FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KS.	87-U-1362-01	1993	90	149

Revised: See Bottom Rt. of this Sheet.

BILL OF MATERIALS

(For Information Only)

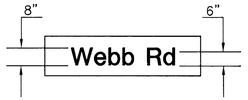
ITEM	UNIT	APPROX. QUANT.
Traffic Signal Controller w/Cabinet as per Specifications	Each	1
Concrete Base for Traffic Signal Controller (See Detail)	Each	1
Traffic Signal Pole (Standard) w/Mast Arm (Steel) as per Specs.	Each	2
Traffic Signal Pole (Joint Use) w/Mast Arm (Steel) as per Specs.	Each	2
Microloop Units per City Standards	Each	12
Concrete Base for Traffic SLignal Pole (See Detail)	Each	4
Five Secton Traffic Signal Head (5 @ 12") as per Specs.	Each	4
Three Section Traffic Signal Head (3 @ 12") as per Specifications	Each	12
Two Secton Traffic Signal Head (12" Pedestrian) as per Specs.	Each	8
Traffic Signal Head Mounting Bracket for Mast Arm Mount (Type I)	Each	12
~~Pedestrian Signal Pedestal (Alum.) as per Specifications~~	~~Each~~	~~1~~
Traffic Signal Mounting Bracket (Type B)	Each	5
Pedestrian Signal Mounting Bracket for Slide of Pole Mount (Type II)	Each	3
Pedestrian SIignal Mounting Bracket (Type G)	Each	1
Traffic Signal Lamp (135 W)	Each	72
Backplate	Each	16
Pedestrian Push Button, Sign & Mounting Hardware	Each	8
Ground Rod and Clamp	Each	7
Meter Box	Each	1
Power Disconnect Box (40 Amp)	Each	1
Weather Head	Each	1
Multi-Conductor Cable 5/C #14 AWG	L.F.	100
Multi-Conductor Cable 7/C #14 AWG	L.F.	3200
Power Supply Wire (Type U.S.E.) #8 AWG	L.F.	430
Ground Wire (Green) #8 AWG	L.F.	800
Loop Detector Wire (Type THHN) #14 AWG 1/C	L.F.	1300
Shielded Loop Detector Lead - In Cable #14 AWG 2/C	L.F.	6535
Service Box (See Detail and Summary)	Each	4
Junction Box (See Detail and Summary)	Each	9
"Left Turn Yield on Solid Green Ball" Sign (R10-12) and Mtg. Hardware	Each	4
Reflective Street Name Sign as Per Specs. and Mounting Hardware	Each	4
3" Conduit RGC	L.F.	~~870~~ 914
2" Conduit RGC	L.F.	~~200~~ 181
1-1/4" Conduit RGC	L.F.	~~485~~ 456
3/4" Conduit RGC	L.F.	~~1415~~ 1488
1" Conduit RGC	L.F.	210

Note:
The Contractor shall supply and install all necessary materials and equipment for the complete operation of the traffic signal whether specifically mentioned or not.

The Traffic Signal Installation shall be bid as Lump Sum

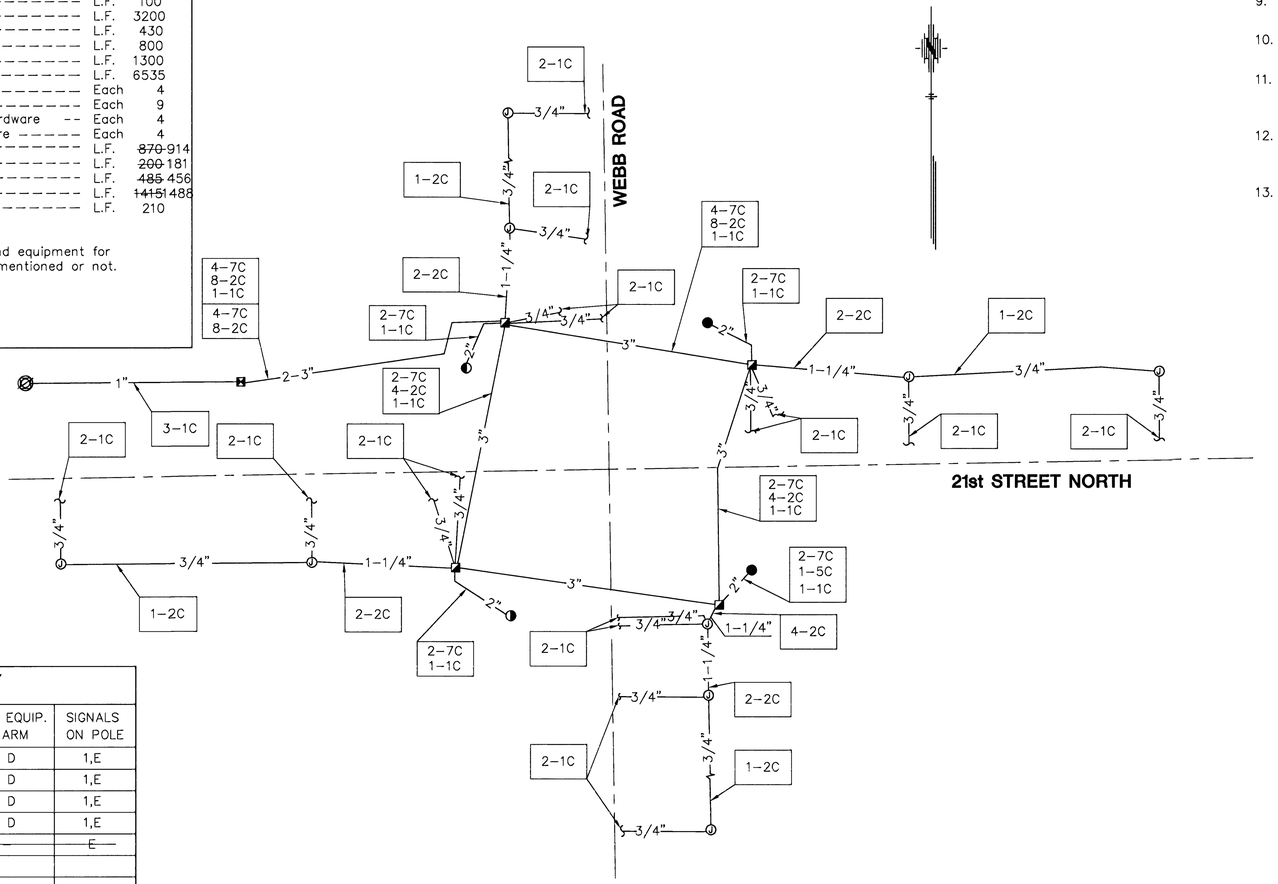
STREET NAME SIGN SUMMARY

LEGEND	QUANTITY
21st St	2
Webb Rd	2
TOTAL	4



TEMPORARY SIGNAL TIMING

TIME OF DAY	PHASE	SECONDS	COLOR
6-8 A.M. AND 3:15-7:15 P.M.	E.W.	25	G
		4	Y
		1-1/2	AR
	N.S.	14	G
		4	Y
		1-1/2	AR
ALL OTHER TIMES	E.W.	16	G
		4	Y
		1	AR
	N.S.	14	G
		4	Y
		1	AR



CONDUIT AND WIRING DIAGRAM

TRAFFIC SIGNAL POLE SUMMARY

STATION	TYPE	NO. OF ARMS	LENGTH	SIGNALS ON ARM	X1	X2	OTHER EQUIP. ON ARM	SIGNALS ON POLE
9+21L	A	1	55'	3	8	11	C, D	1,E
9+42R	A	1	55'	3	8	11	C, D	1,E
10+58L	B	1	55'	3	8	11	C, D	1,E
10+68R	B	1	~~34'~~ 55'	3	8	11	C, D	1,E
~~10+40R~~	~~F~~	--	--	--	--	--	--	~~E~~

A JOINT USE STEEL POLE WITH MASTARM
B STANDARD STEEL POLE WITH MASTARM
C PROTECTED TURN SIGNAL
D STREET NAME SIGN
E PEDESTRIAN SIGNAL WITH PUSH BUTTON
F PEDESTRIAN SIGNAL PEDESTAL

TRAFFIC SIGNAL HEAD SUMMARY

SIGNAL NO.	TYPE (b)	SIZE	MOUNTING BRACKET	QUANTITY
1	I	5@12"	TYPE I(a)	1
2	A	3@12"	TYPE I(a)	2
3	I	5@12"	TYPE I(a)	1
4	A	3@12"	TYPE I(a)	2
5	I	5@12"	TYPE I(a)	1
6	A	3@12"	TYPE I(a)	2
7	I	5@12"	TYPE I(a)	1
8	A	3@12"	TYPE I(a)	2
9	L	12"	TYPE G(c)	1
10	L	12"	TYPE II(a)	1
11	L	12"	TYPE II(a)	1
12	L	12"	TYPE II(a)	1
13	L	12"	TYPE B(c)	1
14	A	12"	TYPE B(c)	4

(a)--------SHEET 91
(b)--------SHEET 92
(c)--------SHEET 93

TEMPORARY SIGNAL NOTES

1. ALL WIRING INSTALLED SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE AND LOCAL ORDINANCES AND REQUIREMENTS.
2. ALL SIGNAL CABLE AND FEEDER RUNS TO BE CARRIED OVERHEAD ON SPAN WIRE ACROSS ROADWAYS OR IN CONDUIT UNDER THE ROADWAYS.
3. THE INSTALLATION, OPERATION AND MAINTENANCE OF THE SIGNAL SYSTEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. ALL SIGNAL INDICATIONS, CLEARANCES, AND SEQUENCES SHALL BE IN ACCORDANCE WITH THE CURRENT M.U.T.C.D.
5. THE SPAN WIRE SIGNAL HEADS SHALL BE CENTERED OVER THE EXIT LANES OR AT LOCATIONS AS DIRECTED BY THE ENGINEER.
6. THE SPAN WIRE SIGNAL HEADS SHALL BE INCLUDED IN THE BID ITEM "TRAFFIC CONTROL LUMP SUM".
7. THE TEMPORARY TRAFFIC SIGNALS SHALL BE SWITCHED ON DURING AN OFF-PEAK HOUR. WHEN SWITCHING SIGNALS, FLAGGERS WILL BE REQUIRED.
8. THE TERMINAL BLOCKS SHALL BE IN A WEATHERPROOF ENCLOSURE.
9. ALL NECESSARY SIGNAL HEAD, CONTROLLER AND POLE RELOCATIONS, WHETHER SPECIFICALLY MENTIONED OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
10. TRAFFIC SIGNAL HEADS WHICH ARE IN PLACE AND NOT IN USE DURING A SPECIFIC STEP SHALL BE REMOVED, OR COVERED WITH AN OPAQUE MATERIAL.
11. EACH INTERSECTION SHALL HAVE A SIGNAL CONTROLLER CAPABLE OF A STANDARD EIGHT PHASE OPERATION, WITH GREEN INTERVALS ABLE TO BE SET FROM 0 TO 255 SECONDS.
12. THE TRAFFIC SIGNAL CONTROLLER MUST BE CAPABLE OF STORING A MINIMUM OF THREE SEPARATE PHASING/TIMING PLANS, WHICH CAN BE SELECTED ON A TIME-OF-DAY BASIS.
13. IN CASE OF SIGNAL MALFUNCTION, THE CONTRACTOR MUST RESPOND WITHIN ONE HOUR OR THE MALFUNCTION WILL BE RECTIFIED BY THE CITY AT THE CONTRACTOR'S EXPENSE.

REVISED 12-6-93

KANSAS DEPARTMENT OF TRANSPORTATION

WEBB ROAD AND 21st STREET NORTH

TRAFFIC SIGNAL SUMMARY

PROJECT NO. 87-U-1362-01 SEDGWICK CO.

MID-KANSAS ENGINEERING CONSULTANTS, INC.

WICHITA, KANSAS

DESIGNED BY:		CHECKED BY:	
DRAWN BY:	DPR	DATE: 7-24-92	SHEET 90 OF 149

9156B-R1