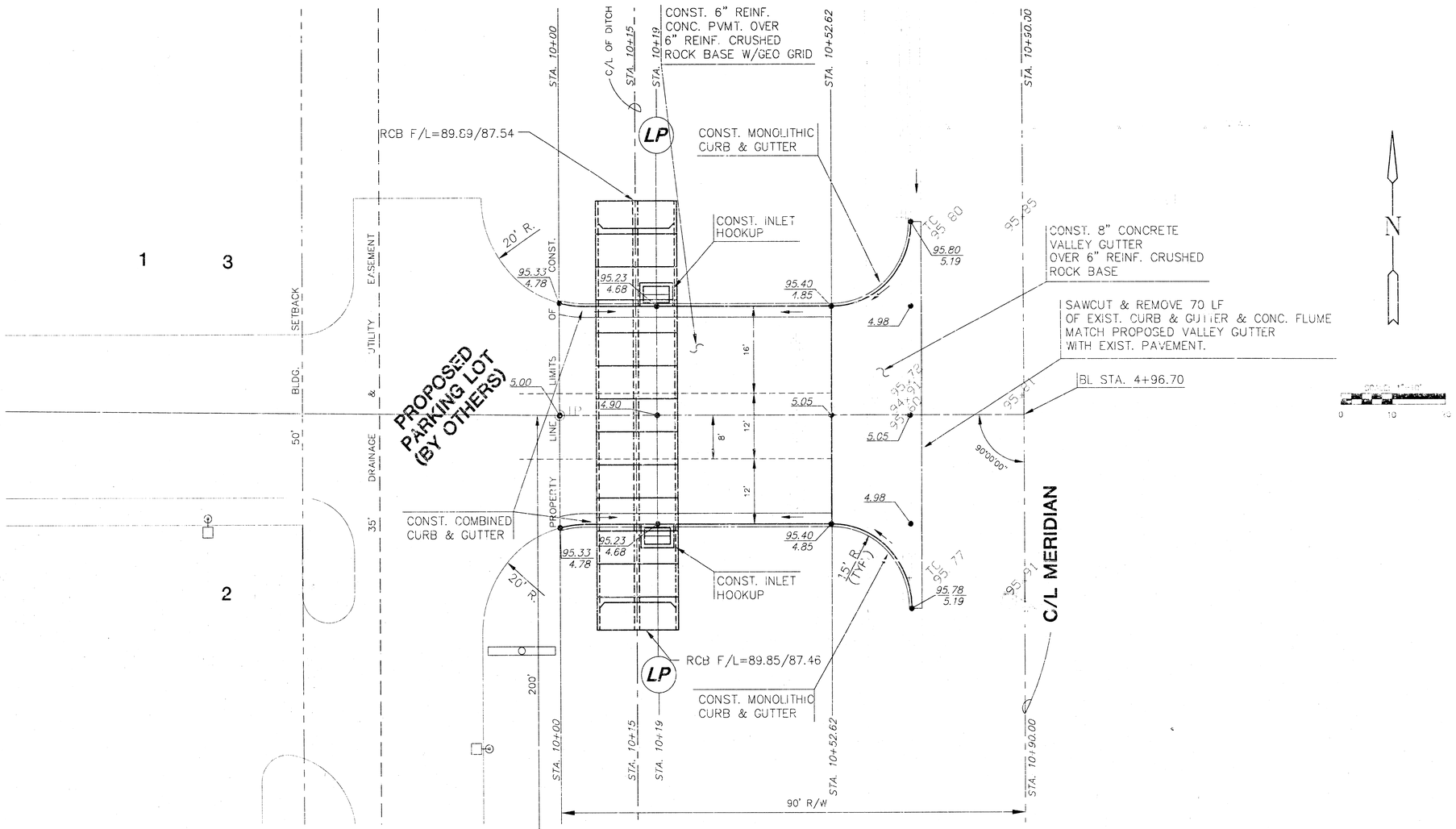
C.J. IDENTIFIES CONTRACTION JOINT
L.J. IDENTIFIES LONGITUDINAL JOINT

VALLEY GUTTER & MISC. DETAILS
CITY OF WICHITA, KANSAS

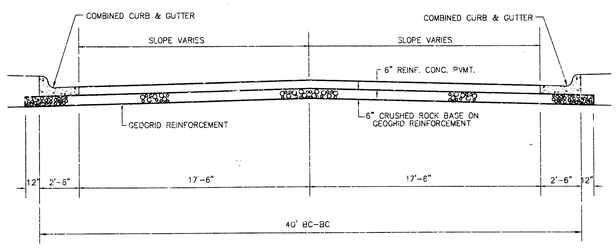
PROJECT NUMBER

14/17

G:\CIVIL\00149\DWG\PAV\VGDTLS.DWG Mon Jun 18 16:30:23 2001



TYPICAL SECTION

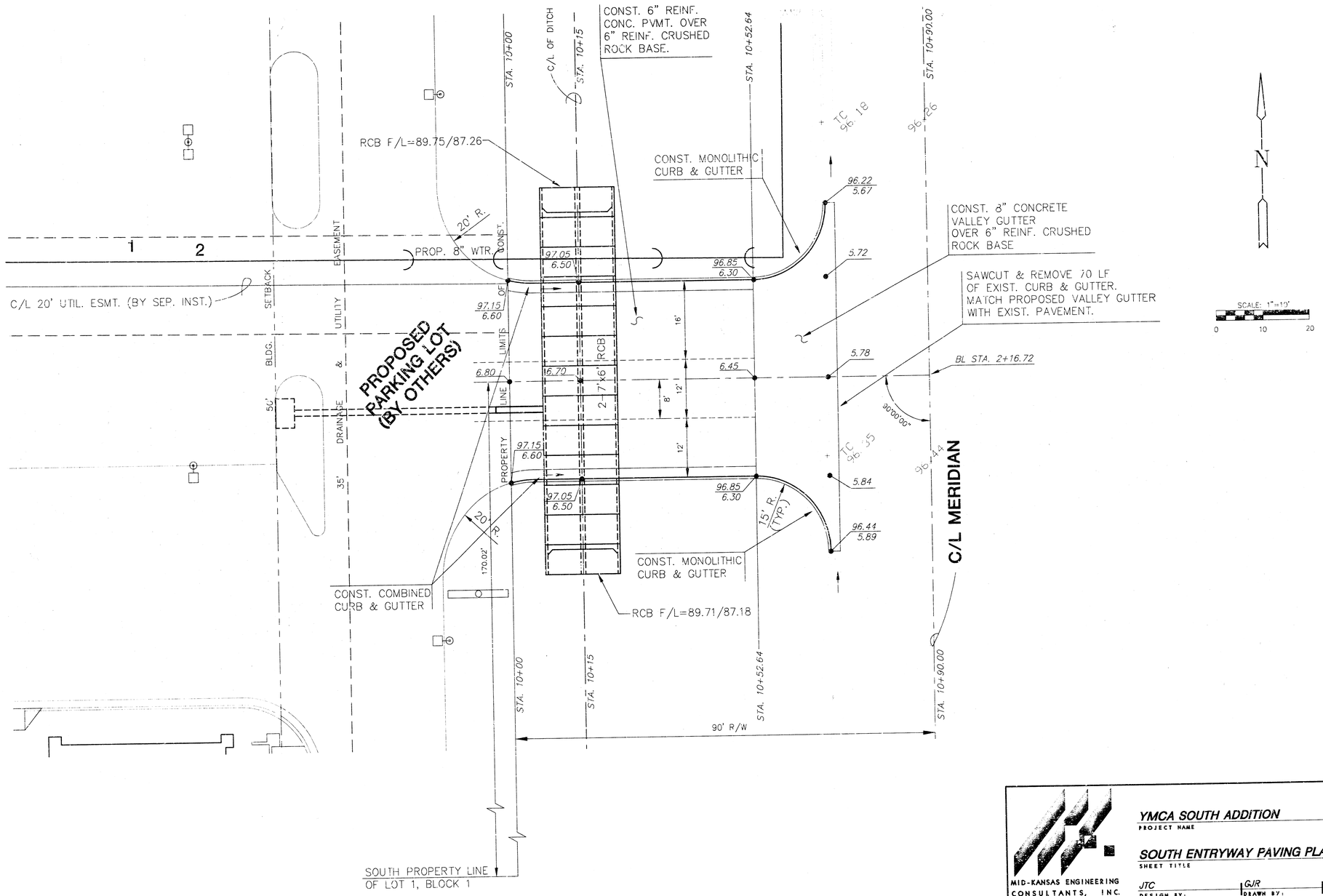


BY OTHERS SEPARATE CONTRACT
PROJECT NO. 468-83294
(FOR INFORMATION ONLY)

MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

YMCA SOUTH ADDITION (PROJECT NAME)		
NORTH ENTRYWAY PAVING PLANS (SHEET TITLE)		
JTC (DESIGN BY:)	GJR (DRAWN BY:)	JTC (CHECKED BY:)
JUNE 2001 (DATE)	00149 (JOB NO.)	15 / 17 (SHEET/OF)

G:\CIVIL\00149\DWG\PAV\ENTRY-1.DWG Thu Jun 21 09:50:29 2001



MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

YMCA SOUTH ADDITION
PROJECT NAME

SOUTH ENTRYWAY PAVING PLANS
SHEET TITLE

JTC	GJR	JTC
DESIGN BY:	DRAWN BY:	CHECKED BY:
JUNE 2001	00149	16 / 17
DATE	JOB NO.	SHEET / OF

G:\CIVIL\00149\DWG\YMCAVENTRY-2.DWG Tue Jun 19 15:45:52 2001

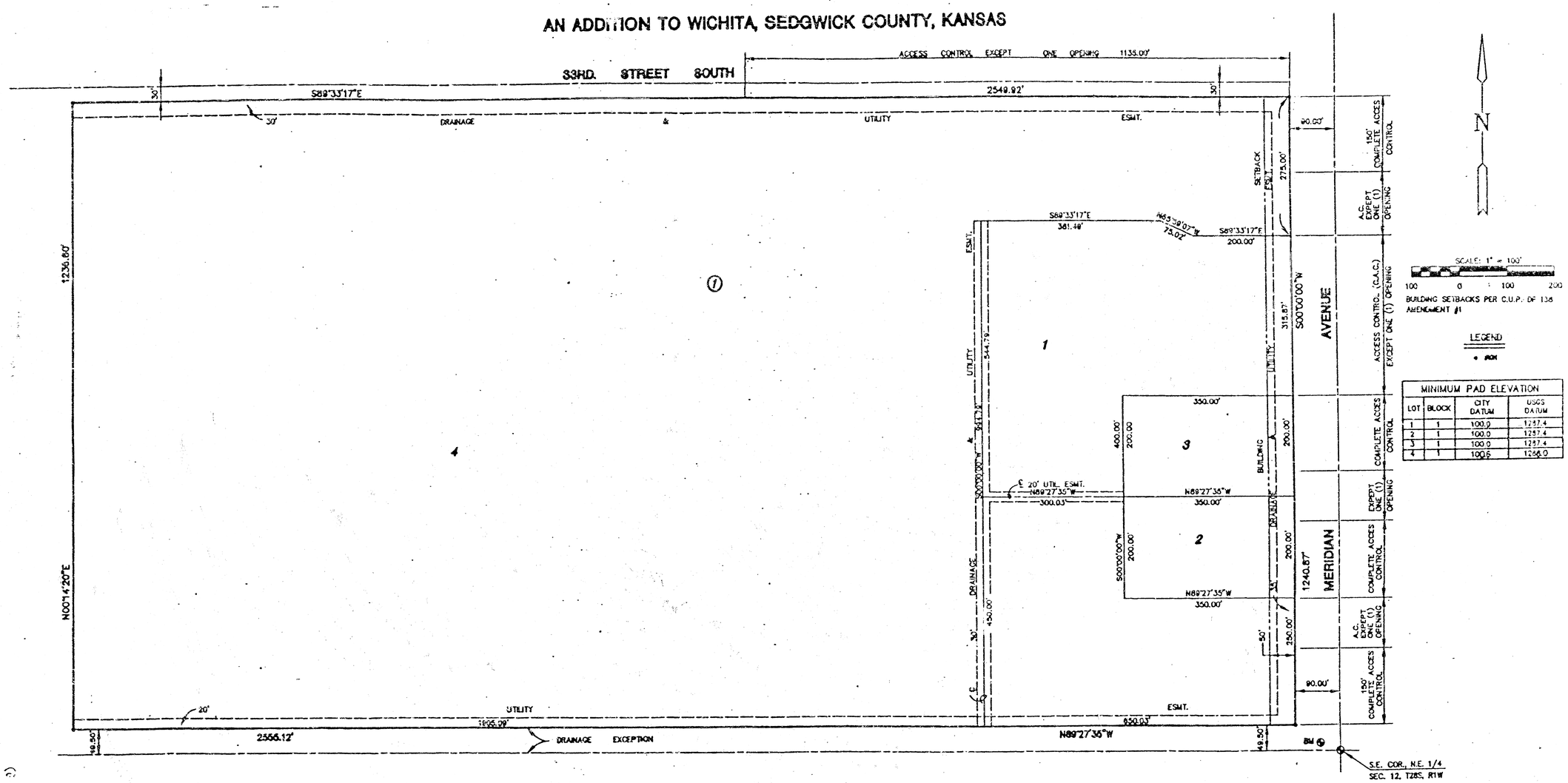
PC 89-64

LIBRARY COPY
SEDGWICK COUNTY, KANSAS
REGISTER OF DEEDS

FINAL PLAT OF

YMCA SOUTH ADDITION

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



MINIMUM PAD ELEVATION			
LOT	BLOCK	CITY DATUM	USGS DATUM
1	1	100.0	1257.4
2	1	100.0	1257.4
3	1	100.0	1257.4
4	1	100.5	1256.0

B.M. CITY STANDARD N.W. CORNER R.C.B. ON MERIDIAN N. OF I-235. ELEV. = 1267.55

21-20-10-81

1