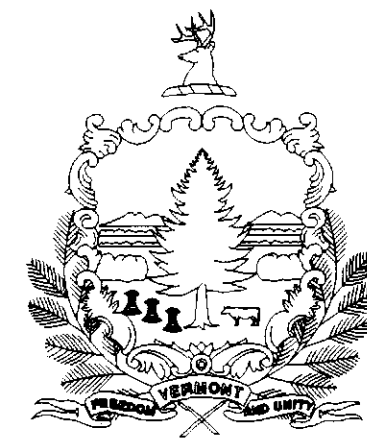


STATE OF VERMONT AGENCY OF TRANSPORTATION



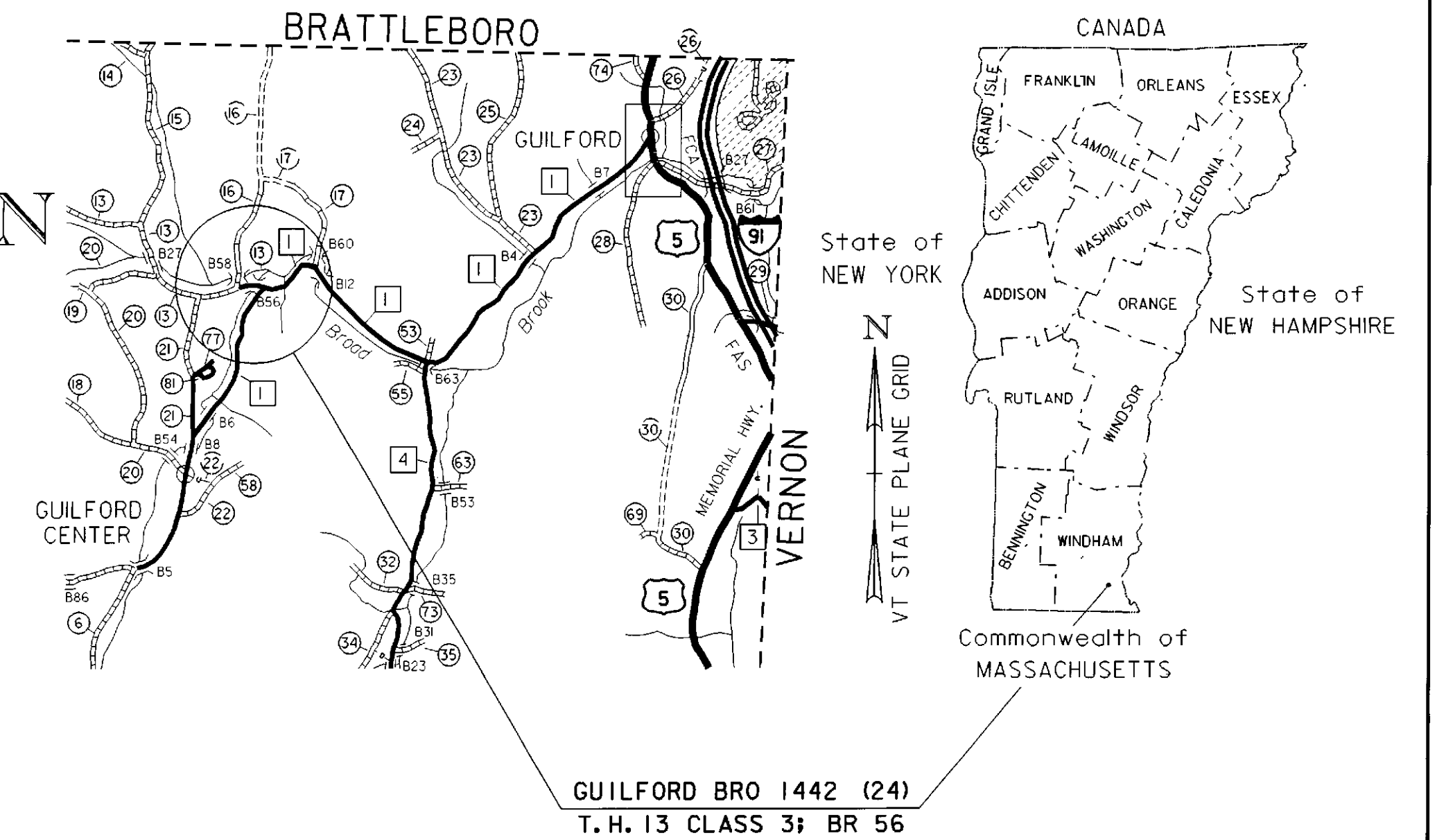
PROPOSED IMPROVEMENT TOWN OF GUILFORD COUNTY OF WINDHAM

ROUTE NO : T.H. 13 CLASS 3 BRIDGE NO : 56

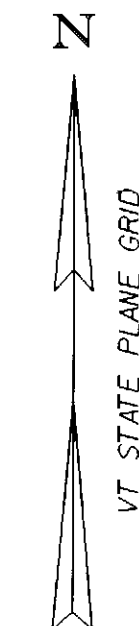
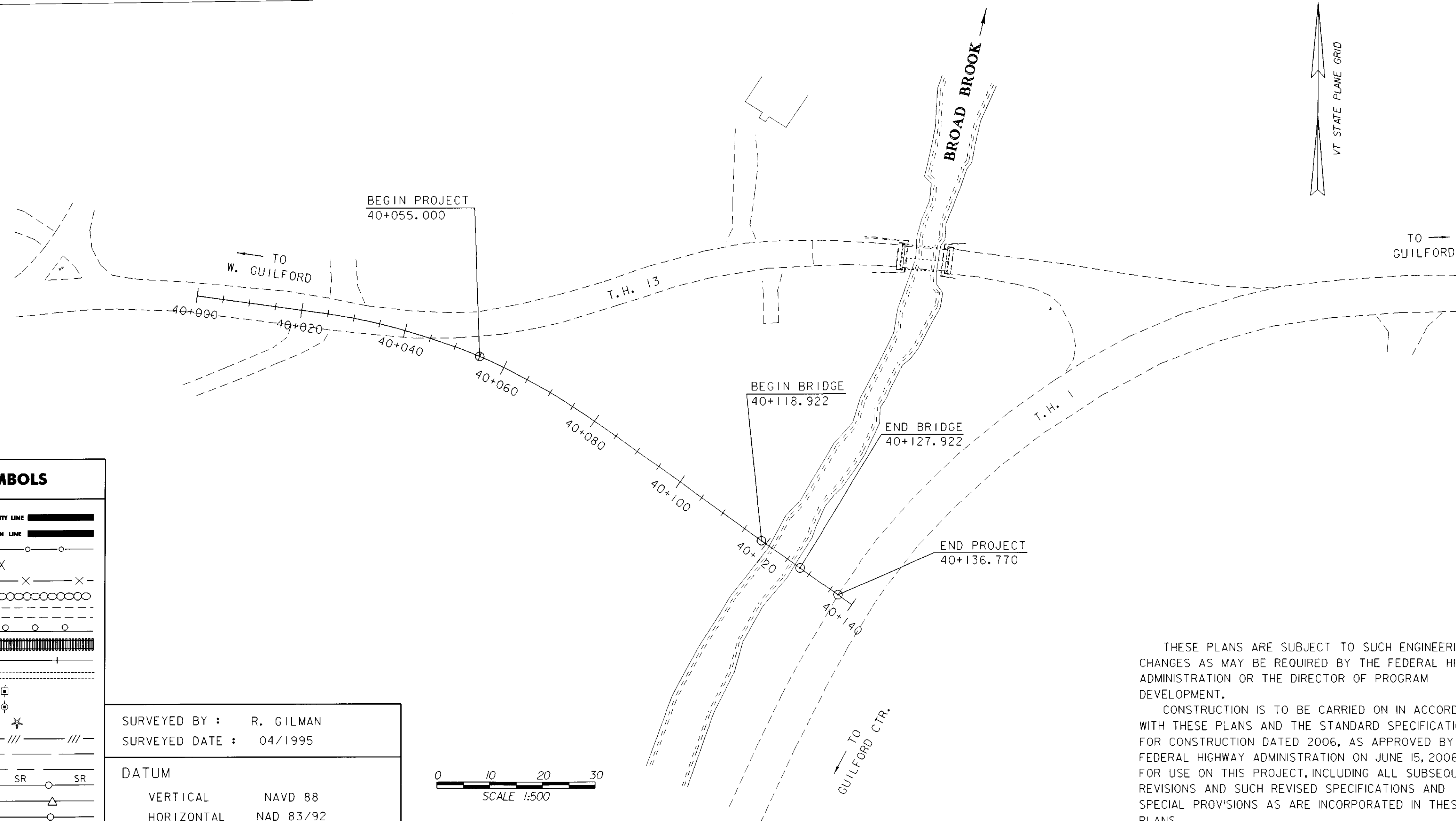
PROJECT LOCATION : BEGINNING ON T.H. 13, 0.1 KILOMETER WEST OF THE EXISTING INTERSECTION OF T.H. 1 AND T.H. 13 AND PROCEEDING SOUTH-EASTERLY 0.8 KILOMETER ALONG REALIGNED T.H. 13.

PROJECT DESCRIPTION : THE PROJECT WILL REPLACE THE EXISTING BRIDGE WITH A NEW CONCRETE SLAB BRIDGE ON A NEW ALIGNMENT AND INCLUDE RELATED APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE : 9.000 METERS.
LENGTH OF ROADWAY : 72.770 METERS.
LENGTH OF PROJECT : 81.770 METERS.



RECORD PLANS	
CONTRACTOR:	RENAUD BROTHERS, INC. - VERNON, VT
RESIDENT ENGINEER:	FRED ROSS
CONSTRUCTION BEGAN:	JULY 21, 2008
CONSTRUCTION COMPLETE:	JULY 19, 2009
RECORD PLANS BY:	FRED ROSS & CRAIG PIERCE
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.	
BY:	<i>[Signature]</i> RESIDENT ENGINEER
DATE:	7-25-11
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.	

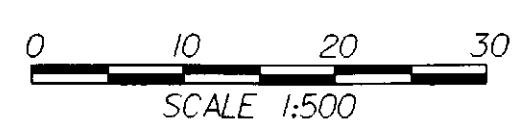


UNLESS NOTED OTHERWISE
STATIONS ARE IN KILOMETERS
ELEVATIONS ARE IN METERS
DIMENSIONS ARE IN MILLIMETERS

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 : R. GILMAN
SURVEYED DATE : 04/1995

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83/92



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 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

94j076\structures\sj076bdr.dgn sj076tit.t 03-MAR-2008

DIRECTOR OF PROGRAM DEVELOPMENT	
APPROVED:	DATE: 3-10-2011
PROJECT MANAGER : R. R. WHITCOMB	
PROJECT NAME :	GUILFORD
PROJECT NUMBER :	BRO 1442 (24)
SHEET 1 OF 59 SHEETS	

PRELIMINARY INFORMATION SHEET



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B-71	RESIDENTIAL AND COMMERCIAL DRIVES	7/8/2005
D-4	FLUSHING BASINS, END SECTION, ELBOWS TYPICAL WATERFALL FOR CULVERTS UP TO AND INCLUDING 48" DIA EXTENSION SERVICE BOX AND CURB STOP CORRUGATED PIPE ELBOW GRANULAR BORROW AT CULVERT LOCATIONS UNDERDRAIN FLUSHING BASIN CORRUGATED STEEL PIPE END SECTION CORRUGATED STEEL PIPE ARCH END SECTION	8/13/2007
D-20	HIGHWAY CROSSING FOR UNDERGROUND UTILITIES	3/3/2003
E-100	CONSTRUCTION APPROACH SIGNS	1/2/2004
E-101	CONSTRUCTION SIGN DETAILS	5/30/2003
E-102	CONSTRUCTION SIGN DETAILS	6/30/2003
E-102A	CONSTRUCTION SIGN DETAILS	5/1/2004
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/8/1995
E-123	GUIDE SIGN PLACEMENT - MISCELLANEOUS DETAILS	3/16/2004
E-141	REGULATORY SIGN DETAILS	9/20/1995
E-143	REGULATORY SIGN DETAILS	6/15/2004
E-155	WARNING SIGN DETAILS	5/1/2004
E-160	FLANGED CHANNEL STEEL SIGN POST	5/20/1999
G-1	STEEL BEAM GUARDRAIL (50MPH & OVER) HEAVY DUTY STEEL BEAM GUARDRAIL TWISTED END TERMINAL ANCHOR FOR STEEL BEAM RAIL	1/3/2000
G-1D	STEEL BEAM GUARDRAIL (40MPH & LESS) HEAVY DUTY STEEL BEAM GUARDRAIL STEEL BEAM MEDIAN BARRIER ANCHOR FOR STEEL BEAM RAIL	1/3/2000
G-4	MARKERS - GUIDE POSTS - PLANK GUARD RAIL PLANK RAIL GUIDE POSTS WOOD MARKER POSTS STEEL MARKER POSTS	6/1/1994
J-3	MAILBOX SUPPORT DETAILS	8/7/1995
SB-R6-82M	BRIDGE RAILING - HEAVY DUTY STEEL BEAM	7/10/1997

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: August 26, 2004

DRAINAGE AREA : 11.9 sq. km
CHARACTER OF TERRAIN : Hilly to Mountainous with mixed rural cover
STREAM CHARACTERISTICS : Mostly Straight, Semi-Alluvial, probably incised
NATURE OF STREAMBED : Gravel, Cobbles, and Boulders

PEAK FLOW DATA

Q 2.33 = 8.5 cms	Q 50 = 29.7 cms
Q 10 = 18.4 cms	Q 100 = 35.4 cms
Q 25 = 24.6 cms	Q 500 = 56.6 cms

DATE OF FLOOD OF RECORD : unknown
ESTIMATED DISCHARGE : unknown
WATER SURFACE ELEV. : unknown
NATURAL STREAM VELOCITY : @ Q25 = 2.7 m/s, at new bridge location
ICE CONDITIONS : Moderate
DEBRIS : Moderate to heavy
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
IS ORDINARY RISE RAPID? Yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE :

WATERSHED STORAGE : 1% HEADWATERS :
UNIFORM :
IMMEDIATELY ABOVE SITE :

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE : Single span steel beam bridge
YEAR BUILT : unknown
CLEAR SPAN(NORMAL TO STREAM) : 6.8 m
VERTICAL CLEARANCE ABOVE STREAMBED : 3.4 m
WATERWAY OF FULL OPENING : 22.0 sm
DISPOSITION OF STRUCTURE : Removal of old structure and roadway fill.
TYPE OF MATERIAL UNDER SUBSTRUCTURE : unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 = 171.4 m*	VELOCITY = 2.3 m/s*
Q10 = 172.1 m*	" 3.0 m/s*
Q25 = 172.4 m*	" 3.3 m/s*
Q50 = 172.4 m*	" 3.5 m/s*
Q100 = 172.6 m*	" 3.7 m/s*

LONG TERM STREAMBED CHANGES : None noted.

IS THE ROADWAY OVERTOPPED BELOW Q100 : No
FREQUENCY : N/A
RELIEF ELEVATION : 174.3 m
DISCHARGE OVER ROAD @Q100 : No

UPSTREAM STRUCTURE

TOWN : Guilford DISTANCE : 1.2 km
HIGHWAY # : T.H. # 1 STRUCTURE # : 6
CLEAR SPAN : 4.6 m CLEAR HEIGHT : 3.0 m
YEAR BUILT : 1957 FULL WATERWAY : 11.0 sm
STRUCTURE TYPE : CMPPA

DOWNSTREAM STRUCTURE

TOWN : Guilford DISTANCE : 0.7 km
HIGHWAY # : T.H. # 17 STRUCTURE # : 60
CLEAR SPAN : 9.1 m CLEAR HEIGHT : 4.3 m
YEAR BUILT : unknown FULL WATERWAY : 39.0 sm
STRUCTURE TYPE : Steel pony truss w/ wooden deck

PROPOSED STRUCTURE

STRUCTURE TYPE : Singal span concrete slab bridge, concrete deck

CLEAR SPAN(NORMAL TO STREAM) : 8.0 m
VERTICAL CLEARANCE ABOVE STREAMBED : 2.8 m
WATERWAY OF FULL OPENING : 22.2 sm

WATER SURFACE ELEVATIONS AT:

Q2.33 = 172.3 m*	VELOCITY = 1.7 m/s*
Q10 = 172.9 m*	" 2.2 m/s*
Q25 = 173.0 m*	" 3.1 m/s*
Q50 = 173.2 m*	" 3.3 m/s*
Q100 = 173.4 m*	" 3.5 m/s*

IS THE ROADWAY OVERTOPPED BELOW Q100 : No
FREQUENCY : N/A
RELIEF ELEVATION : 175.0 m
DISCHARGE OVER ROAD @Q100 : No

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE : 174.4 m
VERTICAL CLEARANCE : @ Q100 = 1.5 m

SCOUR : Contraction scour 0.6 m @ Q 500

REQUIRED CHANNEL PROTECTION : Type III Stone Fill

PERMIT INFORMATION

AVERAGE DAILY FLOW : 0.3 cms DEPTH OR ELEVATION :
ORDINARY LOW WATER : 0.1 cms Depth 0.1 m
ORDINARY HIGH WATER : 3.6 cms Depth 0.3 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE : Existing bridge remains in use.
CLEAR SPAN (NORMAL TO STREAM) : N/A
VERTICAL CLEARANCE ABOVE STREAMBED : N/A
WATERWAY AREA OF FULL OPENING : N/A

ADDITIONAL INFORMATION

* The new structure is 60 m upstream from the existing bridge. Water surface elevations are listed at the approach to each structure, and are therefore higher for the proposed bridge. Velocities listed are an average channel velocity through the area of the structure.

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 8.5 m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 287kPa
ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING N/A
TYPE N/A
ESTIMATED LENGTH
5. STRUCTURAL STEEL AASHTO M270MM270 GRADE N/A
6. REINFORCING STEEL GRADE 420
7. CONCRETE, HIGH PERFORMANCE CLASS A fc: N/A
CONCRETE, HIGH PERFORMANCE CLASS B fc: 25 Mpa
8. DESIGN SOIL UNIT WEIGHT 22.00 kN/m³
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL 190 kPa

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? YES
IF YES, ON EXISTING STRUCTURE? YES
OR ON TEMPORARY BRIDGE? N/A
ONE OR TWO-WAY TRAVEL? N/A
2. TRAFFIC CONTROL SIGNALS REQUIRED? N/A
3. ARE SIDEWALKS REQUIRED? N/A
IF SO, ON WHAT SIDE? N/A

LOAD FACTOR - LOAD RATING (METRIC TONS)

LOADING LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	33	54					
POSTED	46	75	93		54	56	93
OPERATING		90	111	101	65	67	

COMMENTS:

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
1999	380	50	55	8	25
2019	510	70	55	11	40

20 year ESAL for flexible pavement from 1999 to 2019 : 217,000
40 year ESAL for flexible pavement from 1999 to 2039 : 576,000
Design Speed : 40 km/h

PROJECT NAME : Guilford
PROJECT NUMBER : BRO 1442(24)

FILE NAME : 94j076\structures\sj076pi.xls PLOT DATE : 4/9/2008
PROJECT MANAGER : R. Whitcomb DRAWN BY : L. Bullock
DESIGNED BY : T. Lackey CHECKED BY : J. Perrigo
PRELIMINARY INFORMATION SHEET SHEET 2 OF 59

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2005, AND ITS LATEST REVISIONS.
2. THE EXISTING STRUCTURAL STEEL IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS STEEL. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S DISPOSITION OF THE EXISTING STRUCTURAL STEEL.
3. ALL DIMENSIONS SHOWN ON THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES CELSIUS.

TRAFFIC CONTROL

4. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH STANDARD SHEETS, CURRENT MUTCD REQUIREMENTS, SUBSECTION 104.04 AND SECTION 641.
5. IF THE CONTRACTOR SUBMITS AN ALTERNATE TRAFFIC CONTROL PLAN, THE PLAN MUST MAINTAIN TRAFFIC ON A ROADWAY WIDTH EQUAL TO THE EXISTING TRAVEL LANES. PERMANENT GUARD RAIL MAY BE INCORPORATED IN THE PLAN. NO ADDITIONAL PAYMENT WILL BE MADE IF THE RAILING HAS TO BE REMOVED AND RESET OR REPLACED TO BE ACCEPTABLE FOR THE COMPLETED PROJECT.
6. THE TERMINAL ENDS OF ANY POSITIVE BARRIER MUST BE PROTECTED BY ENERGY ABSORPTION AT TENJATORS OR OTHER APPROVED TERMINAL END TREATMENT IF A MINIMUM CLEAR ZONE OF TWO METERS FROM THE EDGE OF TRAVELLED WAY IS NOT MAINTAINED. IF USED, ENERGY ABSORPTION AT TENJATORS AND/OR TEMPORARY TRAFFIC BARRIER SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 621.
7. ANY COSTS ASSOCIATED WITH THE CONTRACTOR'S TRAFFIC CONTROL PLAN AND ANY OTHER TRAFFIC CONTROL ON THE PROJECT INCLUDING SIGNS, TRAFFIC CONTROL DEVICES, TEMPORARY PAVEMENT MARKINGS, ENERGY ABSORPTION AT TENJATORS AND TEMPORARY TRAFFIC BARRIER SHALL BE INCLUDED IN ITEM 641.10, TRAFFIC CONTROL. TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 646.

EARTHWORK AND RELATED ITEMS

8. "STONE FILL, TYPE I" SHALL BE USED AT THE DISCRETION OF THE RESIDENT ENGINEER TO PREVENT EROSION BEHIND THE WINGWALLS.
9. THE "STONE FILL, TYPE III" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED PRIOR TO FORMING THE CONCRETE DECK SLAB.
10. AT THE DISCRETION OF THE RESIDENT ENGINEER, AREAS OF EXISTING CHANNEL BANKS THAT APPEAR ADEQUATELY STABLE IN THOSE AREAS OF PROPOSED NEW "STONE FILL, TYPE III" AS SHOWN IN THE PLANS MAY REMAIN UNDISTURBED. THE TRANSITION FROM NEW STONE FILL TO EXISTING STONE FILL SHALL BE SMOOTH AND SHALL NOT IMPEDE NORMAL CHANNEL FLOW.
11. ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE REMOVAL OF THE EXISTING SUPERSTRUCTURE AND BRIDGE RAILING. ITEM 203.17, "UNCLASSIFIED EXCAVATION" SHALL INCLUDE REMOVAL OF THE EXISTING SUBSTRUCTURE AND EXCAVATION TO THE GRADES AND LIMITS SHOWN IN THE CROSS SECTIONS AND PLANS.
12. THE FENCE TO BE REMOVED AND RESET FROM STA 40+030 RT. TO DRIVE STA. 6+040 RT. IS FOR HORSES. IT WILL BE RESET TO THE RIGHT OF THE NEW ALIGNMENT IN A LOCATION AGREED UPON BY THE RESIDENT ENGINEER AND THE LANDOWNER. PAYMENT SHALL BE UNDER ITEM 620.50, "REMOVING AND RESETTING FENCE."
13. A PRIVATE WATERLINE CROSSES TH 13 AT STA. 40+076 AND DRIVE 1 AT STA. 6+036. CONTRACT WORK ON THIS WATERLINE SHALL CONSIST OF INSTALLING NEW CURB STOPS, EXTENSION SERVICE BOXES, PLACING NEW WATERLINE WITHIN NEW SLEEVES BETWEEN THE SHUT-OFFS AND TRANSFERRING THE WATER TO THE NEW SYSTEM. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE SUBSECTIONS OF SECTION 629-WATER SYSTEMS. THE CONTRACTOR SHALL VERIFY THE EXISTING WATERLINE DIAMETER AND TYPE PRIOR TO ORDERING MATERIALS. ITEM 204.22, TRENCH EXCAVATION OF EARTH, EXPLORATORY, HAS BEEN INCLUDED FOR LOCATING THE WATERLINE. ALL OTHER EXCAVATION AND BACKFILL ASSOCIATED WITH THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE ITEM "SLEEVES FOR UTILITIES". AGENCY PERSONNEL WILL CONDUCT WATER SAMPLING (SPECIMEN WILL BE TESTED BY THE VERMONT DEPARTMENT OF HEALTH LABORATORY) AFTER THIS WORK IS COMPLETED AND THE WATER SYSTEM HAS BEEN DISINFECTED. NO PAYMENT WILL BE MADE FOR ANY OF THE WATERLINE WORK UNTIL THE TESTS RESULTS SHOW A BACTERIA LEVEL OF ZERO (0) AND THE TESTS SHOW THAT IT IS POTABLE.
14. DURING THE WATERLINE WORK AND TESTING, THE CONTRACTOR MUST MAINTAIN A WATER SUPPLY FOR THE PROPERTY OWNER. THE WATER SUPPLY MUST BE ADEQUATE TO MEET THE NEEDS OF THE PROPERTY OWNER AND BE APPROVED BY THE OWNER AND ENGINEER. A POTABLE WATER SUPPLY WILL ALSO BE SUPPLIED AND REPLISHED AS NECESSARY. ALL COSTS ASSOCIATED WITH MAINTAINING THE WATER SUPPLY WILL BE CONSIDERED INCIDENTAL TO ITEM 629.42 "TRANSFER TO NEW SYSTEM, WATER SYSTEM".
15. BEDROCK MAY BE ENCOUNTERED DURING EXCAVATION FOR ABUTMENT FOOTINGS. EXCAVATION OF THE LEDGE SHALL BE PAID FOR UNDER ITEM 208.35, "COFFERDAM EXCAVATION, ROCK".
- 15.1. FOOTINGS OR SUBFOOTINGS FOR SUBSTRUCTURES FOUNDED ON BEDROCK SHALL BE PLACED ON CLEAN COMPETENT ROCK. ALL LOOSE ROCK AND DEBRIS SHALL BE REMOVED.

15.2. UPON COMPLETION OF THE EXCAVATION FOR SUBSTRUCTURES FOUNDED ON BEDROCK AND PRIOR TO PLACING FORMWORK, THE RESIDENT ENGINEER SHALL CONTACT THE VTRANS SOILS AND FOUNDATION ENGINEER TO INSPECT THE BEDROCK. THE STRUCTURES ENGINEER WILL BE NOTIFIED THAT THE BEDROCK IS READY FOR INSPECTION. THE SOILS AND FOUNDATION ENGINEER WILL DETERMINE IF THE BEDROCK IS COMPETENT TO OBTAIN THE NOMINAL BEARING RESISTANCE AS SHOWN ON THE PLANS. FIVE (5) WORKING DAYS FROM NOTIFICATION SHALL BE ALLOWED TO MAKE THE INSPECTION AND THE DETERMINATION OF THE COMPETENCY OF THE BEDROCK.

15.3. IF COMPETENT BEDROCK IS WITHIN 1'-0" BELOW THE DESIGN BOTTOM OF FOOTING FOR THE EXTENT OF THE SUBSTRUCTURE AS SHOWN IN THE CONTRACT PLANS, THE FOOTING MAY BE PLACED INTEGRALLY TO THE TOP OF THE BEDROCK USING THE CONCRETE ITEM SPECIFIED FOR THE FOOTING AT THE CONTRACT UNIT PRICE.

15.4. WHERE COMPETENT BEDROCK IS BELOW THE DESIGN BOTTOM OF FOOTING BY MORE THAN 1'-0" FOR ANY PORTION OF THE SUBSTRUCTURE AND A SUBFOOTING IS NOT SHOWN IN THE CONTRACT PLANS, THE STRUCTURES ENGINEER SHALL BE CONTACTED TO DETERMINE WHETHER OR NOT THE FOOTING SHALL BE LOWERED OR IF THE CONSTRUCTION OF A SUBFOOTING IS REQUIRED. IF THE DESIGN BOTTOM OF FOOTING ELEVATION IS TO BE LOWERED, THE CONTRACTOR SHALL PROVIDE A BEDROCK PROFILE TO THE STRUCTURES ENGINEER. THREE (3) WORKING DAYS FROM RECEIPT OF THE BEDROCK PROFILE SHALL BE ALLOWED TO MAKE THIS DETERMINATION. NO WORK SHALL BE DONE ON THE FOOTINGS UNTIL A REPLY IS RECEIVED.

15.5. THE LIMITS OF SUBFOOTINGS SHALL BE 1'-0" OUTSIDE OF THE HORIZONTAL LIMITS OF THE FOOTING. IF A SUBFOOTING IS REQUIRED AND NOT SHOWN IN THE CONTRACT IT SHALL BE DONE AS EXTRA WORK. THE TOP SURFACE OF ALL SUBFOOTINGS SHALL BE INTENTIONALLY ROUGHENED TO 1/4" AMPLITUDE.

15.6. WHERE COMPETENT BEDROCK IS ABOVE THE DESIGN BOTTOM OF FOOTING ELEVATION, IT SHALL BE REMOVED WITH CONTRACT PAY ITEMS OR A BEDROCK PROFILE SHALL BE PROVIDED BY THE CONTRACTOR TO THE STRUCTURES ENGINEER TO DETERMINE WHETHER THE DESIGN BOTTOM OF FOOTING ELEVATION MAY BE RAISED. THREE (3) WORKING DAYS FROM RECEIPT OF THE BEDROCK PROFILE SHALL BE ALLOWED TO MAKE THE DETERMINATION. FOOTING ELEVATIONS SHALL NOT BE ADJUSTED WITHOUT APPROVAL OF THE STRUCTURES ENGINEER.

15.7. OVERBREAKAGE AND REPLACEMENT WITH THE FOOTING CONCRETE BEYOND THE AVERAGE MAXIMUM ALLOWANCE SPECIFIED IN SUBSECTIONS 204.09(B)(1) AND 208.11(C) WILL BE AT THE CONTRACTOR'S EXPENSE.

15.8. DOWELS SHALL BE DRILLED AND GROUTED INTO BEDROCK WHEN SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER. THE DOWELS SHALL HAVE A 2'-0" MINIMUM EMBEDMENT IN THE BEDROCK AND SHALL EXTEND IN THE FOOTING OR SUBFOOTING A MINIMUM OF 1'-6", UNLESS NOTED OTHERWISE.

CONCRETE AND REINFORCING STEEL

16. ALL DECK SLAB, APPROACH SLAB, CURB, AND SUBSTRUCTURE CONCRETE SHALL BE ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B".

17. APPLY "WATER REPELLENT, SILANE" TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE TOP OF DECK SLAB AND THE UNDERSIDE OF DECK SLAB BETWEEN DRIP NOTCHES.

18. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 MILLIMETERS X 25 MILLIMETERS.

19. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE RESIDENT ENGINEER.

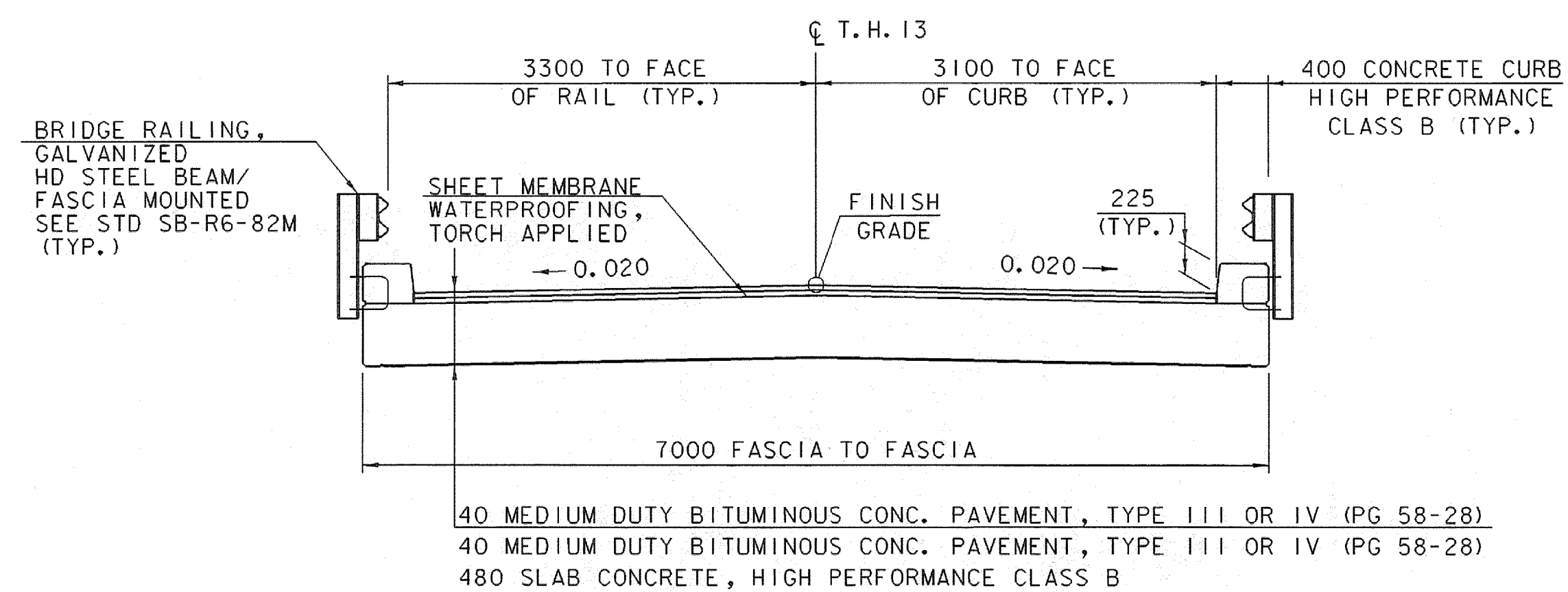
20. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. PLACE UPWARD KEYS INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.

21. ALL SUPERSTRUCTURE REINFORCING STEEL SHALL BE ITEM 507.17 "EPOXY COATED REINFORCING STEEL". FLAME CUTTING OF EPOXY COATED REINFORCING STEEL WILL NOT BE PERMITTED. REPAIR CUT ENDS WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER.

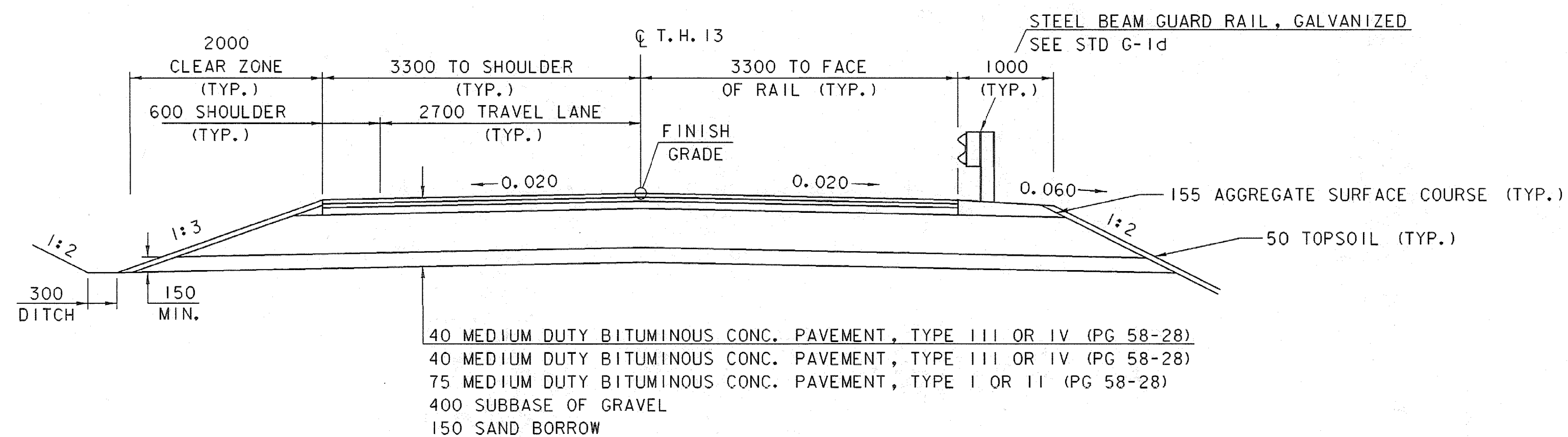
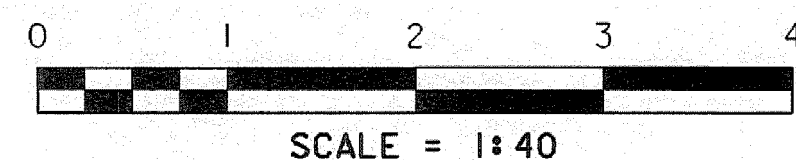
22. MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS INDICATED IN THE PLANS.

PROJECT NOTES

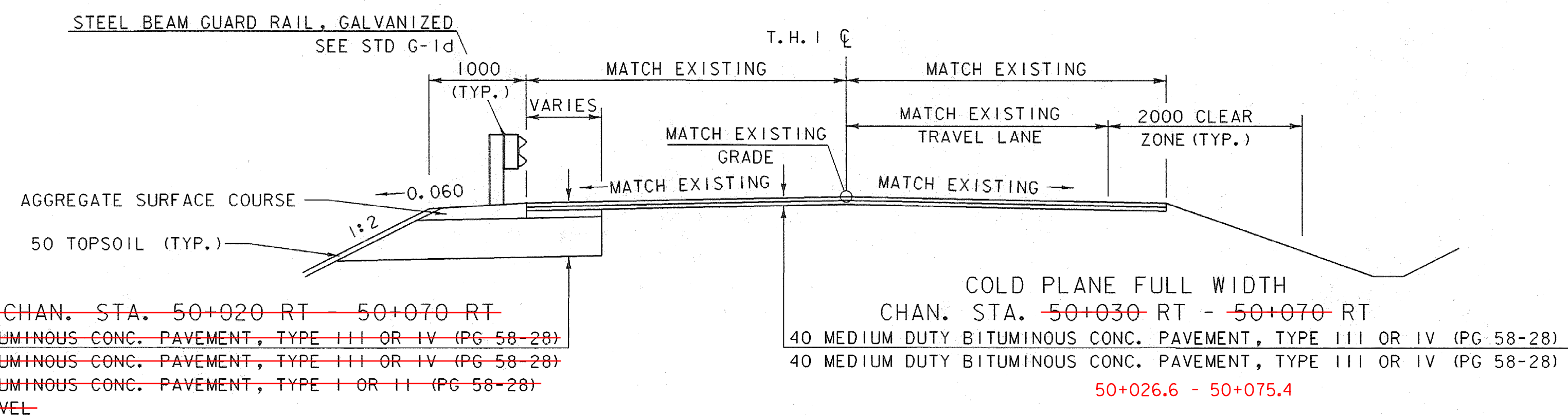
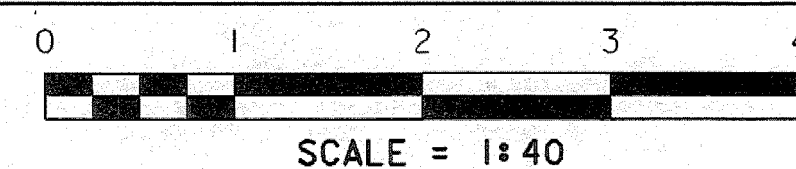
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PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	T. LACKEY
FILE NAME:	sj076pn.i	CHECKED BY:	R. WHITCOMB
PROJECT LEADER:	R. WHITCOMB	SHEET	3 OF 59
DESIGNED BY:	T. LACKEY		
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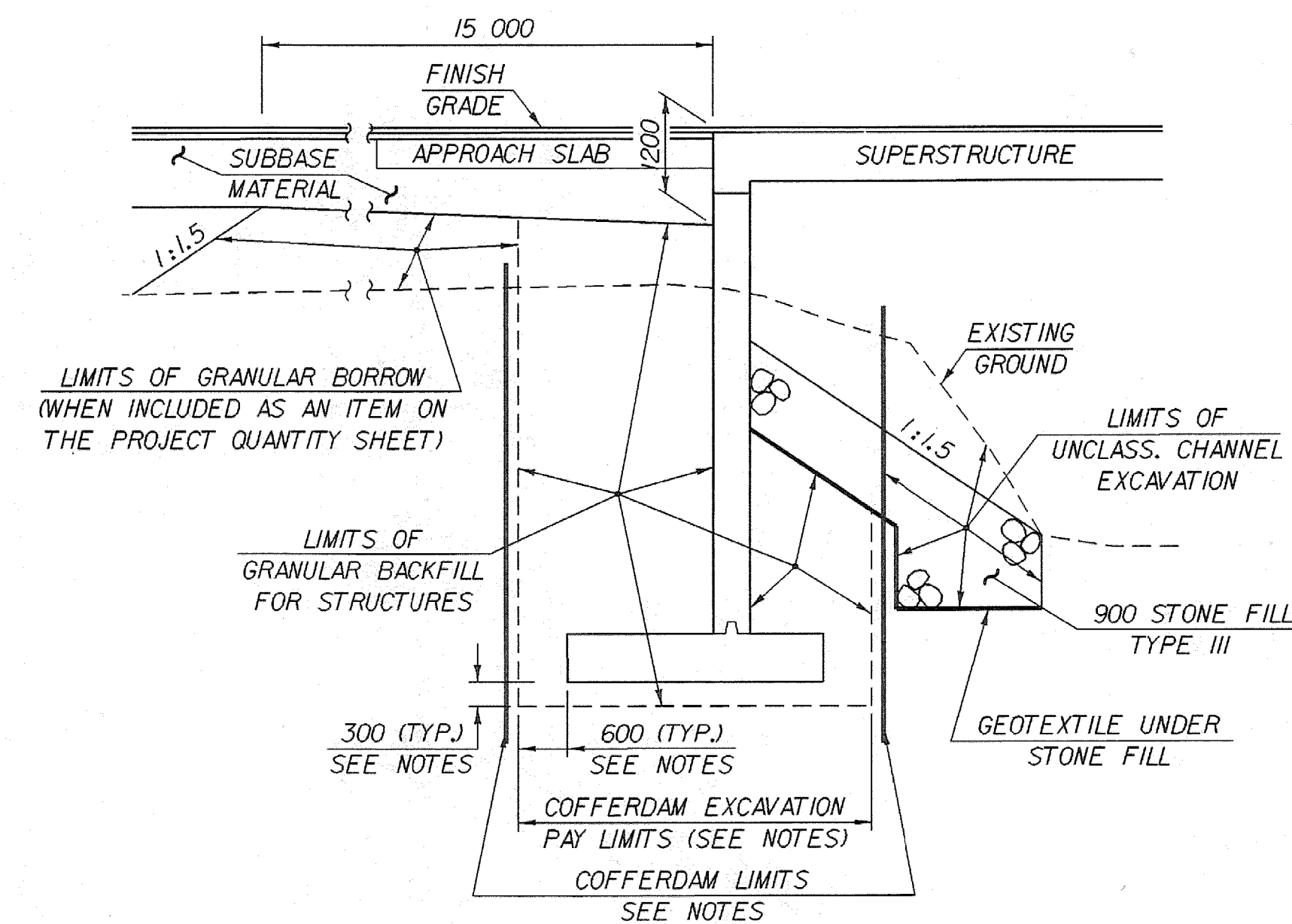
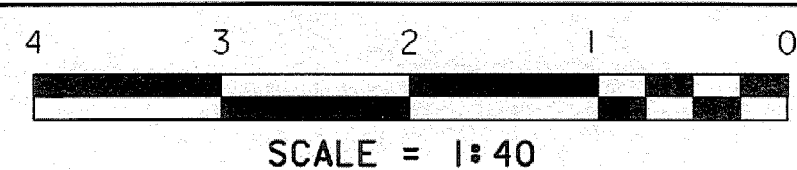
BRIDGE TYPICAL SECTION



TH 13 ROADWAY TYPICAL SECTION



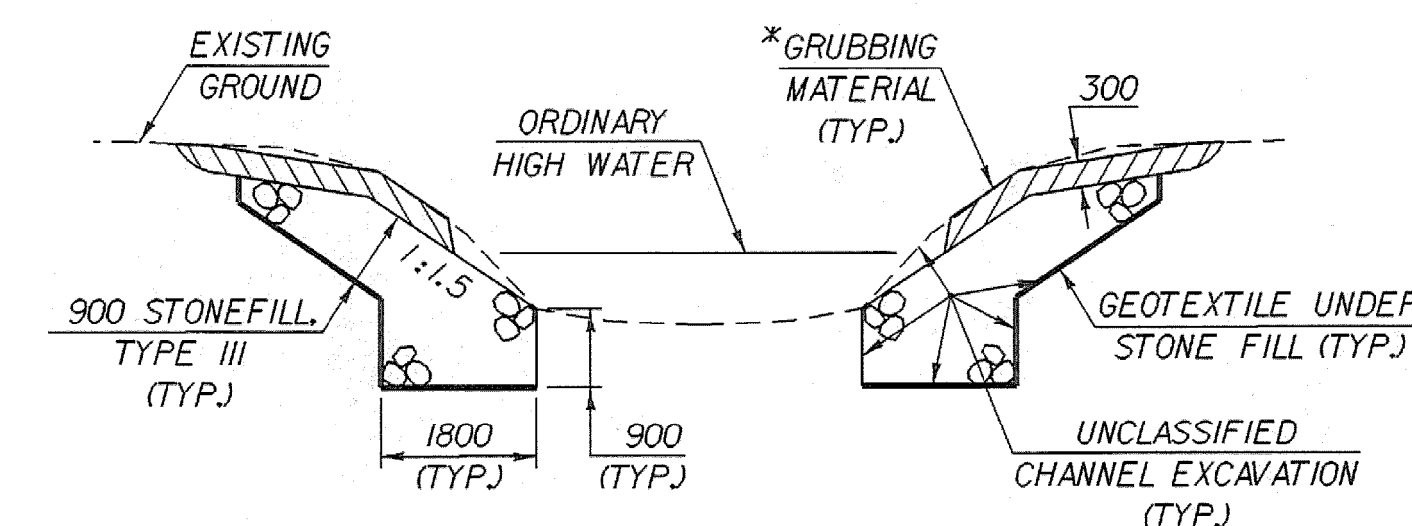
TH 1 ROADWAY SECTION



TYPICAL ABUTMENT SECTION

NOTES

1. COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 600 OUTSIDE THE PERIMETER OF THE FOOTING, UP TO EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. 300 UNDERCUT AS DETERMINED NECESSARY BY THE RESIDENT ENGINEER.
4. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION.



TYPICAL CHANNEL SECTION

*GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

TYPICAL SECTIONS

MATERIAL ITEM	TOLERANCE
PAVEMENT	±5 mm TOTAL THICKNESS
SUBBASE	±30 mm
SAND BORROW	±30 mm

PROJECT NAME: GUILFORD	FILE NAME: sj076typ.i	PLOT DATE: 30-APR-2008
PROJECT NUMBER: BRO 1442(24)	PROJECT LEADER: R. WHITCOMB	DRAWN BY: J. PERRIGO
	DESIGNED BY: J. PERRIGO	CHECKED BY: T. LACKEY
	94J076\structures\sj076typ.dgn	SHEET 4 OF 59

QUANTITY SHEET 1



SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES								
							ROADWAY	EROSION CONTROL	BRIDGE	FULL E & C ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS					
							1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10									
							260				260		CM	COMMON EXCAVATION	203.15				EARTHWORK SUMMARY					
							960				960		CM	UNCLASSIFIED EXCAVATION	203.17		1058	CM	FILL REQUIRED COMMON FILL(1.15*920 CM)					
									180		180		CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27				FILL AVAILABLE					
							770				770		CM	EARTH BORROW	203.30		78	CM	COMMON EXCAVATION(0.3*280 CM)					
							90				90		CM	SAND BORROW	203.31		0	CM	UNCLASSIFIED EXCAVATION(0*960 CM)					
							280				280		CM	GRANULAR BORROW	203.32		54	CM	UNCLASSIFIED CHANNEL EXCAVATION(0.3*180 CM)					
							80	10			90		CM	TRENCH EXCAVATION OF EARTH	204.20		24	CM	TRENCH EXCAVATION OF EARTH(0.3*80 CM)					
							1				1		CM	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22		141	CM	COFFERDAM EXCAVATION, EARTH(0.3*470 CM)					
									410		410		CM	GRANULAR BACKFILL FOR STRUCTURES	204.30				TOTAL					
									470		470		CM	COFFERDAM EXCAVATION, EARTH	208.30		1058	CM	FILL REQUIRED					
									20		20		CM	COFFERDAM EXCAVATION, ROCK	208.35		297	CM	FILL AVAILABLE					
									1		1		LS	COFFERDAM (STA. 40+118.9)	208.40				761	CM	EARTH BORROW, CALC.			
									1		1		LS	COFFERDAM (STA. 40+127.9)	208.40				20	CM	EARTH BORROW, MIN.			
							550				550		SM	COLD PLANING, BITUMINOUS PAVEMENT	210.10						761	CM	EARTH BORROW	
							570	30			600		CM	SUBBASE OF GRAVEL	301.15							770	CM	EARTH BORROW
							40				40		CM	AGGREGATE SURFACE COURSE	401.10									
							163				163		KG	EMULSIFIED ASPHALT	404.65									
							305				305		T	MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT (PG 58-28)	406.27									
									192		192		CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34									
									10439		10439		KG	REINFORCING STEEL	507.15									
									5067		5067		KG	EPOXY COATED REINFORCING STEEL	507.17									
									16		16		L	WATER REPELLENT, SILANE	514.10									
									65		65		SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20									
									23		23		M	BRIDGE RAILING, GALVANIZED HD STEEL BEAM/FASCIA MOUNTED	525.41									
							1				1		LS	MAINTENANCE OF STRUCTURES AND APPROACHES	527.10									
							1				1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20									
														BEGIN OPTION AA										
							30				30		M	450 CAAP 2.67 (68 X 12)	601.0217									
							30				30		M	450 PCCSP 2.01 (68 X 12)	601.0416									
							30				30		M	450 RCP CLASS III	601.0815									
							30				30		M	450 CPEP(SL)	601.2615									
														END OPTION AA										
									10		10		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25									
							1				1		CM	DUST CONTROL WITH WATER	609.10									
							1				1		T	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15									
							40	10	20		70		CM	STONE FILL, TYPE I	613.10									
									290		290		CM	STONE FILL, TYPE III	613.12									
							1				1		EACH	RELOCATE MAILBOX, SINGLE SUPPORT	617.10									
							4				4		EACH	YIELDING MARKER POSTS	619.17									

PROJECT NAME: GUILFORD
 PROJECT NUMBER: BRO 1442 (24)
 FILE NAME: sj076qty.dgn PLOT DATE: 04/30/2008
 PROJECT MANAGER: R. WHITCOMB DRAWN BY: T. LACKEY
 DESIGNED BY: T. LACKEY CHECKED BY: R. WHITCOMB
 QUANTITY SHEET #1 SHEET 5 OF 59

QUANTITY SHEET 2



SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	EROSION CONTROL	BRIDGE	FULL E & C ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							100			100		M	WOVEN WIRE FENCE WITH WOOD POSTS	620.26				
						65				65		M	REMOVING AND RESETTING FENCE	620.50				
						6				6		M	PLANK RAIL	621.15				
						167.6				167.6		M	STEEL BEAM GUARDRAIL, GALVANIZED	621.20				
						72.4				72.4		M	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21				
						6				6		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				
						13				13		EACH	REMOVAL AND DISPOSAL OF GUIDE POSTS	621.81				
						30				30		M	SLEEVES FOR UTILITIES (2 X 50 MM)	625.10				
						4				4		EACH	EXTENSION SERVICE BOX AND CURB STOP (19 MM)	629.25				
						30				30		M	PLASTIC WATER PIPE, RIGID (19 MM)	629.33				
						1				1		LS	TRANSFER TO NEW SYSTEM, WATER SYSTEM	629.42				
						100				100		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
						300				300		HR	FLAGGERS	630.15				
									1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
									1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
									1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
									1	1		LU	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.25				
						1				1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
						1				1		LS	TRAFFIC CONTROL	641.10				
						230				230		M	100 MM WHITE LINE	646.20				
						230				230		M	100 MM YELLOW LINE	646.21				
						5				5		M	600 MM STOP BAR	646.26				
								530		530		SM	GEOTEXTILE UNDER STONE FILL	649.31				
						30				30		SM	GEOTEXTILE FOR SILT FENCE	649.51				
						450				450		SM	GEOTEXTILE FOR FILTER CURTAIN	649.61				
						20				20		KG	SEED	651.15				
						10				10		KG	SEED, WINTER RYE	651.17				
						200				200		KG	FERTILIZER	651.18				
						1				1		T	AGRICULTURAL LIMESTONE	651.20				
						1				1		T	HAY MULCH	651.25				
						130				130		CM	TOPSOIL	651.35				
						790				790		SM	GRUBBING MATERIAL	651.40				
						1				1		LS	EPSC PLAN	652.10				
						30				30		HR	MONITORING EPSC PLAN	652.20				
						1				1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
						1100				1100		SM	TEMPORARY EROSION MATTING	653.20				
						10				10		CM	TEMPORARY STONE CHECK DAM, TYPE I	653.25				
						30				30		CM	VEHICLE TRACKING PAD	653.35				
						230				230		M	BARRIER FENCE	653.50				
						120				120		M	PROJECT DEMARCATION FENCE	653.55				

PROJECT NAME: GUILFORD
 PROJECT NUMBER: BRO 1442 (24)
 FILE NAME: sj070qty.dgn PLOT DATE: 04/30/2008
 PROJECT MANAGER: R. WHITCOMB DRAWN BY: T. LACKEY
 DESIGNED BY: T. LACKEY CHECKED BY: R. WHITCOMB
 QUANTITY SHEET #2 SHEET 6 OF 59

QUANTITY SHEET 3



SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
							ROADWAY	EROSION CONTROL	BRIDGE	FULL E & C ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
								8			8		EACH	DECIDUOUS TREES (CHOKE CHERRY) (8 L) (1200 TO 1500 MM)	656.30				
								16			16		EACH	DECIDUOUS TREES (GREEN ASH) (8 L) (1200 TO 1500 MM)	656.30				
								45			45		EACH	DECIDUOUS SHRUBS (BLACK CHOKEBERRY) (4 L) (500 MM)	656.35				
								90			90		EACH	DECIDUOUS SHRUBS (STREAMCO WILLOW) (4 L) (500 MM)	656.35				
							2.05				2.05		SM	TRAFFIC SIGNS, TYPE A	675.20				
														BEGIN OPTION BB					
							16.3				16.3		M	FLANGED CHANNEL SIGN POST	675.301				
							16.3				16.3		M	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
														END OPTION BB					
							1				1		EACH	REMOVING SIGNS	675.50				
							1				1		EACH	ERECTING SALVAGED SIGNS	675.60				

PROJECT NAME: GUILFORD
 PROJECT NUMBER: BRO 1442 (24)
 FILE NAME: sj076qty.dgn
 PROJECT MANAGER: R. WHITCOMB
 DESIGNED BY: T. LACKEY
 QUANTITY SHEET #3
 PLOT DATE: 04/15/2008
 DRAWN BY: T. LACKEY
 CHECKED BY: R. WHITCOMB
 SHEET 7 OF 59

QUANTITY SHEET 4



SUMMARY OF BRIDGE QUANTITIES

TOTALS

DESCRIPTIONS

DETAILED SUMMARY OF QUANTITIES

SUMMARY OF BRIDGE QUANTITIES						TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
						BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
				90	90	180	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
				200	210	410	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30			
				230	240	470	CM	COFFERDAM EXCAVATION, EARTH	208.30			
				20		20	CM	COFFERDAM EXCAVATION, ROCK	208.35			
				1		1	LS	COFFERDAM (STA. 40+118.9)	208.40			
					1	1	LS	COFFERDAM (STA. 40+127.9)	208.40			
	32	11	13	65	71	192	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
				5032	5407	10439	KG	REINFORCING STEEL	507.15			
	3391	627	807	121	121	5067	KG	EPOXY COATED REINFORCING STEEL	507.17			
	6			5	5	16	L	WATER REPELLENT, SILANE	514.10			
	65					65	SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20			
	23					23	M	BRIDGE RAILING, GALVANIZED HD STEEL BEAM/FASCIA MOUNTED	525.41			
				10	10	20	CM	STONE FILL, TYPE I	613.10			
				140	150	290	CM	STONE FILL, TYPE III	613.12			
				255	275	530	SM	GEOTEXTILE UNDER STONE FILL	649.31			

PROJECT NAME: GUILFORD
 PROJECT NUMBER: BRO 1442 (24)
 FILE NAME: sj076qty.dgn
 PROJECT MANAGER: R. WHITCOMB
 DESIGNED BY: T. LACKEY
 QUANTITY SHEET #4
 PLOT DATE: 04/15/2008
 DRAWN BY: T. LACKEY
 CHECKED BY: R. WHITCOMB
 SHEET 8 OF 59

RIGHT - OF - WAY DETAIL SHEET



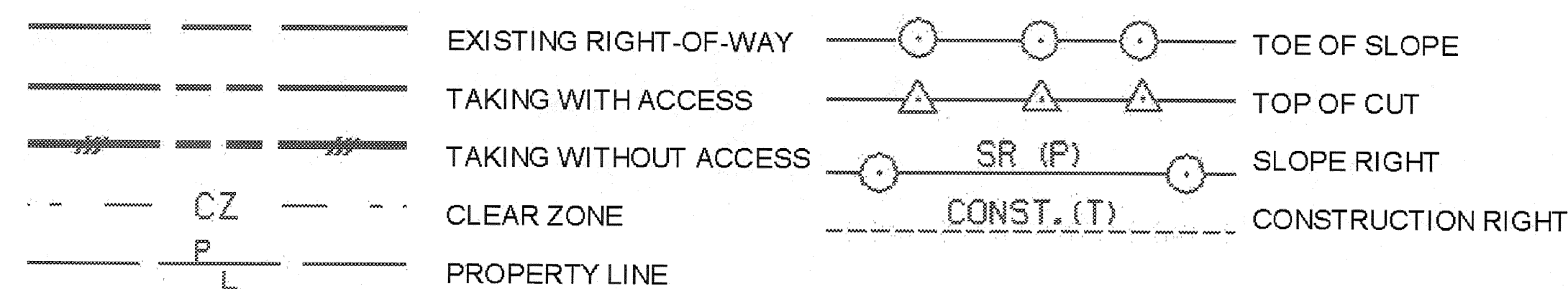
TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT		RECORDING DATA					REMARKS	
					AREA ±	AREA ±	TYPE	(T)/(P)	AREA ±	TITLE	DATE	TOWN / CITY	BOOK		PAGE
1	RATHBUN, DONNA C. AKA COVEY, DONNA R. RATHBUN, CHRISTOPHER M. COVEY, RENA W. - LIFE ESTATE	9	40+023.39 RT. 40+040.00 RT.	40+105.90 RT. 40+097.99 RT.	.07HA		CONST.	(T)	210 SM	WDOE	10/29/2004	GUILFORD	110	186-9	710SM± (.18A±) INCLUDES EROSION CONTROL & PDF 2260 S.F.± 205 S.F.±
			40+058.19 RT. 40+097.99 RT. 40+103.20 RT.	40+081.17 RT. 40+101.40 RT.			SLOPE INSTALL DRIVE	(P) (T) (T)	19 SM 22 SM						PDF & EROSION CONTROL; 237 S.F.± 12' GRAVEL
			40+106.50 RT. 40+067.12 LT. 40+072.03 LT.	40+108.39 RT. 40+098.34 LT. 40+098.00 LT.			INSTALL SLOPE CONST.	(T) (P) (T)	15 SM 31 SM 123 SM						PDF & EROSION CONTROL; 161 S.F.± 334 S.F.± INCLUDES EROSION CONTROL & PDF
			40+068.15 LT. DRIVE STA. 6+044.16 RT. DRIVE STA. 6+045.00 RT. 40+030 RT.	40+077.44 LT. DRIVE STA. 6+047.10 RT. DRIVE STA. 6+040 RT.			REMOVE DRAINAGE REMOVE & RESET	(T) (P) (T)							1,324 S.F.± STONE WALL INCLUDES TEMP. PDF EXCEPT & RESERVE STONE WALL FENCE
2A	OGDEN, ETHAN M. & EILEEN L.	9	40+098.30 LT. 40+105.90 RT. 40+108.39 RT.	40+133.10 RT. 40+107.47 RT. 40+135.98 RT.	.05HA		SLOPE CONST.	(T) (T)	1 SM 173 SM	WDOE	11/15/2004	GUILFORD	110	253-55	480 SM± (.11A±) 11 S.F.± INCLUDES EROSION CONTROL & PDF
			40+114.68 RT. 40+095.76 LT.	40+133.28 RT. 40+133.27 LT.			CHANNEL CONST.	(P) (T)	137 SM 202 SM						1,862 S.F.± 1,475 S.F.± INCLUDES EROSION CONTROL & PDF
			40+114.58 LT. 40+128.54 LT. 40+098.10 LT. 40+095.53 LT.	40+132.78 LT. 40+132.33 LT. 40+100.30 LT. 40+141.43 LT.			CHANNEL CUL. & DR. SLOPE CONST.	(P) (P) (P) (T)	160 SM 1 SM 87 SM 200 SM						2,174 S.F.± 1,722 S.F.± 11 S.F.± INCLUDES EROSION CONTROL & PDF
			40+101.45 LT. 40+123.56 LT. 40+085.79 LT. DRIVE STA. 6+031.06 RT. 40+074.64 LT. 40+133.40 RT. DRIVE STA. 6+045.69 RT.	40+113.67 LT. 40+145.39 LT. 40+101.40 LT. DRIVE STA. 6+042.13 LT. 40+078.00 RT. 40+135.00 RT.			SLOPE SLOPE REMOVE & RESET ALL R.T. & I. ALL R.T. & I. SLOPE DRAINAGE	(T) (T) (T) (T) (P) (P)	30 SM 87 SM 8 SM						2,153 S.F.± 323 S.F.± 936 S.F.± FENCE WATERLINE WATERLINE 86 S.F.±
2B		9	40+111.04 LT. 40+115.75 LT.	40+135.32 LT. 40+130.24 LT.			CONST. SLOPE	(T) (T)	99 SM 26 SM						INCLUDES EROSION CONTROL & PDF 1,066 S.F.± 280 S.F.±
3	MINER, SHAWN M. & LYNN M.	9	DRIVE STA. 6+016.30 LT. 40+033.40 LT.	DRIVE STA. 6+039.20 LT. 40+034.80 LT.											EXCEPT & RESERVE STONE WALL EXCEPT & RESERVE STONE WALL
4	CENTRAL VERMONT PUBLIC SERVICE CORPORATION														UTILITY
5	VERZON NEW ENGLAND, INC.														UTILITY

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
1	8	GENERAL. ADD PARCEL NO.4 CENTRAL VERMONT PUBLIC SERVICE CORPORATION. ADD PARCEL NO. 5 VERIZON NEW ENGLAND, INC. PER C.O. 9342 MADE BY: MR APPROVED BY: RPD	3/12/2004
2	8	PARCEL NO. 1 COVEY. REVISE PROPERTY OWNER NAME TO: RATHBUN, DONNA C.; AKA COVEY, DONNA R.; COVEY, RENA W. - LIFE ESTATE; RATHBUN, CHRISTOPHER M. PER C.O. 9352. MADE BY: MR APPROVED BY: RPD	5/24/2004
3	8,9	PARCEL NO. 1 COVEY & PARCEL NO. 2 OGDEN. ADD "PDF" TO ALL THE TEXT IN THE REMARKS COLUMN WHERE "EROSION CONTROL" HAS BEEN PLACED. REVISE MISC. ITEMS ON LAYOUT. REPLOT ROW SHEETS 2,3,5,6,7,10 PER C.O. 9351. MADE BY:MR APPROVED BY: RPD	5/24/2004
4	8	PARCEL NO. 2 OGDEN. ADD "DRAINAGE (P)" AT STA. 6+045.69 RT. PER C.O. 9353. MADE BY: MR APPROVED BY: RPD	5/24/2004
5	8,9	PARCEL NO. 1 COVEY. ADD REMOVE & RESET (T) FOR FENCE AT STA. 40+030 RT. ~ DRIVE STA. 6+040 RT. PER C.O. 9385. MADE BY: MR APPROVED BY: RPD	9/3/2004
		ELECTRONIC FILES TO STRUCTURES	8/16/2005

PLAN LEGEND



- (P) -PERMANENT
- (T) -TEMPORARY
- DR. -DRAINAGE RIGHT
- DIT. -DITCHING RIGHT
- CH. -CHANNEL RIGHT
- DRIVE -DRIVE RIGHT
- CUL. -CULVERT RIGHT
- C&T -CLEARING & TRIMMING RIGHT
- SR -SLOPE RIGHT
- UE -UTILITY EASEMENT

APPROVED: ROGER P. DUMAS DATE: 03-07-05
CHIEF, PLANS & TITLES

PLOT DATE: 4/10/2008

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: 94J076
PROJECT LEADER: 0
DESIGNED BY: 0
R.O.W. SHEET 8 OF 10

PLOT DATE:
DRAWN BY: M.J.R.
CHECKED BY: T.F.
SHEET 9 OF 59

END R.O.W. PROJECT
BRO 1442(24)
STA. 40+145.39
65M (213') LT.

6+039.2 LT - 6+043.3 RT
 REPLACE EXISTING 310 mm CGMP WITH
 NEW 450 mm X 10 800 mm OPTION PIPE
 NET EL. 174.940; OUTLET EL. 174.540
 CONSTRUCT 900 mm X 1800 mm X 600 mm DEEP
 PAD STONE FILL, TYPE I @ OUTLET
 (SEE PIPE OPTIONS)

MINER, SHAWN M. & LYNN
 (3)

DRIVE PI 6+009.316 AH=
 6+008.876 BK
 $\Delta = 30^{\circ}27'45''$ RT
 PI 40+052.851 AH=
 40+051.708 BK
 $\Delta = 27^{\circ}35'19''$ RT

DRIVE #1 CURVE DATA
 $\Delta = 30^{\circ}27'45''$ RT
 R = 34.215
 T = 9.316
 L = 18.191
 E = 1.246
 BANK = N.C.

APPROX. LOCATION
 OF NEW 50 SLEEVE FOR
 EXISTING WATERLINE

DRIVE POT
 6+050.000

CHANNEL POT
 50+140.000

AVOID THIS
 SENSITIVE ARCH AREA

APPROX. LOCATION
 EXISTING UNDERGROUND
 WATERLINE

POT 40+000.000

3-ROD R.O.W.
 CLAIMED BY TOWN

ML CURVE DATA
 $\Delta = 27^{\circ}35'19''$ RT
 R = 120.000
 T = 29.462
 L = 57.781
 E = 3.564
 BANK = N.C.

BEGIN R.O.W. PROJECT
BRO 1442(24)
STA. 40+023.39
7.54M (24.75') RT.

CONSTRUCT DRIVE 1
 ML 40+055.0 LT

CONSTRUCT DRIVE 2
 ML 40+103.2 RT

COLD PLANNING, BITUMINOUS PAVEMENT
 CHA 50+030 RT - 50+070 RT

**CONSTRUCT STONE LINED DITCH
 WITH STONE FILL, TYPE I**
 DRIVE 6+012.2 LT - DRIVE 6+040.1 LT

**BRIDGE RAILING, GALVANIZED
 HD STEEL BEAM/FASCIA MOUNTED**
 ML 40+117.7 RT - ML 40+129.1 RT
 ML 40+117.7 LT - ML 40+129.1 LT

RELOCATE MAIL BOX, SINGLE SUPPORT
 FROM DRIVE 6+058.3 LT TO ML 40+052.5 LT

YIELDING MARKER POSTS
 ML 40+075.1 LT
 ML 40+078.2 RT
 DRIVE 6+031.2 RT
 DRIVE 6+042.1 LT

PLANK RAIL
 CH 50+094.3 LT - CH 50+098.5 LT (5.30m)

REMOVAL AND DISPOSAL OF GUIDE POSTS
 CHAN 50+040 RT - CHAN 50+110 RT

HEAVY DUTY STEEL BEAM GUARD RAIL, GALVANIZED
 ML 40+102.5 LT - ML 40+117.7 LT
 ML 40+106.4 RT - ML 40+117.7 RT
 ML 40+129.1 RT - CHAN 50+031.4 RT
 ML 40+129.1 LT - CHAN 50+065.9 RT

ANCHOR FOR STEEL BEAM RAIL
 ML 40+055.5 RT
 ML 40+063.8 LT
 ML 40+098.3 RT
 ML 40+108.1 RT
 CHAN 50+033.4 RT
 CHAN 50+138.3 RT

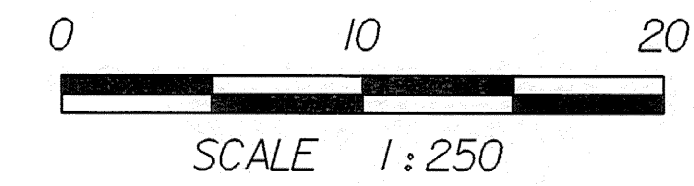
SLEEVES FOR UTILITIES
 ML 40+075.1 LT - ML 40+078.3 RT
 DRIVE 6+031.2 RT - DRIVE 6+042.1 LT

EXTENSION SERVICE BOX AND CURB STOP
 ML 40+075.1 LT
 ML 40+078.2 RT
 DRIVE 6+031.2 RT
 DRIVE 6+042.1 LT

REMOVING AND RESETTING FENCE
 ML 40+030± RT. - DRIVE 6+040± RT

LANDSCAPING
 CH 50+097 LT - CH 50+115 LT
 CH 50+107 LT - CH 50+124 LT

FOR EROSION CONTROL DETAILS SEE
 ROW SHEET 7 OF 10



**COLD PLANNING,
 BITUMINOUS PAVEMENT**
 BM NO. 1
 USGS TT5 F1 1942
 RESET 1954
 EL. = 172.295

40+132.29
 M.M. 8.20M (26.9') LT.
 40+128.6 LT - 40+145.8 LT
 REPLACE EXISTING 380mm RCP WITH
 NEW 450mm X 17.68m OPTION PIPE
 INLET EL. 173.020; OUTLET EL. 172.600
 (SEE PIPE OPTIONS)

END BRIDGE
 40+127.922
 FG=175.050

CLASS III
 WETLAND
 40+133.10

EXISTING BRIDGE DATA
 WOOD PLANK WITH WOOD RUNNERS
 ON 7 - W305mm X 1270mm BEAMS
 ABUT. NO. 1: CONCRETE FACED LAID UP STONE
 ABUT. NO. 2: CONCRETE FACED LAID UP STONE

**RIGHT OF WAY
 LAYOUT PLAN I**

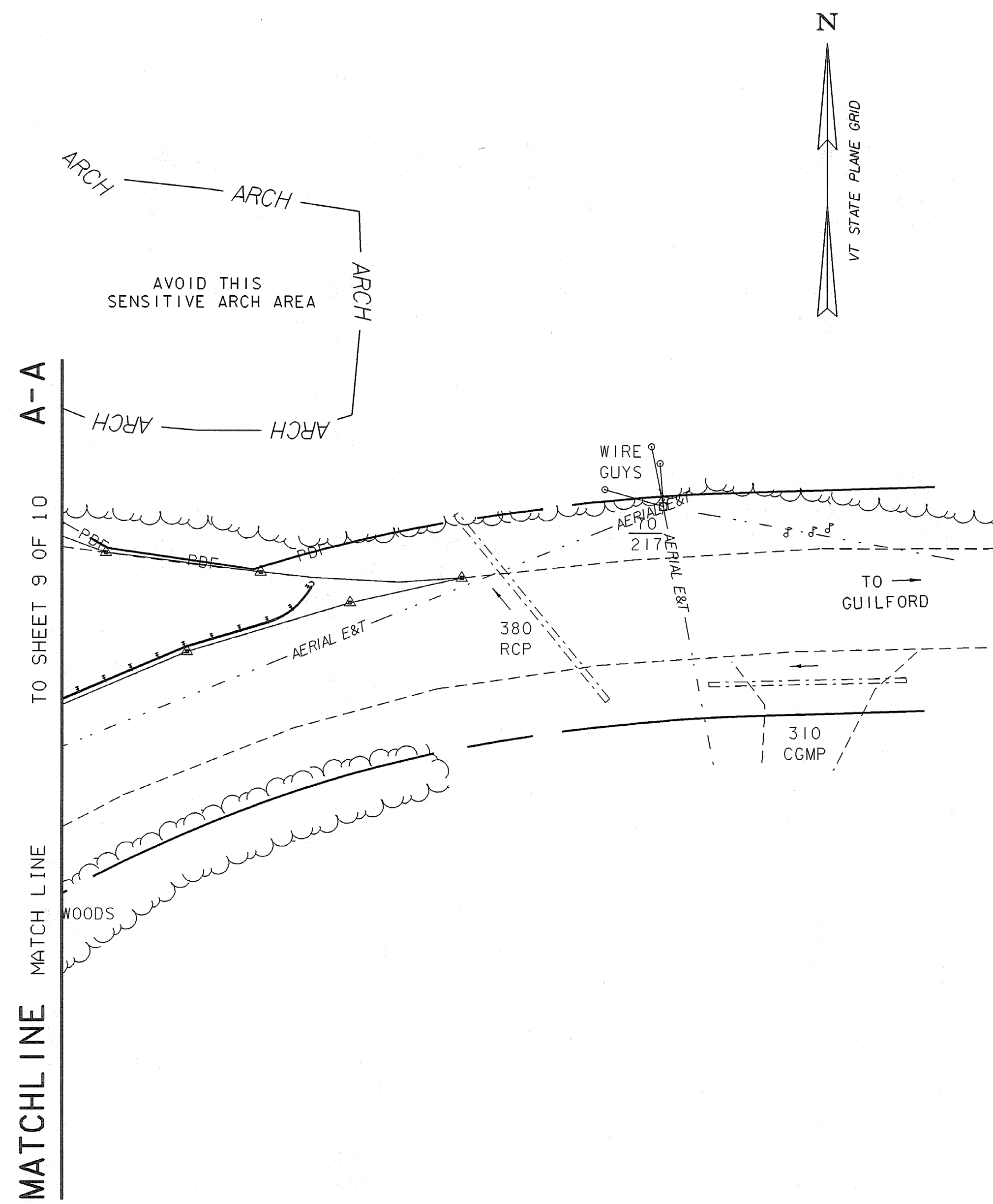
**FOR R.O.W.
 USE ONLY**

PROJECT NAME:	GUILFORD	PLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	L. BULLOCK
FILE NAME:	sj076101	DESIGNED BY:	J. PERRIGO
PROJECT LEADER:	R. WHITCOMB	CHECKED BY:	T. LUCKEY
R.O.W. SHEET 9 OF 10 SHEETS			SHEET 10 OF 59

TO SHEET 10 OF 10
MATCH LINE

STEEL BEAM GUARD RAIL, GALVANIZED
 CHAN 50+123.7 RT - CHAN 50+140.6 RT

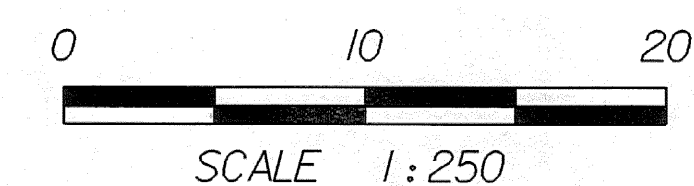
ANCHOR FOR STEEL BEAM RAIL
 CHAN 50+138.3 RT



**FOR R.O.W.
 USE ONLY**

LINES SHOWN ON THIS PLAN AS EXISTING
 PROPERTY LINES P/L ARE BELIEVED TO
 BE ACCURATE BUT SHOULD NOT BE RELIED
 UPON FOR PURPOSES UNRELATED TO THE
 TOWN OF GUILFORD'S ACQUISITION OF LAND
 AND RIGHTS FOR THIS PROJECT.

**RIGHT OF WAY
 LAYOUT PLAN 2**



PROJECT NAME:	GUILFORD	PLLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	L. BULLOCK
FILE NAME:	sj076102.1	CHECKED BY:	T. LACKEY
PROJECT LEADER:	R. WHITCOMB	R. O. W. SHEET 10 OF 10 SHEETS	SHEET 11 OF 59
DESIGNED BY:	J. PERRIGO		

GPS CONTROL POINTS

TT 5 FI RESET

SURFACE MARK IS A BENCH MARK DISK SET IN A ROCK OUTCROP. THE MARK IS STAMPED TT 5 FI 1942 RESET 1954.

APPROX. LATITUDE: 424824N
 APPROX. LONGITUDE: 0723700W
 APPROX. ELEVATION: 172M

LOCATION:

GUILFORD CENTER, VT., ABOUT 4.4 MI (7.1 KM) SOUTHWEST OF BRATTLEBORO, ABOUT 13.3 MI (21.4 KM) SOUTHEAST OF WILMINGTON, AND ABOUT 5.1 MI (8.2 KM) NORTH OF THE MASSACHUSETTS/VERMONT STATE LINE.

THE MARK IS 11.9 M (39.0 FT) NORTHWEST OF AND ABOUT 2.5 M (8.2 FT) LOWER THAN THE CENTERLINE OF THE GUILFORD CENTER ROAD, 1.7 M (5.6 FT) SOUTHEAST OF THE SOUTHWEST EDGE OF THE BRANCH OF THE BROAD BROOK, 37.9M (124.3 FT) SOUTHWEST OF POLE NO. 1/171/2-12/2/218, 3.4 M (11.2 FT) NORTH-NORTHWEST OF THE NORTH-NORTHWEST (OUTLET) END OF A 40 CM DIAMETER CONCRETE CULVERT, 2.8 M (9.2 FT) NORTHEAST OF A 50 CM PINE, AND 0.3 M (1.0 FT) NORTHWEST OF A FIBERGLASS WITNESS POST. IT IS SET IN THE TOP OF A 0.5 M (1.6 FT) X 1.0 M (3.3 FT) ROCK OUTCROP FLUSH WITH GROUND SURFACE.

GUIL TEMP 1

SURFACE MARK IS A METAL ROD DRIVEN INTO THE GROUND.

APPROX. LATITUDE: 424826N
 APPROX. LONGITUDE: 0723702W
 APPROX. ELEVATION: 177M

LOCATION:

GUILFORD CENTER, VT., ABOUT 4.4 MI (7.1 KM) SOUTHWEST OF BRATTLEBORO, ABOUT 13.3 MI (21.4 KM) SOUTHEAST OF WILMINGTON, AND ABOUT 5.1 MI (8.2 KM) NORTH OF THE MASSACHUSETTS/VERMONT STATE LINE.

THE MARK IS 13.6 M (44.6 FT) NORTHWEST OF AND ABOUT 1.0 M (3.3 FT) LOWER THAN THE CENTERLINE OF THE GUILFORD CENTER ROAD, 7.2 M (23.6 FT) SOUTH OF THE CENTERLINE OF BONNYVALE ROAD, 22.6 M (74.1 FT) NORTHEAST OF POLE NO. 1/171/2-12/2/218, 1.8 M (5.9 FT) SOUTHEAST OF "BONNYVALE ROAD" SIGN POST, AND 1.7 M (5.6 FT) SOUTHWEST OF THE SOUTHWEST EDGE OF PAVEMENT (ON CURVE) OF BONNYVALE ROAD. IT IS A CENTERPUNCHED REBAR SET FLUSH WITH GROUND SURFACE.

GUIL TEMP 2

SURFACE MARK IS A METAL ROD DRIVEN INTO THE GROUND.

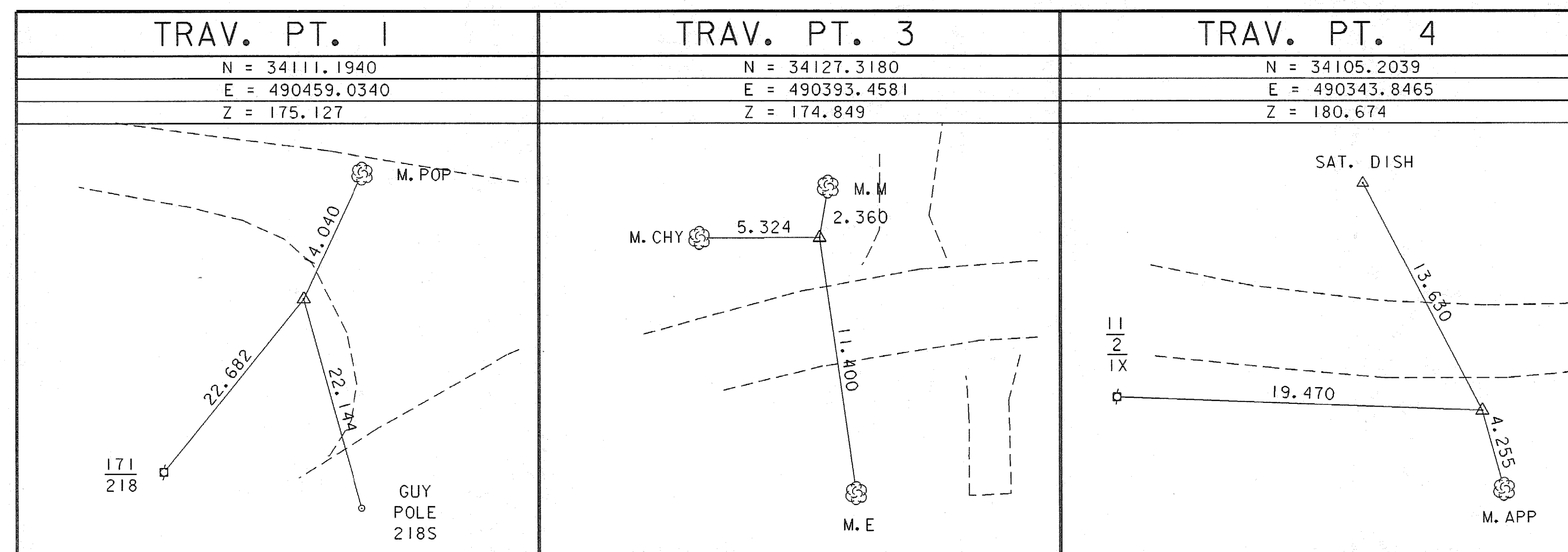
APPROX. LATITUDE: 424815N
 APPROX. LONGITUDE: 0723707W
 APPROX. ELEVATION: 182M

LOCATION:

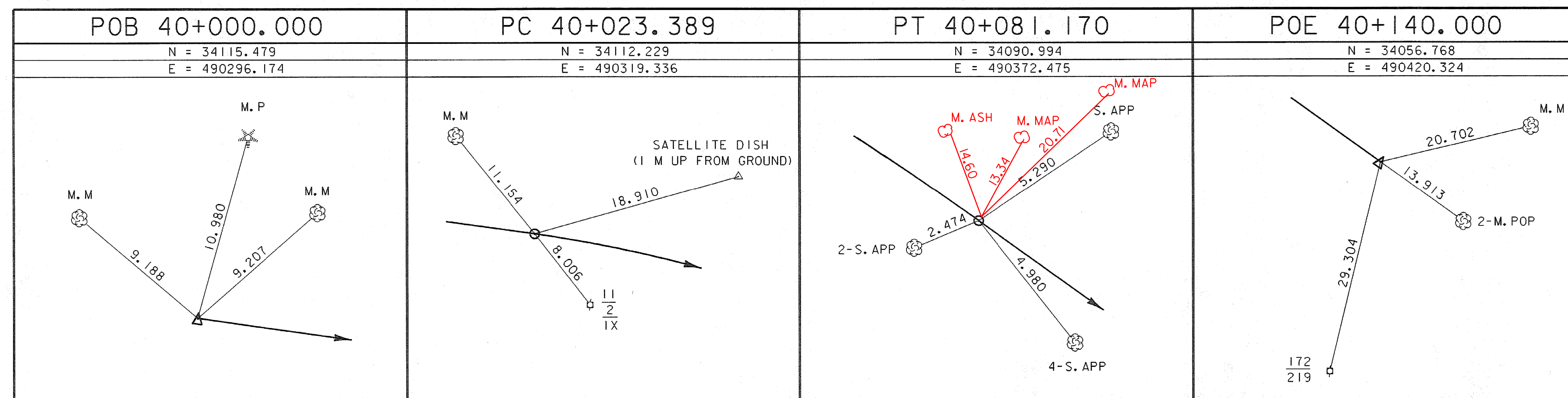
GUILFORD CENTER, VT., ABOUT 4.6 MI (7.4 KM) SOUTHWEST OF BRATTLEBORO, ABOUT 13.4 MI (21.6 KM) SOUTHEAST OF WILMINGTON, AND ABOUT 4.9 MI (7.9 KM) NORTH OF THE MASSACHUSETTS/VERMONT STATE LINE.

THE MARK IS 5.0 M (16.4 FT) WEST OF AND ABOUT 0.1 M (0.3 FT) LOWER THAN THE CENTERLINE OF THE GUILFORD CENTER ROAD, 5.8 M (19.0 FT) EAST OF THE EAST EDGE OF OF A BRANCH OF BROAD BROOK, 3.6 M (11.8 FT) SOUTH OF POLE NO. 222/1/176, 0.5 M (1.6 FT) WEST OF A METAL GUARD RAIL, AND 32.7 M (107.3 FT) SOUTH-SOUTHEAST OF THE SOUTHWEST CORNER OF THE MOBILE HOME. IT IS A CENTERPUNCHED REBAR 2 CM BELOW GROUND SURFACE.

TRAVERSE TIES



ALIGNMENT TIES



SURVEY TIES

PROJECT NAME: GUILFORD
 PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076+tie.1	PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: L. BULLOCK
DESIGNED BY: J. PERRIGO	CHECKED BY: T. LACKEY
94j076\structures\sj076+tie.dgn	SHEET 12 OF 59

DATUM
 VERTICAL NAVD 88
 HORIZONTAL NAD 83/92

6+039.2 LT - 6+043.3 RT
 REPLACE EXISTING 310 mm CGMP WITH
 NEW 450 mm X 10 800 mm OPTION PIPE
 INLET EL. 174.940; OUTLET EL. 174.540
 CONSTRUCT 900 mm X 1800 mm X 600 mm DEEP
 PAD STONE FILL, TYPE I @ OUTLET
 (SEE PIPE OPTIONS)

DRIVE #1 CURVE DATA
 $\Delta = 30^\circ 27' 45''$ RT
 R = 34.215
 T = 9.316
 L = 18.191
 E = 1.246
 BANK = N.C.

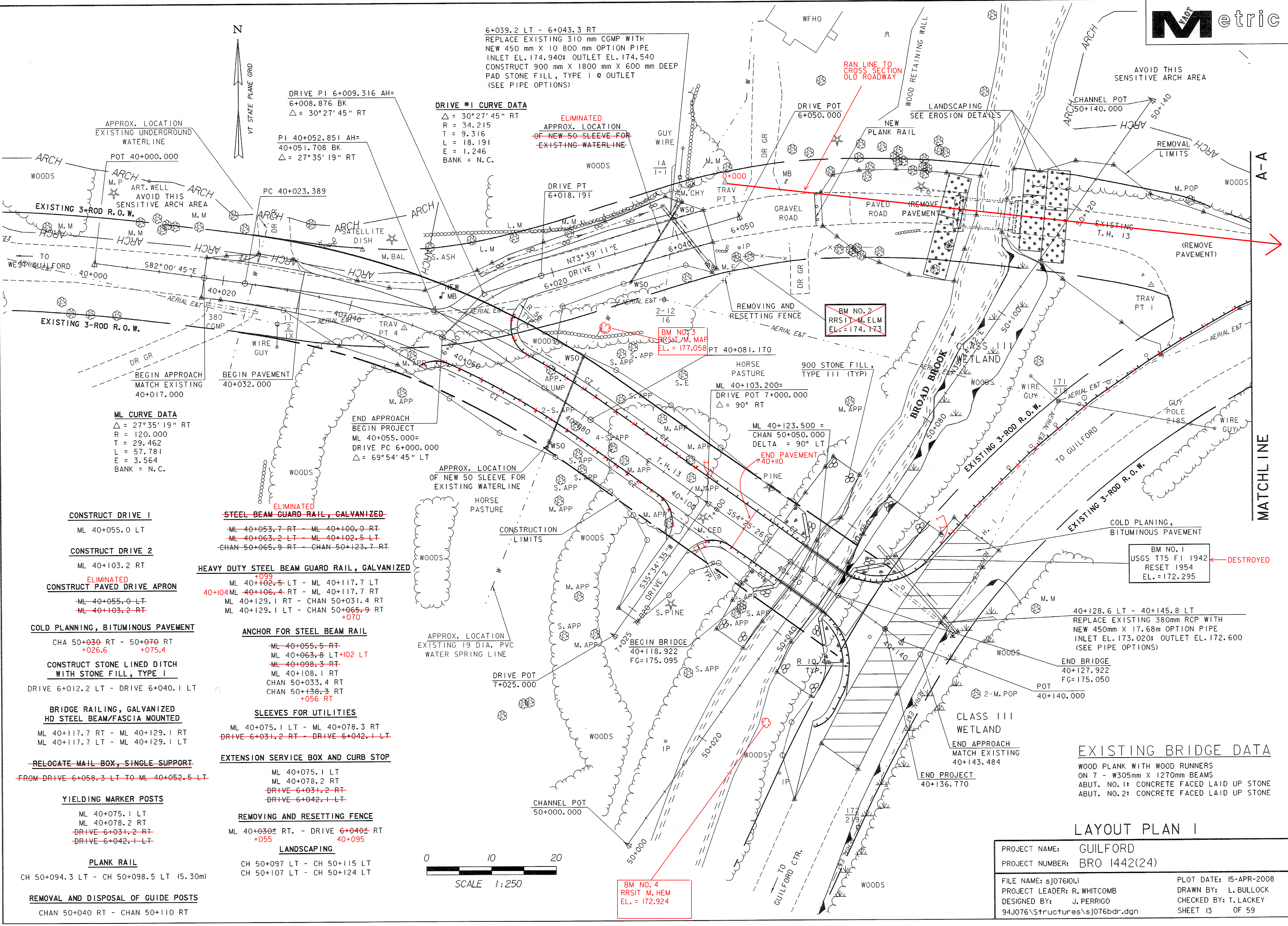
DRIVE PI 6+009.316 AH=
 6+008.876 BK
 $\Delta = 30^\circ 27' 45''$ RT
 PI 40+052.851 AH=
 40+051.708 BK
 $\Delta = 27^\circ 35' 19''$ RT

APPROX. LOCATION
 EXISTING UNDERGROUND
 WATERLINE

ELIMINATED
 APPROX. LOCATION
 OF NEW 50 SLEEVE FOR
 EXISTING WATERLINE

RAN LINE TO
 CROSS SECTION
 OLD ROADWAY

AVOID THIS
 SENSITIVE ARCH AREA



ML CURVE DATA
 $\Delta = 27^\circ 35' 19''$ RT
 R = 120.000
 T = 29.462
 L = 57.781
 E = 3.564
 BANK = N.C.

END APPROACH
 BEGIN PROJECT
 ML 40+055.000=
 DRIVE PC 6+000.000
 $\Delta = 69^\circ 54' 45''$ LT

ML 40+123.500 =
 CHAN 50+050.000
 DELTA = 90° LT
 END PAVEMENT
 40+110

CONSTRUCT DRIVE 1
 ML 40+055.0 LT

CONSTRUCT DRIVE 2
 ML 40+103.2 RT

**ELIMINATED
 CONSTRUCT PAVED DRIVE APRON**
~~ML 40+055.0 LT~~
~~ML 40+103.2 RT~~

COLD PLANING, BITUMINOUS PAVEMENT
 CHA 50+030 RT - 50+070 RT
 +026.6 +075.4

**CONSTRUCT STONE LINED DITCH
 WITH STONE FILL, TYPE I**
 DRIVE 6+012.2 LT - DRIVE 6+040.1 LT

**BRIDGE RAILING, GALVANIZED
 HD STEEL BEAM/FASCIA MOUNTED**
 ML 40+117.7 RT - ML 40+129.1 RT
 ML 40+117.7 LT - ML 40+129.1 LT

RELOCATE MAIL BOX, SINGLE SUPPORT
 FROM DRIVE 6+058.3 LT TO ML 40+052.5 LT

YIELDING MARKER POSTS
 ML 40+075.1 LT
 ML 40+078.2 RT
 DRIVE 6+031.2 RT
 DRIVE 6+042.1 LT

PLANK RAIL
 CH 50+094.3 LT - CH 50+098.5 LT (5.30m)

REMOVAL AND DISPOSAL OF GUIDE POSTS
 CHAN 50+040 RT - CHAN 50+110 RT

**ELIMINATED
 STEEL BEAM GUARD RAIL, GALVANIZED**
~~ML 40+053.7 RT~~ ~~ML 40+100.0 RT~~
~~ML 40+063.2 LT~~ ~~ML 40+102.5 LT~~
~~CHAN 50+065.9 RT~~ ~~CHAN 50+123.7 RT~~

HEAVY DUTY STEEL BEAM GUARD RAIL, GALVANIZED
 +099
 ML 40+102.5 LT - ML 40+117.7 LT
 40+104 ML 40+106.4 RT - ML 40+117.7 RT
 ML 40+129.1 RT - CHAN 50+031.4 RT
 ML 40+129.1 LT - CHAN 50+065.9 RT
 +070

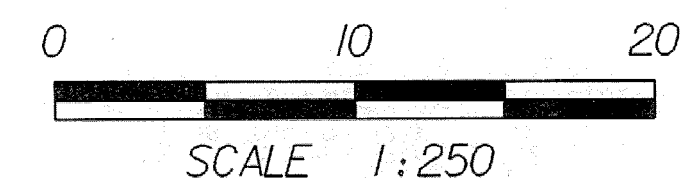
ANCHOR FOR STEEL BEAM RAIL
 ML 40+055.5 RT
 ML 40+063.8 LT+02 LT
 ML 40+098.3 RT
 ML 40+108.1 RT
 CHAN 50+033.4 RT
 CHAN 50+138.3 RT
 +056 RT

SLEEVES FOR UTILITIES
 ML 40+075.1 LT - ML 40+078.3 RT
 DRIVE 6+031.2 RT - DRIVE 6+042.1 LT

EXTENSION SERVICE BOX AND CURB STOP
 ML 40+075.1 LT
 ML 40+078.2 RT
 DRIVE 6+031.2 RT
 DRIVE 6+042.1 LT

REMOVING AND RESETTING FENCE
 ML 40+030 RT - DRIVE 6+040 RT
 +055 40+095

LANDSCAPING
 CH 50+097 LT - CH 50+115 LT
 CH 50+107 LT - CH 50+124 LT



BM NO. 4
 RRSIT M. HEM
 EL. = 172.924

EXISTING BRIDGE DATA

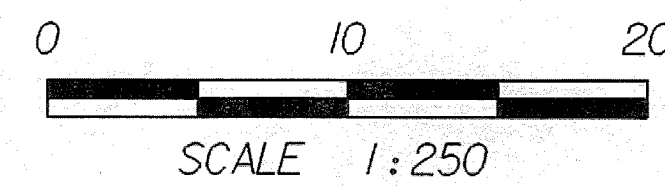
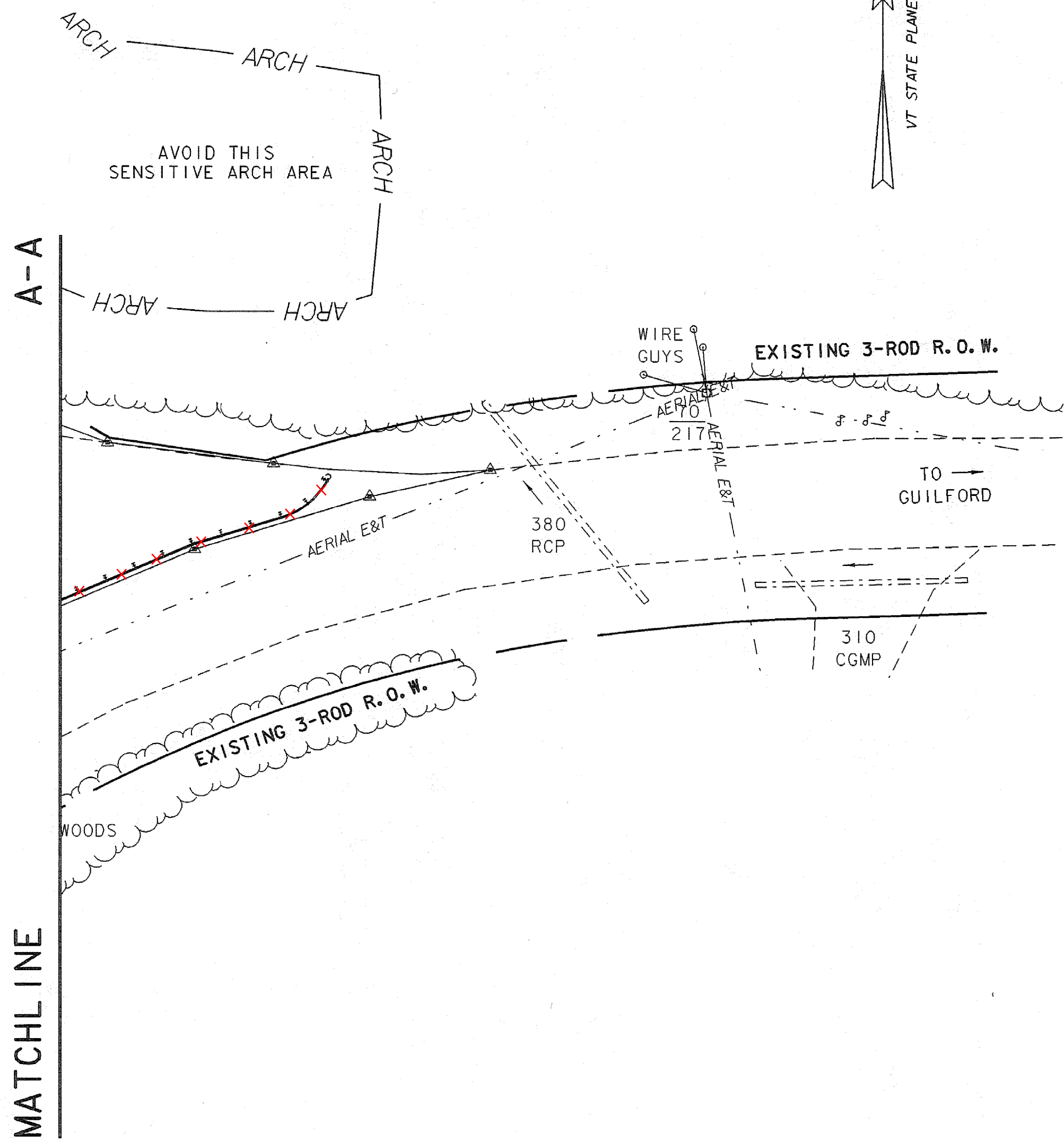
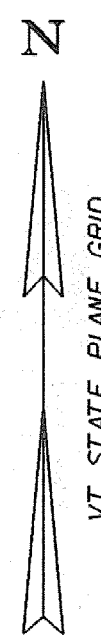
WOOD PLANK WITH WOOD RUNNERS
 ON 7 - W305mm X 1270mm BEAMS
 ABUT. NO. 1: CONCRETE FACED LAID UP STONE
 ABUT. NO. 2: CONCRETE FACED LAID UP STONE

LAYOUT PLAN I

PROJECT NAME:	GUILFORD	FILE NAME:	sJ076I01	PLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	PROJECT LEADER:	R. WHITCOMB	DRAWN BY:	L. BULLOCK
		DESIGNED BY:	J. PERRIGO	CHECKED BY:	T. LACKEY
		94J076\Structures\sJ076bdr.dgn		SHEET 13	OF 59

~~ELIMINATED~~
~~STEEL BEAM GUARD RAIL, GALVANIZED~~
~~CHAN 50+123.7 RT CHAN 50+140.6 RT~~

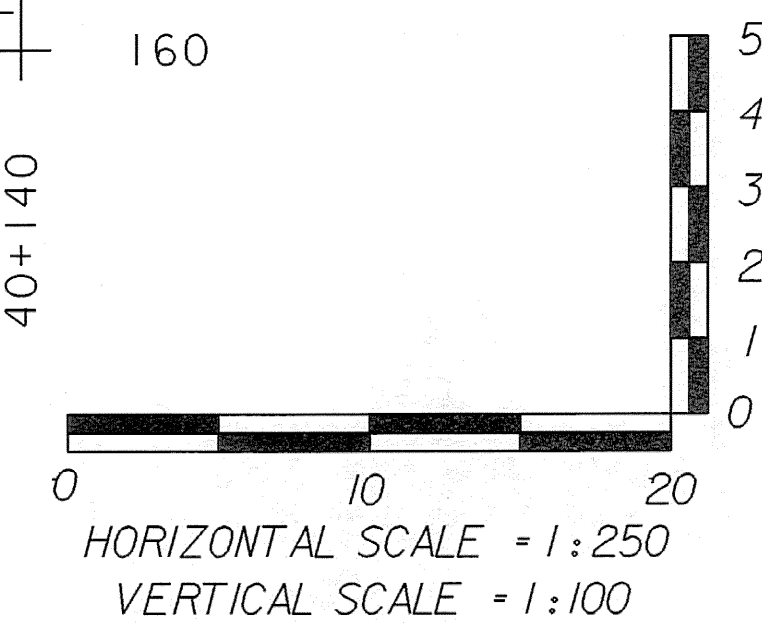
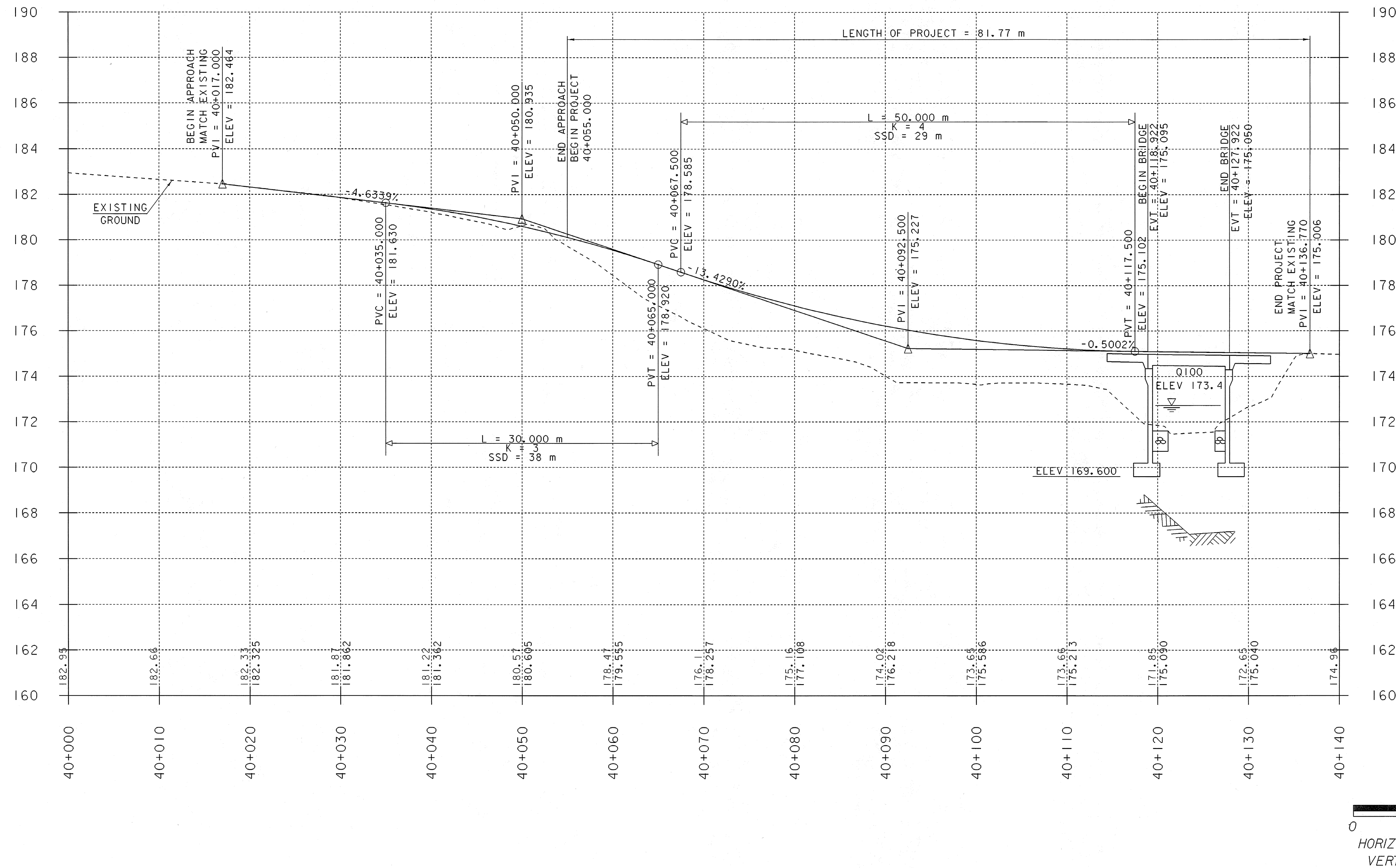
ANCHOR FOR STEEL BEAM RAIL
 CHAN 50+138.3 RT
 +066



LAYOUT PLAN 2

PROJECT NAME: GUILFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: L. BULLOCK
FILE NAME: sj076102.i	DESIGNED BY: J. PERRIGO
94J076\Structures\sj076bdr.dgn	CHECKED BY: T. LACKEY
	SHEET 14 OF 59

Profile



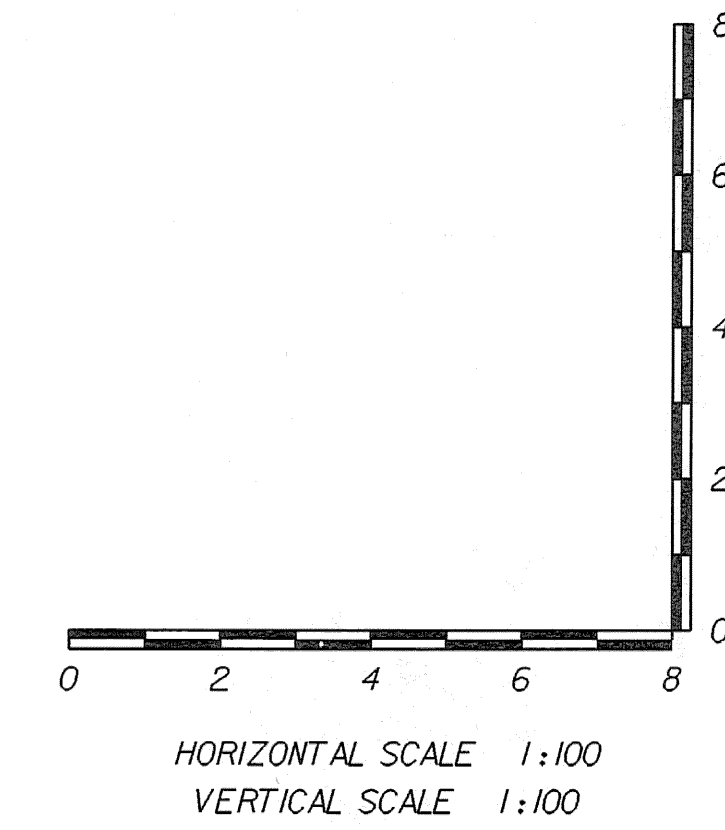
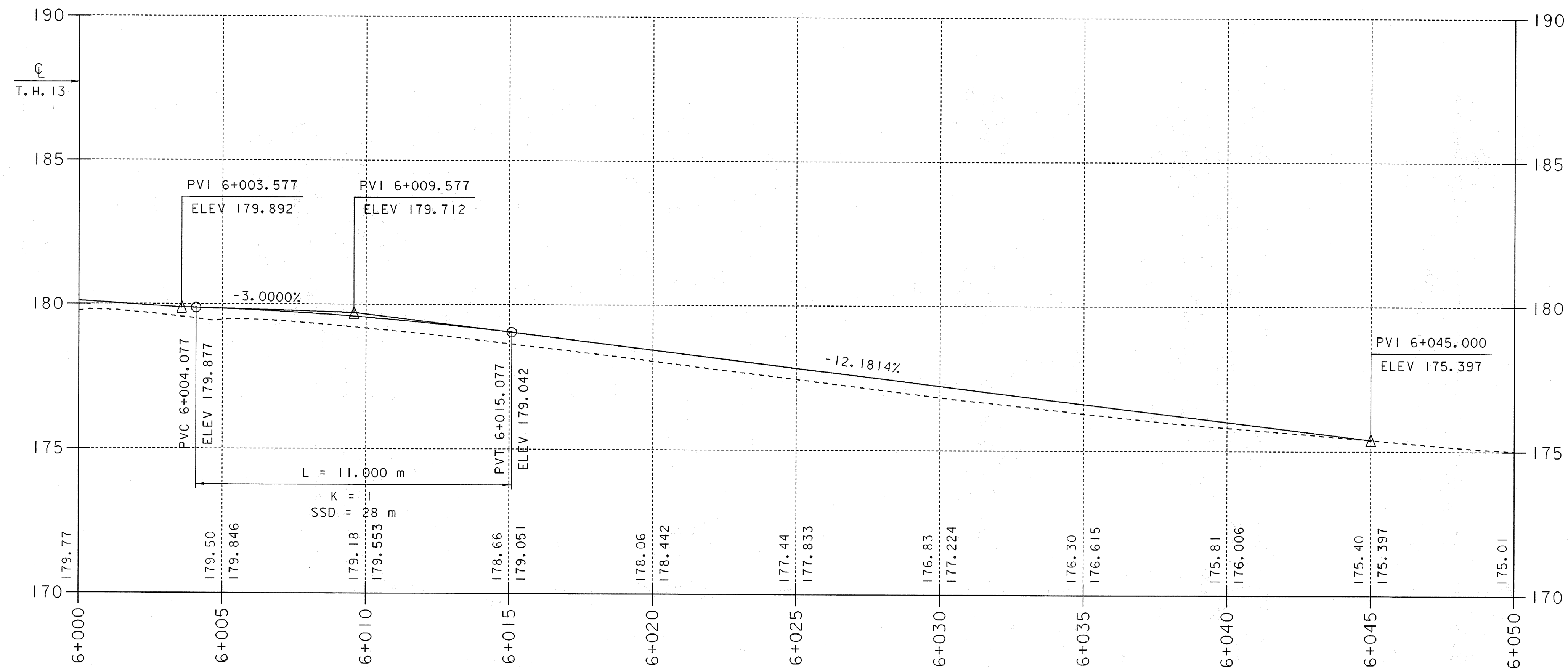
MAINLINE PROFILE

PROJECT NAME:	GUILFORD	PLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	T. LACKEY
FILE NAME:	sj076pfl1	DESIGNED BY:	T. LACKEY
PROJECT LEADER:	R. WHITCOMB	CHECKED BY:	J. PERRIGO
94\076\Structures\sj076xs3.dgn		SHEET	15 OF 59

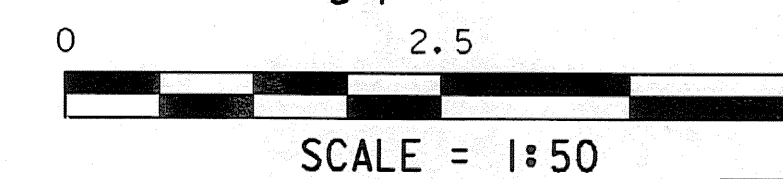
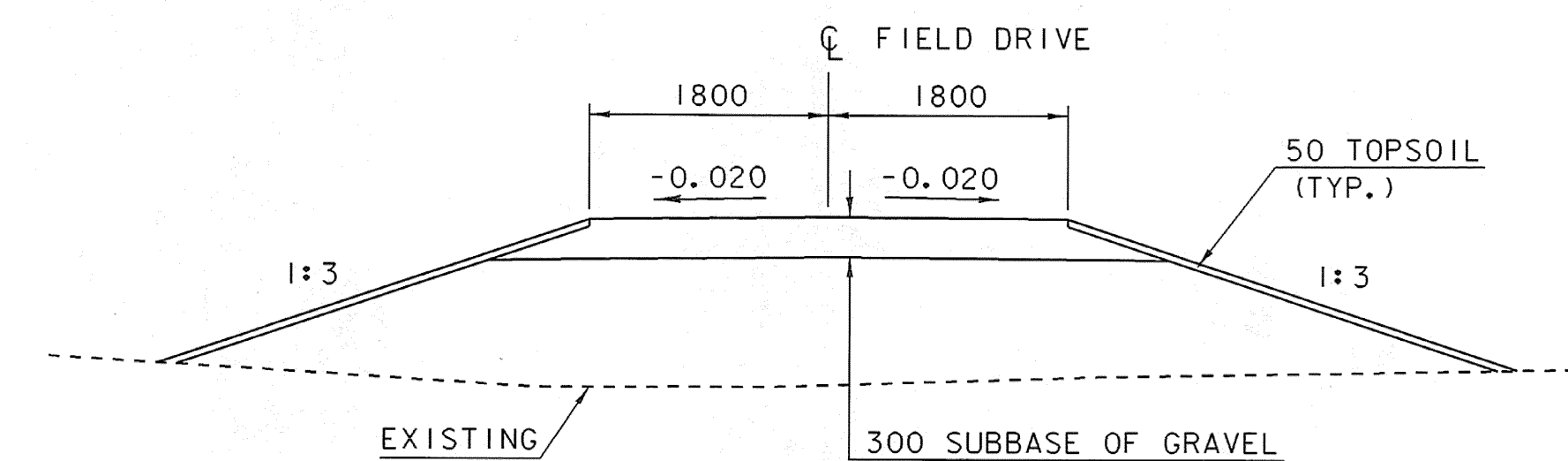
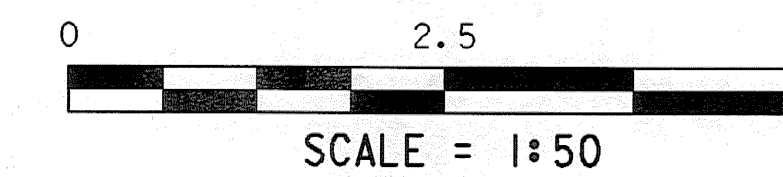
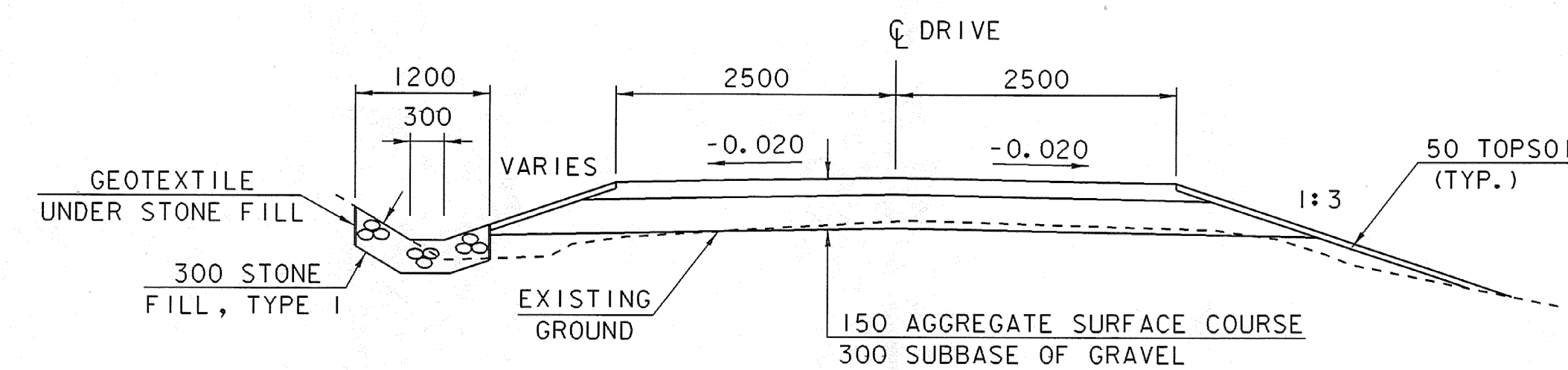
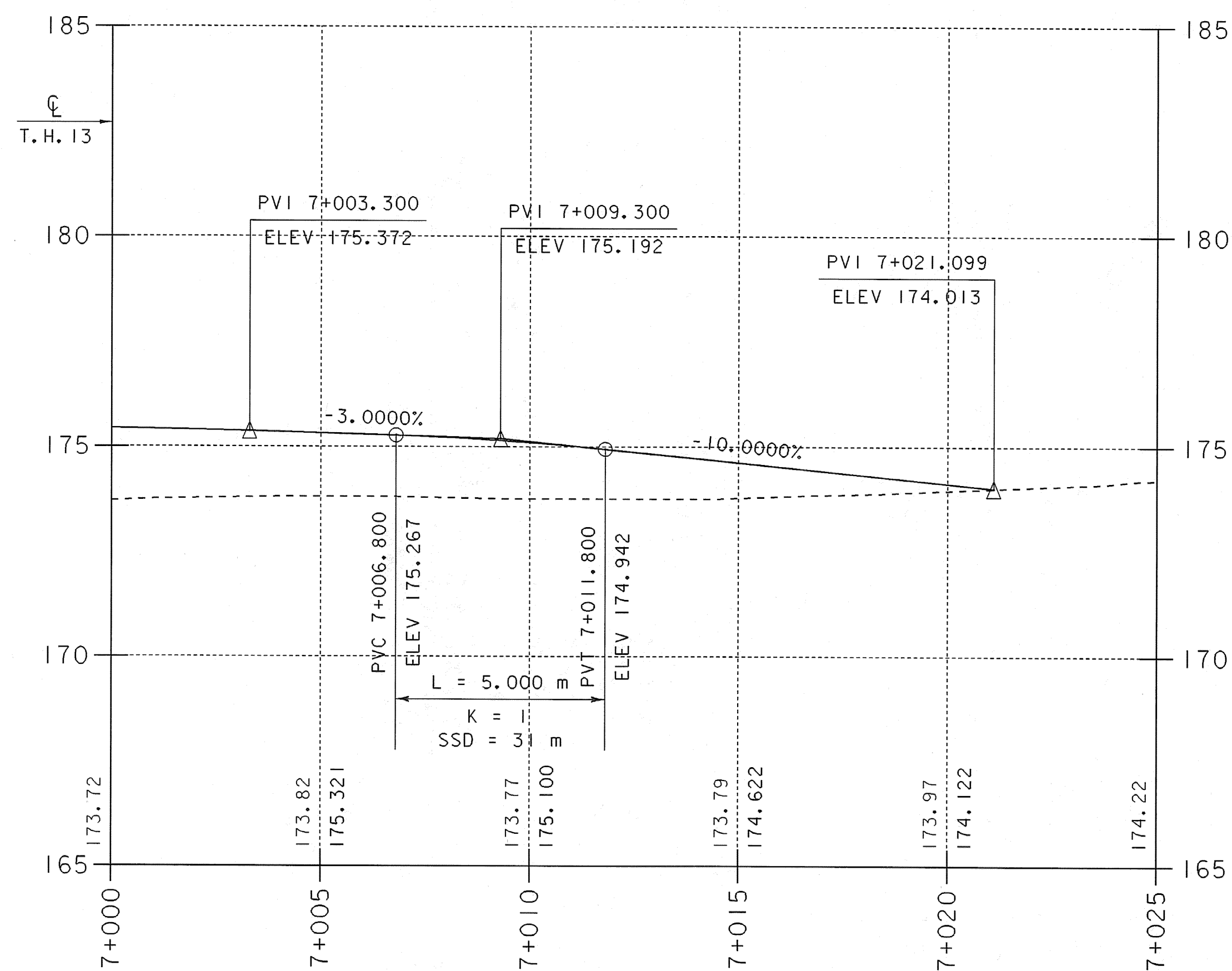
NOTES:

- ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH METER ARE EXISTING GROUND ALONG CENTERLINE.
- ELEVATIONS SHOWN TO THE NEAREST THOUSANDTH METER ARE FINAL GRADE ALONG CENTERLINE.

Drive #1 Profile (ML STA. 40+055 LT.)



Drive #2 Profile (ML STA. 40+103.2 RT.)



DRIVE PROFILES

NOTES:

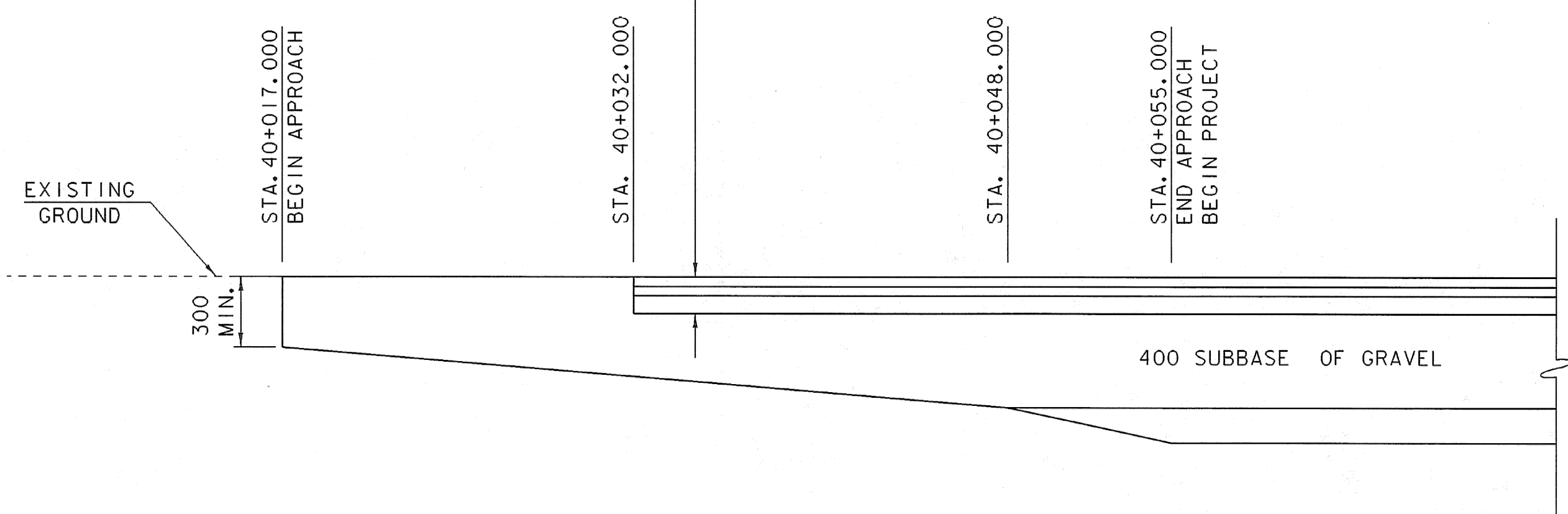
- ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH METER ARE EXISTING GROUND ALONG CENTERLINE.
- ELEVATIONS SHOWN TO THE NEAREST THOUSANDTH METER ARE FINAL GRADE ALONG CENTERLINE.

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

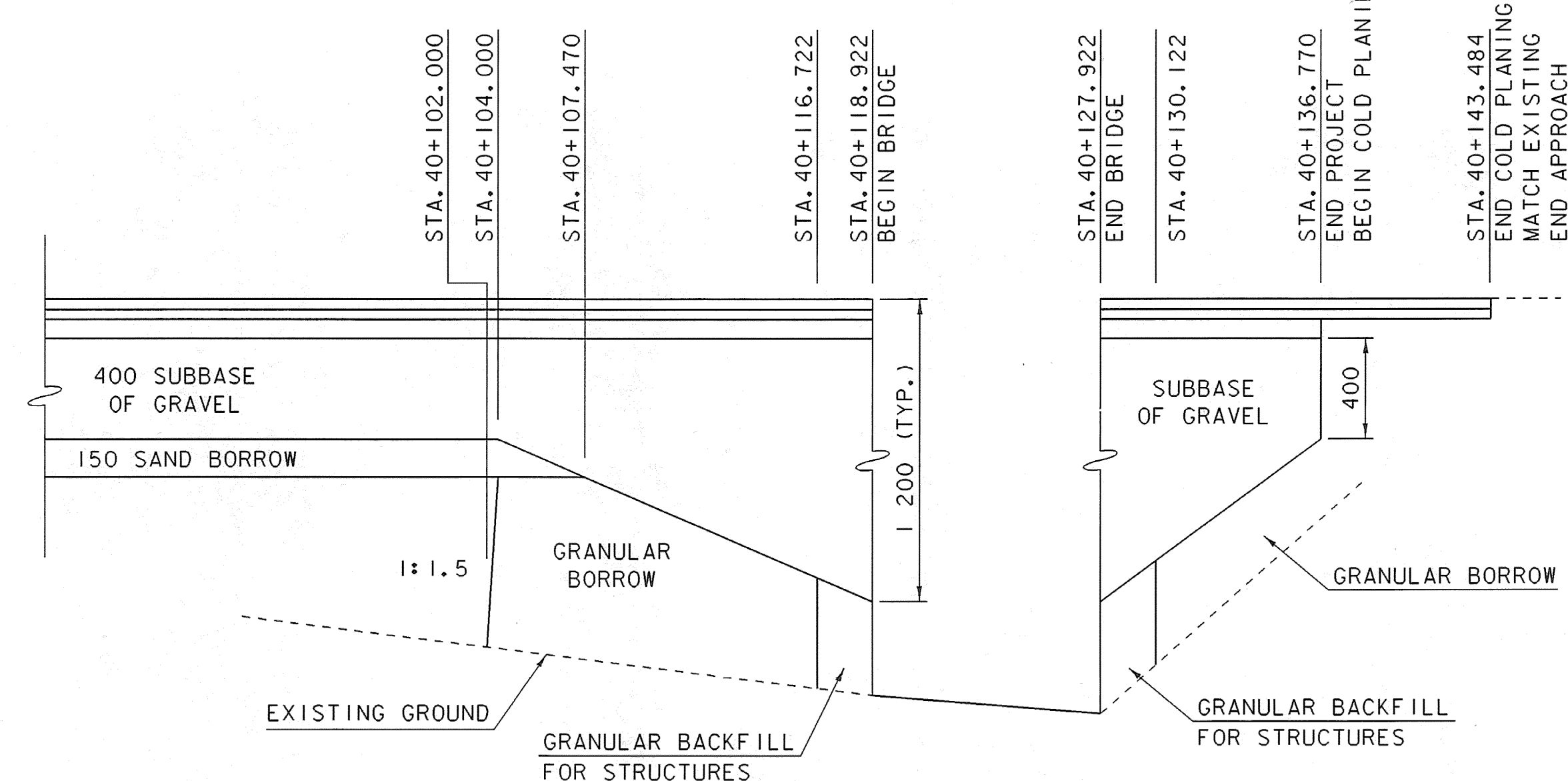
FILE NAME: sj076pf2.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
94J076\Structures\sj076xs3.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: J. PERRIGO
SHEET 16 OF 59

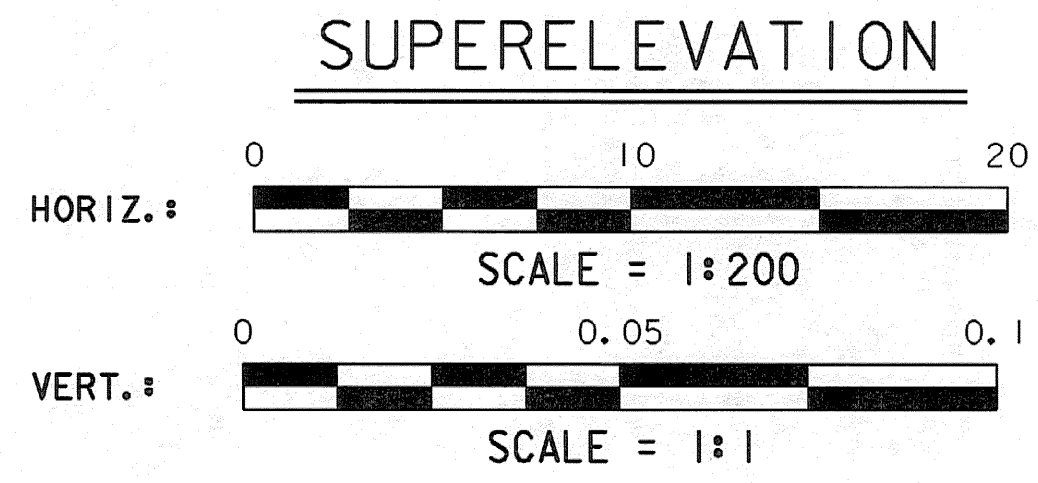
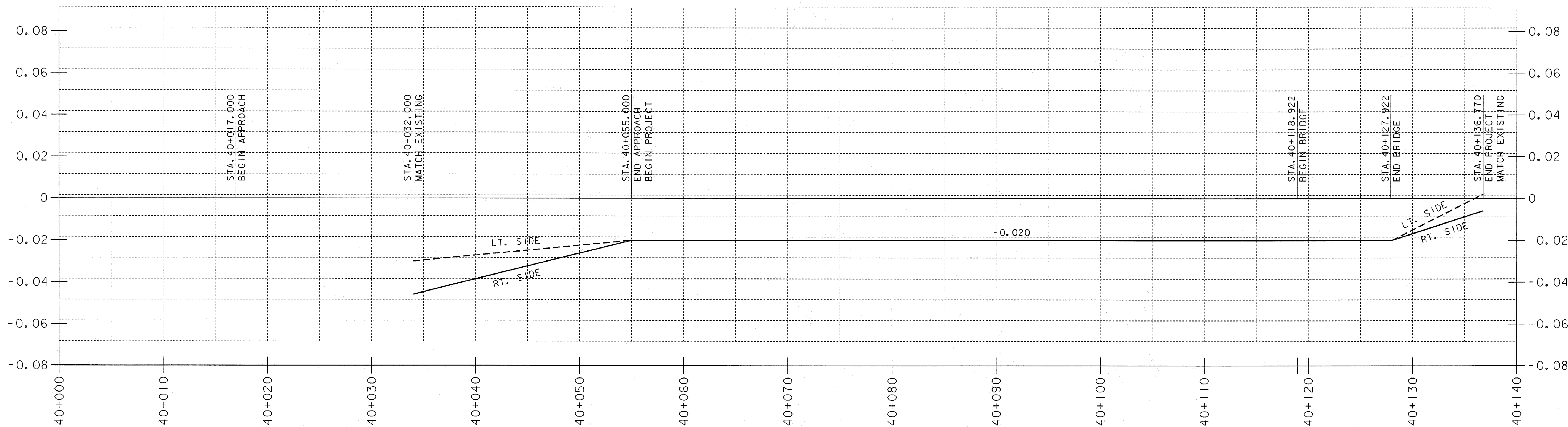
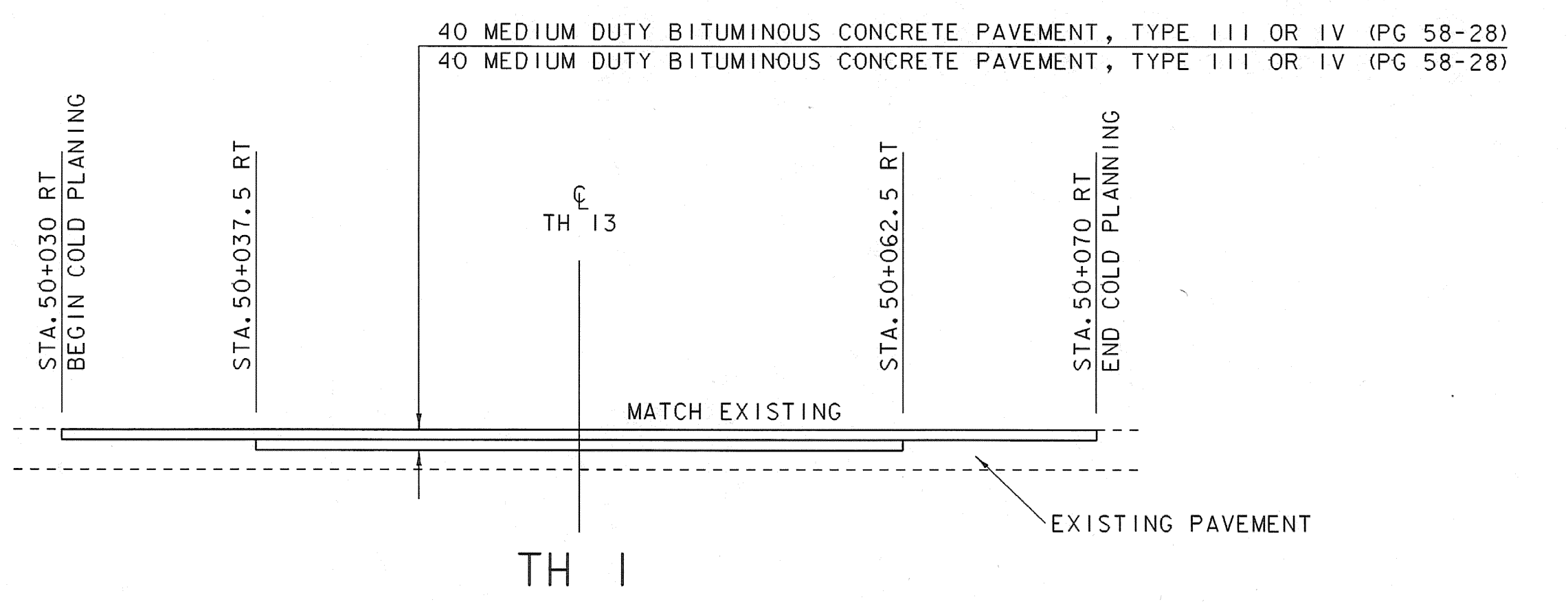
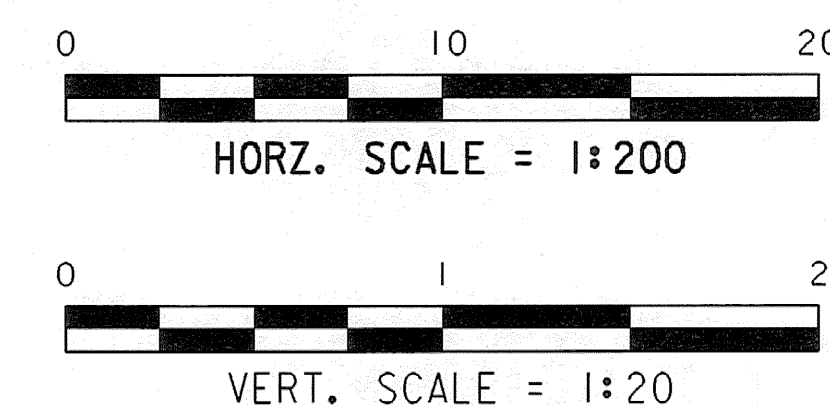
40 MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT, TYPE III OR IV (PG 58-28)
 40 MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT, TYPE III OR IV (PG 58-28)
 75 MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT, TYPE I OR II (PG 58-28)



TH 13

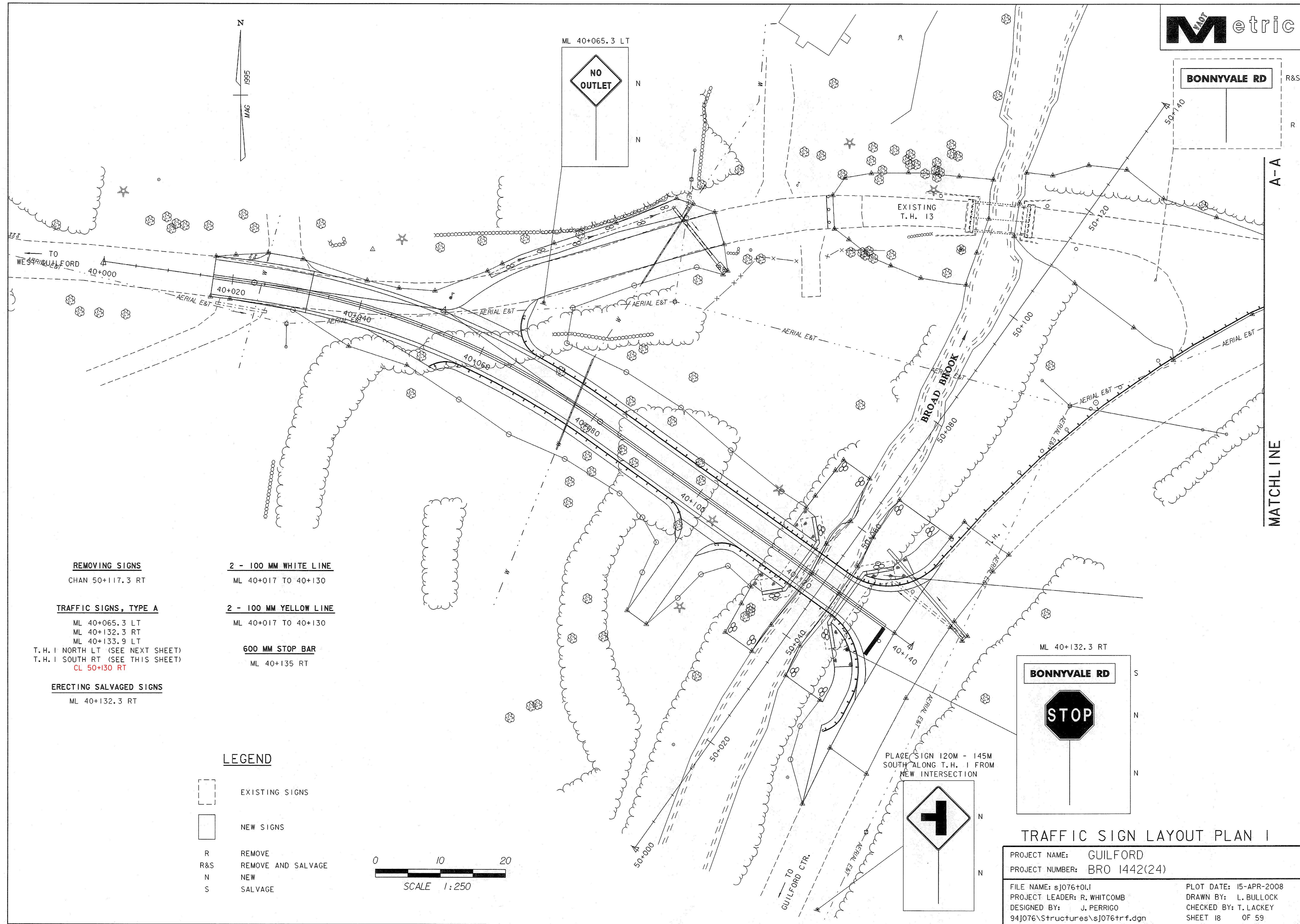


MATERIAL TRANSITION DETAILS



MATERIAL TRANSITION & SUPERELEVATION

PROJECT NAME:	GUILFORD	PLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	T. LACKEY
FILE NAME:	sj076mat.i	CHECKED BY:	J. PERRIGO
PROJECT LEADER:	R. WHITCOMB	SHEET	17 OF 59
DESIGNED BY:	T. LACKEY		
94j076\structures\sj076xs3.dgn			



REMOVING SIGNS
 CHAN 50+117.3 RT

2 - 100 MM WHITE LINE
 ML 40+017 TO 40+130

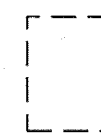

TRAFFIC SIGNS, TYPE A
 ML 40+065.3 LT
 ML 40+132.3 RT
 ML 40+133.9 LT
 T.H. 1 NORTH LT (SEE NEXT SHEET)
 T.H. 1 SOUTH RT (SEE THIS SHEET)
 CL 50+130 RT

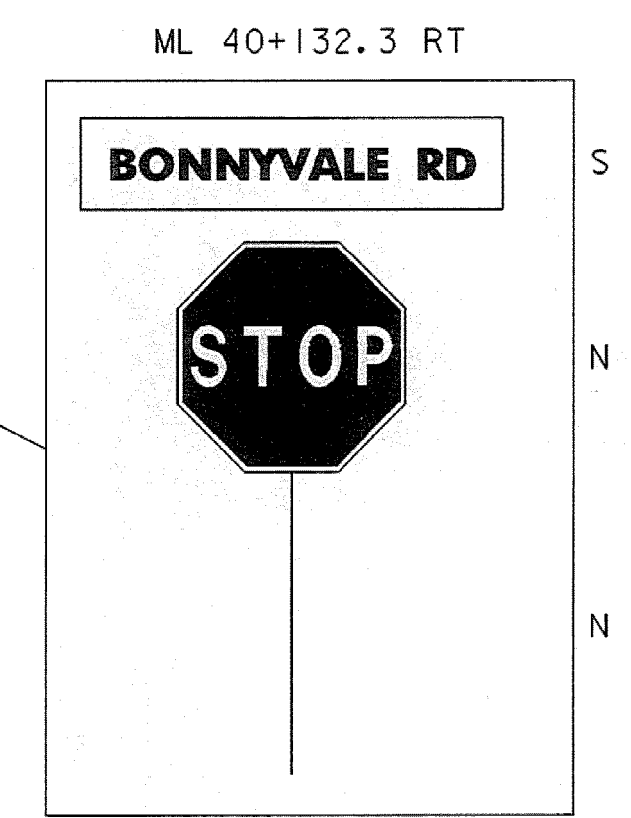
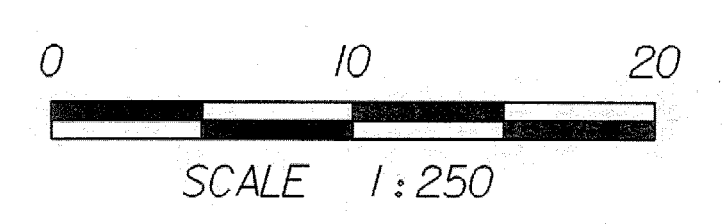
2 - 100 MM YELLOW LINE
 ML 40+017 TO 40+130

600 MM STOP BAR
 ML 40+135 RT

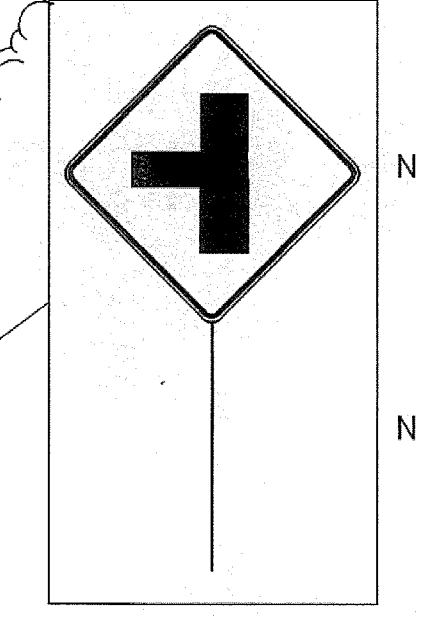
ERECTING SALVAGED SIGNS
 ML 40+132.3 RT

LEGEND

-  EXISTING SIGNS
-  NEW SIGNS
- R REMOVE
- R&S REMOVE AND SALVAGE
- N NEW
- S SALVAGE

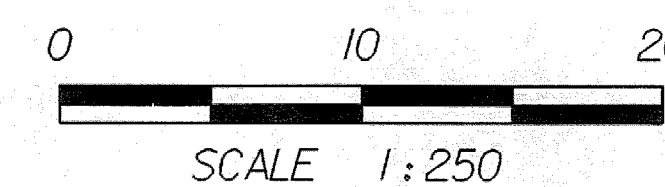
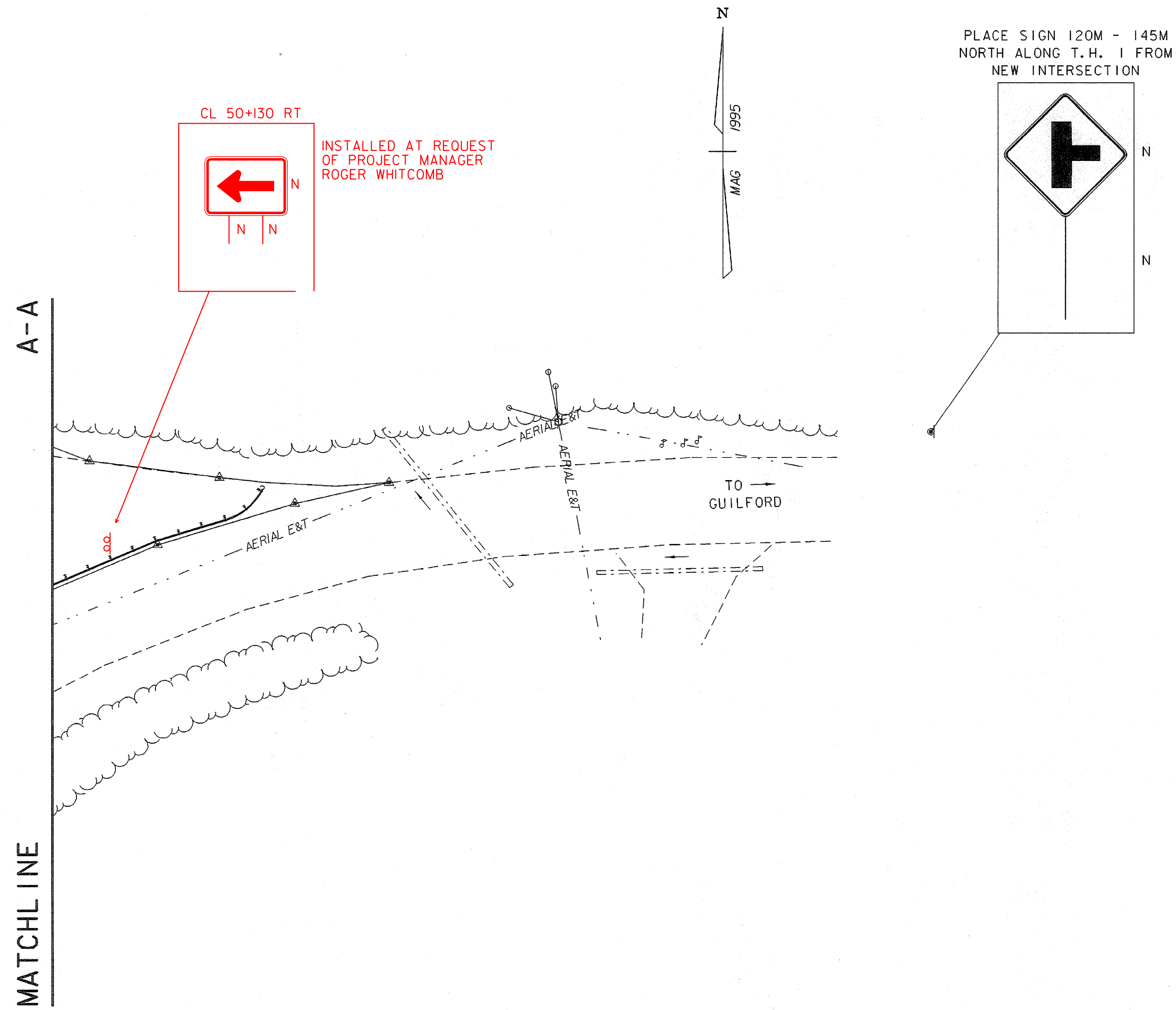


PLACE SIGN 120M - 145M SOUTH ALONG T.H. 1 FROM NEW INTERSECTION



TRAFFIC SIGN LAYOUT PLAN 1

PROJECT NAME:	GUILFORD	PLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	L. BULLOCK
FILE NAME:	sj076+01.I	DESIGNED BY:	J. PERRIGO
		CHECKED BY:	T. LACKEY
			SHEET 18 OF 59



TRAFFIC SIGN LAYOUT PLAN 2

PROJECT NAME: GUILFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: L. BULLOCK
FILE NAME: sj076+02.i	CHECKED BY: T. LACKEY
PROJECT LEADER: R. WHITCOMB	SHEET 19 OF 59
DESIGNED BY: J. PERRIGO	
94j076\Structures\sj076trf.dgn	

SOIL CLASSIFICATION

AASHTO	
A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN kPa	CONSISTENCY
<12	Very Soft
12-24	Soft
24-48	Med. Stiff
48-96	Stiff
96-192	Very Stiff
>192	Hard

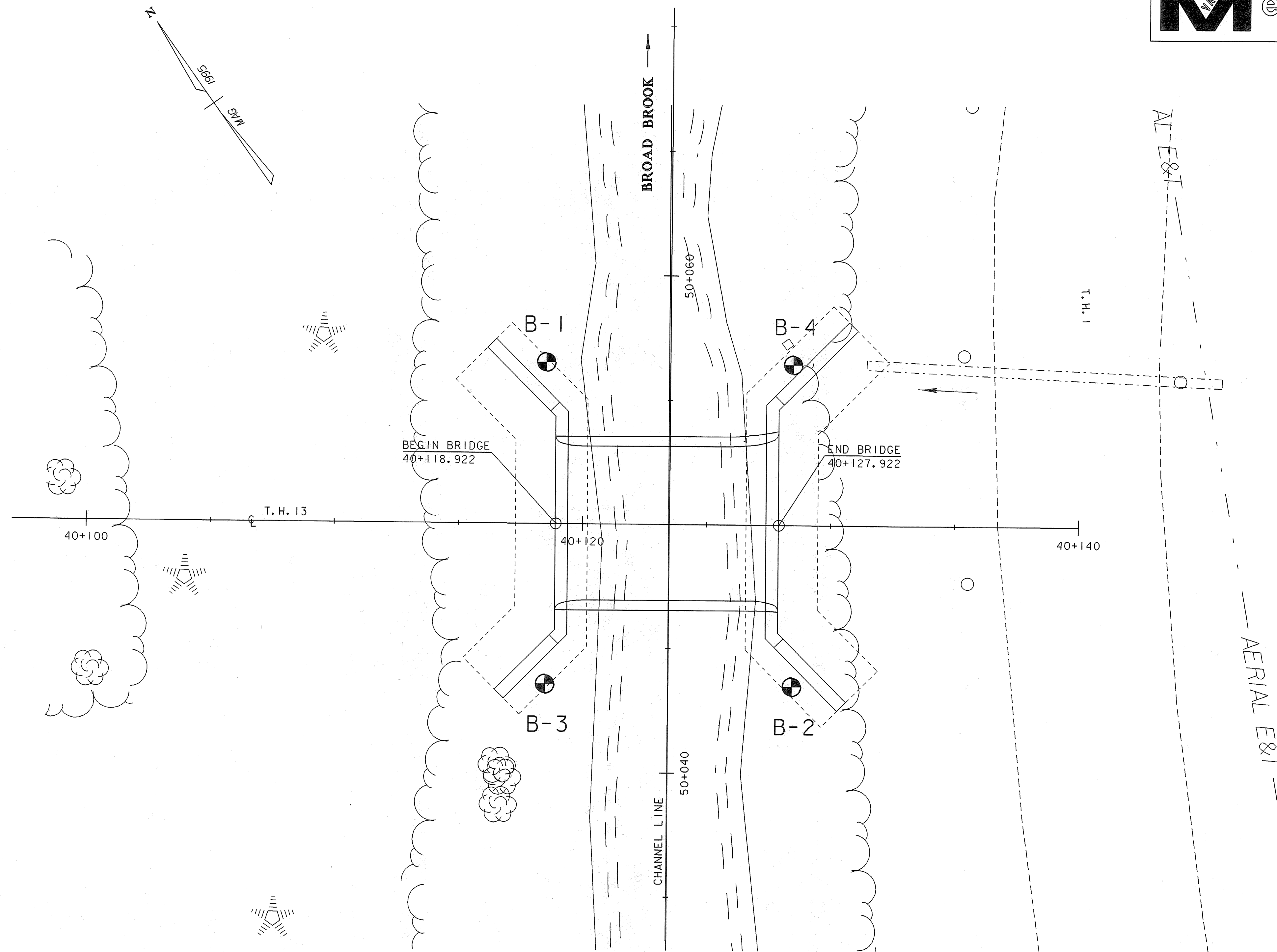
CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

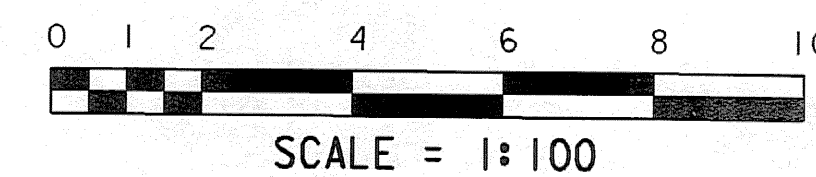
COMMONLY USED SYMBOLS

▼	Water Elevation
⊕	Standard Penetration Boring
⊕	Auger Boring
○	Rod Sounding
S	Sample
N	Standard Penetration Test
	Blow Count Per 300 mm For:
	50.8 mm O.D. Sampler
	35.0 mm I.D. Sampler
	Hammer Weight Of 63.5 kg.
	Hammer Fall Of 762 mm
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 30.1 mm
BX	Core Size 42.0 mm
NX	Core Size 54.7 mm
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
ROD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)

COLOR			
blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		



BORING CHART



DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.	VARVED - Alternate layers of silt and clay.
BOULDER - A rock fragment with an average dimension > 304.8 mm.	HARDPAN - Extremely dense soil, cemented layer, not softened when wet.
COBBLE - Rock fragments with an average dimension between 76.2 and 304.8 mm.	MUCK - Soft organic soil (containing > 10% organic material).
GRAVEL - Rounded particles of rock < 76.2 mm and > 2 mm (#10 sieve).	MOISTURE CONTENT - Weight of water divided by dry weight of soil.
SAND - Particles of rock < 2 mm (#10 sieve) and > 75 μm (#200 sieve).	FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
SILT - Soil < 75 μm (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.	STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.
CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.	DIP - Inclination of bed with a horizontal plane.

GENERAL NOTES

- The subsurface explorations shown herein were made between 6/17/99 and 10/21/04 by the Agency.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

BORING CHART

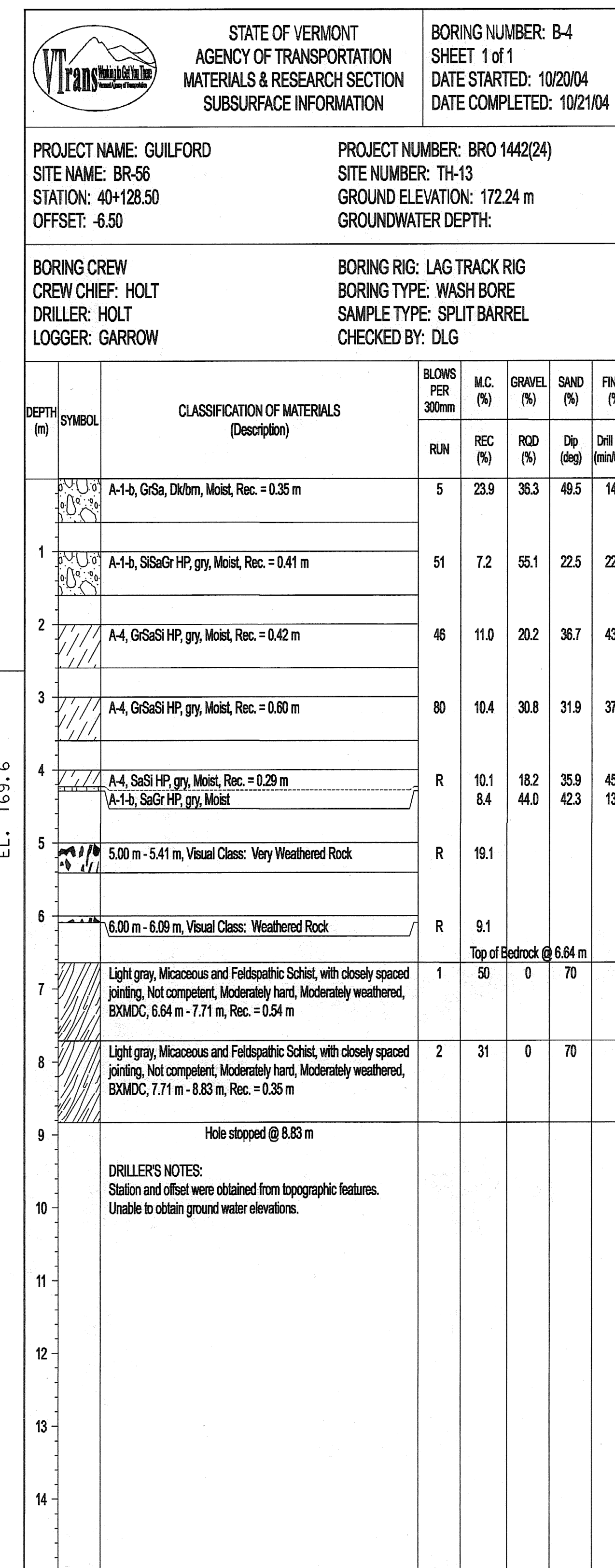
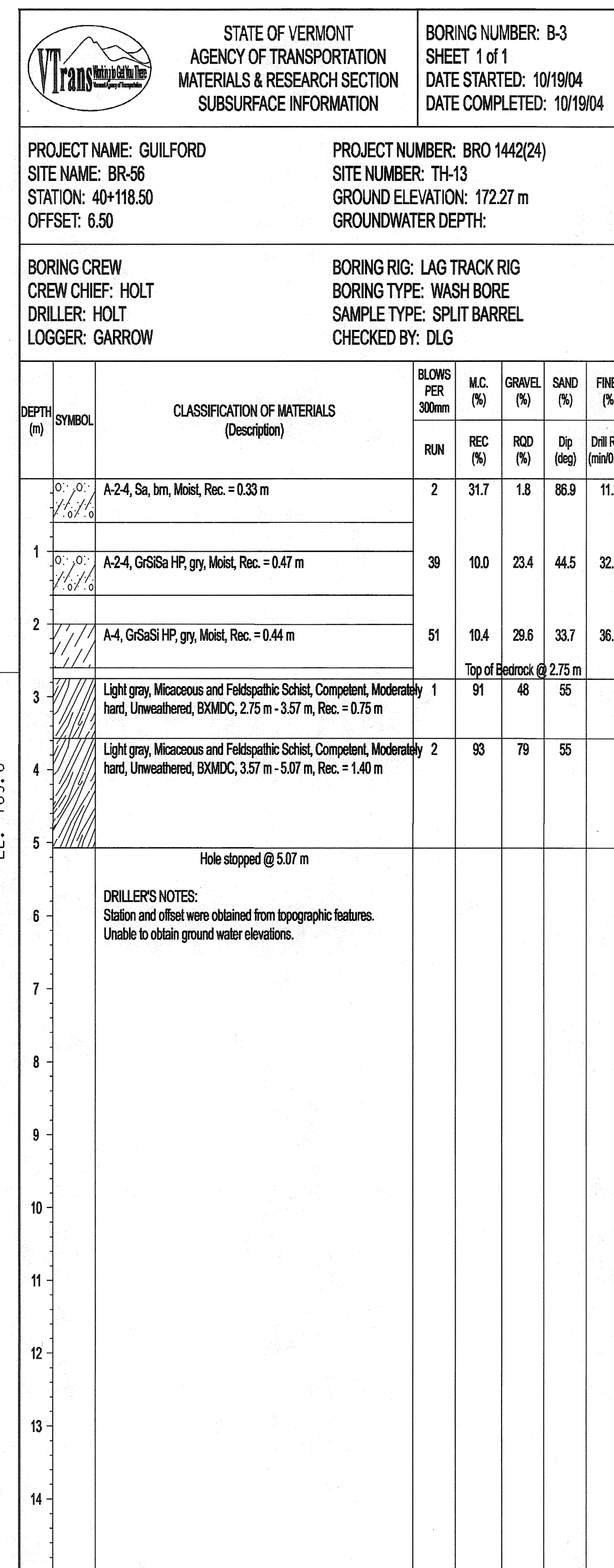
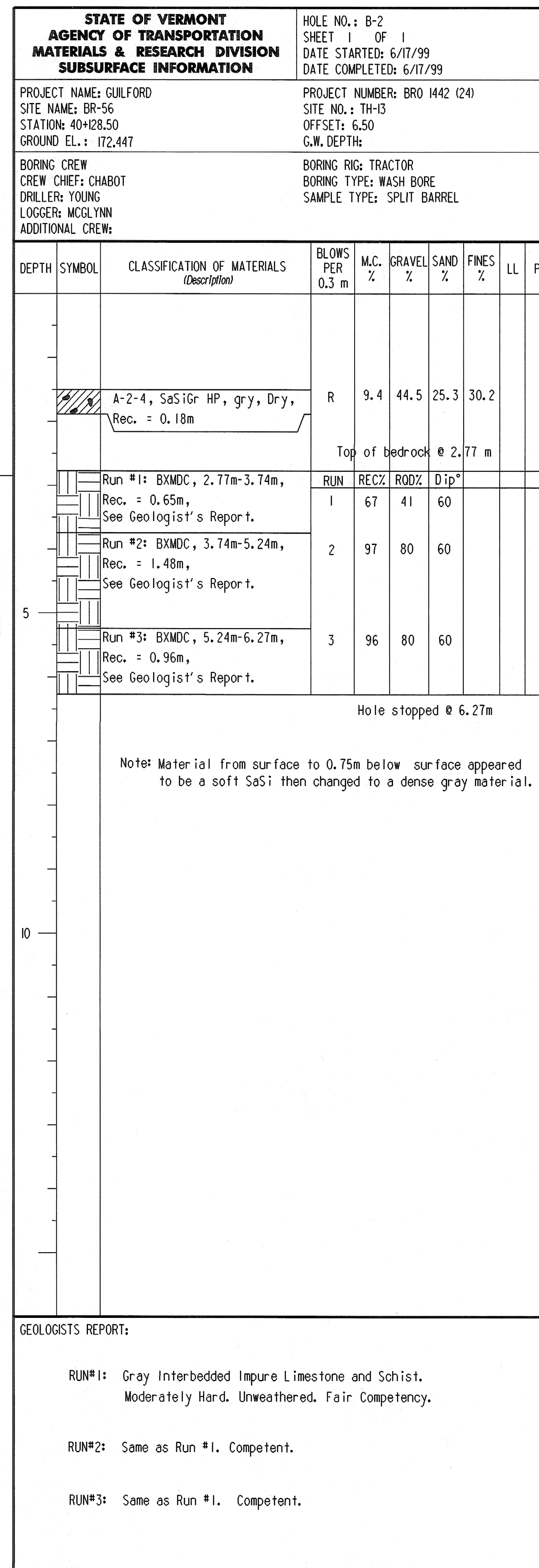
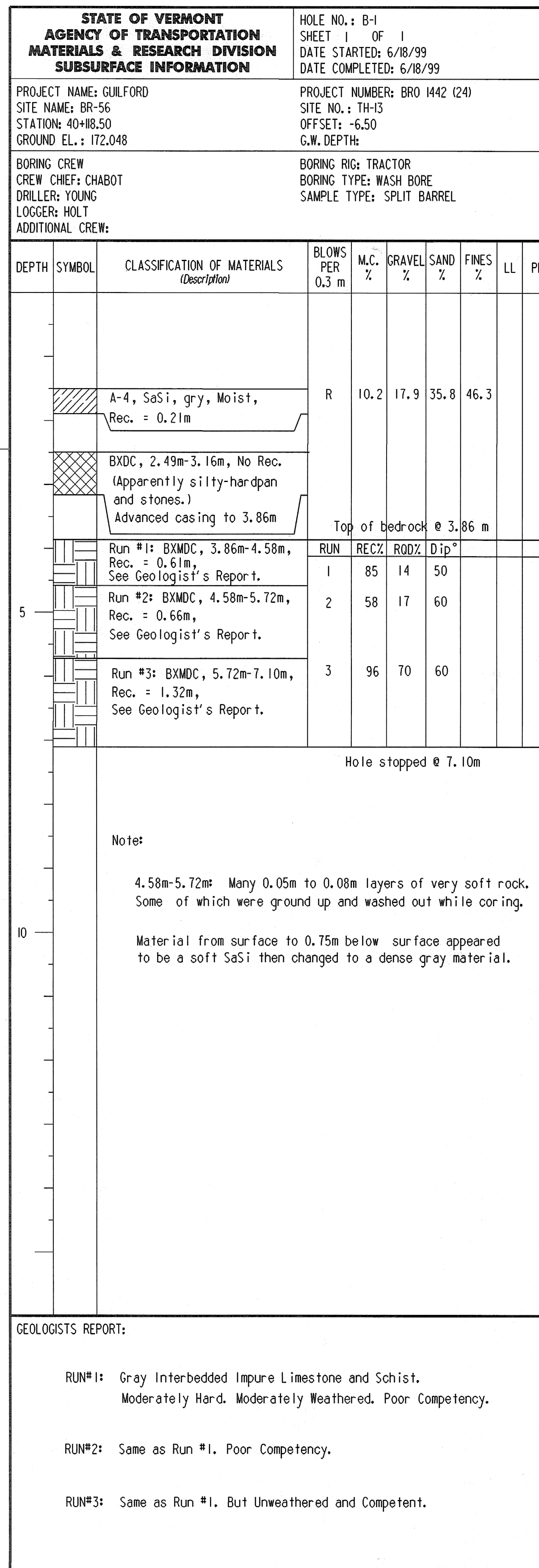
HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.	FOOTING ELEV.	BEDROCK ELEV.
B-1	40+118.50	6.5 LT	172.048	169.60	168.188
B-2	40+128.50	6.5 RT	172.447	169.60	169.677
B-3	40+118.50	6.5 RT	172.270	169.60	169.520
B-4	40+128.50	6.5 LT	172.240	169.60	165.600

GEOTECHNICAL PLAN

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

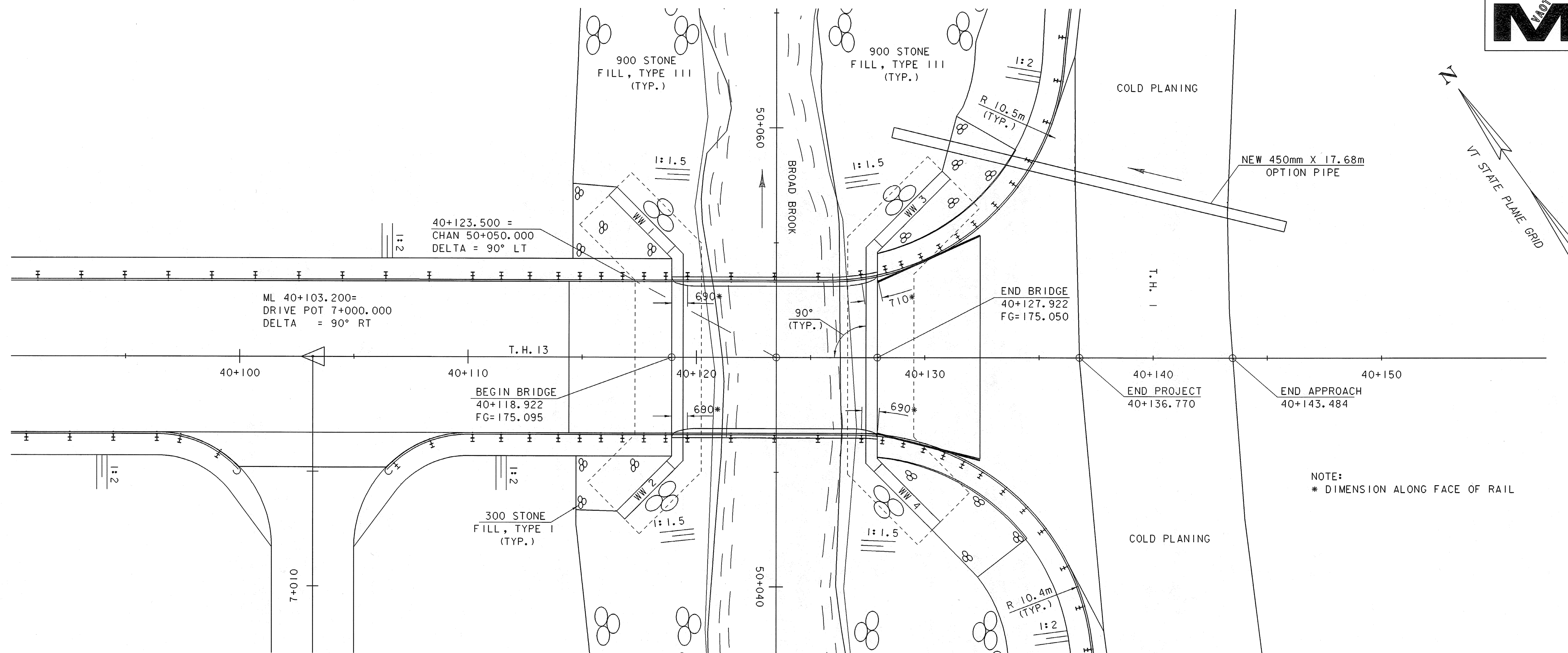
FILE NAME: sj076b01
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
94J076\Structures\sj076bor.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: J. PERRIGO
SHEET 21 OF 59

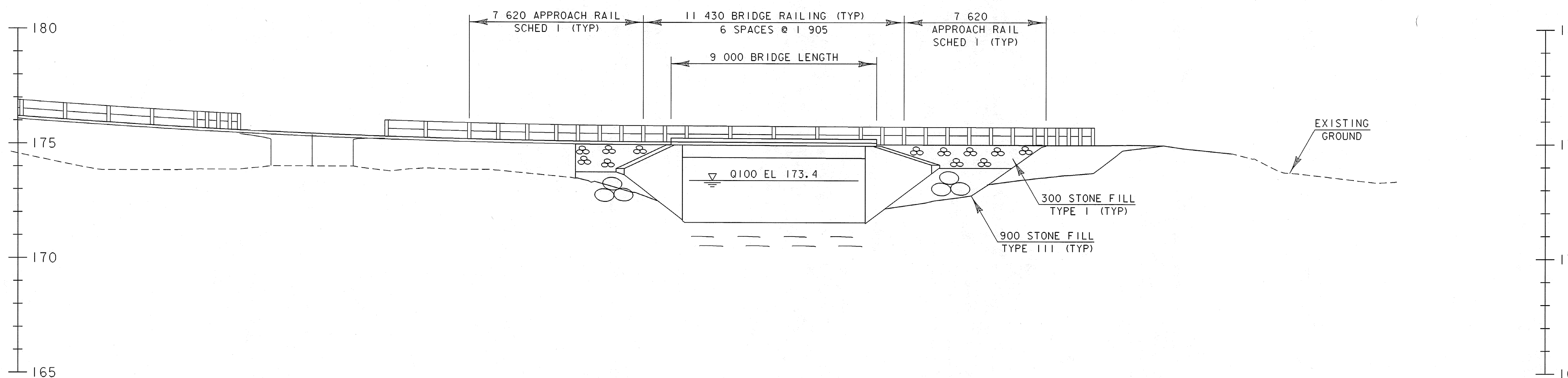


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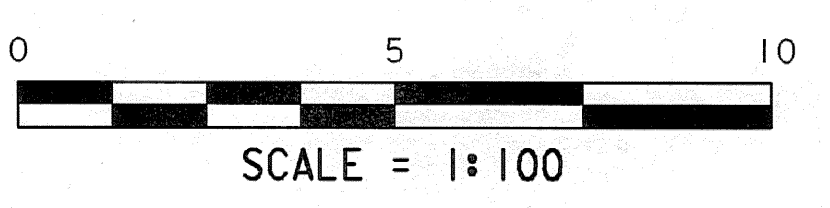
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PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	T. LACKEY
FILE NAME:	sj076b02.j	CHECKED BY:	J. PERRIGO
PROJECT LEADER:	R. WHITCOMB	SHEET	22 OF 59
DESIGNED BY:	T. LACKEY		
94j076\Structures\sj076bor.dgn			



PLAN



ELEVATION

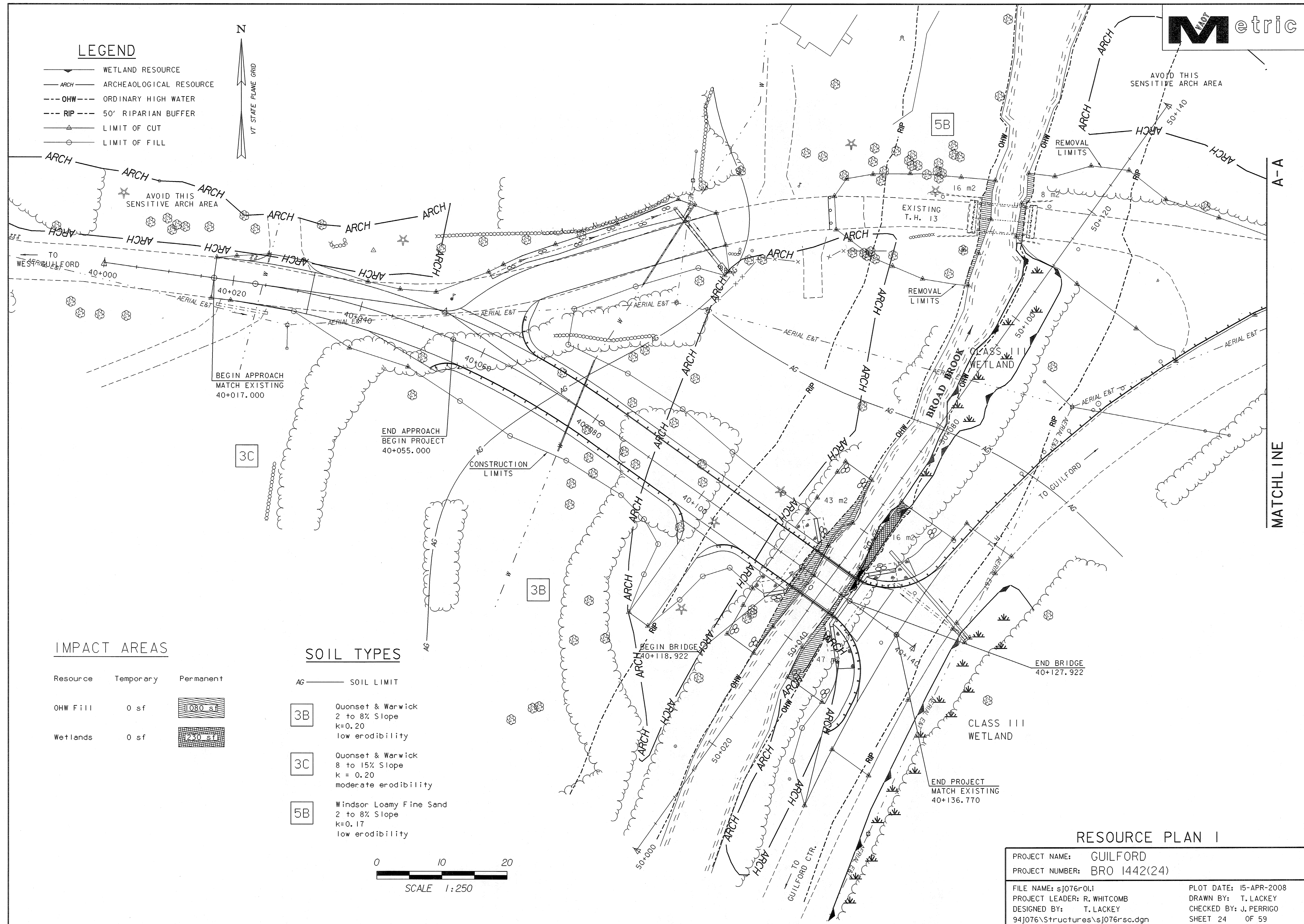
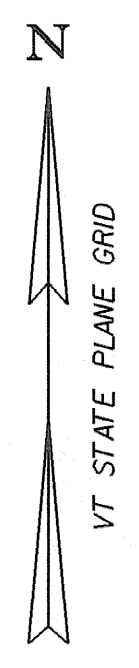


PLAN AND ELEVATION

PROJECT NAME:	GUILFORD	PLOT DATE:	01-MAY-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	T. LACKEY
FILE NAME:	sj076pe.i	CHECKED BY:	J. PERRIGO
PROJECT LEADER:	R. WHITCOMB	SHEET	23 OF 59
DESIGNED BY:	T. LACKEY		
94\076\Structures\sj076pe.dgn			

LEGEND

- WETLAND RESOURCE
- ARCH ARCHAEOLOGICAL RESOURCE
- OHW ORDINARY HIGH WATER
- RIP 50' RIPARIAN BUFFER
- LIMIT OF CUT
- LIMIT OF FILL

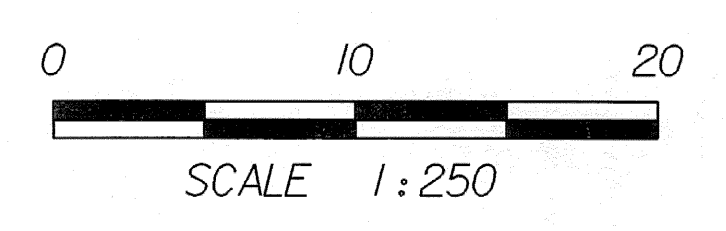


IMPACT AREAS

Resource	Temporary	Permanent
OHW Fill	0 sf	1080 sf
Wetlands	0 sf	230 sf

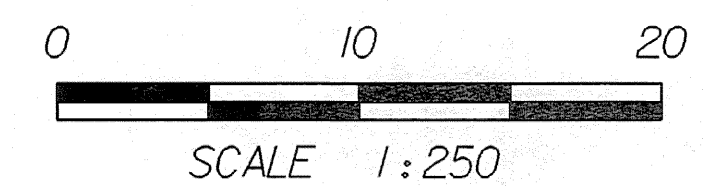
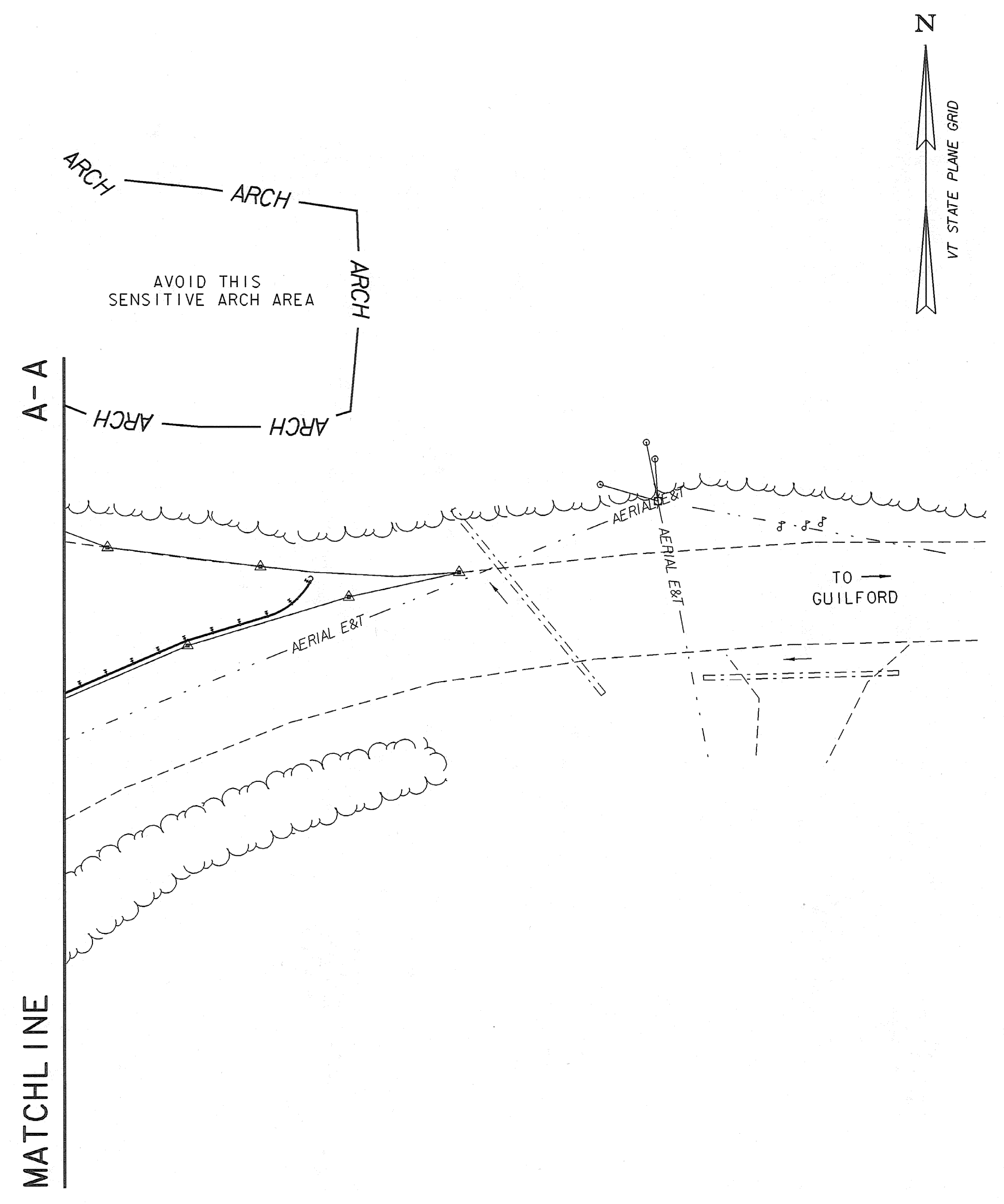
SOIL TYPES

- AG SOIL LIMIT
- 3B** Quonset & Warwick
2 to 8% Slope
k=0.20
low erodibility
- 3C** Quonset & Warwick
8 to 15% Slope
k = 0.20
moderate erodibility
- 5B** Windsor Loamy Fine Sand
2 to 8% Slope
k=0.17
low erodibility



RESOURCE PLAN I

PROJECT NAME:	GUILFORD	PLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	T. LACKEY
FILE NAME:	sj076r01i	CHECKED BY:	J. PERRIGO
PROJECT LEADER:	R. WHITCOMB	SHEET	24 OF 59
DESIGNED BY:	T. LACKEY		
94j076\structures\sj076rsc.dgn			



RESOURCE PLAN 2

PROJECT NAME: GUILFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: T. LACKEY
FILE NAME: sj076r02.i	CHECKED BY: J. PERRIGO
PROJECT LEADER: R. WHITCOMB	SHEET 25 OF 59
DESIGNED BY: T. LACKEY	
94j076\Structures\sj076rsc.dgn	

1. NARRATIVE

1.1. Project Description.

1.1.1. Guilford BRO 1442(24)S will replace Bridge 56 on Town Highway 13 over the Broad Brook in the Town of Guilford on new alignment. The new alignment will shift the bridge 60 m upstream. It will shift the nearby intersection with TH 1 south 75 m. The new bridge will be a two lane, single span, concrete slab bridge. The project will maintain traffic on the existing bridge during construction. Finally it will remove the existing bridge and approaches. Part of the existing western approach will become a driveway.

1.1.2. The total length of roadway work is 73 m.

1.1.3. The total disturbed area (excluding waste, borrow and staging areas) is approx. 0.34 ha (0.85 ac.).

1.1.4. This project will involve part of two construction seasons.

1.2. SITE INVENTORY & ANALYSIS

1.2.1. Off Site Drainage Characteristics (Up And Down Gradient). The land in the project area is rolling former farmland. It consists of old fields and pasture growing in with brush, softwood and hardwood trees. The soil is "very deep, gently to very steep and excessively drained. The soils formed in gravelly, sandy, and loamy glacial deposits on stream terraces."

1.2.2. Drainage, Waterways, Bodies of Water. The bridges cross Broad Brook. The brook is mostly straight, semi-alluvial, probably incised, and unbraided. The brook at the new bridge is 5 m wide at the bottom and 18 m wide at the top and 2 m deep from top to bottom. The watershed area is 1200 ha.

1.2.2.1. Ditch from TH 13 6+012 to 6+040 left and Culvert at Drive #1 Sta. 6+040.

1.2.2.2. Culvert at ML 40+140 left

1.2.3. Topography, Existing Roads, Buildings, Utilities.

1.2.3.1. Topography. The project site is a rolling country road through a mixture of stone walls, maple trees, old fields and new woods.

1.2.3.2. Existing Roads TH 13 is a Class III dirt town highway.

1.2.3.3. Buildings. Two homes are near the project. One is within 35 m of the existing bridge.

1.2.3.4. Utilities. Power and Utility poles run along the mainline from 40+020 to 40+050 right and 40+050 to 40+140 left. A waterline runs under the mainline at 40+075 and drive at 6+035.

1.2.4. Vegetation. The vegetation is old fields growing into brush, hardwoods and softwood. Construction will replace some brush and trees. Stone Fill capped with grubbing material will stabilize slopes steeper than 66%. Seed & Mulch will stabilize slopes flatter than 66%.

1.2.5. Soils. The Soil Conservation Service "Soil Survey of Windham County" identifies three soil types in the project site.

1.2.5.1. 3B Quonset/Warwick 2 to 8% slope. This soil is in the area of the new bridge. It is a combination of Quonset and Warwick Soils, which are similar in use and management. The soil profile is typically: 175 mm fine sandy loam over; 325 mm channery (fragments of sandstone, shale, slate, limestone, or schist), or gravelly loamy sand; over 1000 mm channery sand. Its erodibility rating is low (kw = 0.20). The slope suggests low erodibility.

1.2.5.2. 3C Quonset/Warwick 8 to 15% slope. This soil is in the west approach to the new bridge. The soil profile is the same as 3B. Its erodibility rating is low (kw = 0.20). The slope suggests medium erodibility. Sensitive Resource Areas.

1.2.5.3. 5B Windsor Loamy Fine Sand 2 to 8% slope. This soil is in the area of the old bridge. The soil profile is typically: 75 mm loamy fine sandy over; 275 mm loamy sand; over 1150 mm sand. Its erodibility rating is low (kw = 0.17). The slope suggests low erodibility.

1.2.6. Sensitive Resource Areas.

1.2.6.1. Riparian Buffer. A 50' Riparian Buffer borders the Brook. Minimize impacts within the Buffer. Restore disturbed areas to their previous conditions.

1.2.6.2. Wetlands. Class III Wetlands are on the east side of the Brook between the new and old bridges.

1.2.6.3. Critical Habitat. Trout are in the Broad Brook. Grubbing Material on the stream banks of the old and new bridge will propagate stream side trees and shrubs and restore fish habitat.

1.2.6.4. Archaeological Sites. Open Area beside TH 13 at ML 39+990 to 40+050 Left. Woods northeast of the Existing Bridge at the existing intersection of TH 1 & TH 13. These areas are outside of the project limits and protected by the Barrier Fence.

1.2.6.5. Non-Sensitive Resources

1.2.6.5.1. Threatened & Endangered Species.

1.2.6.5.2. Historic Features

1.2.6.5.3. Prime Agricultural Land

1.3. RISK EVALUATION

1.3.1. The project area is less than 1 acre. Therefore the project does not fall under the jurisdiction of Construction General Permit 3-9020.

1.3.2. Should changes prior to or during construction result in one or more acres of earth disturbance or should the project become part of a larger plan of development then the selected contractor will be responsible for additional permitting with VANR via filing of the appropriate Notice Of Intent under the Construction General Permit process.

1.4. EROSION PREVENTION & SEDIMENT CONTROL

1.4.1. Mark Site Boundaries

1.4.1.1. PROJECT DEMARCATION FENCING will delineate the construction area for construction equipment. This measure limits the area that can be disturbed and exposed to erosion.

1.4.2. Limit Disturbance Area

1.4.2.1. PROJECT DEMARCATION FENCING will delineate the construction area for construction equipment. This measure limits the area that can be disturbed and exposed to erosion.

1.4.3. Stabilize Construction Entrance

1.4.3.1. VEHICLE TRACKING PAD will control tracking of sediment transport on to public roads. The entrance is a stabilized pad of crushed stone located wherever construction vehicles leave construction areas. The sites include: the project site; staging areas; and waste and borrow areas. The minimum area is 3700 x 15 000 mm (12' x 50'). Pipe all surface water flowing to or diverted towards a construction entrance under the stone. Size pipes for their watersheds. The minimum pipe diameter is 150 mm.

1.4.4. Install Silt Fence

1.4.4.1. SILT FENCE placed level on slopes will control sheet flow sediment transport. Place level silt fence 1500 to 3000 mm (5'-10') from the toe of slopes. Turn the ends of silt fence slightly uphill to stop concentrated water from flowing around the ends. The maximum slope length between separate runs of silt fence is 30 m (100'). Place silt fence before beginning upslope earthwork.

1.4.5. Divert Upland Runoff

1.4.5.1. Not Applicable

1.4.6. Slow Down Channelized Runoff

1.4.6.1. STONE CHECK DAMS placed in ditches will reduce flow velocities and prevent erosion. Place dams in ditches so that the elevation of the top of a check dam is level with the toe of the next upslope check dam. The check dams may be removed once the stone lining of the ditches is complete and the surrounding area stabilized.

1.4.6.2. FILTER CURTAIN placed around the abutments will control sediment disturbed in the water by excavation.

1.4.7. Construct Permanent Controls

1.4.7.1. Roadway Typical Section

1.4.7.1.1. BITUMINOUS CONCRETE PAVEMENT on the road surface will prevent erosion.

1.4.7.1.2. GRAVEL OR CRUSHED STONE SUBBASE on the shoulder will allow runoff to infiltrate and prevent erosion.

1.4.7.2. Channel Typical Section

1.4.7.3. STONE FILL, TYPE I at the ends of the wing walls will prevent erosion and control sediment transport.

1.4.7.4. STONE FILL, TYPE III around the abutments on slopes greater than 66% will prevent erosion and control sediment transport.

1.4.7.5. GED TEXTILE UNDER STONE FILL will prevent erosion and control sediment transport.

1.4.8. Stabilize Exposed Soils

1.4.8.1. TRACKING & MULCHING will temporarily stabilize slopes. Use tracking for short term (two weeks) exposed slopes. Drive heavy equipment on the slopes to leave level tracks (small check dams) that will catch water flow. Stabilize slopes within 48 hours or sooner considering rain.

1.4.8.2. SEEDING & MULCHING will establish vegetation on side slopes less than 66% that will prevent erosion and control sediment transport. Add TEMPORARY EROSION MATTING (with 100% natural fibers) to slopes ranging from 33% to 66%.

1.4.8.2.1. ML 40+017 to 40+119 left and right

1.4.8.2.2. Drive 6+010 to 6+040 left and right

1.4.8.2.3. Channel 50+025 to 50+130 left and right

1.4.9. Winter Stabilization

1.4.9.1. The "Winter Construction" season occurs between October 15 and April 15, when erosion prevention and sediment control is significantly more difficult.

1.4.9.2. If Winter Construction is necessary, revise this plan according to the VANR "Low Risk Site Handbook".

1.4.10. Stabilize Soil at Final Grade

1.4.10.1. SEEDING & MULCHING will stabilize slopes ranging from 0% to 66%. Add TEMPORARY EROSION MATTING (with 100% natural fibers) to slopes ranging from 33% to 66%. Use seeding for long term exposed slopes. Grass takes 2 weeks to establish itself. Stabilize slopes within 48 hours or sooner considering rain.

1.4.10.2. STONE FILL, TYPE I in roadway ditches will prevent erosion and control sediment transport.

1.4.10.3. CULVERTS will convey concentrated flow under roads and prevent erosion.

1.4.10.4. STONE FILL, TYPE I at culvert outlets will dissipate water velocities and prevent erosion and control sediment transport.

1.4.11. Dewatering Activities

1.4.11.1.1. COFFERDAMS will prevent erosion and control sediment transport in the abutment excavation.

1.4.12. Inspect your Site

1.4.12.1. Inspect all control measures weekly and after each rainfall event. Repair measures promptly once damage is discovered.

1.4.12.2. Note any changes on the plans, in the weekly inspection report, and report them to the appropriate authority in a timely manner.

1.4.12.3. Check temporary measures (e.g. stone check dams, silt fence, and sand bags) regularly for accumulation of sediment. Remove sediment build-up when the level of sediment reaches one-half the height of the control measure. Dispose of sediments in an approved area where they will not be subject to erosion.

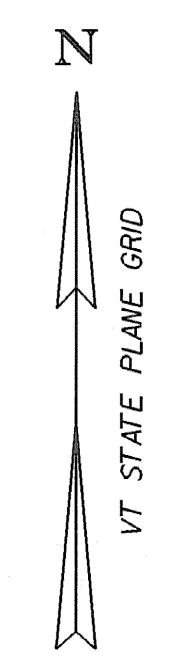
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442 (24)

EPSC
NARRATIVE

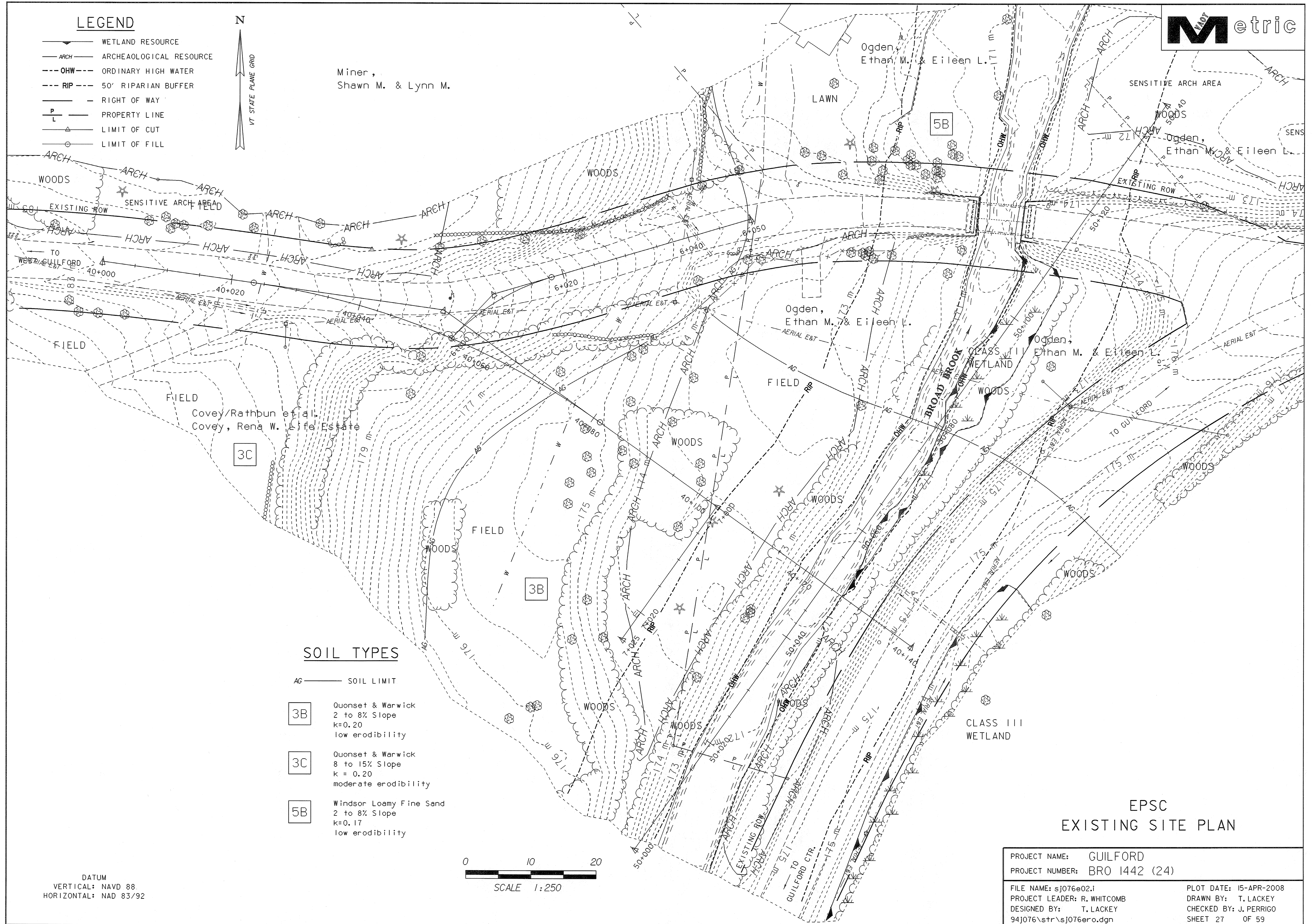
FILE NAME: sj076e01.i PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB DRAWN BY: T. LACKEY
DESIGNED BY: T. LACKEY CHECKED BY: J. PERRIGO
94j076\str\sj076ero.dgn SHEET 26 OF 59

LEGEND

- WETLAND RESOURCE
- ARCH — ARCHAEOLOGICAL RESOURCE
- OHW — ORDINARY HIGH WATER
- RIP — 50' RIPARIAN BUFFER
- RIGHT OF WAY
- P — PROPERTY LINE
- L — LIMIT OF CUT
- △ — LIMIT OF FILL

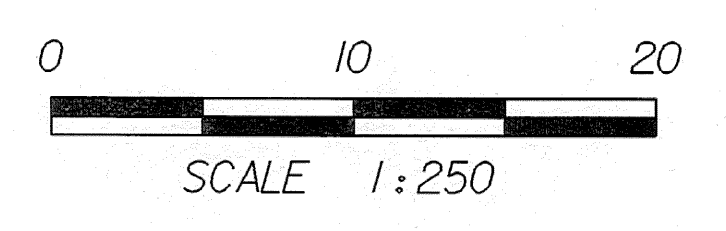


Miner,
Shawn M. & Lynn M.



SOIL TYPES

- AG — SOIL LIMIT
- 3B** Quonset & Warwick
2 to 8% Slope
k=0.20
low erodibility
- 3C** Quonset & Warwick
8 to 15% Slope
k = 0.20
moderate erodibility
- 5B** Windsor Loamy Fine Sand
2 to 8% Slope
k=0.17
low erodibility



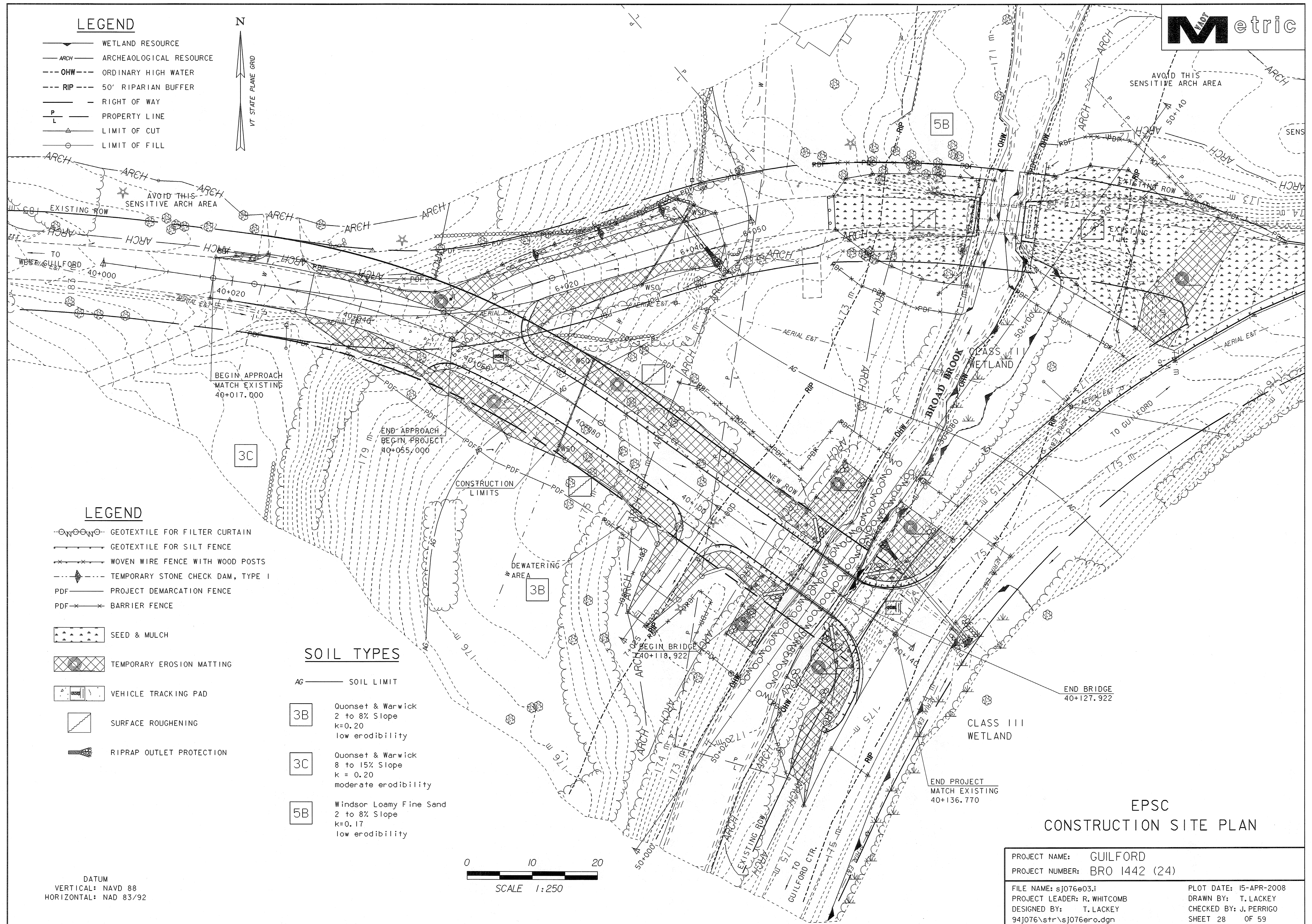
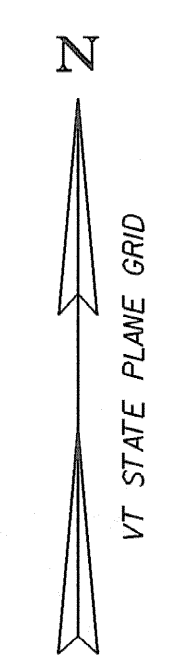
DATUM
VERTICAL: NAVD 88
HORIZONTAL: NAD 83/92

**EPSC
EXISTING SITE PLAN**

PROJECT NAME: GUILFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442 (24)	DRAWN BY: T. LACKEY
FILE NAME: sj076e02.i	DESIGNED BY: T. LACKEY
PROJECT LEADER: R. WHITCOMB	CHECKED BY: J. PERRIGO
94J076\str\sj076ero.dgn	SHEET 27 OF 59

LEGEND

- WETLAND RESOURCE
- ARCH ARCHAEOLOGICAL RESOURCE
- OHW ORDINARY HIGH WATER
- RIP 50' RIPARIAN BUFFER
- RIGHT OF WAY
- P PROPERTY LINE
- L LIMIT OF CUT
- LIMIT OF FILL

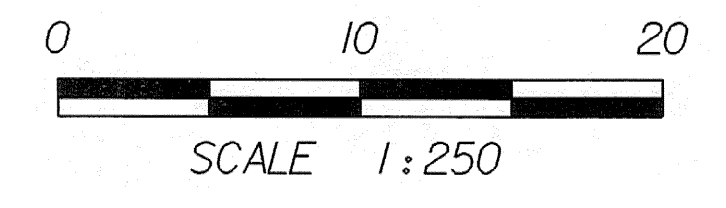


LEGEND

- GEOTEXTILE FOR FILTER CURTAIN
- GEOTEXTILE FOR SILT FENCE
- ×-×-×-×-× WOVEN WIRE FENCE WITH WOOD POSTS
- ◆—◆—◆—◆—◆ TEMPORARY STONE CHECK DAM, TYPE I
- PDF PROJECT DEMARCATION FENCE
- PDF-×-×-×-×-× BARRIER FENCE
- SEED & MULCH
- TEMPORARY EROSION MATTING
- VEHICLE TRACKING PAD
- SURFACE ROUGHENING
- RIPRAP OUTLET PROTECTION

SOIL TYPES

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- 3B** Quonset & Warwick
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k=0.20
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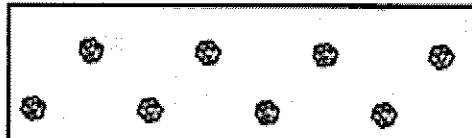


DATUM
VERTICAL: NAVD 88
HORIZONTAL: NAD 83/92

**EPSC
CONSTRUCTION SITE PLAN**

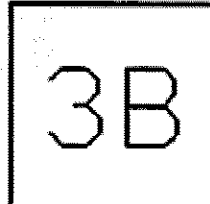
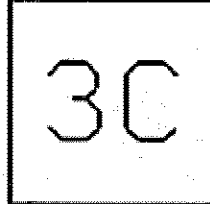
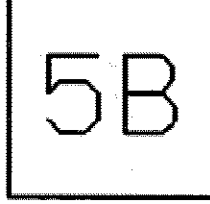
PROJECT NAME: GUILDFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442 (24)	DRAWN BY: T. LACKEY
FILE NAME: sj076e03.1	CHECKED BY: J. PERRIGO
PROJECT LEADER: R. WHITCOMB	SHEET 28 OF 59
DESIGNED BY: T. LACKEY	
94J076\str\sj076ero.dgn	

LEGEND

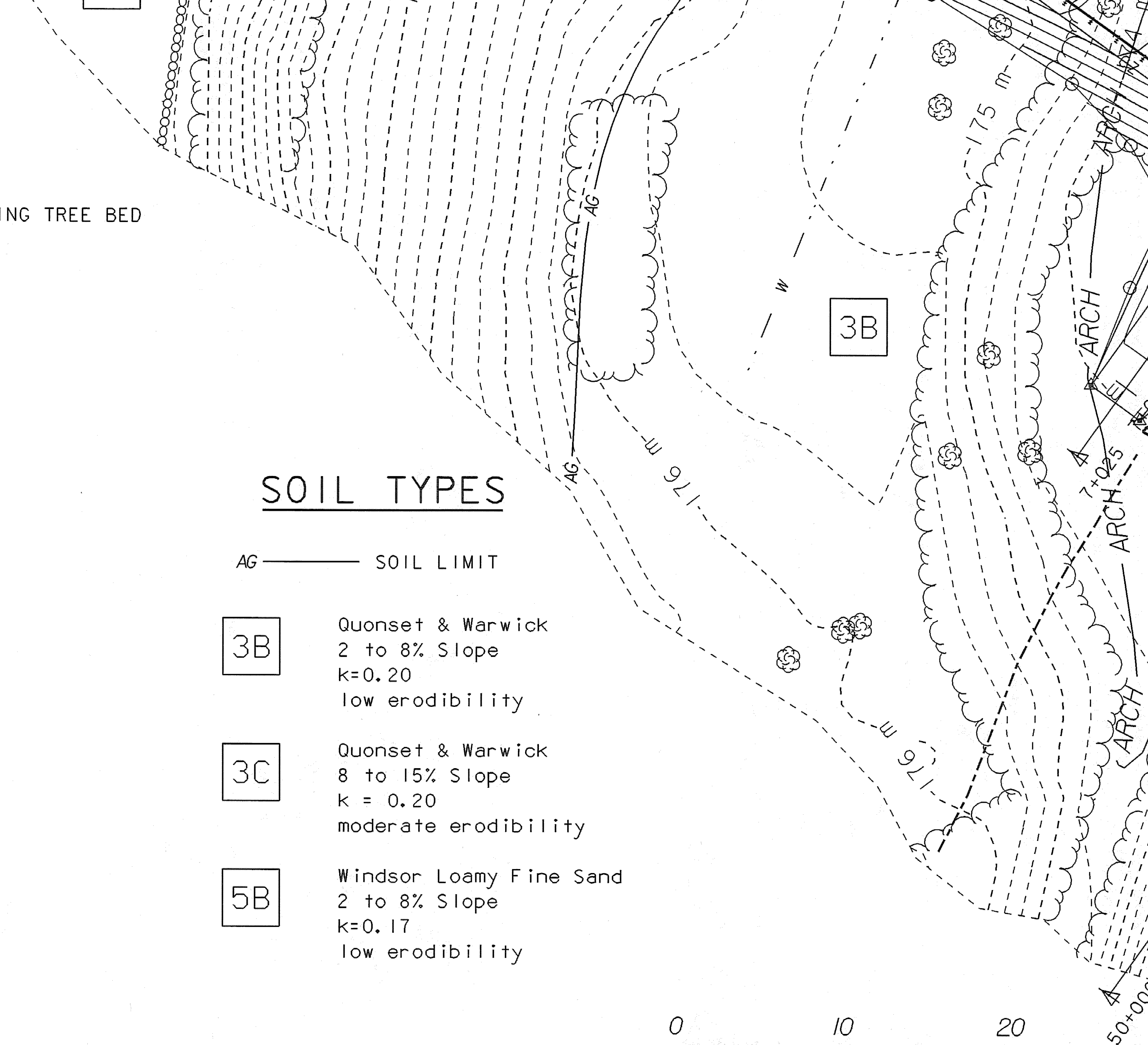
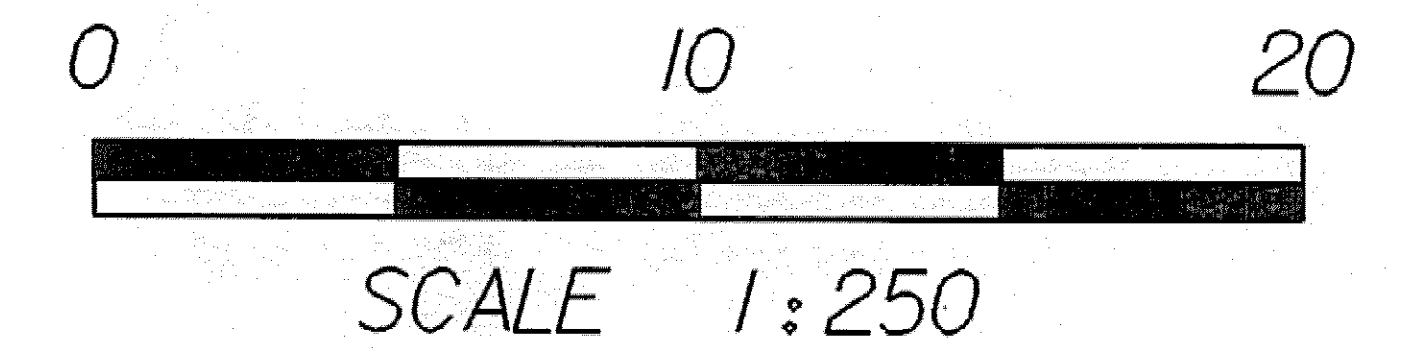
 SHRUB & SAPLING TREE BED

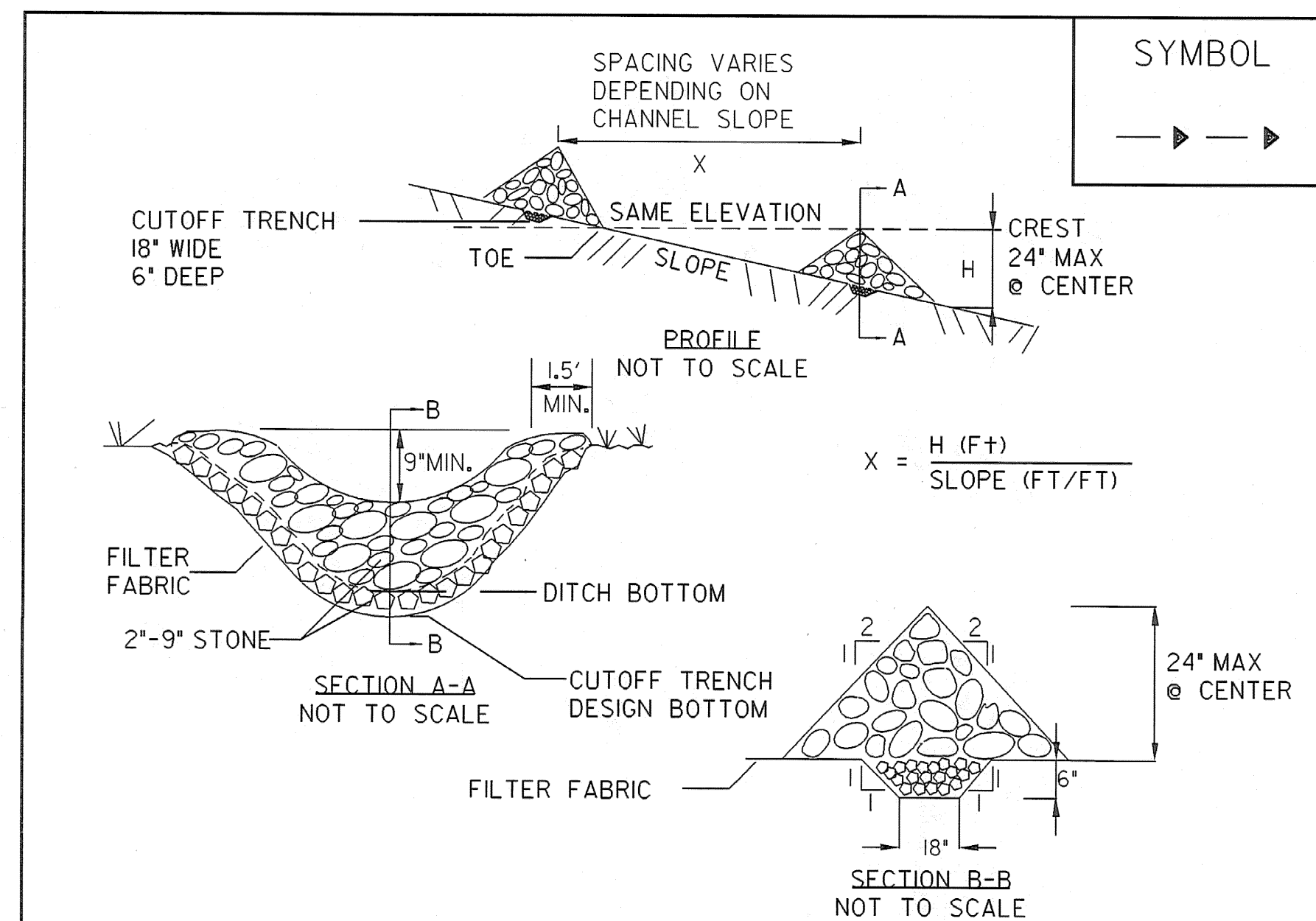
SOIL TYPES

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low erodibility

DATUM
VERTICAL: NAVD 88
HORIZONTAL: NAD 83/92





CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. SET SPACING OF CHECK DAMS SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE. MAXIMUM DRAINAGE AREA 2 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEORIGINALLY DEVELOPED BY USDA-NRCS/VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CHECK DAM

NOTES:
REFER TO 'THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-' FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS ITEM SHALL BE PAID FOR UNDER ITEM 653.25 TEMPORARY STONE CHECK DAM, TYPE I

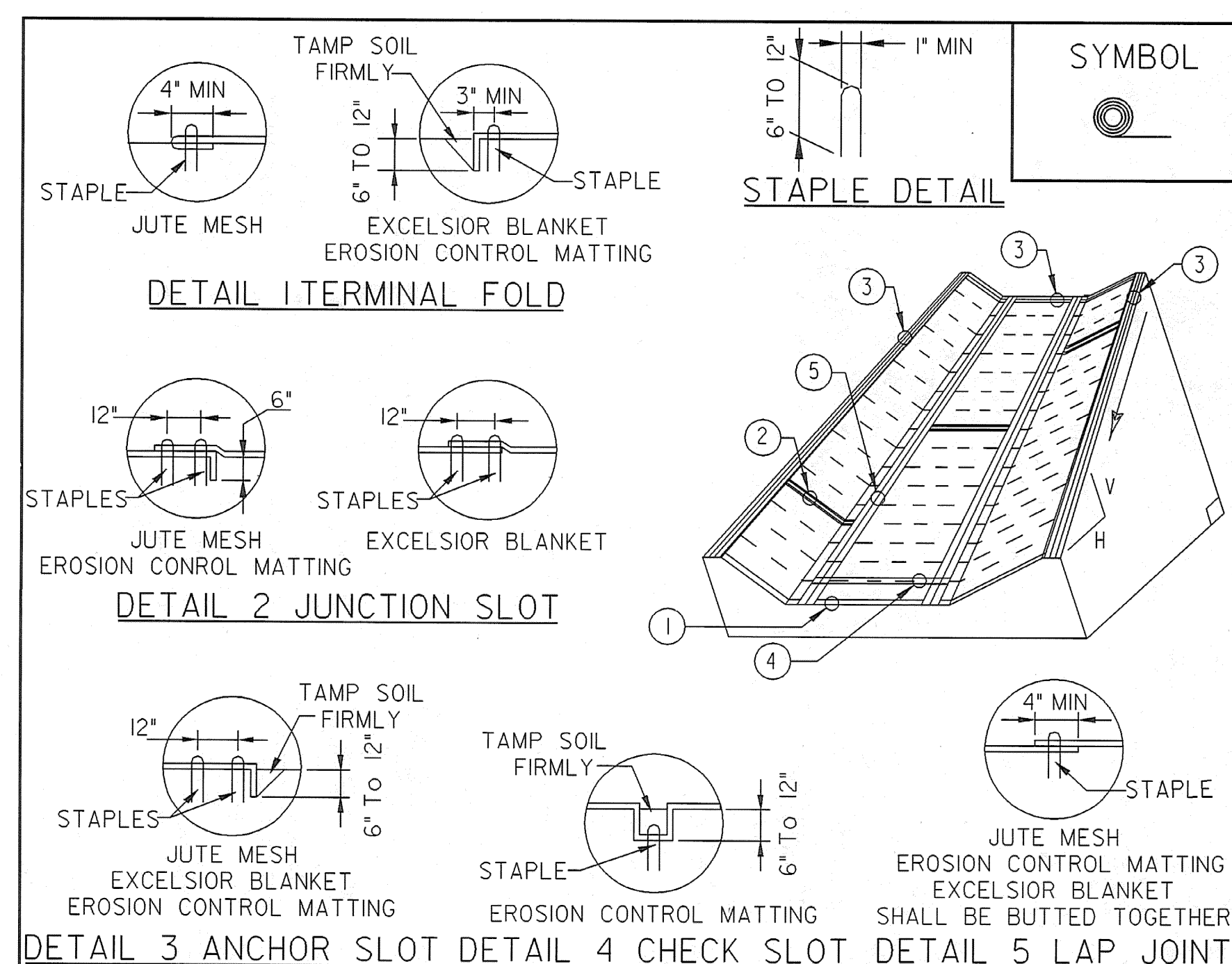
REVISIONS	
MARCH 8, 2007	JMF

**SEEDING FORMULA
RURAL AREAS**

% WT.	Kg/ha	NAME	PUR %	GERM %
37.5	26.0	CREeping RED FESCUE	98	85
37.5	26.0	TALL FESCUE	95	90
5.0	4.0	RED TOP	95	90
15.0	10.0	BIRDSFOOT TREFOIL	98	85
5.0	4.0	ANNUAL RYE GRASS	95	85
100.0	70.0			

GENERAL NOTES

- SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
- SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.
- FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 kg/ha. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).
- AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.
- HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.
- TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.



CONSTRUCTION SPECIFICATIONS

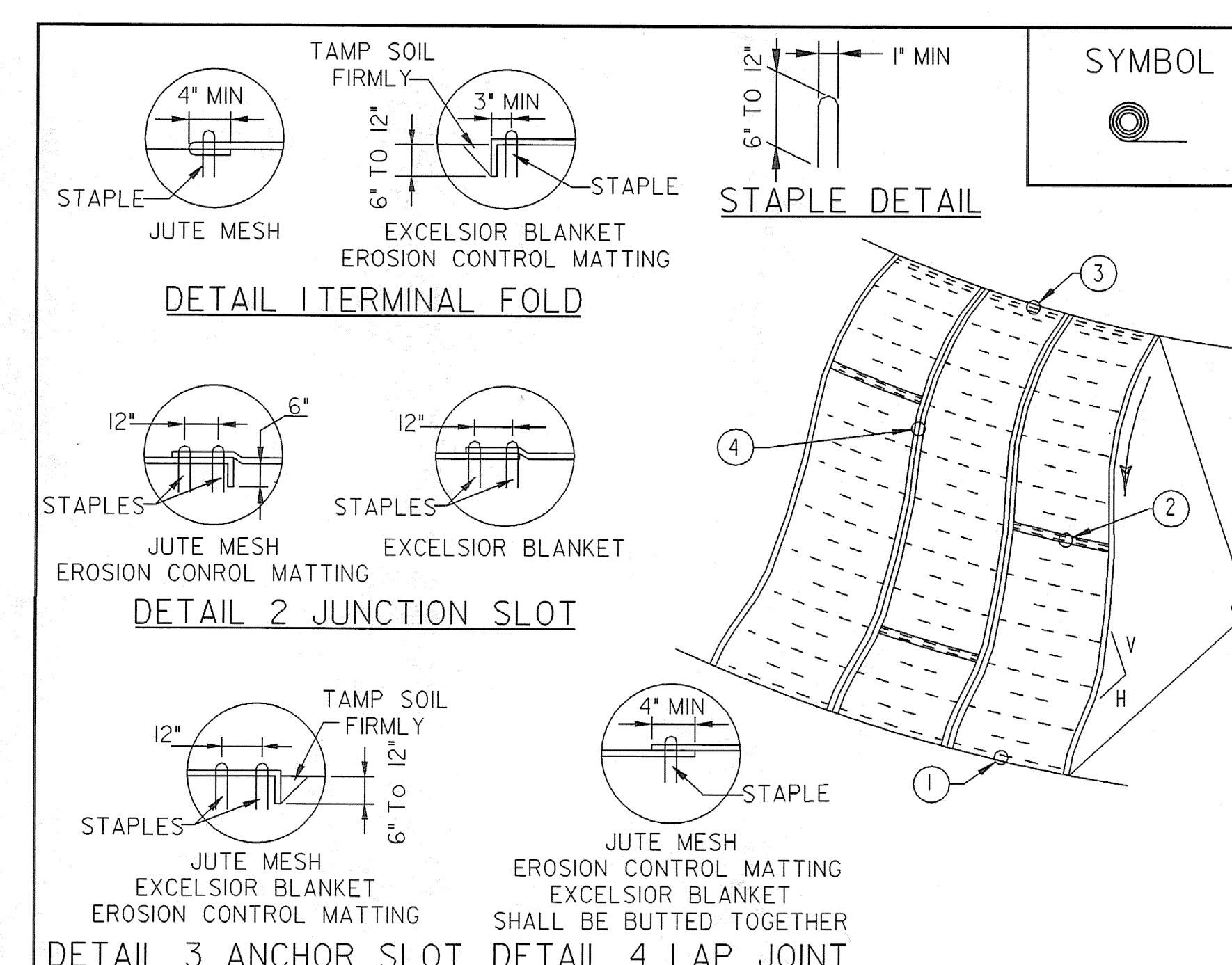
1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: ILLINOIS USDA-NRCS ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) DITCH

NOTES:
REFER TO 'THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-' FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS ITEM SHALL BE PAID FOR UNDER ITEM 653.20 TEMPORARY EROSION MATTING.
USE ONLY 100% NATURAL FIBER MATTING.

REVISIONS	
MARCH 8, 2007	JMF
APRIL 16, 2007	WHF



CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME AND SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: ILLINOIS USDA-NRCS ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

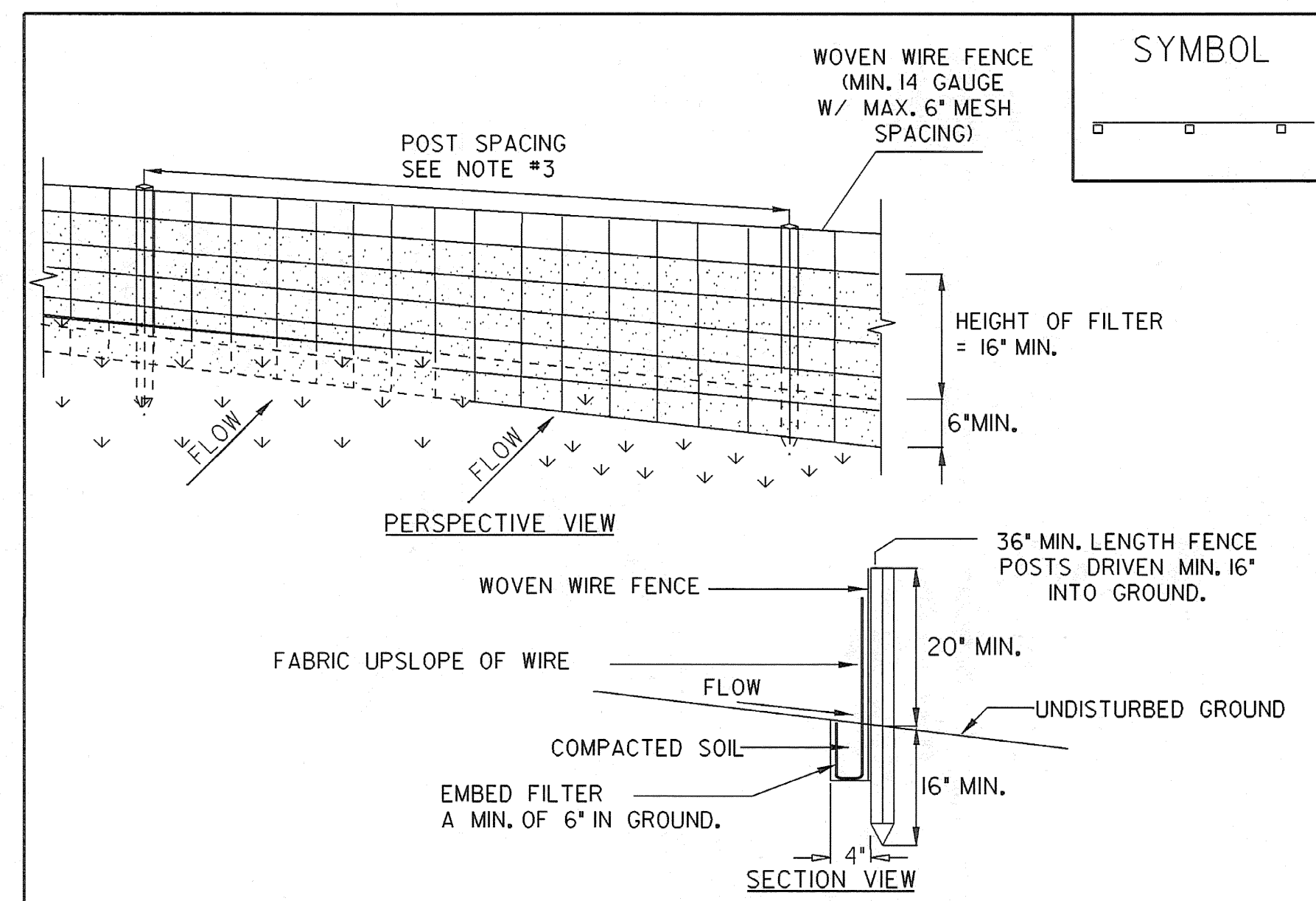
ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

NOTES:
REFER TO 'THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-' FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS ITEM SHALL BE PAID FOR UNDER ITEM 653.20 TEMPORARY EROSION MATTING.
USE ONLY 100% NATURAL FIBER MATTING.

NEW	
APRIL 16, 2007	WHF
REVISIONS	

**EPSC
DETAILS I**

PROJECT NAME: GUILFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442 (24)	DRAWN BY: T. LACKEY
FILE NAME: sj076e05.i	CHECKED BY: J. PERRICO
PROJECT LEADER: R. WHITCOMB	SHEET 30 OF 59
DESIGNED BY: T. LACKEY	
94\j076\str\sj076ero.dgn	



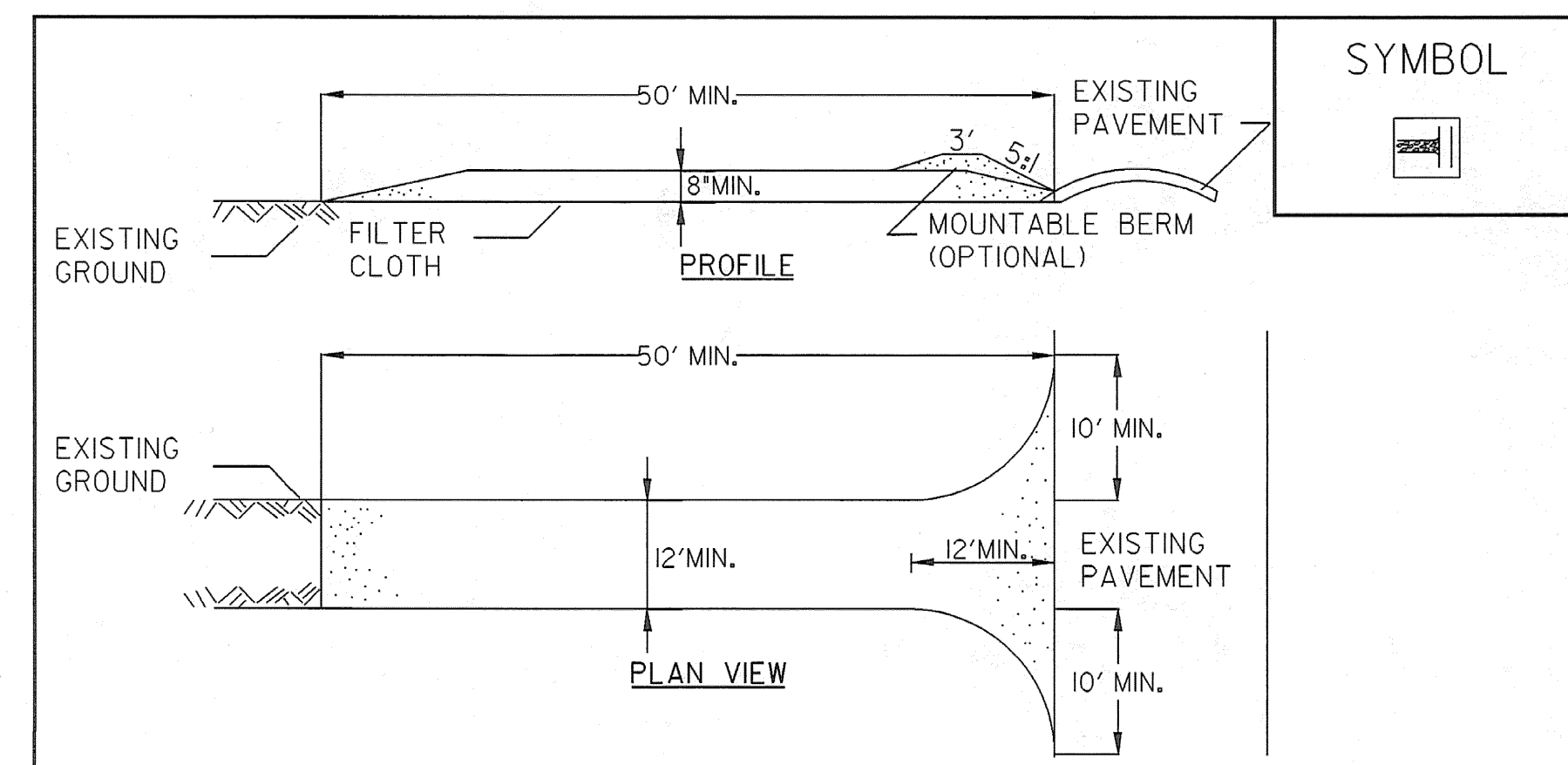
CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE REINFORCEMENT IS ONLY REQUIRED WITHIN 100 FT UPSLOPE OF RECEIVING WATERS.
2. WHERE REQUIRED FENCE SHALL BE WOVEN WIRE, MIN. 14 GAUGE WITH A 6\"/>

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS ITEM SHALL BE PAID FOR UNDER ITEM STANDARD SPECIFICATION 649.51 GEOTEXTILE FOR SILT FENCE



CONSTRUCTION SPECIFICATIONS

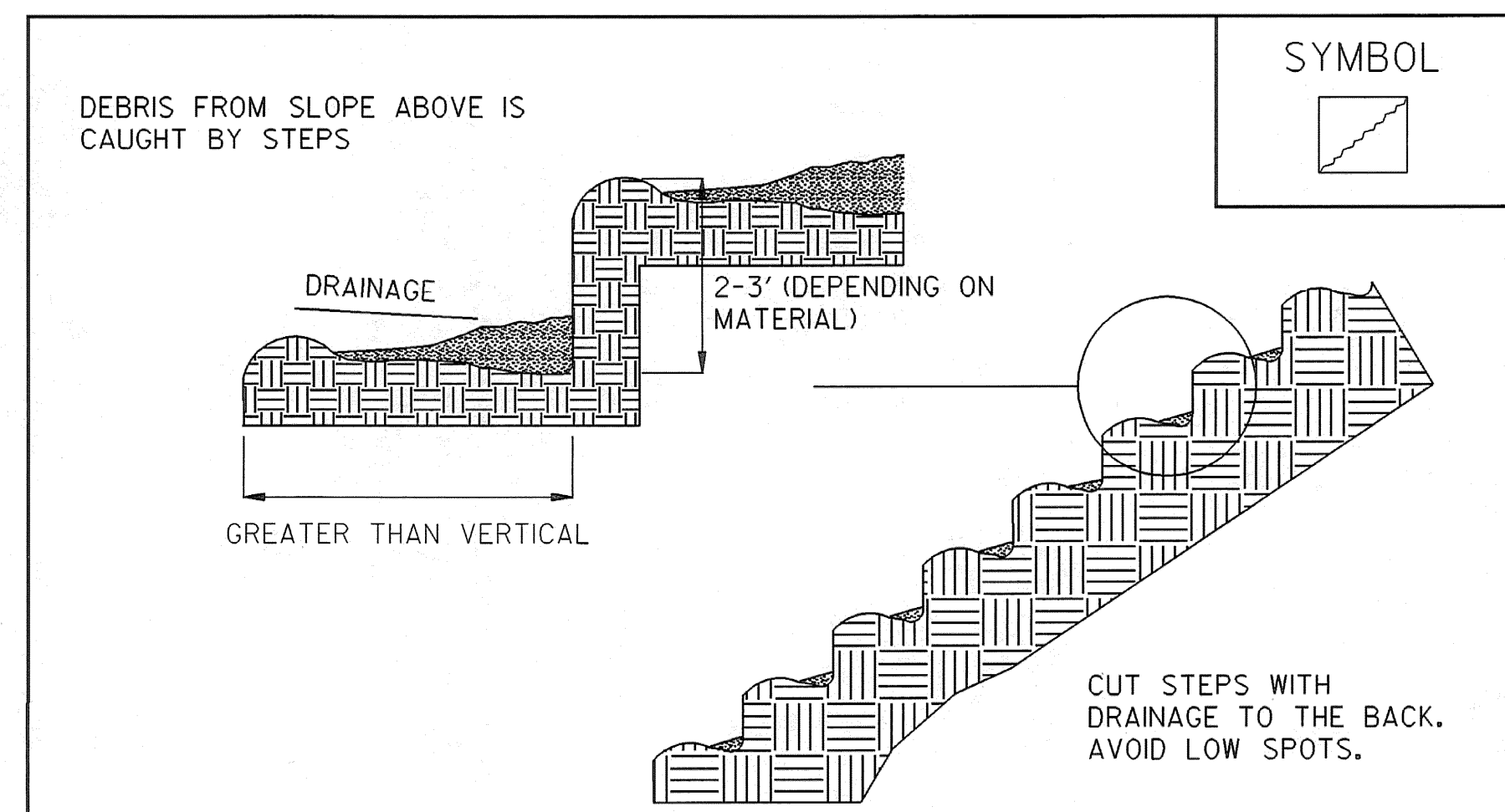
1. STONE SIZE - USE 1-4\"/>

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

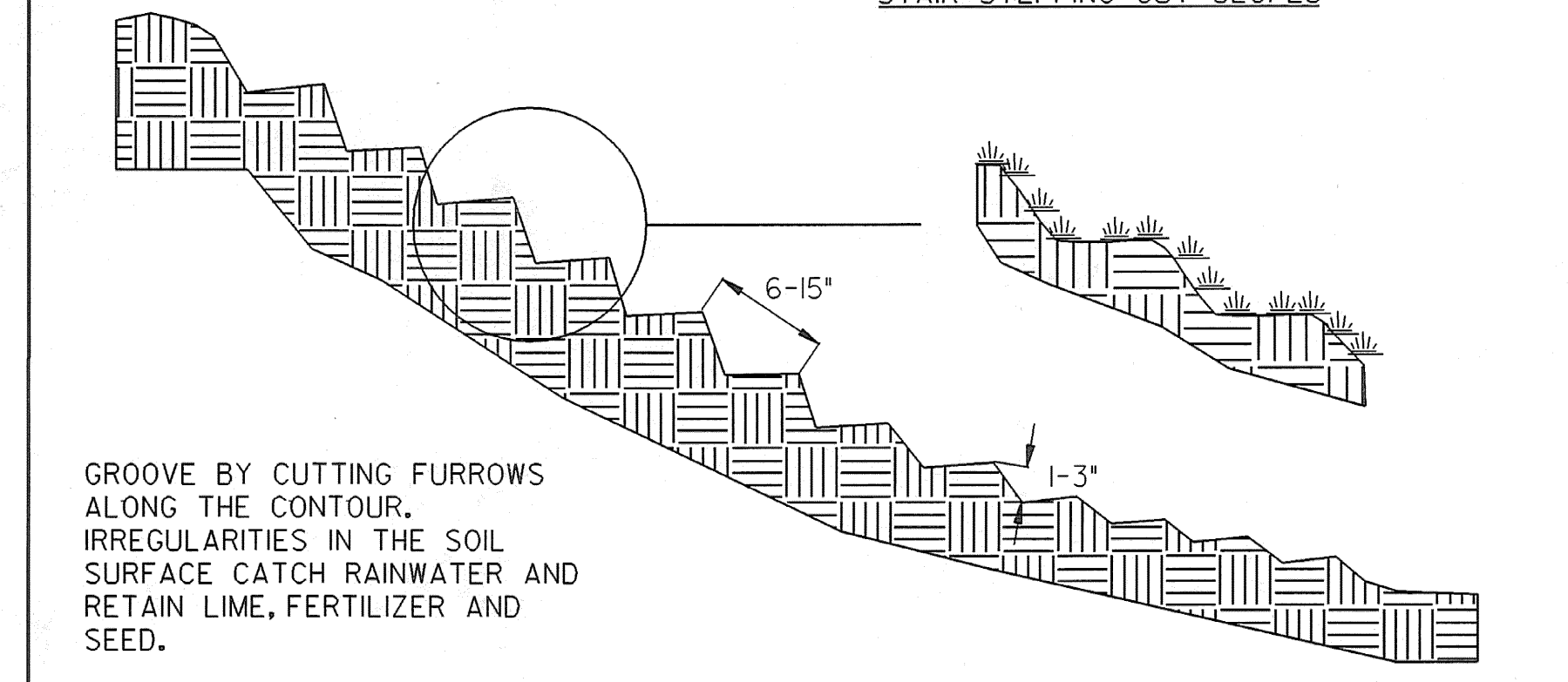
STABILIZED CONSTRUCTION ENTRANCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS ITEM SHALL BE PAID FOR UNDER ITEM 653.35 VEHICLE TRACKING PAD

REVISIONS	
FEBRUARY 9, 2007	WHF
MARCH 8, 2007	JMF



STAIR STEPPING CUT SLOPES



GROOVING SLOPES

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

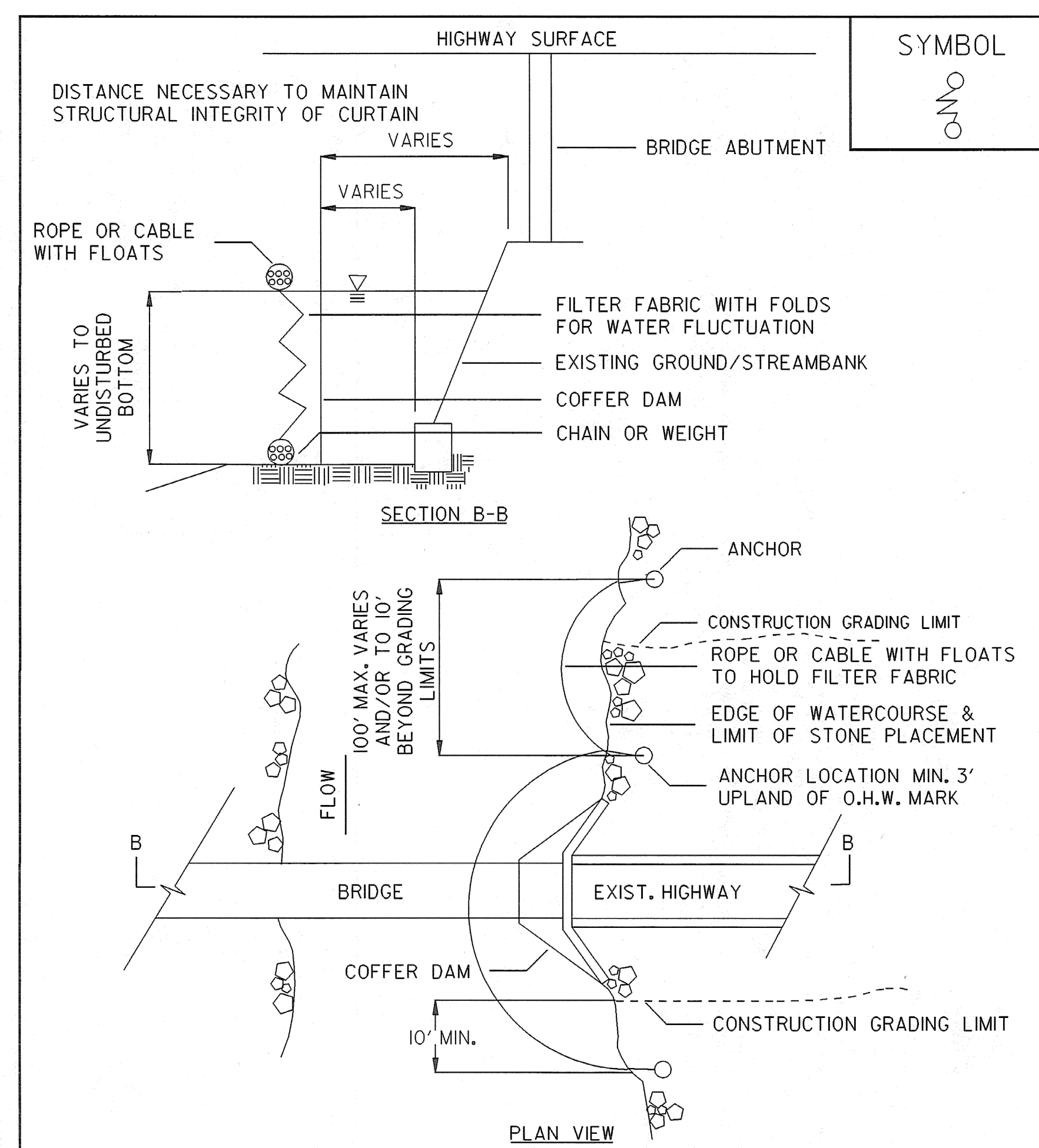
SURFACE ROUGHENING DETAILS

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS ITEM SHALL BE CONSIDERED INCIDENTAL TO THE MATERIAL ITEM SPECIFIED

**EPSC
DETAILS 2**

PROJECT NAME: GUILFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442 (24)	DRAWN BY: T. LACKEY
FILE NAME: sj076e06.i	DESIGNED BY: T. LACKEY
PROJECT LEADER: R. WHITCOMB	CHECKED BY: J. PERRIGO
94j076\str\sj076ero.dgn	SHEET 31 OF 59

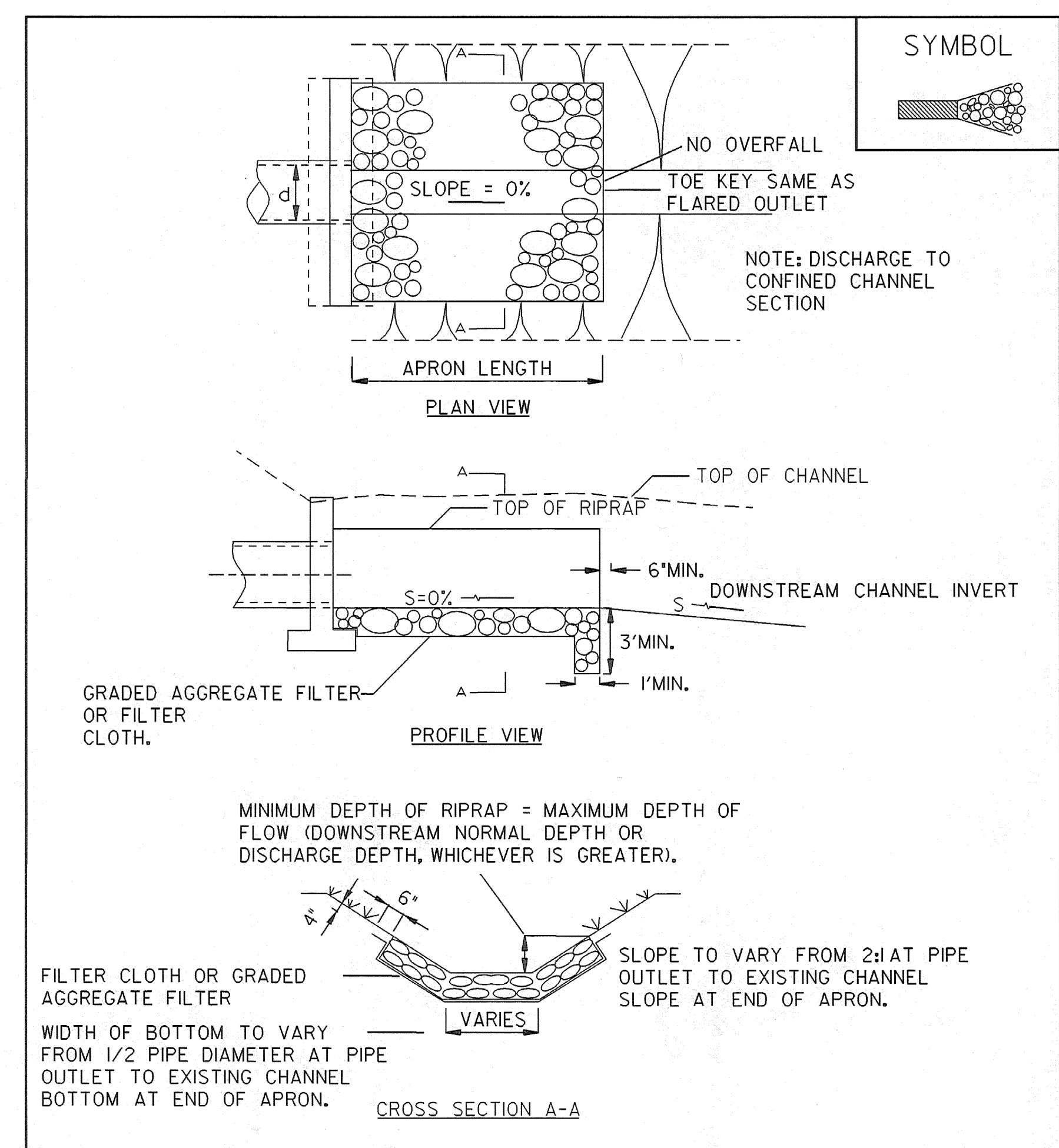
NOTE: DETAILS NOT TO SCALE



ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT AGENCY OF TRANSPORTATION

TURBIDITY CURTAIN

NOTES:
THIS ITEM SHALL BE PAID FOR UNDER ITEM
649.61 GEOTEXTILE FOR FILTER CURTAIN



ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

RIPRAP OUTLET
PROTECTION
EXAMPLE

NOTES:
REFER TO *THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION
PREVENTION & SEDIMENT CONTROL -2006- * FROM THE VT AGENCY OF
NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS ITEM SHALL BE PAID FOR UNDER ITEM 613.10 STONE FILL TYPE I

EPSC
DETAILS 3

PROJECT NAME: GUILFORD	PLOT DATE: 16-APR-2008
PROJECT NUMBER: BRO 1442 (24)	DRAWN BY: T. LACKEY
FILE NAME: sj076e07.i	CHECKED BY: J. PERRIGO
PROJECT LEADER: R. WHITCOMB	SHEET 32 OF 59
DESIGNED BY: T. LACKEY	
94J076\str\sj076ero.dgn	

PLANT AND TREE LIST

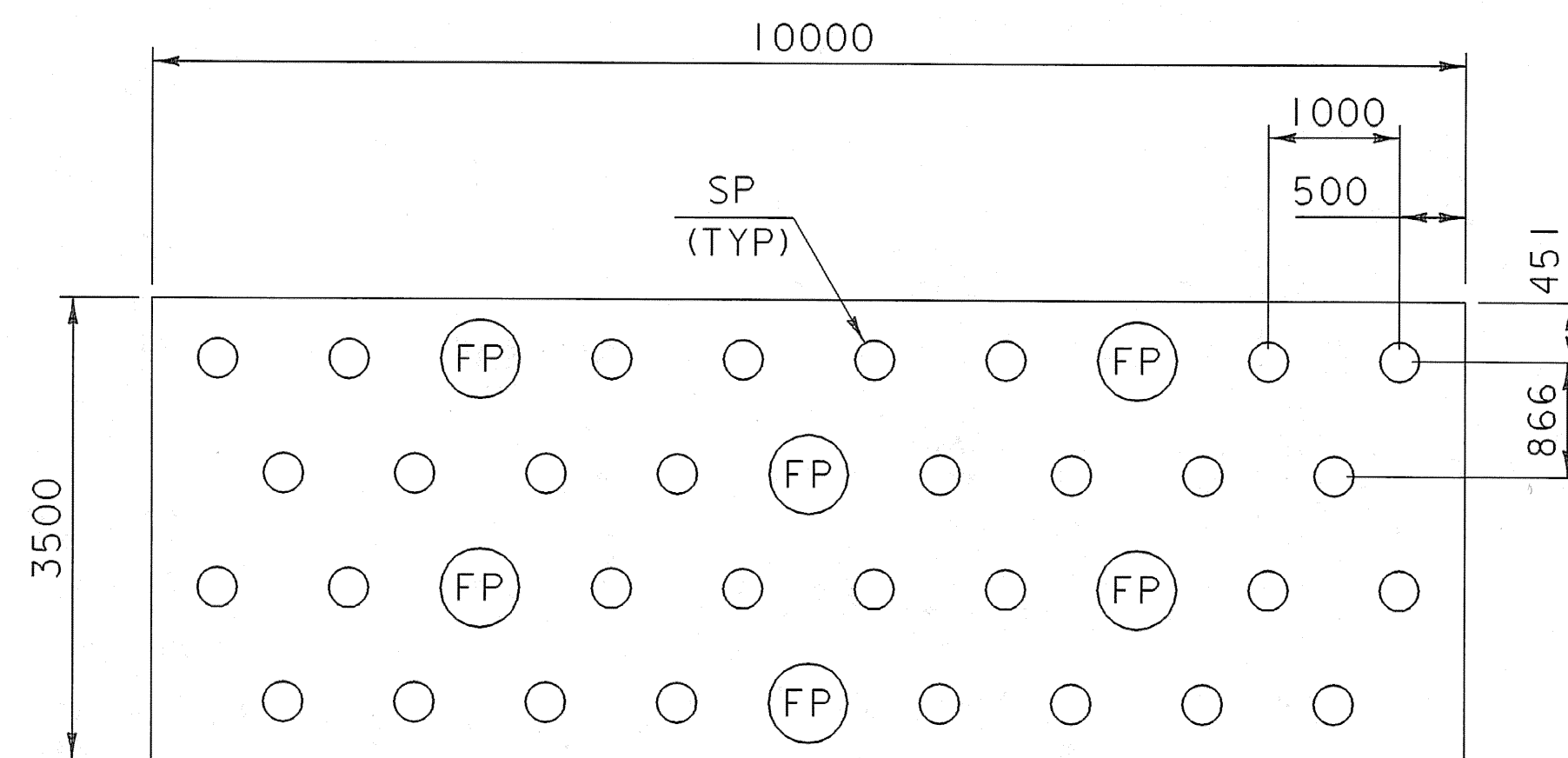
QUANTITY	UNIT	KEY	BOTANICAL NAME	COMMON NAME	SIZE	MIN. SPACING	REMARKS	ITEM #
16	EA	FAP	DECIDUOUS TREES					
8	EA	PV	FRAXINUS PENNSYLVANICA	GREEN ASH	1200 TO 1500 MIN HGT	2000 OC	8 L. CONTAINER	656.30
			PRUNUS VIRGINIANA	CHOKE CHERRY	1200 TO 1500 MIN HGT	2000 OC	8 L. CONTAINER	656.30
45	EA	AM	DECIDUOUS SHRUBS					
90	EA	SP	ARONIA MELANOCARPA	BLACK CHOKEBERRY	500 MIN HGT	900 OC	4 L. CONTAINER	656.35
			SALIX PURPUREA	STREAMCO WILLOW	500 MIN HGT	900 OC	4 L. CONTAINER	656.35

NOTES

1. SEE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTION 656 "PLANTING TREES, SHRUBS, AND VINES."
2. APPLY MYCORRHIZAL FUNGI PRODUCT AS PER MANUFACTURER'S RECOMMENDATIONS.
3. UNIT BED PLANS ARE PROVIDED FOR WET AND DRY SOIL. THE ENGINEER WILL DETERMINE THE FINAL LAYOUT OF BEDS AND PLANTS BASED ON THE UNIT BED PLANS.
4. STAKE AND LAY OUT BED SHAPES TO GIVE A NATURAL APPEARANCE.

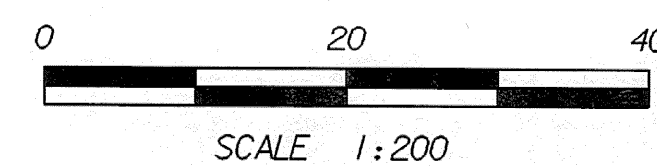
PLANT LIST

QTY	KEY	COMMON NAME	BOTANICAL NAME
6	FP	GREEN ASH	FRAXINUS PENNSYLVANICA
32	SP	STREAMCO WILLOW	SALIX PURPUREA



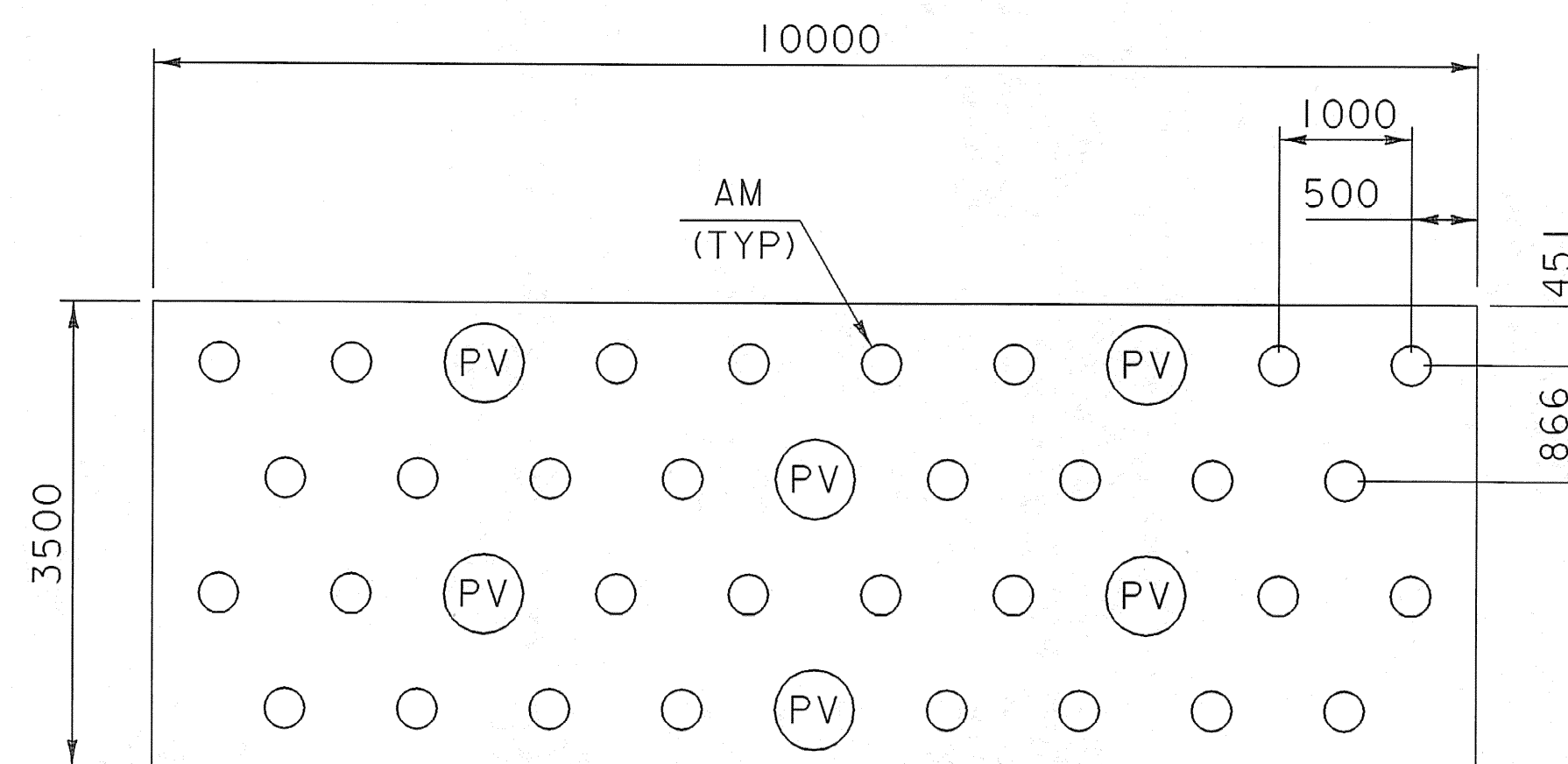
STA 50+098 LT TO 50+114 LT (16 000 X 3 500) 1.60 BEDS
 STA 50+109 LT TO 50+122 LT (12 200 X 3 500) 1.22 BEDS

UNIT BED PLAN
 OF SHRUB & SAPLING TREE
 FOR WET SOIL



PLANT LIST

QTY	KEY	COMMON NAME	BOTANICAL NAME
6	PV	CHOKE CHERRY	PRUNUS VIRGINIANA
32	AM	BLACK CHOKEBERRY	ARONIA MELANOCARPA



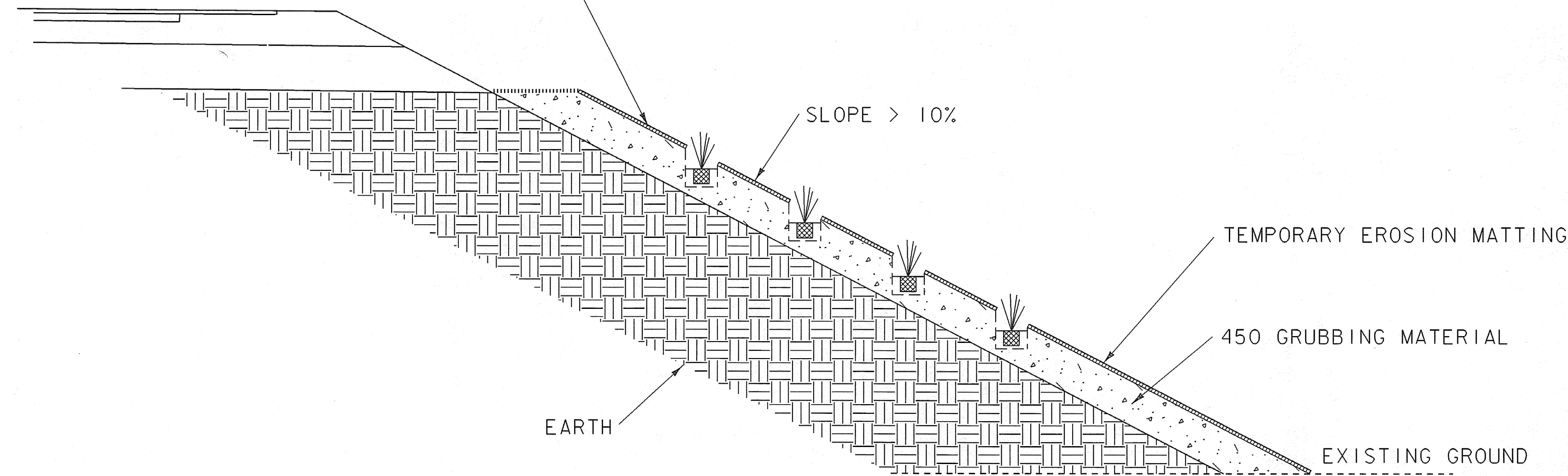
STA 50+110 RT TO 50+124 LT (14 100 X 3 500) 1.41 BEDS

UNIT BED PLAN
 OF SHRUB & SAPLING TREE
 FOR DRY SOIL

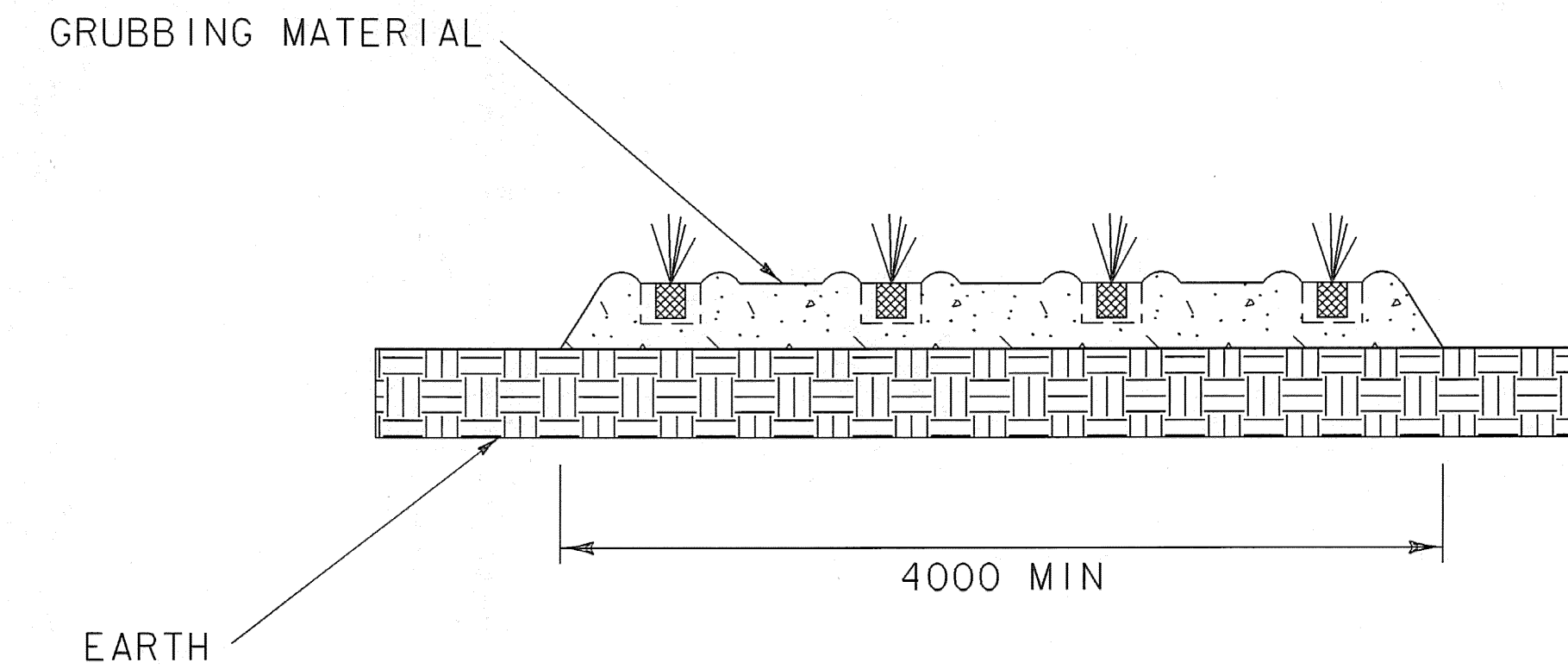
EPSC
 LANDSCAPE DETAILS I

PROJECT NAME: GUILFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442 (24)	DRAWN BY: T. LACKEY
FILE NAME: sj076e08.i	CHECKED BY: J. PERRIGO
PROJECT LEADER: R. WHITCOMB	SHEET 33 OF 59
DESIGNED BY: T. LACKEY	
94j076\str\sj076ero.dgn	

PLACE THE TOP OF THE BED WITHIN THE TOP 1/3RD OF THE SLOPE.

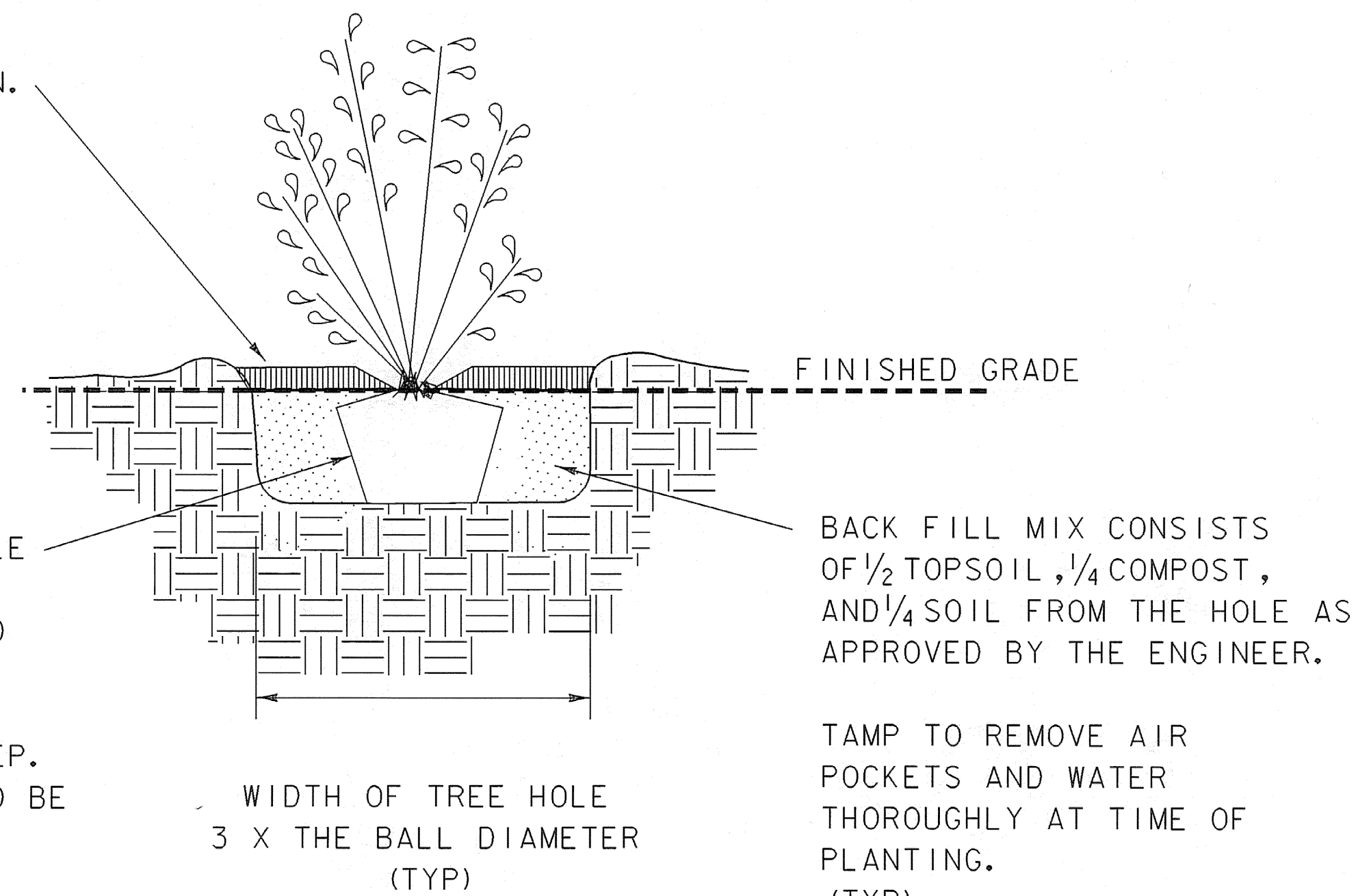


SHRUB AND SAPLING TREE BED ON EARTH SLOPE CROSS SECTION



SHRUB AND SAPLING TREE BED ON FLAT CROSS SECTION

50 BARK MULCH TAPER AT BASE AS SHOWN. (TYP)

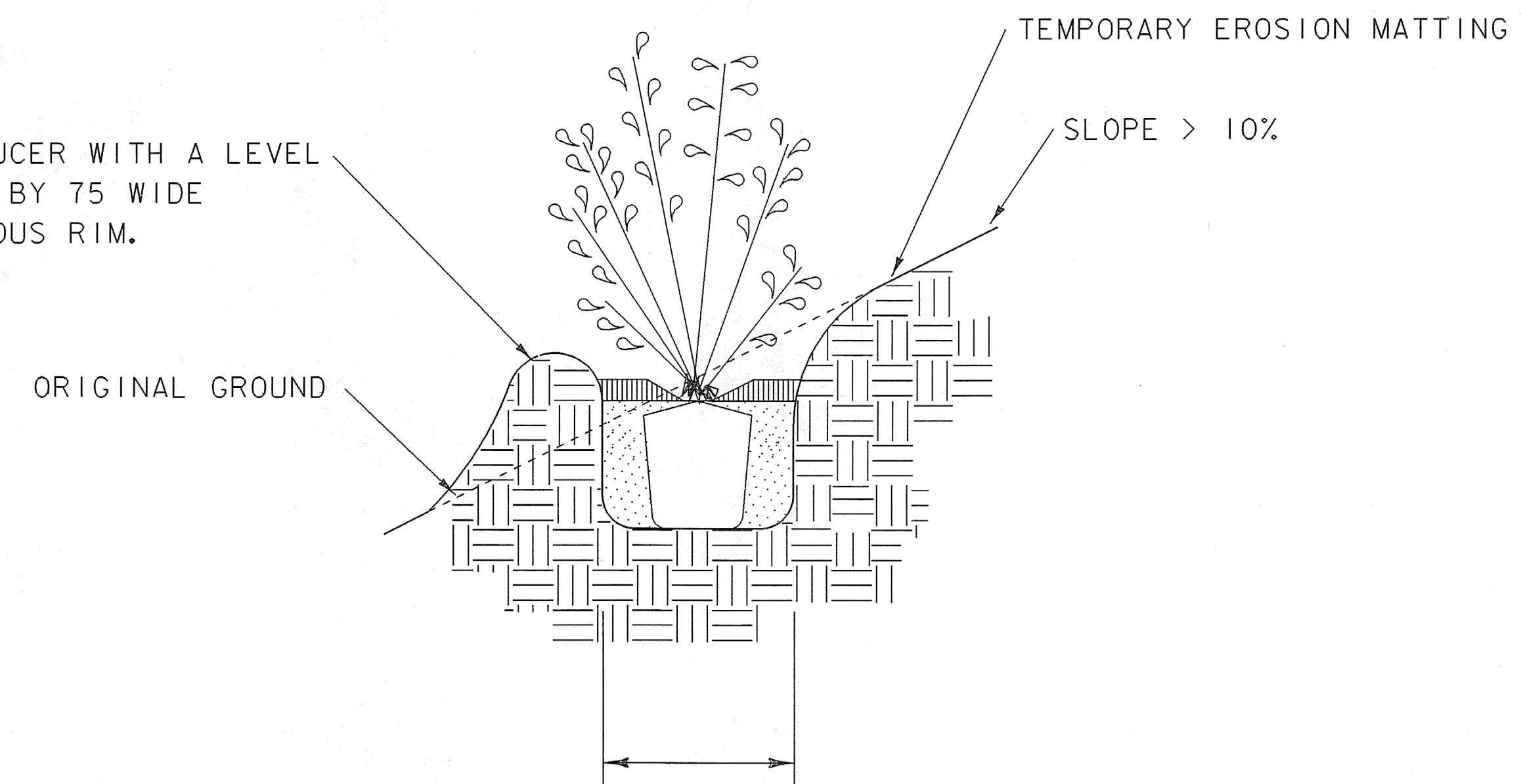


PLACE SHRUB IN THE HOLE WITH BARE ROOT BALL RESTING ON UNDISTURBED GROUND.

AVOID PLANTING TOO DEEP. TOP OF ROOTBALL SHOULD BE AT FINISHED GRADE. (TYP)

SHRUB AND SAPLING TREE PLANTING DETAIL

FORM SAUCER WITH A LEVEL 75 HIGH BY 75 WIDE CONTINUOUS RIM. (TYP)



PLANTING HOLE SHALL BE AT LEAST 3 X THE WIDTH OF THE ROOT BALL.

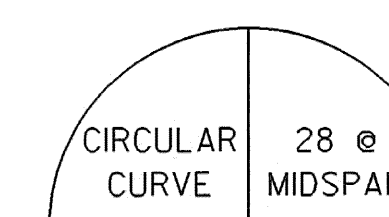
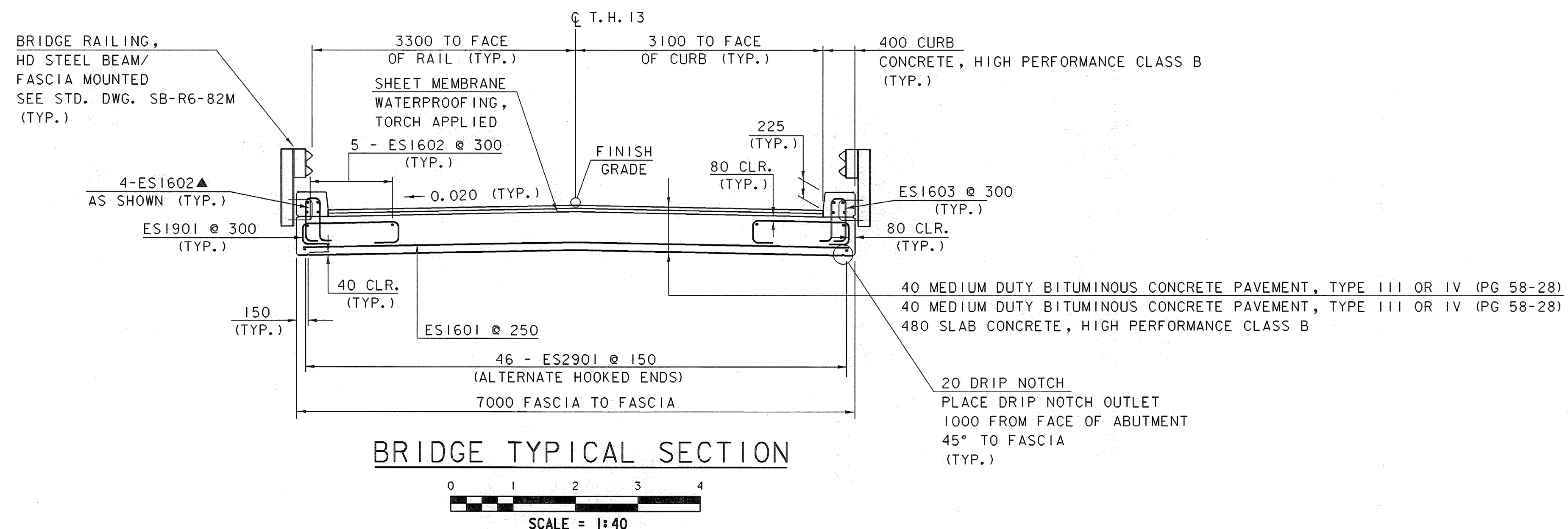
SHRUB AND SAPLING TREE ON SLOPE PLANTING DETAIL

EPSC LANDSCAPE DETAILS 2

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442 (24)

FILE NAME: sj076e09.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
94j076\str\sj076ero.dgn

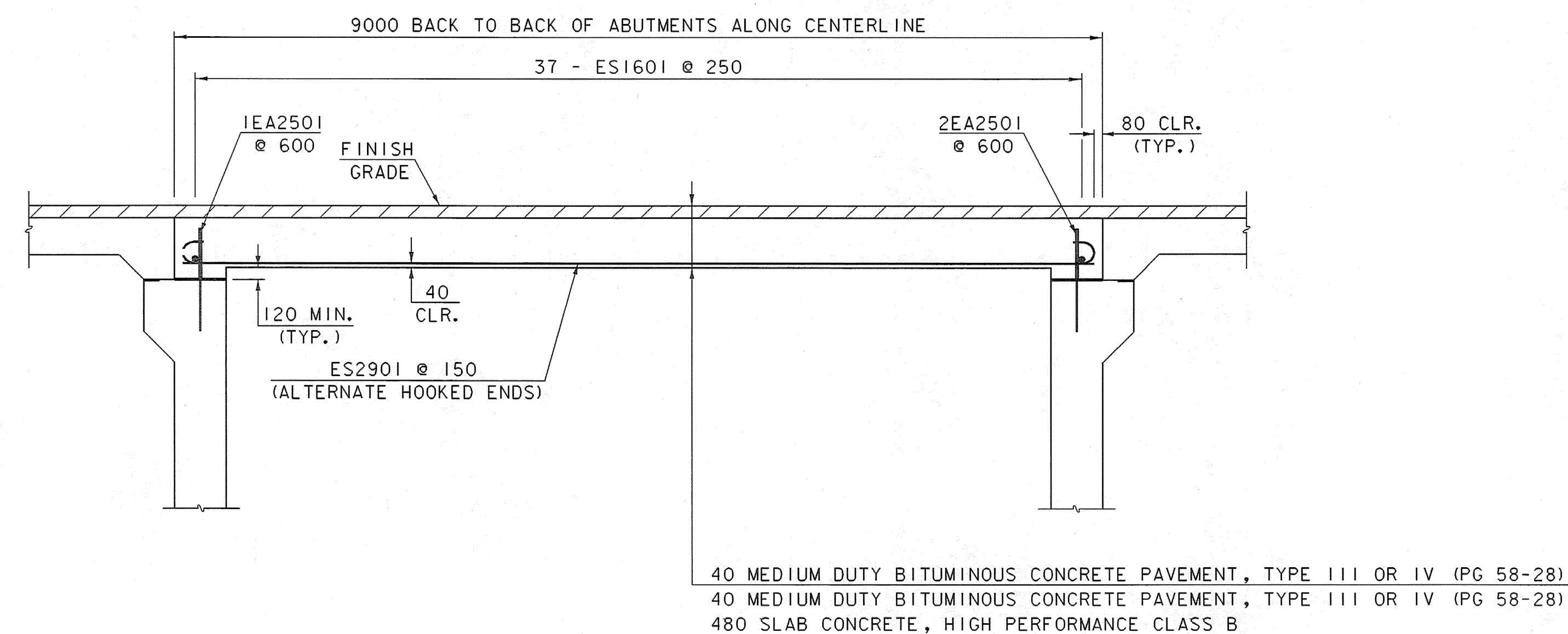
PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: J. PERRIGO
SHEET 34 OF 59



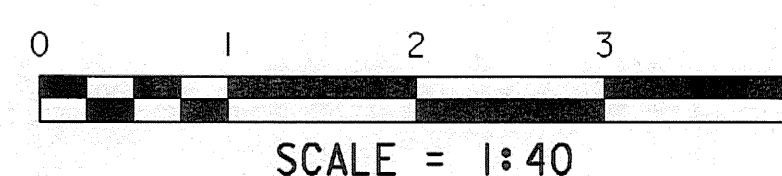
SET CONSTRUCTION FORMS TO THIS CAMBER

CAMBER DIAGRAM

NTS



ELEVATION ALONG CENTERLINE



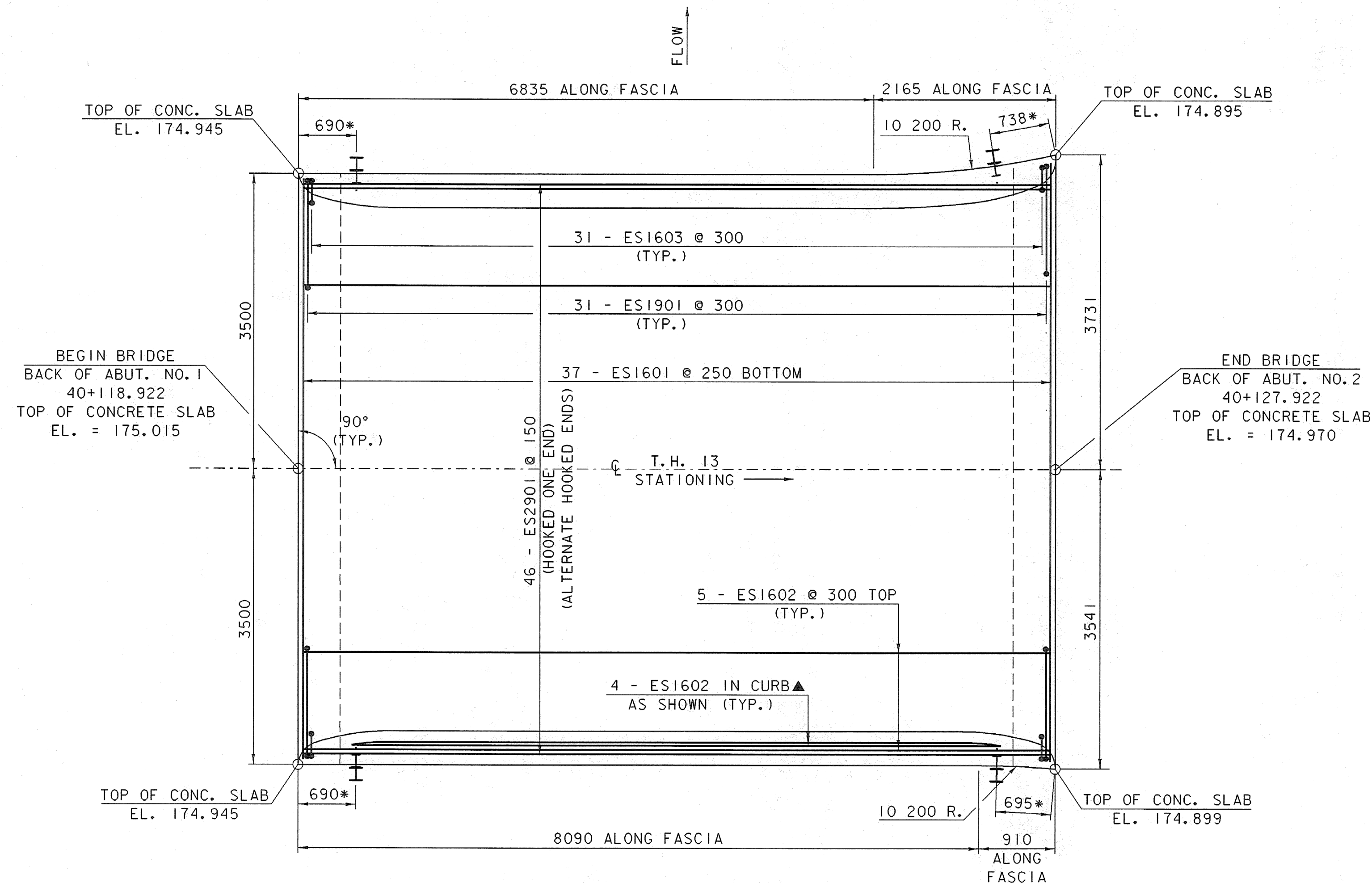
NOTE:

NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

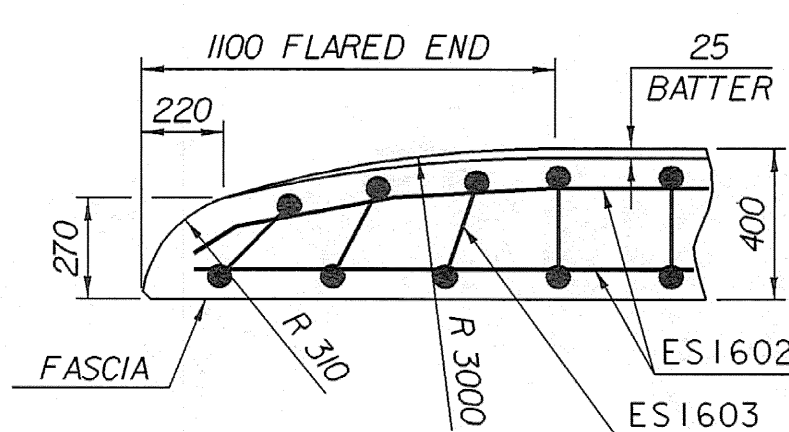
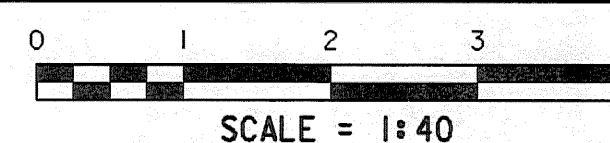
SLAB REINFORCING DETAILS

PROJECT NAME:	GUILFORD	PLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	L. BULLOCK
FILE NAME:	sj076+y2.1	CHECKED BY:	T. LACKEY
PROJECT LEADER:	R. WHITCOMB	SHEET	35 OF 59
DESIGNED BY:	J. PERRIGO		
94j076\Structures\sj076sup.dgn			

* DISTANCE MEASURED ALONG FASCIA

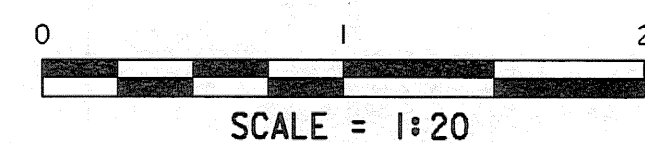


DECK REINFORCING PLAN



FLARED END FOR 400 CURB

BARS SHALL BE TURNED AS REQUIRED TO FIT FLARED ENDS



NOTE:

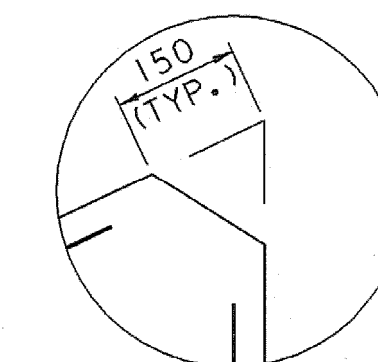
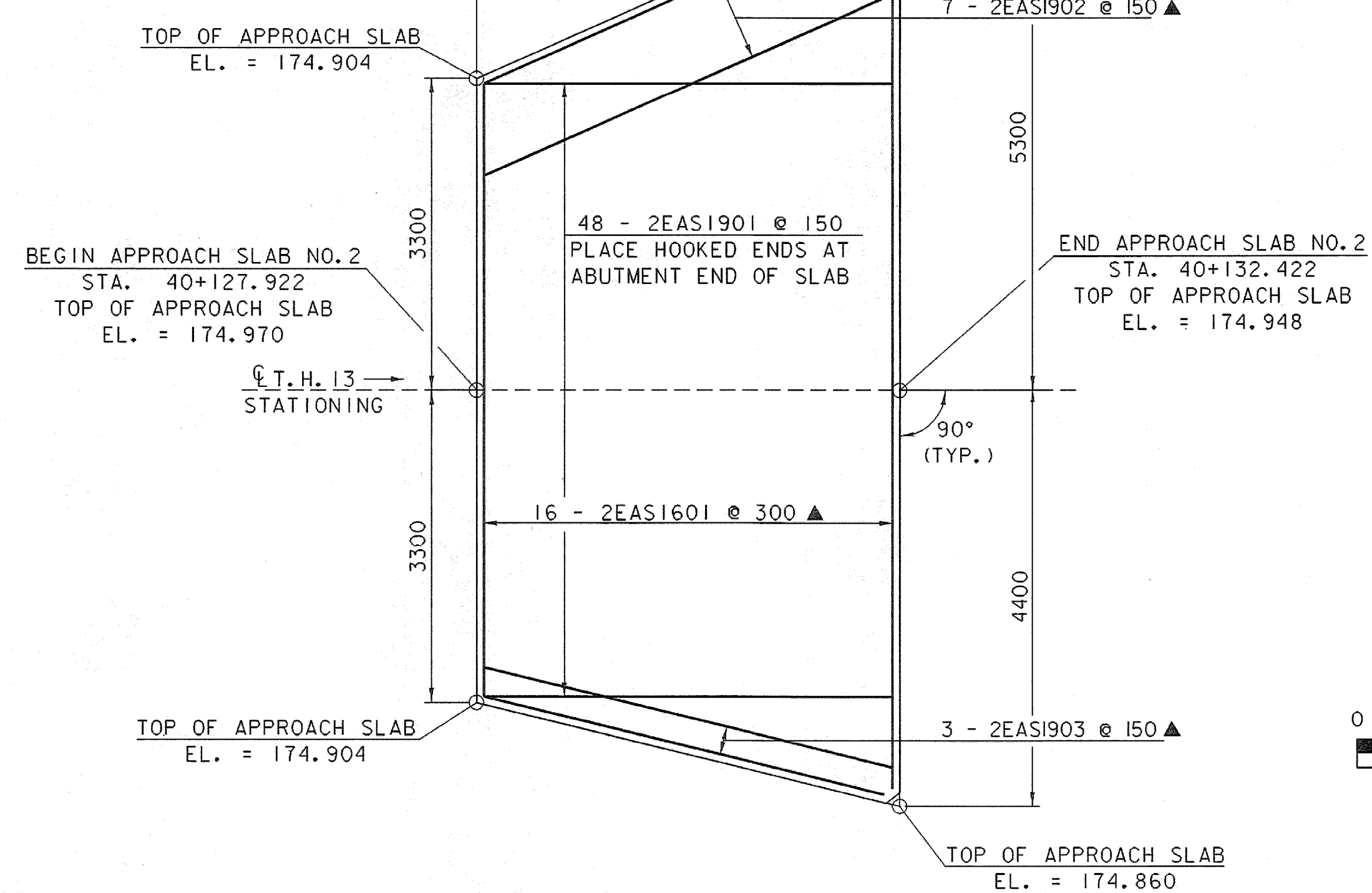
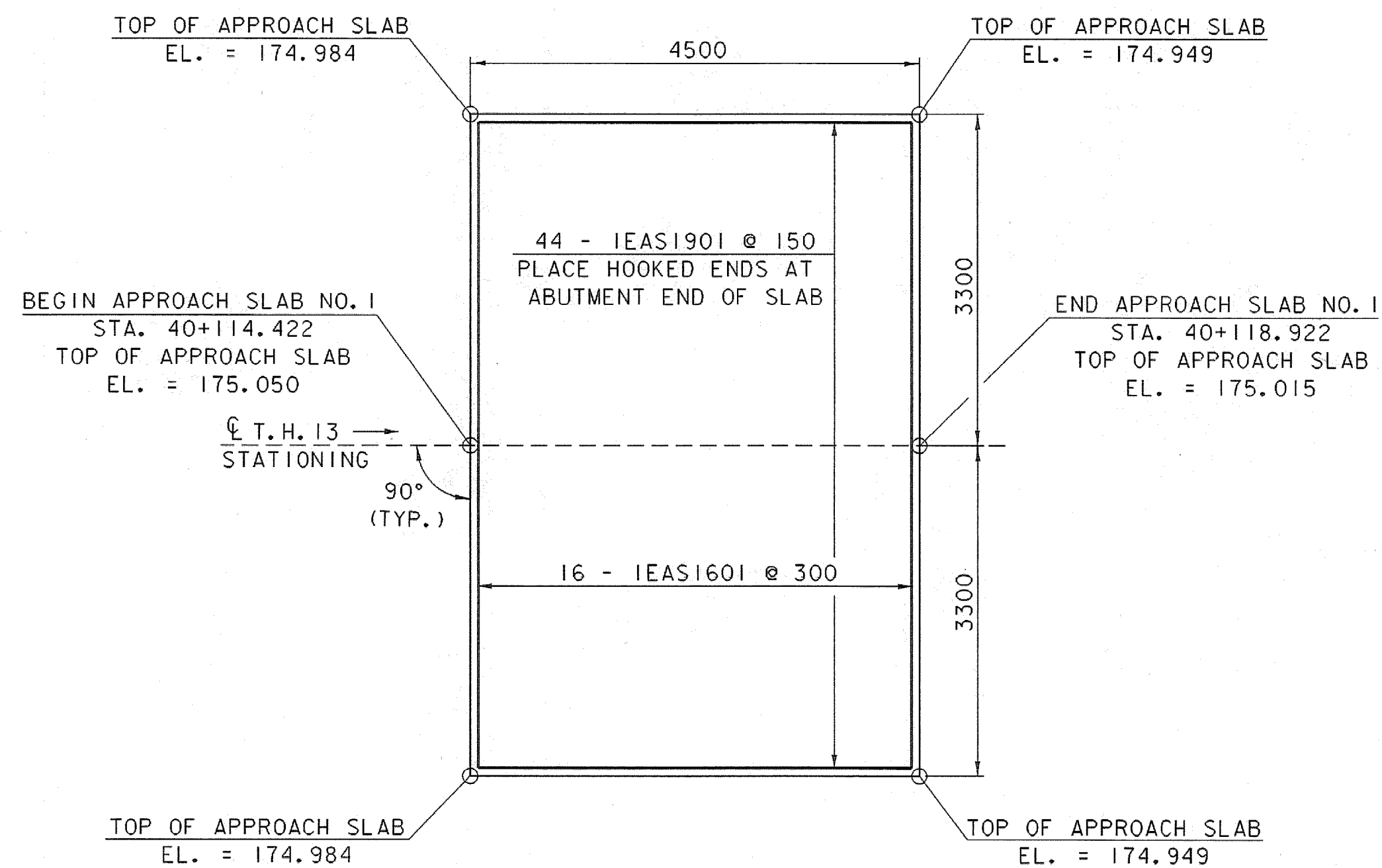
- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- 80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

DECK REINFORCING PLAN

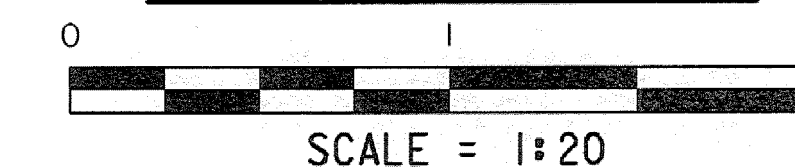
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076+y2.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94\076\Structures\sj076sup.dgn

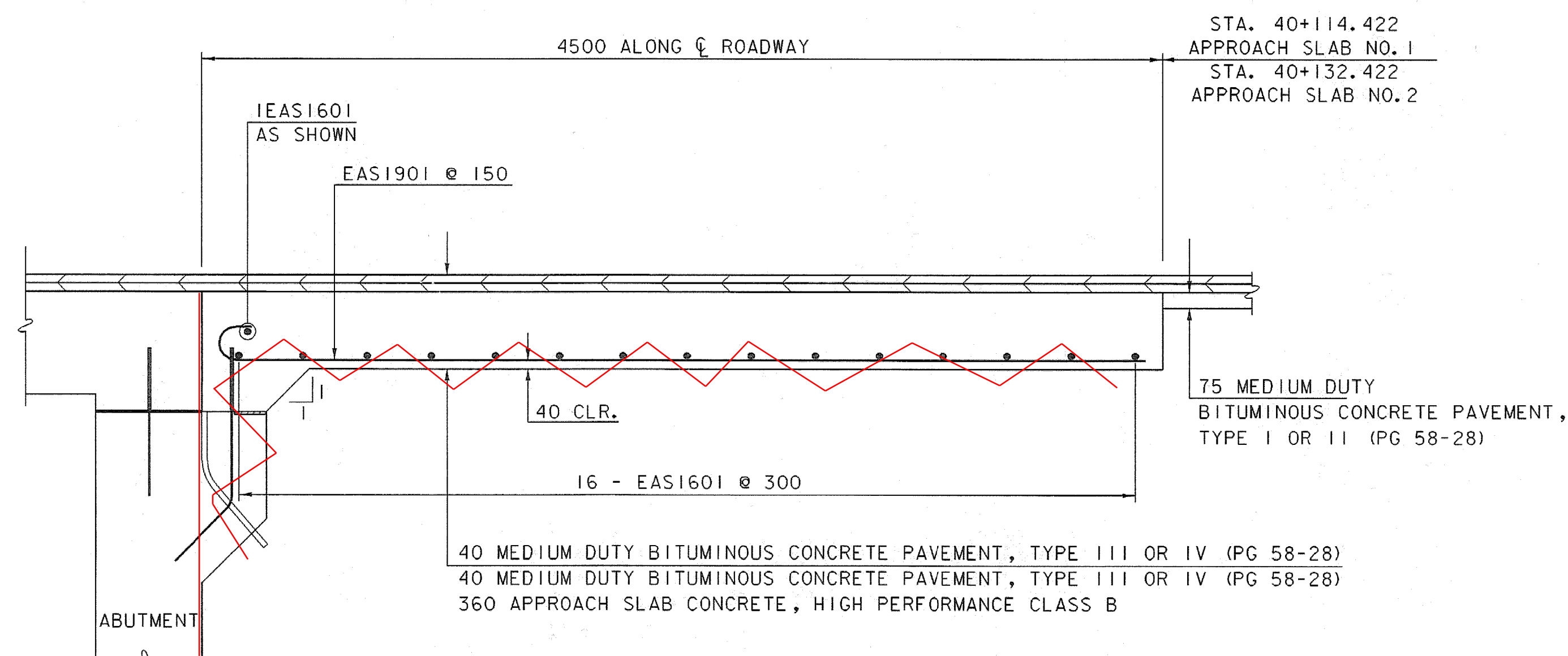
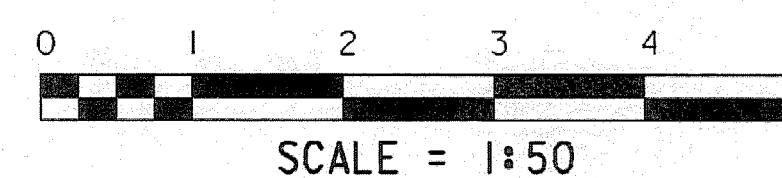
PLOT DATE: 15-APR-2008
DRAWN BY: L. BULLOCK
CHECKED BY: T. LACKEY
SHEET 36 OF 59



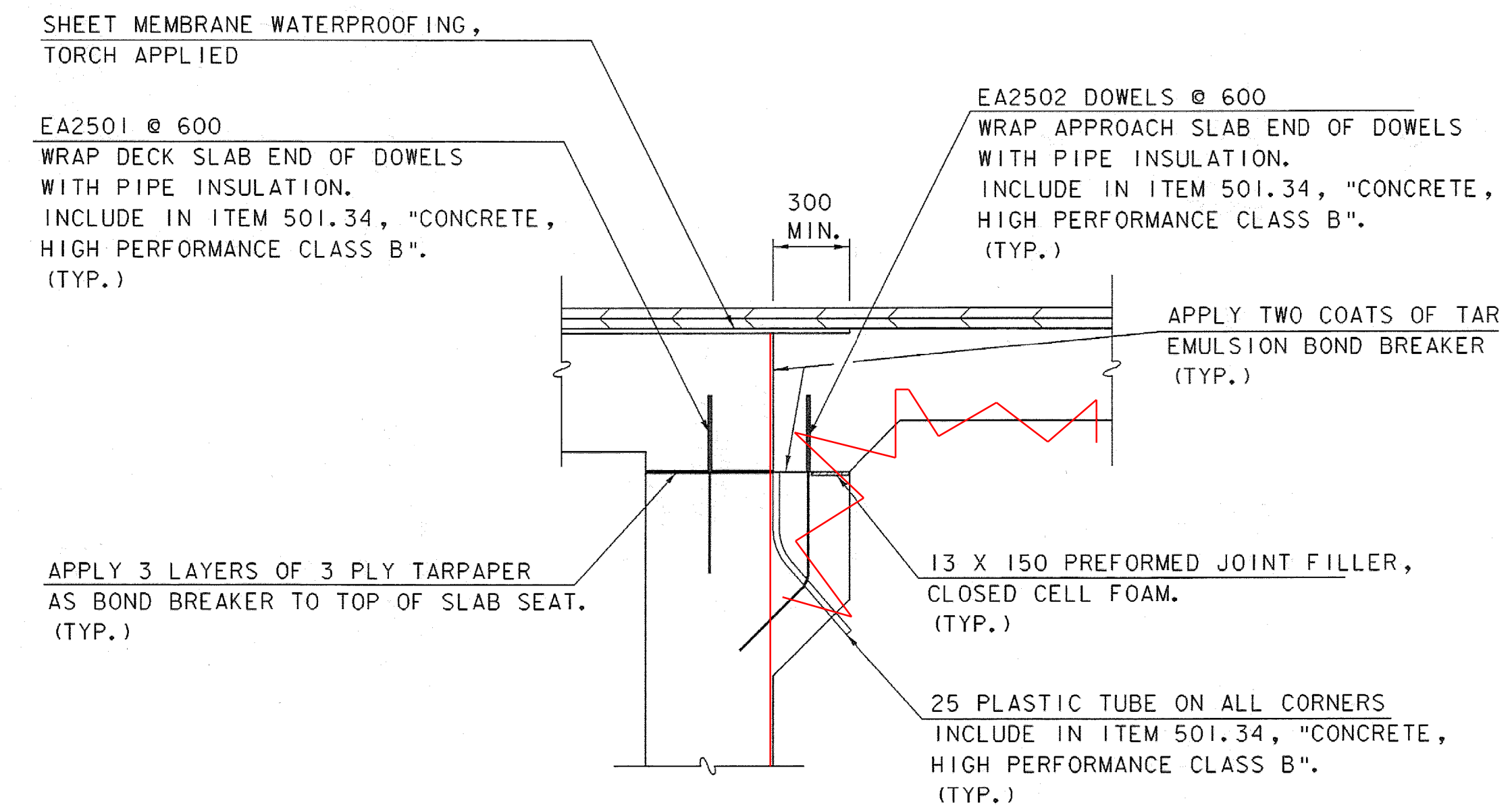
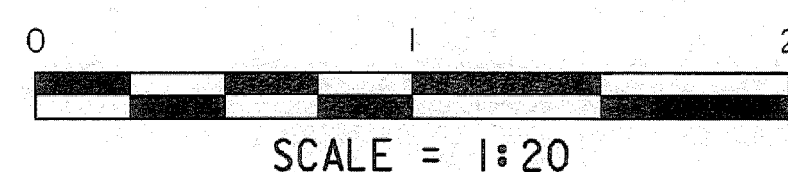
CHAMFER DETAIL



APPROACH SLABS ELIMINATED
APPROACH SLAB PLAN



APPROACH SLAB DETAIL



BRIDGE END DETAIL

NTS

NOTE:

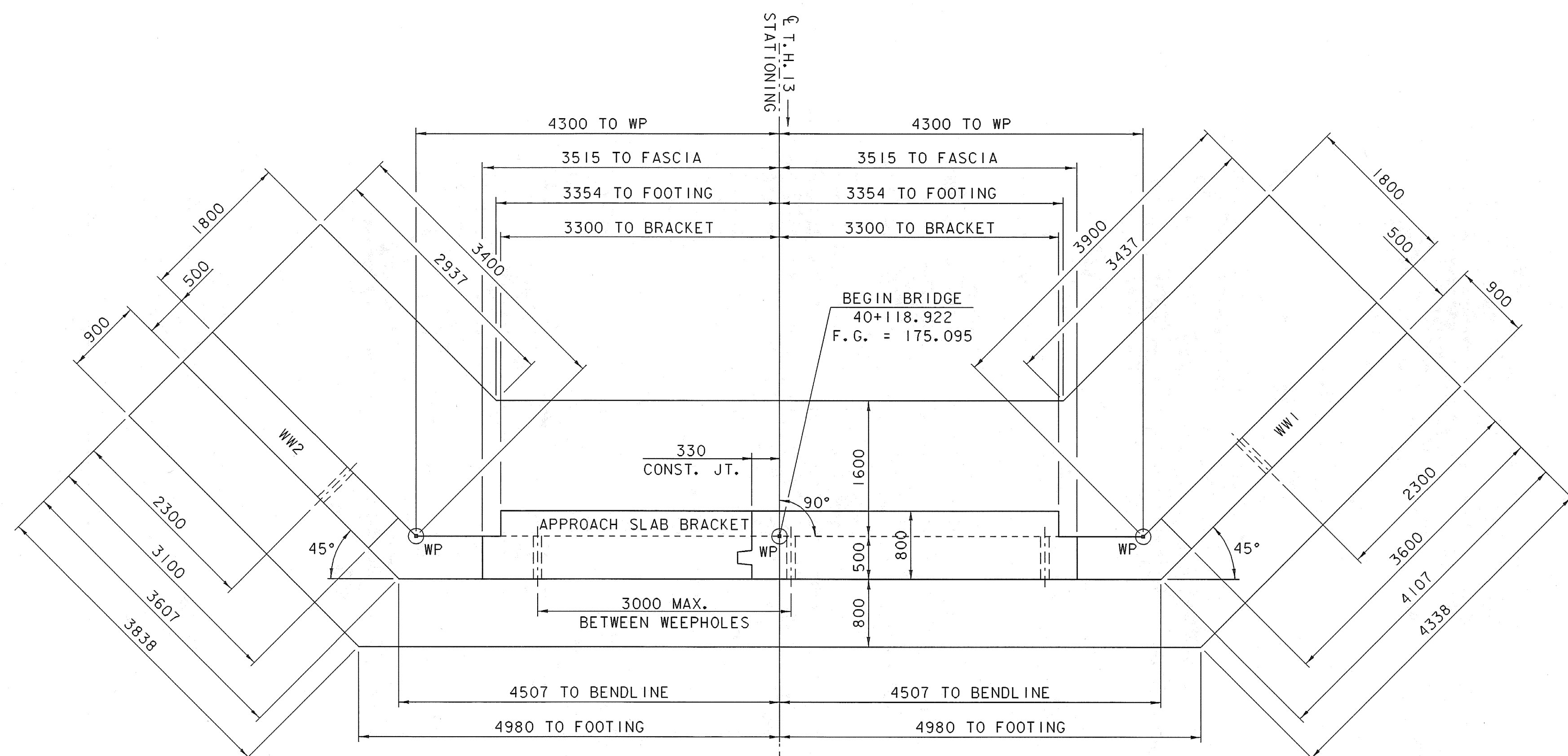
- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- 80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

APPROACH SLAB DETAILS

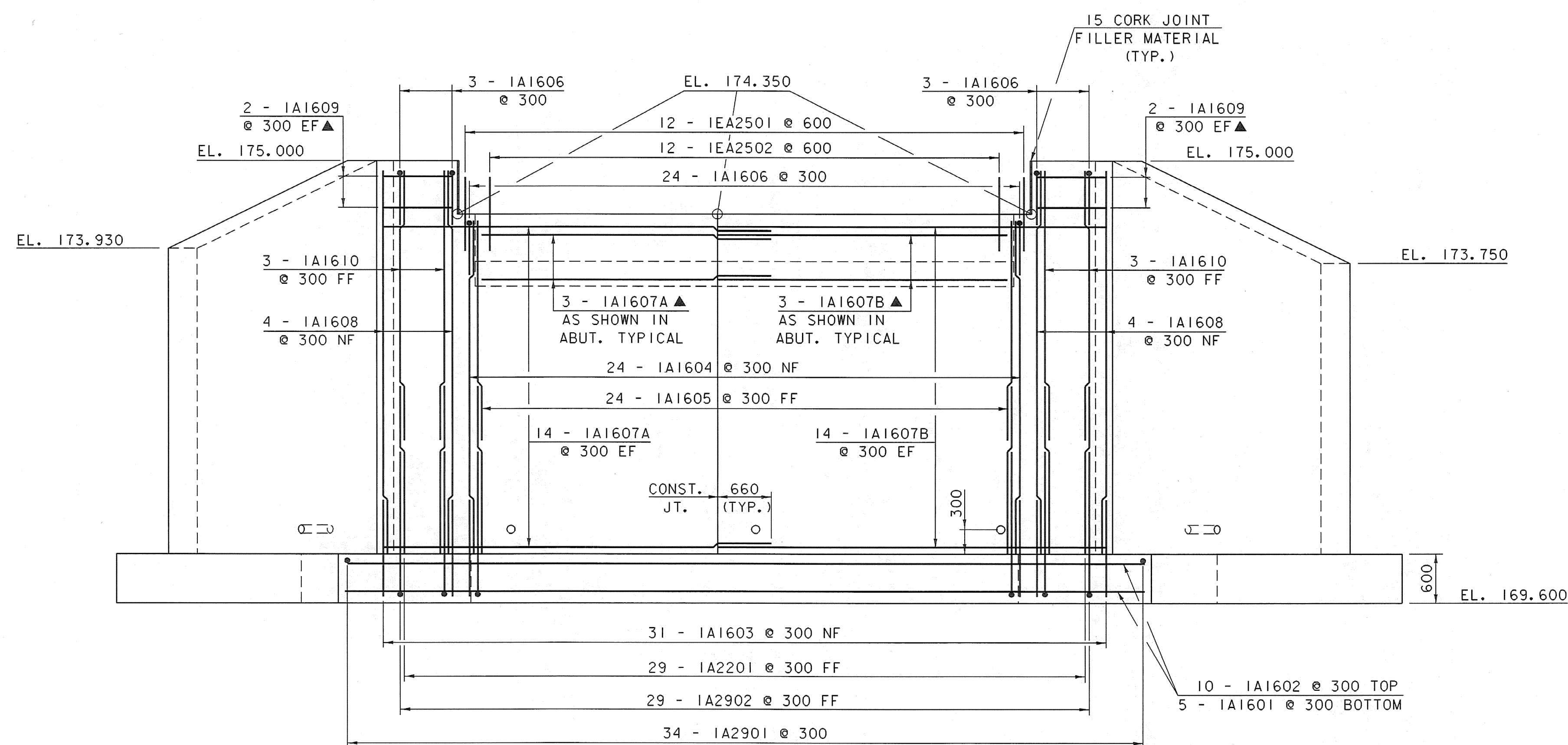
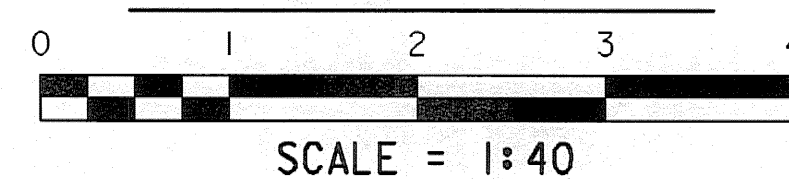
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076ty2.j
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94j076\Structures\sj076sup.dgn

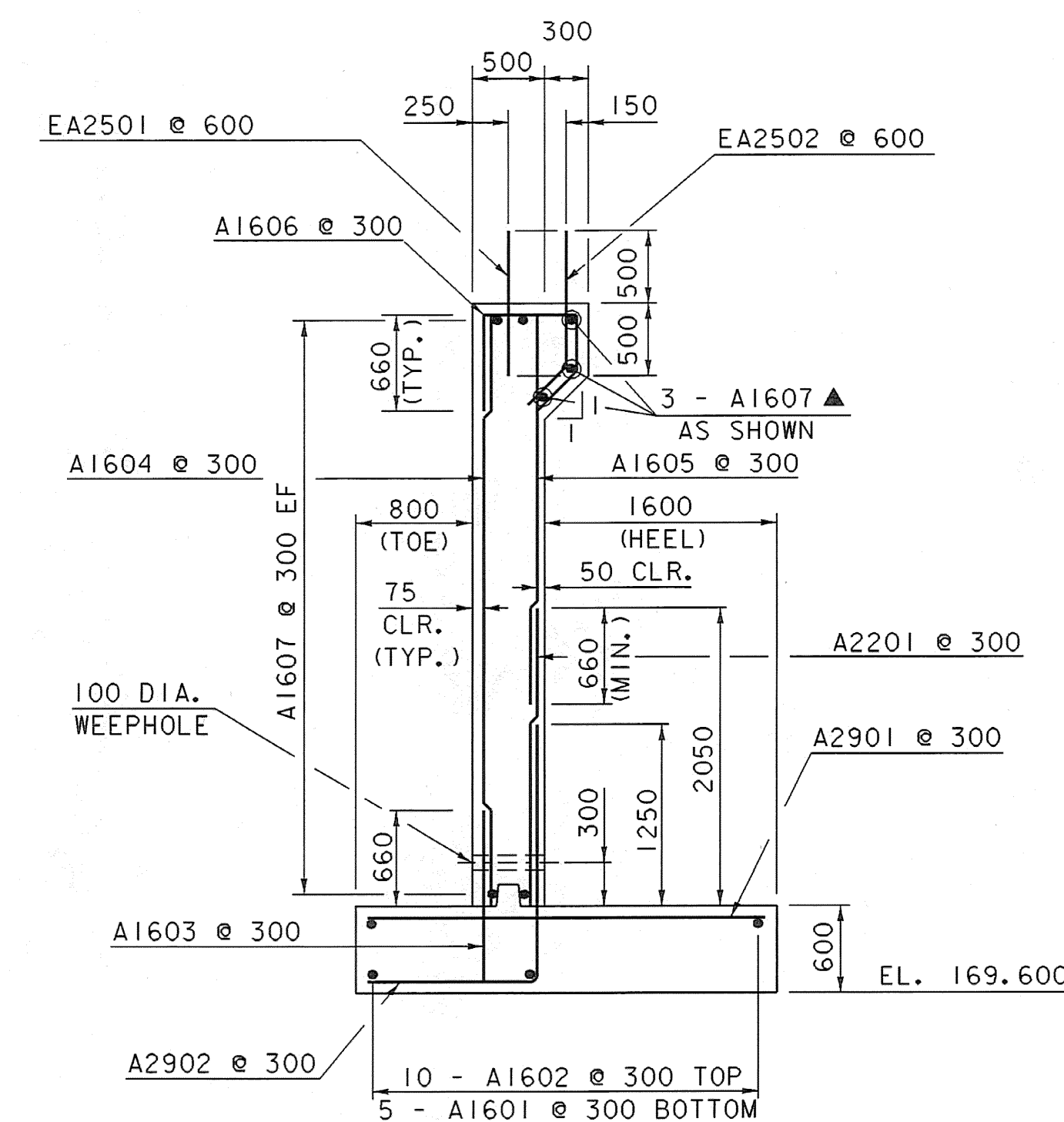
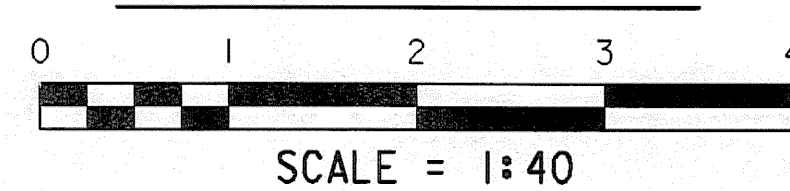
PLOT DATE: 15-APR-2008
DRAWN BY: L. BULLOCK
CHECKED BY: T. LACKEY
SHEET 37 OF 59



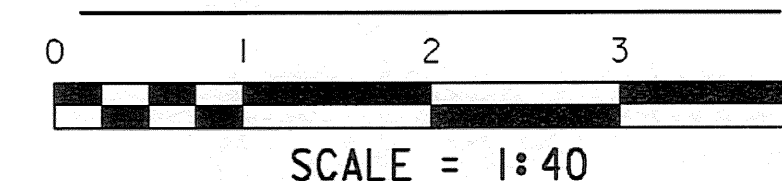
ABUTMENT NO. 1



ABUTMENT NO. 1



ABUTMENT TYPICAL

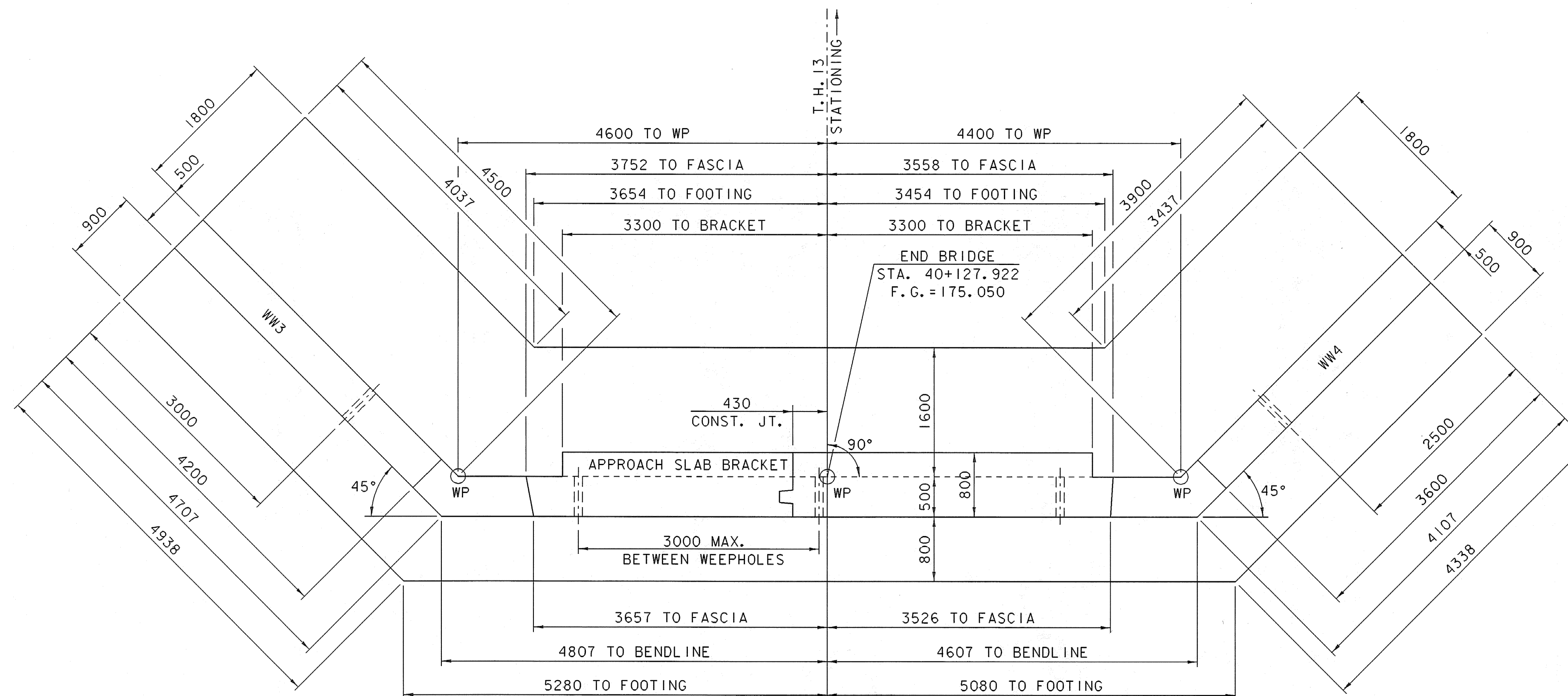


NOTE:

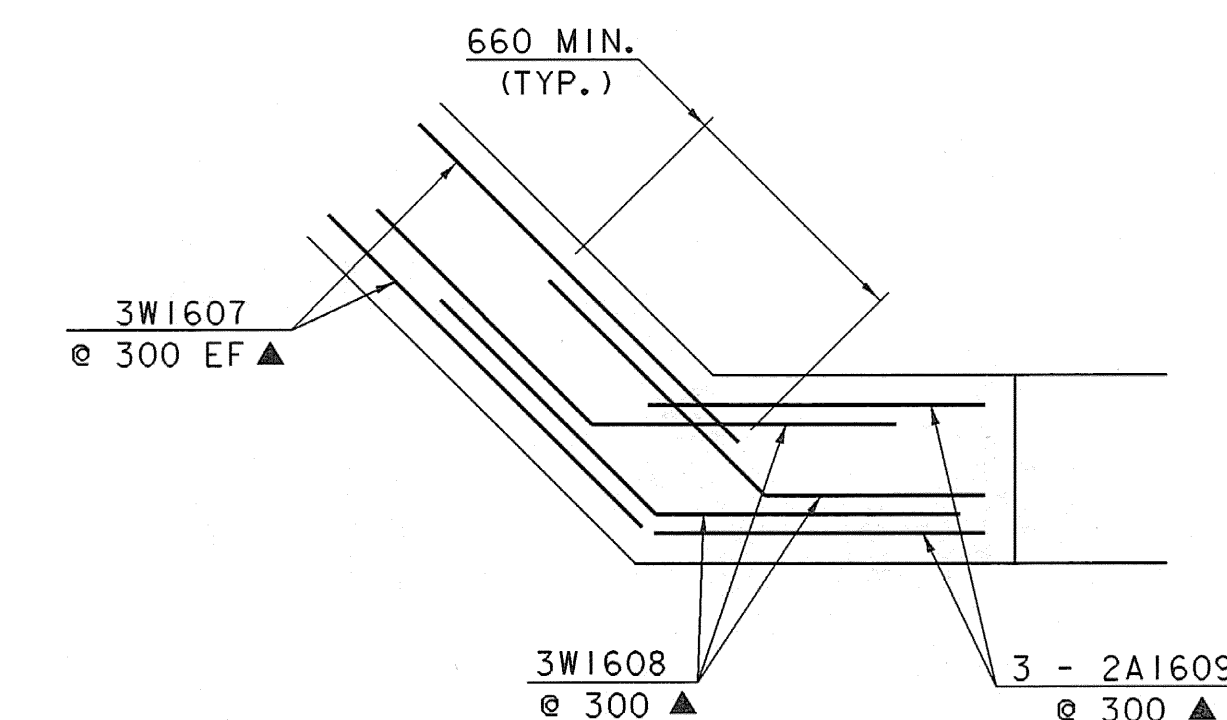
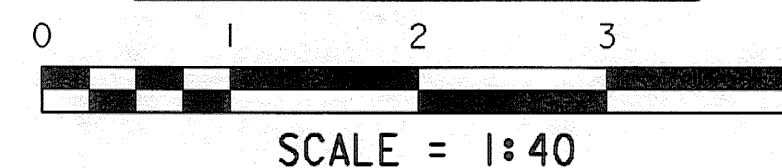
NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ABUTMENT 1 DETAILS

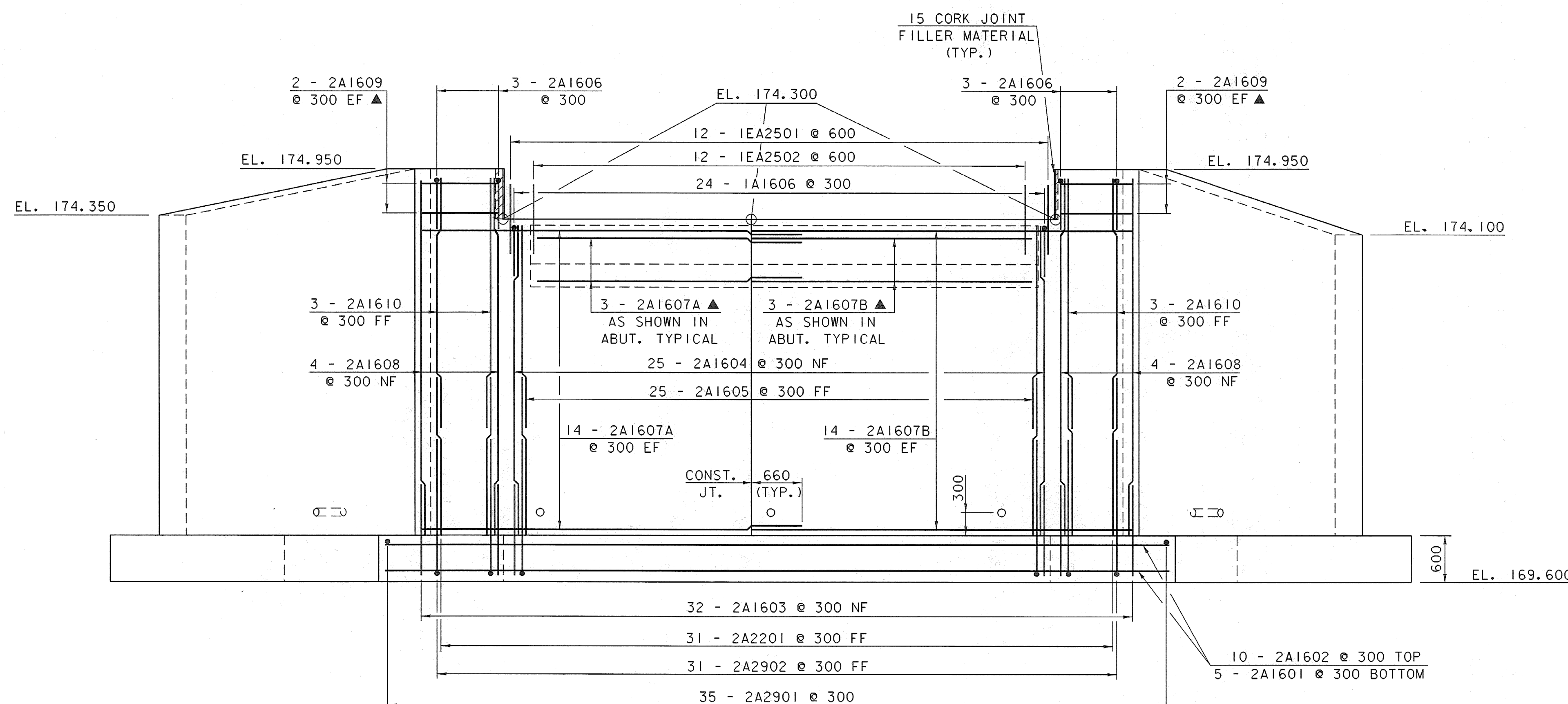
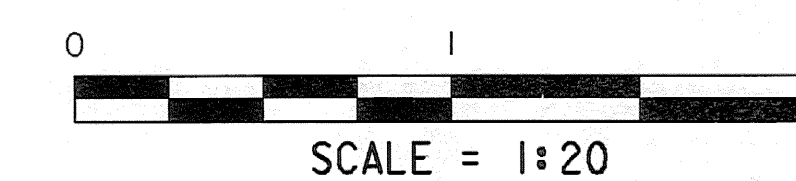
PROJECT NAME: GUILFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: L. BULLOCK
FILE NAME: sj076abl.i	CHECKED BY: T. LACKEY
PROJECT LEADER: R. WHITCOMB	SHEET 38 OF 59
DESIGNED BY: J. PERRIGO	
94J076\Structures\sj076ab.dgn	



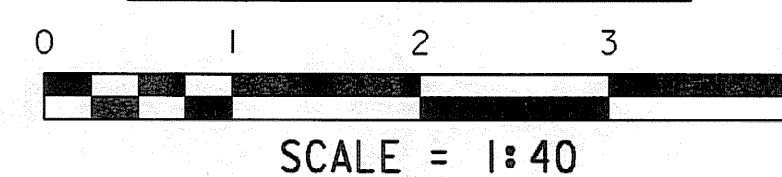
ABUTMENT NO. 2



**WINGWALL NO. 3
CORNER REINFORCING DETAIL
BELOW BRIDGE SEAT**
(WINGWALL NOS. 1, 2, & 4 SIMILAR)



ABUTMENT NO. 2

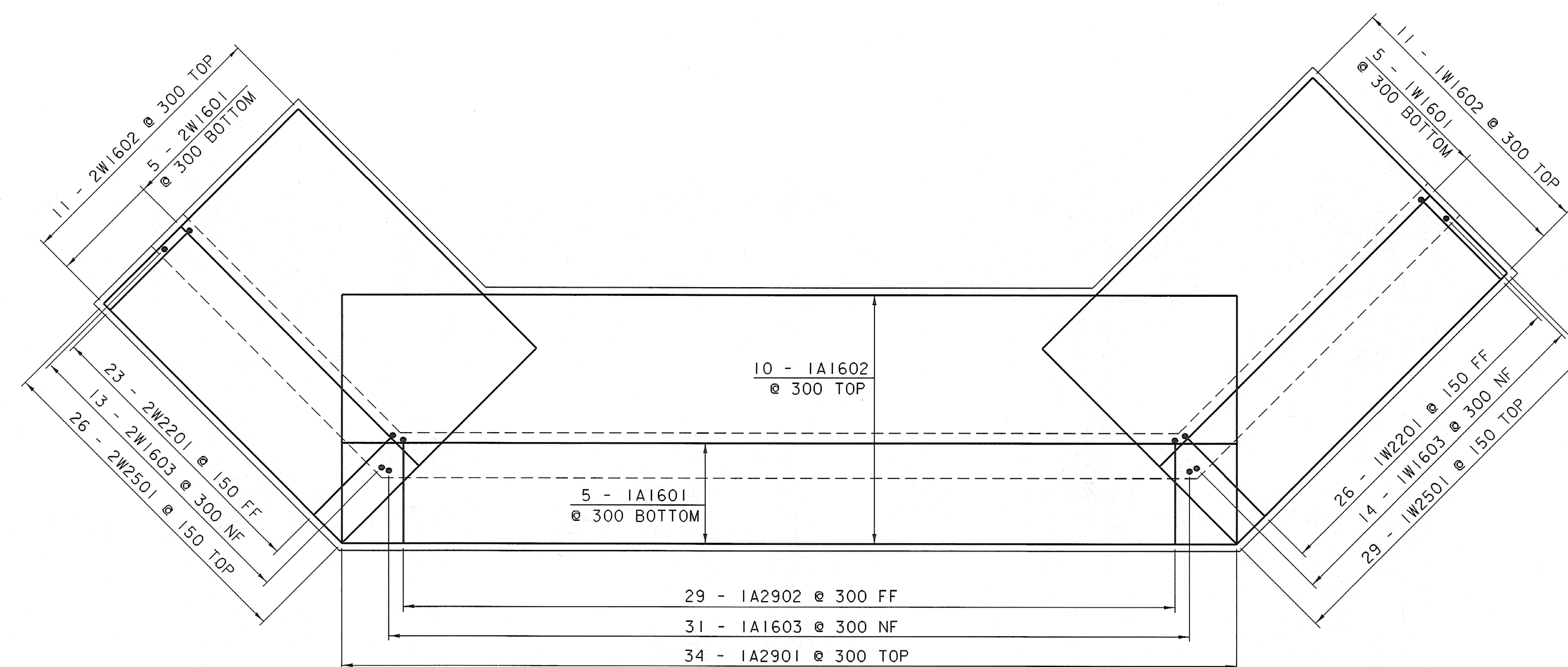


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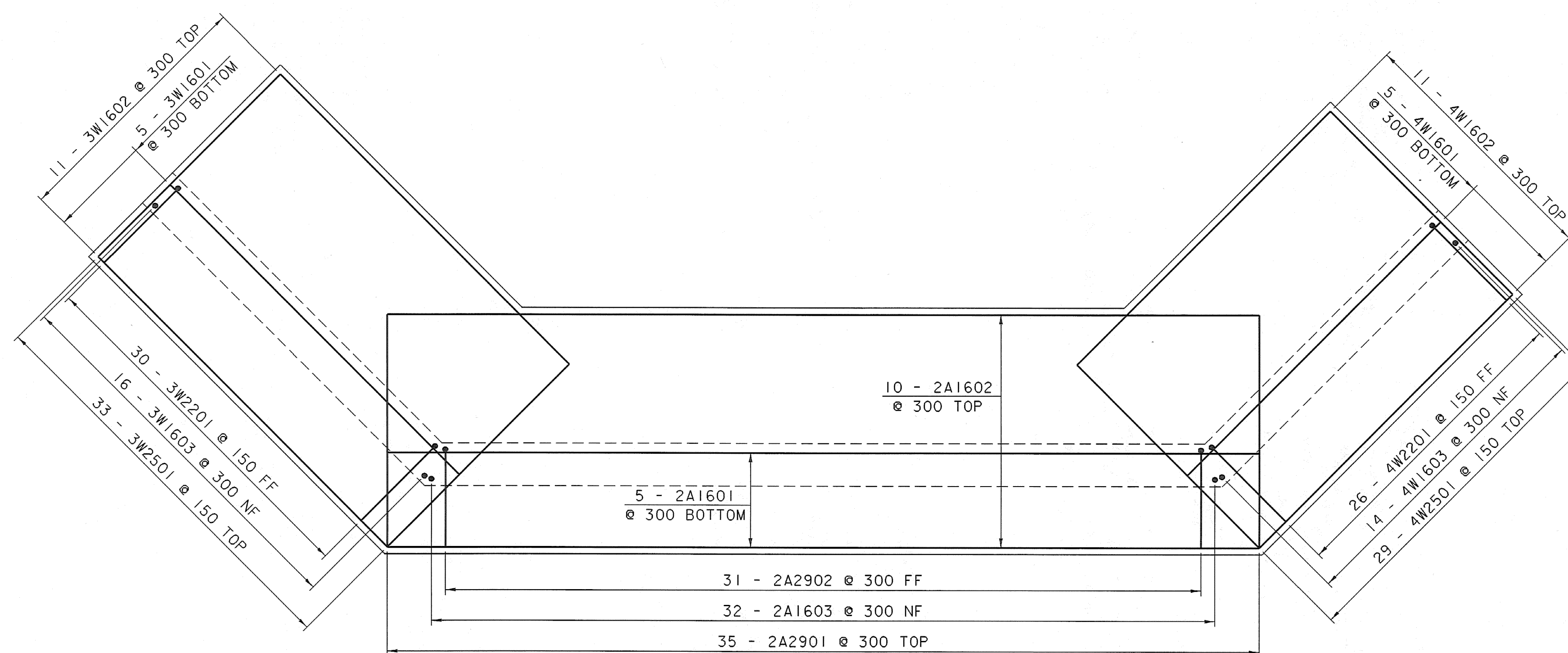
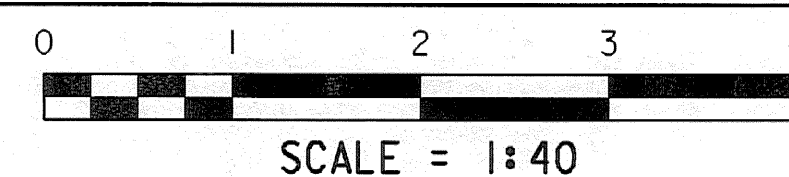
- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- 80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ABUTMENT 2 DETAILS

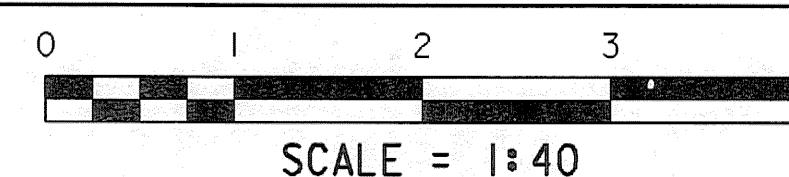
PROJECT NAME: GUILFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: L. BULLOCK
FILE NAME: sj076ab2.1	CHECKED BY: T. LACKEY
PROJECT LEADER: R. WHITCOMB	SHEET 39 OF 59
DESIGNED BY: J. PERRIGO	
94J076\Structures\sj076ab.dgn	



ABUTMENT NO. 1 FOOTING REINFORCING PLAN



ABUTMENT NO. 2 FOOTING REINFORCING PLAN

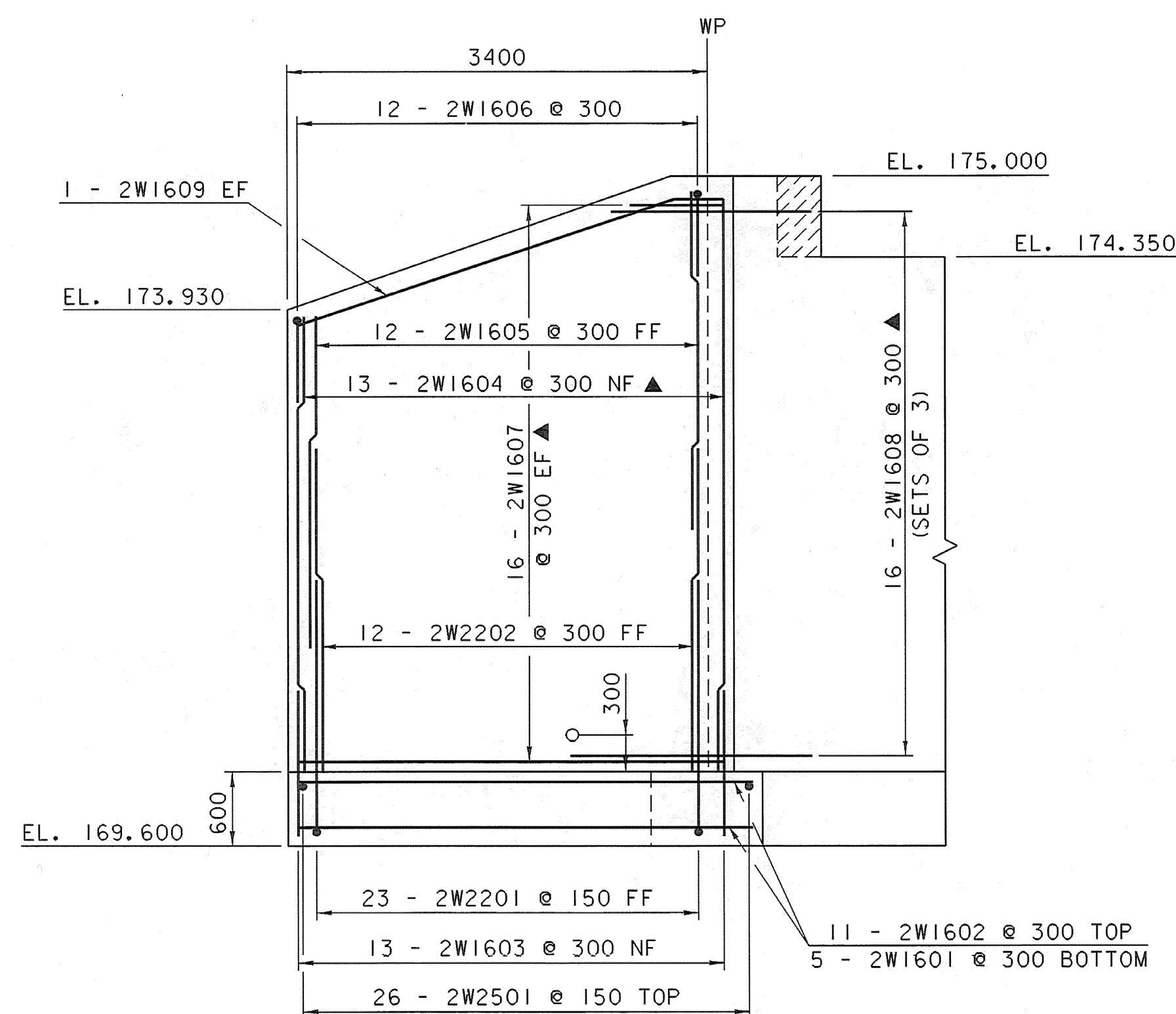


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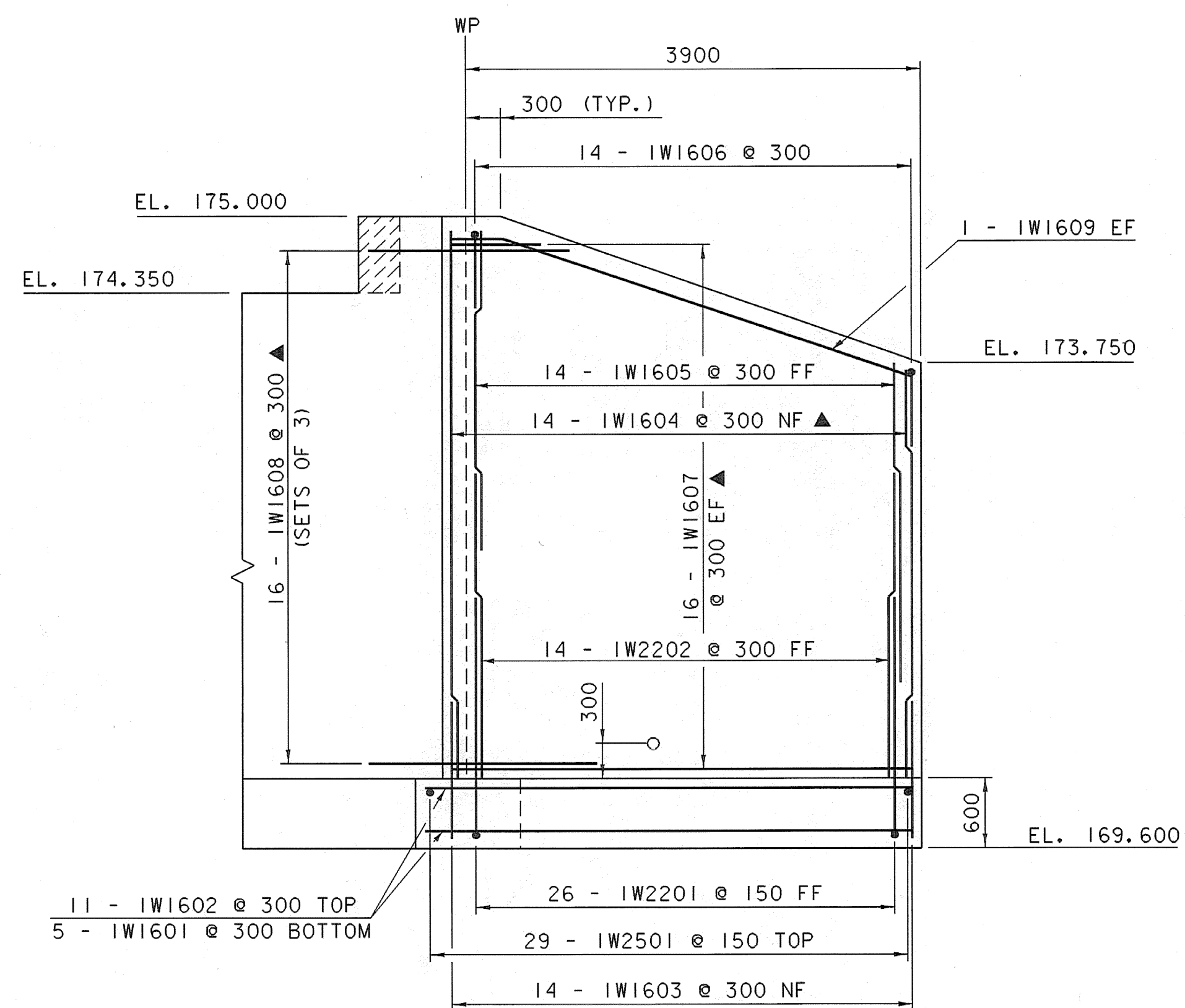
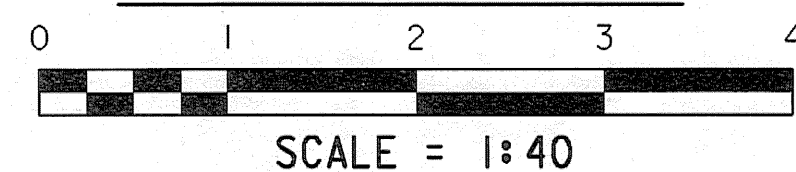
NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

FOOTING REINFORCING DETAILS

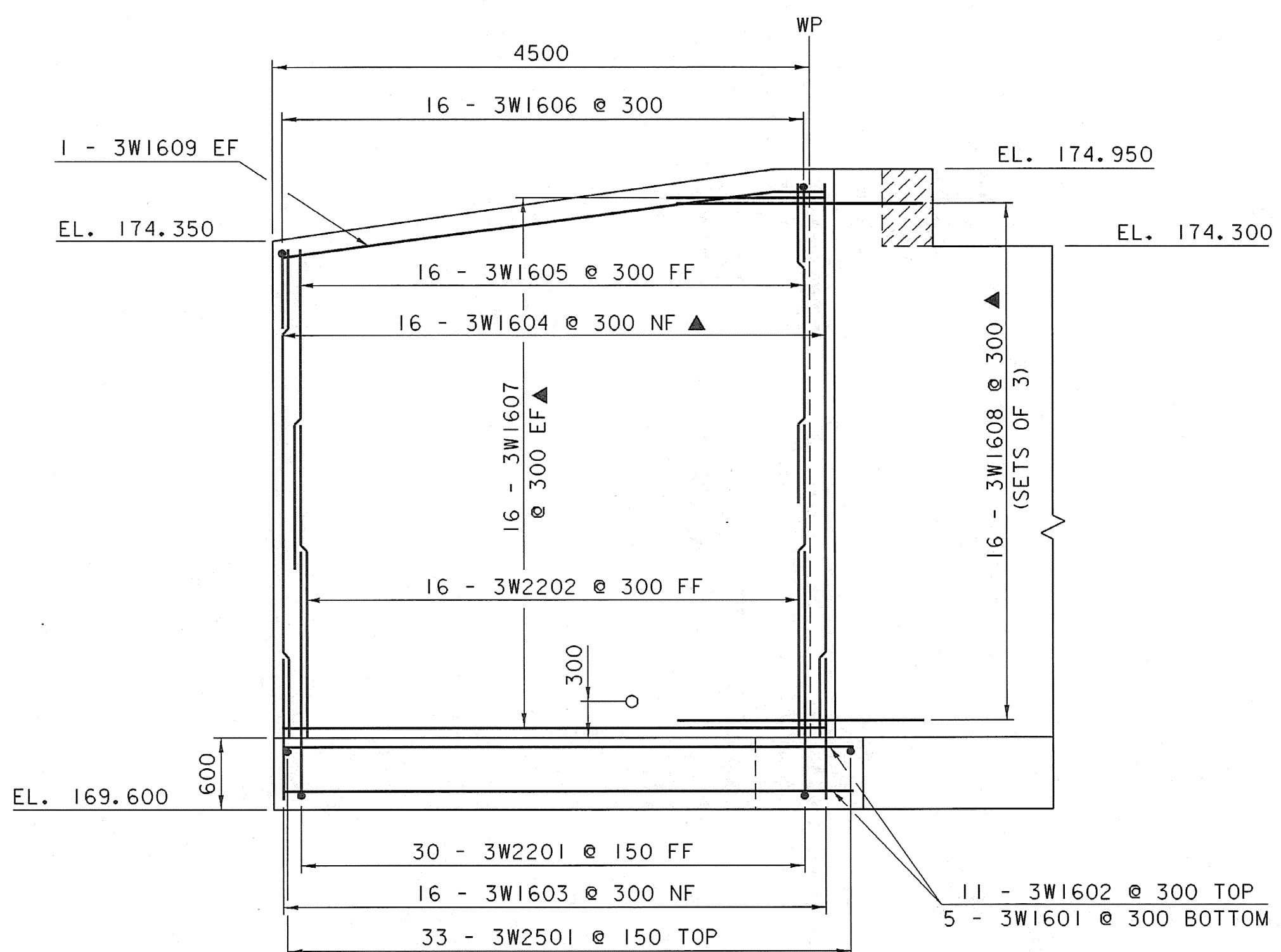
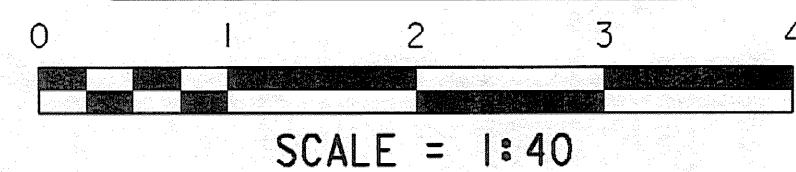
PROJECT NAME: GUILFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: L. BULLOCK
FILE NAME: sj076fftg.i	CHECKED BY: T. LACKEY
PROJECT LEADER: R. WHITCOMB	SHEET 40 OF 59
DESIGNED BY: J. FERRIGO	
94J076\Structures\sj076ab.dgn	



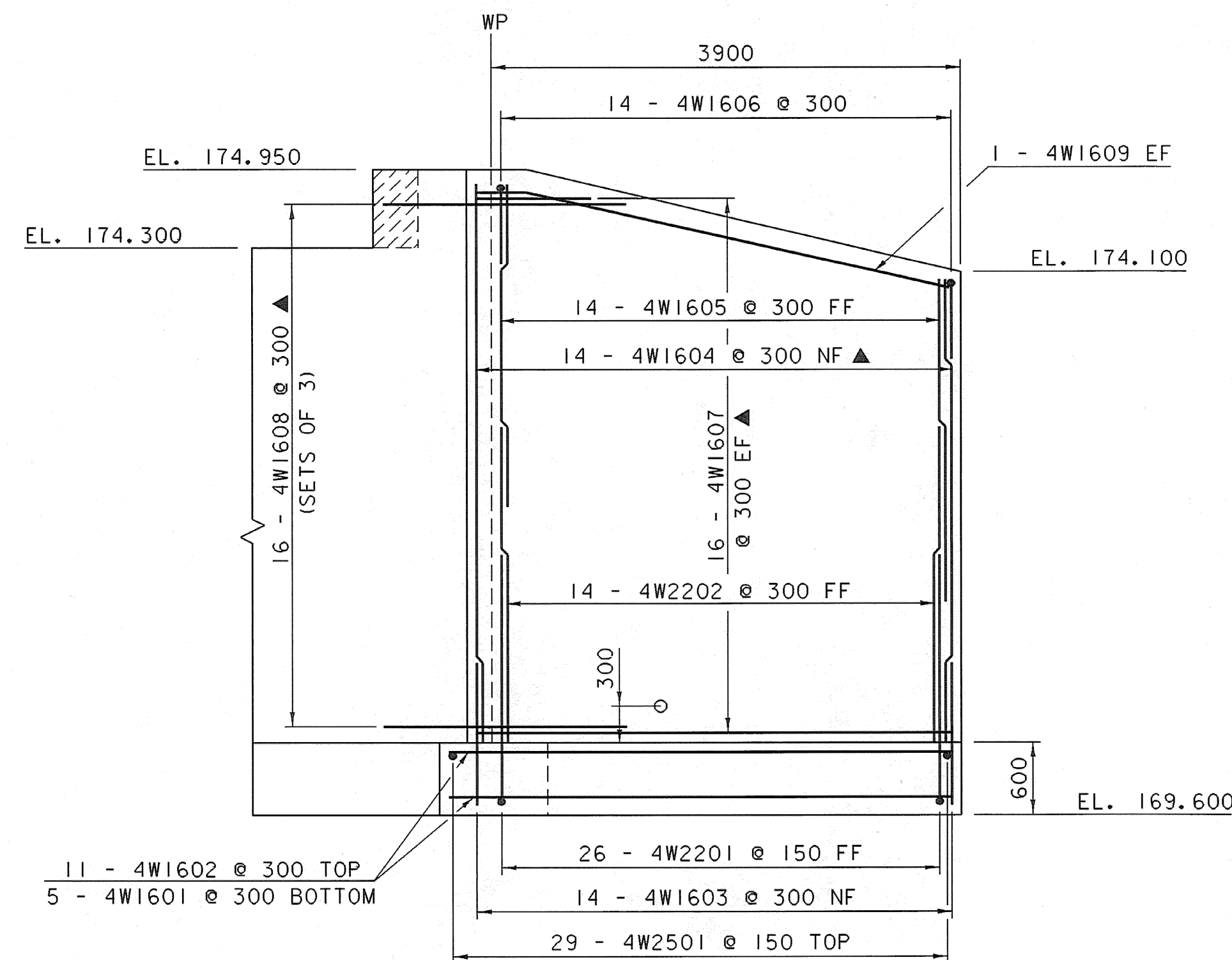
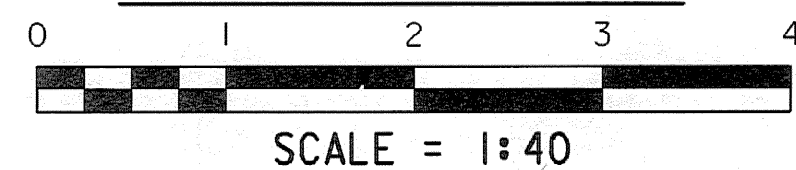
WINGWALL NO. 2



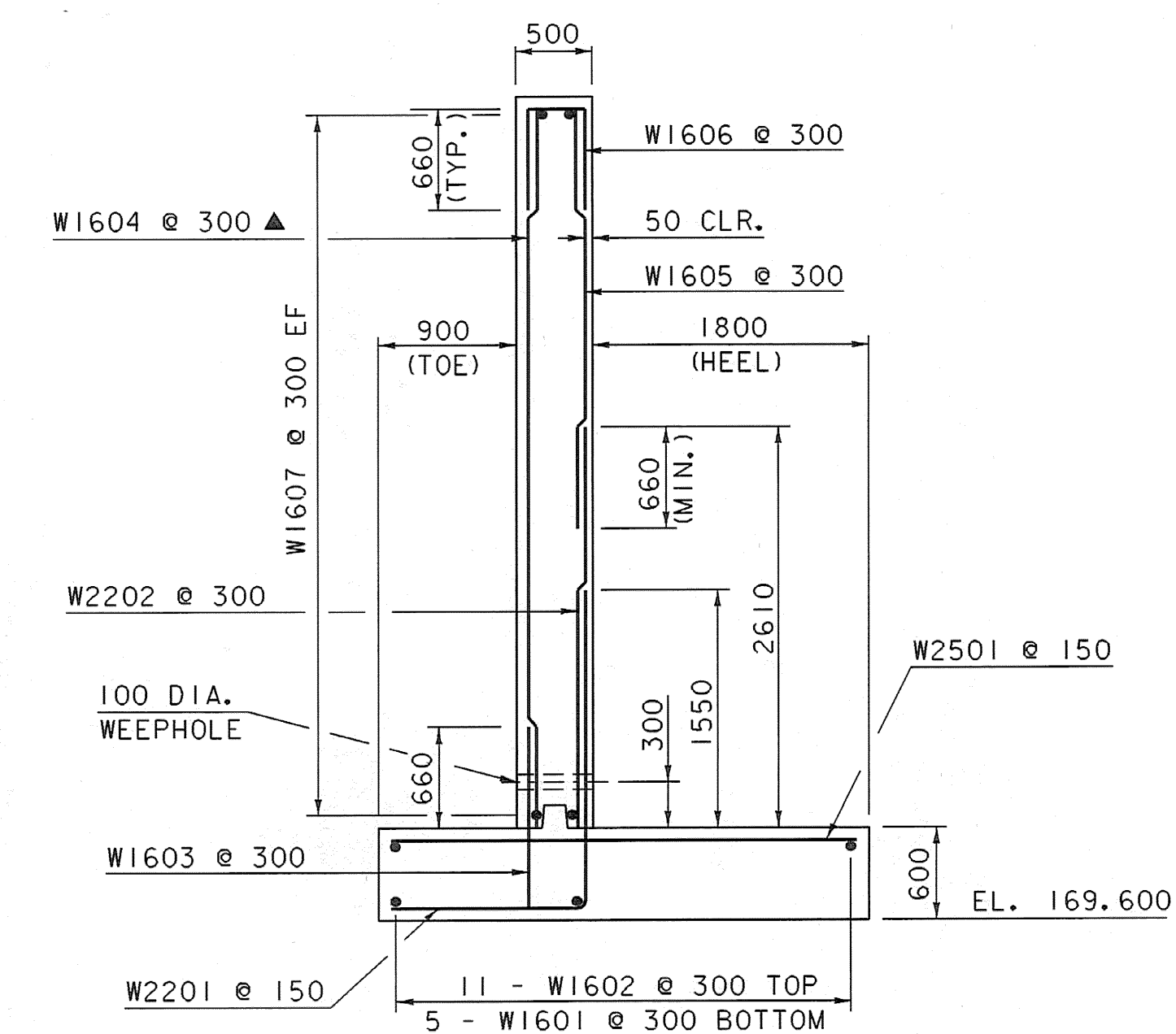
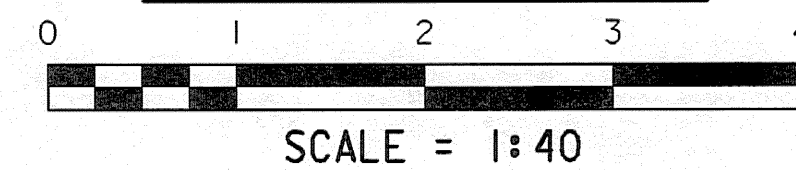
WINGWALL NO. 1



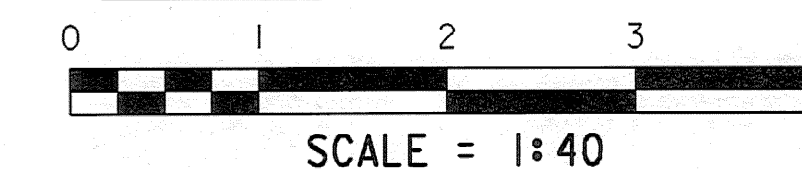
WINGWALL NO. 3



WINGWALL NO. 4



WINGWALL TYPICAL

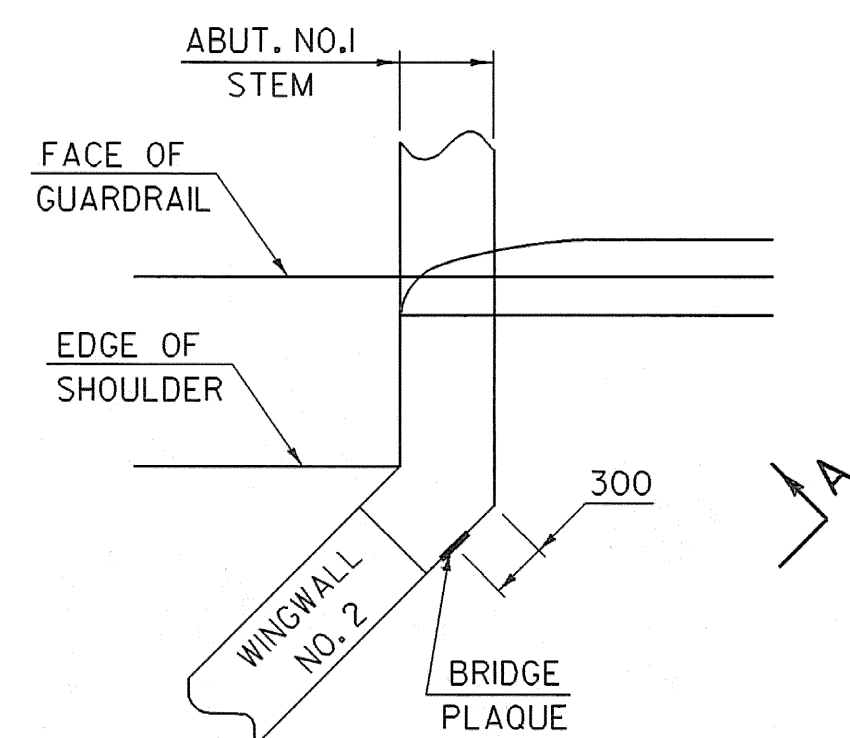


NOTE:

- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- 80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

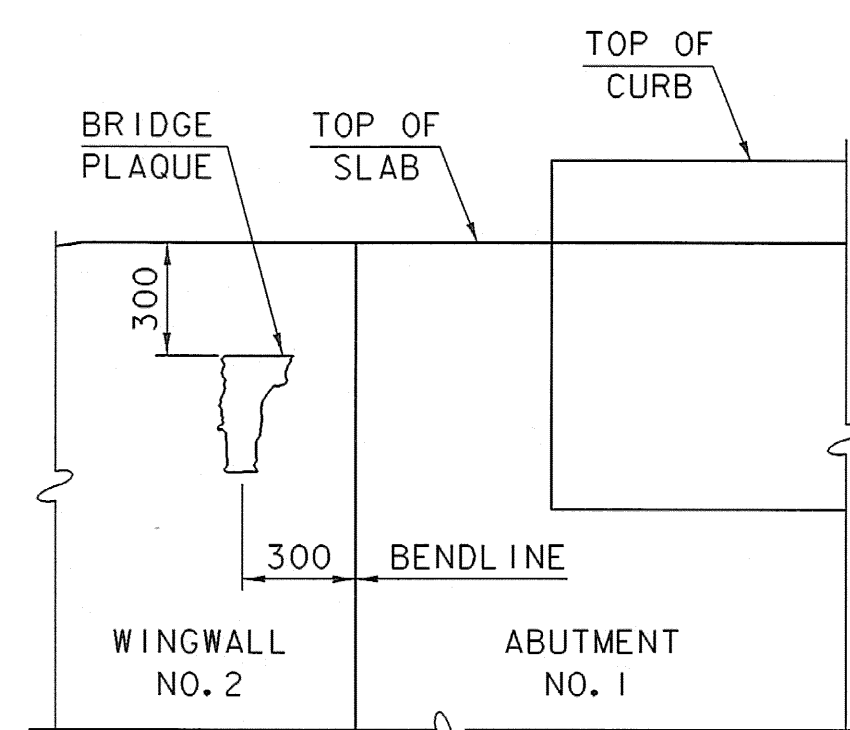
WINGWALL DETAILS

PROJECT NAME: GUILFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: L. BULLOCK
FILE NAME: sj076ww.i	CHECKED BY: T. LACKEY
PROJECT LEADER: R. WHITCOMB	SHEET 41 OF 59
DESIGNED BY: J. PERRIGO	
94J076\Structures\sj076ww.dgn	



PLAN

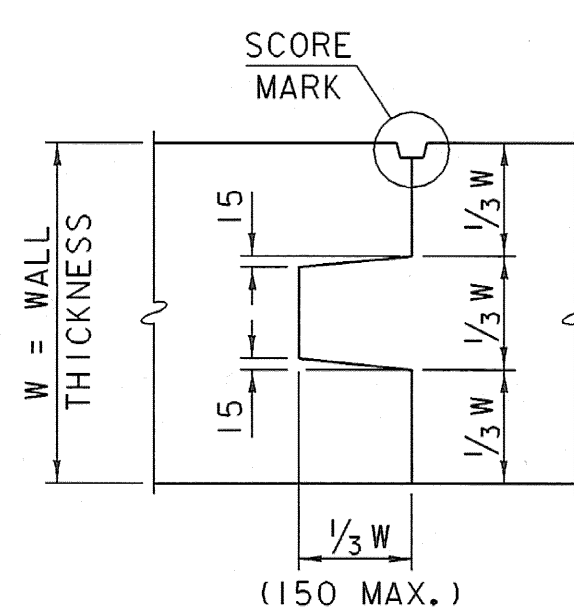
NOT TO SCALE



**VIEW "A-A"
BRIDGE PLAQUE DETAIL**

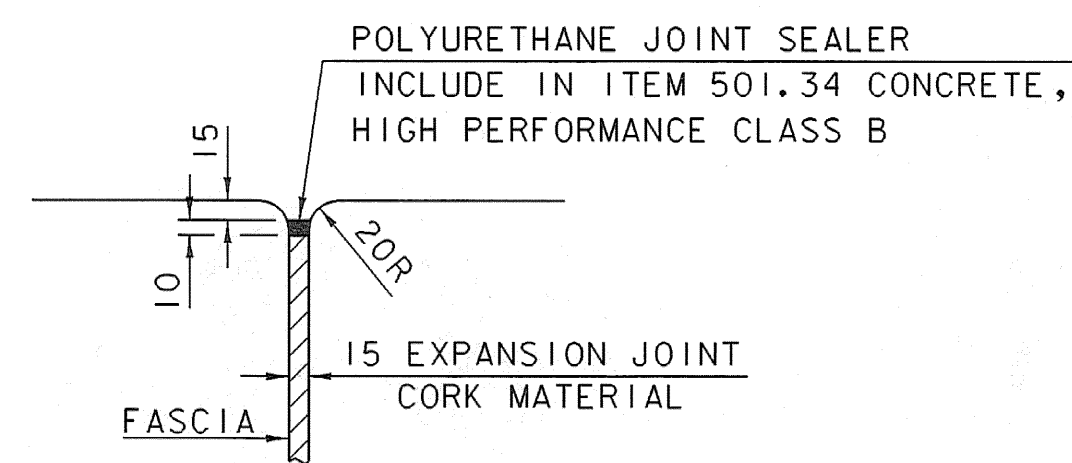
NOT TO SCALE

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AS SHOWN OR AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE INCIDENTAL TO ADJACENT CONCRETE ITEM.



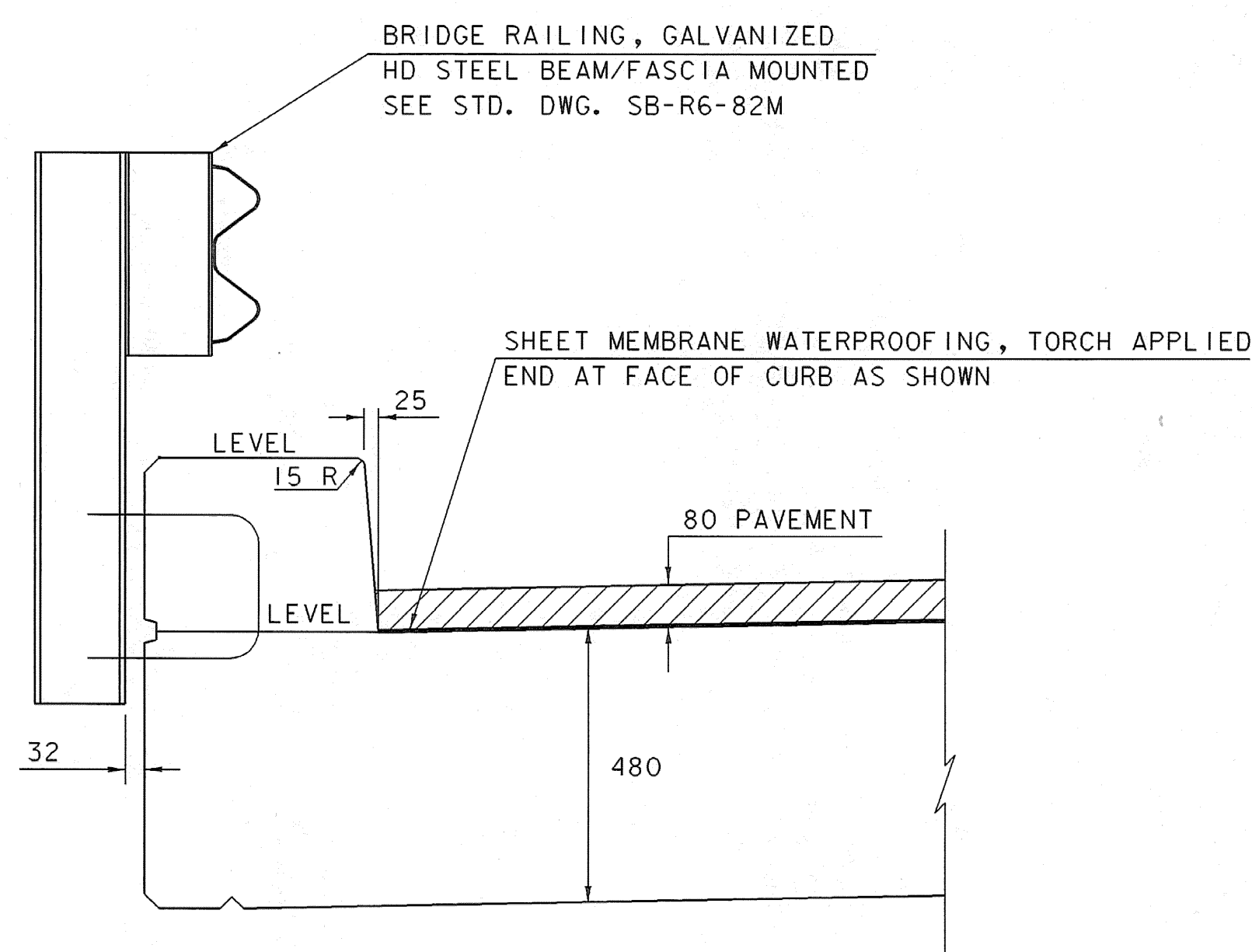
**TYPICAL CONCRETE
CONSTRUCTION JOINT**

NOT TO SCALE

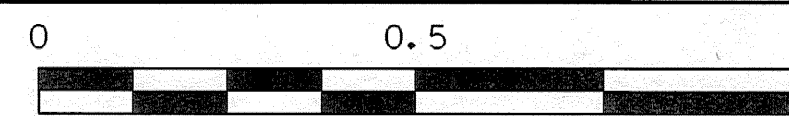


**JOINT BETWEEN FASCIA
AND WINGWALL**

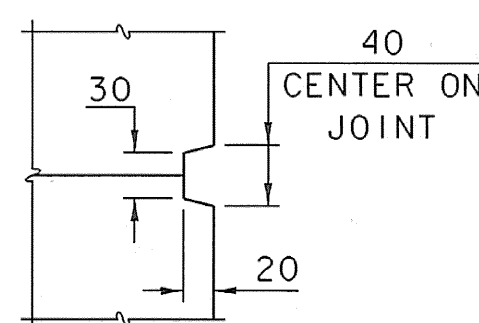
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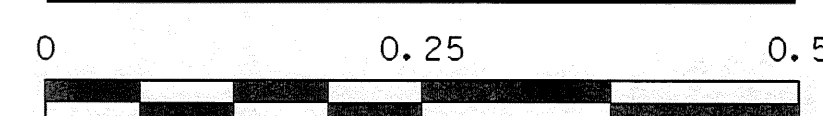
BRIDGE RAILING DETAIL



SCALE = 1:10



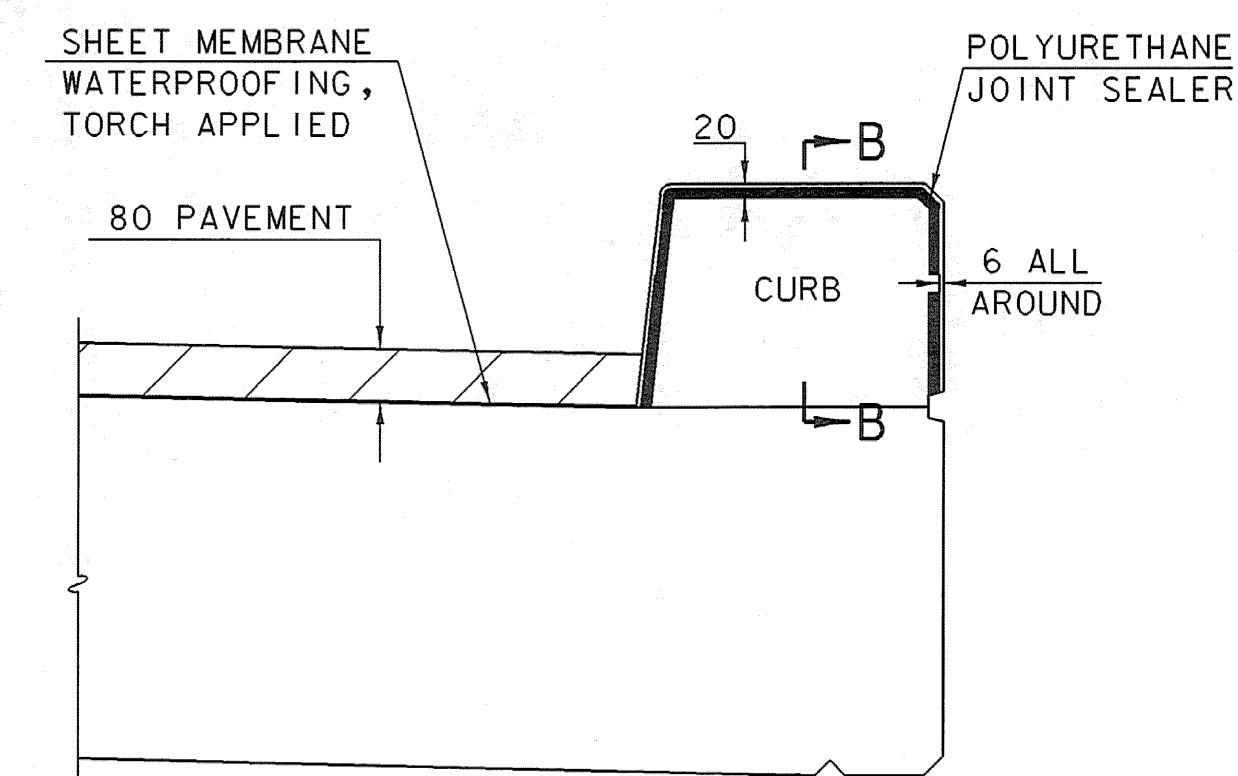
SCORE MARK DETAIL



SCALE = 1:5

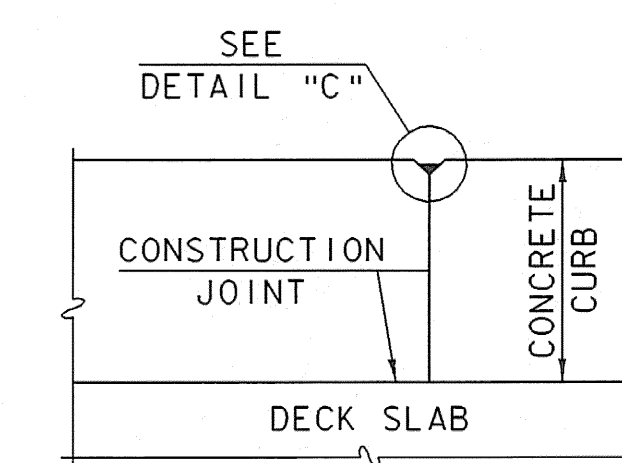
NOTES

1. CONCRETE CURBS MAY BE POURED IN ONE CONTINUOUS POUR IF ONE OF THE APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED. PAYMENT FOR ADMIXTURE WILL BE INCIDENTAL TO PAY ITEM 501.34 CONCRETE, HIGH PERFORMANCE CLASS B.
2. IF CONTRACTOR CHOOSES TO USE CONSTRUCTION JOINTS IN CURB, THE JOINTS SHALL BE SPACED AT A MAXIMUM OF 4500 CENTER TO CENTER AND 550 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. PLACE CONCRETE CURBS IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
3. PASS LONGITUDINAL REINFORCING THROUGH CONCRETE CONSTRUCTION JOINTS.
4. TURN CURB REINFORCING STIRRUP BARS AS NECESSARY TO FIT FLARED ENDS.



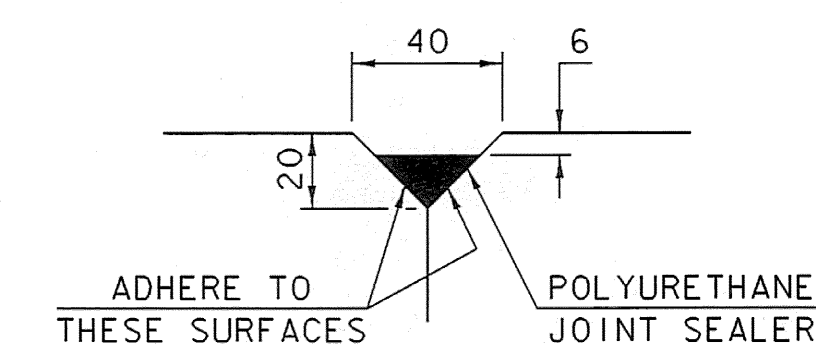
**TYPICAL SECTION THROUGH
CONCRETE CURB CONSTRUCTION JOINT**

NOT TO SCALE



SECTION B-B

NOT TO SCALE



DETAIL "C"

NOT TO SCALE

POLYURETHANE JOINT SEALER PER SUBSECTION 524.06 (c). MATCH COLOR TO CONCRETE. INCLUDE IN ITEM 501.34 CONCRETE, HIGH PERFORMANCE CLASS B

MISC. STRUCTURAL DETAILS

PROJECT NAME: GUILFORD	PROJECT NUMBER: BRO 1442(24)
FILE NAME: sj076msd.i	PLOT DATE: 16-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: L. BULLOCK
DESIGNED BY: J. PERRIGO	CHECKED BY: T. LACKEY
94\076\Structures\sj076ww.dgn	SHEET 42 OF 59

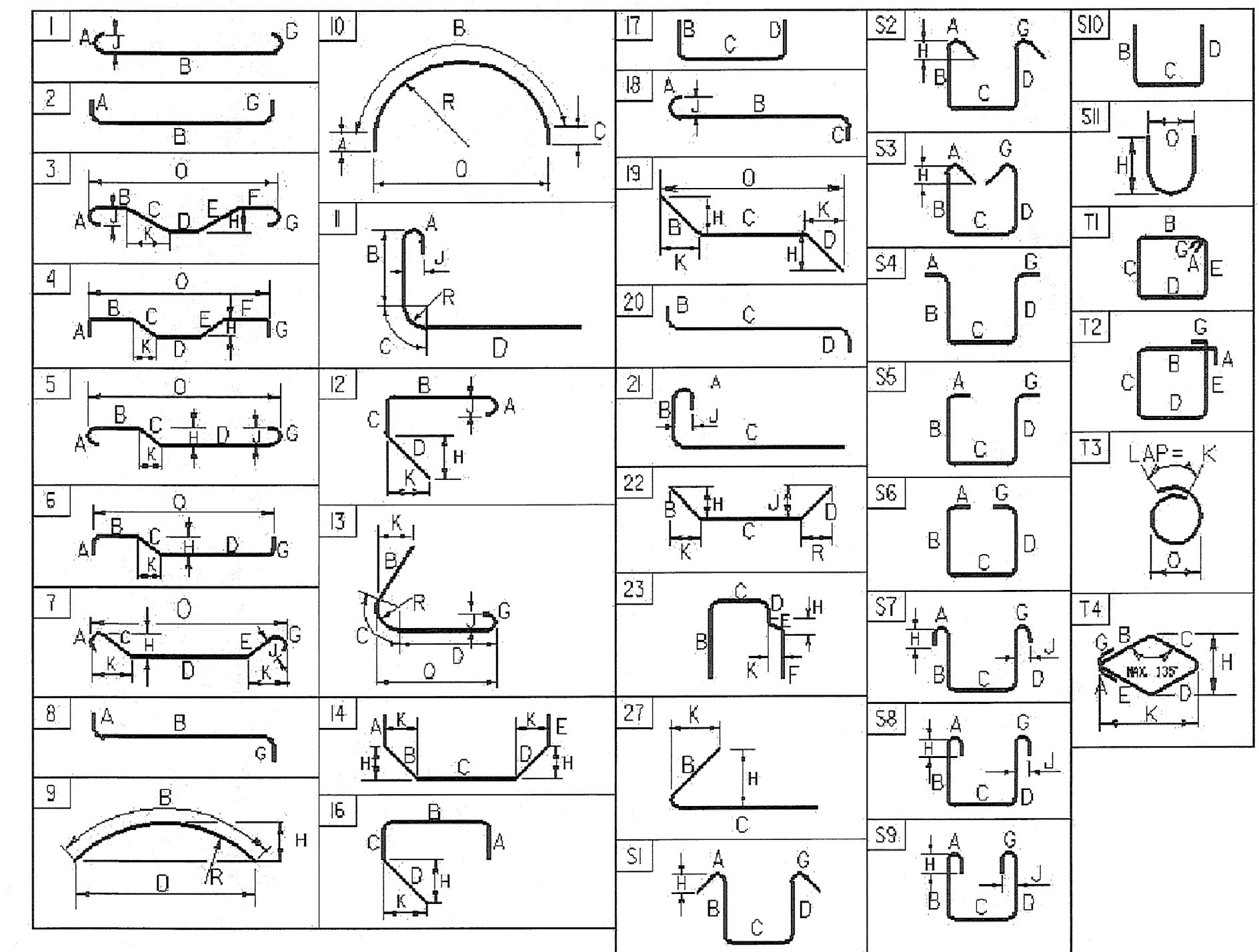
REINFORCING STEEL SCHEDULE



ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O	ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O											
DECK																																														
																			2	16	3610	2W1609	19		410	3200	---											130		390						
*	38	16	7110	ES1601	STR														12	16	1690	2W1606	S10		660	370	660																			
▲	18	16	8840	ES1602	STR														48	16	2000	2W1608	19		1000	1000	---																			
	62	16	2070	ES1603	S5	250	665	240	665				250						23	22	3340	2W2201	17		1270	2070	---																			
*	63	19	2540	ES1901	S6	300	360	1220	360				300						12	22	2610	2W2202	STR																							
*	47	29	9115	ES2901	1	275	8840						---						26	25	3040	2W2501	STR																							
APPROACH SLAB NO. 1																																														
*	17	16	6440	1EAS1601	STR														5	16	10200	2A1601	STR																							
*	45	19	4540	1EAS1901	1	200	4340						---						10	16	10200	2A1602	STR																							
APPROACH SLAB NO. 2																																														
* ▲	17	16	9320	2EAS1601	STR														32	16	1180	2A1603	STR																							
*	45	19	4540	2EAS1901	1	200	4340						---						25	16	4060	2A1604	STR																							
▲	7	19	4750	2EAS1902	STR														25	16	2670	2A1605	STR																							
▲	3	19	4470	2EAS1903	STR														▲	62	16	4960	2A1607	STR																						
ABUTMENT NO. 1																																														
	5	16	9800	1A1601	STR														8	16	4630	2A1608	STR																							
	10	16	9800	1A1602	STR															30	16	2060	1A1606	16	660	640	340	420													300		300			
	31	16	1180	1A1603	STR														*	32	22	2050	1A2201	STR																						
	24	16	4110	1A1604	STR														*	13	25	1000	1EA2501	STR																						
	24	16	2720	1A1605	STR															12	25	1450	1EA2502	19		450	1000	---																		
▲	62	16	4760	1A1607	STR														*	36	29	2740	1A2901	STR																						
	8	16	4680	1A1608	STR															31	29	2940	1A2902	17		1170	1770	---																		
* ▲	9	16	850	1A1609	STR														WINGWALL NO. 3																											
	6	16	3290	1A1610	STR														5	16	4780	3W1601	STR																							
	30	16	2060	1A1606	16	660	640	340	420				300						11	16	4780	3W1602	STR																							
*	30	22	2050	1A2201	STR															16	16	1180	3W1603	STR																						
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	12	25	1450	1EA2502	19															16	16	2720	3W1605	STR																						
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	29	29	2940	1A2902	17															2	16	4580	3W1609	19		420	4160	---													60		420			
WINGWALL NO. 1																																														
	5	16	4180	1W1601	STR														16	16	1690	3W1606	S10		660	370	660																			
	11	16	4180	1W1602	STR															30	22	3340	3W2201	17		1270	2070	---																		
	14	16	1180	1W1603	STR															16	22	2610	3W2202	STR																						
▲	14	16	5720	1W1604	STR														*	34	25	3040	3W2501	STR																						
	14	16	2770	1W1605	STR															WINGWALL NO. 4																										
▲	32	16	3950	1W1607	STR														5	16	4180	4W1601	STR																							
	2	16	4140	1W1609	19									130						11	16	4180	4W1602	STR																						
	14	16	1690	1W1606	S10															14	16	1180	4W1603	STR																						
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*	30	25	3040	1W2501	STR															2	16	4040	4W1609	STR		420	3620	---										90				410				
WINGWALL NO. 2																																														
	5	16	3680	2W1601	STR															14	16	1690	4W1606	S10		660	370	660																		
	11	16	3680	2W1602	STR															▲	48	16	2000	4W1608	19		1000	1000	---																	
	13	16	1180	2W1603	STR																26	22	3340	4W2201	17		1270	2070	---																	
▲	13	16	5720	2W1604	STR															14	22	2610	4W2202	STR																						
	12	16	2770	2W1605	STR																29	25	3040	4W2501	STR																					
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~ NOTES ~

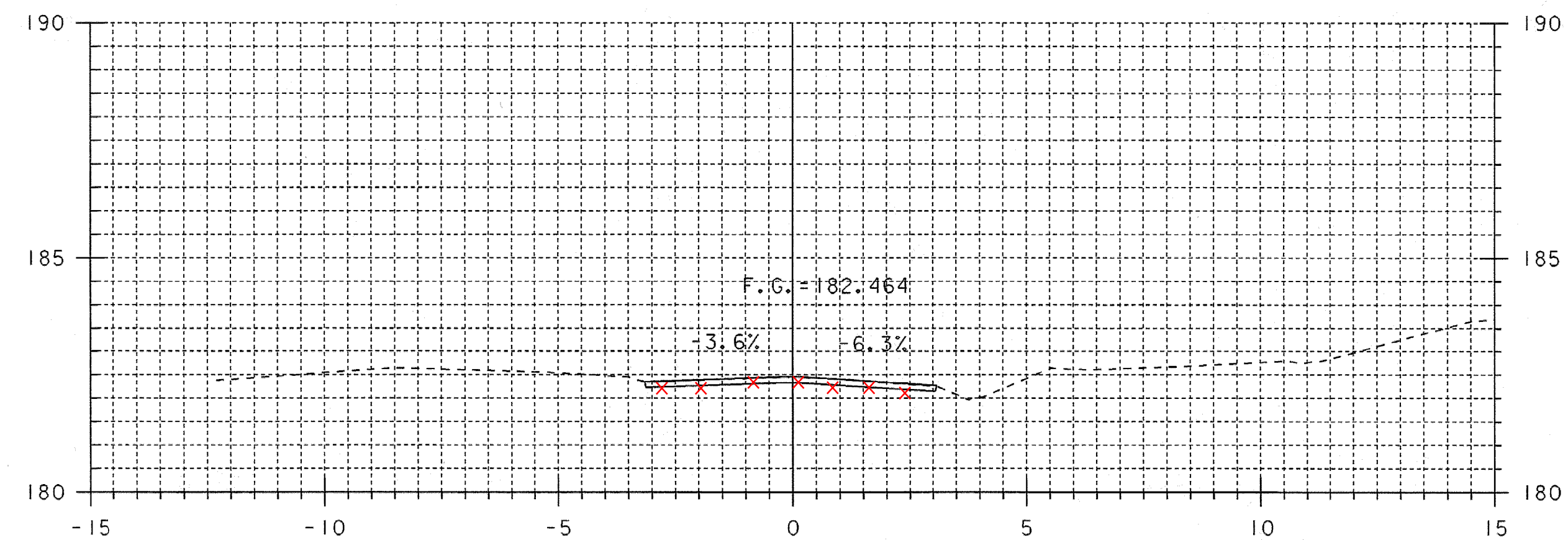
- UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 55M SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
- FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
- BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
- "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
- "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
- WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
- ▲ DENOTES BARS TO BE CUT IN FIELD.
- * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
- △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
- E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

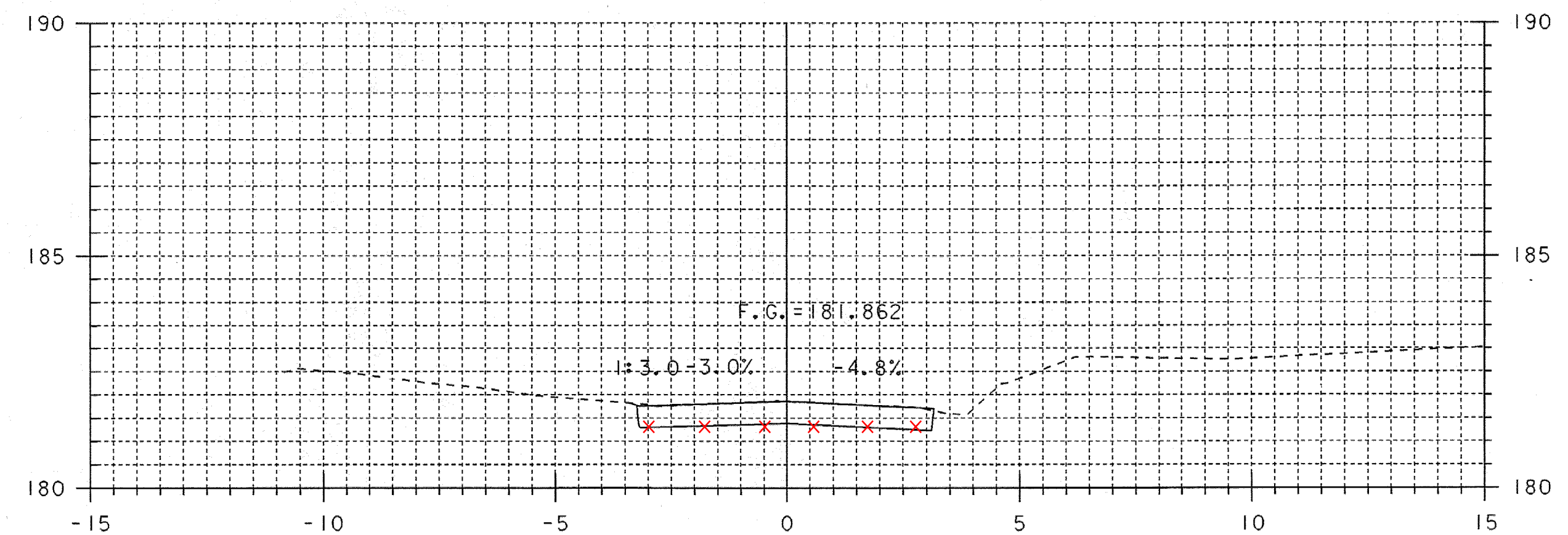
BAR SIZE	NOMINAL MASS (kg/m)	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER (mm)	CROSS SECTIONAL AREA (mm²)	PERIMETER (mm)
#10	0.560	9.5	71	29.84
#13	0.994	12.7	129	39.90
#16	1.552	15.9	199	49.95
#19	2.235	19.1	284	60.00
#22	3.042	22.2	387	69.74
#25	3.973	25.4	510	79.80
#29	5.060	28.7	645	90.16
#32	6.404	32.3	819	101.47
#36	7.907	35.8	1006	112.47
#43	11.380	43.0	1452	135.09
#57	20.240	57.3	2581	180.01

PROJECT NAME: **Guilford**
PROJECT NUMBER: **BRO 1442 (24)**
FILE NAME: sj076rf.xls &

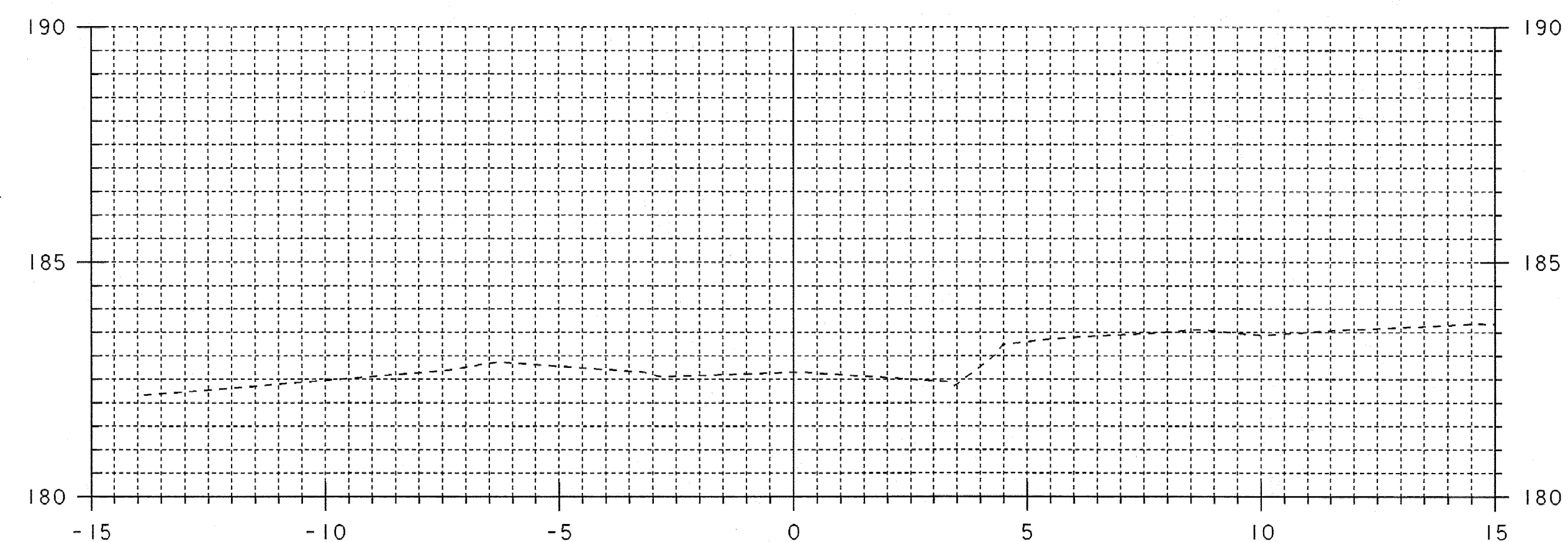


40+017

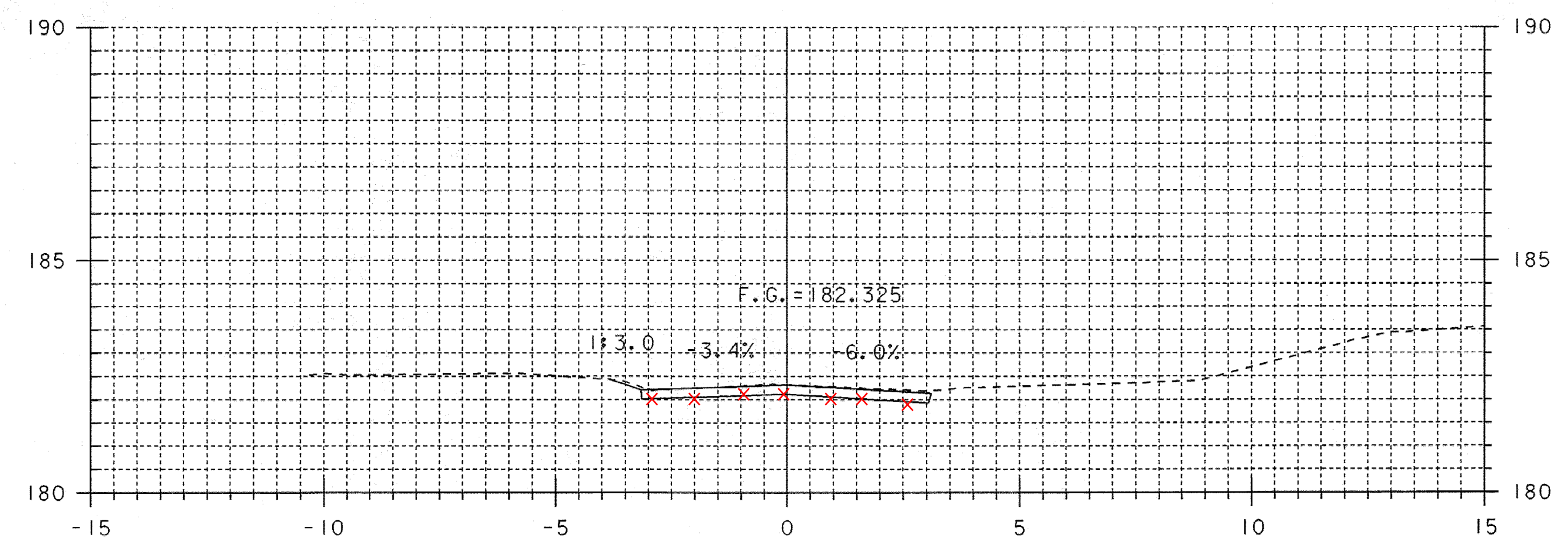
40+017
~~BEGIN APPROACH~~
~~MATCH EXISTING~~



40+030

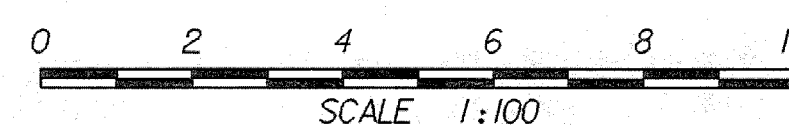


40+010



40+020

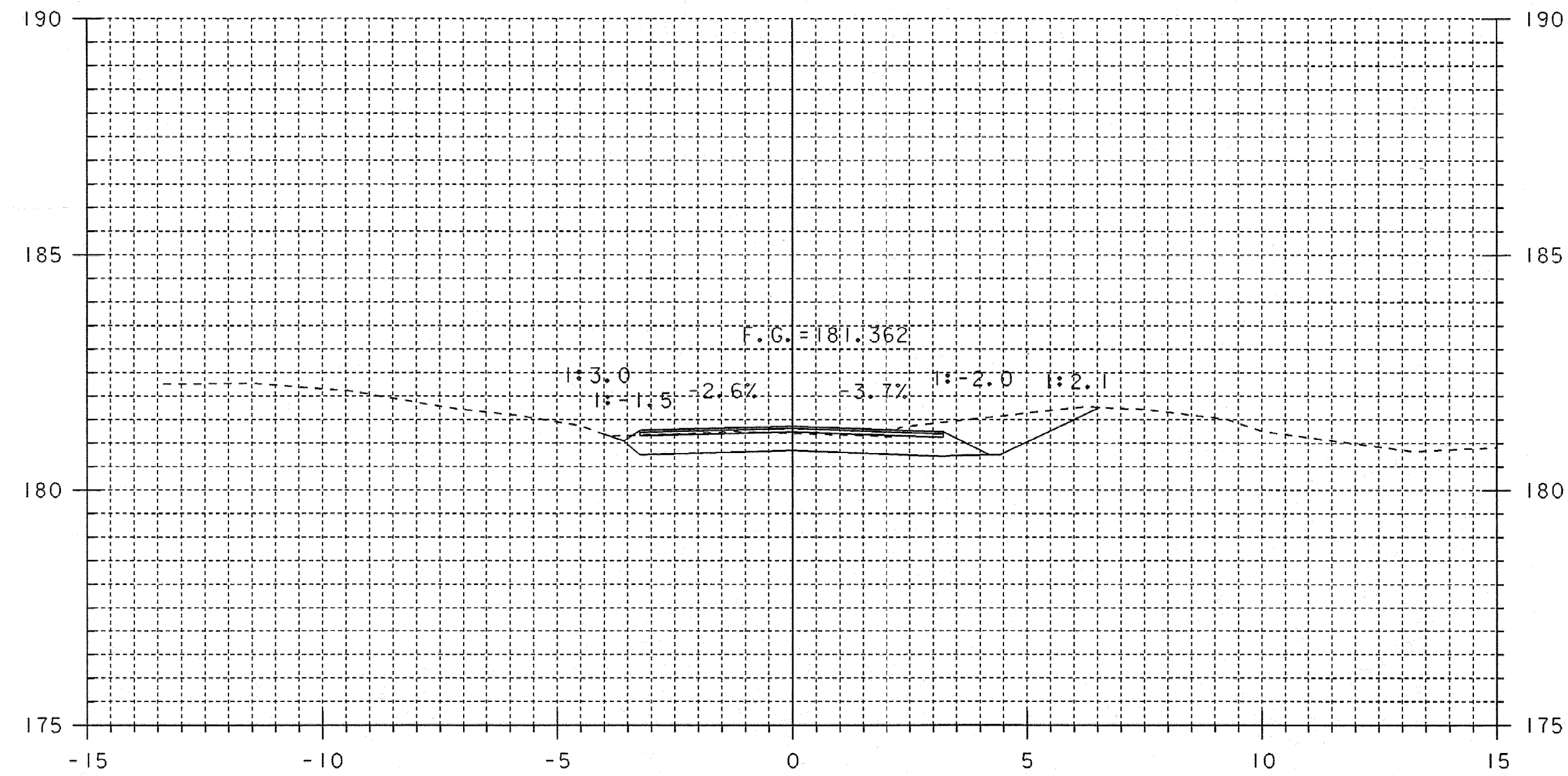
MAINLINE CROSS SECTIONS I



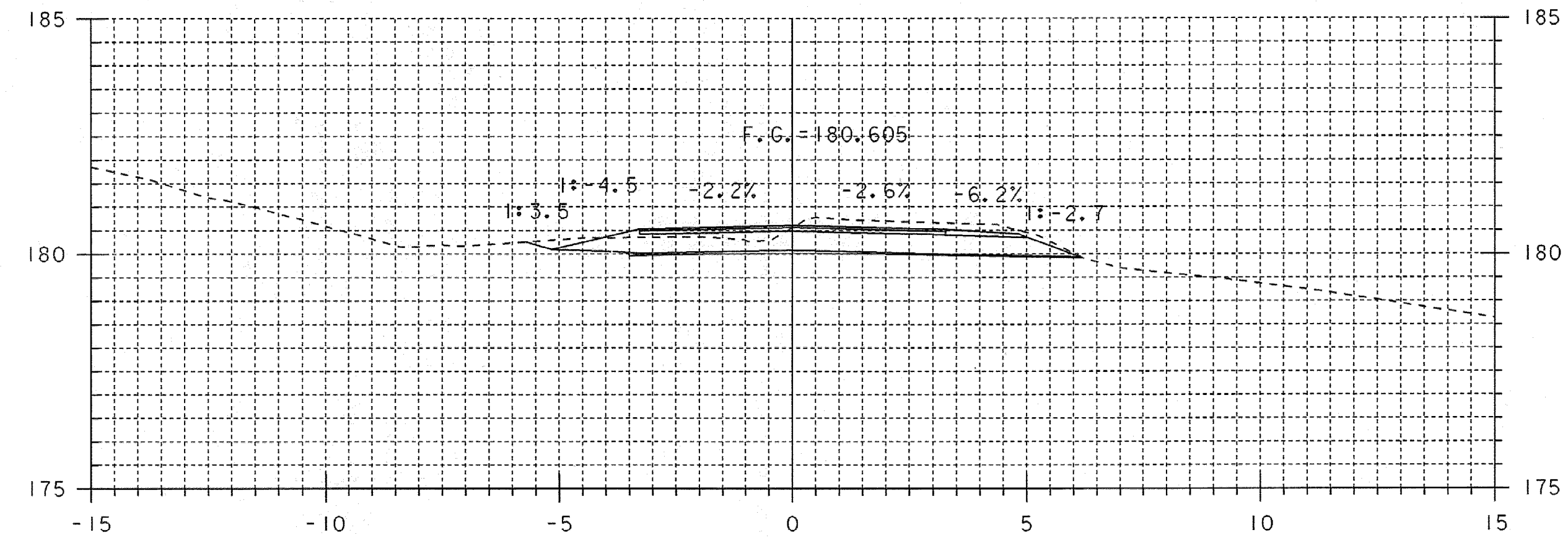
STA. 40+010 TO STA. 40+030

PROJECT NAME: GUILFORD	
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sj076m01.i	PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: J. PERRIGO	CHECKED BY: T. LACKEY
94\076\Structures\sj076xs3.dgn	SHEET 44 OF 59

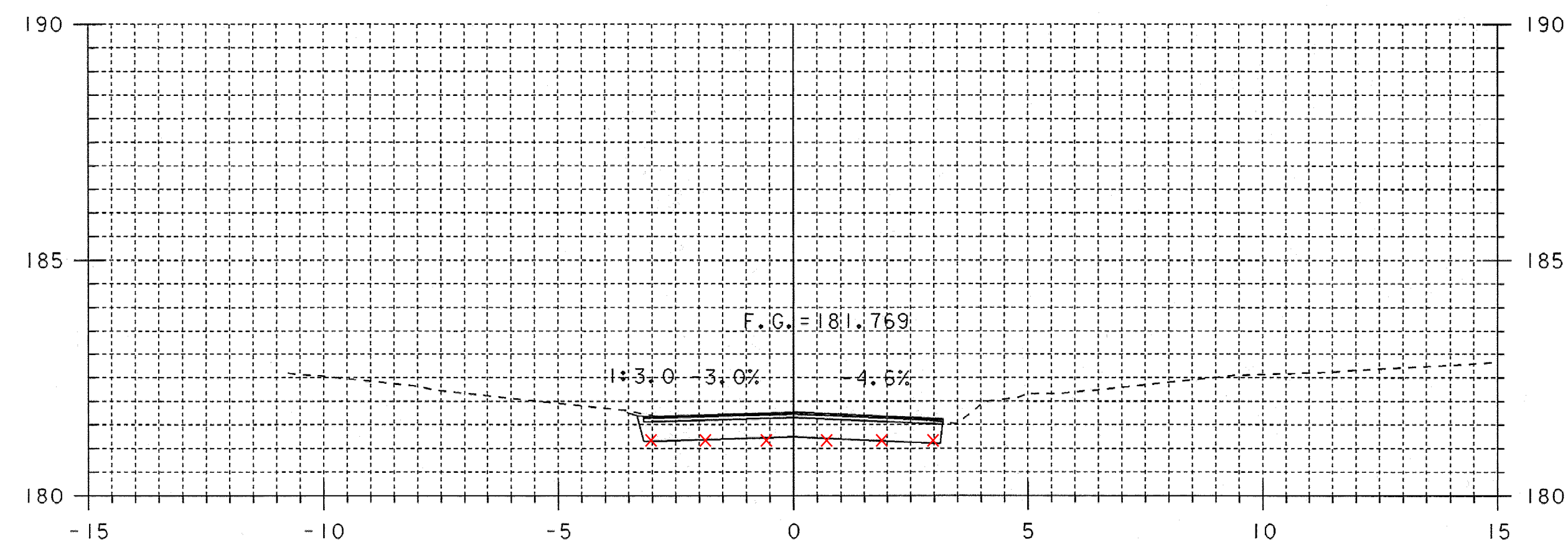
40+042
BEGIN AGGREGATE SURFACE COURSE



40+040

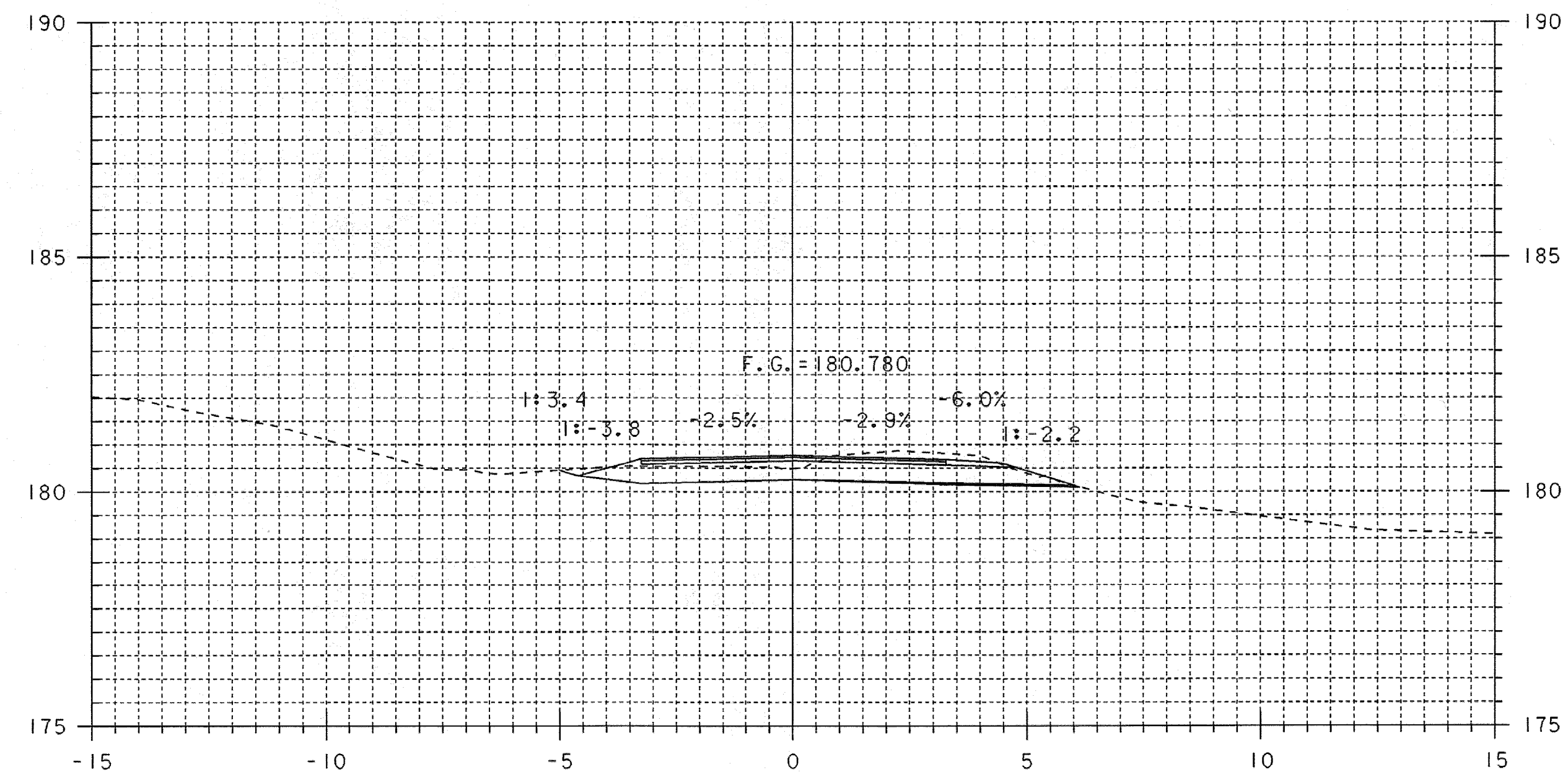


40+050



40+032

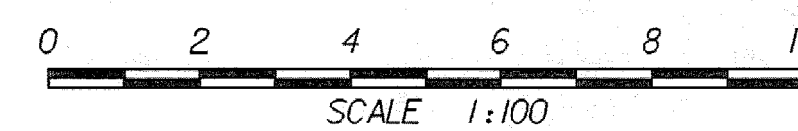
40+032
~~BEGIN PAVEMENT~~
MATCH EXISTING



40+048

40+048
BEGIN SAND BORROW

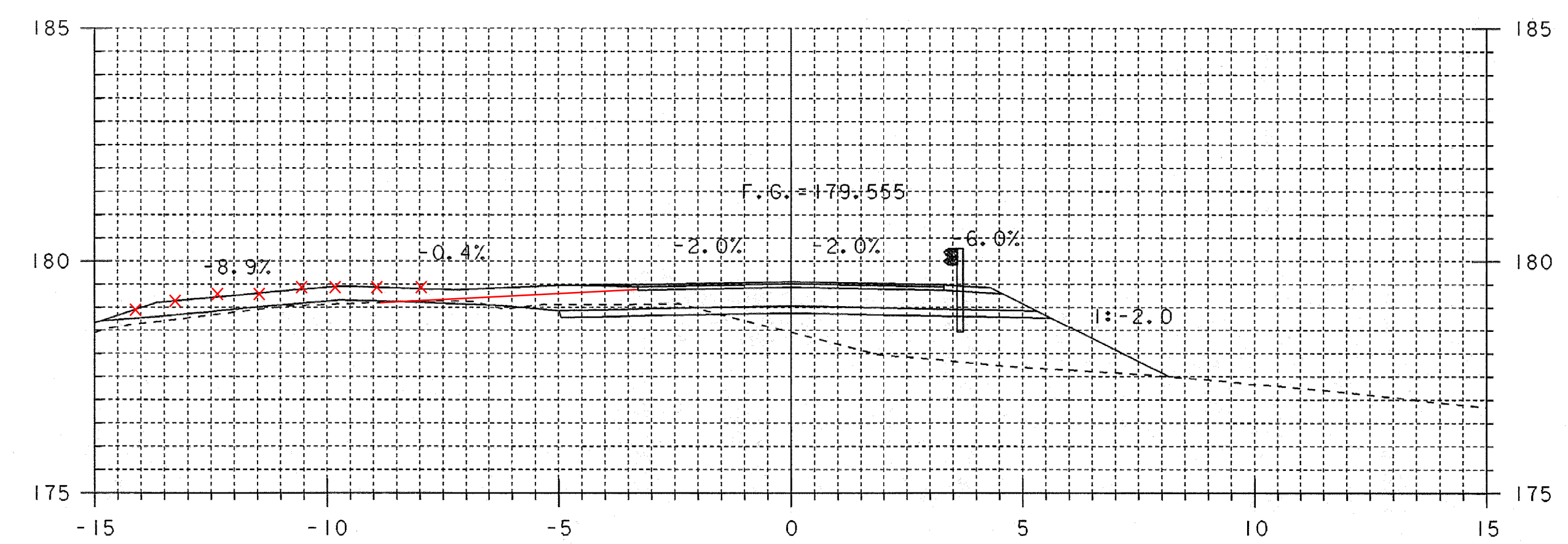
MAINLINE CROSS SECTIONS 2



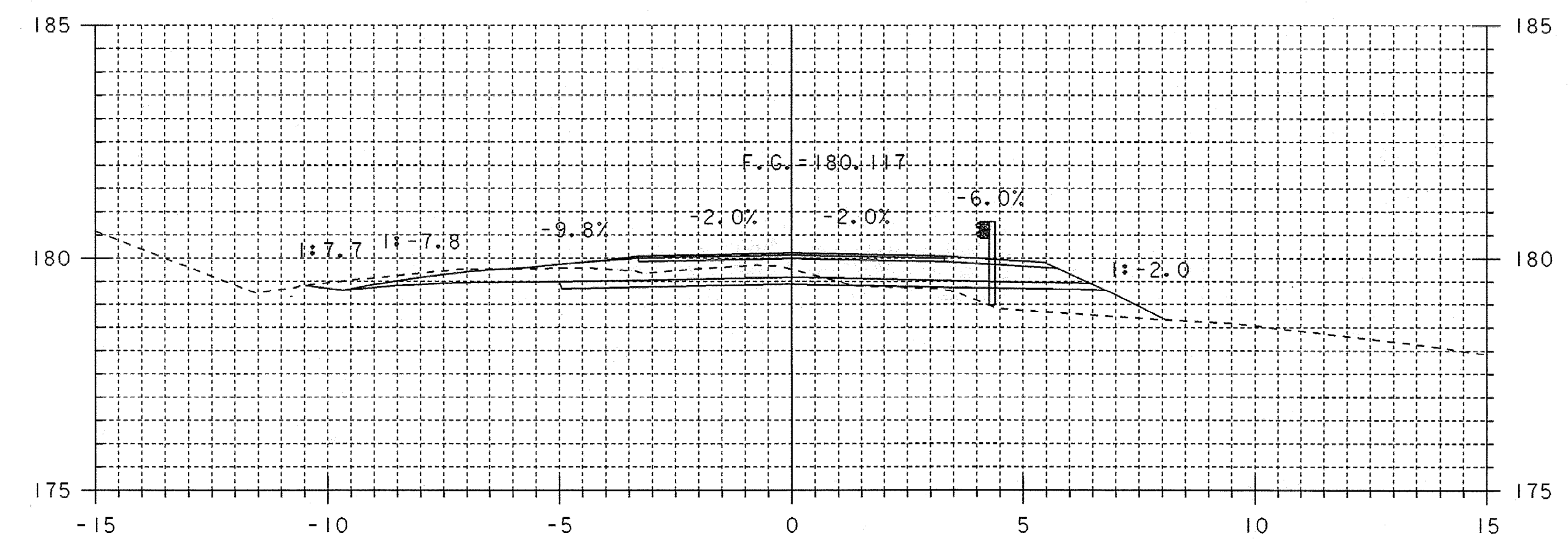
STA. 40+032 TO STA. 40+050

PROJECT NAME:	GUILFORD	PLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	T. LACKEY
FILE NAME:	sj076m02.i	DESIGNED BY:	J. PERRIGO
PROJECT LEADER:	R. WHITCOMB	CHECKED BY:	T. LACKEY
94J076\Structures\sj076xs3.dgn		SHEET	45 OF 59

40+064.000
BEGIN AGGREGATE SURFACE COURSE

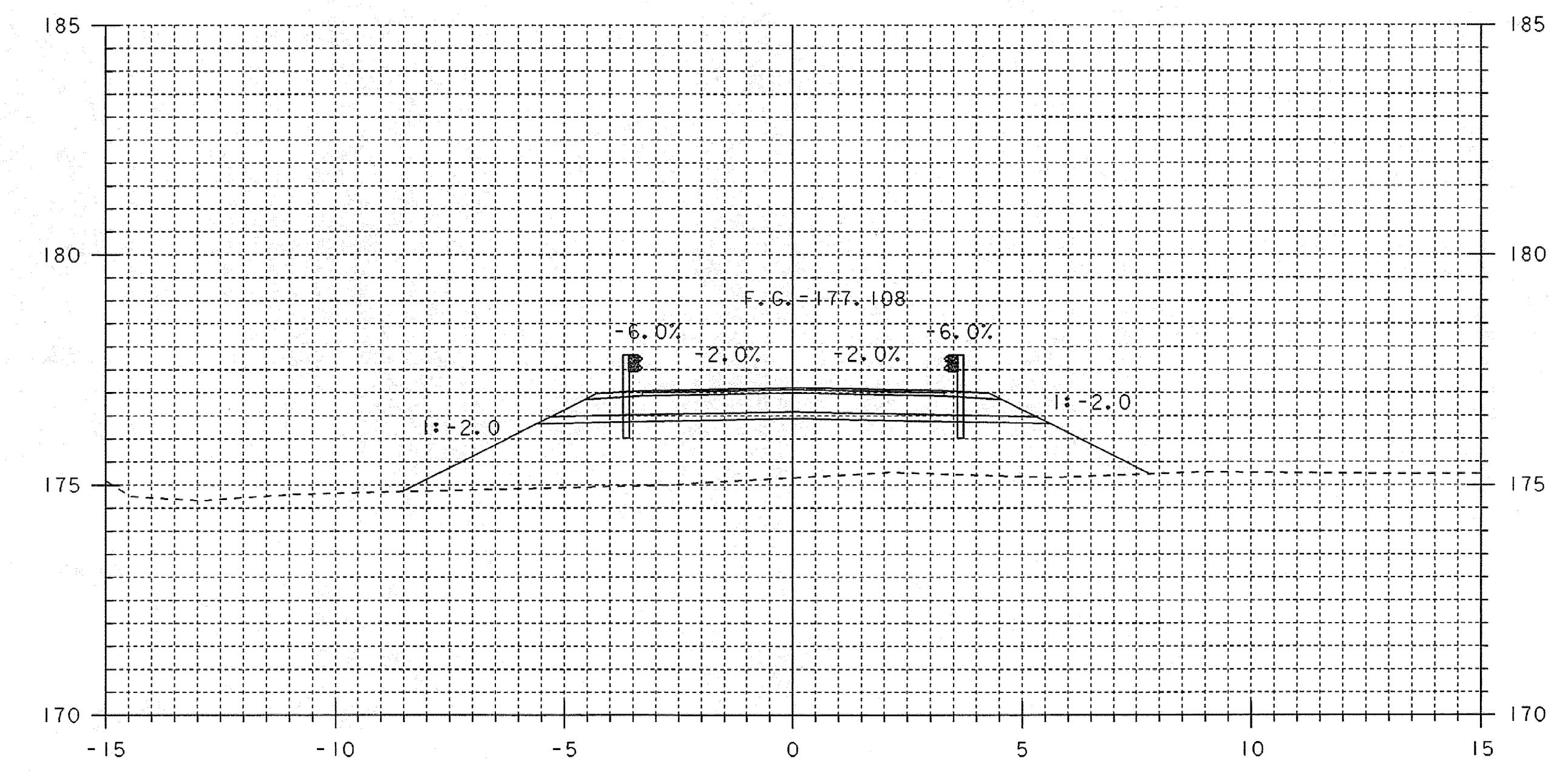


40+060

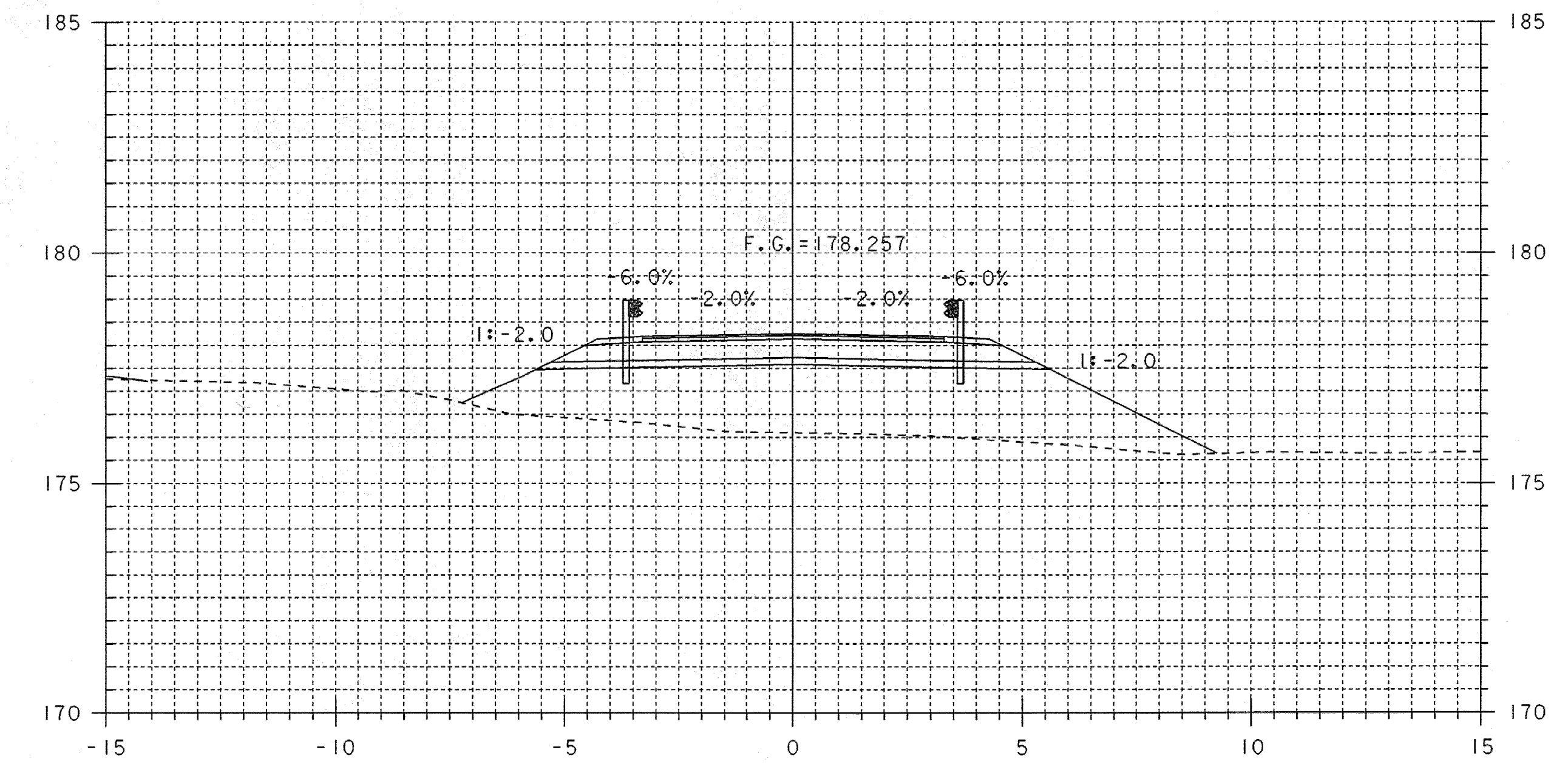


40+055

40+055.000
DRIVE 6+000.000
BEGIN PROJECT



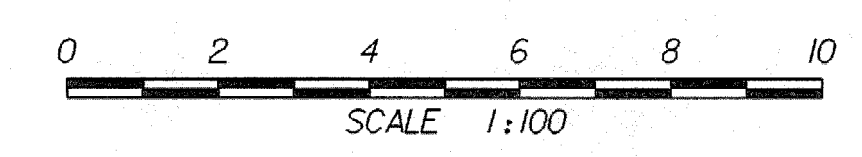
40+080



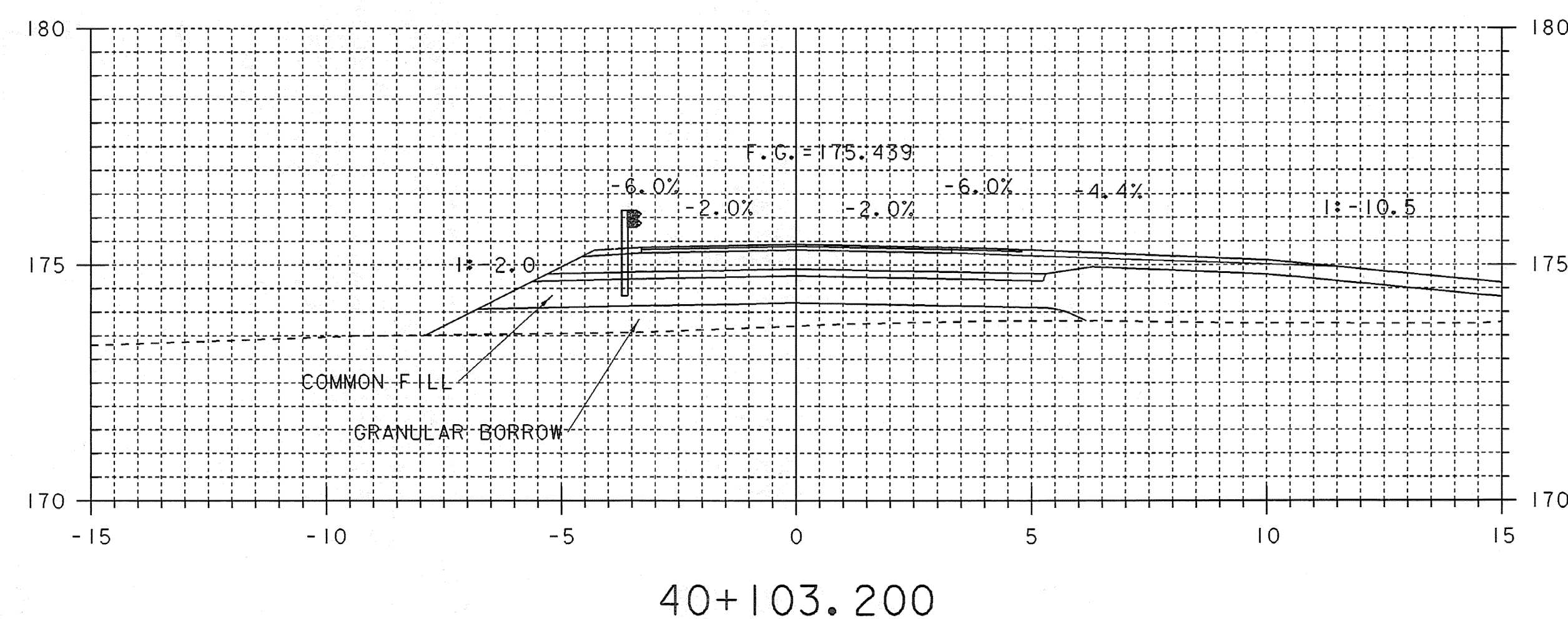
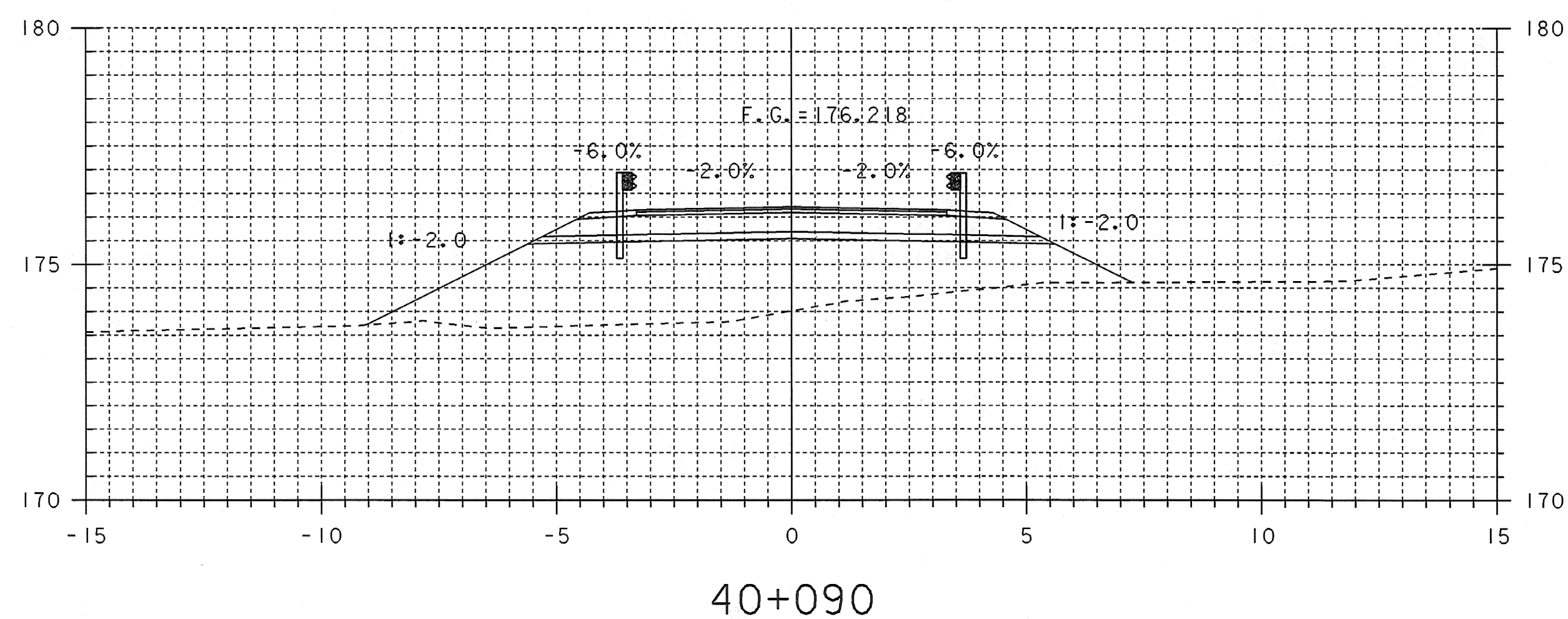
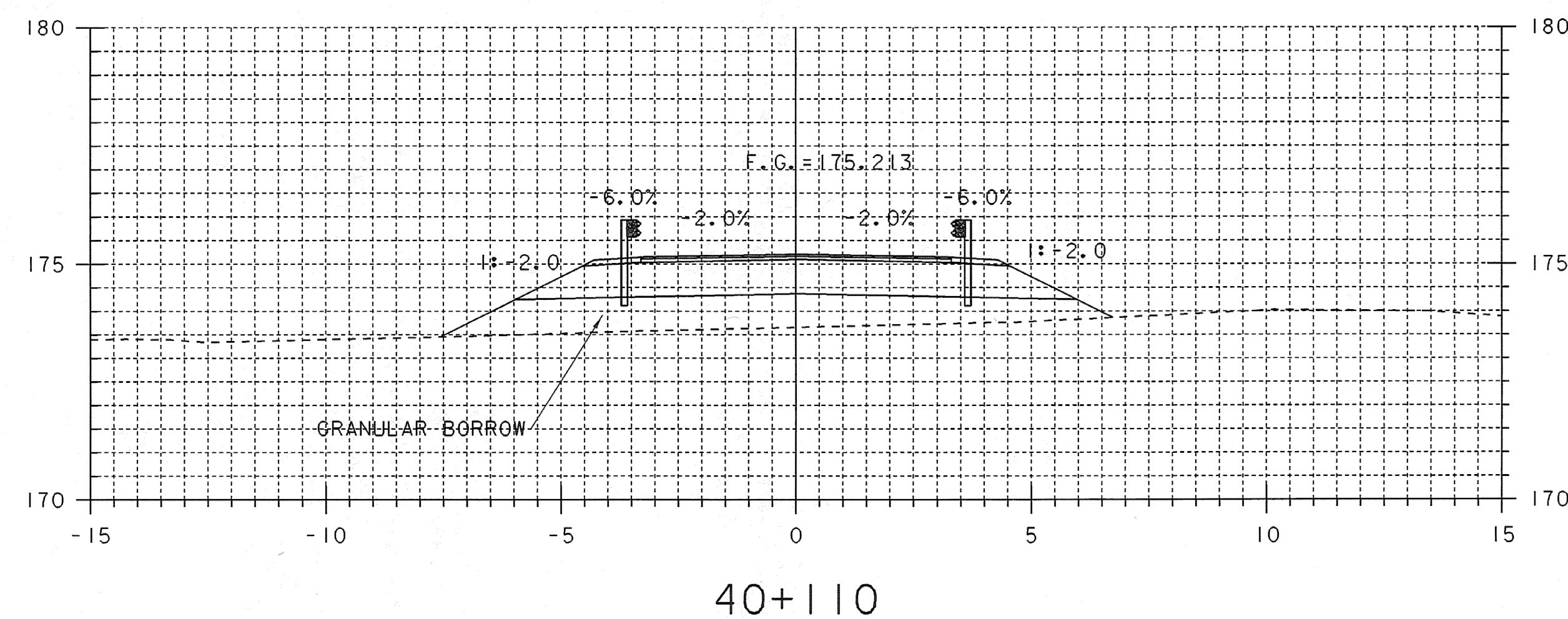
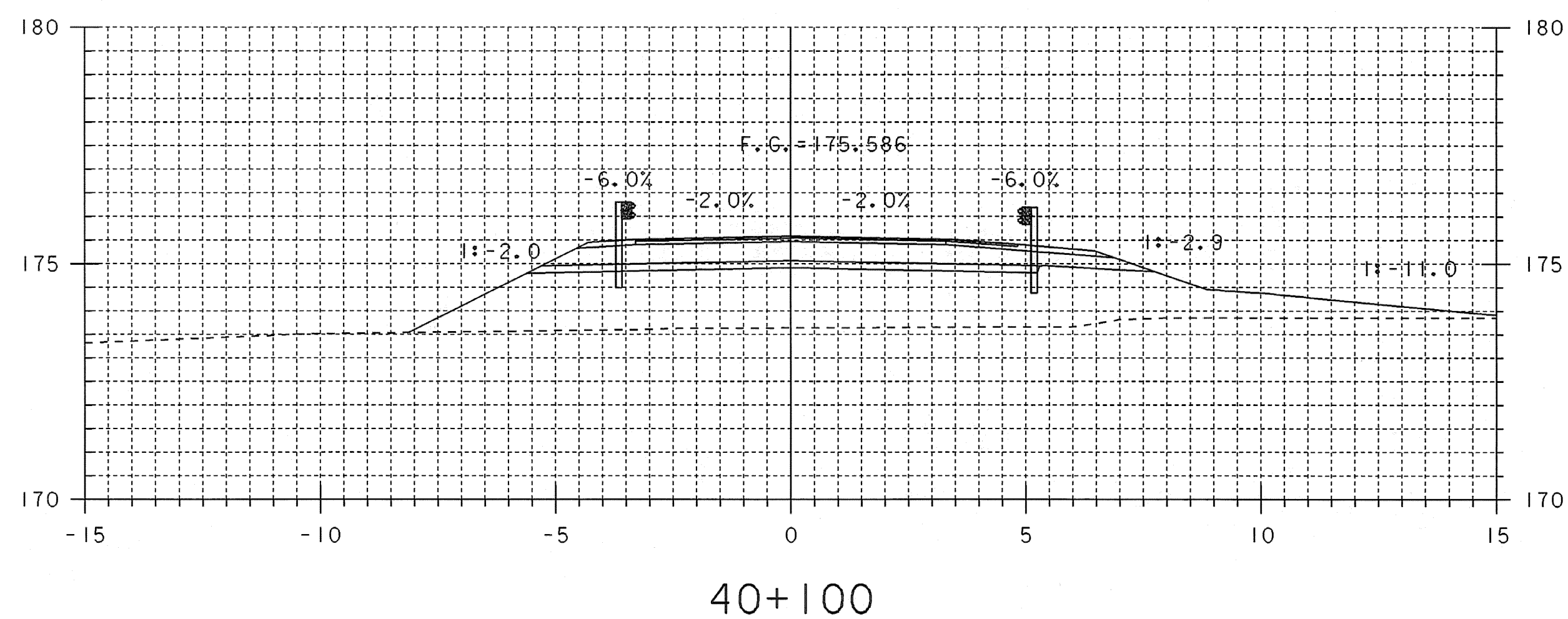
40+070

MAINLINE CROSS SECTIONS 3

PROJECT NAME: GUILFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: T. LACKEY
FILE NAME: sj076m03.1	CHECKED BY: T. LACKEY
PROJECT LEADER: R. WHITCOMB	SHEET 46 OF 59
DESIGNED BY: J. PERRIGO	
94J076\Structures\sj076xs3.dgn	



STA. 40+055 TO STA. 40+080

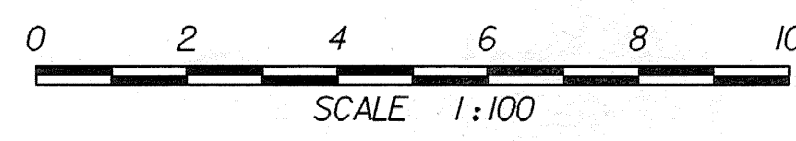


40+107.470
END SAND BORROW
40+104.000
BEGIN SUBBASE TAPER

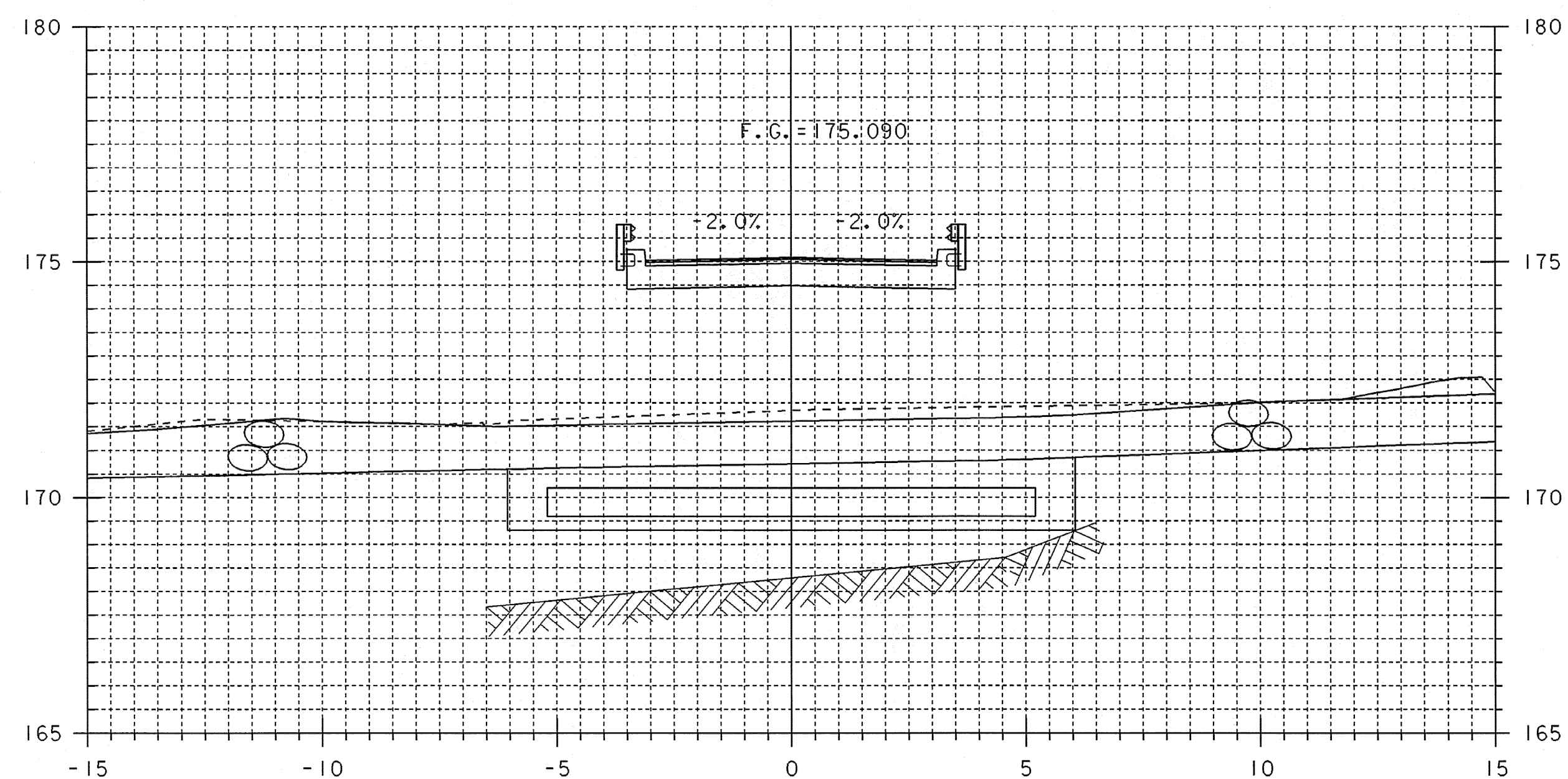
40+103.200 =
FIELD DRIVE 7+000.000
40+102
BEGIN GRANULAR BORROW

MAINLINE CROSS SECTIONS 4

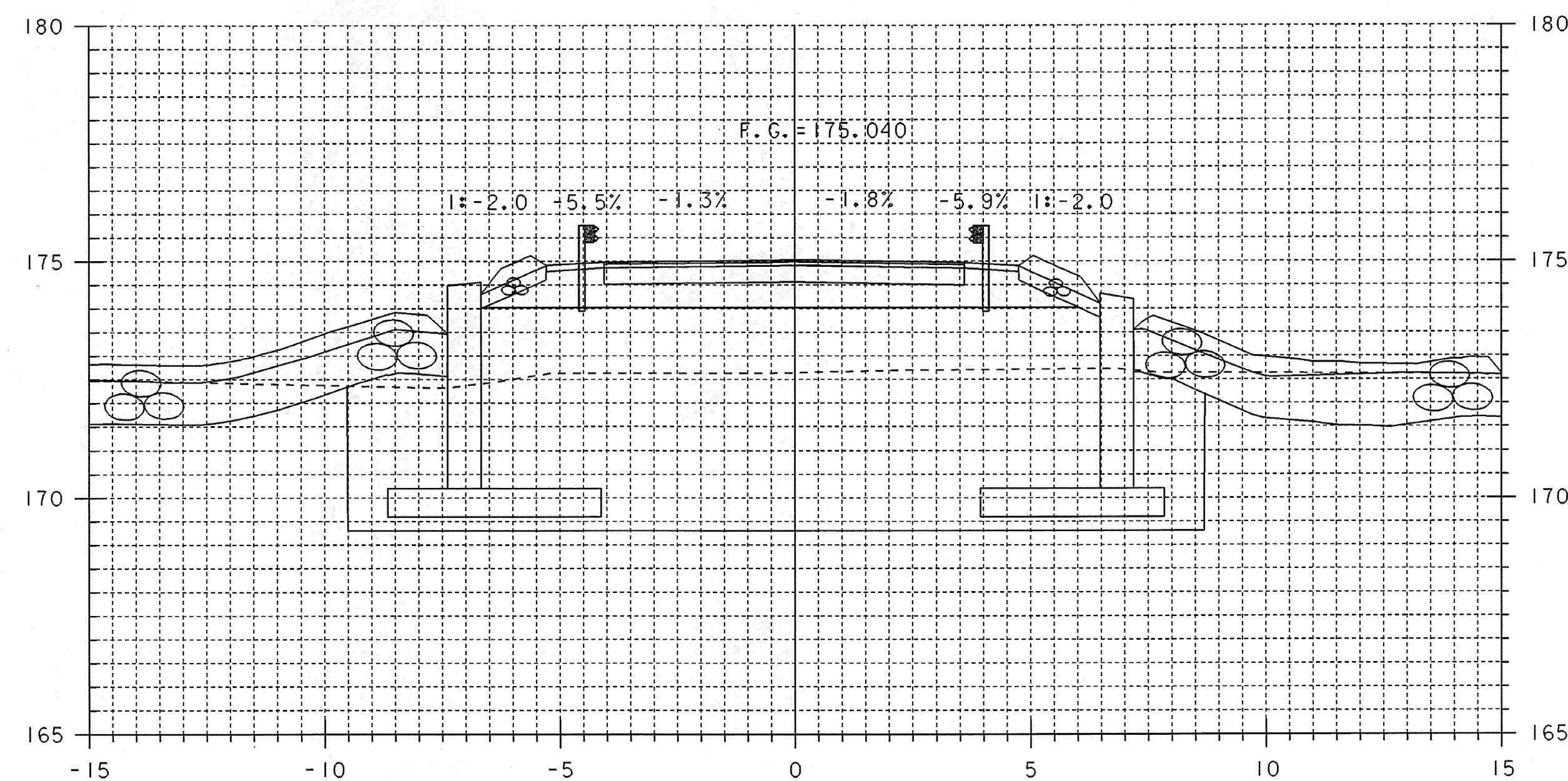
PROJECT NAME:	GUILFORD	FILE NAME:	sj076m04.i	PLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	PROJECT LEADER:	R. WHITCOMB	DRAWN BY:	T. LACKEY
		DESIGNED BY:	J. PERRIGO	CHECKED BY:	T. LACKEY
			94J076\Structures\sj076xs3.dgn	SHEET	47 OF 59



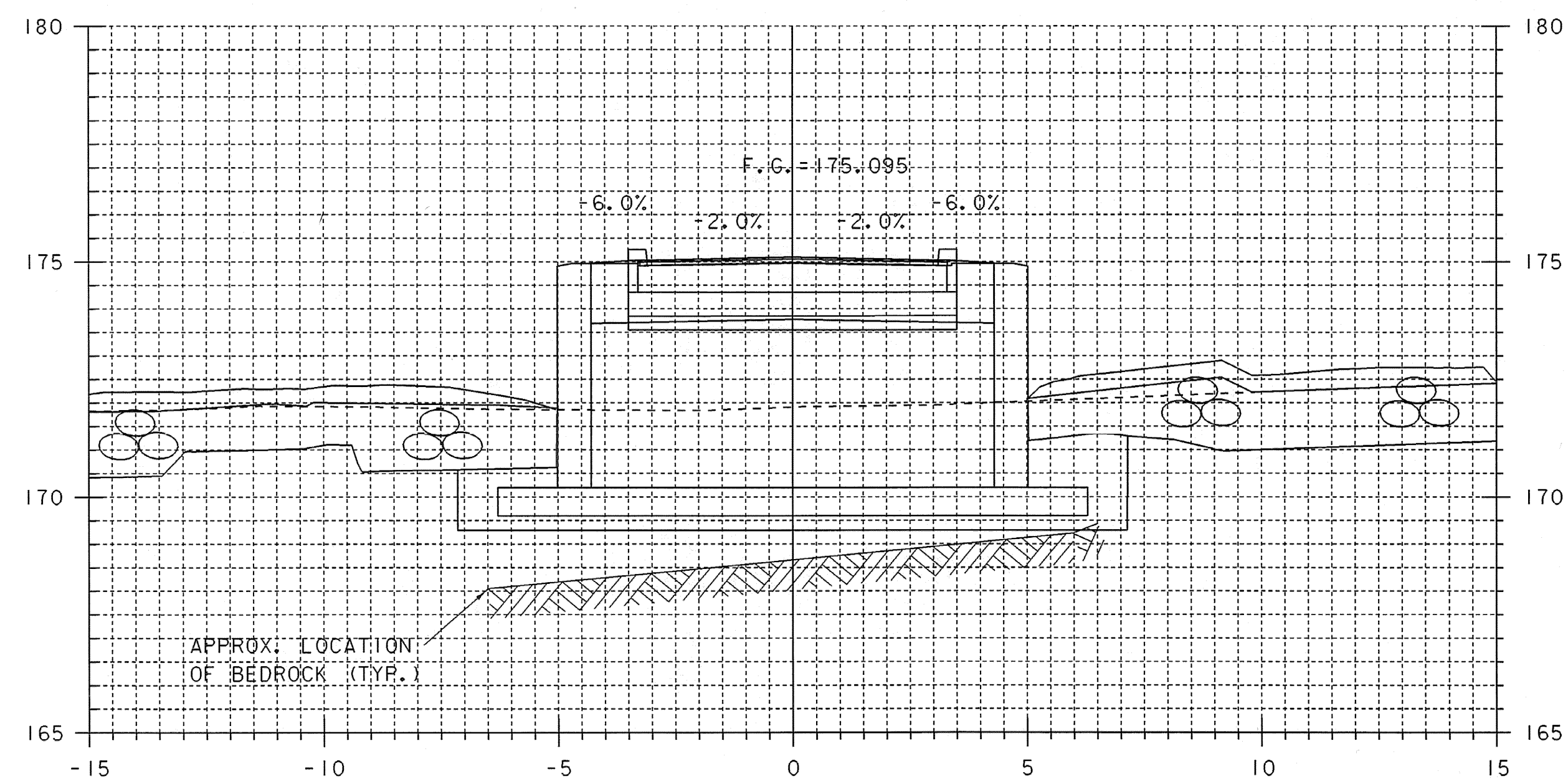
STA. 40+090 TO STA. 40+110



40+120

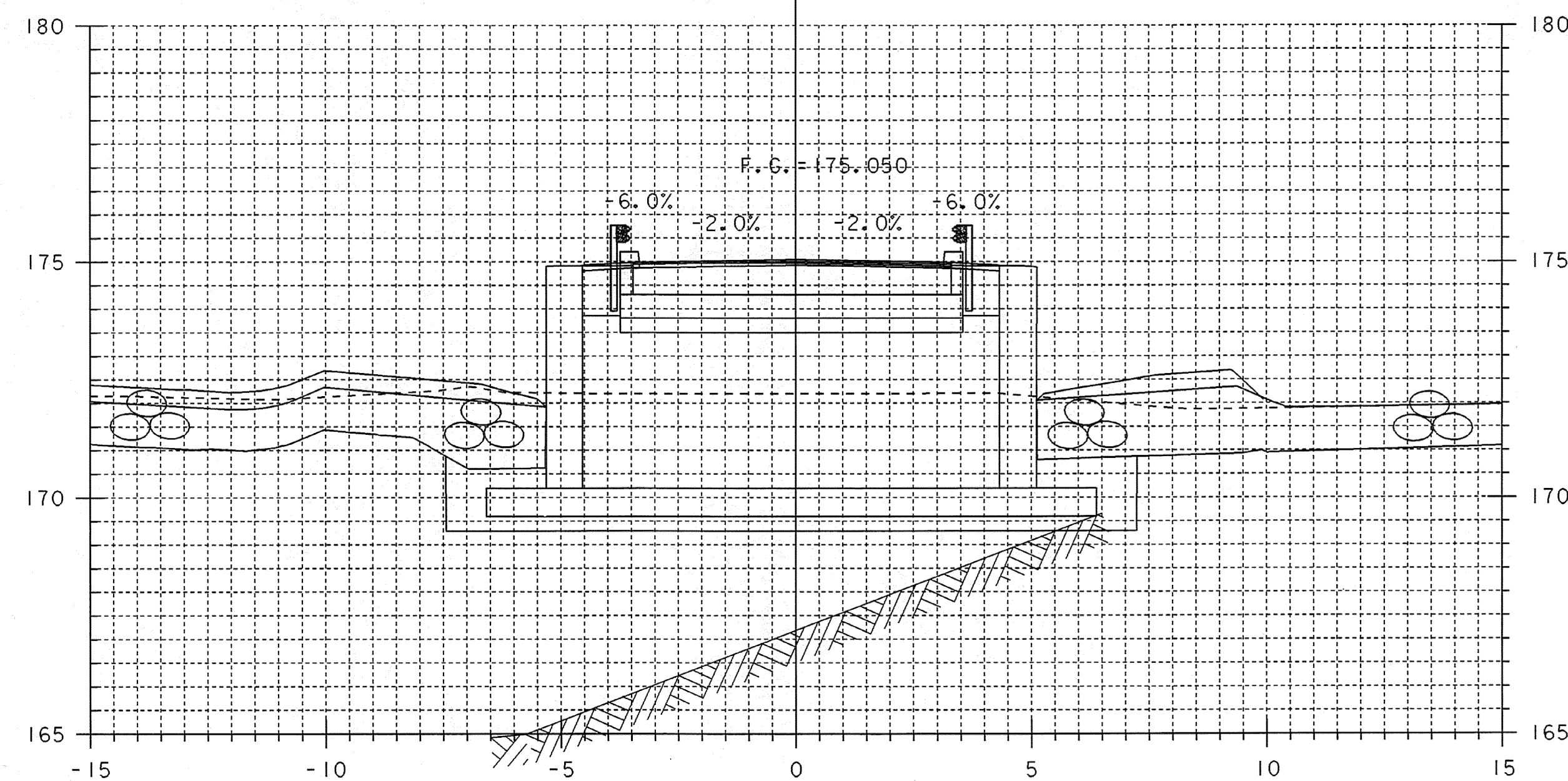


40+130



40+118.922

40+118.922
BEGIN BRIDGE



40+127.922

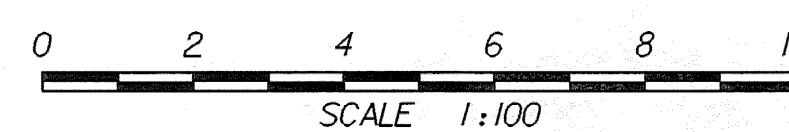
40+127.922
END BRIDGE

MAINLINE CROSS SECTIONS 5

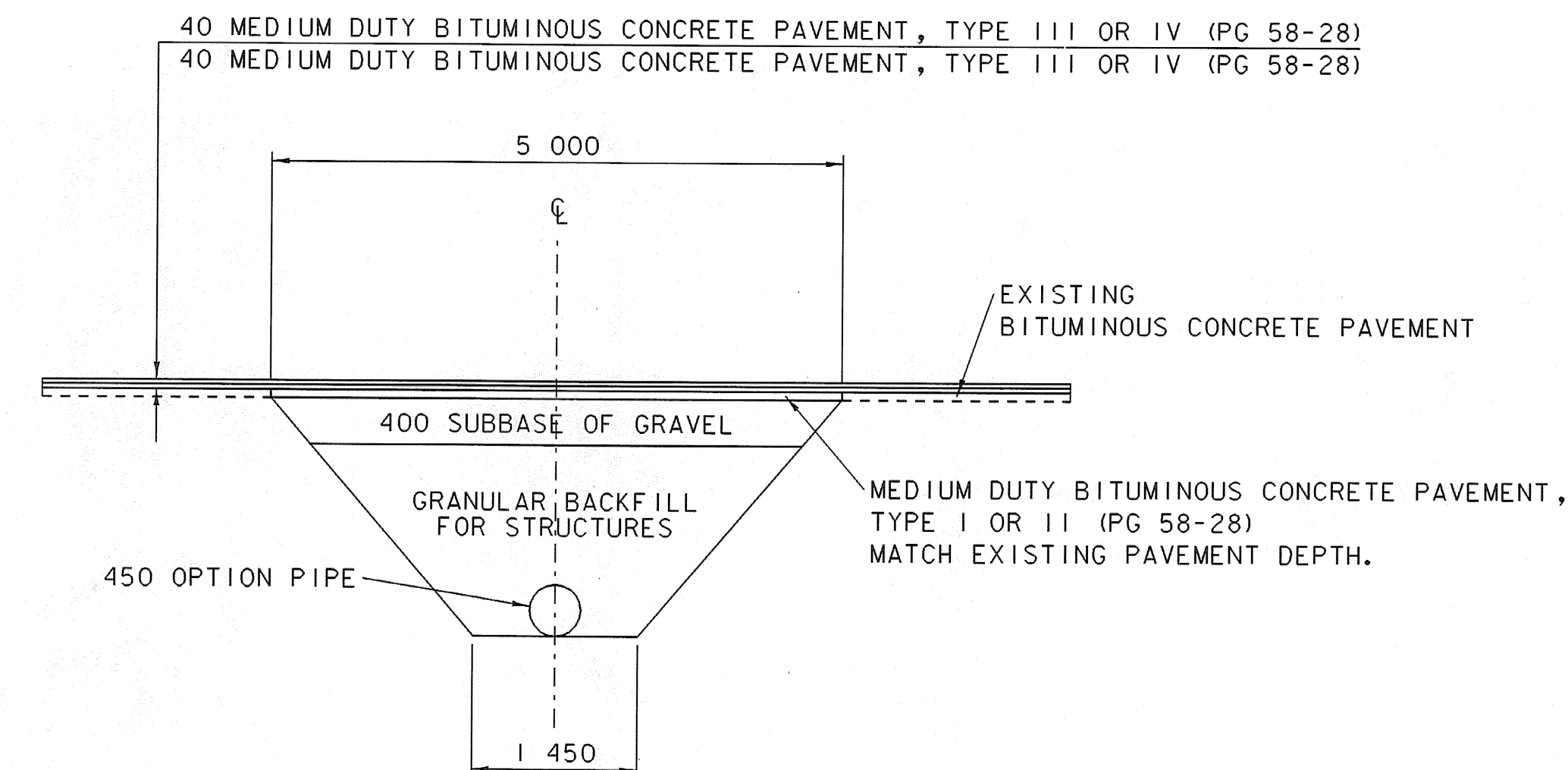
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076m05.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076xs3.dgn

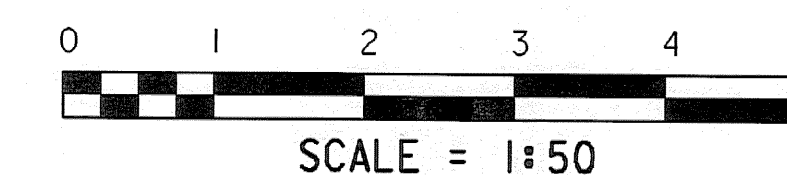
PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKY
CHECKED BY: T. LACKY
SHEET 48 OF 59



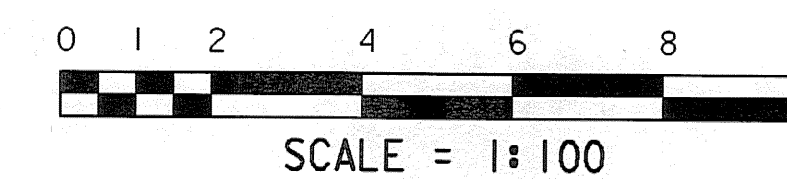
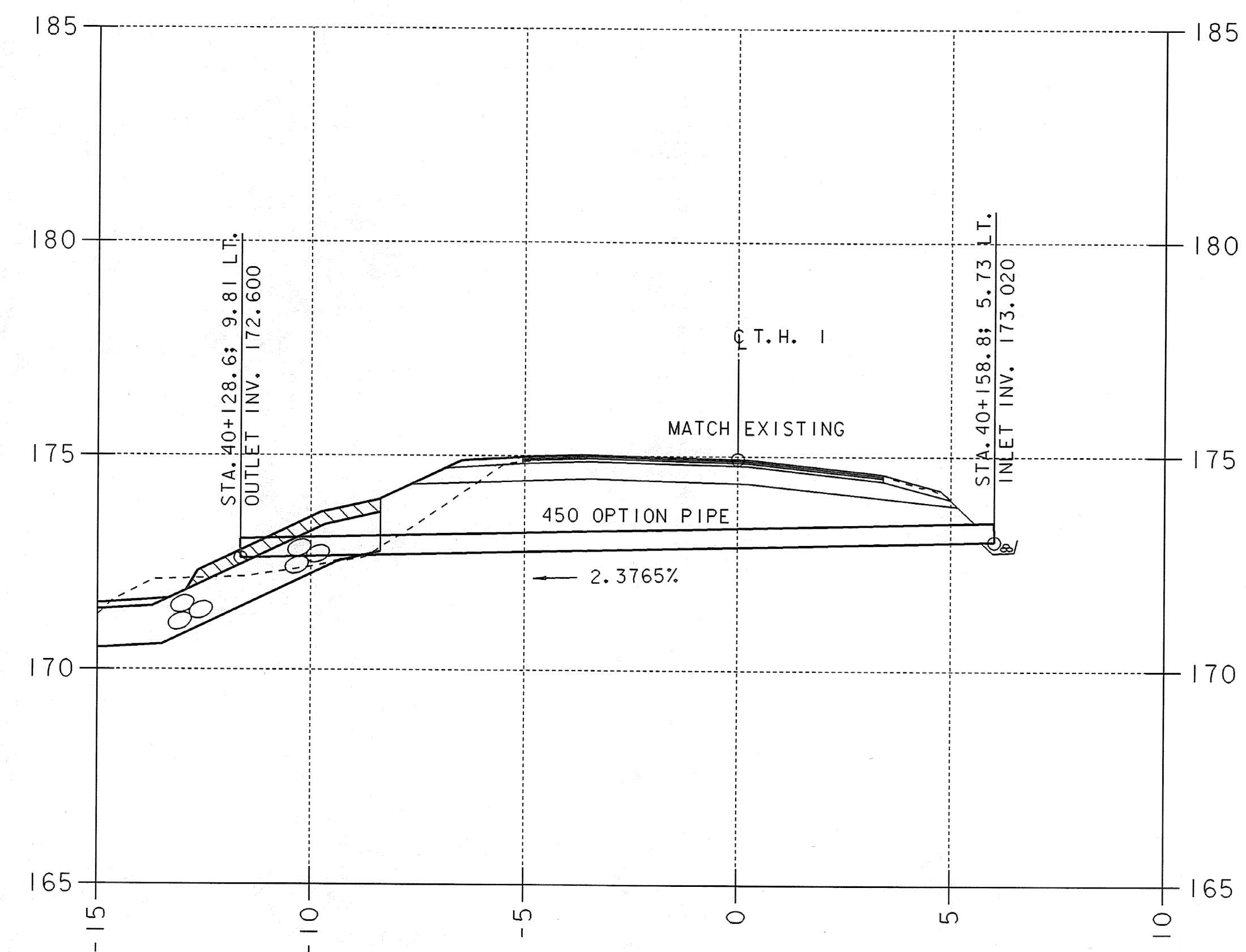
STA. 40+119 TO STA. 40+130



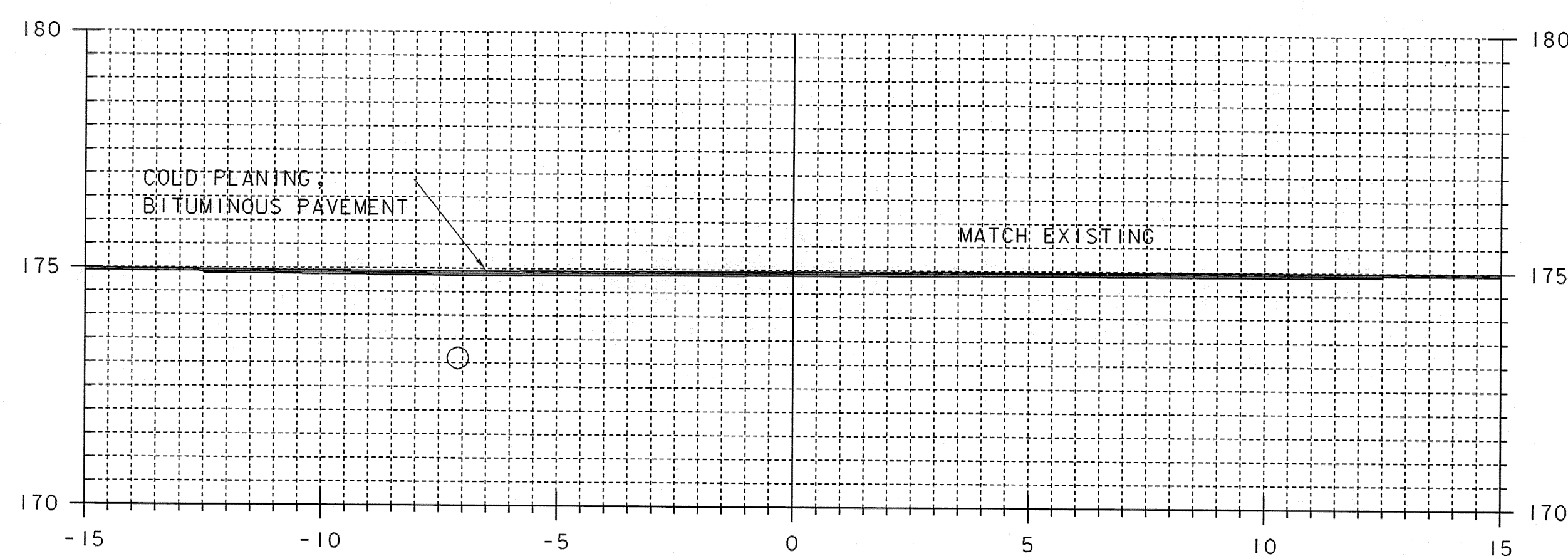
CULVERT TYPICAL CROSS SECTION
ACROSS T.H. 1



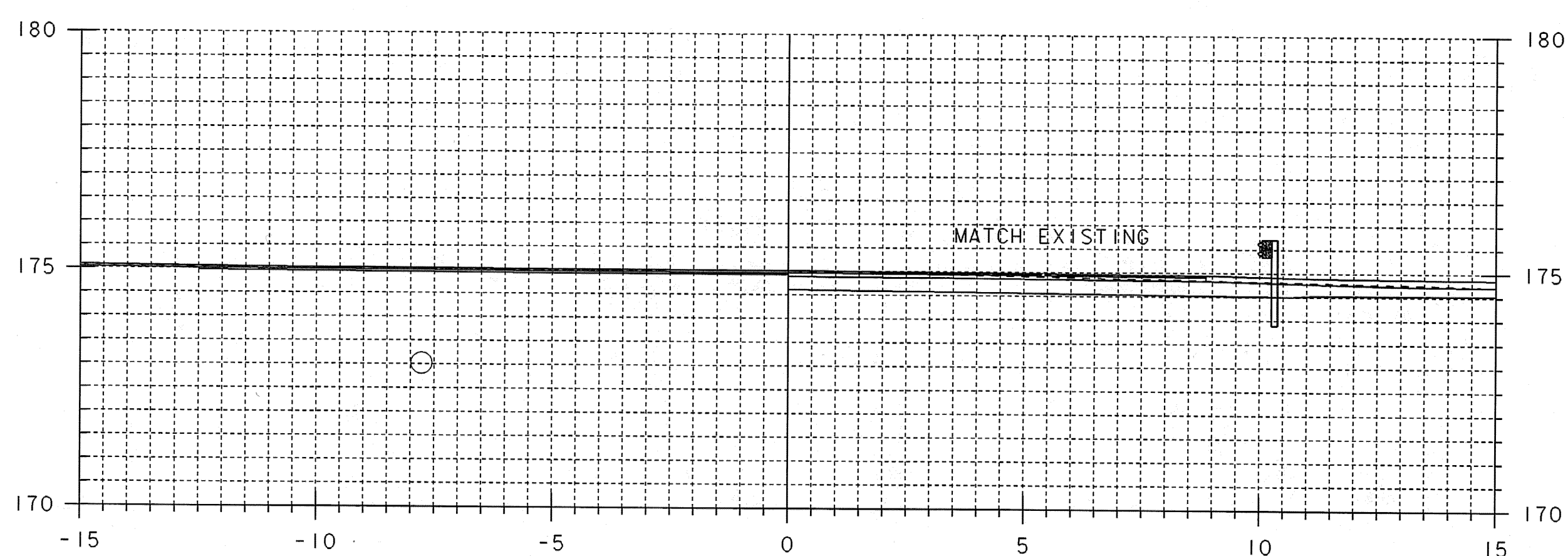
CULVERT PROFILE ACROSS T.H. 1



MAINLINE CROSS SECTIONS 6

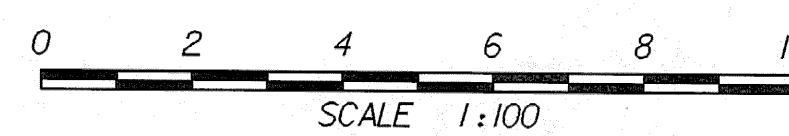


40+140



40+136.770

40+136.770
END PROJECT



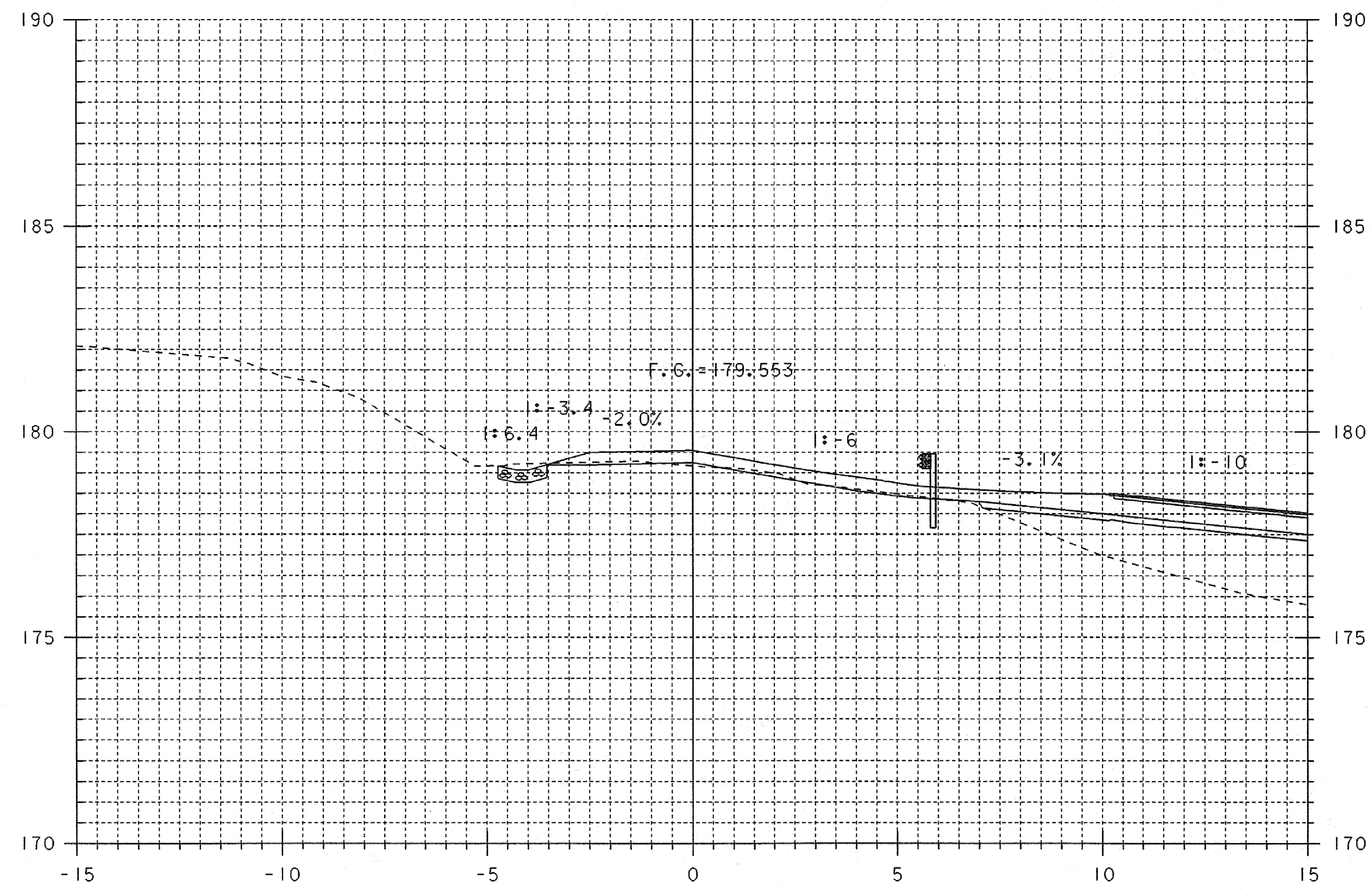
STA. 40+137 TO STA. 40+140

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

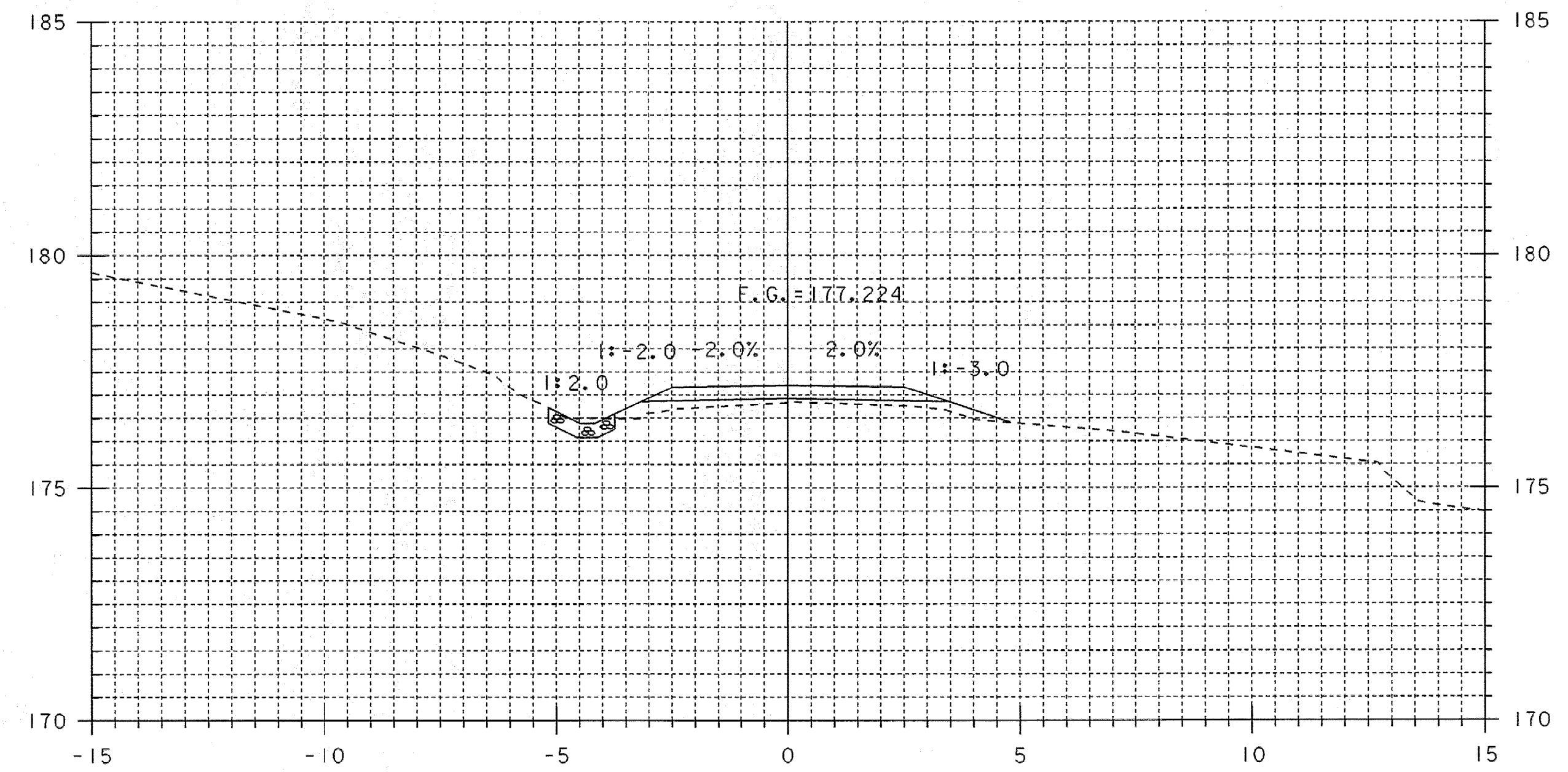
FILE NAME: sj076m06.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076xs3.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 49 OF 59

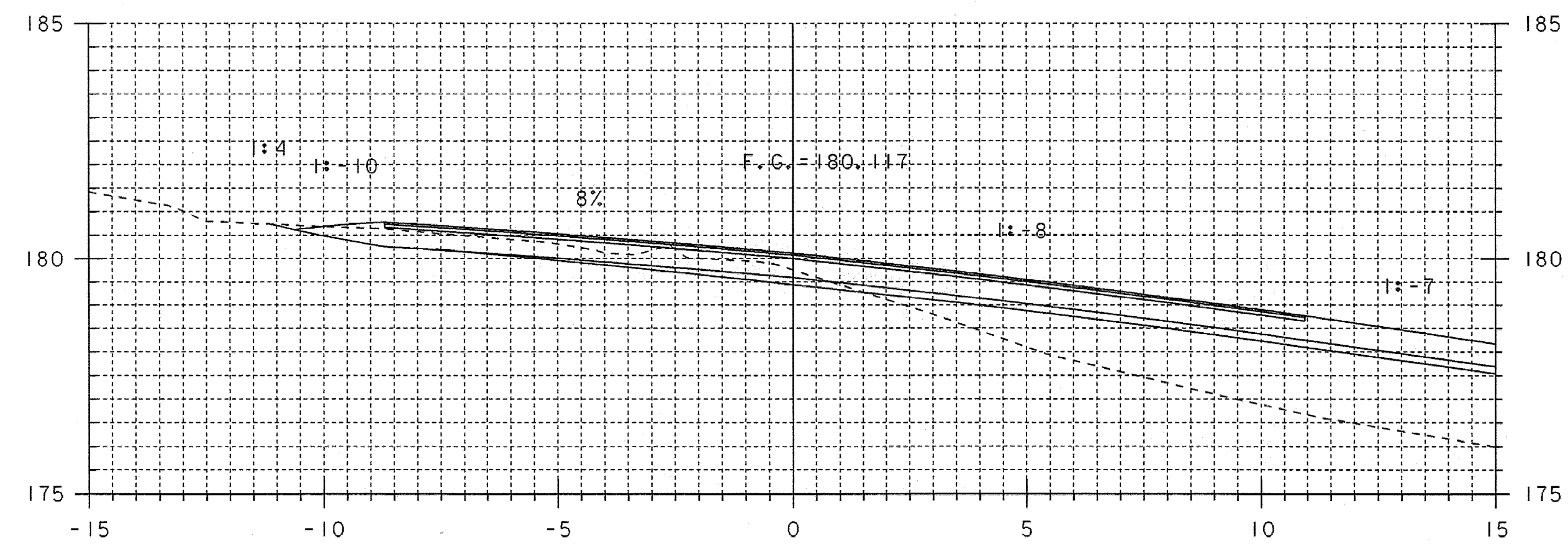
LEFT DRIVE (OLD BONNYVALE RD) AS WAS - NO NEW GRAVEL, ETC.



6+010

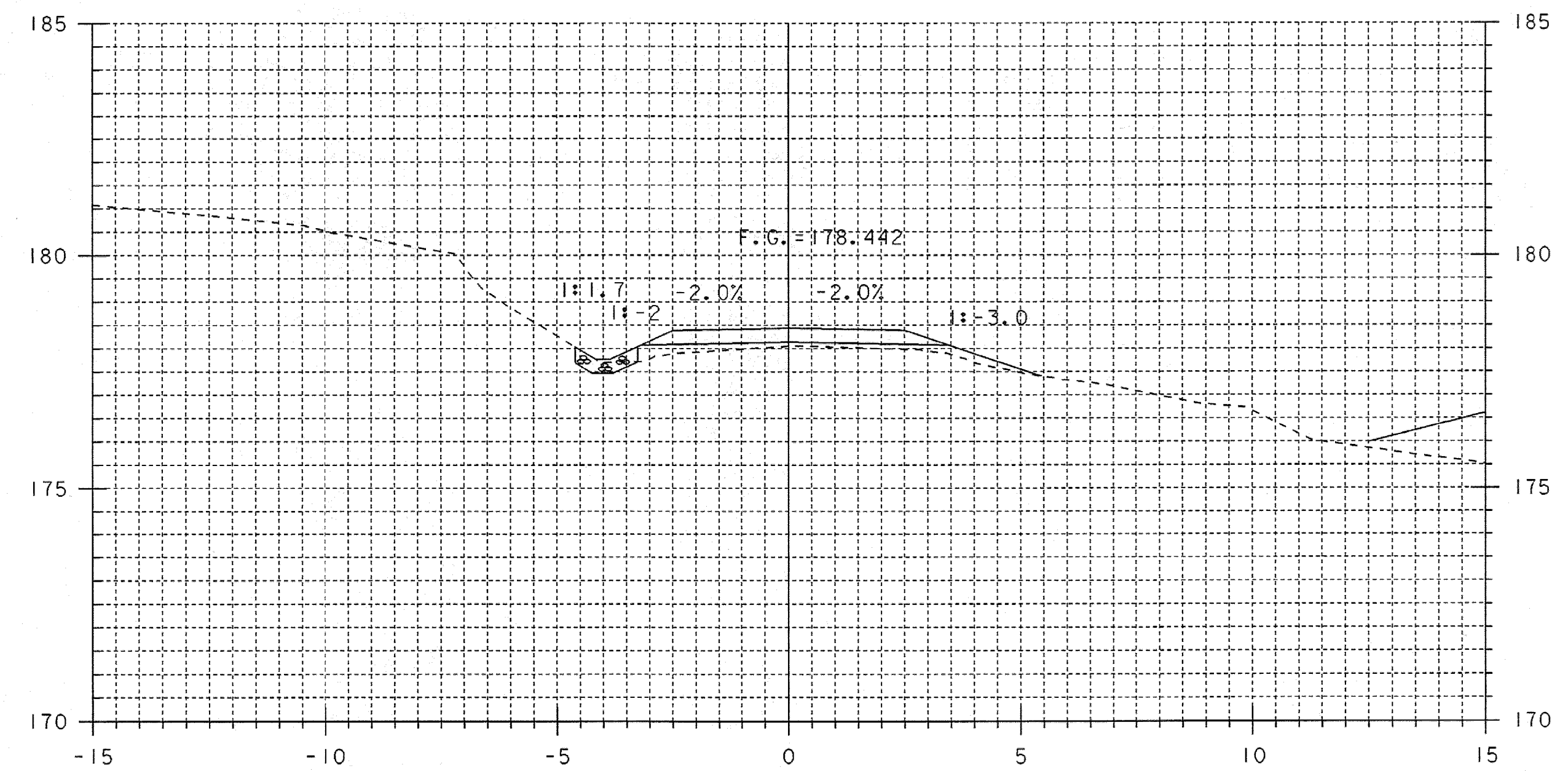


6+030



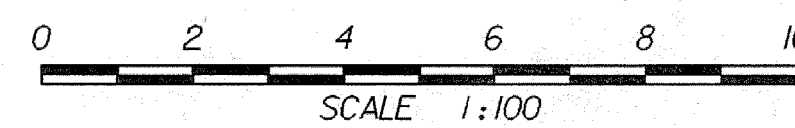
6+000

6+000
BEGIN DRIVE 1
MATCH PROPOSED MAINLINE



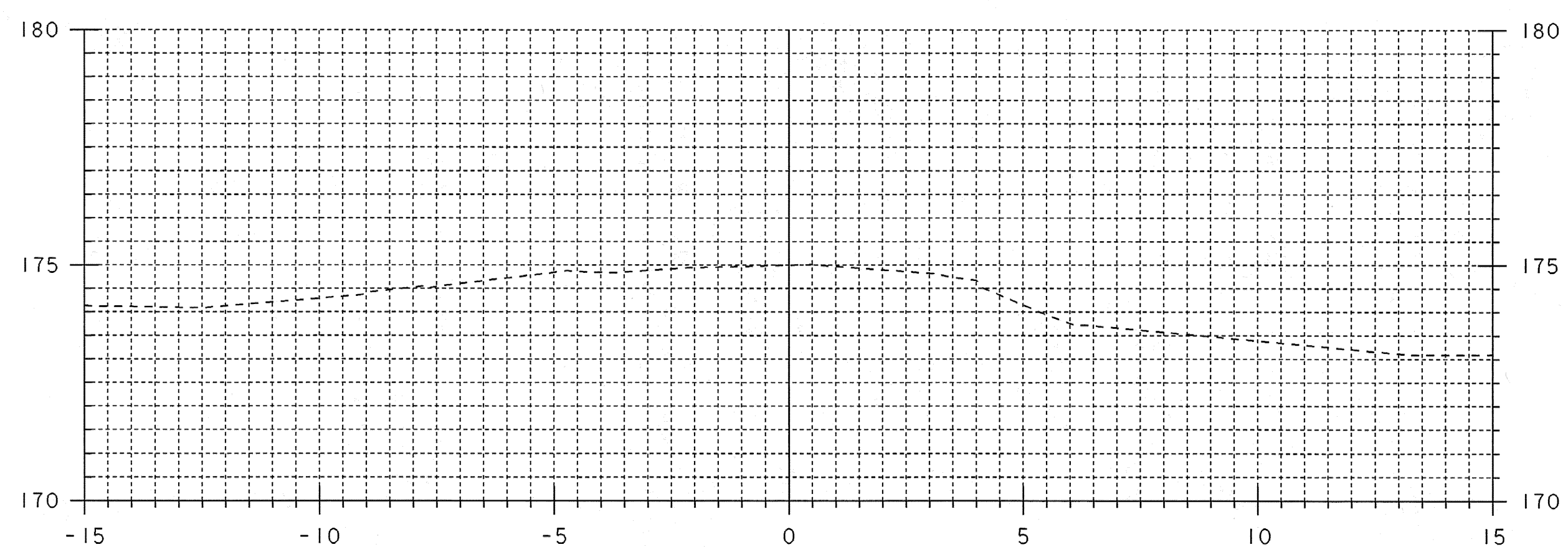
6+020

DRIVE CROSS SECTIONS I



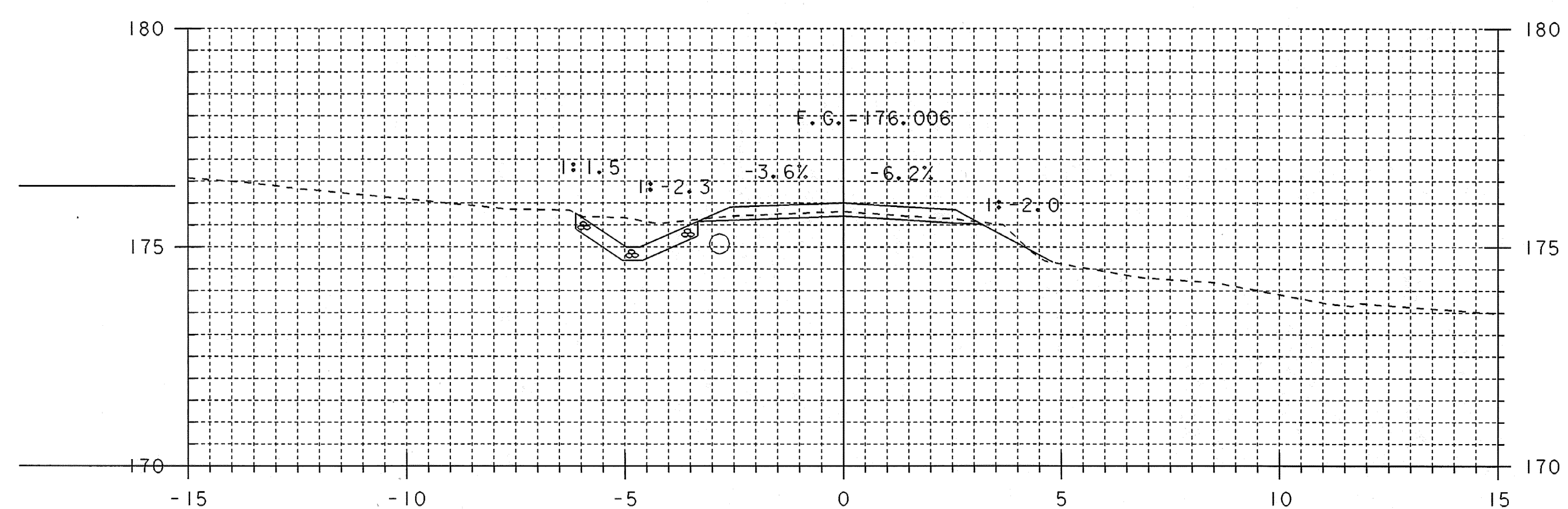
STA. 6+000 TO STA. 6+030

PROJECT NAME:	GUILFORD	PLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	T. LACKEY
FILE NAME:	sj076d01.i	DESIGNED BY:	J. PERRIGO
PROJECT LEADER:	R. WHITCOMB	CHECKED BY:	T. LACKEY
94J076\Structures\sj076xs3.dgn			SHEET 50 OF 59



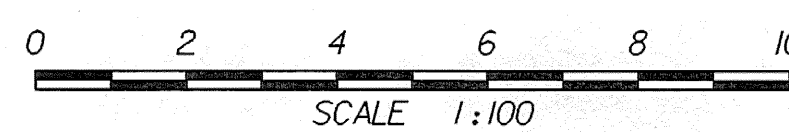
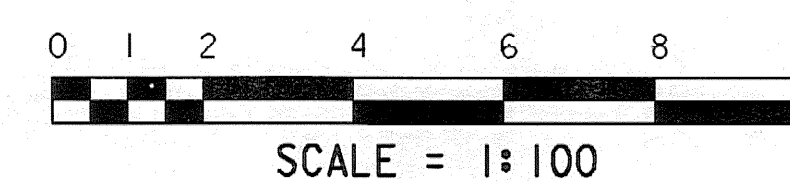
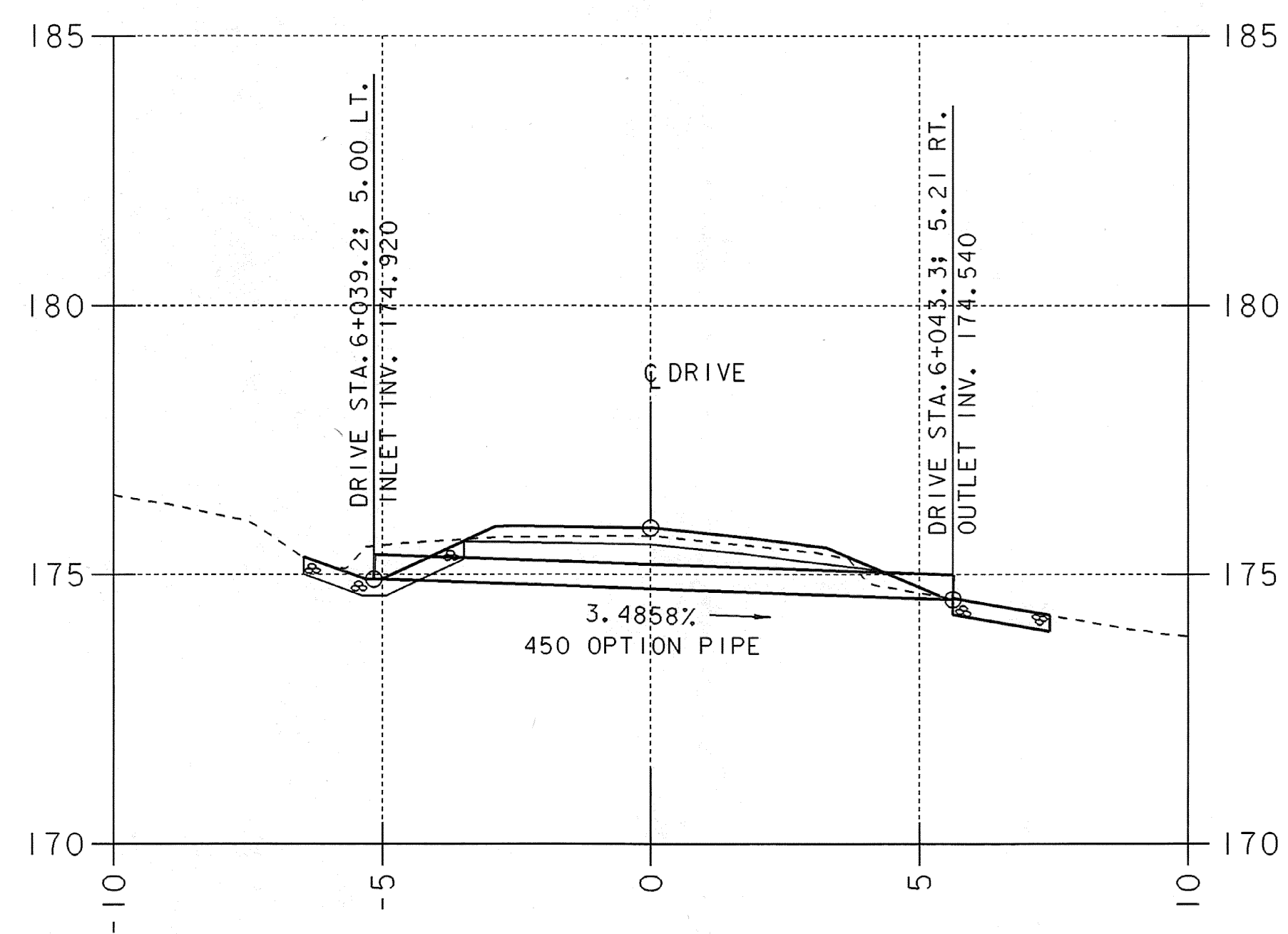
6+050

6+045
END DRIVE
MATCH EXISTING



6+040

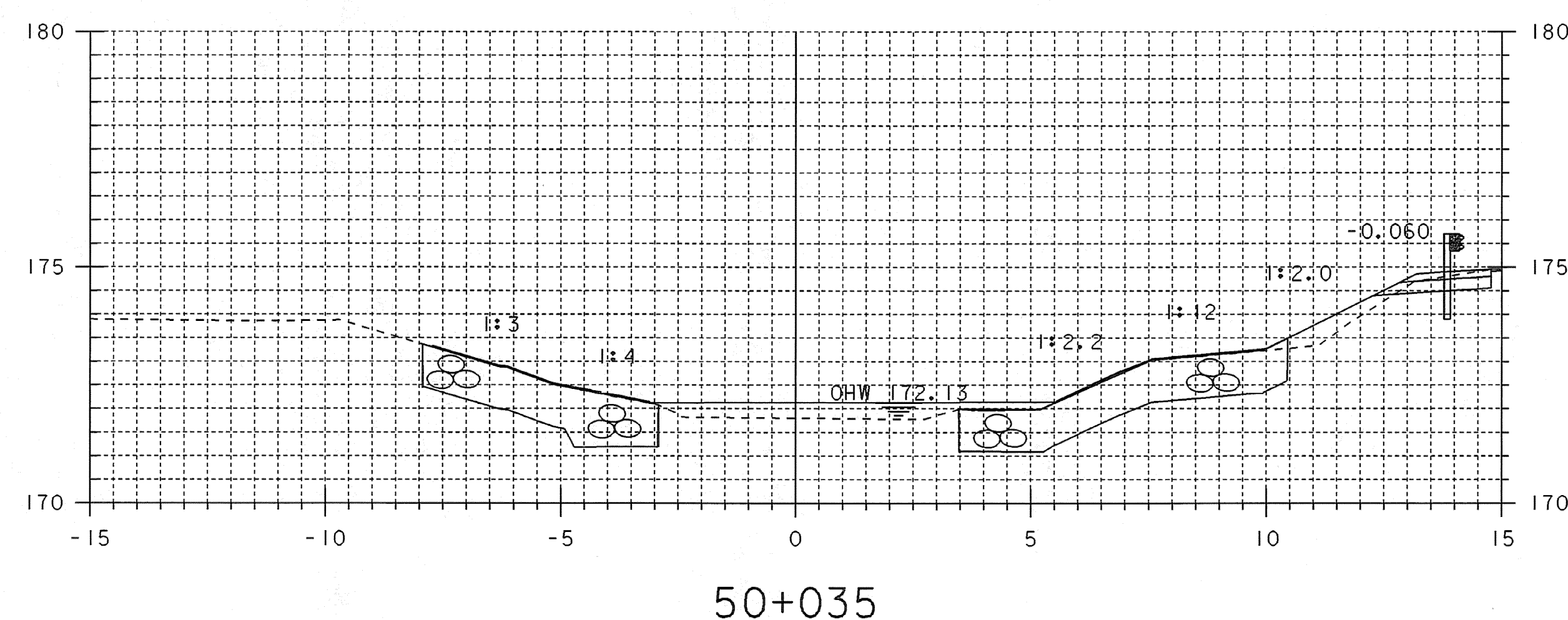
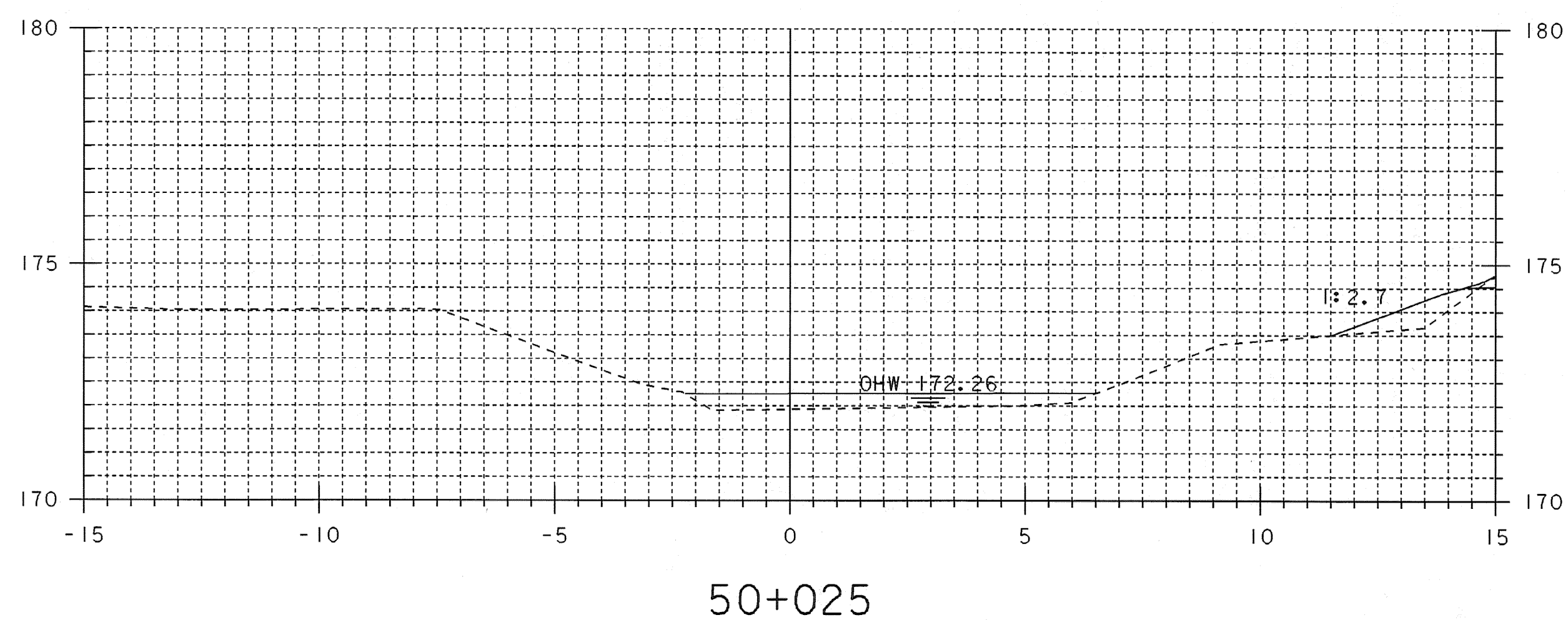
CULVERT PROFILE AT DRIVE STA. 6+041.160



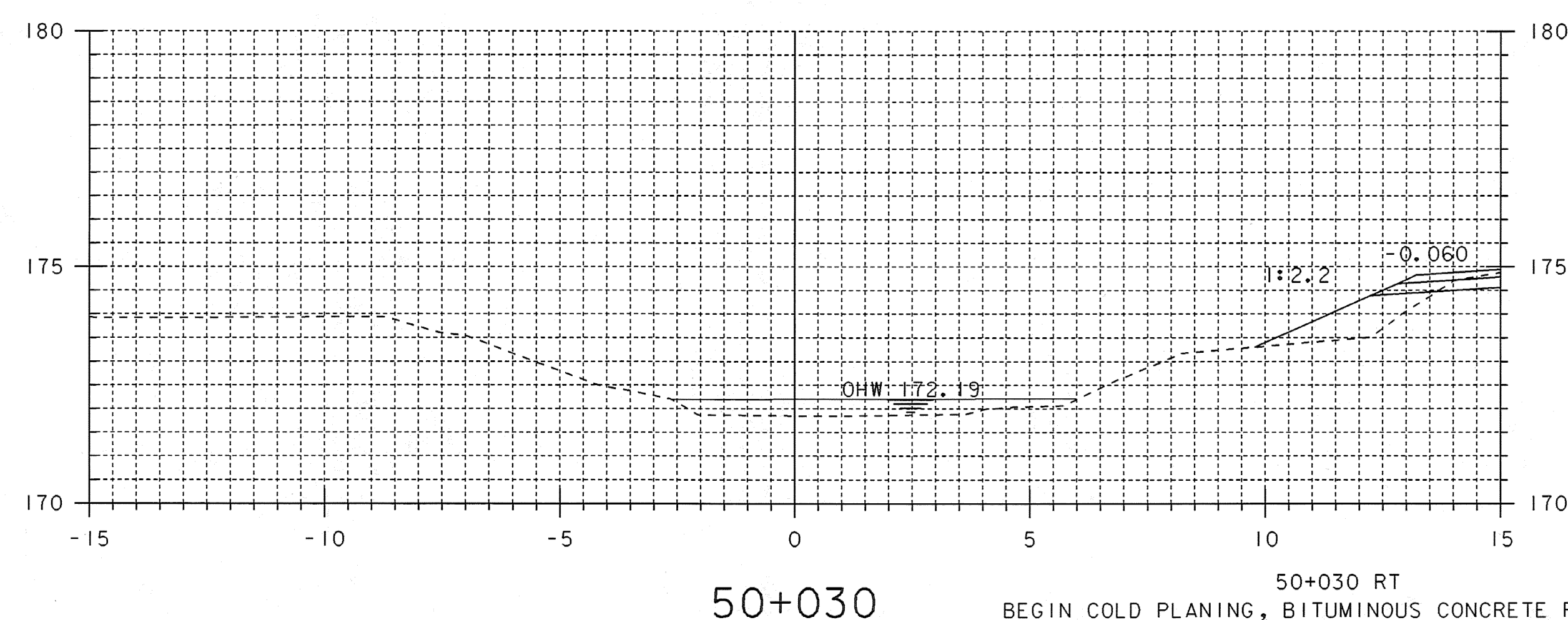
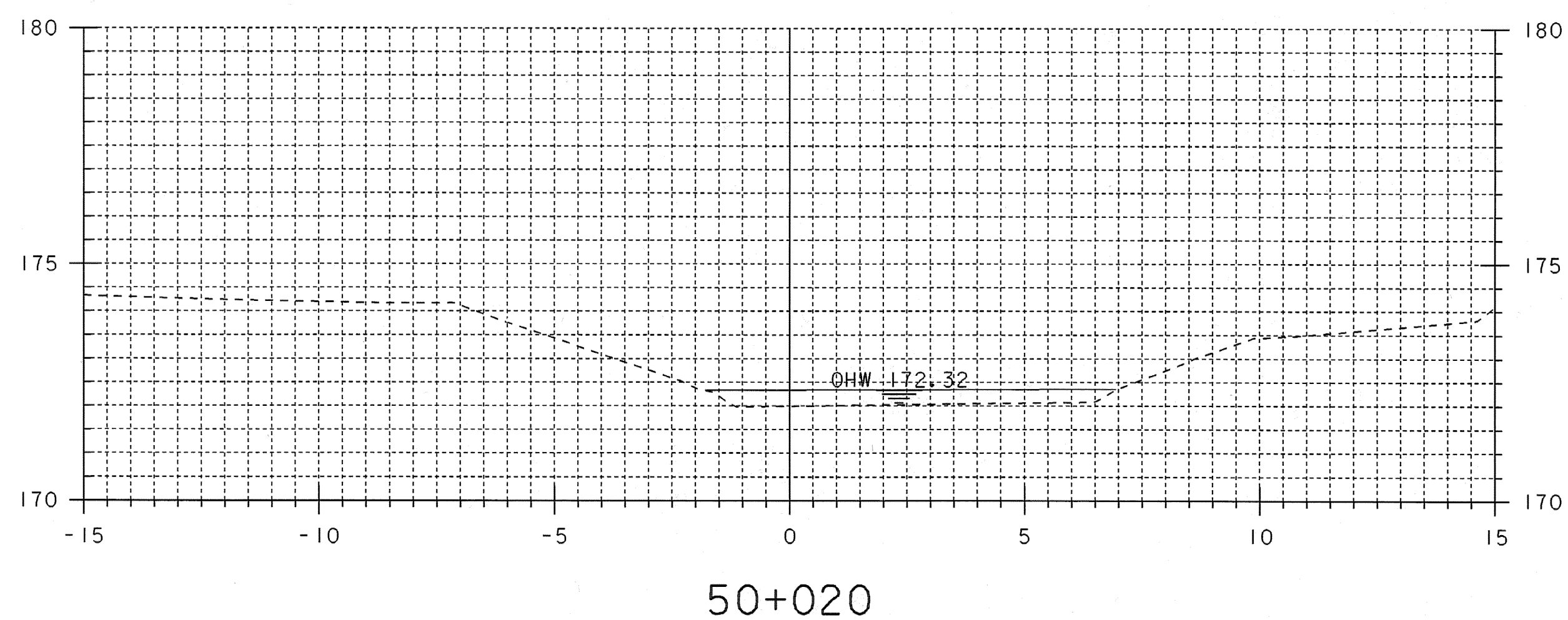
DRIVE CROSS SECTIONS 2

PROJECT NAME:	GUILFORD	PLLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	T. LACKEY
FILE NAME:	sj076d02.j	DESIGNED BY:	J. PERRIGO
PROJECT LEADER:	R. WHITCOMB	CHECKED BY:	T. LACKEY
94J076\Structures\sj076xs3.dgn		SHEET	51 OF 59

STA. 6+040 TO STA. 6+050



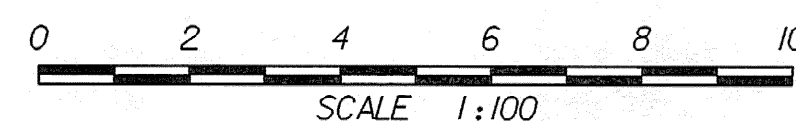
50+035
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION
 GEOTEXTILE UNDER STONE FILL
 STONE FILL, TYPE III
 GRUBBING MATERIAL



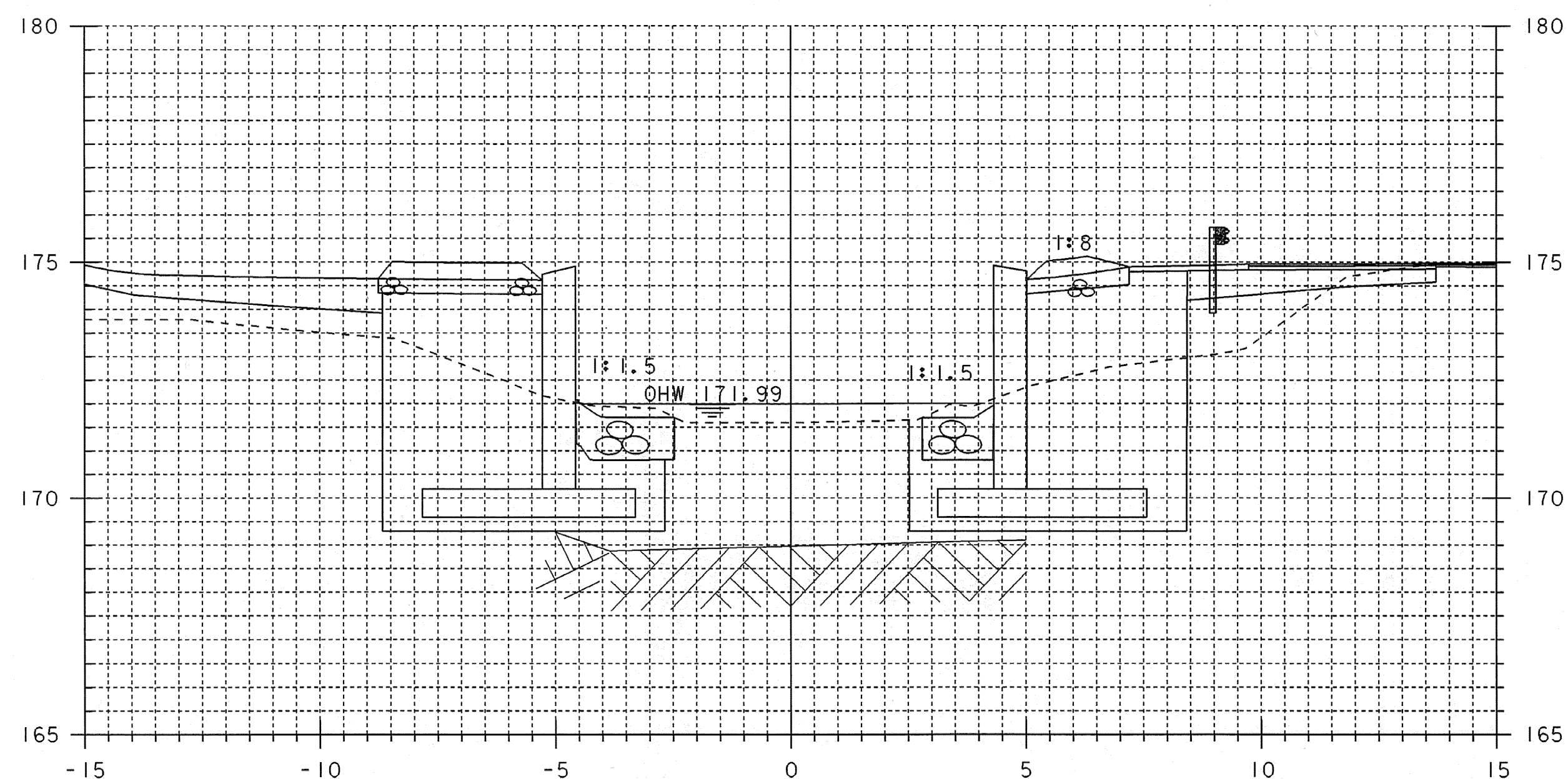
50+030 RT
 BEGIN COLD PLANING, BITUMINOUS CONCRETE PAVEMENT
 FULL WIDTH OF TH I

CHANNEL CROSS SECTIONS I

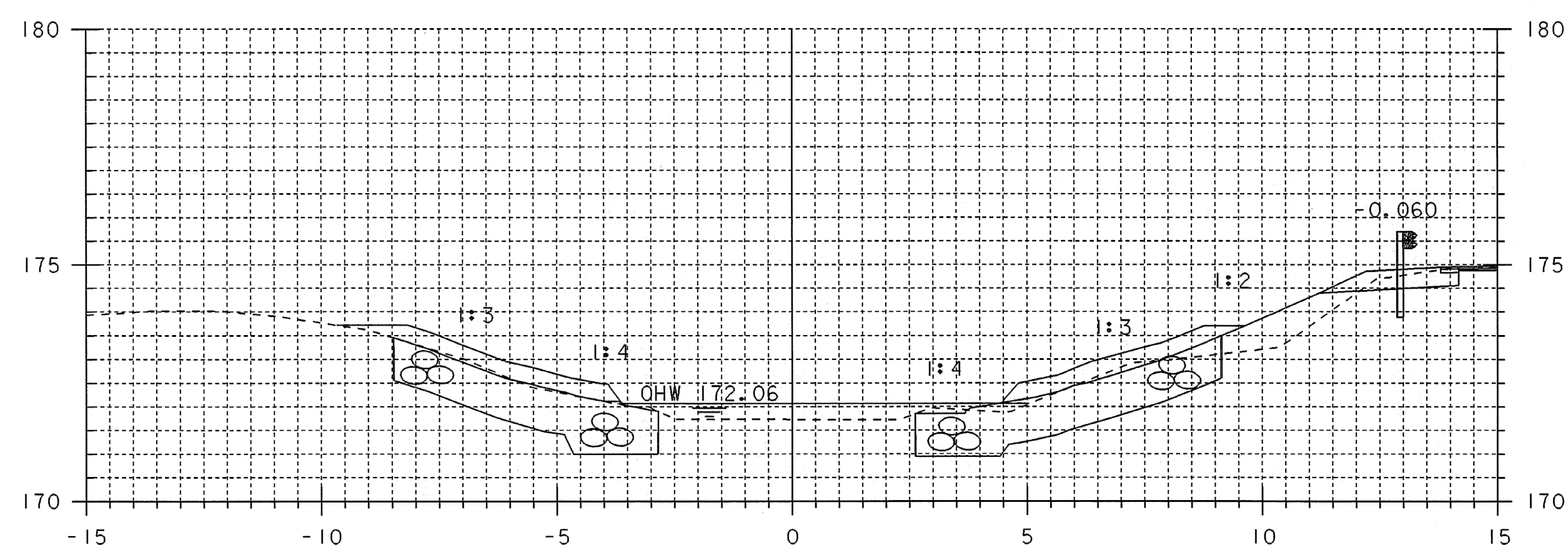
PROJECT NAME:	GUILFORD	FILE NAME:	sj076c01.i	PLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	PROJECT LEADER:	R. WHITCOMB	DRAWN BY:	T. LACKEY
		DESIGNED BY:	J. PERRIGO	CHECKED BY:	T. LACKEY
			94\076\Structures\sj076xs3.dgn	SHEET	52 OF 59



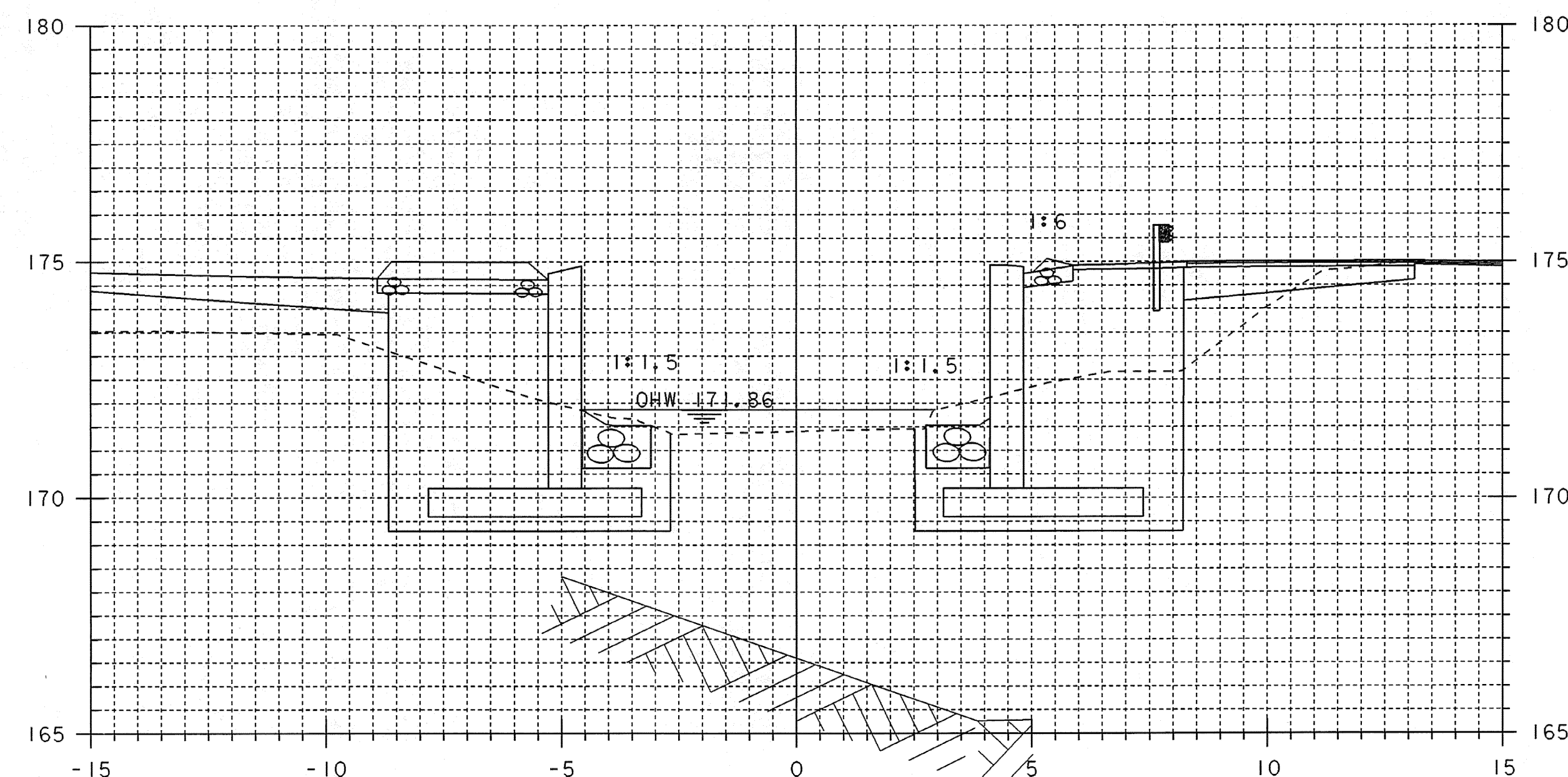
STA. 50+020 TO STA. 50+035



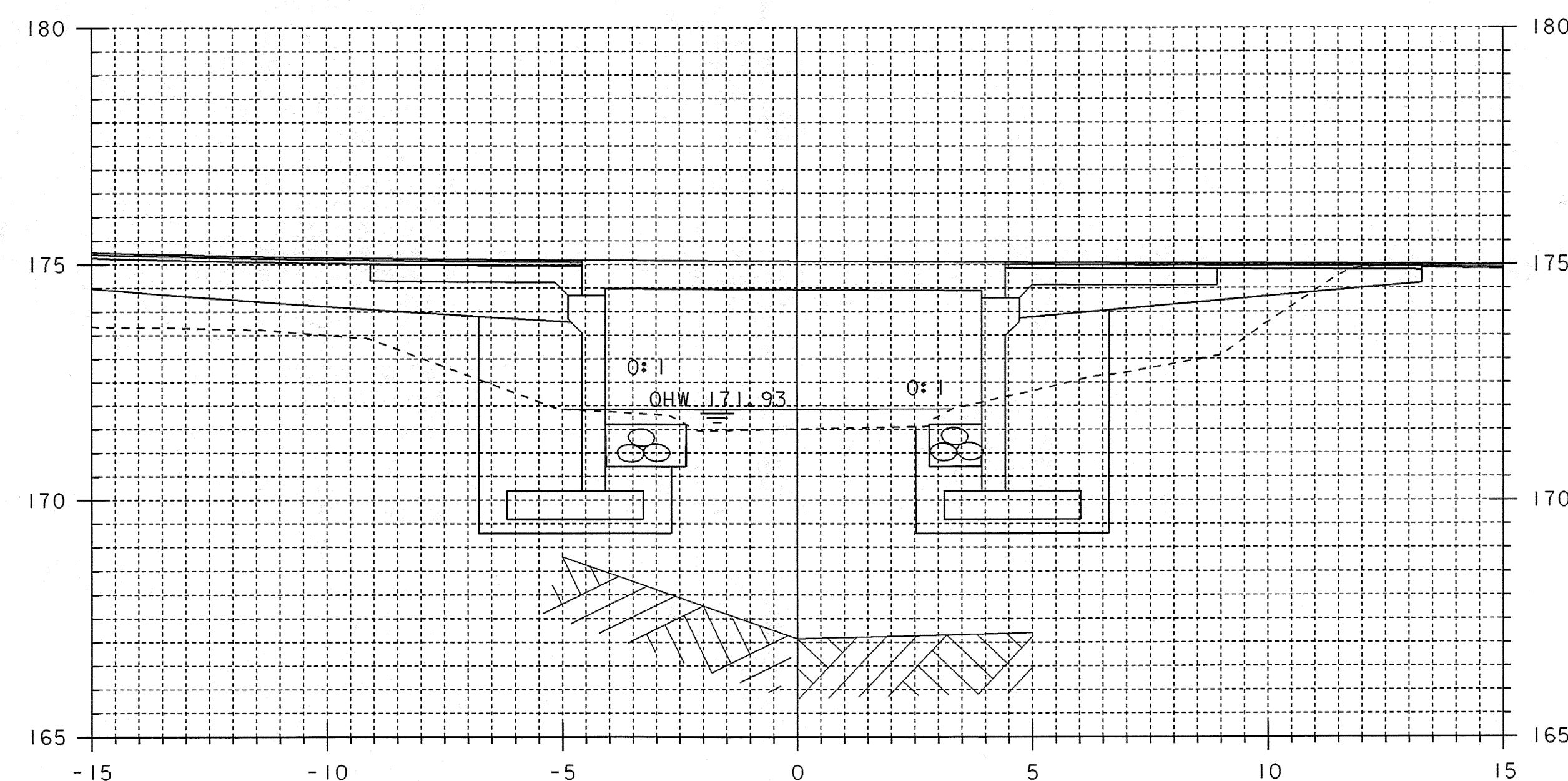
50+045



50+040



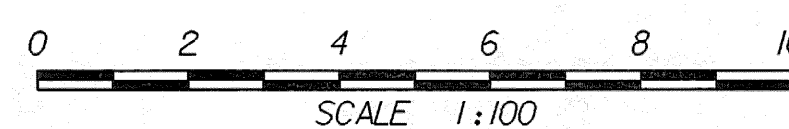
50+055



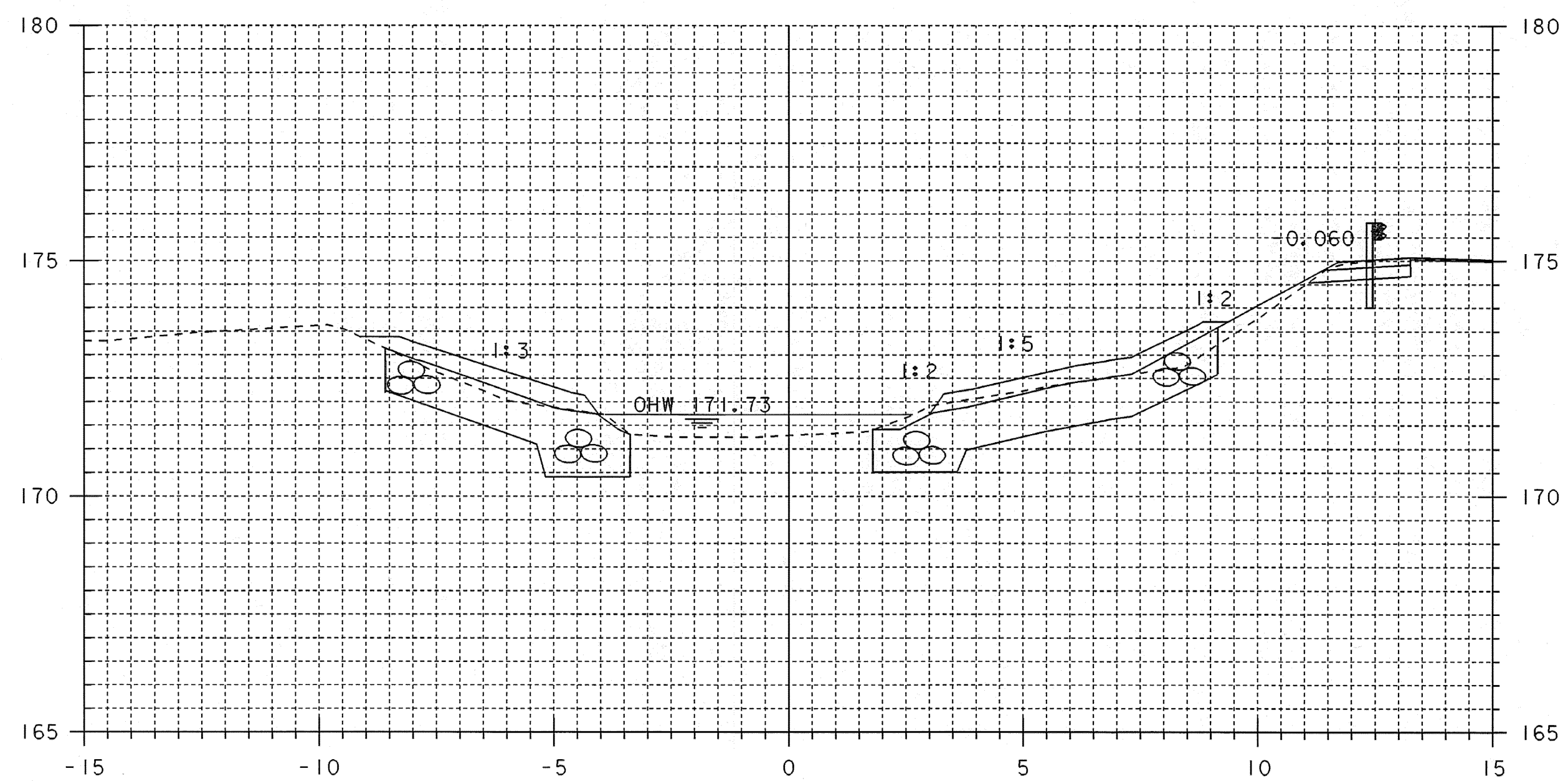
50+050

CHANNEL CROSS SECTIONS 2

PROJECT NAME:	GUILFORD	PLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	T. LACKEY
FILE NAME:	sj076c02.j	DESIGNED BY:	J. PERRIGO
PROJECT LEADER:	R. WHITCOMB	CHECKED BY:	T. LACKEY
94j076\Structures\sj076xs3.dgn		SHEET	53 OF 59

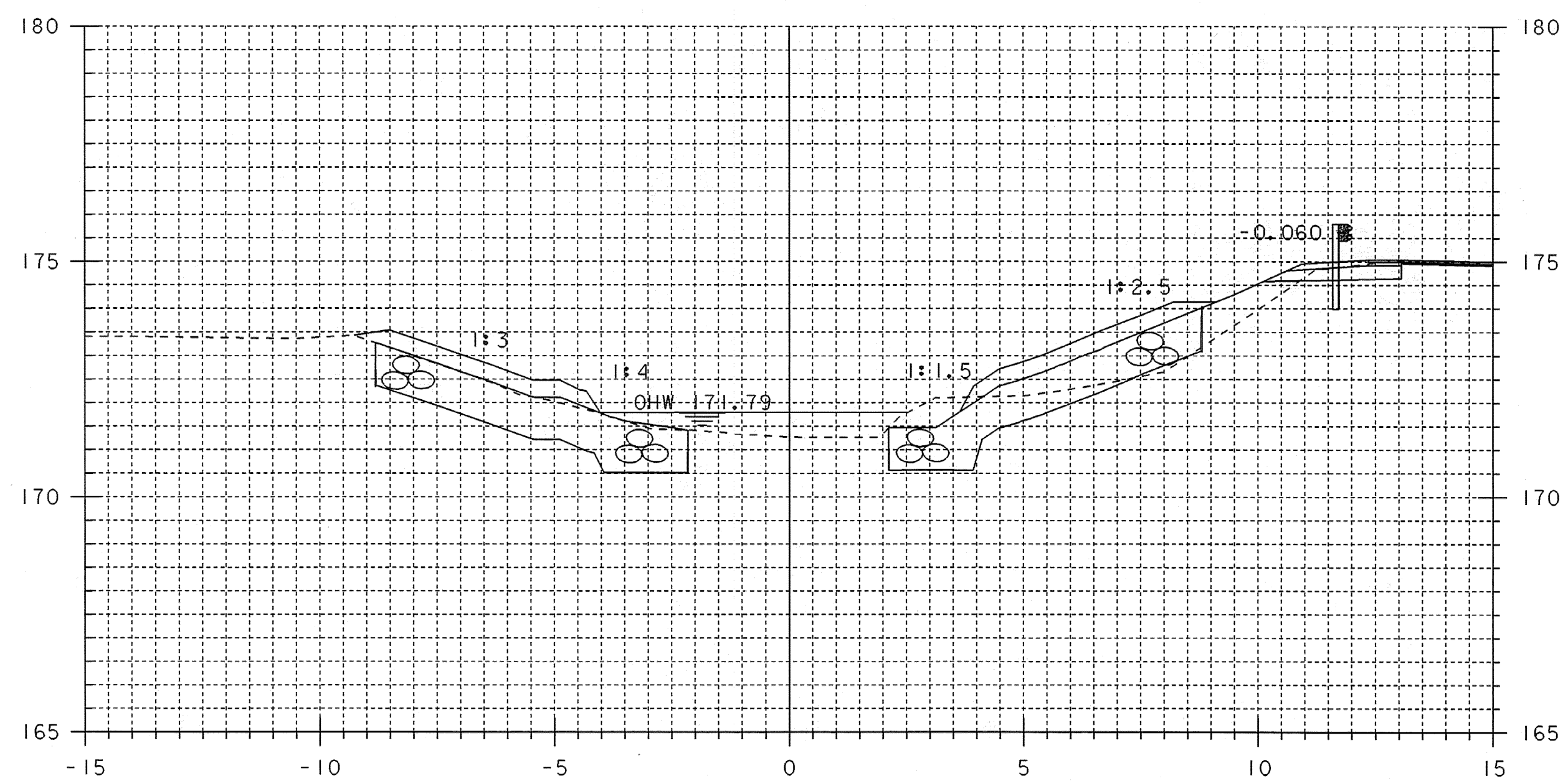


STA. 50+040 TO STA. 50+055

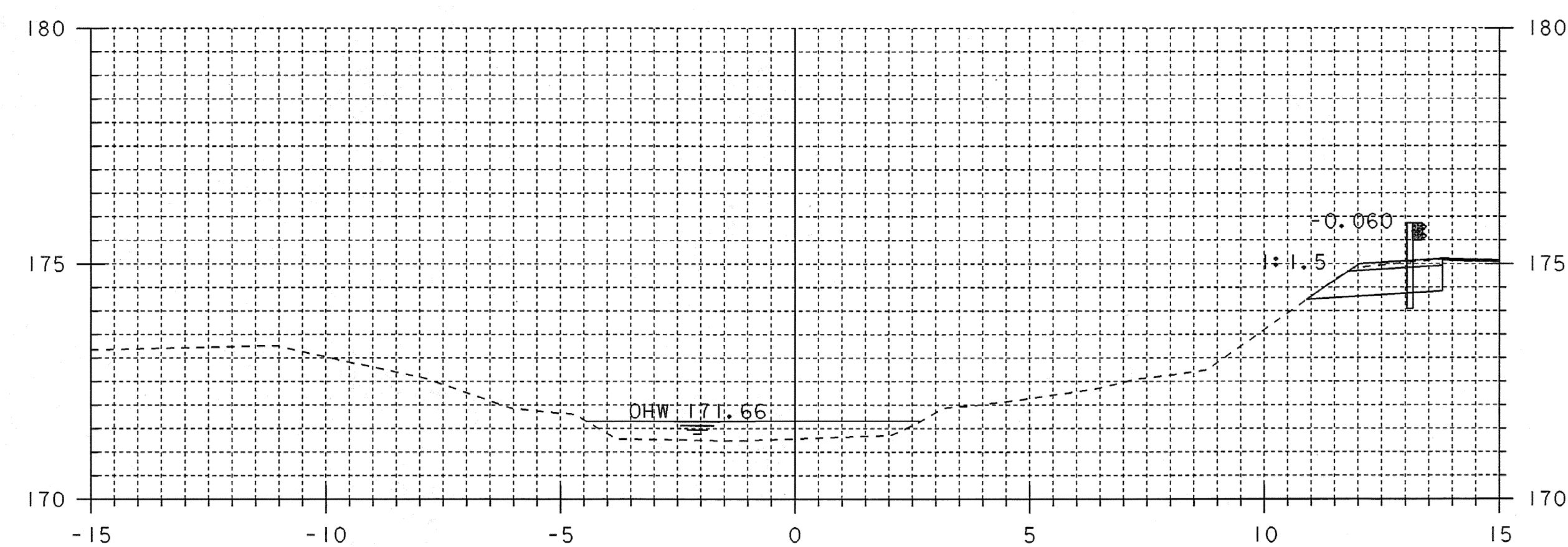


50+065

50+065
 END UNCLASSIFIED CHANNEL EXCAVATION
 GEOTEXTILE UNDER STONE FILL
 STONE FILL, TYPE III
 GRUBBING MATERIAL



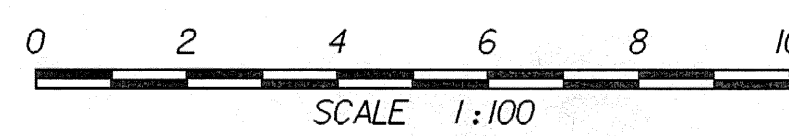
50+060



50+070

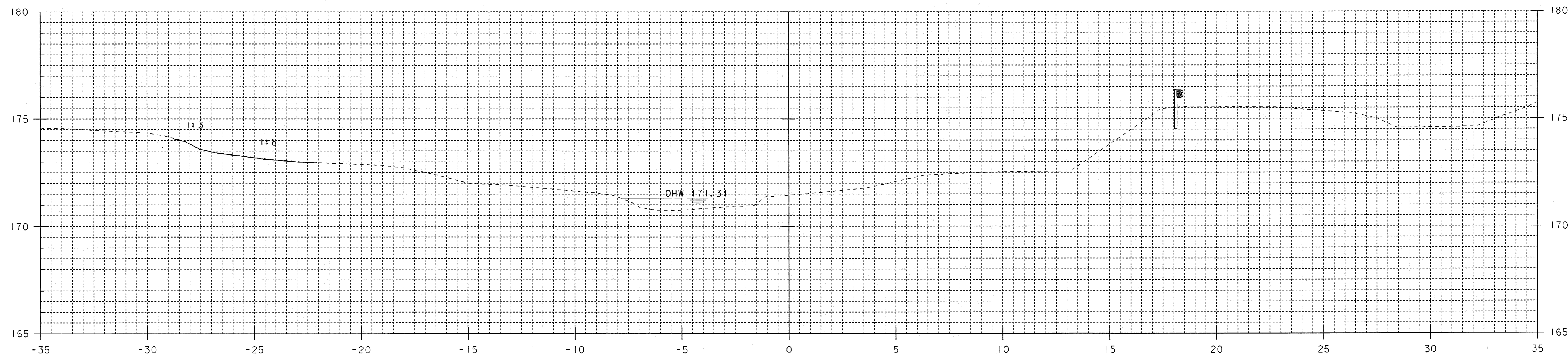
50+070 RT
 END COLD PLANING, BITUMINOUS CONCRETE PAVEMENT
 FULL WIDTH OF TH 1

CHANNEL CROSS SECTIONS 3



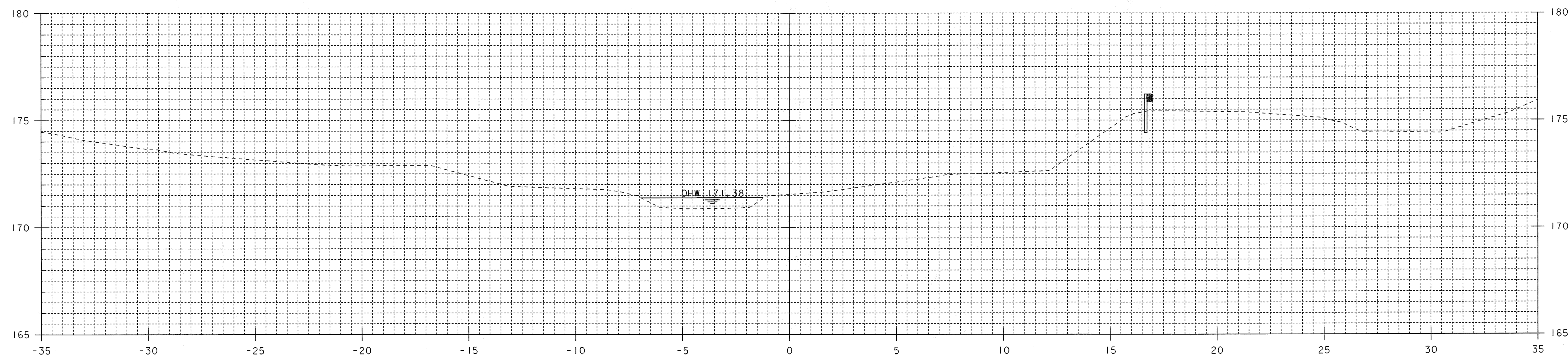
STA. 50+060 TO STA. 50+070

PROJECT NAME:	GUILFORD	PLLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	T. LACKEY
FILE NAME:	sj076c03.j	DESIGNED BY:	J. PERRIGO
PROJECT LEADER:	R. WHITCOMB	CHECKED BY:	T. LACKEY
94J076\Structures\sj076xs3.dgn		SHEET	54 OF 59



50+095
BEGIN UNCLASSIFIED EXCAVATION

50+095.00



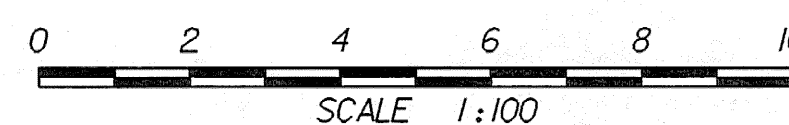
50+090.00

CHANNEL CROSS SECTIONS 4

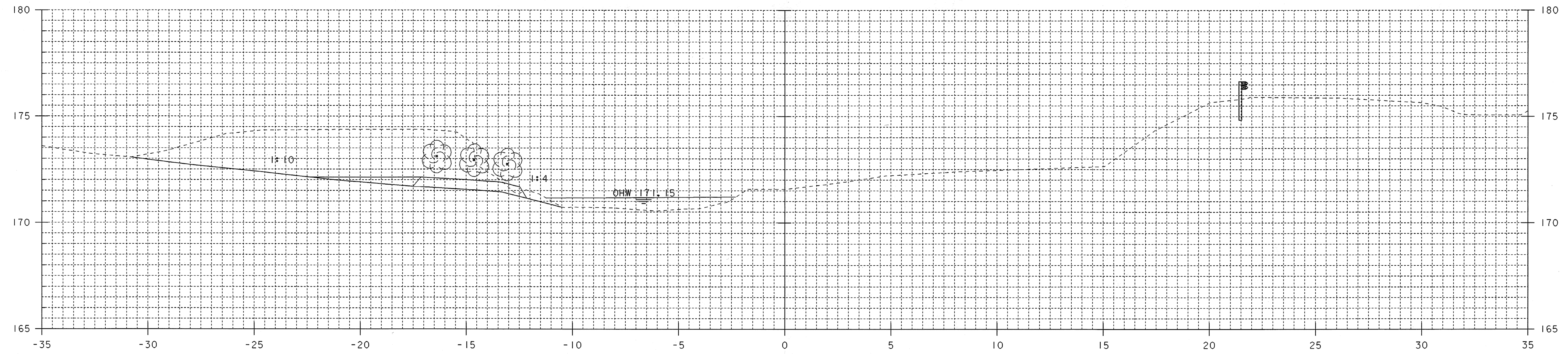
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076c04.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076xs3.dgn

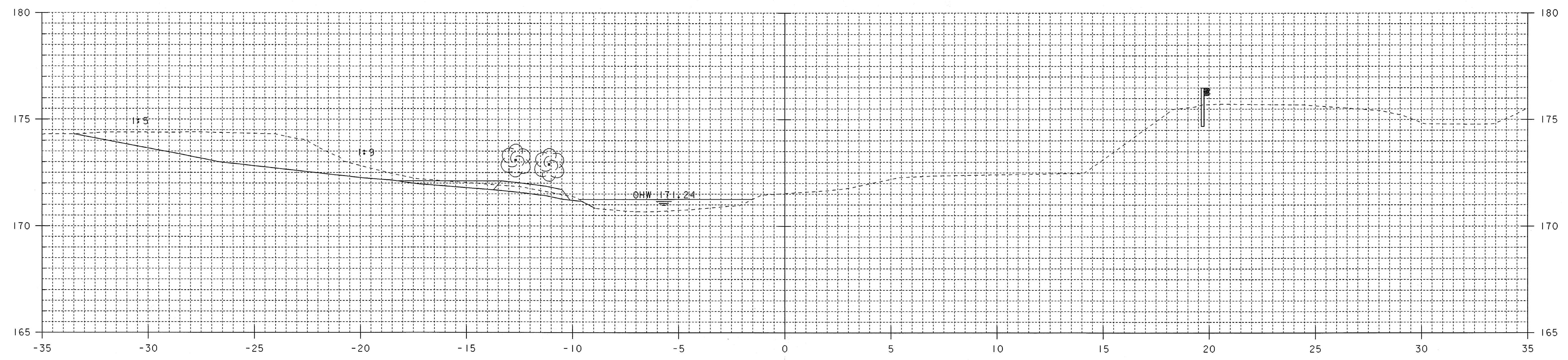
PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 55 OF 59



STA. 50+090 TO STA. 50+095



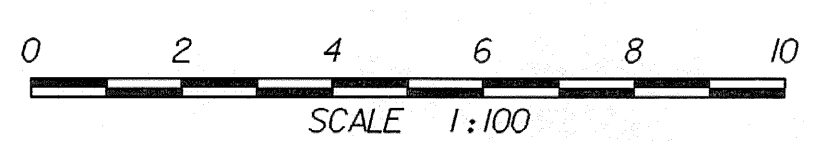
50+105.00



50+098
BEGIN LANDSCAPING

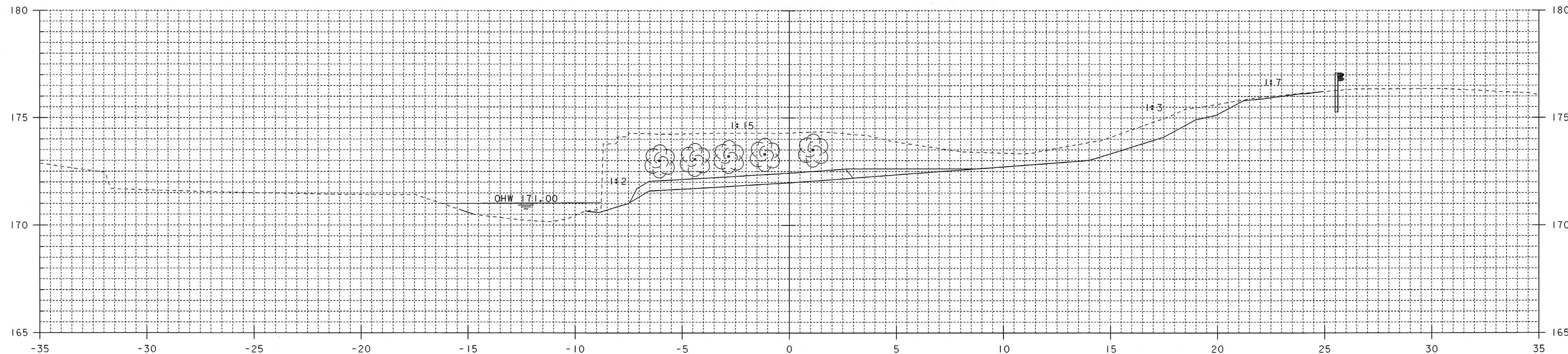
50+100.00

CHANNEL CROSS SECTIONS 5



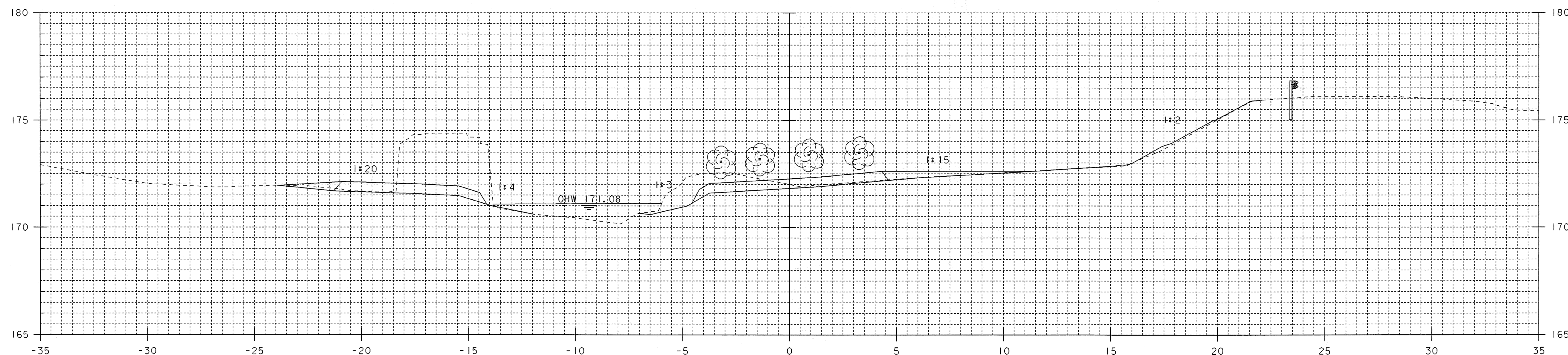
STA. 50+100 TO STA. 50+105

PROJECT NAME:	GUILFORD	PLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	T. LACKEY
FILE NAME:	sj076c05.i	DESIGNED BY:	J. PERRIGO
PROJECT LEADER:	R. WHITCOMB	CHECKED BY:	T. LACKEY
94\076\Structures\sj076xs3.dgn		SHEET	56 OF 59



50+114
END LANDSCAPING
END UNCLASSIFIED EXCAVATION

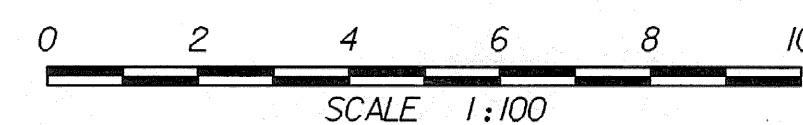
50+115.00



50+108
BEGIN LANDSCAPING
BEGIN UNCLASSIFIED EXCAVATION

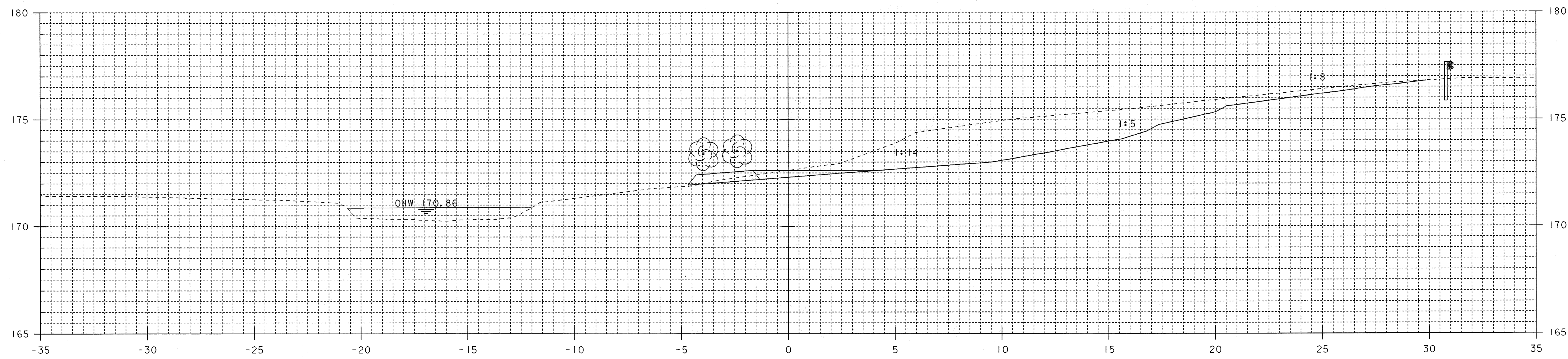
50+110.00

CHANNEL CROSS SECTIONS 6

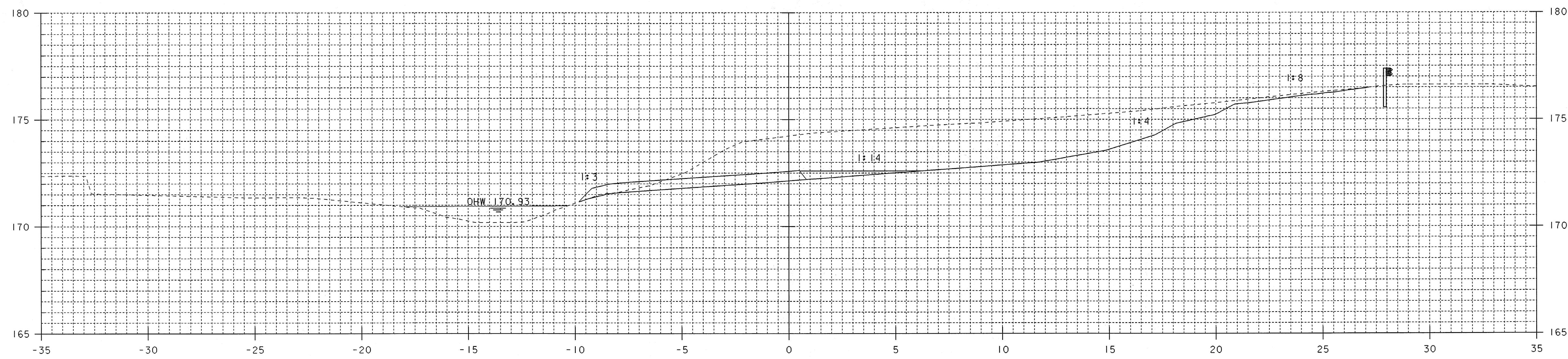


STA. 50+110 TO STA. 50+115

PROJECT NAME:	GUILFORD	PLOT DATE:	15-APR-2008
PROJECT NUMBER:	BRO 1442(24)	DRAWN BY:	T. LACKEY
FILE NAME:	sj076c06.i	DESIGNED BY:	J. PERRIGO
PROJECT LEADER:	R. WHITCOMB	CHECKED BY:	T. LACKEY
94J076\Structures\sj076xs3.dgn		SHEET	57 OF 59

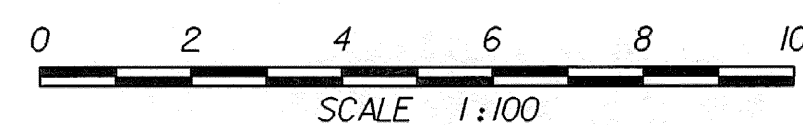


50+125.00 50+127
END LANDSCAPING



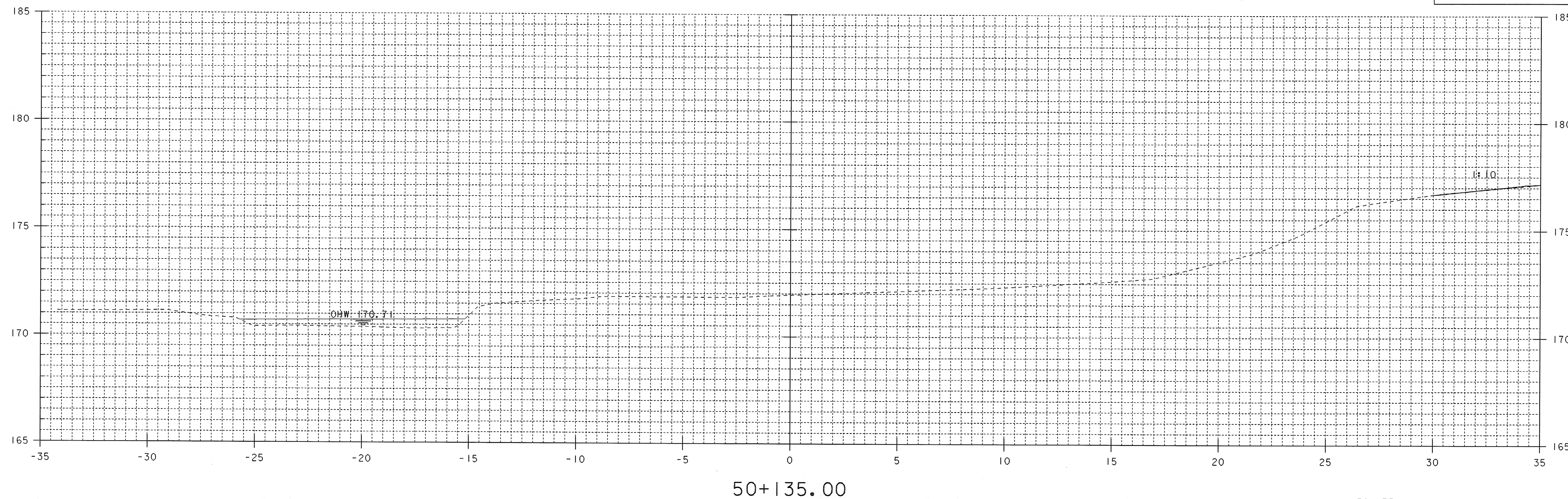
50+120.00

CHANNEL CROSS SECTIONS 7

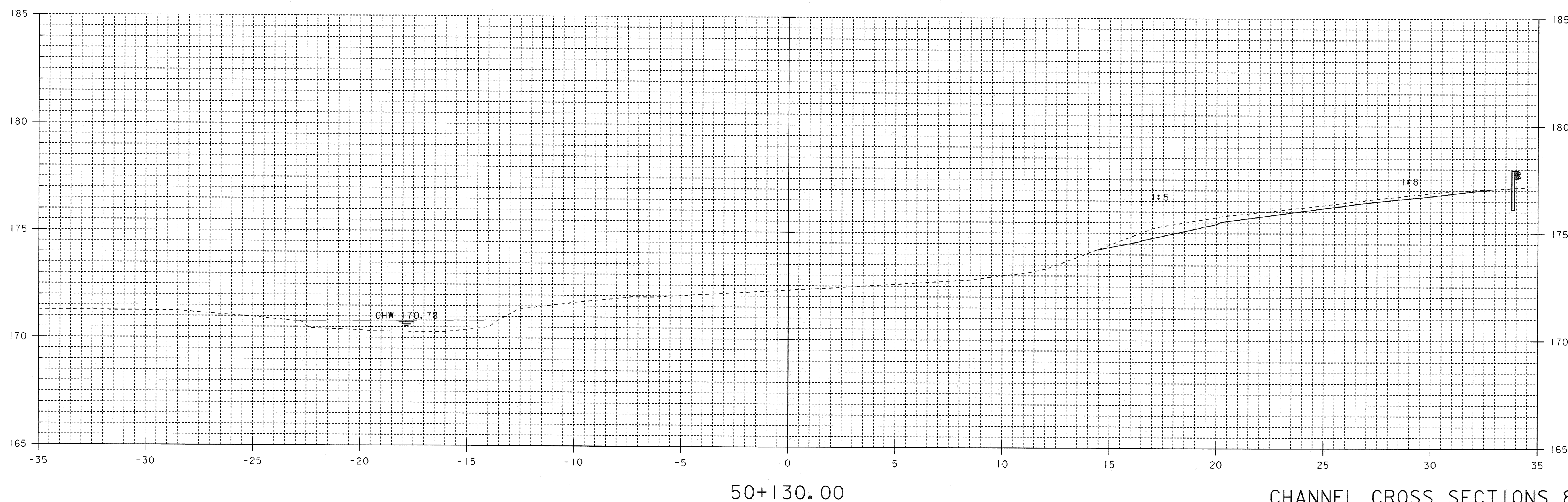


STA. 50+120 TO STA. 50+125

PROJECT NAME: GUILFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: T. LACKEY
FILE NAME: sj076c07.i	CHECKED BY: T. LACKEY
PROJECT LEADER: R. WHITCOMB	SHEET 58 OF 59
DESIGNED BY: J. PERRIGO	
94j076\Structures\sj076xs3.dgn	

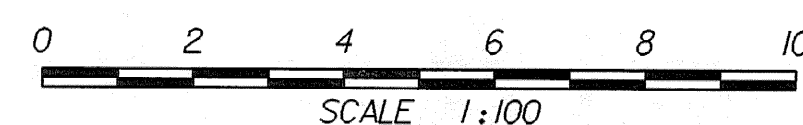


50+135
END UNCLASSIFIED EXCAVATION



CHANNEL CROSS SECTIONS 8

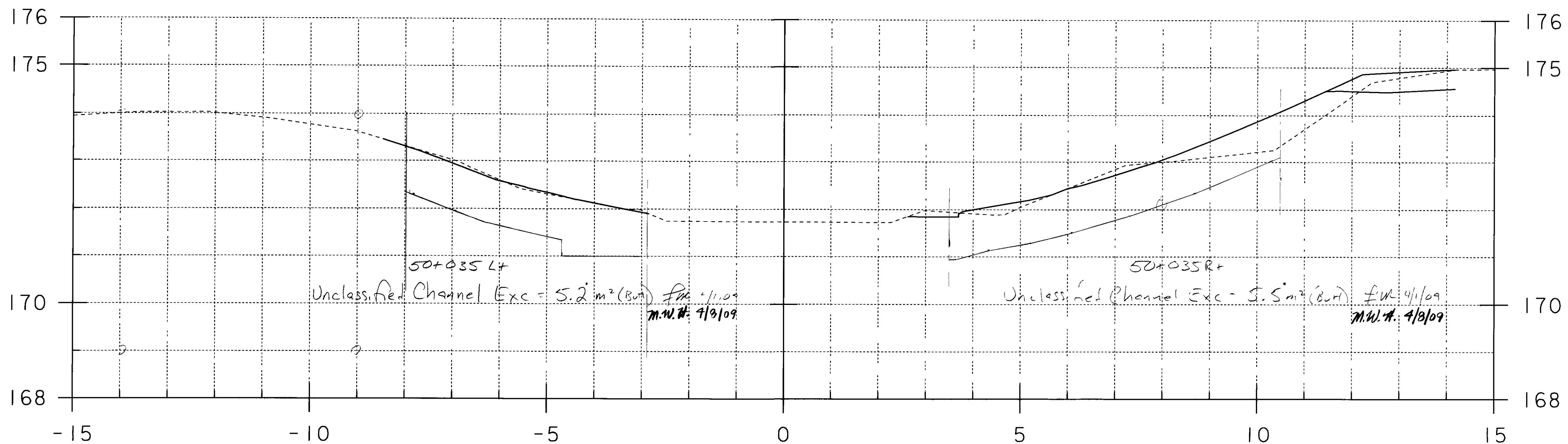
PROJECT NAME: GUILFORD	PLOT DATE: 15-APR-2008
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: T. LACKEY
FILE NAME: sj076c08.i	CHECKED BY: T. LACKEY
PROJECT LEADER: R. WHITCOMB	SHEET 59 OF 59
DESIGNED BY: J. PERRIGO	
94j076\Structures\sj076xs3.dgn	



STA. 50+130 TO STA. 50+135

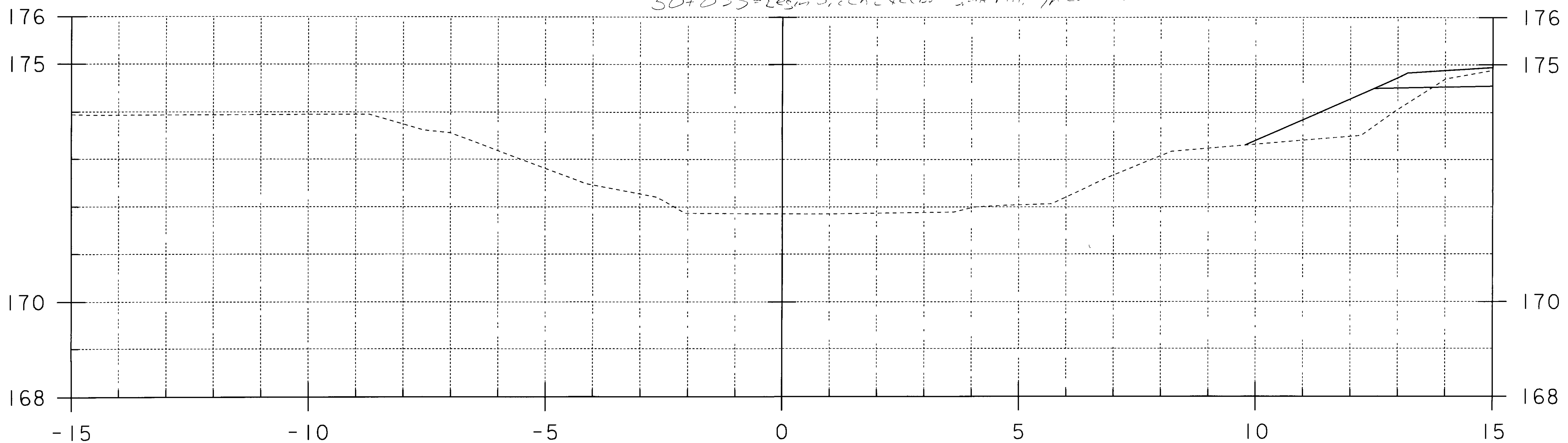
50+041.5 Left = Zero Cofferdam Excavation, Earth
 = Zero Granular Backfill for Structures

50+041 Rt = Zero Cofferdam Excavation, Earth
 = Zero Granular Backfill for Structures



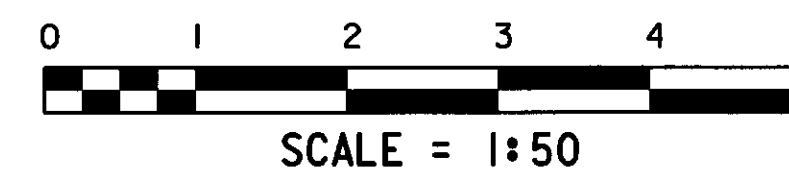
50+040.000 = Same as 50+035 (Use 50+040 section for 50+035)

50+035 = Resin J, c Ch Exc (BWH) Zone Fill, typ 2, 10% G, 11% S, 11% F (Use section 50+040)



50+030.000

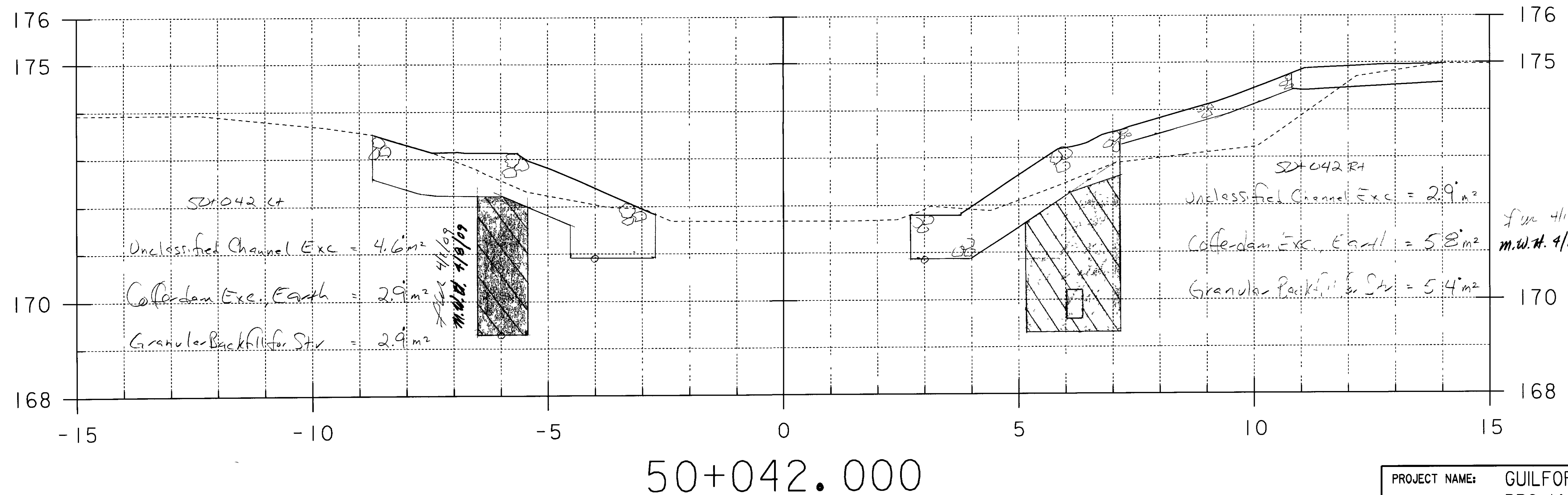
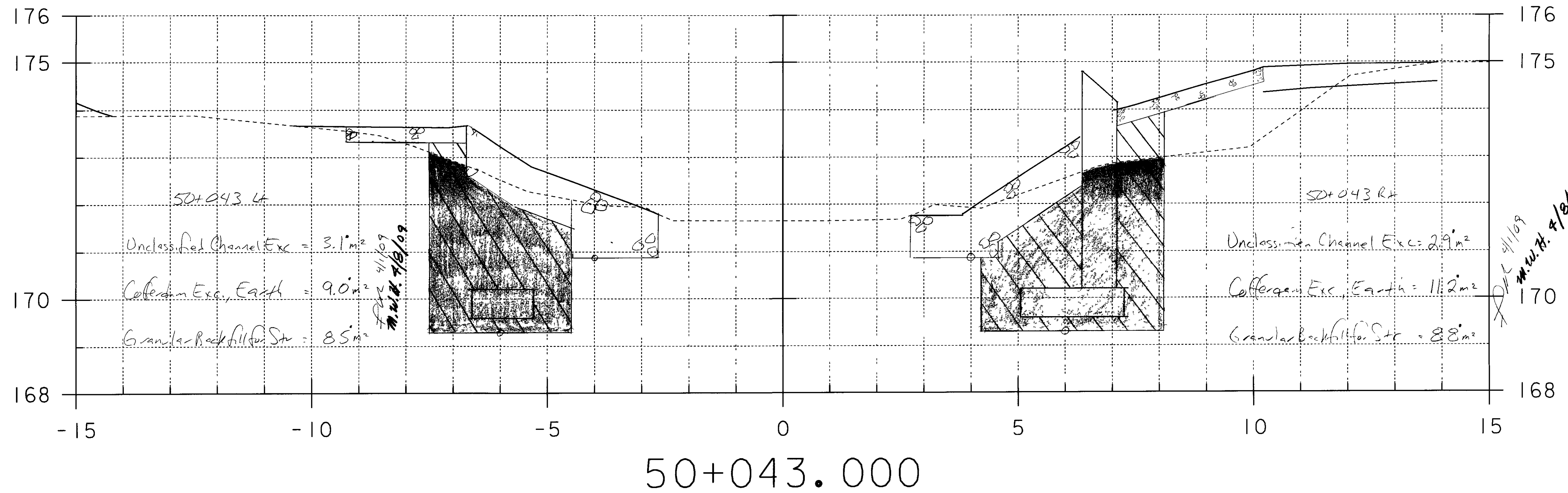
STA. 50+030.000 TO STA. 50+040.000



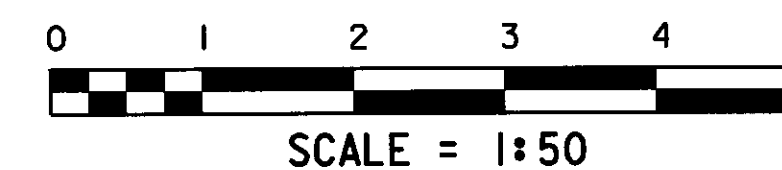
PROJECT NAME: GUILFORD	PROJECT SHEET # 1 of 2
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sj076c11	PLOT DATE: 04-MAR-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94J076\Structures\sj076xs3.dgn	SHEET 1 OF 9

21.07.2

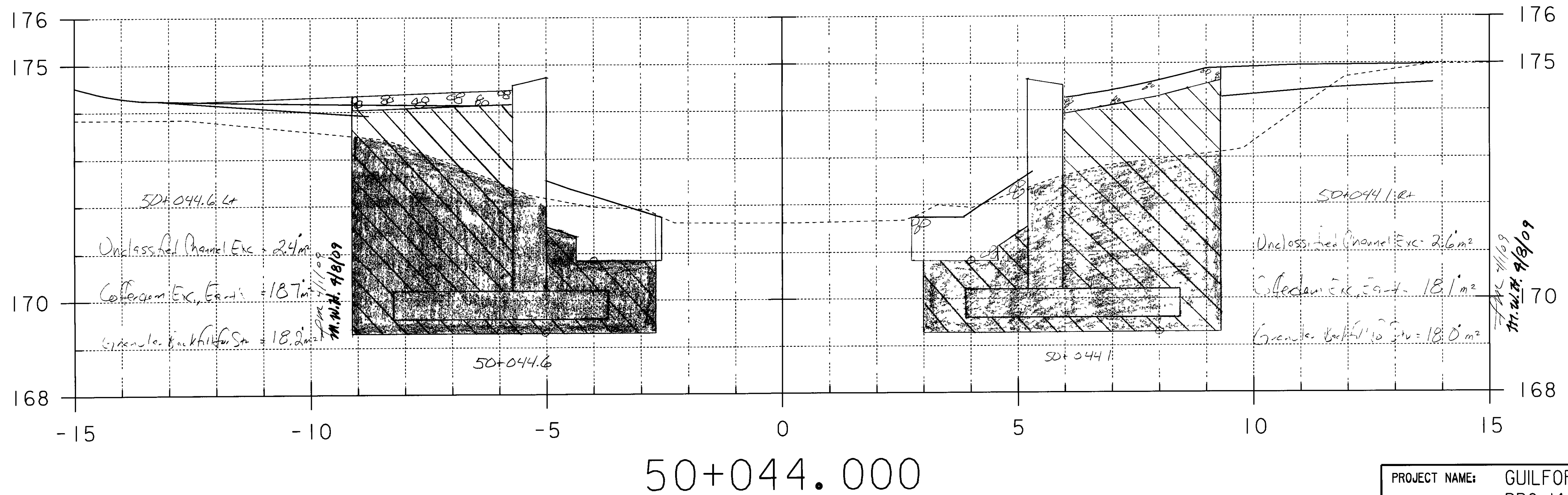
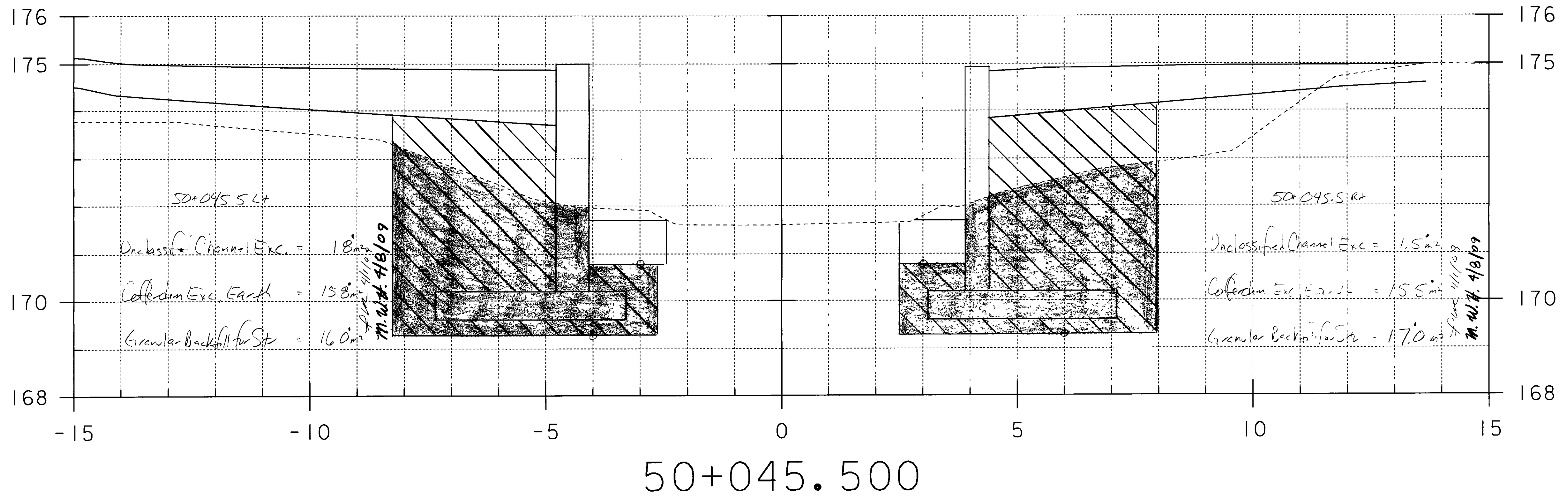
1



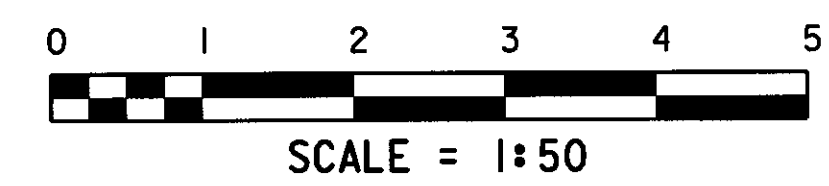
STA. 50+042.000 TO STA. 50+043.000



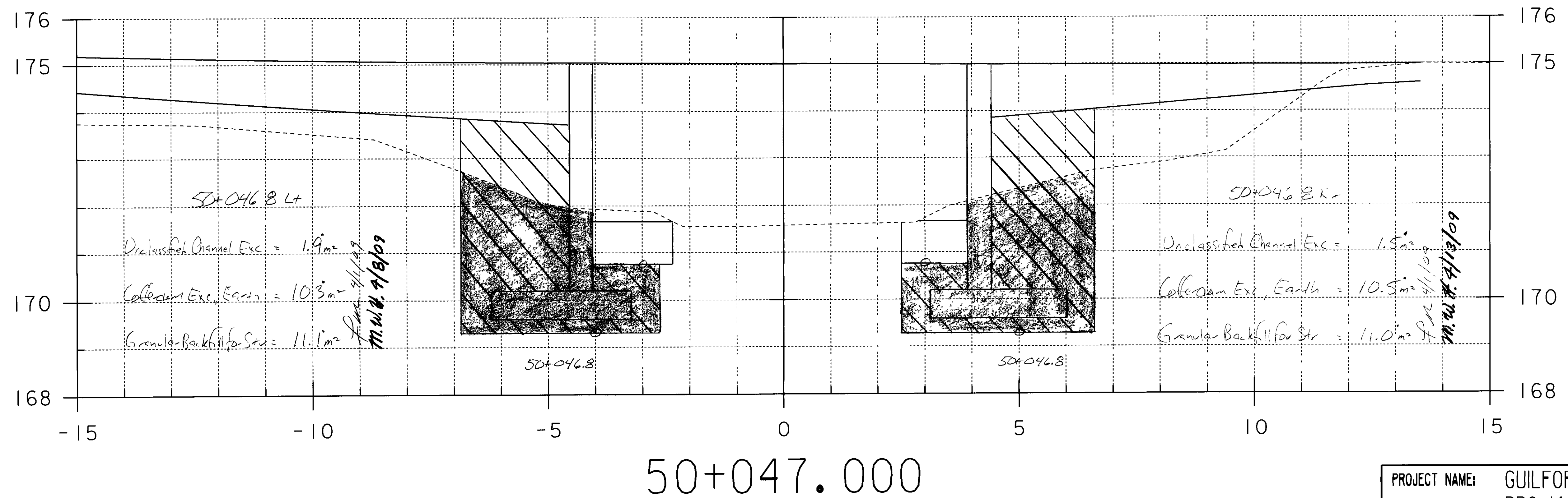
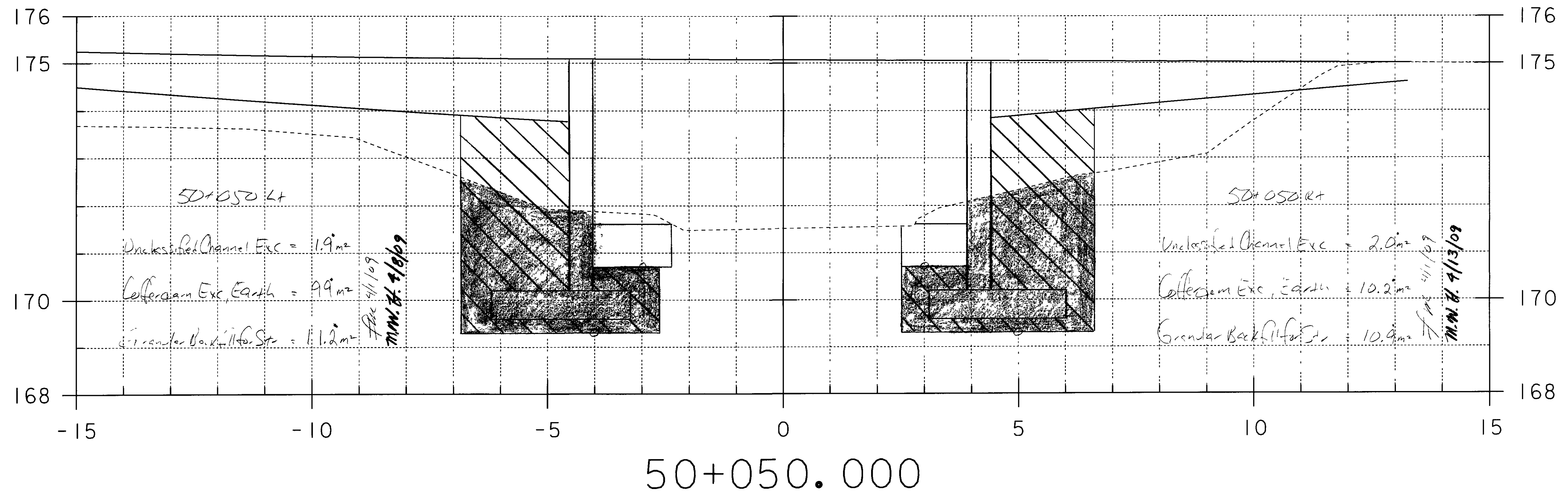
PROJECT NAME:	GUILFORD	Project sheet 2 of 3
PROJECT NUMBER:	BRO 1442(24)	
FILE NAME:	s\J076\cl2.1	PLOT DATE: 04-MAR-2009
PROJECT LEADER:	R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:		CHECKED BY:
94\J076\Structurals\J076xs3.dgn		SHEET 2 OF 9



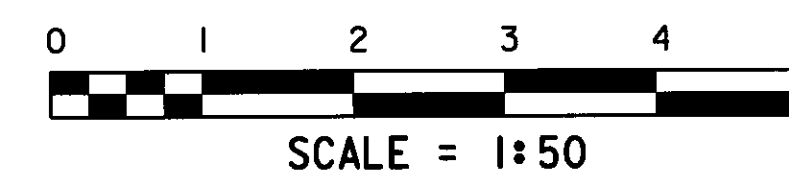
STA. 50+044.000 TO STA. 50+045.500



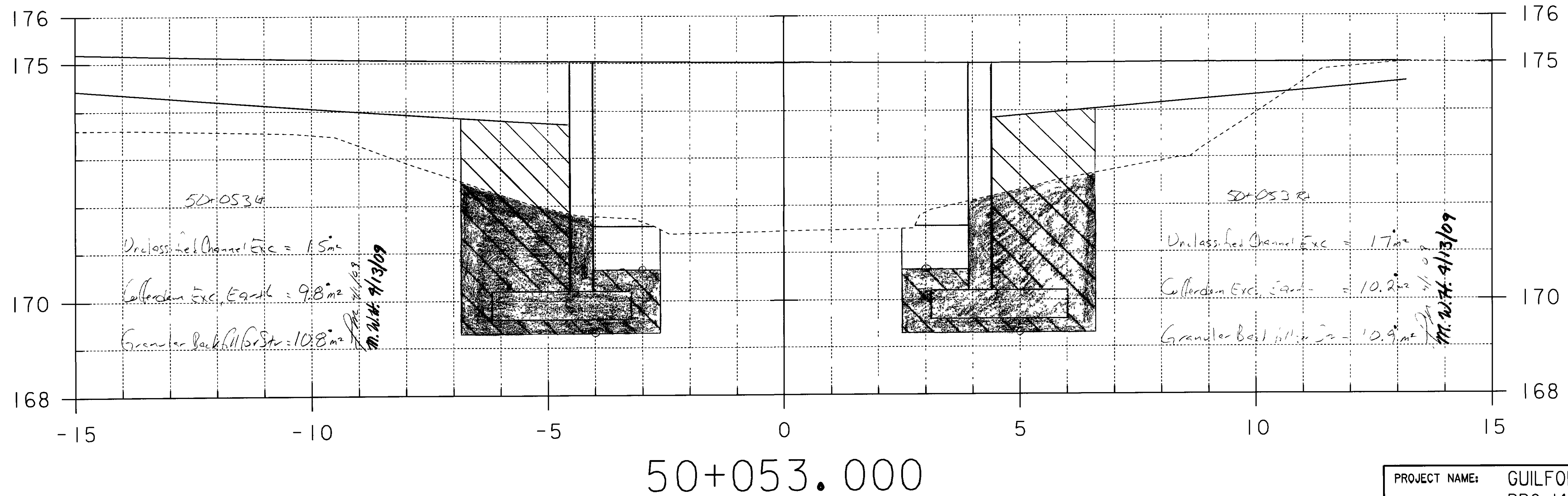
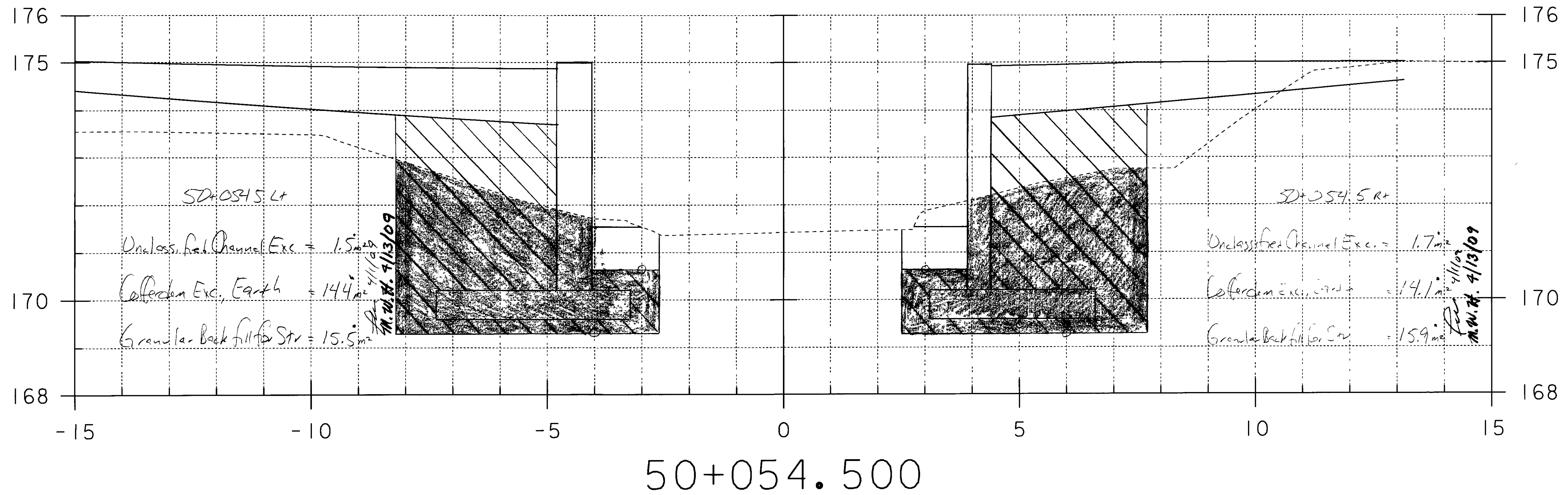
PROJECT NAME:	GUILFORD	Project sheet #3 of 9
PROJECT NUMBER:	BRO 1442(24)	
FILE NAME:	s\J076cd3.1	PLOT DATE: 04-MAR-2009
PROJECT LEADER:	R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:		CHECKED BY:
94\J076\Structures\s\J076xs3.dgn		SHEET 3 OF 9



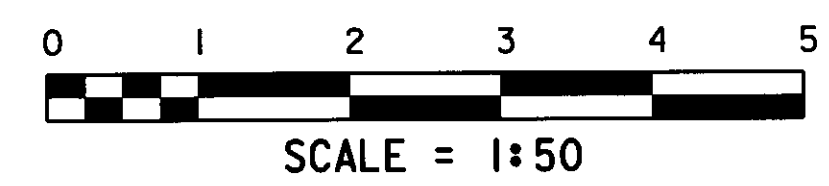
STA. 50+047.000 TO STA. 50+050.000



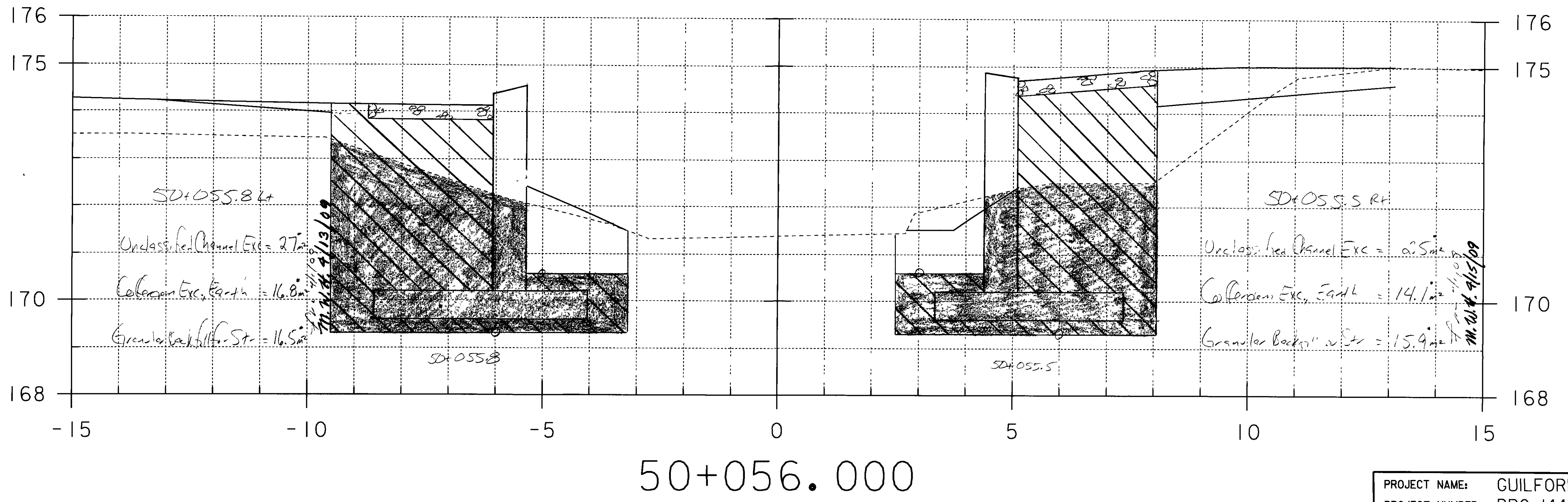
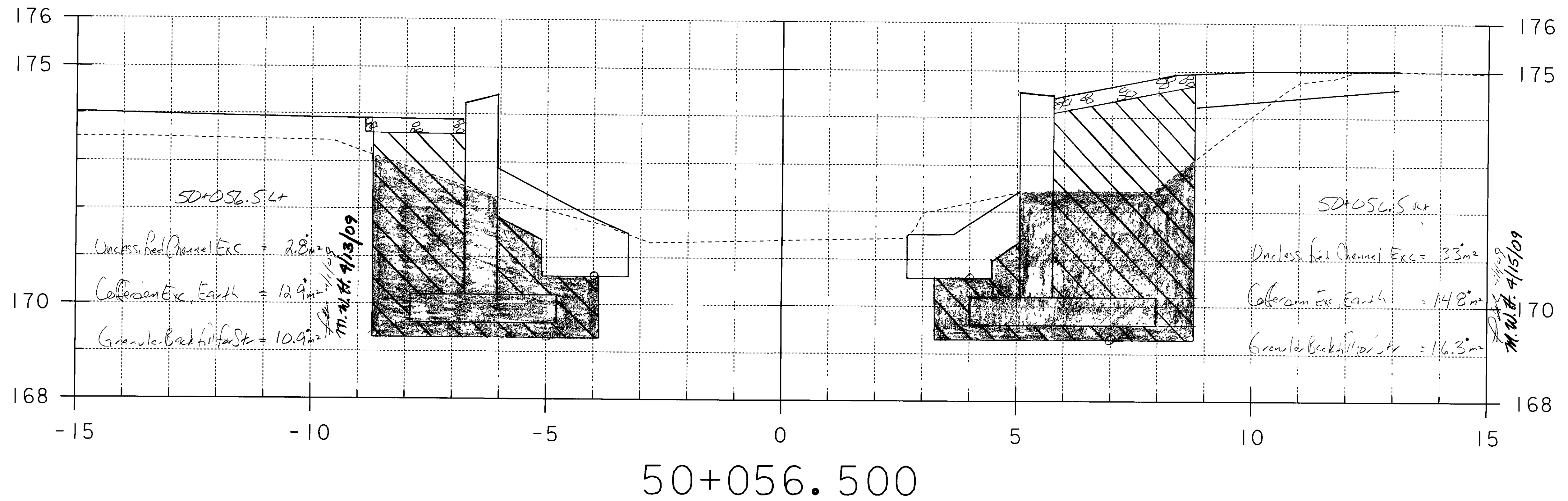
PROJECT NAME: GUILFORD	PROJECT SHEET #: 01 03
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sJ076cd4.1	PLOT DATE: 04-MAR-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94J076\Structures\sJ076xs3.dgn	SHEET 4 OF 9



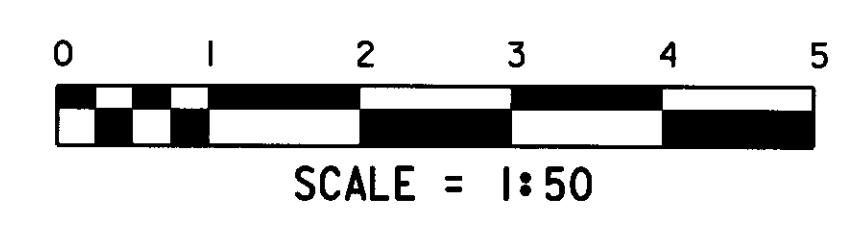
STA. 50+053.000 TO STA. 50+054.500



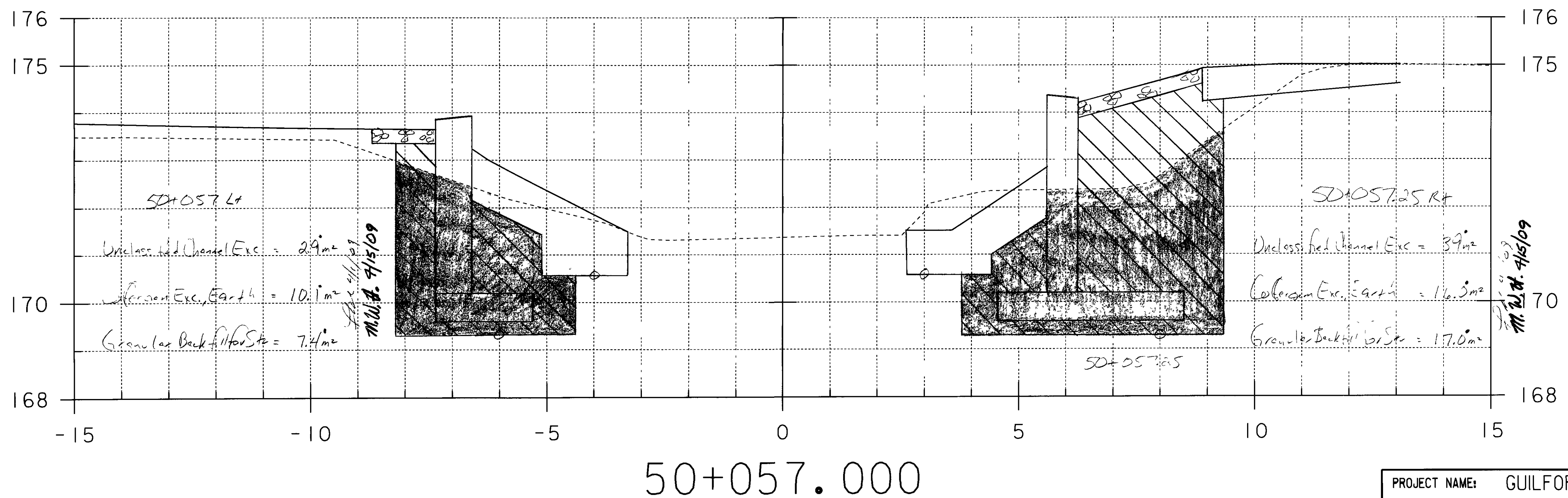
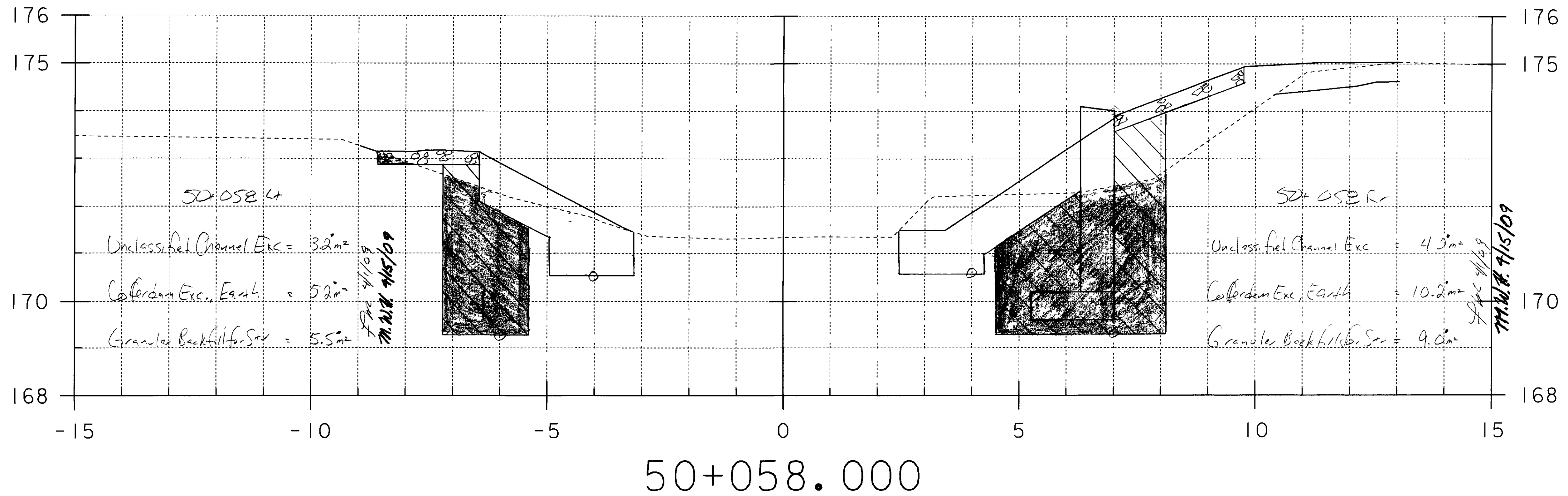
PROJECT NAME: GUILFORD	PROJECT SHEET #5 of 28
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: s\076cl5.1	PLOT DATE: 04-MAR-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94\076\structure\bro1442\bro1442.dgn	SHEET 5 OF 9



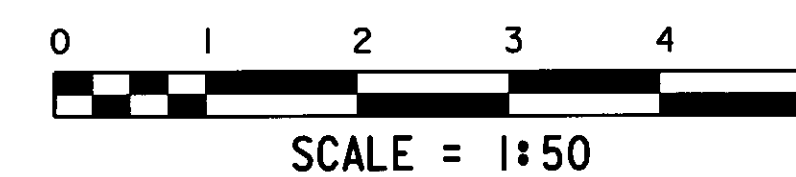
STA. 50+056.000 TO STA. 50+056.500



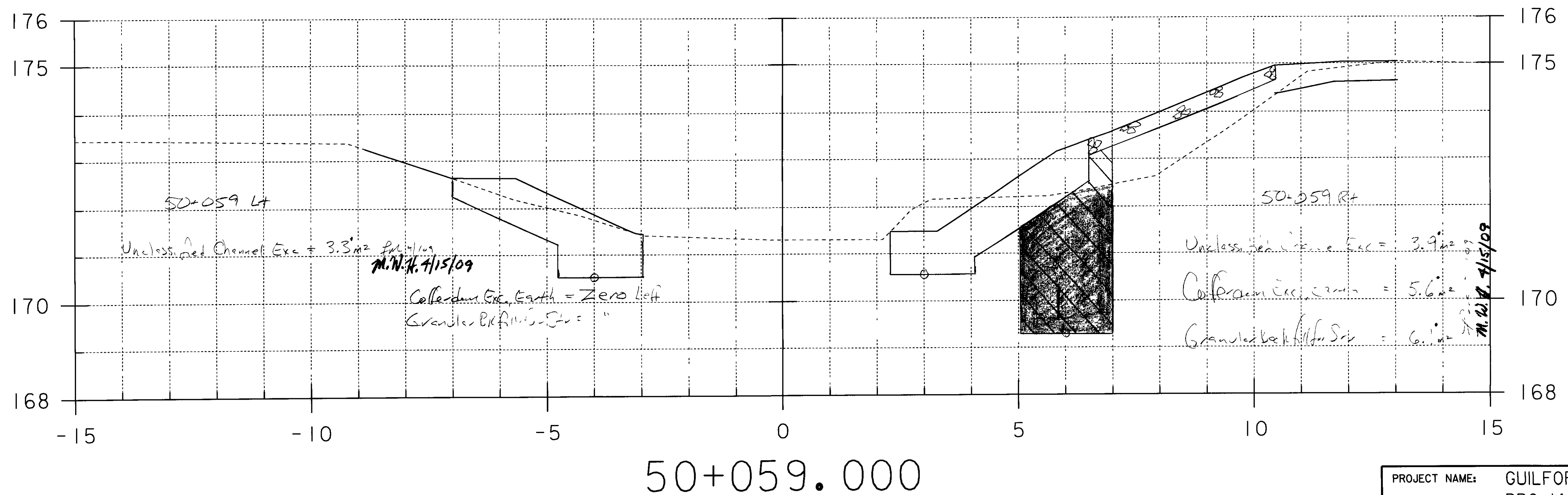
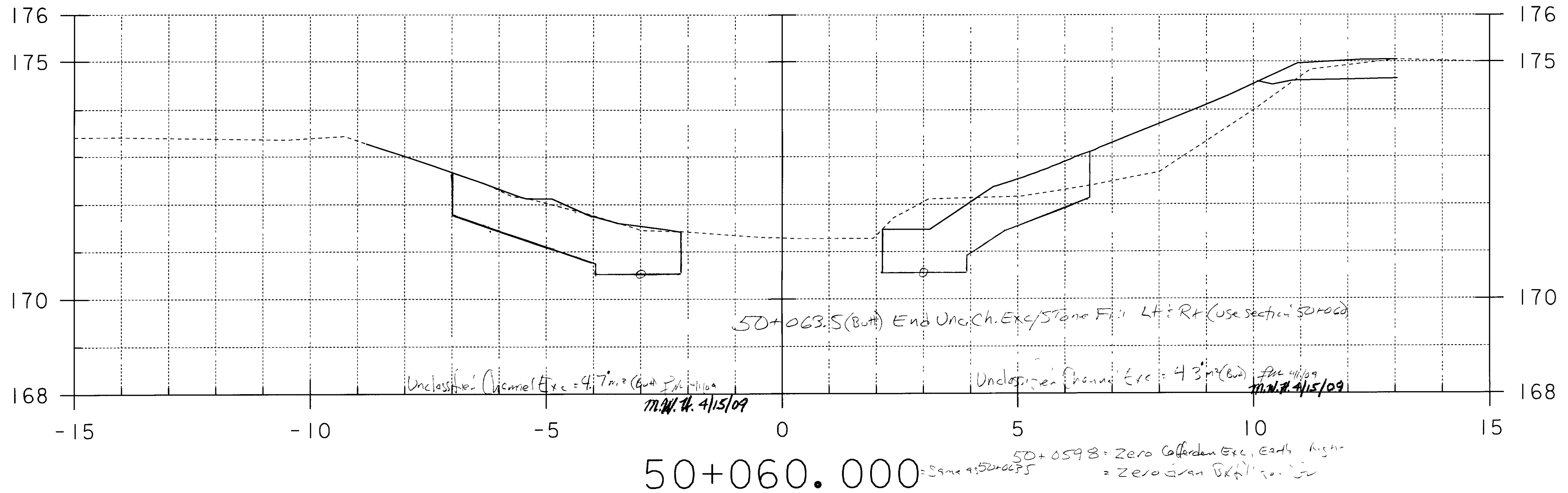
PROJECT NAME: GUILFORD	PROJECT SHEET #6 of 29
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sj076c16.l	PLOT DATE: 04-MAR-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94J076\Structures\sj076xs3.dgn	SHEET 6 OF 9



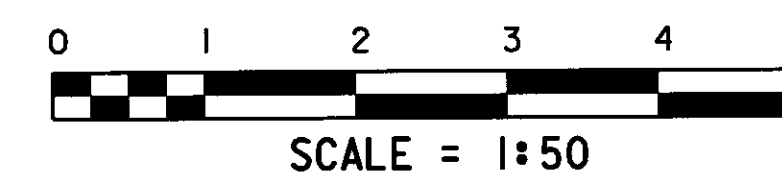
STA. 50+057.000 TO STA. 50+058.000



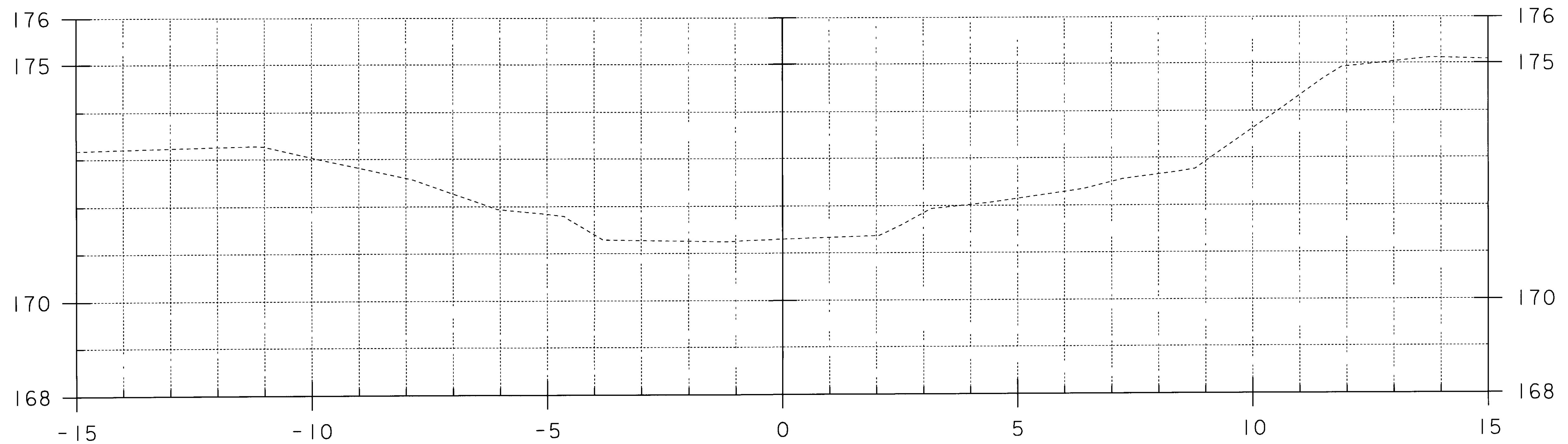
PROJECT NAME:	GUILFORD	Project sheet # of 13
PROJECT NUMBER:	BRO 1442(24)	
FILE NAME:	s\j076\c17.1	PLOT DATE: 04-MAR-2009
PROJECT LEADER:	R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:		CHECKED BY:
94\j076\Structures\s\j076xs3.dgn		SHEET 7 OF 9



STA. 50+059.000 TO STA. 50+060.000

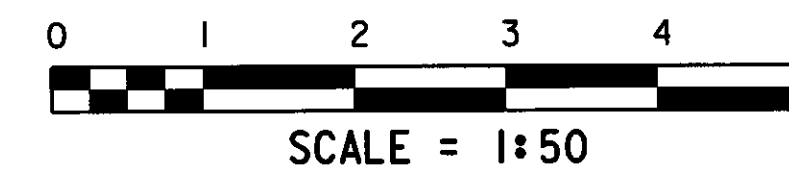


PROJECT NAME: GUILFORD	PROJECT SHEET # A.1.25
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sJ076c18.I	PLOT DATE: 04-MAR-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94J076\Structures\sJ076xs3.dgn	SHEET 8 OF 9

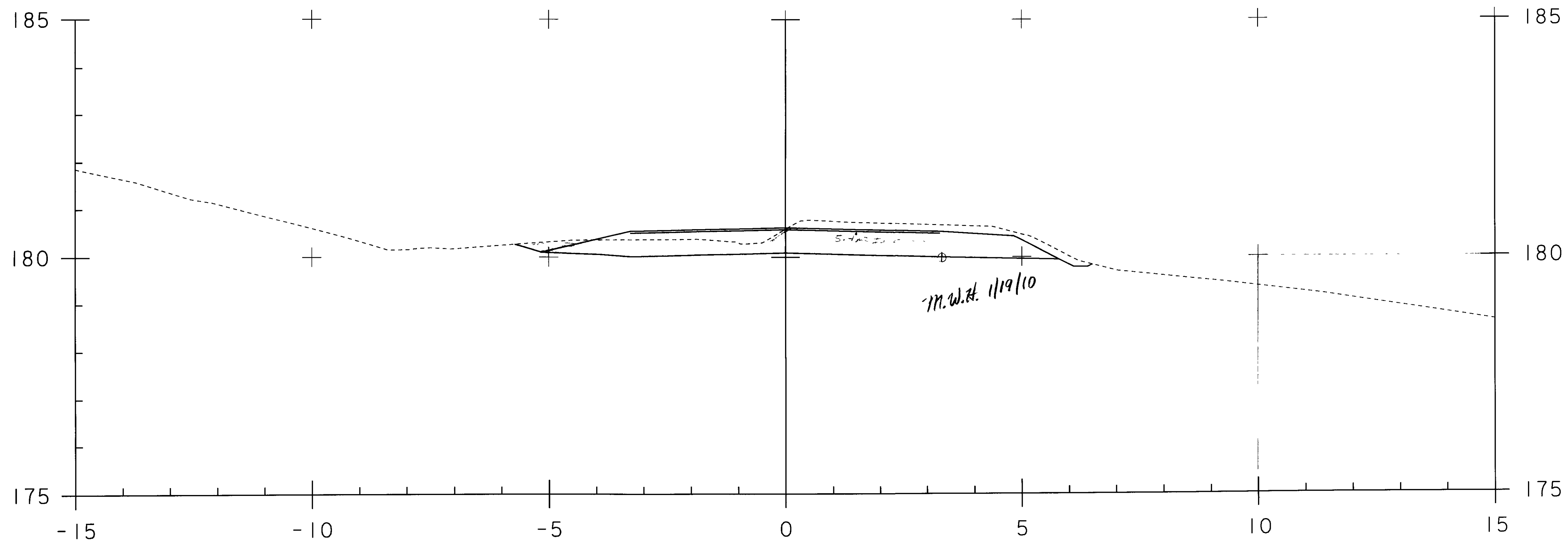


50+070.000

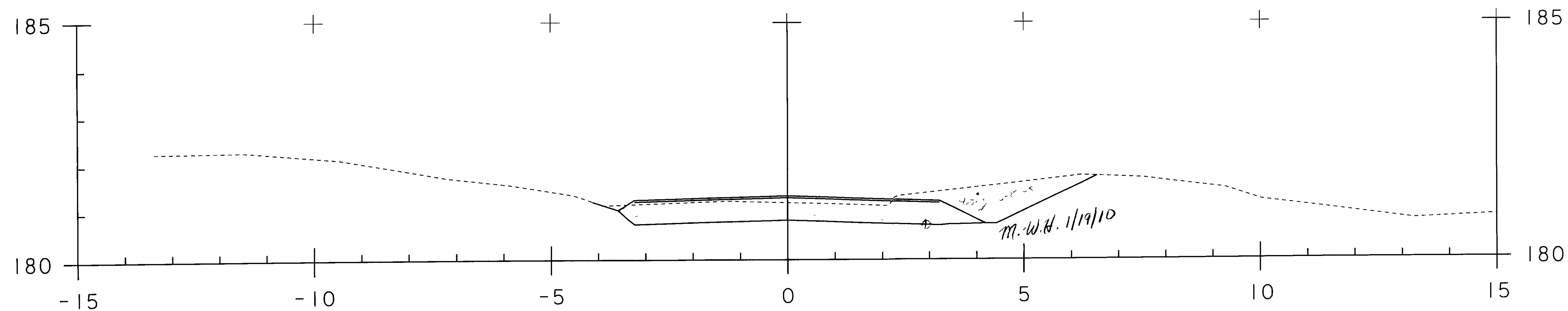
STA. 50+070.000 TO STA. 50+070.000



PROJECT NAME: GUILFORD	PLOT DATE: 04-MAR-2009
PROJECT NUMBER: BRO 1442(24) <i>Project sheet 40 of 28</i>	DRAWN BY: T. LACKEY
FILE NAME: sJ076cl9.1	CHECKED BY:
PROJECT LEADER: R. WHITCOMB	SHEET 9 OF 9
DESIGNED BY:	
94J076\Structures\sJ076xs3.dgn	



40+050.00

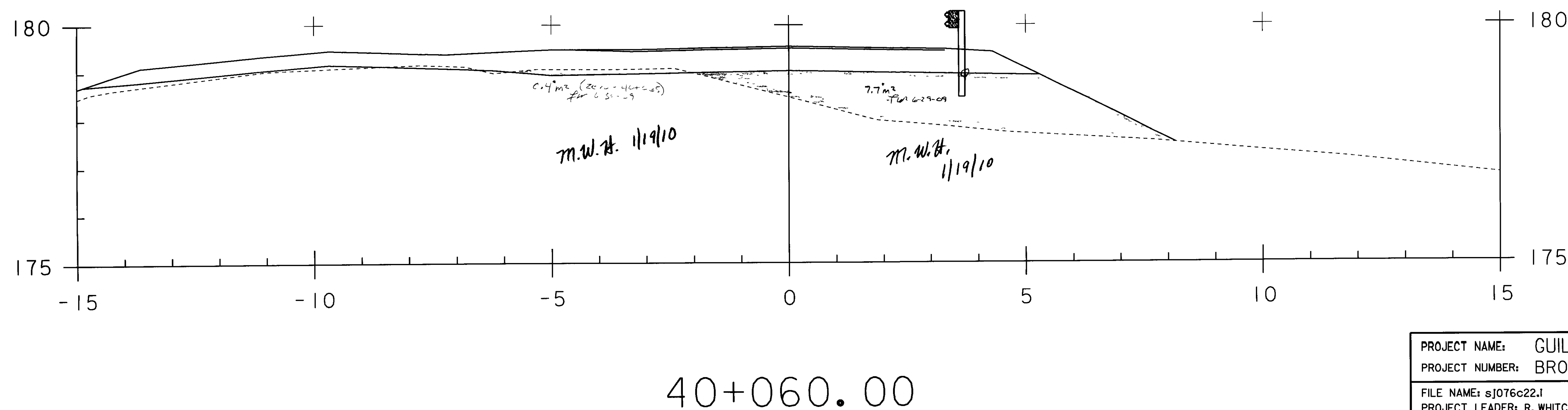
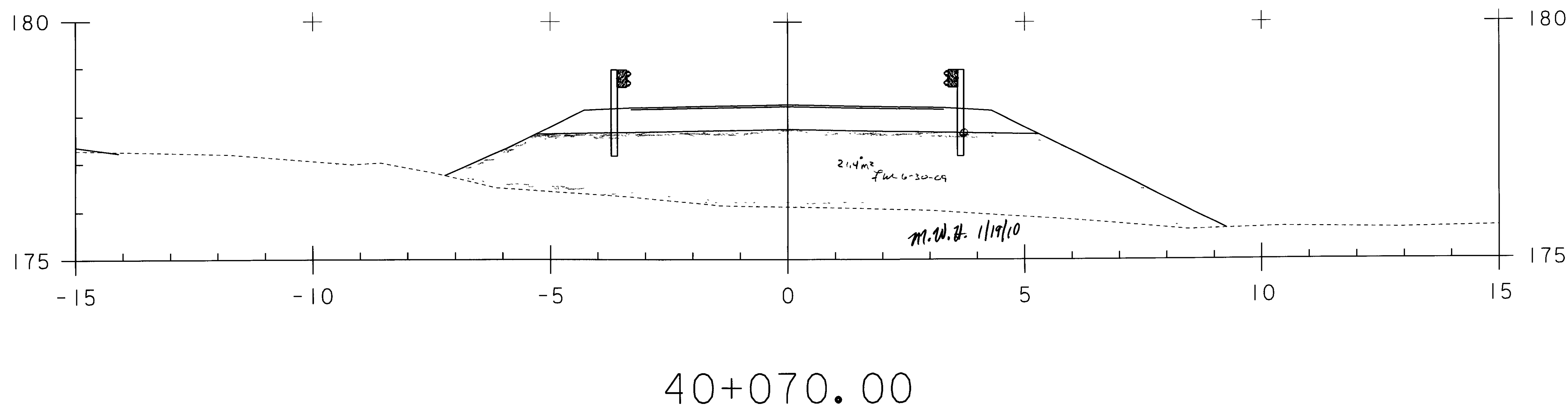


40+040.00

STA. 40+040 TO STA. 40+050

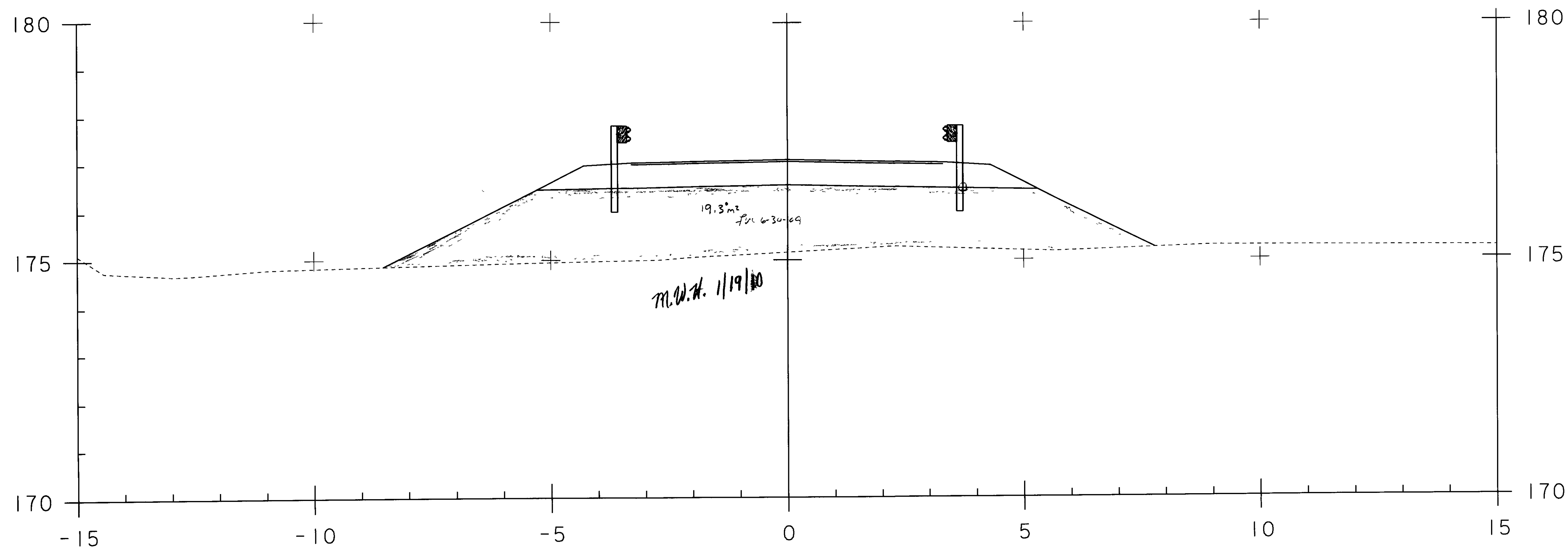
PROJECT NAME: GUILFORD	PROJECT NUMBER: BRO 1442(24)
FILE NAME: sj076c21.i	PLOT DATE: 16-JUN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94J076\Structures\sj076xs3.dgn	SHEET 10 OF 23

42+032 2010



STA. 40+060 TO STA. 40+070

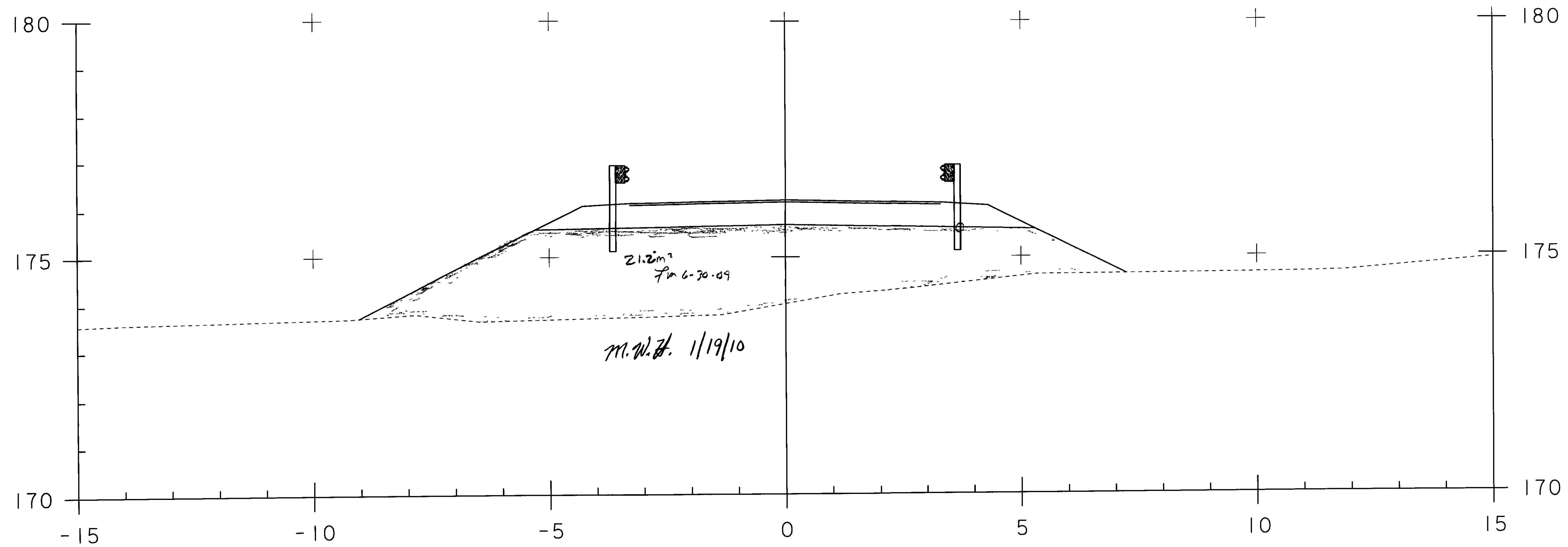
PROJECT NAME: GUILFORD	PLOT DATE: 16-JUN-2009
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: T. LACKEY
FILE NAME: sJ076c22.i	CHECKED BY:
PROJECT LEADER: R. WHITCOMB	SHEET 11 OF 23
DESIGNED BY:	
94J076\S+PL&TUP&S\SJ076x83.dgn	



40+080.00

STA. 40+080 TO STA. 40+080

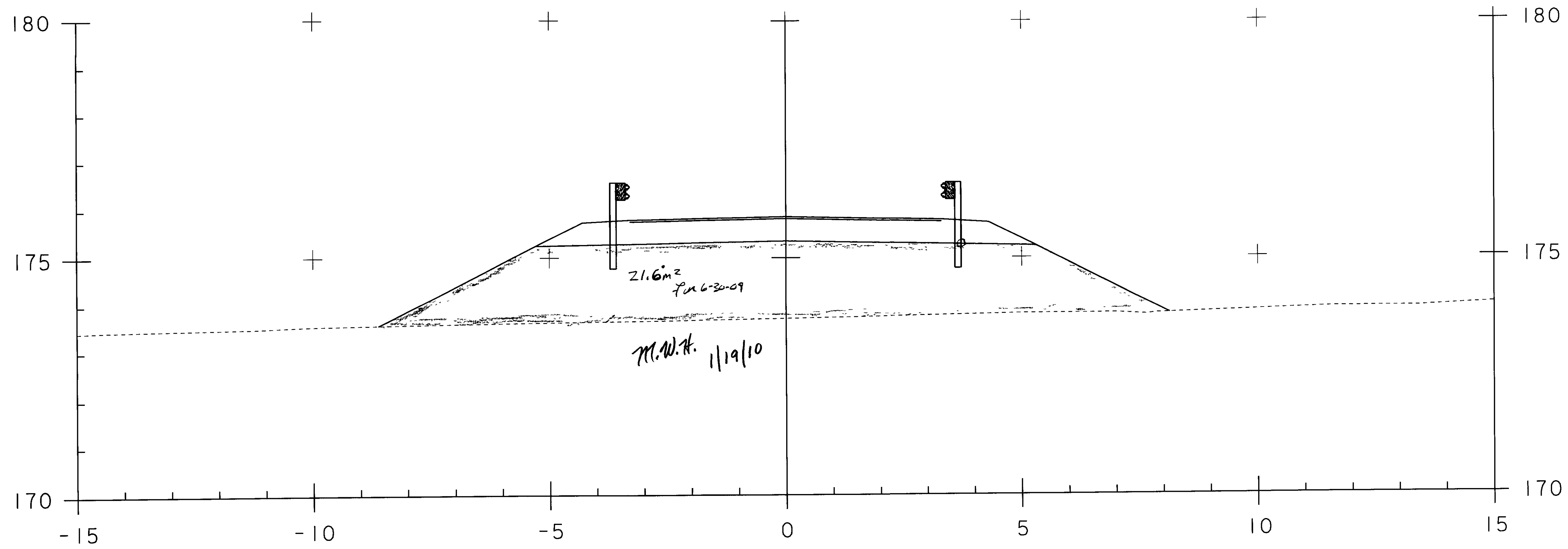
PROJECT NAME: GUILFORD	Drawn: _____
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sj076c23.1	PLOT DATE: 16-JUN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94J076\Structures\sj076xs3.dgn	SHEET 12 OF 23



40+090.00

STA. 40+090 TO STA. 40+090

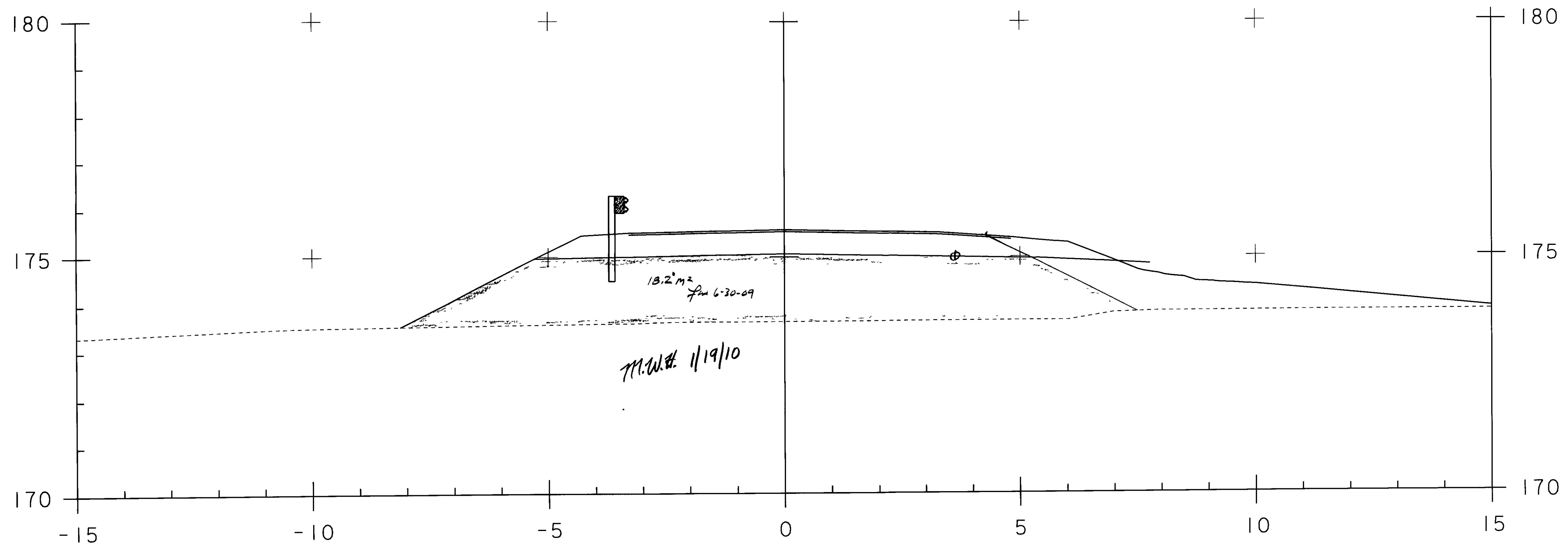
PROJECT NAME: GUILFORD	DESIGN: <i>See Notes</i>
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: s\j076g24i	PLOT DATE: 16-JUN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94\j076\Structures\s\j076xs3.dgn	SHEET 13 OF 23



40+095.00

STA. 40+095 TO STA. 40+095

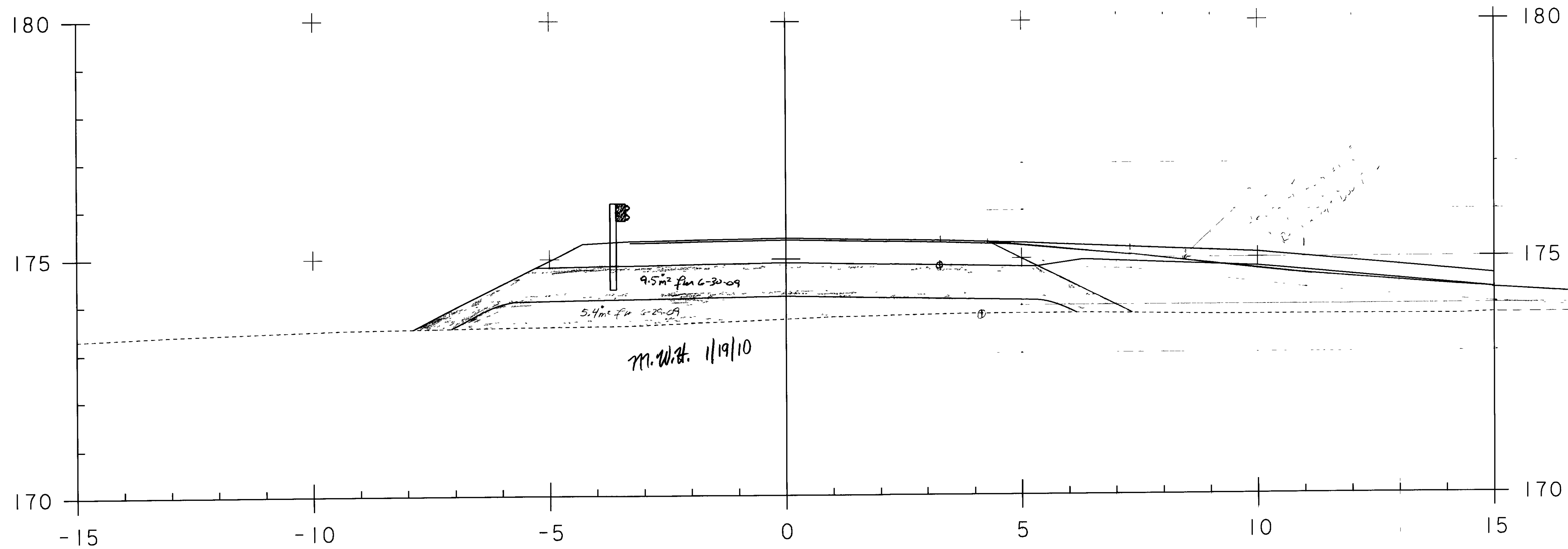
PROJECT NAME: GUILFORD	PLOT DATE: 16-JUN-2009
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: T. LACKEY
FILE NAME: sj076c25.1	CHECKED BY:
PROJECT LEADER: R. WHITCOMB	SHEET 14 OF 23
DESIGNED BY:	
94\J076\Structures\sj076xs3.dgn	



40+100.00

STA. 40+100 TO STA. 40+100

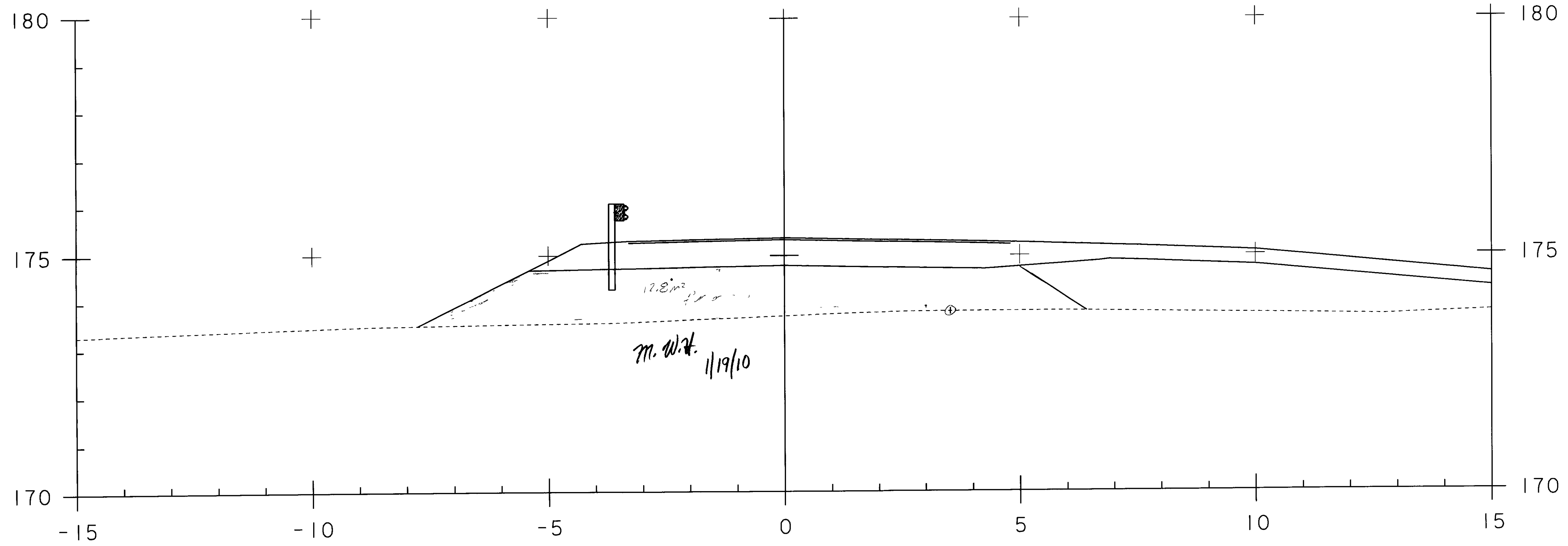
PROJECT NAME: GUILFORD	16-JUN-2009
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sJ076c26.I	PLOT DATE: 16-JUN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94J076\Structures\sJ076xs3.dgn	SHEET 15 OF 23



40+103.20

STA. 40+103 TO STA. 40+103

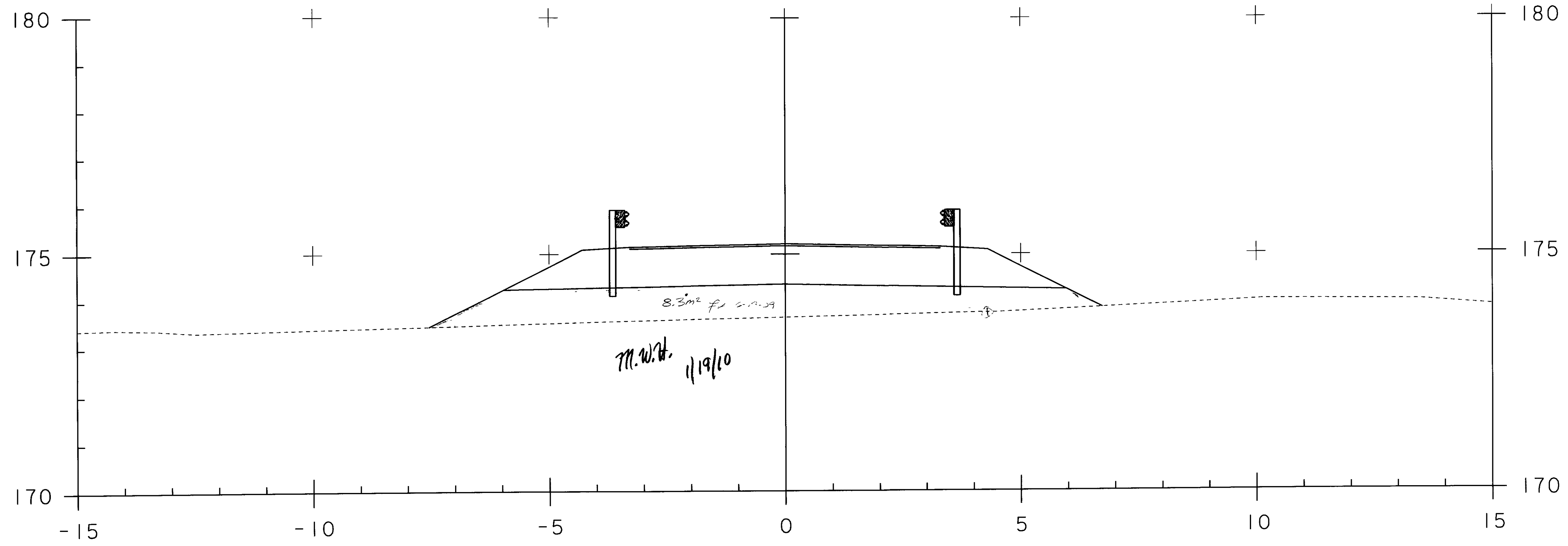
PROJECT NAME: GUILFORD	16 JUN 2009
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sJ076c27.1	PLOT DATE: 16-JUN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94J076\Structures\sJ076xs3.dgn	SHEET 16 OF 23



40+105.00

STA. 40+105 TO STA. 40+105

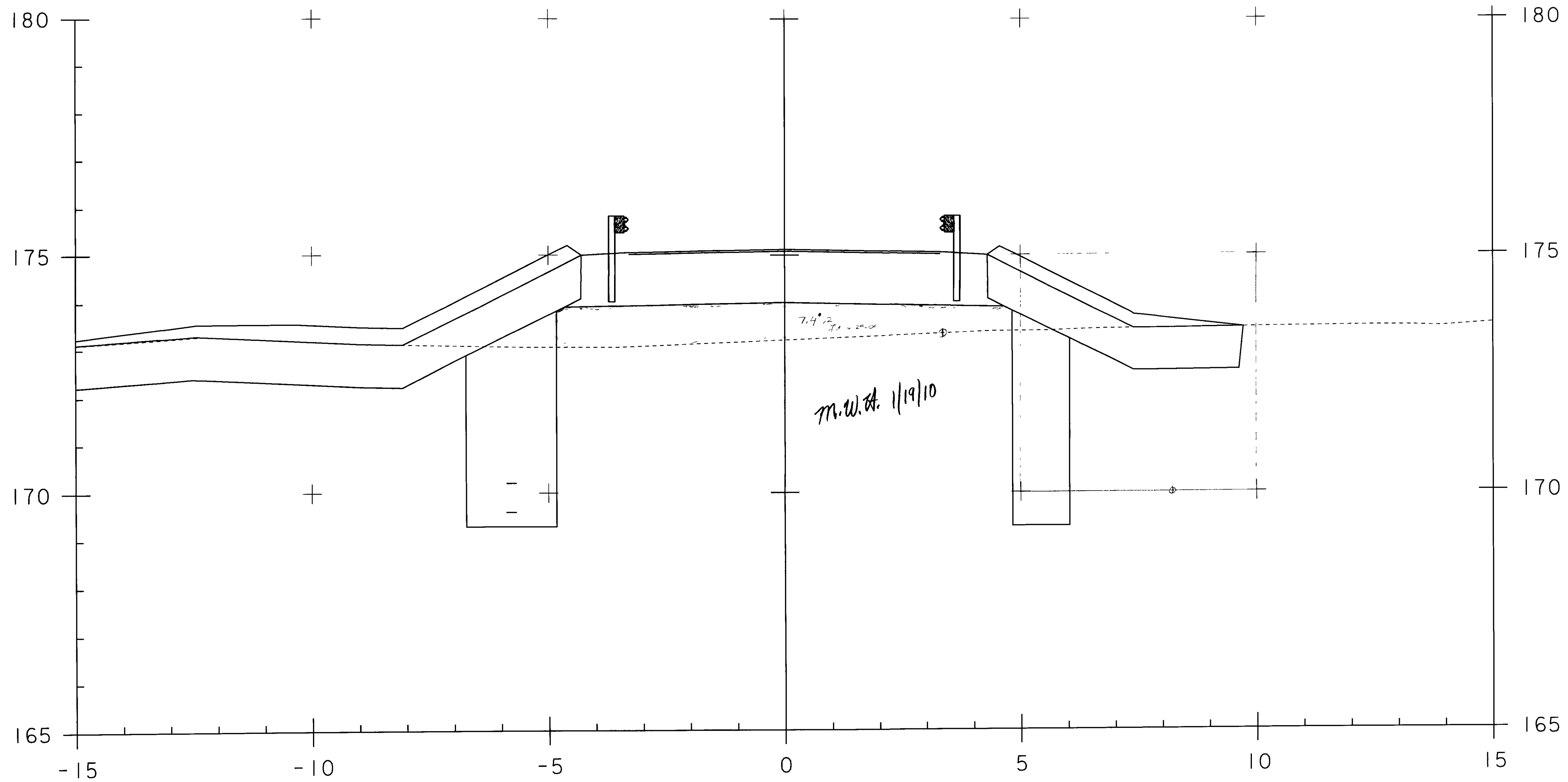
PROJECT NAME: GUILFORD	PROJECT NUMBER: BRO 1442(24)
FILE NAME: sj076c28.1	PLOT DATE: 16-JUN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94J076\Structures\sj076xs3.dgn	SHEET 17 OF 23



40+110.00

STA. 40+110 TO STA. 40+110

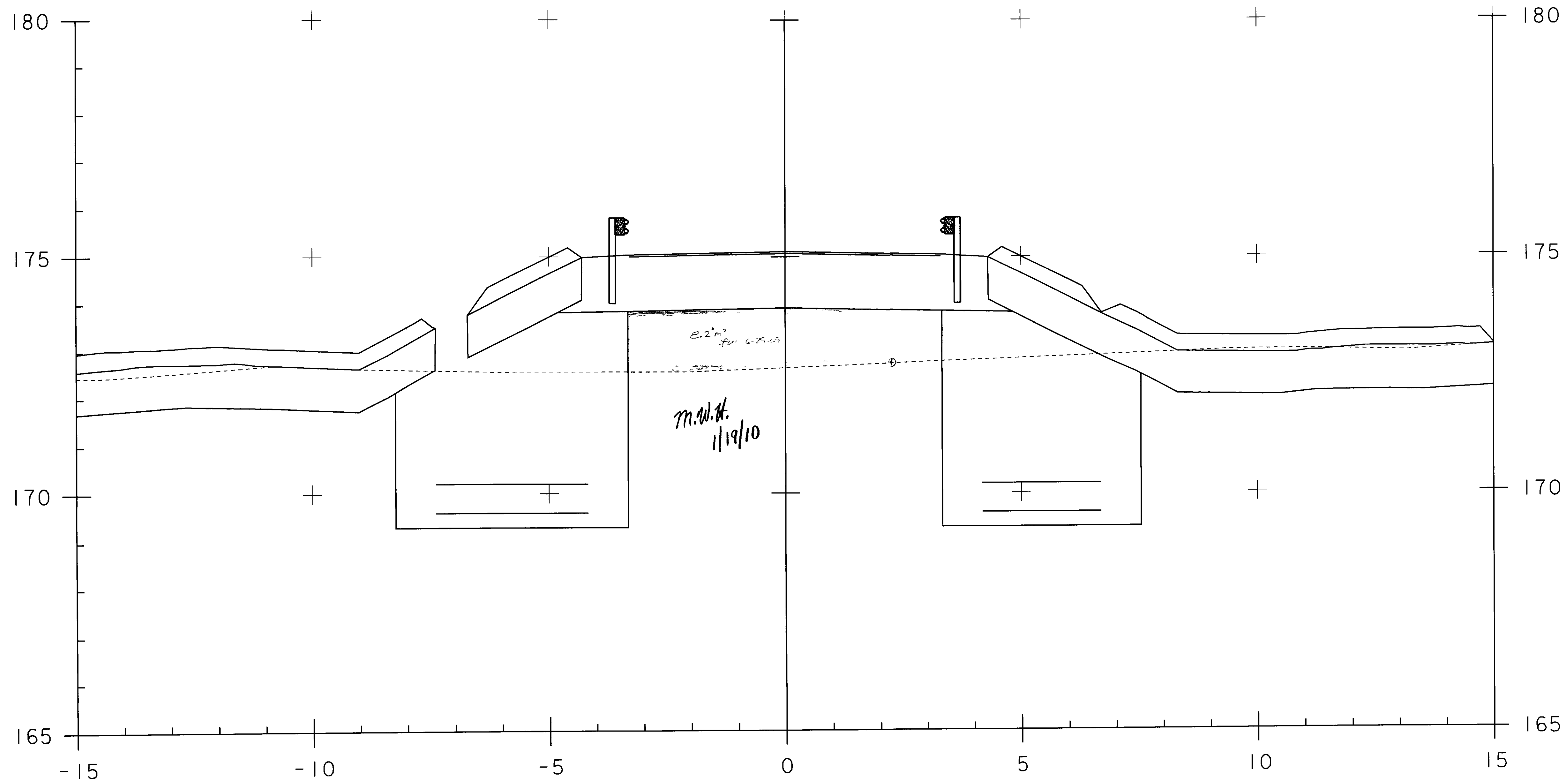
PROJECT NAME: GUILFORD	PLOT DATE: 16-JUN-2009
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: T. LACKEY
FILE NAME: sj076c29.1	CHECKED BY:
PROJECT LEADER: R. WHITCOMB	SHEET 18 OF 23
DESIGNED BY:	
94J076\Structures\sj076xs3.dgn	



40+115.00

STA. 40+115 TO STA. 40+115

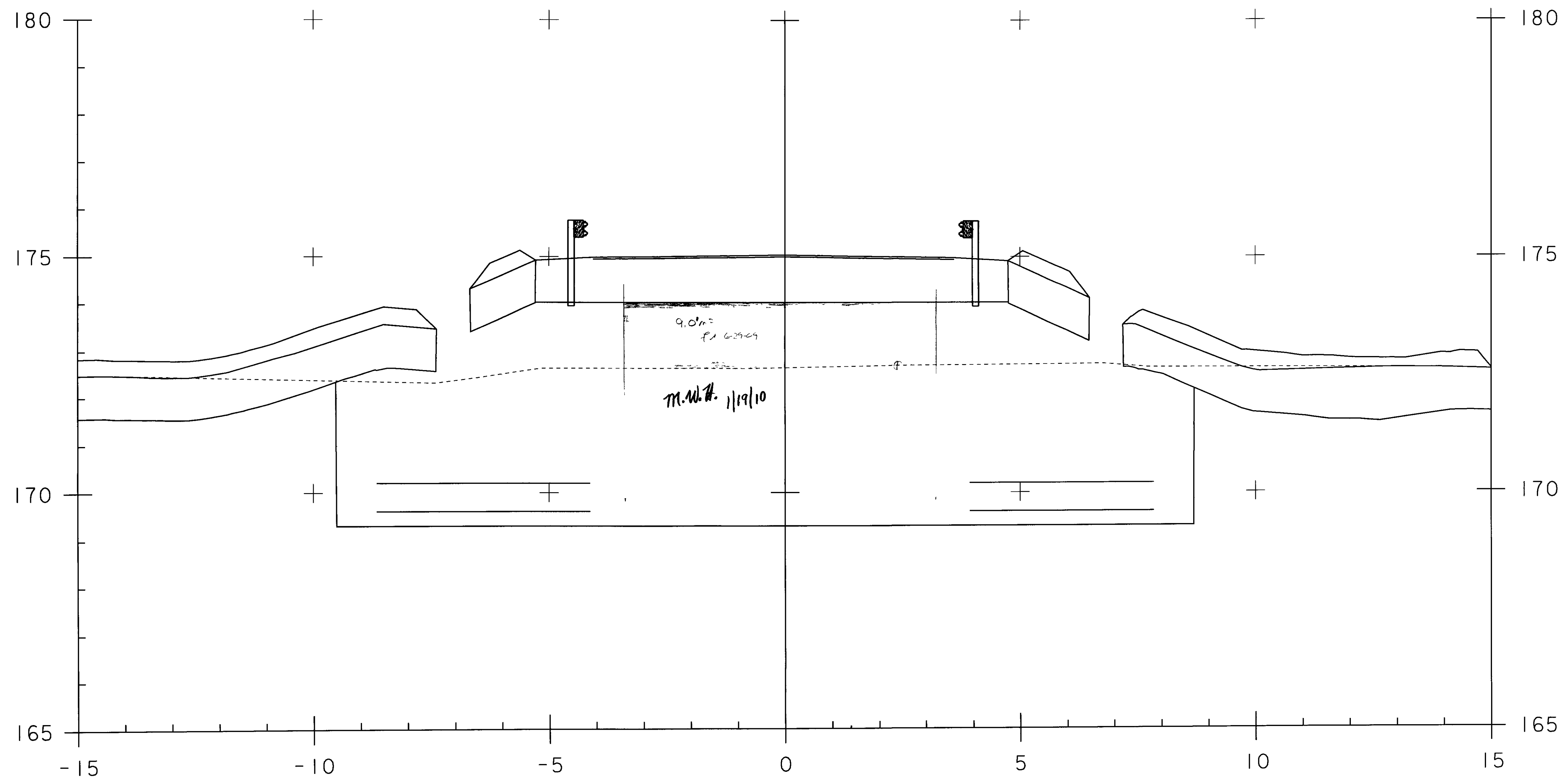
PROJECT NAME: GUILFORD	PLOT DATE: 16-JUN-2009
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: T. LACKEY
FILE NAME: sj076c30.1	DESIGNED BY:
PROJECT LEADER: R. WHITCOMB	CHECKED BY:
94J076\Structures\sj076xs3.dgn	SHEET 19 OF 23



40+116.50

STA. 40+116 TO STA. 40+116

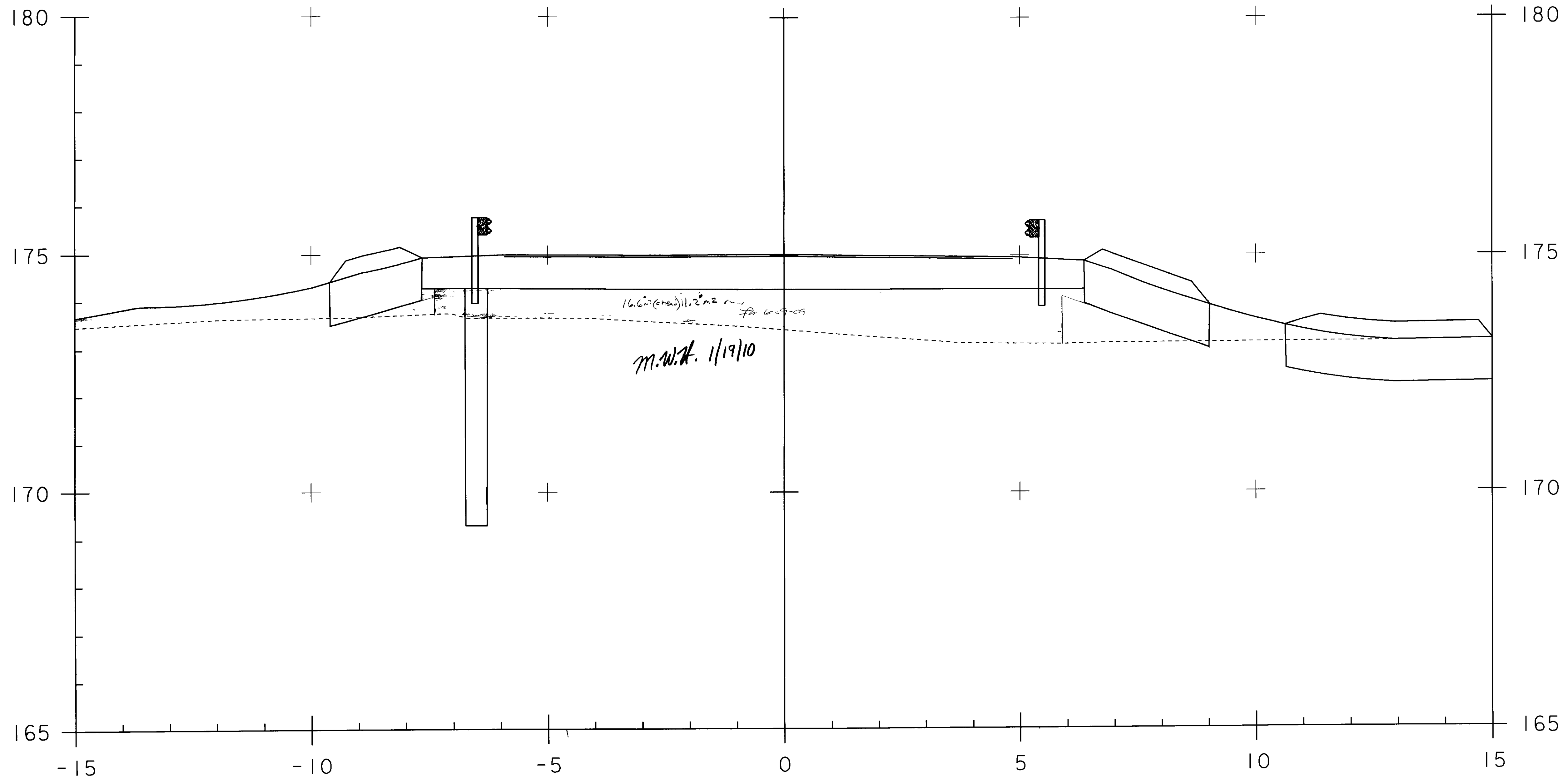
PROJECT NAME: GUILFORD	PLOT DATE: 16-JUN-2009
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: T. LACKEY
FILE NAME: sJ076c3L1	CHECKED BY:
PROJECT LEADER: R. WHITCOMB	SHEET 20 OF 23
DESIGNED BY:	
94J076\Structures\sJ076xs3.dgn	



40+130.00

STA. 40+130 TO STA. 40+130

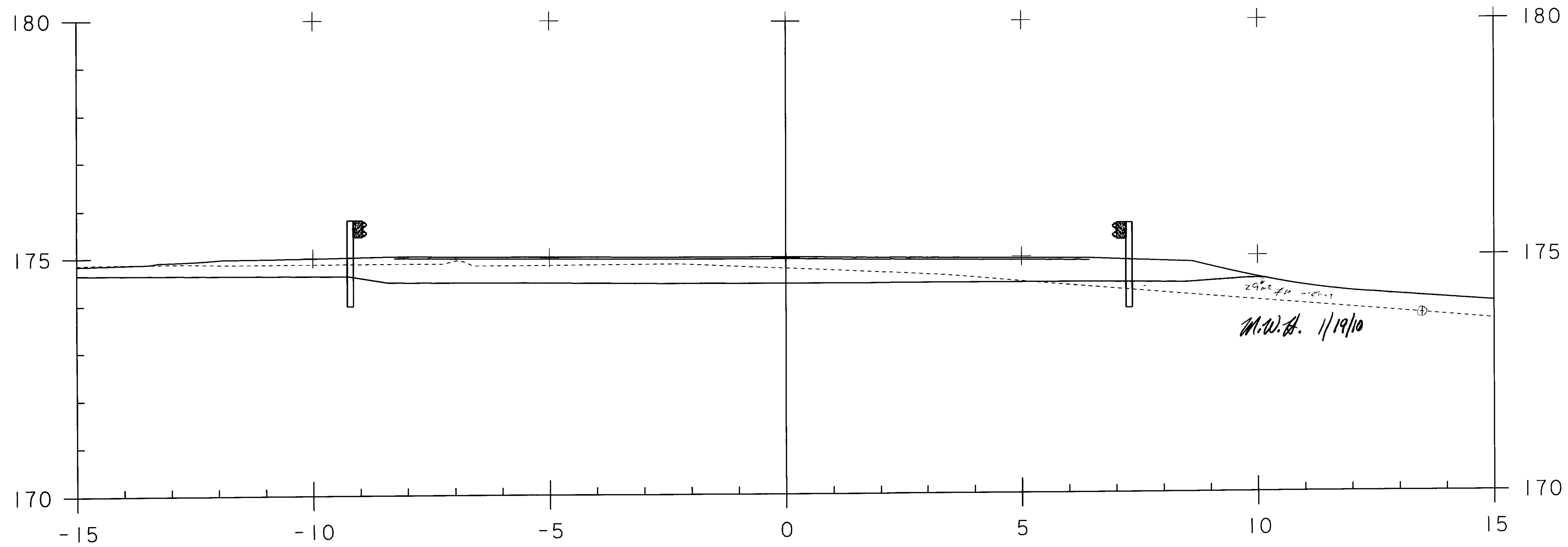
PROJECT NAME: GUILFORD	PLOT DATE: 16-JUN-2009
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: T. LACKEY
FILE NAME: sj076c32.I	CHECKED BY:
PROJECT LEADER: R. WHITCOMB	SHEET 21 OF 23
DESIGNED BY:	
94J076\Structures\sj076xs3.dgn	



40+133.00

STA. 40+133 TO STA. 40+133

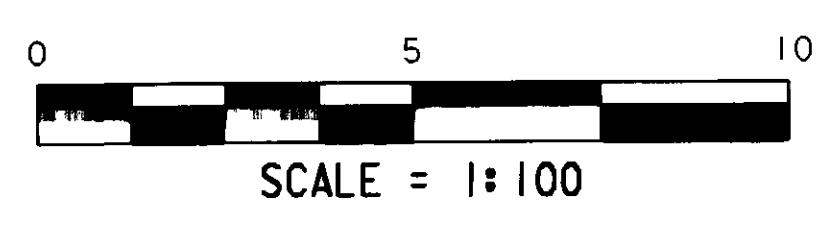
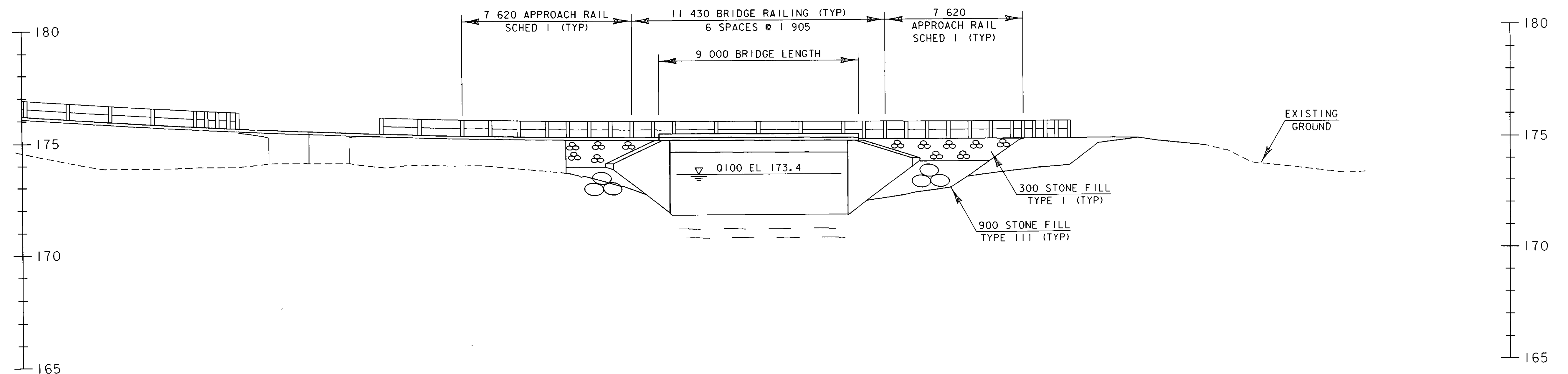
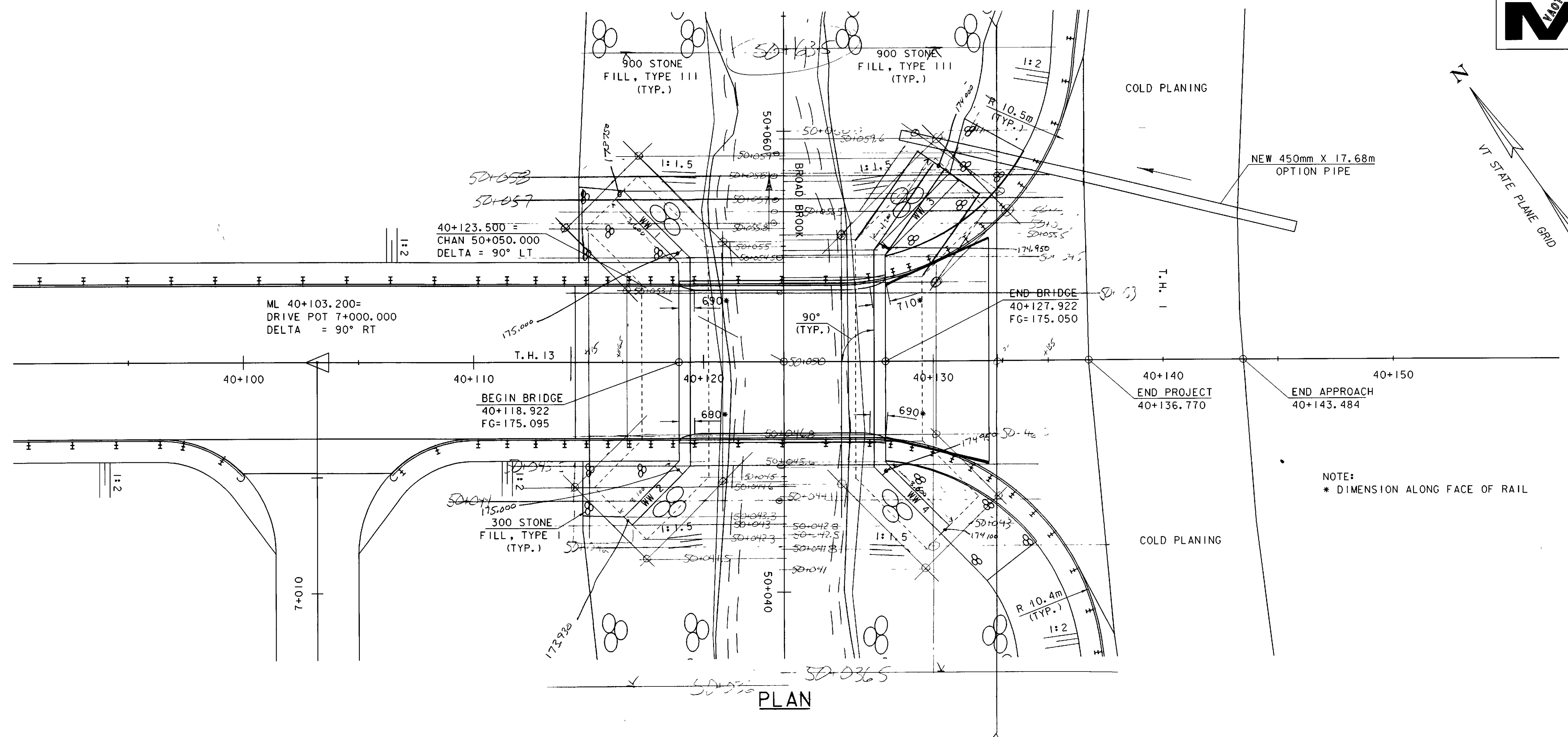
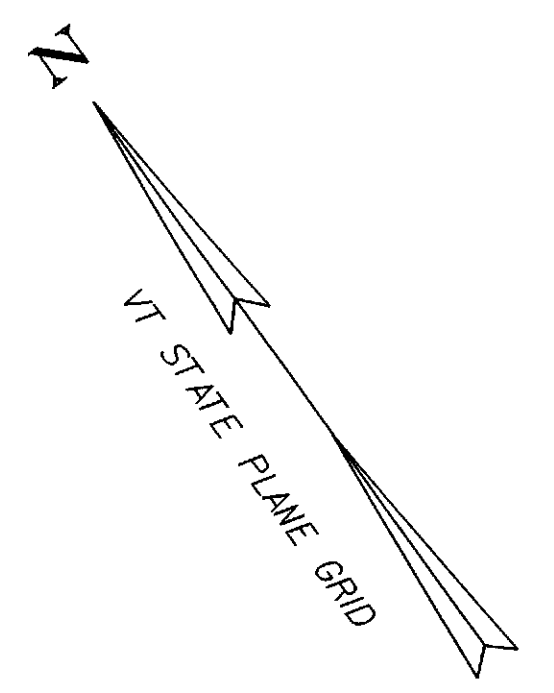
PROJECT NAME: GUILFORD	PLOT DATE: 16-JUN-2009
PROJECT NUMBER: BRO 1442(24)	DRAWN BY: T. LACKEY
FILE NAME: sj076c33.1	CHECKED BY:
PROJECT LEADER: R. WHITCOMB	SHEET 22 OF 23
DESIGNED BY:	
94J076\Structures\sj076xs3.dgn	



40+135.00

STA. 40+135 TO STA. 40+135

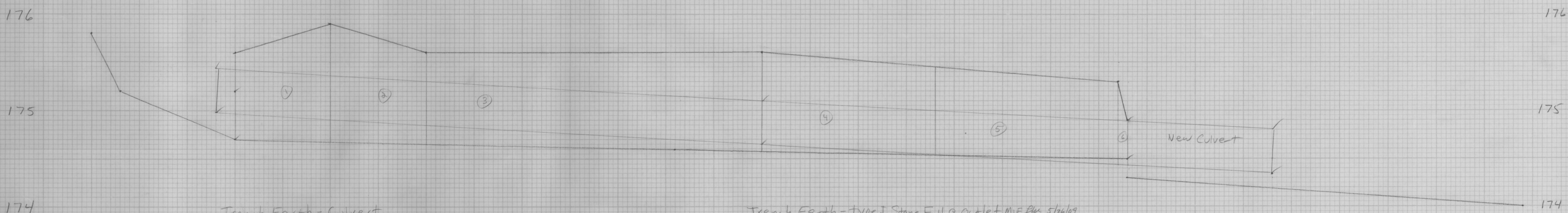
PROJECT NAME: GUILFORD	100	1-3
PROJECT NUMBER: BRO 1442(24)		
FILE NAME: sj076c34.1	PLOT DATE: 16-JUN-2009	
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY	
DESIGNED BY:	CHECKED BY:	
94J076\Structures\sj076xs3.dgn	SHEET 23 OF 23	



PLAN AND ELEVATION

PROJECT NAME:	GUILFORD Project Sheet #034
PROJECT NUMBER:	BRO 1442(24)
FILE NAME:	sj076pe.i
PROJECT LEADER:	R. WHITCOMB
DESIGNED BY:	T. LACKEY
94J076\Structures\sj076pe.dgn	
PLOT DATE:	01-MAY-2008
DRAWN BY:	T. LACKEY
CHECKED BY:	J. PERRIGO
SHEET	23 OF 59

Drive Culvert @ G+041



Trench Earth - Culvert

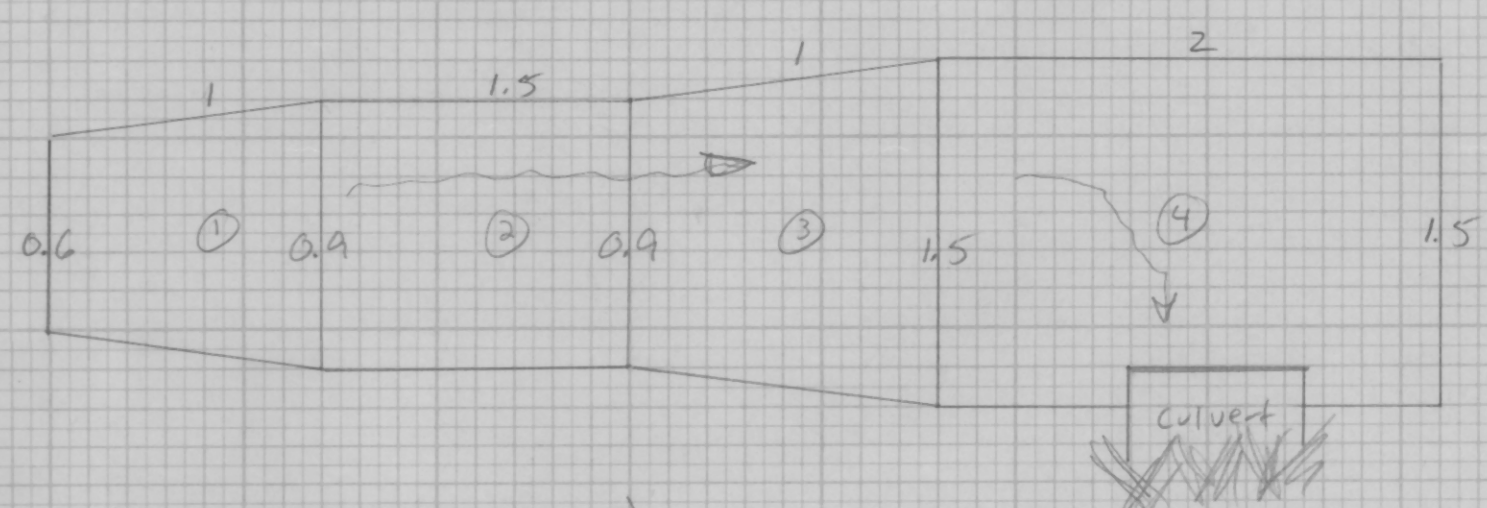
- ① $1.0 \times \left(\frac{0.9+1.25}{2}\right) \times 1.45 = 1.56'$
- ② $1.0 \times \left(\frac{1.25+0.95}{2}\right) \times 1.45 = 1.60'$
- ③ $3.5 \times \left(\frac{0.95+1.05}{2}\right) \times 1.45 = 5.08'$
- ④ $1.8 \times \left(\frac{1.05+0.95}{2}\right) \times 1.45 = 2.61'$
- ⑤ $1.9 \times \left(\frac{0.95+0.9}{2}\right) \times 1.45 = 2.55'$
- ⑥ $0.1 \times \left(\frac{0.9+0.5}{2}\right) \times 1.45 = 0.10'$

total = 13.50 m³ fm 5/27/09
✓ M.W.H. 1/27/10

Trench Earth - type I Stone Fill @ outlet MIF fm 5/26/09

$1.4 \times 2.2 \times 0.3 = 0.92 \text{ m}^3 \text{ fm } 5/27/09$
✓ M.W.H. 1/27/10

Trench Earth - type I Stone Fill @ inlet MIF fm 5/27/09



- ① $1 \times \left(\frac{0.6+0.9}{2}\right) \times 0.3 = 0.23'$
- ② $1.5 \times 0.9 \times 0.3 = 0.41'$
- ③ $1 \times \left(\frac{0.9+1.5}{2}\right) \times 0.3 = 0.36'$
- ④ $2 \times 1.5 \times 0.3 = 0.90'$

total = 1.90 m³ fm 5/27/09
✓ M.W.H. 1/27/10

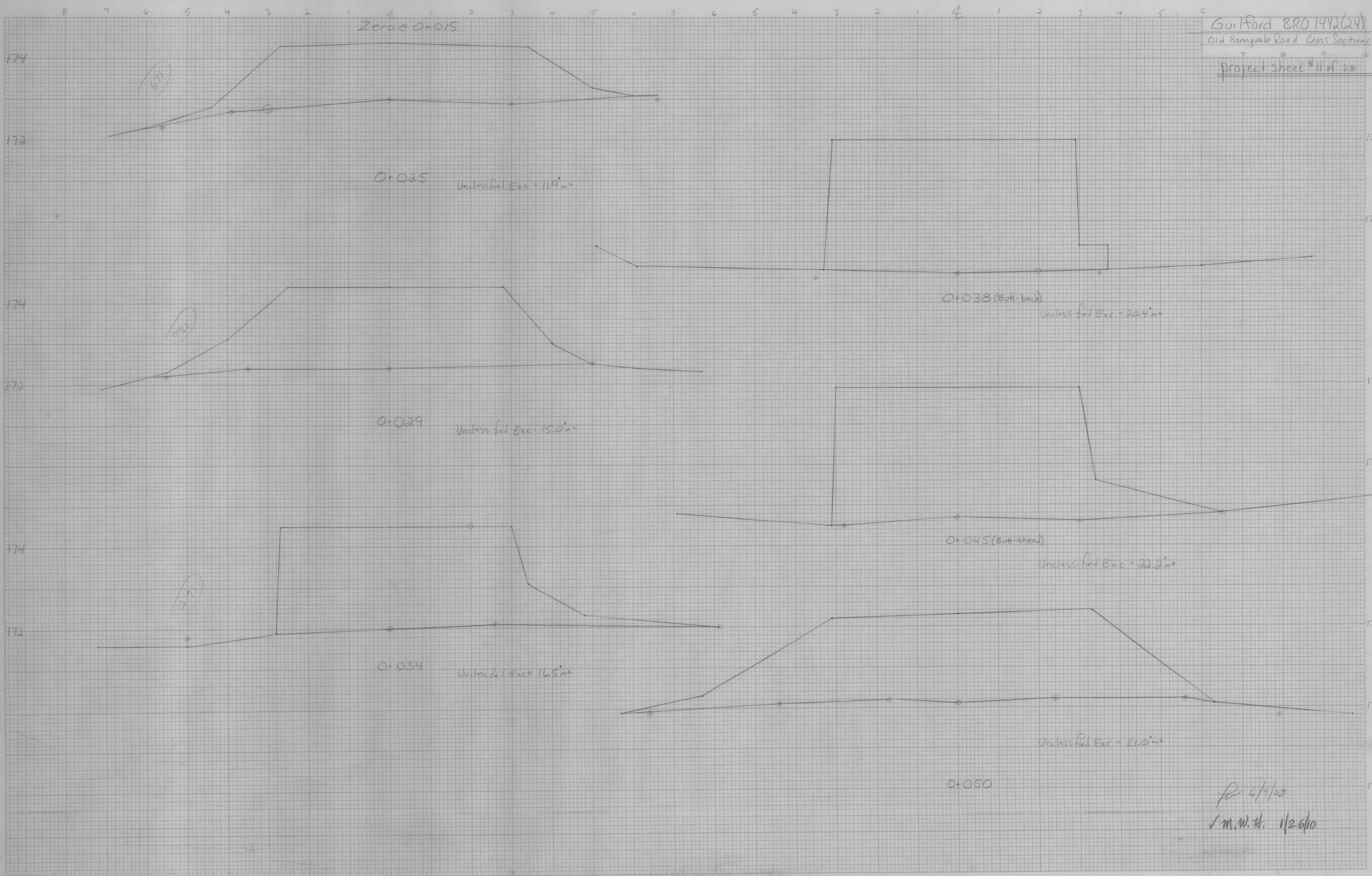
Total Trench Earth for Drive Culvert @ G+041

- Culvert = 13.50'
- Inlet S.F. = 1.90'
- Outlet S.F. = 0.92'

total = 16.32 m³ fm 5/27/09
✓ M.W.H. 1/27/10

FINAL SURVEY
DATE
BY
PLOTTED
NOTE BOOK
NO.

ORIGINAL SURVEY
DATE
BY
PLOTTED
NOTE BOOK
NO.



FINAL SURVEY PLOTTED TEMPLATE AREAS CHECKED

ORIGINAL SURVEY PLOTTED TEMPLATE AREAS CHECKED

for 6/14/05
 J.M.W.H. 1/26/10

Guilford BRD 1442(29)
 Old Bonnyvale Road Cross Sections
 project sheet # 12 of 28

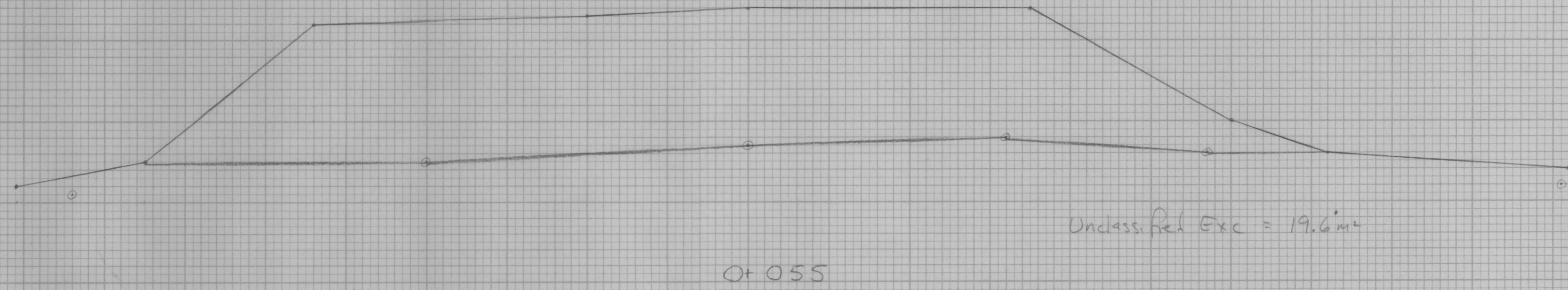
10 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 10

FINAL SURVEY
 SURVEYED
 PLOTTED
 NOTE BOOK
 NO.

ORIGINAL SURVEY
 SURVEYED
 PLOTTED
 NOTE BOOK
 NO.

174

172

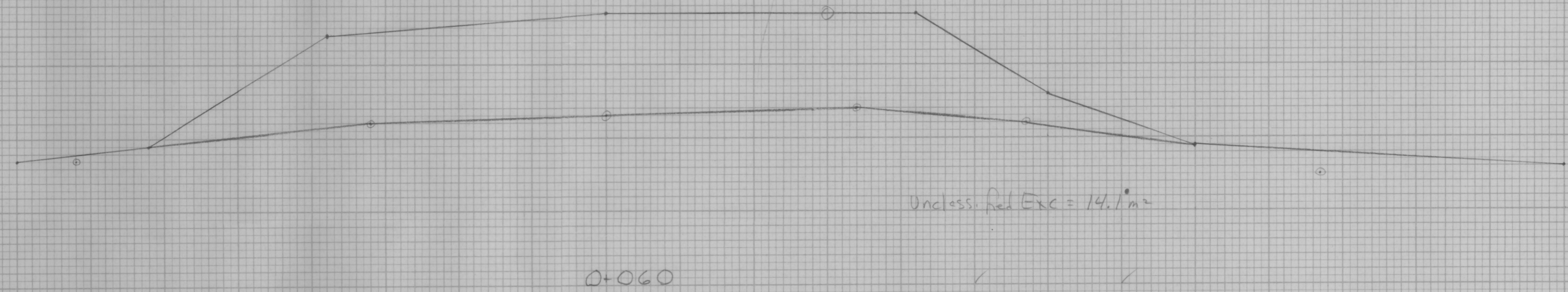


174

172

174

172

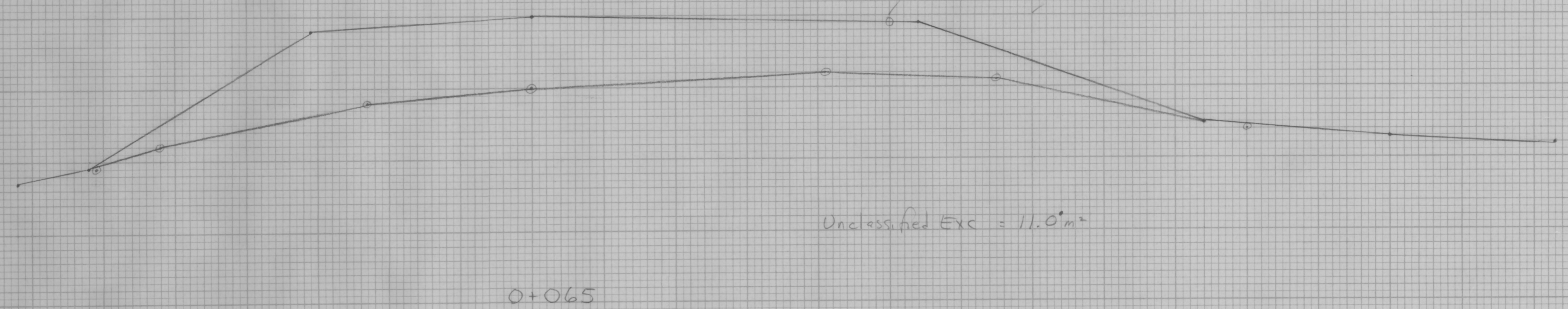


174

172

174

172



174

172

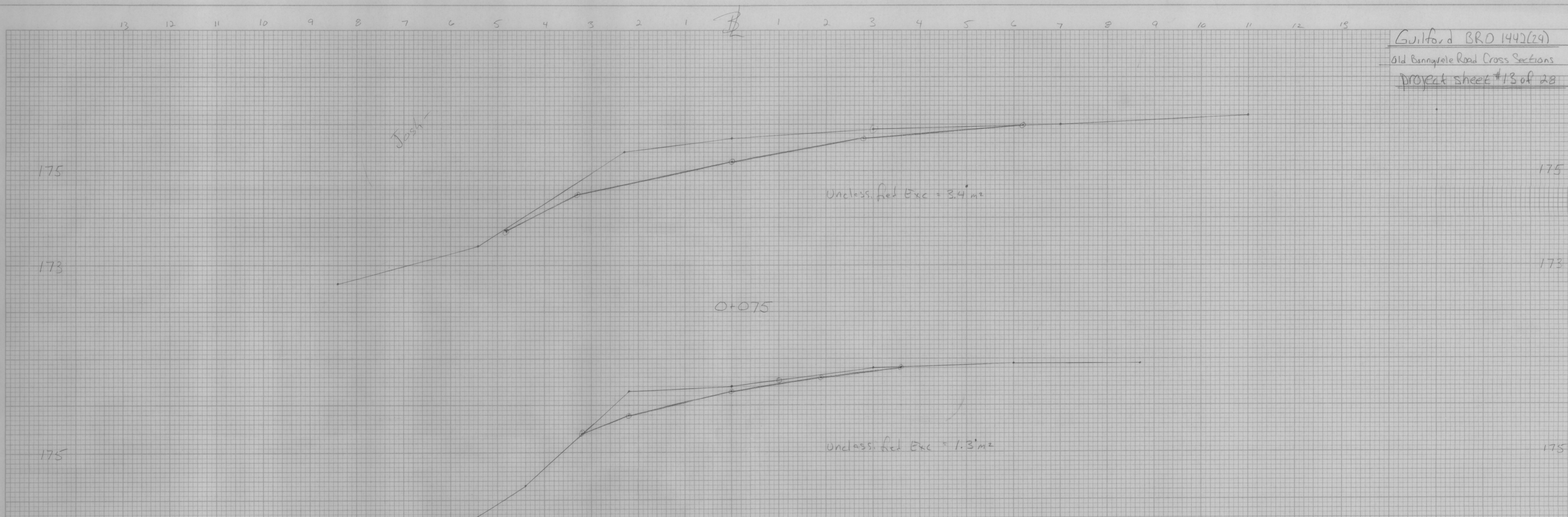
1+65

4 = 2.61
 8 = 5.19
 4 = 2.60

for 2/4/08
 M.W.H. 1/26/10

FINAL SURVEY
 SURVEYED
 PLOTTED
 NOTE BOOK
 NO.

ORIGINAL SURVEY
 SURVEYED
 PLOTTED
 NOTE BOOK
 NO.



Station	End Area	Ave End Area	Distance	Volume
0+015	Zero			
0+025	11.9'	5.95'	10'	59.5'
0+029	15.0'	13.45'	4'	53.8'
0+034	16.5'	15.75'	5'	78.8'
0+038 (burr)	20.4'	18.45'	4'	73.8'
0+045 (butt A)	22.2'	21.6'	5'	108.0'
0+050	21.0'	20.3'	5'	101.5'
0+055	19.6'	16.85'	5'	84.3'
0+060	14.1'	12.35'	5'	62.8'
0+065	11.0'	7.2'	10'	72.0'
0+075	3.4'	2.35'	10'	23.5'
0+085	1.3'	0.65'	15'	9.8'
0+100	Zero			