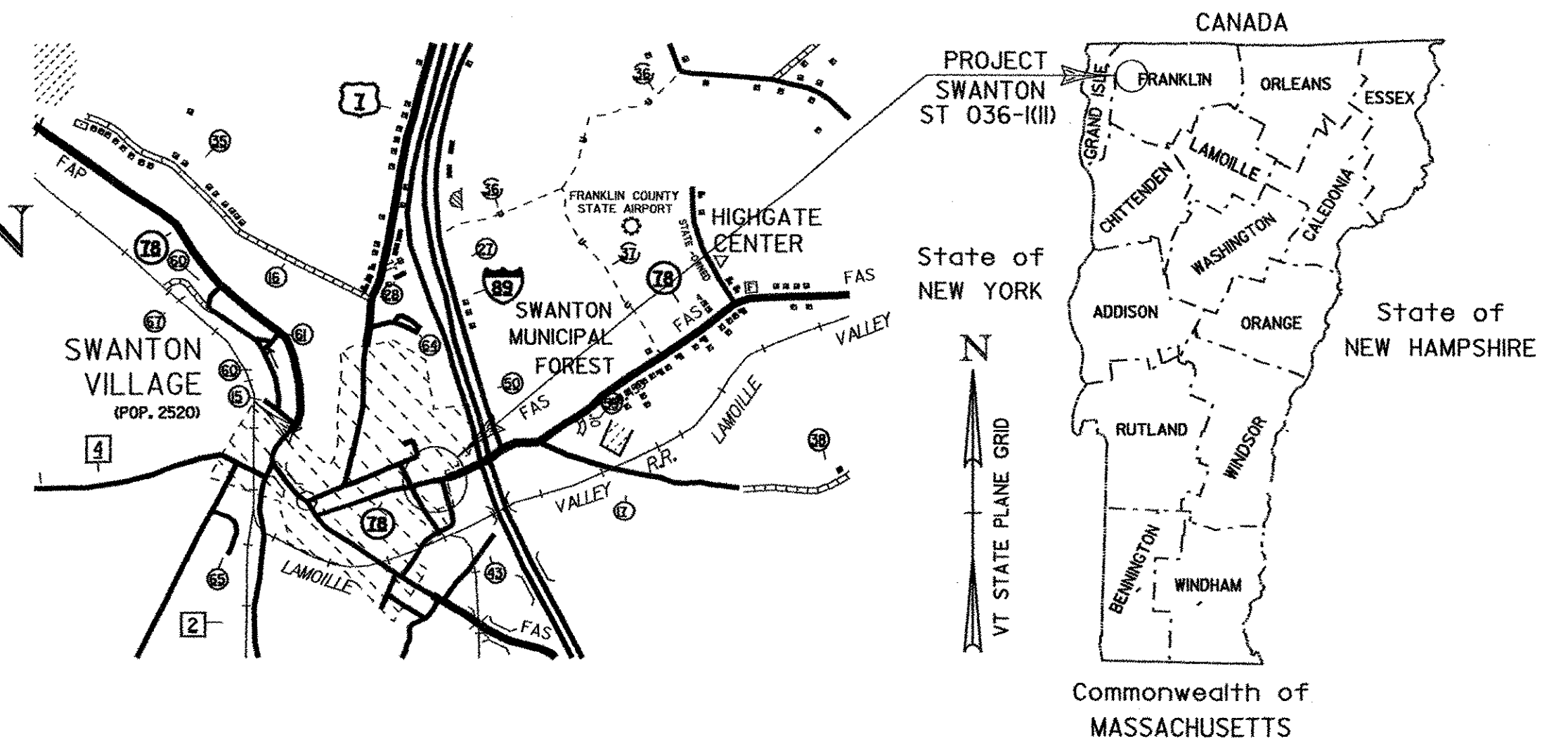


SEE SHEET 2 INDEX OF SHEETS

STATE OF VERMONT AGENCY OF TRANSPORTATION



RECORD PLANS	
CONTRACTOR:	ENGINEER'S CONSTRUCTION, INC. - SO. BURLINGTON, VT.
RESIDENT ENGINEER:	JEREMY REED
CONSTRUCTION BEGAN:	JUNE 29, 2006
CONSTRUCTION COMPLETE:	OCTOBER 24, 2007
RECORD PLANS BY:	JEREMY REED
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.	
BY:	<i>Jeremy Reed</i> RESIDENT ENGINEER
DATE:	2/20/08
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.	

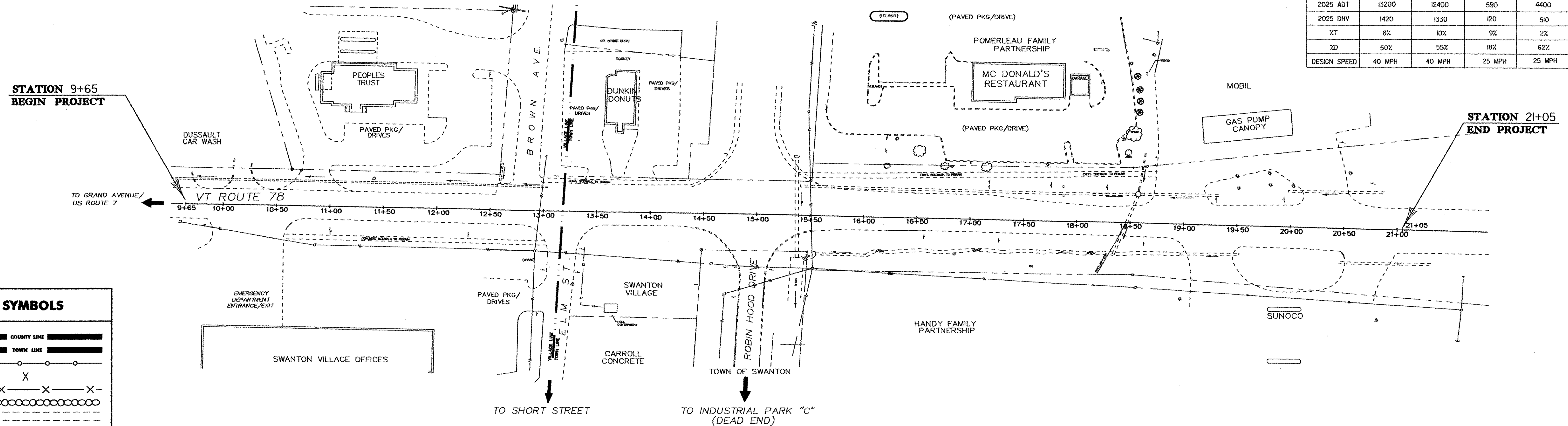
PROPOSED IMPROVEMENT TOWN OF SWANTON VILLAGE OF SWANTON COUNTY OF FRANKLIN VERMONT ROUTE 78 (PRINCIPAL ARTERIAL)

PROJECT LOCATION:
BEGINNING 356 +/- FT. EAST OF THE VILLAGE AND TOWN LINE OF SWANTON, AND PROCEEDING WEST FOR 1140 FT.
LENGTH OF ROADWAY = 1140 FT. = 0.216 MI.
LENGTH OF PROJECT = 1140 FT. = 0.216 MI.

PROJECT DESCRIPTION:
THIS PROJECT CONSISTS OF THE INSTALLATION OF A TRAFFIC SIGNAL AT THE INTERSECTION OF VT. ROUTE 78 AND ROBIN HOOD DRIVE. THE PROJECT ALSO INCLUDES MINOR ROAD WIDENING, PAVING, DRAINAGE IMPROVEMENT, PAVEMENT MARKINGS AND SIGNING.

TRAFFIC DATA

DESIGN YEAR	VT. 78 EAST	VT. 78 WEST	ROBIN HOOD DR.	MISSISSQUOI ST.
2005 ADT	11800	11000	450	3400
2005 DHV	1280	1180	110	410
2025 ADT	13200	12400	590	4400
2025 DHV	1420	1330	120	510
XT	6%	10%	9%	2%
ZD	50%	55%	18%	62%
DESIGN SPEED	40 MPH	40 MPH	25 MPH	25 MPH



CONVENTIONAL SYMBOLS

COUNTY LINE	
TOWN LINE	
LIMITS OF ACCESS	
POINT OF ACCESS	
FENCE LINE	
STONE WALL	
TRAVELED WAY	
GUARD RAIL	
RAILROAD	
SURVEY LINE	
CULVERT	
POWER POLE	
TELEPHONE POLE	
TREES	
CONTROL OF ACCESS	
PROPERTY LINE	
R.O.W. TAKING LINE	
SLOPE RIGHTS	
TOP OF CUT	
TOE OF SLOPE	

SURVEYED BY :
SURVEYED DATE :

DATUM
VERTICAL
HORIZONTAL

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.



DIRECTOR OF PROGRAM DEVELOPMENT	
APPROVED: <i>Richard J. Tetlow</i>	DATE: 3-13-06
PROJECT MANAGER : B. NYQUIST	
PROJECT NAME : SWANTON	
PROJECT NUMBER : STPG ST 036-1(11)	
SHEET 1 OF 45 SHEETS	

13-MAR-2006
1560111.1

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15	CONSTRUCTION APPROACH SIGNING SHEET
16	TIE SHEET
17-23	TRAFFIC SIGNAL SHEETS
24	SUBSURFACE INFORMATION SHEET
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38-41	BLANK
42-45	CROSS SECTION SHEETS

VAOT STANDARD SHEETS

C-1	01/03/00
C-2A	10/14/05
C-3A	09/01/04
D-15	06/01/94
D-20	03/03/03
E-100	01/02/04
E-100A	01/02/04
E-101	05/30/03
E-102	06/30/03
E-102A	05/01/04
E-121	08/08/95
E-123	03/16/04
E-125	08/08/95
E-126	02/01/00
E-127	08/08/95
E-130	08/08/95
E-141	09/20/95
E-142	09/20/95
E-145A	12/23/94
E-145B	12/23/94
E-152	05/01/04
E-160	05/20/99
E-164	05/20/99
E-170	11/04/99
E-171A	08/09/95
E-171B	08/09/95
E-171C	08/09/95
E-172	08/09/95
E-173	08/09/95
E-175	11/17/93
E-191	02/01/99
E-192	10/12/00
E-193	08/18/95
J-3	08/07/95

DATUM	
VERTICAL	_____
HORIZONTAL	_____

INDEX OF SHEETS

PROJECT NAME:	<u>SWANTON</u>	-----
PROJECT NUMBER:	<u>STPG ST 036-1(1)</u>	-----
FILE NAME:	<u>P:\TRAFFIC_DES\00b150\tb150+it.dgn</u>	PLOT DATE: 19-APR-2006
PROJECT LEADER:	<u>B. NYQUIST</u>	DRAWN BY: TRAFFIC DESIGN
DESIGNED BY:	<u>TRAFFIC DESIGN</u>	CHECKED BY: TRAFFIC DESIGN
<u>tb105Ind1</u>	-----	SHEET <u>2</u> OF <u>45</u>

THICKNESS TOLERANCES

PAVEMENT (TOTAL DEPTH) = 1/4"
 SUBBASE = 1"
 SAND BORROW = 1"

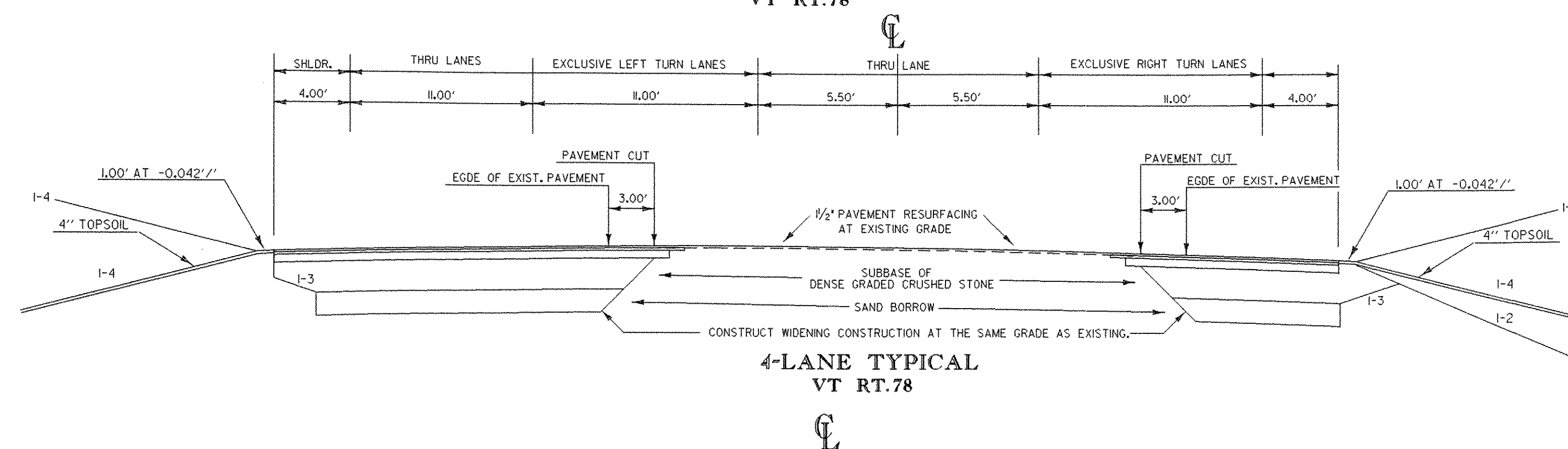
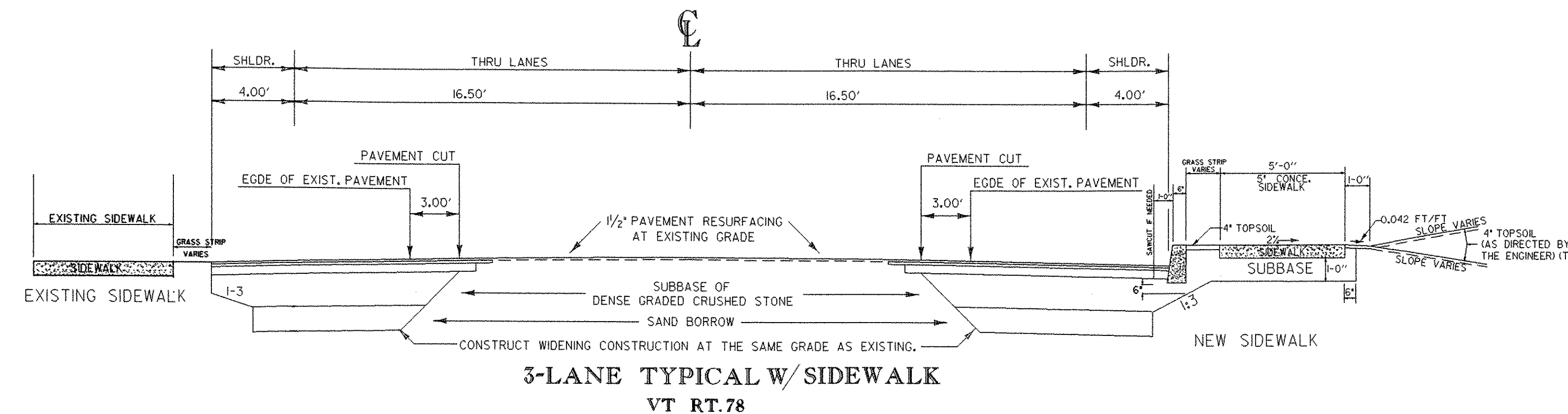
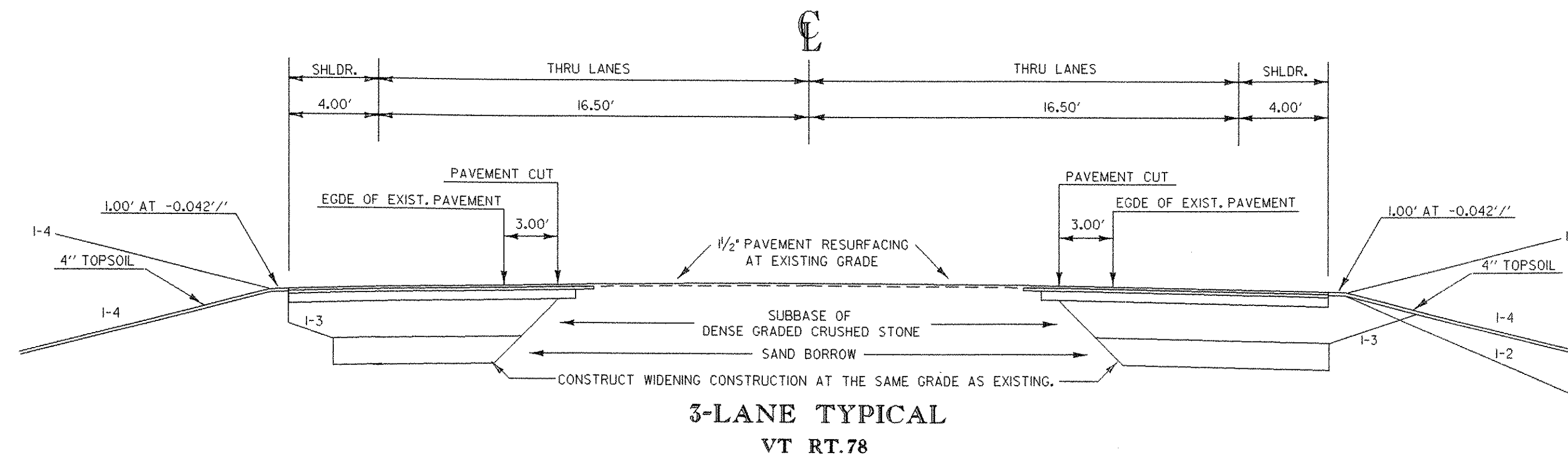
TYPICAL SECTION

1 1/4" BITUMINOUS CONCRETE PAVEMENT ,TYPE III, SINGLE LIFT
 5 " BITUMINOUS CONCRETE PAVEMENT ,TYPE I , BASE COURSE (2-2 1/2" LIFTS)
 18" DENSE GRADED CRUSHED STONE (2-9" LIFTS)
 6" SAND
 NOTE: ALL BITUMINOUS CONCRETE PAVEMENT TO BE PG 58-28

SEEDING FORMULA , ITEM 651.15 URBAN AREAS

% WT.	LBS./A.	NAME	PUR %	GERM %
37.5	30	CREeping RED FESCUE	98	85
31.25	25	KENTUCKY BLUE GRASS	85	75
31.25	25	PERENIAL RYE GRASS	95	90
100.00	80			

THE SEED MIXTURE SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS WEED SEED.
 SEED- TO BE APPLIED PER SEEDING FORMULAS DIRECTED BY THE ENGINEER.
 FERTILIZER- FORMULA 10-20-10 TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE.
 AGRICULTURAL LIMESTONE- TO BE APPLIED AT THE RATE OF 2 TONS/ACRE OR AS DIRECTED BY THE ENGINEER.
 HAY MULCH- TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.
 TOPSOIL- TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
 MARKER POSTS- TO BE PLACED AS DIRECTED BY THE ENGINEER.
 SLOPE ROUNDING- ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B-5.



DATUM
 VERTICAL _____
 HORIZONTAL _____

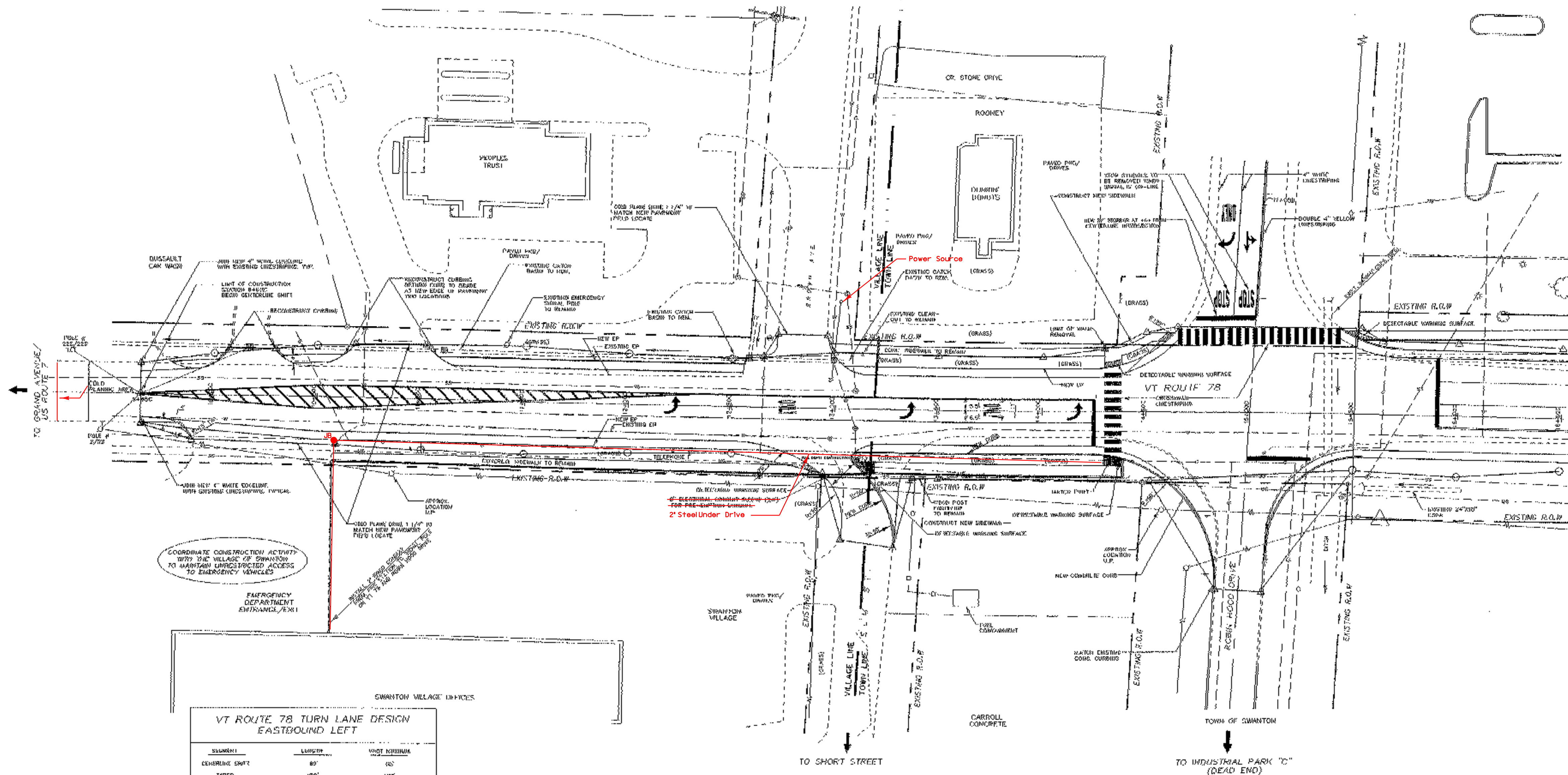
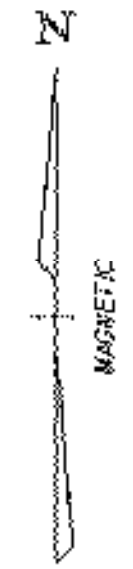
NOT TO SCALE

TYPICAL SECTIONS SHEETS

PROJECT NAME:	SWANTON
PROJECT NUMBER:	STPG ST 036-1(11)
FILE NAME:	PW:\traffic_des\00b501\tp501t1.dgn
PROJECT LEADER:	B. NYQUIST
DESIGNED BY:	TRAFFIC DESIGN
PLOT DATE:	19-APR-2006
DRAWN BY:	TRAFFIC DESIGN
CHECKED BY:	TRAFFIC DESIGN
	SHEET 3 OF 45

PORTLAND CEMENT CONCRETE SIDEWALK .5 INCH.
 M/L 13+09 RT. ~ 14+38.5 RT. (130')
 M/L 14+30 LT. ~ 14+63 LT. (40')

CAST IN PLACE CONCRETE CURB TYPE B
 M/L 13+09 RT. ~ 14+38.5 RT. (130')
 ELM ST. (55')



COORDINATE CONSTRUCTION ACTIVITY WITH THE VILLAGE OF SWANTON TO MAINTAIN UNRESTRICTED ACCESS TO EMERGENCY VEHICLES

EMERGENCY DEPARTMENT ENTRANCE (R/W)

SWANTON VILLAGE OFFICES

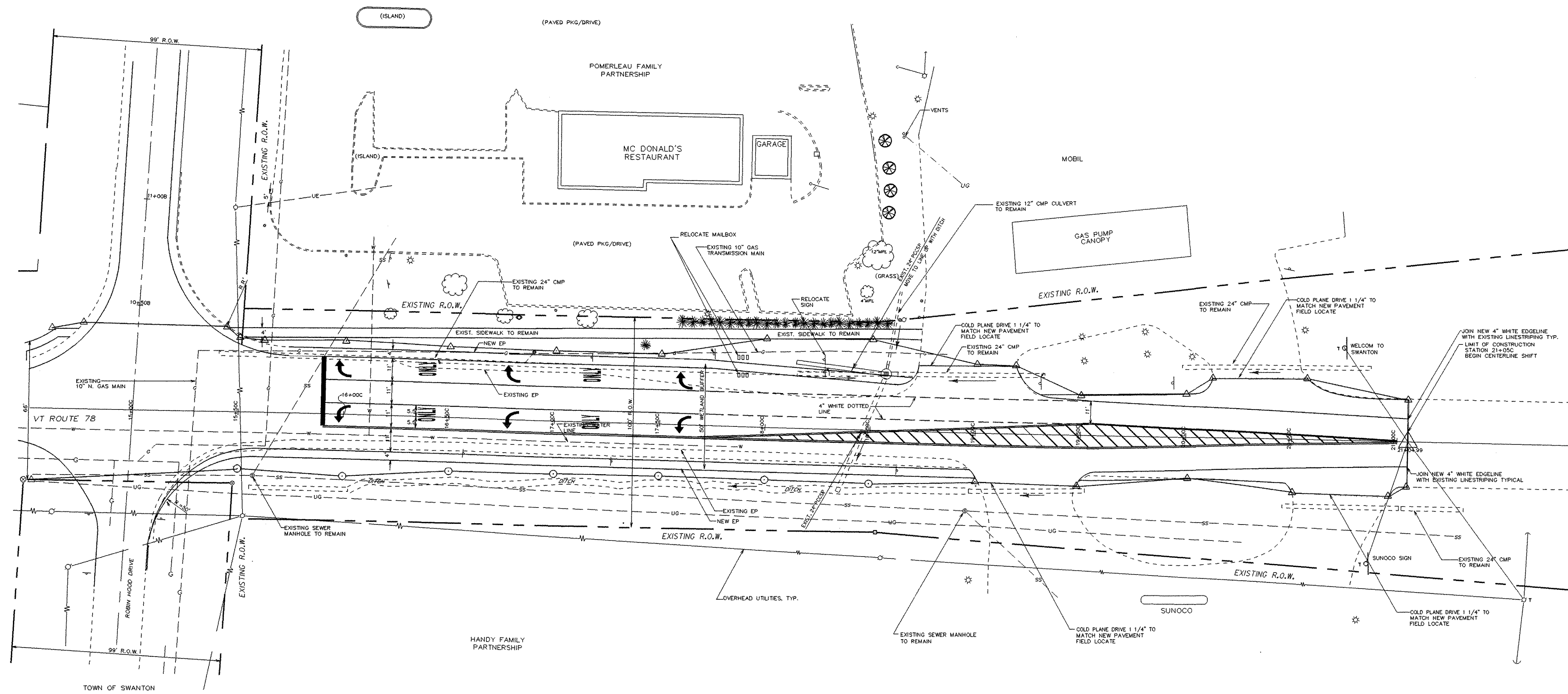
VT ROUTE 78 TURN LANE DESIGN EASTBOUND LEFT

ELEMENT	LENGTH	WAST RESERVE
ENTERING LANE	80'	60'
TAPER	100'	100'
SECOND LANE	70'	70' PER SIGNAL 'D'
ADDITIONAL STROKE FOR DECELERATION	125'	125'
TOTAL LENGTH	180'	400'

SCALE 1" = 30'-0"

PLAN SHEET

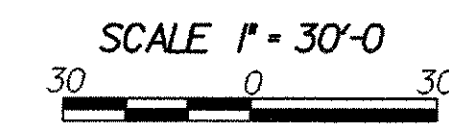
PROJECT NAME:	SWANTON		
PROJECT NUMBER:	STPG ST 036-101		
FILE NAME:	FW-TRAFFIC_DES_00050\101010.DGN	DATE:	19-APR-2006
PROJECT LEADER:	B. NYQUIST	DRAWN BY:	TRAFFIC DESIGN
DESIGNED BY:	TRAFFIC DESIGN	CHECKED BY:	TRAFFIC DESIGN
		SHEET	6 OF 25



VT 78 East

PLAN SHEET

PROJECT NAME:	SWANTON	FILE NAME:	PW:00b150/traffic/layout2.dgn	PLOT DATE:	19-APR-2006
PROJECT NUMBER:	STPG ST 036-1(11)	PROJECT LEADER:	B. NYQUIST	DRAWN BY:	TRAFFIC DESIGN
		DESIGNED BY:	TRAFFIC DESIGN	CHECKED BY:	TRAFFIC DESIGN
		layout_2.dgn	tb1502.j	SHEET	7 OF 45



PAVEMENT MARKING AND SIGN SHEET

DURABLE 4" WHITE LINE

M/L 15+43 LT. ~ 18+73 LT.
 M/L 19+19 LT. ~ 21+05 LT.
 M/L 15+08 RT. ~ 19+02 RT.
 M/L 19+49 RT. ~ 21+05 RT.
 M/L 15+92 LT. ~ 17+80 LT. (SOLID)
 M/L 15+92 LT. ~ 17+80 LT. (SOLID)
 M/L 17+80 LT. ~ 19+55 LT. (DASHED)
 M/L 17+80 LT. ~ 19+55 LT. (DASHED)

TEMPORARY 4" WHITE LINE

M/L 15+43 LT. ~ 18+73 LT.
 M/L 19+19 LT. ~ 21+05 LT.
 M/L 15+08 RT. ~ 19+02 RT.
 M/L 19+49 RT. ~ 21+05 RT.
 M/L 15+92 LT. ~ 17+80 LT. (SOLID)
 M/L 15+92 LT. ~ 17+80 LT. (SOLID)
 M/L 17+80 LT. ~ 19+55 LT. (DASHED)
 M/L 17+80 LT. ~ 19+55 LT. (DASHED)

DURABLE 4" YELLOW LINE

M/L 15+91 RT. ~ 21+00 RT. (DOUBLE)
 M/L 17+76 RT. ~ 21+00 RT. (DOUBLE)

TEMPORARY 4" YELLOW LINE

M/L 15+91 RT. ~ 21+00 RT. (DOUBLE)
 M/L 17+76 RT. ~ 21+00 RT. (DOUBLE)

DURABLE 8" YELLOW LINE

M/L 18+07 ~ 20+80 (DIAGONAL)

TEMPORARY 8" YELLOW LINE

M/L 18+07 ~ 20+80 (DIAGONAL)

DURABLE LETTER OR SYMBOL

M/L 15+95 ~ 16+03.5 C/L (S)
 M/L 15+95 ~ 16+03.5 LT (L)
 M/L 16+35 ~ 16+43.5 C/L (M)
 M/L 16+35 ~ 16+43.5 LT (N)
 M/L 16+75 ~ 16+83.5 C/L (S)
 M/L 16+75 ~ 16+83.5 LT (L)
 M/L 17+15 ~ 17+23.5 C/L (M)
 M/L 17+15 ~ 17+23.5 LT (N)
 M/L 17+55 ~ 17+63.3 C/L (S)
 M/L 17+55 ~ 17+63.3 LT (L)

TEMPORARY LETTER OR SYMBOL

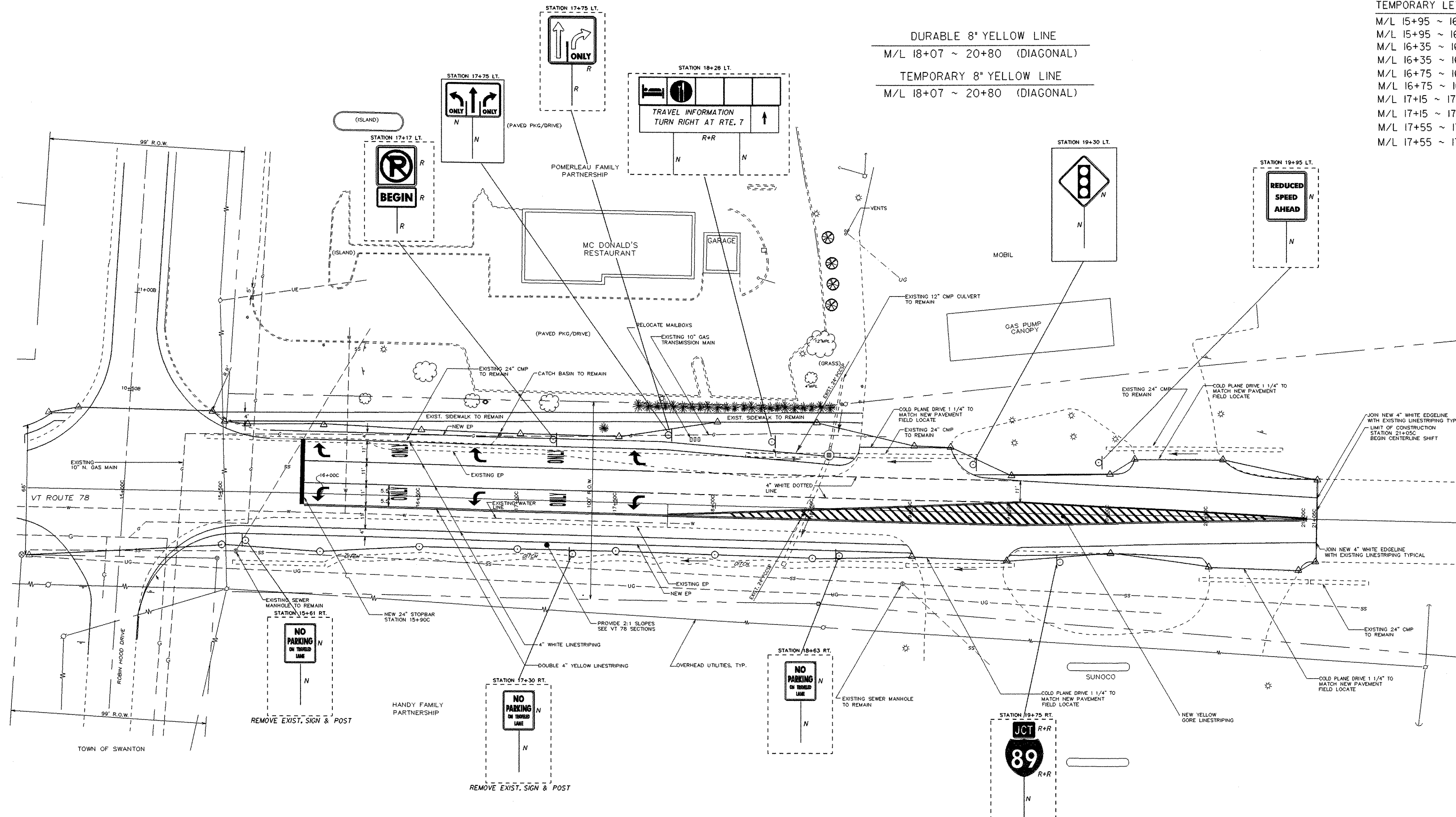
M/L 15+95 ~ 16+03.5 C/L (S)
 M/L 15+95 ~ 16+03.5 LT (L)
 M/L 16+35 ~ 16+43.5 C/L (M)
 M/L 16+35 ~ 16+43.5 LT (N)
 M/L 16+75 ~ 16+83.5 C/L (S)
 M/L 16+75 ~ 16+83.5 LT (L)
 M/L 17+15 ~ 17+23.5 C/L (M)
 M/L 17+15 ~ 17+23.5 LT (N)
 M/L 17+55 ~ 17+63.3 C/L (S)
 M/L 17+55 ~ 17+63.3 LT (L)

DURABLE 24" STOP BAR

M/L 15+89 ~ 15+91 LT/RT

TEMPORARY 24" STOP BAR

M/L 15+89 ~ 15+91 LT/RT



LEGEND
 R = REMOVE
 N = NEW
 R&S = REMOVE & SALVAGE
 R&R = REMOVE & RESET
 RET = RETAIN

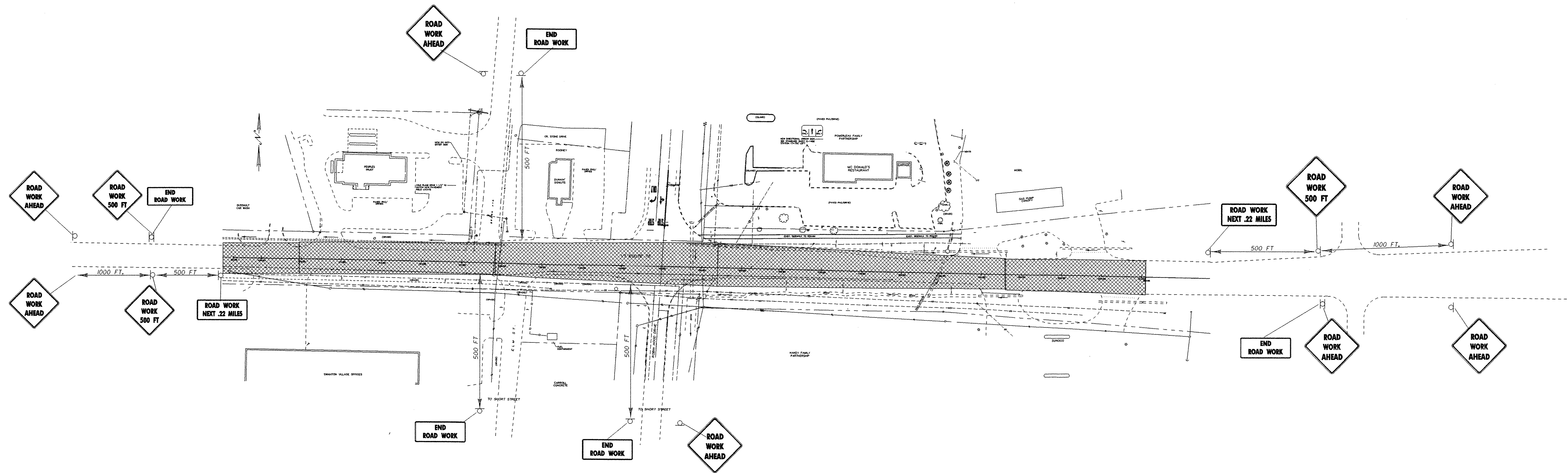
SCALE 1" = 30'-0"
 30 0 30

PAVEMENT MARKING AND SIGN SHEET	
PROJECT NAME:	SWANTON
PROJECT NUMBER:	STPG ST 036-1(11)
FILE NAME:	P:\00b150\traffic\layout2 sign.dgn
PROJECT LEADER:	B. NYQUIST
DESIGNED BY:	TRAFFIC DESIGN
	tb150pmss2.1
PLOT DATE:	19-APR-2006
DRAWN BY:	TRAFFIC DESIGN
CHECKED BY:	TRAFFIC DESIGN
	SHEET 9 OF 45

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS		NEW & SALVAGED SIGNS				EXIST. POST RETAIN	SALVAGED	NO. OF POSTS	NEW SIGN POSTS														REMARKS	SIGN DETAIL				
		E A	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN				SALV TIS	FLANGED CHANNEL			SQUARE STEEL (in)			TUBULAR ALUMINUM Ø (in)			TUBULAR STEEL Ø (in)					W-SHAPE STEEL		DETAIL ON SHEET NUMBER	STD. SHEET NUMBER	
												lb/ft	lb/ft	lb/ft	1.75	2.0	2.5	3.0	4.0	4.0 MOD	FOUN-DATION	3.0	3.5	4.0		5.0	FTG. SIZE			WEIGHT
ELM STREET STA. 13+37 RT										1			X			X											REMOVE AND RESET STREET SIGNS			
																											STOP SIGN TO BE REMOVED			
STA. 13+55 RT																											REMOVE			
																											REMOVE			
STA. 13+21 RT			24	18	2.62					1			X			X											VR-039 VR-038		E-141	
			24	24	4.0																						R2-1		E-142	
STA. 13+90 RT																											REMOVE			
STA. 14+10 LT																											REMOVE			
STA. 14+28 RT																											REMOVE			
																											REMOVE			
STA. 14+49 LT			36	36	9.0					1			X			X											W11-8 REMOVE EXIST. SIGNS AND POST	SEE DETAIL		
<p>FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."</p>												FT	FT	FT	FT	FT	FT	EA	LB	LB	LB	LB	LB	LB	EA	EA	LB			
												27	27	27	27	27	27													
TOTALS		SF	SF	EA	SF							FT	FT	EA	LB	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
		14.24										27	27																	

PROJECT NAME: SWANTON
 PROJECT NUMBER: STPG ST 036-1(11)
 FILE NAME: PW0001501\TRAFFIC\MICRO\TIT.DGN PLOT DATE: 19-APR-2006
 PROJECT LEADER: B. NYQUIST DRAWN BY: TRAFFIC DESIGN
 DESIGNED BY: TRAFFIC DESIGN CHECKED BY: TRAFFIC DESIGN
 TIT.dgn tbi05tss21 SHEET 11 OF 45



NOT TO SCALE

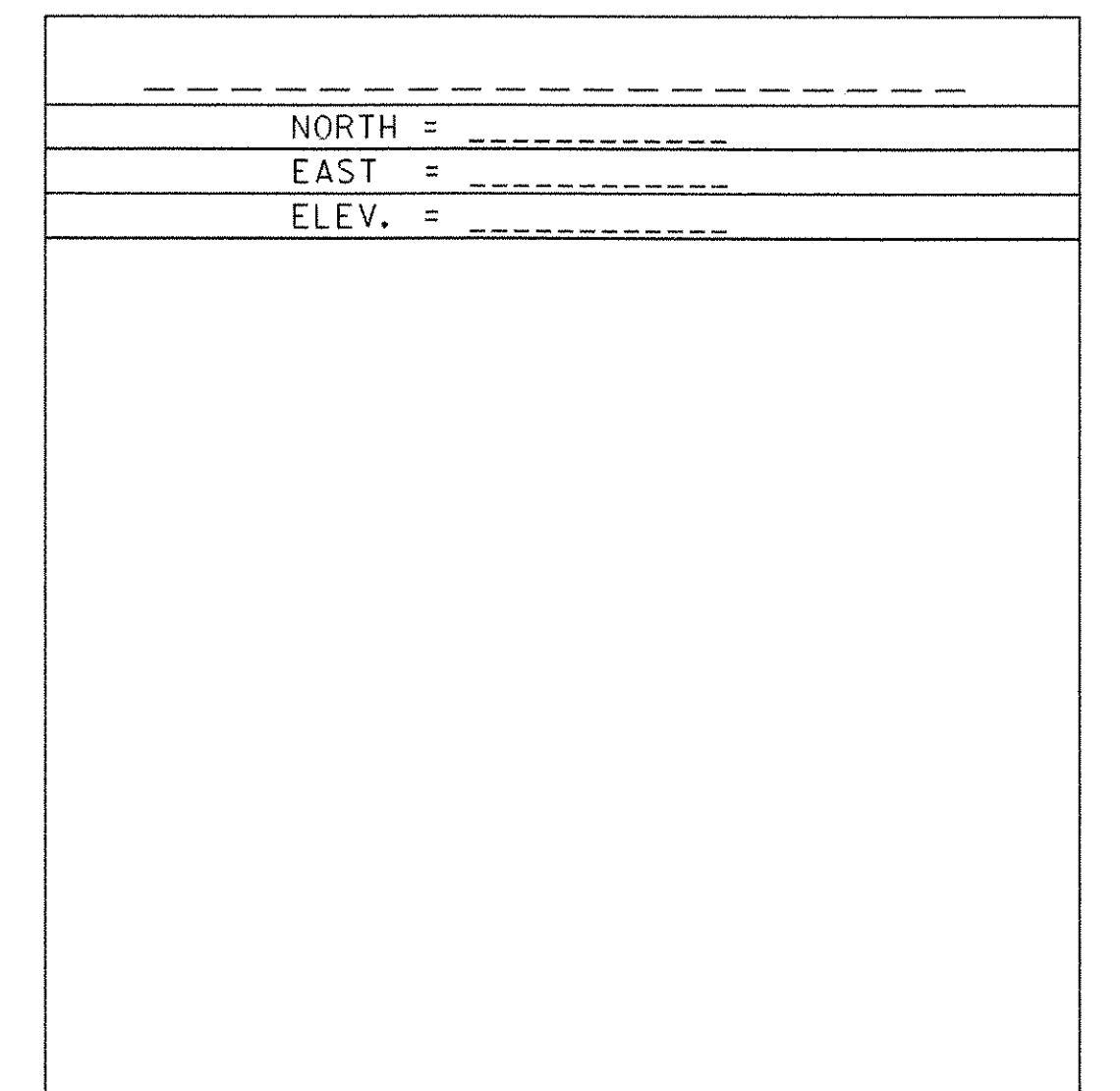
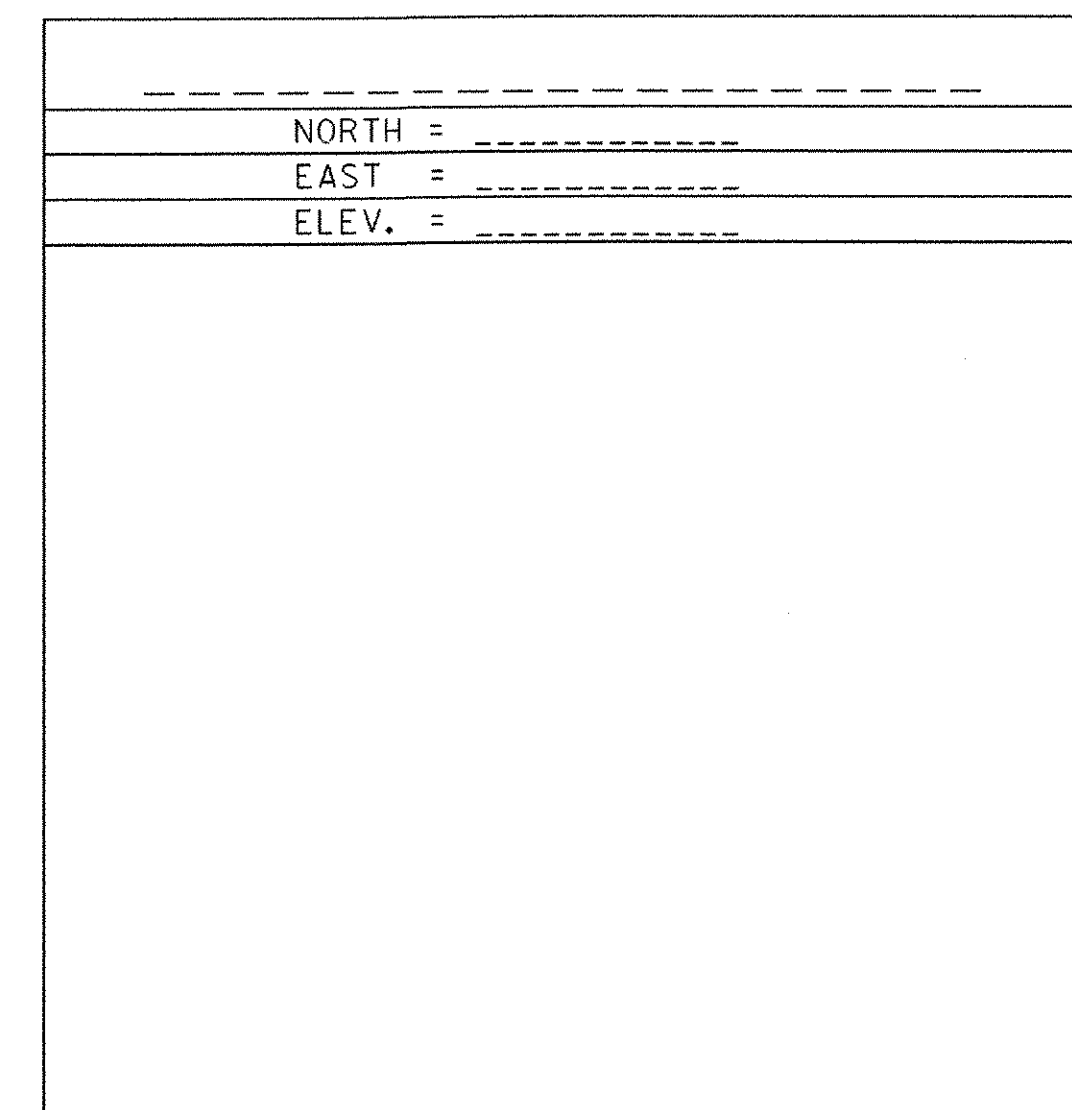
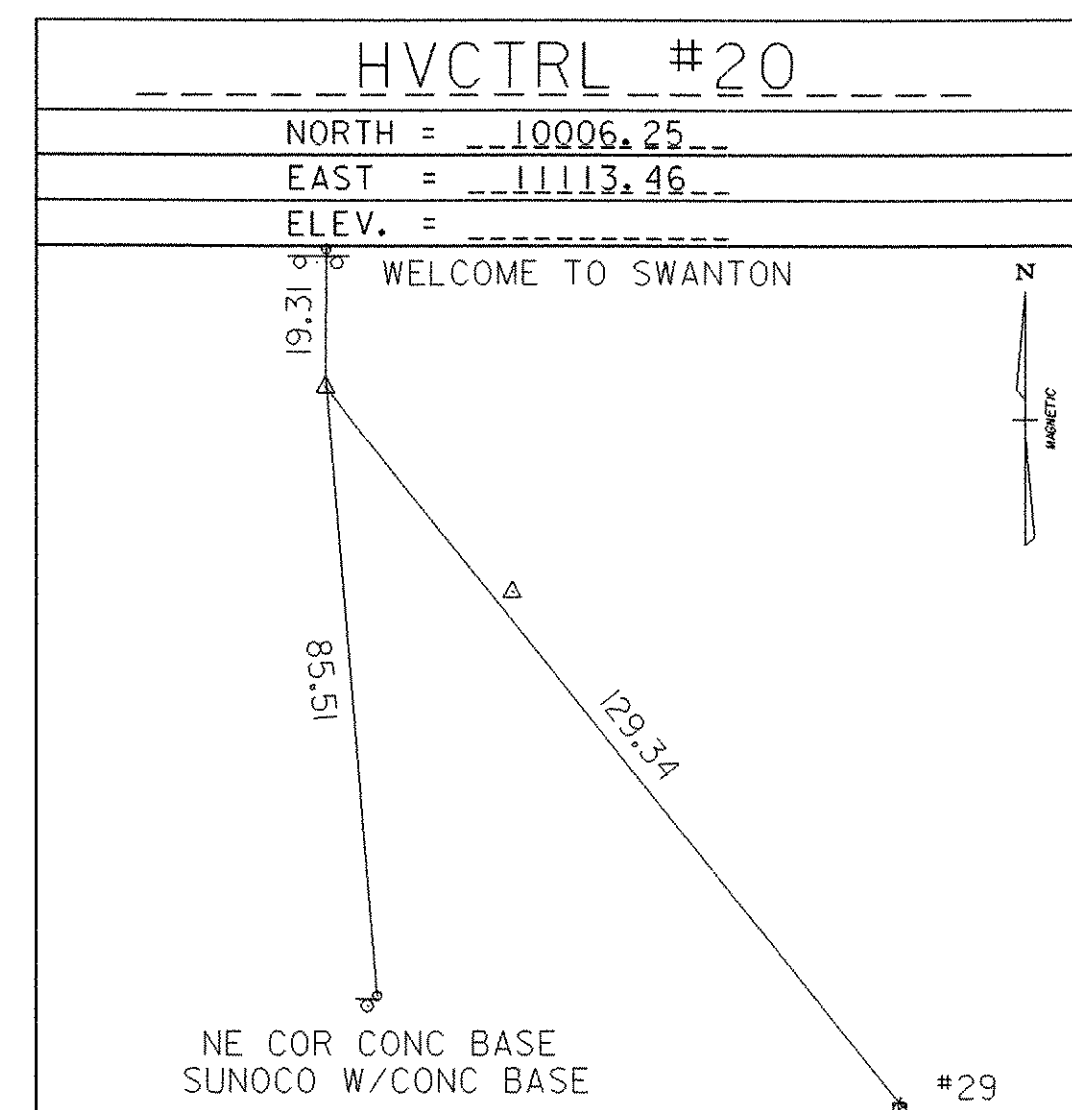
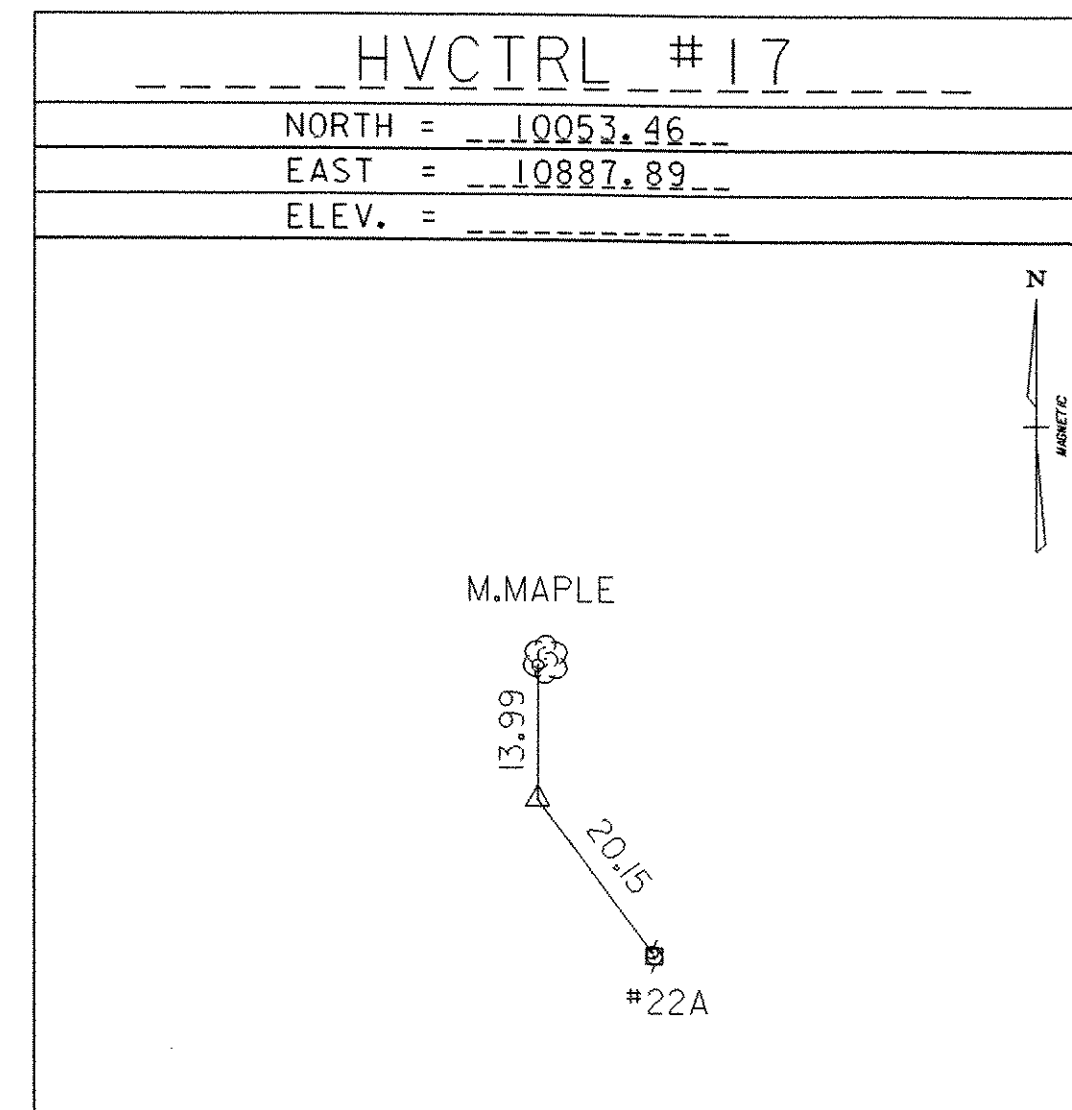
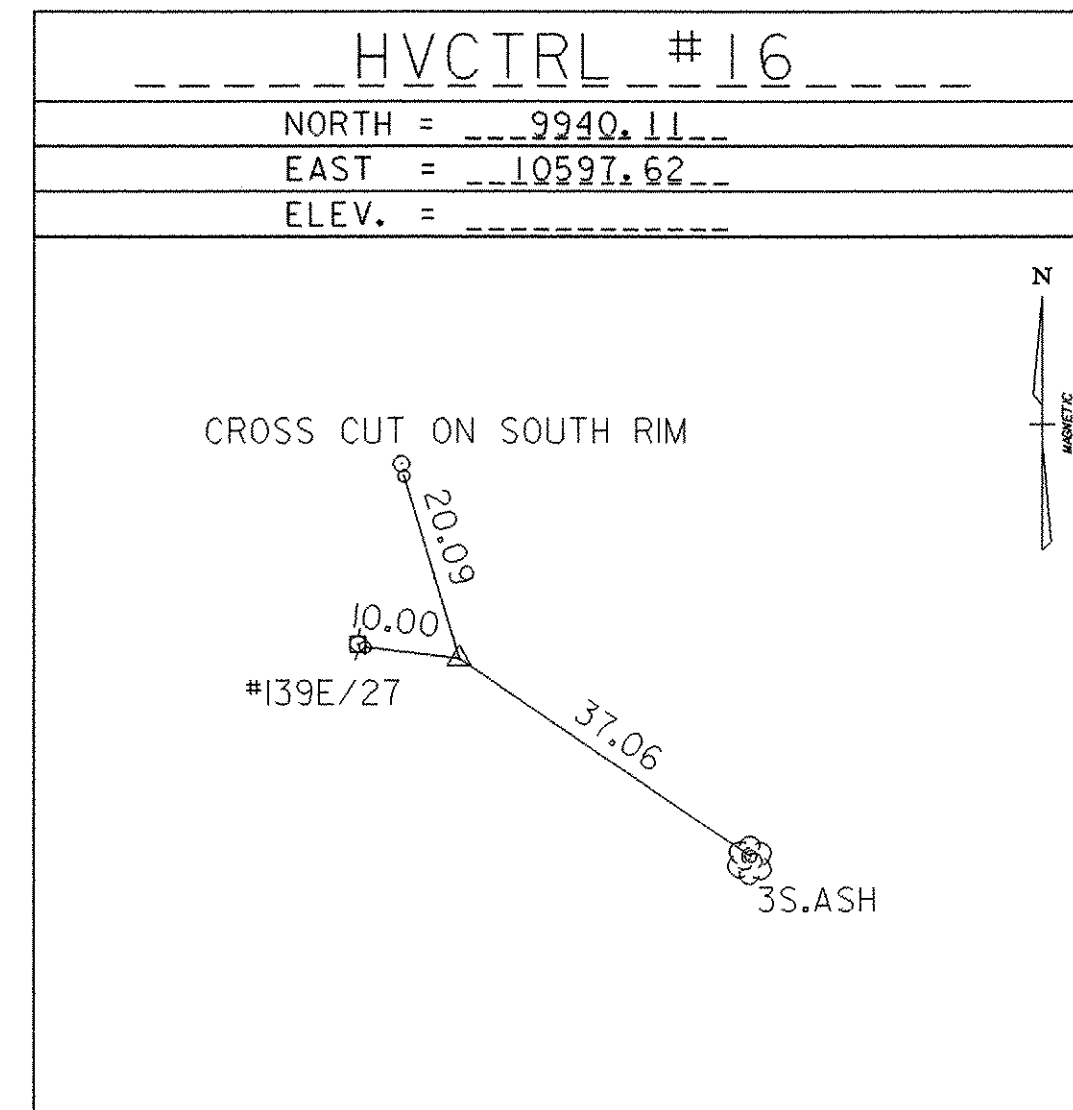
CONSTRUCTION APPROACH SIGN SHEET

PROJECT NAME:	SWANTON	FILE NAME:	P:\008\50\TRAFFIC_DES_LAYOUT.DGN	PLOT DATE:	19-APR-2006
PROJECT NUMBER:	STPG ST 036-1(1)	PROJECT LEADER:	B. NYQUIST	DRAWN BY:	TRAFFIC DESIGN
DESIGNED BY:	TRAFFIC DESIGN	CHECKED BY:	TRAFFIC DESIGN	SHEET	5 OF 45
layout1.dgn	tb1500ass1				

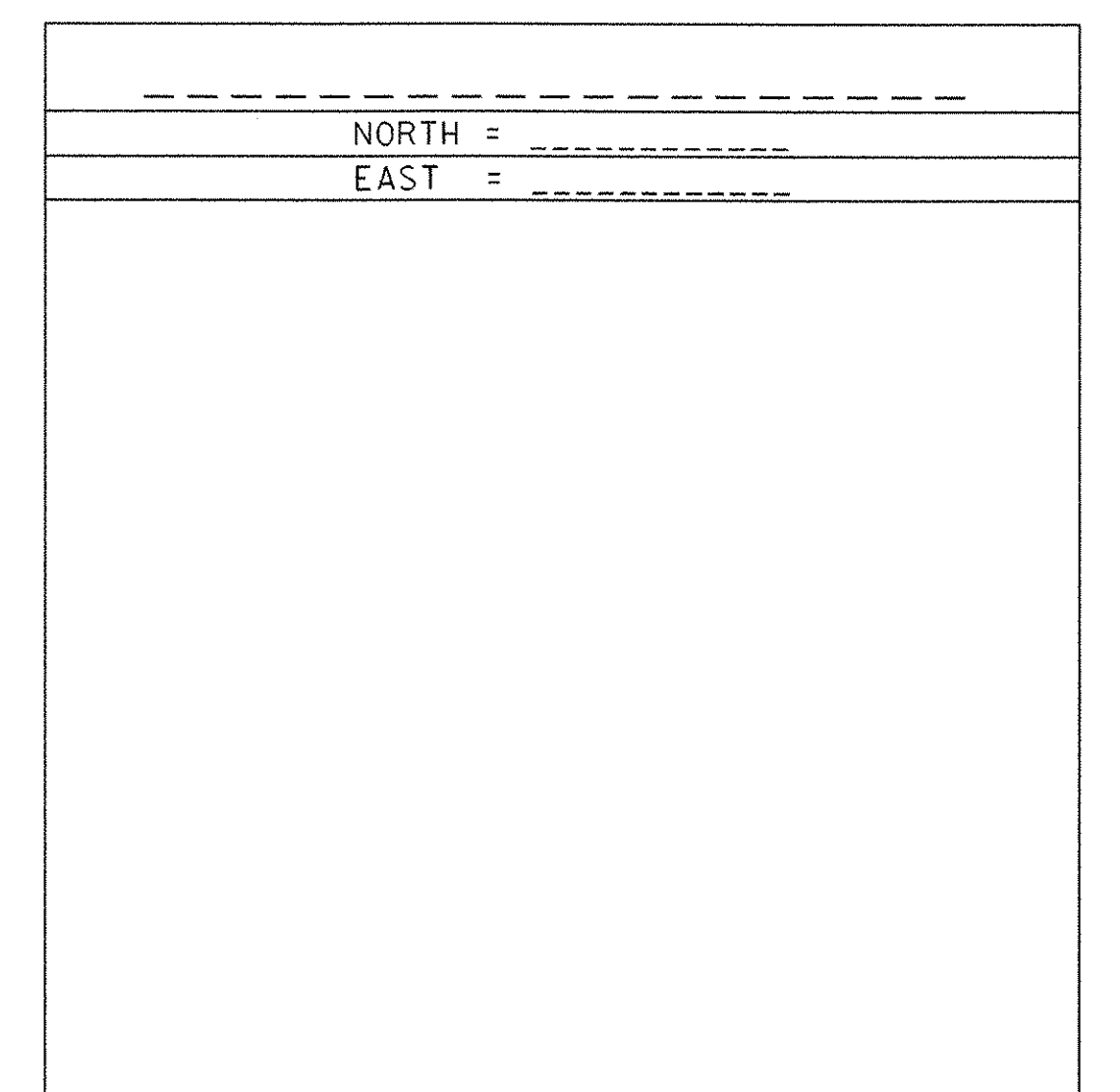
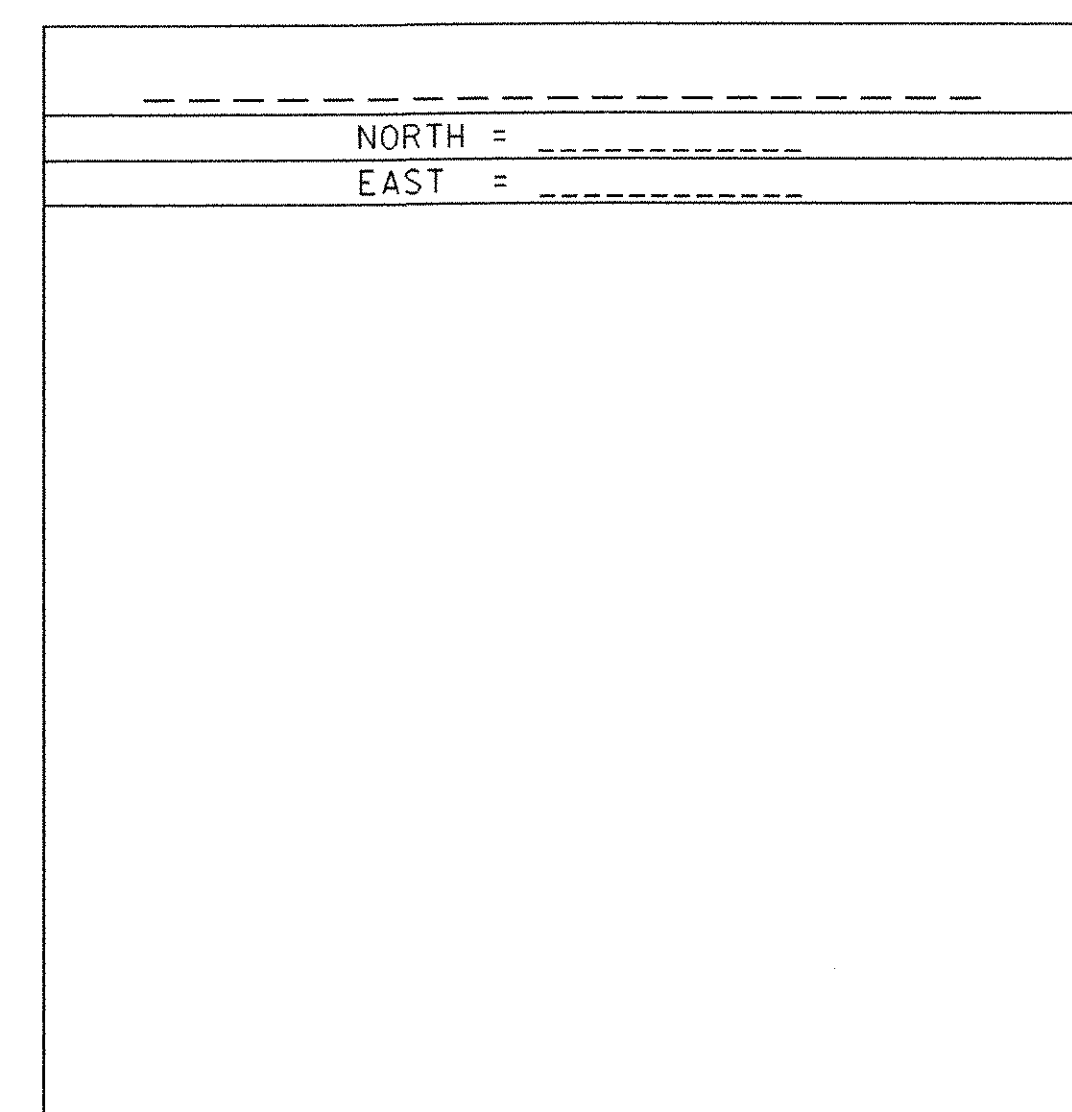
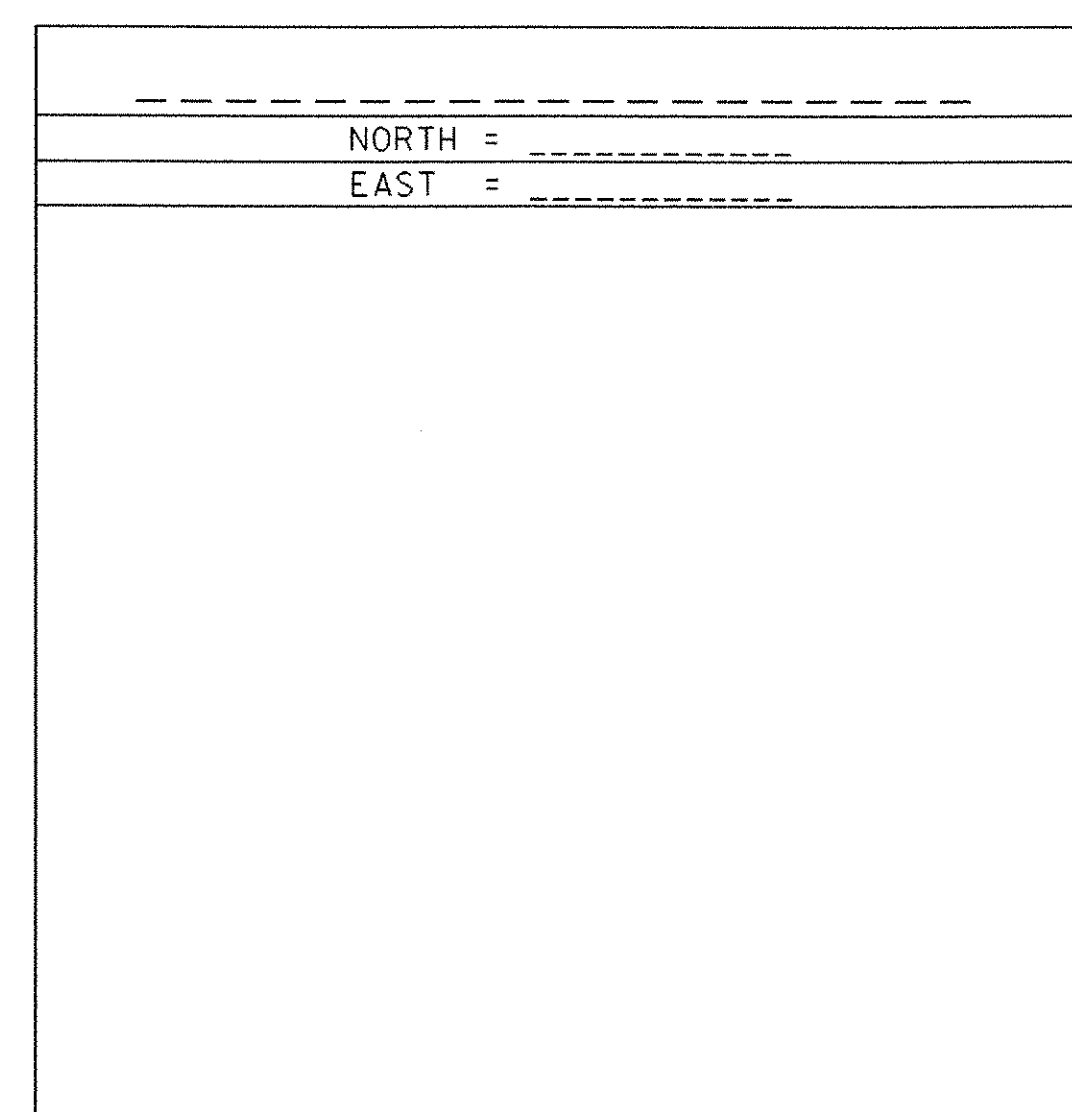
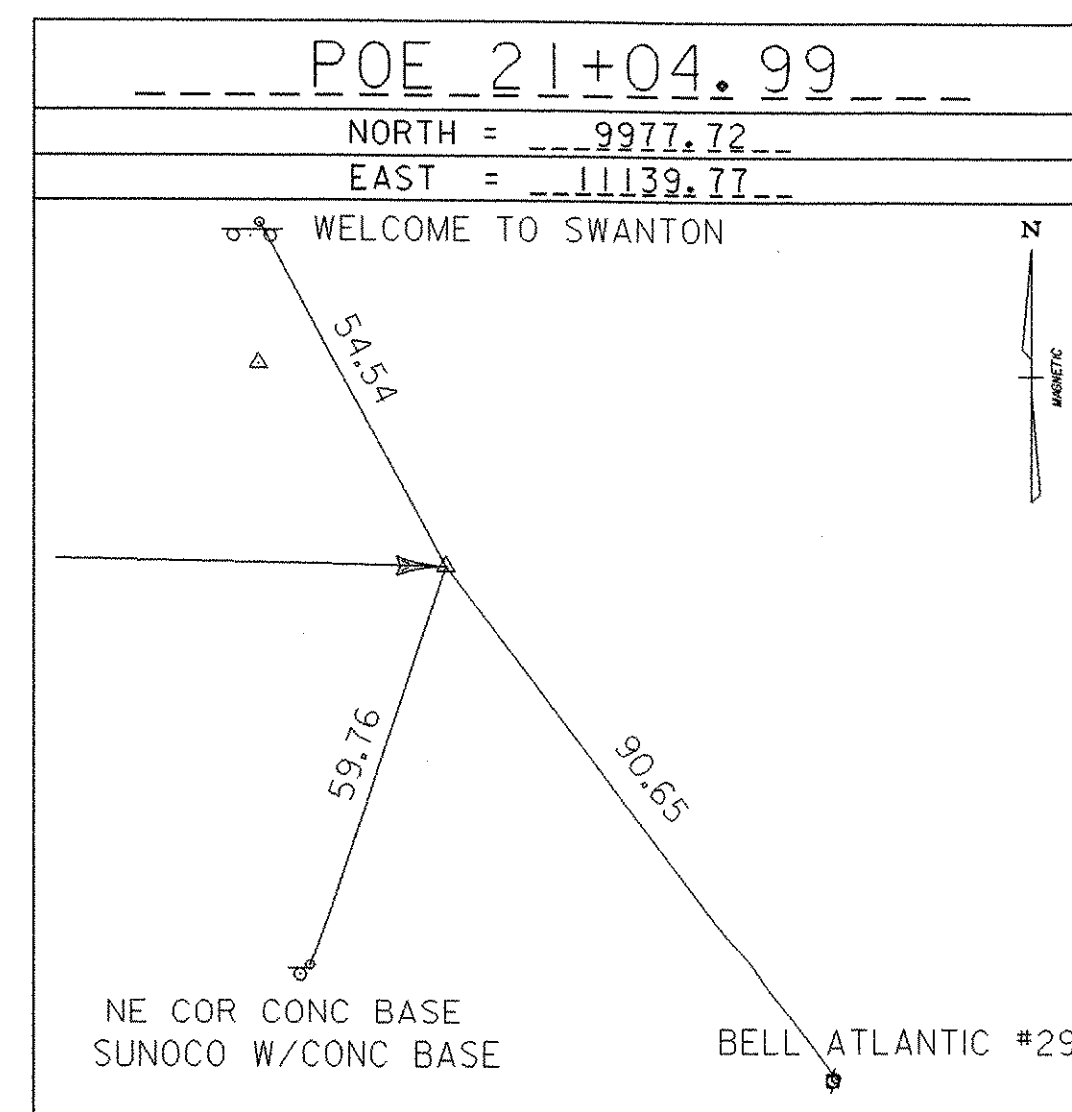
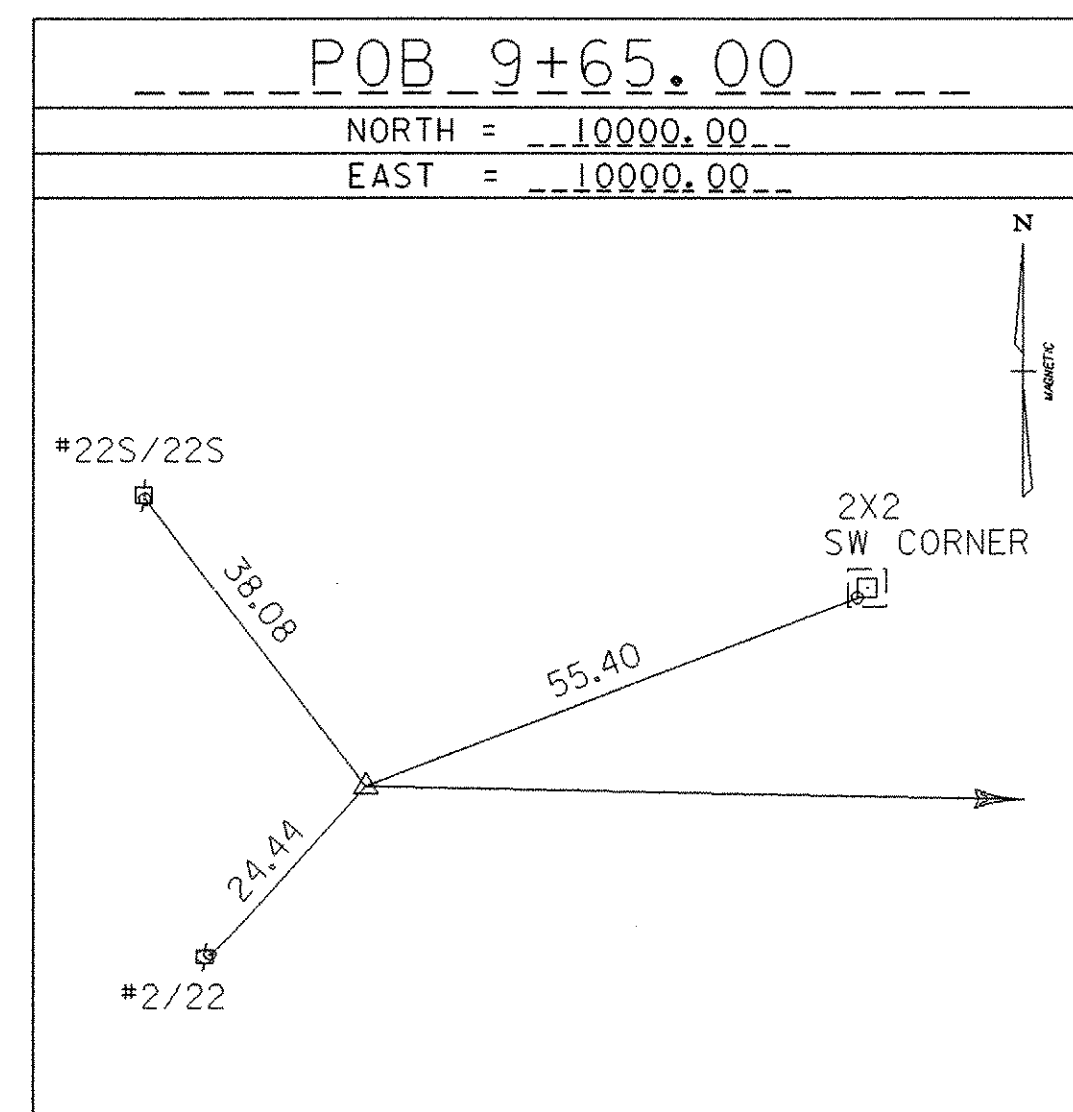
GPS CONTROL POINTS

CONTROL AND SURVEY DONE BY CROSS ENGINEERS
NO DATUMS WERE REFERENCED

TRAVERSE TIES



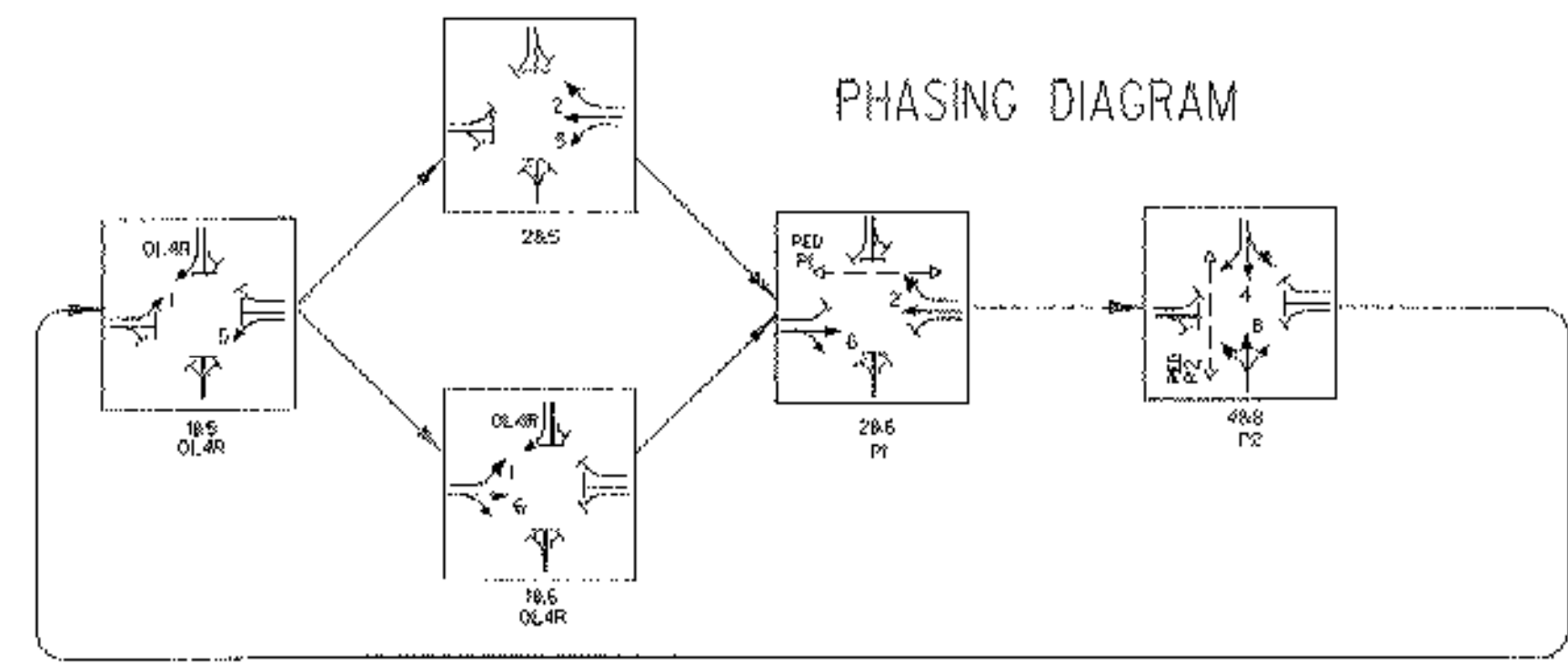
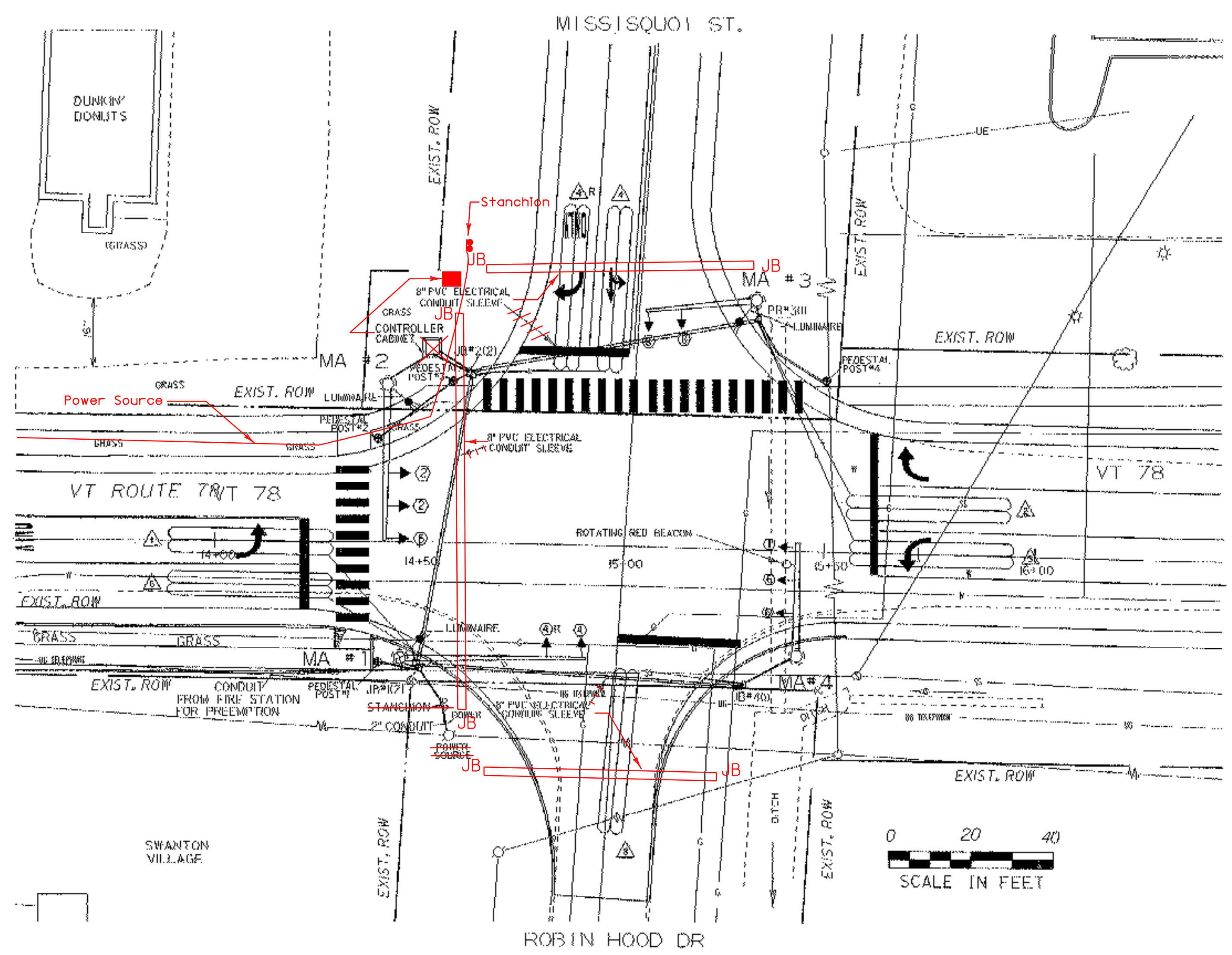
ALIGNMENT TIES



Alignment Staked 04-08-2005 by L.Orvis P.C. & C.Harding

DATUM	
VERTICAL	UNKNOWN
HORIZONTAL	ASSUMED
ADJUSTMENT	UNKNOWN

PROJECT NAME:	SWANTON
PROJECT NUMBER:	SIPG ST 036-1(11)
FILE NAME:	00b1502trcfic/tb00b15011.dg
PROJECT LEADER:	B.Nyquist
DESIGNED BY:	B.Bullock
	tb05tie.1
PLOT DATE:	19-APR-2006
DRAWN BY:	B.Bullock
CHECKED BY:	B.Bullock
	SHEET 16 OF 45



CONTROLLER TIMING CHART

LOCAL PROGRAMMING	PHASE							
	1	2	3	4	5	6	7	8
MINIMUM GREEN	8.0	18.0	8.0	8.0	18.0	8.0		
EXTENSION	2.0	2.0	2.0	2.0	2.0	2.0		
YELLOW CLEARANCE	4.0	4.0	4.0	4.0	4.0	4.0		
ALL RED CLEARANCE	2.0	2.0	2.0	2.0	2.0	2.0		
MAX. GREEN I (AM PEAK)	16.0	34.0	16.0	16.0	34.0	16.0		
MAX. GREEN II (OFF PEAK)	16.0	28.0	16.0	16.0	28.0	16.0		
MAX. GREEN III (PM PEAK)	16.0	38.0	16.0	16.0	28.0	16.0		
WALK	-	8	8	-	8	8		
FLASHING DON'T WALK	-	13	27	-	13	27		
RECALL								
MEMORY								

WEEKDAY TIMINGS

AM PEAK PERIOD	6:00 AM - 9:00 AM
OFF PEAK PERIOD	9:00 AM - 3:45 PM
PM PEAK PERIOD	3:45 PM - 6:00 PM

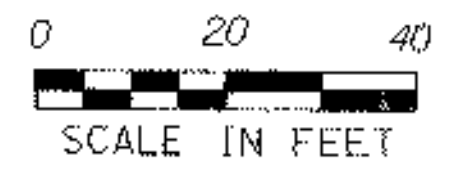
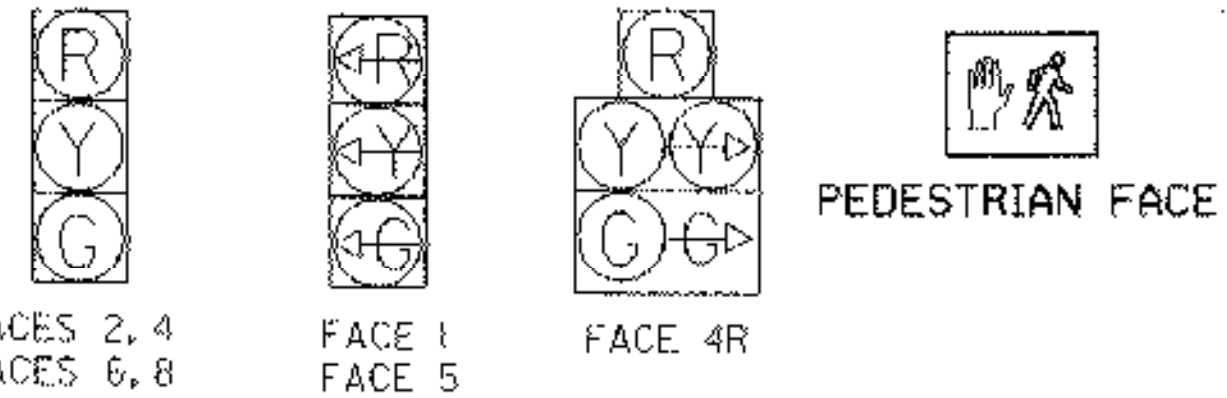


TABLE OF CHANGE SEQUENCE

PHASE	1-5		1-6		2-5		2-6		4-8	
	CLEAR TO	ALL OTHERS	CLEAR TO	ALL OTHERS	CLEAR TO	ALL OTHERS	CLEAR TO	ALL OTHERS	CLEAR TO	ALL OTHERS
1	R	R	R	R	R	R	R	R	R	R
2	R	R	R	R	G	Y	R	G	R	R
4	R	R	R	R	R	R	R	R	G	Y
4R	R	R	R	R	R	R	R	R	R	R
5	G	Y	R	R	R	R	R	R	R	R
6	R	R	G	Y	R	R	G	G	R	R
8	R	R	R	R	R	R	R	R	R	R
P1	D	D	D	D	D	D	D	D	W	F
P2	D	D	D	D	D	D	D	D	D	D
P3	D	D	D	D	D	D	D	D	D	D

NOTE: W=WALK, FD=FLASH DON'T WALK, DW=DON'T WALK, B=BLANK
 * = INDICATIONS WILL BE WHEN THERE IS NO PEDESTRIAN ACTUATION
 ** = 12:00 AM - 6:00 AM

SIGNAL FACE ARRANGEMENT



AVERAGE WEEKDAY TRAFFIC

Direction	AM	OFF	PM
MISSISQUOI ST. SB	134	378	130
MISSISQUOI ST. NB	9	130	354
VT. 78 EB	205	533	231
VT. 78 WB	1087	2022	1303
VT. 78 SB	36	38	15
VT. 78 NB	87	249	156
ROBIN HOOD DR. NB	674	1849	1582
ROBIN HOOD DR. SB	41	33	17

VEHICLE DETECTOR LOOPS

LOOP NO.	LANE	CALL	SIZE	TYPE & NO. TURNS	DELAY OR PRESENCE	DELAY TIME (SEC)	INDUCTANCE CALC. ACT.	RESISTANCE CALC. ACT.	LEAKAGE TO GROUND	LOCKING MEMORY
1	EB	1	6X40	QUAD/2-TURN	PRESENCE		370	0.97		YES
2	WB	2	6X40	QUAD/2-TURN	PRESENCE		372	1.00		NO
4	SB	4	6X40	QUAD/2-TURN	PRESENCE		350	0.72		NO
4R	SB	4	6X40	QUAD/2-TURN	PRESENCE		348	0.68		NO
5	WB	5	6X40	QUAD/2-TURN	PRESENCE		375	1.10		YES
6	EB	6	6X40	QUAD/2-TURN	PRESENCE		369	0.95		NO
8	NB	8	6X40	QUAD/2-TURN	PRESENCE		388	1.20		NO

NOTE: BACK PLATES TO BE INSTALLED ON ALL HEADS

LEGEND

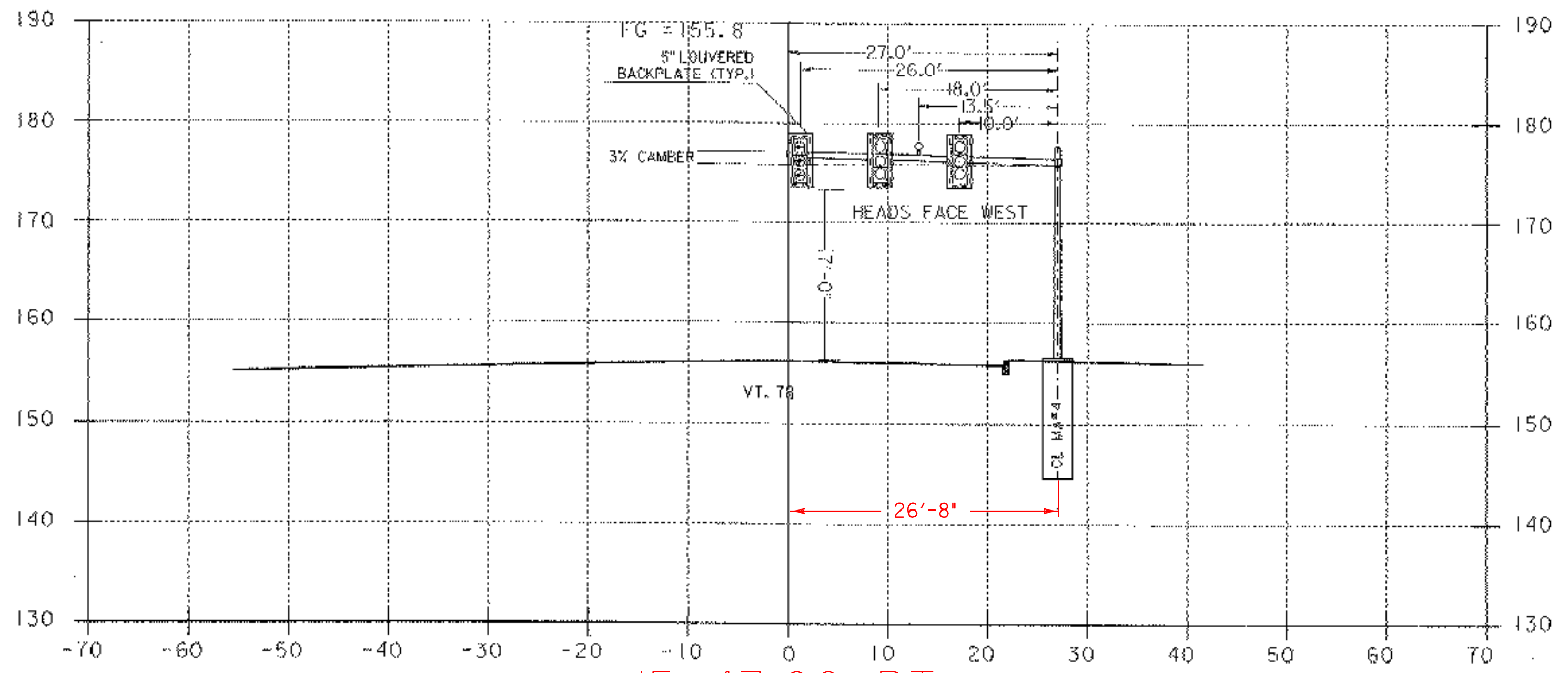
EXISTING	NEW	LEGEND
		UTILITY POLE
		LUMINAIRE
		WOOD POLE
		STRAIN POLE
		CONTROLLER CABINET
		PULL BOX/JUNCTION BOX
		SIGNAL HEAD
		CONDUIT
		VEHICLE LOOPS
		PEDESTAL POST
		STANCHION
		SWEEP

SIGNAL SHEET 1

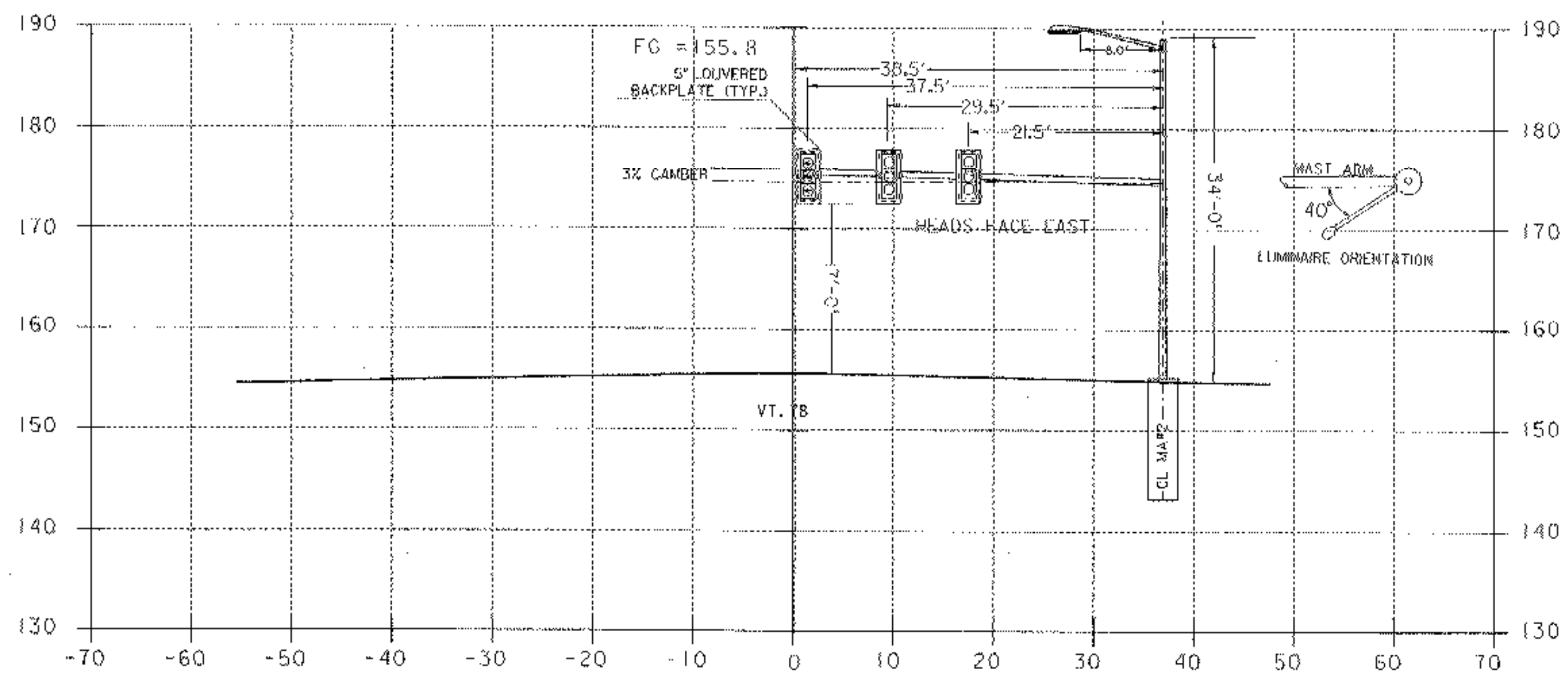
PROJECT NAME: **SWANTON**
 PROJECT NUMBER: **STPG ST 036-10D**

FILE NAME: p:\00850\16150\signal.dgn
 PROJECT LEADER: **B. NYQUIST**
 DESIGNED BY: **TRAFFIC DESIGN**
 t16150siget1

PLOT DATE: 19-APR-2006
 DRAWN BY: **TRAFFIC DESIGN**
 CHECKED BY: **TRAFFIC DESIGN**
 SHEET 17 OF 45



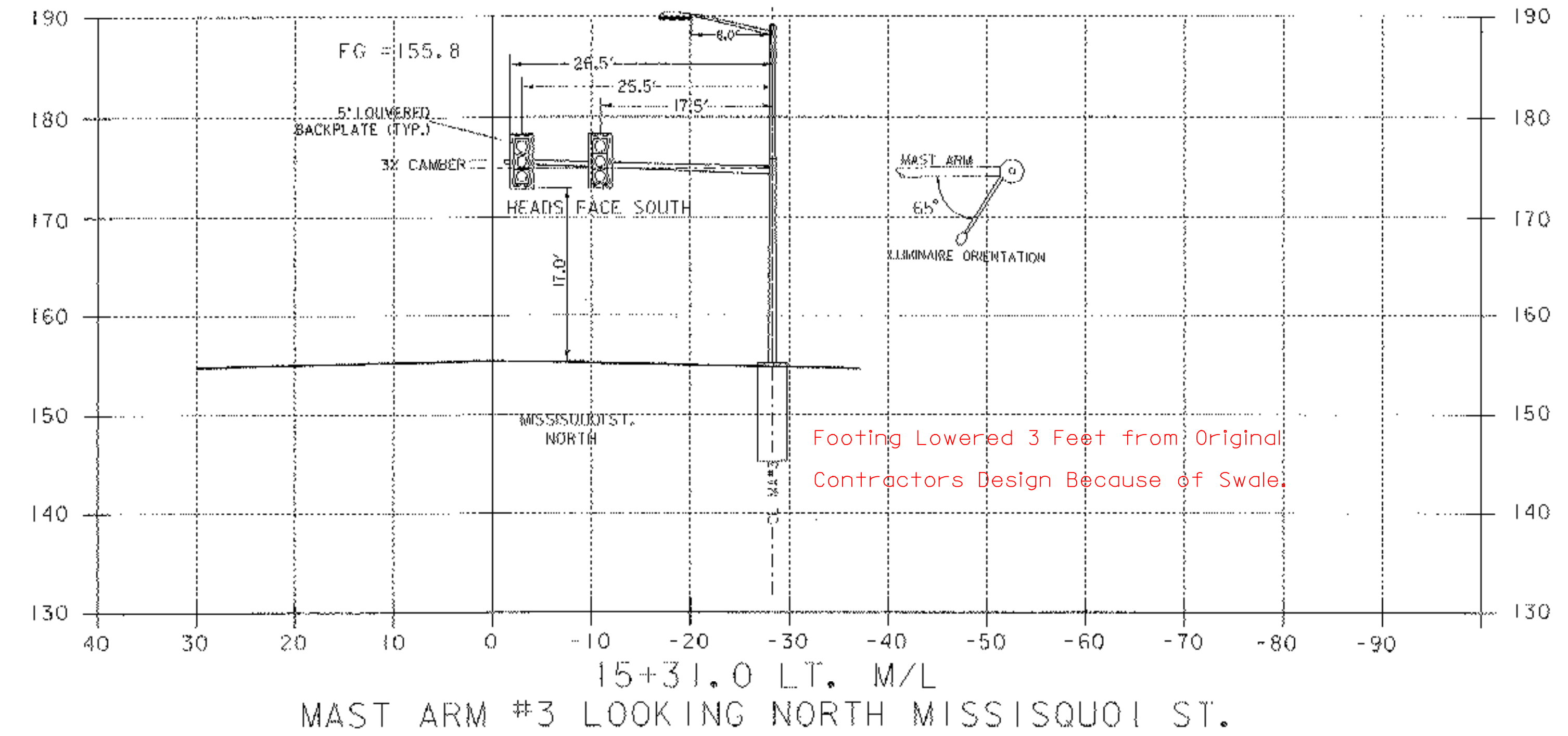
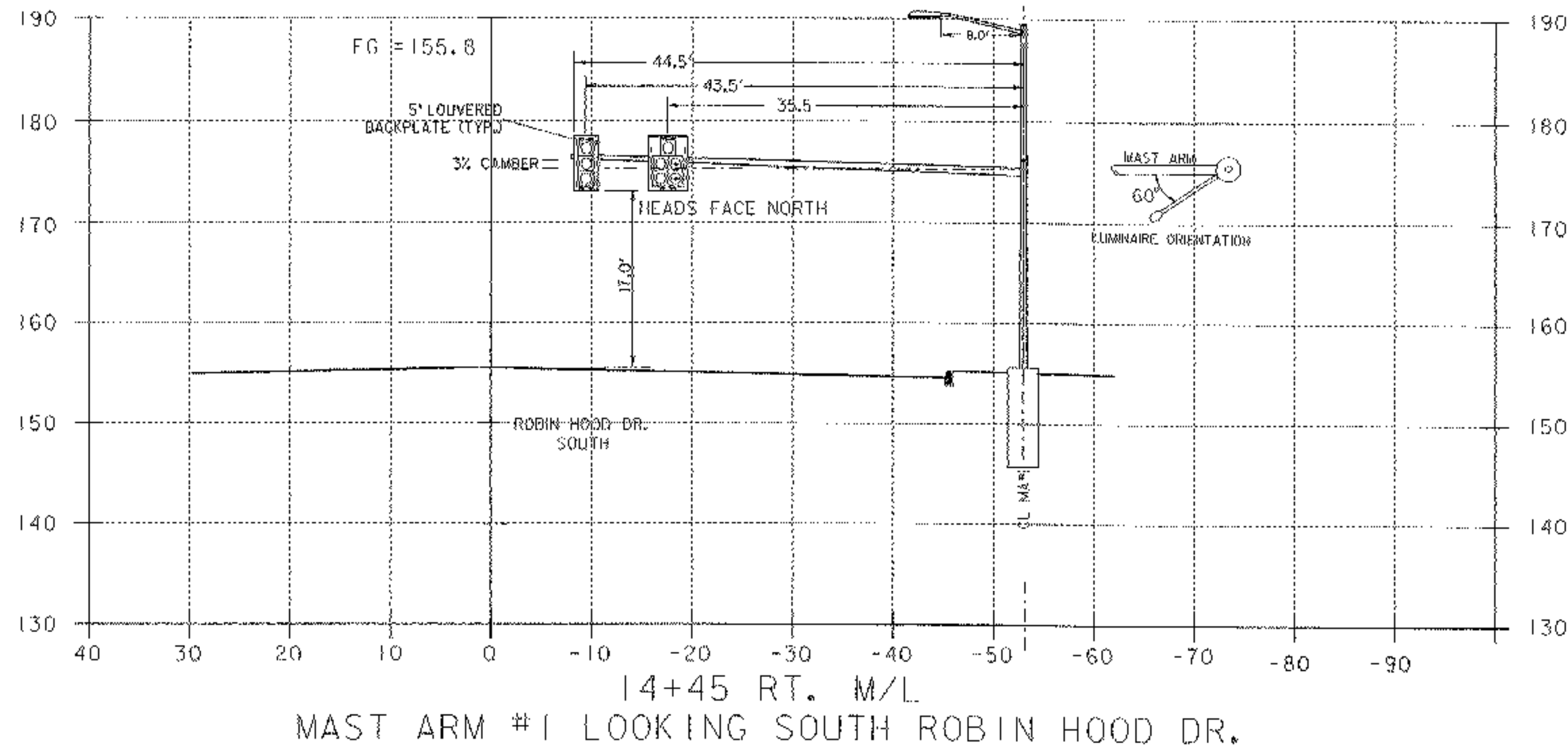
15+47.00 RT.
~~15+42.60 RT.~~
 MAST ARM #4 VT. 78 LOOKING EAST



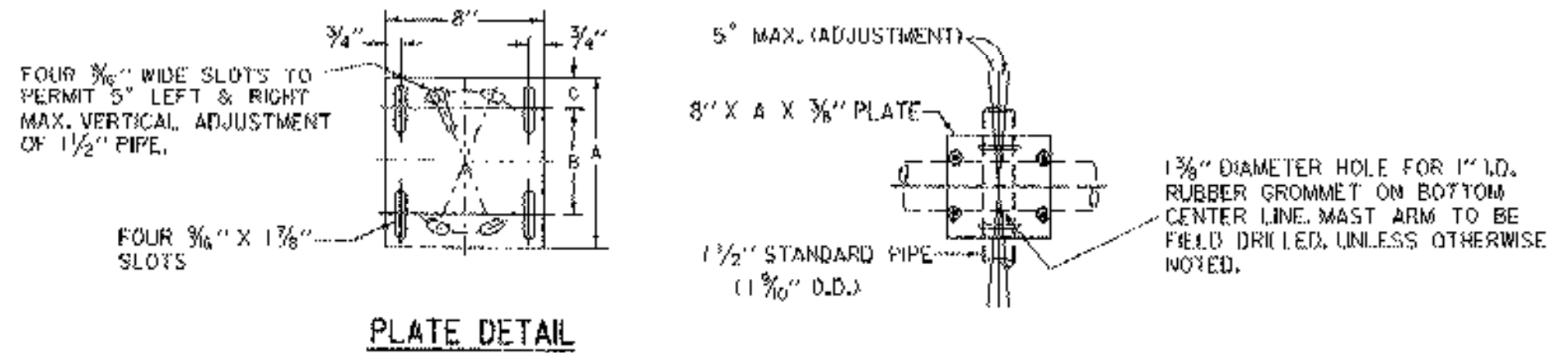
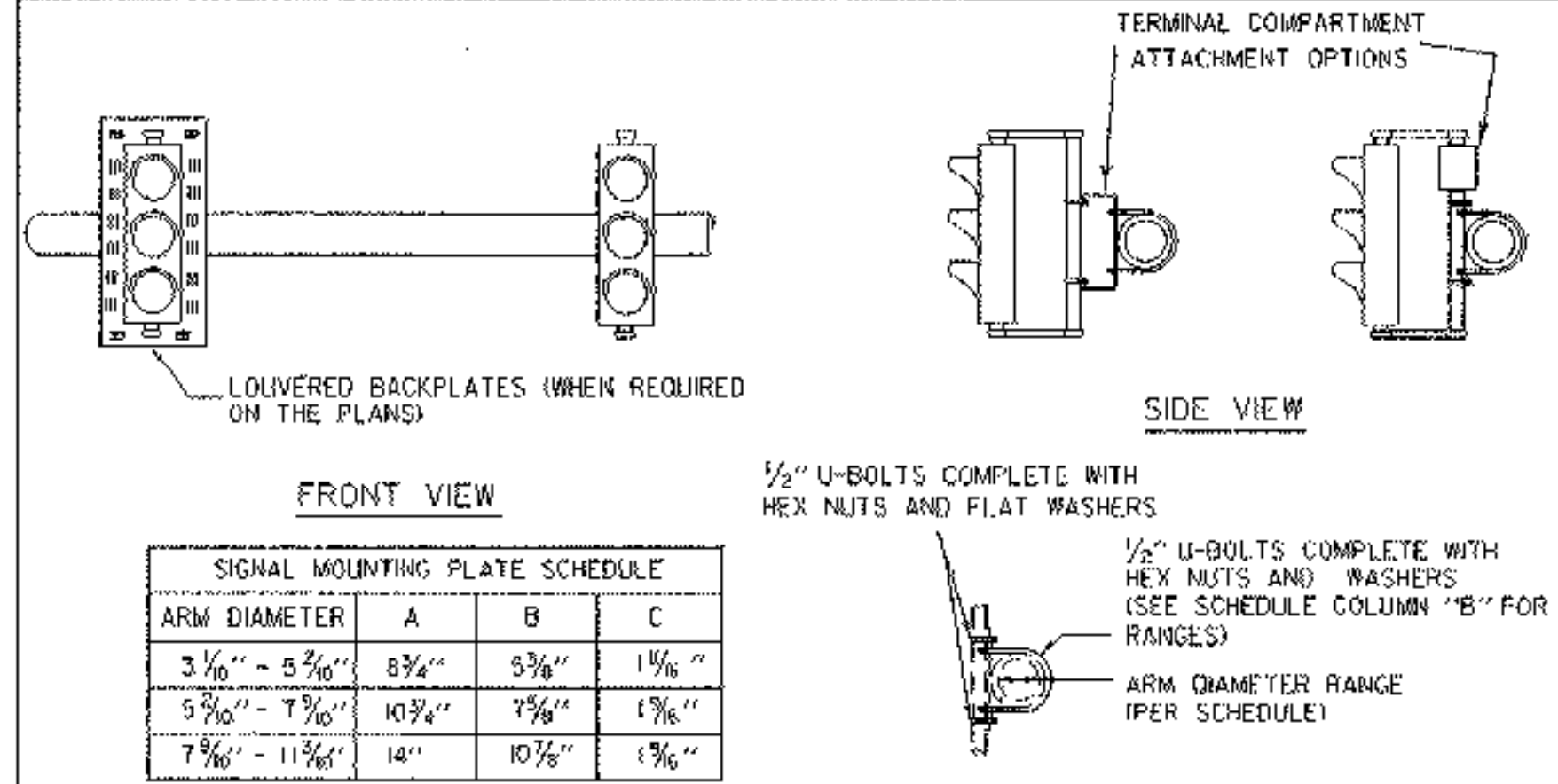
14+42 LT.
 MAST ARM #2 VT. 78 LOOKING WEST

TRAFFIC SHEET

PROJECT NAME:	SWANTON		
PROJECT NUMBER:	STPG ST 036-101		
FILE NAME:	d:\2006\03\trf\trf031906.dgn	PLOT DATE:	19-APR-2006
PROJECT LEADER:	D. NYQUIST	DRAWN BY:	TRAFFIC DESIGN
DESIGNED BY:	TRAFFIC DESIGN	CHECKED BY:	TRAFFIC DESIGN
	N:\501\gs2.i	SHEET	18 OF 45



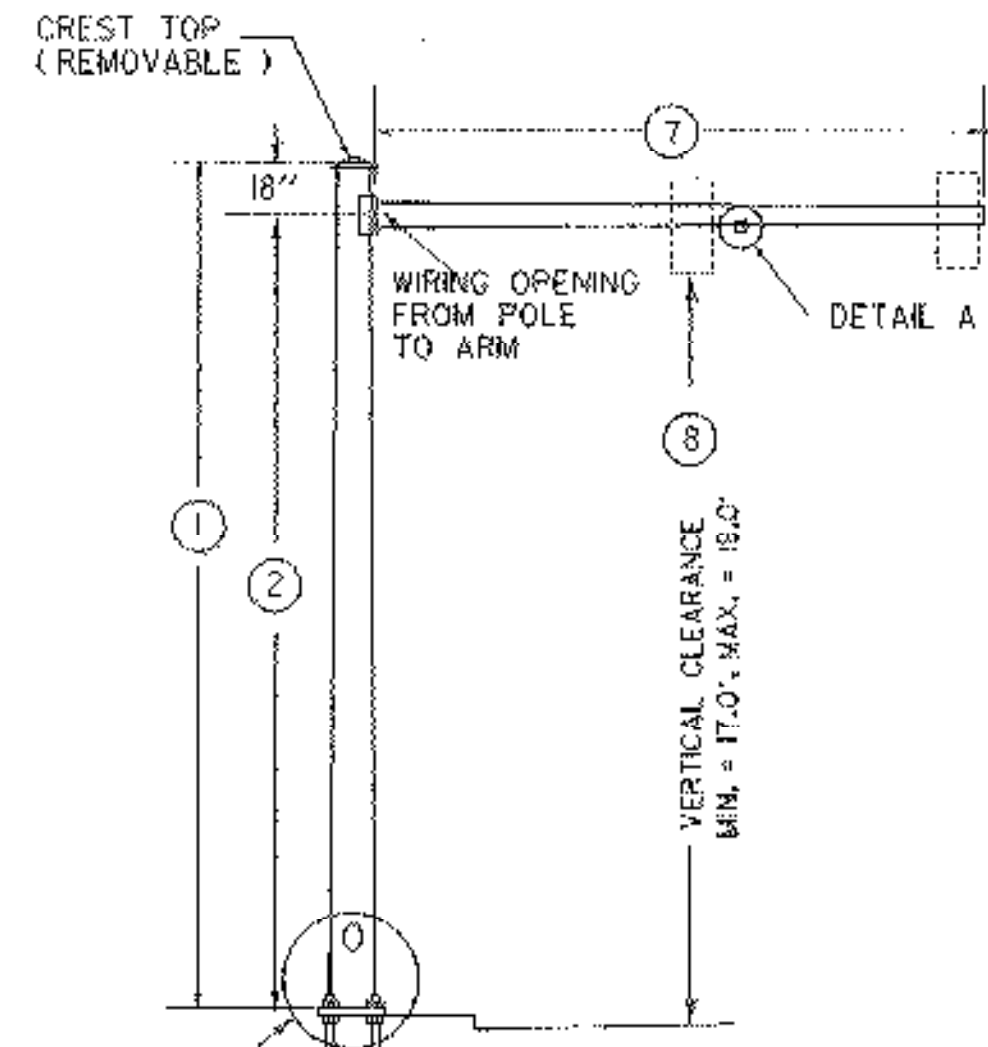
MAST ARM MOUNTING DETAILS FOR FIXED MOUNT TRAFFIC SIGNALS
(PREFERRED METHOD)



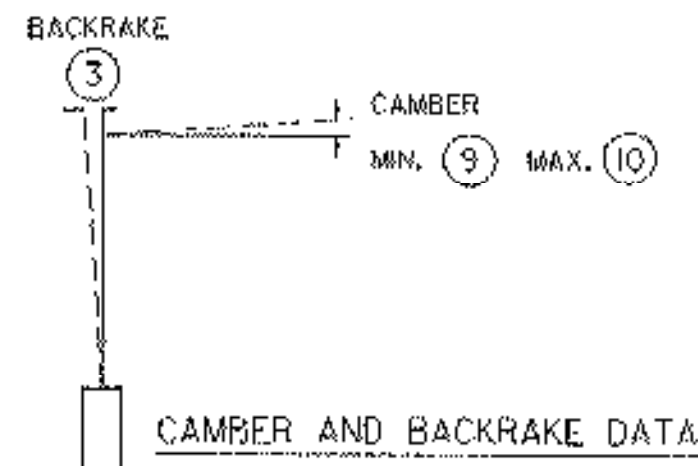
1. ALTERNATE METHODS FOR RIGID MOUNTING OF SIGNALS TO MAST ARMS MAY BE USED. FABRICATION DRAWINGS FOR THE ALTERNATE METHOD HARDWARE SHALL BE SUBMITTED TO THE TRAFFIC DESIGN SECTION VIA THE RESIDENT ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
2. ALL RIGIDLY MOUNTED TRAFFIC AND PEDESTRIAN SIGNALS SHALL BE PROVIDED WITH REINFORCEMENT PLATES AT THE ATTACHMENT POINTS.
3. ALL NUTS, BOLTS AND WASHERS SHALL BE STAINLESS STEEL.
4. ALL OTHER MOUNTING BRACKET MATERIALS SHALL BE GALVANIZED STEEL.

TRAFFIC SHEET

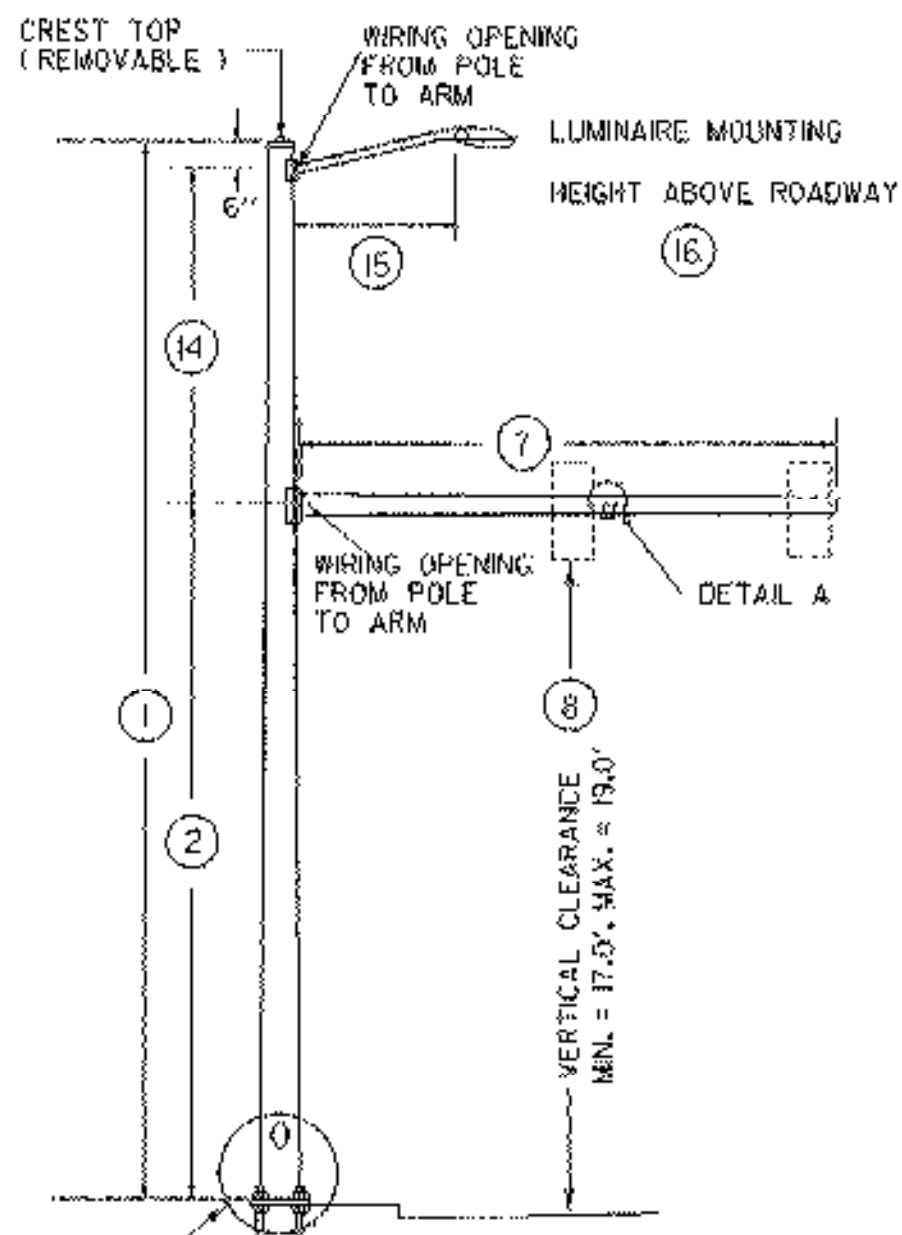
PROJECT NAME:	SWANTON	PLOT DATE:	19-APR-2006
PROJECT NUMBER:	STPG ST 036-1011	DRAWN BY:	TRAFFIC DESIGN
FILE NAME:	pwz/traffic/006150/tb150signal.dgn	DESIGNED BY:	TRAFFIC DESIGN
PROJECT LEADER:	B. NYQUIST	CHECKED BY:	TRAFFIC DESIGN
DESIGNED BY:	lroyou1.dgn	SHEET	19 OF 45
	tb150slgs.3.r		



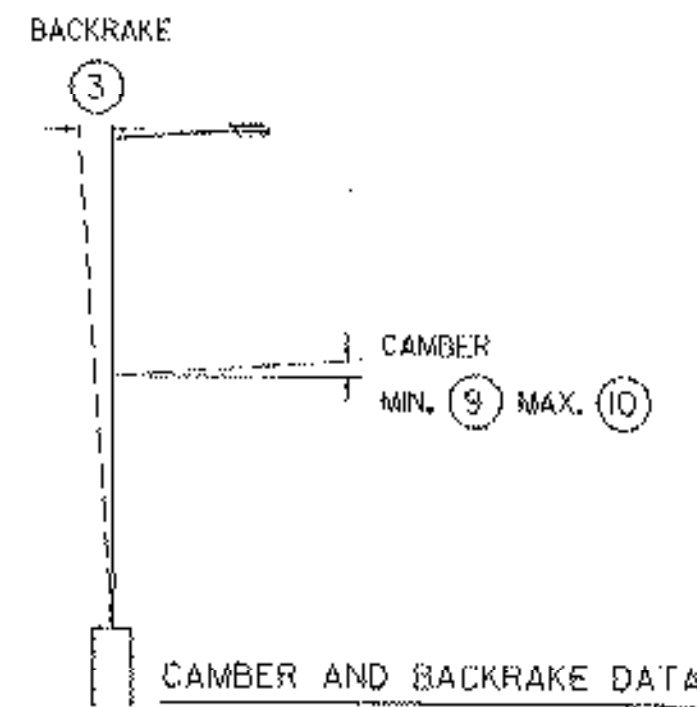
SEE POLE BASE AND BASE PLATE DETAIL
TYPE A



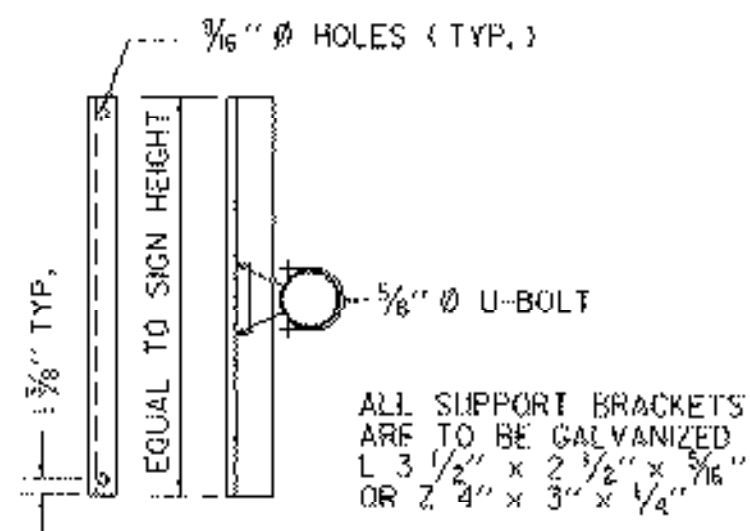
- POLE BASE DIAMETER (4)
- POLE GAUGE (5)
- POLE TAPER RATE (6)
- ARM DIAMETER (11)
- ARM GAUGE (12)
- ARM TAPER RATE (13)



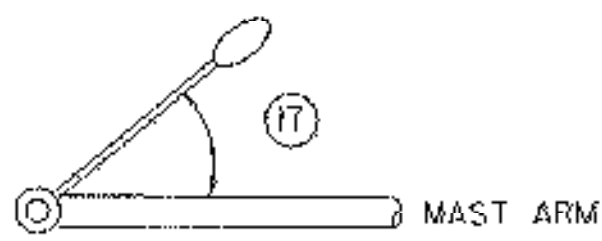
SEE POLE BASE AND BASE PLATE DETAIL
TYPE B



DETAIL A



SIGN BRACKET DETAILS

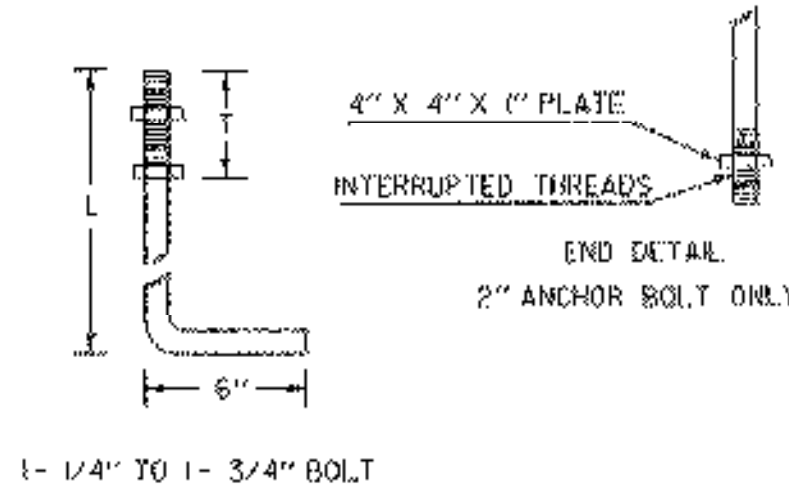


LUMINAIRE ORIENTATION

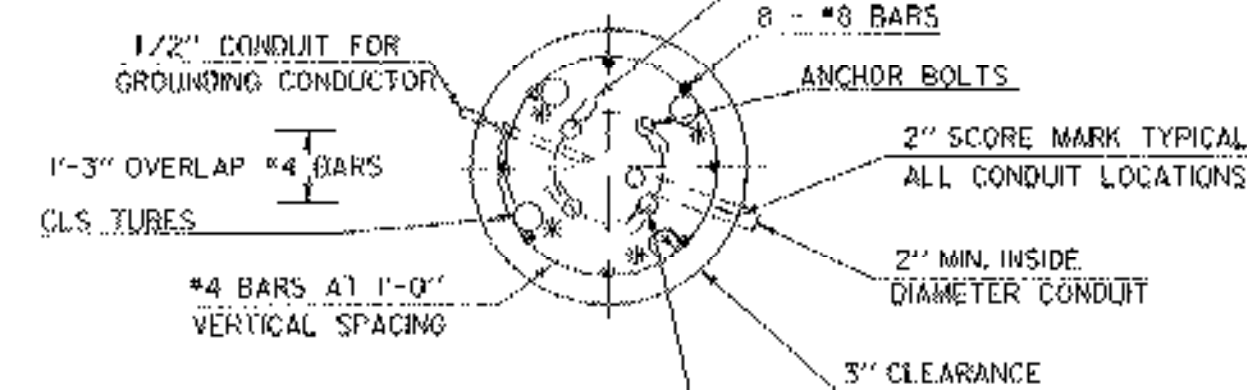


LUMINAIRE ARM RISE

ANCHOR BOLT DETAIL		
SIZE	L (IN)	T (IN)
1- 1/4" X 48"	42	8
1- 1/2" X 60"	54	9
1- 3/4" X 90"	84	9
2" X 96"	96	9

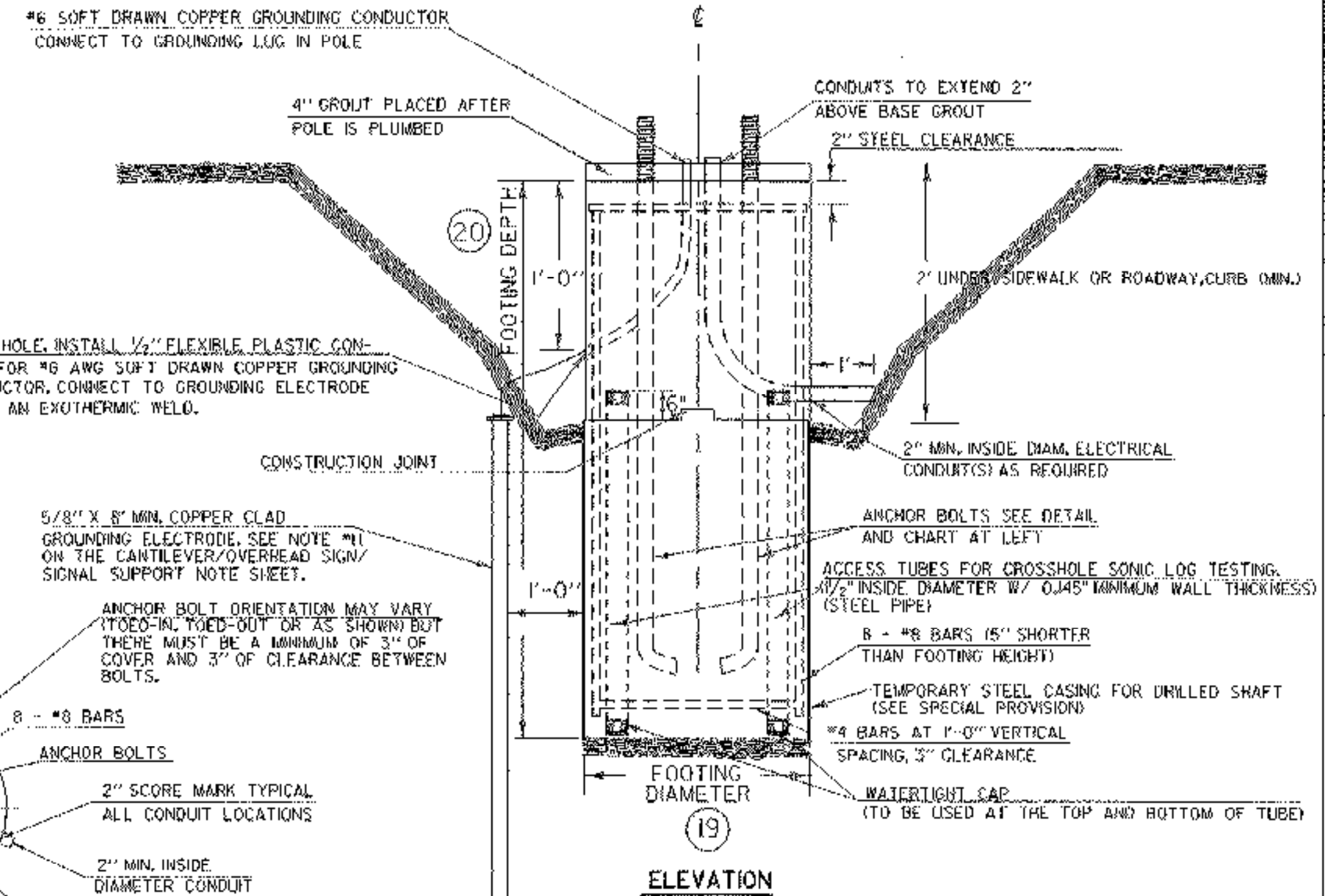


ANCHOR BOLT DETAIL



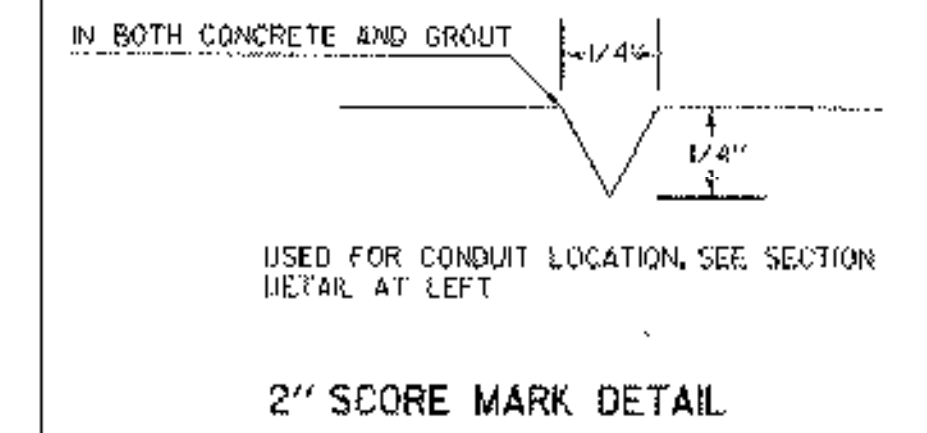
CANTILEVER FOOTING DETAIL

(SPREAD FOOTINGS OR PILES ARE OPTIONAL)



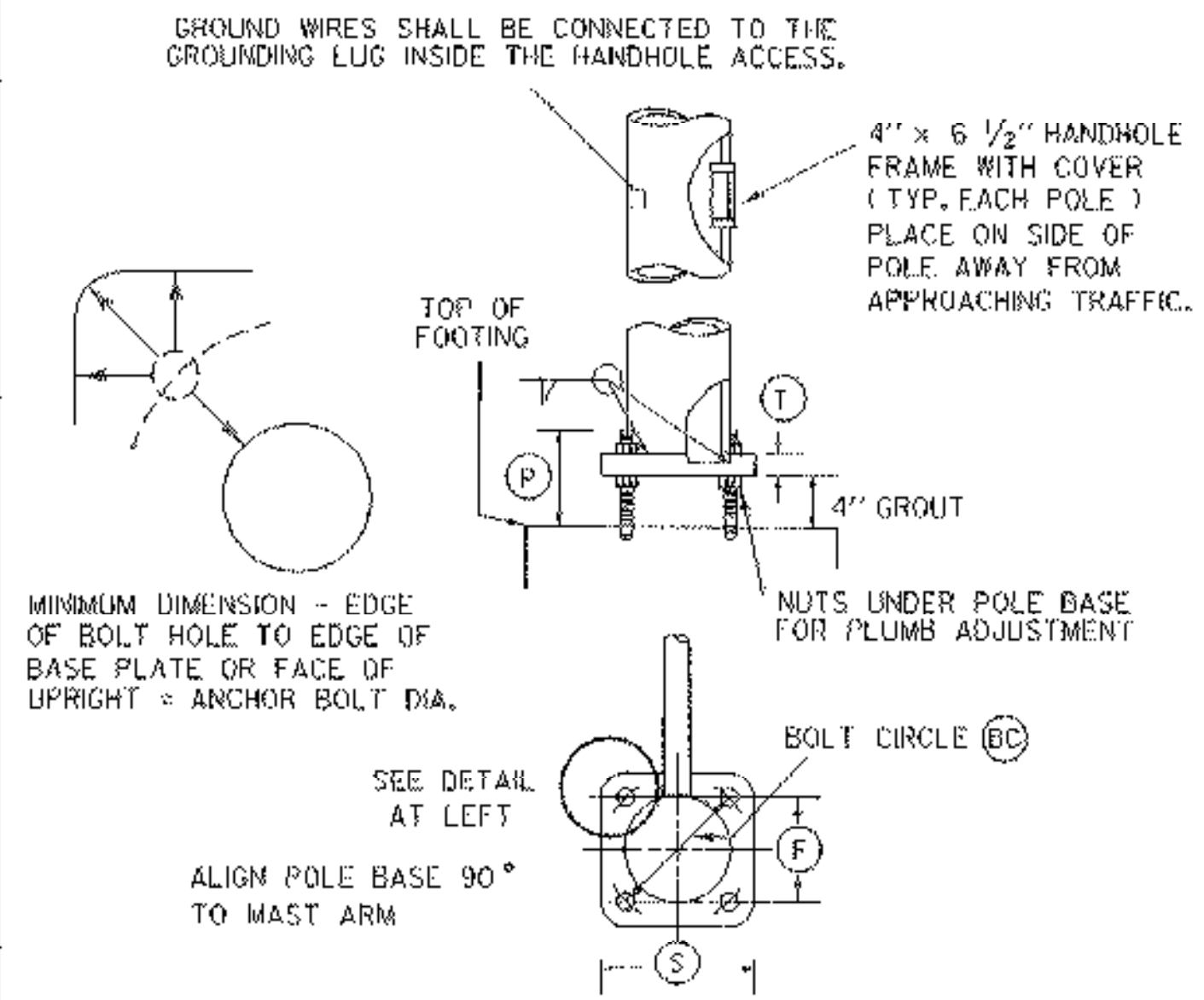
ELEVATION

* ACCESS TUBES FOR CROSSHOLE SONIC LOG TESTING. SEE SECTION 92.03 (F), (G), (H), (I) (SPECIAL PROVISIONS) SEE SECTION 92.09 (F), (G) TO BE USED IF DRILLED SHAFTS ARE UTILIZED.



2" SCORE MARK DETAIL

NOT TO SCALE



POLE BASE AND BASE PLATE DETAIL

STRUCTURE DIMENSIONS																													
POLE	TYPE	POLE DATA						ARM DATA						LIGHTING DATA						FOOTING DATA		BASE PLATE / BOLT DATA					ANCHOR BOLT SIZE		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	BC	F	S	T	P			
1	B																												
2	B																												
3	B																												
4	B																												

SINGLE MAST ARM CANTILEVER / FOOTING DETAIL SHEET

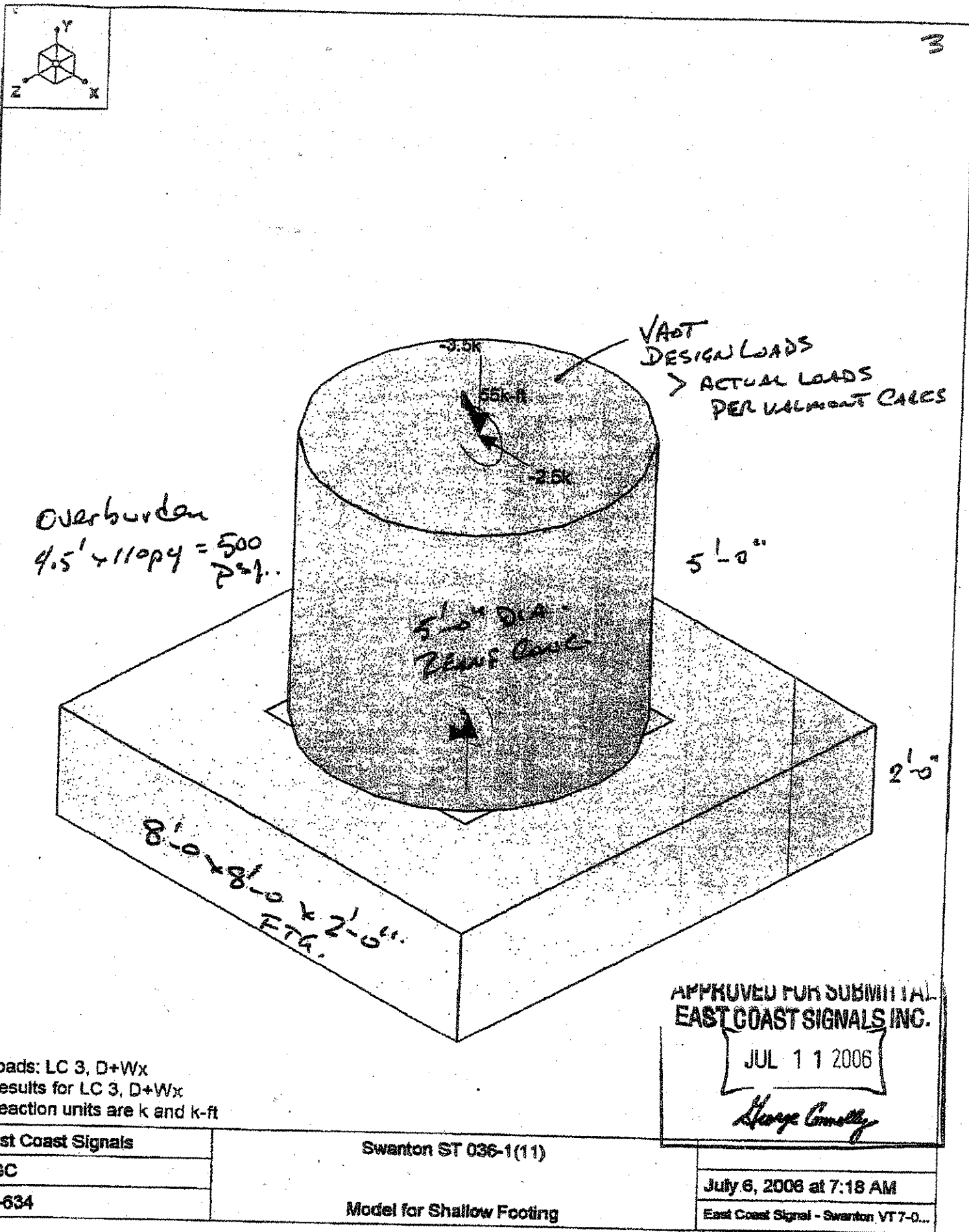
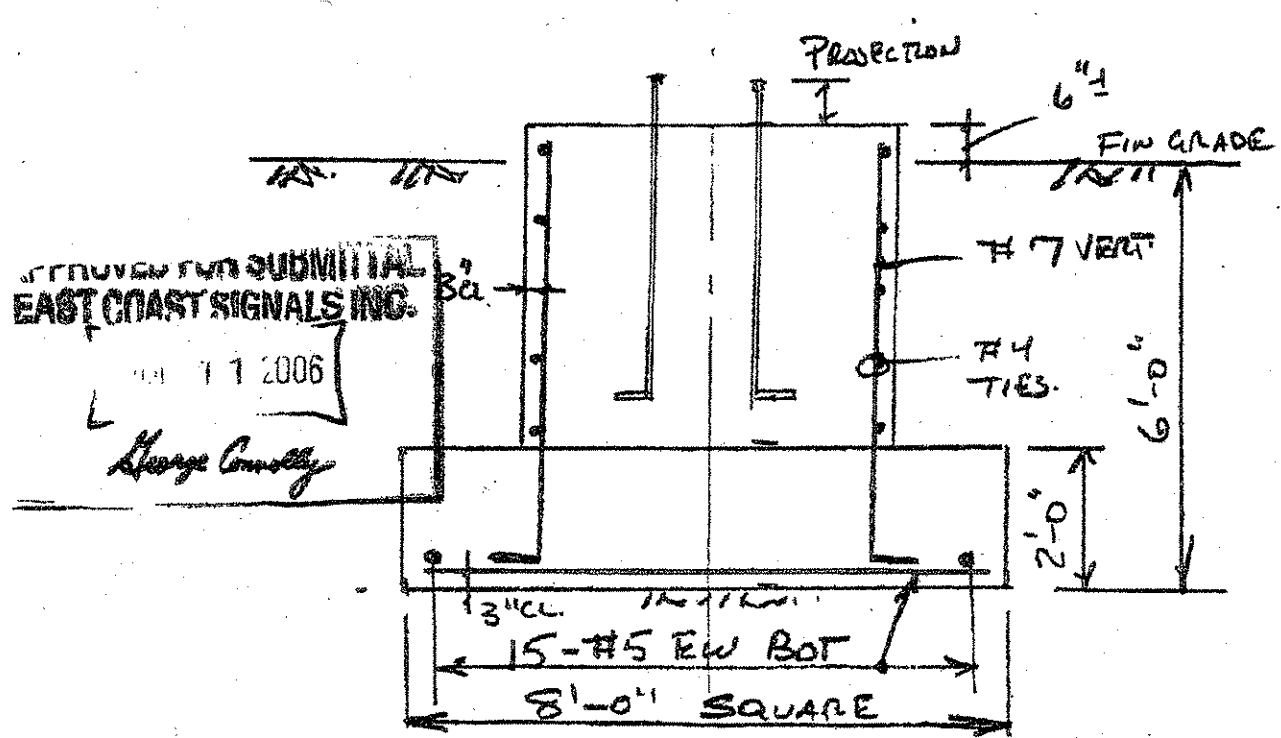
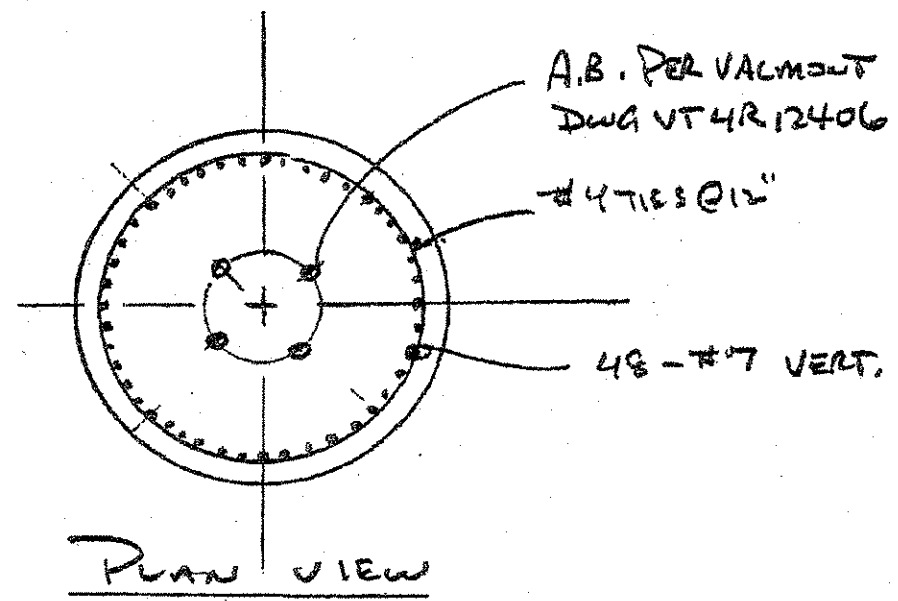
Drilled Shafts Not Done
See Sheet 20a

TRAFFIC SHEET	
PROJECT NAME: SWANTON	PROJECT NUMBER: STPG ST 036-111
FILE NAME: PW/00H50/traff/tb50stana.dgn	PLOT DATE: 19-APR-2006
PROJECT LEADER: B. NYQUIST	DRAWN BY: TRAFFIC DESIGN
DESIGNED BY: TRAFFIC DESIGN	CHECKED BY: TRAFFIC DESIGN
701501q54.1	SHEET 20 OF 45

NGC STRUCTURAL LLC
 Consulting Structural Engineering
 241 Toland Road
 Dover, NH 03820-8502
 Tel: 603-749-4177

JOB: Swanton ST-036-1(11)
 SHEET NO: East Coast Signals
 CALCULATED BY: [Signature] DATE: 6/14/2006
 CHECKED BY: [Signature] DATE: [Signature]
 SCALE: 3/8" = 1'-0" SK-1

CONCRETE $f'_c = 3500$ PSI
 REINF: ASTM A615 GR 60



GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2001, WITH CURRENT MODIFICATIONS.
2. OVERHEAD SIGN/SIGNAL SUPPORTS SHALL CONFORM TO AASHTO'S PUBLICATION ENTITLED "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS", DATED 2001 OR ITS LATEST REVISION.
3. ADDITIONAL DESIGN CRITERIA ARE AS FOLLOWS:
 CONCRETE f_c = 1400 PSI f'_c = 3500 PSI
 REINFORCING f_s = 24000 PSI (GRADE 60)
 FOOTING SOIL PRESSURE : SEE GEOTECHNICAL REPORT DATED NOVEMBER 22, 2005

 WIND LOAD (BASED ON PEAK 3-SECOND GUSTS) AND ICE LOAD PER 2001 AASHTO "STANDARD SPECIFICATIONS"

2001 AASHTO SPECIFICATIONS	
CATEGORY 1	
CATEGORY 2	
CATEGORY 3	X
GALLOPING	
VORTEX SHEDDING	X
NATURAL WIND GUST	X
TRUCK INDUCED GUSTS	X

(X) DENOTES CATAGORIES TO BE USED

4. ANCHOR BOLTS
FOUR STAINLESS STEEL ANCHOR BOLTS WITH TWO HEXAGON NUTS, ONE WASHER AND ONE LOCK WASHER PER BOLT SHALL BE FURNISHED WITH EACH POLE. ANCHOR BOLT PLATES, WHEN USED, SHALL ALSO BE STAINLESS STEEL. SEE SUB-SECTION 714.09.
5. FLANGE BOLTS
ALL FLANGE BOLTS AND HEX NUTS SHALL BE HIGH STRENGTH STEEL AND SHALL CONFORM TO AASHTO M 164, TYPE I, GALVANIZED IN ACCORDANCE W AASHTO M 232M/M 232. THE FLANGE BOLTS SHALL BE CAPABLE OF RESISTING 133% OF THE FULL DESIGN STRESS OF THE TUBE AT ITS YIELD STRENGTH STRESS.
6. HORIZONTAL AND VERTICAL MEMBERS
STEEL TUBES SHALL BE FORMED AND WELDED WITH ONE CONTINUOUS LONGITUDINAL WELD ONLY. AFTER FORMING AND WELDING THEY SHALL BE COLD ROLLED TO ENSURE UNIFORMITY OF SIZE AND SMOOTHNESS OF WELD. THEY SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI. THERE SHALL BE NO TRANSVERSE WELDING EXCEPT AT THE FLANGE CONNECTIONS AND POLE BASE PLATES, WHERE THE TUBES SHALL TELESCOPE THE FLANGES AND PLATES AND BE CONTINUOUSLY WELDED BOTH SIDES INSIDE AND OUT TO WITHSTAND THE FULL TRANSFER OF THE BENDING STRENGTH TO THE BOLTS. OPTIONALLY, THE MEMBERS MAY BE A SERIES OF TWO OR THREE DIFFERENT DIAMETER PIPES WELDED TOGETHER.
7. GALVANIZING
ALL STEEL COMPONENTS, EXCEPT CONCRETE REINFORCING AND STAINLESS STEEL HARDWARE, ARE TO BE HOT DIPPED GALVANIZED AFTER FABRICATION. THE ASSEMBLIES SHALL BE DESIGNED AND FABRICATED TO PERMIT GALVANIZING ON ALL INTERIOR AND EXTERIOR SURFACES AND SHALL BE FREE OF POCKETS AND OTHER STRUCTURAL OBSTRUCTIONS IZING SHALL BE IN ACCORDANCE WITH ASSHTO M IIIM/MIII AND M232M/M232. THAT WILL NOT PERMIT PROPER DEPOSITION OF ZINC COATING. GALVAN-
8. WELDING
A. ALL DESIGN DETAILS, WORKMANSHIP, PROCEDURES AND INSPECTION SHALL CONFORM WITH SUB-SECTION 506.10.
B. ALL WELDS SHALL BE AT LEAST AS STRONG AS THE MATERIAL(S) BEING WELDED.
9. FOOTINGS
A. FOOTINGS SHALL BE DESIGNED TO RESIST LOADS EQUAL TO, OR GREATER THAN, THE MAXIMUM LOADS THAT THE POLE IS DESIGNED FOR.
B. FOOTING SHALL BE DESIGNED IN ACCORDANCE WITH THE BORING LOGS ON PAGE 24 AND THE VERMONT AGENCY OF TRANSPORTATION GEOTECHNICAL REPORT DATED NOVEMBER 22, 2005.
C. ANY BACKFILL PLACED ADJACENT TO THE FOOTING SHALL BE GRANULAR MATERIAL MEETING THE REQUIREMENTS FOR GRANULAR BACKFILL FOR STRUCTURES, SUB-SECTION 704.08. CONCRETE FOR FOOTING SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE, CLASS B, SECTION 501, STRUCTURAL CONCRETE. GROUT MATERIAL SHALL BE NON-SHRINKING MORTAR CONFORMING TO SUB-SECTION 707.03 (MORTAR TYPE IV).
D. SIGNALS/SIGNS SHALL BE INSTALLED AND LEVELED AND POLES SHALL BE PLUMB PRIOR TO PLACING GROUT UNDER POLE BASE.
10. FABRICATION DRAWINGS (6 COPIES OF EACH) SHALL BE SUBMITTED TO THE STATE OF VERMONT, AGENCY OF TRANSPORTATION, PROJECT MANAGER FOR APPROVAL PRIOR TO FABRICATION AND INCLUDE THE FOLLOWING INFORMATION:
A. DETAILED DRAWING OF EACH COMPONENT OF THE STRUCTURE.
B. MATERIAL SPECIFICATION FOR EACH COMPONENT OF THE STRUCTURE, EITHER BY COMPLETE SPECIFICATION OR REFERENCE TO APPLICABLE AASHTO AND ASTM STANDARDS.
C. NOTATION OF PROJECT NAME, PROJECT NUMBER, ROUTE NUMBER, AND STRUCTURE STATIONING (TO BE INCLUDED ON EACH SHEET).
D. DETAILS FOR LOCATION OF SIGNS/SIGNALS AND ATTACHMENT HARDWARE FOR THE SUPPORT STRUCTURE.
E. ALL ELEVATIONS AND DIMENSIONS NECESSARY TO PROVIDE A COMPLETE SET OF RECORD PLANS.
F. DEAD LOAD DEFLECTION AND CAMBER INFORMATION.
G. WELDING DETAILS AND PROCEDURES ARE REQUIRED FOR ALL WELDS. SION FOR APPROVAL PRIOR TO FABRICATION. THE FABRICATION DRAWINGS SHALL PROCEDURES SHALL BE SUBMITTED FOR APPROVAL WITH REFERENCE TO EACH WELD IDENTIFIED ON THE SHOP DRAWINGS. (SEE SUB-SECTION 506.10)
11. EACH OVERHEAD TRAFFIC SIGNAL/SIGN SUPPORT SHALL BE GROUNDED. THE GROUND SHALL CONSIST OF:
A) AN INTERNAL GROUND LUG OPPOSITE THE HAND HOLE.
B) A #6 (MIN.) SOFT DRAWN COPPER GROUNDING ELECTRODE CONDUCTOR.
C) A 5/8" X 8" (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 6').
WHEN A POWER SERVICE, METER AND DISCONNECT ARE ATTACHED TO A POLE, THERE SHALL BE A CONTINUOUS GROUNDING ELECTRODE CONDUCTOR FROM THE METER AND DISCONNECT WHICH MAY RUN INTERNAL TO THE UP-RIGHT, THROUGH THE 1/2" FLEXIBLE TUBING IN THE CONCRETE BASE TO THE REQUIRED GROUNDING ELECTRODE(S). THE GROUNDING ELECTRODE CONDUCTOR FROM THE 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.

12. THE COST OF SIGNAL/SIGN SUPPORTS, INCLUDING ALL HARDWARE, SIGN BRACKETS, FOOTINGS AND LUMINAIRE ARMS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 677.12, 677.13 OR 678.15, WHICHEVER IS APPLICABLE. THESE COMPONENTS SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF SECTIONS 677, 678, AND 679.
13. HORIZONTAL MEMBERS SHALL BE CAMBERED AND THE VERTICAL POLES BACK-RAKED (WHERE APPLICABLE) TO THE ANTICIPATED DEAD LOAD DEFLECTION PLUS THE CAMBER, IF ANY, SPECIFIED ON THE PLANS.
14. AN EQUIVALENT ALTERNATE DESIGN MAY BE SUBSTITUTED FOR THE DETAILS AND MATERIALS SHOWN.
15. THE DETAILS OF DESIGN FOR THE STRUCTURE AND FOOTINGS ARE TO BE SUPPLIED BY THE CONTRACTOR AND/OR BY THE MANUFACTURER. THE STRUCTURE SHALL BE DESIGNED TO RESIST THE MAXIMUM LOADING AS OUTLINED IN THE AASHTO STANDARD SPECIFICATIONS (SEE NOTE 2). ALL DETAILS OF THE STRUCTURE AND THE FOOTING SHALL BE CHECKED AND STAMPED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF VERMONT PRIOR TO SUBMITTAL OF THE FABRICATION DRAWINGS TO THE VERMONT AGENCY OF TRANSPORTATION.
16. IN ADDITION TO THE FABRICATION DRAWINGS OUTLINED IN NOTE 10 THE CONTRACTOR SHALL SUBMIT ALL DESIGN CALCULATIONS TO THE VERMONT AGENCY OF TRANSPORTATION, PROJECT MANAGER, SHOWING THE FOLLOWING INFORMATION FOR EACH OF THE VERTICAL AND HORIZONTAL COMPONENTS OF THE STRUCTURE AND FOOTING:
A. THE DESIGN AXIAL AND SHEAR FORCES AND BENDING AND TORSIONAL MOMENTS.
B. THE DESIGN AXIAL, BENDING AND SHEAR STRESSES AND THE COMBINED STRESS RATIO.
C. VIBRATION AND FATIGUE CALCULATIONS AS SET FORTH IN SECTION 11 OF THE AASHTO PUBLICATION REFERENCED IN NOTE 2.
D. THE ALLOWABLE AXIAL, BENDING, AND SHEAR STRESSES.
E. ITEMS A, B, D - SHALL BE SHOWN FOR EACH OF THE GROUP LOADINGS (I, II, III) AND FOR THE BASIC WIND LOAD APPLIED TO THE TWO CASES OUTLINED IN THE AASHTO STANDARD SPECIFICATIONS (SEE F. FAILURE TO SUPPLY THE PROPER DESIGN INFORMATION SHALL BE CAUSE FOR REJECTION OF THE STRUCTURE.
G. A MINIMUM OF FOUR (4) WEEKS SHALL BE REQUIRED FOR REVIEW BY THE VERMONT AGENCY OF TRANSPORTATION, STRUCTURES DIVISION.
17. THE CONTRACTOR/MANUFACTURER SHALL BE RESPONSIBLE FOR COMPLETION OF THE STRUCTURE AND FOOTING DATA ON THE DETAIL SHEET(S).
18. FOR INSTALLATIONS WHERE BOTH "EXISTING" AND "FUTURE" CONDITIONS ARE SHOWN, THE SUPPORTS SHALL BE DESIGNED FOR THE MORE SEVERE OF THE TWO LOADING CONDITIONS. THE INFORMATION OUTLINED IN NOTE 16 ABOVE SHALL BE PROVIDED FOR BOTH THE LOADING CONDITIONS.
19. THE TRAFFIC SIGNALS SHALL BE MOUNTED TO THE ARM OR POLE USING A FIXED MOUNT SYSTEM AS SHOWN ON THE MAST ARM CROSS SECTION SHEET.
20. BASE PLATES SHALL BE STAMPED WITH THE VERTICAL POLE DIAMETER, HEIGHT, YIELD STRENGTH, GAUGE AND THE HORIZONTAL MEMBER DIAMETER, LENGTH, YIELD STRENGTH, GAUGE. ALTERNATELY, THE INFORMATION MAY BE STAMPED ON A METAL TAG RIVETED TO THE POLE NEAR THE HANDHOLE.

TRAFFIC SHEET

CANTILEVER / OVERHEAD SIGN / SIGNAL SUPPORT NOTES

PROJECT NAME: **SWANTON**
PROJECT NUMBER: **STPG ST 036-1(11)**

FILE NAME: *pwr\oob\50\traffic\tsignal.dgn*
PROJECT LEADER: **B. NYQUIST**
DESIGNED BY: **TRAFFIC DESIGN**
tbl50slgs6.1

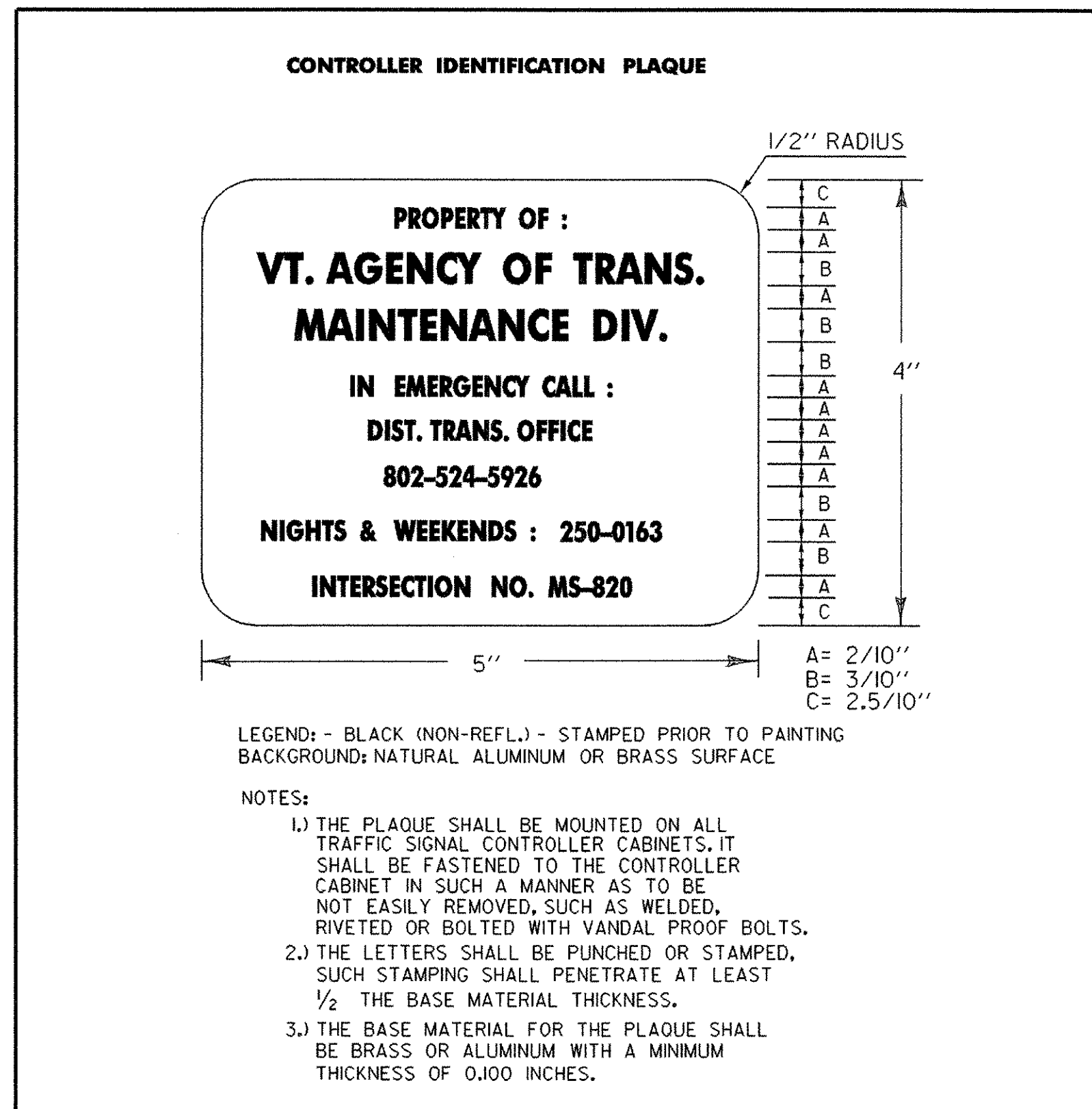
PLOT DATE: 19-APR-2006
DRAWN BY: **TRAFFIC DESIGN**
CHECKED BY: **TRAFFIC DESIGN**
SHEET 22 OF 45

H. COORDINATION, PRE-EMPTION, ETC. AS REQUIRED.

1. SIGNAL COORDINATION (WHEN INCLUDED) SHALL BE VIA TELEMETRY USING 4 TWISTED PAIR OF TELEPHONE GRADE COMMUNICATION CABLES. TIME BASED COORDINATION MAY BE USED WITH PRIOR APPROVAL.
2. IN MOST (BUT NOT ALL) CASES FIRE PREEMPTION NEEDS WILL BE DETERMINED BY LOCAL OFFICIALS. ANY ADDITIONAL EQUIPMENT NEEDED WILL BE THE TOWN'S (CITY'S) RESPONSIBILITY.

PRIORITY PREEMPTION NOTES:

- A. INTERCONNECT BETWEEN FIREHOUSE AND SIGNAL SHALL PROVIDE SUFFICIENT CONDUCTORS FOR:
 1. ACTIVATION CIRCUIT SWITCH CLOSURE IN FIREHOUSE (AC CIRCUIT)
 2. CONFORMATION CIRCUIT AC PANEL LIGHT 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. CONFORMATION CIRCUIT INDICATOR LAMP IN FIREHOUSE SHALL BE MOUNTED IN AREA CLEARLY VISIBLE FROM BOTH THE ACTIVATION BUTTON AND PARKED TRUCKS.
- D. DUE TO THE RELATIVELY LONG DURATION THE PREEMPT WITHOUT A VEHICLE PRESENT. INTERSECTION SHALL HAVE A 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 DEMAND 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 ACTIVITIES CIRCUIT FROM CAUSING FALSE ALARM.
 2. NO MINIMUM GREEN TIMES OR PEDESTRIAN CLEARANCE INTERVAL SHALL BE TRUNCATED.
 3. PREEMPTION "HOLD PHASE" SHALL BE PHASE 6.
 4. NO PEDESTRIAN MOVEMENT SHALL BE ALLOW 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 SETTING 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 PRESENT 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 OVLP												
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							
DET LOCK			ZERO PC TIME		NO							
HOLD FLASH			PC THRU YELLOW		NO							
TEMP OVLP ASAP			TEMP PHASES		NO							
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 TIMES		360 SEC	DURATION TIME									
MIN HOLD TIME		90 SEC	DELAY TIME									
MIN PED CLEAR		8 SEC	INHIBIT TIME									
EXIT MAX			HOLD DELAY TIME									
		GREEN	YELLOW		RED							
MINIMUM		0	0		0							
TRACK CLEAR												
HOLD												


- A. CONTACT PERSON FOR THE FIRE DEPARTMENT SHALL BE DOCUMENTED IN TRAFFIC SIGNAL CABINET FOR VTRANS TO CONTACT TO ADVISE OF PROBLEMS AND CHANGES IN CONFIGURATIONS.
- B. HARDWARE PRE-EMPTION IS TO BE BURIED FROM THE INTERSECTION OF VT 78 AND ROBIN HOOD DR. (PB#1) TO THE SWANTON FIRE STATION.
- C. PAYMENT FOR THE SYSTEM INCLUDING TESTING AND FINE TUNING SHALL BE INCIDENTAL TO THE SIGNAL INSTALLATION ITEM 678.15 FOR ALL REQUIRED WORK.


TRAFFIC SHEET

PROJECT NAME:	SWANTON	PLOT DATE:	19-APR-2006
PROJECT NUMBER:	STPG ST 036-1(11)	DRAWN BY:	TRAFFIC DESIGN
FILE NAME:	pms/00b150/traffic/tb159signal.dgn	CHECKED BY:	TRAFFIC DESIGN
PROJECT LEADER:	B. NYQUIST	SHEET	23 OF 45
DESIGNED BY:	TRAFFIC DESIGN tb150slgs7.1		

 STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING NUMBER: MAP#2 SHEET 1 of 1 DATE STARTED: 9/16/05 DATE COMPLETED: 9/16/05							
PROJECT NAME: SWANTON SITE NAME: RT.78 STATION: 14+42 OFFSET: -38.00		PROJECT NUMBER: ST 036-1(11) SITE NUMBER: SIGNAL POLES GROUND ELEVATION: 155.0 ft GROUNDWATER DEPTH: 4.44 ft 9/16/05							
BORING CREW CREW CHIEF: GARROW DRILLER: GARROW LOGGER: RUSSELL		BORING RIG: LARGE SKID RIG w/AUTO HAMMER BORING TYPE: HOLLOW STEM AUGER SAMPLE TYPE: SPLIT BARREL CHECKED BY: CAA							
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
2.5		Visual Class., Topsoil, brn, Moist, Rec. = 1.4 ft	22	10.3					
		A-1-b, Sa with some fine broken rock, brn, Moist, Rec. = 1.0 ft		3.8	16.6	68.5	14.9		
5.0		A-3, Sa, brn, Moist, Rec. = 1.1 ft	10	5.9	10.3	79.5	10.2		
7.5		A-2-4, SiSa, brn-gry, Moist, Rec. = 1.7 ft	11	22.1	0.2	75.8	24.0		
10.0		A-2-4, Sa, gry, Wet, Rec. = 1.6 ft	6	21.5	0.6	83.6	15.8		
12.5		A-3, Sa, gry, MW, Rec. = 1.5 ft	4	22.1	0.2	95.8	4.0		
15.0		A-3, Sa, gry, MW, Rec. = 0.9 ft	3	21.2	0.8	88.9	10.3		
17.5		Appears to be wet Sand, 12.0 ft - 18.0 ft. (See Driller's Notes)							
20.0		Hole stopped @ 18.0 ft							
DRILLER'S NOTES: 1. The driller's advanced rod with bit to 18.0 ft, because flowing sand was entering the auger. 2. No bedrock to depth. 3. Ground Elevation was interpreted from the cross sections of the project plans.									

 STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING NUMBER: MAP#1 SHEET 1 of 1 DATE STARTED: 9/27/05 DATE COMPLETED: 9/27/05							
PROJECT NAME: SWANTON SITE NAME: RT.78 STATION: 14+45 OFFSET: 54.20		PROJECT NUMBER: ST 036-1(11) SITE NUMBER: SIGNAL POLES GROUND ELEVATION: 150.5 ft GROUNDWATER DEPTH: 4.2 ft 9/27/05							
BORING CREW CREW CHIEF: GARROW DRILLER: GARROW LOGGER: RUSSELL		BORING RIG: LARGE SKID RIG w/AUTO HAMMER BORING TYPE: HOLLOW STEM AUGER SAMPLE TYPE: SPLIT BARREL CHECKED BY: CAA							
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
5.0		A-2-4, Sa, brn, Moist, Rec. = 0.8 ft	43	15.4	5.2	78.5	16.3		
		Visual Class., Fill material, crushed limestone, gry, Moist, Rec. = 1.0 ft	11	14.3			16.9		
		Visual Class., Fill material, crushed limestone, gry, Moist, Rec. = 1.4 ft							
5.0		A-2-4, SiSa, gry-brn, Wet, Rec. = 1.3 ft	13	24.6	0.3	64.7	35.0		
		A-3, Sa, gry, Wet, Rec. = 1.2 ft	4	23.7	0.1	90.4	9.5		
10.0		A-2-4, Sa, gry, Wet, Rec. = 1.2 ft	6	22.9	0.1	80.2	19.7		
		A-3, Sa, gry, Wet, Rec. = 1.2 ft	3	23.8	0.7	95.5	3.8		
		A-3, Sa, gry, Wet, Rec. = 1.0 ft	3	25.8	1.0	89.4	9.6		
15.0		A-2-4, Sa, gry, Wet, Rec. = 1.1 ft	3	27.4	0.0	85.1	14.9		
		A-2-4, Sa, gry, Wet, Rec. = 1.1 ft	11	25.2	0.0	85.4	14.6		
		A-2-4, Sa, gry, Wet, Rec. = 1.1 ft	6	26.6	0.0	88.5	11.5		
20.0		A-4, SiSa, gry, Wet, Rec. = 1.4 ft	2	26.5	0.0	50.1	49.9		
		A-4, SaSi, gry, Wet, Rec. = 0.9 ft	5	27.4	0.0	39.0	61.0		
25.0		A-4, SaSi, gry, Wet, Rec. = 0.9 ft	1	25.0	0.0	29.9	70.1		
		A-4, Si, gry, Wet, Rec. = 1.1 ft	28.2	0.0	19.2	80.8			
		Visual Class., A-4, Si, gry, Wet, Rec. = 2.0 ft	1	25.1					
30.0		A-4, Si, gry, Wet, Rec. = 2.0 ft	4	25.7	0.0	13.8	86.2		
		Visual Class., A-4, Si, gry, Wet, Rec. = 2.0 ft	WH	29.1					
		A-4, Si, gry, Wet, Rec. = 2.0 ft	WH	27.1	0.0	6.2	93.8	25	6
35.0		Visual Class., A-4, Cl Si, gry, Wet, Rec. = 2.0 ft	WH	26.9					
40.0		A-4, Cl Si, gry, Wet, Rec. = 2.0 ft	WH	26.5	0.0	2.7	97.3	27	7
45.0		Hole stopped @ 42.0 ft							
DRILLER'S NOTES: 1. No bedrock to depth. 2. Ground Elevation was interpreted from the cross sections of the project plans.									

 STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING NUMBER: MAP#4 SHEET 1 of 1 DATE STARTED: 9/28/05 DATE COMPLETED: 9/28/05							
PROJECT NAME: SWANTON SITE NAME: RT.78 STATION: 15+34 OFFSET: 28.00		PROJECT NUMBER: ST 036-1(11) SITE NUMBER: SIGNAL POLES GROUND ELEVATION: 156.0 ft GROUNDWATER DEPTH: 3.85 ft 9/28/05							
BORING CREW CREW CHIEF: GARROW DRILLER: GARROW LOGGER: RUSSELL		BORING RIG: LARGE SKID RIG w/AUTO HAMMER BORING TYPE: HOLLOW STEM AUGER SAMPLE TYPE: SPLIT BARREL CHECKED BY: CAA							
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
5.0		A-1-b, GrSa, brn, Moist, Rec. = 0.6 ft	2	6.6	44.4	44.7	10.9		
		Cleaned out casing, 4.0 ft - 5.0 ft							
5.0		Visual Class., Various colored Broken Rock, gry, Moist, Rec. = 0.2 ft	6						
10.0		A-4, SaSi, gry, Wet, Rec. = 1.2 ft	8	28.6	0.0	33.5	66.5		
15.0		A-2-4, SiSa, gry, Wet, Rec. = 1.1 ft	4	27.1	0.0	74.0	26.0		
20.0		A-4, SiSa, gry, Wet, Rec. = 1.3 ft	4	27.4	0.0	51.6	48.4		
25.0		Visual Class., A-4, Cl Si, gry, Wet, Rec. = 2.0 ft	2	25.9					
30.0		A-4, Cl Si, gry, Wet, Rec. = 2.0 ft	WH	28.7	0.0	10.0	90.0	27	8
35.0		Visual Class., A-4, Cl Si, gry, Wet, Rec. = 2.0 ft	WH	26.2					
40.0		A-4, Cl Si, gry, Wet, Rec. = 2.0 ft	WH	26.5	0.0	4.9	95.1	25	4
45.0		Hole stopped @ 42.0 ft							
DRILLER'S NOTES: 1. No bedrock to depth. 2. Ground Elevation was interpreted from the cross sections of the project plans.									

 STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING NUMBER: MAP#3 SHEET 1 of 1 DATE STARTED: 9/28/05 DATE COMPLETED: 9/28/05							
PROJECT NAME: SWANTON SITE NAME: RT.78 STATION: 15+40 OFFSET: -28.20		PROJECT NUMBER: ST 036-1(11) SITE NUMBER: SIGNAL POLES GROUND ELEVATION: 150.5 ft GROUNDWATER DEPTH: 1.8 ft 9/28/05							
BORING CREW CREW CHIEF: GARROW DRILLER: GARROW LOGGER: RUSSELL		BORING RIG: LARGE SKID RIG w/AUTO HAMMER BORING TYPE: HOLLOW STEM AUGER SAMPLE TYPE: SPLIT BARREL CHECKED BY: CAA							
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
5.0		No Recovery, 0.0 ft - 2.0 ft	3						
5.0		Visual Class., A-2-4, Sa with Broken rock pieces, gry, Moist, Rec. = 0.2 ft	9						
10.0		A-4, SaSi, gry, Wet, Rec. = 1.7 ft	19	25.6	0.0	21.7	78.3		
15.0		A-4, SiSa, gry, Wet, Rec. = 1.2 ft	10	23.1	0.0	52.8	47.2		
20.0		A-4, SaSi, gry, Wet, Rec. = 1.5 ft	8	26.0	0.2	44.7	55.1		
25.0		A-4, Si, gry, Wet, Rec. = 2.0 ft	5	24.5	0.0	7.4	92.6		
30.0		A-4, Cl Si, gry, Wet, Rec. = 2.0 ft	1	26.1	0.0	3.9	96.1	27	7
35.0		Visual Class., A-4, Cl Si, gry, Wet, Rec. = 2.0 ft	WH	28.4					
40.0		A-4, Cl Si, gry, Wet, Rec. = 2.0 ft	WH	27.2	0.0	2.1	97.9	28	7
45.0		Hole stopped @ 42.0 ft							
DRILLER'S NOTES: 1. No bedrock to depth. 2. Ground Elevation was interpreted from the cross sections of the project plans.									

SUBSURFACE INFORMATION SHEET

PROJECT NAME:	SWANTON
PROJECT NUMBER:	STPG ST 036-1(11)
FILE NAME:	P:\TRAFFIC DESIGN\00b150\map\dgn
PROJECT LEADER:	B. NYQUIST
DESIGNED BY:	TRAFFIC DESIGN
	tb150bs1
PLOT DATE:	19-APR-2006
DRAWN BY:	MAT. & RESEARCH
CHECKED BY:	TRAFFIC DESIGN
SHEET	24 OF 45

EROSION CONTROL NARRATIVE

DESCRIPTION OF PROJECT

THIS PROJECT INVOLVES THE CONSTRUCTION OF A TRAFFIC SIGNAL SYSTEM LOCATED AT THE INTERSECTIONS OF VT.78 AND ROBIN HOOD DRIVE IN THE TOWN OF SWANTON.

IT IS ANTICIPATED THIS PROJECT WILL LAST ONE SEASON.

TOTAL DISTURBED AREA IS 7600 SQUARE FEET OR .15 ACRES. THIS AREA DOES NOT INCLUDE THE WASTE, BORROW AND STAGING AREAS. THESE AREAS ARE GOING TO BE 1.5 ACRES +/-.

THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THE LOCATION OF THE WASTE, BORROW AND STAGING AREA. ALSO THE MATERIAL STOCKPILE, REFUELING AND MAINTENANCE AREAS. THEY ARE TO ATTACH A MAP IF NECESSARY.

SITE INVENTORY & ANALYSIS

OFF SITE DRAINAGE CHARACTERISTICS:

INSIDE OF THE STATE RIGHT-OF-WAY AND THE PROPERTIES SURROUNDING THE PROJECT CONSIST OF ESTABLISHED VEGETATION OF GRASSES AND WOODED AREAS.

DRAINAGE, WATERWAYS, BODIES OF WATER:

AREA DRAINAGE IS CONVEYED VIA GRASS SURFACES, CLOSED DRAINAGE SYSTEM, CULVERTS AND DITCHES.

THE FOLLOWING DESCRIPTIONS ARE FOR THE EXISTING SITE PLAN:
SURFACE DRAINAGE FROM BROWN ROAD IS CONVEYED VIA A CLOSED DRAINAGE SYSTEM THAT FLOWS WEST ALONG THE NORTH SIDE OF VT. 78.

DRAINAGE FLOWS FROM THE MISSISQUOI STREET AREA VIA A CULVERT UNDER ROUTE 78 AT STATION 15+39 INTO A DITCH THAT FLOWS SOUTH ALONG ROBIN HOOD DRIVE.

DRAINAGE FLOWS FROM THE NORTHWEST AREA OF THE PROJECT FROM STATION 15+50 ~ 21+05 RT. VIA A NUMBER OF CULVERTS THAT DRAIN INTO A DROP INLET AT STATION 18+55 RT. IT FLOWS UNDER ROUTE 78 INTO A DITCH ON THE LEFT SIDE OF RT 78. IT THEN FLOWS WEST INTO THE SAME DITCH THAT THE PIPE AT ST. 15+39 FLOWS INTO. THIS DITCH ALSO COLLECTS WATER FROM THE RT. SIDE OF RT. 78.

TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES:

THE GENERAL TOPOGRAPHY OF THE AREA IS BASICALLY FLAT WITH A SLIGHT SLOPE TO THE WEST.

ALL ROAD SURFACES IN THE PROJECT AREA ARE BITUMINOUS CONCRETE PAVEMENT.

THIS PROJECT IS LOCATED IN THE VILLAGE AND TOWN OF SWANTON WHICH IS A MORE URBAN TYPE AREA. THERE ARE MANY SMALL BUSINESS BUILDINGS ADJACENT TO THE ROADWAY. ALL ELECTRICAL UTILITIES ARE LOCATED ABOVE GROUND WITH A MAJOR DISTRIBUTION LINE CROSSING THE PROJECT.

VEGETATION:

VEGETATION ALONG ALL OF THE ROADWAYS CONSISTS OF RESIDENTIAL LAWNS AND SIDEWALKS WITH A DISPERSION OF SHRUBS, HARDWOOD AND SOFT WOOD TREES.

SOILS:

THE SOIL TYPE IN THE VICINITY OF THE BEGINNING OF THE PROJECT TO ROBIN HOOD DRIVE IS WIDSOR LOAMY FINE SAND 0 TO 3 PERCENT SLOPE. FROM ROBIN HOOD DRIVE TO END OF PROJECT IS MISSISQUOI LOAMY FINE SAND 0 TO 3 PERCENT SLOPE.

SENSITIVE RESOURCE AREAS:

AS PER JONN LEPORE (TRANSPORTATION BIOLOGIST) MEMO DATED JANUARY 11, 2005 THERE ARE NO IMPACT ON ANY WETLAND, WATERCOURSE, RARE/THREATENED/ENDANGERED SPECIES, AGRICULTURAL SOILS, FLOODPLAINS, FISHERIES OR DEER WINTERING AREAS.

PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES:

THERE ARE NO NATURAL OR MAN-MADE WATER FEATURES ON THIS PROJECT.

GENERAL EROSION & SEDIMENT CONTROL GUIDELINES

GENERAL EROSION CONTROL PLANS ARE INTENDED AS A GUIDE FOR PREVENTING SOIL EROSION AND CONTROLLING SEDIMENT. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE DURATION OF THE PROJECT TO CONTROL EROSION AND MINIMIZE THE SEDIMENTATION OF THE RECEIVING WATERS.

AN ALTERNATE TEMPORARY EROSION CONTROL PLAN WILL BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE AGENCY OF TRANSPORTATION.

THE CONTRACTOR WILL USE OTHER TEMPORARY OR PERMANENT EROSION CONTROL DEVICES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE RESIDENT ENGINEER. SEE SECTION 105.23 OF THE 2001 VERMONT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

THE CONTRACTOR SHALL COORDINATE THE INSTALLATION, USE, AND REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES WITH CONSTRUCTION ACTIVITIES TO ASSURE ECONOMICAL, EFFECTIVE, AND CONTINUOUS EROSION AND SEDIMENT CONTROL. THE CONTRACTOR SHALL EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES AS CONSTRUCTION ACTIVITIES PROCEED.

THE RESIDENT ENGINEER MAY DIRECT THE INSTALLATION OF CERTAIN EROSION CONTROL MEASURES IN ORDER TO AVOID POTENTIAL EROSION PROBLEMS, OR TO RESPOND TO STORM EVENTS OR DAMAGE BY CONSTRUCTION OPERATIONS.

THE CONTRACTOR SHALL INSTALL EROSION AND SEDIMENT CONTROL MEASURES AS SEQUENCED IN THE "SPECIFIC GUIDELINES", OR AS DIRECTED BY THE RESIDENT ENGINEER. THE TYPE, SIZE, AND LOCATION OF ANY EROSION CONTROL DEVICES SHALL NOT BE CHANGED UNLESS PRIOR APPROVAL IS OBTAINED FROM THE RESIDENT ENGINEER. ANY APPROVED CHANGES SHALL BE NOTED ON THE EROSION CONTROL PLANS AND DISCUSSED IN THE WEEKLY REPORT. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES DAILY AND AFTER EACH RAINFALL EVENT. THE CONTRACTOR SHALL REPAIR ALL DAMAGED EROSION CONTROL MEASURES IMMEDIATELY. ALL EROSION CONTROL MEASURES THAT TRAP SEDIMENT, SUCH AS SEDIMENT BASINS, SHALL BE CLEANED OUT WHEN THEIR CAPACITY REACHES 50%.

THE RESIDENT ENGINEER'S APPROVAL SHALL BE OBTAINED PRIOR TO INSTALLING ANY EROSION CONTROL NOT SPECIFIED IN THE EROSION CONTROL PLANS. HOWEVER, IN EMERGENCY SITUATIONS WHERE THE RESIDENT ENGINEER IS NOT IMMEDIATELY AVAILABLE, THE CONTRACTOR SHOULD REPAIR OR INSTALL THE EROSION CONTROLS AS HE/SHE DEEMS NECESSARY AND REPORT THE INCIDENT TO THE RESIDENT ENGINEER AS SOON AS PRACTICAL.

THE CONTRACTOR SHALL CONTROL ALL SEDIMENT-LADEN RUNOFF GENERATED WITHIN THE PROJECT SITE.

IN GENERAL, PRESERVE EXISTING VEGETATION, SHRUBS, AND TREES WHENEVER POSSIBLE.

IF USED, SILT FENCE SHALL BE PLACED AT THE TOES OF ALL FILL SLOPES AND SHALL BE CONSTRUCTED SO THAT FLOWS CANNOT BYPASS THE ENDS. AREAS DIRECTLY BELOW (DOWNHILL) OF THE SILT FENCES MUST BE UNDISTURBED AND VEGETATED.

STRAW MATTING WILL BE INSTALLED AS SOON AS PRACTICAL ON ALL CUT & FILL SLOPES.

AS CONSTRUCTION PROGRESSES, IMPLEMENTATION OF ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY THE ON-SITE COORDINATOR AND AS APPROVED BY THE RESIDENT ENGINEER.

THE PROJECT COMPLETION DATE HAS BEEN SET FOR MID-OCTOBER. TO ENSURE THAT THE ESTABLISHMENT OF PERMANENT VEGETATION WILL OCCUR DURING THE GROWING SEASON, SEEDING SHOULD OCCUR PRIOR TO SEPTEMBER 15. THEREFORE, WINTER STABILIZATION METHODS WILL NOT BE SHOWN ON THE PLANS OR DESCRIBED IN THE NARRATIVE.

INFORMATION REQUIRED BY THE CONTRACTOR PRIOR TO CONSTRUCTION

MUCH OF THE INFORMATION SHOWN ON THE EROSION CONTROL PLANS AND DESCRIBED IN THIS NARRATIVE IS GENERAL IN NATURE. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING A PLAN THAT IS SPECIFIC TO HIS/HER SCHEDULE AND CONSTRUCTION METHODS. THE FOLLOWING LIST OUTLINES SOME OF THE SPECIFIC INFORMATION THAT SHOULD BE SUBMITTED WITH THE CONTRACTOR'S EPSCP:

LOCATION OF WASTE, BORROW AND STAGING AREAS, MATERIAL STOCKPILES, REFUELING AND MAINTENANCE AREAS (ATTACH MAP IF NECESSARY)

DISCUSSION AND ADDITIONAL DETAILS NEEDED FOR PROTECTION AND STABILIZATION

PROPOSED MODIFICATIONS AS REQUIRED TO THESE EROSION AND SEDIMENT CONTROL PLANS

PROPOSED DATES ASSOCIATED WITH JOB MILESTONES AS INDICATED ON THE SEQUENCE CONSISTENT WITH PROJECT CPM SCHEDULE

NARRATIVE (RE: TEMPORARY SEEDING AND MULCHING / STABILIZATION)

DETAILS FOR EROSION CONTROL METHODS

NAME, ADDRESS, PHONE NUMBER AND BASIC QUALIFICATIONS OF "ON-SITE COORDINATOR"

PROJECT NAME:	SWANTON
PROJECT NUMBER:	STPG ST 036-1(II)
FILE NAME:	traffic/00b150/db150tit.dgn
PROJECT LEADER:	B. NYQUIST
DESIGNED BY:	G. MEUNIER
	tb150ecl.i
PLOT DATE:	19-APR-2006
DRAWN BY:	G. MEUNIER
CHECKED BY:	G. MEUNIER
	SHEET 25 OF 45

EROSION CONTROL NARRATIVE

MAINTENANCE PLAN FOR EROSION AND SEDIMENT CONTROLS

- I. AN ON-SITE COORDINATOR SHALL MONITOR THE CONSTRUCTION SITE.

GUIDELINES

PERIMETER EROSION CONTROLS

PRIOR TO ANY CONSTRUCTION OR STAGING, THE CONTRACTOR WILL INSTALL STABILIZED CONSTRUCTION ENTRANCES LEADING TO STAGING AREAS AND THE PROJECT SITE TO PREVENT THE TRACKING OF SILTS AND SEDIMENTS OFFSITE. COARSE STONE FILL OVER FILTER FABRIC SHOULD BE UTILIZED WHERE AN ALREADY ESTABLISHED STABLE ENTRANCE DOES NOT EXIST. THE CRUSHED STONE PRODUCT USED FOR THE CONSTRUCTION OF THE STABILIZED ENTRANCES SHALL BE MONITORED FOR SEDIMENT ACCUMULATION AND REPLACED AS NECESSARY AS DIRECTED BY THE RESIDENT ENGINEER. STABILIZED CONSTRUCTION ENTRANCES SHALL ALSO BE ESTABLISHED AND MAINTAINED AT ALL OFFSITE WASTE AND BORROW AREAS. THE MINIMUM SIZE OF A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 13 FEET WIDE BY 50 FEET LONG.

PRIOR TO ANY GRUBBING AND EXCAVATION, CONSTRUCT PERIMETER CONTROLS TO ENSURE THAT ANY DISTURBED SEDIMENT DOES NOT LEAVE THE SITE. SEDIMENT TRAPS/BASINS, WHERE WATER HAS BEEN ADEQUATELY TREATED, MAY BE DIRECTED TO NEARBY UNDISTURBED STREAMS OR SWALES.

DURING GRUBBING OPERATIONS, STONE CHECK DAM BARRIERS SHALL BE INSTALLED AT ANY OBVIOUS CONCENTRATED FLOW DISCHARGE POINTS, OR AS DIRECTED BY THE RESIDENT ENGINEER.

ALL AREAS OF EXPOSED SOILS AFTER THE GRUBBING ACTIVITY SHALL BE TEMPORARILY STABILIZED WITH MULCHING & SEEDING, EROSION MATTING, OR STRAW MATTING WITHIN 48 HOURS AND BEFORE ANY PREDICTED RAINFALL EVENT. THE CONTRACTOR SHOULD SUBMIT A PLAN FOR TEMPORARY STABILIZATION WITH THE EPSCP.

PRIOR TO GRADING OPERATIONS, CONSTRUCT TEMPORARY ONSITE SEDIMENT TRAPS WHERE NECESSARY. GRADE DISTURBED AREAS TO DRAIN TOWARDS SEDIMENT TRAP WHERE POSSIBLE.

ANY MATERIAL STOCKPILES, INCLUDING BUT NOT LIMITED TO, GRUBBING MATERIAL, SAND BORROW, EARTH BORROW, GRANULAR BORROW, TOPSOIL, AND ANY EXCAVATED WASTE PILES SHALL BE MULCHED AND SHALL ALSO HAVE SILT FENCE INSTALLED AROUND THE BASE OF THE STOCKPILE.

ANY OFF-SITE AREAS WHERE BORROW OR EXCAVATED MATERIALS WILL BE STOCKPILED WILL HAVE A DOUBLE INSTALLATION OF SILT FENCE AROUND THE BASE OF EACH STOCKPILE. WASTE DISPOSAL SITES WILL ALSO HAVE A DOUBLE INSTALLATION OF SILT FENCE AROUND THE BASE OF EACH STOCKPILE, AND IMMEDIATELY AFTER FINAL GRADING, SHALL BE SEEDED AND MULCHED. REMOVAL OF THE SILT FENCES AROUND THE WASTE AREAS SHALL BE PERFORMED ONLY AFTER THE APPROVAL OF THE RESIDENT ENGINEER. THIS AREA SHALL BE STABILIZED AFTER THE REMOVAL OF THE SILT FENCE.

ROADWAY EROSION CONTROLS

ON ANY PARTIALLY COMPLETED PERMANENT CUT AND FILL SLOPES, ALL EXPOSED SOILS WILL BE STABILIZED WITH STRAW MATTING OR SEEDED AND MULCHED. IN AREAS OF CONCENTRATED RUNOFF ABOVE NEWLY CONSTRUCTED FILL SLOPES, FLEXIBLE SLOPE PIPES OR OTHER APPROVED DIVERSION METHODS WILL BE USED TO TRANSPORT RUNOFF DOWN THE FILL SLOPES TO SEDIMENT TRAPS OR SETTLING BASINS.

THE SUBBASE MATERIAL SHOULD BE PLACED AS SOON AS THE SUBGRADE HAS REACHED ITS FINAL GRADE AND SLOPE. THE TEMPORARY TRAVELING SURFACE WILL BE GRADED TO PROMOTE SHEET FLOW OFF THE SURFACE ONTO SLOPES, OR FLOWS WILL BE DIRECTED TO COLLECTION AREAS AND SHALL BE TRANSPORTED DOWN THE FILL SLOPES TO SEDIMENT TRAPS OR SETTLING BASINS.

ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED FOLLOWING FINAL GRADING ACTIVITIES. ALL AREAS THAT ARE GRADED OUTSIDE OF THE GROWING SEASON SHALL BE TREATED WITH SLOPE STABILIZATION UNTIL SEEDING & MULCHING CAN BE PERFORMED.

REMOVAL & FINAL EROSION CONTROLS

REMOVE TEMPORARY FILL MATERIAL (IF ANY) TO ORIGINAL GROUND, SEED AND MULCH.

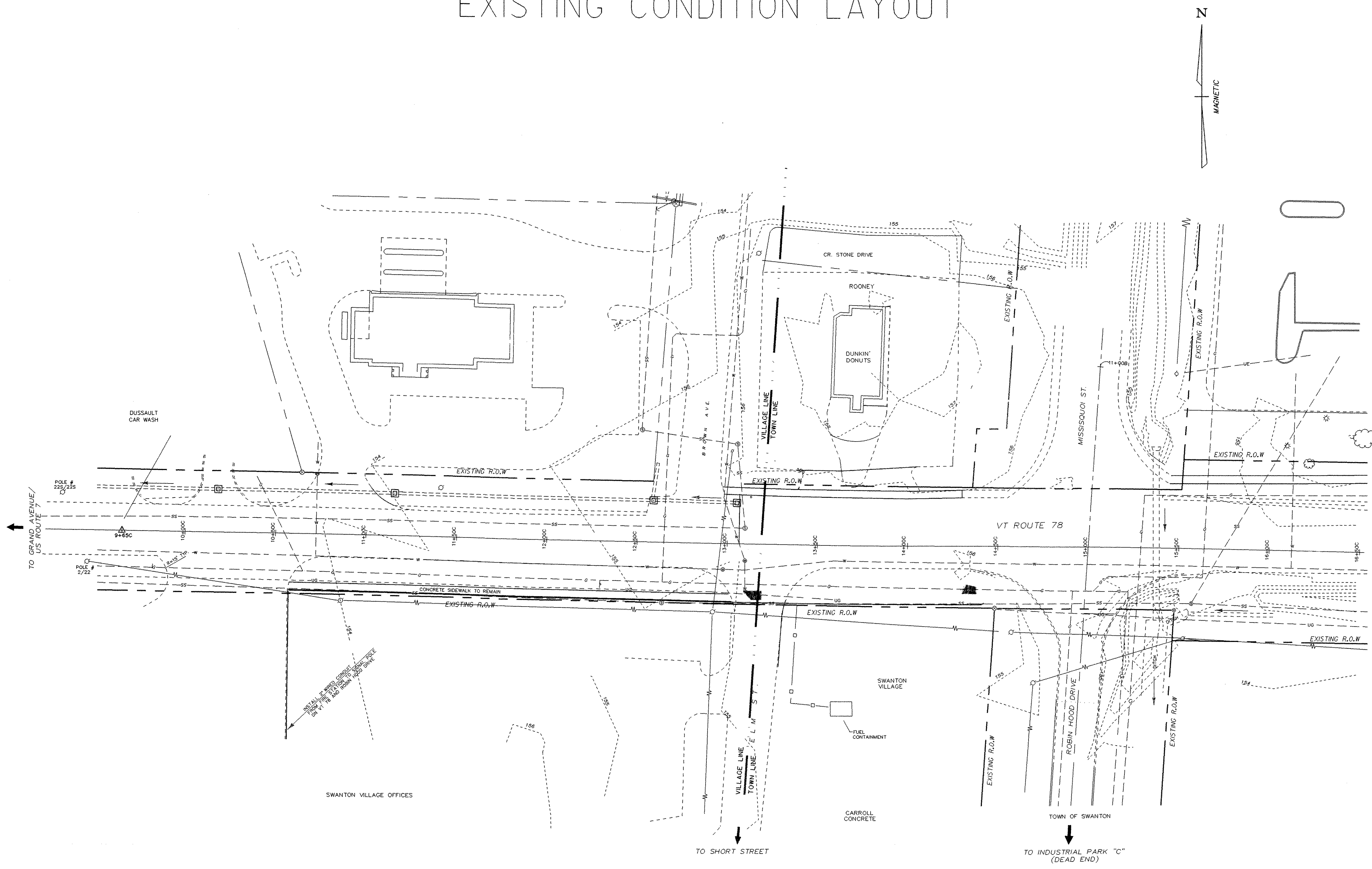
ANY NEWLY PLACED GRUBBING MATERIAL SHALL BE STABILIZED WITH STRAW MATTING AND/OR SEED & MULCH AS DIRECTED BY THE RESIDENT ENGINEER.

REMOVE ANY SEDIMENT TRAPS ONLY AFTER ANY TOE-OF-FILL DITCHES HAVE BEEN STABILIZED AND VEGETATION IS WELL ESTABLISHED. AS DIRECTED BY THE ENGINEER.

REMOVE ALL REMAINING TEMPORARY EROSION CONTROL MEASURES, REGRADE ANY AREAS IF NECESSARY, TREAT ALL REGRADED AREAS WITH STRAW MATTING AND/OR MULCH & SEED, AND ESTABLISH ANY FINAL EROSION CONTROL DEVICES AS DEEMED NECESSARY BY THE RESIDENT ENGINEER.

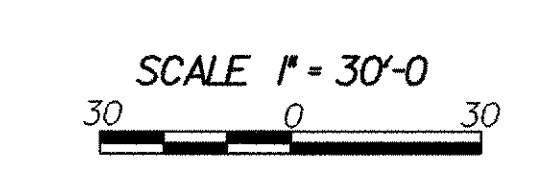
PROJECT NAME: <u>SWANTON</u>	
PROJECT NUMBER: <u>STPG ST 036-1(II)</u>	
FILE NAME: <u>traffic/00bl50/dbl50tit.dgn</u>	PLOT DATE: 19-APR-2006
PROJECT LEADER: <u>B. NYQUIST</u>	DRAWN BY: <u>G. MEUNIER</u>
DESIGNED BY: <u>G. MEUNIER</u>	CHECKED BY: <u>G. MEUNIER</u>
<u>+bl50ec211</u>	SHEET <u>26</u> OF <u>45</u>

EXISTING CONDITION LAYOUT



EXISTING CONDITIONS SHEET

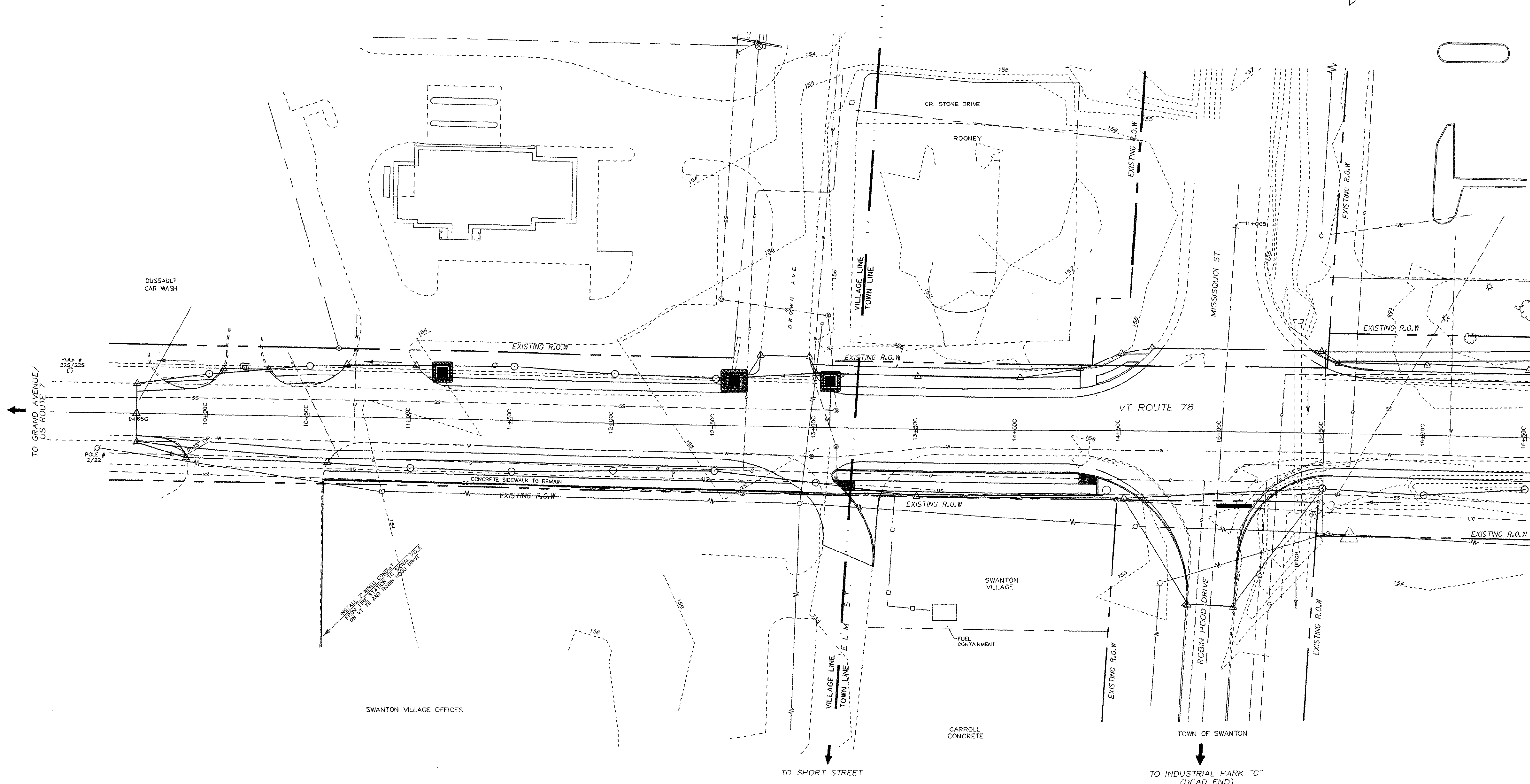
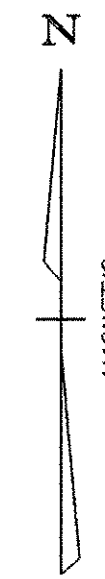
PROJECT NAME:	SWANTON		
PROJECT NUMBER:	STPG ST 036-1(11)		
FILE NAME:	P:\TRAFFIC_DES\006150\Tb1501.DGN		
PROJECT LEADER:	B. NYQUIST	DRAWN BY:	TRAFFIC DESIGN
DESIGNED BY:	TRAFFIC DESIGN	CHECKED BY:	TRAFFIC DESIGN
	Tb150@031	SHEET	27 OF 45



EROSION CONTROL LAYOUT

NOTE:
 SODDING SHALL BE APPLIED IMMEDIATELY ON ALL LAWNS DISTURBED BY CONSTRUCTION,
 OR AS DIRECTED BY THE ENGINEER. ALL CONSTRUCTION SHALL BE PERFORMED FROM
 THE ROADWAY OUT. OUTSIDE OF THE ROADWAY EXCAVATION ALL NEW CONSTRUCTED
 SLOPES SHALL BE SEALED WITH 4" OF TOPSOIL AND MULCHED AT THE END OF EACH WORKDAY
 IN ACCORDANCE WITH THE SPECIFICATION AND PLANS.

ROCK BARRIER INLET PROTECTION
 STA 11+15 LT UNPAVED AREA
 STA 12+59 LT PAVED AREA
 STA 13+07 LT UNPAVED AREA

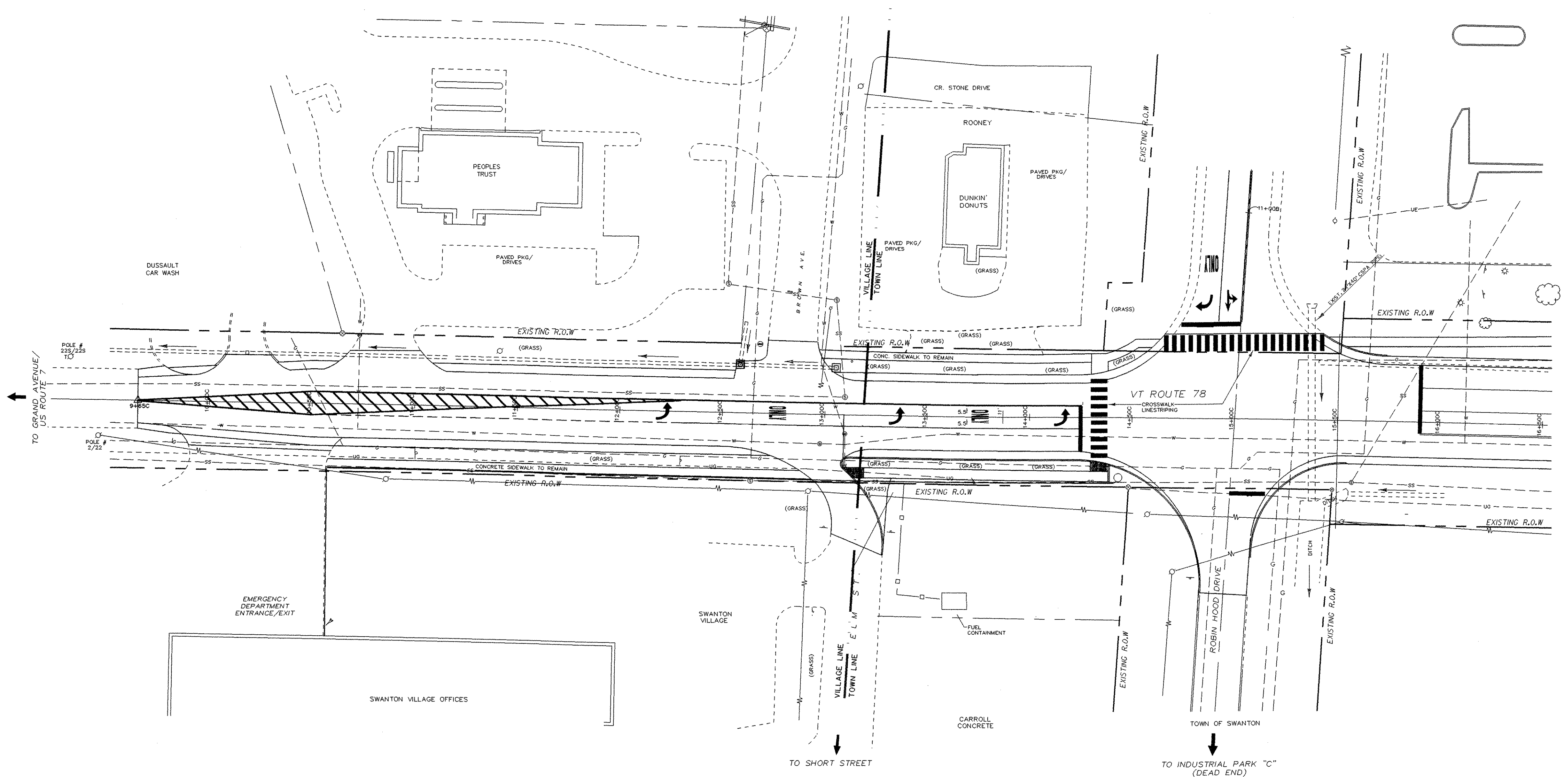
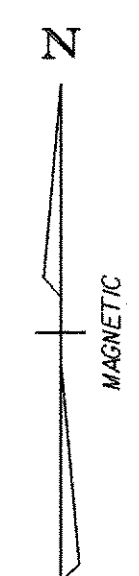


- LEGEND**
- = ROCK BARRIER INLET PROTECTION UNPAVED AREA
 - = ROCK BARRIER INLET PROTECTION PAVED AREA
 - = SILT FENCE

SCALE 1" = 30'-0"

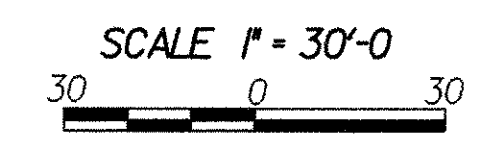
EROSION CONTROL SHEET	
PROJECT NAME:	<u>SWANTON</u>
PROJECT NUMBER:	<u>STPG ST 036-1(1)</u>
FILE NAME:	<u>P:\TRAFFIC_DES\006150\Tb1501.DGN</u> PLOT DATE: 19-APR-2006
PROJECT LEADER:	<u>B. NYQUIST</u> DRAWN BY: <u>TRAFFIC DESIGN</u>
DESIGNED BY:	<u>TRAFFIC DESIGN</u> CHECKED BY: <u>TRAFFIC DESIGN</u>
	<u>Tb150e041</u> SHEET <u>28</u> OF <u>45</u>

FINAL CONDITION LAYOUT

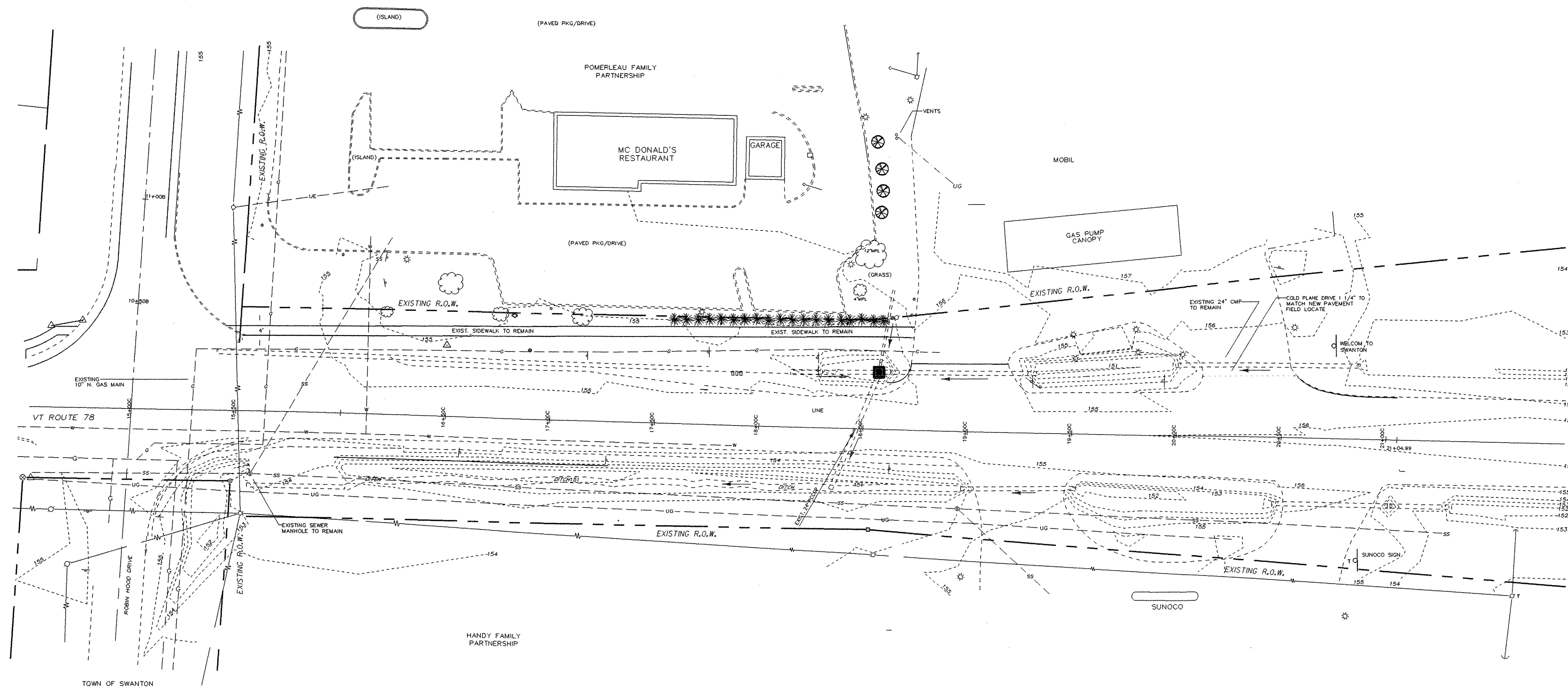
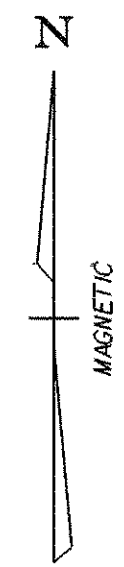


FINAL CONDITIONS SHEET

PROJECT NAME:	SWANTON		
PROJECT NUMBER:	STPG ST 036-1(1)		
FILE NAME:	P:\TRAFFIC DES\006150\101501.DGN		
PLOT DATE:	19-APR-2006		
PROJECT LEADER:	B. NYQUIST	DRAWN BY:	TRAFFIC DESIGN
DESIGNED BY:	TRAFFIC DESIGN	CHECKED BY:	TRAFFIC DESIGN
		SHEET	29 OF 48

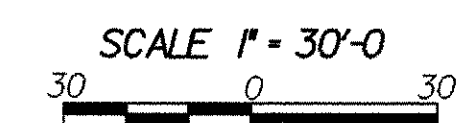


EXISTING CONDITION LAYOUT



EXISTING CONDITIONS SHEET

PROJECT NAME:	SWANTON	FILE NAME:	PW:00b150/traffic/layout2.dgn	PLOT DATE:	19-APR-2006
PROJECT NUMBER:	STPG ST 036-1(11)	PROJECT LEADER:	B. NYQUIST	DRAWN BY:	TRAFFIC DESIGN
		DESIGNED BY:	TRAFFIC DESIGN	CHECKED BY:	TRAFFIC DESIGN
			tb150ec06.i	SHEET	30 OF 45



NOTE:
 SODDING SHALL BE APPLIED IMMEDIATELY ON ALL LAWNS DISTURBED BY CONSTRUCTION,
 OR AS DIRECTED BY THE ENGINEER. ALL CONSTRUCTION SHALL BE PERFORMED FROM
 THE ROADWAY OUT. OUTSIDE OF THE ROADWAY EXCAVATION ALL NEW CONSTRUCTED
 SLOPES SHALL BE SEALED WITH 4" OF TOPSOIL AND MULCHED AT THE END OF EACH WORKDAY
 IN ACCORDANCE WITH THE SPECIFICATION AND PLANS.

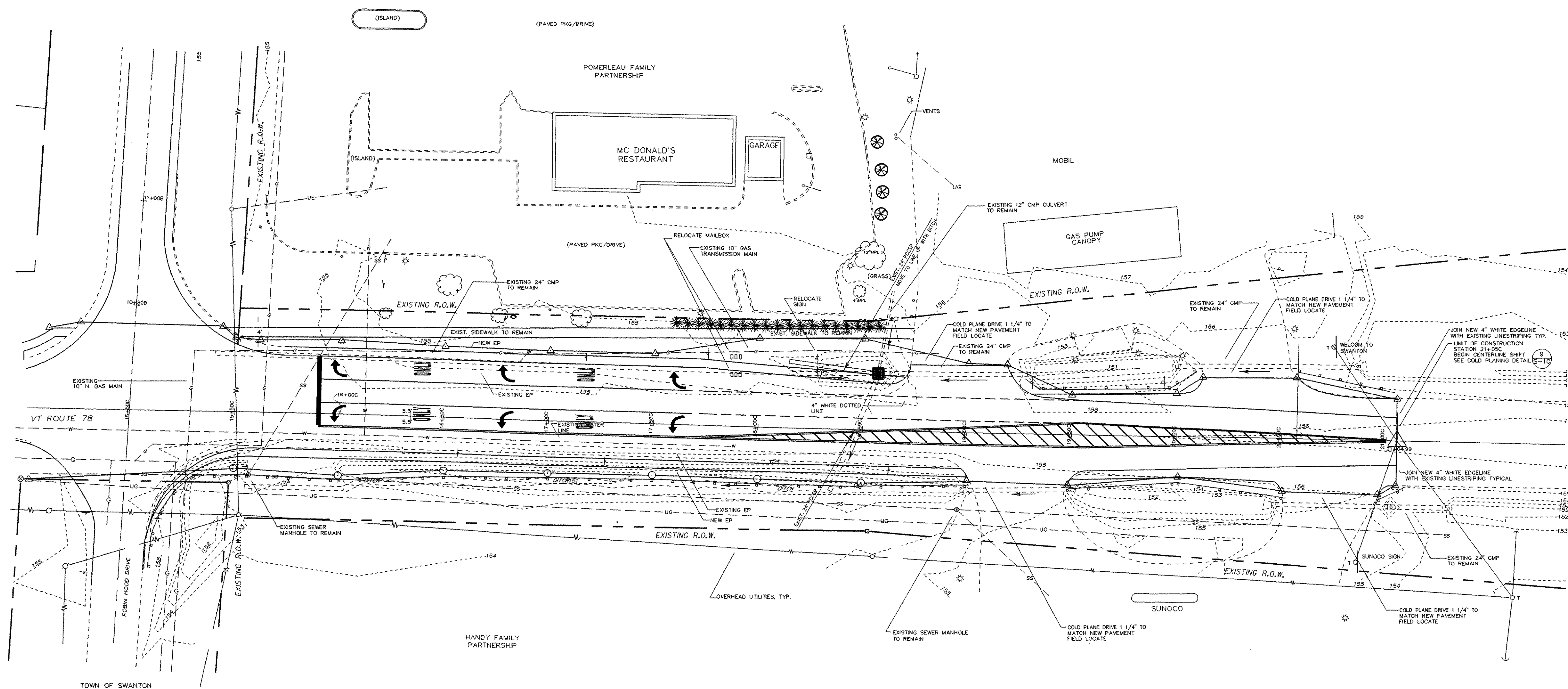
EROSION CONTROL LAYOUT



GEOTEXTILE FOR SILT FENCE




STA. 15+30 ~ 19+00 RT.
 STA. 19+47 ~ 20+51 RT.
 STA. 20+96 ~ 21+09 RT.
 STA. 19+27 ~ 20+09 LT.
 STA. 20+57 ~ 21+05 LT.


ROCK BARRIER INLET PROTECTION STA 18+57 LT UNPAVED AREA



VT 78 East

LEGEND

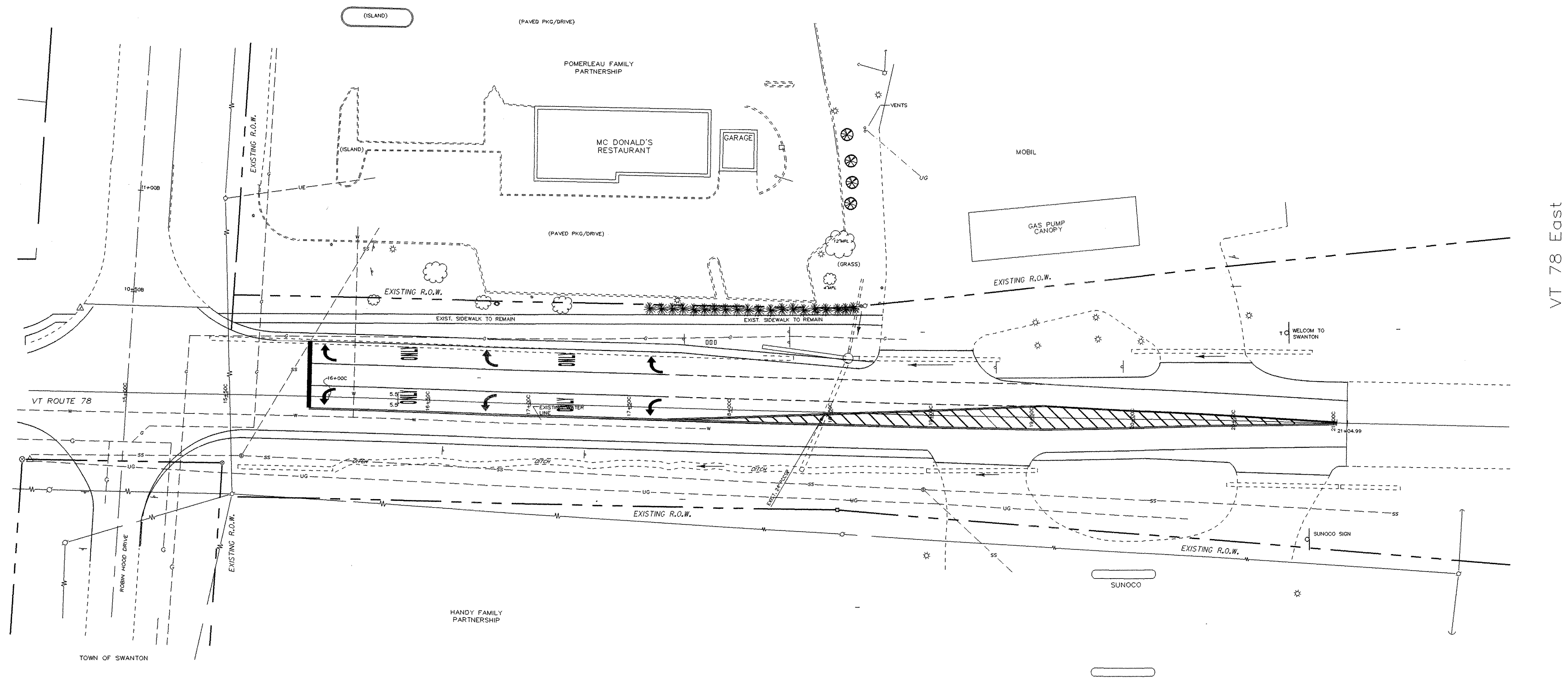
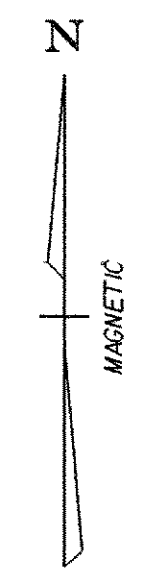
-  = ROCK BARRIER INLET PROTECTION UNPAVED AREA
-  = ROCK BARRIER INLET PROTECTION PAVED AREA
-  = SILT FENCE

SCALE 1" = 30'-0"


EROSION CONTROL SHEET

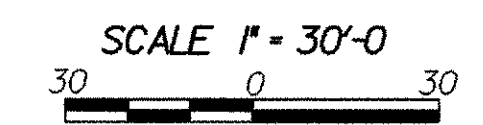
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PROJECT NUMBER:	STPG ST 036-1(11)
FILE NAME:	PW:00b150/traffic/layout2.dgn
PROJECT LEADER:	B. NYQUIST
DESIGNED BY:	TRAFFIC DESIGN
PLOT DATE:	19-APR-2006
DRAWN BY:	TRAFFIC DESIGN
CHECKED BY:	TRAFFIC DESIGN
SHEET	31 OF 45

FINAL CONDITION LAYOUT

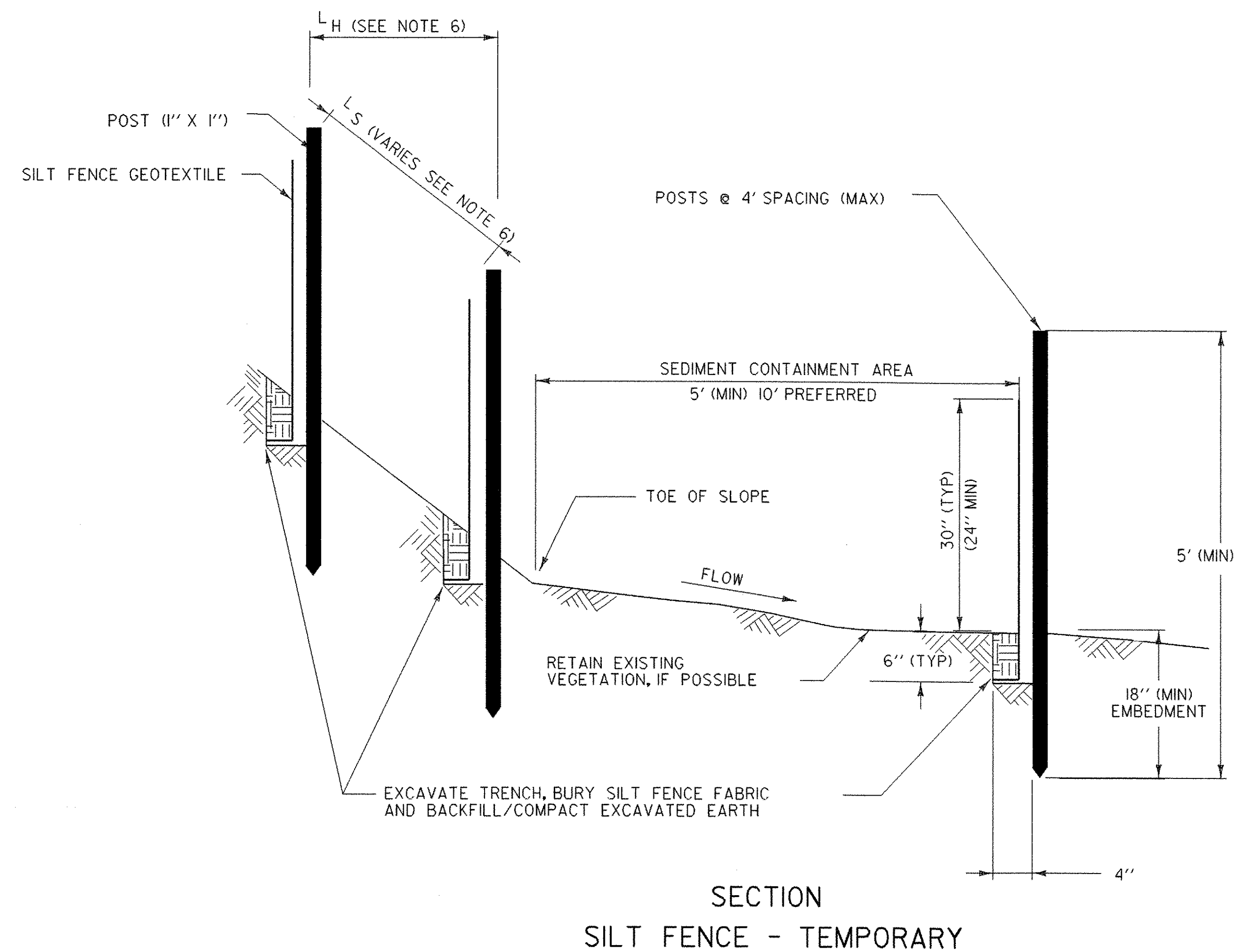
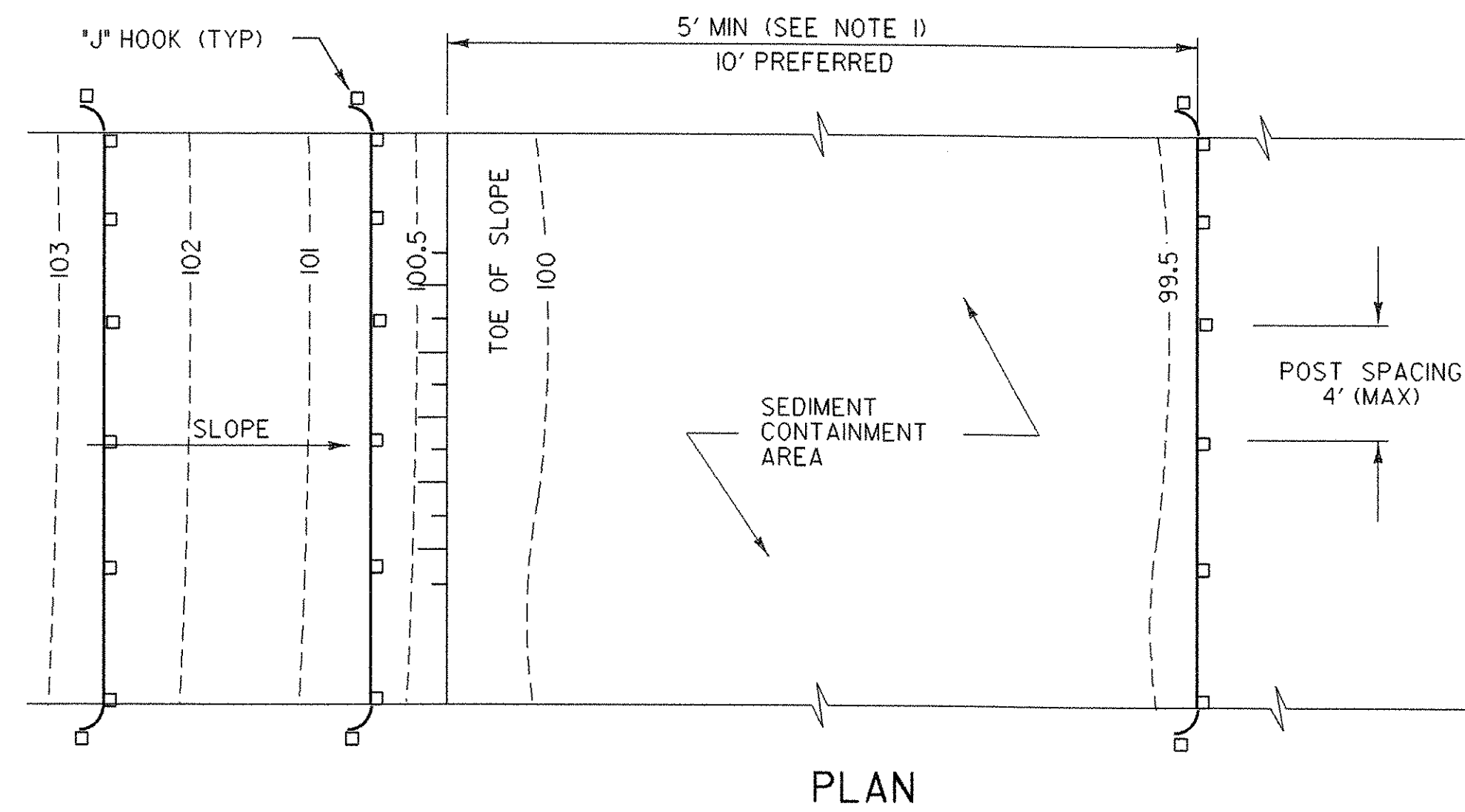


FINAL CONDITIONS SHEET

PROJECT NAME:	SWANTON	FILE NAME:	P:\00b150\traffic\layout2.dgn	PLOT DATE:	19-APR-2006
PROJECT NUMBER:	STPG ST 036-1(11)	PROJECT LEADER:	B. NYQUIST	DRAWN BY:	TRAFFIC DESIGN
DESIGNED BY:	TRAFFIC DESIGN	CHECKED BY:	TRAFFIC DESIGN	SHEET	32 OF 45
			tbl50ec08.l1		



SILT FENCE



APPLICATION NOTES:

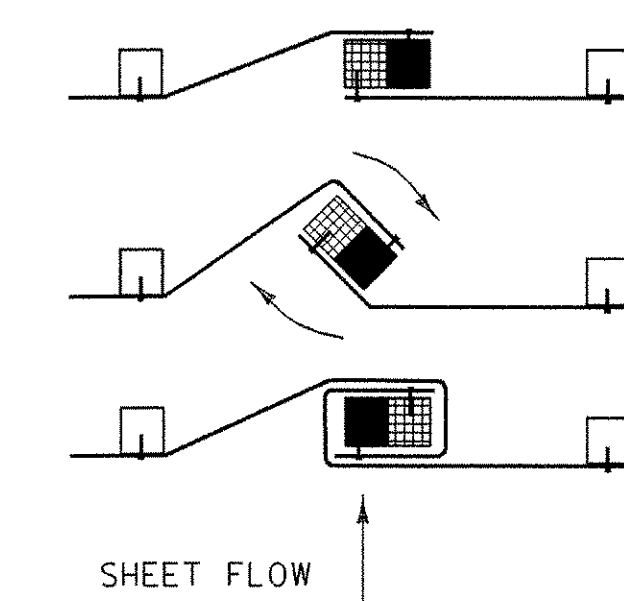
- A. THE PRIMARY PURPOSE OF SILT FENCE IS TO REDUCE RUNOFF VELOCITY AND TRAP SEDIMENT. VELOCITY IS REDUCED, WATER IS IMPOUNDED BEHIND THE MEASURE, AND SEDIMENT FALLS OUT OF SUSPENSION.
- B. SILT FENCE SHALL BE INSTALLED ON A LINE OF EQUAL ELEVATION (CONTOUR). IT MAY BE INSTALLED AT INTERMEDIATE POINTS UP SLOPES AS WELL AS AT THE BOTTOM, AS SHOWN IN THE DETAIL.
- C. SILT FENCE SHALL NOT BE USED ACROSS CONCENTRATED FLOW.

GENERAL NOTES:

1. SILT FENCE SHALL GENERALLY BE PLACED A MINIMUM OF 5 FEET BEYOND TOE OF SLOPE, 10 FEET PREFERRED, TO PROVIDE ADEQUATE AREA FOR SEDIMENT STORAGE AND FACILITATE MAINTENANCE OF SEDIMENT CONTAINMENT AREA.
2. ALL ENDS SHALL BE "J" HOOKED TO TRAP SEDIMENT.
3. IN AREAS WITH TWO SLOPES, SILT FENCE SHALL BE USED TO ERECT A DAM AND TRAP SEDIMENT AT THE BASE OF THE STEEPER SLOPE.
4. THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 6 INCHES BELOW GROUND, AND KEYS IN 4 INCHES. THE FENCE SHALL BE INSTALLED WITH THE POSTS ON THE DOWNSTREAM SIDE OF THE FABRIC.
5. MAXIMUM DRAINAGE AREA TRIBUTARY TO 100 FEET OF SILT FENCE SHALL BE 0.25 ACRES.
6. THE FOLLOWING ARE MAXIMUM SLOPE LENGTHS FOR THESE MEASURES:

CONSTRUCTED SLOPE	SLOPE LENGTH (LS) FT	HORIZONTAL LENGTH (LH) FT
3 : 1	80	75
4 : 1	130	125
5 : 1	200	200
> 5 : 1	250	250

7. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
8. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
9. SILT FENCE SHALL BE REMOVED WHEN THE AREA HAS BEEN STABILIZED. AT TIME OF REMOVAL OF THE SILT FENCE, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
10. PAYMENT FOR INSTALLATION AND REMOVAL OF SILT FENCE SHALL BE MADE UNDER THE GEOTEXTILE FOR SILT FENCE ITEM.
11. PAYMENT FOR MONITORING SILT FENCE SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
12. PAYMENT FOR MAINTAINING SILT FENCE SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



1. PLACE THE END POST OF ONE FENCE INSIDE THE END POST OF THE OTHER FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
3. DRIVE BOTH POSTS 18 INCHES INTO THE GROUND AND BURY THE FLAP IN THE TRENCH.

REVISIONS AND CORRECTIONS
MAY 18, 2004 N. GARBACK

EROSION PREVENTION & SEDIMENT CONTROL DETAILS SILT FENCE



DETAIL EPSC-1

PROJECT NAME: SWANTON
PROJECT NUMBER: STPG ST 036-1(II)
FILE NAME: traffic/00b150/db150tit.dgn PLOT DATE: 19-APR-2006
PROJECT LEADER: B. NYQUIST DRAWN BY: G. MEUNIER
DESIGNED BY: G. MEUNIER CHECKED BY: G. MEUNIER
tbl50ec09.i SHEET 33 OF 45

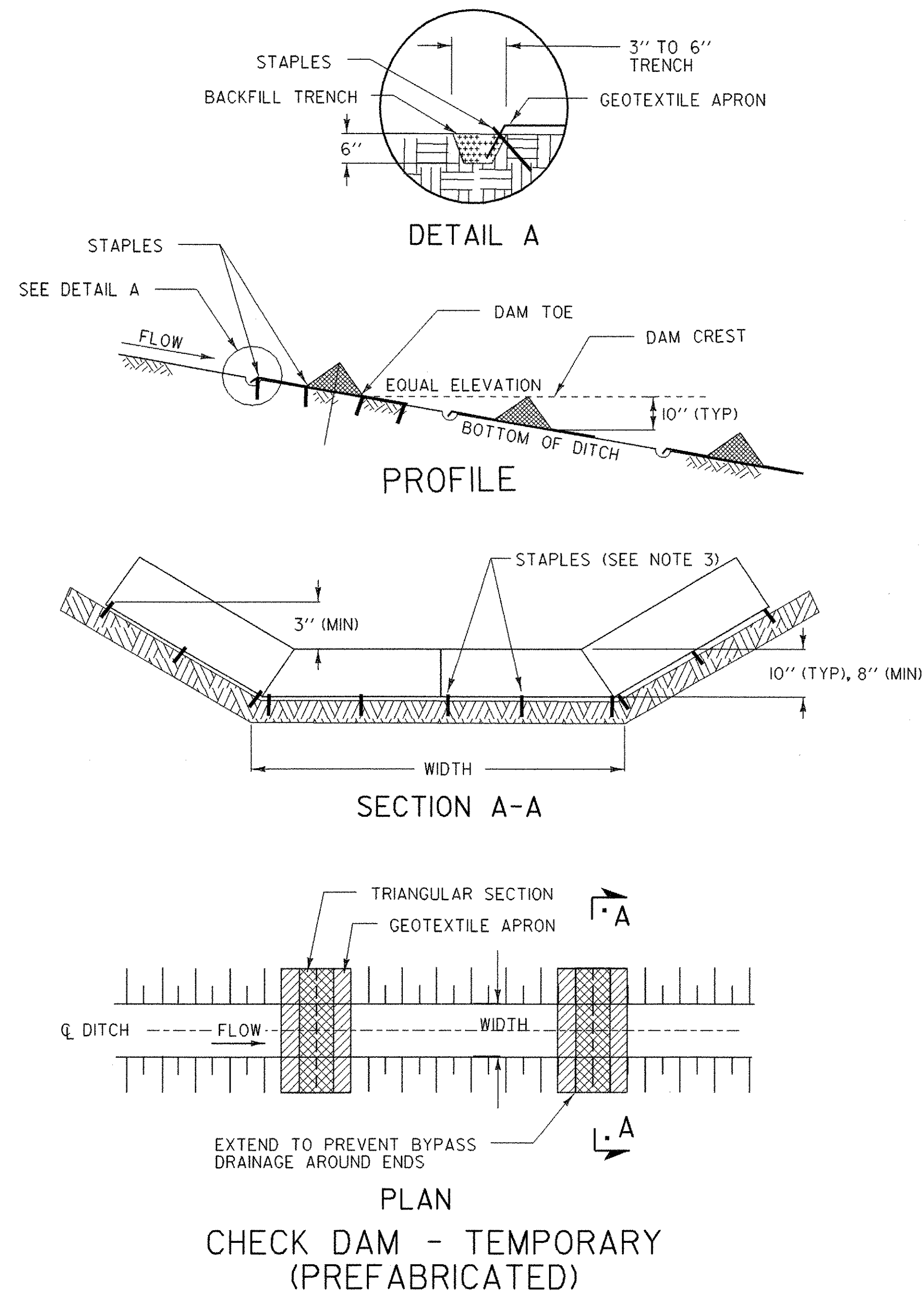
CHECK DAMS

APPLICATION NOTES:

- THE PRIMARY PURPOSE OF A CHECK DAM IS TO REDUCE EROSION IN A CHANNEL BY REDUCING FLOW VELOCITY.
- CHECK DAMS WILL CAPTURE SEDIMENT THAT FALLS OUT OF SUSPENSION BEHIND THE CHECK DAM DUE TO DECREASED VELOCITY.
- CHECK DAMS ARE NOT INTENDED TO FILTER SEDIMENT FROM TURBID WATER.
- DETAILS SHOWN SHALL BE USED FOR TEMPORARY INSTALLATION ONLY.
- PREFABRICATED DAMS ARE NOT TO BE USED ON SLOPES GREATER THAN 5% OR PER MANUFACTURER'S SPECIFICATIONS.
- PREFABRICATED DAM SPECIFICATIONS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO USE.

GENERAL NOTES:

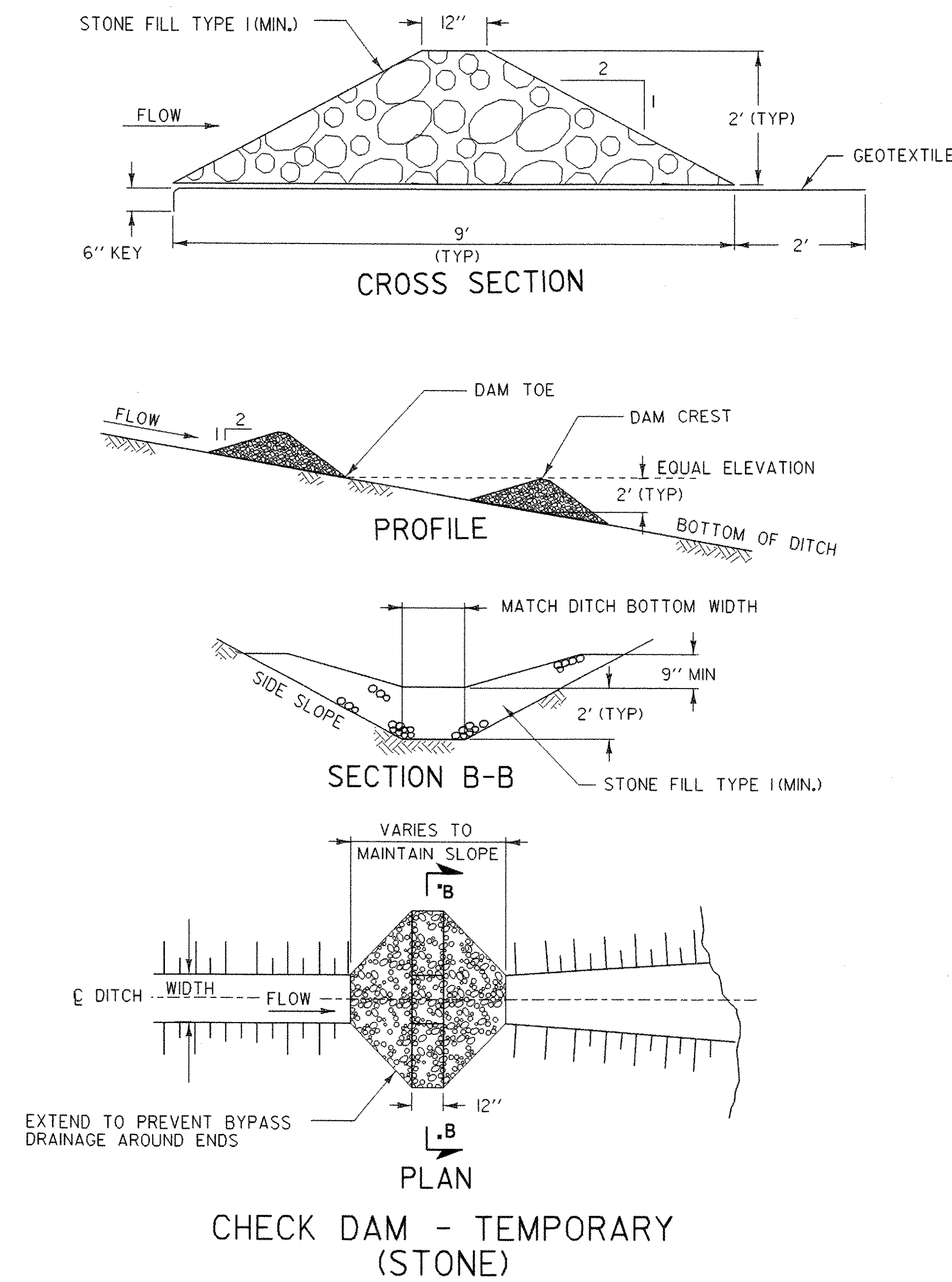
- GEOTEXTILE SHALL BE INSTALLED UNDER STONE FILL. IT SHALL BE KEYED IN ON THE UP HILL END AND SHALL EXTEND 2 FEET BEYOND THE STONE ON THE DOWN HILL END.
- CORE MATERIAL FOR THE STONE CHECK DAM SHALL MEET THE GRADATION REQUIREMENTS OF STONE FILL TYPE I (MIN.). STONE SIZE SHOULD BE INCREASED WITH INCREASED SLOPE AND VELOCITY.
- THE UPHILL END OF THE APRON FOR THE PREFABRICATED CHECK DAM SHALL BE STAPLED AND BURIED AS SHOWN IN DETAIL "A" OR AS RECOMMENDED BY THE MANUFACTURER'S LITERATURE.
- MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
- MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
- AT TIME OF REMOVAL OF THE CHECK DAMS, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
- PAYMENT FOR INSTALLATION AND REMOVAL OF CHECK DAMS SHALL BE MADE UNDER APPLICABLE ITEMS INCLUDED IN THE CONTRACT PLANS OR UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM.
- PAYMENT FOR MONITORING CHECK DAMS SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
- PAYMENT FOR MAINTAINING CHECK DAMS SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



**PREFABRICATED CHECK DAM
PLACEMENT INTERVAL**

DITCH SLOPE	PLACEMENT INTERVAL **
1 %	50 FT
2 %	40 FT
3 %	25 FT
4 %	20 FT
5 %	15 FT

** BASED ON 10" TYPICAL HEIGHT



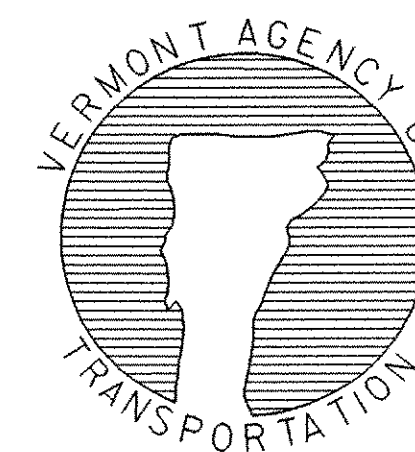
**STONE CHECK DAM
PLACEMENT INTERVAL**

DITCH SLOPE	PLACEMENT INTERVAL **
1 %	200 FT
2 %	100 FT
3 %	65 FT
4 %	50 FT
5 %	40 FT
6 %	30 FT
8 %	25 FT
10 %	20 FT

** BASED ON 2' TYPICAL HEIGHT

REVISIONS AND CORRECTIONS
MAY 18, 2004 N. GARBACIK

EROSION PREVENTION & SEDIMENT CONTROL DETAILS CHECK DAMS



DETAIL EPSC-2

PROJECT NAME: SWANTON
PROJECT NUMBER: STPG ST 036-1(II)
FILE NAME: traffic/00b150/db150t1t.dgn PLOT DATE: 19-APR-2006
PROJECT LEADER: B. NYQUIST DRAWN BY: G. MEUNIER
DESIGNED BY: G. MEUNIER CHECKED BY: G. MEUNIER
tb150ecl0.i SHEET 34 OF 45

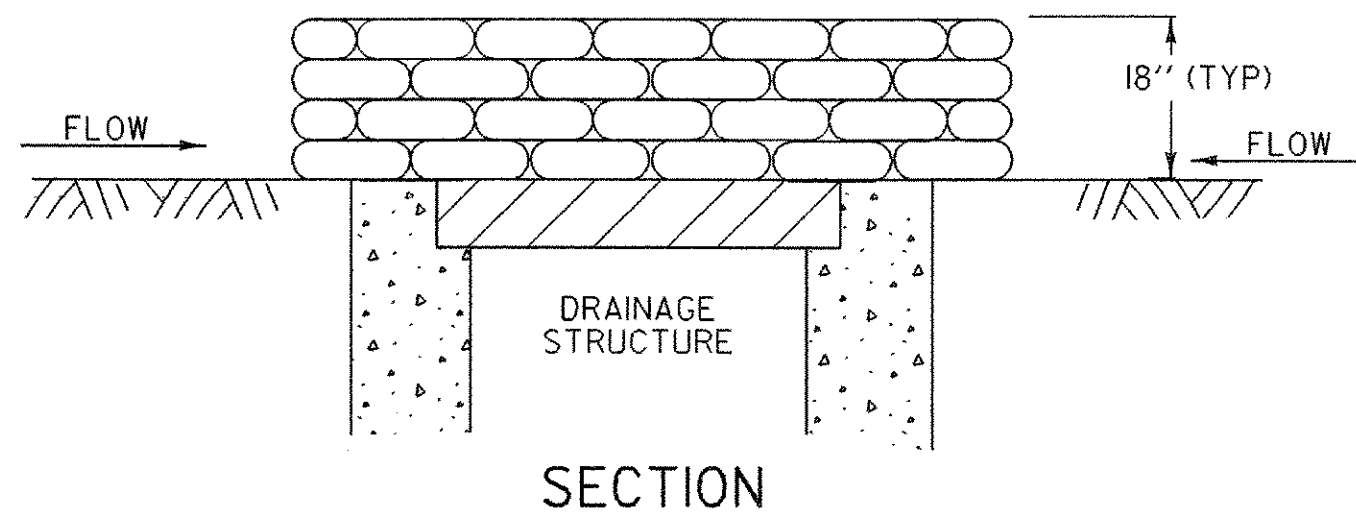
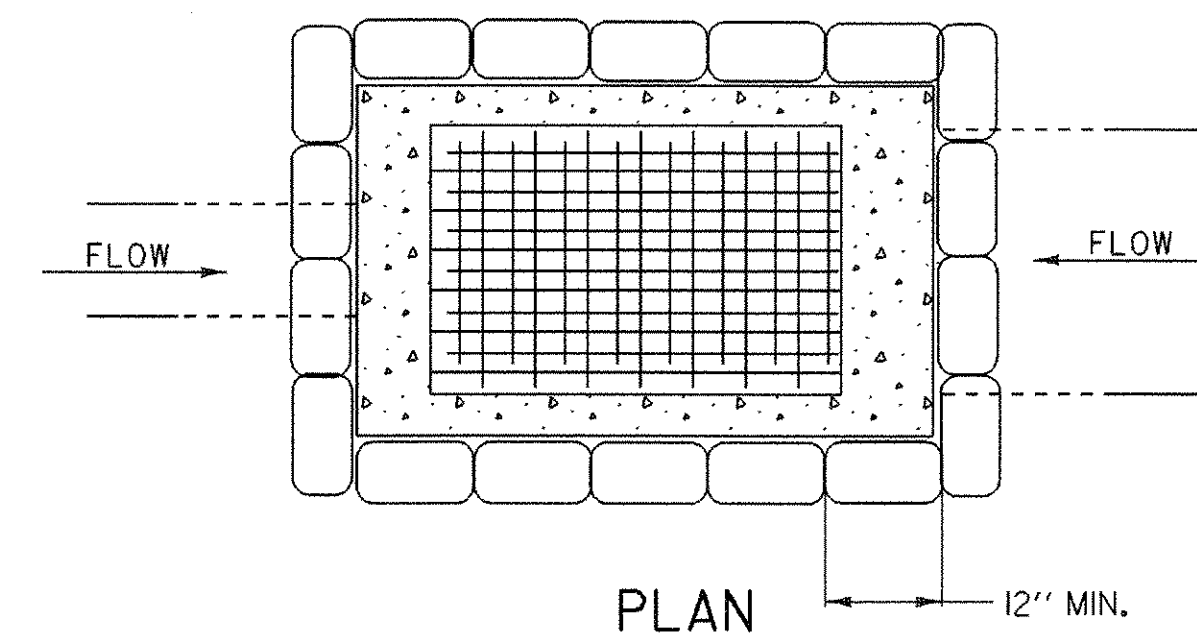
DROP INLET PROTECTION

APPLICATION NOTES:

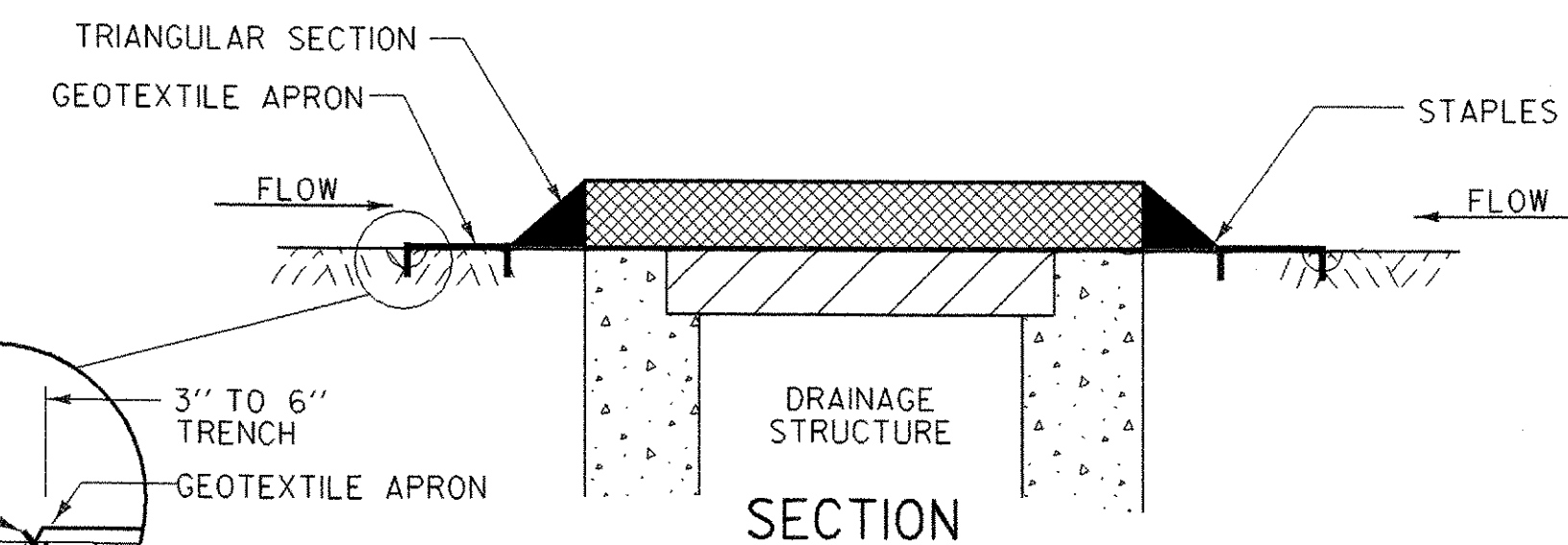
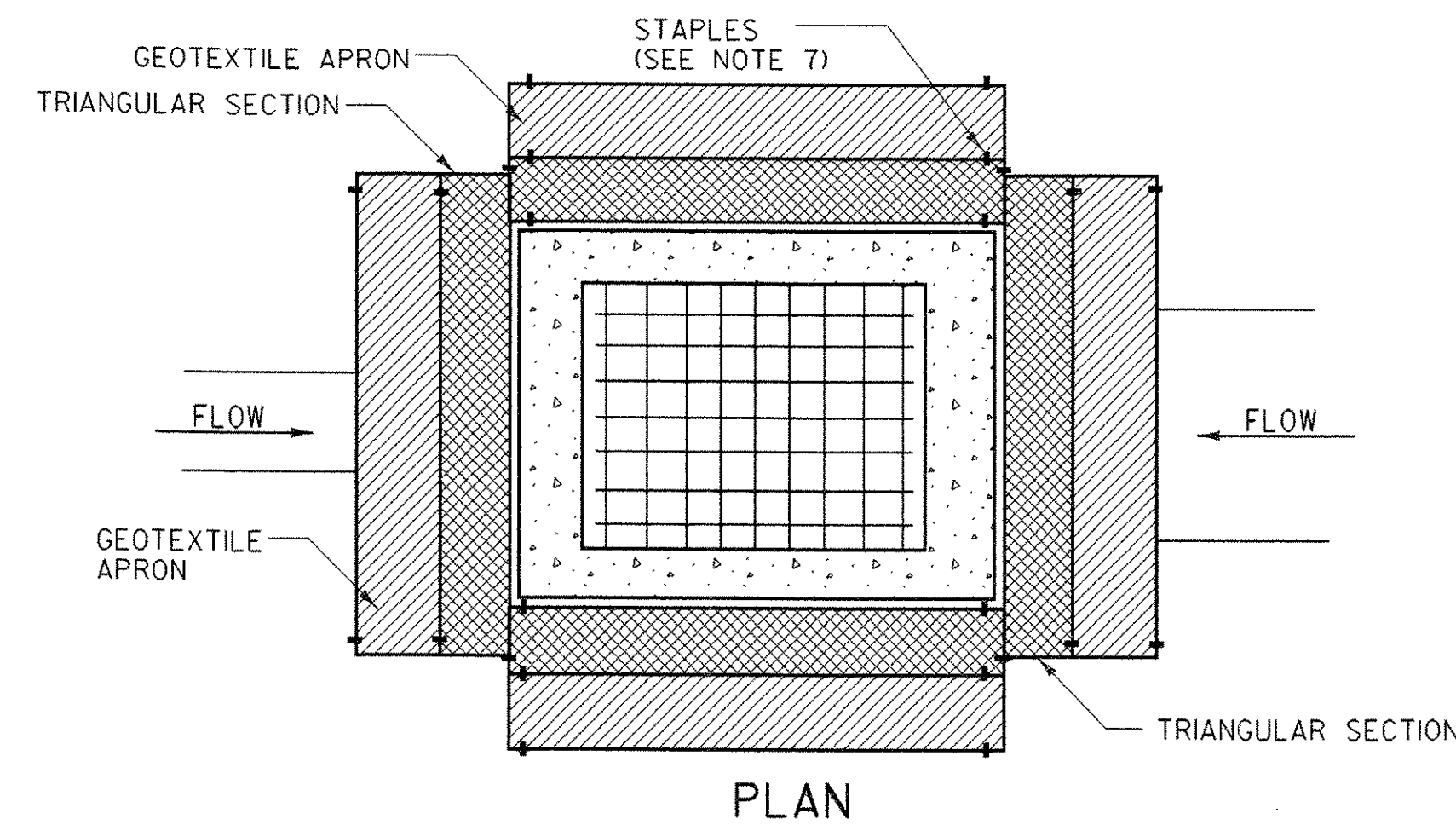
- A. THE PRIMARY PURPOSE OF DRAINAGE STRUCTURE INLET PROTECTION IS TO PREVENT SEDIMENT FROM ENTERING A DRAINAGE SYSTEM BY PONDING WATER WHICH ALLOWS SEDIMENT TO FALL OUT OF SUSPENSION.
- B. THESE EXAMPLES OF DROP INLET PROTECTION ARE NOT INTENDED FOR USE ON GRADES. ON GRADE THEY MAY CAUSE WATER TO BYPASS THE STRUCTURE, CREATING ADDITIONAL EROSION OR FLOODING.
- C. POSSIBLE MODIFICATIONS FOR USE ON GRADE INCLUDE ADDING A BERM DOWNSTREAM OF THE INLET TO CREATE PONDING. CHECK DAMS MAY ALSO BE USED UPSTREAM OF THE INLET TO SLOW VELOCITIES.
- D. PREFABRICATED DROP INLET PROTECTION SPECIFICATIONS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO USE.

GENERAL NOTES:

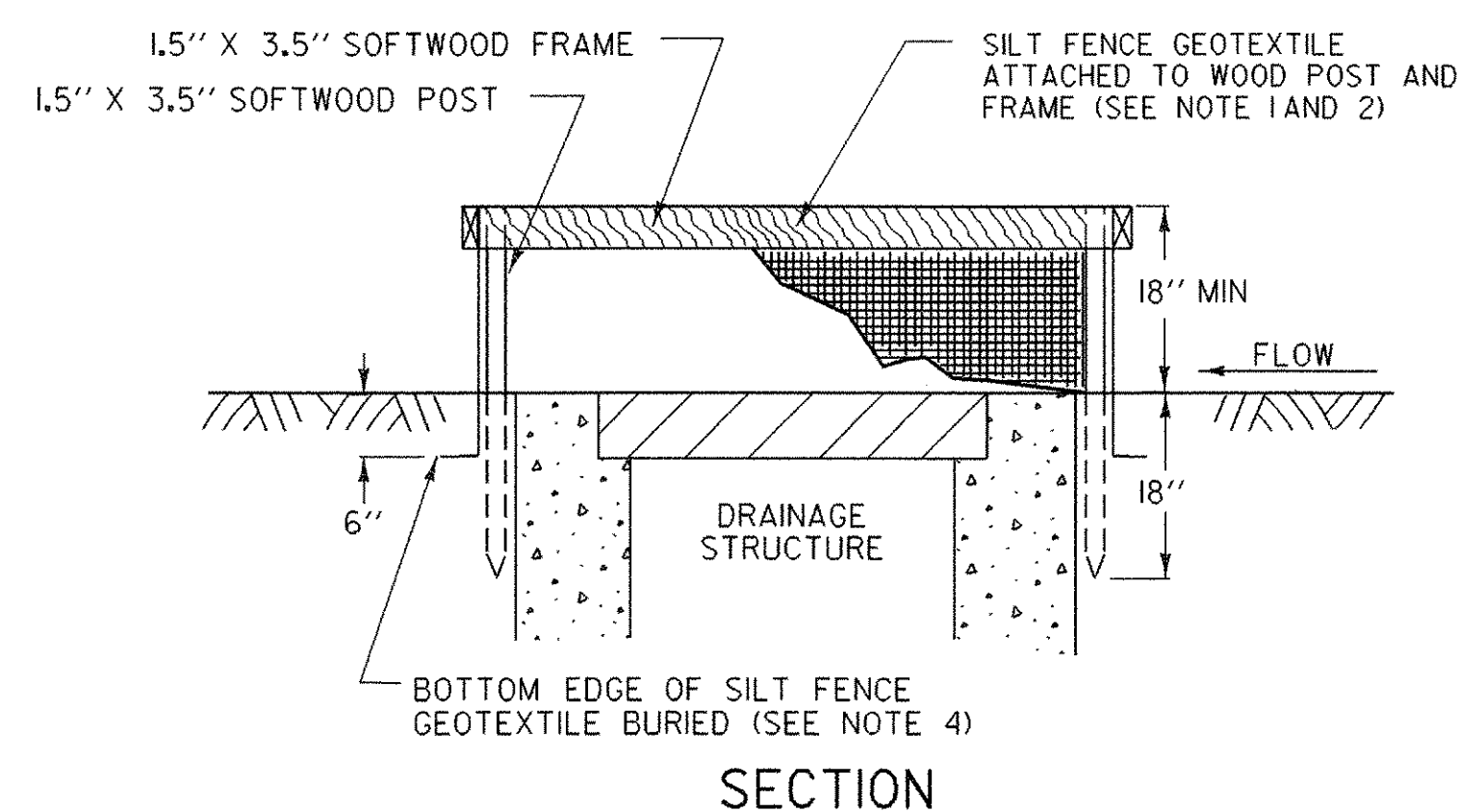
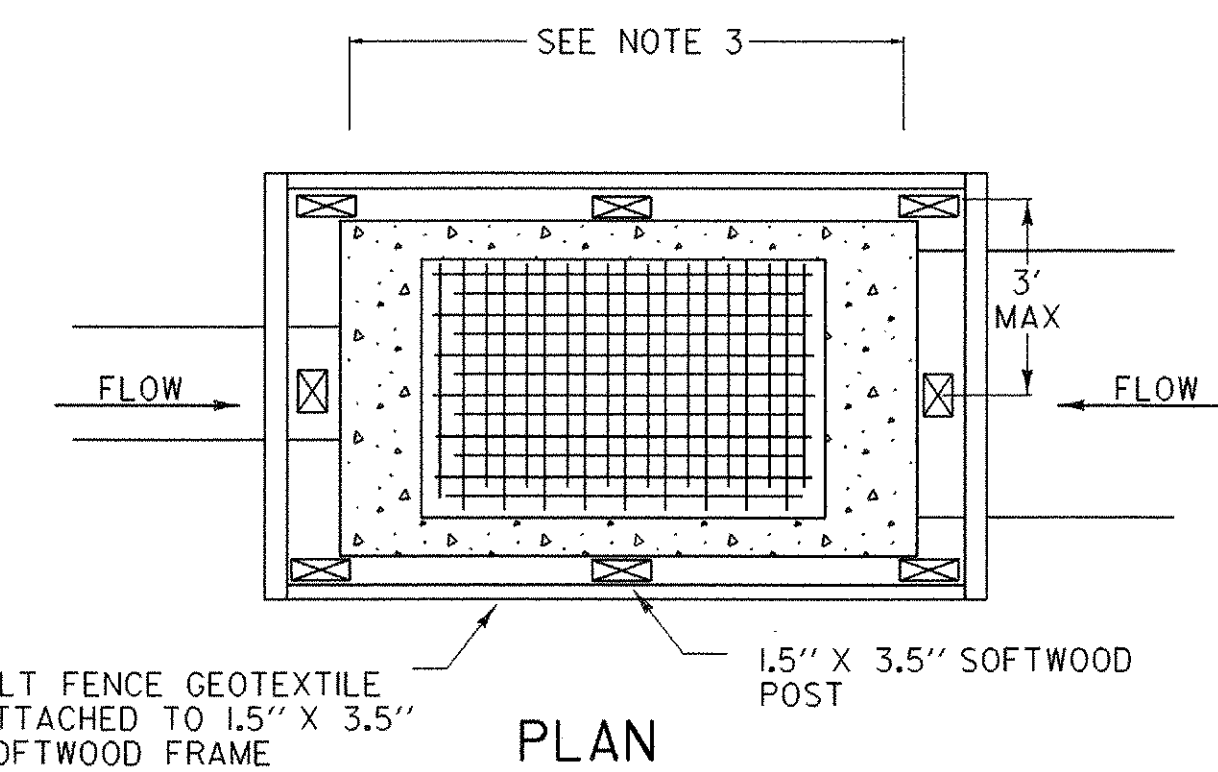
1. THE TOP OF THE INLET PROTECTION SHALL BE SET AT THE MAXIMUM DESIRED WATER LEVEL, BASED ON FIELD LOCATION AND CONDITIONS.
2. SILT FENCE GEOTEXTILE SHALL BE A SINGLE CONTINUOUS PIECE TO ELIMINATE JOINTS.
3. SPACE SILT FENCE POSTS EVENLY AROUND INLET WITH A MAXIMUM SPACING OF 3 FEET. DRIVE POSTS A MINIMUM OF 18 INCHES INTO GROUND. WIRE MESH MAY BE REQUIRED BEHIND GEOTEXTILE TO PROVIDE SUPPORT.
4. SILT FENCE GEOTEXTILE SHALL BE EMBEDDED A MINIMUM OF 6 INCHES AND BACKFILLED. GEOTEXTILE SHALL BE SECURELY FASTENED TO POSTS AND FRAME.
5. GRAVEL BAGS SHALL BE FILLED WITH CLEAN STONE, RATHER THAN SAND, TO PREVENT SEDIMENT FROM ENTERING A DRAINAGE SYSTEM IF BAGS ARE DAMAGED DURING USE.
6. GRAVEL BAGS SHALL BE INDIVIDUALLY TIED, DOUBLE BAGGED AND INVERSELY INSERTED. GRAVEL BAGS SHALL LAP THE JOINTS BETWEEN THE BAGS IN THE LAYER BELOW.
7. SECURE THE ENDS OF THE APRON FOR THE PREFABRICATED DRAINAGE STRUCTURE INLET PROTECTION WITH STAPLES AS DETAILED IN THE PLAN VIEW OR AS RECOMMENDED BY THE MANUFACTURERS LITERATURE.
8. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
9. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
10. PAYMENT OF INLET PROTECTION SHALL BE MADE UNDER APPLICABLE ITEMS INCLUDED IN THE CONTRACT PLANS OR UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM.
11. PAYMENT FOR MONITORING INLET PROTECTION SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
12. PAYMENT FOR MAINTAINING INLET PROTECTION SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



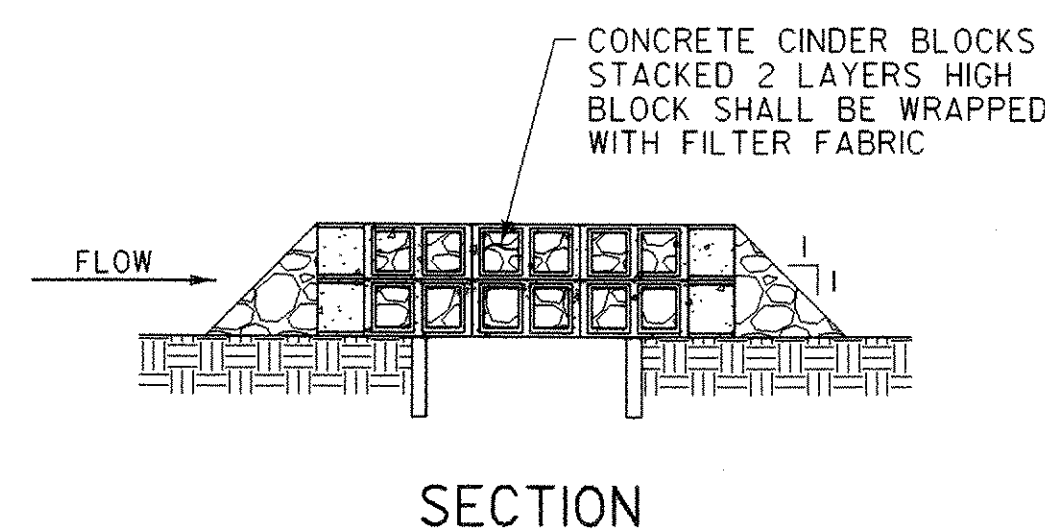
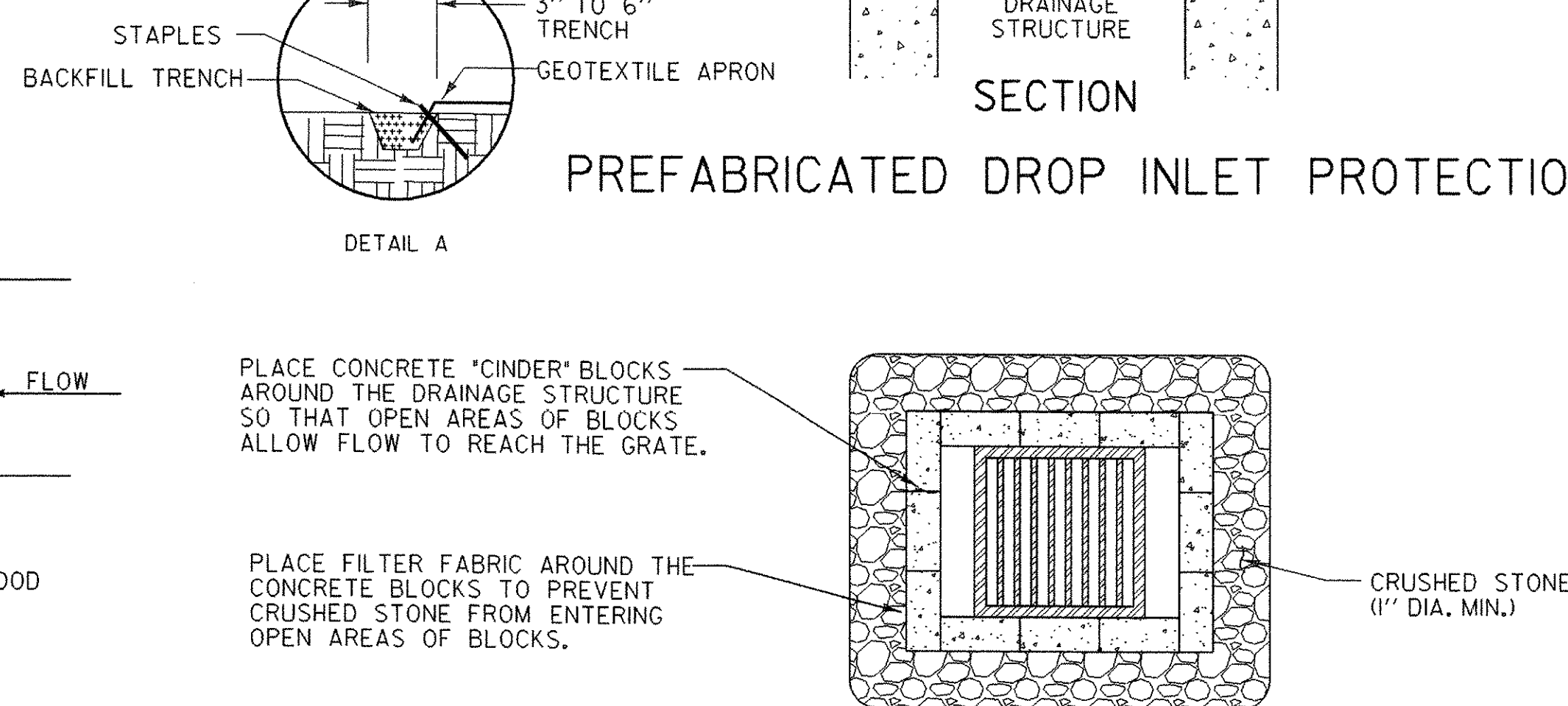
GRAVEL BAG DROP INLET PROTECTION



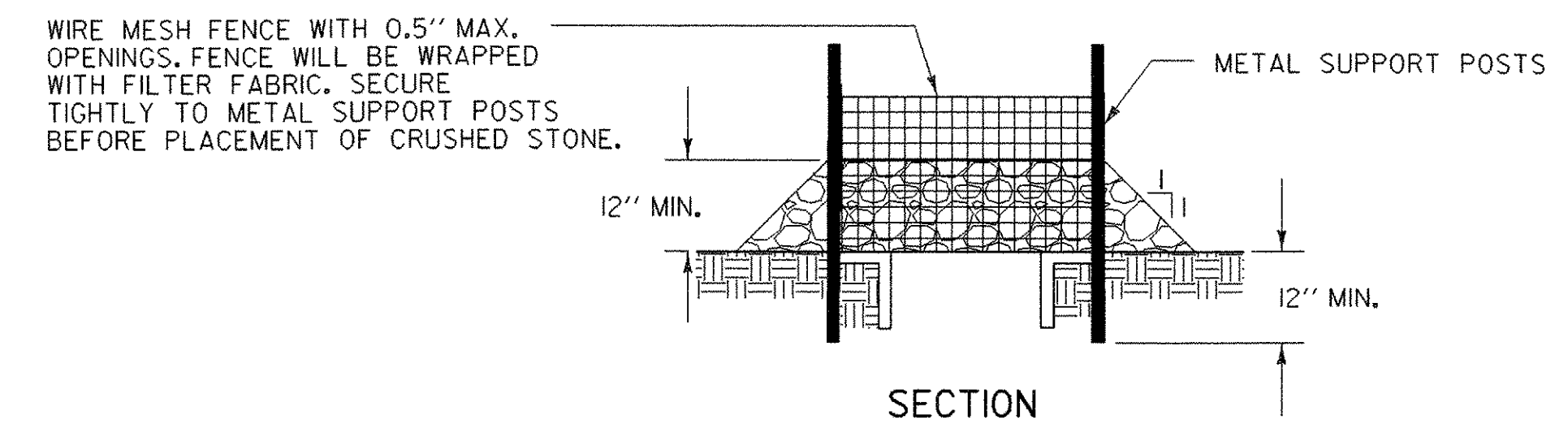
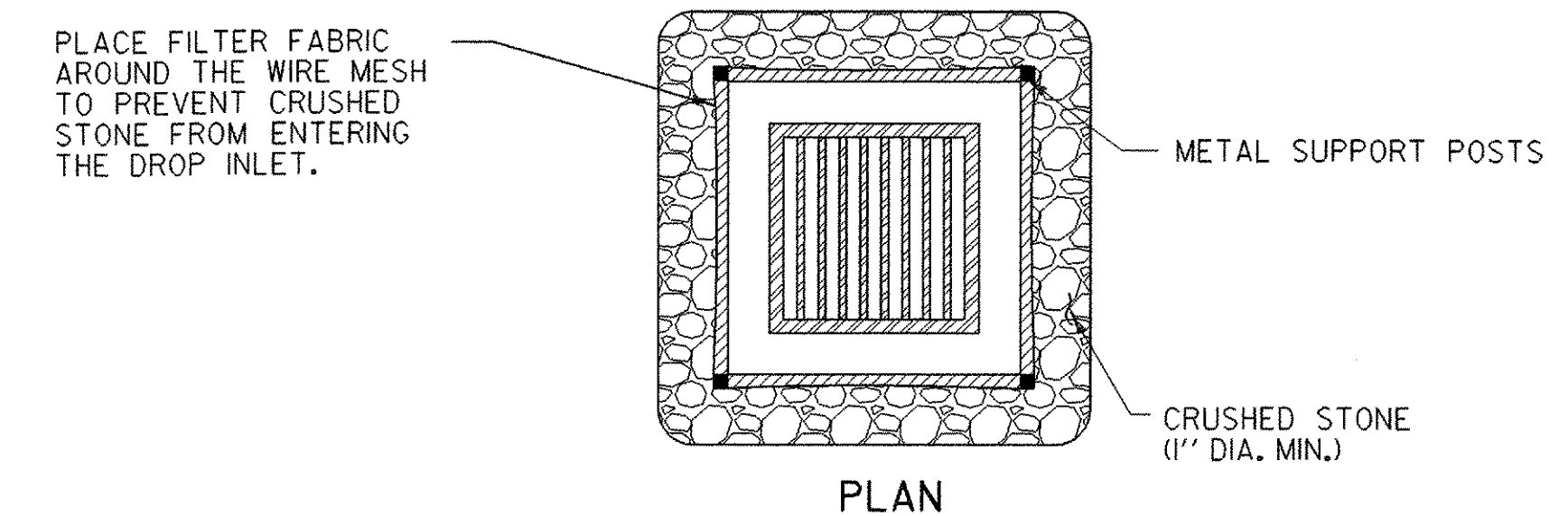
PREFABRICATED DROP INLET PROTECTION



SILT FENCE DROP INLET PROTECTION



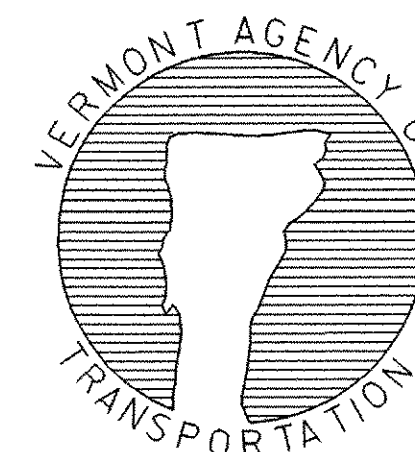
ROCK BARRIER DROP INLET PROTECTION
TEMPORARY PAVED AREAS



ROCK BARRIER INLET PROTECTION
TEMPORARY UNPAVED AREAS

REVISIONS AND CORRECTIONS
MAY 18, 2004 N. GARBACK

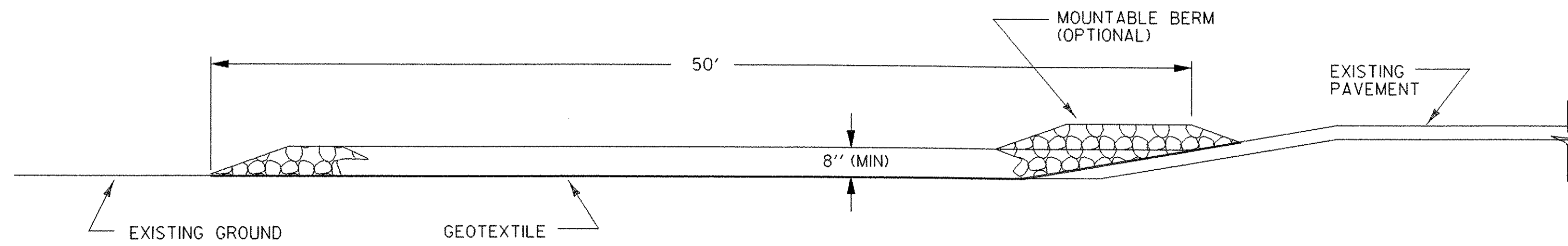
EROSION PREVENTION & SEDIMENT CONTROL DETAILS DROP INLET PROTECTION



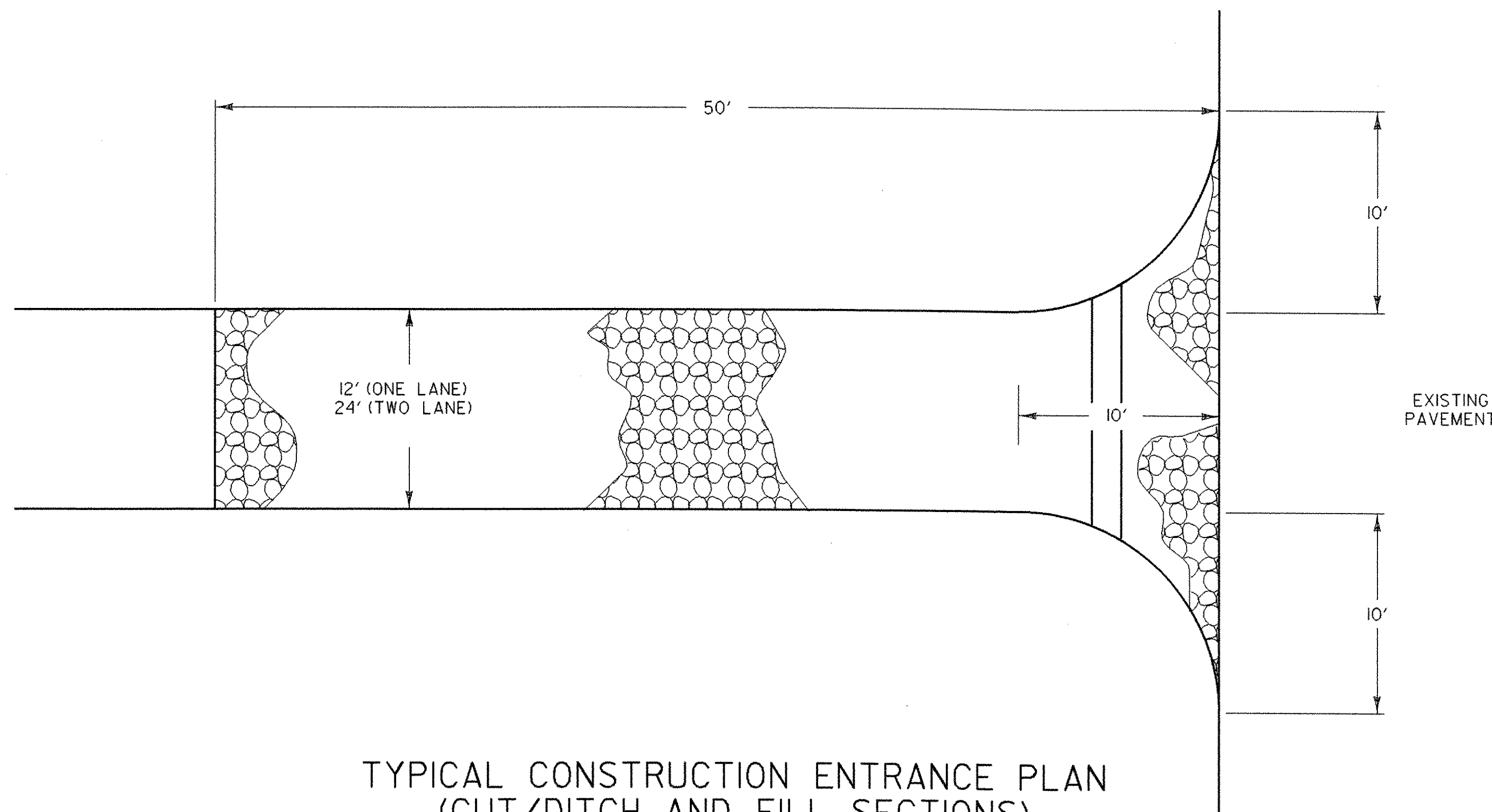
DETAIL EPSC-3

PROJECT NAME: SWANTON	PROJECT NUMBER: STPG ST 036-1(II)
FILE NAME: traffic/00b150/db150tit.dgn	PLOT DATE: 19-APR-2006
PROJECT LEADER: B. NYQUIST	DRAWN BY: G. MEUNIER
DESIGNED BY: G. MEUNIER	CHECKED BY: G. MEUNIER
tb150ecl1	SHEET 35 OF 45

STABILIZED CONSTRUCTION ENTRANCE



TYPICAL CONSTRUCTION ENTRANCE PROFILE
(CUT AND DITCH SECTIONS)



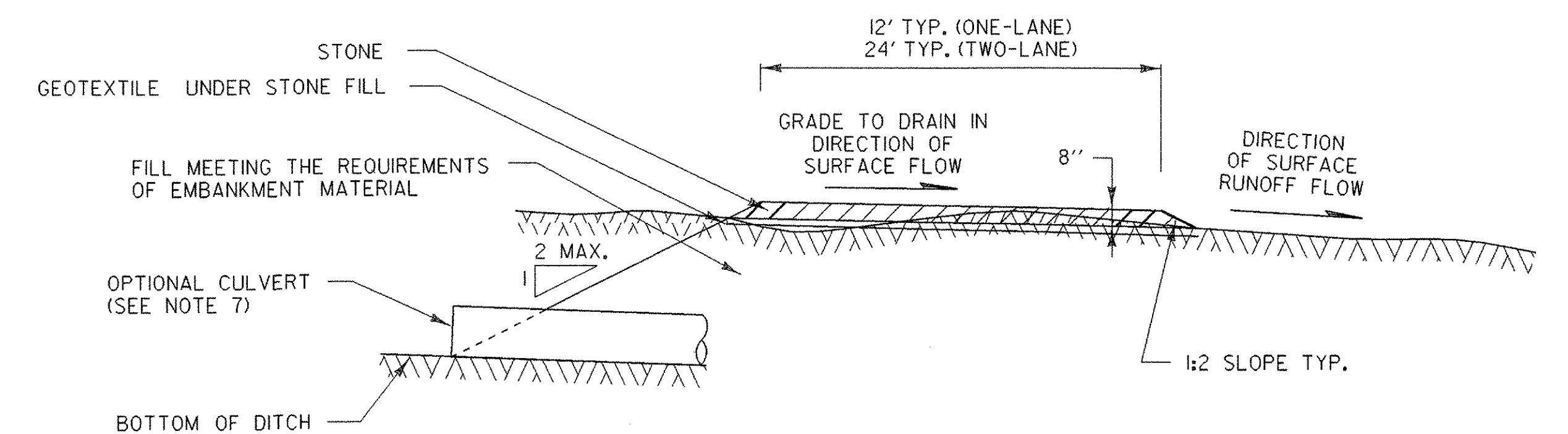
TYPICAL CONSTRUCTION ENTRANCE PLAN
(CUT/DITCH AND FILL SECTIONS)

APPLICATION NOTES:

A. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY OR STREETS.

GENERAL NOTES:

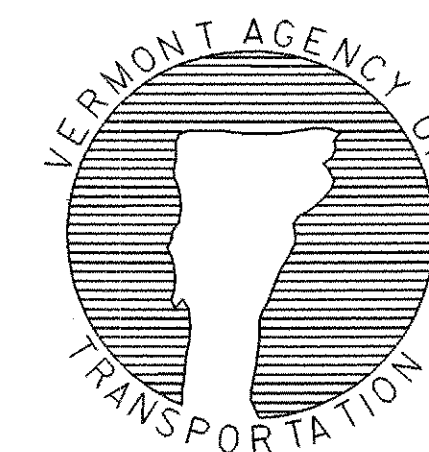
1. STONE SIZE - USE CLEAN STONE WITH GRADATION BETWEEN 2 INCHES AND 4 INCHES .
2. LENGTH - 50 FEET (MIN)
3. THICKNESS - 18 INCHES (MIN)
4. WIDTH - 12 FEET (MIN)
5. GEOTEXTILE UNDER STONE WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE AS DIRECTED BY THE ENGINEER. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. PROPOSED DRAINAGE PIPES SHALL BE SIZED WITH SUFFICIENT CAPACITY TO CARRY DITCH FLOWS. ALTERNATIVE WAYS OF TRANSPORTING DITCH DRAINAGE ACROSS CONSTRUCTION ENTRANCES MAY BE PROPOSED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER.
8. WHEN WASHING OF VEHICLE IS NECESSARY, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
10. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
11. AT THE TIME OF REMOVAL OF THE STABILIZED CONSTRUCTION ENTRANCE THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
12. PAYMENT OF THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MADE UNDER APPLICABLE ITEMS INCLUDED IN THE CONTRACT PLANS OR UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM.
13. PAYMENT FOR MONITORING STABILIZED CONSTRUCTION ENTRANCES SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
14. PAYMENT FOR MAINTAINING THE CONSTRUCTION ENTRANCE SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



TYPICAL CONSTRUCTION ENTRANCE SECTION

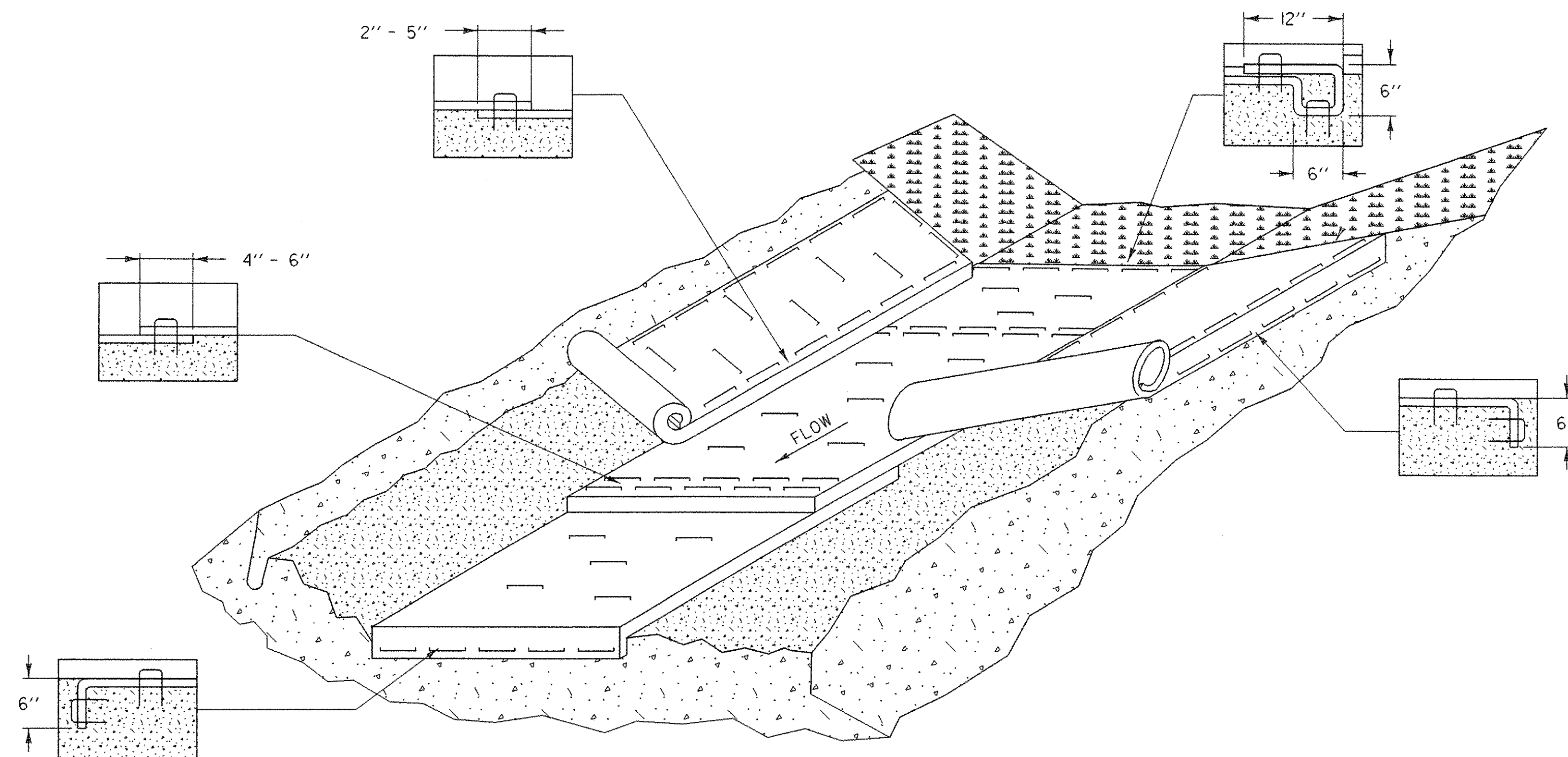
REVISIONS AND CORRECTIONS
MAY 18, 2004 N. GARBACK

EROSION PREVENTION & SEDIMENT CONTROL DETAILS CONSTRUCTION ENTRANCE



DETAIL EPSC-4

PROJECT NAME: SWANTON
PROJECT NUMBER: STPG ST 036-1(II)
FILE NAME: traffic/00b150/db150tit.dgn PLOT DATE: 19-APR-2006
PROJECT LEADER: B. NYQUIST DRAWN BY: G. MEUNIER
DESIGNED BY: G. MEUNIER CHECKED BY: G. MEUNIER
tb150ecl2.j SHEET 36 OF 45



EROSION PROTECTION FOR DITCHES

APPLICATION NOTES:

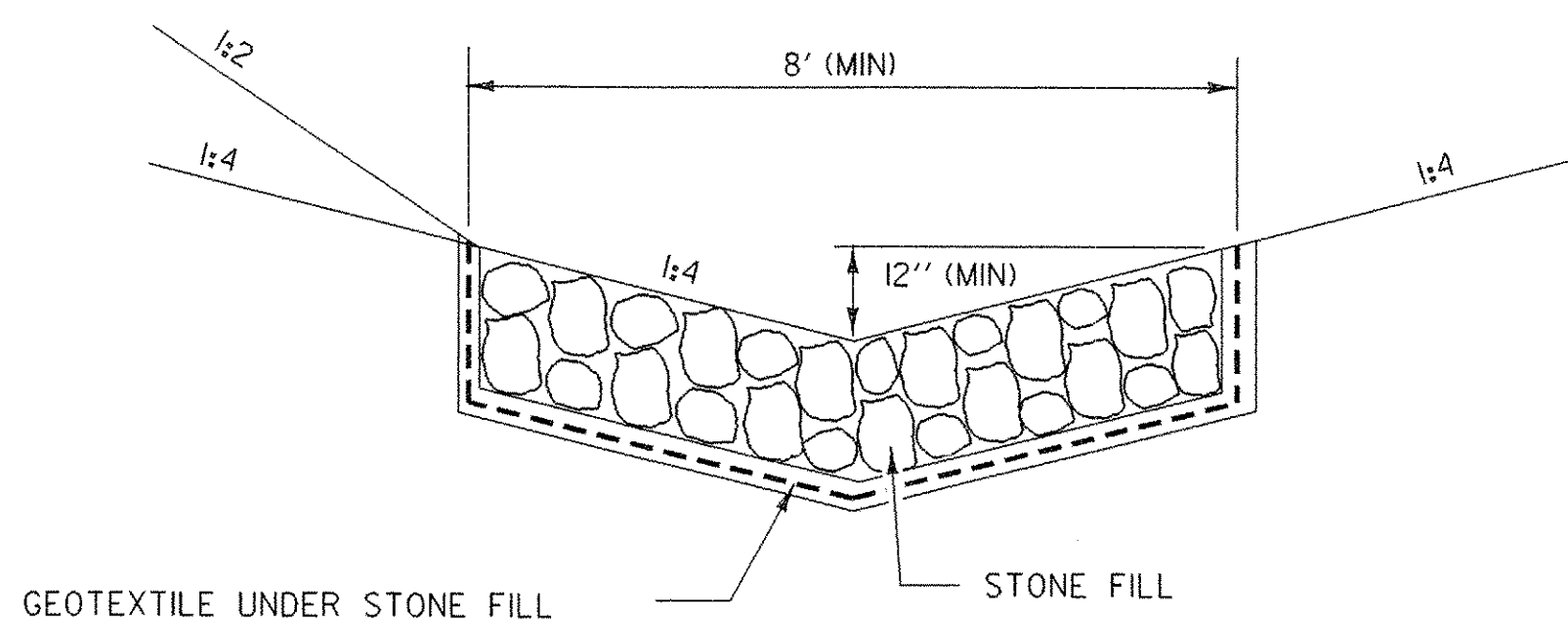
- A. THE PURPOSE OF LINING THE DITCH WITH EROSION MATTING IS TO REDUCE EROSION AND AID THE ESTABLISHMENT OF VEGETATION AT LOW VELOCITIES.
- B. THE FOLLOWING CHARTS SHALL BE USED TO DETERMINE THE APPROPRIATE EROSION CONTROL MEASURE:

DITCH AND CHANNEL PROTECTION	
SLOPE	LINING
< 1%	GRASS
1% TO 4%	EROSION MATTING
4% TO 10%	STONE FILL, TYPE I
> 10%	STONE FILL, TYPE II

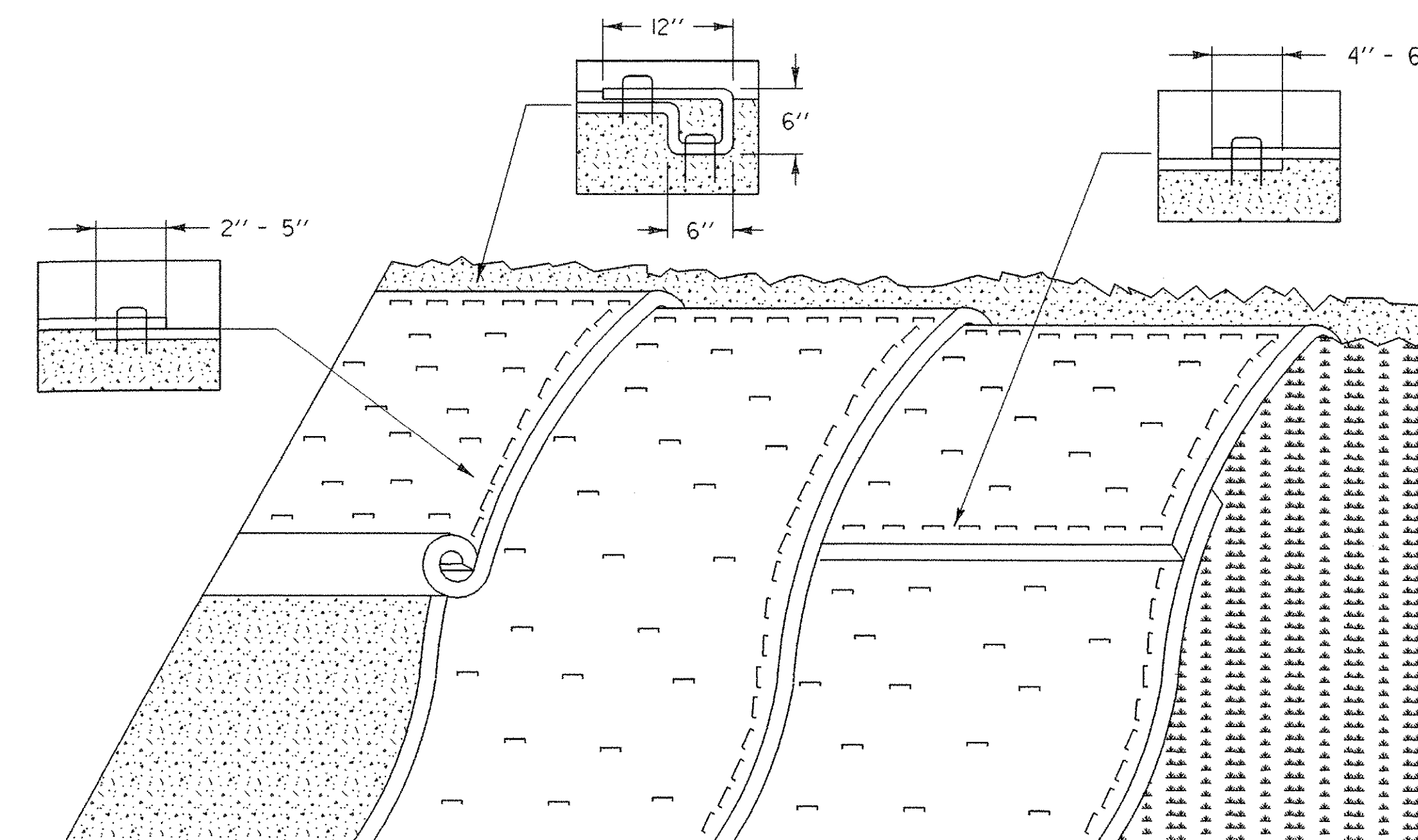
STONE FILL THICKNESS	
STONE FILL TYPE	THICKNESS
TYPE I	1 FT
TYPE II	2 FT

GENERAL NOTES:

1. WATER MAY NEED TO BE DIVERTED TO ALLOW PROPER MATTING INSTALLATION.
2. GRADE AND SMOOTH CHANNEL TO PROVIDE GOOD MATTING TO SOIL SURFACE CONTACT.
3. APPLY FERTILIZER, LIME, AND SEED PRIOR TO PLACING MATTING.
4. INSTALL MATTING IN THE CENTER OF THE CHANNEL, IN THE DIRECTION OF THE WATER FLOW.
5. INSTALL MATTING ON THE SIDE SLOPES OF THE CHANNEL, OVERLAPPING THE CENTER MAT.
6. ANCHOR MATTING AS SHOWN, UTILIZING ANCHOR STAPLES. STAPLE PLACEMENT SHALL BE DETERMINED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
7. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
8. MEASURES SHALL BE REPAIRED AND RESTAPLED AS NECESSARY TO ENSURE PROPER FUNCTION.
9. PAYMENT FOR INSTALLATION OF MATTING SHALL BE MADE UNDER THE EROSION CONTROL WITH MATTING ITEM.
10. PAYMENT FOR MONITORING EROSION CONTROL MATTING SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
11. PAYMENT FOR MAINTAINING DITCH PROTECTION SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



TEMPORARY STONE LINED DITCH



EROSION PREVENTION FOR SIDE SLOPES

APPLICATION NOTES:

- A. THE PURPOSE OF MATTING ON SIDE SLOPES IS TO REDUCE EROSION AND AID THE ESTABLISHMENT OF VEGETATION
- B. EROSION CONTROL MATTING SHALL BE USED FOR THE FOLLOWING REASONS:
 - SIDE SLOPES > 3:1 (H:V)
 - AREAS WHERE SEED AND MULCH WILL NOT STAY IN PLACE ALONE
 - WHERE SEEDING IS OUTSIDE THE GROWING SEASON.

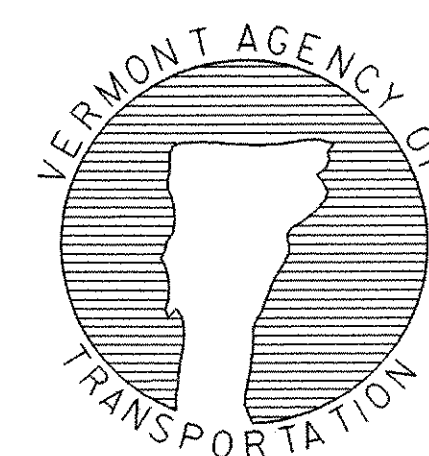
GENERAL NOTES:

1. GRADE AND SMOOTH THE SLOPE TO PROVIDE GOOD MATTING TO SOIL SURFACE CONTACT.
2. APPLY FERTILIZER, LIME, AND SEED PRIOR TO PLACING MATTING.
3. ANCHOR MATTING AS SHOWN, UTILIZING ANCHOR STAPLES. STAPLE PLACEMENT SHALL BE DETERMINED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. UNROLL MATTING VERTICALLY DOWN SLOPE IN THE DIRECTION OF WATER FLOW.
5. OVERLAP UPPER MATTING OVER LOWER MATTING AS SHOWN.
6. OVERLAP ADJACENT MATTING AS SHOWN.
7. CUT EXCESS MATTING AT END OF SLOPE AND ANCHOR THE END.
8. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
9. MATTING SHALL BE REPAIRED AND RESTAPLED AS NECESSARY TO ENSURE PROPER FUNCTION.
10. PAYMENT FOR INSTALLATION OF MATTING SHALL BE MADE UNDER THE EROSION CONTROL WITH MATTING ITEM.
11. PAYMENT FOR MONITORING EROSION CONTROL MATTING SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
12. PAYMENT FOR MAINTAINING SLOPE PROTECTION SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.

REVISIONS AND CORRECTIONS

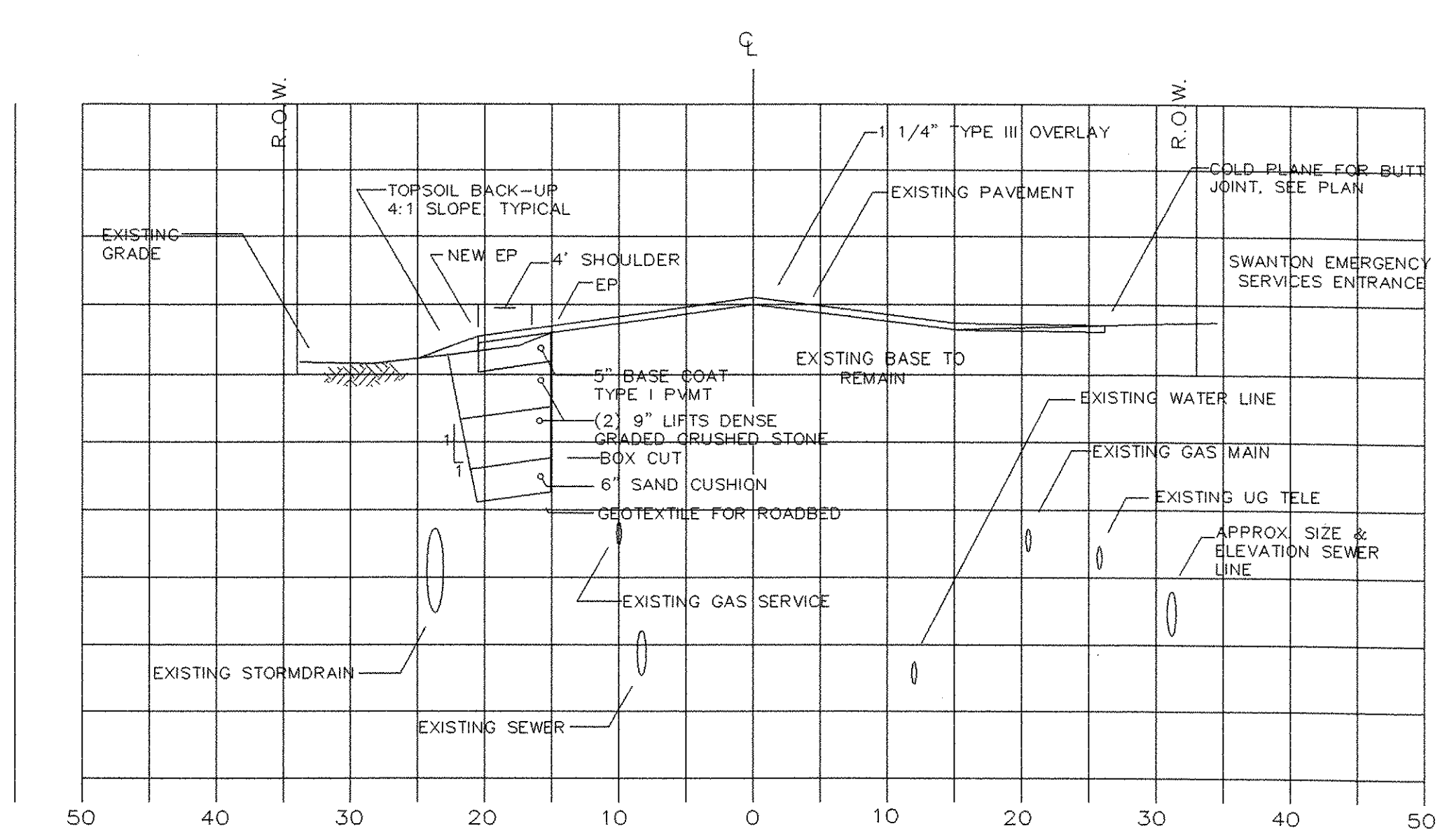
MAY 18, 2004 N. GARBACK

**EROSION PREVENTION & SEDIMENT CONTROL DETAILS
DITCH & SLOPE PROTECTION**

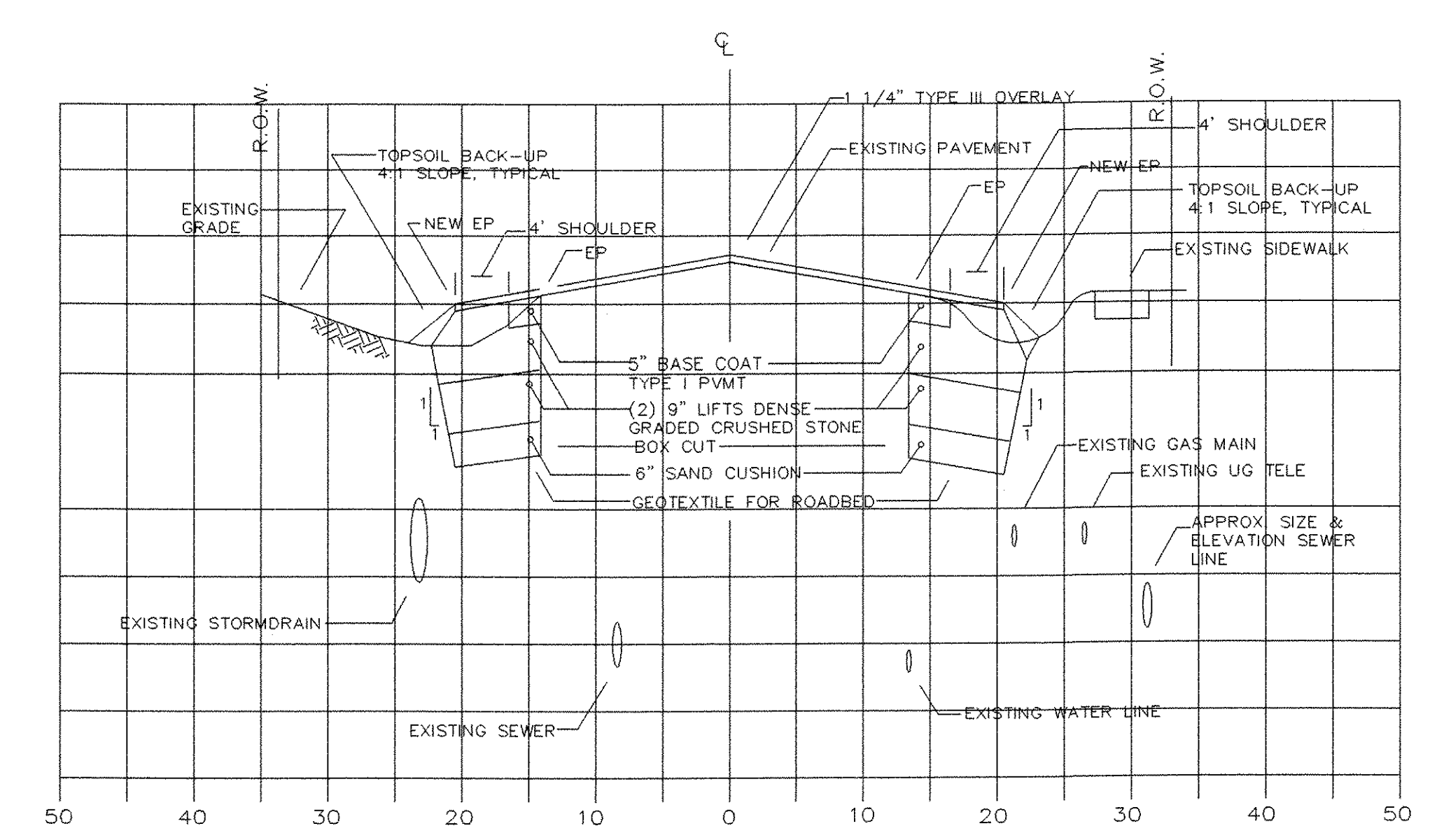


**DETAIL
EPSC-5**

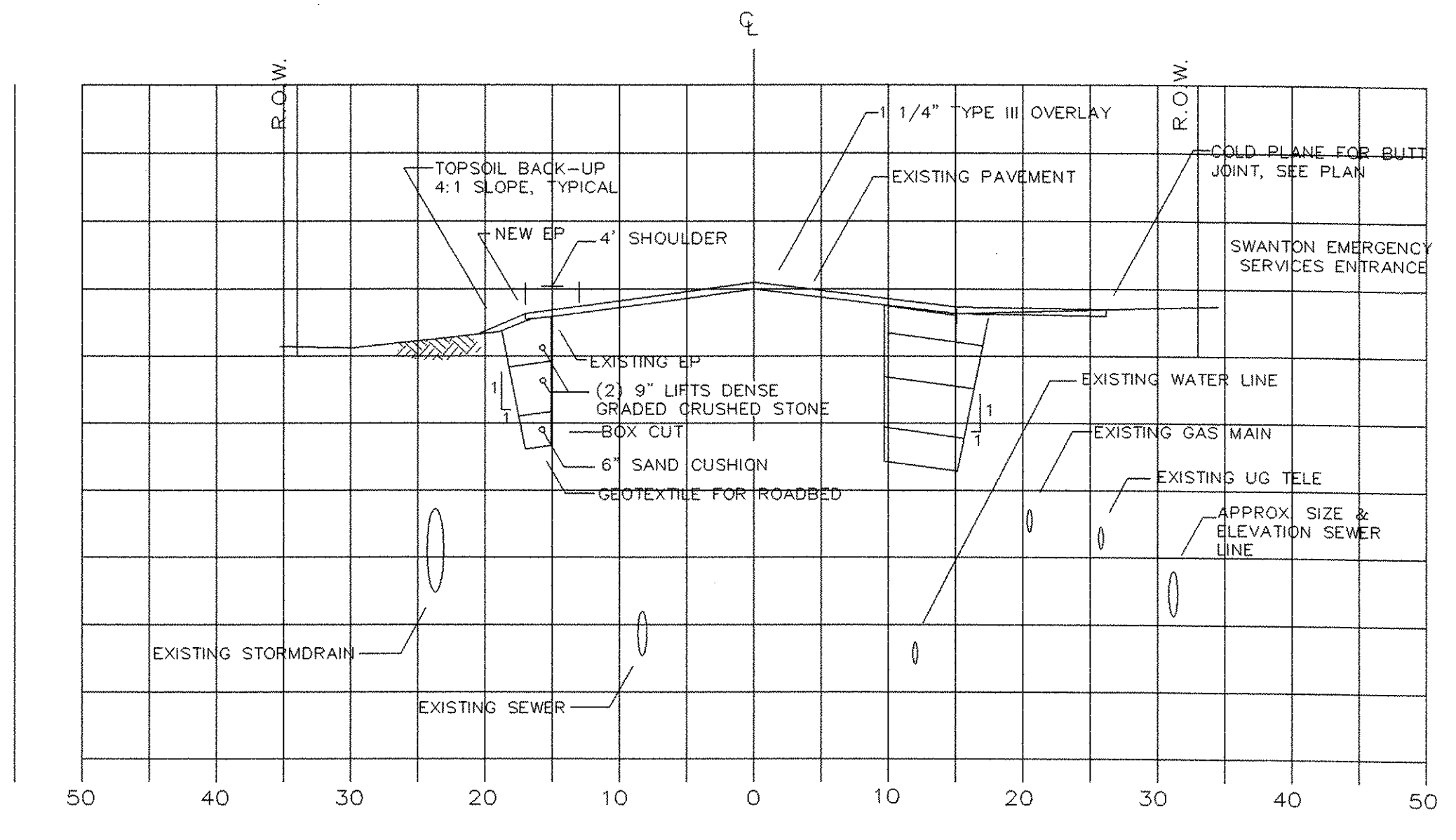
PROJECT NAME: SWANTON	PLOT DATE: 19-APR-2006
PROJECT NUMBER: STPG_ST_036-1(II)	DRAWN BY: G.MEUNIER
FILE NAME: traffic/00b150/db150tit.dgn	CHECKED BY: G.MEUNIER
DESIGNED BY: G.MEUNIER	PROJECT LEADER: B.NYQUIST
-----+b150ecl3.1	-----SHEET 37 OF 45



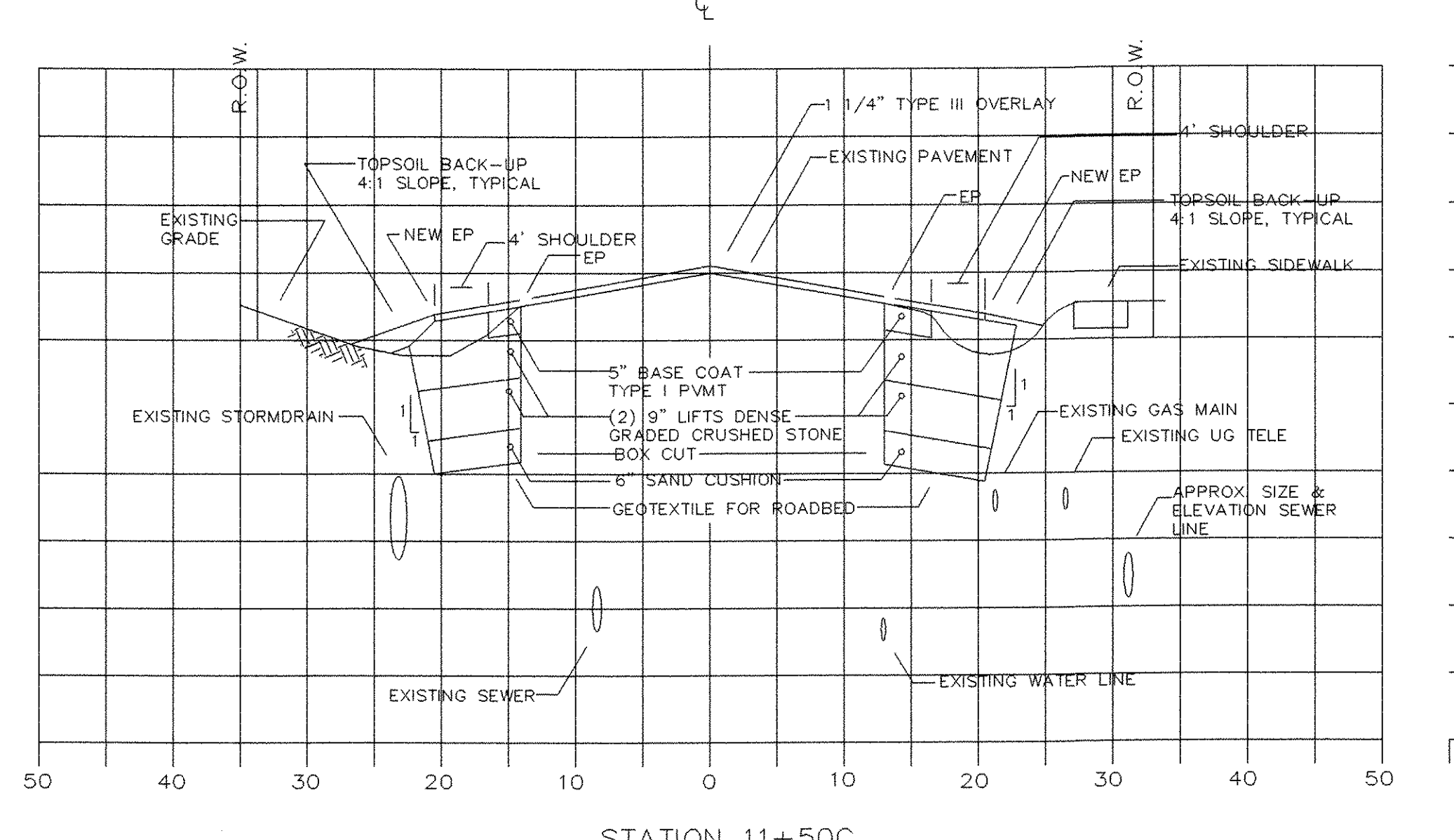
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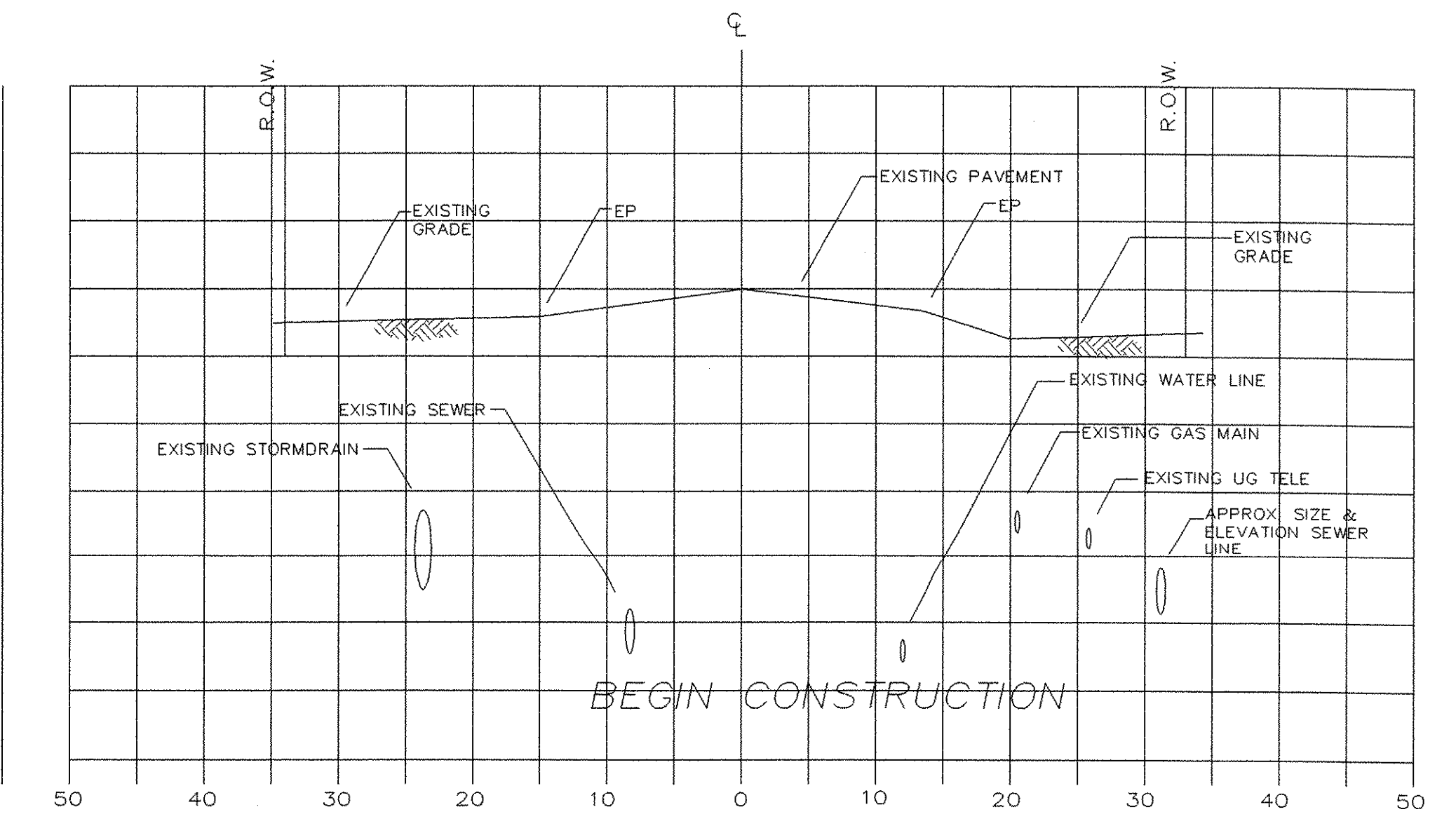
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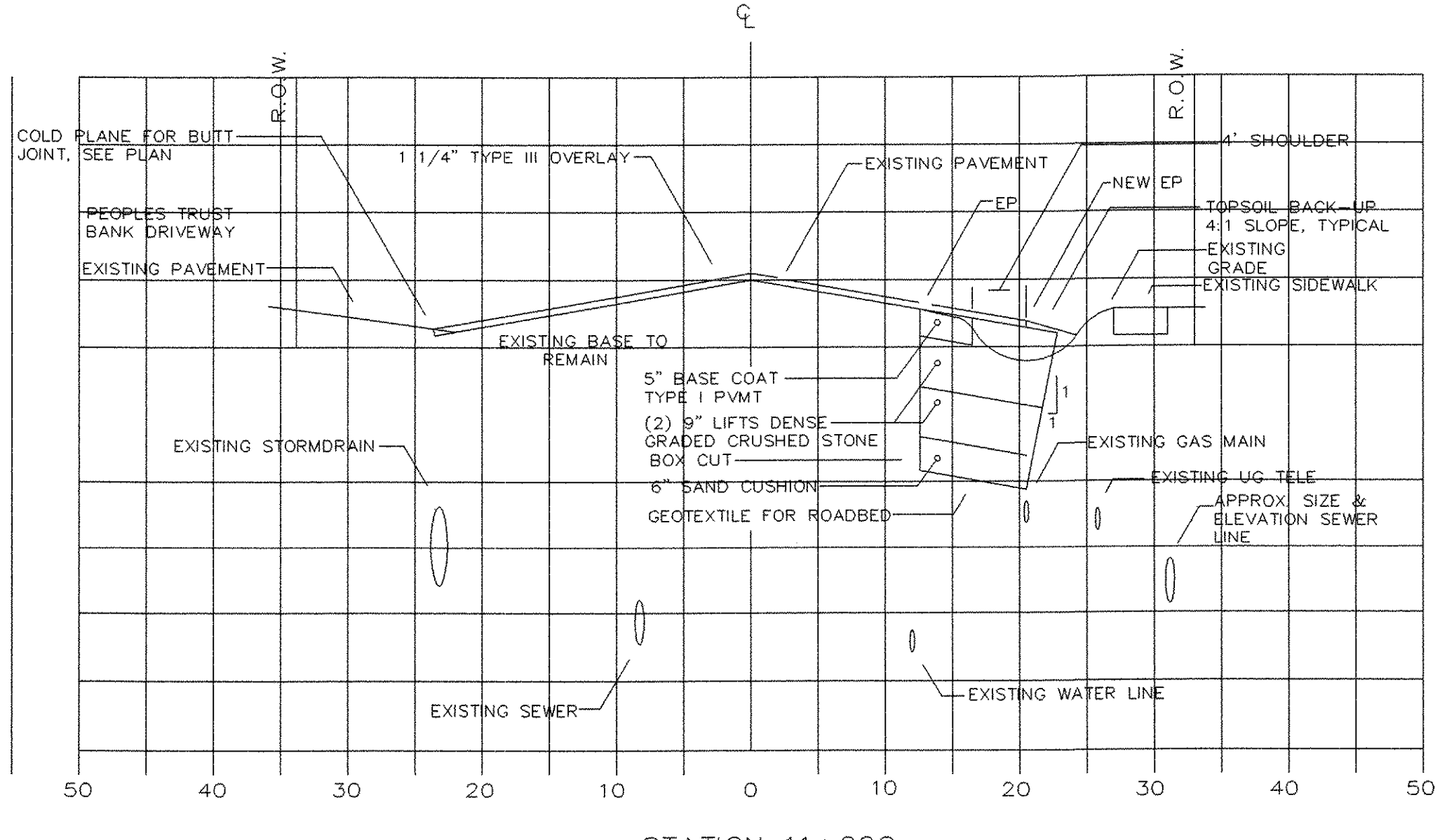
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STATION 11+50C

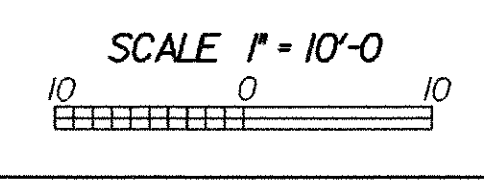


STATION 9+65C



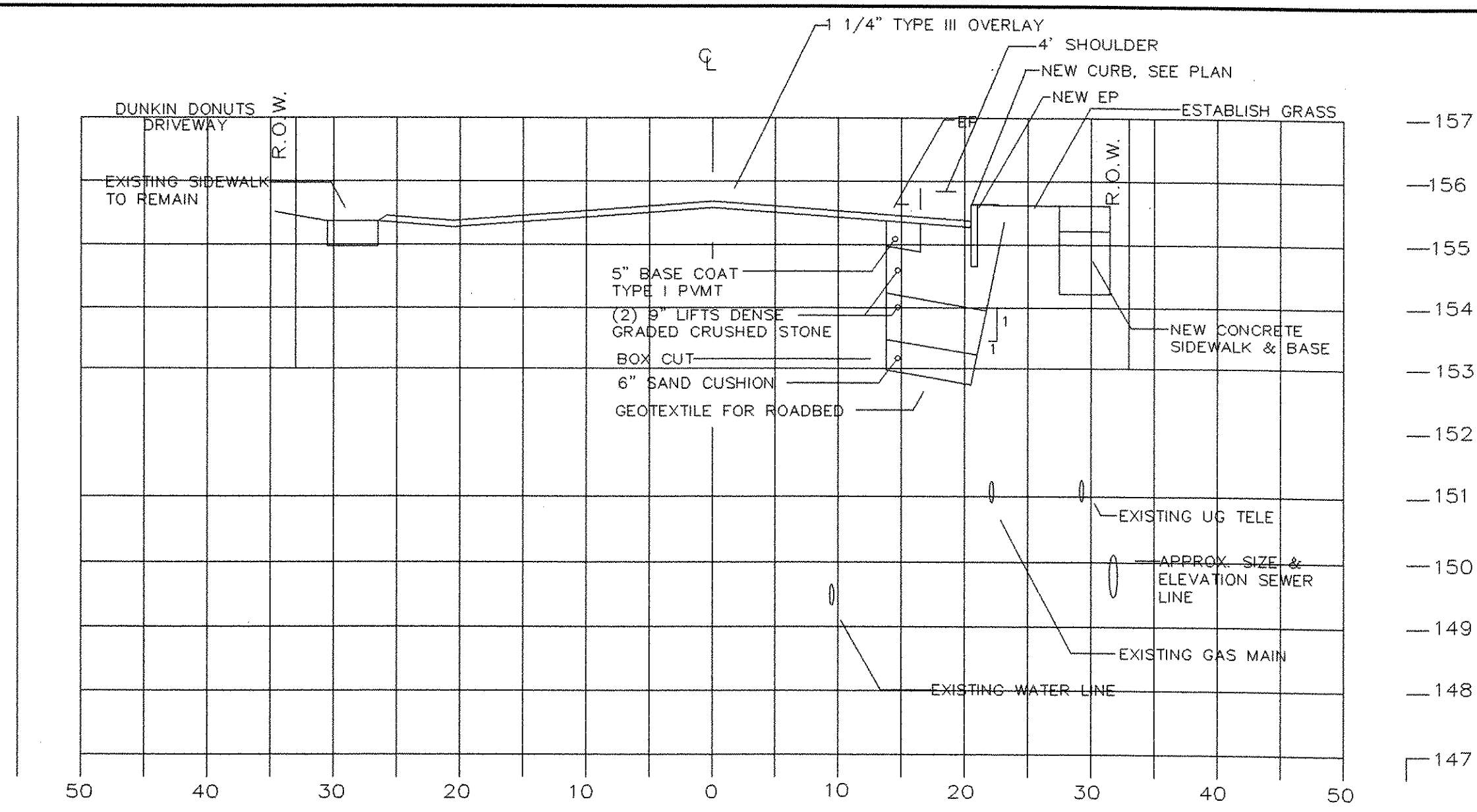
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BEGIN CONSTRUCTION

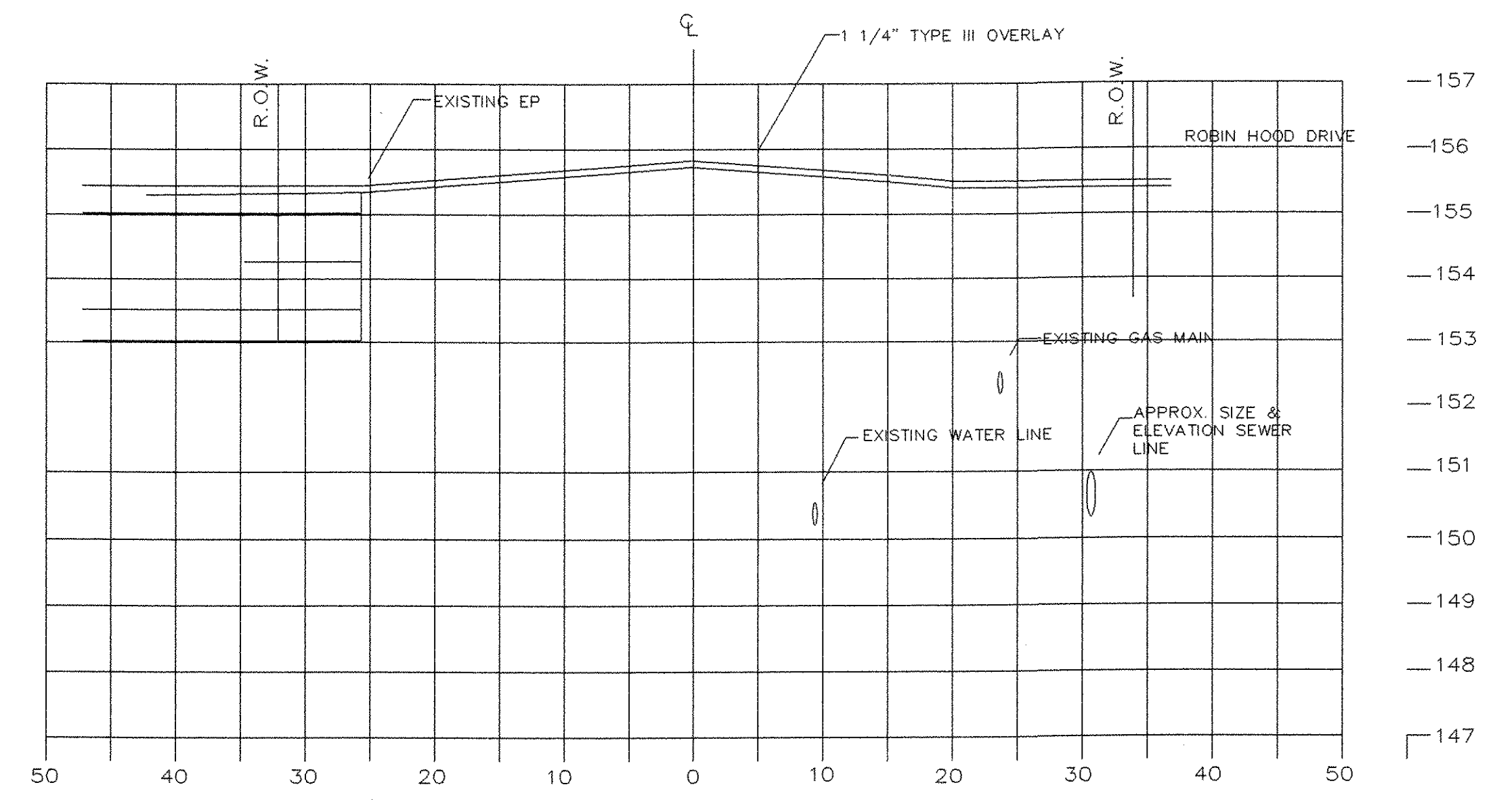


VT. 78 CROSS SECTION SHEET 9+65~12+00

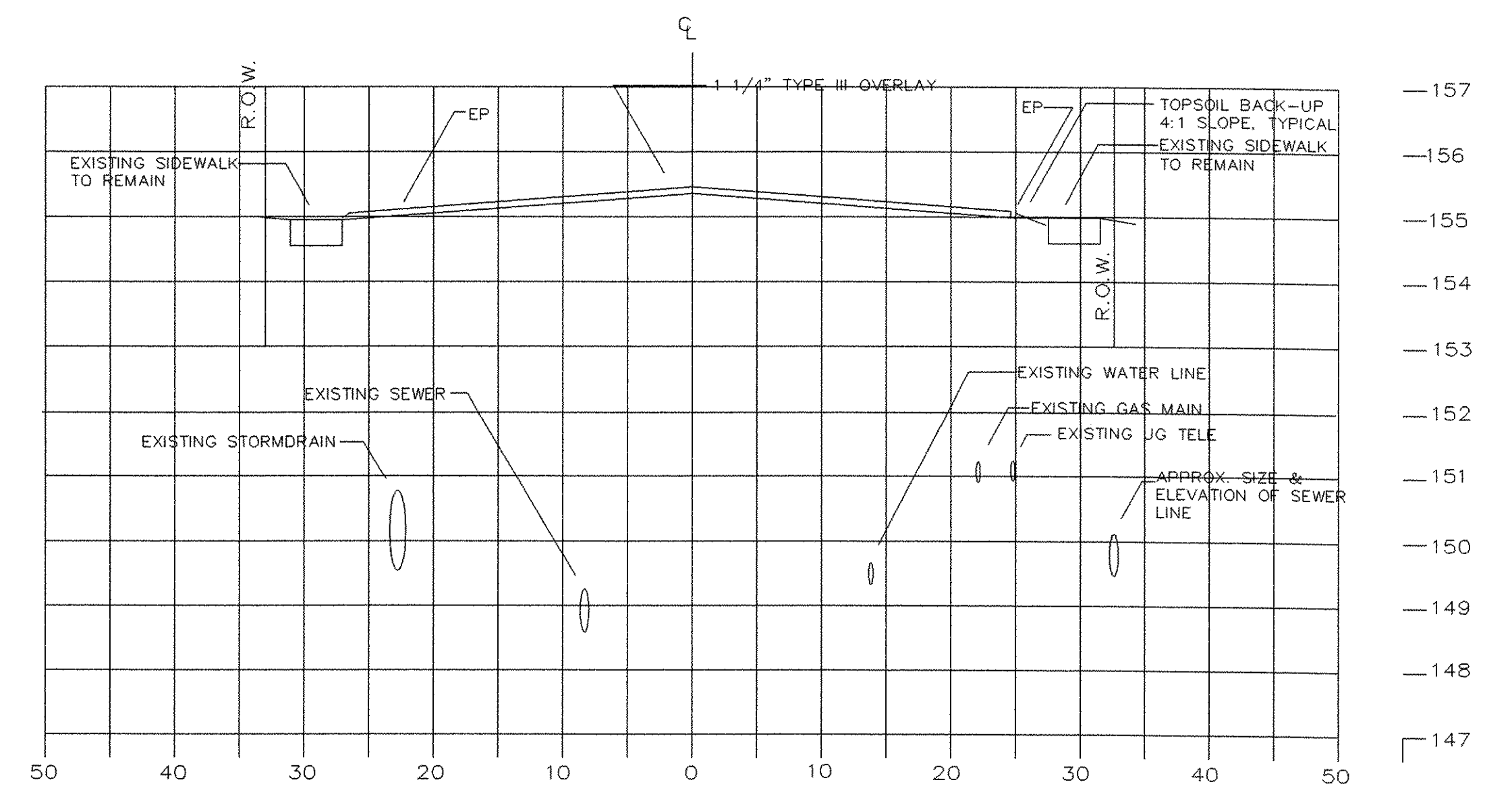
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PROJECT NUMBER:	STPG ST 036-1(11)	PROJECT LEADER:	B. NYQUIST	DRAWN BY:	TRAFFIC DESIGN
		DESIGNED BY:	TRAFFIC DESIGN	CHECKED BY:	TRAFFIC DESIGN
			tbl50xs.t	SHEET	42 OF 45



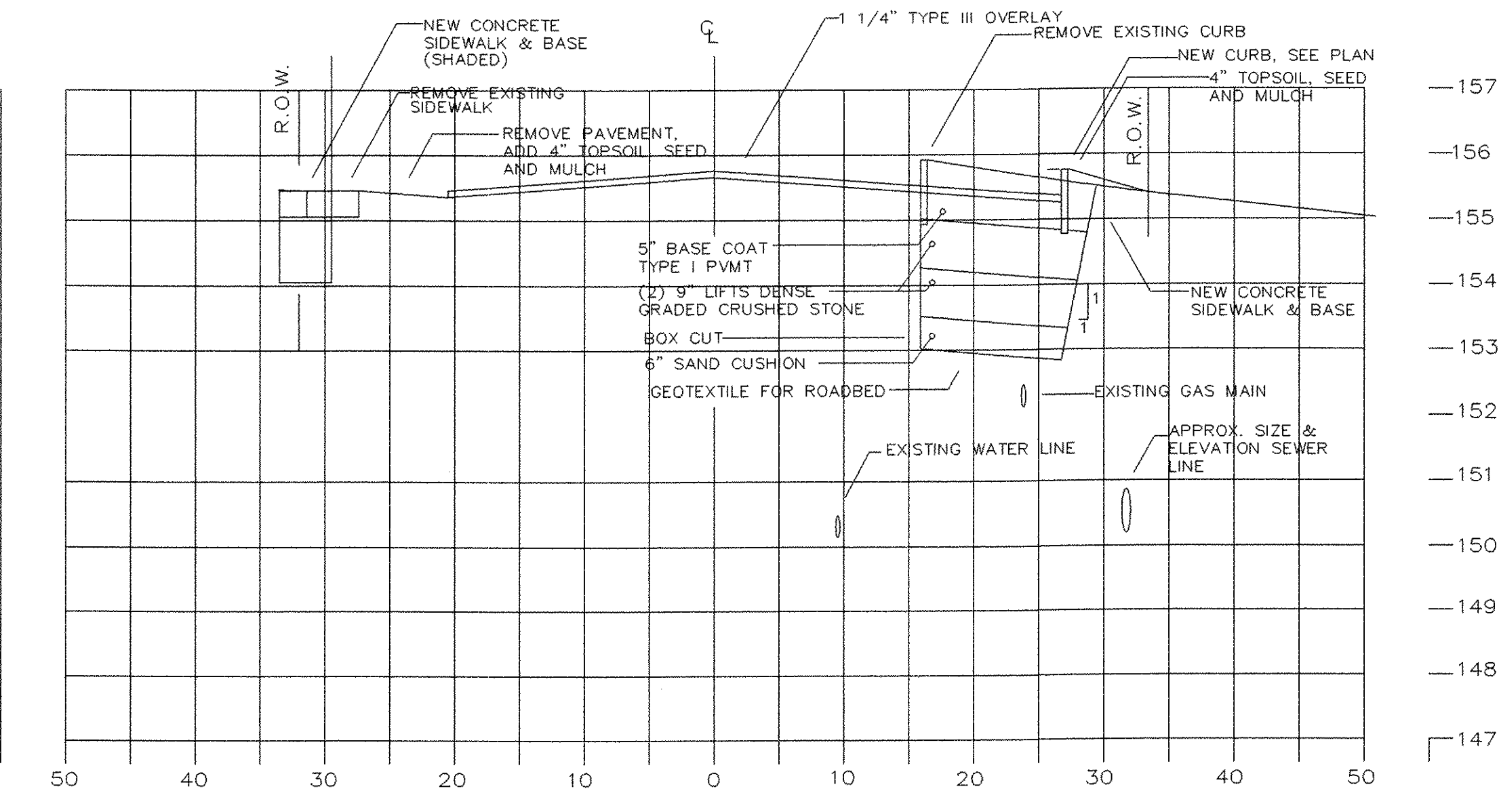
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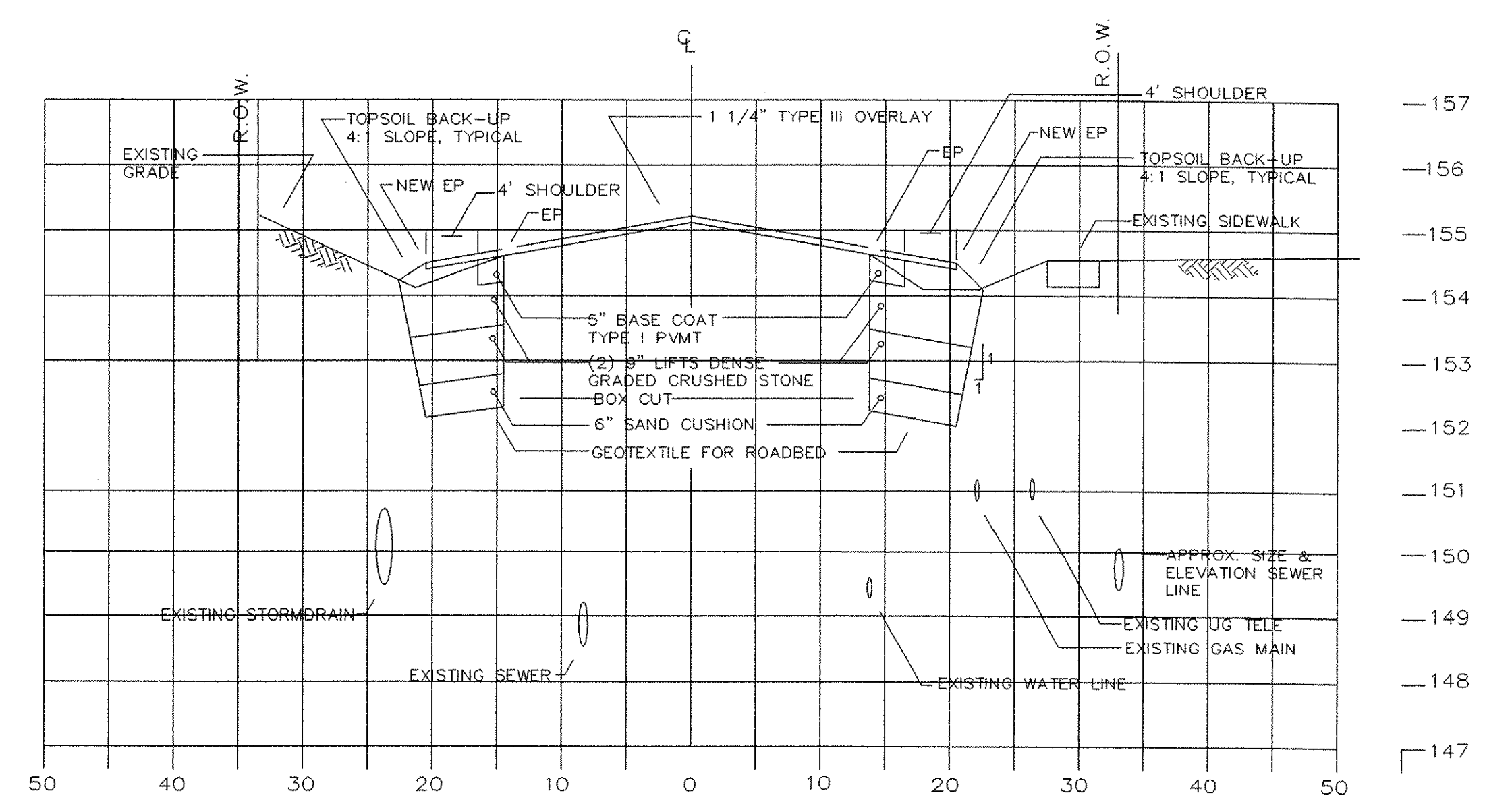
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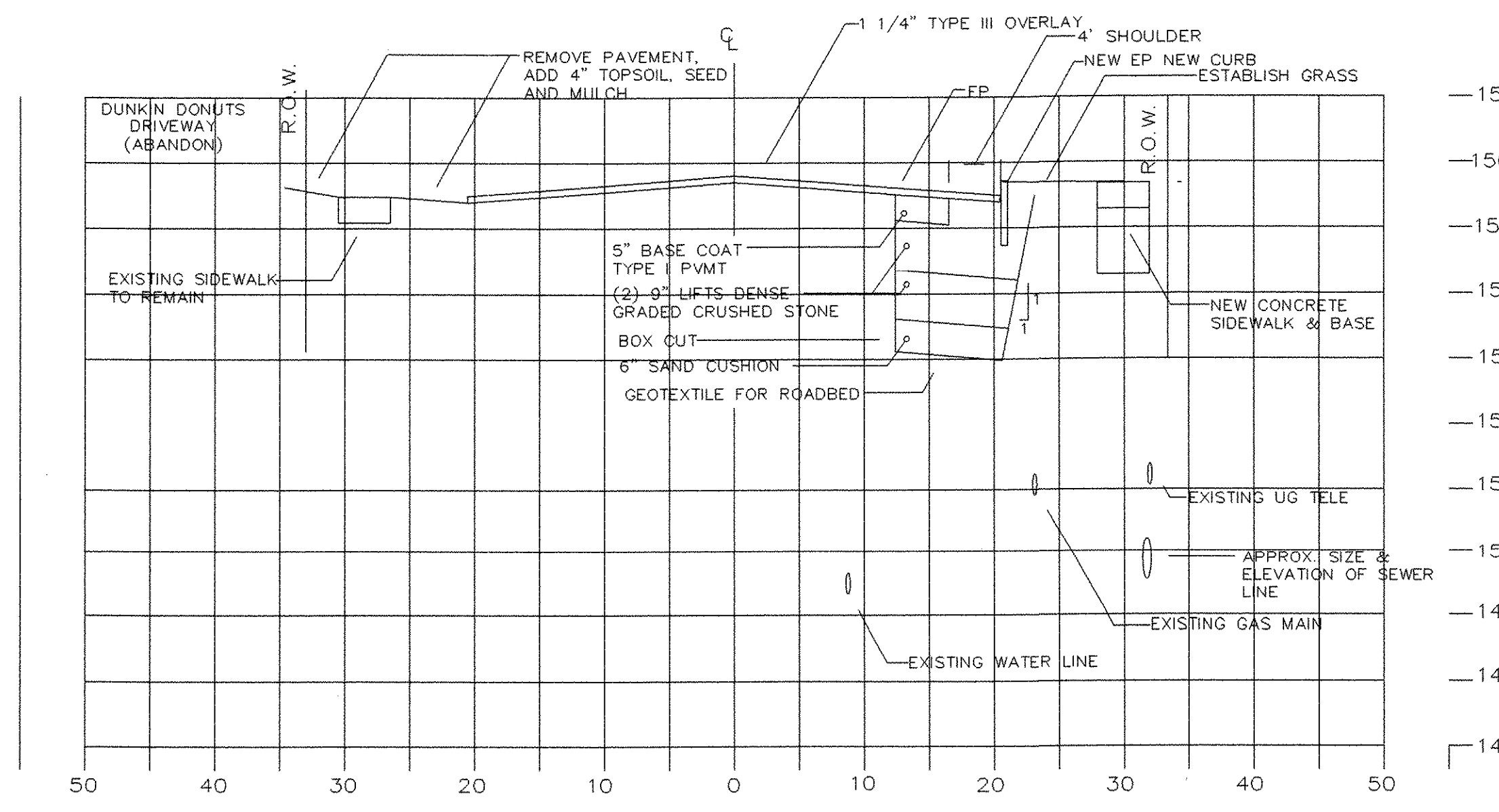
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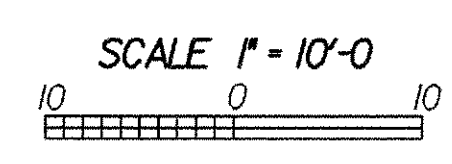
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STATION 12+50C

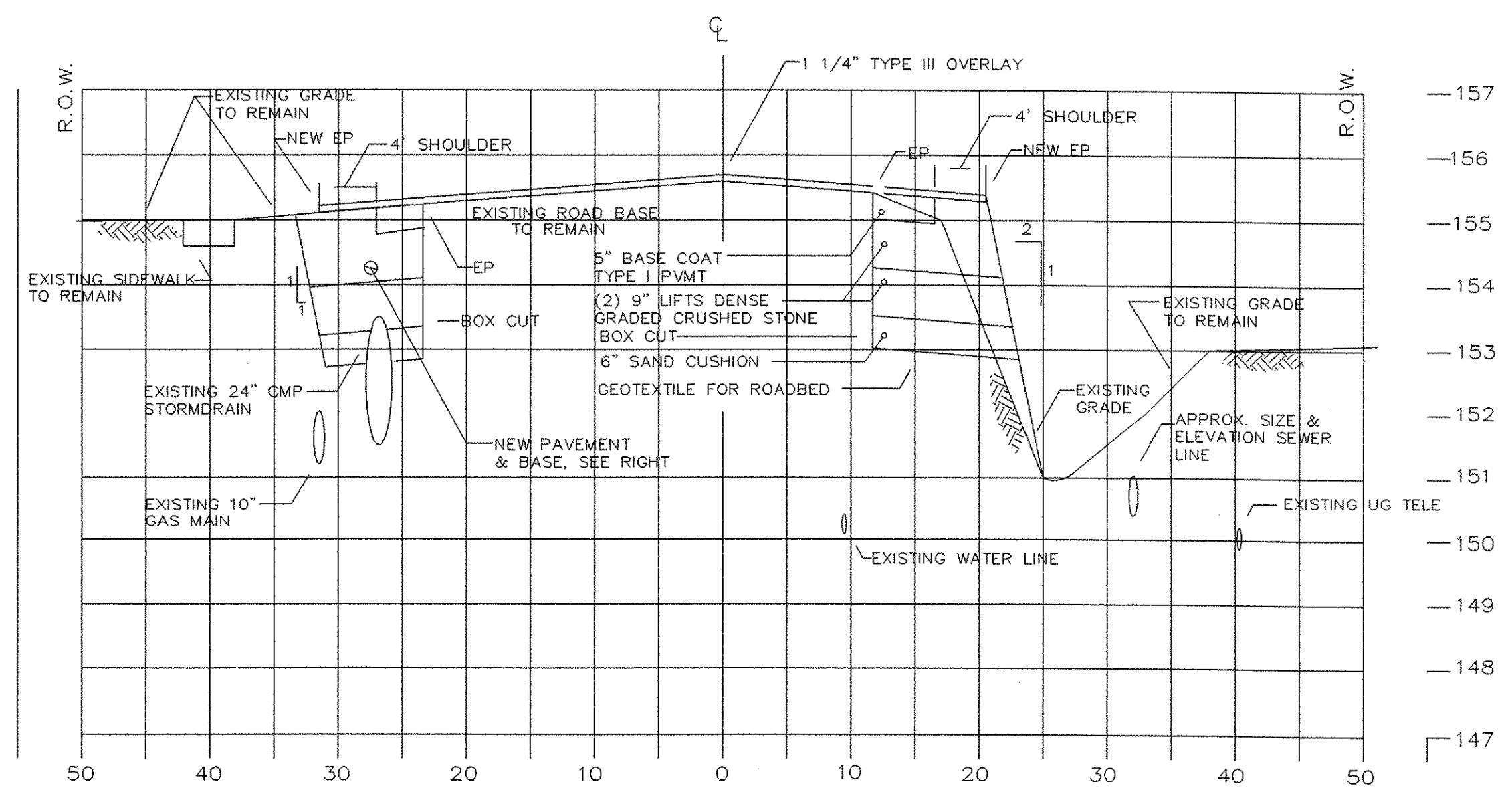


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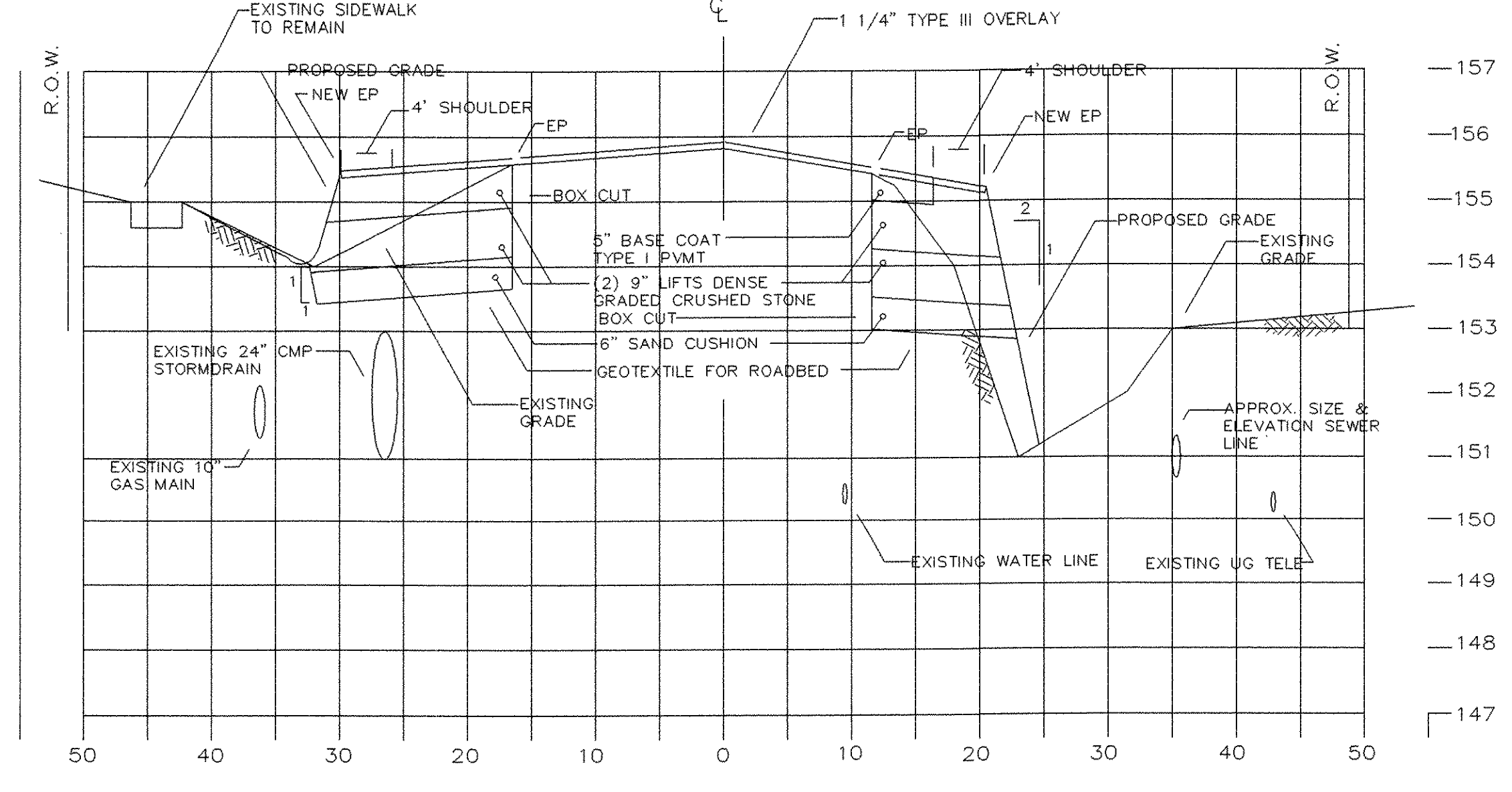


VT.78 CROSS SECTION SHEET 12+50~15+00

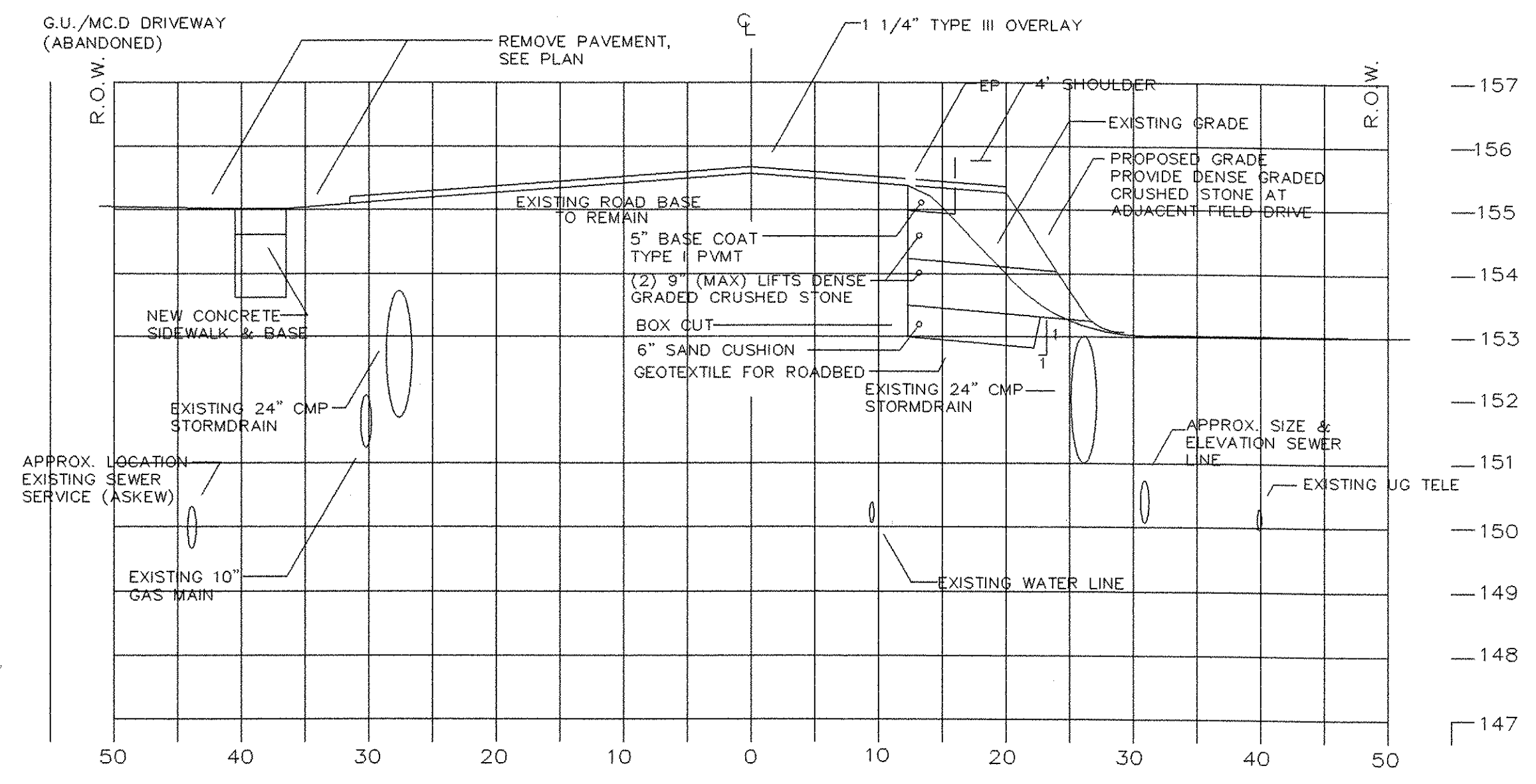
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PROJECT LEADER:	B. NYQUIST
DESIGNED BY:	TRAFFIC DESIGN
PLOT DATE:	19-APR-2006
DRAWN BY:	TRAFFIC DESIGN
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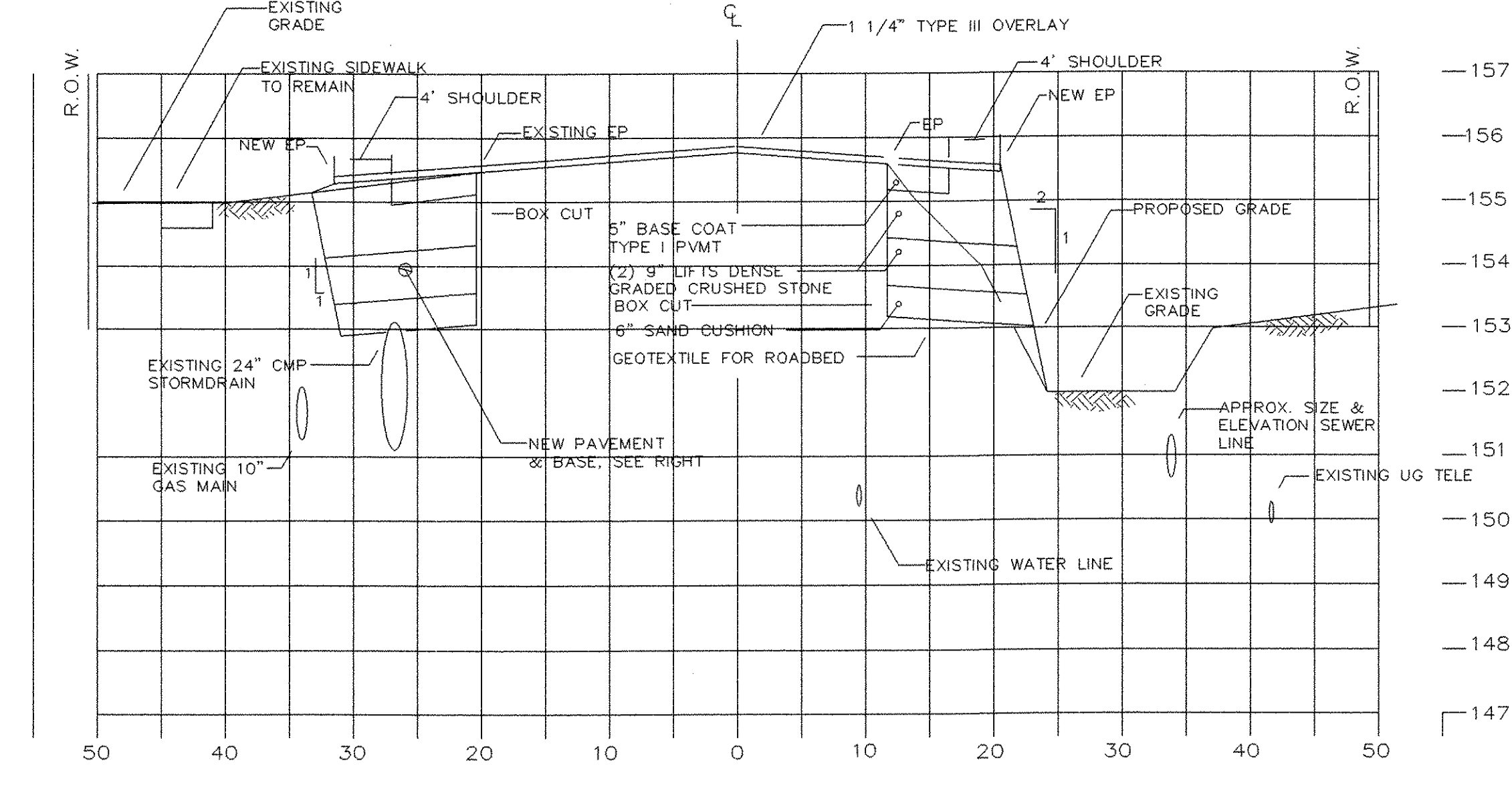
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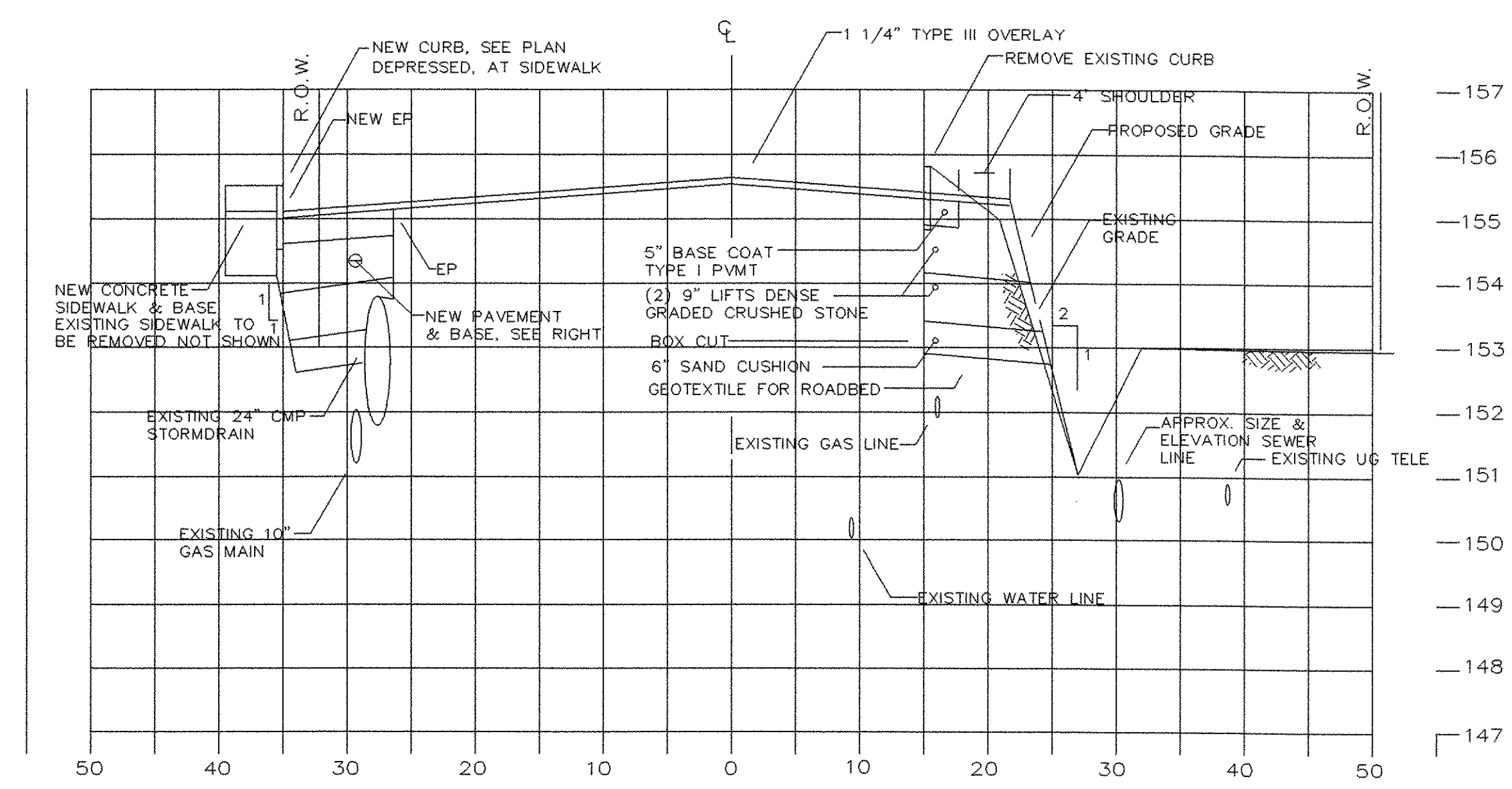
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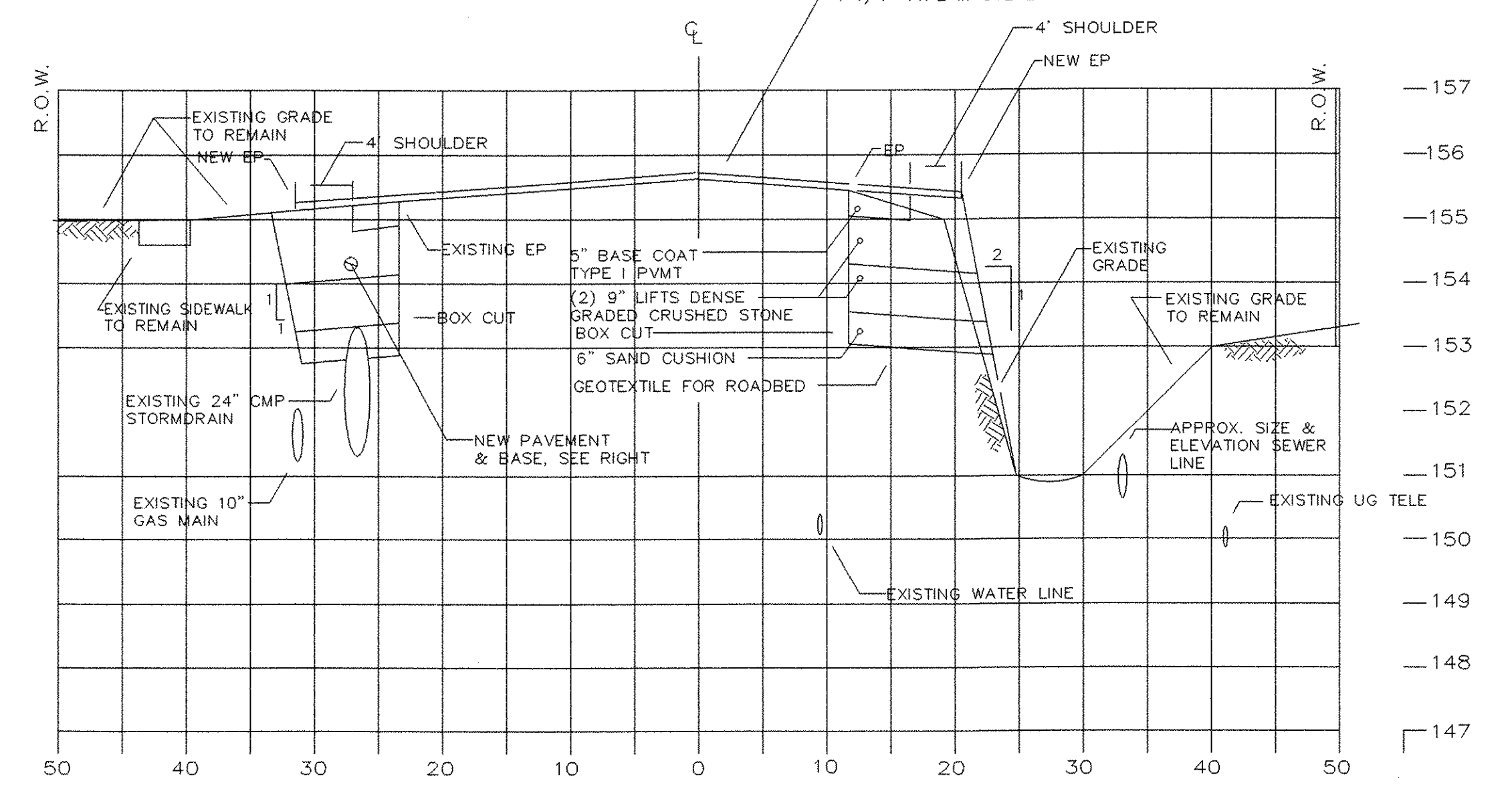
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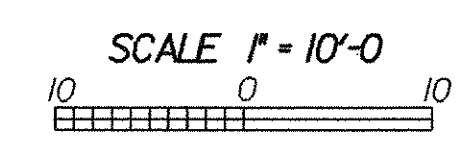
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STATION 15+50C



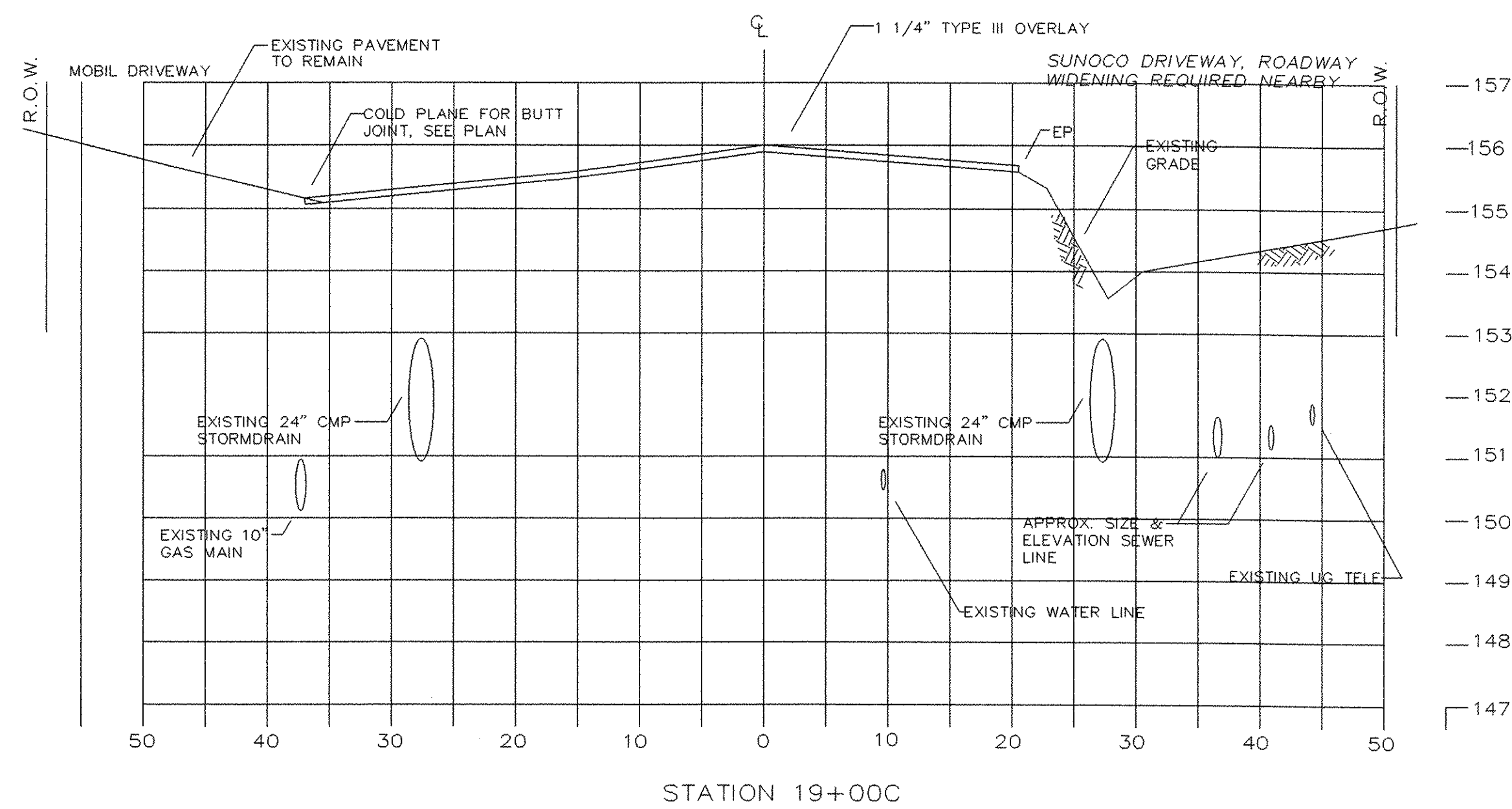
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VT.78 CROSS SECTION SHEET 15+50~18+00

PROJECT NAME: **SWANTON**
 PROJECT NUMBER: **STPG ST 036-1(11)**

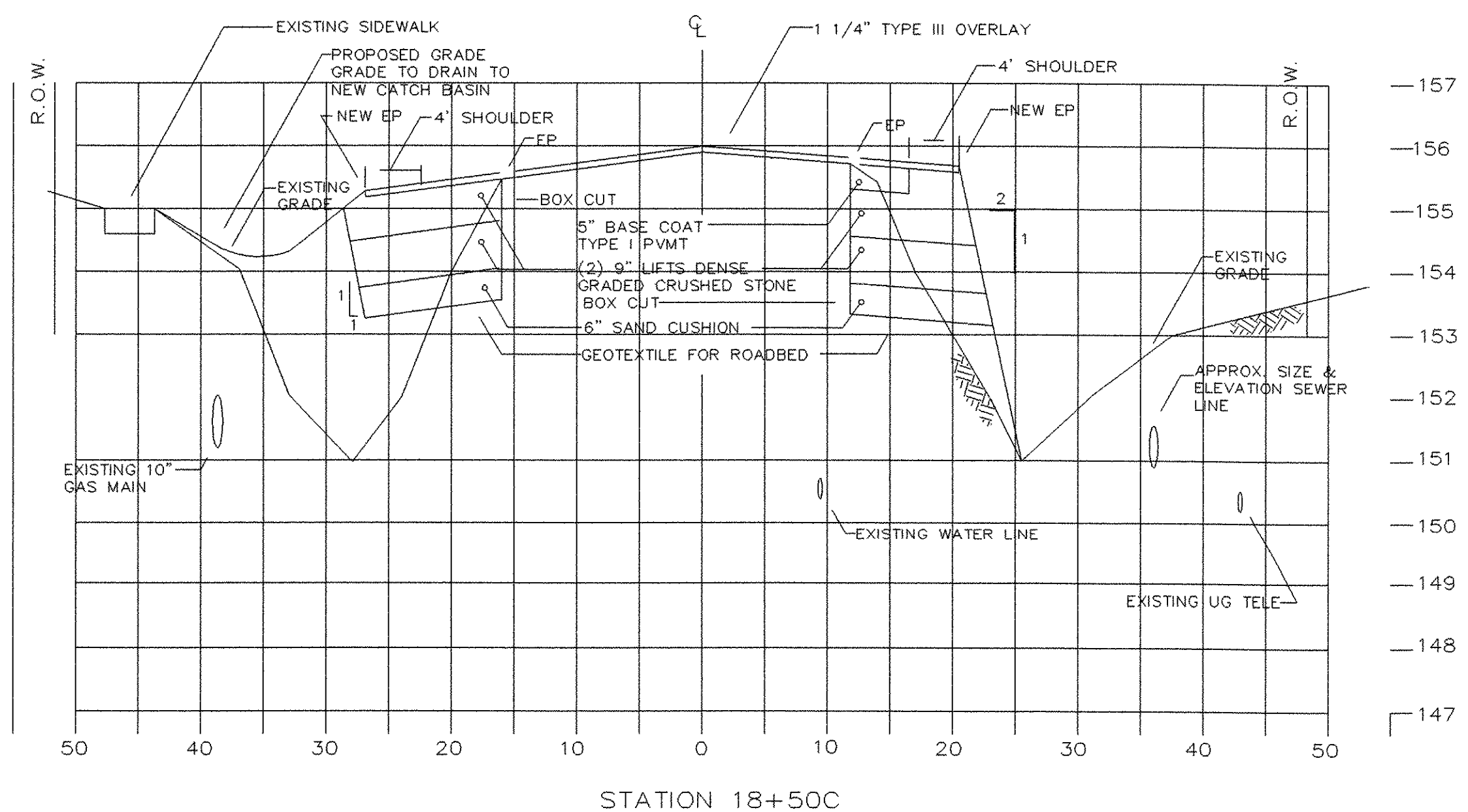
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 PROJECT LEADER: **B. NYQUIST** DRAWN BY: TRAFFIC DESIGN
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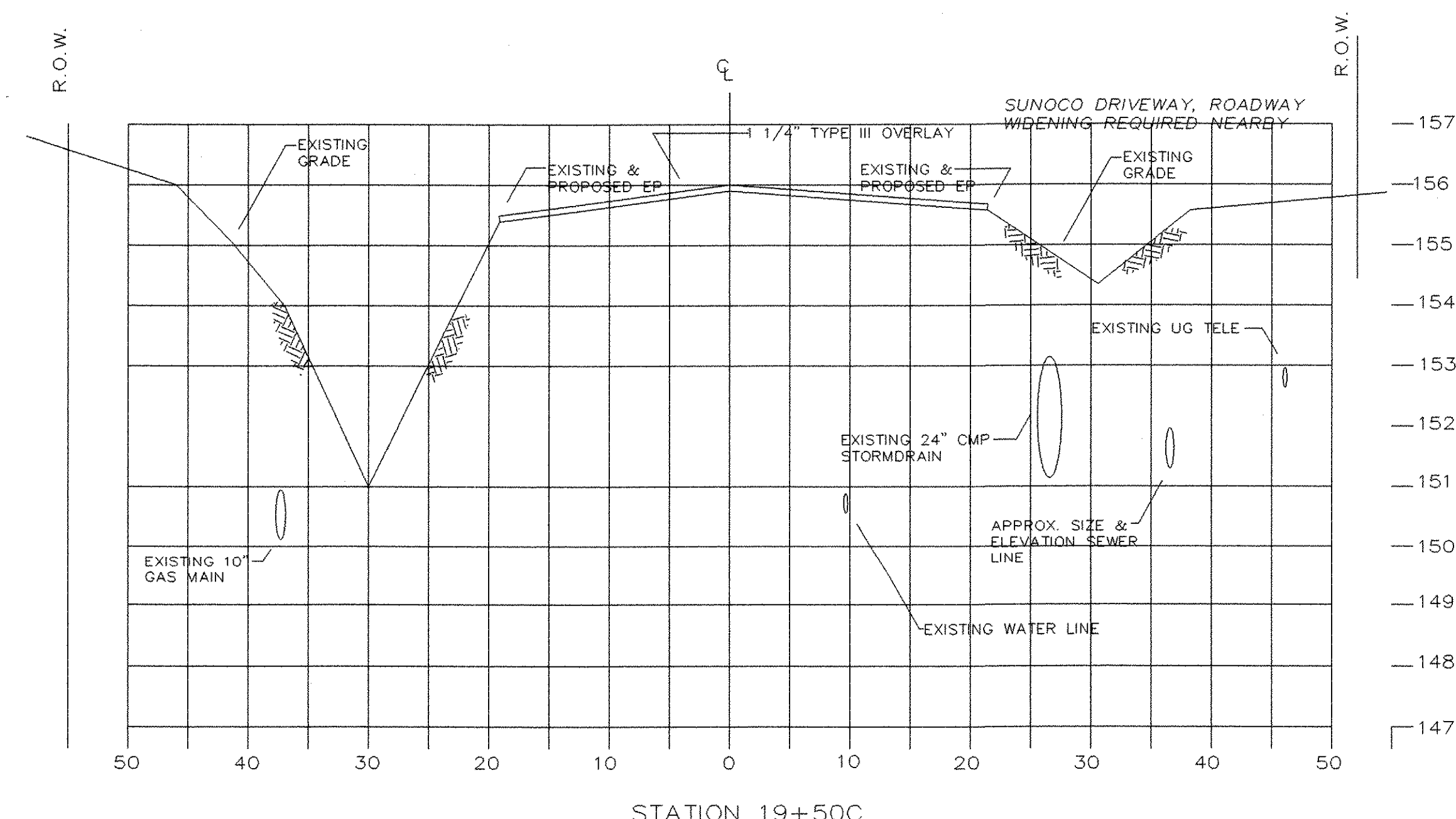
STATION 19+00C

NO ROADWAY WIDENING REQUIRED,
SEE PLAN FOR WORK IN THIS AREA.

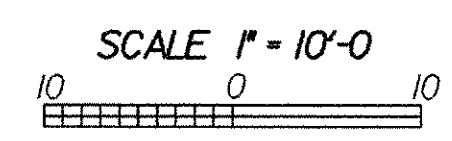
STATION 20+00C THRU 21+05C



STATION 18+50C



STATION 19+50C



VT.78 CROSS SECTION SHEET 18+50~19+50

PROJECT NAME: **SWANTON**
PROJECT NUMBER: **STPG ST 036-1(11)**

FILE NAME: PMS /00b105/TRAFFIC DES.\tbl50xs.dgn PLOT DATE: 19-APR-2006
PROJECT LEADER: **B. NYQUIST** DRAWN BY: TRAFFIC DESIGN
DESIGNED BY: TRAFFIC DESIGN CHECKED BY: TRAFFIC DESIGN
SHEET 45 OF 45
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