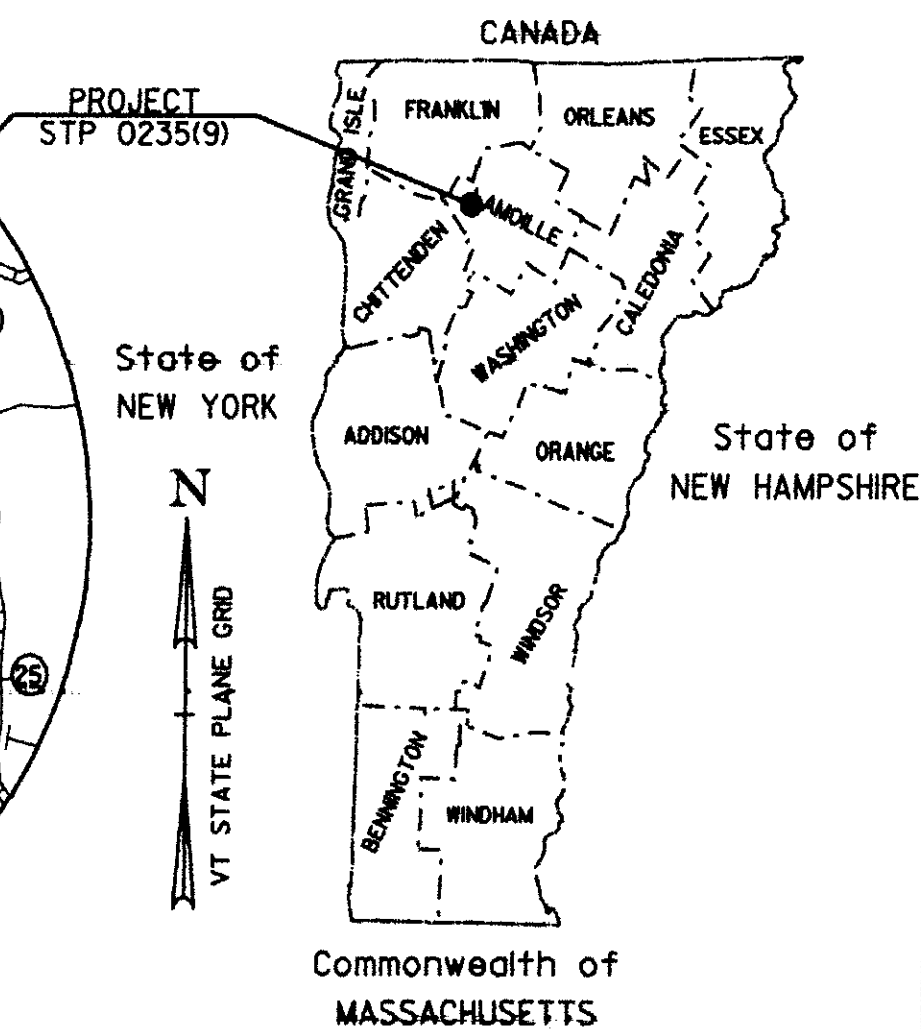
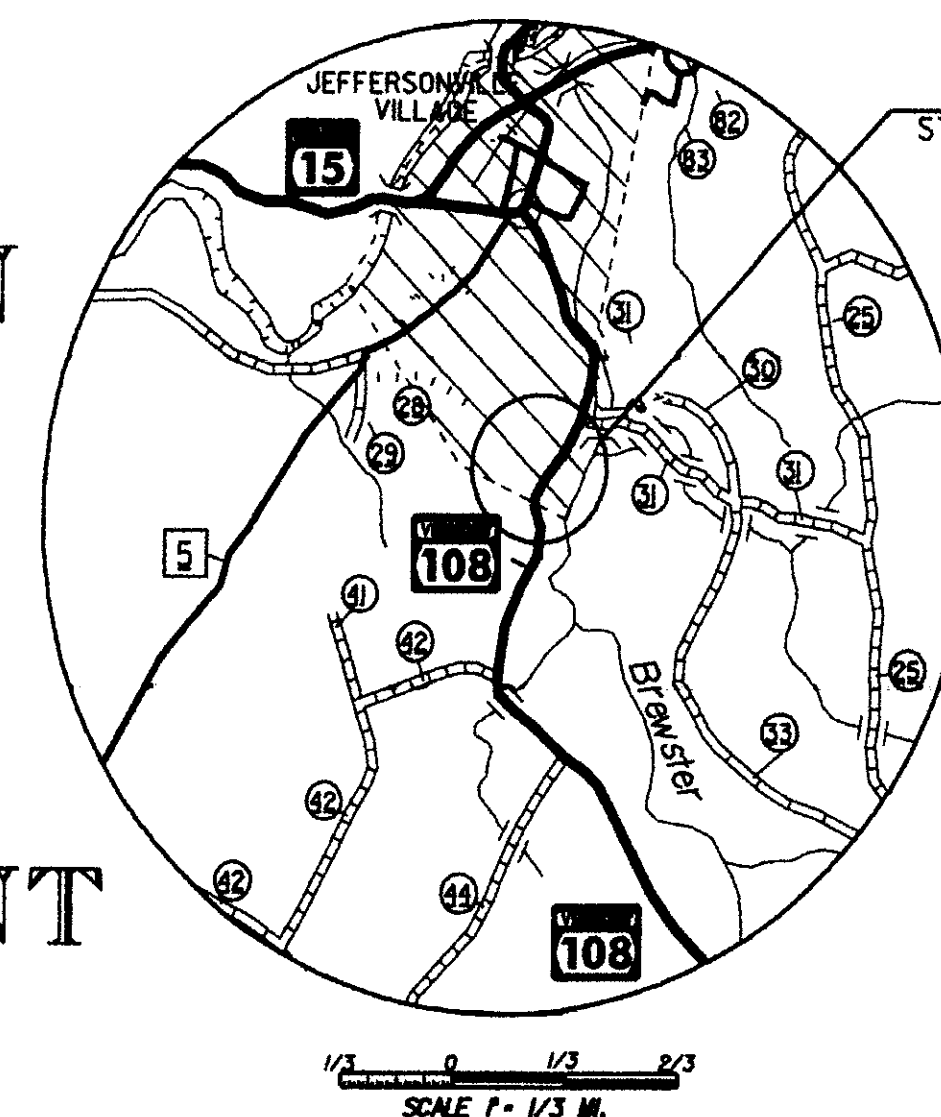


INDEX OF SHEETS SEE SHEET 2

STATE OF VERMONT AGENCY OF TRANSPORTATION



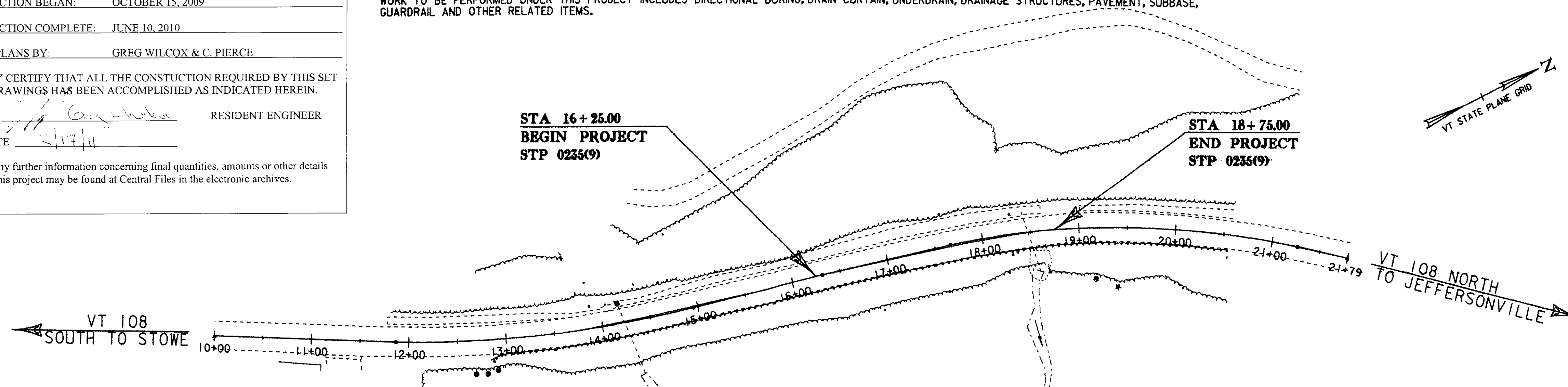
PROPOSED SAFETY IMPROVEMENT TOWN OF CAMBRIDGE COUNTY OF LAMOILLE VT ROUTE 108



RECORD PLANS	
CONTRACTOR:	J. HUTCHINS, INC. - RICHMOND, VT
RESIDENT ENGINEER:	GREG WILCOX
CONSTRUCTION BEGAN:	OCTOBER 15, 2009
CONSTRUCTION COMPLETE:	JUNE 10, 2010
RECORD PLANS BY:	GREG WILCOX & C. 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:	5/17/11
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.	

LOCATED IN THE TOWN OF CAMBRIDGE, ON VERMONT ROUTE 108, BEGINNING AT APPROXIMATELY MM 7.88 AND EXTENDING NORTHERLY 0.047 MILES TO MM 7.93.
LENGTH OF PROJECT = 250 FEET = 0.047 MILES

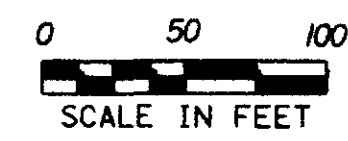
WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES DIRECTIONAL BORING, DRAIN CURTAIN, UNDERDRAIN, DRAINAGE STRUCTURES, PAVEMENT, SUBBASE, GUARDRAIL AND OTHER RELATED ITEMS.



CONVENTIONAL SYMBOLS	
COUNTY LINE	
TOWN LINE	
LIMITS OF ACCESS	
POINT OF ACCESS	
FENCE LINE	
STONE WALL	
TRAVELED WAY	
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 : VTRANS
SURVEYED DATE : 05/2008

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (07)



HIGHWAY SECTION	TRAFFIC DATA				
	DIV	ADT	ADT	ADT	ADT
VT ROUTE 108	550	4,900	5,537	406,000	1,003,000

MAJOR COLLECTOR

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED: *[Signature]* DATE: 5-4-09

PROJECT MANAGER : KENNETH A. ROBIE

PROJECT NAME : CAMBRIDGE
PROJECT NUMBER : STP 0235 (9)

SHEET 1 OF 28 SHEETS

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.

STANDARDS

C-10	CURBING	02/11/08
D-3	TREATED GUTTERS	06/01/94
D-15	PRECAST REINF CONC. MH-GRATES,CAST IRON GRATE WITH GRATE, TYPE D-E	06/01/94
D-16	PRECAST REINFORCED CONCRETE CURB DROP INLET WITH CAST IRON GRATE CAST IRON GRATE, TYPE B CAST IRON GRATE, TYPE C UNDERDRAIN RISER REINFORCED CONCRETE PIPE END SECTION ENERGY DISSIPATOR FOR CULVERT	06/01/94
D-30	UNDERDRAIN CONSTRUCTION DETAILS	08/13/07
E-100	CONSTRUCTION APPROACH SIGNS	01/02/04
E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	01/02/04
E-101	CONSTRUCTION SIGN DETAILS	05/30/03
E-102	CONSTRUCTION SIGN DETAILS	06/30/03
E-102A	CONSTRUCTION SIGN DETAILS	05/01/04
E-103	MAINLINE TRAFFIC CONTROL DIVIDED HIGHWAY - ONE LANE CLOSED	03/01/04
E-106	TRAFFIC CONTROL MISCELLANEOUS DETAILS	03/01/04
E-107	DELINIATION, BARRICADES AND DETOURS FOR U-TURNS ON DIVIDED HIGHWAY	06/30/03
E-107A	BREAKAWAY BARRICADE DETAILS	06/08/09
E-108	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS	06/08/09
E-108A	LONGITUDINAL DROP-OFFS FOR PAVING	06/08/09
E-110	MAJOR MAINTENANCE OPERATION LANE CLOSURE	08/08/95
E-111	MINOR MAINTENANCE OPERATIONS	03/11/97
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08/08/95
E-151	WARNING SIGNS DETAIL	05/01/04
E-164	SQUARE STEEL SIGN POST	06/08/09
G-1	STEEL BEAM GUARDRAIL WITH STEEL POSTS STEEL BEAM GUARDRAIL WITH WOOD POSTS	01/03/00
G-1D	STEEL BEAM GUARDRAIL (40MPH & LESS) HEAVY DUTY STEEL BEAM GUARDRAIL STEEL BEAM MEDIAN BARRIER ANCHOR FOR STEEL BEAM RAIL	01/03/00

INDEX OF SHEETS

1	TITLE SHEET
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3	TIE SHEET
4-5	TYPICAL SHEETS
6-7	QUANTITY SHEETS
8	EPSC NARRATIVE
9-10	EROSION CONTROL DETAILS
11	RIGHT OF WAY SHEET
12-13	LAYOUT SHEETS
14	PROFILE
15	BANKING
16	DRAINAGE DETAIL SHEET
17-26	MAINLINE CROSS SECTIONS
27	DRAINAGE DITCH CROSS SECTIONS
28	TRAFFIC CONTROL

INDEX OF SHEETS

PROJECT NAME:	CAMBRIDGE
PROJECT NUMBER:	STP 0235(9)
FILE NAME:	d087c152_frm.DGN
PROJECT LEADER:	K. ROBIE
DESIGNED BY:	N. PAPPAS
IPARM:	d07x152_index_01
PLOT DATE:	28-JUL-2009
DRAWN BY:	N. PAPPAS
CHECKED BY:	S. MENARD
SHEET	2 OF 28

GPS CONTROL POINTS

HVCTRL #1

MAC 1983
 NORTH = 782260.06
 EAST = 1551999.97
 ELEV. = 547.55

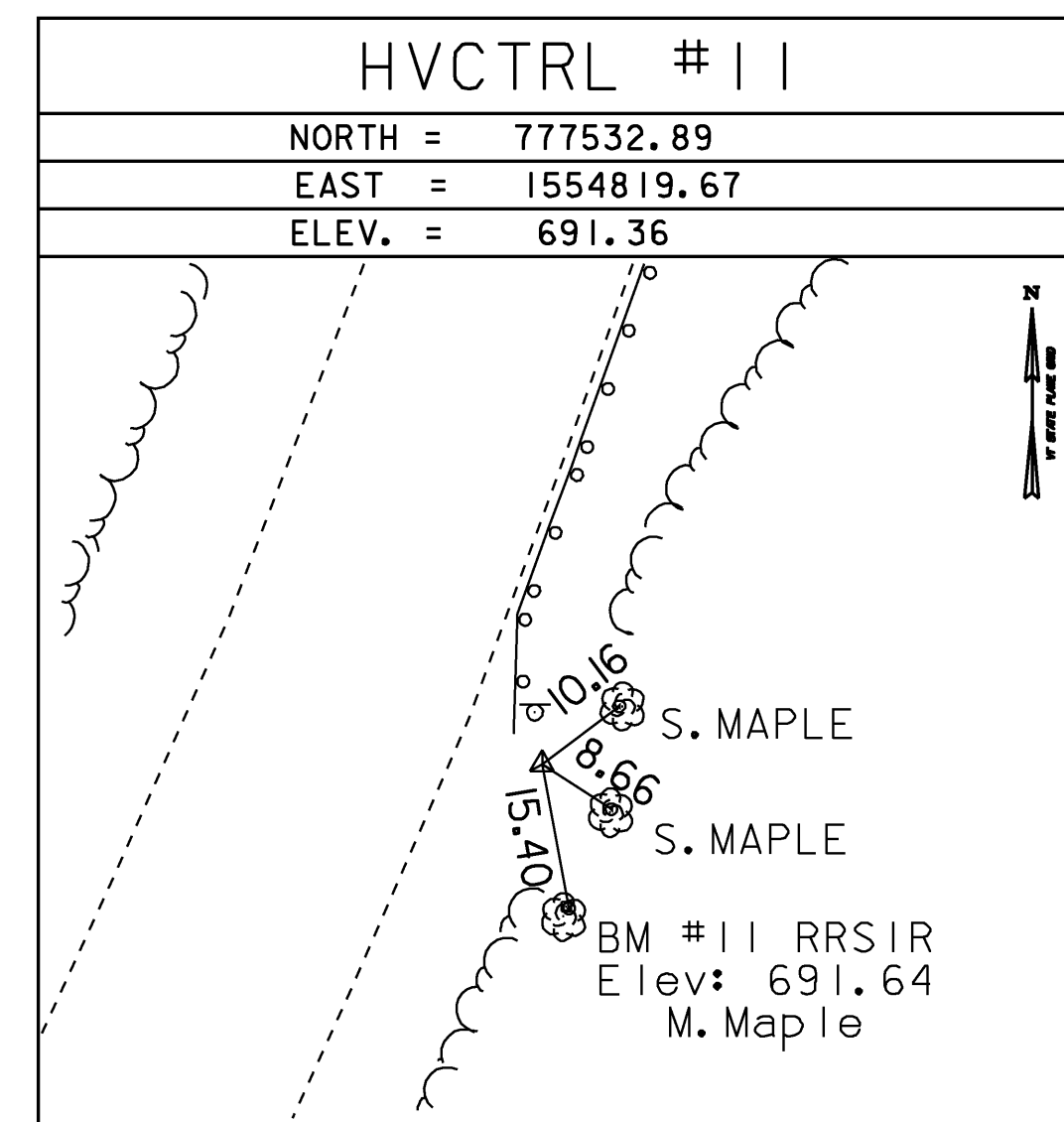
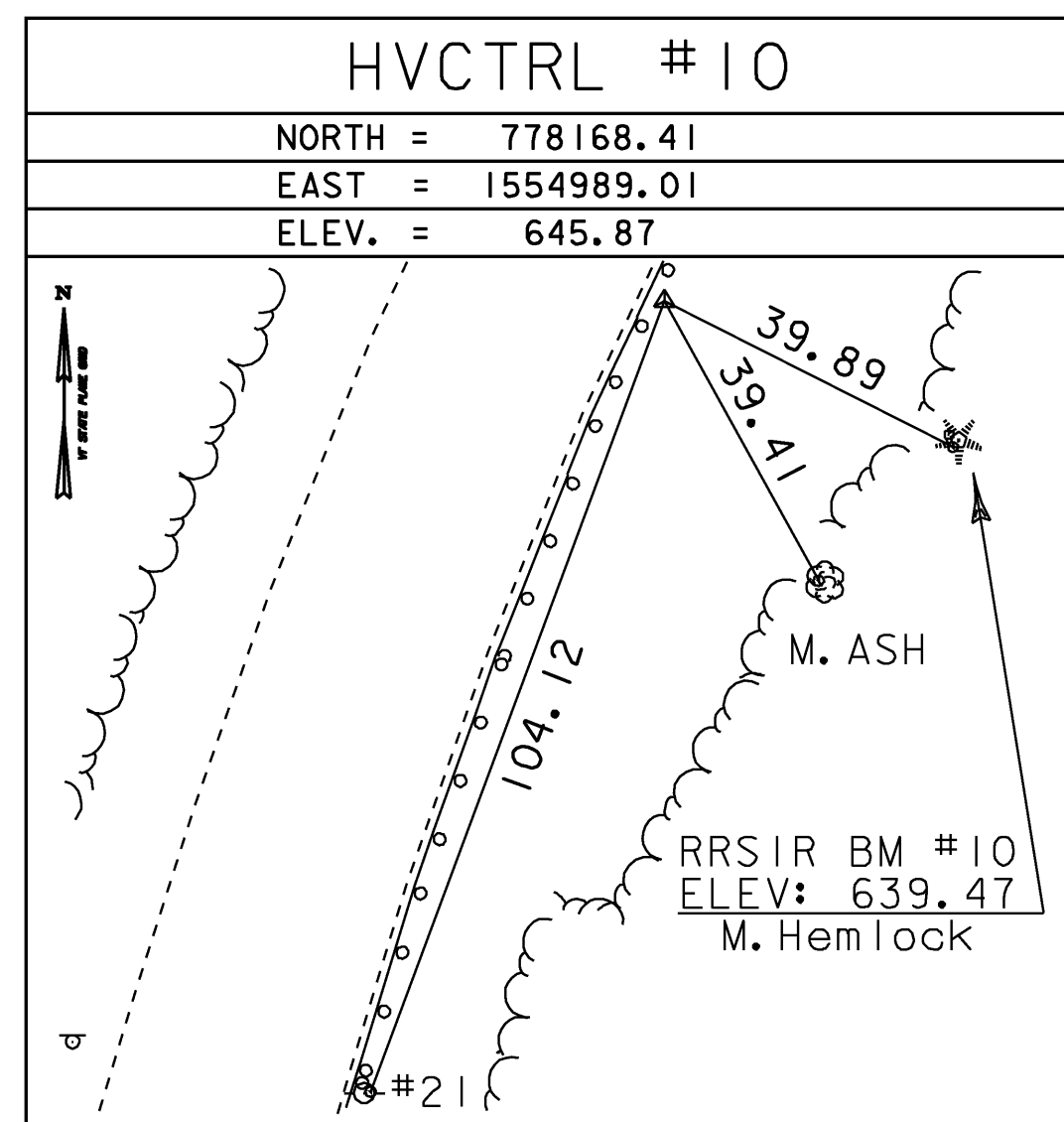
HVCTRL #2

MAC AZ MK
 NORTH = 783125.42
 EAST = 1555158.63
 ELEV. = 458.22

GENERAL LOCATION, CAMBRIDGE, VT., IN THE VILLAGE OF JEFFERSONVILLE. OWNERSHIP, ANNMARIE QUINTIN, 4393 VT ROUTE 15, JEFFERSONVILLE, VT.05464. PHONE 802-644-2516. ** OWNER REQUESTS NOTIFICATION PRIOR TO ACCESSING MARK **. TO REACH FROM THE INTERSECTION OF VT ROUTES 15 AND 108 IN JEFFERSONVILLE GO WEST ALONG VT ROUTE 15 FOR 0.7 MI (1.1KM) TO THE FARM COMPLEX AND GARAGE OF GILLILAN BROTHERS TRUCKING ON THE RIGHT. TURN RIGHT AND GO NORTH THROUGH THE COMPLEX TO THE TRUCKING GARAGE. OBTAIN PERMISSION AND PASS EAST OF THE GARAGE AND ONTO A FIELD DRIVE. FOLLOW FIELD DRIVE EAST FOR ABOUT 0.2 MI (0.3 KM) TO THE TOP OF A HILL AND AN OPENING IN A NORTHWEST TO SOUTHEAST WIRE FENCELINE. FROM THE OPENING GO SOUTH ALONG THE TOP OF THE HILL FOR ABOUT 73 M (239.5 FT) TO THE SITE OF THE MARK IN THE CENTER OF A FIELD DRIVE. THE MARK IS SET FLUSH WITH GROUND SURFACE IN THE TOP OF A CAST ALUMINUM MONUMENT. IT IS 73.2 M (240.2 FT) SOUTH OF THE CENTER OF THE OPENING IN THE FENCE, 65.9 M (216.2 FT) SOUTH OF AN ANGLE POINT IN THE FENCE, 110.3 M (361.9 FT) NORTH OF POLE NO.78/9/15, 42.1M (138.1FT) WEST NORTHWEST OF THE CENTER OF A LARGE CLUMP OF THORNAPPLE, 17.1M (56.1FT) WEST OF THE WEST EDGE OF A RAVINE, AND 2.3 M (7.5 FT) NORTHWEST OF A FIBERGLASS WITNESS POST.

GENERAL LOCATION, CAMBRIDGE, VT., IN THE VILLAGE OF JEFFERSONVILLE. TO REACH FROM THE INTERSECTION OF VT ROUTES 15 AND 108 IN JEFFERSONVILLE GO SOUTHEAST ALONG VT ROUTE 108 FOR 0.05 MI (0.08 KM) TO THE INTERSECTION OF OLD MAIN STREET LEFT AND VT ROUTE 108 (MAIN STREET) RIGHT. TURN LEFT AND GO NORTH ALONG OLD MAIN STREET FOR 0.1 MI (0.2 KM) TO THE END OF THE STREET AND THE SITE OF THE MARK STRAIGHT AHEAD. THE MARK IS A CENTERPUNCHED 1CM DIAMETER STEEL ROD SET FLUSH IN THE TOP OF THE SOUTHWEST SIDE OF A 2.1M (6.9 FT) DIAMETER CONCRETE SEWER PUMP STATION WHICH PROJECTS ABOUT 0.4 M (1.3 FT) ABOVE GROUND SURFACE. IT IS THE MOST EASTERLY OF 2 STEEL RODS IN THE SOUTHWEST SIDE OF THE STRUCTURE. IT IS 8.0 M (26.2 FT) NORTH NORTHEAST OF AND ABOUT 0.4 M (1.3 FT) HIGHER THAN THE CENTERLINE END OF OLD MAIN STREET, 7.4 M (24.3 FT) NORTHWEST OF POLE NO.148/43/106A, 2.6 M (8.5 FT) WEST NORTHWEST OF THE CENTER OF A MANHOLE, 0.5 M (1.6 FT) WEST OF THE SOUTH CORNER OF AN ALUMINUM ACCESS HATCH ON THE STRUCTURE, 0.5 M (1.6 FT) SOUTH OF THE WEST CORNER OF THE ACCESS HATCH, AND 2.7 M (8.9 FT) NORTHEAST OF A FIBERGLASS WITNESS POST.

TRAVERSE TIES



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

* Main Traverse Completed 4/28/08 by L.Orvis P.C. & G.Hitchcock

ALIGNMENT TIES

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

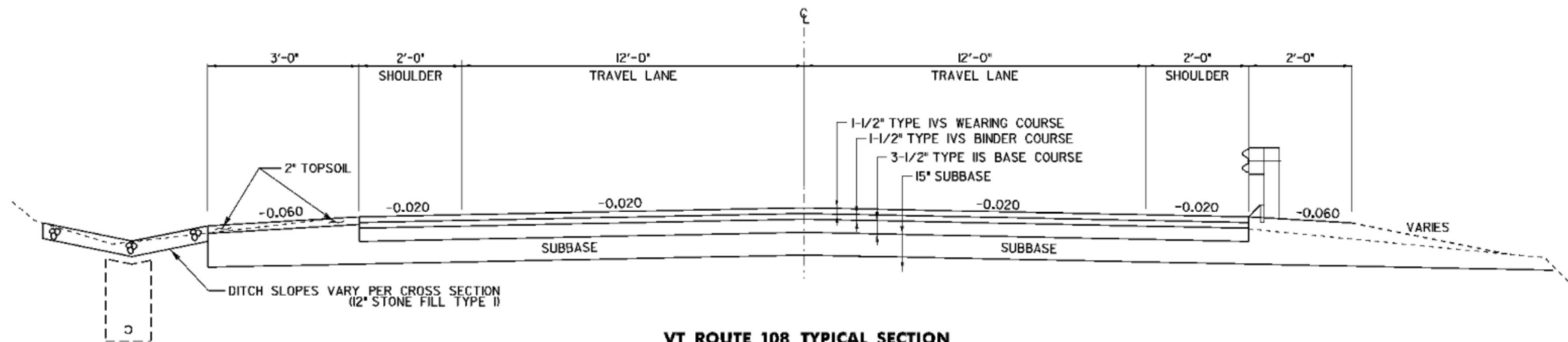
TIE SHEET

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (07)
ADJUSTMENT	Compass

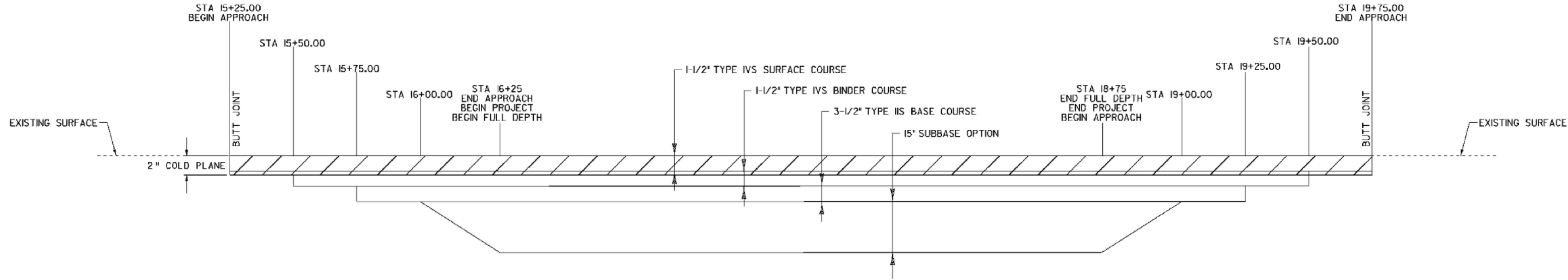
PROJECT NAME:	CAMBRIDGE
PROJECT NUMBER:	STP 0235 (9)
FILE NAME:	07c152\survey\07c152t1.dg
PROJECT LEADER:	
DESIGNED BY:	
IPARM:	d07c152_t1.i
PLOT DATE:	28-JUL-2009
DRAWN BY:	R. Bullock
CHECKED BY:	
SHEET	3 OF 28

GENERAL NOTES

1. THE WEARING COURSE SHALL BE TYPE IVS, THE BINDER COURSE SHALL BE TYPE IVS AND THE BASE COURSE SHALL BE TYPE IIS, ITEM 900.680 SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) AS SHOWN ON THE PLANS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. EMULSIFIED ASPHALT, TYPE RS-1, SHALL BE APPLIED ON EXISTING PAVEMENT SURFACES BETWEEN ALL COURSES OF PAVEMENT AND ON COLD PLANED SURFACES AT THE RATE OF 0.025 GAL/SY OR AS DIRECTED BY THE RESIDENT ENGINEER.
3. ITEM 900.680 SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) TOLERANCE = +/- 1/4" (TOTAL THICKNESS).
4. ITEM 619.17 YIELDING MARKER POSTS HAS BEEN INCLUDED TO DELINEATE UNDERDRAIN FLUSHING BASIN, UNDERDRAIN CARRIER PIPE OUTLET, PIPE OUTLET AND DROP INLET LOCATED OUTSIDE OF THE PAVEMENT SURFACE OR AS DIRECTED BY THE ENGINEER.
5. A FULL DEPTH BUTT JOINT SHALL BE CONSTRUCTED AT STA 15+25 AND STA 19+75 AS DENOTED ON THE PROJECT PLANS OR AS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER. ALL BUTT JOINTS SHALL BE SAW CUT AND SHALL BE INCIDENTAL TO ITEM 900.680 SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY).



VT ROUTE 108 TYPICAL SECTION
 1-1/2" TYPE IVS WEARING COURSE
 1-1/2" TYPE IVS BINDER COURSE
 3 1/2" TYPE IIS BASE COURSE
 15" SUBBASE OPTION



VT 108 APPROACH TRANSITION

TYPICALSHEET 1

PROJECT NAME:	CAMBRIDGE	FILE NAME:	d087c152_frm.DGN	PLOT DATE:	28-JUL-2009
PROJECT NUMBER:	STP 0235(9)	PROJECT LEADER:	K. ROBBIE	DRAWN BY:	N. PAPPAS
		DESIGNED BY:	N. PAPPAS	CHECKED BY:	S. MENARD
		IPARM:	d07x152_typ_01		SHEET 4 OF 28

NOT TO SCALE

DRAIN CURTAIN NOTES

1. DRAINAGE AGGREGATE USED IN THE DRAIN CURTAIN SHALL BE BUCKET TAMPED EVERY 12 INCHES, WITHIN THE LIMITS OF DRAIN CURTAIN. PAYMENT FOR DRAINAGE AGGREGATE WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.640 SPECIAL PROVISION (8 INCH UNDERDRAIN PIPE) AND PAYMENT FOR GEOTEXTILE WILL BE MADE UNDER ITEM 900.675 SPECIAL PROVISION (INSTALL GEOTEXTILE UNDER STONE FILL).

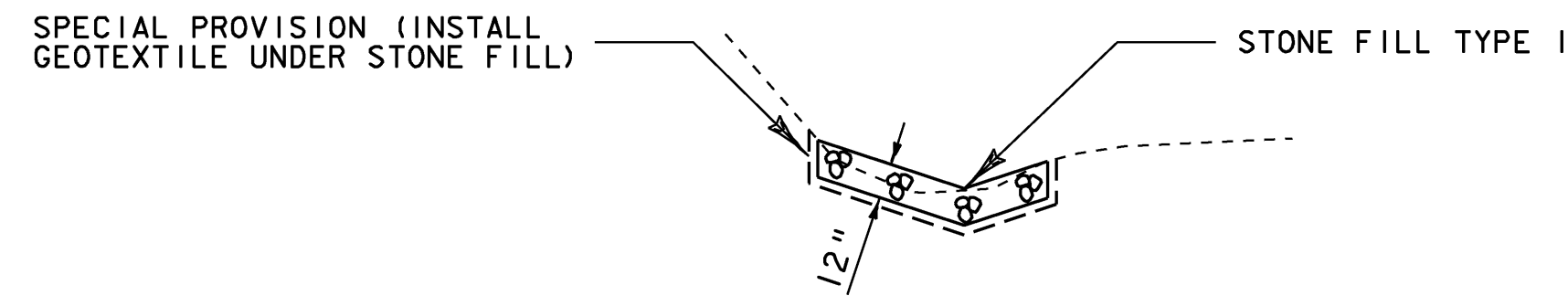
2. SPECIAL PROVISION (INSTALL GEOTEXTILE UNDER STONE FILL) SHALL NOT BE DAMAGED BY THE CONTRACTOR'S TEMPORARY BRACING OF THE DRAIN CURTAIN.

3. SPECIAL PROVISION (8 INCH UNDERDRAIN PIPE) WILL CONNECT TO THE EIGHT INCH UNDERDRAIN CARRIER PIPE BY TWO EIGHT INCH 45 DEGREE COUPLERS AND AN EIGHT INCH Y.

4. ANY SLOPE STABILIZATION, SILTATION CONTROL AND FINAL GRADING DUE TO SLOPE STABILIZATION WITHIN THE DRAIN CURTAIN AREA SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 204.25 STRUCTURE EXCAVATION.

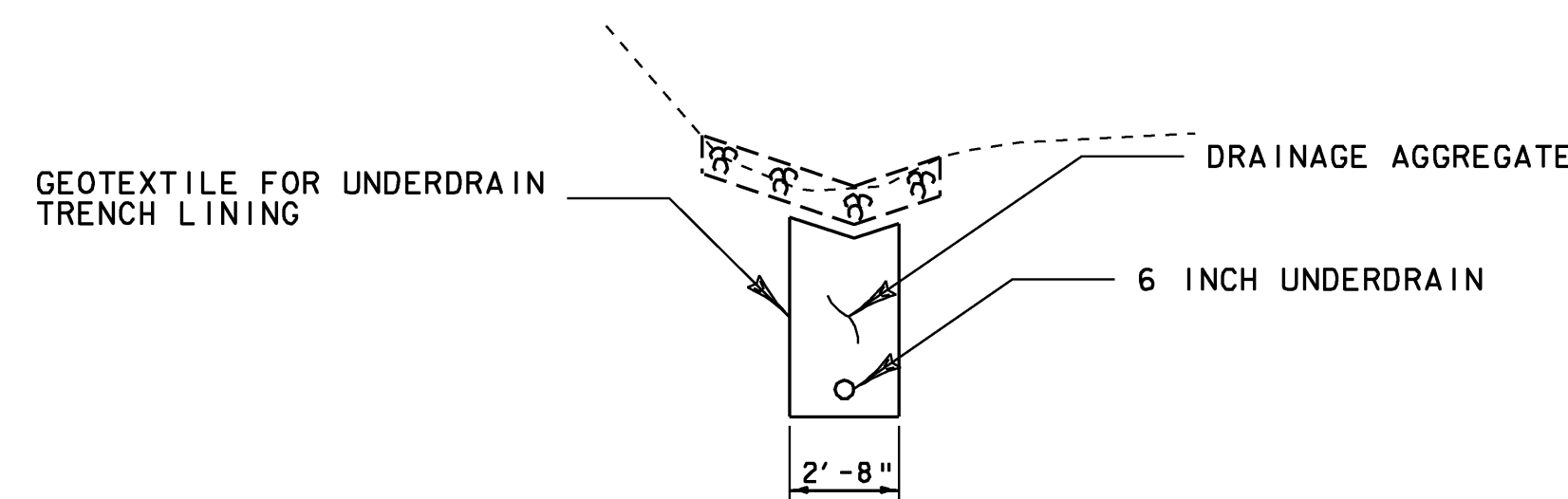
5. UNDERDRAIN PIPE, UNDERDRAIN CARRIER PIPE AND FITTINGS FOR DRAIN CURTAIN CONSTRUCTION SHALL BE RATED TO CARRY THE COVER INDICATED IN THE PLANS.

6. THE PROPOSED WASH PAD FOR DEWATERING EFFLUENT SHALL BE CONSTRUCTED WITH GEOTEXTILE FOR STONE FILL AND STONE FILL TYPE I AS DIRECTED BY THE ENGINEER.



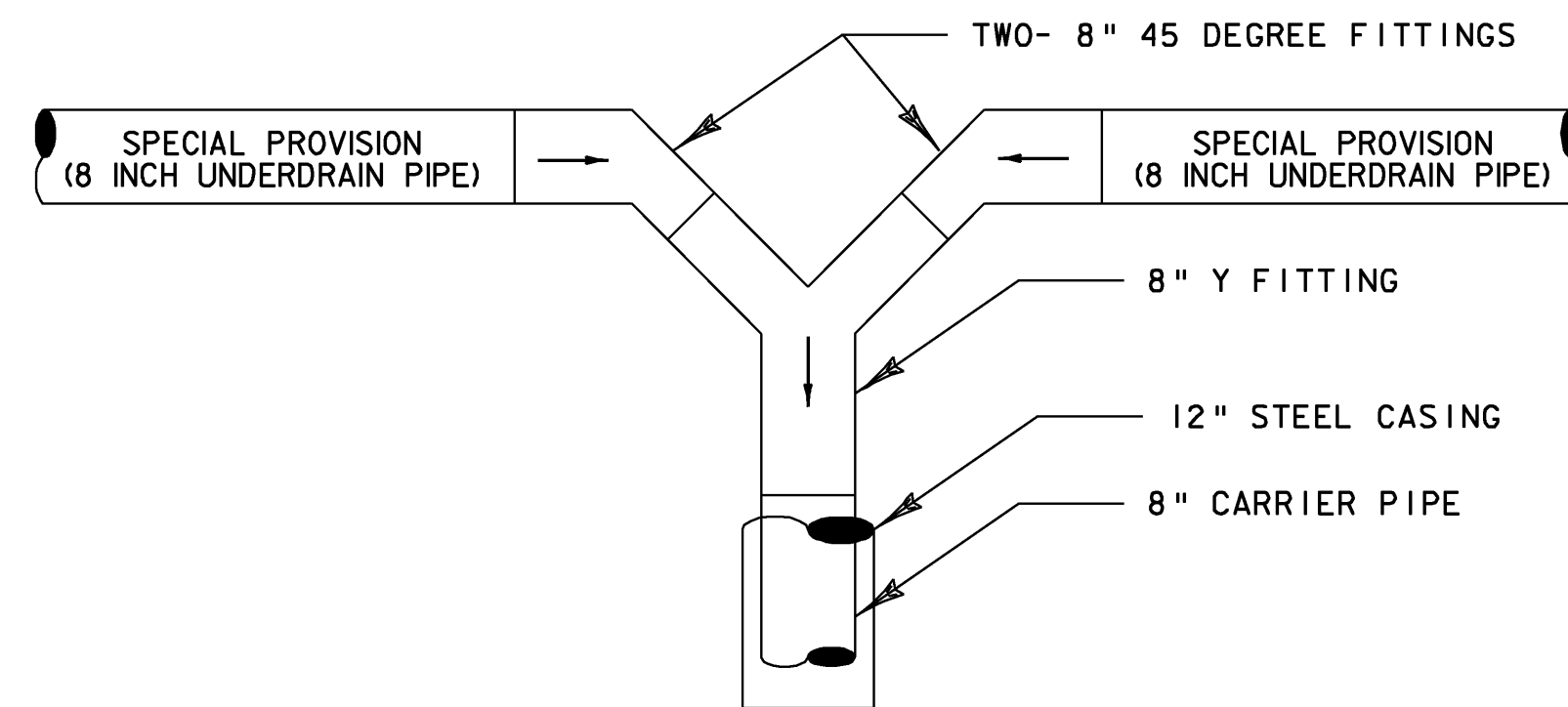
STONE FILL TYPE I DITCH

STA 14+50 LT TO 19+50 LT
NOTE: DITCH SLOPES VARY PER CROSS SECTION.



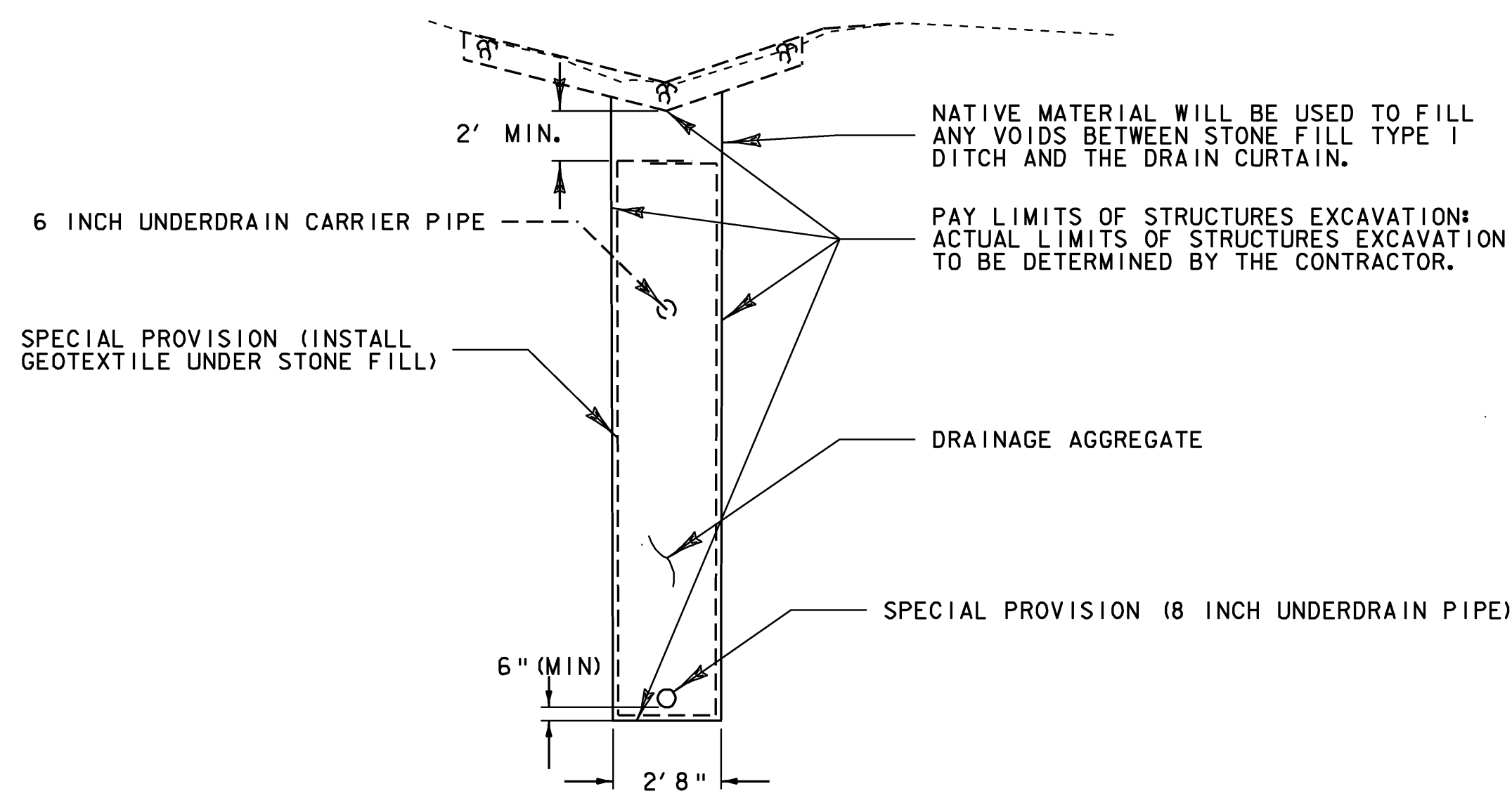
6 INCH UNDERDRAIN TYPICAL

STA 14+50 LT TO STA 16+75 LT



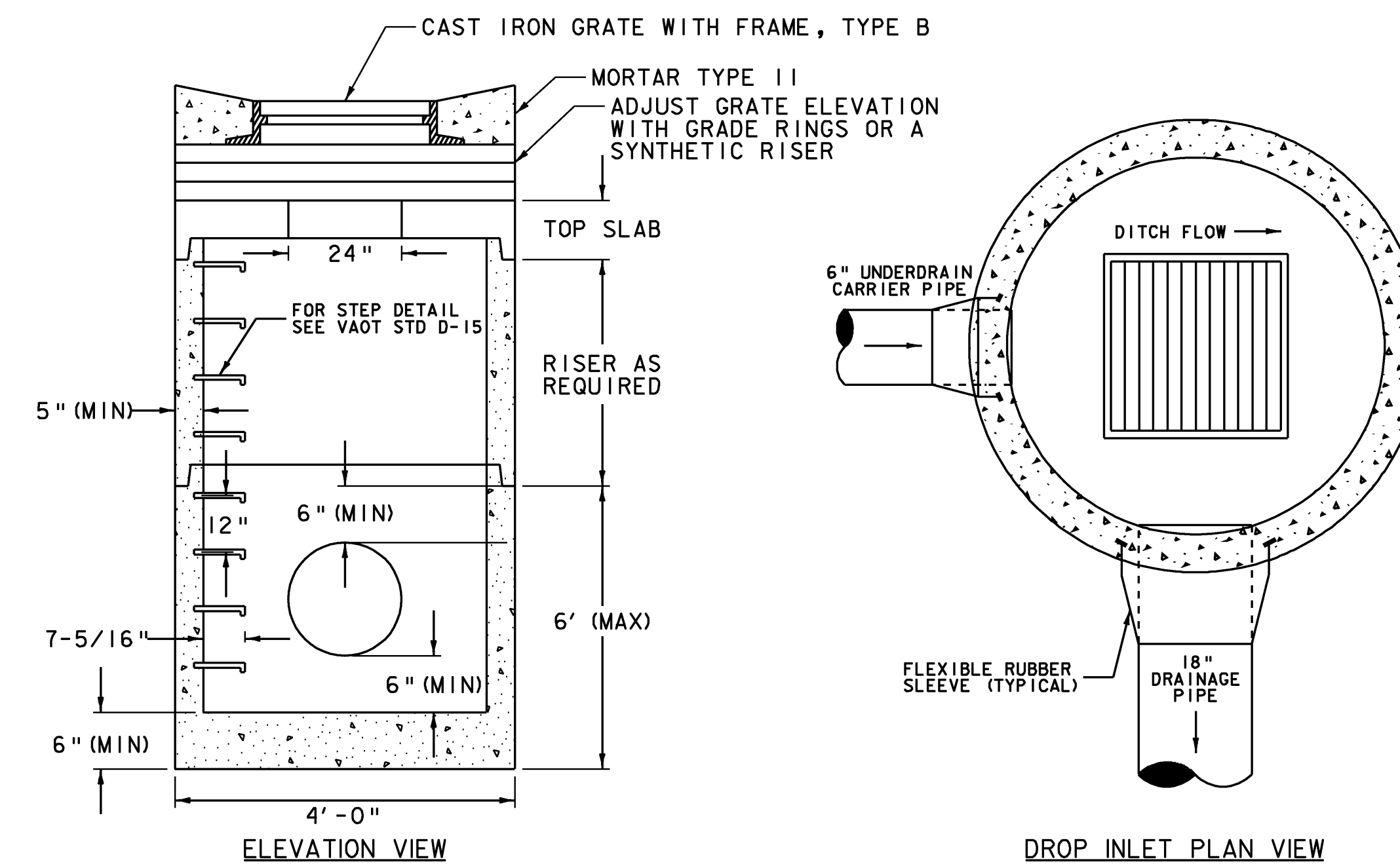
DRAIN CURTAIN OUTLET DETAIL

STA 18+50 LT



DRAIN CURTAIN TYPICAL

STA 16+75 LT TO 18+75 LT



PRECAST CONCRETE DROP INLET TYPICAL

PRECAST CONCRETE DROP INLET NOTES:

1. PRECAST CONCRETE SECTIONS SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND ASTM C-478.
2. MINIMUM CONCRETE COMPRESSIVE STRENGTH: 4,000 PSI AT 28-DAYS.
3. STEEL REINFORCING SHALL CONFORM TO ASTM A185 OR A82 FOR HS25 LOADING.
4. STEPS SHALL BE 14 INCHES WIDE STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC CONFORMING TO ASTM C-478 AND SHALL BE CAST INTO DROP INLET SECTIONS BY THE PRECAST CONCRETE MANUFACTURER.
5. FACE OF PIPE SHALL NOT PROJECT MORE THAN TWO INCHES OR LESS THAN ONE INCH FROM INSIDE WALL OF STRUCTURE.
6. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12 INCHES OF OUTSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN THREE INCH TO JOINTS.
7. FITTING FRAME TO FINAL GRADE MAY BE DONE WITH A SYNTHETIC RISER OR WITH PRECAST CONCRETE GRADE RINGS OF APPROPRIATE THICKNESS (3 COURSES MAX).
8. ALL PIPE INVERTS AND PENETRATION ANGLES SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
9. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT AND BE ASSEMBLED USING A BUTYL RUBBER OR APPROVED EQUAL SEALANT.
10. PROVIDE FLEXIBLE RUBBER SLEEVES CONFORMING TO ASTM C-923, RESILIENT, OF SIZE REQUIRED, FOR EACH PIPE CONNECTING TO STRUCTURE. SLEEVES SHALL BE CAST INTO PRECAST STRUCTURE BY THE MANUFACTURER FOR ALL PIPE PENETRATIONS.
11. DROP INLET GRATE ORIENTATION SHALL BE IN ACCORDANCE WITH STANDARD DRAWING D-16 FOR TYPE B GRATES.
12. PAYMENT FOR INSTALLATION OF THE DROP INLET SHALL BE MADE UNDER ITEM 604.18 - PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE.

TYPICAL SHEET 2

PROJECT NAME:	CAMBRIDGE
PROJECT NUMBER:	STP 0235(9)
FILE NAME:	d087c152_frm.DGN
PROJECT LEADER:	K. ROBIE
DESIGNED BY:	N. PAPPAS
IPARM:	d07x152_typ_02.i
PLOT DATE:	04-AUG-2009
DRAWN BY:	N. PAPPAS
CHECKED BY:	S. MENARD
SHEET	5 OF 28

NOT TO SCALE

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
								ROADWAY	EROSION CONTROL	FULL CE 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	-			
								850			850		CY	COMMON EXCAVATION	203.15	14			
								130			130		CY	TRENCH EXCAVATION OF EARTH	204.20	5			
								1			1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	-			
								550			550		CY	STRUCTURE EXCAVATION	204.25	6			
								6			6		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	0.7			
								1450			1450		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10	50			
														BEGIN OPTION AA					
								530			530		CY	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	301.25	11			
								530			530		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	11			
														END OPTION AA					
								6			6		CWT	EMULSIFIED ASPHALT	404.65	0.4			
								1			1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	-			
								60			60		LF	18" CPEP	601.0915	-			
								1			1		EACH	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	604.18	-			
								225			225		LF	6 INCH UNDERDRAIN PIPE	605.10	-			
								188			188		LF	6 INCH UNDERDRAIN CARRIER PIPE	605.20	-			
								3			3		EACH	UNDERDRAIN FLUSHING BASIN	605.95	-			
								3			3		HR	POWER GRADER RENTAL	608.15	2			
								10			10		HR	POWER BROOM RENTAL, TYPE I	608.30	EST			
								1			1		MGAL	DUST CONTROL WITH WATER	609.10	EST			
								190			190		CY	STONE FILL, TYPE I	613.10	6			
								340			340		CY	STONE FILL, TYPE II	613.11	10			
								250			250		LF	TREATED TIMBER CURB	616.35	-			
								6			6		EACH	YIELDING MARKER POSTS	619.17	-			
								2			2		EACH	ENERGY ABSORPTION ATTENUATOR	621.56	-			
								250			250		LF	REMOVE AND RESET GUARDRAIL	621.75	EST			
								875			875		LF	TEMPORARY TRAFFIC BARRIER	621.90	EST			
								40			40		HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST			
								400			400		HR	FLAGGERS	630.15	EST			
										1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17	-			
								1			1		LS	MOBILIZATION/DEMOBILIZATION	635.11	-			
								1			1		LS	TRAFFIC CONTROL	641.10	-			
								2			2		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15	-			
								900			900		LF	4 INCH WHITE LINE	646.20	-			
								1910			1910		LF	4 INCH YELLOW LINE	646.21	-			
								875			875		LF	TEMPORARY 4 INCH WHITE LINE, TYPE II TAPE	646.601	-			
								1910			1910		LF	TEMPORARY 4 INCH YELLOW LINE, PAINT	646.612	-			
								318			318		SF	REMOVAL OF EXISTING PAVEMENT MARKINGS	646.85	EST			
									30		30		LB	SEED	651.15	EST			

QUANTITY SHEET 1

PROJECT NAME:	CAMBRIDGE	PLOT DATE:	06-AUG-2009
PROJECT NUMBER:	STP 0235(9)	DRAWN BY:	N. PAPPAS
FILE NAME:	d087c152_frm.DGN	CHECKED BY:	S. MENARD
PROJECT LEADER:	K. ROBIE	SHEET	6 OF 28
DESIGNED BY:	N. PAPPAS		
IPARM:	d07x152_qty_011		

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
								ROADWAY	EROSION CONTROL	FULL CE ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
									250		250		LB	FERTILIZER	651.18	EST			
									1		1		TON	AGRICULTURAL LIMESTONE	651.20	EST			
									1		1		TON	HAY MULCH	651.25	EST			
									135		135		CY	TOPSOIL	651.35	EST			
									1		1		LS	EPSC PLAN	652.10	EST			
									20		20		HR	MONITORING EPSC PLAN	652.20	EST			
									1		1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30	-			
									1500		1500		SY	TEMPORARY EROSION MATTING	653.20	56			
									1700		1700		LF	PROJECT DEMARCATION FENCE	653.55	150			
								2			2		EACH	REMOVING SIGNS	675.50	-			
								2			2		EACH	ERECTING SALVAGED SIGNS	675.60	-			
								2			2		EACH	SETTING SALVAGED POSTS	675.61	-			
								1			1		EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM	678.40	-			
								1			1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50	-			
								200			200		LF	SPECIAL PROVISION (8" UNDERDRAIN PIPE)	900.640				
								85			85		LF	SPECIAL PROVISION (HORIZONTAL DIRECTIONAL DRILLING)(12" STEEL CASING W/8" CAR	900.640				
								1			1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	900.650	-			
								1			1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650	-			
									170		170		SY	SPECIAL PROVISION (INSTALL GEOTEXTILE FOR SILT FENCE)	900.675	3			
								2550			2550		SY	SPECIAL PROVISION (INSTALL GEOTEXTILE UNDER STONE FILL)	900.675	4			
								550			550		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680	4			

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

PROJECT IS LOCATED IN THE TOWN OF CAMBRIDGE, COUNTY OF LAMOILLE, ON VT ROUTE 108, BEGINNING AT APPROXIMATELY MILE MARKER 7.84 AND EXTENDING NORTHERLY 0.11 MILES TO MILE MARKER 7.95.

THIS PROJECT INVOLVES DIRECTIONAL BORING, DRAIN CURTAIN, UNDERDRAIN, DRAINAGE STRUCTURES, SUBBASE, PAVEMENT, GUARDRAIL AND OTHER RELATED ITEMS.

TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 0.75 ACRES EXCLUDING WASTE, BORROW AND STAGING AREAS.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST LESS THAN TWO CONSTRUCTION SEASONS.

1.2 SITE INVENTORY

1.2.1 OFF SITE DRAINAGE CHARACTERISTICS (UP AND DOWN-GRADIENT)

THE PROJECT SITE CONSISTS OF PAVEMENT, MEDIUM UPHILL SLOPES AND STEEP DOWNHILL SLOPES. DUE TO THE NATURE OF THE SURROUNDING TERRAIN THE PROJECT SITE HAS DITCHING AND SIX INCH UNDERDRAIN THAT WILL COLLECT WATER TO THE DROP INLET THEN CARRIED BY AN 18 INCH PIPE TO THE UNNAMED TRIBUTARY. AN EIGHT INCH UNDERDRAIN WITHIN THE DRAIN CURTAIN WILL REDUCE THE EXISTING WATER TABLE; THIS SITE WILL COLLECT MEDIUM OFF SITE RUNOFF.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

WATER IS COLLECTED FROM ROADWAY DITCHING AND DRAIN CURTAIN THAT ULTIMATELY DRAINS TO AN UNNAMED TRIBUTARY TO THE BREWSTER RIVER. THE PROJECT SITE IS APPROXIMATELY 225 FEET FROM THE BREWSTER RIVER. NO WETLANDS ARE WITHIN THE PROJECT AREA.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE WORK AREA IS IN A RURAL SETTING WITH MEDIUM UPHILL SLOPES AND STEEP DOWNHILL SLOPES. VT ROUTE 108 RUNS THROUGH THE PROJECT WITH HOUSES SOUTH AND NORTH OF THE PROJECT AREA. OVERHEAD UTILITIES ARE WITHIN THE PROJECT AREA BUT WILL NOT BE IN CONFLICT WITH CONSTRUCTION.

1.2.4 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF GRADUAL TO STEEP GRASS SIDE SLOPES INCLUDING TREES.

1.2.5 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF LAMOILLE, VERMONT. SOILS ON THE PROJECT SITE ARE

MUNAME - SOIL NAME, SLOPE, K
BERKSHIRE AND MARLOW SOILS, 15 TO 50 PERCENT SLOPES, k=0.24

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING: 0.0-0.23 = LOW EROSION POTENTIAL; 0.24-0.36 = MEDIUM EROSION POTENTIAL; 0.37 AND HIGHER = HIGH EROSION POTENTIAL.

1.2.6 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: UNNAMED TRIBUTARY TO THE BREWSTER RIVER.
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. 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 CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL BE SEEDED, MULCHED AND WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES

PROJECT DEMARCATION FENCING, DENOTED ON THE PLANS AS -PDF- IS USED TO DELINEATE THE LIMIT THE CONTRACTOR CAN WORK TO WITH CONSTRUCTION EQUIPMENT. INSIDE THIS LIMIT, THE AREA CAN BE DISTURBED.

1.4.2 LIMIT DISTURBANCE AREA

EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES (PHASING) AS CONSTRUCTION PROCEEDS. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT AND AS DIRECTED BY THE ENGINEER.

1.4.3 STABILIZE CONSTRUCTION EXIT

NOT APPLICABLE

1.4.4 INSTALL SILT FENCE

SILT FENCE WILL BE INSTALLED ON THE DOWN HILL SLOPE SIDE BEHIND THE EXISTING GUARDRAIL.

1.4.5 DIVERT UPLAND RUNOFF

UPLAND RUNOFF WILL BE DIVERTED DOWN GRADE BY TEMPORARY AND EXISTING DITCH. DOWN HILL SIDE SLOPE RUNOFF FROM THE ROADWAY WILL BE DIVERTED BY SILT FENCE.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

TEMPORARY CHECK DAM WILL BE CONSTRUCTED FOR UPLAND RUNOFF.

1.4.7 CONSTRUCT PERMANENT CONTROLS

TYPE II STONE PAD FROM THE PIPE OUTLETS THROUGH THE UNNAMED TRIBUTARY ENDING AT THE CONSTRUCTION LIMITS ALONG WITH TYPE I STONE FOR DITCHING.

1.4.8 STABILIZE EXPOSED SOILS

SEED, MULCH AND TEMPORARY EROSION MATTING

SEEDING AND MULCHING SHALL BE USED TO STABILIZE ALL DISTURBED AREAS. THESE DISTURBED AREAS SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING INTERMITTENT PHASES OF CONSTRUCTION.

SEEDING, MULCHING, TEMPORARY EROSION MATTING OR STONE FILL SHALL BE USED TO STABILIZE ALL SLOPES >3:1. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING INTERMITTENT PHASES OF CONSTRUCTION.

1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

1.4.10 STABILIZE SOIL AT FINAL GRADE

SEED AND MULCH

SEEDING AND MULCHING SHALL BE USED TO STABILIZE ALL DISTURBED AREAS. THESE DISTURBED AREAS SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

1.4.11 DE-WATERING ACTIVITIES

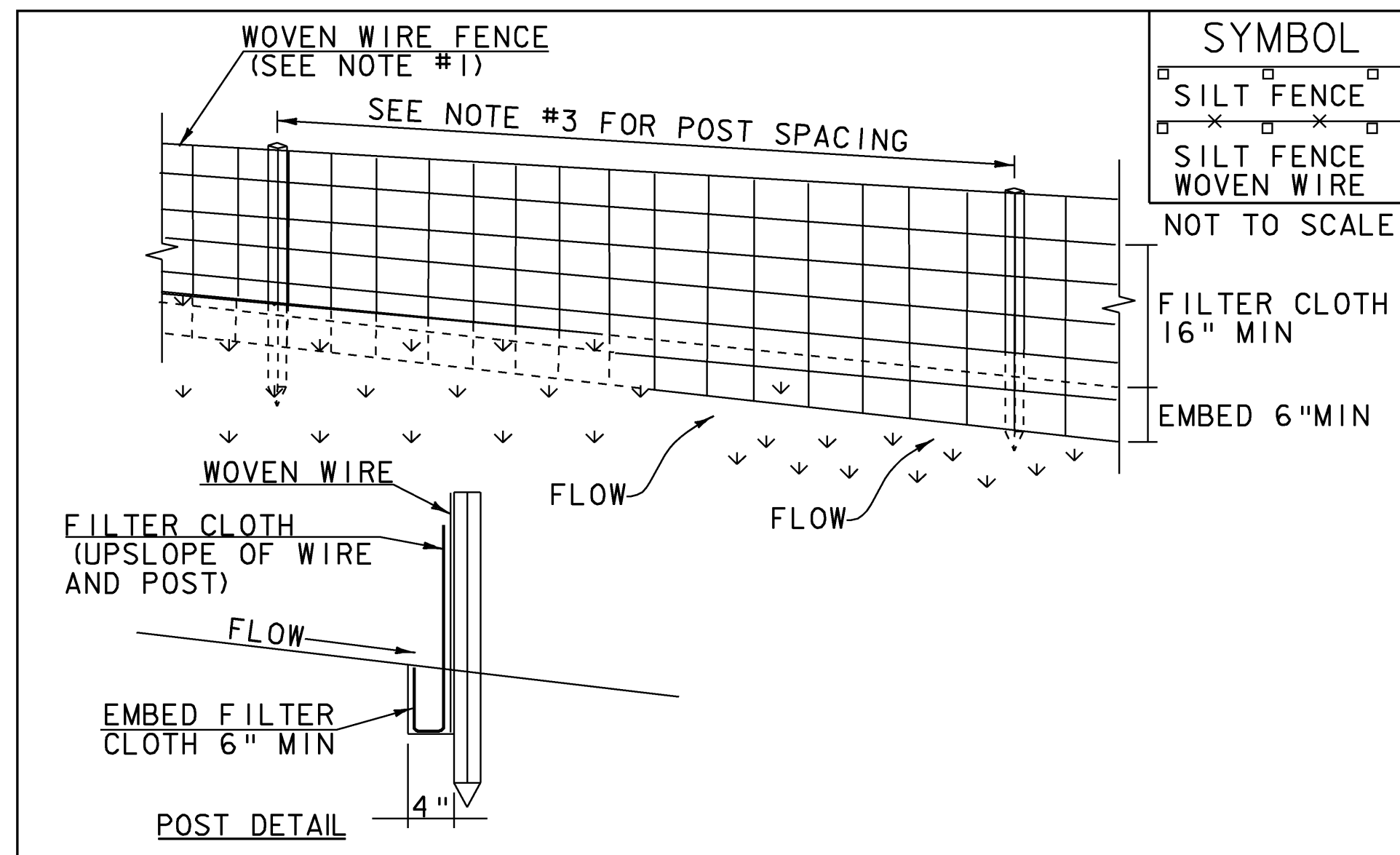
DRAIN CURTAIN INSTALLATION WILL BE DEWATERED INTO EXISTING/TEMPORARY DITCH LINE WHICH WILL RUN TO A TEMPORARY CHECK DAM. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL MEASURES.

1.4.12 INSPECT YOUR SITE

THE SITE SHALL BE INSPECTED AT LEAST ONCE EVERY 7 DAYS AND AFTER EVERY RAIN EVENT OR SNOW MELT THAT RESULTS IN A DISCHARGE FROM THE SITE.

EPSC NARRATIVE

PROJECT NAME:	CAMBRIDGE		
PROJECT NUMBER:	STP 0235(9)		
FILE NAME:	d087c152_frm.DGN	PLOT DATE:	28-JUL-2009
PROJECT LEADER:	K. ROBIE	DRAWN BY:	N. PAPPAS
DESIGNED BY:	N. PAPPAS	CHECKED BY:	S. MENARD
IPARM:	d07x152_epsc.l	SHEET	8 OF 28



SYMBOL	
[Symbol]	SILT FENCE
[Symbol]	SILT FENCE WOVEN WIRE

- CONSTRUCTION SPECIFICATIONS**
- WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
 - FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFIIOOX, STABILINKA T140N OR APPROVED EQUIVALENT.
 - POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
 - WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24' AT TOP AND MID SECTION.
 - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
 - PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
 - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

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 WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 900.675 SPECIAL PROVISION).

REVISIONS		
MARCH 21, 2008	WHF	
DECEMBER 11, 2008	WHF	
JANUARY 13, 2009	WHF	

VAOT RURAL AREA MIX					
		LBS/AC			
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
37.5%	22.5	45	CREeping RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX					
		LBS/AC			
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
42.5%	34	68	CREeping RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

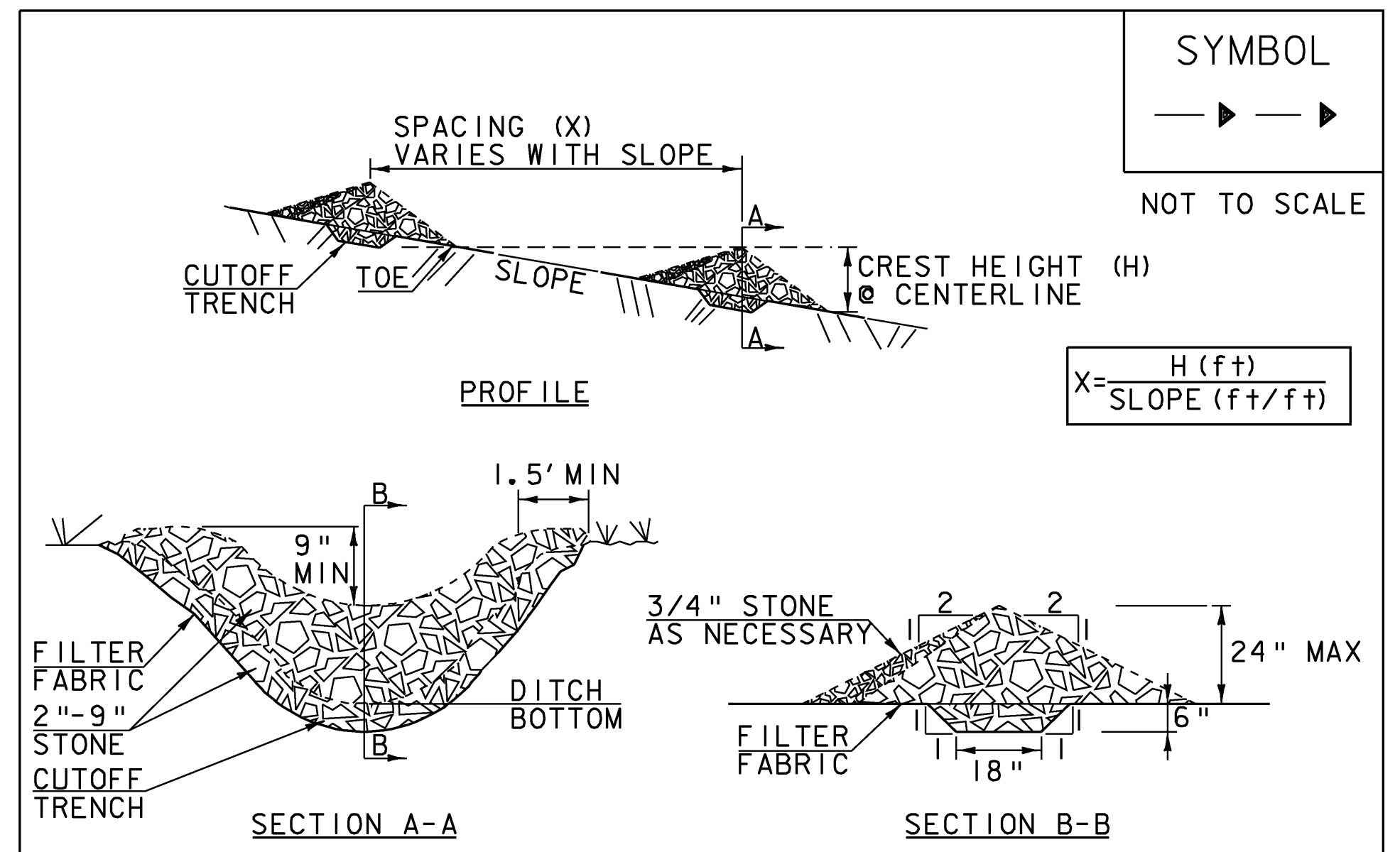
GENERAL GUIDANCE			
FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10/20/20/10	19-19-19	PELLETIZED	LIQUID
500 LBS/AC		2 TONS/AC	4.4 GAL/AC

CONSTRUCTION GUIDANCE

- RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
- URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
- ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
- FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
- HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
- TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
- HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
- TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

SEED

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)



SYMBOL	
[Symbol]	CHECK DAM

- CONSTRUCTION SPECIFICATIONS**
- STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
 - CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
 - 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
 - EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
 - PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
 - 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 DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CHECK DAM

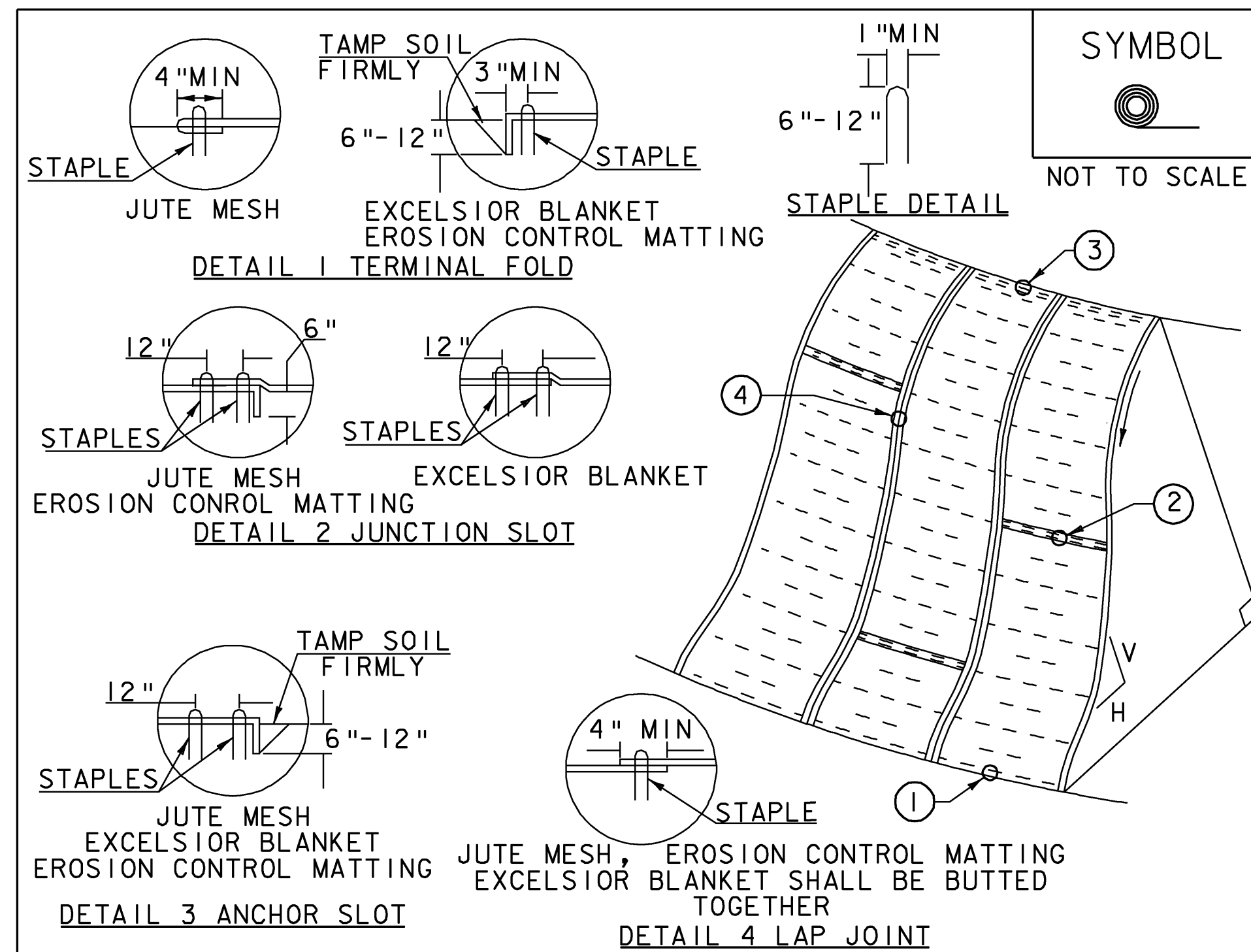
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I.

REVISIONS		
MARCH 21, 2008	WHF	
JANUARY 8, 2009	WHF	

EROSION CONTROL DETAILS I

PROJECT NAME:	CAMBRIDGE
PROJECT NUMBER:	STP 0235(9)
FILE NAME:	d087c152_frm.DGN
PROJECT LEADER:	K. ROBIE
DESIGNED BY:	N. PAPPAS
IPARM:	d07x152_ero_det_01.i
PLOT DATE:	28-JUL-2009
DRAWN BY:	N. PAPPAS
CHECKED BY:	S. MENARD
SHEET	9 OF 28



CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H: 1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
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' X 225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4' X 150' 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: NEW YORK STATE DEC
 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 WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20).

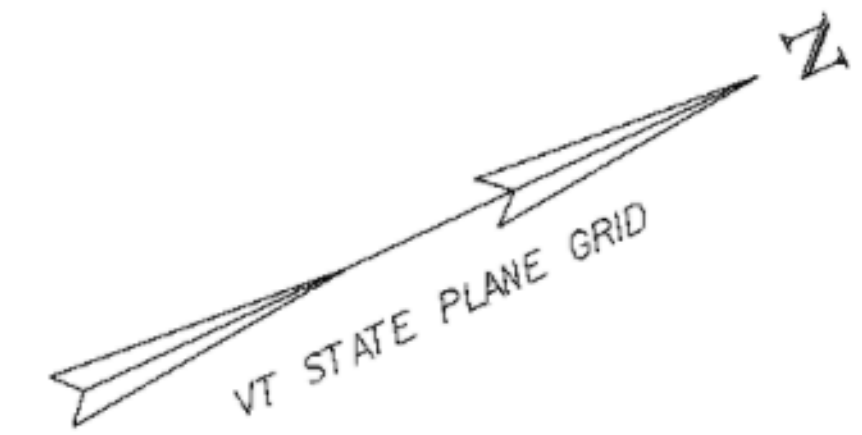
REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF

EROSION CONTROL DETAILS 2

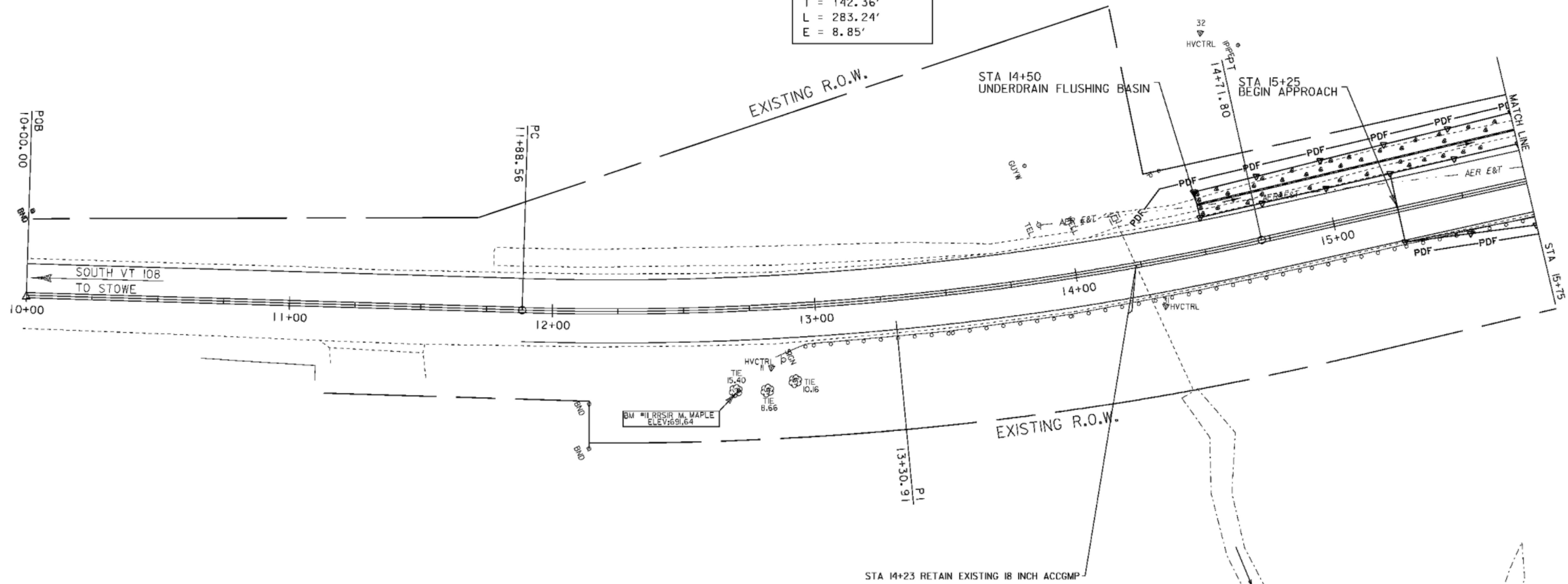
PROJECT NAME:	CAMBRIDGE
PROJECT NUMBER:	STP 0235(9)
FILE NAME:	d087c152_frm.DGN
PROJECT LEADER:	K. ROBBE
DESIGNED BY:	N. PAPPAS
IPARM:	d07x152_ero_det_02.1
PLOT DATE:	28-JUL-2009
DRAWN BY:	N. PAPPAS
CHECKED BY:	S. MENARD
SHEET	10 OF 28

6 INCH UNDERDRAIN PIPE
 STA 14+50 LT TO 15+75 LT
UNDERDRAIN FLUSHING BASIN
 STA 14+50 LT
STONE FILL TYPE I
 STA 14+50 LT TO 15+75 LT
PROJECT DEMARCATION FENCE
 STA 14+25 LT TO 15+75 LT
 STA 15+25 RT TO 15+75 RT

4 INCH WHITE LINE
 STA 15+25 LT TO 15+75 LT, OFFSET 12 FEET
 STA 15+25 RT TO 15+75 RT, OFFSET 12 FEET
4 INCH YELLOW LINE
 STA 12+10 TO 15+75 CL DOUBLE
SPECIAL PROVISION (INSTALL GEOTEXTILE UNDER STONE FILL)
 STA 14+50 LT TO 15+75 LT

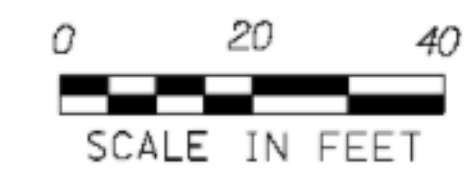


CURVE #1	
DELTA =	14° 14' 09"
D =	5° 01' 33"
R =	1140.00'
T =	142.36'
L =	283.24'
E =	8.85'



EROSION CONTROL LEGEND

- >— TEMPORARY STONE CHECK DAM, TYPE I
- - - SILT FENCE
- PDF — PROJECT DEMARCATION FENCE
- ⊞ TEMPORARY EROSION MATTING



PROJECT NAME: CAMBRIDGE	
PROJECT NUMBER: STP 0235(9)	
FILE NAME: d07c152_bdr_nul.dgn	PLOT DATE: 28-JUL-2009
PROJECT LEADER: K. ROBIE	DRAWN BY: N. PAPPAS
DESIGNED BY: N. PAPPAS	CHECKED BY: S. MENDARD
IPARM: d07c152_lay_01.l	SHEET 12 OF 28

LAYOUT #1

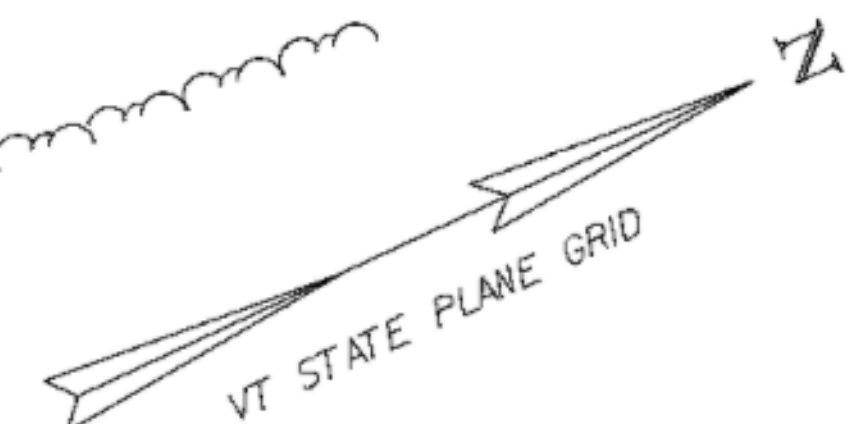
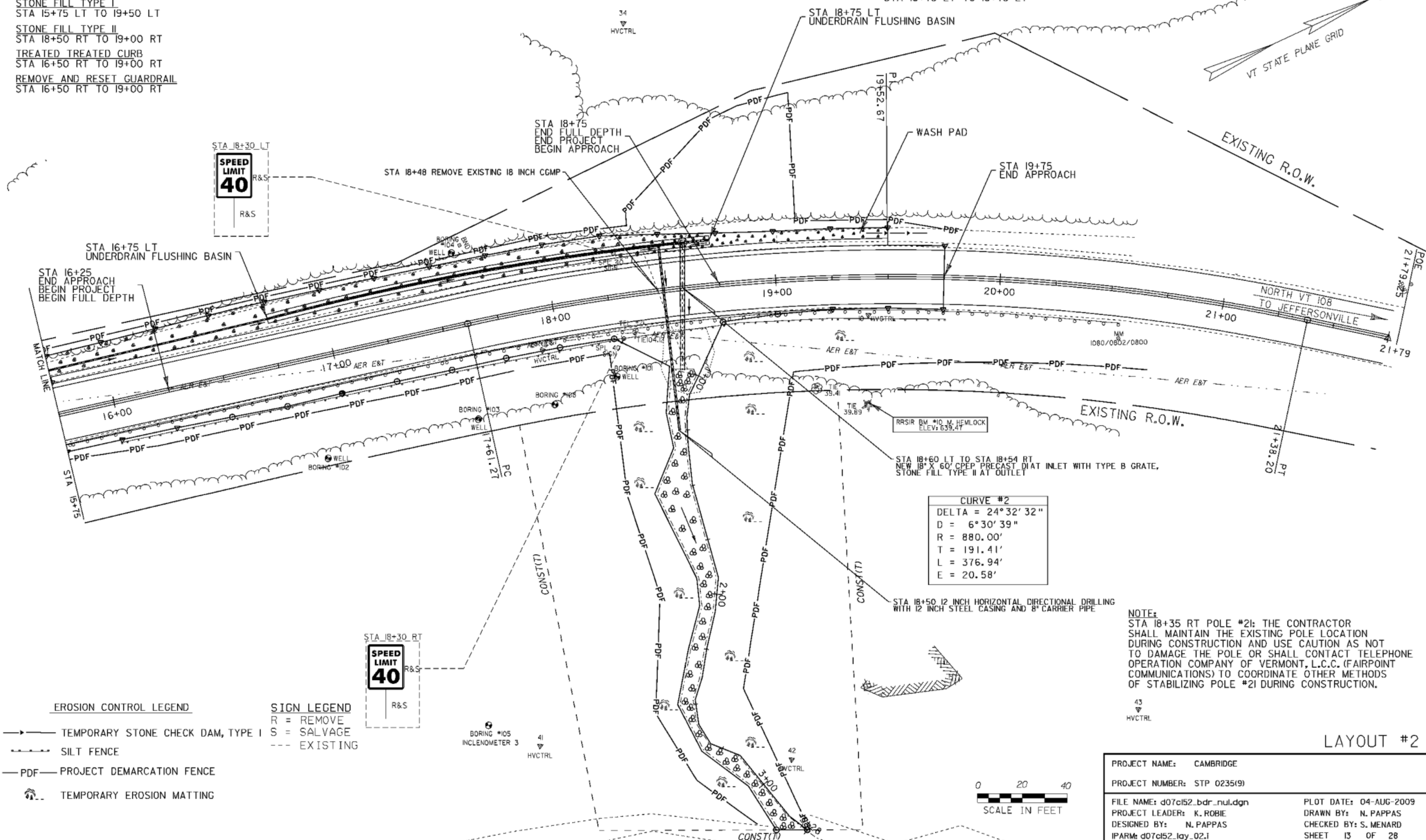
PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE
 STA 18+60 LT
 6 INCH UNDERDRAIN PIPE
 STA 15+75 LT TO 16+75 LT
 6 INCH UNDERDRAIN CARRIER PIPE
 STA 16+75 LT TO 18+60 LT
 UNDERDRAIN FLUSHING BASIN
 STA 16+75 LT & 18+75 LT
 STONE FILL TYPE I
 STA 15+75 LT TO 19+50 LT
 STONE FILL TYPE II
 STA 18+50 RT TO 19+00 RT
 TREATED TREATED CURB
 STA 16+50 RT TO 19+00 RT
 REMOVE AND RESET GUARDRAIL
 STA 16+50 RT TO 19+00 RT

STA 18+30 LT
SPEED LIMIT 40
 R&S

TEMPORARY EROSION MATTING
 STA 18+20 RT TO 19+25 RT
 PROJECT DEMARCATION FENCE
 STA 15+75 LT TO 19+75 LT
 STA 15+75 RT TO 20+75 RT

REMOVING SIGNS
 STA 18+30 LT & RT
 ERECTING SALVAGED SIGNS
 STA 18+30 LT & RT
 SETTING SALVAGED POSTS
 STA 18+30 LT & RT
 SPECIAL PROVISION (8 INCH UNDERDRAIN PIPE)
 STA 16+75 TO 18+75

SPECIAL PROVISION (HORIZONTAL DIRECTIONAL DRILLING)(12" STEEL CASING W/8" CARRIER PIPE)
 STA 18+50
 SPECIAL PROVISION (INSTALL GEOTEXTILE UNDER STONE FILL)
 STA 15+75 LT TO 16+75 LT
 STA 16+75 LT TO 18+75 LT
 SPECIAL PROVISION (INSTALL GEOTEXTILE FOR SILT FENCE)
 STA 16+00 RT TO 19+75 RT
 CONSTRUCT DRAIN CURTAIN
 STA 16+75 LT TO 18+75 LT



CURVE #2	
DELTA	= 24° 32' 32"
D	= 6° 30' 39"
R	= 880.00'
T	= 191.41'
L	= 376.94'
E	= 20.58'

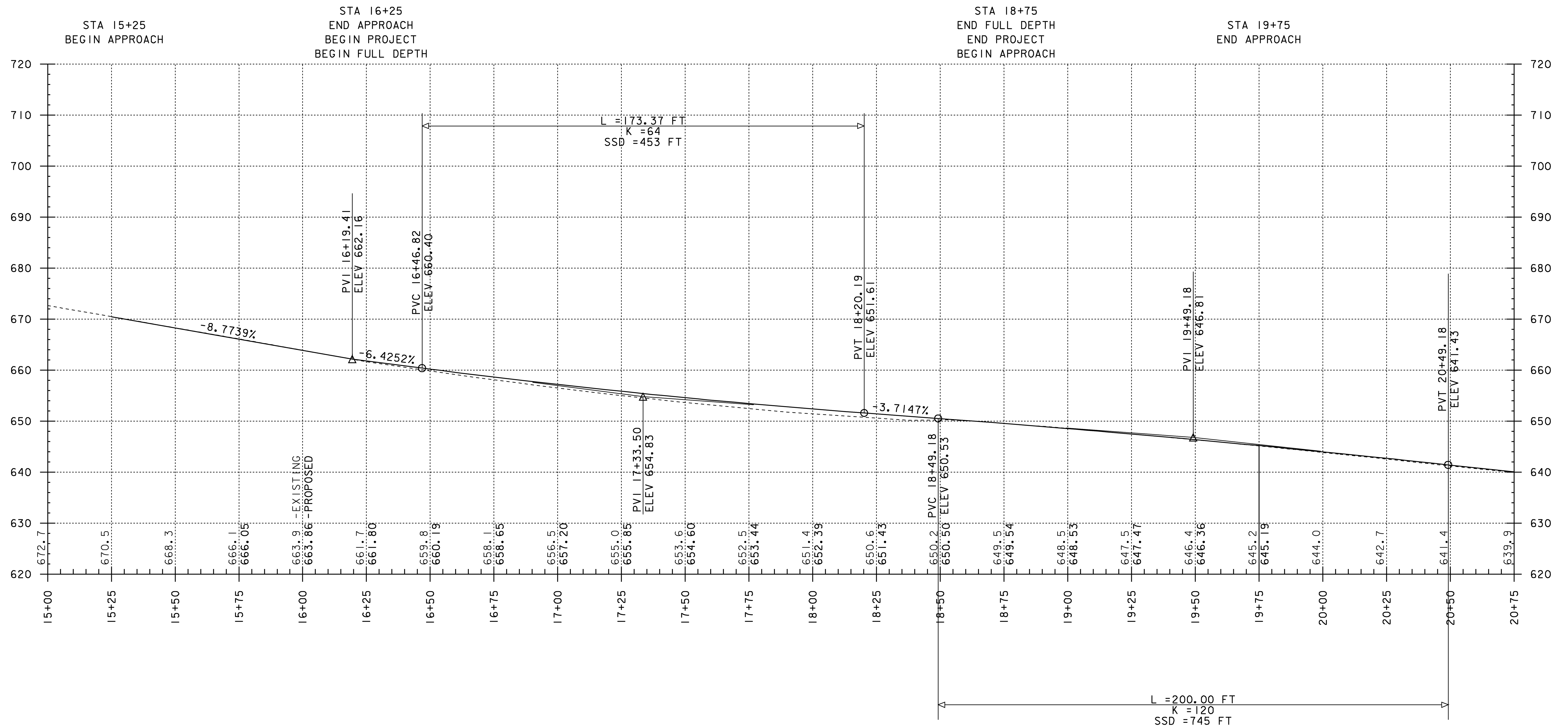
NOTE:
 STA 18+35 RT POLE #21: THE CONTRACTOR SHALL MAINTAIN THE EXISTING POLE LOCATION DURING CONSTRUCTION AND USE CAUTION AS NOT TO DAMAGE THE POLE OR SHALL CONTACT TELEPHONE OPERATION COMPANY OF VERMONT, L.C.C. (FAIRPOINT COMMUNICATIONS) TO COORDINATE OTHER METHODS OF STABILIZING POLE #21 DURING CONSTRUCTION.

- EROSION CONTROL LEGEND**
- >— TEMPORARY STONE CHECK DAM, TYPE I
 - - - SILT FENCE
 - PDF - PROJECT DEMARCATION FENCE
 - ⊞ TEMPORARY EROSION MATTING
- SIGN LEGEND**
- R = REMOVE
 - S = SALVAGE
 - - - EXISTING

STA 18+30 RT
SPEED LIMIT 40
 R&S



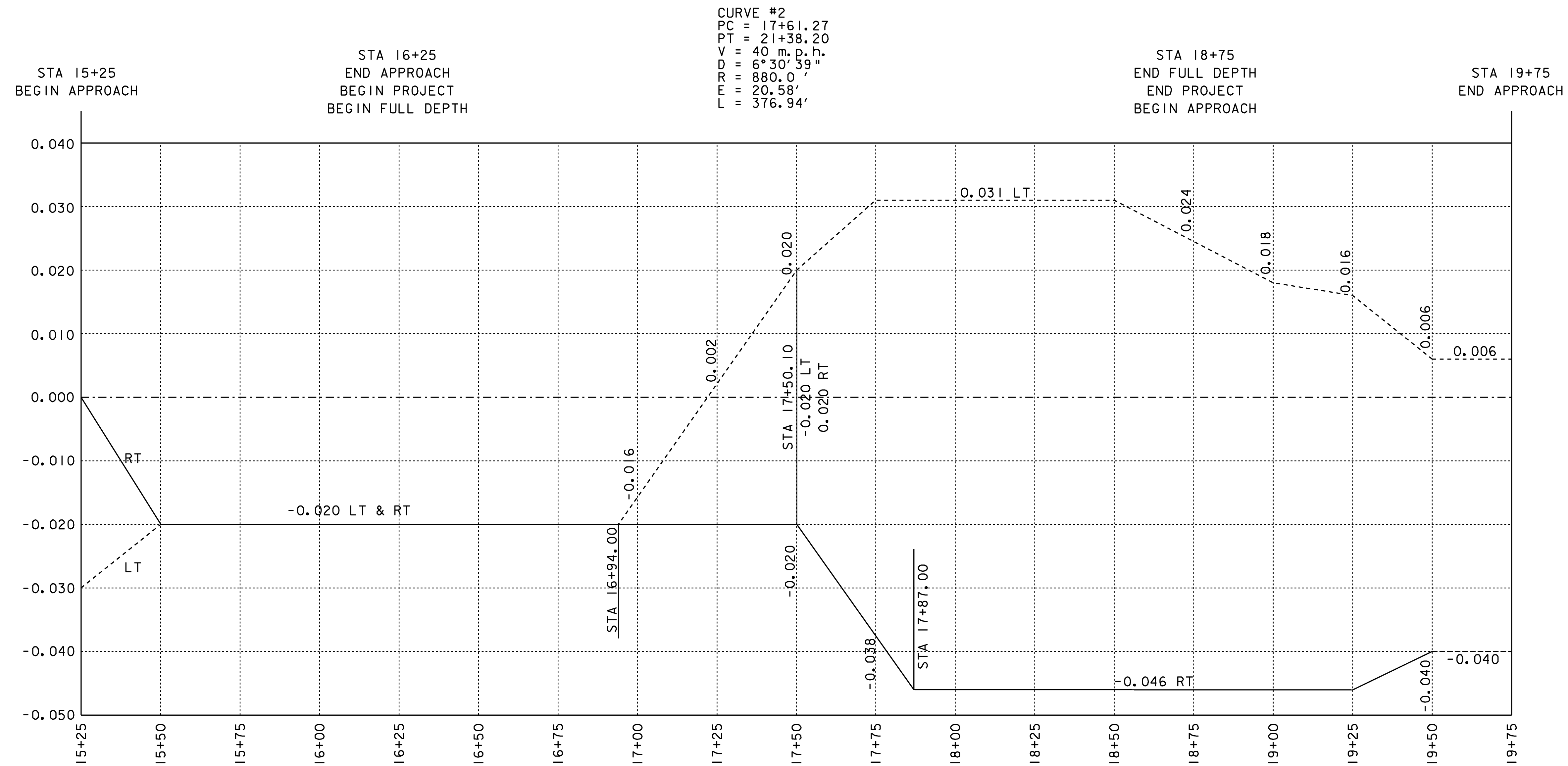
LAYOUT #2
 PROJECT NAME: CAMBRIDGE
 PROJECT NUMBER: STP 0235(9)
 FILE NAME: d07c152_bdr_nul.dgn
 PROJECT LEADER: K. ROBBE
 DESIGNED BY: N. PAPPAS
 IPARM: d07c152_lay_02.l
 PLOT DATE: 04-AUG-2009
 DRAWN BY: N. PAPPAS
 CHECKED BY: S. MENARD
 SHEET 13 OF 28



PROFILE

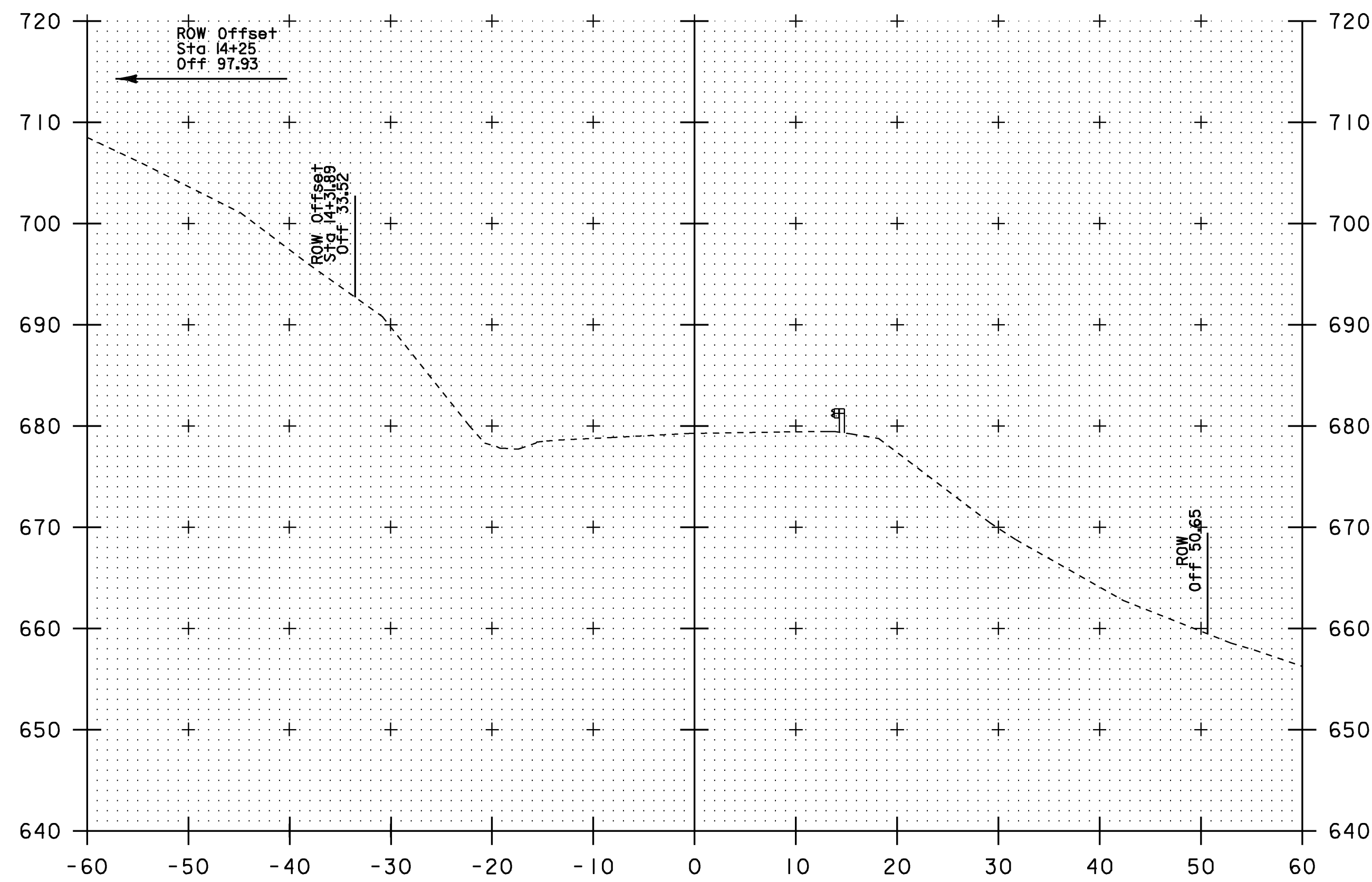
LINE	SURFACE	OFFSET
-----	x07c152og	0.00
Scaled	2.0000	Times Ver.
Scaled	1.0000	Times Hor.

PROJECT NAME: CAMBRIDGE
 PROJECT NUMBER: STP 0235(9)
 FILE NAME: D07C152WRK.DGN
 PROJECT LEADER: K. ROBIE
 DESIGNED BY: N. PAPPAS
 IPARM: d07x152_profile.i
 PLOT DATE: 28-JUL-2009
 DRAWN BY: N. PAPPAS
 CHECKED BY: S. MENARD
 SHEET 14 OF 28

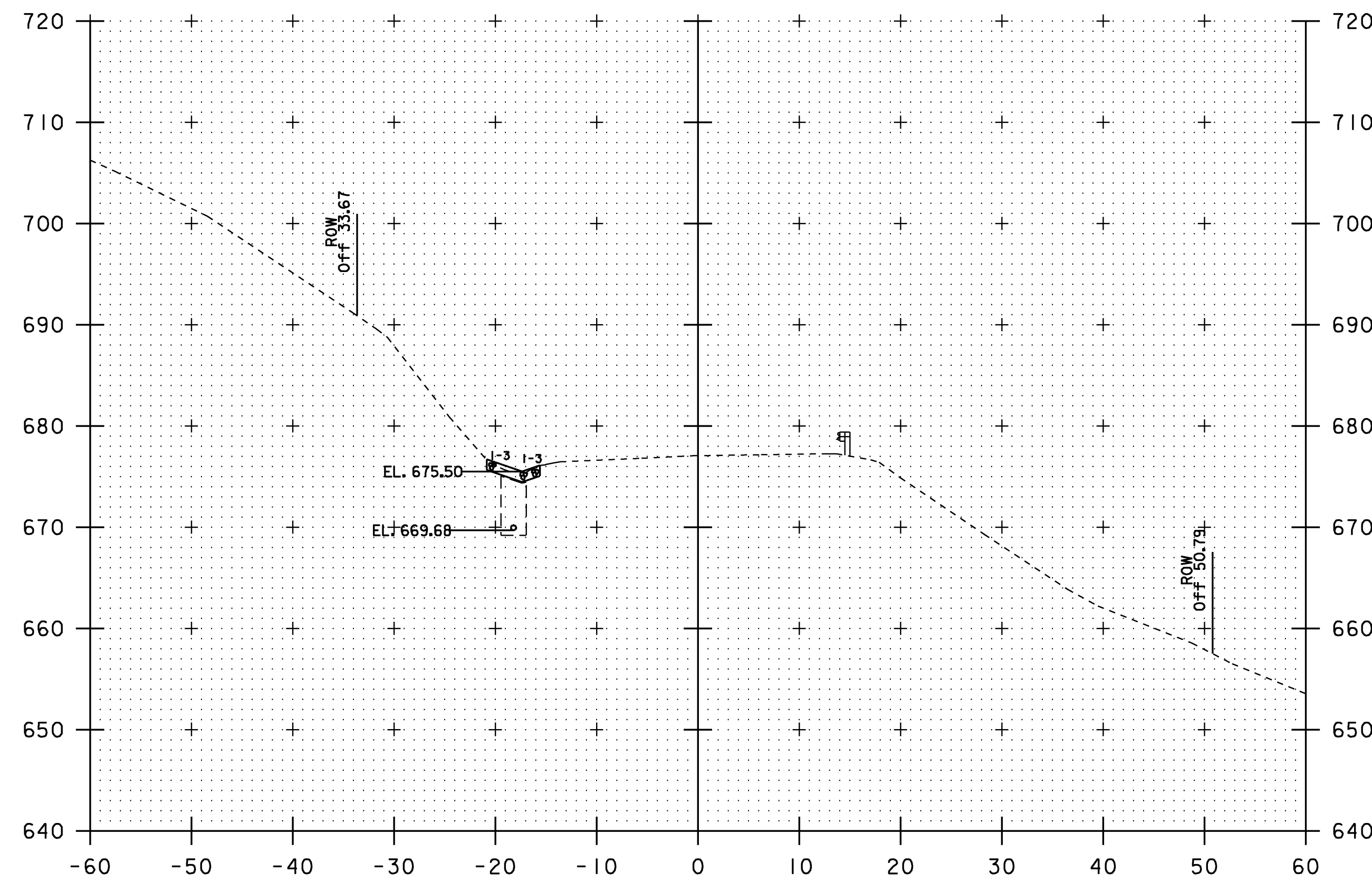


BANKING

PROJECT NAME:	CAMBRIDGE
PROJECT NUMBER:	STP 0235(9)
FILE NAME:	D07C152WRK.DGN
PROJECT LEADER:	K. ROBIE
DESIGNED BY:	N. PAPPAS
IPARM:	d07x152_banking
PLOT DATE:	28-JUL-2009
DRAWN BY:	N. PAPPAS
CHECKED BY:	S. MENARD
SHEET	15 OF 28



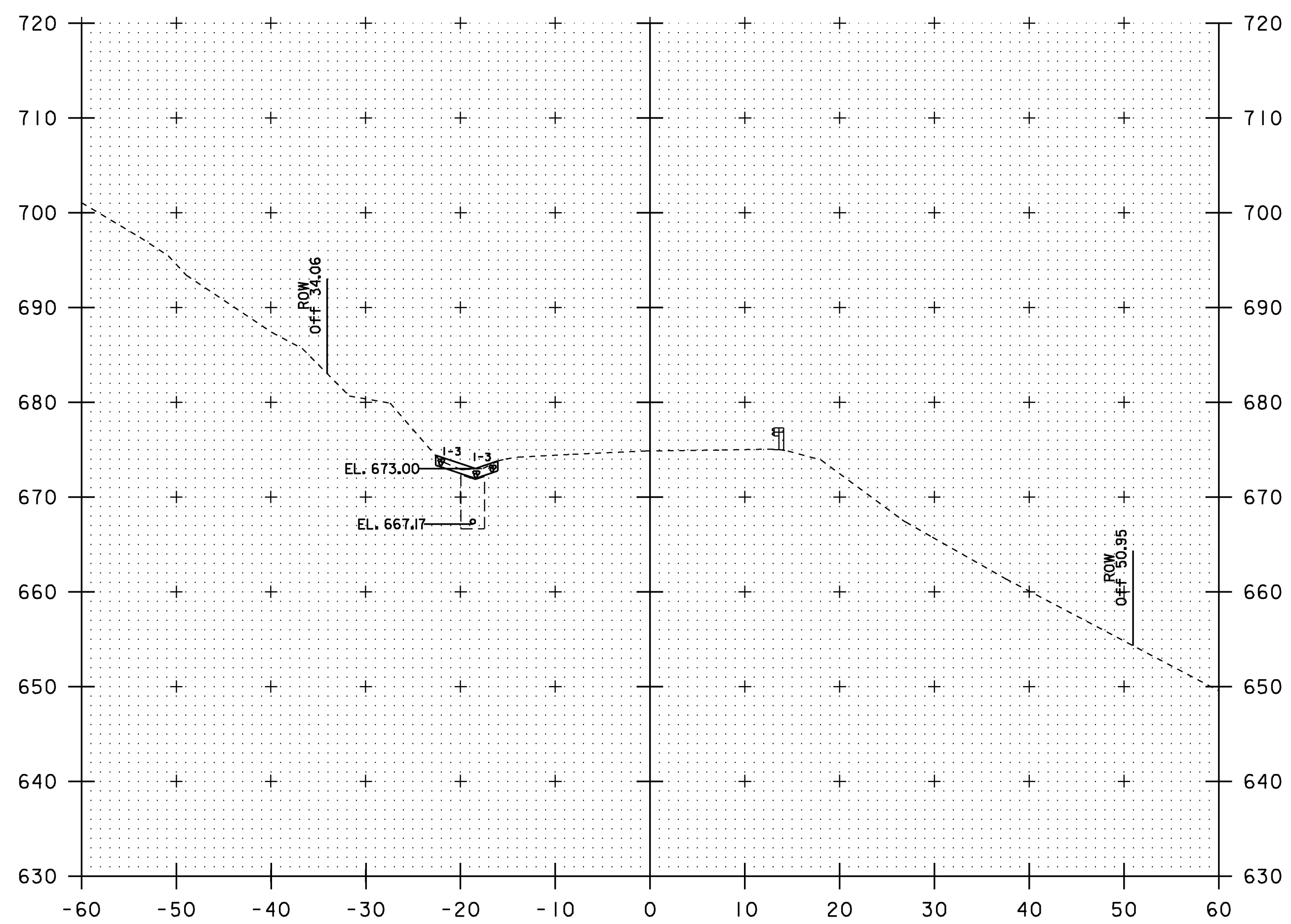
14+25



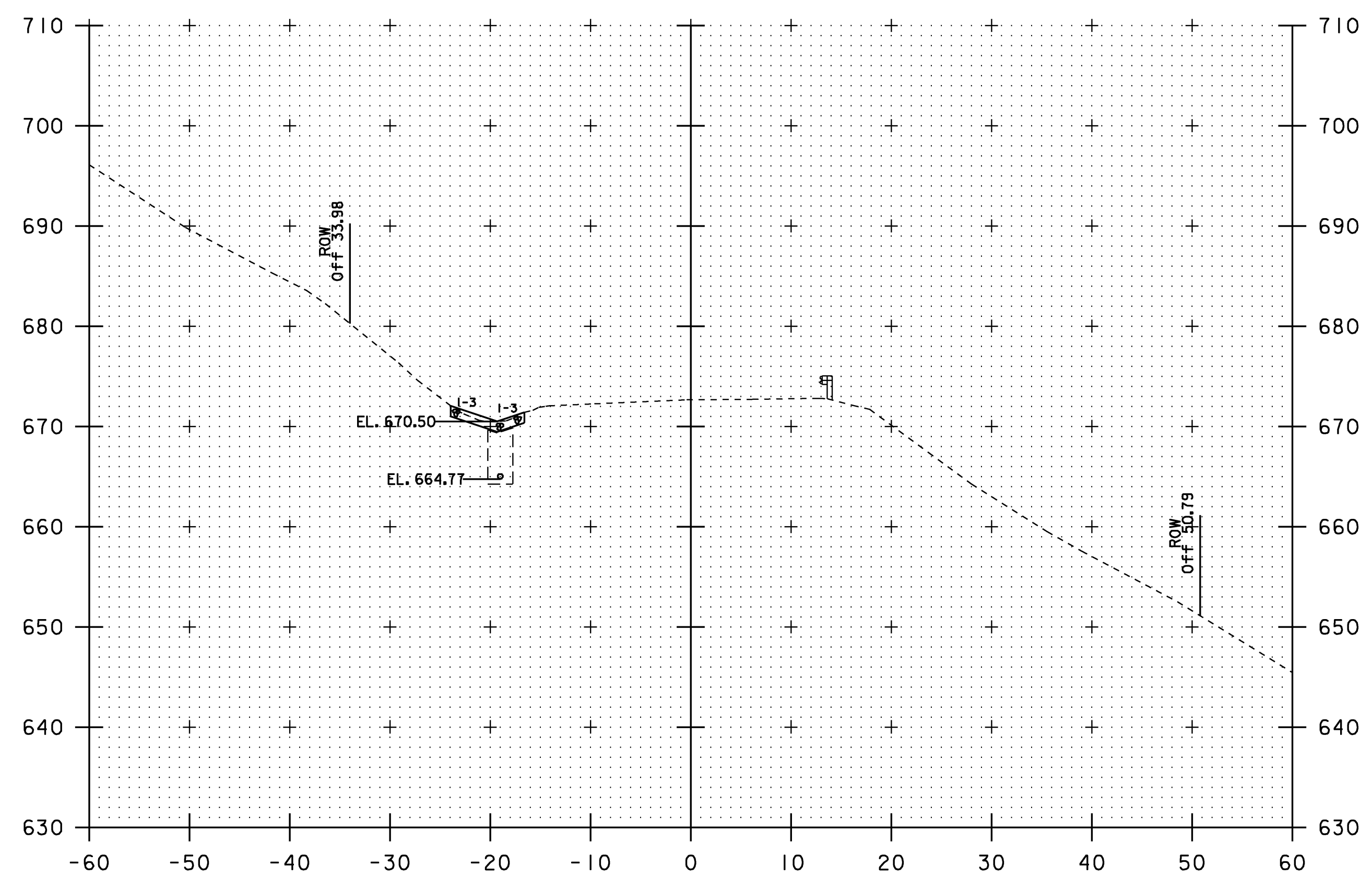
14+50

MAINLINE CROSS SECTIONS 14+25 TO 14+50

PROJECT NAME:	CAMBRIDGE
PROJECT NUMBER:	STP 0235(9)
FILE NAME:	D07CI52WRK.DGN
PROJECT LEADER:	K. ROBIE
DESIGNED BY:	N. PAPPAS
IPARM:	d07x152_xs_01
PLOT DATE:	28-JUL-2009
DRAWN BY:	N. PAPPAS
CHECKED BY:	S. MENARD
SHEET	17 OF 28



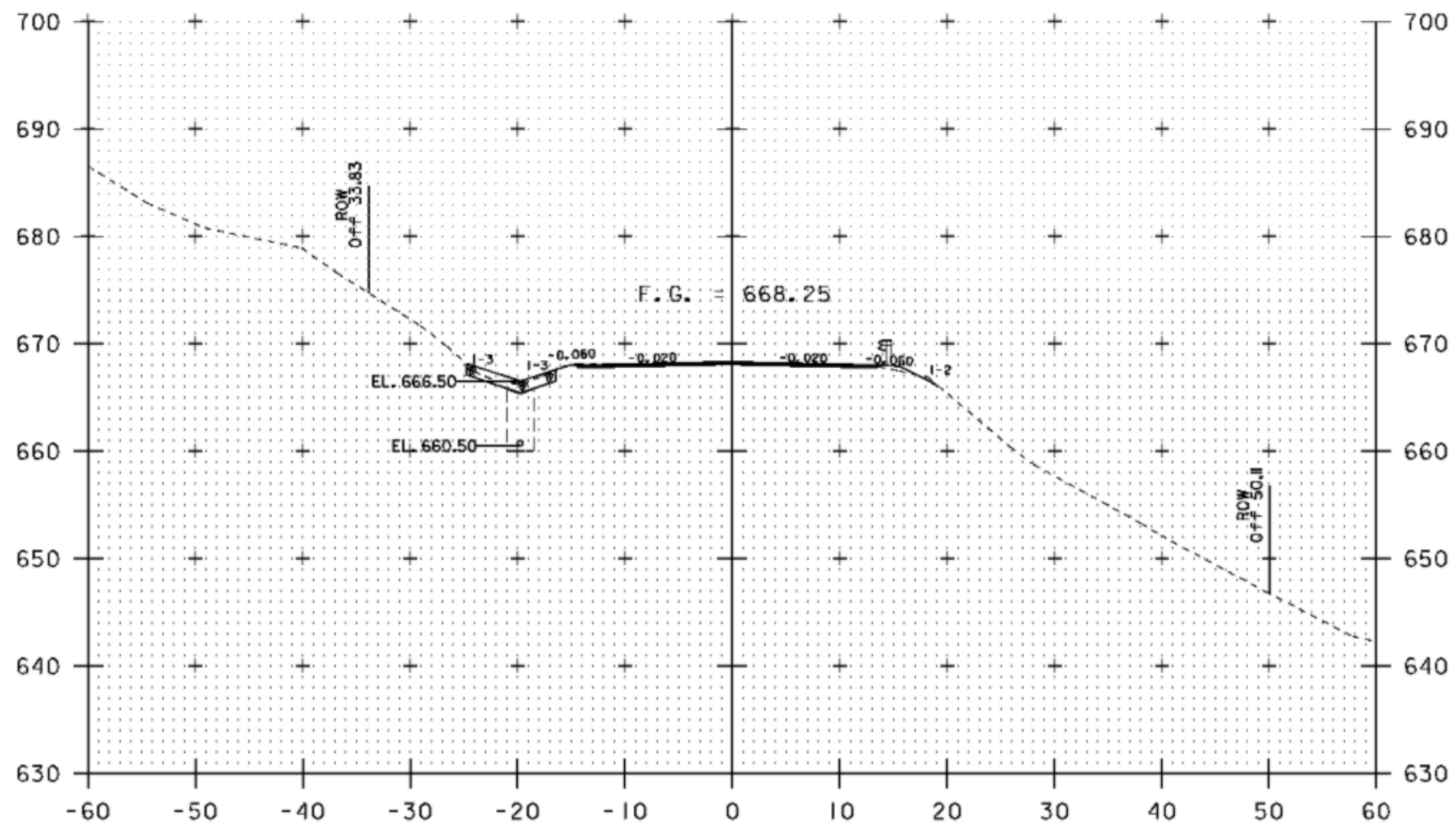
14+75



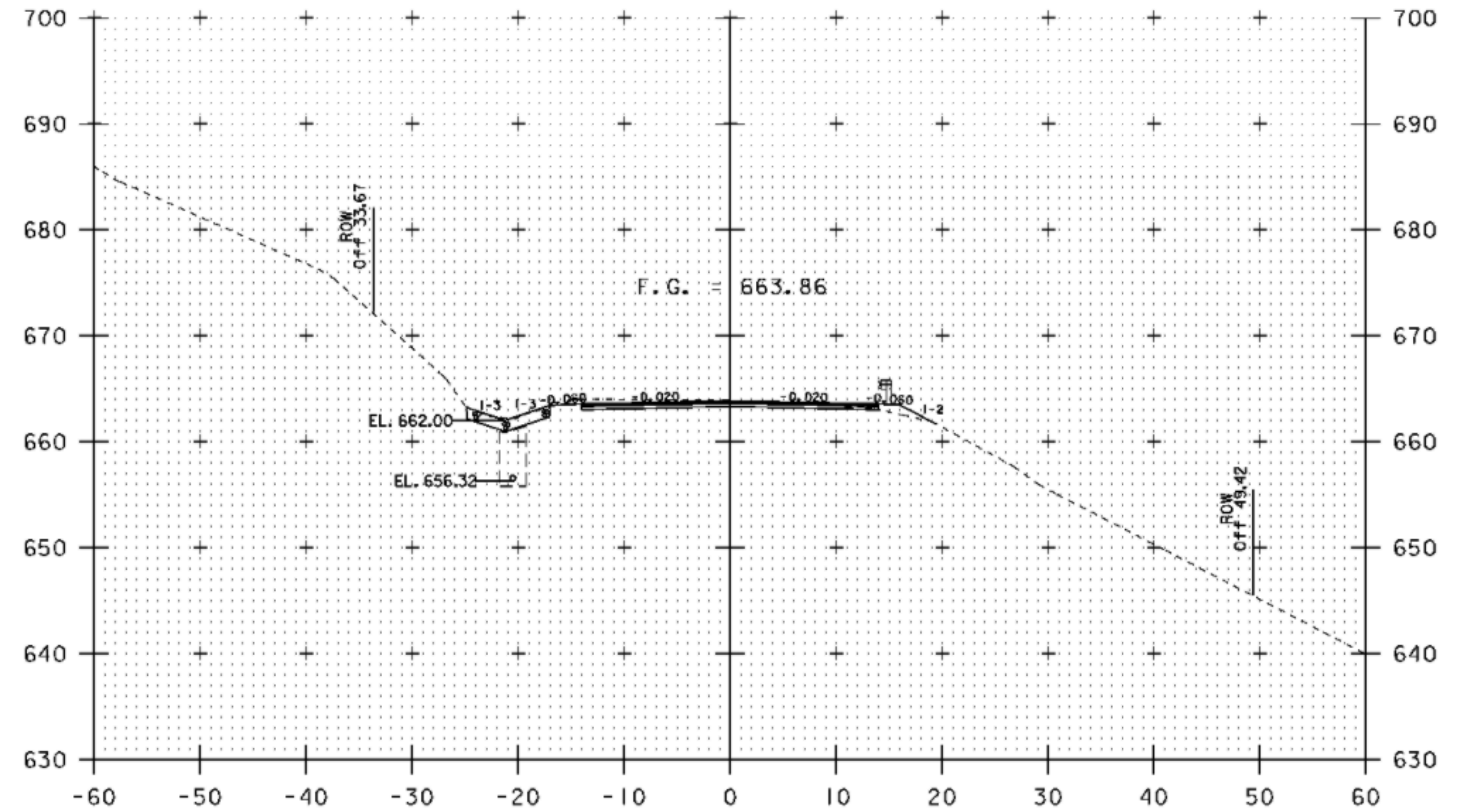
15+00

MAINLINE CROSS SECTIONS 14+75 TO 15+00

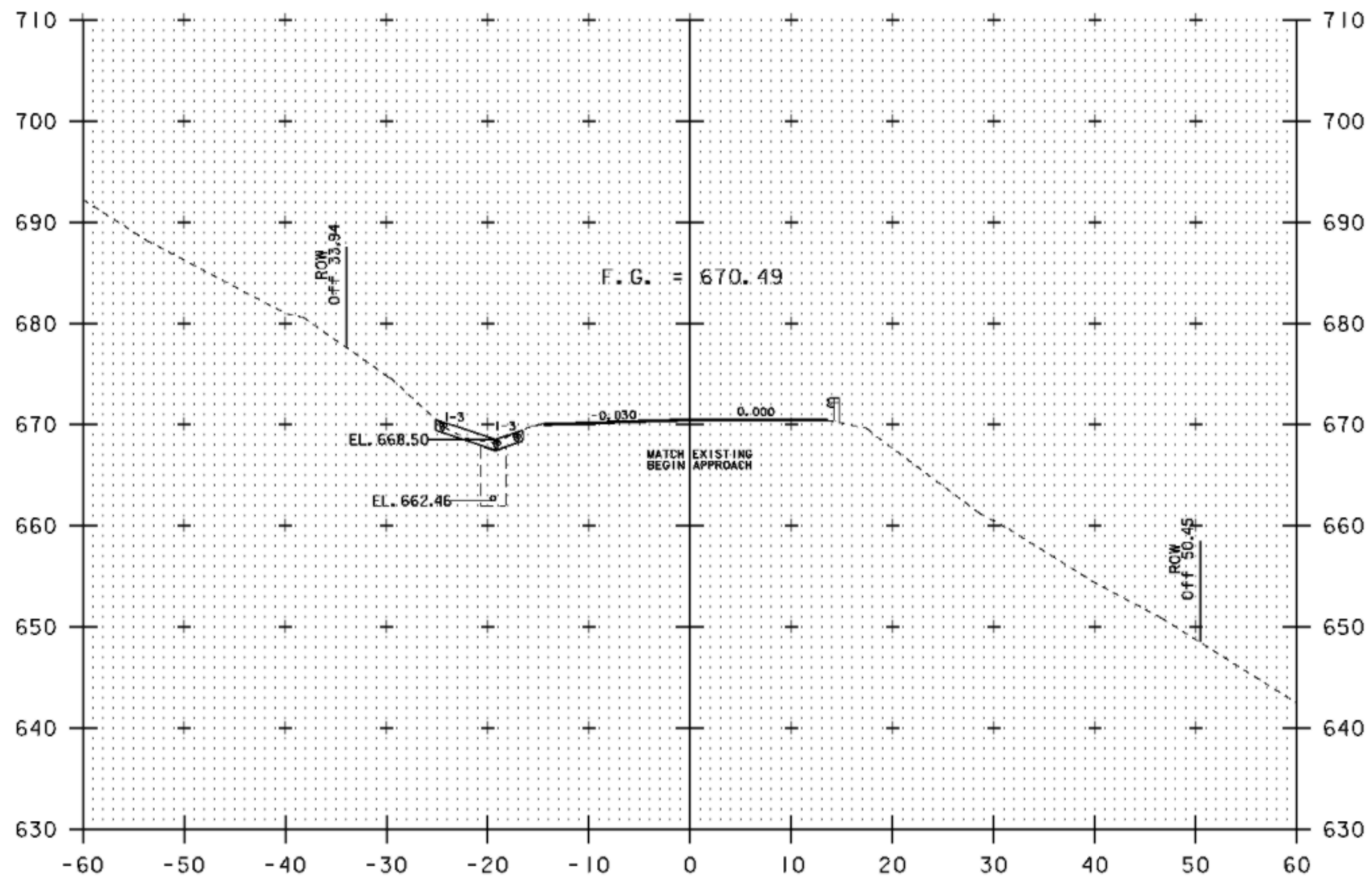
PROJECT NAME:	CAMBRIDGE	PLOT DATE:	28-JUL-2009
PROJECT NUMBER:	STP 0235(9)	DRAWN BY:	N. PAPPAS
FILE NAME:	D07C152WRK.DGN	CHECKED BY:	S. MENARD
DESIGNED BY:	N. PAPPAS	SHEET	18 OF 28
IPARM:	d07x152_xs_02		



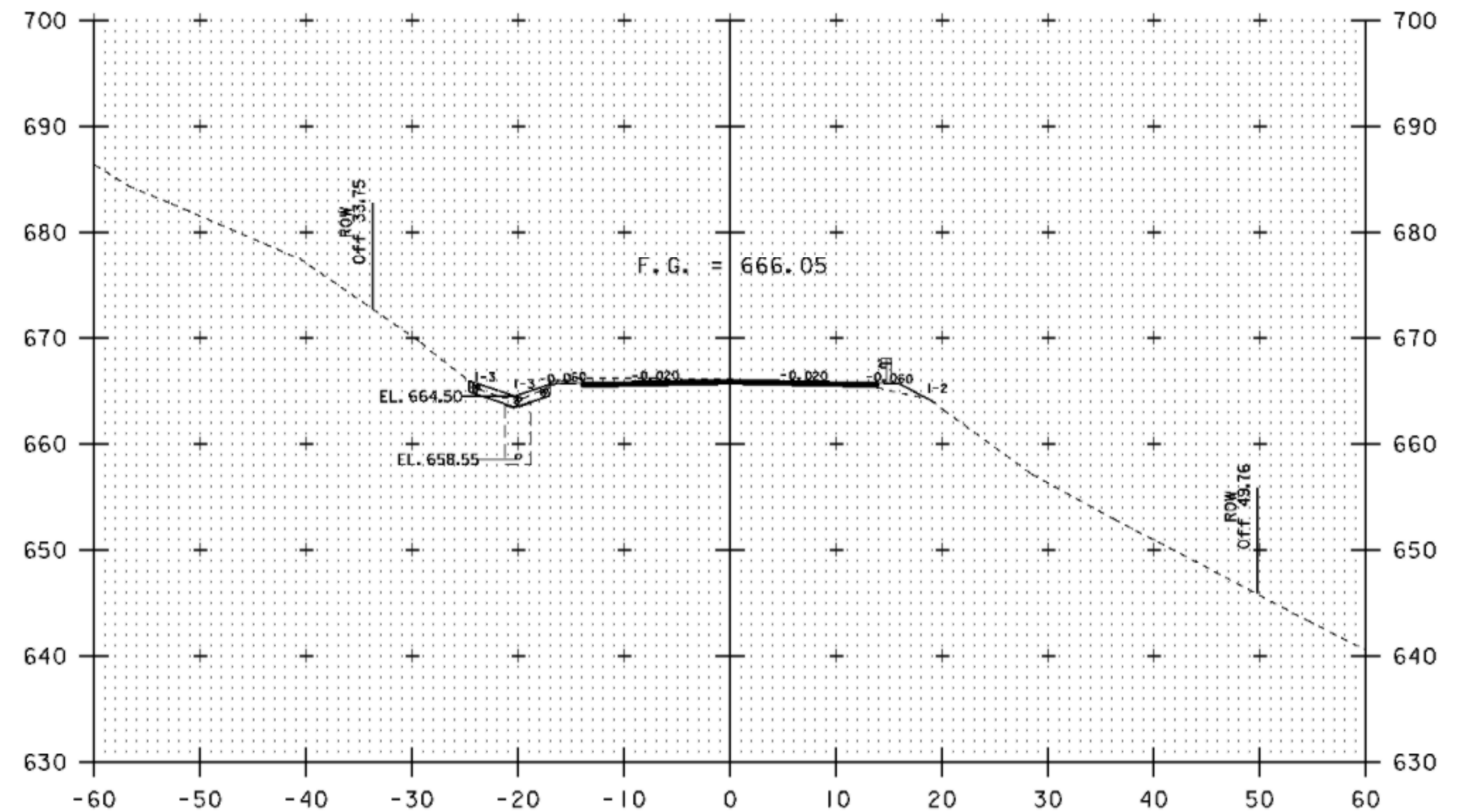
15+50



16+00



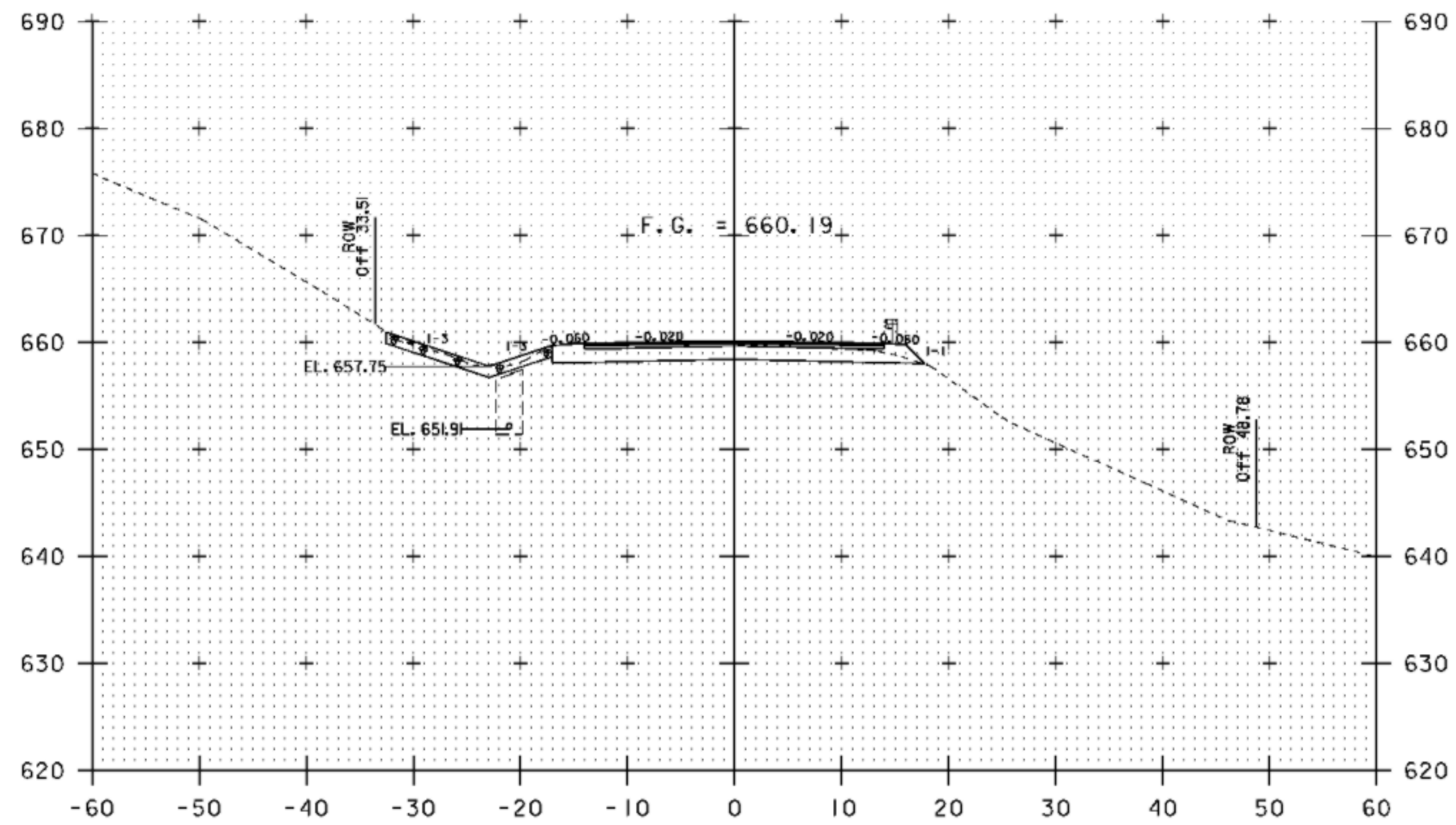
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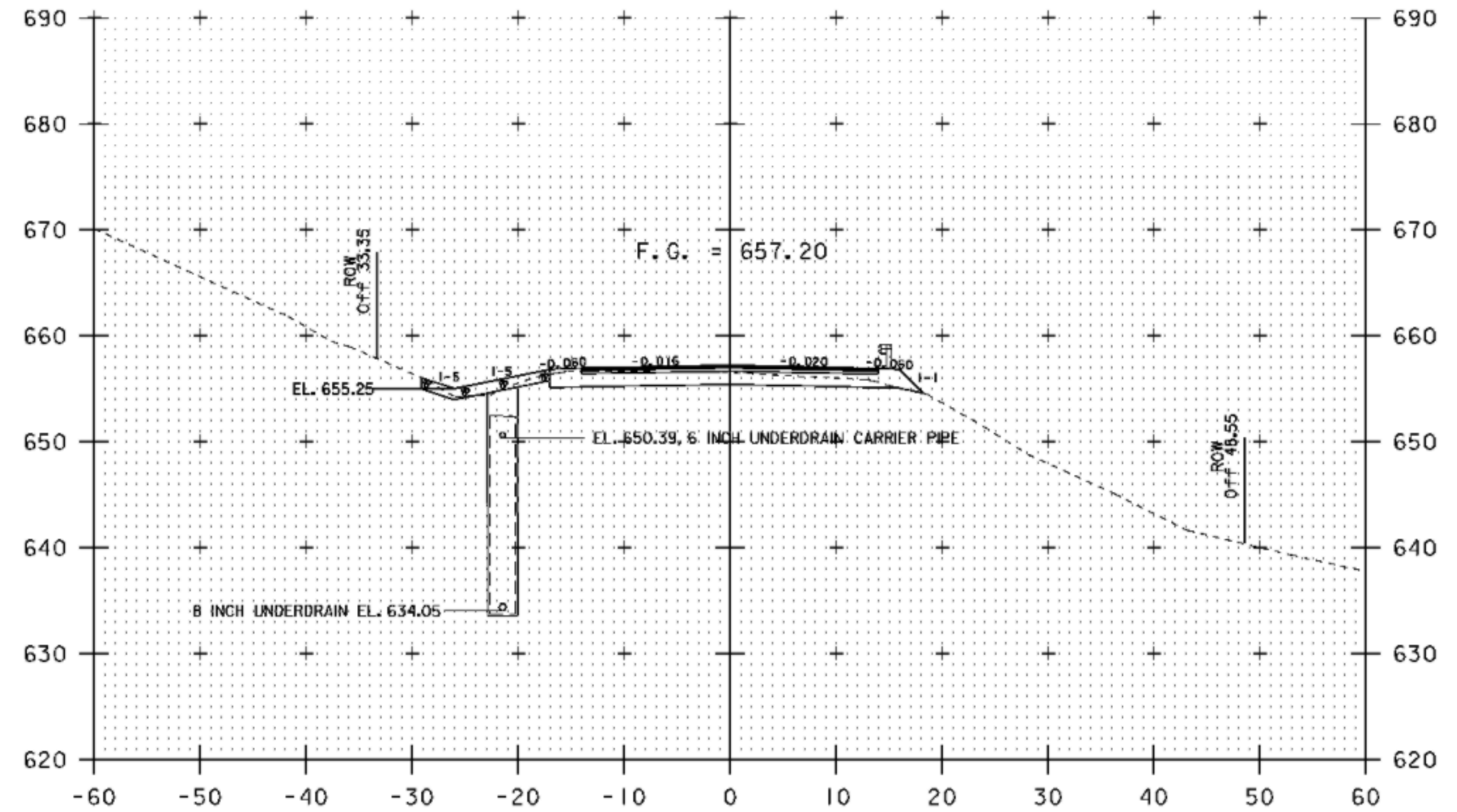
15+75

MAINLINE CROSS SECTIONS 15+25 TO 16+00

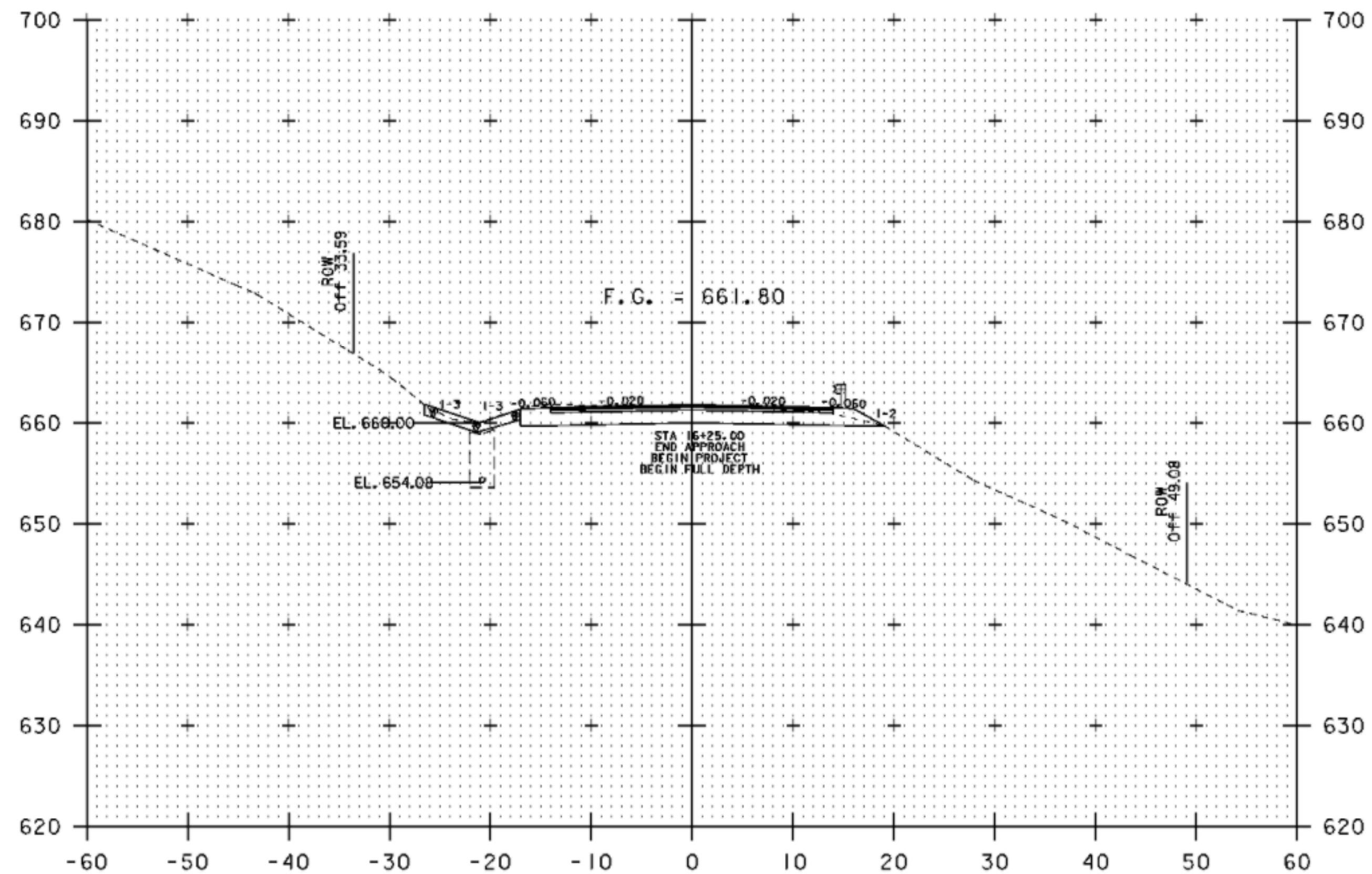
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PROJECT NUMBER:	STP 0235(9)	DRAWN BY:	N. PAPPAS
FILE NAME:	D07C152WRK.DGN	CHECKED BY:	S. MENARD
PROJECT LEADER:	K. ROBBE	SHEET	19 OF 28
DESIGNED BY:	N. PAPPAS		
IPARM:	d07x152_xs_03		



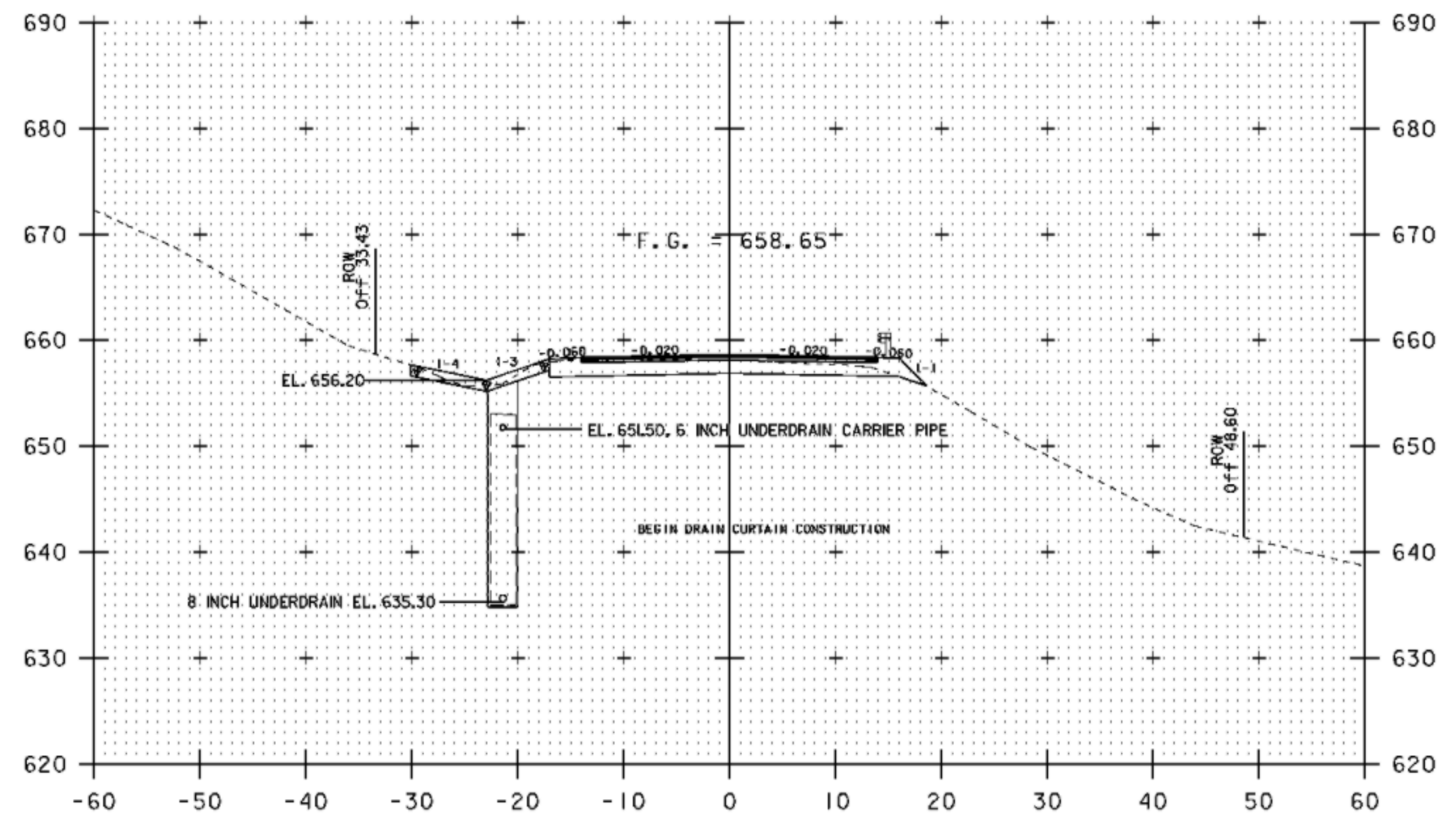
16+50



17+00



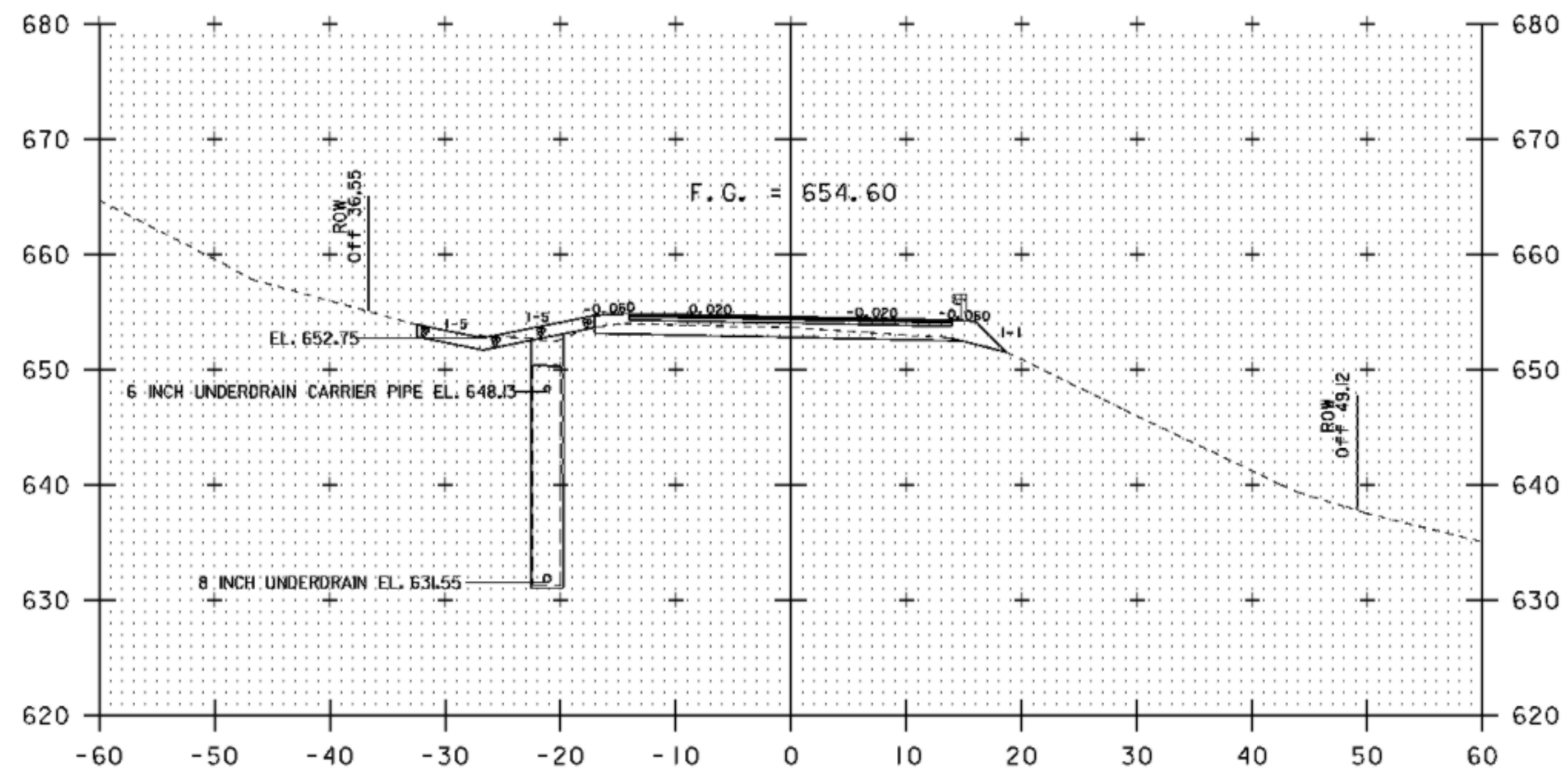
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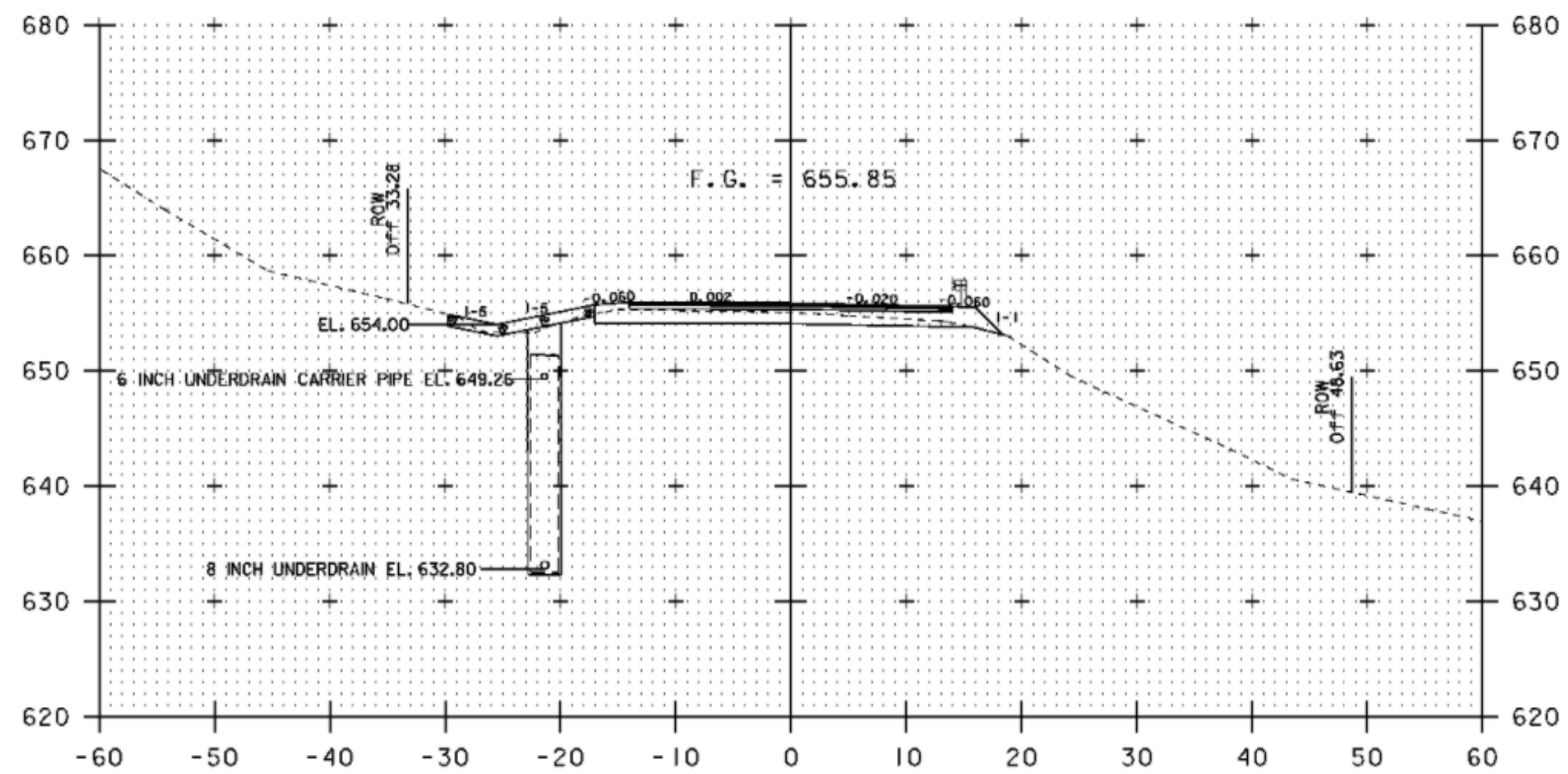
16+75

MAINLINE CROSS SECTIONS 16+25 TO 17+00

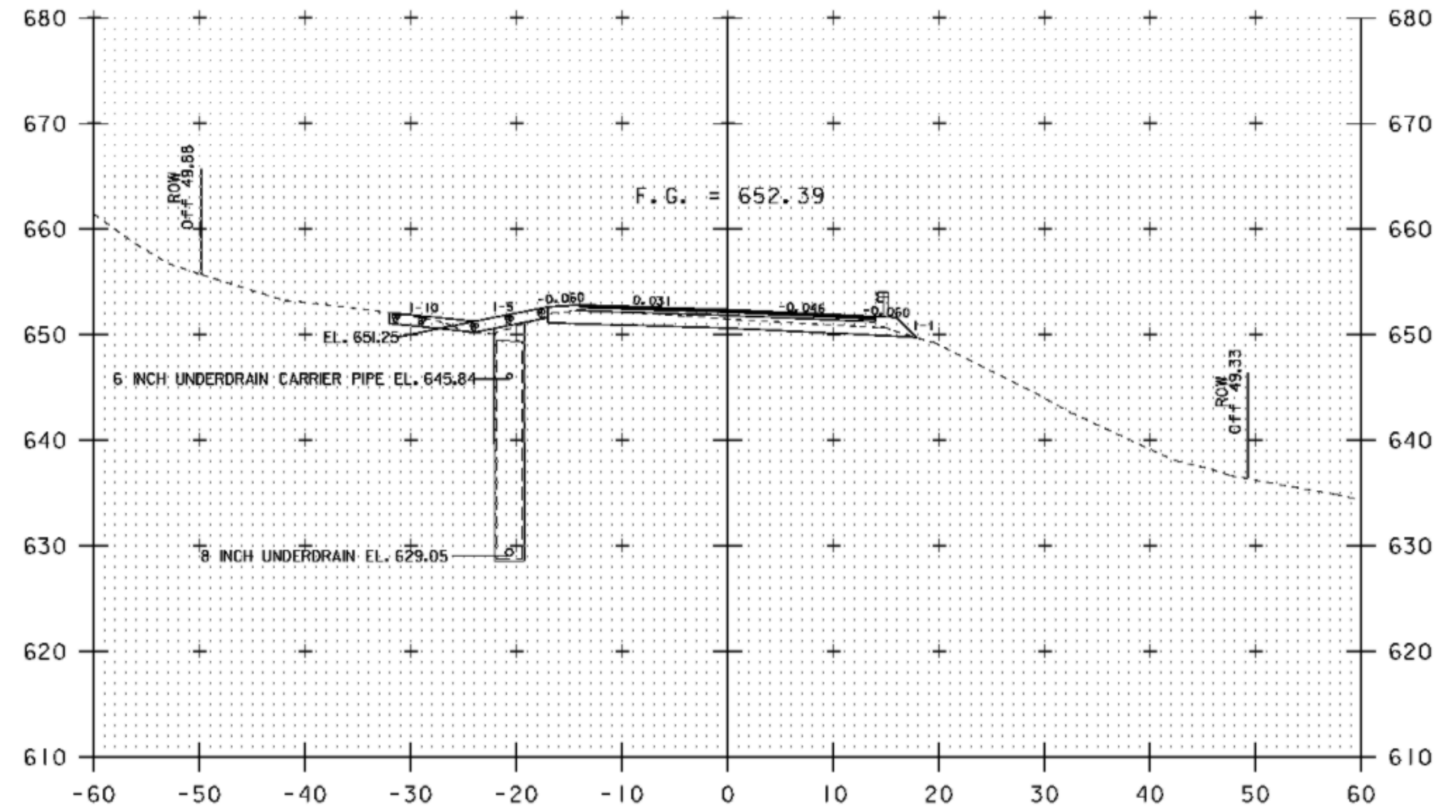
PROJECT NAME:	CAMBRIDGE	PLOT DATE:	28-JUL-2009
PROJECT NUMBER:	STP 0235(9)	DRAWN BY:	N. PAPPAS
FILE NAME:	D07C152WRK.DGN	CHECKED BY:	S. MENARD
PROJECT LEADER:	K. ROBBE	SHEET	20 OF 28
DESIGNED BY:	N. PAPPAS		
IPARM:	d07x152_xs_04		



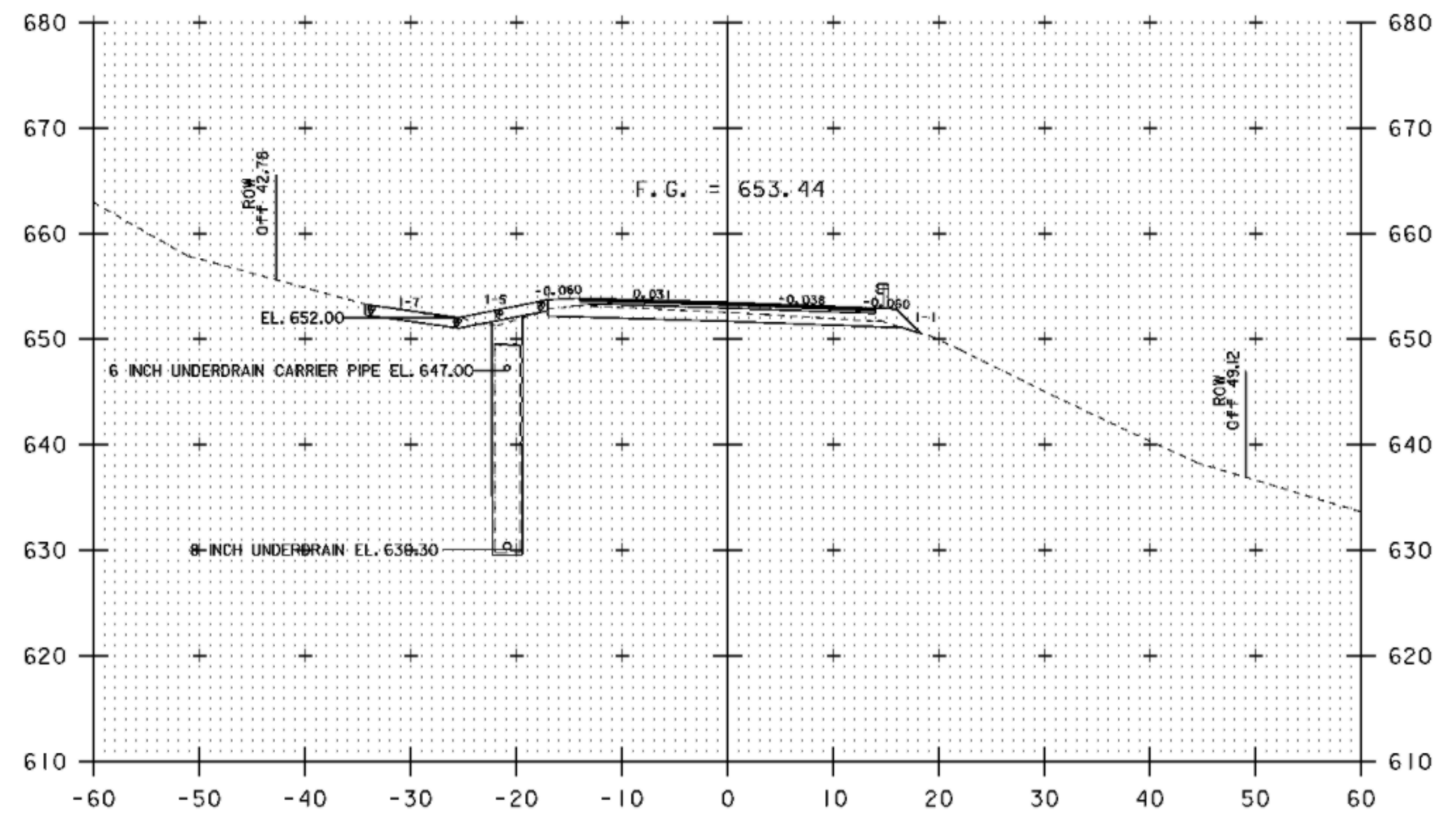
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17+25



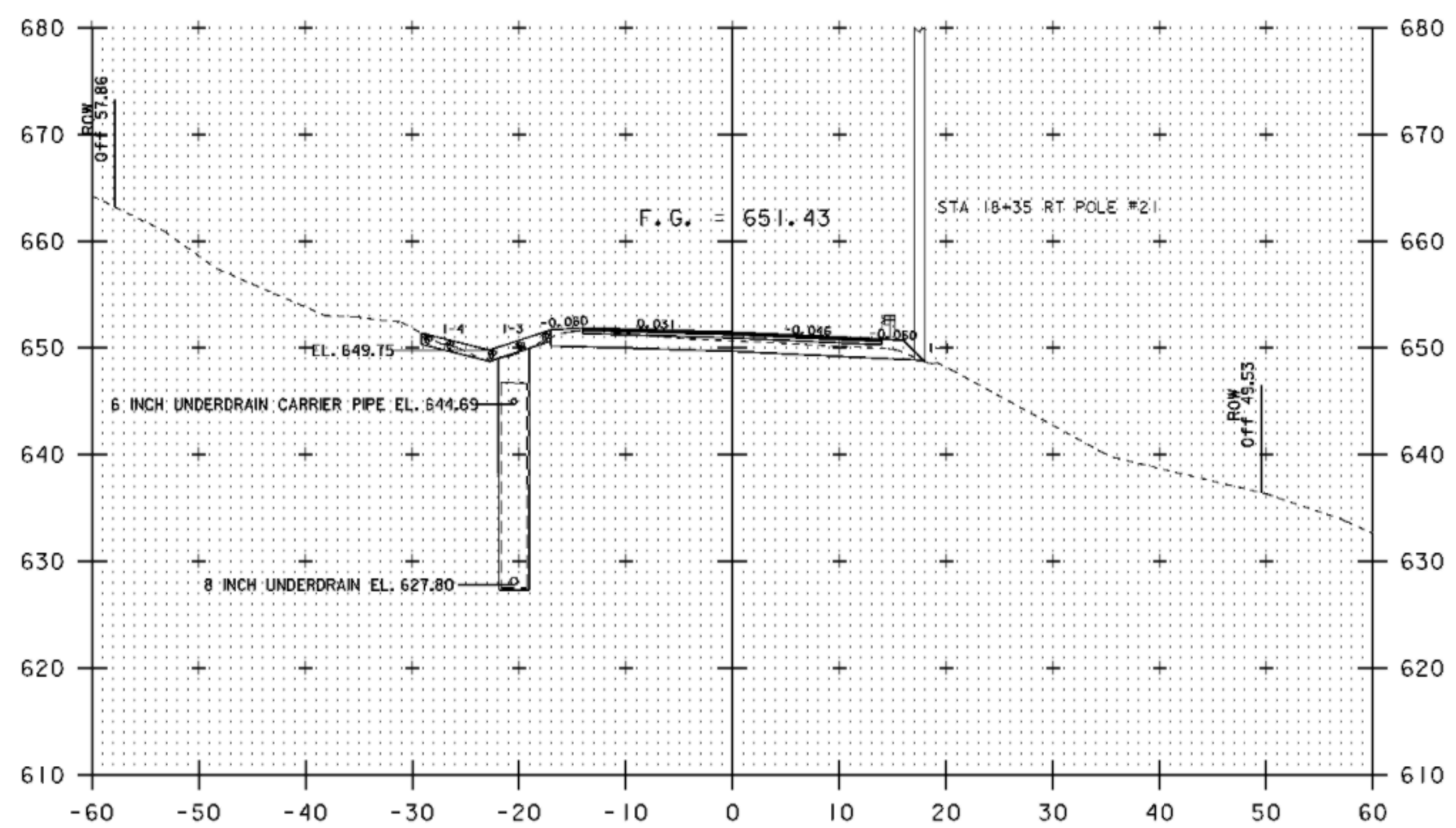
18+00



17+75

MAINLINE CROSS SECTIONS 17+25 TO 18+00

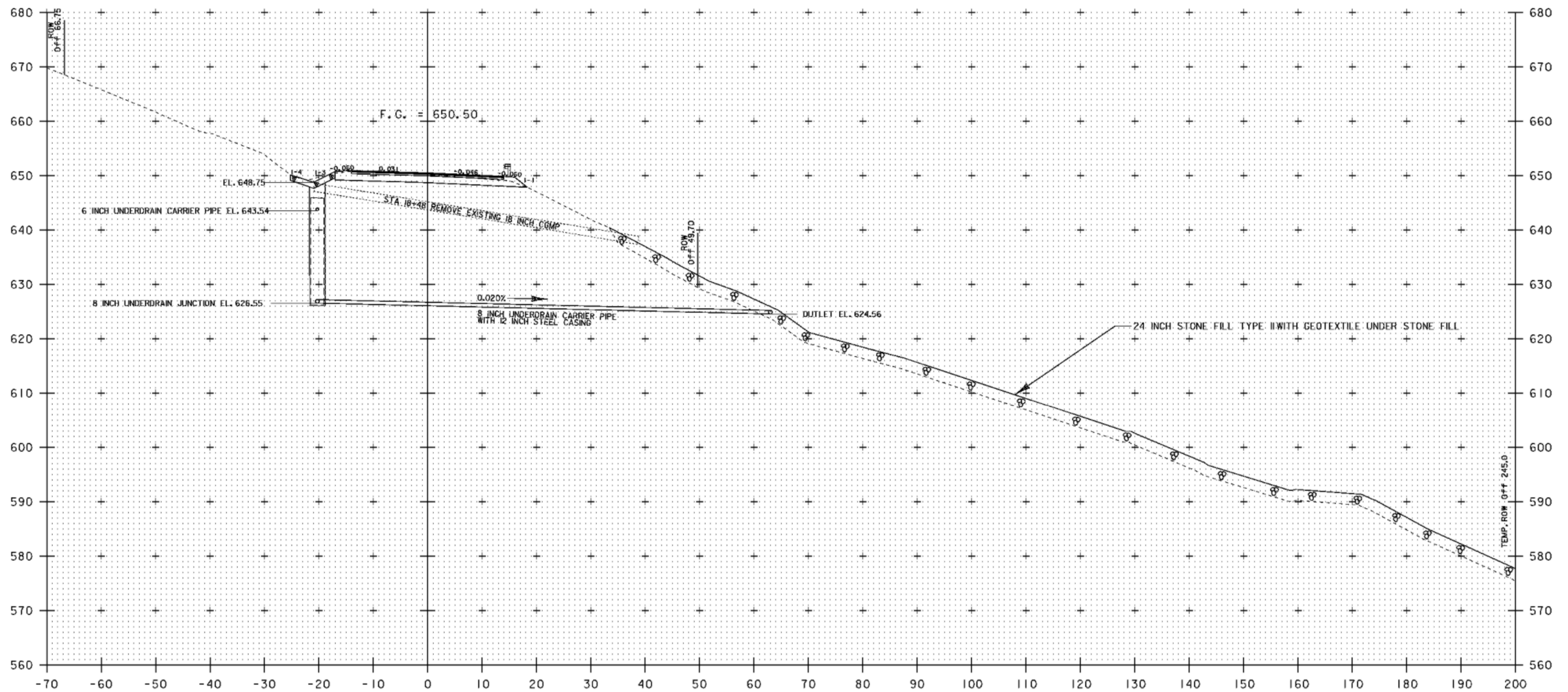
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PROJECT NUMBER:	STP 0235(9)	PROJECT LEADER:	K. ROBIE	DRAWN BY:	N. PAPPAS
		DESIGNED BY:	N. PAPPAS	CHECKED BY:	S. MENARD
		IPARM:	d07x152_xs.05	SHEET	21 OF 28



18+25

MAINLINE CROSS SECTIONS 18+25

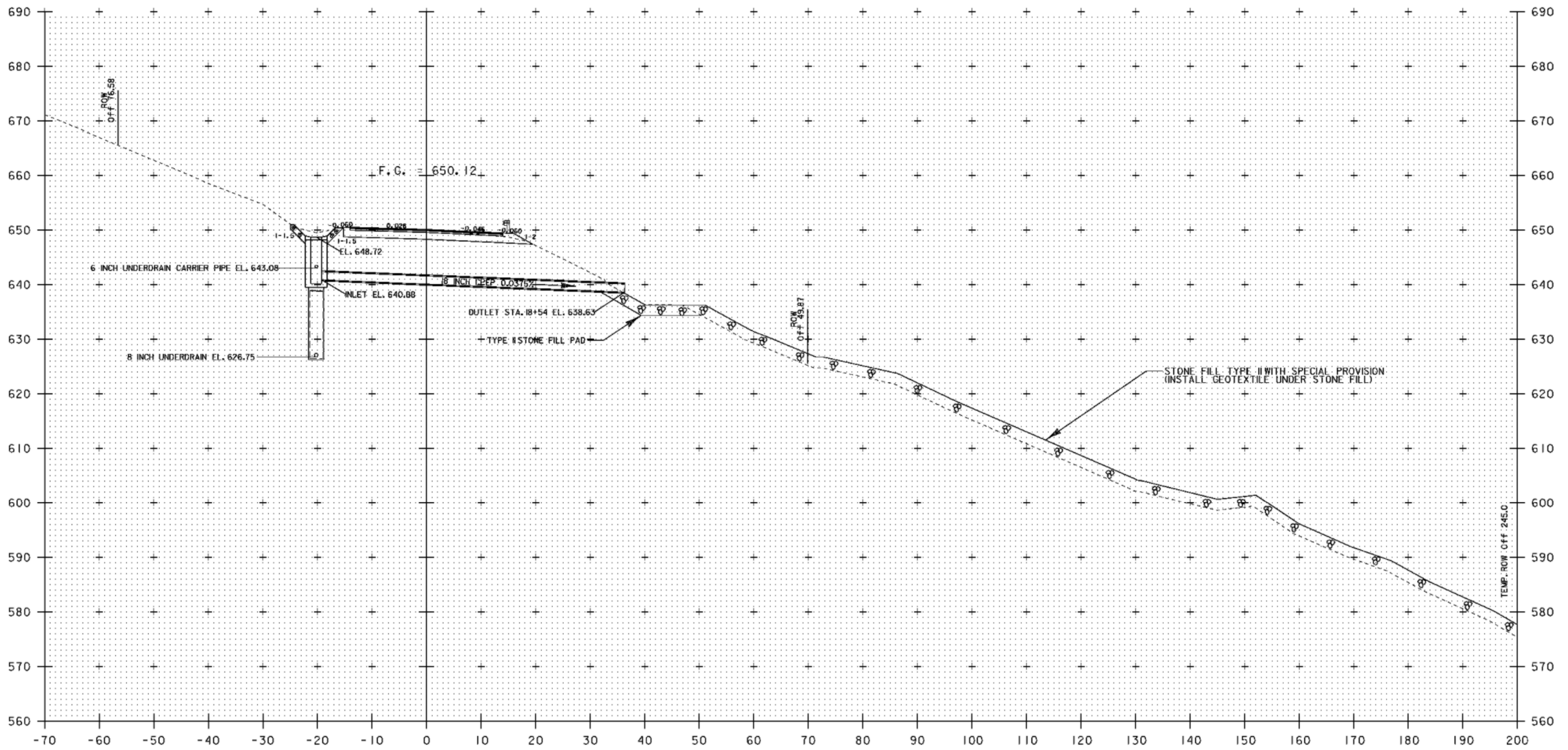
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PROJECT NUMBER:	STP 0235(9)	PROJECT LEADER:	K. ROBBIE	DRAWN BY:	N. PAPPAS
		DESIGNED BY:	N. PAPPAS	CHECKED BY:	S. MENARD
		IPARM:	d07x152_xs_06	SHEET	22 OF 28



MAINLINE CROSS SECTIONS 18+50

18+50

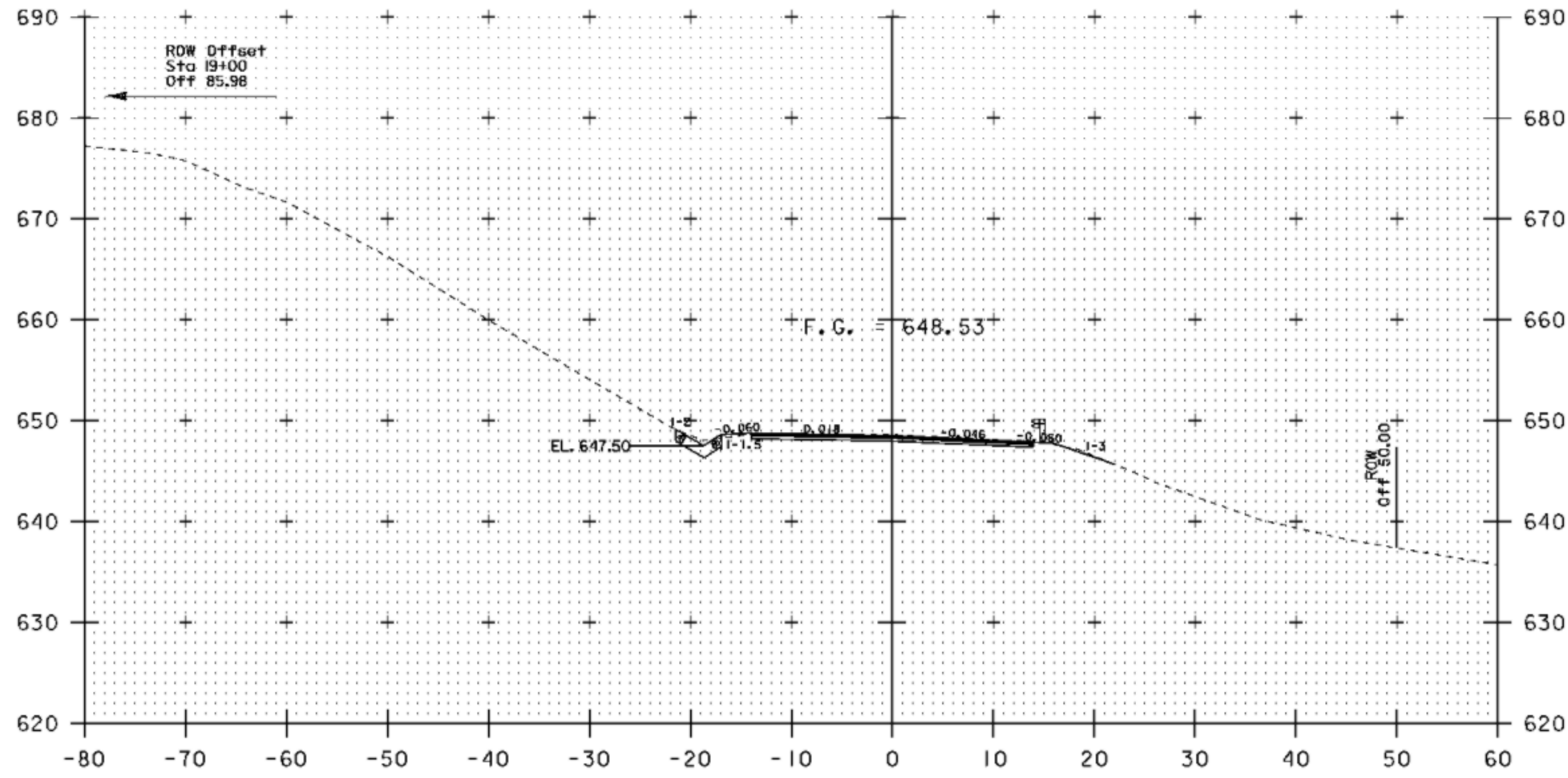
PROJECT NAME: CAMBRIDGE	
PROJECT NUMBER: STP 0235(9)	
FILE NAME: D07C152WRK.DGN	PLOT DATE: 28-JUL-2009
PROJECT LEADER: K. ROBIE	DRAWN BY: N. PAPPAS
DESIGNED BY: N. PAPPAS	CHECKED BY: S. MENARD
IPARM: d07x152_xs_07	SHEET 23 OF 28



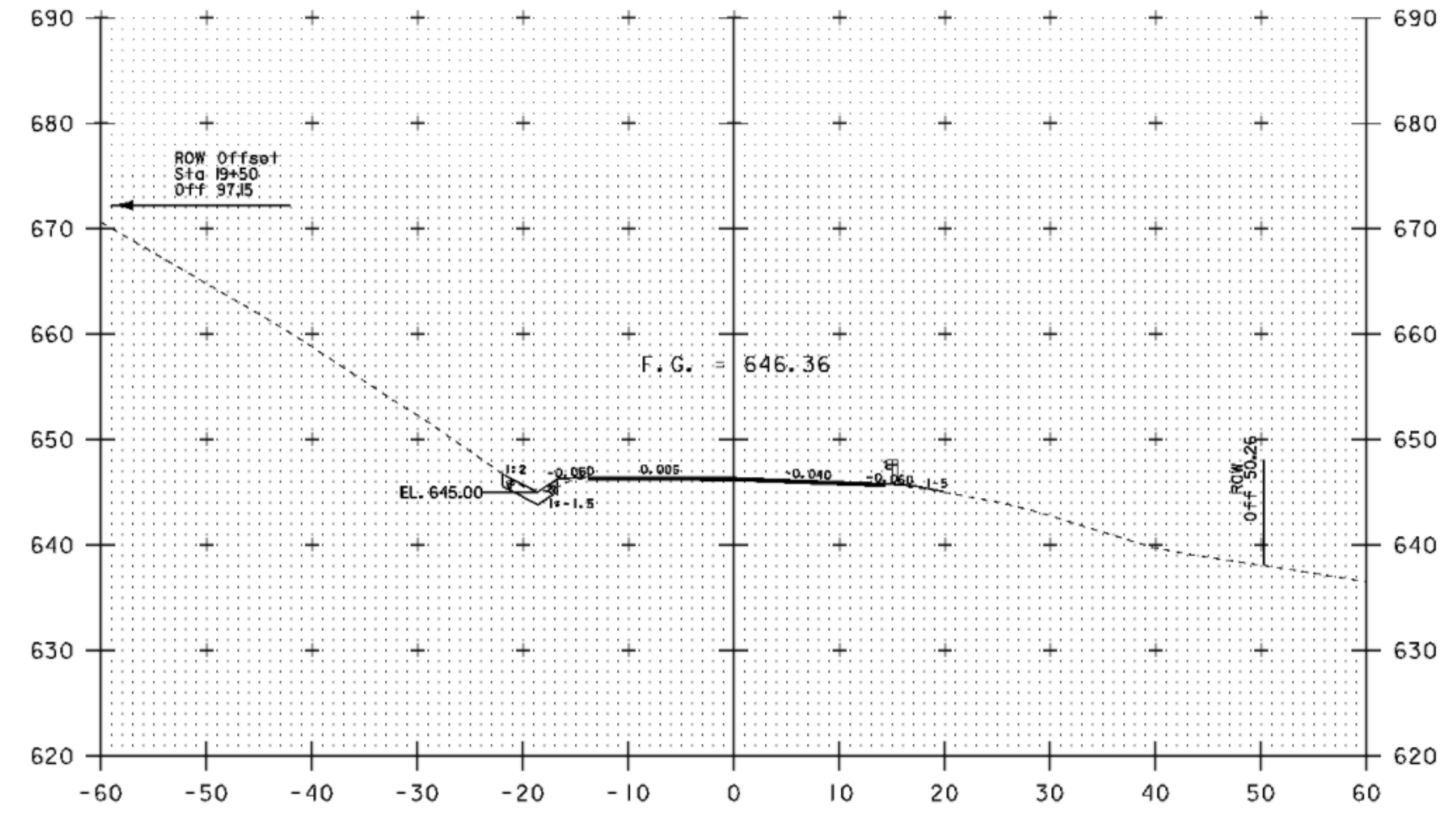
18+60

MAINLINE CROSS SECTIONS 18+60

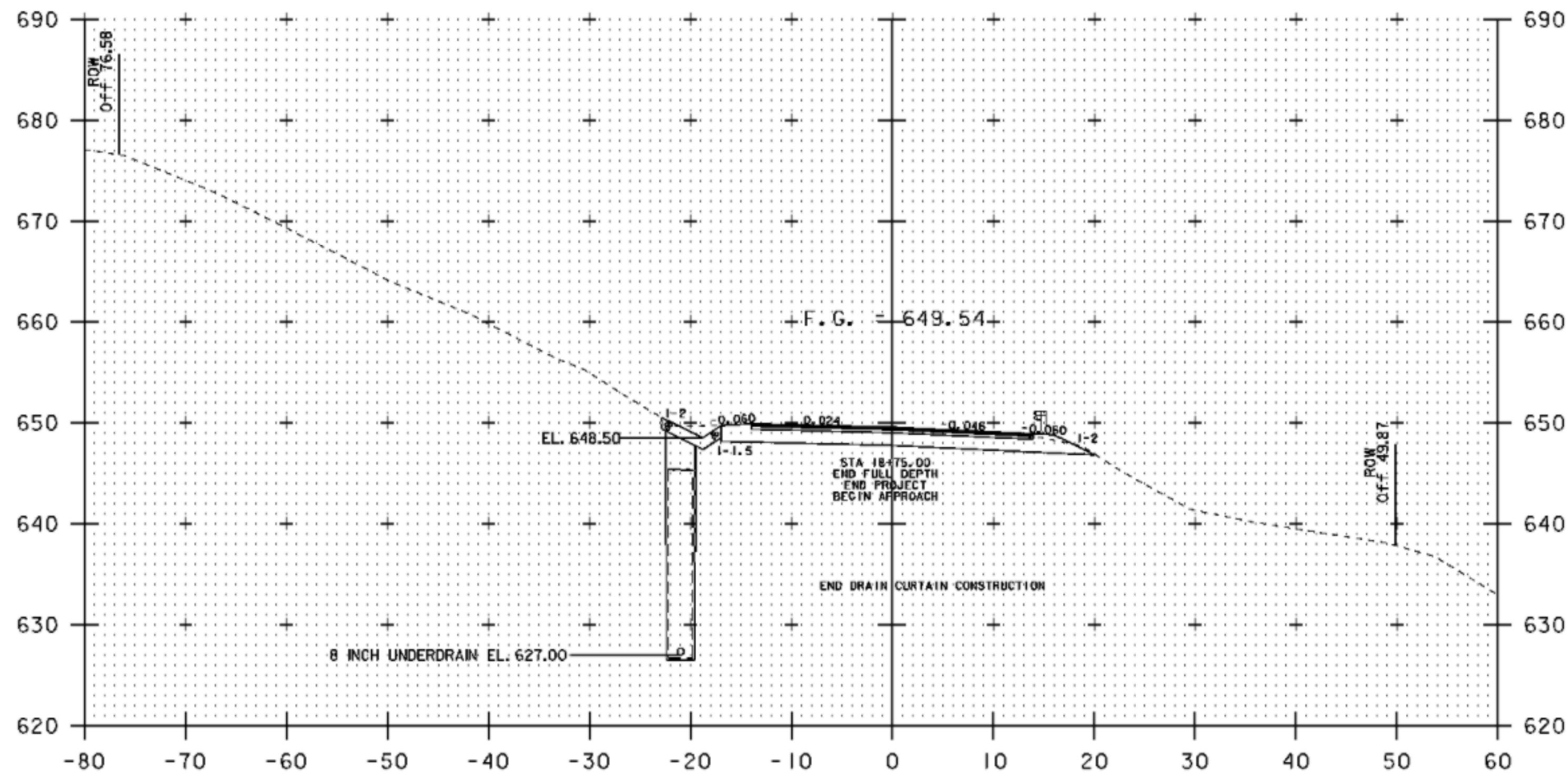
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PROJECT NUMBER:	STP 0235(9)	PROJECT LEADER:	K. ROBIE	DRAWN BY:	N. PAPPAS
		DESIGNED BY:	N. PAPPAS	CHECKED BY:	S. MENARD
		IPARM:	d07x152_xs_08	SHEET	24 OF 28



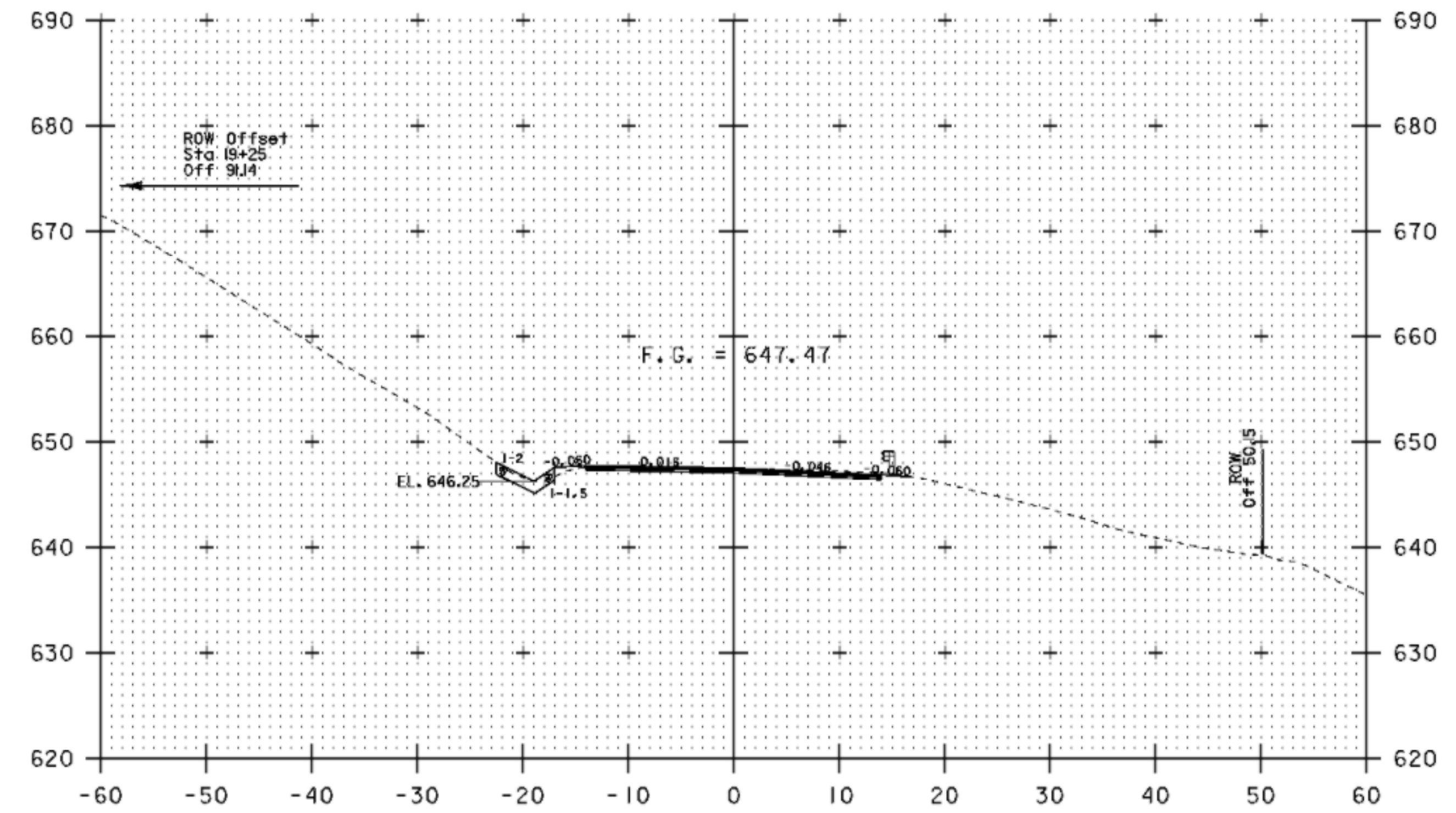
19+00



19+50



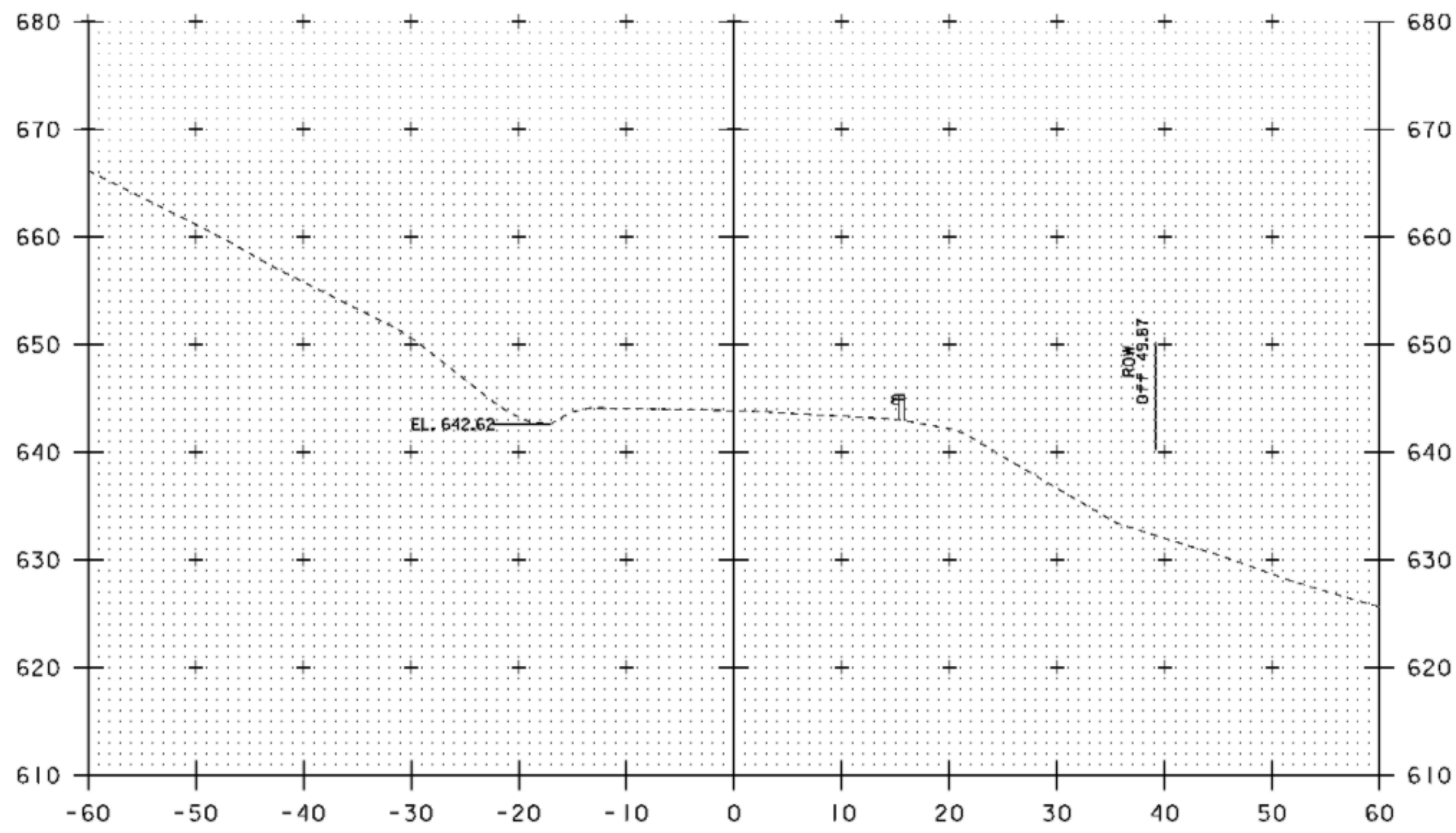
18+75



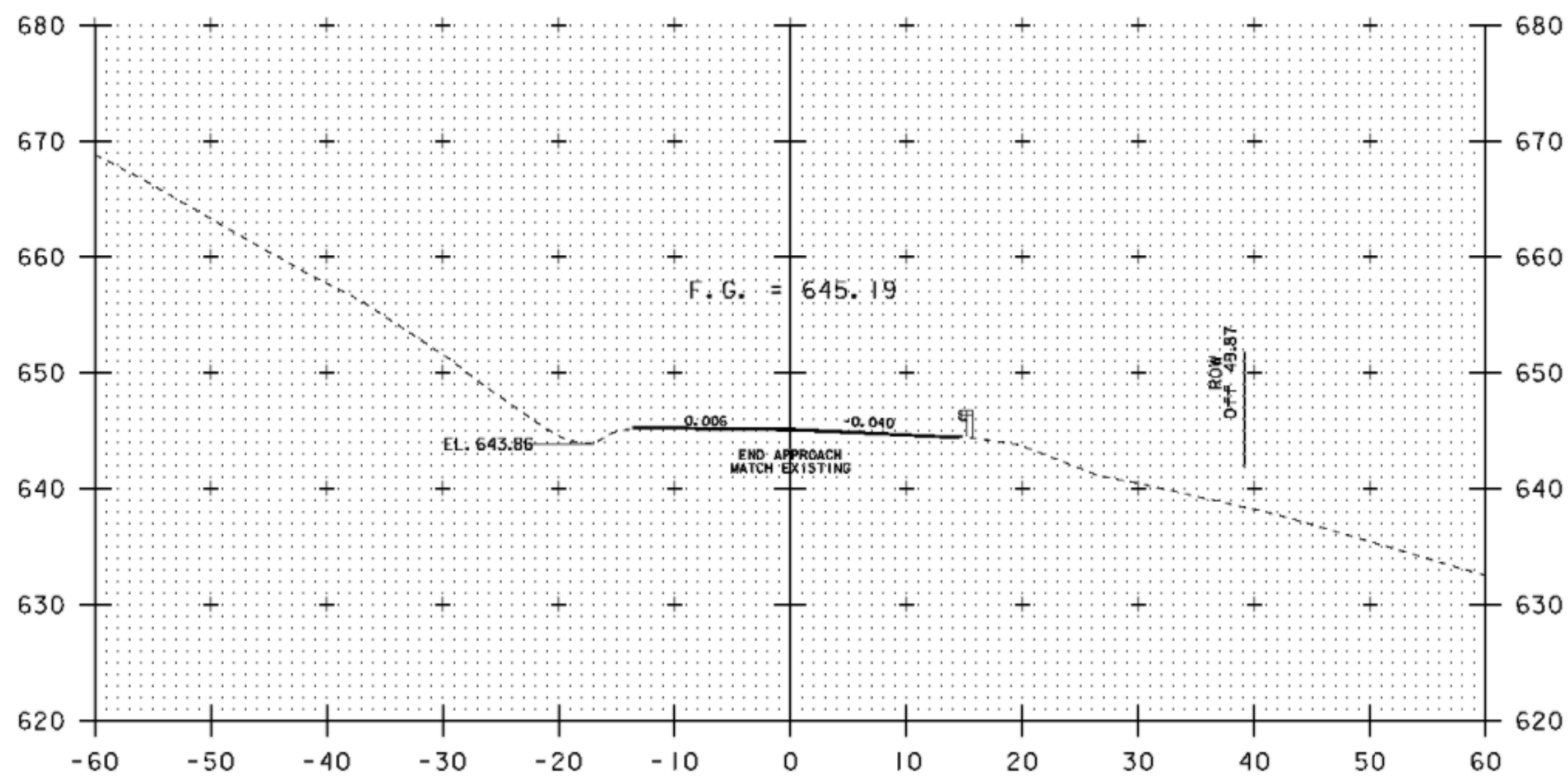
19+25

MAINLINE CROSS SECTIONS 18+75 TO 19+50

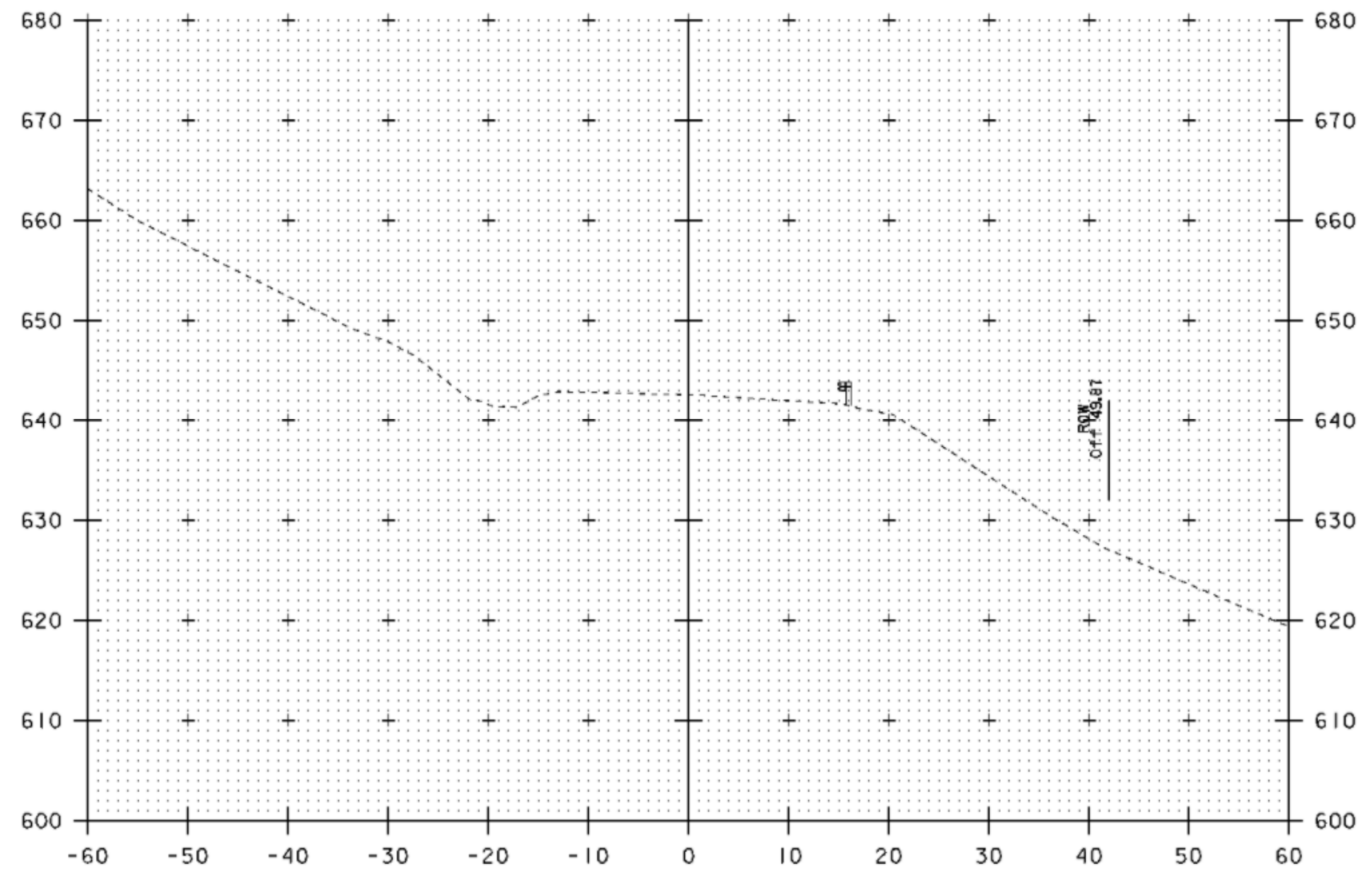
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PROJECT NUMBER:	STP 0235(9)	PROJECT LEADER:	K. ROBBE	DRAWN BY:	N. PAPPAS
		DESIGNED BY:	N. PAPPAS	CHECKED BY:	S. MENARD
		IPARM:	d07x152_xs_09	SHEET	25 OF 28



20+00



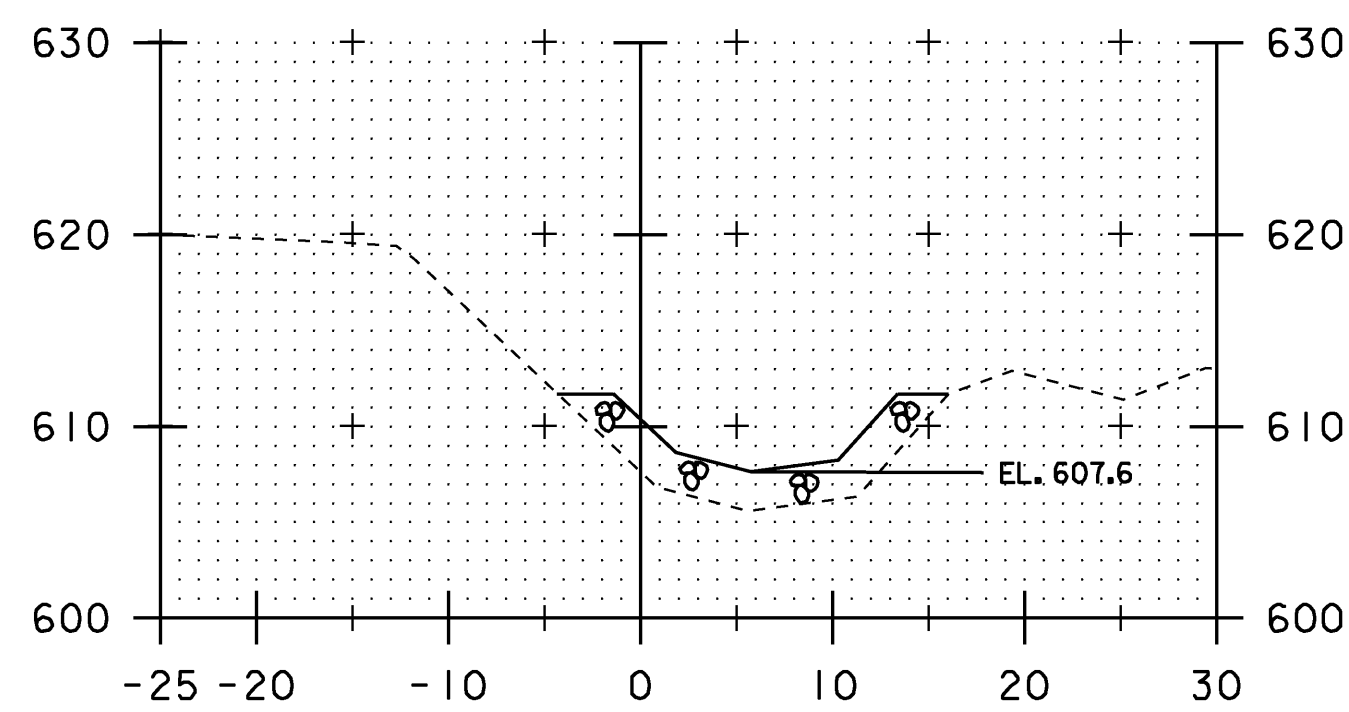
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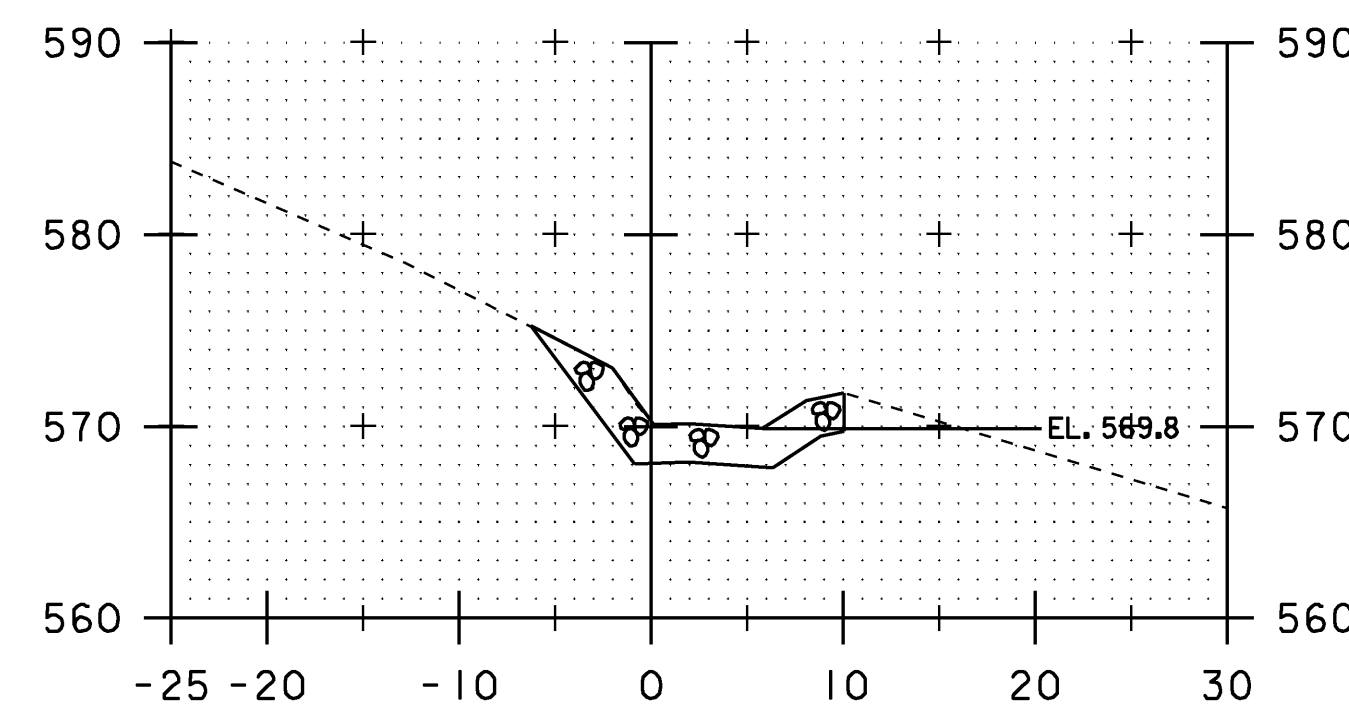
20+25

MAINLINE CROSS SECTIONS 19+75 TO 20+25

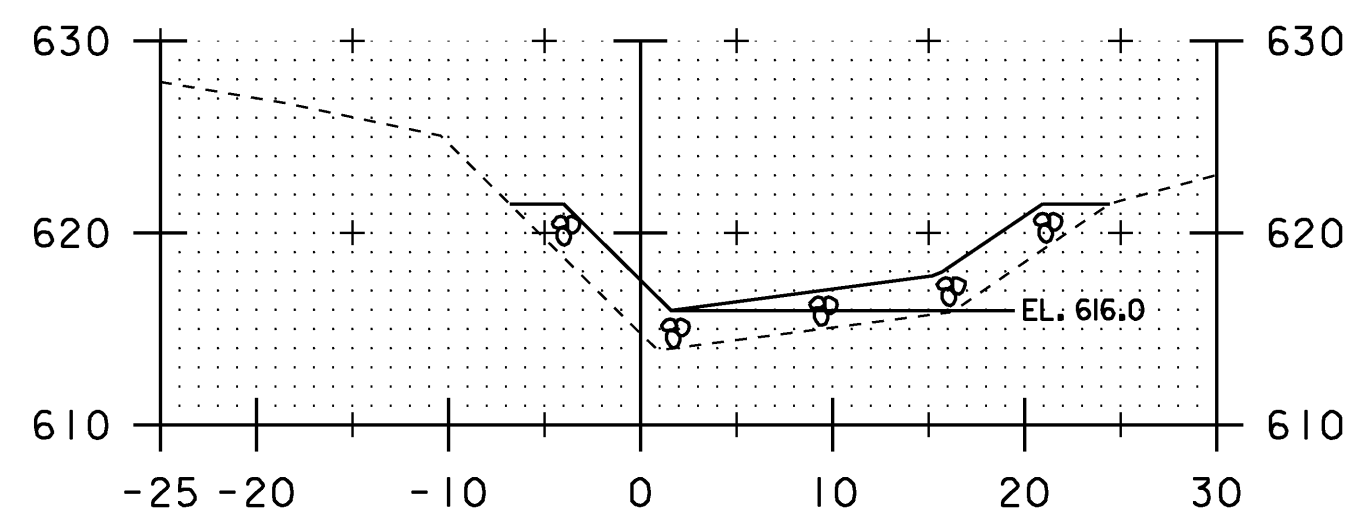
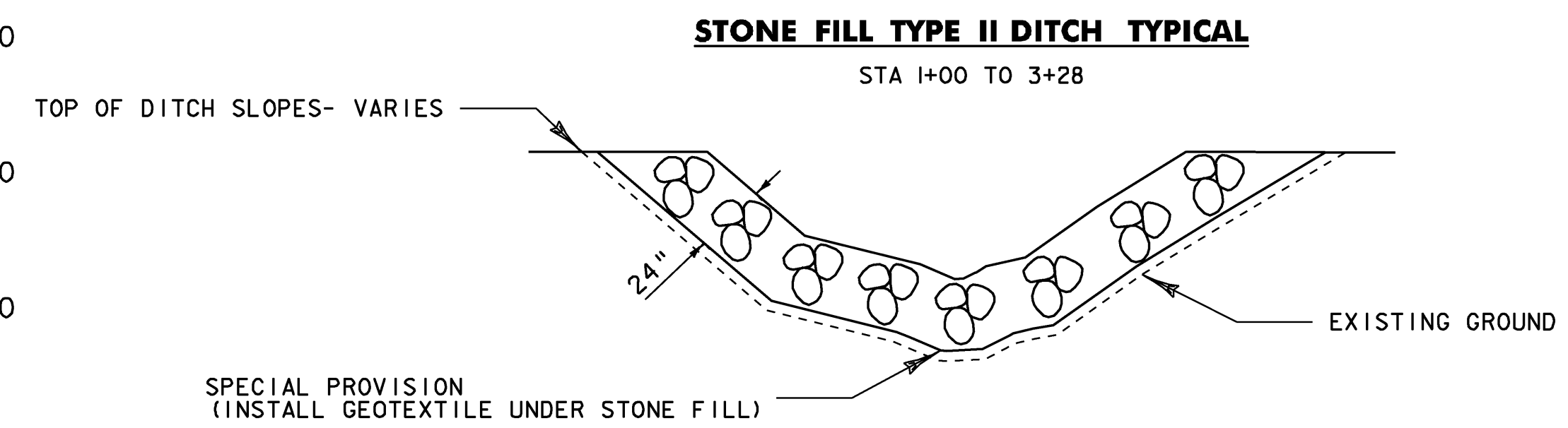
PROJECT NAME:	CAMBRIDGE	PLOT DATE:	28-JUL-2009
PROJECT NUMBER:	STP 0235(9)	DRAWN BY:	N. PAPPAS
FILE NAME:	D07C152WRK.DGN	CHECKED BY:	S. MENARD
PROJECT LEADER:	K. ROBBE	SHEET	26 OF 28
DESIGNED BY:	N. PAPPAS		
IPARM:	d07x152_xs_10		



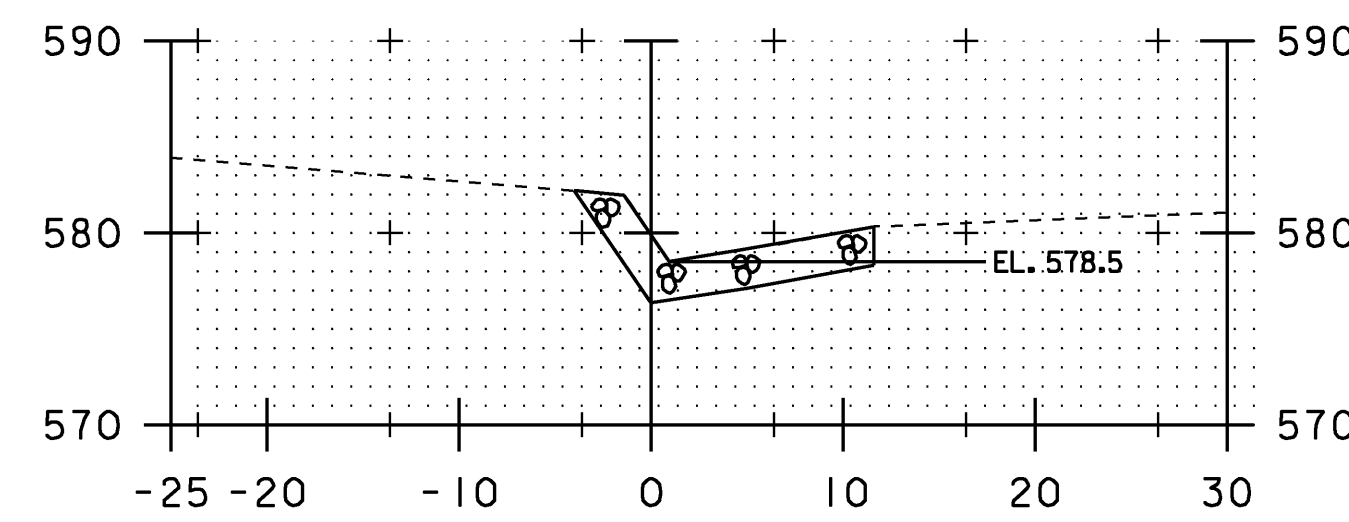
1+75



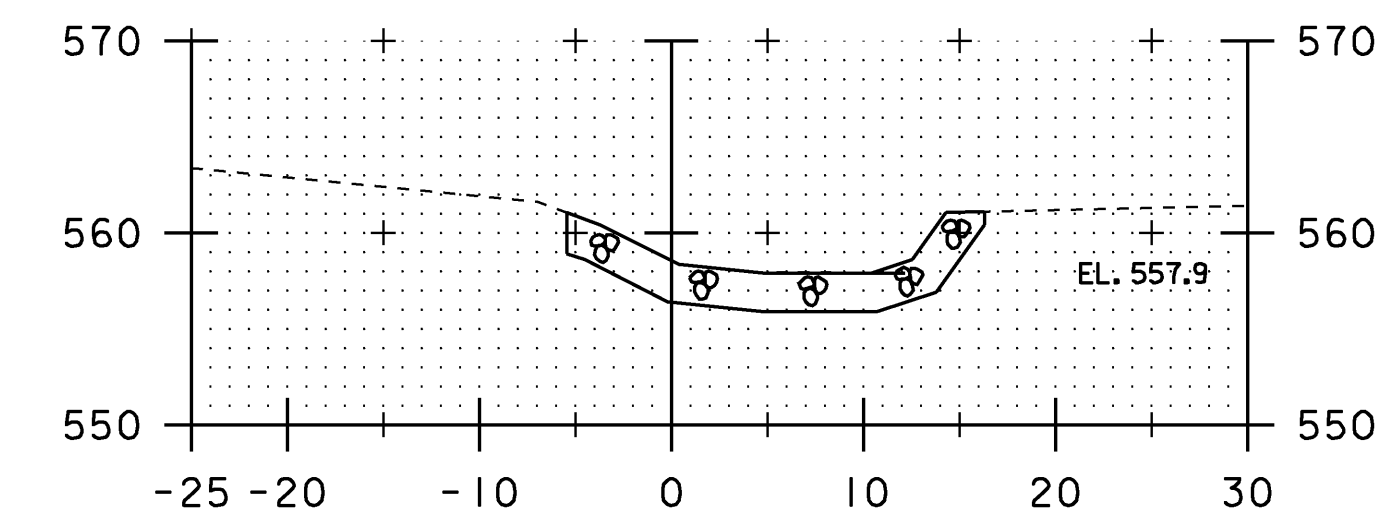
2+75



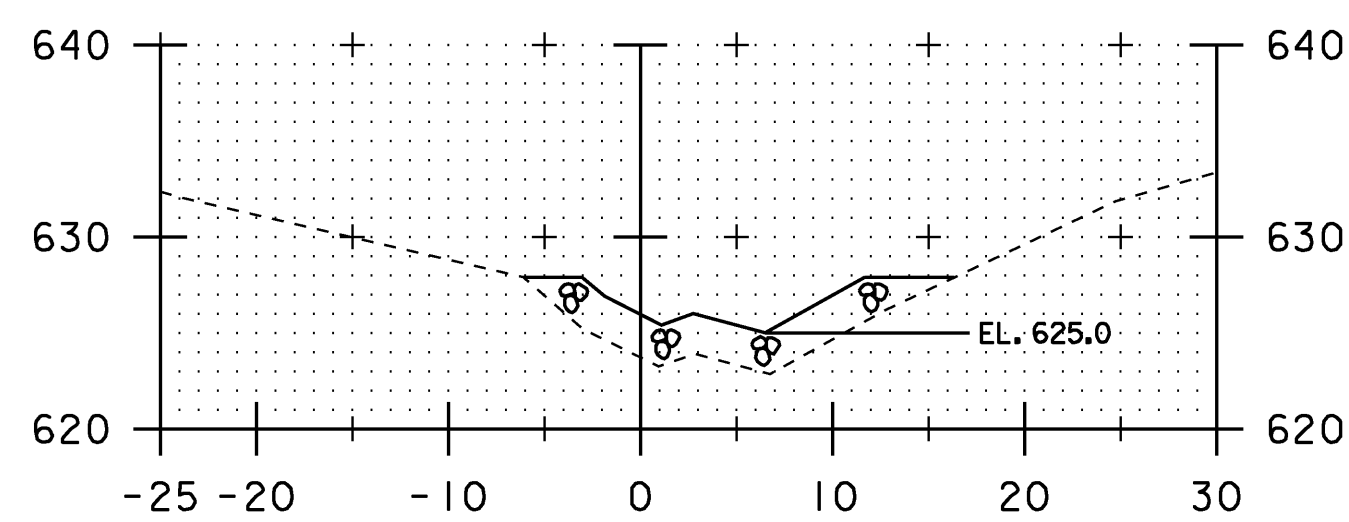
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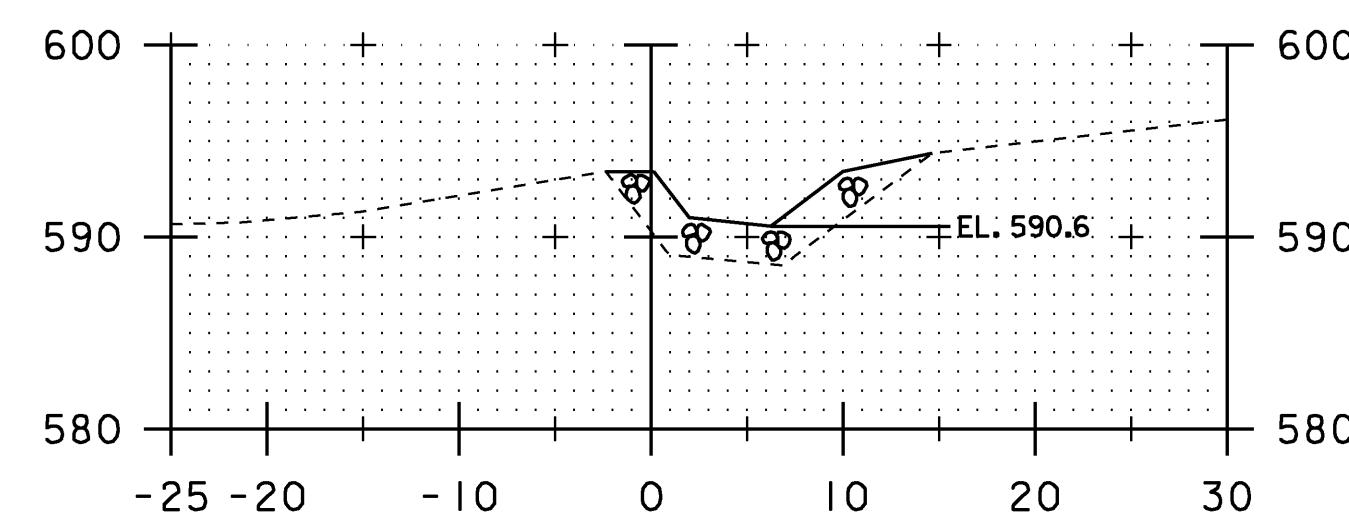
2+50



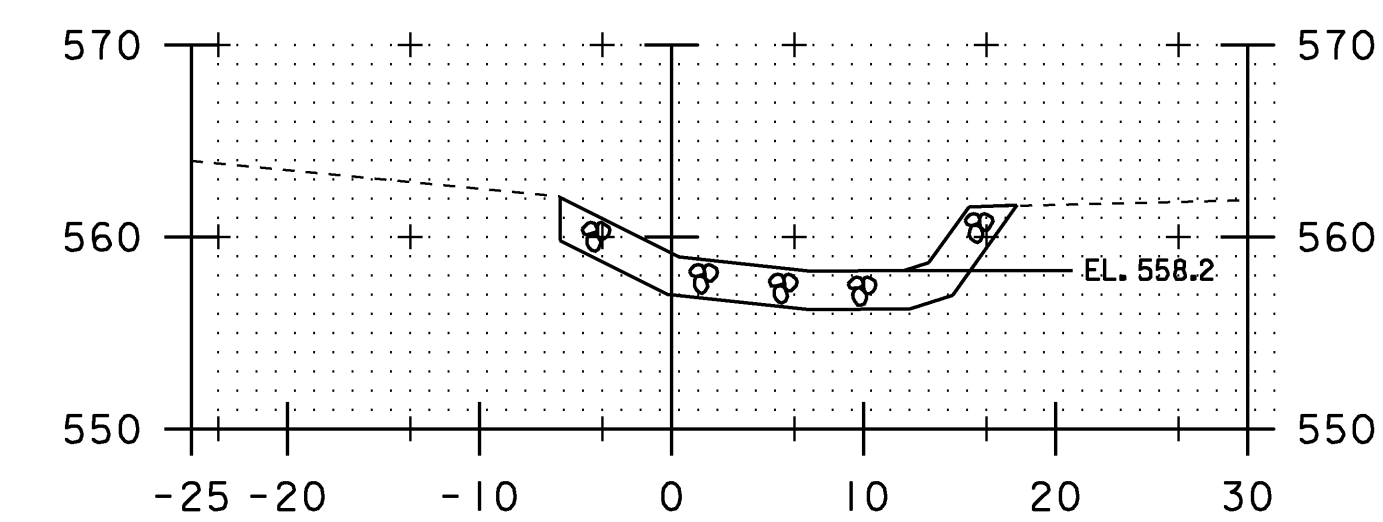
3+28



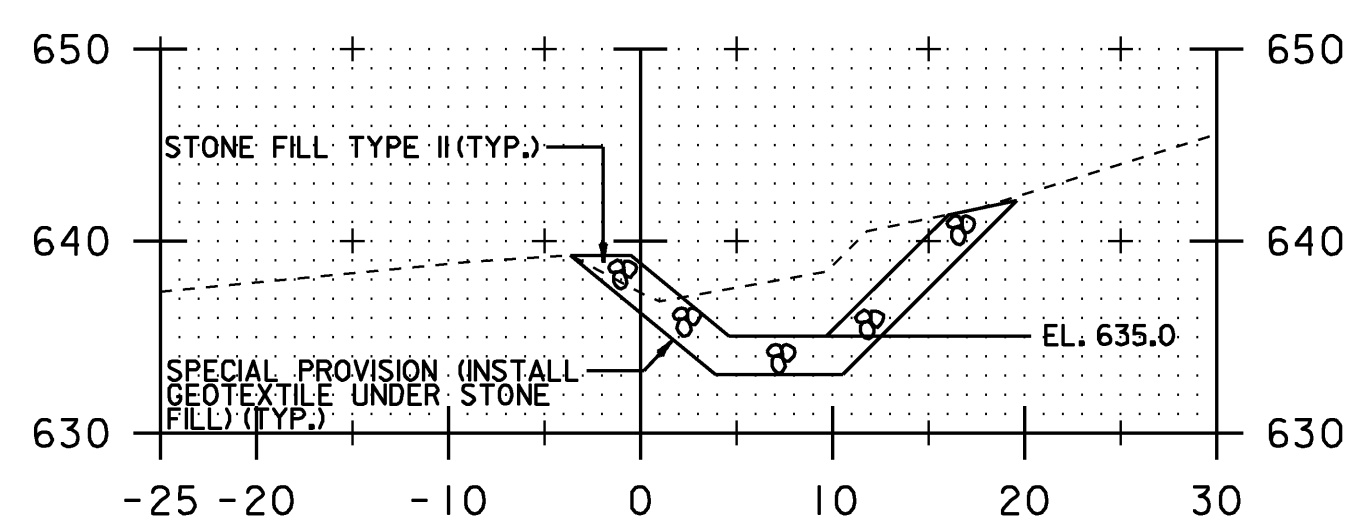
1+25



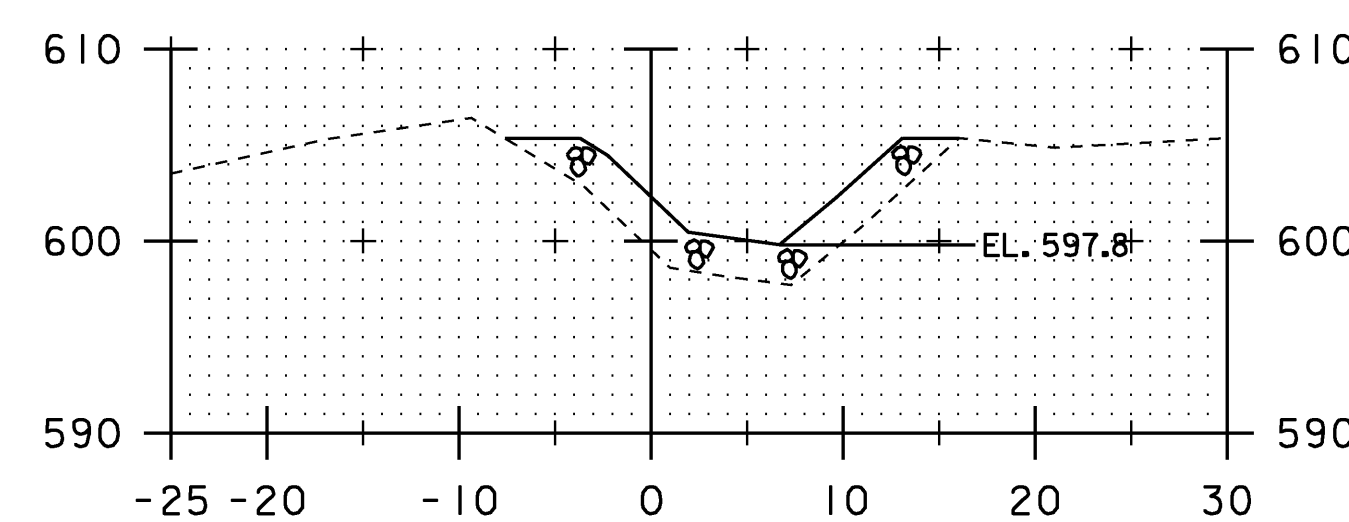
2+25



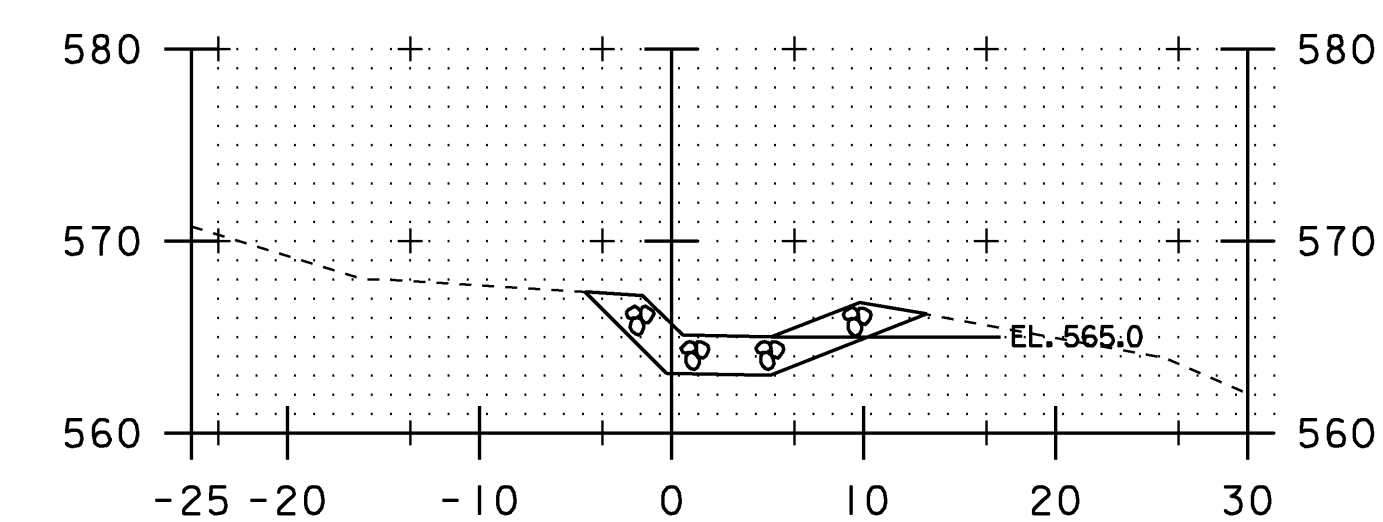
3+25



1+00



2+00



3+00

DRAINAGE DITCH CROSS SECTIONS

NOTE: COMMON EXCAVATION HAS BEEN ESTIMATED FROM STA 1+00 TO 1+25 & STA 2+50 TO STA 3+00. THE INTENT IS TO LINE THE EXISTING DITCH TO MINIMIZE IMPACTS AS DIRECTED BY THE ENGINEER. ELEVATIONS ARE FOR REFERENCE ONLY.

PROJECT NAME:	CAMBRIDGE
PROJECT NUMBER:	STP 0235(9)
FILE NAME:	D07C152WRK.DGN
PROJECT LEADER:	K. ROBIE
DESIGNED BY:	N. PAPPAS
IPARM:	d07x152_ditch_xs
PLOT DATE:	28-JUL-2009
DRAWN BY:	N. PAPPAS
CHECKED BY:	S. MENARD
SHEET	27 OF 28

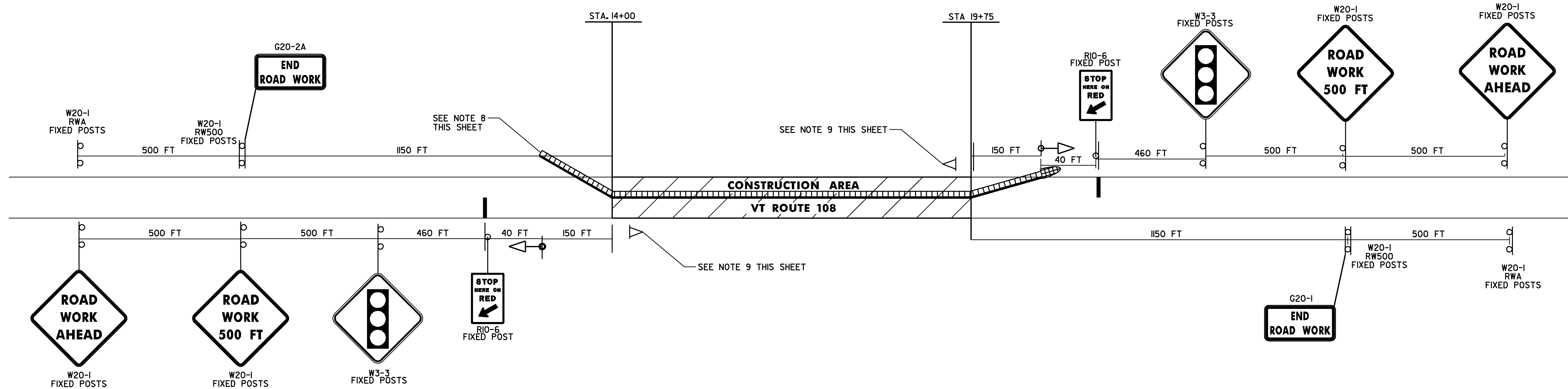
TEMPORARY 4 INCH WHITE LINE, TYPE II TAPE
STA 12+50 LT TO 21+25 LT

ENERGY ABSORPTION ATTENUATOR
STA 21+25 LT

TEMPORARY 4 INCH YELLOW LINE, PAINT
STA 12+10 TO 21+65 CL YELLOW

TEMPORARY TRAFFIC BARRIER
STA 12+50 LT TO 21+25 LT

REMOVAL OF EXISTING PAVEMENT MARKINGS
STA 12+10 TO 21+65 CL YELLOW



NOTES:

1. SEE STANDARDS E-100 AND E-100A FOR SIGN PLACEMENT.
2. PAYMENT FOR CONSTRUCTION APPROACH SIGNING WILL BE MADE UNDER ITEM 641.0 - TRAFFIC CONTROL.
3. CONSTRUCTION ZONE SIGN LAYOUT SHALL BE IN ACCORDANCE WITH SECTION 6 OF THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
4. DIAMOND SHAPED SIGNS SHALL BE 4' X 4' WITH BLACK LEGEND ON FLUORESCENT ORANGE BACKGROUND.
5. CONSTRUCTION ZONE SIGNS SHALL BE INSTALLED ON TWO POSTS EACH OR AS AN NCHRP REPORT 350 COMPLIANT SIGN/STAND SYSTEM.
6. INSTALLATION OF CONSTRUCTION ZONE SIGNING SHALL NOT BLOCK EXISTING SIGN ASSEMBLIES. A MINIMUM OF 200 FEET SHALL BE MAINTAINED BETWEEN ANY EXISTING SIGNS AND THE CONSTRUCTION SIGNS.
7. BEGINNING OF THE TEMPORARY MEDIAN BARRIER AT STATION 12+50 LEFT SHALL BE BURIED INTO THE SIDE SLOPE AS DIRECTED BY THE ENGINEER AND STATION 21+25 AT THE END OF THE TEMPORARY MEDIAN BARRIER SHALL HAVE AN ENERGY ABSORPTION ATTENUATOR.
8. PORTABLE CHANGEABLE MESSAGE SIGNS ARE TO BE PLACED TWO WEEKS BEFORE CONSTRUCTION BEGINS AND ARE TO BE USED AS DIRECTED BY THE RESIDENT ENGINEER.
9. IF THE ROADWAY RECONSTRUCTION IS NOT COMPLETED IN THE 2009 CONSTRUCTION SEASON ALL TEMPORARY LINES WILL BE PAID PER UNIT BID PRICE.
10. DURING INSTALLATION OF THE TEMPORARY TRAFFIC SIGNAL SYSTEM THE ENGINEER SHALL CONTACT JOSH SCHULTZ OF THE VTRANS HIGHWAY SAFETY AND DESIGN SECTION 828-6980, TO COORDINATE THE SIGNAL TIMINGS.

LEGEND

- RWA = ROAD WORK AHEAD
- RW500 = ROAD WORK 500 FT
- = PORTABLE CHANGEABLE MESSAGE SIGN
- = TEMPORARY TRAFFIC LIGHT
- = TEMPORARY 24 INCH STOP BAR
- = TEMPORARY TRAFFIC BARRIER
- = ENERGY ABSORPTION ATTENUATOR

TRAFFIC CONTROL

PROJECT NAME:	CAMBRIDGE
PROJECT NUMBER:	STP 0235(9)
FILE NAME:	d087c152_frm.DGN
PROJECT LEADER:	K. ROBIE
DESIGNED BY:	N. PAPPAS
IPARM:	d07x152_+tc.1
PLOT DATE:	28-JUL-2009
DRAWN BY:	N. PAPPAS
CHECKED BY:	S. MENARD
SHEET	28 OF 28

NOT TO SCALE