

**INDEX OF SHEETS**

1	TITLE SHEET
2	PROJECT TYPICAL & DETAIL SHEET
3-4	QUANTITY SHEETS
5	DRAINAGE AND ITEM DETAIL SHEET
6-8	RIGHT-OF-WAY DETAILS
9	LAYOUT PLAN
10	SIGN AND PAYEMENT MARKING PLAN
11-12	TRAFFIC SIGN SUMMARY SHEETS
13	TRAFFIC SIGNAL DETAIL PLAN
14	STRAIN POLE/FOOTING DETAIL SHEET
15	TRAFFIC SIGNAL NOTES & DETAIL SHEET
16	PREEMPTION DETAIL SHEET
17	BULB-OUT DETAIL SHEET
18	SIDEWALK RAMP-BULBOUT "B" DETAILS
19	CONSTRUCTION APPROACH SIGNS AND RAMP DETAILS
20-25	ROADWAY CROSS SECTION SHEETS
W1-W3	WALLINGFORD FIRE DISTRICT #1 WATER SYSTEM IMPROVEMENTS

**VTrans STANDARDS**

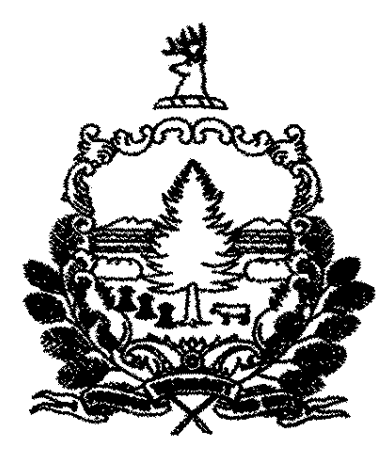
C-1M	VERTICAL GRANITE CURB	01-03-00
C-2AM	PORTLAND CEMENT CONCRETE SIDEWALK	01-03-00
C-3M	SIDEWALK RAMPS	01-03-00
D-8M	REINFORCED CONCRETE DROP INLET W/ GRATE (BOTTOM SECTION)	01-03-00
D-9M	REINFORCED CONCRETE DROP INLET W/ VERTICAL CURB	06-13-97
D-15M	CAST IRON GRATE WITH FRAME, TYPE D	06-13-97
D-20M	HIGHWAY CROSSING SLEEVE FOR UNDERGROUND UTILITIES	06-13-97
E-100M	CONSTRUCTION APPROACH SIGNS	06-13-97
E-101M	CONSTRUCTION SIGN DETAILS	06-13-97
E-102M	CONSTRUCTION SIGN DETAILS	06-13-97
E-102AM	CONSTRUCTION SIGN DETAILS	06-13-97
E-106M	TRAFFIC CONTROL - MISCELLANEOUS DETAILS	06-13-97
E-107M	DELINEATION, BARRICADES, DETOURS FOR CONSTRUCTION AREAS	06-13-97
E-107AM	BREAKAWAY BARRICADE DETAILS	06-13-97
E-108M	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	06-13-97
E-109M	MAJOR MAINTENANCE OPERATION LANE CLOSURE	06-13-97
E-12M	STANDARD SIGN PLACEMENT CONVENTIONAL ROAD	06-13-97
E-136AM	U.S. ROUTE MARKER SIGN DETAILS	06-13-97
E-136BM	STATE ROUTE MARKER SIGN DETAILS	06-13-97
E-136CM	STATE NUMBERED TOWN HIGHWAY SIGN DETAILS	06-13-97
E-140M	REGULATORY SIGN DETAILS	06-13-97
E-144M	REGULATORY SIGN DETAILS	03-29-99
E-150M	WARNING SIGN DETAILS	06-13-97
E-152M	WARNING SIGN DETAILS	06-13-97
E-160M	FLANGED CHANNEL STEEL SIGN POST	06-13-97
E-161M	W-SHAPED STEEL SIGN POST	06-13-97
E-162M	TUBULAR ALUMINUM SIGN POST	06-13-97
E-163M	TUBULAR STEEL SIGN POST	06-13-97
E-164M	SQUARE STEEL SIGN POST	06-13-97
E-170M	TRAFFIC CONTROL SIGNALS - PEDESTAL POST MOUNTED	11-04-99
E-171AM	TRAFFIC CONTROL SIGNALS GENERAL NOTES & DETAILS	06-13-97
E-171BM	TRAFFIC CONTROL SIGNALS MISC. DETAILS	06-13-97
E-171CM	PED. PUSH BUTTON ACCESSIBILITY DETAIL	06-13-97
E-172M	VEHICLE DETECTOR LOOP DETAILS	06-13-97
E-173M	PULL BOXES AND JUNCTION BOXES	06-13-97
E-175M	POWER DROP STANCHION	06-13-97
E-191M	PAVEMENT MARKING DETAILS	02-01-99
E-192M	PAVEMENT MARKING DETAILS	12-28-98
E-193M	PAVEMENT MARKING DETAILS	06-13-97
J-2M	STANDARD CONCRETE STEPS METAL HAND RAILING	06-13-97
T-1M	TEMPORARY EROSION CONTROL DETAILS	06-13-97
T-2M	TEMPORARY EROSION CONTROL DETAILS	06-13-97

**CONVENTIONAL SYMBOLS**

COUNTY LINE	———	COUNTY LINE
TOWN LINE	———	TOWN LINE
LIMITS OF ACCESS	—o—o—o—	LIMITS OF ACCESS
POINT OF ACCESS	X	POINT OF ACCESS
FENCE LINE	x-x-x-x-x-x	FENCE LINE
STONE WALL	o-o-o-o-o-o-o-o	STONE WALL
TRAVELED WAY	— — — — —	TRAVELED WAY
GUARD RAIL	—o—o—o—	GUARD RAIL
RAILROAD	—+—+—+—+—	RAILROAD
SURVEY LINE	—+—+—+—+—	SURVEY LINE
CULVERT	—+—+—+—+—	CULVERT
POWER POLE	□	POWER POLE
TELEPHONE POLE	○	TELEPHONE POLE
TREES	⊙ ⊛	TREES
CONTROL OF ACCESS	—//—//—//—	CONTROL OF ACCESS
PROPERTY LINE	—//—//—//—	PROPERTY LINE
R.O.W. TAKING LINE	—SR—SR—SR—	R.O.W. TAKING LINE
SLOPE RIGHTS	—△—△—△—	SLOPE RIGHTS
TOP OF CUT	—△—△—△—	TOP OF CUT
TOE OF SLOPE	—○—○—○—	TOE OF SLOPE

SURVEYED BY :	VTRANS
SURVEYED DATE :	1996
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)

STATE OF VERMONT  
AGENCY OF TRANSPORTATION

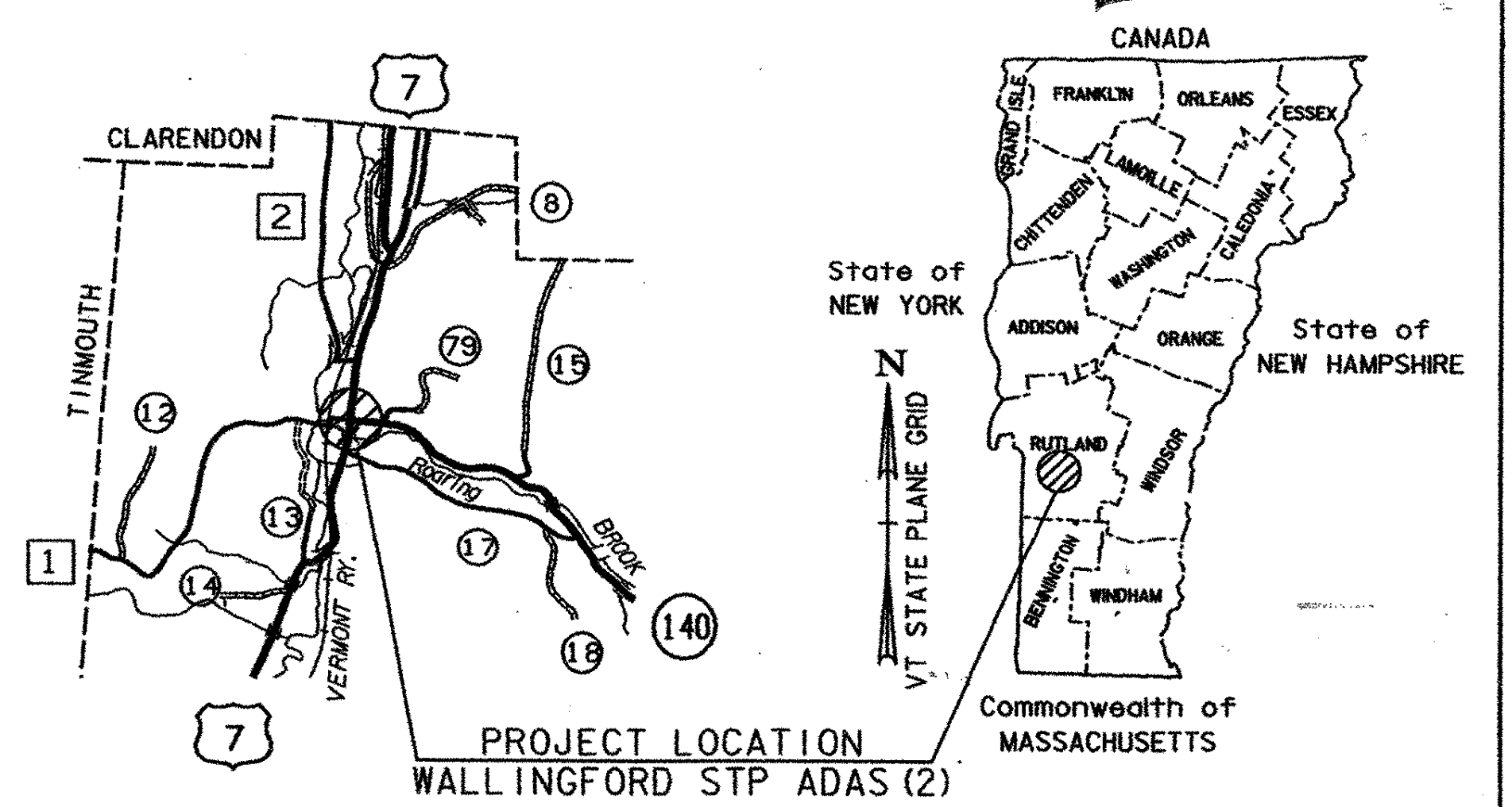
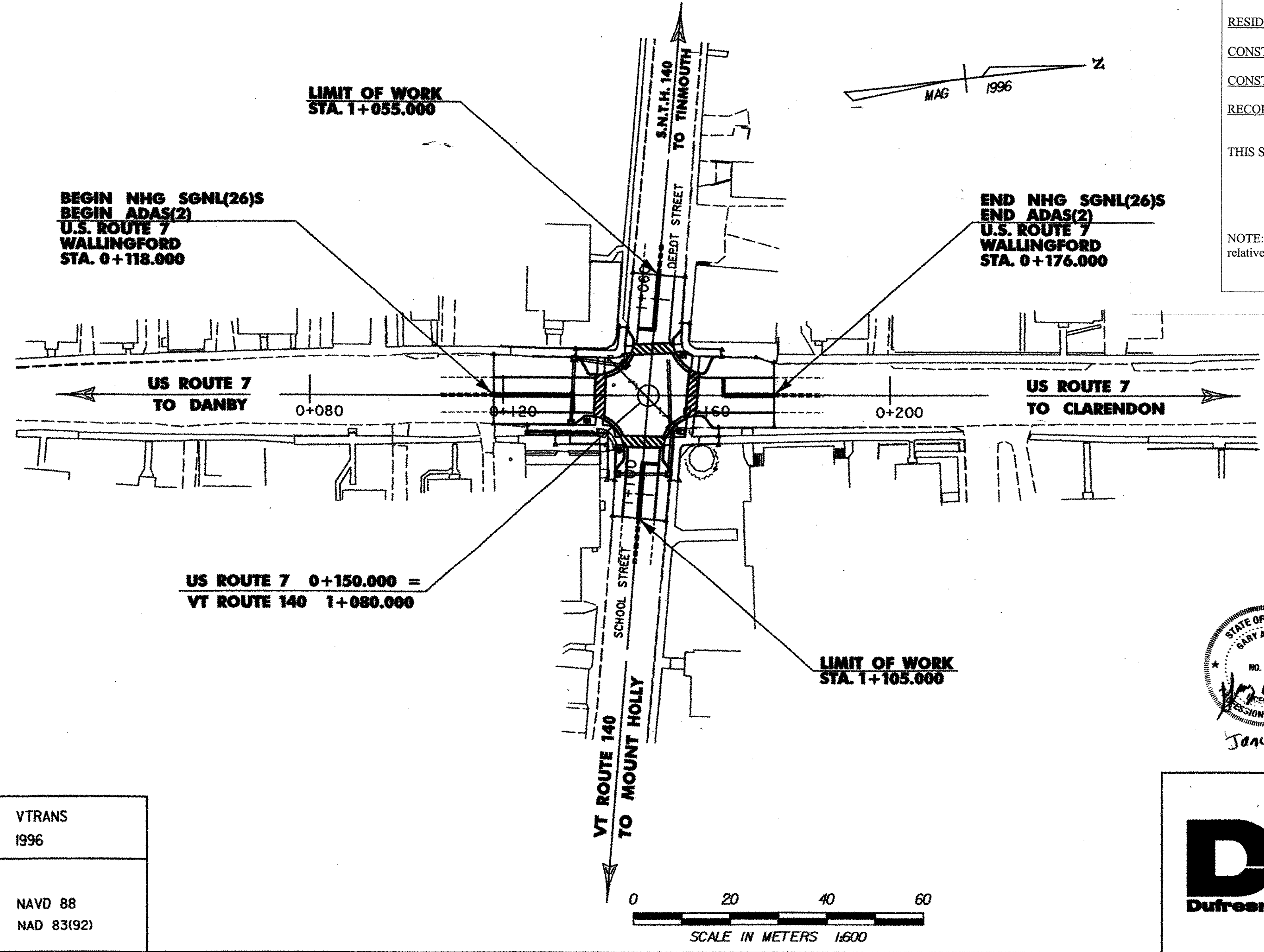


TOWN OF WALLINGFORD  
COUNTY OF RUTLAND  
U.S. ROUTE 7 - PRINCIPAL ARTERIAL

BEGINNING AT A POINT APPROXIMATELY 8.718 KILOMETERS NORTH OF THE DANBY - WALLINGFORD TOWN LINE ON U.S. ROUTE 7, AND EXTENDING NORTHERLY 0.058 KILOMETERS THRU THE INTERSECTION OF VERMONT ROUTE 140.

PROJECT DATA	LENGTH	LENGTH
TOWN OF WALLINGFORD U.S. ROUTE 7	(M)	(FT)
STA. 0+118 - STA. 0+176	= 58.00	= 190

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REPLACEMENT OF EXISTING TRAFFIC SIGNAL SYSTEM, COLD PLANING & RESURFACING OF THE EXISTING HIGHWAY, NEW PAVEMENT MARKINGS, CURBING, DRAINAGE, SIDEWALK RAMPS AND WATER LINE REPLACEMENT.



**TRAFFIC DATA**

1998 ADT	=	5600	U.S. ROUTE 7	995	VT. ROUTE 140
1998 DHV	=	785		140	
2003 ADT	=	5750		995	
2003 DHV	=	800		140	
DESIGN SPEED	=	85 KM/H		50 KM/H	

CONTRACTOR: DON WESTON EXCAVATING INC.  
 RESIDENT ENGINEER: *Fol* CHRIS BUMP  
 CONSTRUCTION BEGAN: FEBRUARY 13, 2003  
 CONSTRUCTION COMPLETE: DECEMBER 30, 2003  
 RECORD PLANS BY: K. NORTH & N. GARBACIK

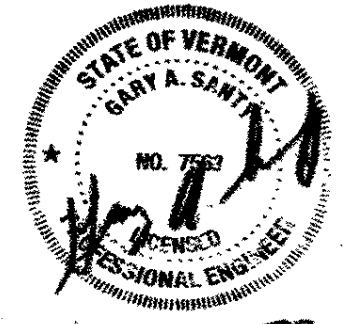
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.  
 BY *Chris Bump* RESIDENT ENGINEER  
 DATE 01-07-2005

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.



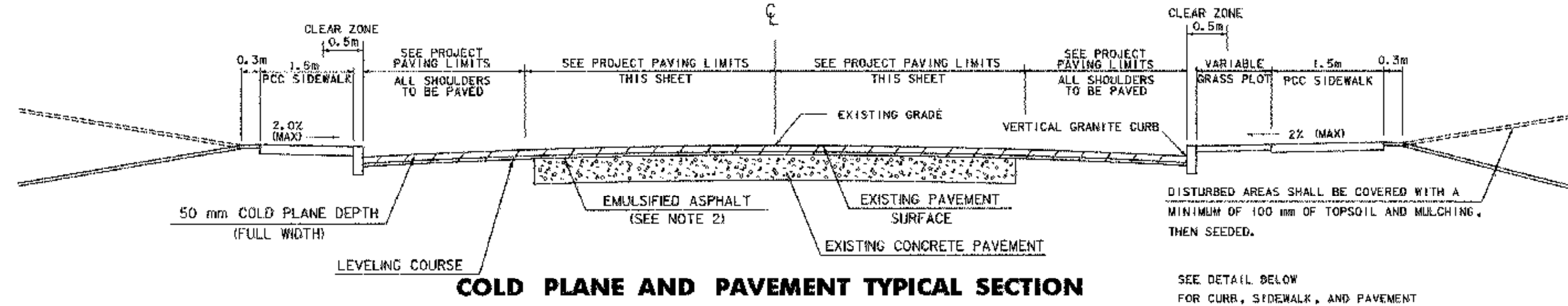
UNLESS NOTED OTHERWISE  
STATIONS ARE IN KILOMETERS  
ELEVATIONS ARE IN METERS  
DIMENSIONS ARE IN MILLIMETERS

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROJECT DEVELOPMENT.  
 CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1995, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON AUGUST 21, 1995 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.



January 29, 2002

<b>DH</b> Dufresne-Henry	DIRECTOR OF PROJECT DEVELOPMENT
	APPROVED: <i>[Signature]</i> DATE: <i>1/29/02</i>
	PROJECT MANAGER: ANN B KREIS
	PROJECT NAME: WALLINGFORD NHG SGNL(26) S STP ADAS(2) WFD#1
	PROJECT NUMBER: _____
	SHEET 1 OF 25 SHEETS

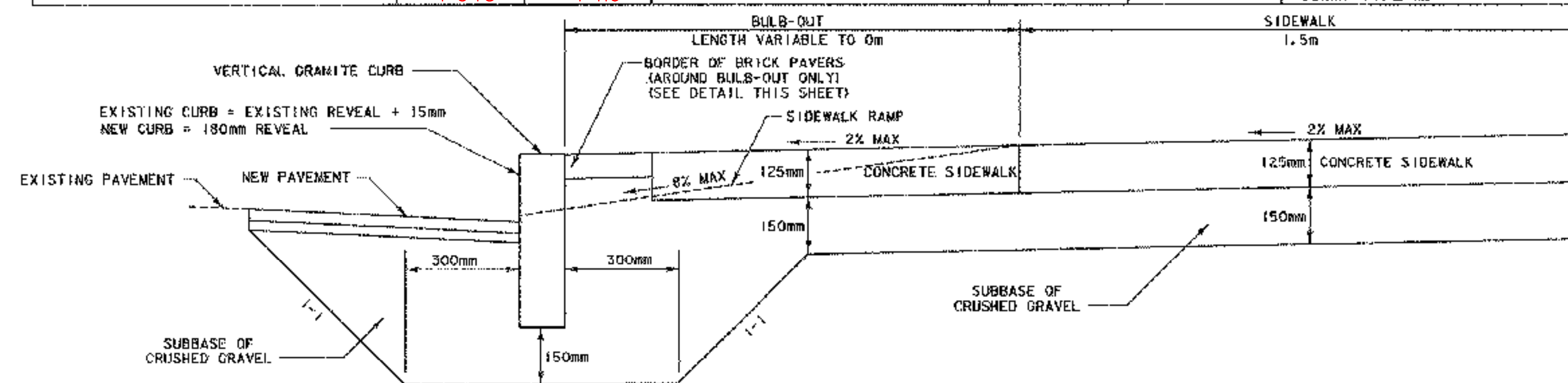


**COLD PLANE AND PAVEMENT TYPICAL SECTION**

NOT TO SCALE

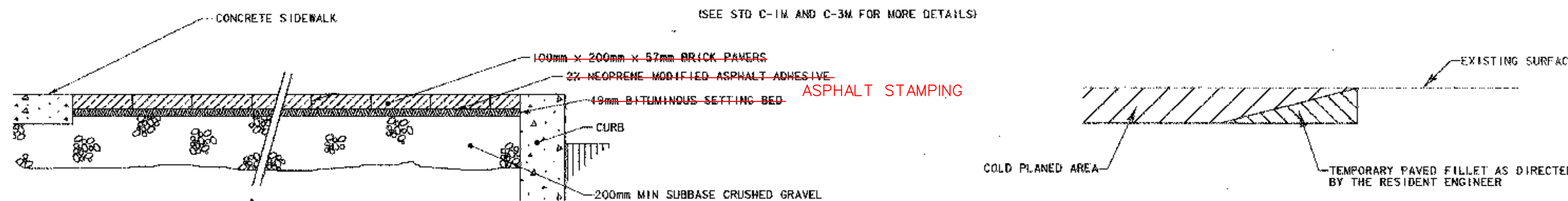
**PROJECT PAVING LIMITS**

TOWN & ROUTE	BEGIN STATION	END STATION	LANE TYPICAL	WEARING DEPTH	LEVELING TONS	NOTES
WALLINGFORD U.S. ROUTE 7	0+18- 0+113	0+163	4.4 M - 3.6 M - 3.6 M - 2.4 M	35mm	22	COLD PLANE 50mm. LEVEL, THEN PAVE WITH 35mm TYPE III.
WALLINGFORD U.S. ROUTE 7	0+163	0+176- 0+180	4.4 M - 3.6 M - 3.6 M - 3.0 M	35mm	7	COLD PLANE 50mm. LEVEL, THEN PAVE WITH 35mm TYPE III.
WALLINGFORD VT ROUTE 140	1+055- 1+045	1+105 1+116	2.4 M - 3.3 M - 3.3 M - 2.4 M	35mm	20	COLD PLANE 50mm. LEVEL, THEN PAVE WITH 35mm TYPE III.



**CURB, SIDEWALK, BULB-OUT, AND PAVEMENT DETAIL**

(SEE STD C-1M AND C-3M FOR MORE DETAILS)

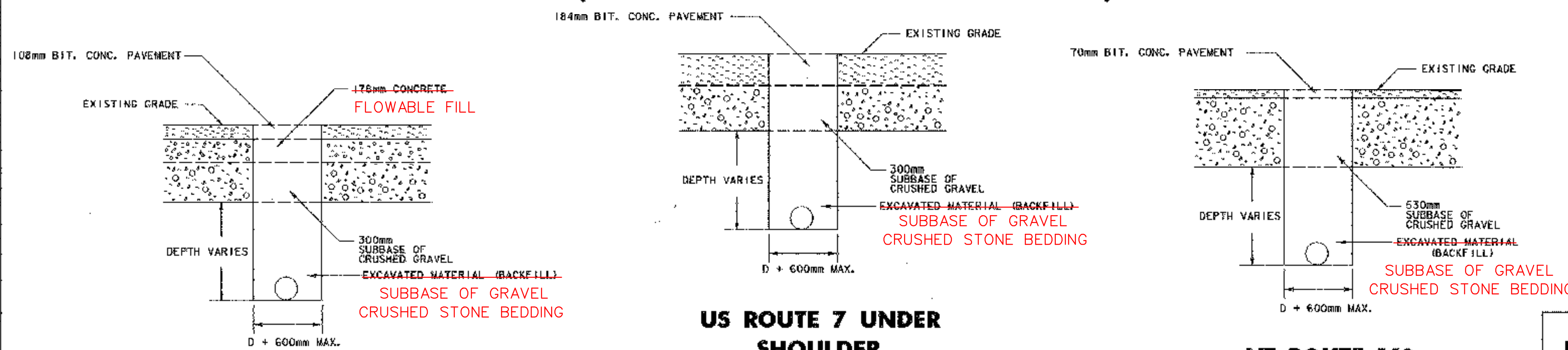


**BRICK PAVER INSTALLATION  
DETAIL-NON VEHICULAR**  
NOT TO SCALE

**DETAIL AT VERTICAL COLD PLANE JOINTS**

**UTILITY AND DRAINAGE CUT DETAILS**

(REFER TO STD D-20M FOR MORE DETAILS)



**US ROUTE 7 UNDER  
TRAVELED WAY**

**US ROUTE 7 UNDER  
SHOULDER**

**VT ROUTE 140**

**N.T.S.**

- NOTES:
1. MATCH THE EXISTING MATERIAL TYPES AND DEPTHS WHEN BACKFILLING TRENCH.
  2. EXISTING PORTLAND CEMENT UNDER US 7 IS 6.1 METERS WIDE IF REINFORCING STEEL IS ENCOUNTERED REFER TO VAOT STD. D-20M DETAIL D.

**MATERIAL THICKNESS TOLERANCES**

PAVEMENT (TOTAL DEPTH)	± 5 mm
SUBBASE	± 30 mm

**GENERAL NOTES**

1. THE PAVEMENT WEARING COURSE SHALL BE TYPE III. THE ESTIMATED 15 mm LEVELING COURSE SHALL BE TYPE IV UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ALL ASPHALT CEMENT USED IN THE BITUMINOUS CONCRETE PAVEMENT SHALL BE PG 58-28.
2. EMULSIFIED ASPHALT SHALL BE APPLIED ON EXISTING PAVEMENT SURFACES, BETWEEN ALL COURSES OF PAVEMENT AND ON COLD PLANNED SURFACES, AT THE RATE OF 0.07 L/m<sup>2</sup> OR AS DIRECTED BY THE ENGINEER.
3. BITUMINOUS CONCRETE PAVEMENT TOLERANCE = ±5 mm. (TOTAL THICKNESS EXCLUDING LEVELING)
4. COLD PLANING TO BE COMPLETED ACCORDING TO TYPICAL OR AS NOTED OTHERWISE ON THE PLANS. THE COLD PLANING AND PAVING SHALL MATCH THE EXISTING CONDITIONS AT THE BEGINNING AND END OF CONSTRUCTION AREAS BY THE USE OF A VERTICAL BUTT JOINT, AS DETAILED ON THIS SHEET.
5. ALL DRIVES AND TURNOUTS SHALL RECEIVE A PAVED APRON TO THE EDGE OF SIDEWALK AS DIRECTED BY THE RESIDENT ENGINEER. ANY AND ALL REQUIRED EXCAVATION IN DRIVE AREAS SHALL BE AS DIRECTED AND WILL BE PAID FOR UNDER ITEM 210.10. IF REQUIRED, A NEW DRIVEWAY SUBBASE SHALL BE CONSTRUCTED AND WILL BE PAID FOR UNDER ITEM 304.28. A NEW BITUMINOUS SURFACE SHALL BE CONSTRUCTED AS DIRECTED AND WILL BE PAID FOR UNDER ITEM 406.25. ESTIMATED QUANTITIES OF THE ABOVE ITEMS HAVE BEEN INCLUDED TO PAY FOR THIS WORK.

**URBAN AREAS - SEED MIXTURE**

% MASS	KG/HA	NAME	PUR. %	GERM. %
42.2	38	CREeping RED FESCUE	98	85
10.0	9	PERENNIAL RYE GRASS	95	90
42.2	38	KENTUCKY BLUE GRASS	85	85
5.6	5	ANNUAL RYE GRASS	95	85
100	90			

SEED MIXTURE:  
SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY MASS AND SHALL BE FREE OF ALL NOXIOUS SEED.

SEED:  
TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

FERTILIZER:  
FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 KG/HA. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA.)

AGRICULTURAL LIMESTONE:  
TO BE APPLIED AT THE RATE OF 4500 KG/HA, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH:  
TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 KG/HA, OR AS DIRECTED BY THE ENGINEER.

TOPSOIL:  
TO BE USED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

MARKER POSTS:  
TO BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.

**REVISIONS AND CORRECTIONS**

JUNE 18, 2002 - ADDED NEW DETAIL (BRICK PAVER INSTALLATION) Δ

# QUANTITY SHEET



SUMMARY OF ESTIMATED QUANTITIES										TOTALS			DESCRIPTIONS		DETAILED SUMMARY OF QUANTITIES		
WPD #1 NON-PART COST	EROSION CONTROL	STP ADAS(2)	NHG SGNL (26)S	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS				
			85		4	85		CM	COMMON EXCAVATION	203.15							
			28		1	28		CM	SOLID ROCK EXCAVATION (SIDEWALK REMOVAL)	203.16							
240		180	32		8	452		CM	TRENCH EXCAVATION OF EARTH	204.20							
23		26	3		8	52		CM	TRENCH EXCAVATION OF ROCK	204.21							
		1130			8	1130		SM	COLD PLANING-BIT PAVEMENT	210.10							
		154	16		2	170		T	SUBBASE OF CRUSHED GRAVEL (FINE GRADED)	301.28							
			800		15	800		KG	EMULSIFIED ASPHALT	404.85							
			190		1	190		T	BITUMINOUS CONCRETE PAVEMENT	406.25							
													BITUMINOUS CONCRETE PAVEMENT				
											139	T	MAINLINE WEARING COURSE (TYPE III)				
											49	T	LEVELING (TYPE IV)				
											2	T	ROUNDING				
											190	T	TOTAL				
4		20				24		CM	CONCRETE, CLASS B	501.25							
260		1300			34	1560		KG	REINFORCING STEEL	507.15							
		46			1	46		L	WATER REPELLENT	514.10							
		10				10		M	METAL HAND RAILING (2-RAIL)	525.15							
		2				2		M	450 mm RCP CLASS III	601.0815							
									BEGIN OPTION ITEM								
		20			1	20		M	450 mm RCP CLASS III	601.0815							
		20			1	20		M	450 mm CPEP (SL)	601.2615							
									END OPTION ITEM								
					1	1		EACH	REHABING DI CB OR MH CLASS I	604.412							
					6	6		EACH	CAST IRON GRATE WITH FRAME, TYPE D	604.47							
					4	4		HR	POWER GRADER RENTAL	608.15							
					4	4		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25							
					2	3		HR	POWER BROOM RENTAL, TYPE II	608.31							
					4	4		HR	TRUCK RENTAL	608.37							
					4	4		HR	LOADER RENTAL, TYPE I	608.40							
			95			95		M	VERTICAL GRANITE CURB	616.21							
			60			60		M	REMOVAL OF EXISTING CURB	616.41							
			235			235		SM	PORTLAND CEMENT CONCRETE SIDEWALK, 125 MM	618.10							
			26			26		SM	BRICK PAVING	618.20							
4		2				6		CM	INSULATION BOARD	622.10							
		40				40		M	PVC SEWER PIPE (450 mm, CL 100, AWWA C905)	628.35							
120						120		M	DUCTILE, IRON PIPE, CEM LINED (300mm CL 52)	629.24							
1						1		EACH	GATE VALVE WITH VALVE BOX (150mm)	629.27							
1						1		EACH	GATE VALVE WITH VALVE BOX (200mm)	629.27							
1						1		EACH	GATE VALVE WITH VALVE BOX (300mm)	629.27							

FINAL QUANTITIES ARE ARCHIVED  
WITH THE FIELD BOOKS

Scanned

# QUANTITY SHEET



SUMMARY OF ESTIMATED QUANTITIES								DETAILED SUMMARY OF QUANTITIES			DETAILED SUMMARY OF QUANTITIES			
WFD#1 NON-PARTICIPATING COST	EROSION CONTROL	STP ADAS (2)	NHG SGNL (26)S	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND	QUANTITIES	UNIT	ITEMS	QUANTITIES	UNIT	ITEMS
				1	ea	REMOVE HYDRANT	629.30							
				1	ea	TAPPING SLEEVE & VALVE WITH VALVE BOX (200 mm AWWA INSERTION VALVE)	629.35							
				1	ea	CORPORATION STOP (19 mm AWWA)	629.39							
				1	ea	CORPORATION STOP (38 mm AWWA)	629.39							
				6	ea	CORPORATION STOP (50 mm AWWA)	629.39							
				1	ls	TRANSFER TO NEW SYSTEM - WATER SYSTEM	629.42							
				170	+	CRUSHED STONE BEDDING	629.54							
		24	24	48	hr	UNIFORMED TRAFFIC OFFICERS	630.10	EST.						
		240	240	480	hr	FLAGGERS	630.15	EST.						
		.5	.5	1	ls	MOBILIZATION	635.10							
			180	180	m	DURABLE 100mm WHITE LINE	646.40	4.0						
			110	110	m	DURABLE 100mm YELLOW LINE	646.41	6.0						
			14	14	m	DURABLE 600mm STOP BAR	646.46	0.2						
			36	36	m	DURABLE CROSSWALK MARKINGS W/DIAGONAL LINES	646.51	0.5						
			540	540	m	TEMPORARY 100 mm WHITE LINE	646.60	12						
			330	330	m	TEMPORARY 100 mm YELLOW LINE	646.61	18						
			43	43	m	TEMPORARY 600 mm STOP BAR	646.66	1.0						
			110	110	m	TEMPORARY CROSSWALK MARKINGS W/DIAGONAL LINES	646.71	3.5						
			40	40	ea	LINE STRIPING TARGETS	646.76	6						
	20			20	kg	SEED	651.15	EST.						
	120			120	kg	FERTILIZER	651.18	EST.						
	1			1	+	AGRICULTURAL LIMESTONE	651.20	EST.						
	1			1	+	HAY MULCH	651.25	EST.						
	20			20	m <sup>3</sup>	TOPSOIL	651.35	EST.						
		2.10		2.10	m <sup>2</sup>	TRAFFIC SIGNS, TYPE A	675.20	0.06						
		210		210	kg	TUBULAR STEEL SIGN POST	675.33							
		4		4	ea	FOUNDATION FOR TUBULAR STEEL POSTS	675.43							
		43		43	ea	REMOVING SIGNS	675.50							
			1	1	ea	TRAFFIC CONTROL SYSTEM - INTERSECTION	678.15							
			250	250	m	INTERCONNECTING CABLE (FOR PRE-EMPTION HARDWARE)	678.20	15						
			74	74	m	VEHICLE LOOP DETECTOR	678.22							
			50	50	m	WIRED CONDUIT (50mm)	678.23	1.0						
			1	1	ea	JUNCTION BOX	678.26							
			10	10	m	ELECTRICAL CONDUIT SLEEVE (150mm)	678.30							
			14	14	m	ELECTRICAL CONDUIT SLEEVE (200mm)	678.30							

PROJECT NAME: WALLINGFORD  
 PROJECT NUMBER: NHG SGNL(26)S/STP ADAS(2)  
 FILE NAME: zc294frm.dgn  
 PROJECT LEADER: GAS  
 DESIGNED BY: RAW  
 QUANTITY SHEET: 2 OF 2  
 PLOT DATE: 01/28/02  
 DRAWN BY: MBL  
 CHECKED BY: GAS  
 SHEET 4 OF 25

STATE OF VERMONT  
AGENCY OF TRANSPORTATION

DRAINAGE AND ITEM DETAIL SHEET



STATION		POS.	DRAINAGE SYSTEM ID NUMBERS	203.J5	203.I6	203.28	204.20	204.21	PIPE					ALLOWABLE OPTIONS			DEPTH DI	CONC CL B	REINF STEEL	GRATE TYPE D	60L99	604.40	604.412	604.415	604.418	616.21	616.41	618.J0	618.20	REMARKS
BEGIN	END			COMMON EXCAV. m³	SOLID ROCK EXCAV. m³	EXCAV. OF SURFACES AND PAVEMENT m³	TRENCH EXCAV. OF EARTH m³	TRENCH EXCAV. OF ROCK m³	D	L	PCCSP	PVC SEWER PIPE AWWA C905 mm	RCP	CPEP SL	PCCSP P1	mm					m³	KG	EA	RELAYING PIPE CULVERTS	CHAN ELEV	REHAB DI CLASS I	REHAB DI CLASS II	REHAB DI CLASS III	VERTICAL GRAINITE CURB	
U. S.	7																													
0+134.0	0+134.7	RT-LT	(1)				19.3	2.7	450	12.5																			INSTALL NEW 450mm PVC SEWER PIPE AWWA C905. CONSTRUCT NEW RCDI (1.2x1.2) AT INLET.	
0+134.7	0+145.13	LT.	(2)				15.1	2.1	450	10		III	X																INSTALL NEW 450mm OPTION PIPE. CONSTRUCT NEW RCDI (1.2x1.2) AT INLET.	
0+139.03	0+144.24	RT.	(3)				4.0	0.6																					REMOVE EXISTING 375mm RCP AND RCDI AT INLET. BACKFILL PER UTILITY AND DRAINAGE CUT DETAIL.	
0+139.73	0+145.21	LT.	(5)				4.0	0.6																					REMOVE EXISTING 450mm RCP AND RCDI AT INLET. BACKFILL PER UTILITY AND DRAINAGE CUT DETAIL.	
0+144.24		RT.	(10)					2.6																					REMOVE EXISTING RCDI. BACKFILL PER UTILITY AND DRAINAGE CUT DETAIL.	
0+144.24	0+145.22	RT-LT	(4)													0.6													CUT, PLUG, AND ABANDON EACH END OF EXIST. 450mm RCP	
0+145.21		LT.	(1)					2.6																					REMOVE EXISTING RCDI. BACKFILL PER UTILITY AND DRAINAGE CUT DETAIL	
0+154.13		LT.	(3)																										RAISE EXISTING RCDI TO SURFACE	
0+154.13	0+155.0	LT-RT	(2)				21.8	3.2	450	14																			INSTALL NEW 450mm PVC SEWER PIPE AWWA C905, CONSTRUCT NEW RCDI (1.2x1.8) AT INLET, CONNECT TO EXIST. RCDI AT OUTLET.	
0+154.13	0+156.1	LT-RT	(6)				20.8	2.3																					REMOVE EXISTING 450mm RCP & RCDI AT INLET. BACKFILL PER UTILITY AND DRAINAGE CUT DETAIL.	
VT.	140																													
1+071.93	1+074.12	RT.	(4)				10.1	1.1	450	2		III																	EXTEND EXIST. 450mm RCP AT INLET W/NEW 450mm RCP. CONSTRUCT NEW RCDI (1.2 x 1.8) AT INLET.	
1+085.76	1+095.39	LT.	(7)				14.7		450	9		III	X																INSTALL NEW 450mm OPTION PIPE. CONSTRUCT NEW RCDI (1.2x1.2) AT INLET.	
1+087.99	1+096.99	RT.	(9)				14.7																						REMOVE 9M OF EXISTING RCP AT OUTLET.	
1+095.39	1+096.26	LT-RT	(8)				18.5		450	11																			INSTALL NEW 450mm PVC SEWER PIPE AWWA C905. CONSTRUCT NEW RCDI (1.2x1.2) AT INLET.	
BULB-OUT A				17.0	4.11																			20.5	15.5	50.1	6.5	CONSTRUCT SIDEWALK AND RAMPS, TYPE V		
BULB-OUT B				25.2	11.68																			28.5	11.0	79.9	6.5	CONSTRUCT SIDEWALK AND RAMPS, TYPE V		
BULB-OUT C				17.0	4.97																			21.0	18.5	61.1	6.5	CONSTRUCT SIDEWALK AND RAMPS, TYPE V		
BULB-OUT D				15.3	2.97																			20.0	13.5	41.2	6.5	CONSTRUCT SIDEWALK AND RAMPS, TYPE V		
BULB-OUT RETAINING WALL				6.8	3.50											4.00	600													
SUBTOTALS				81.3	27.23		175.6	25.6	58.5			37.5	21	19		18.46	1266	6						90	58.5	232.3	25.2			
ROUNDING				3.7	0.77		4.4	0.4	3.5			2.5	1	1		1.54	34	-						5	1.5	2.7	0.8			
TOTALS				85	28		180	26	62			40	22	20		20.00	1300	6						95	60	235	26			

PROJECT NAME: WALLINGFORD  
PROJECT NUMBER: NHG SGNL(26)S/STP ADAS(2)  
FILE NAME: zc294frm.dgn  
PROJECT LEADER: GAS  
DESIGNED BY: RAW  
**DRAINAGE AND ITEM DETAILS**

PLOT DATE: 01/28/02  
DRAWN BY: MBL  
CHECKED BY: GAS  
SHEET 5 OF 25

Scan-dr2

D:\Projects\NHG\26\2602\2602.dwg 01/28/02 10:35:34 AM



**STATE OF VERMONT  
AGENCY OF TRANSPORTATION  
RIGHT OF WAY PLANS  
DETAIL SHEET**

**TABLE OF PROJECT PROPERTY ACQUISITION**

ALL STATIONS ARE FROM THE REVISED  $\zeta$

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS	REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	GILBERT HART LIBRARY ASSOCIATION	6	0+123.0 LT. 0+141.4 LT. 0+141.5 LT. VT. RT. 140 1+069.0 RT.	0+143.3 LT.			INSTALL & MAINTAIN (P) REMOVE (T) 1.0 SM± INSTALL & MAINTAIN (P) INSTALL & MAINTAIN (P)	WDOE	05-17-01	WALLINGFORD	71	158	TRAFFIC SIGN SIDEWALK 11 SF± TRAFFIC SIGN TRAFFIC SIGN	1	5, 7	ADD PARCEL 5 AS NEW PARCEL. WALLINGFORD FIRE DISTRICT #1. NEW ORIGINAL WILL BE ADDED TO THE PLANS. THE LAYOUT WILL BE SHEET 7 OF 7 SHEETS. PER C.O. 9141.	08-14-00	M. J. R.	R. P. D.
2	PERRY, JOHN O. & REVA A.	6	0+158.2 LT.	0+159.3 LT.			INSTALL & MAINTAIN (P) 1.0 SM±	WDOE	04-19-01	WALLINGFORD	71	48	CONC. SIDEWALK 11 SF±			PAPER PRINTS MAILED TO WEBSTER-MARTIN	05-01-01		
3	EDMUNDS, JAMES G. & CONNIE L.	6	VT. RT. 140 1+091.3 RT. VT. RT. 140 1+095.1 RT.	VT. RT. 140 1+093.5 RT. VT. RT. 140 1+097.0 RT.			INSTALL & MAINTAIN (P) 1.0 SM± EXCEPT & RESERVE	WDOE	10-26-01	WALLINGFORD	72	178-179	CONC. WALK 11 SF± BASEMENT ACCESS (FLUSH BULKHEAD)			REPRODUCIBLES TO DESIGN	05-21-01	T. B. F.	
4	WALLINGFORD HOUSE	6	VT. RT. 140 1+089.5 LT. VT. RT. 140 1+098.5 LT.	VT. RT. 140 1+091.6 LT.			REMOVE (T) 1.4 SM± INSTALL & MAINTAIN (P)	WDOE	05-08-01	WALLINGFORD	71	95	SIDEWALK 15 SF± TRAFFIC SIGNS						
5	WALLINGFORD FIRE DISTRICT #1	7	0+881 LT.	0+889 RT.			INSTALL (T)						CONTROLLER AND APPURTANCES						

ACCT: jblanchard  
M:\Archives\940294\RightOfWay\rc294d.dgn  
DATE PLOTTED 13-DEC-2007

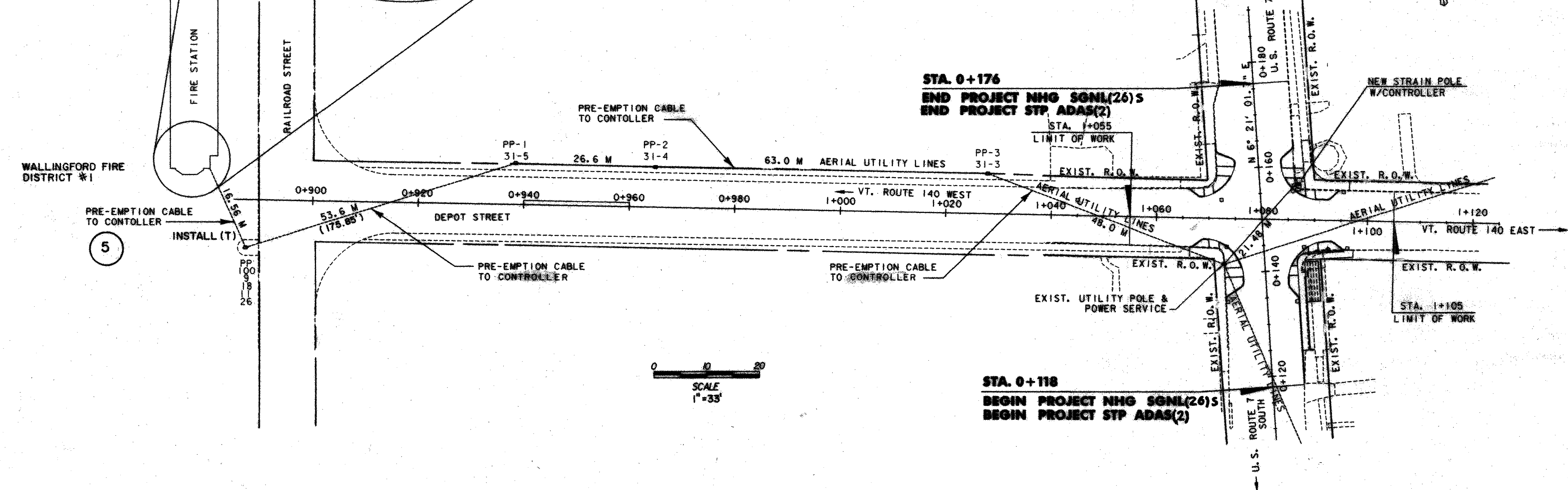
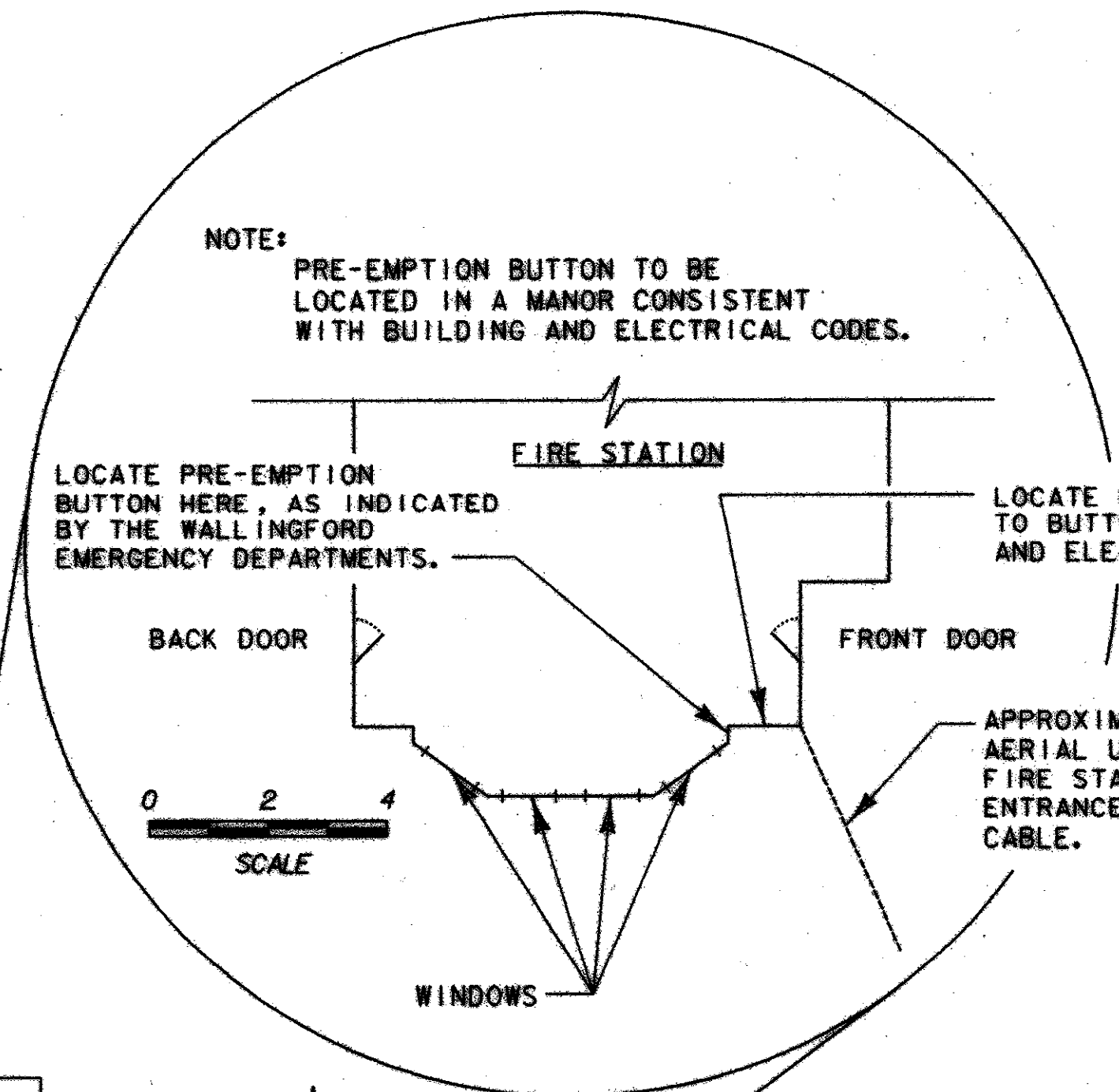
DR. (P)- DRAINAGE RIGHT  
DIT. (P)- DITCHING RIGHT  
CH. (P)- CHANNEL RT.  
DRIVE (T)- DRIVE RIGHT  
CUL. (P)- CULVERT RIGHT  
[W]- WATER SOURCES

--- PRESENT R.O.W.  
--- TAKING WITHOUT ACCESS  
--- TAKING WITHOUT ACCESS ALONG PROPERTY LINE  
--- TAKING WITH ACCESS  
--- PERMANENT EASEMENT  
--- TEMPORARY EASEMENT

**LEGEND**  
--- C&T (P) --- CLEARING & TRIMMING  
... C&T (P) ... CLEAR ZONE  
--- CONSI. (T) --- CONSTRUCTION EASEMENT  
--- SR --- SLOPE RIGHTS  
--- P --- PROPERTY LINE  
--- L --- TOP OF CUT  
--- L --- TOE OF SLOPE

--- UE (P) ... PERMANENT UTILITY EASEMENT  
APPROVED: LAWRENCE W. BLISS DATE: 7-1-99  
CHIEF, PLANS & TITLES

R. O. W. PLANS  
WALLINGFORD  
NHG SGNL (26)  
ROW SHEET 5 OF 7  
SHEET 6 OF 25



DATUM  
 VERTICAL NAVD 88  
 HORIZONTAL NAD 83(92)

NOTES:  
 1. HARDWARE PRE-EMPTION TO BE AERIAL MOUNTED ON EXISTING UTILITY POLES FROM ROUTE 140/US 7 INTERSECTION TO THE WALLINGFORD FIRE STATION.  
 2. ATTACHMENT OF PRE-EMPTION CABLE TO POLES TO BE COORDINATED WITH UTILITY COMPANY.

NOTE:  
 ALL DIMENSIONS IN MILLIMETERS EXCEPT WHERE OTHERWISE INDICATED

<b>PREEMPTION DETAIL SHEET</b>	PROJECT: <b>WALLINGFORD</b>	PROJECT NO.: NHG SGNL(26)S STP ADAS(2)
	DESIGN FILE NAME: H:\6340412 (wallingford)\microstation\98105\z294frm.dgn	PLOT DATE: 05/11/2000
	IPARM FILE NAME: 6340412	SURVEY DATE: 02/98
	SURVEYED BY: W-M DESIGNED BY: W-M	DRAWN BY: W/M
R.O.W. SHEET 7 OF 8 SHEETS		SHEET 7 OF 25 SHEETS

Scan - r.w.2

**BEGIN R.O.W. PROJECT**  
**NHG SGNL(26)S STA. 0+123.0 10.5 M LT. [34.4']**



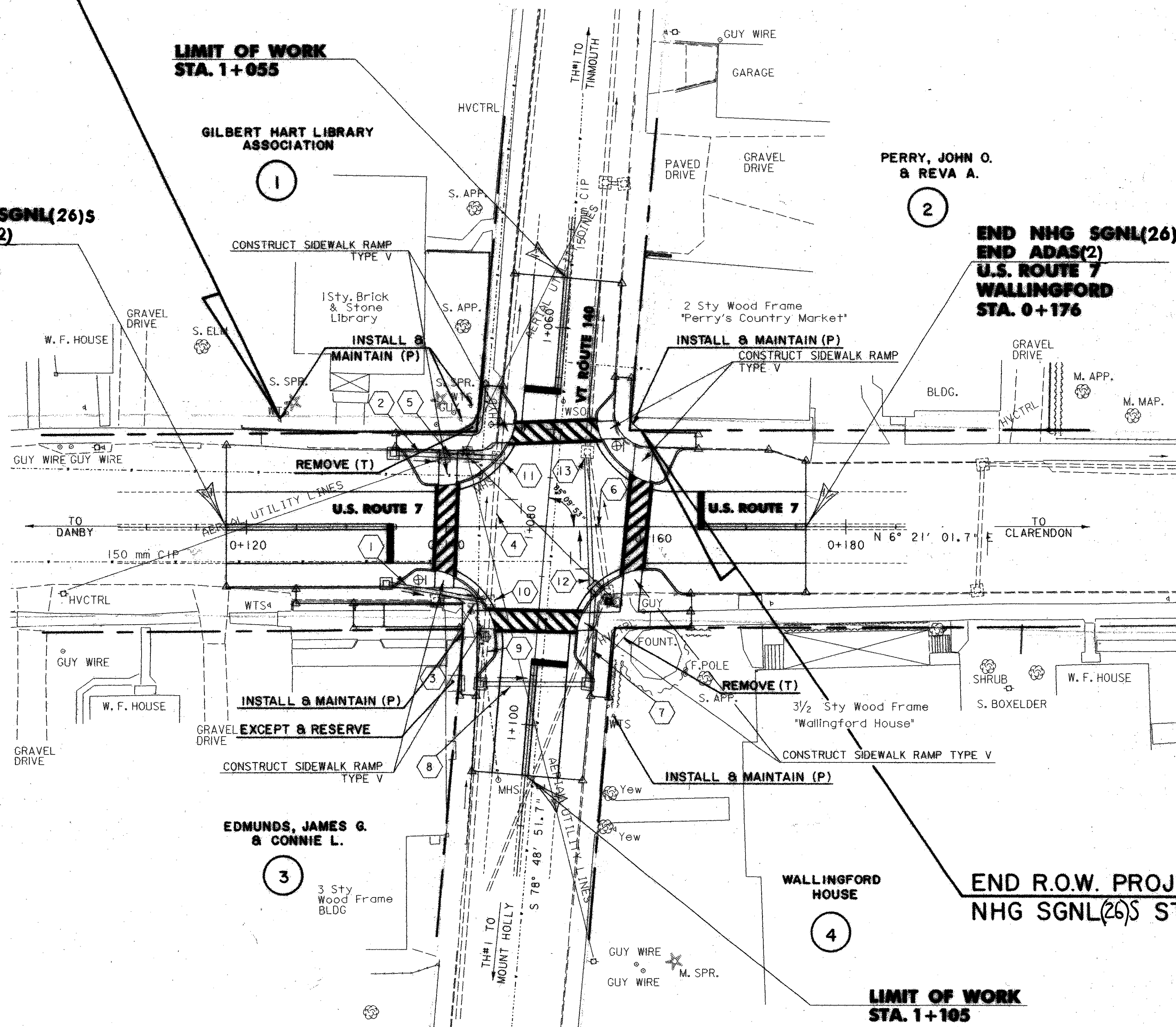
**BEGIN NHG SGNL(26)S**  
**BEGIN ADAS(2)**  
**U.S. ROUTE 7**  
**WALLINGFORD**  
**STA. 0+118**

**LIMIT OF WORK**  
**STA. 1+055**

**GILBERT HART LIBRARY ASSOCIATION**

**PERRY, JOHN O. & REVA A.**

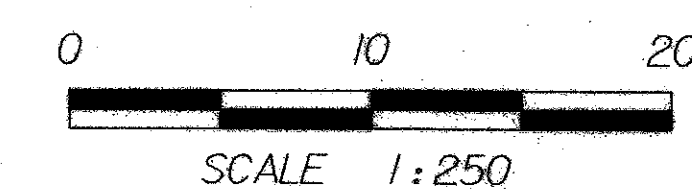
**END NHG SGNL(26)S**  
**END ADAS(2)**  
**U.S. ROUTE 7**  
**WALLINGFORD**  
**STA. 0+176**



- 1 CONST. @ 0+134.0 TO 0+144.24, RT.  
NEW 450 mm X 10 m OPTION PIPE
- 2 CONST. @ 0+134.70 TO 0+145.21, LT.  
NEW 450 mm X 10 m OPTION PIPE
- 3 CONST. @ 0+139.03 TO 0+144.24, RT.  
REMOVE EXIST. 375 mm RCP AND RCDI @ INLET  
(STA. 0+139.5 RT.)
- 4 CONST. @ 0+144.75, @  
RETAIN EXIST. 450 mm RCP
- 5 CONST. @ 0+139.73 TO 0+145.21, LT.  
REMOVE EXIST. 450 mm RCP & RCDI @ INLET  
(STA. 0+139.8 LT.)
- 6 CONST. @ 0+154.13 LT. TO 0+156.10, RT.  
REMOVE EXIST. 450 mm RCP & RCDI @ INLET  
(STA. 0+157.10 RT.)
- 7 VT ROUTE 140 CONST. @ 1+085.76 TO 1+095.39, LT.  
NEW 450 mm X 9 m OPTION PIPE
- 8 VT ROUTE 140 CONST. @ 1+095.39, LT. TO 1+096.26, RT.  
NEW 450 mm X 11 m OPTION PIPE
- 9 VT ROUTE 140 CONST. @ 1+087.99 TO 1+096.99, RT.  
REMOVE 9 m OF EXIST. 450 mm RCP
- 10 CONST. @ 0+144.24, RT.  
REHAB EXISTING RCDI, ADJUST TOP TO FACE OF CURB
- 11 CONST. @ 0+145.21, LT.  
REHAB EXISTING RCDI, ADJUST TOP TO FACE OF CURB.
- 12 CONST. @ 0+154.13, LT. TO 0+155.00, RT.  
NEW 450 mm X 14 m OPTION PIPE
- 13 CONST. @ 0+154.13, LT.  
REHAB EXISTING RCDI

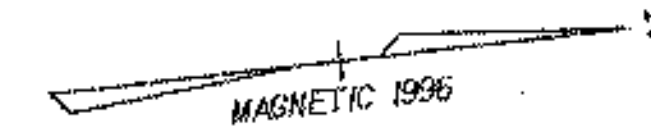
- NOTES:**
- 1. THIS PLAN DOES NOT SHOW EXISTING WATER LINES OR REFLECT THE WATER SYSTEM IMPROVEMENTS. REFER TO THE PLANS TITLED WATER SYSTEM IMPROVEMENTS FOR THE WALLINGFORD FIRE DISTRICT #1 ATTACHED.
  - 2. SEE SHEET 13 FOR BULB-OUT DETAILS.

DATUM  
 VERTICAL NAVD 88  
 HORIZONTAL NAD 83 (92)



<b>PROJECT LAYOUT</b>	PROJECT: <b>WALLINGFORD</b>	PROJECT NO.: <b>NHG SGNL (26)S STP ADAS (2)</b>
	DESIGN FILE NAME:	PLOT DATE: 14 JUN 99
	IPARM FILE NAME:	SURVEYED BY: VAOT
	DESIGNED BY: GAS/GAE	DRAWN BY: W-M
	R.O.W. SHEET 8 OF 8 SHEETS	SHEET 8 OF 25 SHEETS

Scale\_r3

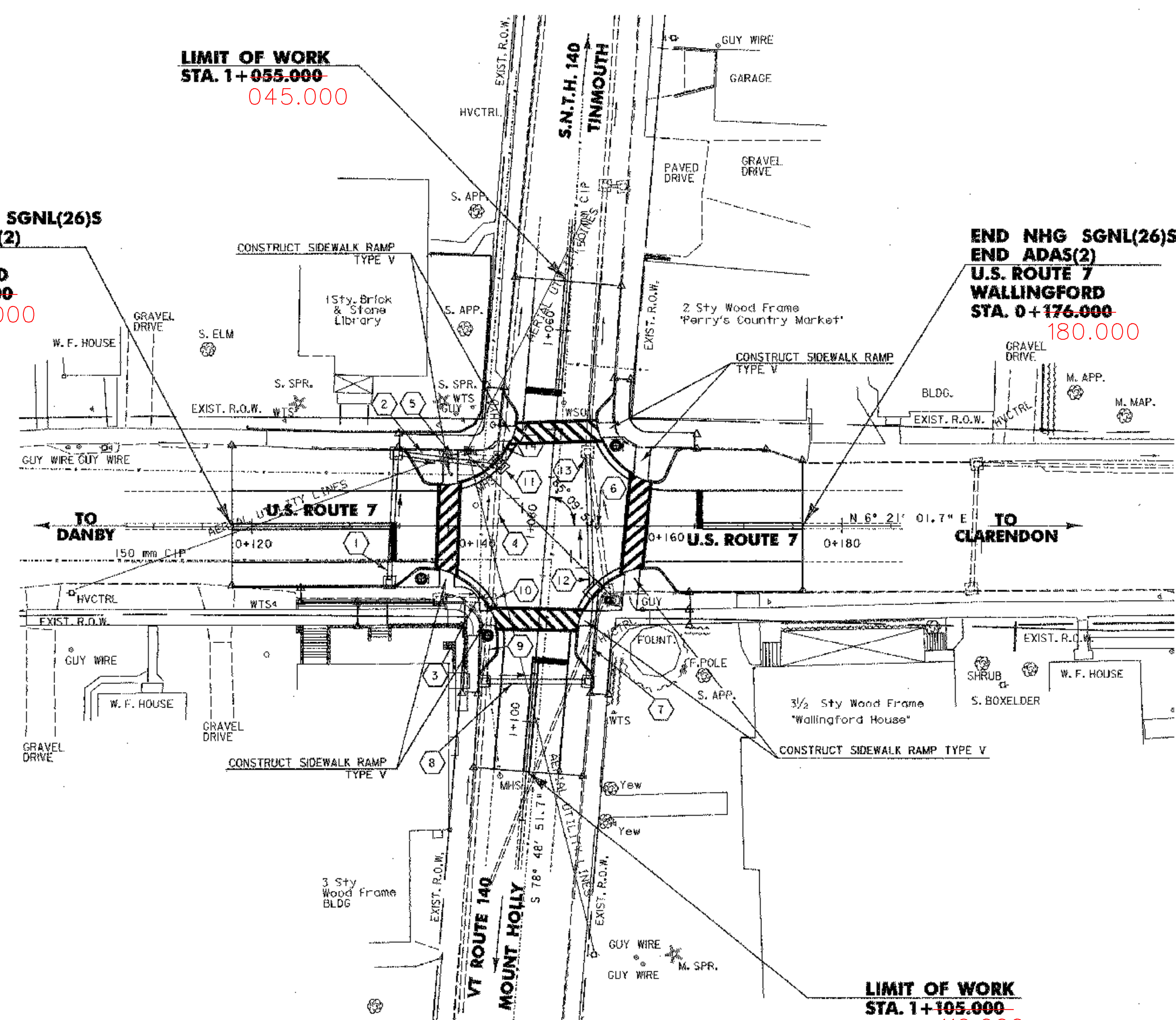


**BEGIN NHG SGNL(26)S  
BEGIN ADAS(2)  
U.S. ROUTE 7  
WALLINGFORD  
STA. 0+118.000**  
113.000

**LIMIT OF WORK  
STA. 1+055.000**  
045.000

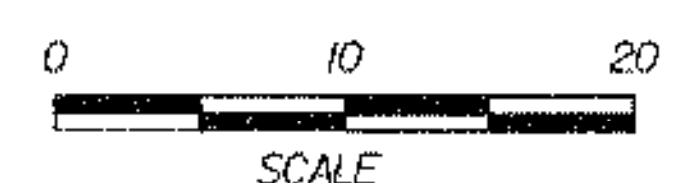
**END NHG SGNL(26)S  
END ADAS(2)  
U.S. ROUTE 7  
WALLINGFORD  
STA. 0+176.000**  
180.000

**LIMIT OF WORK  
STA. 1+105.000**  
116.000



- 1 CONST. @ 0+134.0 RT. TO 0+134.7, LT.  
NEW 450mm x 12.5m PVC SEWER PIPE AWWA C905.  
CONST. NEW RCDI (1.2x1.2) AT INLET.
- 2 CONST. @ 0+134.70 TO 0+145.13, LT.  
NEW 450mm x 10m OPTION PIPE  
CONST. NEW RCDI (1.2x1.2) AT INLET.
- 3 CONST. @ 0+139.03 TO 0+144.24, RT.  
REMOVE EXIST. 375 mm RCP AND RCDI @ INLET  
(STA. 0+139.5 RT.)
- 4 CONST. @ 0+144.24, RT. TO 0+145.22, LT.  
CUT AND PLUG EACH END OF EXIST. 450mm RCP W/CONCRETE  
AND ABANDON.
- 5 CONST. @ 0+139.73 TO 0+145.21, LT.  
REMOVE EXIST. 450 mm RCP & RCDI @ INLET  
(STA. 0+139.8 LT.)
- 6 CONST. @ 0+154.13 LT. TO 0+156.10, RT  
REMOVE EXIST. 450mm RCP & RCDI @ INLET  
(STA. 0+156.10 RT.)
- 7 VT ROUTE 140 CONST. @ 1+085.76 TO 1+095.39, LT.  
NEW 450 mm x 9 m OPTION PIPE  
CONST. NEW RCDI (1.2x1.2) AT INLET.
- 8 VT ROUTE 140 CONST. @ 1+095.39, LT. TO 1+096.26, RT.  
NEW 450mm x 11m PVC SEWER PIPE AWWA C905.  
CONST. NEW RCDI (1.2x1.2) AT INLET.
- 9 VT ROUTE 140 CONST. @ 1+087.99 TO 1+096.99, RT.  
REMOVE 9 m OF EXIST. 450 mm RCP AT OUTLET.
- 10 CONST. @ 0+144.24, RT.  
REMOVE EXISTING RCDI.
- 11 CONST. @ 0+145.21, LT.  
REMOVE EXISTING RCDI.  
UTILIZED
- 12 CONST. @ 0+154.13, LT. TO 0+155.00, RT.  
NEW 450mm x 14m PVC SEWER PIPE AWWA C905.  
CONST. NEW RCDI (1.2x1.2) AT INLET, CONNECT  
TO EXIST. RCDI AT OUTLET
- 13 CONST. @ 0+154.13, LT.  
REHAB EXISTING RCDI
- 14 CONST. @ 1+071.93, LT. TO 1+074.12, RT.  
VT ROUTE 140 EXTEND EXIST. 450mm x 2m RCP AT INLET  
W/NEW 450mm RCP. CONSTRUCT NEW RCDI (1.2 x 1.8) AT INLET.

- NOTES:**
1. THIS PLAN DOES NOT SHOW EXISTING WATER LINES OR REFLECT THE WATER SYSTEM IMPROVEMENTS. REFER TO THE PLANS TITLED WATER SYSTEM IMPROVEMENTS FOR THE WALLINGFORD FIRE DISTRICT #1 ATTACHED.
  2. SEE SHEET 15 FOR BULB-OUT DETAILS.



<b>DH</b> Dufresne-Henry	PROJECT NAME: WALLINGFORD	PLOT DATE: 01/28/02
	PROJECT NUMBER: NHG SGNL(26)S/STP ADAS(2)	DRAWN BY: MBL
FILE NAME: zc294bdr.dgn	DESIGNED BY: RAW	CHECKED BY: GAS
	<b>LAYOUT PLAN</b>	SHEET 9 OF 25

Sheet 9 of 25



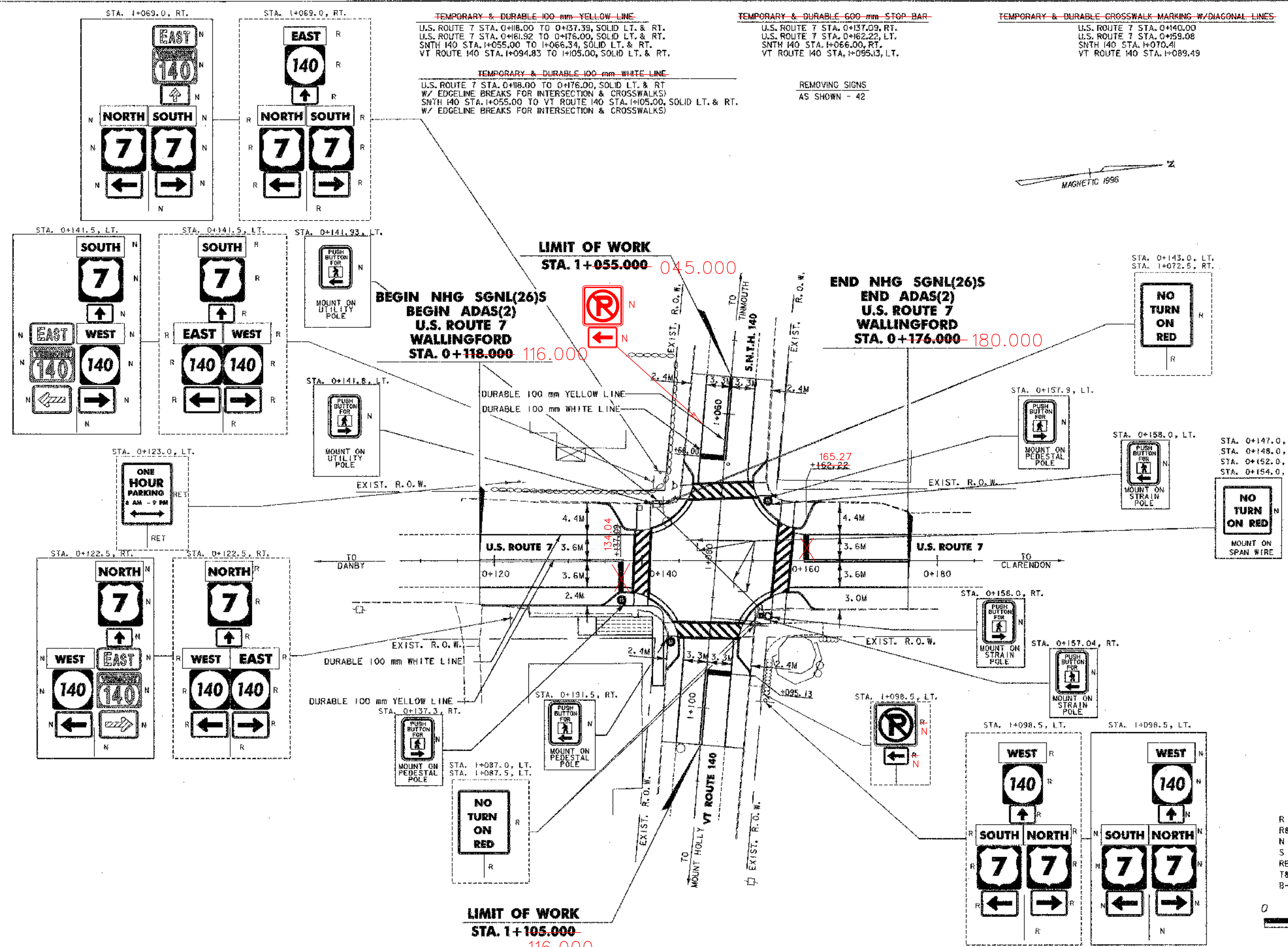
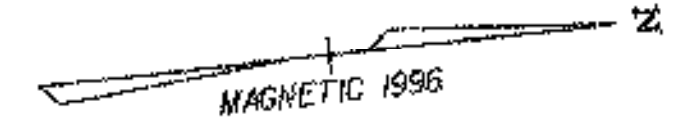
**TEMPORARY & DURABLE 100 mm YELLOW LINE**  
 U.S. ROUTE 7 STA. 0+118.00 TO 0+137.39, SOLID LT. & RT.  
 U.S. ROUTE 7 STA. 0+161.92 TO 0+175.00, SOLID LT. & RT.  
 SNTH 140 STA. 1+055.00 TO 1+066.34, SOLID LT. & RT.  
 VT ROUTE 140 STA. 1+094.83 TO 1+105.00, SOLID LT. & RT.

**TEMPORARY & DURABLE 600 mm STOP BAR**  
 U.S. ROUTE 7 STA. 0+137.09, RT.  
 U.S. ROUTE 7 STA. 0+162.22, LT.  
 SNTH 140 STA. 1+066.00, RT.  
 VT ROUTE 140 STA. 1+095.13, LT.

**TEMPORARY & DURABLE CROSSWALK MARKING W/DIAGONAL LINES**  
 U.S. ROUTE 7 STA. 0+140.00  
 U.S. ROUTE 7 STA. 0+153.08  
 SNTH 140 STA. 1+070.41  
 VT ROUTE 140 STA. 1+089.49

**TEMPORARY & DURABLE 100 mm WHITE LINE**  
 U.S. ROUTE 7 STA. 0+118.00 TO 0+176.00, SOLID LT. & RT.  
 W/ EDGELINE BREAKS FOR INTERSECTION & CROSSWALKS!  
 SNTH 140 STA. 1+055.00 TO VT ROUTE 140 STA. 1+105.00, SOLID LT. & RT.  
 W/ EDGELINE BREAKS FOR INTERSECTION & CROSSWALKS!

REMOVING SIGNS  
 AS SHOWN - 42

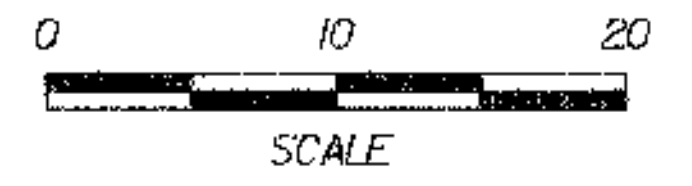


**LIMIT OF WORK**  
 STA. 1+105.00-116.000

**END NHG SGNL(26)S**  
**END ADAS(2)**  
**U.S. ROUTE 7**  
**WALLINGFORD**  
 STA. 0+176.000-180.000

**BEGIN NHG SGNL(26)S**  
**BEGIN ADAS(2)**  
**U.S. ROUTE 7**  
**WALLINGFORD**  
 STA. 0+118.000-116.000

- SIGN LEGEND**
- R = REMOVE
  - R&S = REMOVE & SALVAGE
  - N = NEW
  - S = SALVAGE
  - RET = RETAIN
  - T&T = THINNING & TRIMMING
  - B-B = BACK



- NOTES:
1. ALL DIMENSIONS IN MILLIMETERS EXCEPT WHERE OTHERWISE INDICATED
  2. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED AS DIRECTED BY THE RESIDENT ENGINEER.

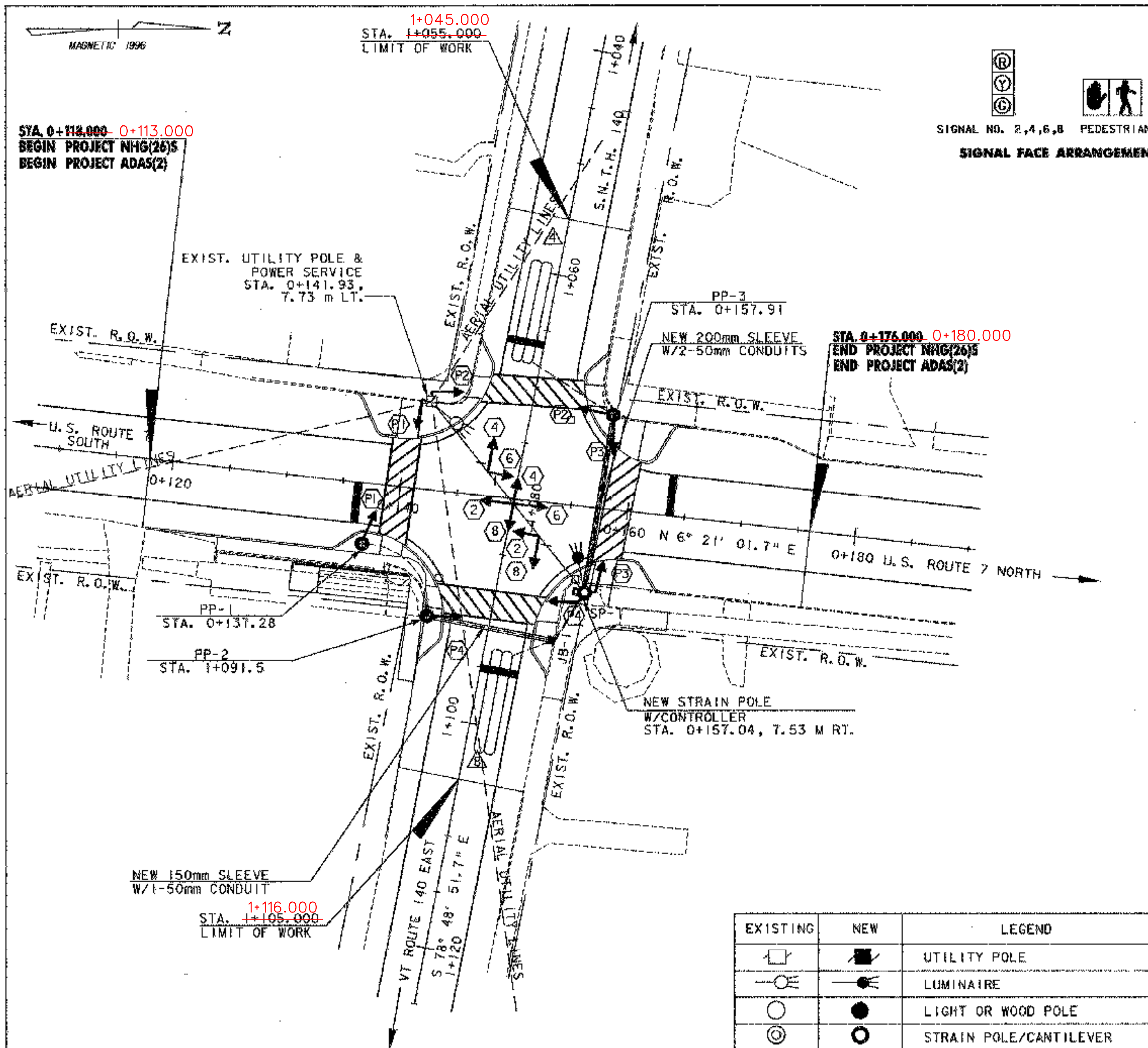


PROJECT NAME:	WALLINGFORD
PROJECT NUMBER:	NHG SGNL(26)S/STP ADAS(2)
FILE NAME:	zc294frm.dgn
PROJECT LEADER:	GAS
DESIGNED BY:	RAW
SIGNS & PAVEMENT MARKING PLAN	
PLOT DATE:	01/28/02
DRAWN BY:	MBL
CHECKED BY:	GAS
SHEET	10 OF 25

Scanned by: [unreadable]

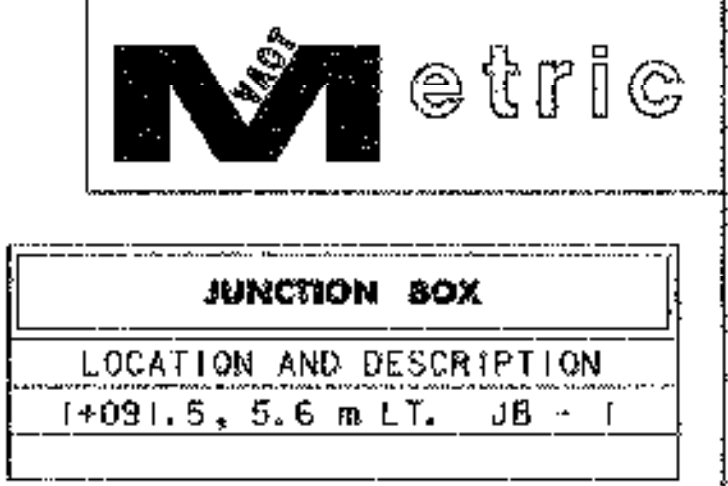






WIRED CONDUIT (PVC)			
	NO.	DIAM.	REMARKS
PP-1 TO PP-2	1	50 mm	SIGNAL
PP-2 TO JB-1	1	50 mm	SIGNALS
JB-1 TO SP-1/CONTROLLER	2	50 mm	SIGNALS AND LOOPS
SP-1/CONTROLLER TO PP-3	2	50 mm	SIGNALS AND LOOPS

ELECTRICAL CONDUIT SLEEVE	
LOCATION	DIAM.
US RTE. 7 0+157.05, 6.57M RT. - 0+157.84, 7.48M LT.	200 mm
VT RTE. 140 1+091.5, 5.12M LT. - 5.12M RT.	150 mm



VEHICLE DETECTOR LOOPS												
LOOP NO.	LANE	CALL Ø	SIZE (M)	TYPE & NO. TURNS	DELAY OR PRESENCE	INDUCTANCE		RESISTANCE		LEAKAGE TO GROUND	LOCKING MEMORY	EST. QUANT. (M)
						CALC.	ACT.	CALC.	ACT.			
▲	S. N. T. H. 140 EASTBOUND	4 + 8	1.8x9.0	QUAD - 2	PRESENCE	281		0.771			NO	
▲	VT RTE. 140 WESTBOUND	4 + 8	1.8x9.0	QUAD - 2	PRESENCE	266		0.580			NO	

CALCULATIONS ARE BASED ON LOOPS DESIGNED IN PARALLEL. ALL CALCULATED VALUES ARE AT THE CONTROLLER. MEASURED VALUES MUST BE FILLED IN PRIOR TO TEST PERIOD.

SEG. 11+P	R	W	PHASE 2+6 (DWELL)				PHASE 4+8				PHASE PED.							
			CLEAR TO:				CLEAR TO:				CLEAR TO:							
			0 4+8	0 PED			0 2+6	0 PED			0 2+6							
VEH EXT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MINIMUM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAX 1	27	4	2	-	-	21	4	2	-	-	-	-	-	-	-	-	-	-
PED	27	4	2	4	2	21	4	2	4	2	5	6	2					
VEH EXT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MINIMUM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAX 2	33	4	2	-	-	15	4	2	-	-	-	-	-	-	-	-	-	-
PED	33	4	2	4	2	15	4	2	4	2	5	6	2					
VEH EXT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MINIMUM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAX 3	29	4	2	-	-	19	4	2	-	-	-	-	-	-	-	-	-	-
PED	29	4	2	4	2	19	4	2	4	2	5	6	2					
FACE 2	G	Y	R	Y	R	R	R	R	Y	R	R	R	R					
FACE 4	R	R	R	R	R	G	Y	R	Y	R	R	R	R					
FACE 6	G	Y	R	Y	R	R	R	R	Y	R	R	R	R					
FACE 8	R	R	R	R	R	G	Y	R	Y	R	R	R	R					
PED	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	DW	DW					

EXISTING	NEW	LEGEND
		UTILITY POLE
		LUMINAIRE
		LIGHT OR WOOD POLE
		STRAIN POLE/CANTILEVER
		CONTROLLER CABINET
		PULLBOX/JUNCTION BOX
		SIGNAL HEAD
		CONDUIT
		VEHICLE LOOPS
		PEDESTAL POST

2002 "AVERAGE WEEKDAY" HOURLY VOLUMES

VT ROUTE 140	U.S. ROUTE 7	U.S. ROUTE 7	VT ROUTE 140
AM OFF PM 19 23 39 26 24 26	AM OFF PM 5 5 5 226 211 294 26 24 26	AM OFF PM 19 23 39 138 200 271 47 37 67	AM OFF PM 19 23 39 26 24 26

**NOTES:**

PRIOR TO COLD PLANING, ANY EXISTING VEHICLE DETECTOR LOOPS SHALL BE DISCONNECTED IN THE CONTROLLER CABINET AND CUT AT THE CURB.

ONCE A LOOP IS DISCONNECTED, THE SIGNAL PHASE THAT IT WAS CALLING SHALL BE PUT ON MAX RECALL OR THE SIGNAL PUT ON FLASH AND TRAFFIC CONTROLLED BY A UNIFORMED TRAFFIC OFFICER.

ALL BITUMINOUS AREAS TO RECEIVE NEW VEHICLE DETECTOR LOOPS SHALL BE LEVELED WITH TYPE IV BITUMINOUS CONCRETE PAVEMENT AS DIRECTED BY THE RESIDENT ENGINEER PRIOR TO THE INSTALLATION OF THE NEW DETECTOR LOOPS. LOOPS SHALL BE INSTALLED PRIOR TO THE PLACEMENT OF THE WEARING COURSE.

IF WATER VALVES, DROP INLETS OR OTHER OBSTRUCTIONS ARE ENCOUNTERED WITHIN THE AREA OF A PROPOSED LOOP, THE CONTRACTOR SHALL TAKE SPECIAL CARE TO AVOID THE OBSTRUCTION DURING LOOP INSTALLATION. IF LOOP SIZES OR SHAPES ARE TO BE MODIFIED DUE TO OBSTRUCTIONS THE RESIDENT ENGINEER MUST APPROVE LAYOUT PRIOR TO INSTALLATION.

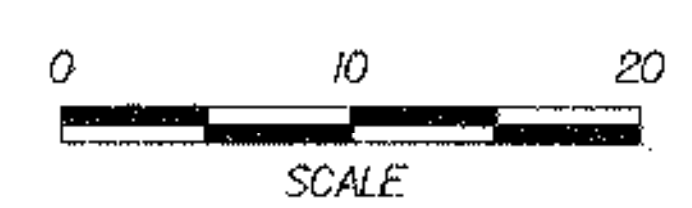
AFTER THE NEW LOOPS ARE INSTALLED, THE INDUCTANCE RESISTANCE AND LEAKAGE TO GROUND SHALL BE TESTED USING PROPERLY CALIBRATED EQUIPMENT. THE TEST RESULTS SHALL BE COMPARED WITH THE CALCULATED VALUES AND RECORDED ON THE PLANS. ALL LOAD TESTING SHALL BE PERFORMED AS PER VTTRANS STANDARD E-172M.

CALCULATED VALUES AT CONTROLLER ARE BASED ON DIRECT CONDUIT ROUTING TO THE NEAREST SIGNAL POLE AND CROSSING THE SPAN WIRE OR EXISTING CONDUIT AS NECESSARY TO THE EXISTING CONTROLLER LOCATION. ANY SIGNAL MODIFICATION AND OR CONTROLLER RELOCATION PRIOR TO LOOP CONNECTION WILL REQUIRE RECALCULATION OF THESE VALUES.

AFTER ACCEPTANCE OF THE LOOP INSTALLATION BY THE RESIDENT ENGINEER, RETURN THE SIGNAL TO NORMAL OPERATION.

AN EMERGENCY VEHICLE PREEMPTION SYSTEM IS TO BE INSTALLED AT THIS INTERSECTION. SEE SHEET 16 FOR NOTES AND DETAILS CONCERNING THIS SYSTEM.

FOR ADDITIONAL DETAILS, SEE VTTRANS STANDARDS E-172M AND E-173M.



PROJECT NAME: WALLINGFORD  
 PROJECT NUMBER: NHG SGNL(26)S/STP ADAS(2)  
 FILE NAME: zc294frm.dgn  
 PROJECT LEADER: GAS  
 DRAWN BY: MBL  
 DESIGNED BY: RAW/JCO  
 CHECKED BY: GAS  
 TRAFFIC SIGNAL DETAIL PLAN  
 PLOT DATE: 01/28/02  
 SHEET 13 OF 25

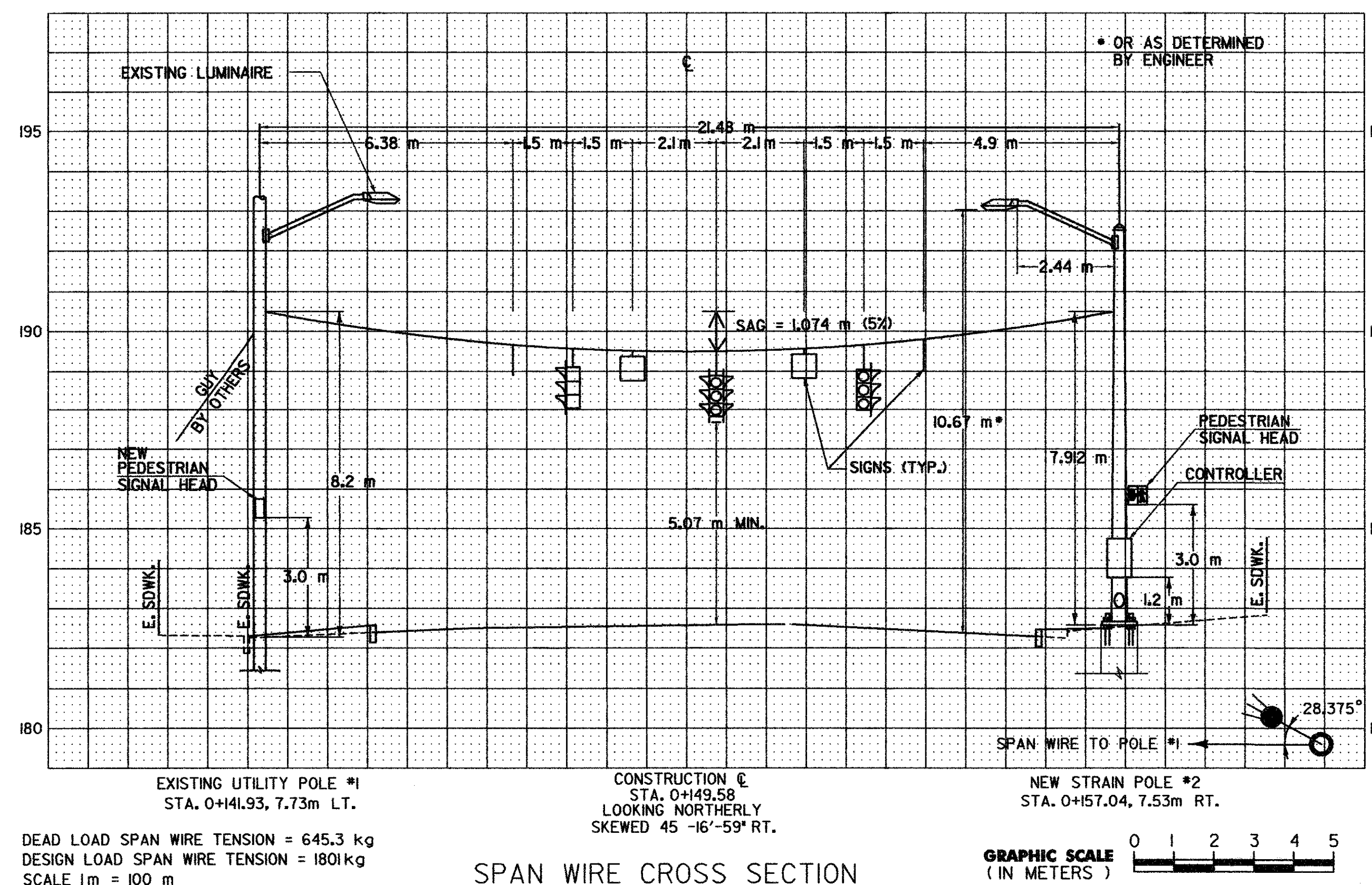
549-519

POLE NO.	POLE LENGTH GAUGE & DIAMETER	B.C.	S	T	BASE DEPTH	BASE DIA.	ANCHOR BOLTS	POLE BKRR
1	EXISTING UTILITY POLE TO SERVE AS STRAIN POLE.							
2	10.36 M 6.35mm & 356mm	521mm	546mm	45mm	3.0m	0.91M	50mm	125mm

NOTE: ANCHOR BOLTS, BASE PLATE, AND FOOTING DIMENSIONS ARE BASED ON DESIGN POLE DIMENSIONS AND YIELD STRENGTH SHOWN. POLES SUPPLIED OF DIFFERENT SIZE OR STRENGTH MAY REQUIRE CHANGES IN THE DIMENSIONS. BACKRAKE (BKRR) SHOWN IS AS MEASURED AT THE TOP OF THE POLE.

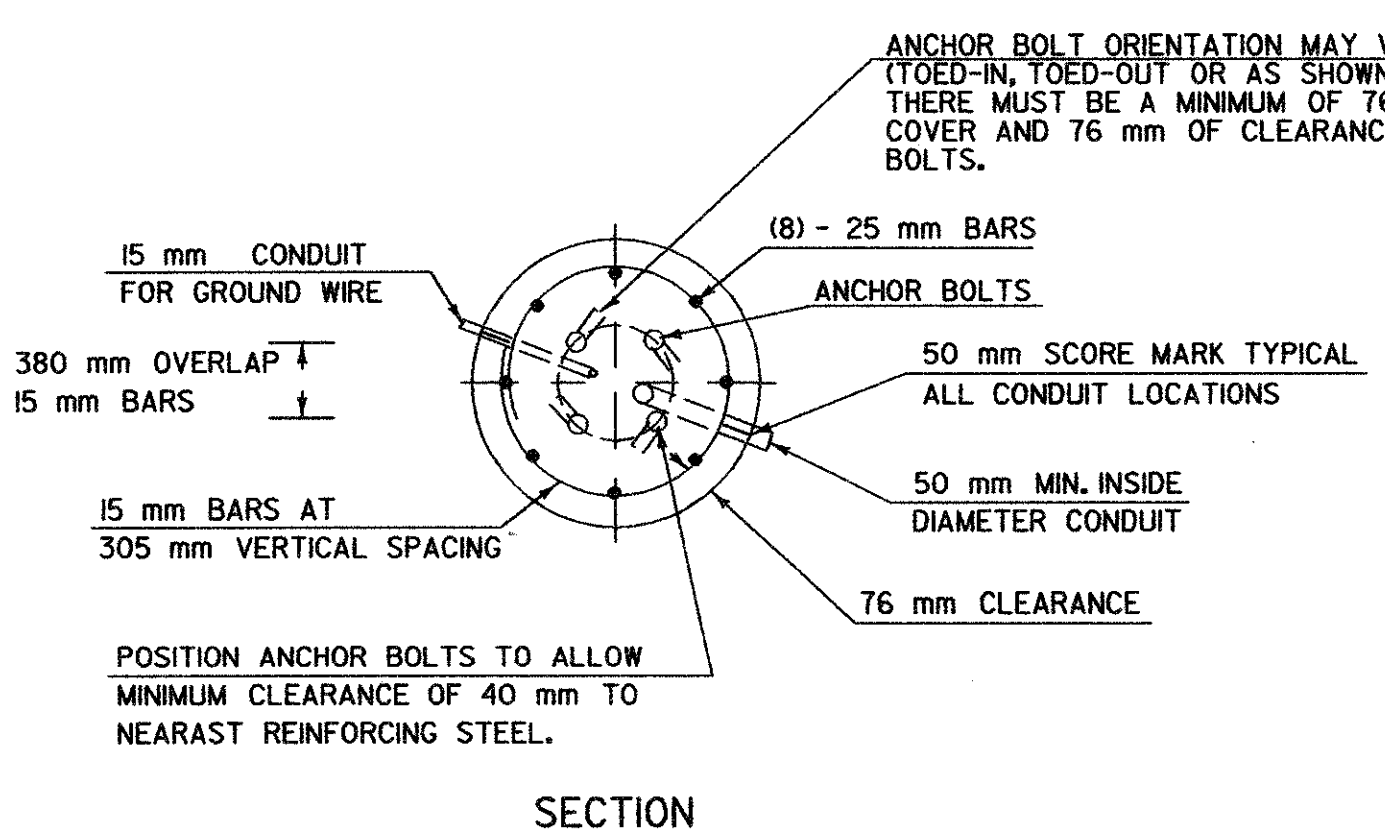
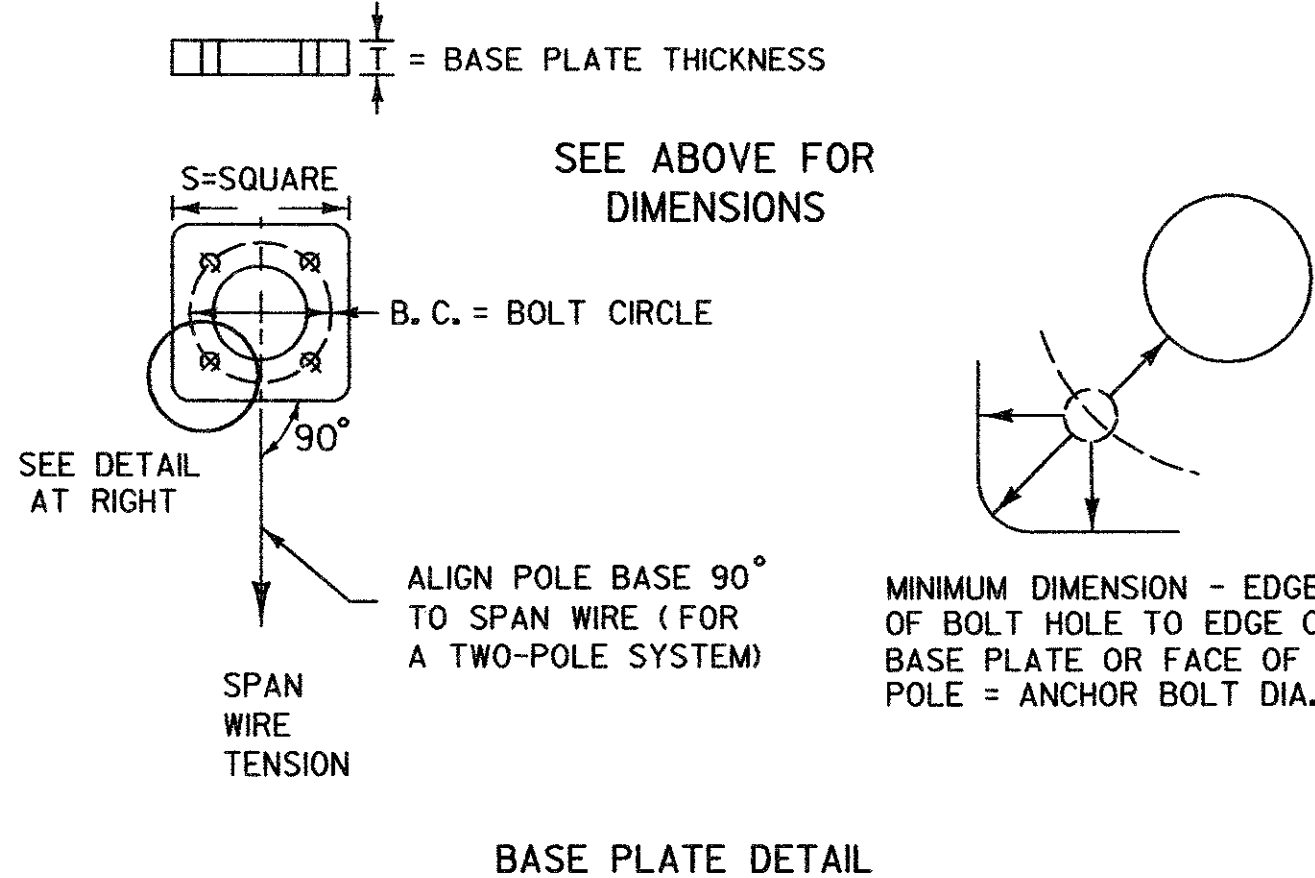
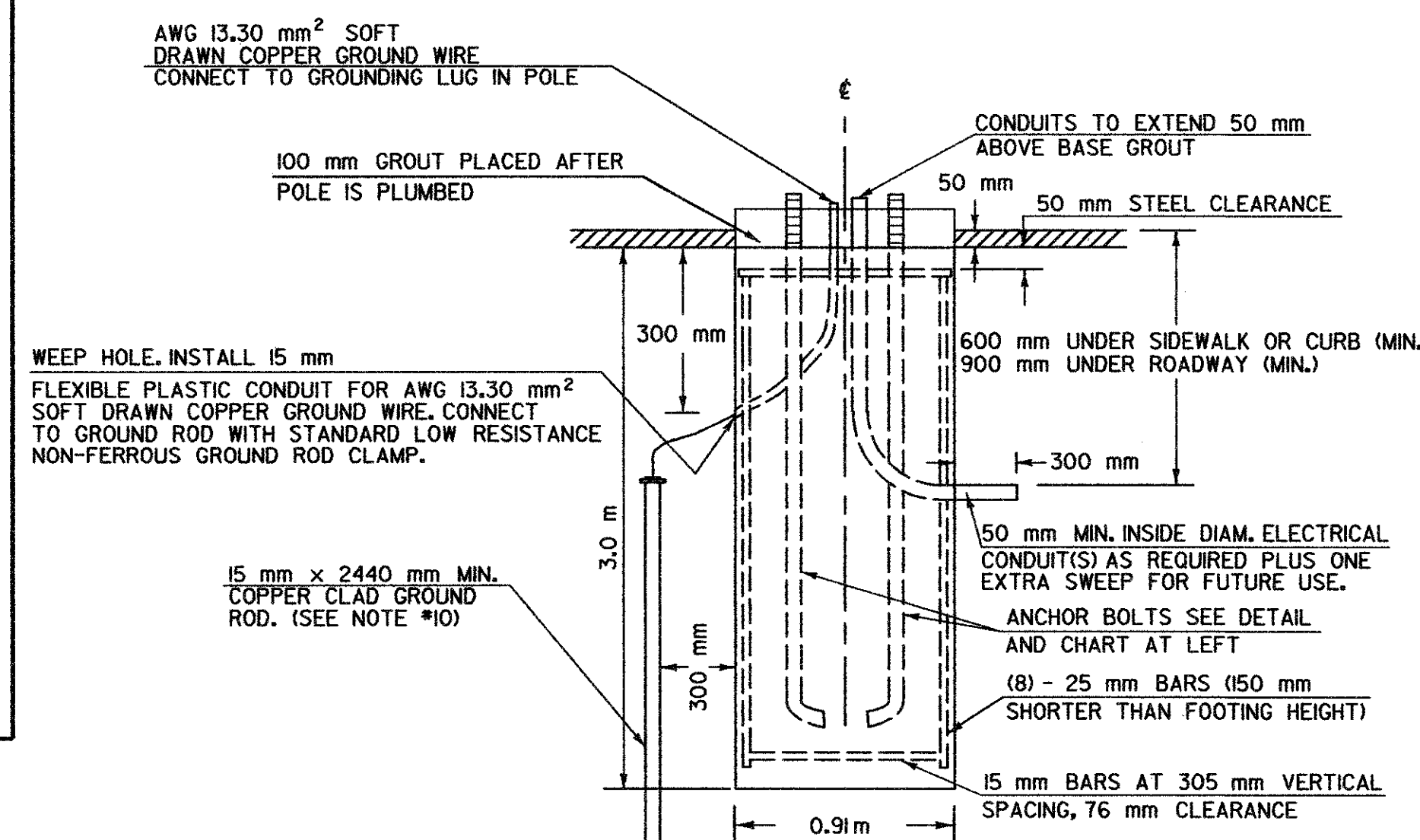
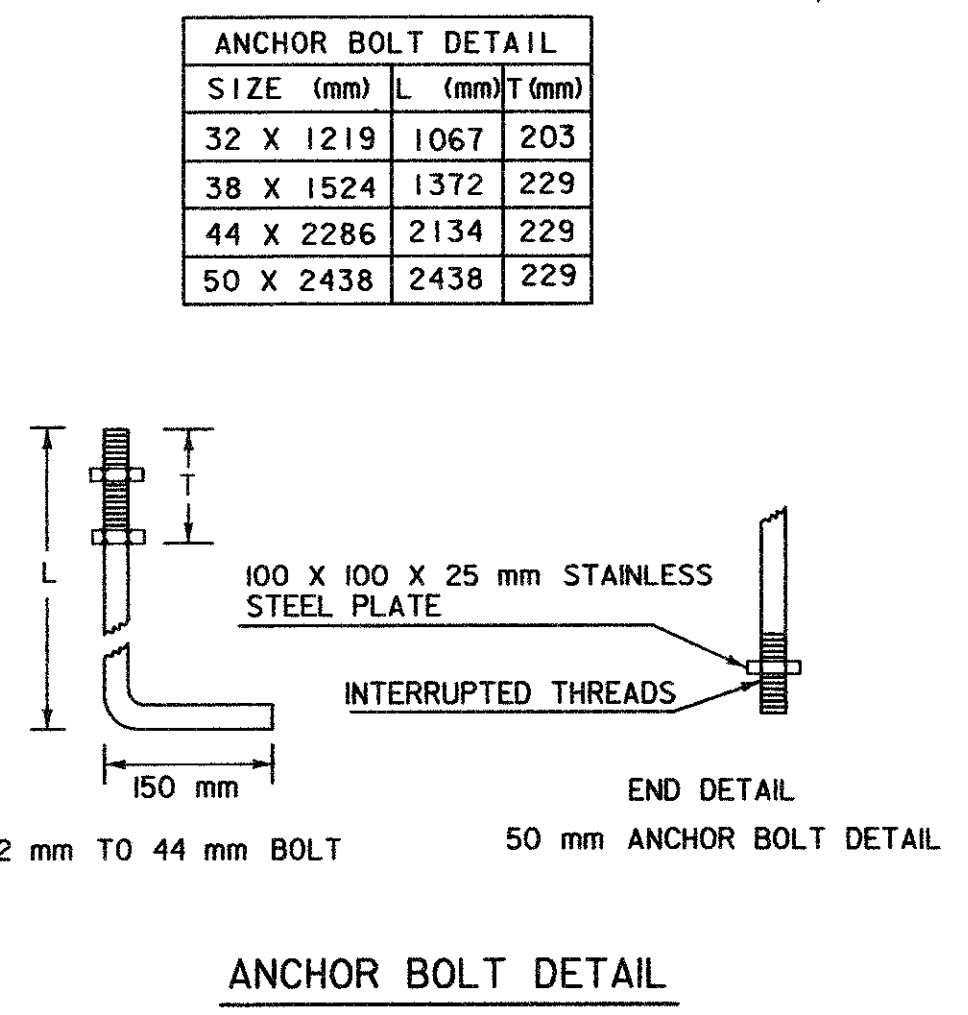
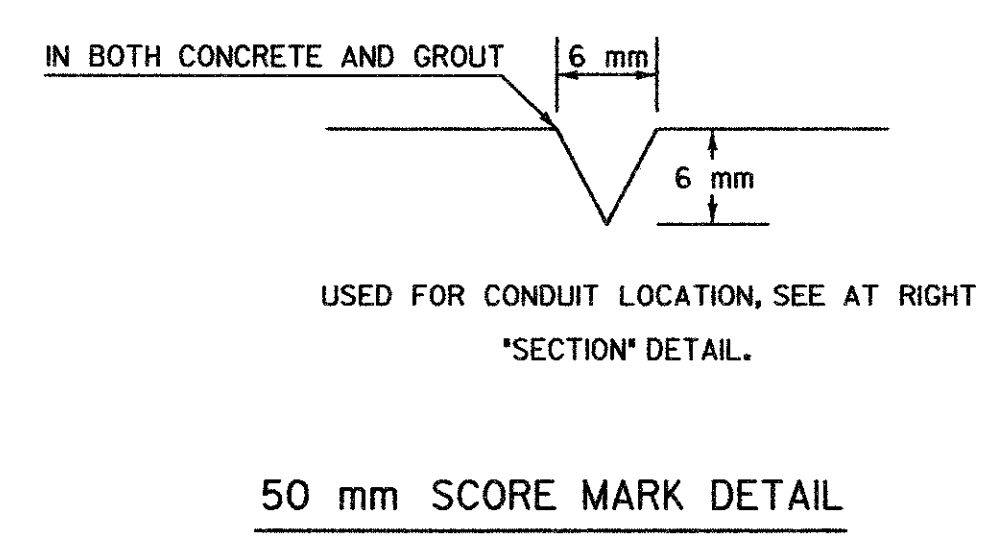
DESIGN CRITERIA USED:  
 POLE FY = 330 MPA  
 BASE PLATE FY = 248 MPA  
 ANCHOR BOLTS FY = 380 MPA

**STRAIN POLE**



**GENERAL NOTES**

- ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO THE VTRANS STANDARD SPECIFICATIONS FOR CONSTRUCTION AND AASHTO'S STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, LATEST EDITION.
- TRAFFIC CONTROL SIGNAL STRAIN POLES SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 752.02 - STRAIN POLES, AND SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH SECTION 678 - TRAFFIC CONTROL SIGNALS.
- STEEL POLE CAPS SHALL BE PROVIDED WITH A 50-mm BUSHED (BLIND) ELECTRICAL ENTRANCE WHERE APPLICABLE. STRAIN POLES SHALL BE PROVIDED WITH A 50-mm (BLIND) HALF COUPLING FOR SIGNAL CABLE, LOCATED 150 mm BELOW THE SPANWIRE ATTACHMENT HEIGHT.
- FOUR STAINLESS STEEL ANCHOR BOLTS WITH TWO HEXAGON NUTS, ONE WASHER AND ONE LOCK WASHER PER BOLT SHALL BE FURNISHED WITH EACH POLE. (SEE SUBSECTION 714.09) DO NOT INSTALL BOLT COVERS IF STAINLESS STEEL BOLTS ARE USED.
- BOLTS AND BASES SHALL BE OF ADEQUATE SIZE TO RESIST THE FULL BENDING MOMENT OF THE POLE AT YIELD STRENGTH STRESS.
- ADDITIONAL DESIGN CRITERIA:  
 CONCRETE -  $f_c = 10 \text{ MPa}$   $f'_c = 25 \text{ MPa}$   
 WIND LOAD - 1200 Pa (MIN.) ON THE EXPOSED POLE SURFACE.  
 REINFORCING STEEL  $f_s = 165 \text{ MPa}$  (GRADE 420)
- CONCRETE FOR FOOTINGS SHALL CONFORM TO REQUIREMENTS OF CONCRETE CLASS "B" SECTION 501 - STRUCTURAL CONCRETE.
- BACKFILL MATERIAL PLACED ADJACENT TO THE FOOTINGS SHALL MEET THE REQUIREMENTS FOR GRANULAR BACKFILL FOR STRUCTURES-SUBSECTION 704.08.
- WHERE THE DESIGN DEPTH OF A FOOTING CANNOT BE OBTAINED DUE TO UNFORESEEN FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OBTAIN A REVISED FOOTING DETAIL FROM THE ENGINEER.
- EACH METAL POLE SUPPORTING EITHER VEHICLE OR PEDESTRIAN TRAFFIC SIGNALS SHALL BE GROUNDED. THE GROUND SHALL CONSIST OF:  
 A) AN INTERNAL GROUND LUG OPPOSITE THE HAND HOLE.  
 B) A 13.30-mm<sup>2</sup> (MIN.) SOFT DRAWN COPPER GROUNDING ELECTRODE CONDUCTOR.  
 C) A 16 X 2400 (MIN.) COPPER CLAD GROUNDING ELECTRODE.  
 THE RESISTANCE TO GROUND SHALL BE 25 OHMS OR LESS. ADDITIONAL GROUNDING ELECTRODES MAY BE REQUIRED (MINIMUM SPACING SHALL BE 1800 mm).  
 WHERE A POWER SERVICE, METER AND DISCONNECT ARE ATTACHED TO A STRAIN POLE, THERE SHALL BE A CONTINUOUS GROUNDING ELECTRODE CONDUCTOR FROM THE METER AND DISCONNECT WHICH MAY RUN INTERNAL TO THE STRAIN POLE, THROUGH THE DNIG FLEXIBLE TUBING IN THE CONCRETE BASE TO THE REQUIRED GROUNDING ELECTRODE(S). THE GROUNDING ELECTRODE CONDUCTOR FROM THE STRAIN POLE GROUNDING LUG, CONTROLLER CABINET AND/OR LUMINAIRE MAY ATTACH TO THIS CONTINUOUS GROUNDING ELECTRODE CONDUCTOR FROM THE SERVICE METER AND DISCONNECT. THE CONTRACTOR SHALL PERFORM A RESISTANCE TO GROUND TEST ON THE CONTINUOUS GROUNDING ELECTRODE CONDUCTOR FROM THE SERVICE METER AND DISCONNECT AND PROVIDE A WRITTEN STATEMENT TO THE AREA ELECTRICAL INSPECTOR THAT THE GROUNDING ELECTRODE CONDUCTOR IS CONTINUOUS FROM THE SERVICE METER AND DISCONNECT AND THE RESISTANCE TO GROUND IS 25 OHMS OR LESS.
- STRAIN POLE BASE PLATES SHALL BE STAMPED WITH POLE DIAMETER, HEIGHT, YIELD STRENGTH AND WALL THICKNESS. ALTERNATELY, THE INFORMATION MAY BE STAMPED ON A METAL TAG ATTACHED TO THE POLE NEAR THE HANDHOLE.
- IN ACCORDANCE WITH SUBSECTION 105.03, SHOP DRAWINGS (6 COPIES) SHALL BE SUBMITTED TO VTRANS FOR APPROVAL PRIOR TO FABRICATION. THE SUBMITTAL SHALL INCLUDE THE FOLLOWING INFORMATION:  
 A) DETAILED DRAWING OF EACH COMPONENT OF THE STRAIN POLE;  
 B) MATERIAL SPECIFICATIONS FOR EACH COMPONENT OF THE STRAIN POLE BY COMPLETE SPECIFICATIONS OR BY REFERENCE TO APPLICABLE ASTM STANDARDS;  
 C) NOTATION OF PROJECT NAME, PROJECT NUMBER, ROUTE NUMBER AND STRAIN POLE STATIONING. (TO BE INCLUDED ON EACH SHEET INCLUDING STANDARD SHEETS AND SPECIFICATION SHEETS);  
 D) DETAILS FOR LOCATION OF LUMINAIRE ARMS ON STRAIN POLES;  
 E) ALL ELEVATIONS AND DIMENSIONS NECESSARY TO PROVIDE A COMPLETE SET OF RECORD PLANS. (POLE HEIGHT, SPAN WIRE ATTACHMENT HEIGHT, POLE DIAMETER (TOP AND BOTTOM), WALL THICKNESS OF POLE, HANDHOLE (SIZE AND LOCATION), BASE PLATE, BOLT CIRCLE, ANCHOR BOLT SIZE);  
 F) POLE BASE STAMPING DETAIL;  
 G) DEAD LOAD DEFLECTION INFORMATION; AND  
 H) WELDING DETAILS AND PROCEDURES ARE REQUIRED FOR ALL WELDS. PROCEDURES SHALL BE SUBMITTED FOR APPROVAL WITH REFERENCE TO EACH WELD IDENTIFIED ON THE SHOP DRAWINGS (SEE SUBSECTION 506.10).



**STRAIN POLE FOOTING**

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

**STRAIN POLE / FOOTING DETAIL SHEET - SINGLE INTERSECTION**



DATE	REVISIONS	BY
ORIGINAL PREPARED - JUNE 13, 1997		

PROJECT NAME: WALLING FORD	PLOT DATE: 01/28/02
PROJECT NUMBER: NHG SGNL(26)S / STP ADAS(2)	DRAWN BY: RAW
FILE NAME: zb292frm.dgn	CHECKED BY: GAS
PROJECT LEADER: GAS	DESIGNED BY: RAW/JCO
STRAIN POLE/FOOTING DETAIL SHEET - SINGLE INTERSECTION SHEET 14 OF 25	

### TRAFFIC SIGNAL NOTES

#### A. NEW EQUIPMENT

- ALL SIGNAL HEADS MOUNTED ON SPAN WIRES SHALL BE POLYCARBONATE. BACKPLATES SHALL BE INSTALLED ON HEADS FACING EAST AND WEST (AS NOTED IN THE LIST OF MAJOR EQUIPMENT), DEPENDING ON AM OR PM VISIBILITY. PEDESTRIAN HEADS SHALL BE HEAVY DUTY ALUMINUM.
- ALL CONTROLLERS SHALL BE ECONOLITE BRAND.
- A DISCONNECT BREAKER FOR EACH CIRCUIT SHALL BE INSTALLED IN A RAINPROOF (NEMA 3R), LOCKED CABINET ON THE STRAIN POLE BELOW THE METER SOCKET. SEE VTrans STANDARD E-175M AND USE OPTION #5.
- ALL SIGNAL HEAD INDICATIONS INCLUDING PEDESTRIAN (WALK/DON'T WALK) INDICATIONS SHALL BE LED'S.
- THE CONCRETE PAD NORMALLY PLACED BELOW THE CABINET (AS SHOWN ON STD E-171BM) IS NOT REQUIRED ON THIS PROJECT DUE TO THE BRICK PAVERS TO BE INSTALLED IN THIS AREA.
- IF IT IS NECESSARY TO MOUNT 2 PEDESTRIAN SIGNS AND BUTTONS 90° TO EACH OTHER ON THE PEDESTRIAN POLES, ONE BUTTON SHALL BE MOUNTED AT A HEIGHT OF 1067 mm, WITH THE SIGN MOUNTED ABOVE, AS SHOWN ON VTrans STD. E-170M. THE SECOND BUTTON SHALL BE MOUNTED AT 990 mm, WITH THE SIGN PLACED BELOW THE BUTTONS. THEY CANNOT BE MOUNTED AT THE SAME HEIGHT BECAUSE THE SIGNS ARE TOO WIDE FOR THE PEDESTRIAN POSTS.

#### B. SIGNAL OPERATION

- SWITCH-OVER FROM EXISTING TO REPLACEMENT SIGNALS SHALL NOT BE DONE DURING PEAK TRAFFIC PERIODS. UNIFORMED TRAFFIC OFFICERS SHALL CONTROL TRAFFIC DURING SWITCH-OVER.
- ALL SIGNALS SHALL DWELL ON ROUTE 7 THRU MOVEMENT UNLESS OTHERWISE NOTED.
- THE ROUTE 7 THRU PHASE SHALL BE USED FOR THE START-UP PHASE FOLLOWING FLASHING OPERATION, UNLESS OTHERWISE NOTED.

#### C. TRAFFIC SIGNAL CONDUIT

- ALL TRAFFIC SIGNAL CONDUIT SHALL BE PVC.
- MINIMUM CONDUIT SIZE SHALL BE 50 mm OR AS SHOWN ON THE PLANS. SEE CHART ON STANDARD E-172M FOR DESIGN VALUES.
- WHEN CONDUIT IS PLACED BELOW THE ROADWAY OR ACROSS SIDE ROADS, IT SHALL BE PLACED IN A 150 mm MINIMUM PVC ELECTRICAL SLEEVE, AS SHOWN ON THE PLANS.
- WHEN INSTALLING CONDUIT ON THE EXISTING UTILITY POLE, IT SHALL BE MOUNTED ON STANDOFF BRACKETS, AS DETAILED ON STANDARD E-175M.

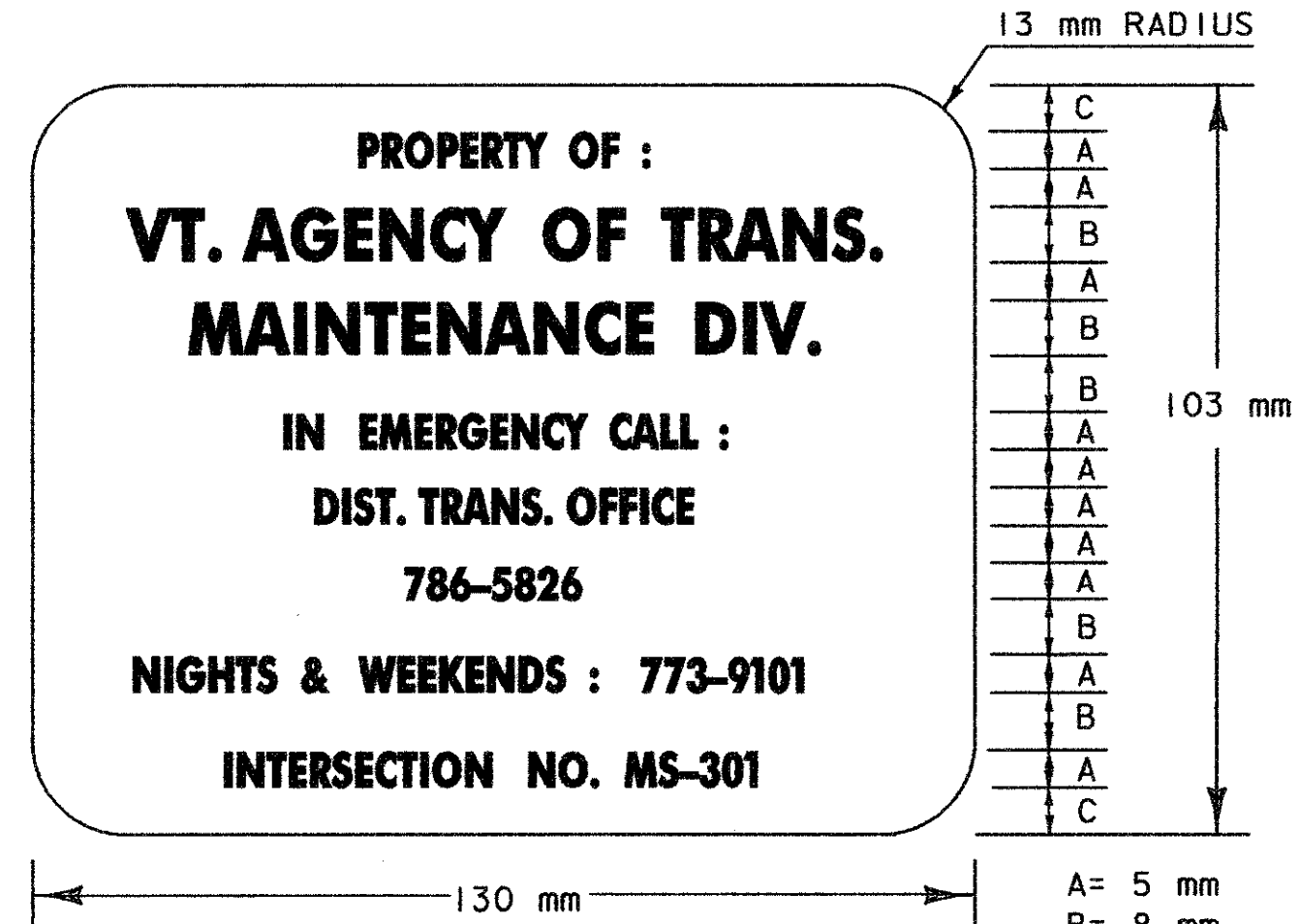
#### D. REMOVAL OF EXISTING EQUIPMENT

- ALL EXISTING TRAFFIC SIGNAL EQUIPMENT (POLES, SIGNAL HEADS, SPAN WIRE, POSTS, PULL BOXES, CABLE, CONDUIT, TRAFFIC SIGNS, GUARDRAIL AND POSTS, ETC.) AND ANY UNWANTED EQUIPMENT (INCLUDING ALL TYPE B SIGNS AND DAMAGED GUARDRAIL) SHALL BE DISPOSED OF BY THE CONTRACTOR. ANY EQUIPMENT THAT IS DAMAGED OR LOST BY THE CONTRACTOR DURING REMOVAL SHALL BE REPAIRED OR REPLACED, TO THE SATISFACTION OF THE AGENCY, AT THE CONTRACTORS EXPENSE.
- REMOVAL OF EQUIPMENT SHALL INCLUDE THE REMOVAL OF CONCRETE STRAIN POLE AND OVERHEAD SIGN BASES TO A POINT 300 mm BELOW GRADE, AND BACKFILL OF THE HOLES WITH MATERIAL SIMILAR TO EXISTING SOIL.
- PAYMENT FOR REMOVAL AND DISPOSAL OF EXISTING SIGNAL EQUIPMENT SHALL BE SUBSIDIARY TO ITEM 678.15

#### E. GENERAL

- THE CONTRACTOR SHALL ACQUIRE ALL NECESSARY PERMITS AND MAKE ALL NECESSARY ARRANGEMENTS WITH THE UTILITY COMPANY TO PROVIDE A PERMANENT POWER SUPPLY TO THE SIGNAL AND STREET LIGHTING EQUIPMENT, IF APPLICABLE. THE ROUTING OF POWER TO THE INTERSECTION SHALL BE SUCH THAT THE STATE HAS FULL RESPONSIBILITY FROM THE TRANSFORMER THROUGH THE SIGNAL. NO INTERVENING OWNERSHIP/ RESPONSIBILITY SHALL BE ALLOWED.
- THE EXISTING OVERHEAD POWER SERVICE SHALL BE REMOVED AFTER THE SIGNAL IS SWITCHED OVER.
- A UNIFORMED TRAFFIC OFFICER SHALL DIRECT TRAFFIC WHEN ONE-WAY TRAFFIC EXISTS ON ANY APPROACH. THIS INCLUDES, BUT IS NOT LIMITED TO, LOOP CUTTING OPERATIONS.
- UTILITIES INFORMATION SHOWN HEREON WERE OBTAINED FROM THE BEST AVAILABLE SOURCES, AND MAY OR MAY NOT BE EITHER ACCURATE OR COMPLETE. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING UTILITIES, AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN HEREON. SHOULD ANY UTILITY BE DAMAGED DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE REPAIRS AND RESTORATION OF SERVICE WITH THE AFFECTED UTILITY(S).

### CONTROLLER IDENTIFICATION PLAQUE



LEGEND: - BLACK (NON-REFL.) - STAMPED PRIOR TO PAINTING  
BACKGROUND: NATURAL ALUMINUM OR BRASS SURFACE

#### NOTES:

- THE PLAQUE SHALL BE MOUNTED ON ALL TRAFFIC SIGNAL CONTROLLER CABINETS. IT SHALL BE FASTENED TO THE CONTROLLER CABINET IN SUCH A MANNER AS TO BE NOT EASILY REMOVED, SUCH AS WELDED, RIVETED OR BOLTED WITH VANDAL PROOF BOLTS.
- THE LETTERS SHALL BE PUNCHED OR STAMPED, OR ENGRAVED, SUCH STAMPING SHALL PENETRATE AT LEAST 1/2 THE BASE MATERIAL THICKNESS.
- THE BASE MATERIAL FOR THE PLAQUE SHALL BE BRASS OR ALUMINUM WITH A MINIMUM THICKNESS OF 3 mm.

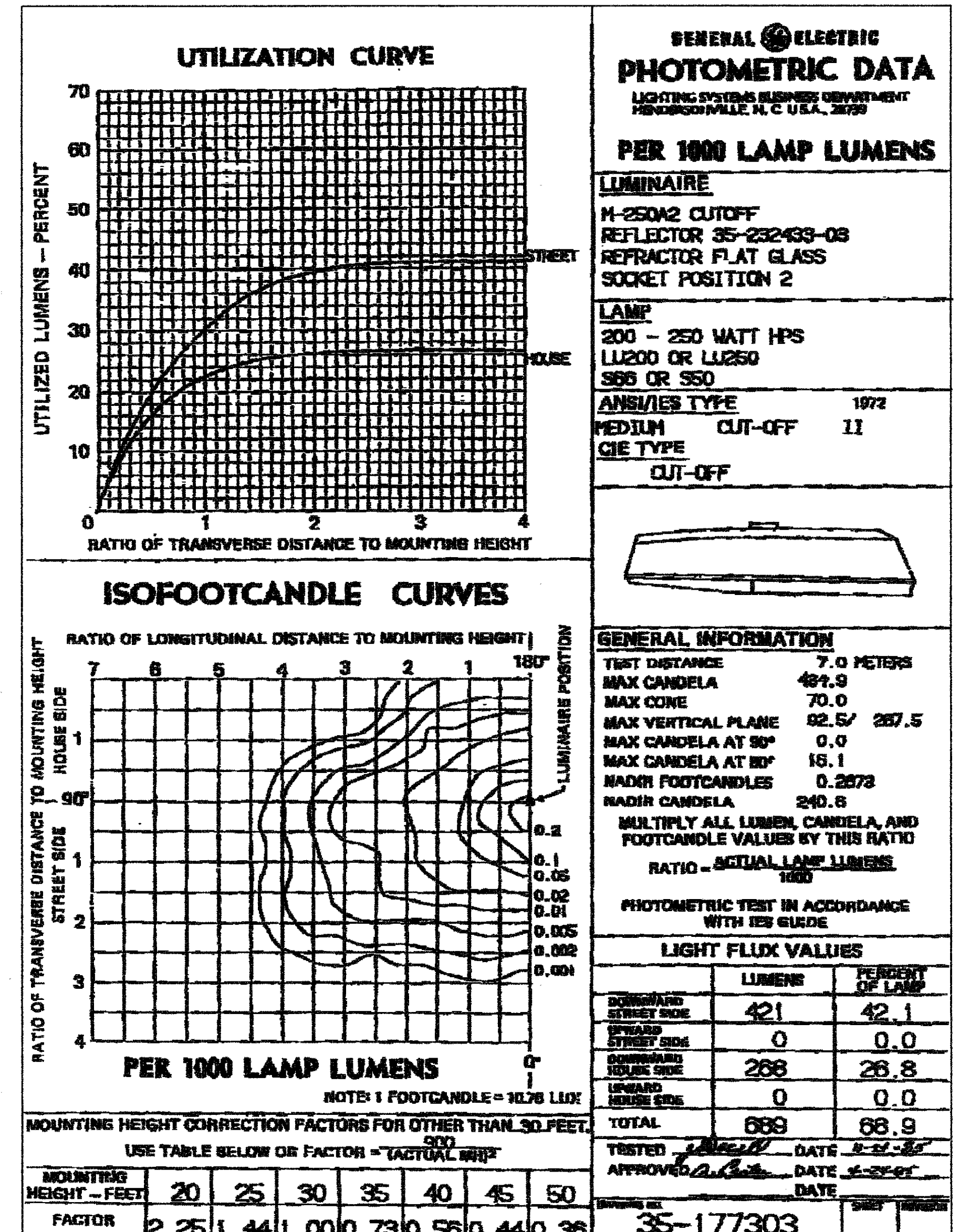
### LIST OF MAJOR EQUIPMENT (ITEM 678.15)

EQUIPMENT	TOTALS
STRAIN POLES *	1
NEW 305 mm SIGNAL HEADS W/TUNNEL VISORS AND MOUNTING HARDWARE	1
SPAN-WIRE MOUNTED	2
TWO-WAY 3 SECTION (FACES 4 & 8 HAVE BACKPLATES)	
FOUR WAY 3 SECTION (FACES 4 & 8 HAVE BACKPLATES)	
SOLID-STATE KEYBOARD-ENTRY CONTROLLER AND CABINET POLE MOUNTED	1
METER AND DISCONNECT ON STRAIN POLE	1
MISCELLANEOUS EQUIPMENT, HARDWARE, ETC. TO COMPLETE INSTALLATION	1
PEDESTRIAN POSTS	3
ADA PEDESTRIAN PUSH BUTTON / SIGN ASSEMBLY	8
PEDESTRIAN AUDIO	4
WALK / DON'T WALK PEDESTRIAN HEADS (SINGLE FACE, SYMBOLIC TYPE W/150 mm SYMBOLS WITH RELATED MOUNTING HARDWARE):	
PED. POST MOUNTED	4
SIGNAL POLE MOUNTED	4
PRIORITY CONTROL (PRE-EMPTION)	1
250 WATT HP. SODIUM TYPE II CUT OFF LUMMARE, SINGLE MEMBER BRACKET ARM	1

\* EXISTING UTILITY POLE \* TO BE MAINTAINED AS STRAIN POLE #1

NOTE: CONTRACTOR SHALL PROVIDE ALL MISC EQUIPMENT, HARDWARE, ECT TO COMPLETE INSTALLATION TO PROVIDE FOR A FULLY FUNCTIONAL SYSTEM

### PHOTOMETRIC DATA



#### STREET LIGHTING

STRAIN POLE #2 SHALL HAVE A 250-WATT HIGH-PRESSURE SODIUM TYPE II CUTOFF LUMINAIRE MOUNTED ON A SINGLE MEMBER BRACKET ARM AT A 10.67 (OR AS DETERMINED BY ENGINEER) METER MOUNTING HEIGHT. THE LUMINAIRE, BRACKETS AND INCIDENTALS ARE PAID FOR UNDER ITEM 678.15. THE LUMINAIRE SHALL INCLUDE AN ALUMINUM HOUSING WITH EASY ACCESS TO THE BALLAST ASSEMBLY, PHOTOELECTRIC CONTROL, FILTERED OPTICAL ASSEMBLY, AND REGULATOR BALLAST FOR THE APPROPRIATE VOLTAGE. THE BALLAST SHALL BE MATCHED TO ITS STARTING CIRCUIT WIRING SHALL BE NEAT, BUNDLED, AND KEPT AWAY FROM EXCESS HEAT. THE LIGHT UTILIZATION AND MINIMUM FOOTCANDLES OF THE INSTALLED LUMINAIRE SHALL BE AT LEAST AS GREAT AS INDICATED ON THE GENERAL ELECTRIC PHOTOMETRIC DATA SHEET. THE LUMINAIRE SHALL BE AIMED DOWN TOWARD THE ROUTE 140 (WEST APPROACH) STOP BAR AREA AND INSTALLED AT AN ANGLE REFERENCED FROM THE SPAN WIRE AS INDICATED ON SPAN WIRE CROSS SECTION ON THE STRAIN POLE/FOOTING DETAIL SHEET - SINGLE INTERSECTION. SEE STANDARD DETAILS E-180AM AND E-180BM FOR INSTALLATION OF STREET LIGHTING.

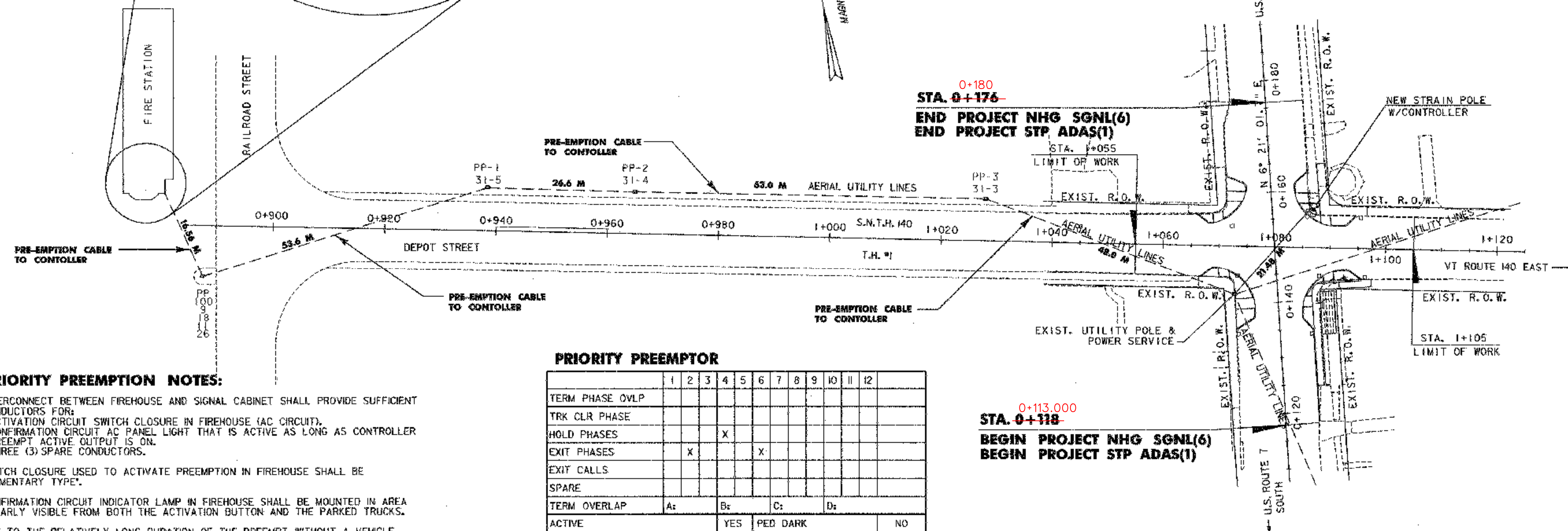
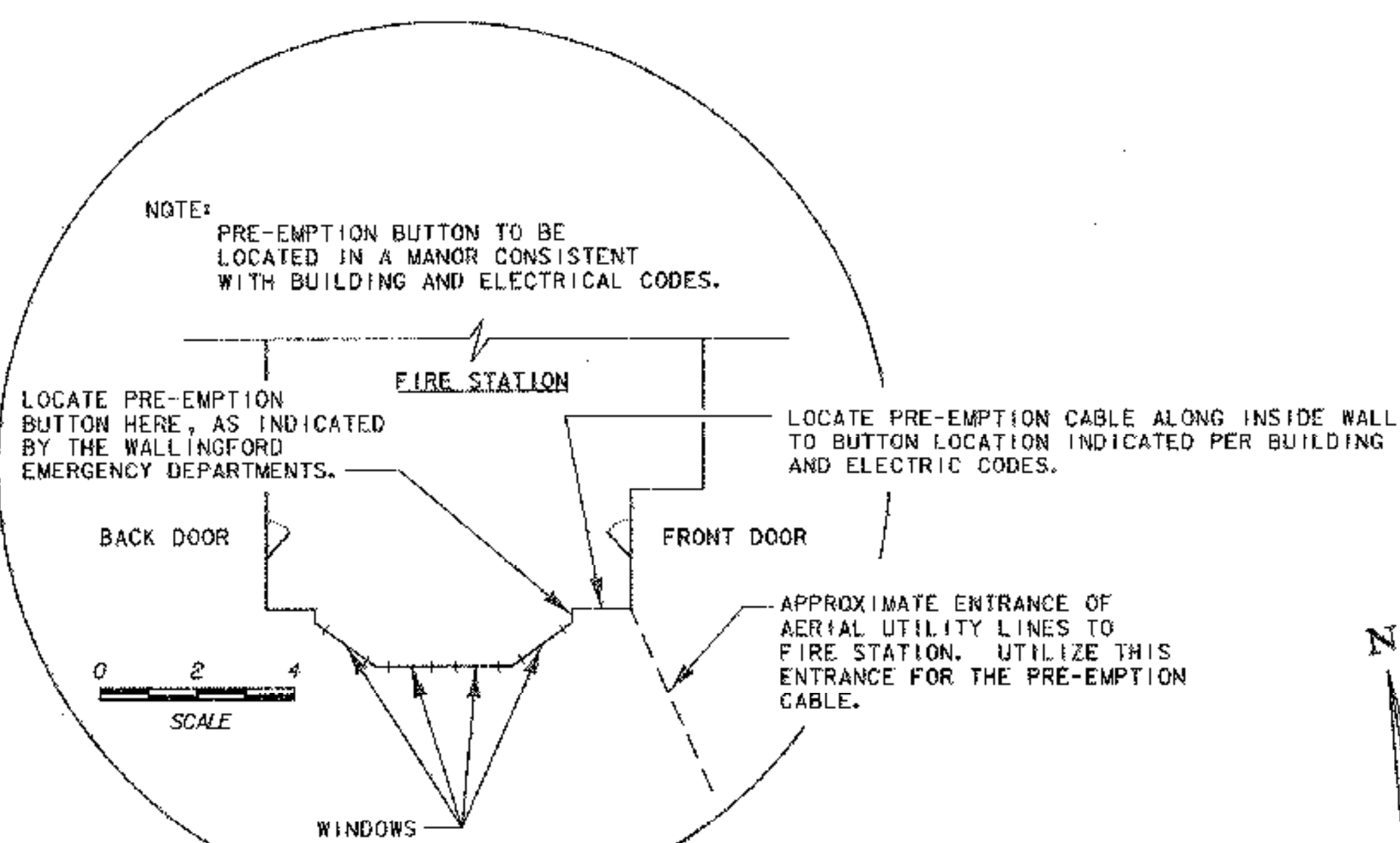
NOTE:  
ALL DIMENSIONS IN MILLIMETERS  
EXCEPT WHERE OTHERWISE INDICATED



PROJECT NAME: WALLINGFORD  
PROJECT NUMBER: NHG SGNL(26)S/STP ADAS(2)  
FILE NAME: zc294frm.dgn PLOT DATE: 01/28/02  
PROJECT LEADER: GAS DRAWN BY: MBL  
DESIGNED BY: RAW / JCO CHECKED BY: GAS  
TRAFFIC SIGNAL NOTES & DETAILS SHEET 15 OF 25

**GENERAL:**

- A. VERMONT AGENCY OF TRANSPORTATION (VTTRANS) SHALL DRAFT A MEMORANDUM OF UNDERSTANDING (MOU) DOCUMENTING RESPONSIBILITIES OF BOTH FIRE DEPARTMENT AND VTTRANS WITH REGARD TO LIABILITY, MAINTENANCE, AND TRAINING. INSTALLATION OF PREEMPTION EQUIPMENT SHALL NOT COMMENCE UNTIL MOU IS SIGNED BY ALL APPROPRIATE PARTIES.
- B. CONTACT PERSON FOR FIRE DEPARTMENT SHALL BE DOCUMENTED IN TRAFFIC SIGNAL CABINET FOR VTTRANS TO CONTACT TO ADVISE OF PROBLEMS AND CHANGES IN CONFIGURATION.
- C. VTTRANS (OR DESIGNATED REPRESENTATIVE) SHALL CONDUCT TRAINING FOR FIRE DEPARTMENT WITHIN 60 DAYS OF COMPLETED PREEMPTION WORK.
- D. HARDWARE PRE-EMPTION TO BE AERIAL MOUNTED ON EXISTING UTILITY POLES FROM THE U.S. ROUTE 7 / VT. ROUTE 140 INTERSECTION TO THE WALLINGFORD FIRE STATION. ATTACHMENT OF PRE-EMPTION CABLE TO EXISTING UTILITY POLES TO BE COORDINATED WITH UTILITY COMPANY.
- E. PAYMENT FOR THIS SYSTEM (INCLUDING TESTING & FINE TUNING) SHALL BE SUBSIDIARY TO THE SIGNAL INSTALLATION ITEM 678.15 FOR ALL REQUIRED WORK.



**PRIORITY PREEMPTION NOTES:**

- A. INTERCONNECT BETWEEN FIREHOUSE AND SIGNAL CABINET SHALL PROVIDE SUFFICIENT CONDUCTORS FOR:
  1. ACTIVATION CIRCUIT SWITCH CLOSURE IN FIREHOUSE (AC CIRCUIT).
  2. CONFIRMATION CIRCUIT AC PANEL LIGHT THAT IS ACTIVE AS LONG AS CONTROLLER PREEMPT ACTIVE OUTPUT IS ON.
  3. THREE (3) SPARE CONDUCTORS.
- B. SWITCH CLOSURE USED TO ACTIVATE PREEMPTION IN FIREHOUSE SHALL BE "MOMENTARY TYPE".
- C. CONFIRMATION CIRCUIT INDICATOR LAMP IN FIREHOUSE SHALL BE MOUNTED IN AREA CLEARLY VISIBLE FROM BOTH THE ACTIVATION BUTTON AND THE PARKED TRUCKS.
- D. DUE TO THE RELATIVELY LONG DURATION OF THE PREEMPT WITHOUT A VEHICLE PRESENT, INTERSECTION SHALL HAVE ROTATING RED BEACON THAT IS ACTIVE WHEN THE CONTROLLER PREEMPT ACTIVE OUTPUT IS ON.
- E. TWO (2) RELAYS SHALL BE PROVIDED IN THE TRAFFIC SIGNAL CABINET (ACTIVATION CIRCUIT AND CONFIRMATION CIRCUIT). CONFIRMATION RELAY SHALL BE SUFFICIENTLY LARGE TO ACCOMMODATE PEAK CURRENT DEMANDS OF BOTH THE FIREHOUSE CONFIRMATION LAMP(S) AND THE INTERSECTION ROTATION BEACON.
- F. CONTROLLER PREEMPTION SHALL BE PROGRAMMED AS FOLLOWS:
  1. A FIVE-SECOND DELAY WILL BE CONFIGURED TO PREVENT ELECTRICAL NOISE ON THE ACTIVATION CIRCUIT FROM CAUSING FALSE ALARM.
  2. NO MINIMUM GREEN TIMES OR PEDESTRIAN CLEARANCE INTERVALS SHALL BE TRUNCATED.
  3. PREEMPTION "HOLD PHASE" SHALL BE PHASE 4.
  4. NO PEDESTRIAN MOVEMENTS SHALL BE ALLOWED DURING PREEMPTION.
  5. PREEMPTION HOLD TIME WILL BE CONFIGURED TO BE 90 SECONDS BASED UPON THE ESTIMATED WORST CASE TIME FOR THE EMERGENCY VEHICLE TO CLEAR THE INTERSECTION.
  6. MINIMUM PREEMPTION RE-SERVICE TIME SHALL BE CONFIGURED TO BE 5 MINUTES.
- G. PANEL IN FIREHOUSE SHALL BE LABELED WITH CRITICAL PREEMPTION CHARACTERISTICS SUCH AS DELAY, TRANSITION, HOLD, AND MINIMUM RE-SERVICE TIMES.
- H. PREEMPTION CIRCUIT SHALL BE TESTED ON A MONTHLY BASIS FOR A VOLUNTEER FIRE DEPARTMENT.
- I. THE FIRE HOLD AND DURATION SETTINGS SHALL BE DETERMINED IN THE FIELD BASED ON AT LEAST FOUR(4) TEST RUNS (AM, NOON, PM AND OFF PEAK). THE TEST RUNS SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER, FIRE DEPT., MUNICIPAL OFFICIAL(S), AND DISTRICT TRANSPORTATION ADMINISTRATOR.

**PRIORITY PREEMPTOR**

	1	2	3	4	5	6	7	8	9	10	11	12
TERM PHASE OVL												
TRK CLR PHASE												
HOLD PHASES				X								
EXIT PHASES	X					X						
EXIT CALLS												
SPARE												
TERM OVERLAP	A:		B:		C:		D:					
ACTIVE	YES		PED DARK				NO					
PRIORITY			PED ACTIVE				NO					
GET LOCK			ZERO PC TIME				NO					
HOLD FLASH			PC THRU YELLOW				NO					
TERM OVL AP			TERM PHASES									
DON'T OVERRIDE FLASH			X		ACTIVE ONLY DURING HOLD							
FLASH ALL OUTPUTS			NO CVM IN FLASH									
YELLOW RED GOES GREEN			FAST FLASH GRN ON HOLD									
ENABLE MAX PREEMPT TIME			X		OUT OF FLASH							
MAX TIME	360 SEC		DURATION TIME									
MIN HOLD TIME	90 SEC		DELAY TIME				5 SEC					
MIN PED CLEAR	8 SEC		INHIBIT TIME									
EXIT MAX			HOLD DELAY TIME									
	GREEN		YELLOW		RED							
MINIMUM	0		0		0							
TRACK CLEAR												
HOLD												

NOTES:  
 1. HARDWARE PRE-EMPTION TO BE AERIAL MOUNTED ON EXISTING UTILITY POLES FROM ROUTE 140/US 7 INTERSECTION TO THE WALLINGFORD FIRE STATION.

2. ATTACHMENT OF PRE-EMPTION CABLE TO POLES TO BE COORDINATED WITH UTILITY COMPANY.

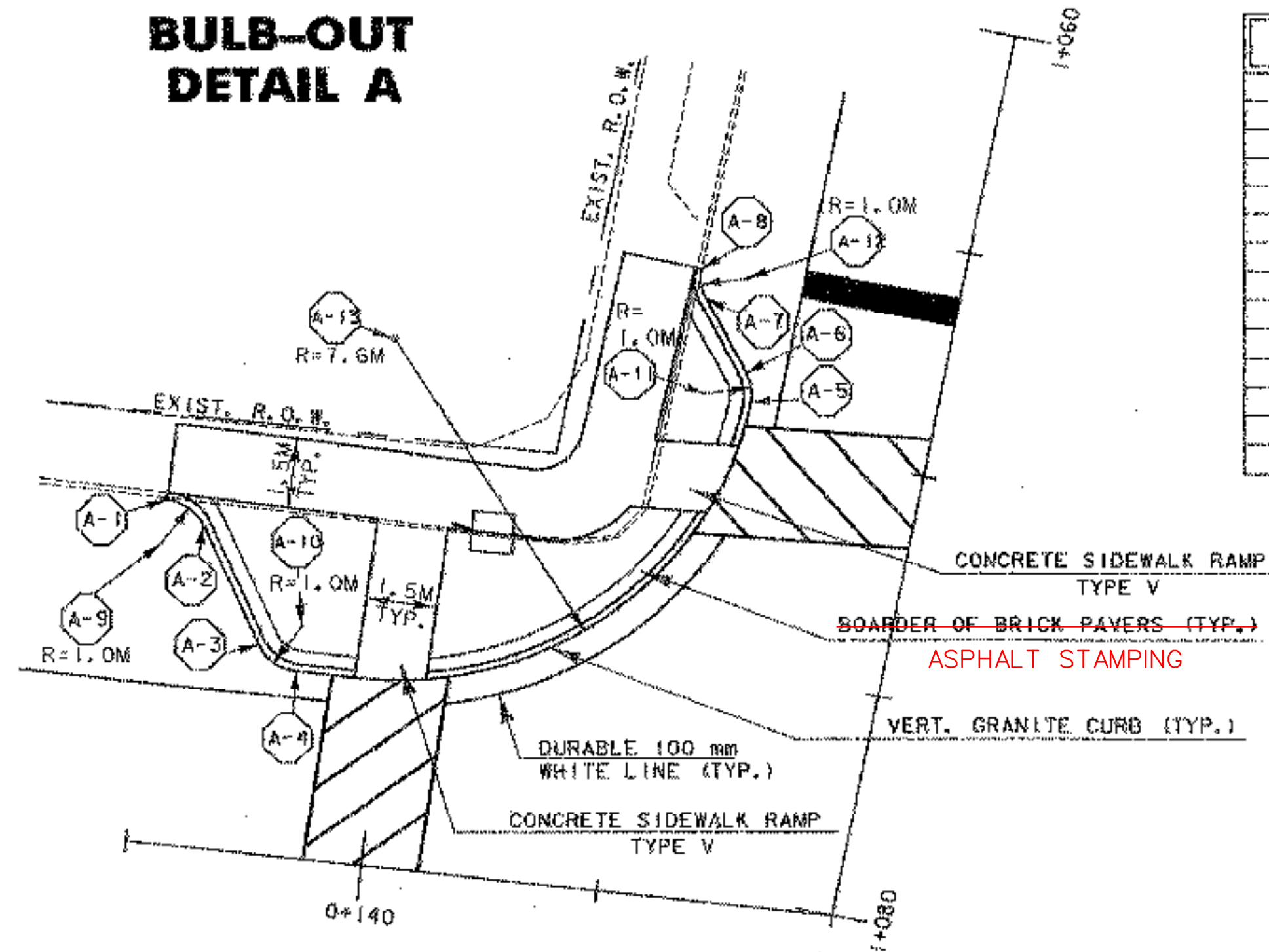
3. ALL DIMENSIONS IN MILLIMETERS EXCEPT WHERE OTHERWISE INDICATED



PROJECT NAME: WALLINGFORD  
 PROJECT NUMBER: NHG SGNL(26)S/STP ADAS(2)  
 FILE NAME: zc294frm.dgn  
 PROJECT LEADER: GAS  
 DESIGNED BY: RAW / JCO  
 PLOTTED DATE: 01/28/02  
 DRAWN BY: MBL  
 CHECKED BY: GAS  
 PREEMPTION DETAIL SHEET  
 SHEET 16 OF 25

SCALE: 0 10 20

**BULB-OUT  
DETAIL A**



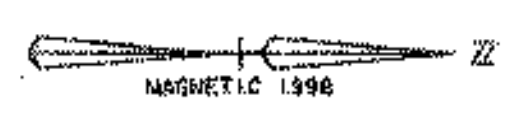
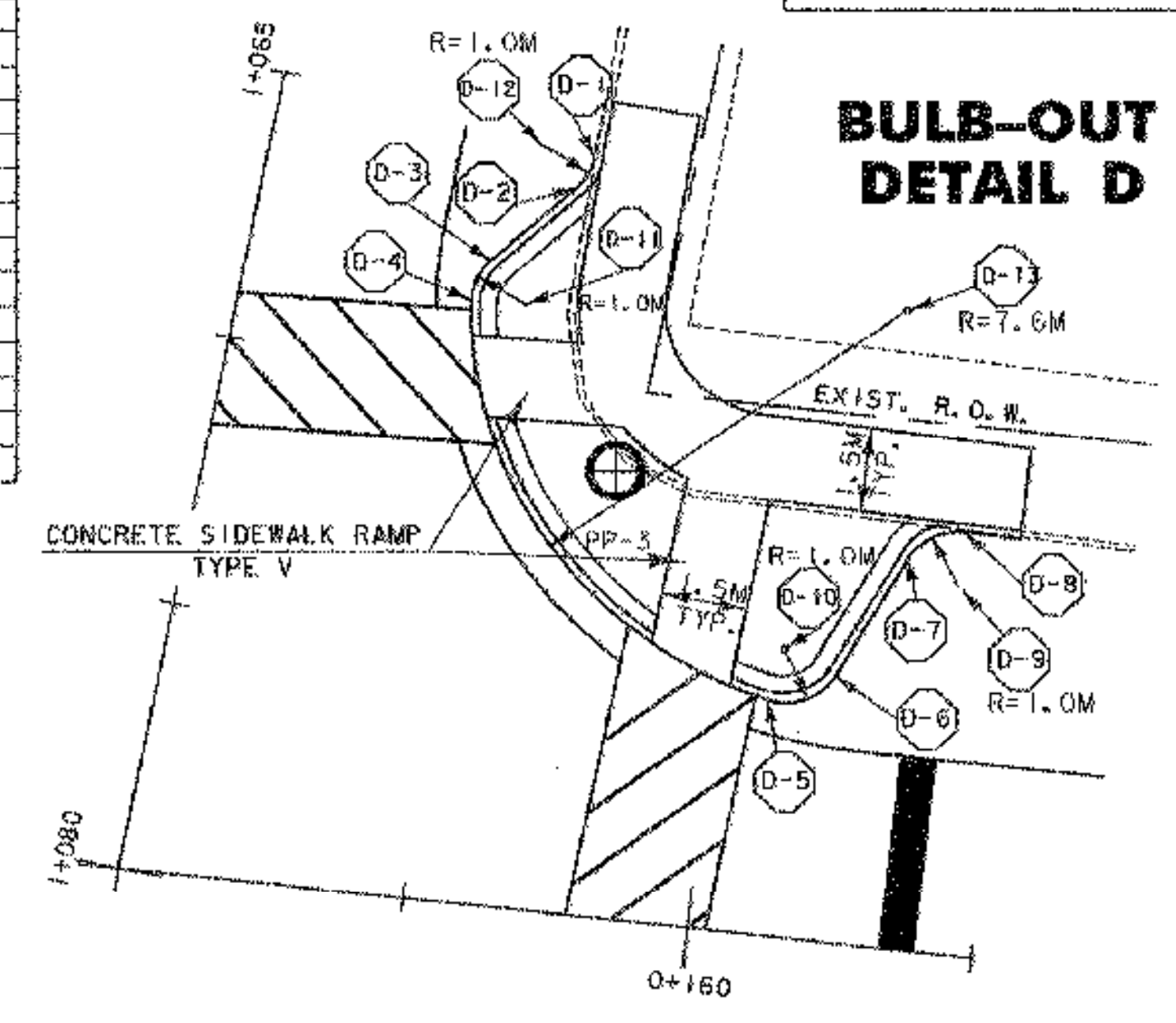
DETAIL A - CURB LOCATION		
POINT	STATION	OFFSET
A-1	U.S. ROUTE 7 0+135.01	7.69 M LT
A-2	U.S. ROUTE 7 0+135.86	7.19 M LT
A-3	U.S. ROUTE 7 0+137.30	4.70 M LT
A-4	U.S. ROUTE 7 0+138.16	4.20 M LT
A-5	S.N.T.H. 140 1+066.42	3.90 M RT
A-6	S.N.T.H. 140 1+067.06	4.12 M RT
A-7	S.N.T.H. 140 1+068.49	5.27 M RT
A-8	S.N.T.H. 140 1+069.12	5.49 M RT
A-9 *	U.S. ROUTE 7 0+134.99	6.69 M LT
A-10 *	U.S. ROUTE 7 0+138.16	5.20 M LT
A-11 *	S.N.T.H. 140 1+069.12	4.90 M RT
A-12 *	S.N.T.H. 140 1+066.43	4.49 M RT
A-13 *	U.S. ROUTE 7 0+139.40	11.75 M LT

\* LOCATION OF RADIUS CENTER POINT.

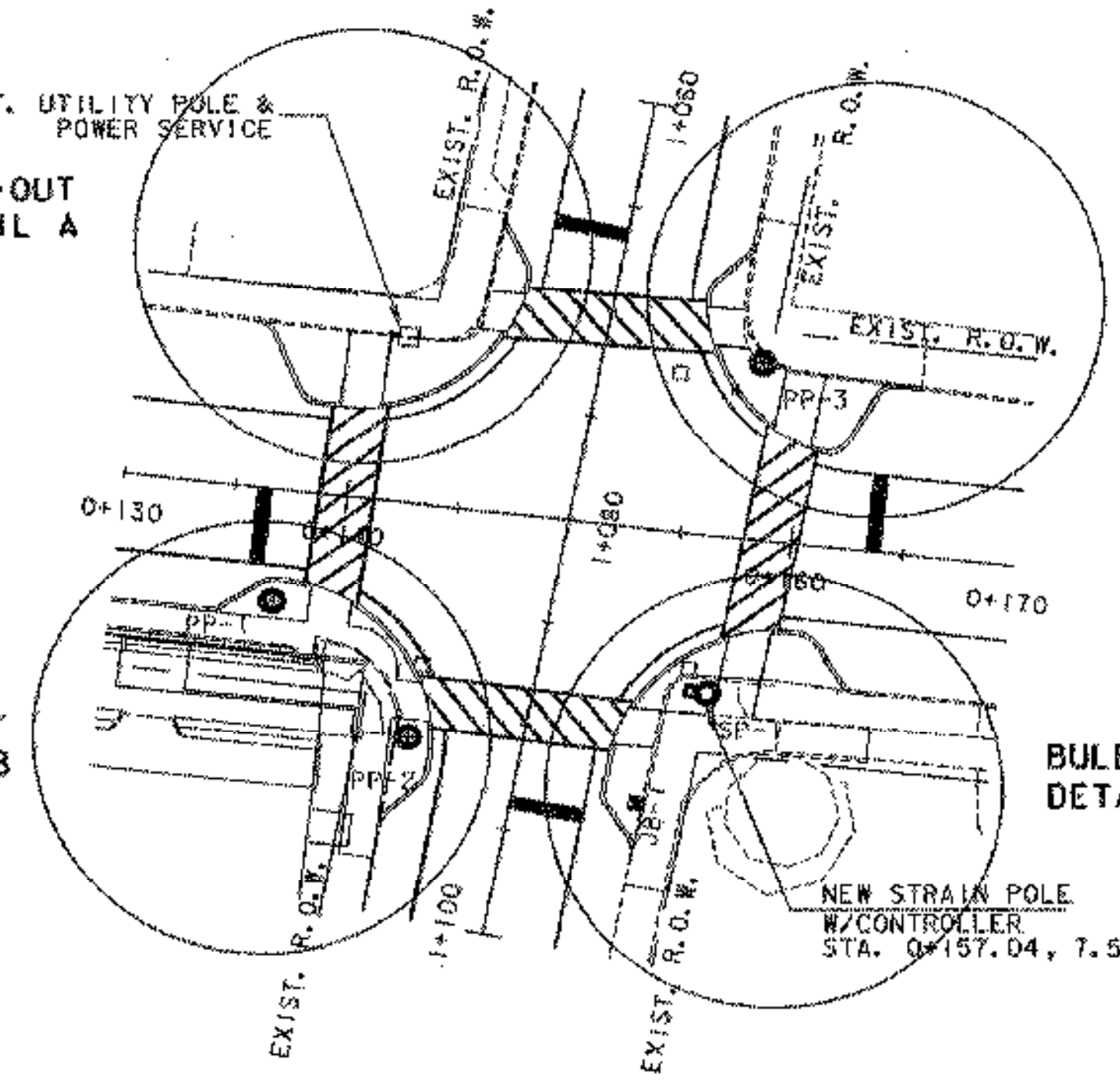
DETAIL D - CURB LOCATION		
POINT	STATION	OFFSET
D-1	S.N.T.H. 140 1+065.54	5.62 M LT
D-2	S.N.T.H. 140 1+066.16	5.42 M LT
D-3	S.N.T.H. 140 1+067.76	4.21 M LT
D-4	S.N.T.H. 140 1+068.54	4.02 M LT
D-5	U.S. ROUTE 7 0+160.94	4.37 M LT
D-6	U.S. ROUTE 7 0+162.06	4.94 M LT
D-7	U.S. ROUTE 7 0+163.09	7.22 M LT
D-8	U.S. ROUTE 7 0+164.02	7.81 M LT
D-9 *	U.S. ROUTE 7 0+164.12	6.73 M LT
D-10 *	U.S. ROUTE 7 0+161.12	5.33 M LT
D-11 *	S.N.T.H. 140 1+068.42	4.98 M LT
D-12 *	S.N.T.H. 140 1+065.40	4.65 M LT
D-13 *	S.N.T.H. 140 1+067.22	11.54 M LT

\* LOCATION OF RADIUS CENTER POINT.

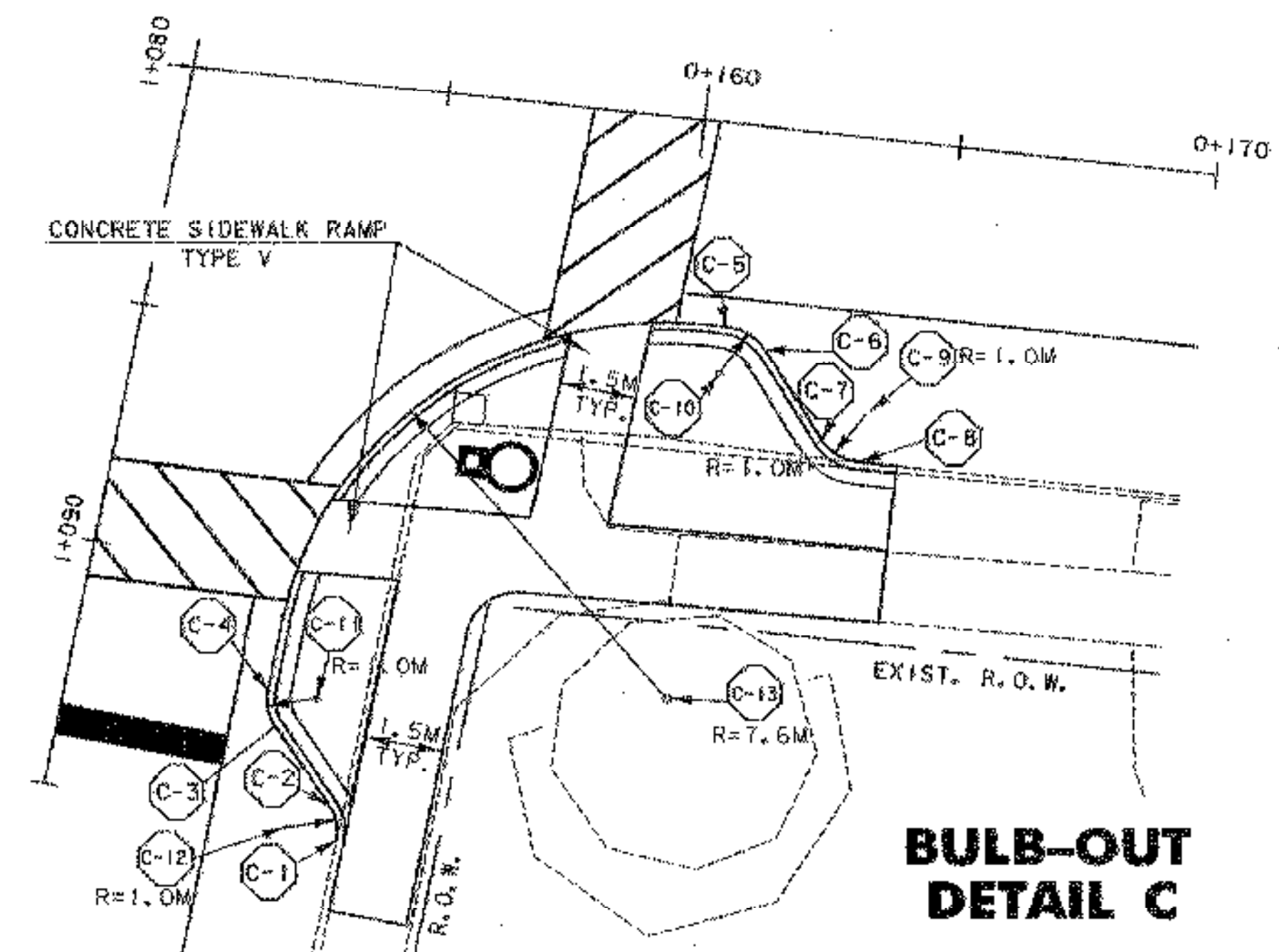
**BULB-OUT  
DETAIL D**



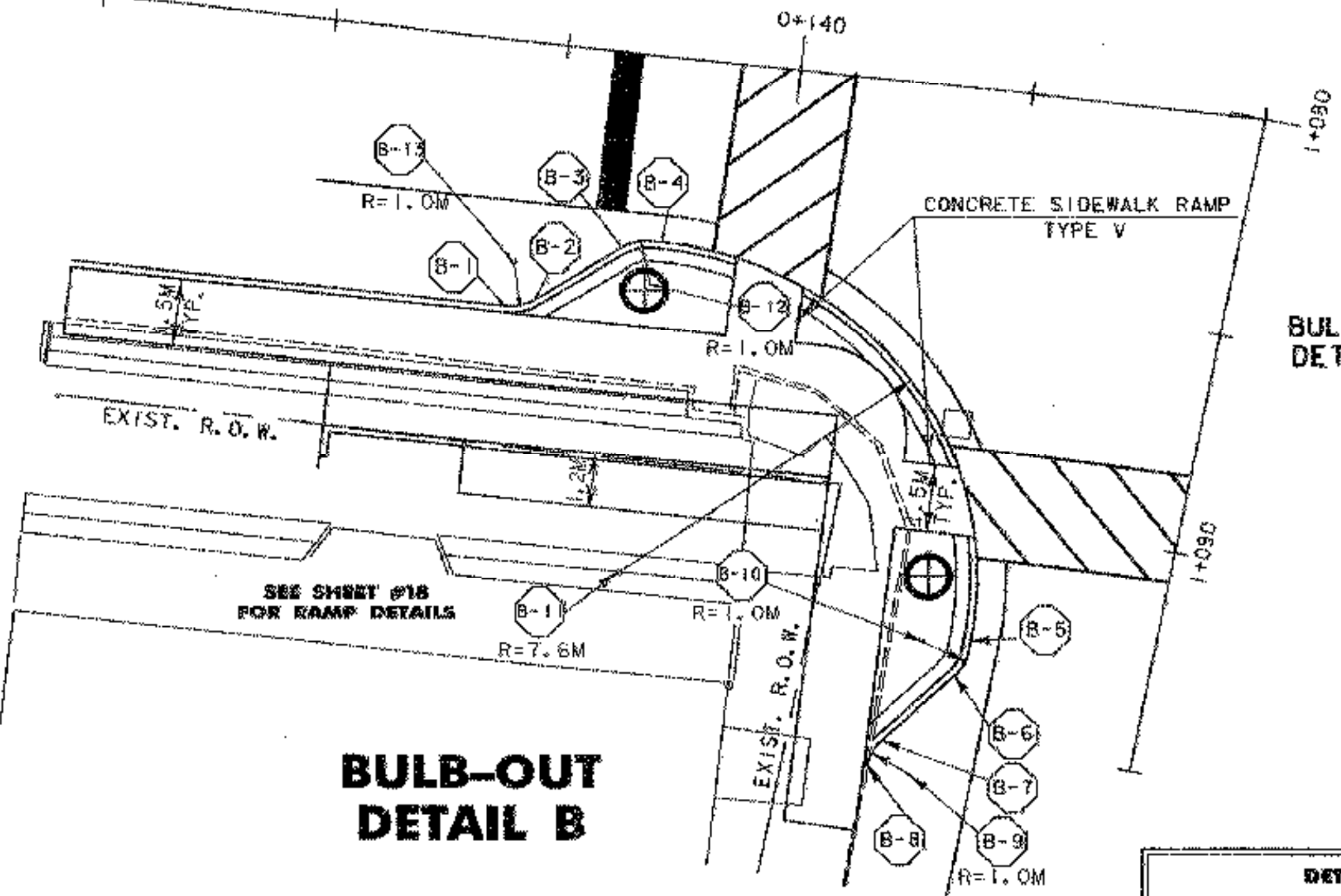
**BULB-OUT  
DETAIL A**



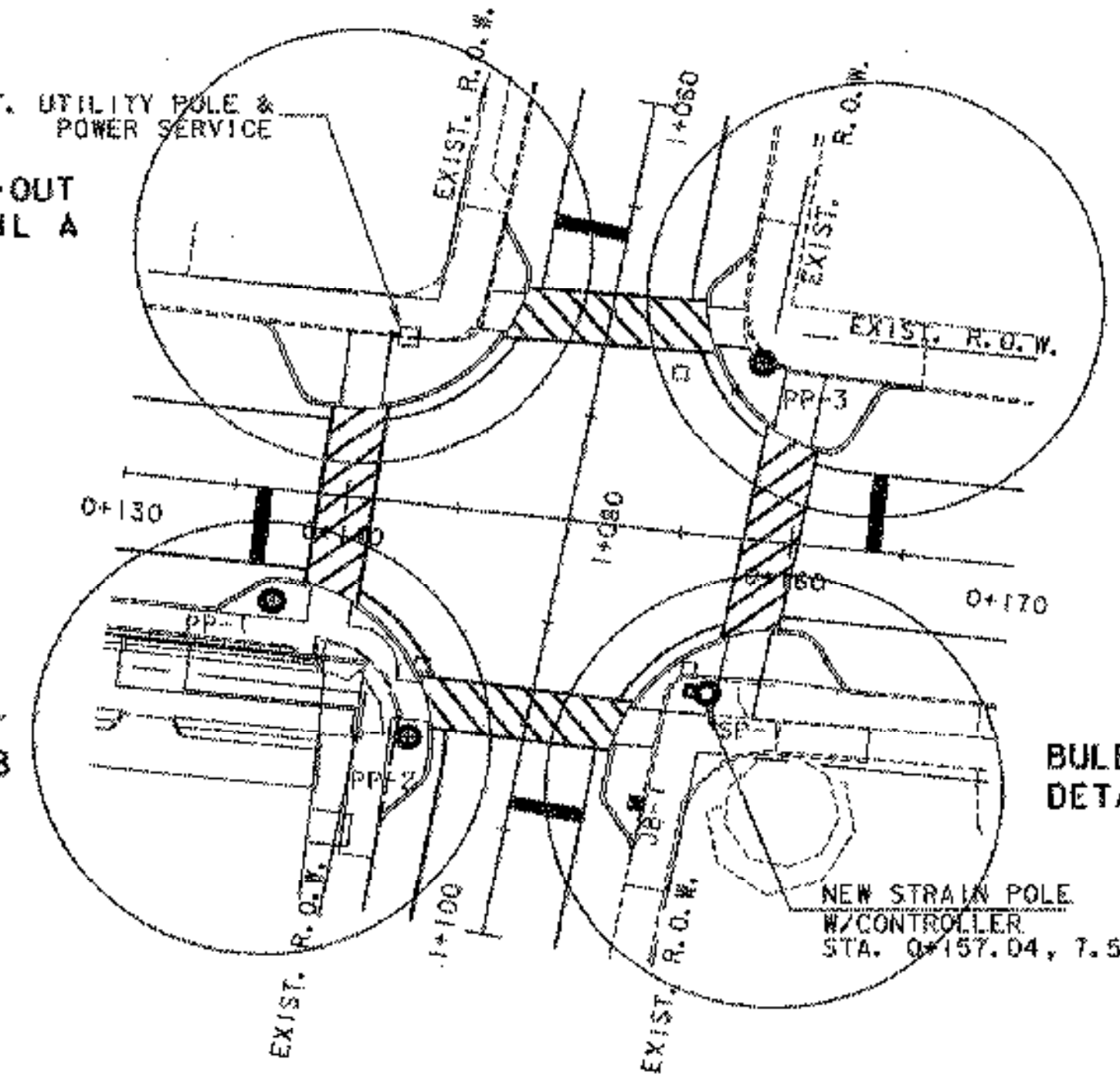
**BULB-OUT  
DETAIL D**



**BULB-OUT  
DETAIL B**



**BULB-OUT  
DETAIL B**



**BULB-OUT  
DETAIL C**



DETAIL B - CURB LOCATION		
POINT	STATION	OFFSET
B-1	U.S. ROUTE 7 0+134.32	6.00 M RT
B-2	U.S. ROUTE 7 0+134.94	5.76 M RT
B-3	U.S. ROUTE 7 0+136.64	4.42 M RT
B-4	U.S. ROUTE 7 0+137.27	4.20 M LT
B-5	VT ROUTE 140 1+092.99	3.90 M RT
B-6	VT ROUTE 140 1+093.61	4.07 M RT
B-7	VT ROUTE 140 1+095.37	5.35 M RT
B-8	VT ROUTE 140 1+095.97	5.55 M RT
B-9 *	VT ROUTE 140 1+096.14	4.57 M RT
B-10 *	VT ROUTE 140 1+093.02	4.89 M RT
B-11 *	VT ROUTE 140 1+092.74	11.57 M RT
B-12 *	U.S. ROUTE 7 0+137.34	5.17 M RT
B-13 *	U.S. ROUTE 7 0+134.32	4.96 M RT

\* LOCATION OF RADIUS CENTER POINT.

DETAIL C - CURB LOCATION		
POINT	STATION	OFFSET
C-1	VT ROUTE 140 1+104.93	5.79 M LT
C-2	VT ROUTE 140 1+105.64	5.51 M LT
C-3	VT ROUTE 140 1+106.99	4.18 M LT
C-4	VT ROUTE 140 1+107.69	3.90 M LT
C-5	U.S. ROUTE 7 0+160.99	4.21 M RT
C-6	U.S. ROUTE 7 0+161.67	4.60 M RT
C-7	U.S. ROUTE 7 0+162.97	6.30 M RT
C-8	U.S. ROUTE 7 0+163.76	6.69 M RT
C-9 *	U.S. ROUTE 7 0+163.87	5.60 M RT
C-10 *	U.S. ROUTE 7 0+160.85	5.19 M RT
C-11 *	VT ROUTE 140 1+092.32	4.89 M LT
C-12 *	VT ROUTE 140 1+094.98	4.75 M LT
C-13 *	VT ROUTE 140 1+091.02	11.53 M LT

\* LOCATION OF RADIUS CENTER POINT.

EXISTING	NEW	LEGEND
		UTILITY POLE
		LUMINAIRE
		LIGHT OR WOOD POLE
		STRAIN POLE/CANTILEVER
		CONTROLLER CABINET
		PULLBOX/JUNCTION BOX
		SIGNAL HEAD
		CONDUIT
		VEHICLE LOOPS
		PEDESTAL POST



PROJECT NAME: WALLINGFORD  
 PROJECT NUMBER: NHG SGNL(26)/STP ADAS(2)  
 FILE NAME: zc294frm.dgn  
 PROJECT LEADER: GAS  
 DESIGNED BY: GAS  
 BULB-OUT DETAILS

PLOT DATE: 01/28/02  
 DRAWN BY: MBL  
 CHECKED BY: GAS  
 SHEET 17 OF 25

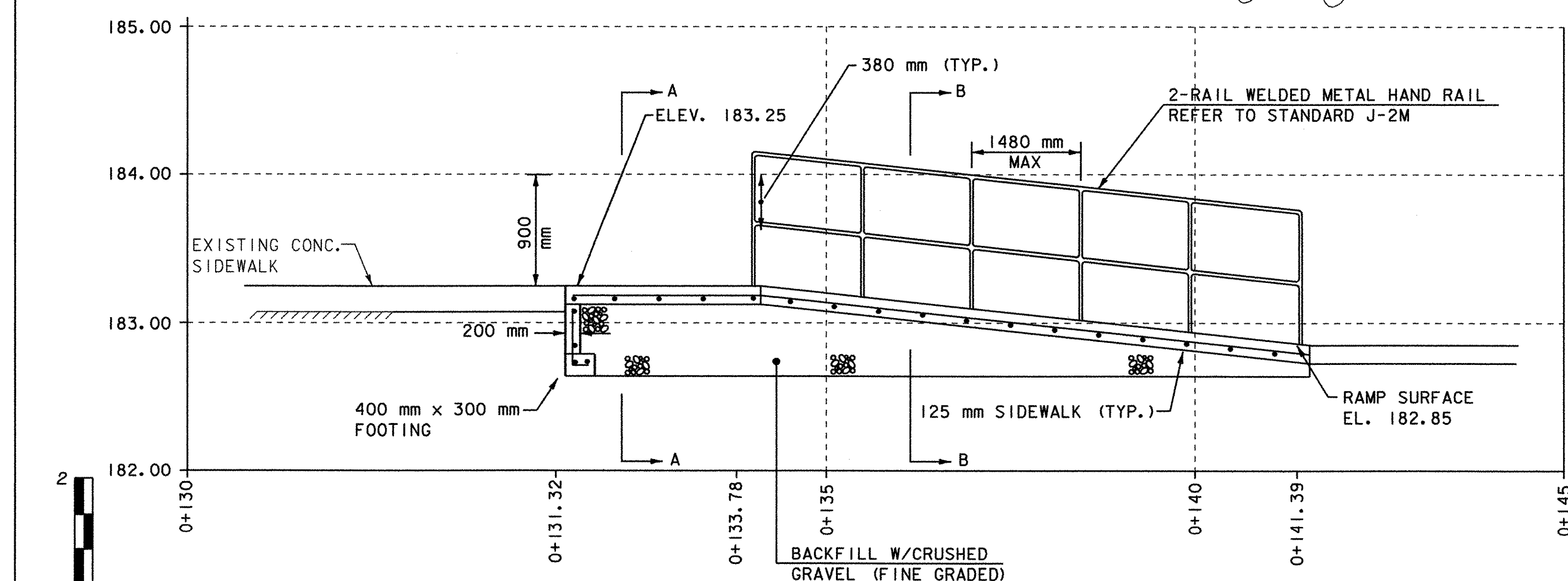
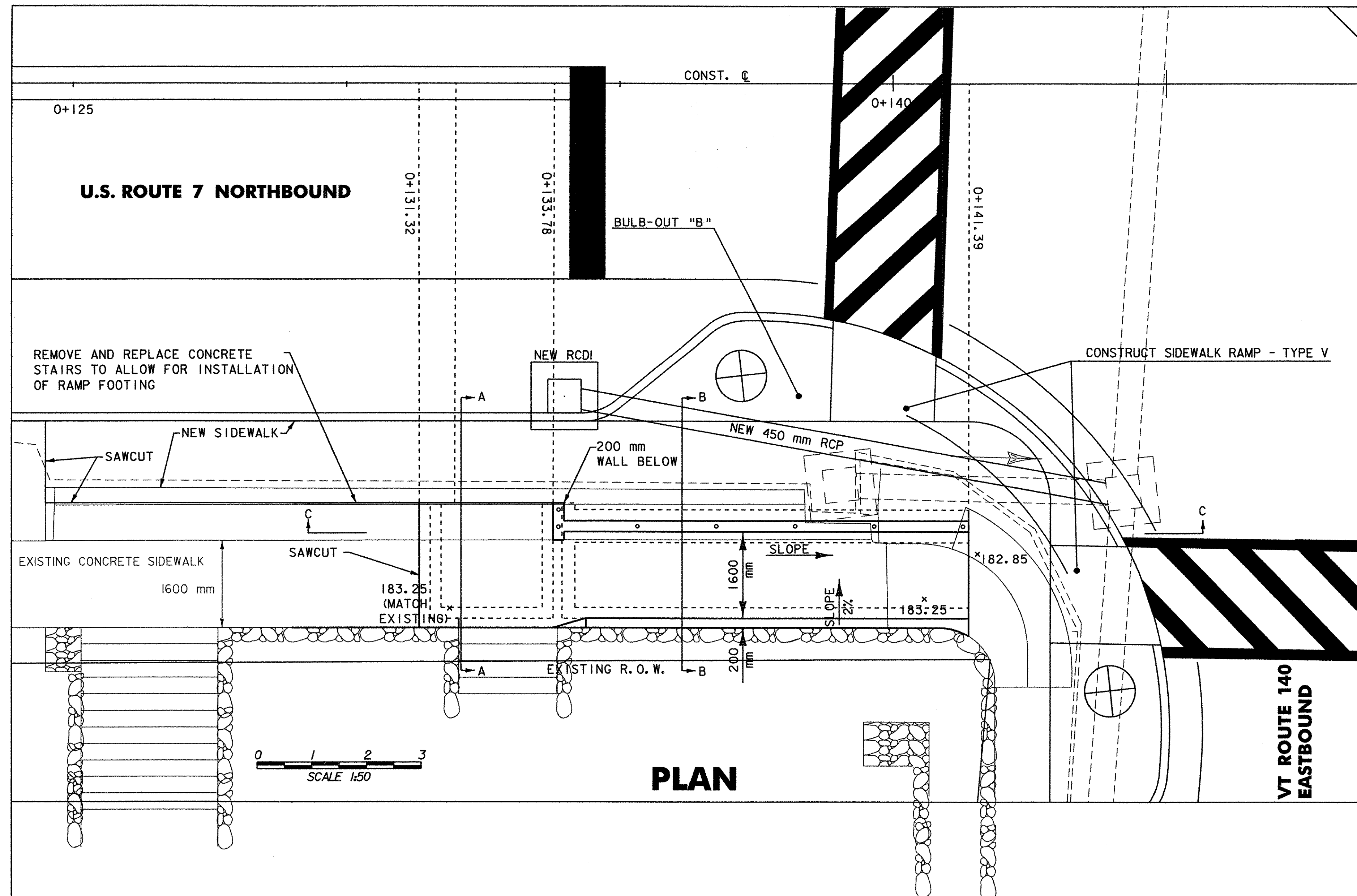
NOTE:  
 ALL DIMENSIONS IN MILLIMETERS  
 EXCEPT WHERE OTHERWISE INDICATED



SHEET 17 OF 25

### NOTES:

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO VTTRANS STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, AND ITS LATEST REVISIONS.
2. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE (CRSI)".
3. MINIMUM COVER FOR REINFORCING STEEL SHALL BE 50 mm ALONG BACK FACES OF WALLS AGAINST EARTH, AND 75 mm EVERYWHERE ELSE, UNLESS OTHERWISE NOTED ON THE PLANS.
4. REINFORCING PLACEMENT TOLERANCES SHALL BE:  
SPACING  $\pm$  25 mm  
CLEARANCE  $\pm$  8 mm
5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 mm BY 25 mm.
6. THE FOLLOWING TABLE OF ALLOWABLE STRESSES AND WEIGHTS APPLY TO THESE PLANS FOR DESIGN PURPOSES:  
CONCRETE:  $f'c = 25$  MPa  
REINFORCING STEEL:  $fy = 400$  MPa  
SOIL: UNIT WEIGHT 2200 Kg/m
7. WATER REPELLENT (ITEM 514.10) SHALL BE APPLIED TO ALL EXPOSED CONCRETE.
8. TURF ESTABLISHMENT SHALL BE CONSIDERED SUBSIDIARY TO ALL OTHER ITEMS IN THE CONTRACT. SEE GENERAL SPECIAL PROVISIONS.
9. ALL CONCRETE SHALL BE "CONCRETE, CLASS B".
10. THE REINFORCING STEEL SCHEDULE SHALL BE COMPLETED BY THE REINFORCING STEEL FABRICATOR. REINFORCING STEEL QUANTITIES SHOWN ON THE QUANTITY SHEET ARE ESTIMATED FOR BID PURPOSES. THE CONTRACTOR SHALL BE PAID FOR THE REINFORCING STEEL BASED ON THE SUPPLIER'S ACTUAL INVOICES FOR ALL REINFORCING STEEL USED ON THE PROJECT AS VERIFIED BY THE RESIDENT ENGINEER. ALL BAR REINFORCEMENT FOR CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATIONS FOR "DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M-31 (ASTM A-615-S1), GRADE 60.
11. THE METAL HAND RAILING SHALL BE FABRICATED FROM 38 mm DIAMETER PIPE AND SHALL BE PAINTED BLACK AFTER ERECTION. THE RAILING SHALL CONFORM TO ASTM-A53.
12. UPON APPROVAL OF THE ENGINEER, OTHER TYPES OF HAND RAILING WITH EQUIVALENT GEOMETRY AND SECTION PROPERTIES MAY BE USED.
13. SEE STANDARD J-2M FOR OTHER HAND RAILING DETAILS AND NOTES.



### SECTION C-C

- NOTES:
1. ALL DIMENSIONS IN METERS EXCEPT WHERE OTHERWISE INDICATED
  2. FOR SECTION A-A & SECTION B-B DETAILS SEE SHEET 19.

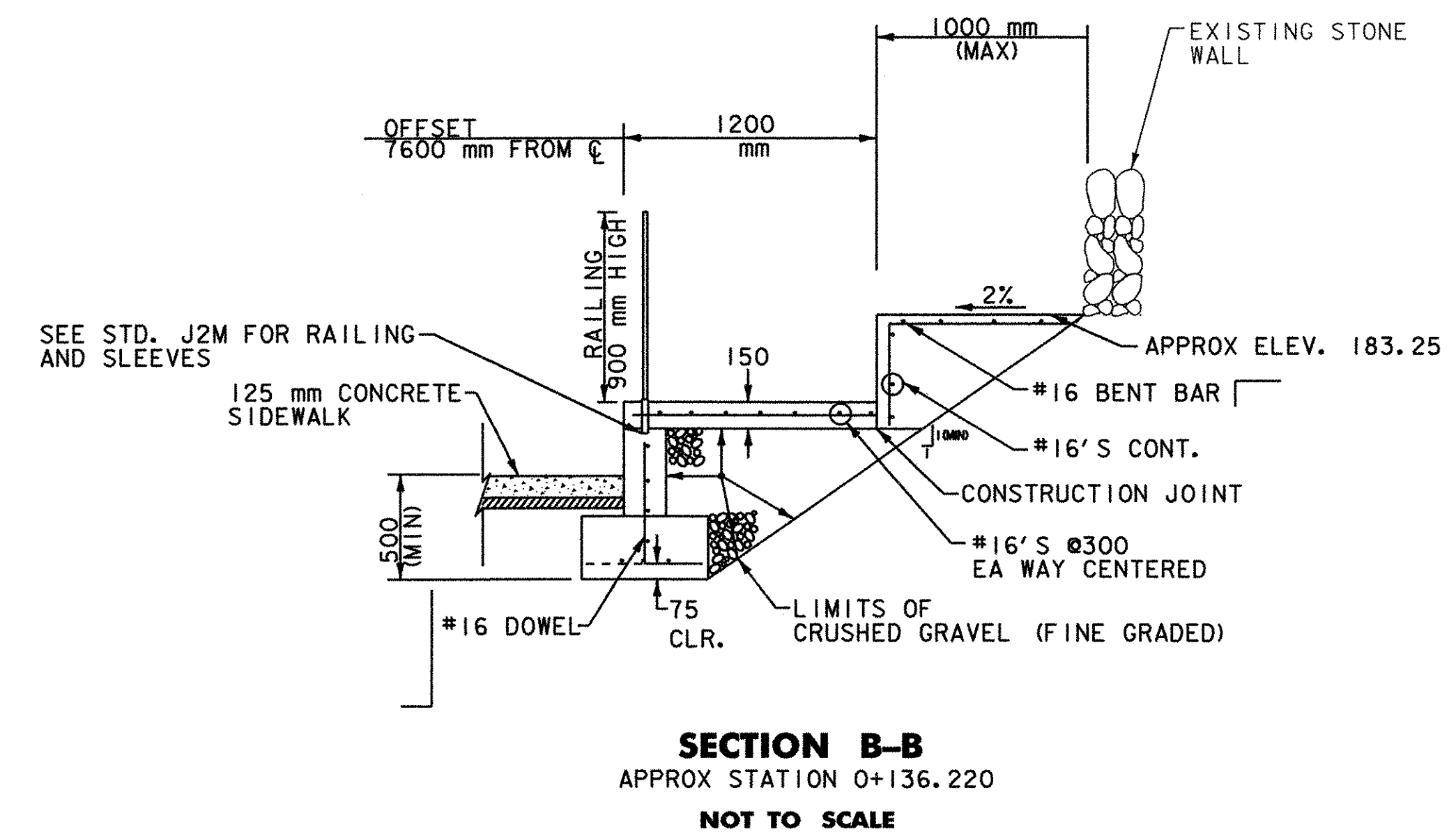
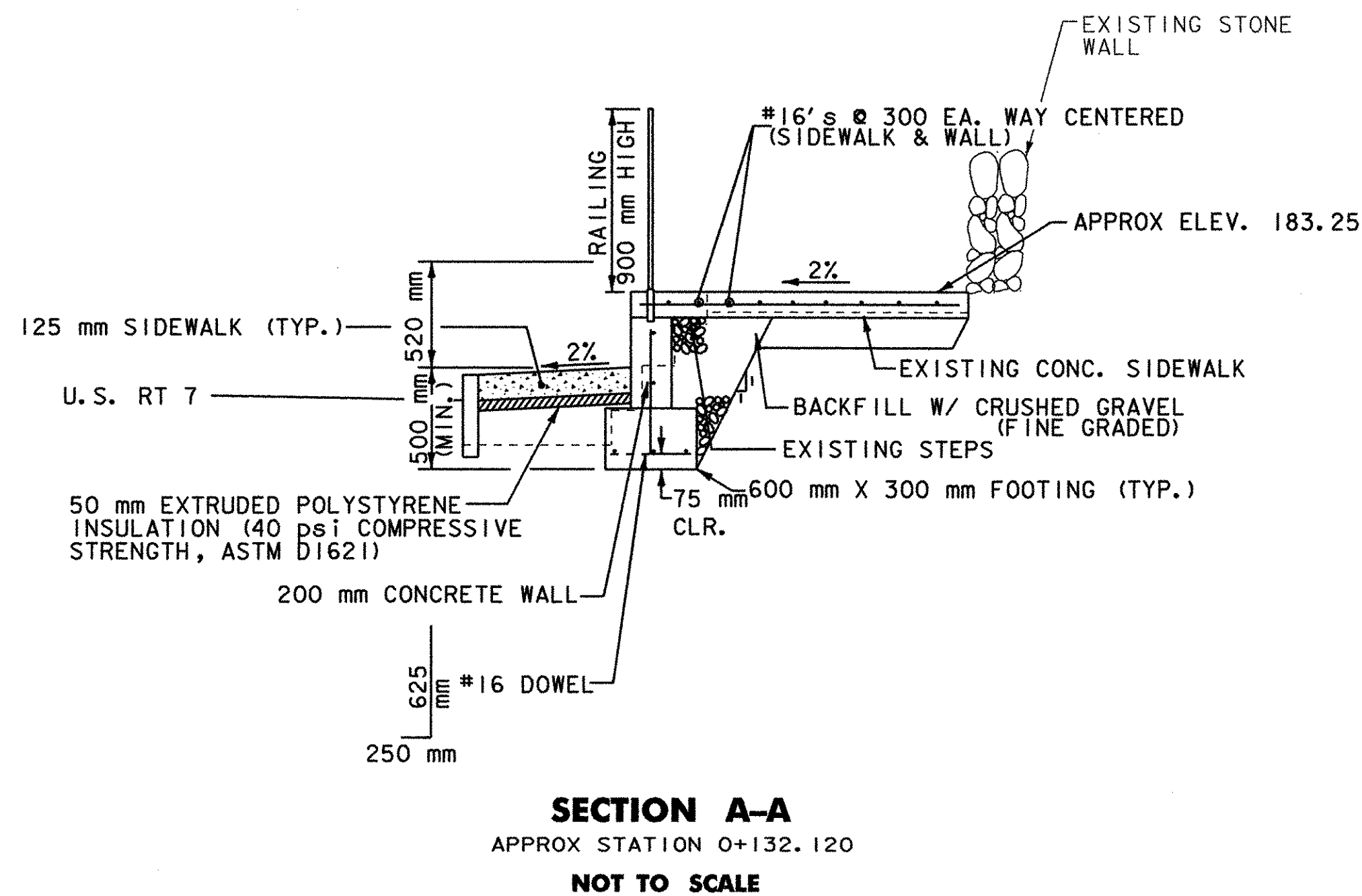
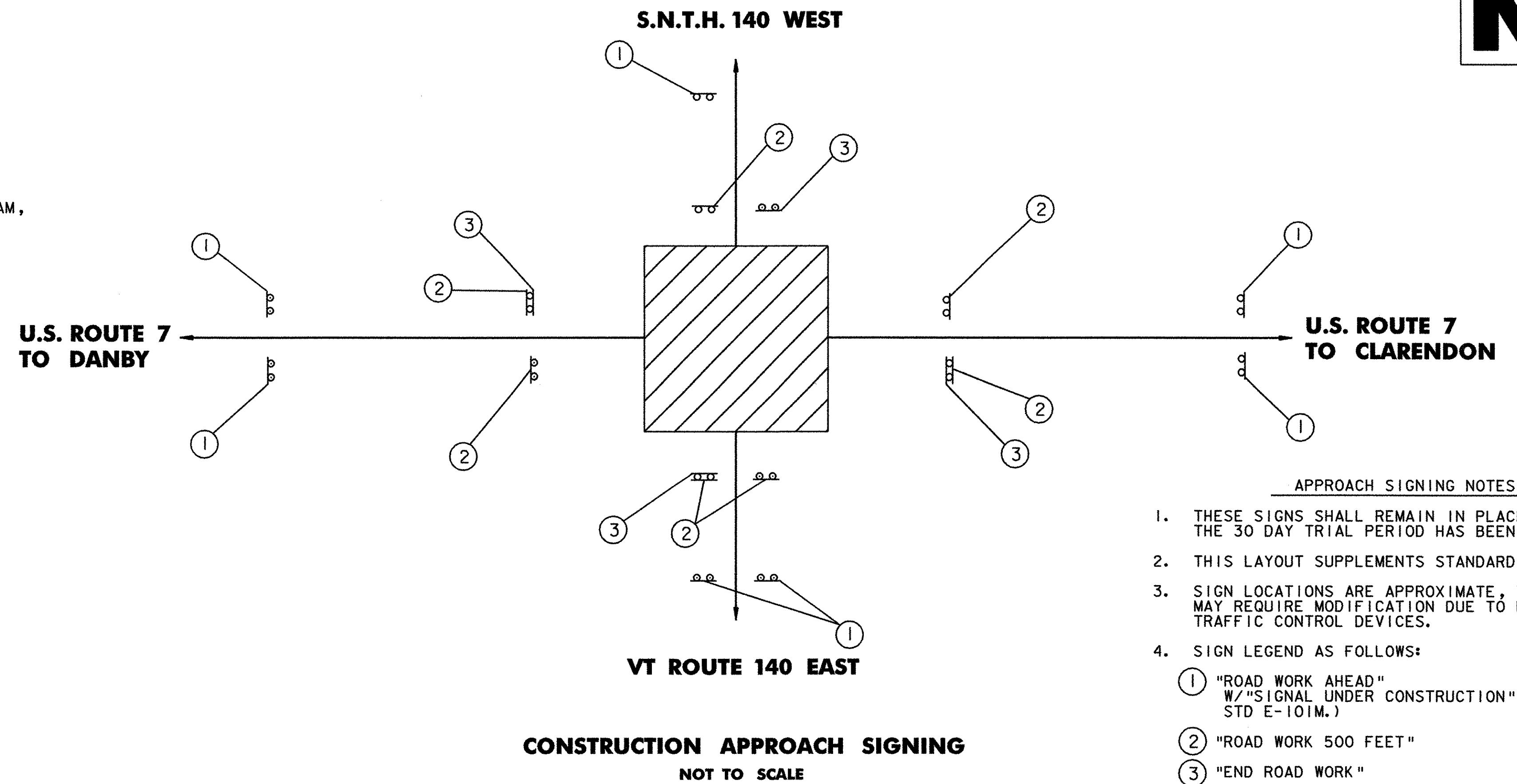


PROJECT NAME: WALLINGFORD  
 PROJECT NUMBER: NHG SGNL(26)S/STP ADAS(2)  
 FILE NAME: zb294r-amp.p1f  
 PROJECT LEADER: GAS  
 DESIGNED BY: RJG  
 SIDEWALK RAMP BULB-OUT "B" DETA

PLOT DATE: 20-JUL-2004  
 DRAWN BY: MBL/DTD  
 CHECKED BY: GAS / RJG  
 SHEET 18 OF 22

**TRAFFIC CONTROL NOTES**

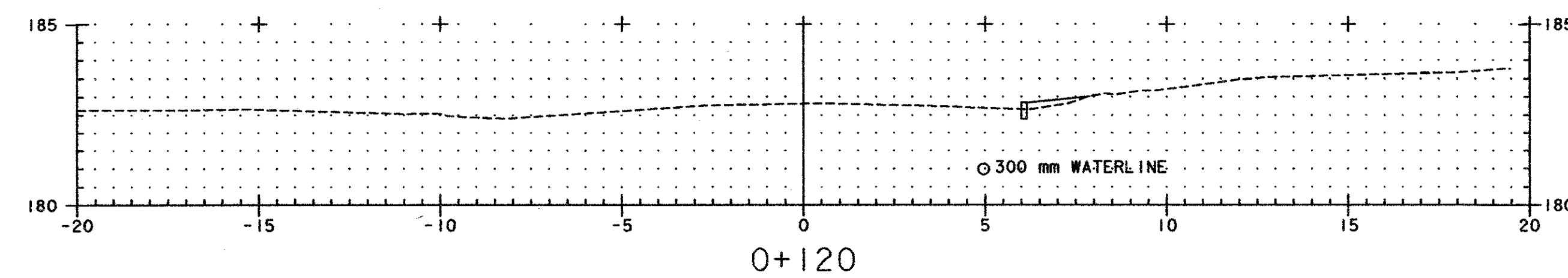
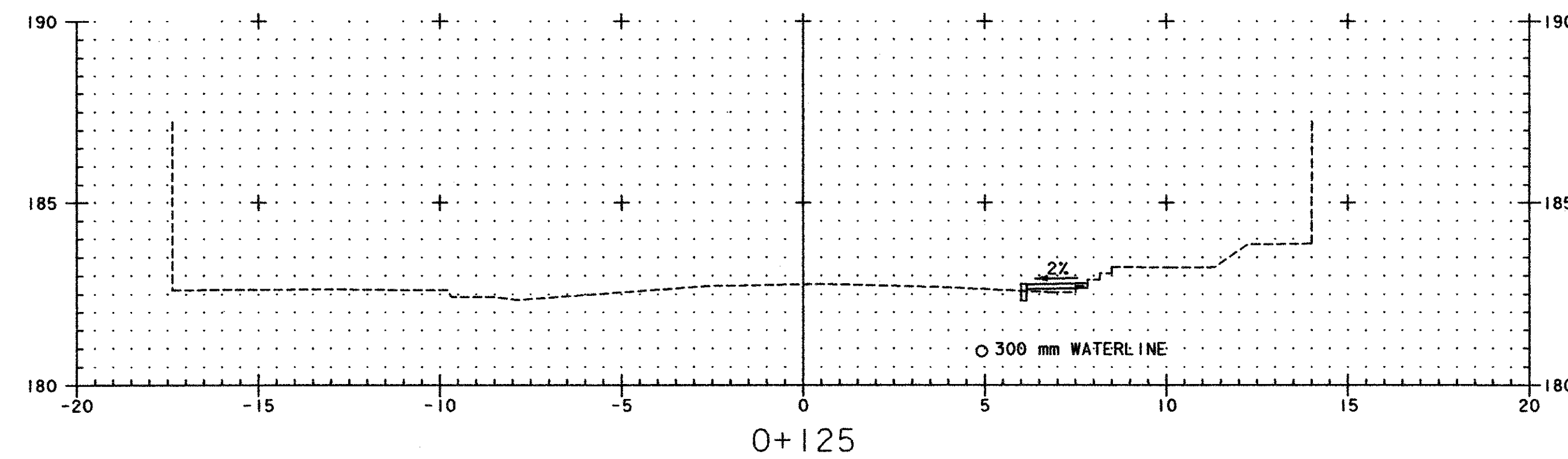
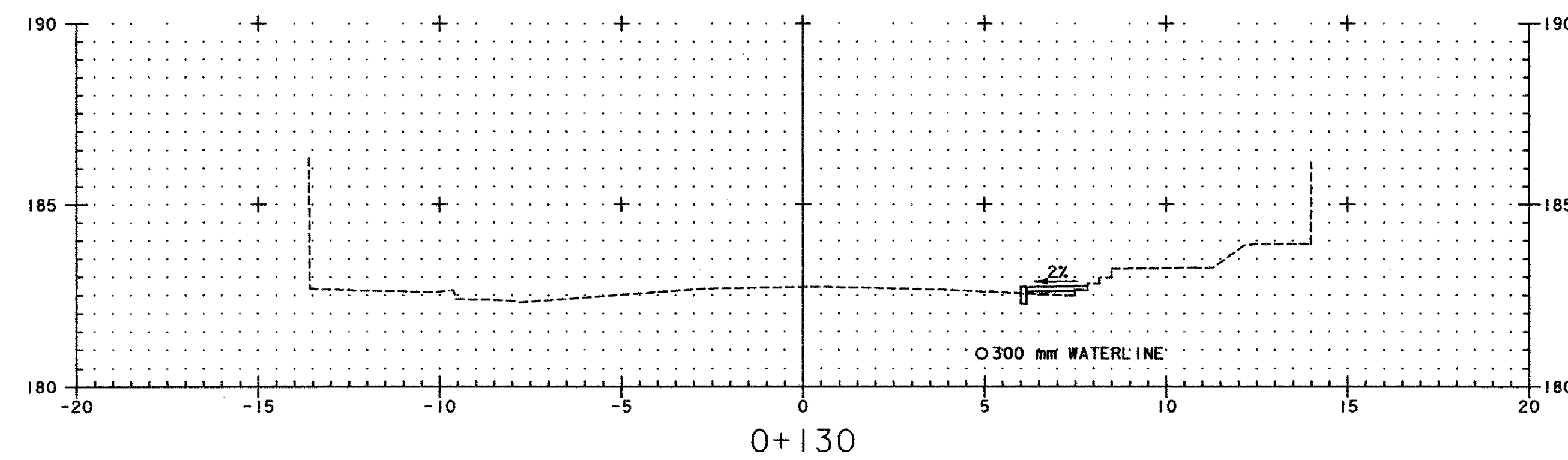
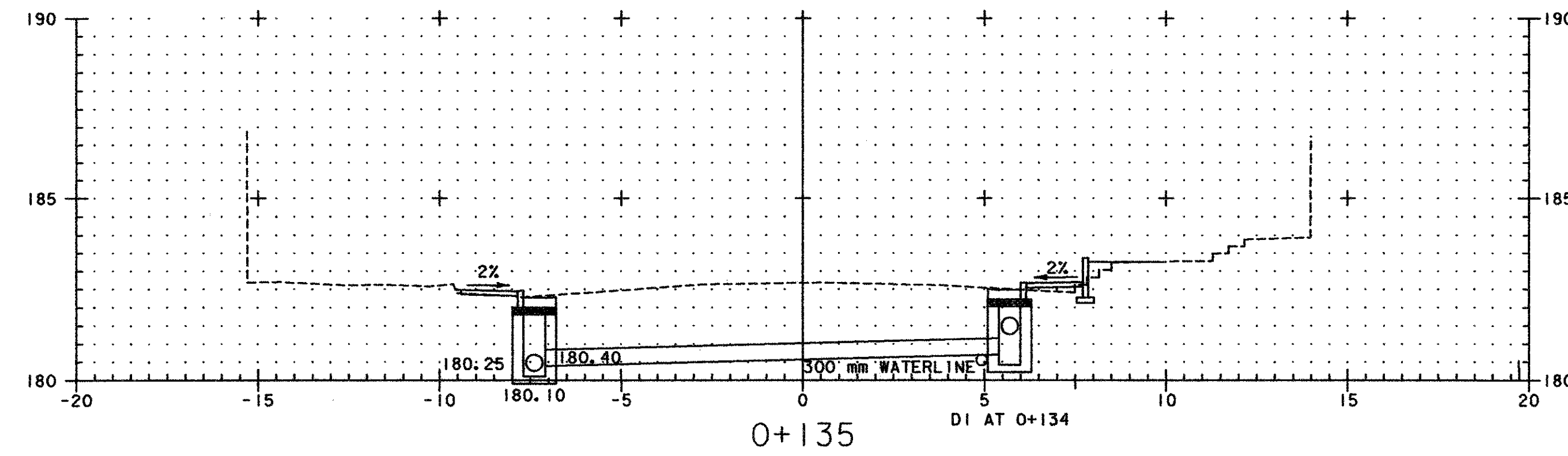
1. DURING CONSTRUCTION A MINIMUM OF ONE-WAY THRU TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. TWO-WAY TRAFFIC SHALL BE MAINTAINED AT NIGHT, ON WEEKENDS AND HOLIDAYS. DURING PEAK TRAFFIC (7-8 AM, 4-6 PM) AND WHENEVER POSSIBLE DURING CONSTRUCTION, A UNIFORMED TRAFFIC CONTROL OFFICER SHALL DIRECT TRAFFIC, WHENEVER A LANE CLOSURE IS REQUIRED.
2. TRAFFIC CONTROL SIGNING AND CHANNELIZING DEVICES SHALL BE IN ACCORDANCE WITH THE APPROPRIATE STANDARD DRAWINGS (E-100M, E-101M, E-102M, E-106M, E-107M, E-107AM, E-110M, AND OTHERS AS REQUIRED).
3. CONSTRUCTION SEQUENCE  
A WORKING SIGNAL SYSTEM SHALL BE IN PLACE AT THE END OF EACH DAY. IF THE SIGNAL SYSTEM IS NOT WORKING AT THE END OF THE DAY, THEN THE CONTRACTOR SHALL PROVIDE UNIFORMED TRAFFIC OFFICERS TO CONTROL TRAFFIC UNTIL SUCH TIME THAT THE EXISTING OR NEW SIGNAL SYSTEM IS IN OPERATION.
4. APPROACH CONSTRUCTION SIGNING SHALL REMAIN IN PLACE DURING THE ENTIRE CONSTRUCTION PERIOD. OTHER SIGNING SHALL BE REMOVED OR COVERED WHEN NOT APPLICABLE.
5. VARIATIONS IN THE SIGNING PACKAGES MAY BE DICTATED BY UNIQUE GEOMETRY AND/OR TRAFFIC CONDITIONS.
6. THE CONTRACTOR SHALL NOT WORK WITHIN THE HIGHWAY ROW WITHOUT THE APPROPRIATE CONSTRUCTION SIGNING AND TRAFFIC CONTROL DEVICES IN PLACE.
7. TO FACILITATE THE FLOW OF TRAFFIC, THE RESIDENT ENGINEER SHALL HAVE AUTHORITY TO MODIFY THE CONTRACTOR'S ONGOING OPERATIONS OR PROPOSED METHODS OF CONSTRUCTION IN AND/OR NEAR THE INTERSECTION AS THE RESIDENT ENGINEER DEEMS NECESSARY FOR THE SAFETY, CONVENIENCE AND WELFARE OF THE TRAVELING PUBLIC. THE CONTRACTOR SHALL COMPLY WITH THE RESIDENT'S DIRECTIVES CONCERNING THIS MATTER.



NOTE:  
ALL DIMENSIONS IN METERS  
EXCEPT WHERE OTHERWISE INDICATED



PROJECT NAME: WALLINGFORD	PLOT DATE: 20-JUL-2004
PROJECT NUMBER: NHG SGNL(26)S/STP ADAS(2)	DRAWN BY: MBL/DTD
FILE NAME: zc294frm.dgn	CHECKED BY: GAS/RJG
PROJECT LEADER: GAS	SHEET 19 OF 25
DESIGNED BY: RJG	
<b>CON. APPR. SIGNS &amp; RAMP DETAILS</b>	

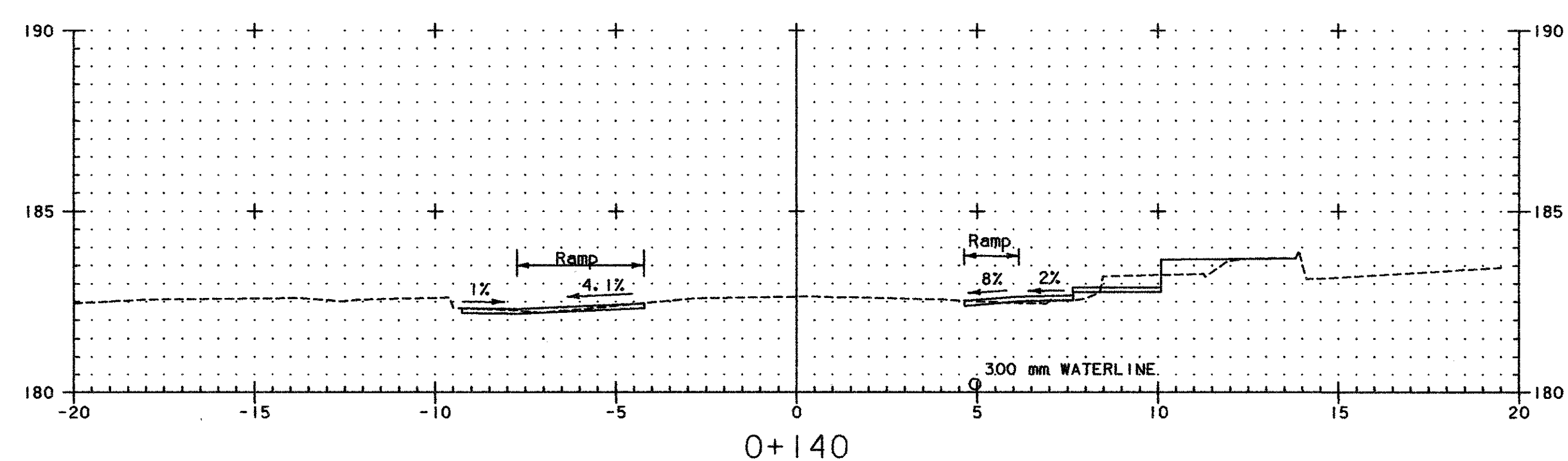
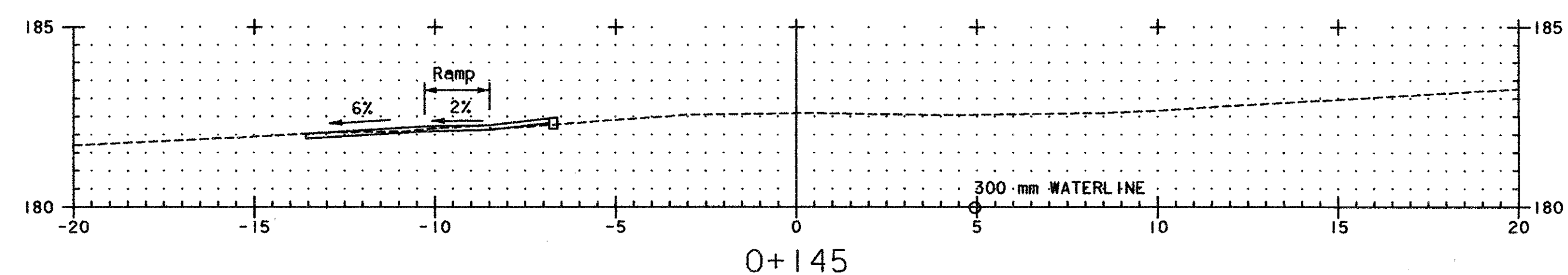
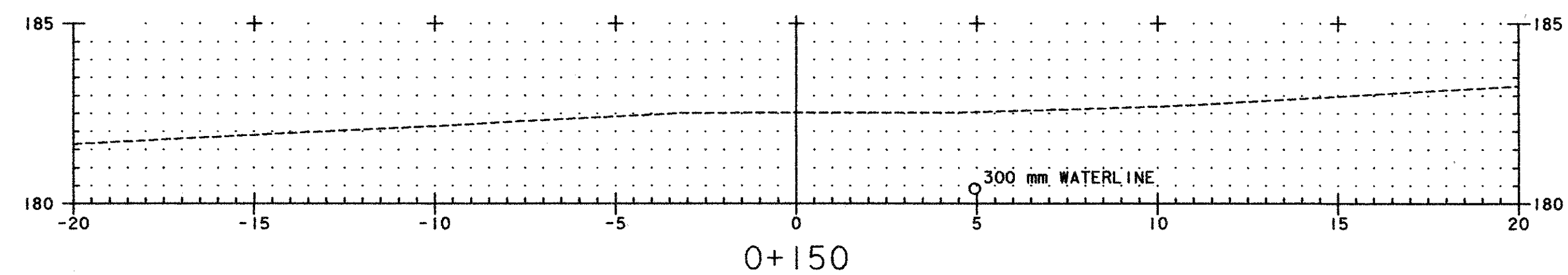
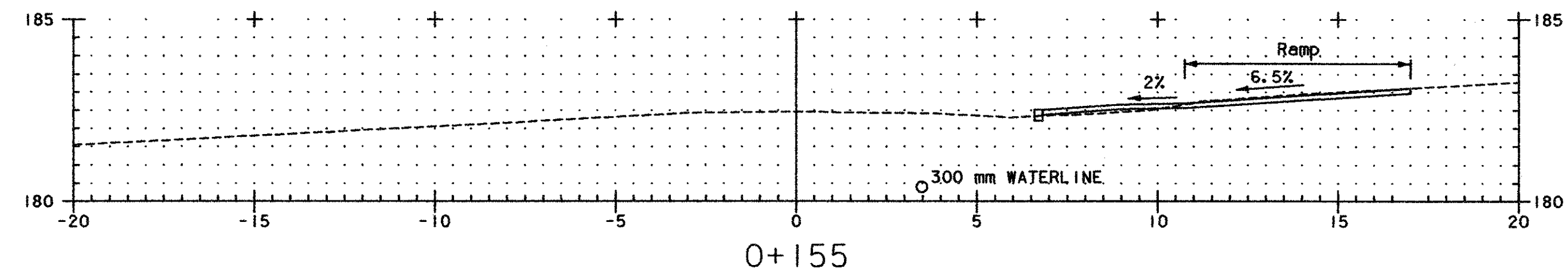


**US ROUTE 7 SECTIONS 0+120 - 0+135**



PROJECT NAME:	WALLINGFORD	PLOT DATE:	01/28/02
PROJECT NUMBER:	NHG SGNL(26)S/STP ADAS(2)	DRAWN BY:	MBL
FILE NAME:	zc294xsl.dgn	CHECKED BY:	GAS
PROJECT LEADER:	GAS	CROSS-SECTIONS	SHEET 20 OF 25

S:\100118\USROUTE7\SECTION1.DWG 01/28/02 10:55:38 AM



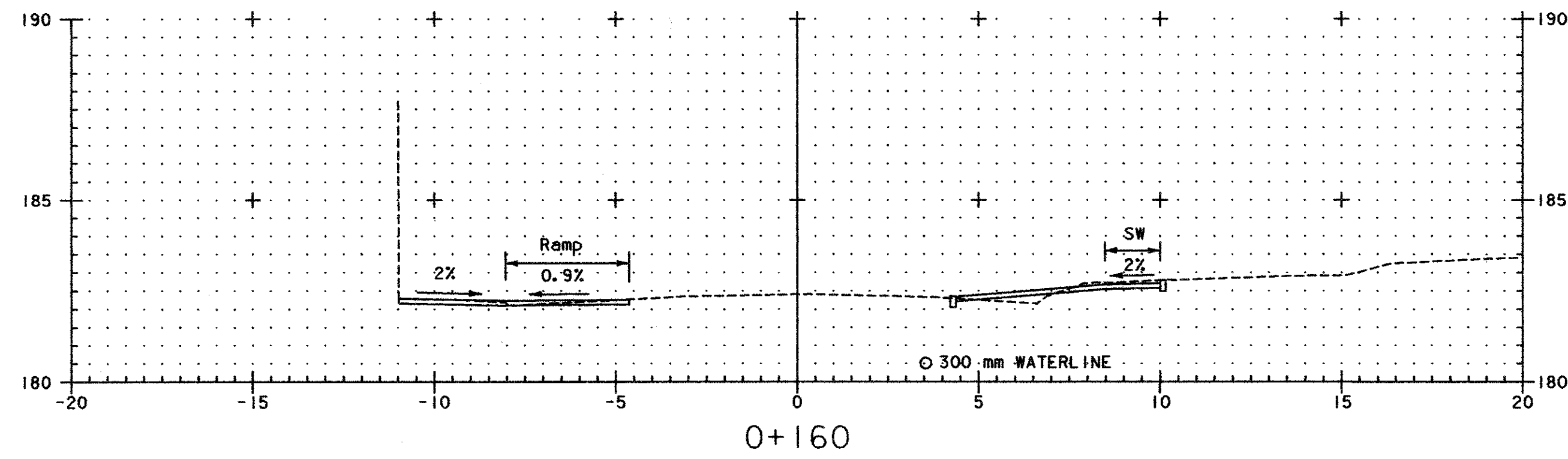
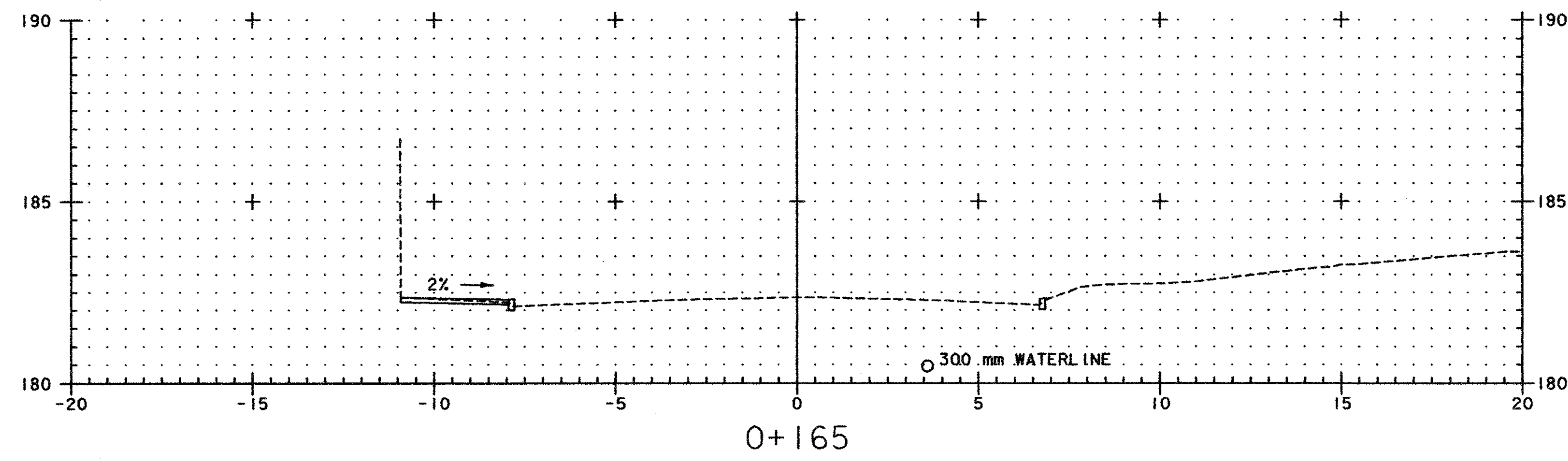
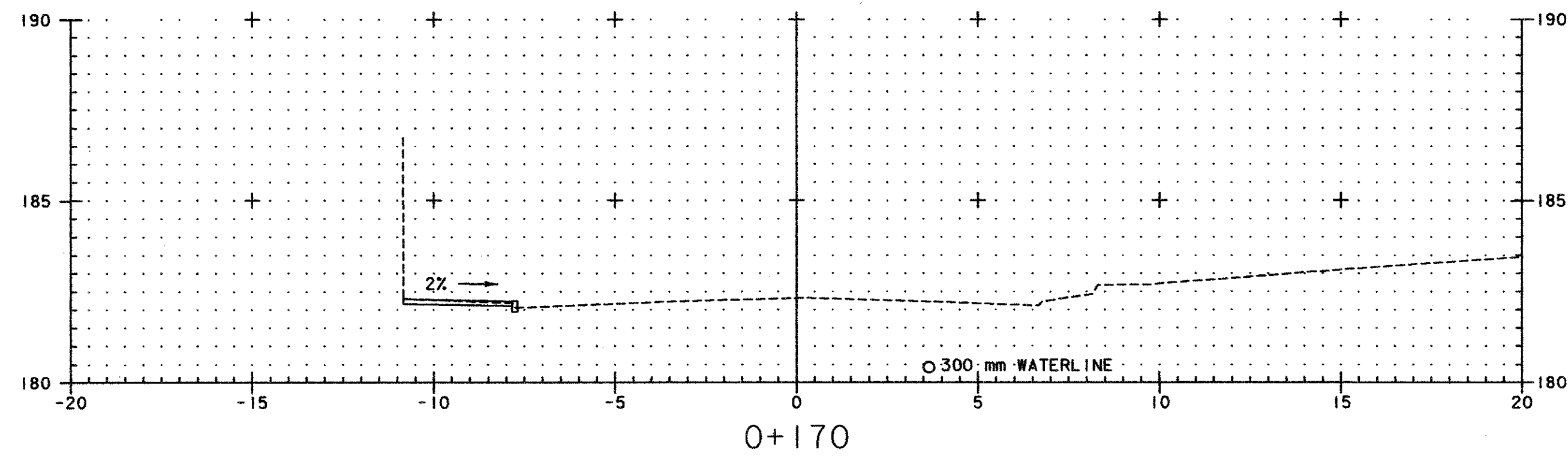
**US ROUTE 7 SECTIONS 0+140 - 0+155**

PROJECT NAME: WALLINGFORD  
 PROJECT NUMBER: NHG SGNL(26)S/STP ADAS(2)  
 FILE NAME: zc294xsl.dgn  
 PROJECT LEADER: GAS  
 DESIGNED BY: GAS  
**CROSS-SECTIONS**

PLOT DATE: 01/28/02  
 DRAWN BY: MBL  
 CHECKED BY: GAS  
 SHEET 21 OF 25



Scan - X02  
 ..\Virt1118\Crosssections.ctb 01/28/02 08:58:45 PM

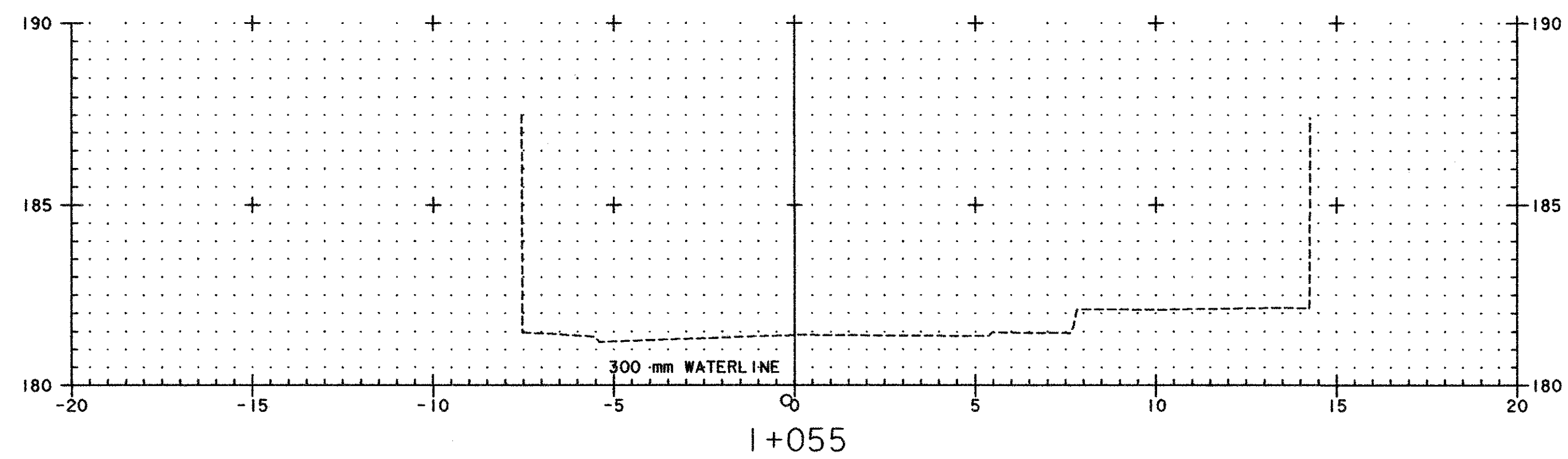
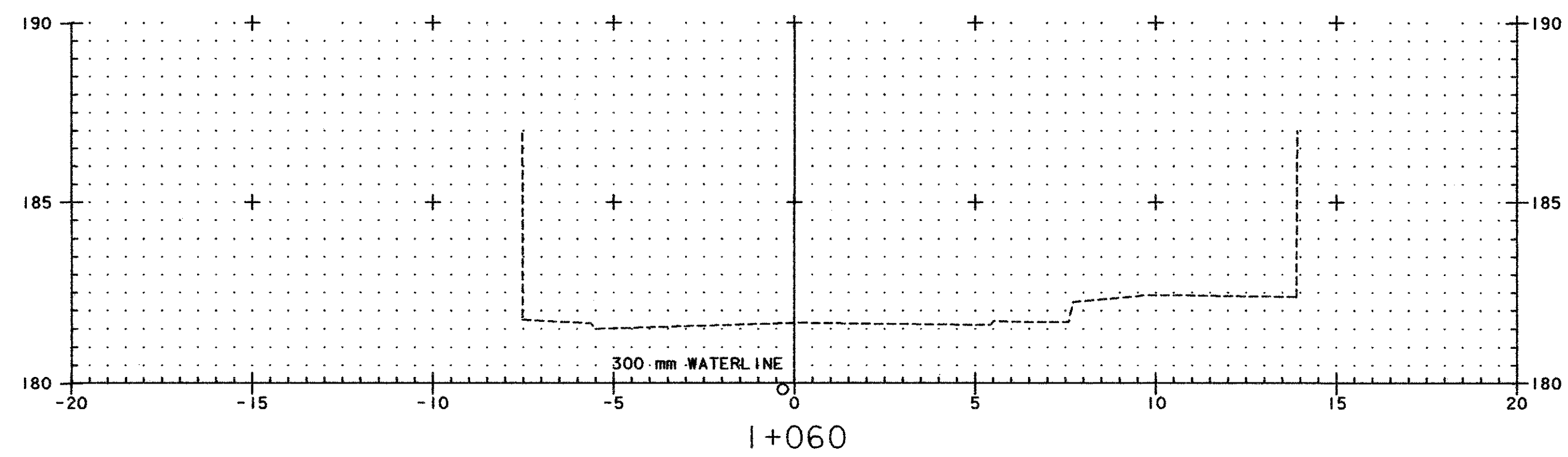
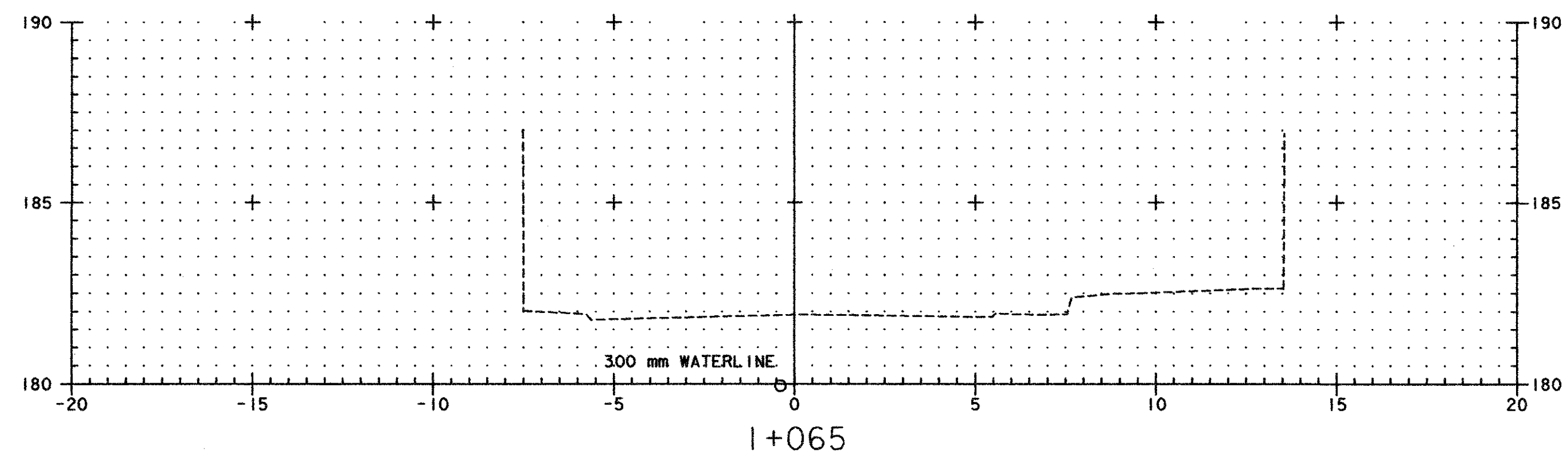
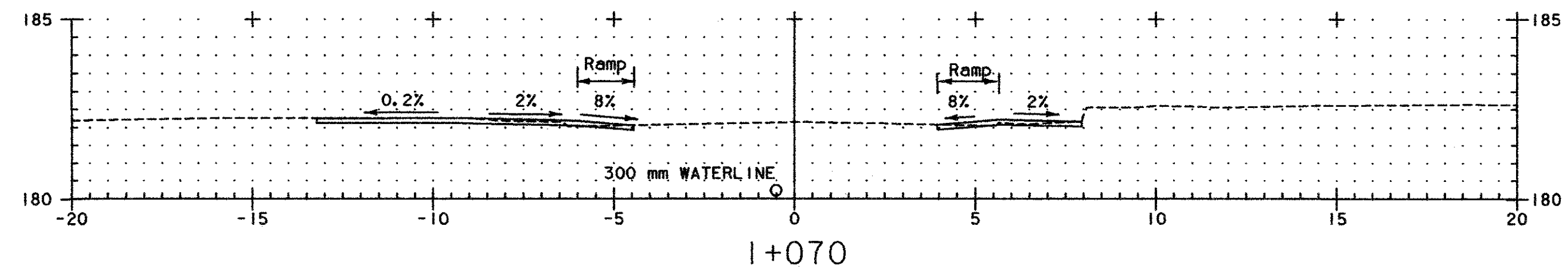


US ROUTE 7 SECTIONS 0+160 - 0+170



PROJECT NAME:	WALLINGFORD	PLOT DATE:	01/28/02
PROJECT NUMBER:	NHG SGNL(26)S/STP ADAS(2)	DRAWN BY:	MBL
FILE NAME:	zc294xsl.dgn	CHECKED BY:	GAS
PROJECT LEADER:	GAS		
DESIGNED BY:	GAS		
<b>CROSS-SECTIONS</b>		SHEET 22	OF 25

Scan - x03



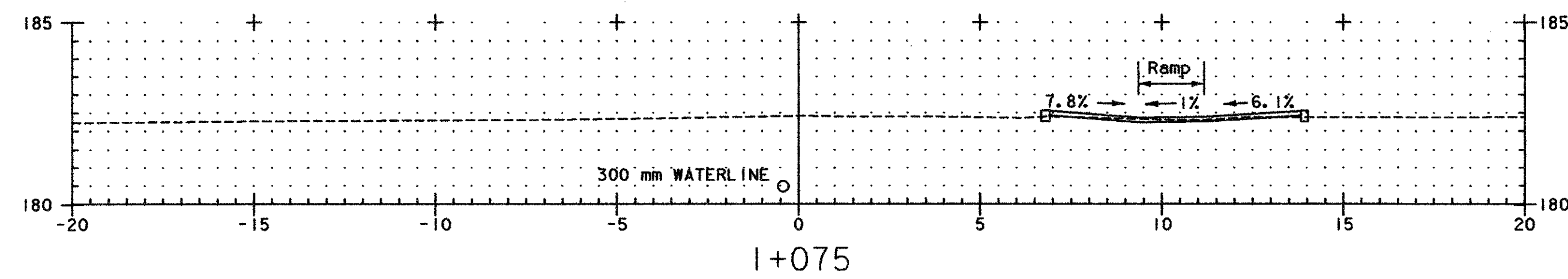
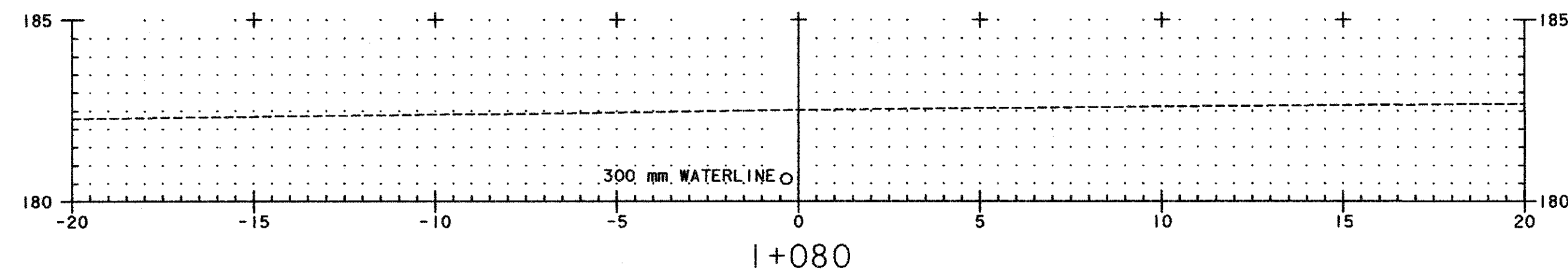
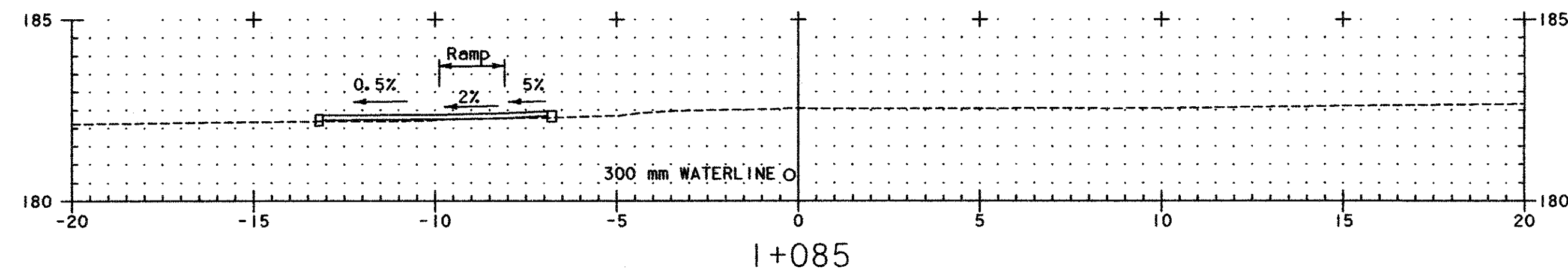
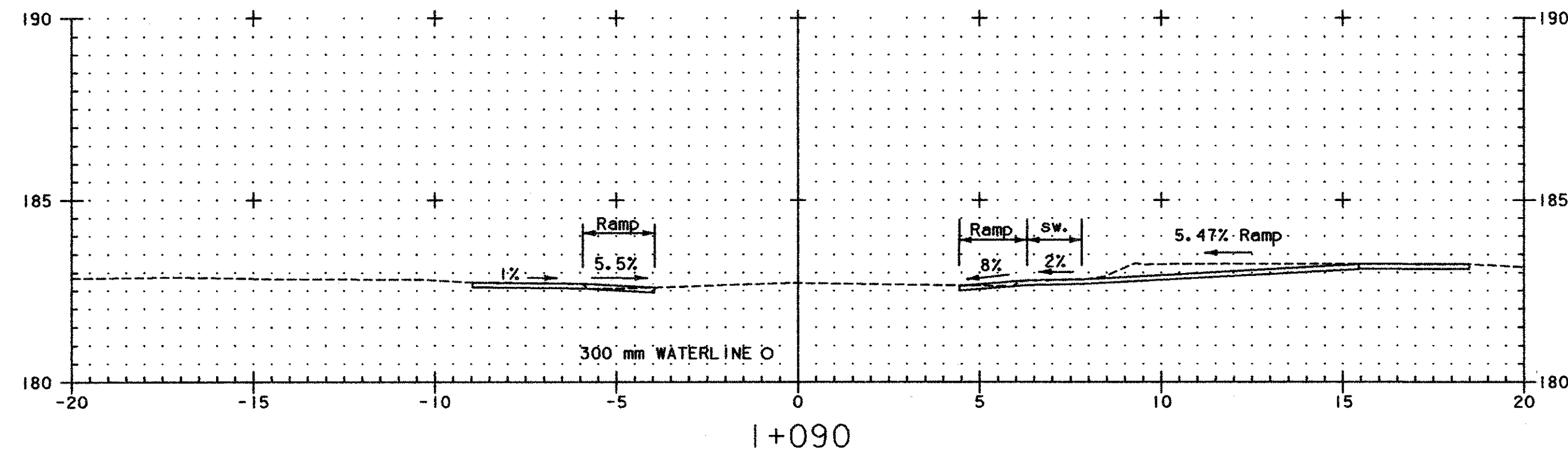
**S.N.T.H. 140 SECTIONS 1+055 - 1+070**



PROJECT NAME:	WALLINGFORD	PLOT DATE:	01/28/02
PROJECT NUMBER:	NHG SGNL(26)/S/STP ADAS(2)	DRAWN BY:	MBL
FILE NAME:	zc294xsl.dgn	CHECKED BY:	GAS
PROJECT LEADER:	GAS	CROSS-SECTIONS	SHEET 23 OF 25
DESIGNED BY:	GAS		

Scan - X04

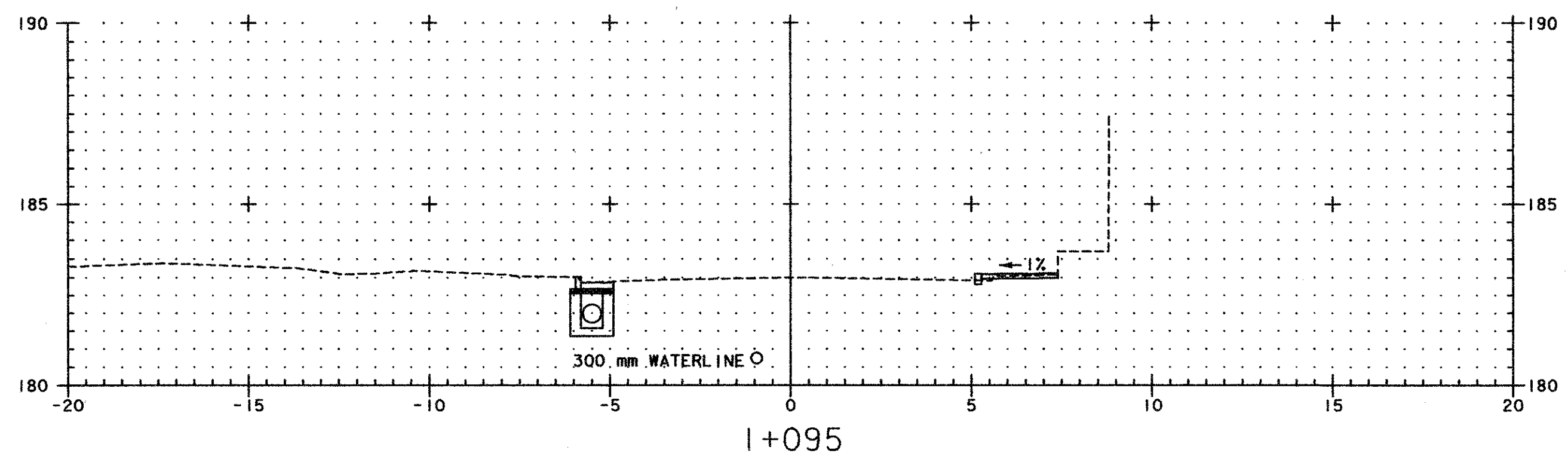
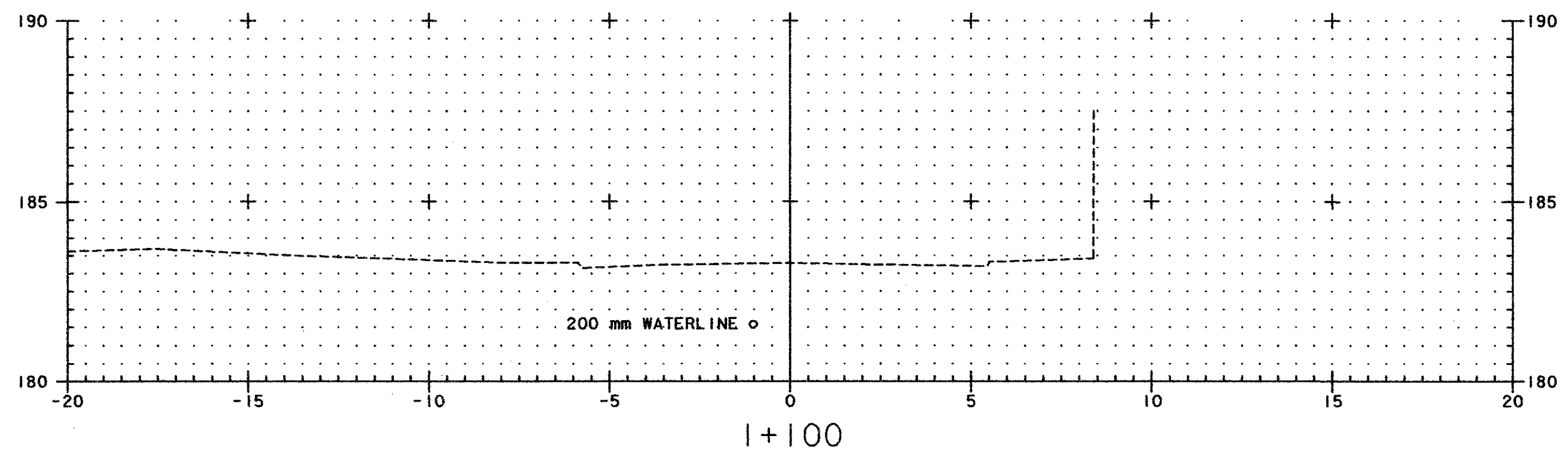
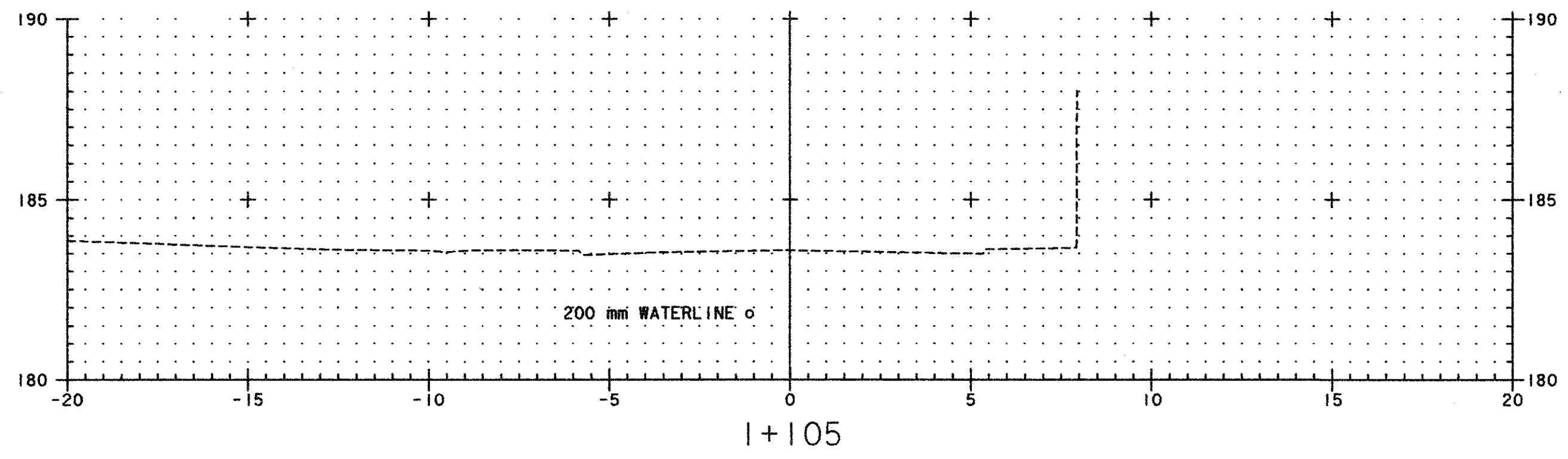
\\p01\p185\crosssections\p1 - 012802\28 28 41 PM



**S.N.T.H. 140 SECTIONS 1+075 - VT ROUTE 140 1+090**



PROJECT NAME:	WALLINGFORD	PLOT DATE:	01/28/02
PROJECT NUMBER:	NHG SGNL(26)S/STP ADAS(2)	DRAWN BY:	MBL
FILE NAME:	zc294xsl.dgn	CHECKED BY:	GAS
PROJECT LEADER:	GAS		
DESIGNED BY:	GAS		
<b>CROSS-SECTIONS</b>			SHEET 24 OF 25



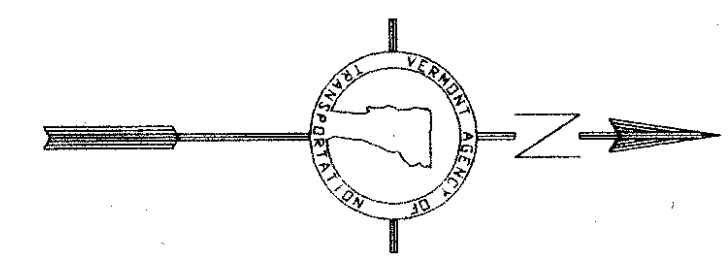
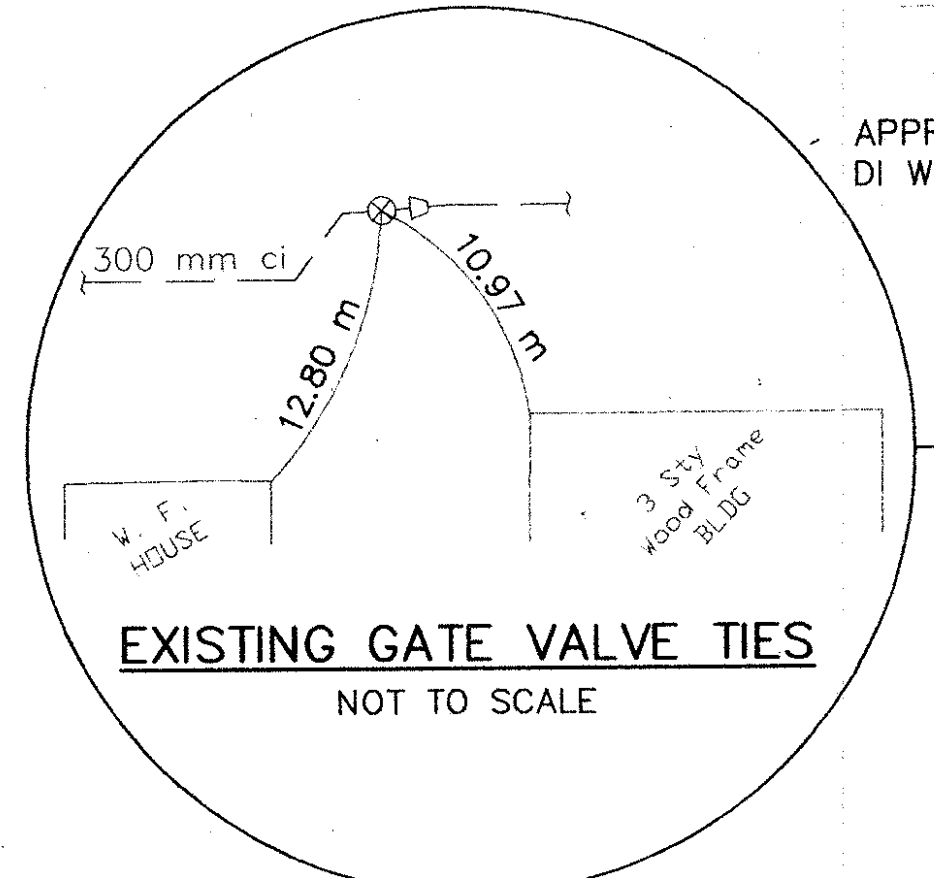
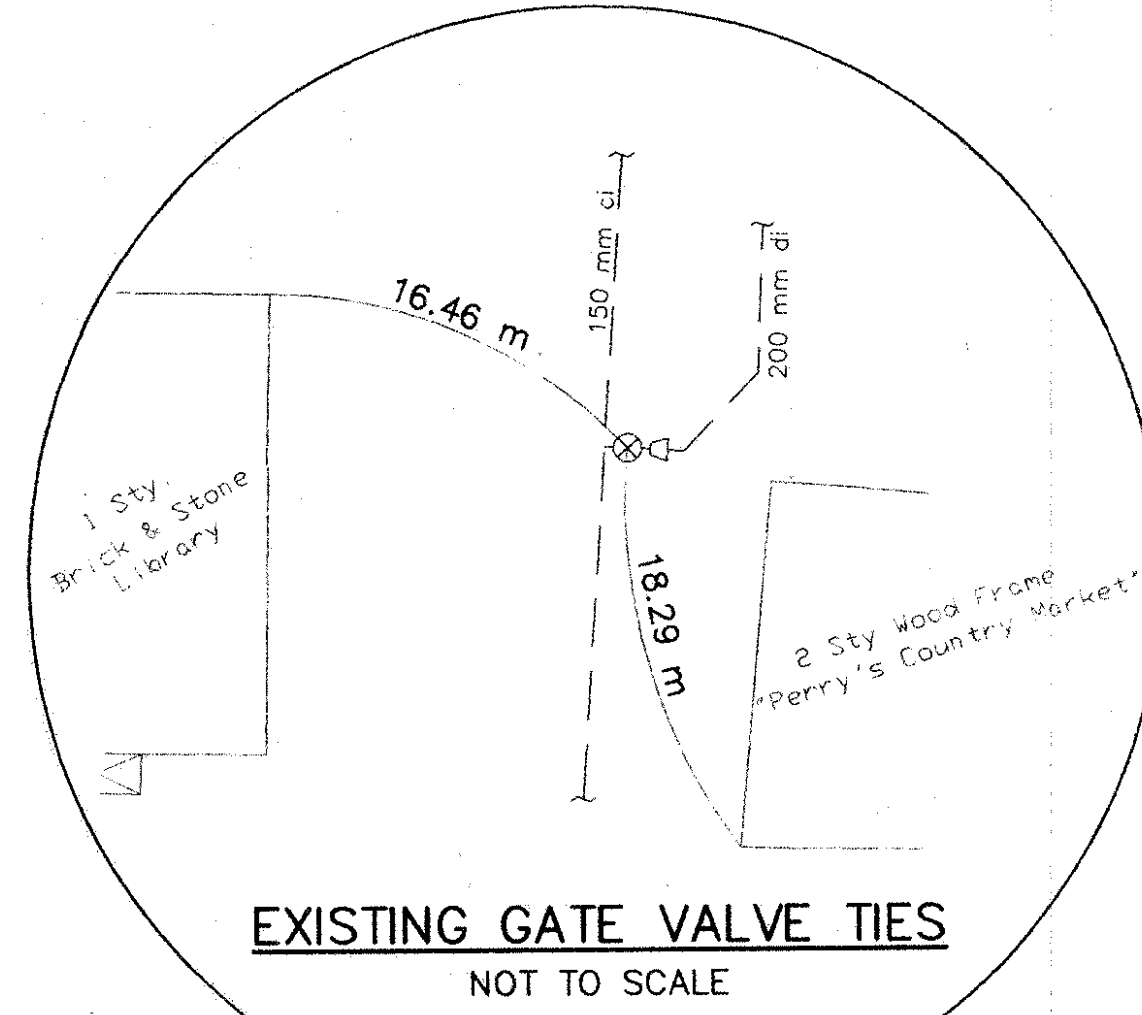
**VT ROUTE 140 SECTIONS 1+095 - 1+105**



	PROJECT NAME: WALLINGFORD	PLOT DATE: 01/28/02
	PROJECT NUMBER: NHG SGNL(26)S/STP ADAS(2)	DRAWN BY: MBL
	FILE NAME: zc294xsl.dgn	CHECKED BY: GAS
	PROJECT LEADER: GAS	SHEET 25 OF 25
DESIGNED BY: GAS	<b>CROSS-SECTIONS</b>	

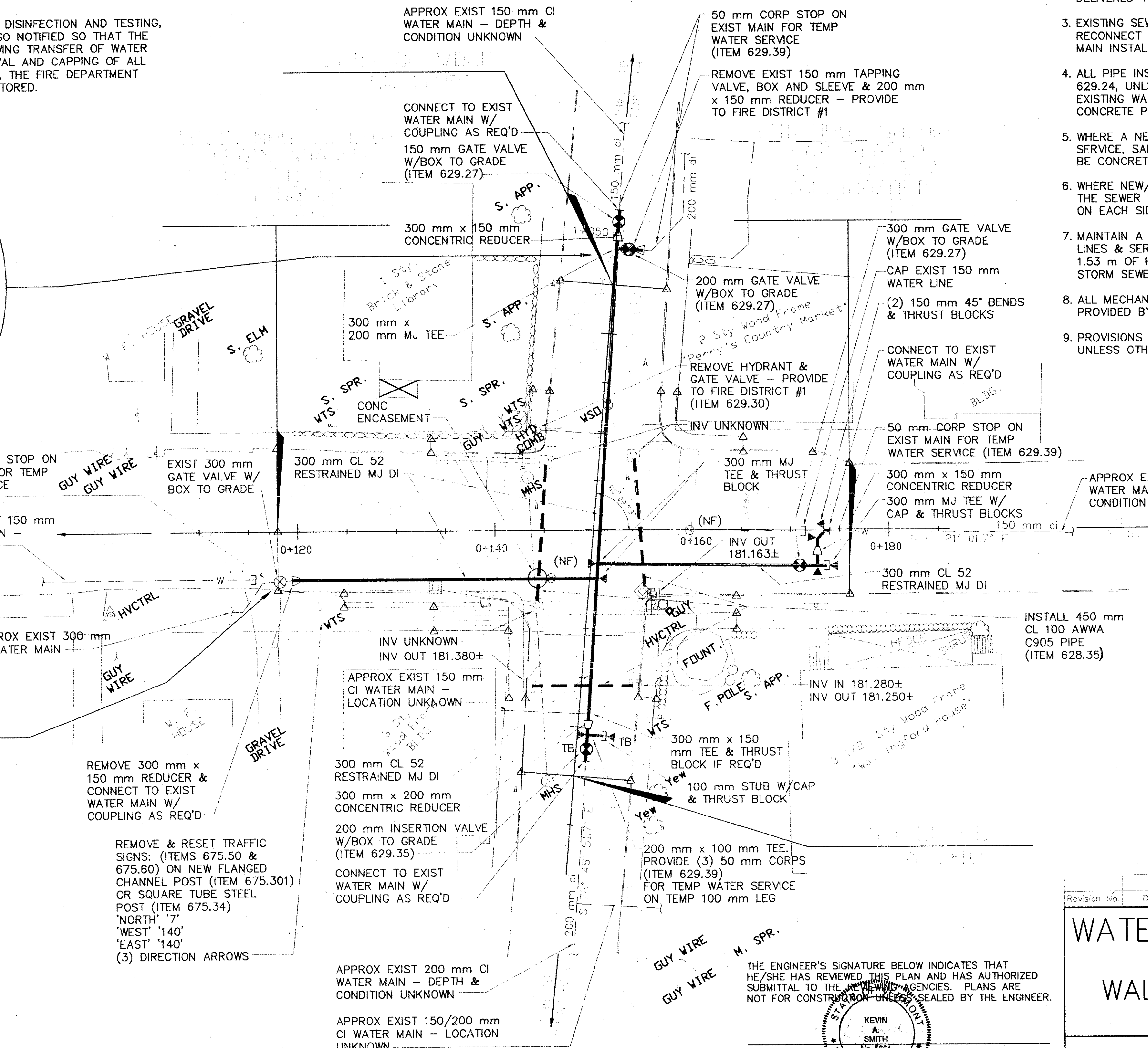
**CONSTRUCTION PROCEDURE NOTES:**

1. AT LEAST SEVEN (7) DAYS PRIOR TO BEGINNING WATER LINE REPLACEMENT WORK, THE CONTRACTOR SHALL NOTIFY THE PRUDENTIAL COMMITTEE OF THE WALLINGFORD FIRE DISTRICT #1 AND THE FIRE DEPARTMENT TO ALLOW PREPARATION OF FIRE PROTECTION MEASURES AND ISSUANCE OF A BOIL WATER NOTICE IN EFFECT.
2. THE CONTRACTOR SHALL NOT DISRUPT WATER SERVICE WITHOUT 48 HOUR NOTICE TO AFFECTED PARTIES AND THE WALLINGFORD FIRE DISTRICT #1.
3. TEMPORARY DOMESTIC WATER SUPPLY MEASURES SHALL BE PROVIDED BY THE CONTRACTOR USING THE CORPORATION STOPS SHOWN ON THE PLAN.
4. OPERATION OF FIRE DISTRICT APPURTENANCES SHALL BE BY OR UNDER THE DIRECTION OF FIRE DISTRICT PERSONNEL UNLESS SO WAIVED BY THE FIRE DISTRICT PRUDENTIAL COMMITTEE.
5. FOLLOWING COMPLETION OF WATER LINE REPLACEMENT, DISINFECTION AND TESTING, THE FIRE DISTRICT PRUDENTIAL COMMITTEE SHALL BE SO NOTIFIED SO THAT THE BOIL WATER NOTICE IN EFFECT CAN BE LIFTED. FOLLOWING TRANSFER OF WATER SERVICE TO THE NEW MAINS WITHOUT INCIDENT, REMOVAL AND CAPPING OF ALL TEMPORARY WATER SERVICES LINES AND CONNECTIONS, THE FIRE DEPARTMENT SHALL BE NOTIFIED THAT FIRE SERVICE HAS BEEN RESTORED.



**NOTES:**

1. ALL EXISTING WATER LINES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR TO FIELD LOCATE AND FLAG EXISTING WATER LINES USING PIPE LOCATOR, PRIOR TO CONSTRUCTION. IF CONTRACTOR DOES NOT HAVE NECESSARY EQUIPMENT OR EXPERIENCED OPERATOR, THEN CONTRACTOR SHALL HIRE SUCH SERVICES, TO BE INCLUDED IN THE UNIT PRICE OF WATER MAINS. CONSTRUCTION SHALL NOT PROCEED IN ANY AREA WHERE EXISTING MAINS HAVE NOT BEEN LOCATED TO THE CONTRACTOR'S BEST ABILITY TO DO SO.
2. ALL EXISTING WATER SYSTEM VALVES AND HYDRANTS TO BE REMOVED SHALL BE DELIVERED TO THE WALLINGFORD FIRE DISTRICT #1.
3. EXISTING SEWER AND WATER SERVICE LINE MATERIAL AND LOCATIONS UNKNOWN. RECONNECT ALL EXISTING WATER SERVICE LINES TO NEW MAIN IN AREAS OF NEW MAIN INSTALLATION.
4. ALL PIPE INSTALLATION SHOWN ON THIS PLAN SHALL BE INCLUDED UNDER ITEM NO. 629.24, UNLESS OTHERWISE NOTED, INCLUDING REMOVAL AND/OR DISPOSAL OF EXISTING WATER MAIN AND APPURTENANCES AND CONCRETE THRUST BLOCKS. CONCRETE PIPE ENCASEMENT SHALL BE INCLUDED UNDER ITEM NO. 501.25.
5. WHERE A NEW WATER MAIN OR SERVICE CROSSES AN EXISTING SANITARY SEWER OR SERVICE, SANITARY SEWER PIPE JOINTS ON EACH SIDE OF THE WATER MAIN SHALL BE CONCRETE ENCASED OR SEWER PIPE REPLACED PER DETAIL.
6. WHERE NEW/RELOCATED WATER MAIN CROSSES EXISTING/NEW STORM SEWER AND THE SEWER IS NOT CONSTRUCTED OF AWWA C905 PIPE, STORM SEWER PIPE JOINTS ON EACH SIDE OF THE WATER MAIN SHALL BE CONCRETE ENCASED.
7. MAINTAIN A MINIMUM OF 3.05 m OF HORIZONTAL SEPARATION BETWEEN ALL WATER LINES & SERVICES AND SANITARY SEWERS & SERVICES. MAINTAIN A MINIMUM OF 1.53 m OF HORIZONTAL SEPARATION BETWEEN ALL WATER LINES & SERVICES AND STORM SEWERS.
8. ALL MECHANICAL JOINTS SHALL INCLUDE FULL CIRCUMFERENTIAL RESTRAINT PROVIDED BY 'GRIP RING' BY ROMAC INDUSTRIES, INC. OR APPROVED EQUAL.
9. PROVISIONS OF VAOT STANDARD SPECIFICATION FOR CONSTRUCTION SHALL APPLY UNLESS OTHERWISE NOTED.



**KEY**

CI	CAST IRON
MJ	MECHANICAL JOINT
(NF)	NOT FOUND
DI	DUCTILE IRON
○	PIPE ENCASEMENT REQUIRED IF SANITARY/STORM SEWER NOT REPLACED WITH DI/C900 /C905 PVC AND TESTED
◀	CONCRETE THRUST BLOCK
---	RIGHT-OF-WAY

Revision No.	Date	Description	Dr.	Ck.
<b>WATER SYSTEM IMPROVEMENTS</b>				
FOR THE				
<b>WALLINGFORD FIRE DISTRICT #1</b>				
WALLINGFORD, VERMONT				
<b>WATER MAIN PLAN</b>				
Drawn By: DSM	Date:	Scale:	Engr's Job No. 9126	Sheet No. W-1
Checked By: MPY	Date: 7/21/98	NOTED		
Certified By:	Date:			

**WRIGHT ENGINEERING, LTD.**  
 Consulting Engineers  
 Rutland, Vermont

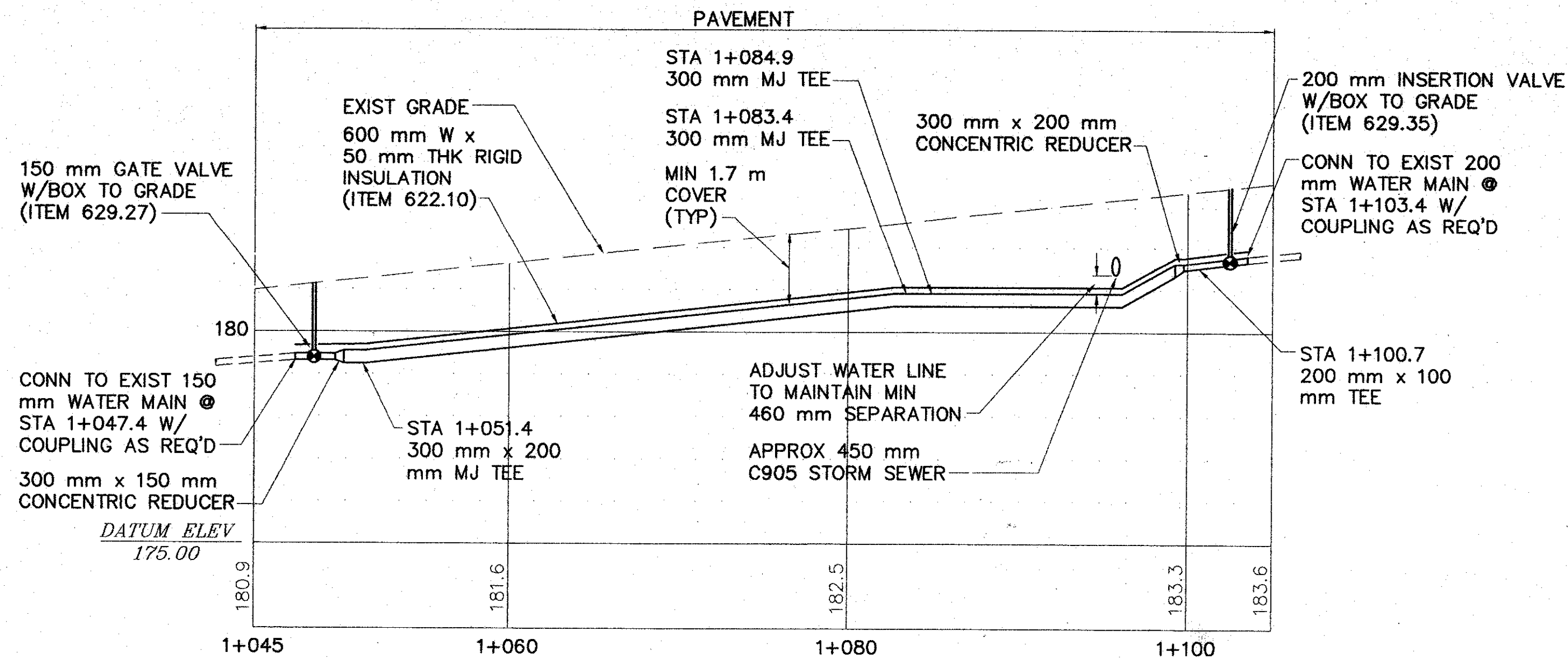
THE ENGINEER'S SIGNATURE BELOW INDICATES THAT HE/SHE HAS REVIEWED THIS PLAN AND HAS AUTHORIZED SUBMITTAL TO THE AFFECTED AGENCIES. PLANS ARE NOT FOR CONSTRUCTION UNLESS SEALED BY THE ENGINEER.

KEVIN A. SMITH  
 No. 5564

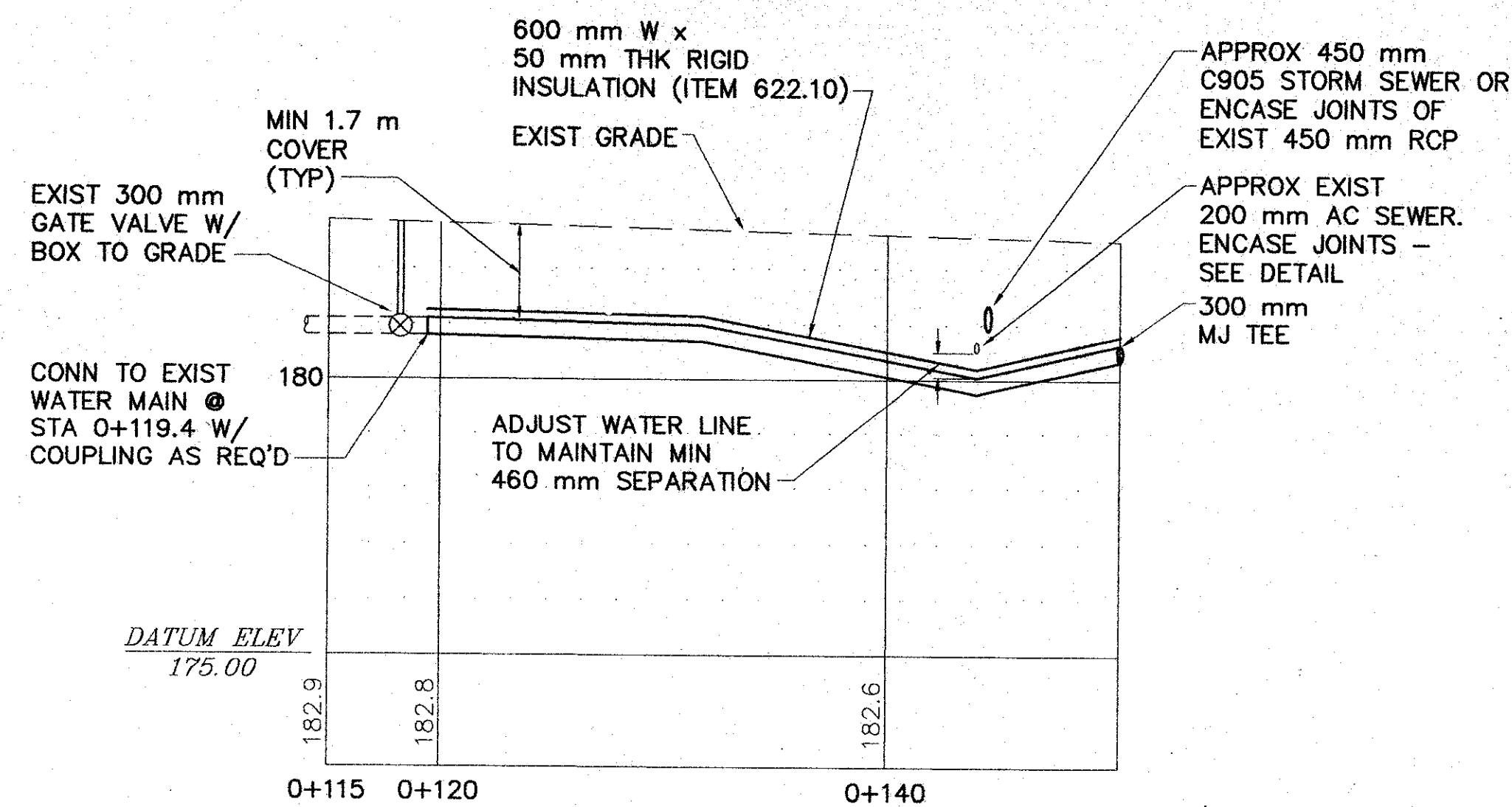
**DATUM**

VERTICAL	N/A
HORIZONTAL	N/A

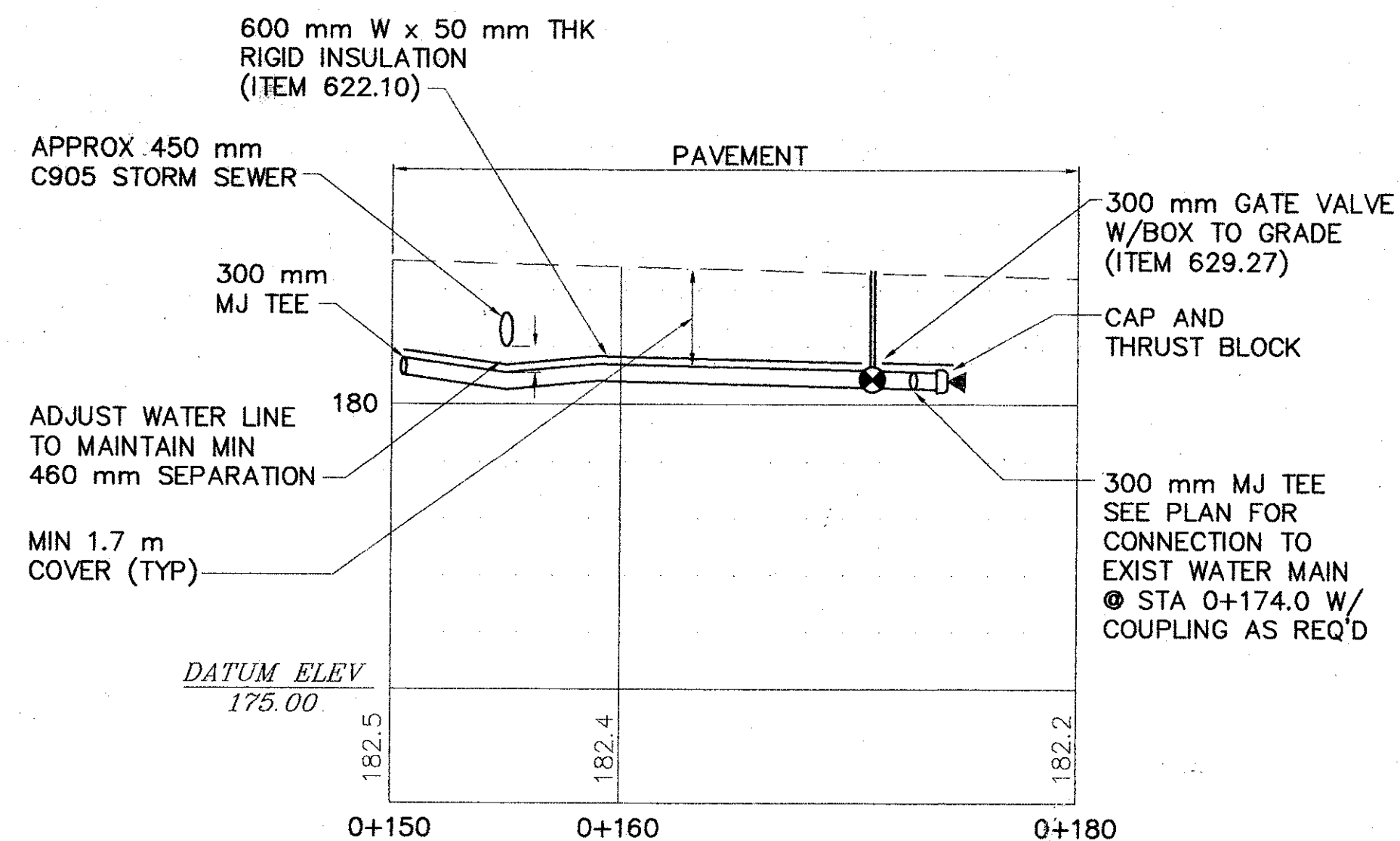
Scan - w1



**300 mm WATER MAIN PROFILE (VT ROUTE 140)**  
SCALE: 1:250 H  
1:100 V



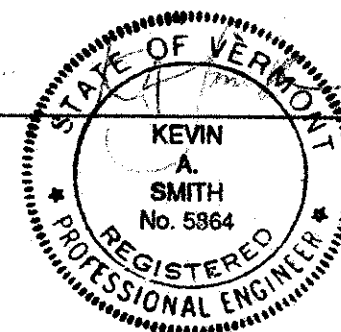
**300 mm WATER MAIN PROFILE (US ROUTE 7 SOUTH)**  
SCALE: 1:250 H  
1:100 V



**300 mm WATER MAIN PROFILE (US ROUTE 7 NORTH)**  
SCALE: 1:250 H  
1:100 V

DATUM	
VERTICAL	N/A
HORIZONTAL	N/A

THE ENGINEER'S SIGNATURE BELOW INDICATES THAT HE/SHE HAS REVIEWED THIS PLAN AND HAS AUTHORIZED SUBMITTAL TO THE REVIEWING AGENCIES. PLANS ARE NOT FOR CONSTRUCTION UNLESS SEALED BY THE ENGINEER.



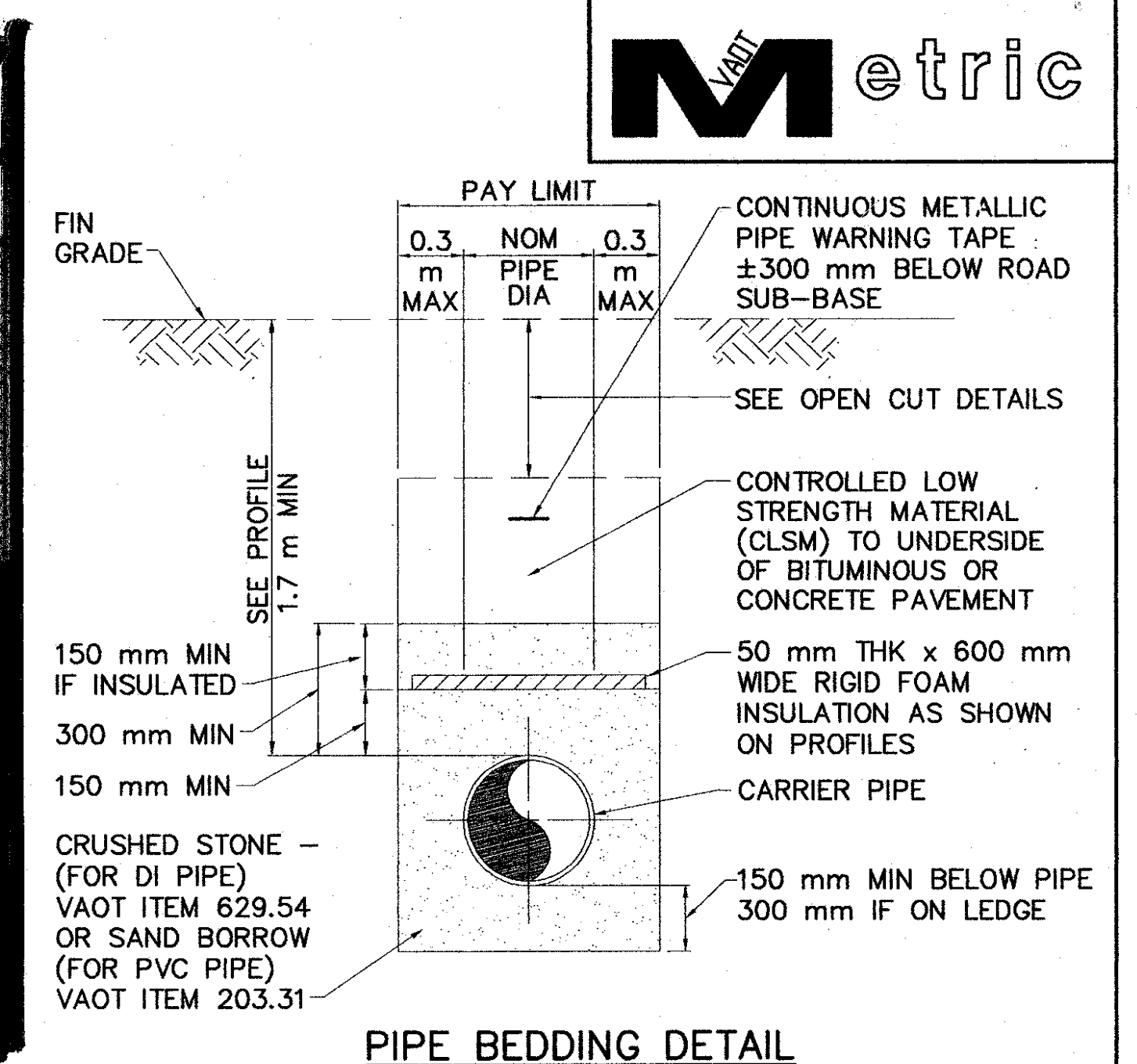
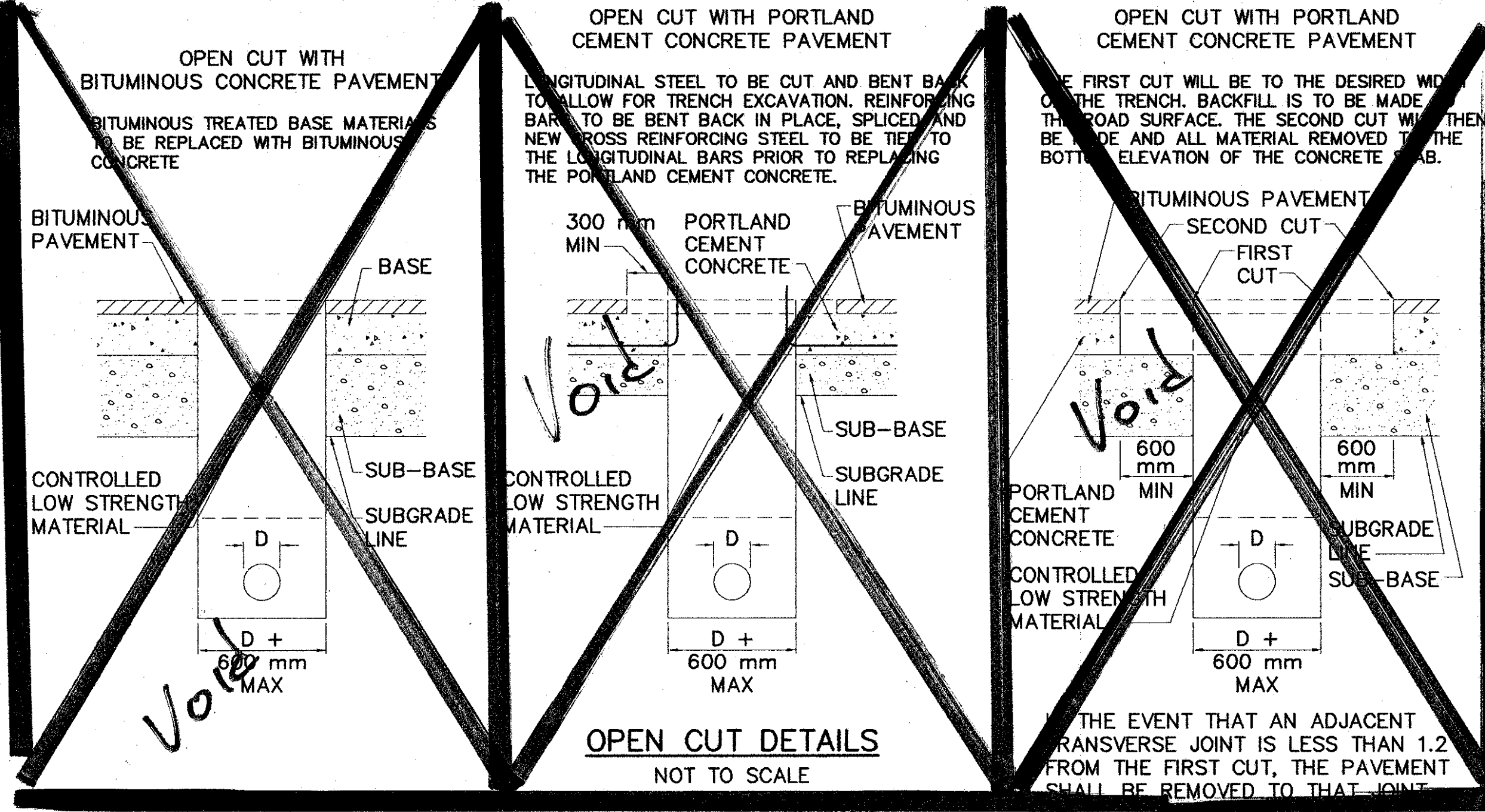
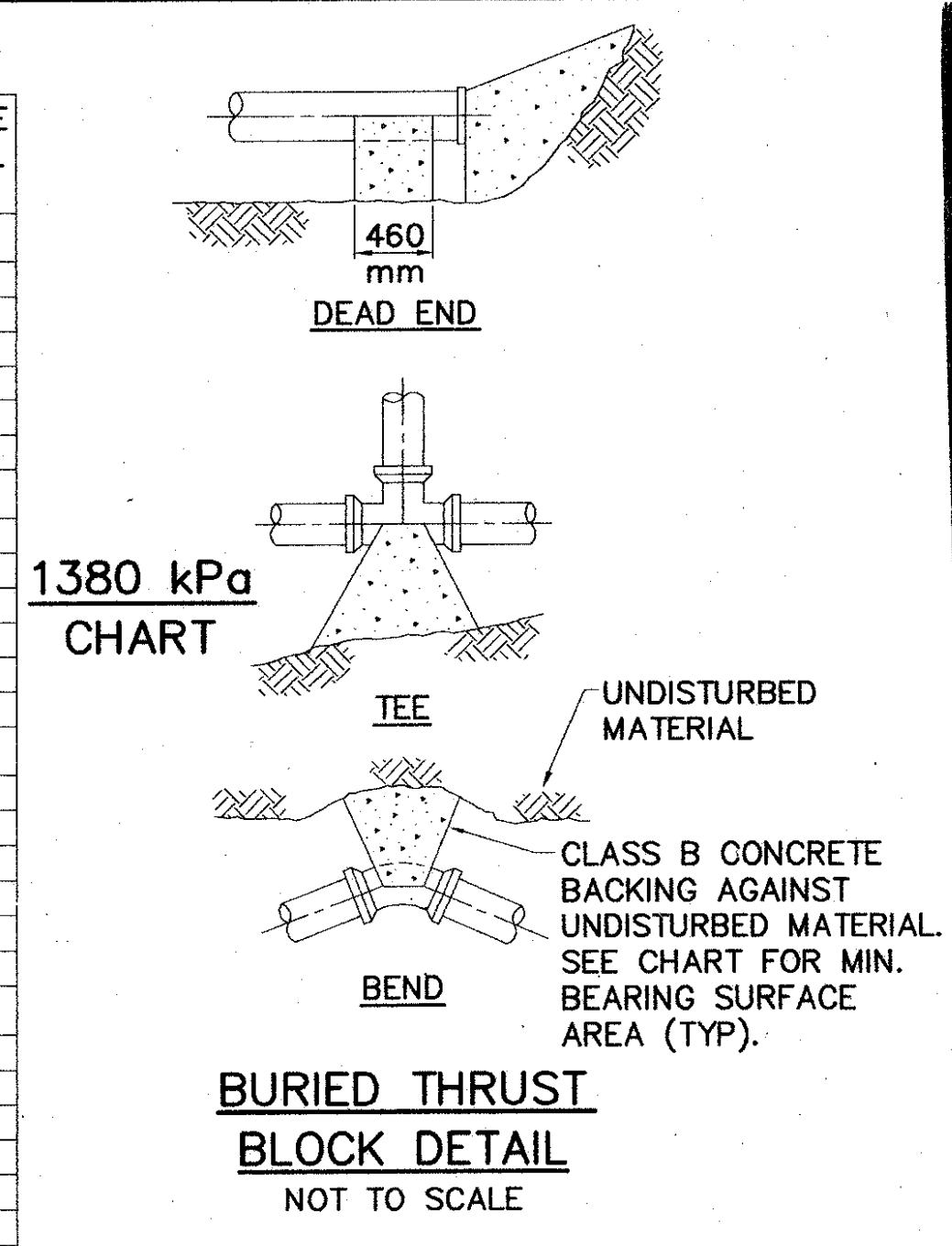
**WRIGHT ENGINEERING, LTD.**  
Consulting Engineers  
Rutland, Vermont

Revision No.	Date	Description	Dr.	Ck.
<b>WATER SYSTEM IMPROVEMENTS</b>				
FOR THE				
<b>WALLINGFORD FIRE DISTRICT #1</b>				
WALLINGFORD, VERMONT				
<b>WATER MAIN PROFILES</b>				
Drawn By:	DSM	Date:	Scale:	Engr's Job No.
Checked By:	MPY	Date:	7/21/98	9126
Certified By:	KEAS	Date:	NOTED	W-2

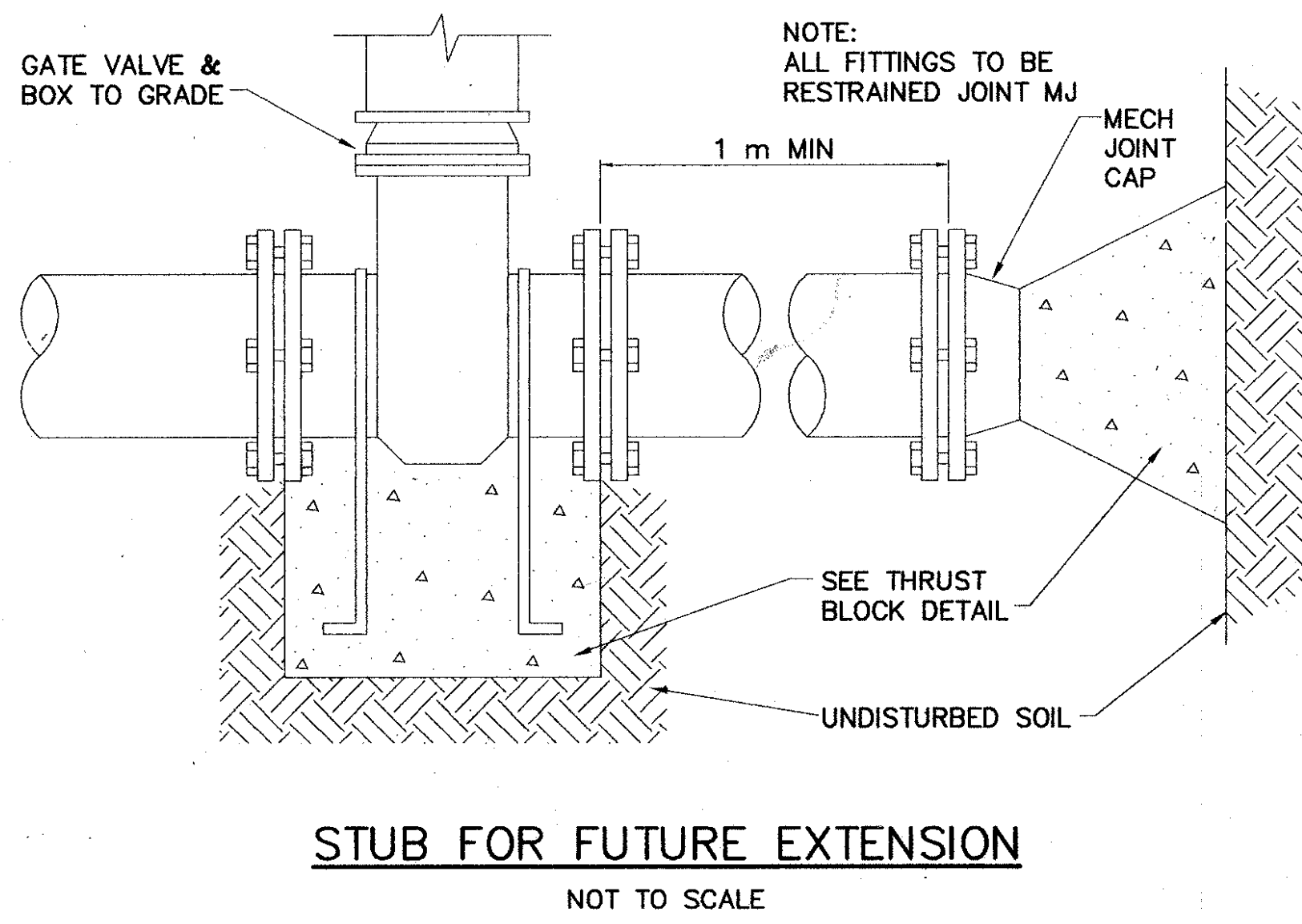
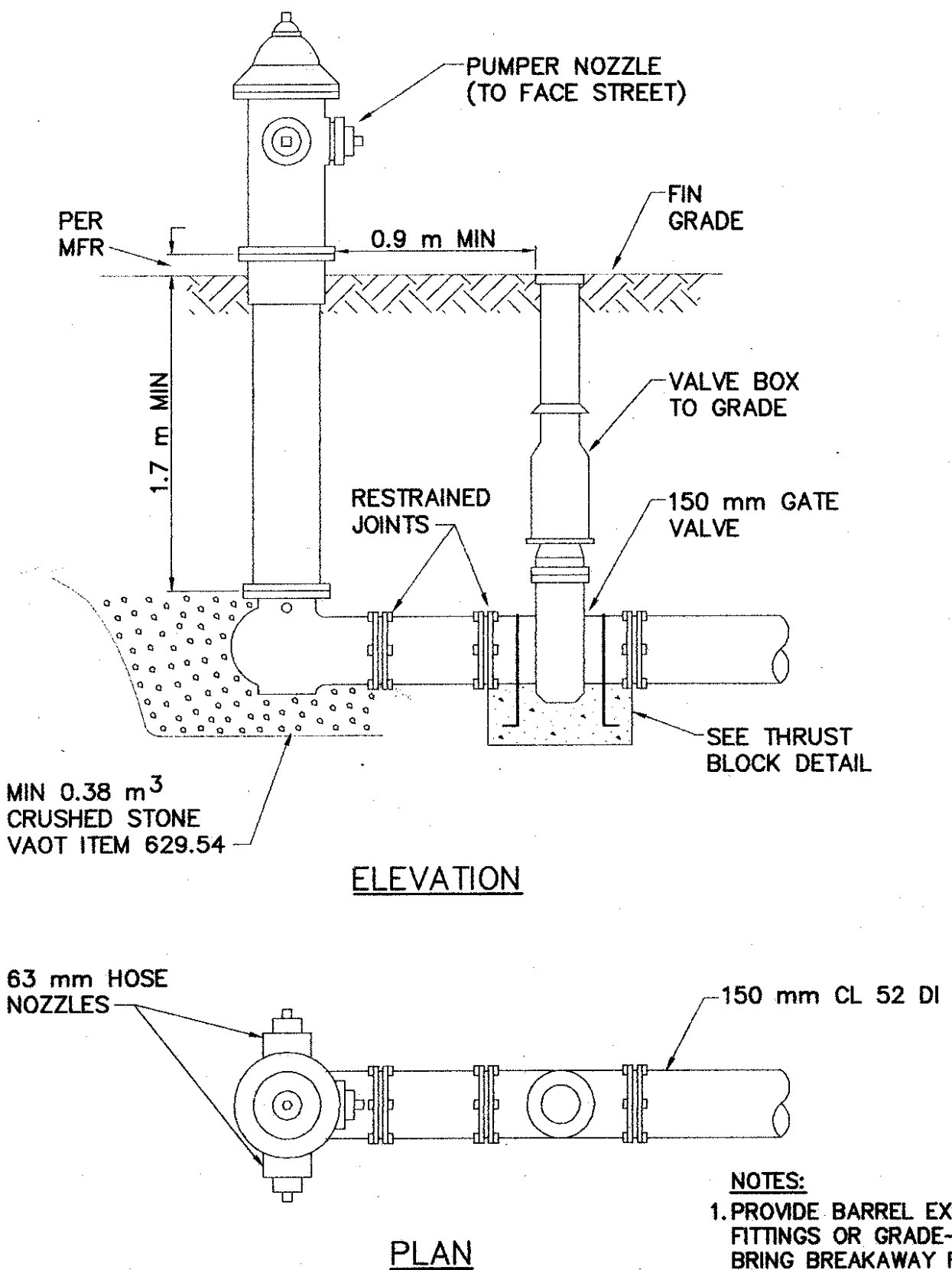
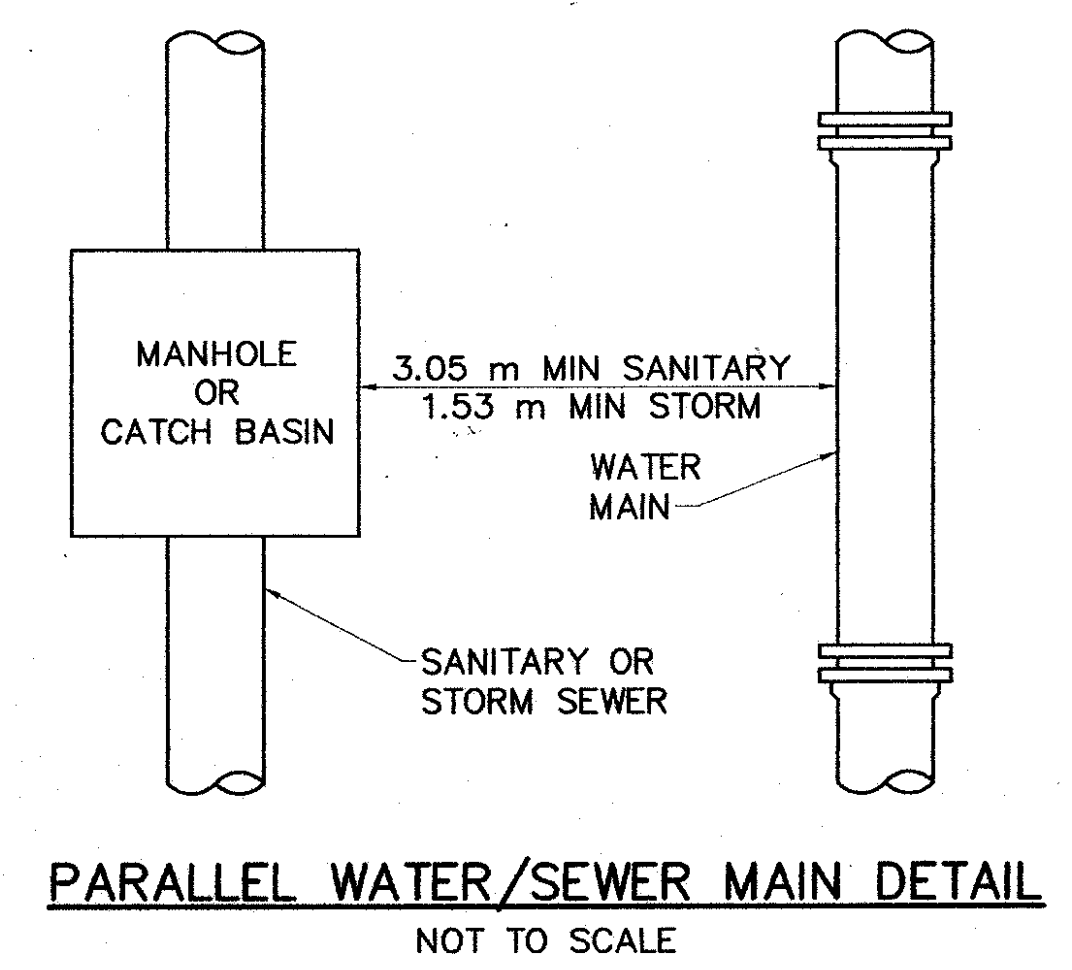
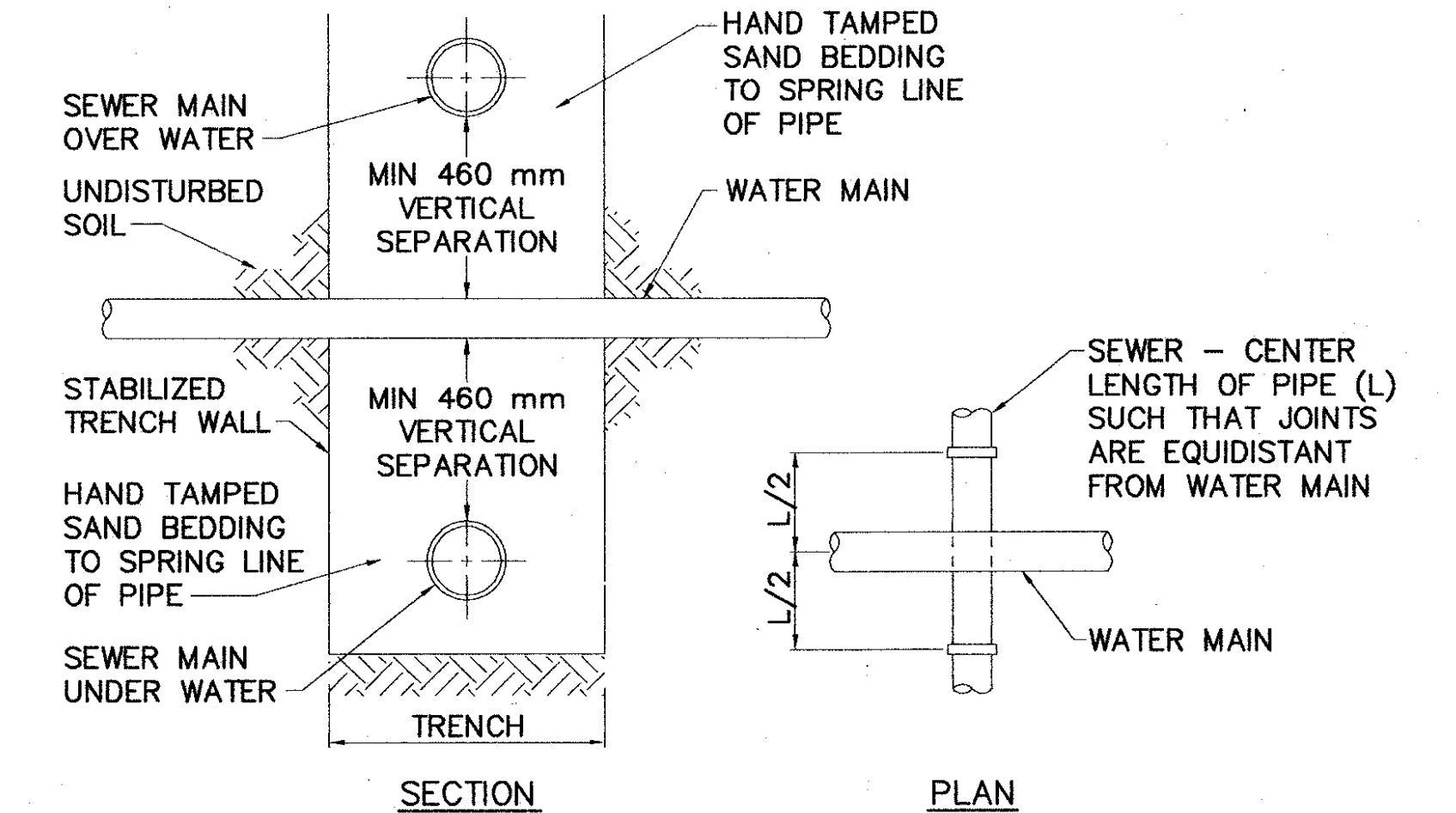
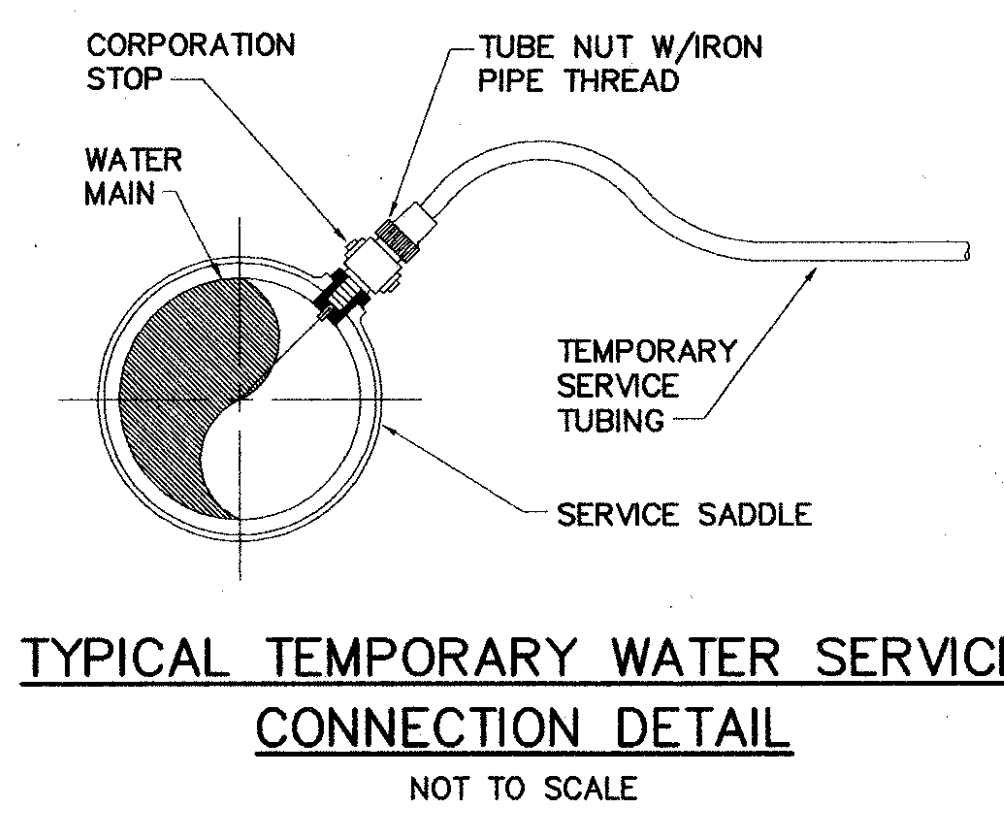
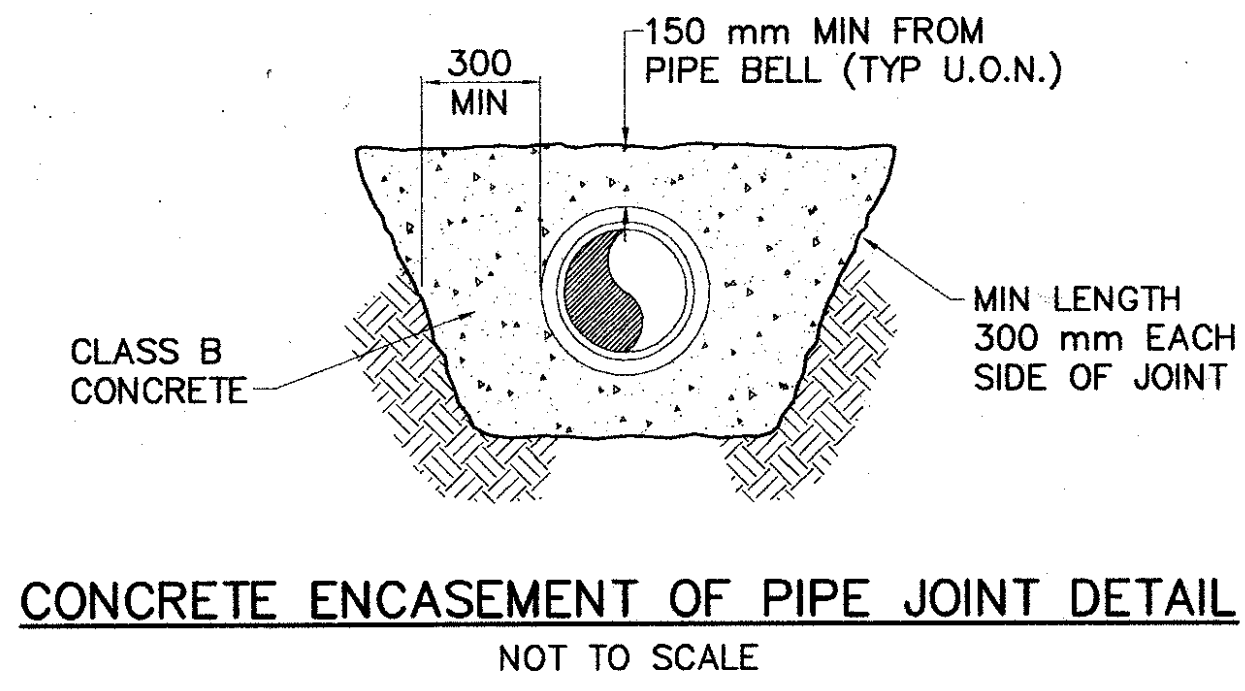
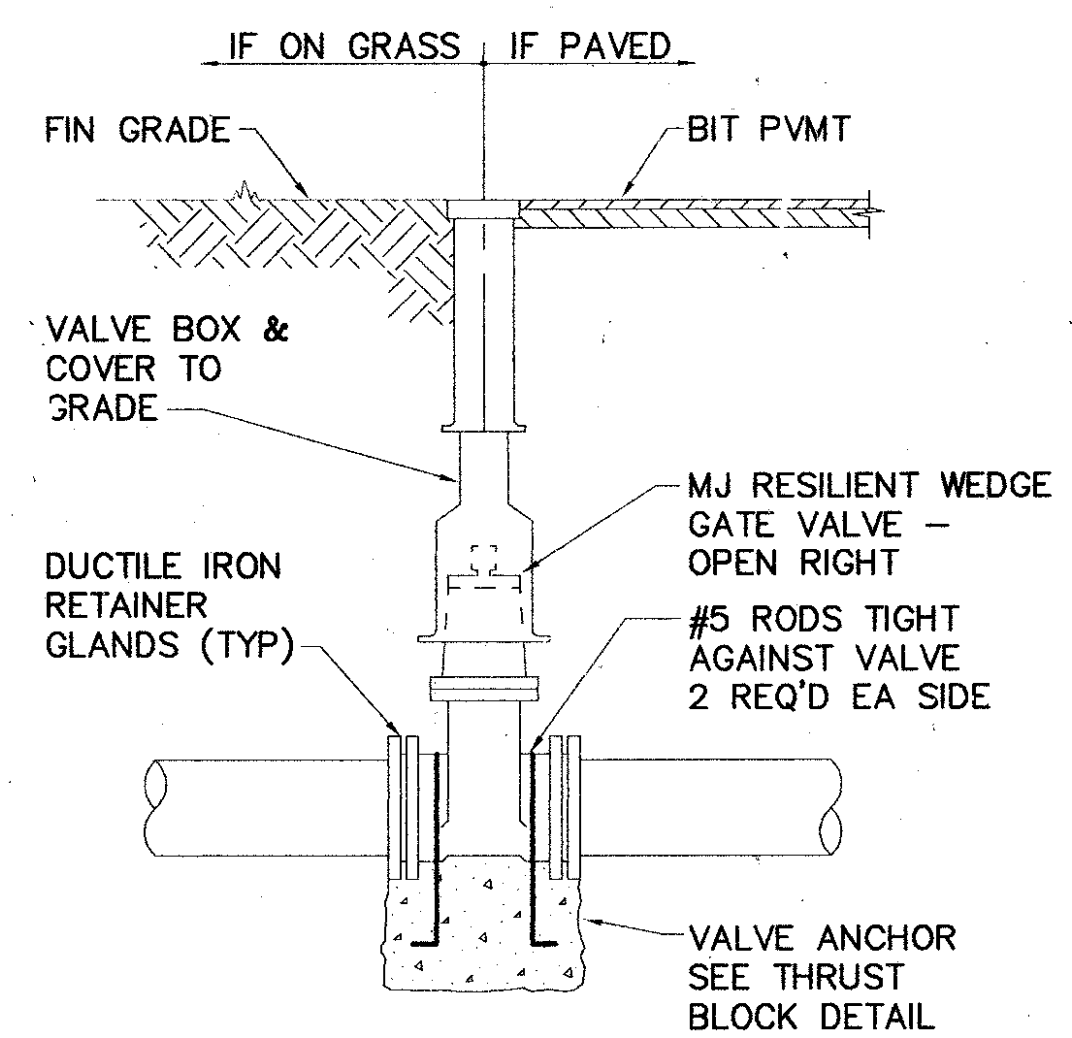
SCANS 3-3-98

AREA OF BEARING FACE OF CONCRETE THRUST BLOCKS IN SQUARE METERS

PIPE SIZE (mm)	SOFT WET CLAY SAND OR SILT (48 kPa)	DRY SAND (192 kPa)	COMPACT COARSE SAND OR GRAVEL (287 kPa)
<b>DEAD END, TEE OR VALVE (90°)</b>			
200 OR LESS	1.3	.4	.3
250	1.9	.5	.4
300	2.6	.7	.5
400	4.5	1.1	.7
500	6.9	1.8	1.2
600	9.7	2.4	1.7
<b>1/4 BEND (90°)</b>			
200 OR LESS	1.7	.5	.3
250	2.6	.7	.5
300	3.7	.9	.7
400	6.3	1.6	1.1
500	9.7	2.4	1.7
600	13.7	3.4	2.3
<b>1/8 BEND (45°)</b>			
200 OR LESS	.9	.3	.2
250	1.5	.4	.3
300	2.0	.6	.4
400	3.3	.8	.6
500	5.2	1.3	.9
600	7.4	1.9	1.3
<b>1/16 BEND (22 1/2°) AND SEWER MAIN SHT6</b>			
200 OR LESS	.6	.2	.1
250	.7	.2	.2
300	1.1	.3	.2
400	1.9	.5	.4
500	2.8	.7	.5
600	3.7	.9	.7



- FIGURES BASED ON 1380 kPa.
- FOR PIPE SIZES NOT LISTED, USE NEXT LARGER PIPE SIZE.
- WHEN MORE THAN ONE SOIL TYPE IS ENCOUNTERED, THE ONE WITH LEAST BEARING CAPACITY SHALL BE USED.
- RETAINING RODS OR RESTRAINED JOINT PIPE AS APPROVED BY THE ENGINEER SHALL BE USED IN PLACE OF THRUST BLOCKS WHEN MUCK IS ENCOUNTERED.



DATUM

VERTICAL	N/A
HORIZONTAL	N/A

THE ENGINEER'S SIGNATURE BELOW INDICATES THAT HE/SHE HAS REVIEWED THIS PLAN AND HAS AUTHORIZED SUBMITTAL TO THE REVIEWING AGENCIES. PLANS ARE NOT FOR CONSTRUCTION UNLESS SEALED BY THE ENGINEER.



**WRIGHT ENGINEERING, LTD.**  
Consulting Engineers  
Rutland, Vermont

**WATER MAIN AND SEWER MAIN X-ING**  
NOT TO SCALE

Revision No.	Date	Description	Dr.	Ck.
<b>WATER SYSTEM IMPROVEMENTS</b>				
FOR THE				
<b>WALLINGFORD FIRE DISTRICT #1</b>				
WALLINGFORD, VERMONT				
<b>MISCELLANEOUS DETAILS</b>				
Drawn By:	DSM	Date:	Scale:	Engr's Job No.
Checked By:	MPY	Date:	7/21/98	9126
Certified By:	KAS	Date:	3/12/00	W-3