DATE: 2000-09-22

ESTIMATE OF MATERIAL AND FORCE ACCOUNT WORK
BY THE
UNION PACIFIC RAILROAD

DESCRIPTION OF WORK:
INSTALL HIGHWAY CROSSING WARNING SYSTEM AND ELECTROCODE AT WASHINGTON ST
IN ROCHELLE IL. MP. 74.86 ON THE GENEVA SUBDIVISION.
SIGNAL PROJECT MANAGER:R.L. JAMES
8433-5682

PID: 32848 AWO: 32674 MP,SUBDIV: 74.86, GENEVA
SERVICE UNIT: 02 CITY: WASHINGTON STATE: IL

DESCRIPTION	QTY	UNIT	LABOR	MATERIAL	RECOLL	UPRR	TOTAL
ENGINEERING WORK							
ENGINEERING			4416		3974	442	4416
LABOR ADDITIVE			6016		5415	601	6016
RECOLL-INSPE			2237		2013	224	2237
SIG-HWY XNG			1478		1330	148	1478
TOTAL ENGINEERING			14147		12732	1415	14147
SIGNAL WORK							
BILL PREP			900		810	90	900
CONTRACT				7682	6913	769	7682
EQUIPMENT RENTAL				2500	2250	250	2500
FOREIGN LINE FREIGHT				1536	1382	154	1536
LABOR ADDITIVE			16094		14484	1610	16094
MATL STORE EXPENSE				3841	3457	384	3841
PERSONAL EXPENSES				11970	10773	1197	11970
SALES TAX				4801	4320	481	4801
SIGNAL			21748	76823	88713	9858	98571
TRANSPORTATION CHARGES				2400	2160	240	2400
USAGE EQUIPMENT				4032	3628	404	4032
TOTAL SIGNAL			38742	115585	138890	15437	154327
TRACK & SURFACE WORK							
LABOR ADDITIVE			1635		1572	63	1635
OTM			1373		1236	137	1373
SIG-HWY XNG			1500		1350	150	1500
TOTAL TRACK & SURFACE			4508		4158	350	4508
LABOR/MATERIAL EXPENSE			57397	115585			
RECOLLECTIBLE/UPRR EXPENSE					155780	17202	
ESTIMATED PROJECT COST							172982
EXISTING REUSEABLE MATERIAL CREDIT					0		
SALVAGE NONUSEABLE MATERIAL CREDIT					0		
RECOLLECTIBLE LESS CREDITS							

E ABOVE FIGURES ARE ESTIMATES ONLY AND SUBJECT TO FLUCTUATION. IN THE EVENT OF INCREASE OR DECREASE IN THE COST OR QUANTITY OF MATERIAL OR LABOR REQUIRED, RR WILL BILL FOR ACTUAL CONSTRUCTION COSTS AT THE CURRENT EFFECTIVE RATE.

WORK ORDER AUTHORIZATION-! IL OF ESTIMATED EXPENDITURES

EST S.ART: 01-01-01
EST COMP: 12-31-01

PROJ NO: 32848
A.W.O. NO: 32674
W.O. NO:
B.I. NO: 99EN10
STATE: IL
VAL SEC: 1103A

RAILROAD: UPRR CO.
LOCATION: ROCHELLE IL WASHINGTON GENEVA SUB
DEPARTMENT: ENGINEERING SERVICES

STOCK MATERIAL PLAN

ITEM NUMBER	ITEM DESCRIPTION	UNIT COST	QTY	UM	DIRECT MATL $
02040420	BATTERY,GNB,75A9 OR 50A13	181.43	6	EA	1089
02040660	BATTERY,GNB, 75A23 OR 50A27	321.22	7	EA	2249
09011240	CABLE TIE, NYLON 1 1/8" MAX. DIA	0.06	200	EA	12
09011980	CABLE TIE, NYLON 3 1/2" MAX. DIA	0.22	20	EA	4
09014950	CIRCUIT BREAKER, 120/240V 20A AC	23.16	1	EA	23
09054300	RELAY,TAB 869 KRP11DN12V. SW.HTR.	10.68	1	EA	11
09054360	RELAY, GEN.PURPOSE 120V. TAB 856	11.18	1	EA	11
09057450	SOCKET,P-B 27E122 TAB 836A & 856	2.68	2	EA	5
09065700	TAPE, ELECTRICAL PLASTIC	2.41	2	RL	5
09066900	TERMINAL,SPADE,10-12 WIRE,#8 STUD	0.34	20	EA	7
09137100	TERM.LUG 3/16 CABLE-1/4 POST 2412	0.83	50	EA	42
09215100	33466 TERMINAL, RING TONGUE AMP	0.23	24	EA	6
09261570	321527-1 TERMINAL, TEST	1.11	10	EA	11
09401140	ADAPTER, 4 INCH CARLON PLASTIC	2.25	2	EA	5
09409820	BUSHING, 4" PLASTIC,INSULATING	0.75	2	EA	2
09412460	CONDUIT,3/8 INCH FLEX STEEL SEALT	0.44	1	LF	0
09424920	CONDUIT, 4", PVC, TYPE 40	1.34	90	LF	121
09433970	CONNECTOR,3/8 INCH STRAIGHT BOX S	0.96	2	EA	2
09467930	LOCKNUT, 4 INCH, GALVANIZED	4.00	2	EA	8
09615550	LAMP,INCANDESCENT,10V.25W.	5.20	7	EA	36
09844170	GROUND ROD, 5/8 INCH X 8 FEET	5.75	11	EA	63
09846750	GRND.ROD CONN. 4WAY ONESHOT.	4.95	11	EA	54
09908640	WIRE,#6 AWG.1 COND.COPPER,SOLID	0.11	275	LF	30
09912200	WIRE #6 AWG 2 CND 500'ROLL SHIELD	1.23	500	LF	615
09913200	WIRE,#6, 5 COND 500'ROLL SHIELDED	2.01	250	LF	503
09915610	WIRE #6 AWG 1 COND COPPER, STRAN	0.37	150	LF	56
9930550	WIRE #10 AWG 1 COND COPPER, STRAN	0.14	1000	LF	140
9932310	WIRE #10 AWG 1 COND COPPER, TWIST	0.32	170	LF	54
9946070	WIRE #14,7 COND 1000'ROLL SHIELDE	1.07	1750	LF	1873
9960090	WIRE #16 AWG 1 COND COPPER, STRAN	0.08	250	LF	20
3060230	TOGGLE,SPRING WING 3/8	0.48	3	EA	1
3552450	SHEET METAL SCREW,#12 X 3/4"	2.00	2	BX	4
3553150	SHEET METAL SCREW #12 X 1"	2.96	1	BX	3
7061400	PADLOCK,SIGNAL,WITHOUT KEY,AMERIC	12.02	8	EA	96
3033210	CARTON, 39 1/8"L X 23 1/4"W X 17	3.30	1	EA	3
3033230	CARTON, 47 3/8"L X 39 1/2"W X 18"	7.07	1	EA	7
3041880	PALLET, 48 X 40 INCH 2/WAY	7.95	2	EA	16
040010	PLASTER OF PARIS, DENTAL GRADE	0.81	25	LB	20
340220	SIGN, HIGHWAY CROSSING	50.00	2	EA	100
000920	SURGE PROTECTOR SP19-2A TAB 586	68.53	1	EA	69
001370	SURGE PROTECTOR SP20-2A TAB 585	70.12	1	EA	70
016830	WIRE DUCT, 2X3	9.00	15	EA	135

WORK ORDER AUTHORIZATION-I · IL OF ESTIMATED EXPENDITURES

EST S:ART: 01-01-01
EST COMP: 12-31-01

PROJ NO: 32848
A.W.O. NO: 32674
W.O. NO:
B.I. NO: 99EN10
STATE: IL
VAL SEC: 1103A

RAILROAD: UPRR CO.
LOCATION: ROCHELLE IL WASHINGTON GENEVA SUB
DEPARTMENT: ENGINEERING SERVICES

52016940	WIRE DUCT, 3X3	10.33	1 EA	10
52017510	WIRE DUCT COVER 2"X6'	2.11	15 EA	32
52017620	WIRE DUCT COVER 3"X6'	2.98	1 EA	3
52019530	ENCLOSURE,SHUNT,POLE MOUNTED.24X2	245.01	4 EA	980
52019560	EQUALIZER, H.D. TAB 583	9.22	15 EA	138
52021550	FOUNDATION,4',STEEL,FOR FLSHR/GAT	227.96	2 EA	456
52025240	HOUSE, 6X6, SIGNAL XING	4305.14	1 EA	4305
52027350	CLIP BOARD - FOR SIGNAL PRINTS	6.45	1 EA	6
52027430	STEP BOX	12.70	1 EA	13
52028420	LIGHTNING ARRESTOR,CLR-COMM TAB 3	7.01	34 EA	238
52029780	LIGHTNING ARR,HD TAB 582 W/O BASE	9.91	8 EA	79
52030010	LIGHTNING ARRESTOR CONN.STRIP	4.15	2 EA	8
52039210	RECTIFIER,20EC,12V.TAB575	349.59	1 EA	350
52039390	RECTIFIER, 40EC, 12V. TAB577	501.71	1 EA	502
52040400	RESISTOR, ADJ.0.63 OHM TAB91	24.84	4 EA	99
52040460	RESISTER, ADJ. 5 OHM, TAB 90	12.76	1 EA	13
52042650	POST, MOUNTING, FOR SHUNT HOUSING	8.91	8 EA	71
52045700	SURGE SUPPRESSOR, PRIMARY,#2377-4	9.56	1 EA	10
52069100	TERMINAL, #6 WIRE - RING TYPE	0.85	4 EA	3
52070010	TERMINAL,#12-10 WIRE,RING TONGUE	0.08	300 EA	24
52071600	TERMINAL,#20-16 WIRE,RING TONGUE	0.06	150 EA	9
52072280	TERMINAL BLOCK, SIGNAL 2 POST BAK	2.25	72 EA	162
52072510	TERMINAL BLOCK,SIGNAL 3 POST TEST	6.29	3 EA	19
52072740	TERMINAL BLOCK, SIGNAL 12 POST 6	8.60	4 EA	34
2074550	TEST LINK, INSULATED ASSEMBLY TAB	0.67	24 EA	16
2074700	TRK.CIRCUIT,RPTR.100 HZ. "RRMMM"	4074.04	2 EA	8150
2074970	CAB SIGNAL GENERATOR, 100 HZ CAB	1450.00	2 EA	2900
2079550	WIRE TAG, PLASTIC - WHITE	0.12	100 EA	12
2079560	MARKING PEN(FOR WHITE TAG)	1.94	1 EA	2
2092250	CRTU. W/MICROBURST TRANSCEIVER.	1655.00	1 EA	1655
2108120	LED FL/GATE ASSY.2 WAY LIGHTS	7215.99	2 EA	14432
2109370	GATE ARM, ADJ.16-32'	235.74	2 EA	471
2122140	HIGH WIND BRACKET 5"OR 4"	63.99	2 EA	128
2136470	SHEAR PIN, SK-1000-1	5.50	2 EA	11
2203400	DETECTOR, LIGHT OUT, LOD-1	469.18	1 EA	469
2204220	DUMMY LOAD, 1600 FT. TAB 644	40.00	2 EA	80
205800	GCP111 NO ISLAND #81KB-80110-0B00	15157.96	1 EA	15158
240000	IPI MODULE-GCP3000D2 #80211	1078.02	4 EA	4312
246000	RESISTOR,47,000 (47K) OHM .5 WATT	0.20	4 EA	1
258850	NBS, TAB 642, 62775-3497	324.01	4 EA	1296
263600	SURGE ARRESTOR,METER LOOP.	23.89	1 EA	24
263690	SURGE PANEL - TAB 619	135.99	1 EA	136
264040	SURGE PANEL - TAB 618	203.97	1 EA	204
267000	TRANSCEIVER MODULE-#80012-GCP	1560.00	2 EA	3120
276050	CROSSING ANALYZER, HCA-1	1711.22	1 EA	1711
278800	DAX MODULE #80016-GCP 3000D2	1085.00	2 EA	2170
26820	RELAY, FLASHER TAB 887	343.90	1 EA	344
28800	RELAY, BILC. TAB 911 A62-310	298.91	1 EA	299

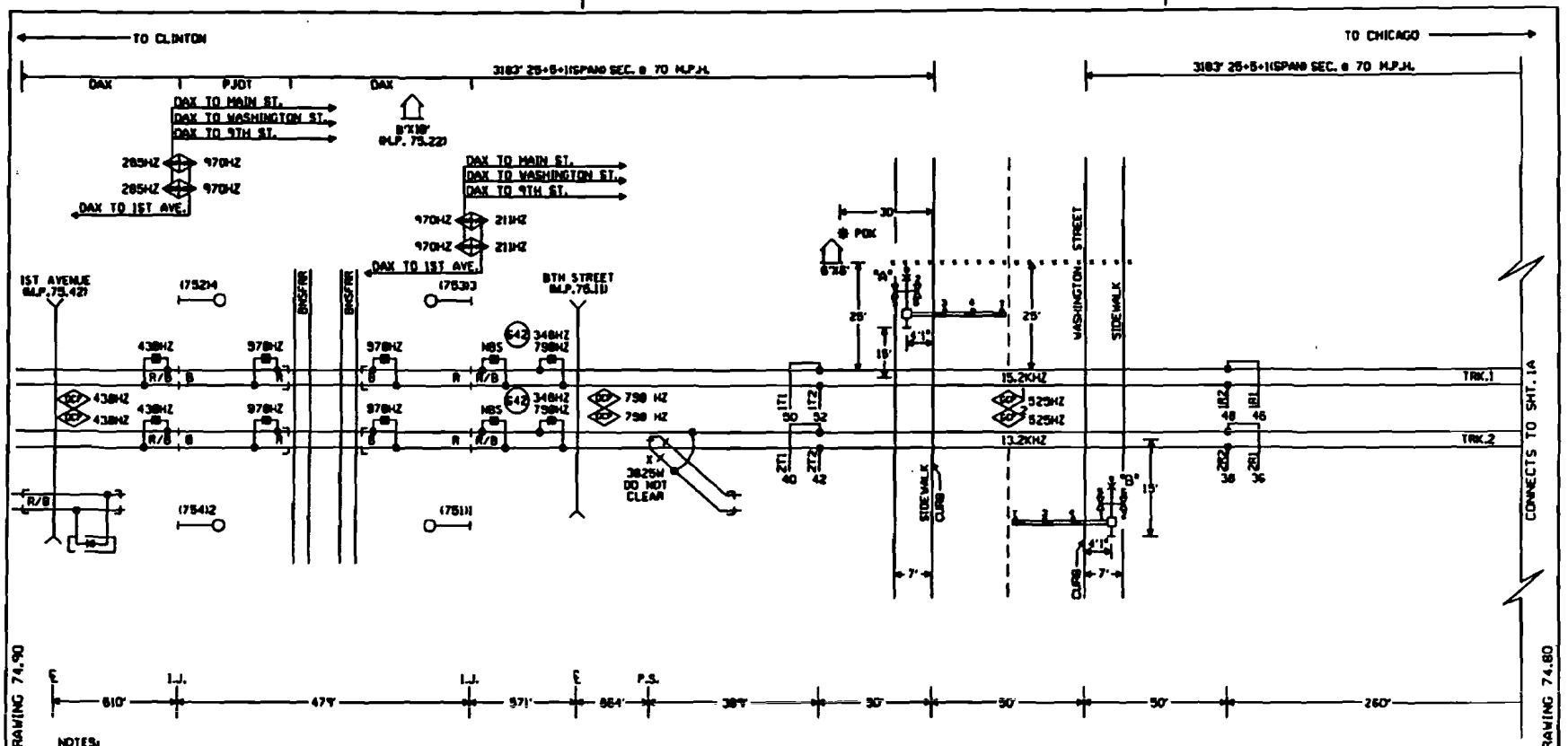
WORK ORDER AUTHORIZATION-I IL OF ESTIMATED EXPENDITURES

EST START: 01-01-01
EST COMP: 12-31-01

PROJ NO: 32848
A.W.O. NO: 32674
W.O. NO:
B.I. NO: 99EN10
STATE: IL
VAL SEC: 1103A

RAILROAD: UPRR CO.
LOCATION: ROCHELLE IL WASHINGTON GENEVA SUB
DEPARTMENT: ENGINEERING SERVICES

52745830	RELAY,NEUTRAL, B1 TAB 884 & 884A	235.02	2	EA	470
52752390	RELAY,B1SR. 3 SEC. TAB 893	425.99	1	EA	426
52773760	RELAY BRACKET, HOLDS 14 B1 RELAYS	219.21	1	EA	219
52776370	RELAY PLUGBOARD,GRS B1,TAB 900	33.20	5	EA	166
52777970	FLAG TERMINAL, FOR GRS, 14-10	0.89	100	EA	89
52778110	FLAG TERMINAL, FOR GRS, 20-16	1.01	100	EA	101
52779280	RELAY TEST TERM,GRS B1 TAB770&864	6.90	5	EA	35
52842220	DIODE JEDEC NUMBER 1N4004	0.03	1	EA	0
52959000	POWER TAP MATERIAL	2000.00	1	EA	2000
53311490	EXTRACTOR FOR "B"TERMINALS P3-308	9.89	1	EA	10
53311510	TEST NUT WRENCH. GRS #P3-320	16.59	1	EA	17
53648010	INSULATING CAP & SHIELD ASSY.	2.07	10	EA	21
53903460	EPD 120/240TDFL SURGE PROTECTOR	341.02	1	EA	341
53954500	180429-000 BOOTLEG KIT	85.3[illegible]	8	EA	683
	TOTAL				76,824



NOTES:

⊗ = TWISTED WIRES
INSULATED 1 TWIST PER FT.
ALL TRACK WIRES 2C. #6

TRANSMITTER AND RECEIVER LEADS TO BE SEPARATED BY AT LEAST 12" IN TRENCH, LENGTHS SHOULD NOT EXCEED MANUFACTURES RECOMMENDATION.

TOP OF FOUNDATION TO BE AT SAME ELEVATION AS THE SURFACE OF THE TRAVELED WAY & NO MORE THAN 4" ABOVE THE SURFACE OF THE GROUND.

ALL BUNGALOW WIRING TO BE #16 AWG FLEX UNLESS OTHERWISE SPECIFIED EXCEPT ALL GROUND WIRE TO BE #6 AWG FLEX OR LARGER.

ALL WIRING IN GATE MECHANISM TO BE #10 "AWG FLEX".

REFER TO UP STANDARD DWG FOR BUNGALOW GROUNDING.

DO NOT USE 7 CELLS OF B12 BATTERY UNLESS REQUIRED TO MAINTAIN MINIMUM LAMP VOLTAGE.

ALL LIGHTS TO BE 12" ROUNDELS.

• • • • • • 4" X 70' CONDUIT

LIGHTS: A & B LED LIGHTS

GATE A: 29'
GATE B: 29'

CONSTRUCTION NOTES:

1. TAB 642 NBS'S AND TAB 644 DTL'S ARE NEW. ALL OTHERS ARE EXISTING.
2. INSTALL NEW METER SERVICE.
3. INSTALL 8'X10' REMOTE GCP HOUSE AT M.P. 75.22 AND PROVIDE DAX CIRCUITS TO THIS CROSSING AS PART OF THIS PROJECT.
4. UPGRADE MAIN STREET (WO#32673) WITH GCP3000'S AND PROVIDE DAX CIRCUITS TO THIS CROSSING AS PART OF THIS PROJECT.

ROCHELLE, ILLINOIS
WASHINGTON STREET
M.P. 74.86
GENEVA SUBDIVISION
D.O.T.#175 120A
PROJ.#

W ←—○—→ E

NEW SHEET

MODIFICATION LEVEL	
D.A. LAST LEVEL CHK'D.	CY
LAST LEVEL MOD. THIS TYP.	CP
LAST LEVEL BY DESIGNER.	DA
CHANGED FROM TYP.? Y/N	Y

UNION PACIFIC SIGNAL DESIGN

DES: HAR/HAR
DIG: HAR/HAR
CHK: RCP
A.F.E. 32674
ID: GEN74ABLIX

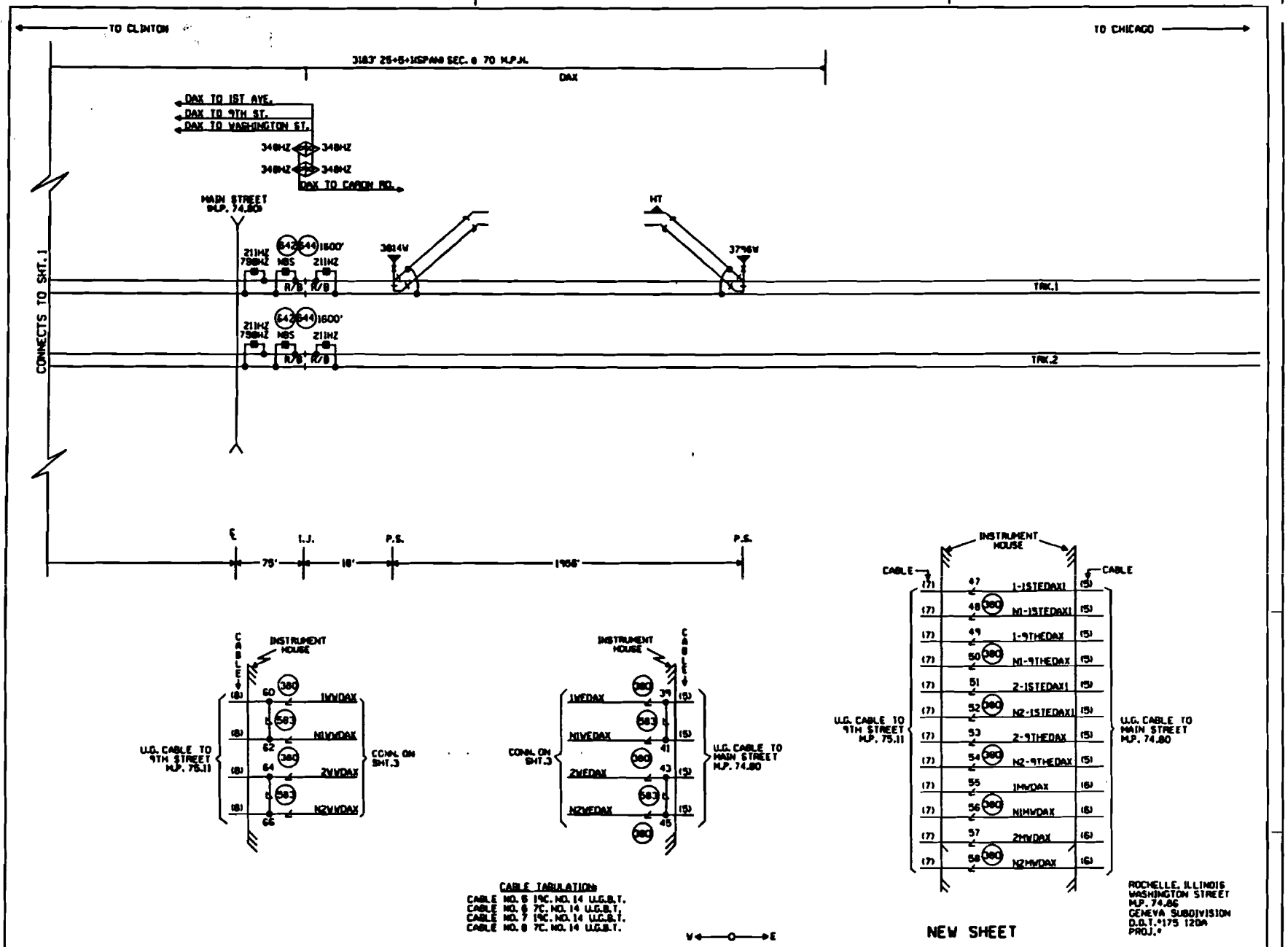
UNION PACIFIC RAILROAD
CHICAGO, ILLINOIS TO
CLINTON, IOWA
C.T.C. CIRCUITS

OFFICE OF CHIEF ENG'R — OMAHA NEBR.

DATE 07-21-00
SHEET 1
DWG 74.86
GEN

(REV. 4-4-00) (2KUGT' 1)

Exhibit B-2, page 5


TO CLINTON
TO CHICAGO
3183' 25+5+15SPAN SEC. 8 70 M.P.H.
DAX
DAX TO 1ST AVE.
DAX TO 9TH ST.
DAX TO WASHINGTON ST.
348HZ
348HZ
348HZ
348HZ
DAX TO CARON RD.
MAIN STREET
M.P. 74.80
CONNECTS TO SHT. 1
211HZ
75BHZ
642
644
1600'
NBS
211HZ
R/B
R/B
3814W
HT
3796W
TRK.1
TRK.2
℄
I.J.
P.S.
P.S.
75'
18'
1956'
INSTRUMENT HOUSE
CABLE
U.G. CABLE TO 9TH STREET M.P. 75.11
CONN. ON SHT.3
1WVDAX
N1WVDAX
2WVDAX
N2WVDAX
1WEDAX
N1WEDAX
2WEDAX
N2WEDAX
U.G. CABLE TO MAIN STREET M.P. 74.80
1-1STEDAX1
N1-1STEDAX1
1-9THEDAX
N1-9THEDAX
2-1STEDAX1
N2-1STEDAX1
2-9THEDAX
N2-9THEDAX
1HWDAX
N1HWDAX
2HWDAX
N2HWDAX
CABLE TABULATION
CABLE NO. 5 19C. NO. 14 U.G.B.T.
CABLE NO. 6 7C. NO. 14 U.G.B.T.
CABLE NO. 7 19C. NO. 14 U.G.B.T.
CABLE NO. 8 7C. NO. 14 U.G.B.T.
V
E
ROCHELLE, ILLINOIS
WASHINGTON STREET
M.P. 74.86
GENEVA SUBDIVISION
D.O.T.#175 120A
PROJ.#
NEW SHEET
MODIFICATION LEVEL
LAST LEVEL MOD. THIS TYP.
LAST LEVEL BY DESIGNER
CHANGED FROM TYP.7 T/N
UNION PACIFIC
SIGNAL DESIGN
UNION PACIFIC RAILROAD
CHICAGO, ILLINOIS TO
CLINTON, IOWA
C.T.C. CIRCUITS
OFFICE OF CHIEF ENGR
DATE 07-21-00
SHEET 1A
DWG 74.86
GEN
(REV. 4-4-00 (2KUGTYP.1)

32675

DATE: 2000-09-22

ESTIMATE OF MATERIAL AND FORCE ACCOUNT WORK
BY THE
UNION PACIFIC RAILROAD

DESCRIPTION OF WORK:
INSTALL HIGHWAY CROSSING WARNING SYSTEM, AND A REMOTE GCP LOCATION AT 9TH ST IN ROCHELLE IL. MP. 75.11 & 75.22 ON THE GENEVA SUBDIVISION.
SIGNAL PROJECT MANAGER:H.L. MARTIN
8271-4692

PID: 32873 AWO: 32675 MP,SUBDIV: 75.11, GENEVA
SERVICE UNIT: 02 CITY: 9TH ST STATE: IL

DESCRIPTION	QTY	UNIT	LABOR	MATERIAL	RECOLL	UPRR	TOTAL
ENGINEERING WORK							
NGINEERING			7134		6420	714	7134
ABOR ADDITIVE			8028		7225	803	8028
ECOLL-INSPE			2237		2013	224	2237
IG-HWY XNG			1478		1330	148	1478
TOTAL ENGINEERING			18877		16988	1889	18877
SIGNAL WORK							
ILL PREP			900		810	90	900
ONTRACT				15450	13905	1545	15450
QUIPMENT RENTAL				2500	2250	250	2500
OREIGN LINE FREIGHT				3090	2781	309	3090
ABOR ADDITIVE			23091		20782	2309	23091
ATL STORE EXPENSE				7725	6952	773	7725
ERSONAL EXPENSES				16245	14620	1625	16245
ALES TAX				9656	8690	966	9656
IGNAL			31204	154501	167134	18571	185705
RANSPORTATION CHARGES				2400	2160	240	2400
SAGE EQUIPMENT				5472	4924	548	5472
TOTAL SIGNAL			55195	217039	245008	27226	272234
TRACK & SURFACE WORK							
BOR ADDITIVE			1211		1190	21	1211
M			457		412	45	457
G-HWY XNG (RETIREMENT)			1500		1350	150	1500
TOTAL TRACK & SURFACE			3168		2952	216	3168
LABOR/MATERIAL EXPENSE			77240	217039			
RECOLLECTIBLE/UPRR EXPENSE					264948	29331	
ESTIMATED PROJECT COST							294279
EXISTING REUSEABLE MATERIAL CREDIT					0		
SALVAGE NONUSEABLE MATERIAL CREDIT					0		
RECOLLECTIBLE LESS CREDITS							

ABOVE FIGURES ARE ESTIMATES ONLY AND SUBJECT TO FLUCTUATION. IN THE EVENT OF INCREASE OR DECREASE IN THE COST OR QUANTITY OF MATERIAL OR LABOR REQUIRED, WILL BILL FOR ACTUAL CONSTRUCTION COSTS AT THE CURRENT EFFECTIVE RATE.

WORK ORDER AUTHORIZATION-DE[illegible] OF ESTIMATED EXPENDITURES

EST START: 01-01-01
EST COMP: 12-31-01

RAILROAD: UPRR CO.
LOCATION: ROCHELLE IL 9TH ST GENEVA
DEPARTMENT: ENGINEERING SERVICES

PROJ NO: 32873
A.W.O. NO: 32675
W.O. NO:
B.I. NO: 99EN10
STATE: IL
VAL SEC: 1103A

STOCK MATERIAL PLAN

ITEM NUMBER	ITEM DESCRIPTION	UNIT COST	QTY	UM	DIRECT MATL $
2040420	BATTERY,GNB,75A9 OR 50A13	181.43	18	EA	3266
2040660	BATTERY,GNB, 75A23 OR 50A27	321.22	7	EA	2249
9011240	CABLE TIE, NYLON 1 1/8" MAX. DIA	0.06	400	EA	24
9011980	CABLE TIE, NYLON 3 1/2" MAX. DIA	0.22	40	EA	9
9014950	CIRCUIT BREAKER, 120/240V 20A AC	23.16	2	EA	46
9042860	POWER OFF LIGHT ASSY.	29.25	1	EA	29
9054300	RELAY,TAB 869 KRP11DN12V. SW.HTR.	10.68	1	EA	11
9054360	RELAY, GEN.PURPOSE 120V. TAB 856	11.18	2	EA	22
9057650	SOCKET,P-B 27E122 TAB 836A & 856	2.68	3	EA	8
9065700	TAPE, ELECTRICAL PLASTIC	2.41	4	RL	10
9066900	TERMINAL,SPADE,10-12 WIRE,#8 STUD	0.34	40	EA	14
9137100	TERM.LUG 3/16 CABLE-1/4 POST 2412	0.83	100	EA	83
9215100	33466 TERMINAL, RING TONGUE AMP	0.23	48	EA	11
9261570	321527-1 TERMINAL, TEST	1.11	20	EA	22
9401140	ADAPTER, 4 INCH CARLON PLASTIC	2.25	4	EA	9
9409820	BUSHING, 4" PLASTIC,INSULATING	0.75	4	EA	3
9412460	CONDUIT,3/8 INCH FLEX STEEL SEALT	0.44	2	LF	1
9424920	CONDUIT, 4", PVC, TYPE 40	1.34	90	LF	121
9433970	CONNECTOR,3/8 INCH STRAIGHT BOX S	0.96	4	EA	4
9467930	LOCKNUT, 4 INCH, GALVANIZED	4.09	4	EA	16
9615550	LAMP,INCANDESCENT,10V.25W.	5.20	8	EA	42
9844170	GROUND ROD, 5/8 INCH X 8 FEET	5.75	18	EA	104
9846750	GRND.ROD CONN. 4WAY ONESHOT.	4.93	18	EA	89
9908640	WIRE,#6 AWG.1 COND.COPPER,SOLID	0.11	450	LF	50
9912200	WIRE #6 AWG 2 CND 500'ROLL SHIELD	1.23	1000	LF	1230
9913200	WIRE,#6, 5 COND 500'ROLL SHIELDED	2.01	650	LF	1307
9915610	WIRE #6 AWG 1 COND COPPER, STRAN	0.37	300	LF	111
9930550	WIRE #10 AWG 1 COND COPPER, STRAN	0.14	1500	LF	210
9932310	WIRE #10 AWG 1 COND COPPER, TWIST	0.32	340	LF	109
9946070	WIRE #14,7 COND 1000'ROLL SHIELDE	1.07	2750	LF	2943
9947200	WIRE #14 AWG 19 COND, SHIELDED	2.31	2000	LF	4620
60090	WIRE #16 AWG 1 COND COPPER, STRAN	0.08	500	LF	40
60230	TOGGLE,SPRING WING 3/8	0.48	6	EA	3
52450	SHEET METAL SCREW,#12 X 3/4"	2.00	4	BX	8
53150	SHEET METAL SCREW #12 X 1"	2.96	2	BX	6
61400	PADLOCK,SIGNAL,WITHOUT KEY,AMERIC	12.02	12	EA	144
33210	CARTON, 39 1/8"L X 23 1/4"W X 17	3.30	2	EA	7
33230	CARTON, 47 3/8"L X 39 1/2"W X 18"	7.07	2	EA	14
41880	PALLET, 48 X 40 INCH 2/WAY	7.95	4	EA	32
60010	PLASTER OF PARIS, DENTAL GRADE	0.81	50	LB	41
00710	SIGN, -2 TRACKS- MP STD PAGE 403.	18.40	2	EA	37
00220	SIGN, HIGHWAY CROSSING	50.00	2	EA	100

WORK ORDER AUTHORIZATION-DE[illegible] OF ESTIMATED EXPENDITURES

ST START: 01-01-01
ST COMP: 12-31-01

PROJ NO: 32873
A.W.O. NO: 32675
W.O. NO:
B.I. NO: 99EN10
STATE: IL
VAL SEC: 1103A

AILROAD: UPRR CO.
OCATION: ROCHELLE IL 9TH ST GENEVA
EPARTMENT: ENGINEERING SERVICES

9369480	SIGN MOUNTING KIT 5"	123.00	2	EA	246
2000920	SURGE PROTECTOR SP19-2A TAB 586	68.53	3	EA	206
2001370	SURGE PROTECTOR SP20-2A TAB 585	70.12	2	EA	140
2016830	WIRE DUCT, 2X3	9.00	30	EA	270
2016940	WIRE DUCT, 3X3	10.33	2	EA	21
2017510	WIRE DUCT COVER 2"X6'	2.11	30	EA	63
2017620	WIRE DUCT COVER 3"X6'	2.98	2	EA	6
2019530	ENCLOSURE,SHUNT,POLE MOUNTED.24X2	245.01	6	EA	1470
2019560	EQUALIZER, H.D. TAB 583	9.22	28	EA	258
2021550	FOUNDATION,4',STEEL,FOR FLSHR/GAT	227.96	2	EA	456
2025090	GROUNDING PLATE -	61.92	1	EA	62
2025240	HOUSE, 6X6, SIGNAL XING	4305.14	1	EA	4305
026150	HOUSE, SIGNAL 8 X 10 X 9 FEET 1	6739.53	1	EA	6740
027350	CLIP BOARD - FOR SIGNAL PRINTS	6.45	2	EA	13
027430	STEP BOX	12.70	2	EA	25
028420	LIGHTNING ARRESTOR,CLR-COMM TAB 3	7.01	58	EA	407
029780	LIGHTNING ARR,HD TAB 582 W/O BASE	9.91	24	EA	238
030010	LIGHTNING ARRESTOR COMN.STRIP	4.15	4	EA	17
039210	RECTIFIER,20EC,12V.TAB575	349.59	3	EA	1049
039390	RECTIFIER, 40EC, 12V. TAB577	501.71	1	EA	502
040400	RESISTOR, ADJ.0.63 OHM TAB91	24.86	4	EA	99
040460	RESISTER, ADJ. 5 OHM, TAB 90	12.76	8	EA	102
042650	POST, MOUNTING, FOR SHUNT HOUSING	8.91	12	EA	107
045700	SURGE SUPPRESSOR, PRIMARY,#2377-4	9.56	2	EA	19
069100	TERMINAL, #6 WIRE - RING TYPE	0.85	8	EA	7
070010	TERMINAL,#12-10 WIRE,RING TONGUE	0.08	450	EA	36
071600	TERMINAL,#20-16 WIRE,RING TONGUE	0.06	300	EA	18
72280	TERMINAL BLOCK, SIGNAL 2 POST BAK	2.25	114	EA	257
72510	TERMINAL BLOCK,SIGNAL 3 POST TEST	6.29	3	EA	19
72740	TERMINAL BLOCK, SIGNAL 12 POST 6	8.60	8	EA	69
74550	TEST LINK, INSULATED ASSEMBLY TAB	0.67	48	EA	32
74700	TRK.CIRCUIT,RPTR.100 HZ. "RRNNQ"	4074.84	4	EA	16299
74970	CAB SIGNAL GENERATOR, 100 HZ CAB	1450.00	4	EA	5800
79550	WIRE TAG, PLASTIC - WHITE	0.12	200	EA	24
79560	MARKING PEN(FOR WHITE TAG)	1.94	2	EA	4
92250	CRTU. W/MICROBURST TRANSCEIVER.	1655.00	1	EA	1655
08120	LED FL/GATE ASSY.2 WAY LIGHTS	7215.99	2	EA	14432
09370	GATE ARM, ADJ.16-32'	235.74	2	EA	471
22140	HIGH WIND BRACKET 5"OR 4"	63.99	2	EA	128
56470	SHEAR PIN, SK-1000-1	5.50	2	EA	11
2200	SIGNAL EFFICIENCY TEST SW.TAB A02	94.54	2	EA	189
3400	DETECTOR, LIGHT OUT, LOD-1	469.18	1	EA	469
3960	DUMMY LOAD, 1000 FT. TAB 644	40.00	4	EA	160
4080	DUMMY LOAD, 1200 FT. TAB 644	40.00	2	EA	80
5800	GCP111 NO ISLAND #81KB-80110-0B00	15157.96	3	EA	45474
0000	IPI MODULE-GCP3000D2 #80211	1078.02	4	EA	4312
6000	RESISTOR,47,000 (47K) OHM .5 WATT	0.20	4	EA	1
8850	NBS, TAB 642, 62775-3497	324.01	6	EA	1944

WORK ORDER AUTHORIZATION-DE. _ OF ESTIMATED EXPENDITURES

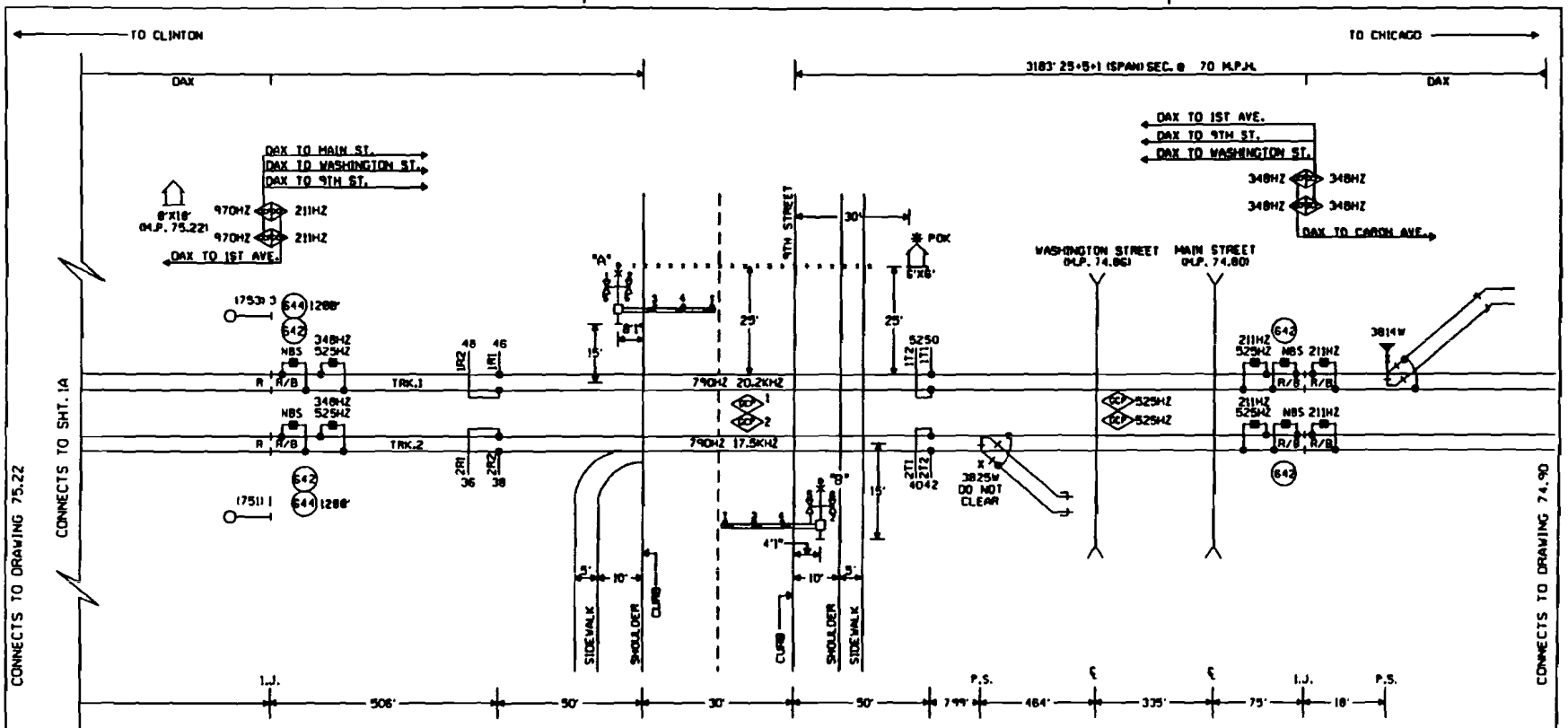
:ST START: 01-01-01
:ST COMP: 12-31-01

PROJ NO: 32873
A.W.O. NO: 32675
W.O. NO:
B.I. NO: 99EN10
STATE: IL
VAL SEC: 1103A

!AILROAD: UPRR CO.
.OCATION: ROCHELLE IL 9TH ST GENEVA
!EPARTMENT: ENGINEERING SERVICES

2262050	SIM.TRK.BURIAL ASSY 80074 TAB605	70.00	2 EA	140
2263600	SURGE ARRESTOR,METER LOOP.	23.89	2 EA	48
2263690	SURGE PANEL - TAB 619	135.99	3 EA	408
2264040	SURGE PANEL - TAB 618	203.97	3 EA	612
2264600	TRACK FILTER - TF 211	214.99	4 EA	860
2267000	TRANSCEIVER MODULE-#80012-GCP	1560.00	6 EA	9360
2276050	CROSSING ANALYZER, HCA-1	1711.22	1 EA	1711
2278800	DAX MODULE #80016-GCP 3000D2	1085.00	8 EA	8680
2726820	RELAY, FLASHER TAB 887	343.90	1 EA	344
2728800	RELAY, B1LC. TAB 911 A62-310	298.91	1 EA	299
2745830	RELAY,NEUTRAL, B1 TAB 884 & 884A	235.02	2 EA	470
2752390	RELAY,B1SR. 3 SEC. TAB 893	425.99	1 EA	426
2773760	RELAY BRACKET, HOLDS 14 B1 RELAYS	219.21	1 EA	219
2776370	RELAY PLUGBOARD,GRS B1,TAB 900	33.20	5 EA	166
2777970	FLAG TERMINAL, FOR GRS, 14-10	0.89	100 EA	89
2778110	FLAG TERMINAL, FOR GRS, 20-16	1.01	100 EA	101
2779280	RELAY TEST TERM,GRS B1 TAB770&864	6.90	5 EA	35
2842220	DIODE JEDEC NUMBER 1N4004	0.03	1 EA	0
2959000	POWER TAP MATERIAL	1000.00	2 EA	2000
311490	EXTRACTOR FOR "B"TERMINALS P3-308	9.89	1 EA	10
311510	TEST NUT WRENCH. GRS #P3-320	16.59	1 EA	17
623340	BATTERY CHOKE-TAB 706	167.99	2 EA	336
648010	INSULATING CAP & SHIELD ASSY.	2.07	20 EA	41
903460	EPD 120/240TDFL SURGE PROTECTOR	341.02	1 EA	341
954500	180429-000 BOOTLEG KIT	85.39	22 EA	1879

TOTAL 154,509



NOTES:

⊗ • TWISTED WIRES
INSULATED 1 TWIST PER FT.
ALL TRACK WIRES 2C. #6

TRANSMITTER AND RECEIVER LEADS
TO BE SEPARATED BY AT LEAST 12" IN TRENCH.
LENGTHS SHOULD NOT EXCEED MANUFACTURES
RECOMMENDATION.

TOP OF FOUNDATION TO BE AT SAME ELEVATION
AS THE SURFACE OF THE TRAVELED WAY & NO
MORE THAN 4" ABOVE THE SURFACE OF THE GROUND.

ALL BUNGALOW WIRING TO BE #16 AWG FLEX
UNLESS OTHERWISE SPECIFIED EXCEPT ALL GROUND
WIRE TO BE #6 AWG FLEX OR LARGER.

ALL WIRING IN GATE MECHANISM TO BE #10 "AWG FLEX".

REFER TO UP STANDARD DWG FOR BUNGALOW GROUNDING.

DO NOT USE 7 CELLS OF B12 BATTERY UNLESS
REQUIRED TO MAINTAIN MINIMUM LAMP VOLTAGE.

ALL LIGHTS TO BE 12" ROUNDELS.

• • • • • • • 4" X 50' CONDUIT

LIGHTS: A & B LED LIGHTS

GATE A: 23'
GATE B: 19'

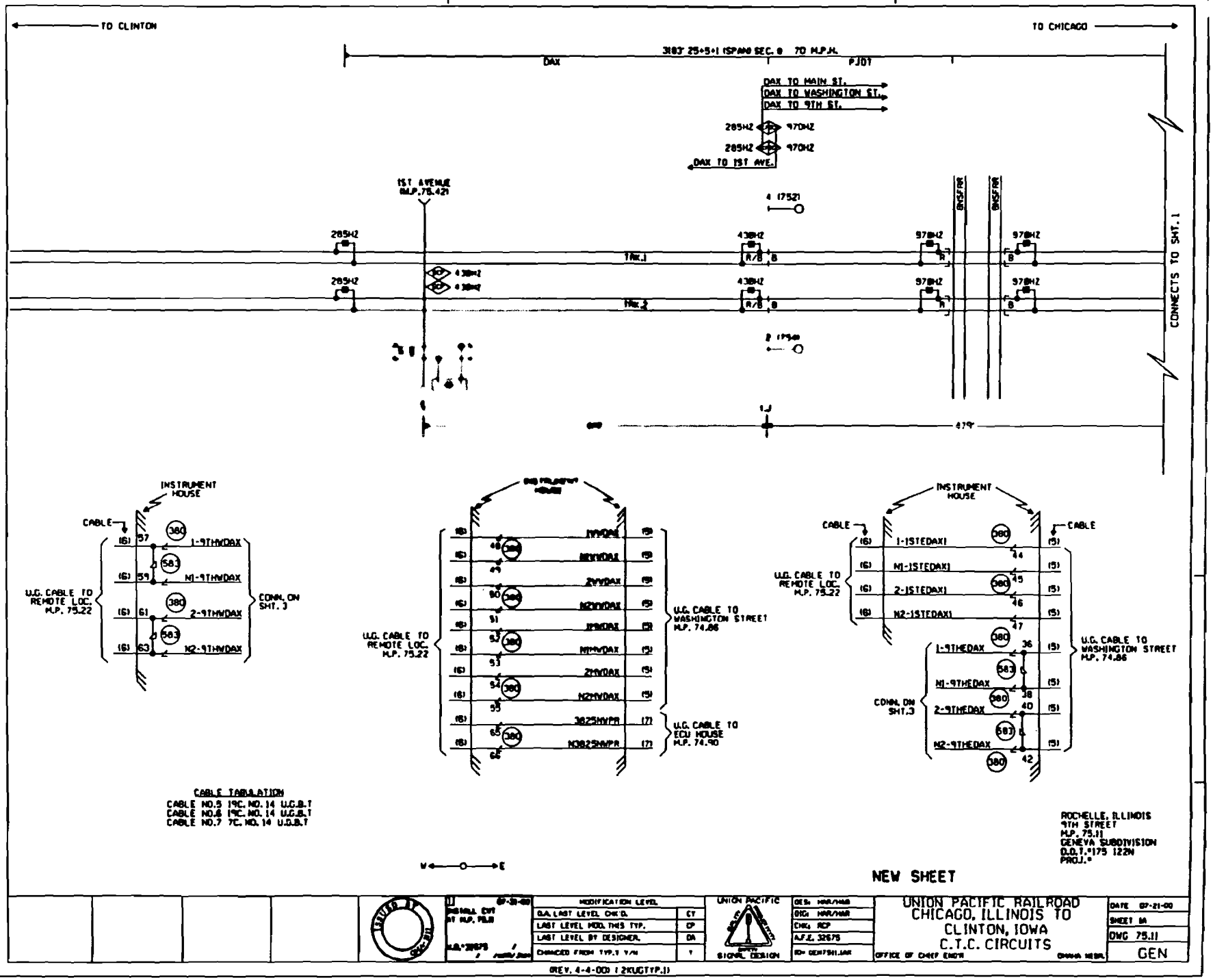
CONSTRUCTION NOTES:

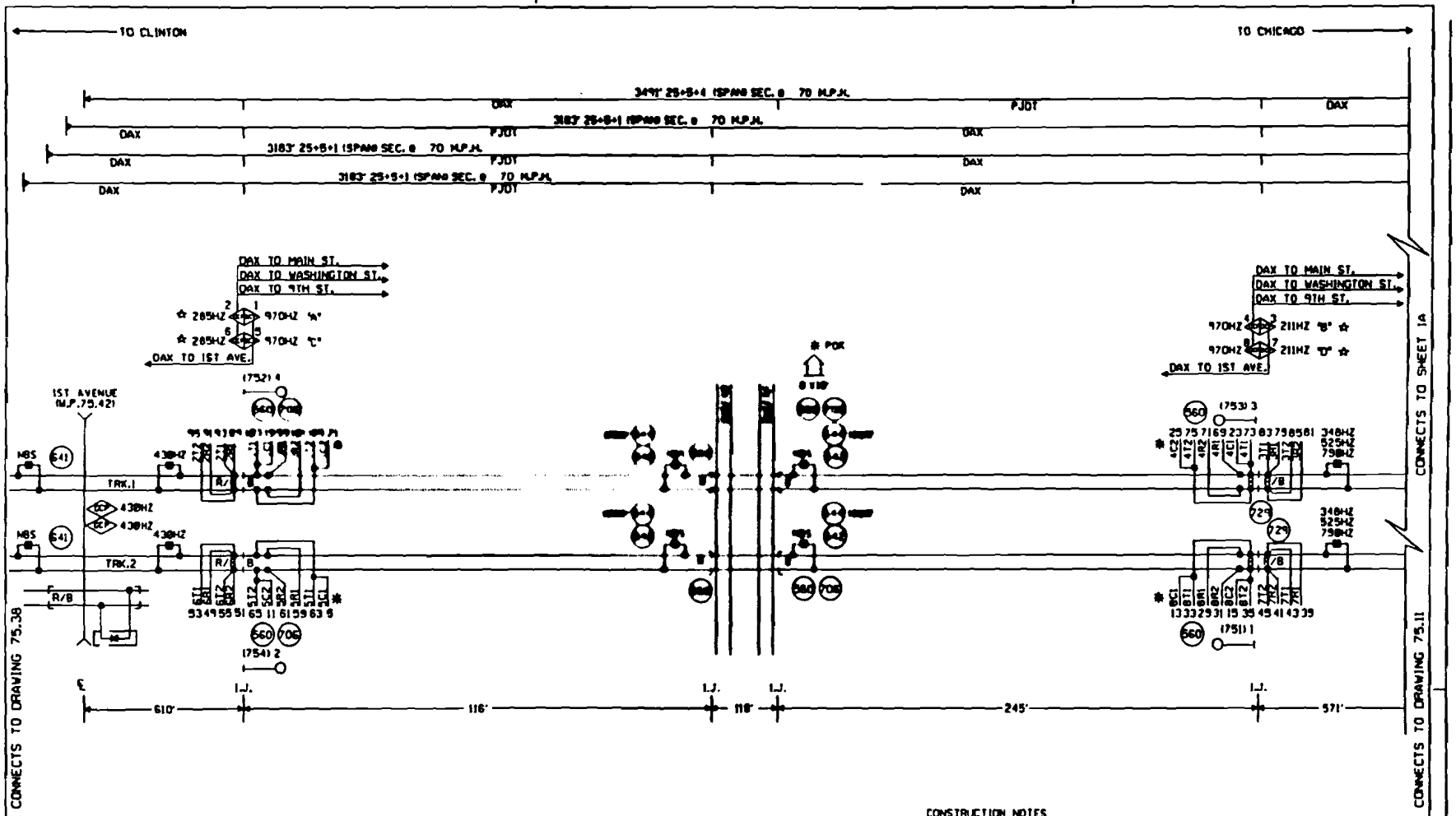
1. TAB 642 NBS'S AND TAB 644 DTL'S ARE NEW. ALL OTHERS ARE EXISTING.
2. INSTALL NEW METER SERVICE.
3. REMOVE THIRD TRACK NORTH OF MAIN TRACKS.
4. INSTALL 8'X10' REMOTE GCP HOUSE AT M.P. 75.22 AND PROVIDE DAX CIRCUITS TO THIS CROSSING AS PART OF THIS PROJECT.
5. UPGRADE MAIN STREET (WO#32673) WITH GCP3000'S AND PROVIDE DAX CIRCUITS TO THIS CROSSING AS PART OF THIS PROJECT.

ROCHELLE, ILLINOIS
9TH STREET
M.P. 75.11
GENEVA SUBDIVISION
D.O.T.#175 122N
PROJ.#

W ← O → E

NEW SHEET


TO CLINTON
TO CHICAGO
DAX
PJ01
DAX TO MAIN ST.
DAX TO WASHINGTON ST.
DAX TO 9TH ST.
DAX TO 1ST AVE.
1ST AVENUE
CONNECTS TO SHT. 1
INSTRUMENT HOUSE
CABLE
U.G. CABLE TO REMOTE LOC. M.P. 75.22
CONN. ON SHT. 3
U.G. CABLE TO WASHINGTON STREET M.P. 74.86
U.G. CABLE TO ECU HOUSE M.P. 74.90
CABLE TABULATION
CABLE NO.5 19C. NO. 14 U.G.B.T
CABLE NO.6 19C. NO. 14 U.G.B.T
CABLE NO.7 7C. NO. 14 U.G.B.T
ROCHELLE, ILLINOIS
9TH STREET
M.P. 75.11
GENEVA SUBDIVISION
O.D.T.#175 122N
PROJ.#
NEW SHEET
UNION PACIFIC RAILROAD
CHICAGO, ILLINOIS TO
CLINTON, IOWA
C.T.C. CIRCUITS
OFFICE OF CHIEF ENGR
OMAHA NEBR.
DATE 07-21-00
SHEET 1A
DWG 75.11
GEN
MODIFICATION LEVEL
UNION PACIFIC
SIGNAL DESIGN
(REV. 4-4-00 (2KUGTYP.1)



NOTES:

⊗ = TWISTED WIRES
ALL TRACK WIRES 2C. #6
INSULATED 1 TWIST PER FT.

TRANSMITTER AND RECEIVER LEADS TO BE SEPARATED BY AT LEAST 12" IN TRENCH. LENGTHS SHOULD NOT EXCEED MANUFACTURES RECOMMENDATION.

ALL BUNGALOW WIRING TO BE #16 AWG FLEX UNLESS OTHERWISE SPECIFIED EXCEPT ALL GROUND WIRE TO BE #6 AWG FLEX OR LARGER.

REFER TO UP STANDARD DWG. FOR BUNGALOW GROUNDING.

DAX OFFSET INFORMATION

UNIT A TO M.P. 74.80 =
UNIT A TO M.P. 74.86 =
UNIT A TO M.P. 75.11 =
UNIT A TO M.P. 75.42 =
UNIT B TO M.P. 74.80 =
UNIT B TO M.P. 74.86 =
UNIT B TO M.P. 75.11 =
UNIT B TO M.P. 75.42 =
UNIT C TO M.P. 74.80 =
UNIT C TO M.P. 74.86 =
UNIT C TO M.P. 75.11 =
UNIT C TO M.P. 75.42 =
UNIT D TO M.P. 74.80 =
UNIT D TO M.P. 74.86 =
UNIT D TO M.P. 75.11 =
UNIT D TO M.P. 75.42 =

☆ = SIMULATED BI-DIRECTIONAL MODE. USE TAB 627 COUPLER.

✱ TIE THE CHECK AND TRANSMIT TRACK WIRES TOGETHER AT OR NEAR THE BOOTLEG CONNECTION AND RUN A SINGLE WIRE TO THE RAIL.

605 SIMULATED TRACK BURIAL UNIT
DO NOT EXCEED 50' FROM TRACK TO BURIAL UNIT

CONSTRUCTION NOTES

1. TAB 641 AND 642 NBS'S AND TAB 644 DTL'S ARE NEW. ALL OTHERS ARE EXISTING.
2. INSTALL NEW METER SERVICE.
3. INSTALL THIS REMOTE HOUSE IN CONJUNCTION WITH MAIN STREET (WO#32673), WASHINGTON STREET (WO#32674), 9TH STREET (WO#32675), AND 1ST AVENUE (WO#32676).

ROCHELLE, ILLINOIS
REMOTE GCP LOCATION
M.P. 75.22
GENEVA SUBDIVISION
PROJ.#

NEW SHEET

MODIFICATION LEVEL	
D.A. LAST LEVEL CHK'D.	CY
LAST LEVEL MOD. THIS TYP.	CP
LAST LEVEL BY DESIGNER.	DA
CHANGED FROM TYP.T Y/N	Y

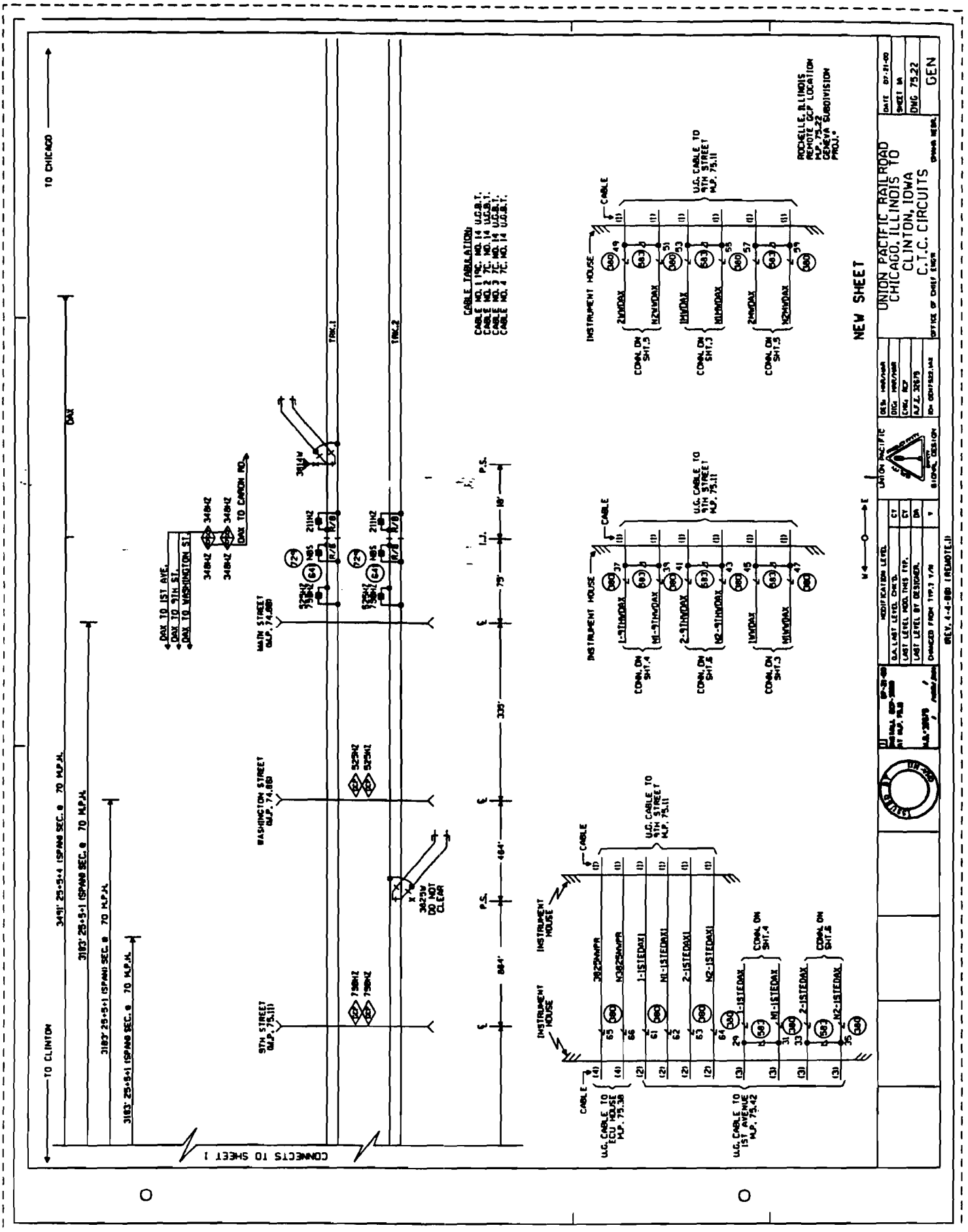
UNION PACIFIC SIGNAL DESIGN

DES: HAR/HAR
DIG: HAR/HAR
CHK: RCP
A.F.E. 32675
ID# GEN75.22.1X

UNION PACIFIC RAILROAD
CHICAGO, ILLINOIS TO
CLINTON, IOWA
C.T.C. CIRCUITS
OFFICE OF CHIEF ENG'R OMAHA NEBR.

DATE 07-21-00
SHEET 1
DWG 75.22
GEN

(REV. 4-4-00) (2KUGTYP.1)


TO CHICAGO
TO CLINTON
CONNECTS TO SHEET 1
9TH STREET
WASHINGTON STREET
MAIN STREET
DAX TO 1ST AVE.
DAX TO 9TH ST.
DAX TO WASHINGTON ST.
DAX TO CARON RD.
TRK.1
TRK.2
CABLE TABULATION
INSTRUMENT HOUSE
CABLE
U.G. CABLE TO 9TH STREET M.P. 75.11
U.G. CABLE TO ECU HOUSE M.P. 75.38
U.G. CABLE TO 1ST AVENUE M.P. 75.42
NEW SHEET
ROCHELLE, ILLINOIS
REMOTE GCP LOCATION
M.P. 75.22
GENEVA SUBDIVISION
PROJ.
UNION PACIFIC RAILROAD
CHICAGO, ILLINOIS TO
CLINTON, IOWA
C.T.C. CIRCUITS
DWG 75.22
GEN