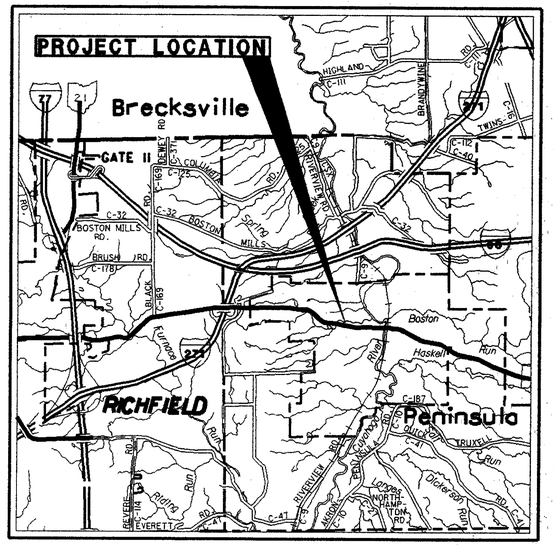


LOCATION MAP

LATITUDE: 41°14'31" LONGITUDE: 81°33'42"

SCALE IN MILES

0 1 2 3 4

N

INTERSTATE & DIVIDED HIGHWAY _____

UNDIVIDED STATE & FEDERAL ROUTES _____

OTHER ROADS _____

DESIGN DESIGNATION

CURRENT ADT (2000)	9,220
DESIGN YEAR ADT (2020)	12,730
DESIGN HOURLY VOLUME (2020)	1,273
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	6%
DESIGN SPEED	35 mph
LEGAL SPEED	35 mph

DESIGN FUNCTIONAL CLASSIFICATION -
RURAL MAJOR COLLECTOR

DESIGN EXCEPTIONS

NONE

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
SUM-303-6.98
VILLAGE OF PENINSULA
RICHFIELD TOWNSHIP
SUMMIT COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

CORRECTION OF A SLOPE ALONG S.R. 303 BY INSTALLATION OF HORIZONTAL SLOPE DRAINS AND A DEEP PIPE UNDERDRAIN. PROJECT INCLUDES THE RESTORATION OF THE SHOULDERS AND FORESLOPES, THE LOWERING 0.09 MILE OF PAVEMENT PROFILE BY VARIABLE PAVEMENT PLANING AND THE INSTALLATION OF NEW GUARDRAIL WITH UPGRADED END ASSEMBLIES.

1997 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 5.

APPROVED David R. Draggoo
DATE 2-25-99 DISTRICT DEPUTY DIRECTOR

APPROVED Gordon Proctor /jd
DATE 3-8-99 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO.

PID NO. 19285

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

SUM-303-6.98

1/31

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:

District Four Production

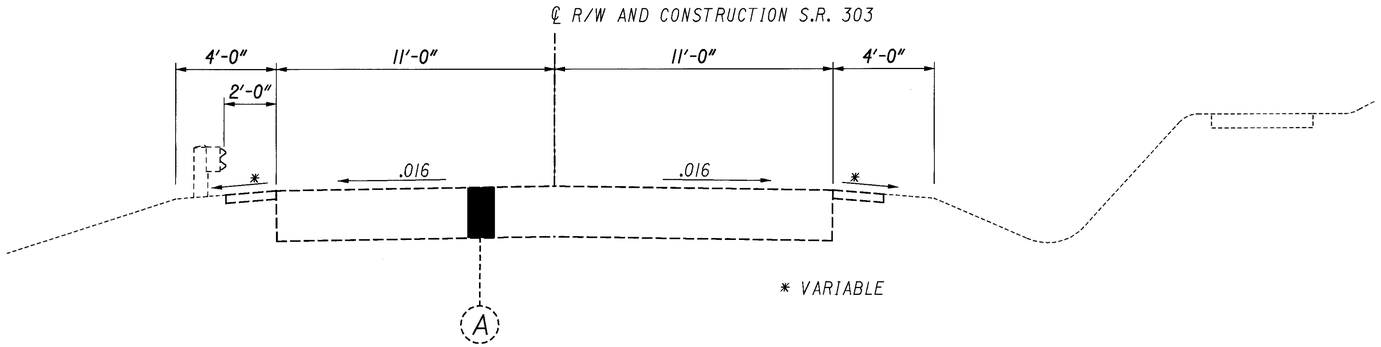
ENGINEERS SEAL:

STATE OF OHIO
JON B. HUNT
E-57870
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Jon B. Hunt
DATE: 2-26-99

STANDARD CONSTRUCTION DRAWINGS

				SUPPLEMENTAL SPECIFICATIONS
BP-3.1	2-21-92	MH-1.2M	9-6-95	
BP-4.1	2-21-92			
		MT-97.10M	4-25-94	
CB-1.1M	7-12-95	MT-101.60M	4-25-94	
		MT-105.10M	4-25-94	
DM-1.1M	10-21-97	MT-105.11M	4-25-94	
DM-4.3M	6-30-95			
DM-4.4M	6-30-95	TC-41.20M	7-1-94	
		TC-52.10M	7-29-94	
GR-1.1M	10-21-97	TC-52.20M	7-29-94	
GR-1.2M	1-3-96	TC-61.10M	3-31-94	
GR-1.3	2-21-92			
GR-2.1M	10-21-97			
GR-4.2M	10-21-97			
GR-4.3M	10-21-97			
GR-5.3	10-21-97			



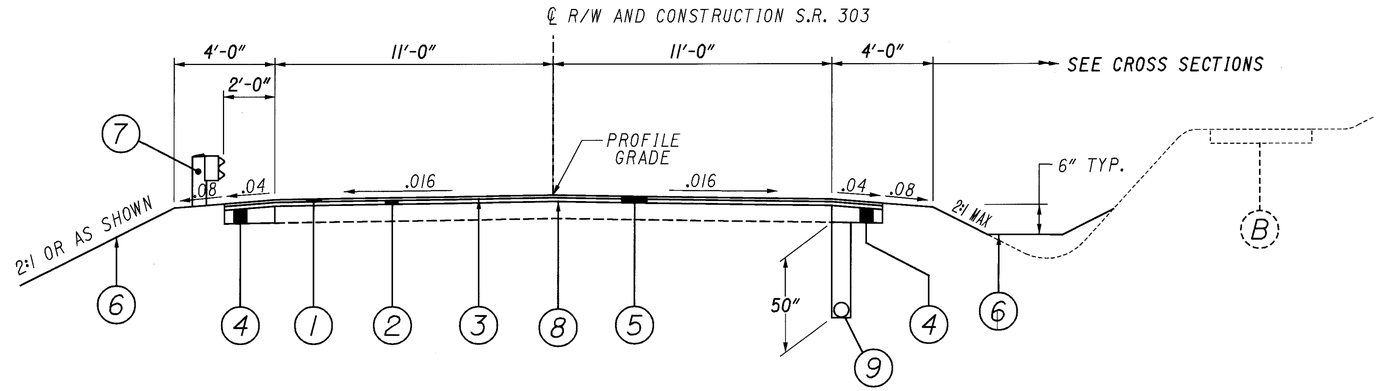
* VARIABLE

EXISTING SECTION

EXISTING LEGEND

(A) EXISTING VARIABLE DEPTH ASPHALT CONCRETE

(B) EXISTING SIDEWALK (DO NOT DISTURB)



PROPOSED SECTION

STA. 83+50 TO STA. 88+50 = 500 LIN.FT.

PROPOSED LEGEND

(1) ITEM 448- 1¼" ASPHALT CONCRETE, SURFACE COURSE, TYPE I, PG 64-22, AS PER PLAN

(2) ITEM 448- 1¾" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, PG 64-22

(3) ITEM 407- TACK COAT FOR INTERMEDIATE COURSE

(4) ITEM 301- 8" BITUMINOUS AGGREGATE BASE, PG 64-22

(5) ITEM 254- PAVEMENT PLANING, BITUMINOUS (VARIABLE, SEE PROFILE SHEETS 9 & 10 .)

(6) ITEM 659- SEEDING AND MULCHING

(7) ITEM 606- GUARDRAIL, TYPE 5

(8) ITEM 407- TACK COAT

(9) ITEM 605- 6" DEEP PIPE UNDERDRAIN

sbennett/road/sum/sum303/18088gya.dgn

CALCULATED SCB CHECKED JBH

TYPICAL SECTIONS

SUM-303-6.98

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

ALLTEL
245 N. MAIN ST.
HUDSON, OHIO 44236
PHONE: 330-650-8404
CONTACT: BRAIN POUND

EAST OHIO GAS CO.
2100 EASTWOOD AVE.
AKRON, OHIO 44305
PHONE: 330-798-7104
CONTACT: GEORGE TURNER

CABLEVISION
14300 SOUTH INDUSTRIAL AVE.
MAPLE HEIGHTS, OHIO 44137
PHONE: 216-663-4004
CONTACT: KIP EIGER

OHIO EDISON
1910 W. MARKET ST.
AKRON, OHIO 44313
PHONE: 330-384-4711
CONTACT: GLENN BOWMAN

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ITEM 659, SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR ITEM 659, SEEDING AND MULCHING, ARE BASED ON THESE LIMITS.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

207, STRAW OR HAY BALES	20 EACH
207, TEMPORARY SEEDING AND MULCHING	198 SQ.YD.
207, FILTER FABRIC FENCE	550 LIN.FT.
659, COMMERCIAL FERTILIZER	0.01 TON

WATERING AND MOWING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR PERMANENT SEEDED AREAS PER 659.09:

659, WATER	2 M.GAL.

ITEM 407, TACK COAT
ITEM 407, TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.075 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

ITEM 448 ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG 64-22, AS PER PLAN:

THE REQUIREMENTS OF 441 AND 448 SHALL APPLY; DEVIATIONS FROM THESE ARE AS FOLLOWS:

THE COMBINATION OF NEW AGGREGATES, NEW ASPHALT BINDER AND RECLAIMED MATERIAL SHALL BE AS REQUIRED TO PRODUCE A COMPOSITION CONTAINING A MINIMUM OF 5.0% NEW ASPHALT BINDER.

ANY PERCENTAGE OF RECLAIMED MATERIAL PROPOSED FOR USE SHALL BE INCLUDED IN THE MIX DESIGN PROCESS TO ESTABLISH THE JOB MIX FORMULA (JMF) IN ACCORDANCE WITH 441.02.

ITEM 620, DELINEATOR, TYPE C POST MOUNTED

A TYPE C DELINEATOR SHOULD BE INSTALLED ON A FLEXIBLE POST AT THE HEAD OF ALL TYPE E-98 UNITS LOCATED ON THE RIGHT SIDE OF THE THROUGH ROADWAY. DELINEATORS SHALL BE ITEMIZED SEPERATELY AND SHALL COMPLY WITH STANDARD TRAFFIC DRAWING TC-61.10M AND CMS 620.

ITEM 642, EDGE LINE
ITEM 642, CENTER LINE

EDGE LINE & CENTER LINE QUANTITIES HAVE BEEN PROVIDED IN THE GENERAL SUMMARY FOR PAVEMENT STRIPING AS DIRECTED BY THE ENGINEER.

CONTINGENCY PAVEMENT REPLACEMENT

AFTER THE PAVEMENT PLANING OPERATIONS ARE COMPLETE, THE ENGINEER SHALL DETERMINE ANY AREA(S) THAT WILL HAVE INSUFFICIENT PAVEMENT THICKNESS TO REMAIN IN PLACE. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER TO PROVIDE A 6" ITEM 304 AND 8" ITEM 301 SECTION SECTION PRIOR TO PLACING THE INTERMEDIATE AND SURFACE COURSES.

203, SUBGRADE COMPACTION	600 SQ.YD.
301, BITUMINOUS AGGREGATE BASE, PG64-22	130 CU.YD.
304, AGGREGATE BASE	100 CU.YD.

ITEM 203, ROADWAY, MISC.: PIEZOMETER RELOCATION

THERE ARE FOUR EXISTING PIEZOMETERS LOCATED IN THE PAVEMENT WITH MONITORING BOXES IN THE SLOPES AT THE LOCATIONS SHOWN ON SHEET 25 . THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS DURING THE INSTALLATION OF THE HORIZONTAL DRAINS AND PROPOSED SLOPE CONSTRUCTION TO MAINTAIN AND SALVAGE THE EXISTING HARDWARE AND PROVIDE FOR THE RELOCATION AND RESETTING OF THE WIRING AND MONITORING BOXES BELOW THE EXISTING SUBGRADE. INSTALLATION DETAILS AND NOTES FOR THE EXISTING PIEZOMETERS ARE INCLUDED ON PLAN SHEETS 25, 26 AND 27 . THE CONTRACTOR SHALL SAW CUT AND REMOVE THE EXISTING PAVEMENT AS PER 202.05 AND INSTALL THE EXISTING HARDWARE BELOW THE SUBGRADE. THE TRENCH WIDTH FOR THIS RELOCATION SHALL BE APPROVED BY THE ENGINEER PRIOR TO THESE OPERATIONS. MODIFICATIONS SHALL BE MADE TO THE MONITORING BOXES AS NECESSARY TO LOCATE THEM BEHIND THE PROPOSED GUARDRAIL WITH THE TOP OF THE BOX FLUSH WITH THE PROPOSED SHOULDER OR SLOPE. THE CONTRACTOR SHALL REPLACE ALL PAVEMENT OR OTHER SURFACES DISTURBED, TO A CONDITION EQUAL TO THAT EXISTING BEFORE THE WORK WAS STARTED. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 203 ROADWAY, MISC.: PIEZOMETER RELOCATION.

PROPERTY ACCESS

INCONJUCTION WITH THE REQUIREMENTS OF 104.04 QUANTITIES OF TRAFFIC COMPACTED SURFACE, WATER AND CALCIUM CHLORIDE HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER. THESE ITEMS SHALL BE USED FOR MAINTAINING THE EXISTING DRIVE ACCESSES OR CONSTRUCTING TEMPORARY DRIVE LOCATIONS.

410, TRAFFIC COMPACTED SURFACE, TYPE A OR B	25 CU.YD.
616, WATER	0.5 MGAL
616, CALCIUM CHLORIDE	0.05 TON

CONVERSION OF METRIC STANDARD DRAWINGS:

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.011 OF THE 1997 CONSTRUCTION AND MATERIALS SPECIFICATIONS. THE APPENDIX OF ASTM E 380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSION FACTORS REQUIRED. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER AND CALCIUM CHLORIDE FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

616,WATER	0.5 M-GAL.
616,CALCIUM CHLORIDE	0.05 TONS

CALCULATED JBH CHECKED SCB

GENERAL NOTES

SUM-303-6.98

ITEM 606, ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

1) THE ET-2000 (1997) MANUFACTURED BY SYRO, INC., 1170 N. STATE STREET, GIRARD, OHIO, 44420 (TELEPHONE: 330.545.4373).

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 15.24 m, INCLUSIVE OF TWO 7.62 m LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURE'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG.#	DRAWING NAME	DWG./ REV.DATE	ODOT APPROVAL DATE
SS265M	ET-2000 (1997) & SECTIONS	6/20/97	3/6/98

2) THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 7631 NEW CASTLE DRIVE, FRANKFORT, IL. 60423 (TELEPHONE: 815.464.5917).

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 15.24 m, INCLUSIVE OF FOUR 3.81 m LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG.#	DRAWING NAME	DWG./ REV.DATE	ODOT APPROVAL DATE
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

THE FACE OF THE TYPE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 450mm x 450mm. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM , INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606, ANCHOR ASSEMBLY, TYPE B-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

1) THE SRT-350, GUARDRAIL END TERMINAL AS MANUFACTURED BY SYRO INC., 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330.545.4373).

THE LENGTH OF THE SRT-350 SYSTEM IS CONSIDERED TO BE 11.43 m, INCLUSIVE OF THREE 3.81 m LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG.#	DRAWING NAME	DWG./ REV.DATE	ODOT APPROVAL DATE
SS425M	SLOTTED RAIL TERMINAL SRT-350 POST LAYOUT AND ERECTION DETAILS (12.5, 9 POST)	6/21/97	3/6/98

2) THE FLEAT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 7631 NEW CASTLE DRIVE, FRANKFORT, IL 60423 (TELEPHONE: 815.464.5917).

THE LENGTH OF THE FLEAT-350 IS CONSIDERED TO BE 11.43 m, INCLUSIVE OF THREE 3.81 m LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG.#	DRAWING NAME	DWG./ REV.DATE	ODOT APPROVAL DATE
FLT-M	FLARED ENERGY ABSORBING TERMINAL (FLEAT-350) ASSEMBLY	4/16/98	7/31/98

GRADING SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING GR-4.3M.

THE FACE OF THE TYPE B-98 IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19: APPROXIMATELY 915 mm W x 305 mm H FOR THE SRT-350 AND 350 mm W x 500 mm H FOR THE FLEAT.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE B-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING EFLECTIVE SHEETING AND ALL RELATED HARDWARE AND GRADING, NOT SEPERATELY SPECIFIED , AS REQUIRED BY THE MANUFACTURER.

CALCULATED JBH CHECKED SCB

GENERAL NOTES

SUM-303-6.98

DESIGNATED LOCAL ALTERNATE

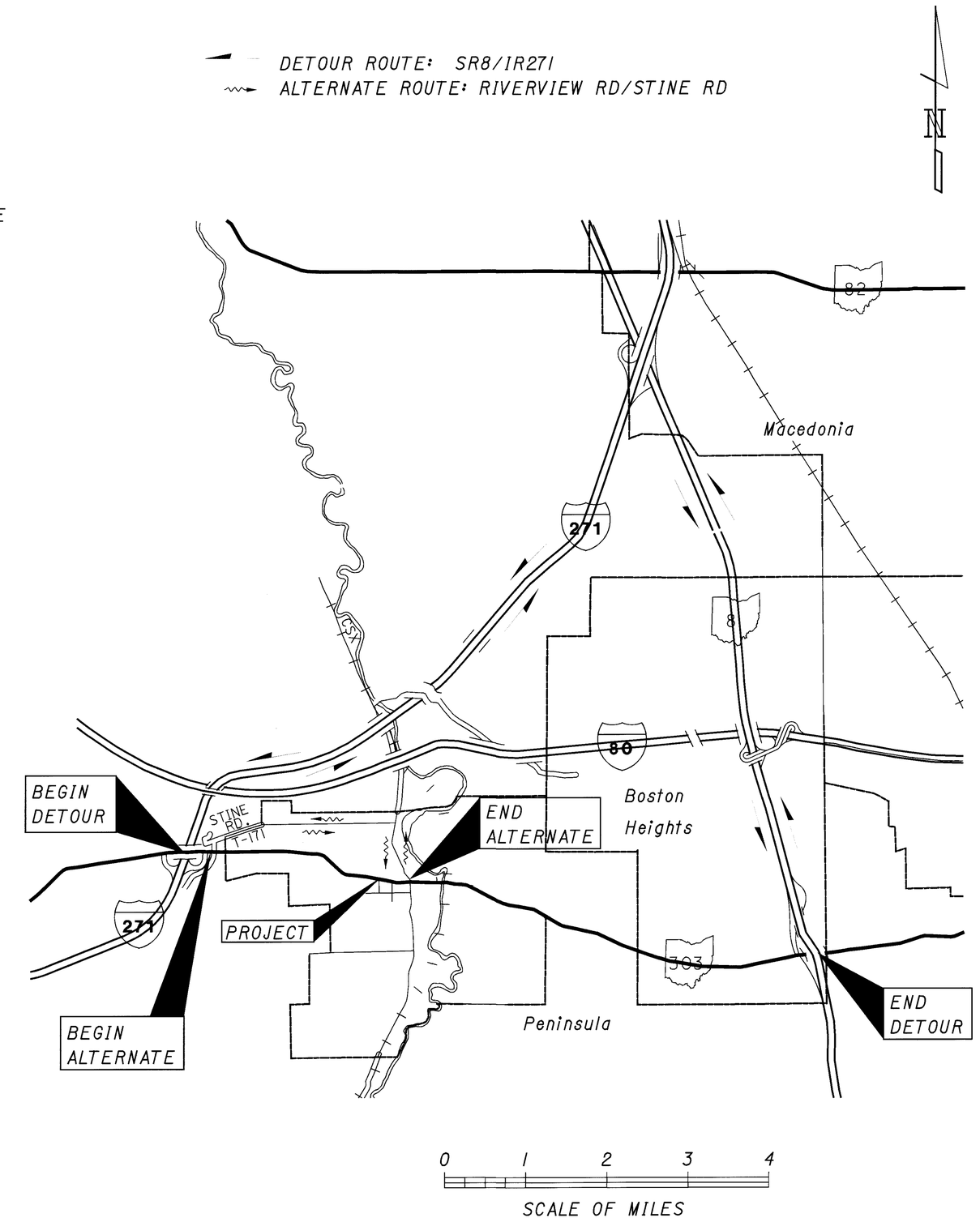
IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL ALTERNATE." THIS ROUTE IS SHOWN ON THIS SHEET ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL ALTERNATE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DIRECTED BY THE ENGINEER.

THE FOLLOWING QUANTITIES ARE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTE:

ITEM 614 - BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC 10 CY

DETOUR DURATION

THE MAXIMUM LENGTH OF TIME FOR THE DETOUR ROUTE TO BE IN EFFECT SHALL BE THIRTY [30] CONSECUTIVE DAYS. CONSTRUCTION WORK MAY BE PERFORMED BEFORE AND AFTER THE DETOUR LIMITATION DATES, BUT THERE SHALL BE NO RESTRICTIONS (LANE WIDTH REDUCTIONS, TEMPORARY ROADWAYS, OR ONE WAY TRAFFIC) TO THROUGH OR LOCAL TRAFFIC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM THE CONSTRUCTION WORK WITHIN THE DETOUR LIMITATION TIME. THE FAILURE OF THE CONTRACTOR TO MEET THE DETOUR LIMITATION DATES WILL CAUSE SEPARATE LIQUIDATED DAMAGES AS PER 108.07 PER CALENDAR DAY OF OVERRUN OF DETOUR LIMITATION TIME TO BE ASSESSED. THE CONTRACTOR WILL COMPLY WITH ALL PROVISIONS OF 108.07 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.



CALCULATED LAJ CHECKED KJG

MAINTENANCE OF TRAFFIC GENERAL NOTES

SUM-303-6.98

MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. PAVEMENT PLANING SHALL BE PERMITTED ONLY WHILE SR 303 TRAFFIC IS DETOURED. THE DETOUR SHALL NOT BE IMPLEMENTED BEFORE JULY 5. THE HORIZONTAL DRAINS MUST DRAIN FOR A PERIOD OF 90 DAYS PRIOR TO THE IMPLEMENTATION OF THE DETOUR UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

2. THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-297-0801 EXT 339) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. THE TRAFFIC OFFICE SHALL THEN PROVIDE AND INSTALL ALL DEVICES NECESSARY TO DEFINE THE ROUTE OF THE DETOUR AND SHALL MAINTAIN THE SAME THROUGHOUT THE DETOUR LIMITATION DATES. ALL TRAFFIC CONTROL DEVICES REQUIRED, OTHER THEN FOR THE DETOUR, SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR

3. THE CONTRACTOR SHALL PROVIDE, ERECT, MAINTAIN AND REMOVE PROTECTION FOR PEDESTRIAN TRAFFIC ON SR303 WHENEVER CONSTRUCTION EQUIPMENT IS PRESENT.

4. THE FOLLOWING QUANTITIES SHALL BE USED FOR THE MAINTENANCE OF TRAFFIC ON THIS PROJECT:

ITEM 410 TRAFFIC COMPACTED SURFACE, TYPE A OR B	5 CU.YD.

LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE CURRENT EDITION, LATEST REVISION OF THE OHIO MANUAL OF UNIFORM TRAFFIC DEVICES (OMUTCD), THE CONTRACTOR SHALL PROVIDE THE SERVICE OF LAW ENFORCEMENT OFFICERS (LEO) WITH AN OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS, AT THE ENGINEER'S REQUEST, FOR THE PURPOSE OF CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

INFORMATION REGARDING ARRANGEMENTS AND PAYMENTS BY THE CONTRACTOR FOR THE LEO MAY BE OBTAINED BY CONTACTING THE OHIO HIGHWAY PATROL 1970 WEST BROAD STREET, COLUMBUS, OHIO 43223, TELEPHONE: 614-466-2660. IF AFTER CONTACTING THE OHIO HIGHWAY PATROL, IT IS DETERMINED THAT THEY CANNOT SUPPLY THE LEO, THEN AN AUTHORIZED MUNICIPAL OR COUNTY POLICE OFFICER EQUIPPED WITH A MARKED AND FLASHER-LIGHT EQUIPPED OFFICIAL POLICE OR PATROL CAR SHALL BE PROVIDED.

LEO'S WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR	16 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

CALCULATED LAJ
CHECKED KJG

MAINTENANCE OF TRAFFIC GENERAL NOTES

SUM-303-6.98

PARTICIPATION								ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	5	6	8	9	10	24							
												ROADWAY	
LUMP								201	11000	LUMP		CLEARING AND GRUBBING	
				100				202	35100	100	LIN FT	PIPE REMOVED, 24" AND UNDER	
				215				202	38000	215	LIN FT	GUARDRAIL REMOVED	
			261					203	12000	261	CU YD	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	
			57					203	20000	57	CU YD	EMBANKMENT	
600								203	50000	600	SQ YD	SUBGRADE COMPACTION	
LUMP								203	98500	LUMP		ROADWAY, MISC.: PIEZOMETER RELOCATION	3
				231	94			606	13000	325	LIN FT	GUARDRAIL, TYPE 5	
				1				606	22000	1	EACH	ANCHOR ASSEMBLY, TYPE B-98	4
				1	1			606	22010	2	EACH	ANCHOR ASSEMBLY, TYPE E-98	4
				1				606	26500	1	EACH	ANCHOR ASSEMBLY, TYPE T	
												EROSION CONTROL	
198								207	10000	198	SQ YD	TEMPORARY SEEDING AND MULCHING	
550								207	30000	550	LIN FT	FILTER FABRIC FENCE	
20								207	70000	20	EACH	STRAW OR HAY BALES	
				0.6				601	32200	0.6	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
			891					659	10000	891	SQ YD	SEEDING AND MULCHING	
0.01			0.08					659	20000	0.09	TON	COMMERCIAL FERTILIZER	
			0.41					659	30000	0.41	TON	AGRICULTURAL LIMING	
2								659	35000	2	M GAL	WATER	
												DRAINAGE	
					10			603	00900	10	LIN FT	6" CONDUIT, TYPE B, 707.33, 707.41, 707.42 OR 707.45	
				150				603	01500	150	LIN FT	6" CONDUIT, TYPE F	
				100	52			603	04400	152	LIN FT	12" CONDUIT, TYPE B	
						896		603	98300	896	LIN FT	CONDUIT, MISC.: HORIZONTAL DRILLED HOLES	24
						896		603	98300	896	LIN FT	CONDUIT, MISC.: HORIZONTAL DRAIN PIPE	24
				1	1			604	04500	2	EACH	CATCH BASIN, NO. 2-2B	
					1			604	31500	1	EACH	MANHOLE, NO. 3	
				1				604	36600	1	EACH	PRECAST REINFORCED CONCRETE OUTLET	
				350	127			605	12200	477	LIN FT	6" DEEP PIPE UNDERDRAIN	
												PAVEMENT	
			1296					254	01000	1296	SQ YD	PAVEMENT PLANING, BITUMINOUS	
130			49					301	46000	179	CU YD	BITUMINOUS AGGREGATE BASE, PG64-22	
			8					301	48000	8	CU YD	BITUMINOUS AGGREGATE BASE, PG64-22 (DRIVEWAYS)	
100								304	20000	100	CU YD	AGGREGATE BASE	
			108					407	10000	108	GALLON	TACK COAT	
			108					407	14000	108	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
			70					448	46050	70	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
			50					448	47021	50	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	3
			3					448	48020	3	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)	
												TRAFFIC CONTROL	
					1			620	10300	1	EACH	DELINEATOR, TYPE C, POST MOUNTED	
				6	2			626	00300	8	EACH	BARRIER REFLECTOR, TYPE A2	
0.1								642	00090	0.1	MILE	EDGE LINE	
0.1								642	00290	0.1	MILE	CENTER LINE	
												MAINTENANCE OF TRAFFIC	
25		5						410	12000	30	CU YD	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
		16						614	11100	16	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
	10							614	13000	10	CU YD	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	
1								616	10000	1	M GAL	WATER	
0.1								616	20000	0.1	TON	CALCIUM CHLORIDE	
								614	11000	LUMP		MAINTAINING TRAFFIC	
								623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
								624	10000	LUMP		MOBILIZATION	

CALCULATED JBH
CHECKED SCB

GENERAL SUMMARY

SUM-303-6.89

7
31

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CALCULATED SCB CHECKED JBH

CALCULATIONS

Item 407 - Tack Coat
Sta. 83+50 to 88+50
(22' x 500') x 1/9 = 1222.22 yd^2
1222.22 yd^2 x 0.075 gal/yd^2 = 91.67 gal
SHOULDERS
(4' x 500') x 1/9 = 222.22 yd^2
222.22 yd^2 x 0.075 gal/yd^2 = 16.67 gal

Total 108.34 gal *USE 108 GAL.

Item 407 - Tack Coat for Intermediate Course
Sta. 83+50 to 88+50
(22' x 500') x 1/9 = 1222.22 yd^2
1222.22 yd^2 x 0.075 gal/yd^2 = 91.67 gal
SHOULDERS
(4' x 500') x 1/9 = 222.22 yd^2
222.22 yd^2 x 0.075 gal/yd^2 = 16.67 gal

Total 108.34 gal *USE 108 GAL.

Item 448 - Asphalt Concrete, Intermediate Course, Type 2, PG64-22
Sta. 83+50 to 88+50
(22' x 500' x 0.1458') x 1/27 = 59.40 yd^3
SHOULDERS
(4' x 500' x 0.1458') x 1/27 = 10.80 yd^3

Total 70.20 yd^3 *USE 70 yd^3

Item 448 - Asphalt Concrete, Surface Course, Type I, PG64-22, As Per Plan
Sta. 83+50 to 88+50
(22' x 500' x 0.1042') x 1/27 = 42.45 yd^3
SHOULDERS
(4' x 500' x 0.1042') x 1/27 = 7.72 yd^3

Total 50.17 yd^3 *USE 50 yd^3

Item 301 - Bituminous Aggregate Base, PG64-22
Sta. 83+50 to 88+50
SHOULDERS
(4' x 500' x 0.6667') x 1/27 = 49.39 yd^3

Total 49.39 yd^3 *USE 49 yd^3

Item 254 - Pavement Planing, Bituminous
Sta. 83+50 to 88+50
(22' x 500') x 1/9 = 1222.22 yd^2
EMERSON ST.
666 ft^2 (BY CADD) x 1/9 = 74 yd^2

Total 1296.22 yd^2 *USE 1296 yd^2

Item 448 - Asphalt Concrete, Surface Course, Type I, PG64-22 (Driveways)
DRIVE DR-1
317 ft^2 (BY CADD) x 0.1042' x 1/27 = 1.22 yd^3
DRIVE DR-2
387 ft^2 (BY CADD) x 0.1042' x 1/27 = 1.49 yd^3

Total 2.71 yd^3 *USE 3 yd^3

Item 301 - Bituminous Aggregate Base, PG64-22 (Driveways)
DRIVE DR-1
317 ft^2 (BY CADD) x 0.3125' x 1/27 = 3.67 yd^3
DRIVE DR-2
387 ft^2 (BY CADD) x 0.3125' x 1/27 = 4.48 yd^3

Total 8.15 yd^3 *USE 8 yd^3

Item 659 - Commercial Fertilizer
891 yd^2 (From Table) x 9 x 20 lbs. x 1/1000 ft^2 x 1/2000 = 0.08 Ton

Total 0.08 Ton *USE 0.08 Ton

Item 659 - Agricultural Liming
891 yd^2 (From Table) x 9 x 46 lbs. x 1/1000 ft^2 x 1/2000 x 220% = 0.41 Ton

Total 0.41 Ton *USE 0.41 Ton

Item 659 - Water
891 yd^2 (From Table) x 9 x 120 Gal x 1/1000 ft^2 x 1/1000 x 2 app. = 1.92 M Gal

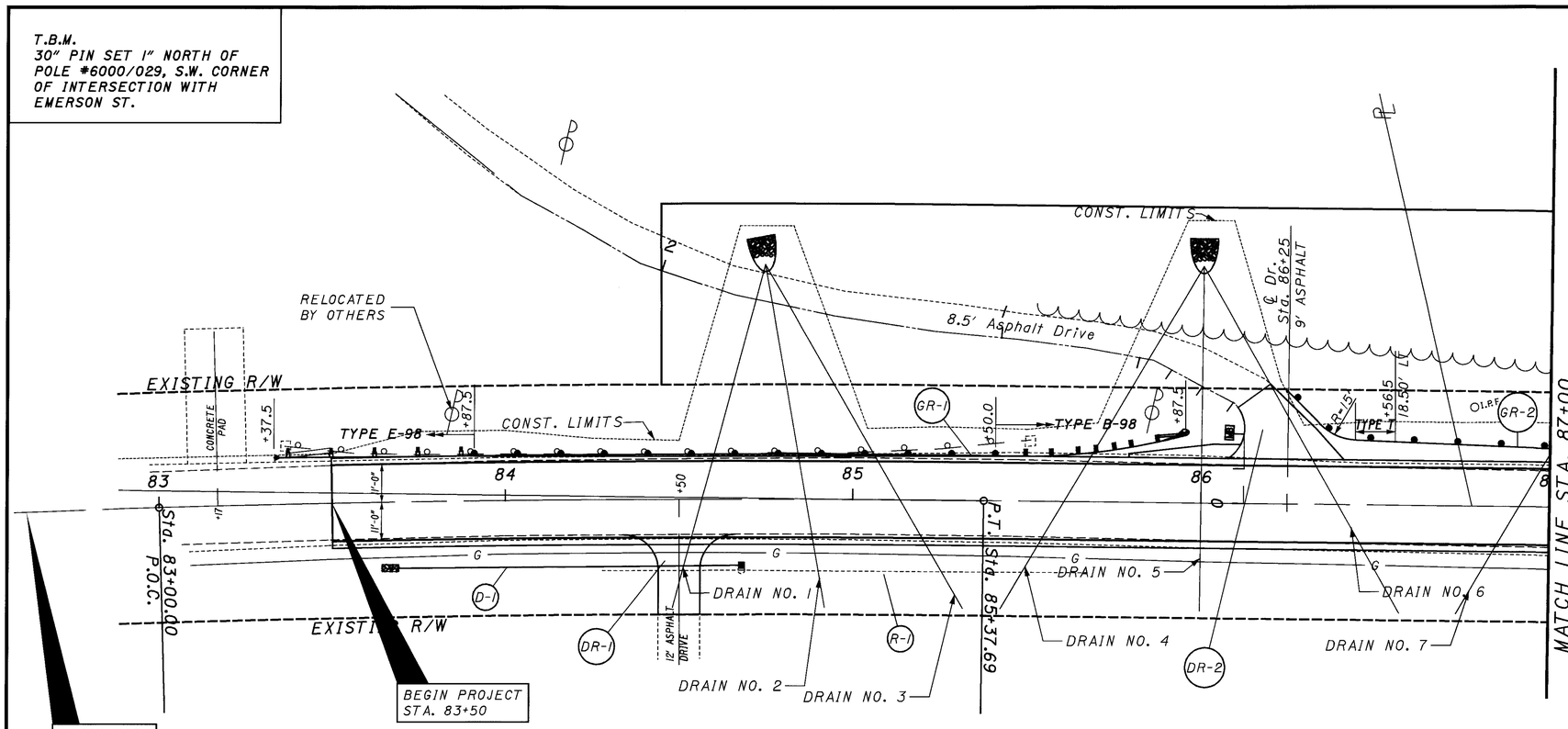
Total 1.92 M Gal

SHEET	ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	ITEM 203 EMBANKMENT	ITEM 659 SEEDING AND MULCHING
	CU.METERS	CU.METERS	SQ.METERS
11	2	1	26
12	14	5	106
13	33	1	53
14	40	0	100
15	34	2	86
16	40	2	100
17	41	5	92
18	20	24	114
19	8	8	49
20	16	5	77
21	9	2	54
22	4	2	34
TOTALS	261	57	891
* USE	261	57	891

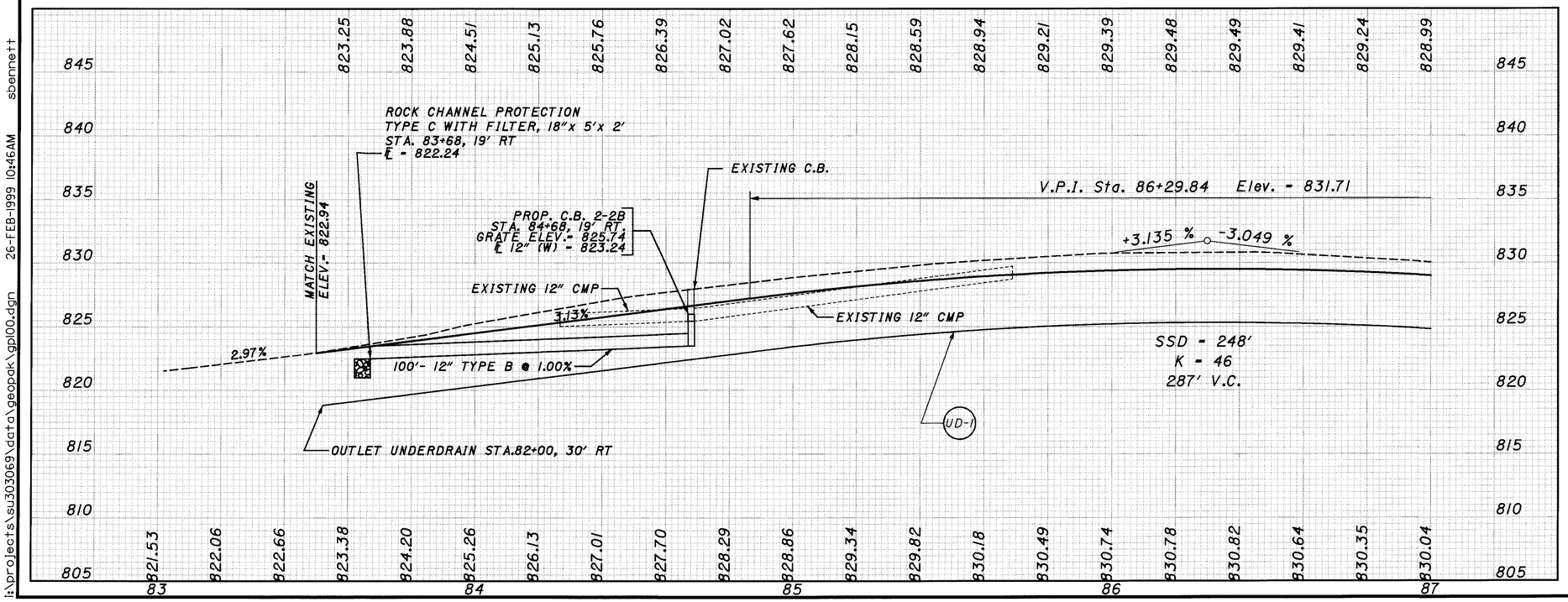
* Totals Carried to General Summary

SUM-303-6.98

T.B.M.
30" PIN SET 1" NORTH OF POLE #6000/029, S.W. CORNER OF INTERSECTION WITH EMERSON ST.



FOR DRIVE DR-2 DETAILS AND PROFILE SEE SHEET 23.



REF NO.	STATION FROM	STATION TO	SIDE	202 GUARDRAIL REMOVED LIN.FT.	202 PIPE REMOVED, 24" AND UNDER LIN.FT.	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER CU.YD.	603 6" CONDUIT, TYPE F LIN.FT.	603 12" CONDUIT, TYPE B LIN.FT.	604 PRECAST REINFORCED CONCRETE OUTLET EACH	604 CATCH BASIN NO. 2-2B EACH	605 6" DEEP PIPE UNDERDRAINS LIN.FT.	606 GUARDRAIL, TYPE 5 LIN.FT.	606 ANCHOR ASSEMBLY, TYPE E-98 EACH	606 ANCHOR ASSEMBLY, TYPE B-98 EACH	606 ANCHOR ASSEMBLY, TYPE T EACH	626 BARIER REFLECTOR, TYPE A2 EACH
GR-1	83+37.5	85+87.5	LT.	215								162.5	1	1		4
GR-2	86+25	87+00	LT.									68.5			1	2
UD-1	83+50	87+00	RT.				150	100	1	1	350					
R-1	84+68	85+68	RT.		100											
D-1	83+63	84+68	RT.			0.6										
TOTALS CARRIED TO GENERAL SUMMARY				215	100	0.6	150	100	1	1	350	231	1	1	1	6

HORIZONTAL SCALE IN FEET

CALCULATED JBH
CHECKED SCB

PLAN AND PROFILE
STA. 82+00 TO STA. 87+00

SUM-303-6.98

9
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T.B.M.
30" PIN SET 1" NORTH OF POLE #6000/029, S.W. CORNER OF INTERSECTION WITH EMERSON ST.

REF NO.	STATION FROM	STATION TO	SIDE	603 6" CONDUIT, TYPE B, 707.33, 707.41, 707.42 OR 707.45 LIN.FT.	603 12" CONDUIT, TYPE B LIN.FT.	604 CATCH BASIN, NO. 2-2B EACH	604 MANHOLE, NO.3 EACH	605 6" DEEP PIPE UNDER-DRAINS LIN.FT.	606 ANCHOR ASSEMBLY, TYPE E-98 EACH	606 GUARDRAIL, TYPE 5 LIN.FT.	620 DELINEATOR TYPE C, POST MOUNTED EACH	626 BARRIER REFLECTOR, TYPE A2 EACH	INFORMATION 6" x 90° BEND EACH
GR-3	87+00	88+44	LT.						1	94	1	2	
UD-2	87+00	88+27	RT.	10				127					1
D-2	87+75	88+27	RT.		52	1	1						
TOTALS CARRIED TO GENERAL SUMMARY				10	52	1	1	127	1	94	1	2	1

HORIZONTAL SCALE IN FEET
0

CALCULATED JBH
CHECKED SCB

PLAN AND PROFILE
STA. 87+00 TO STA. 89+00

SUM-303-6.98

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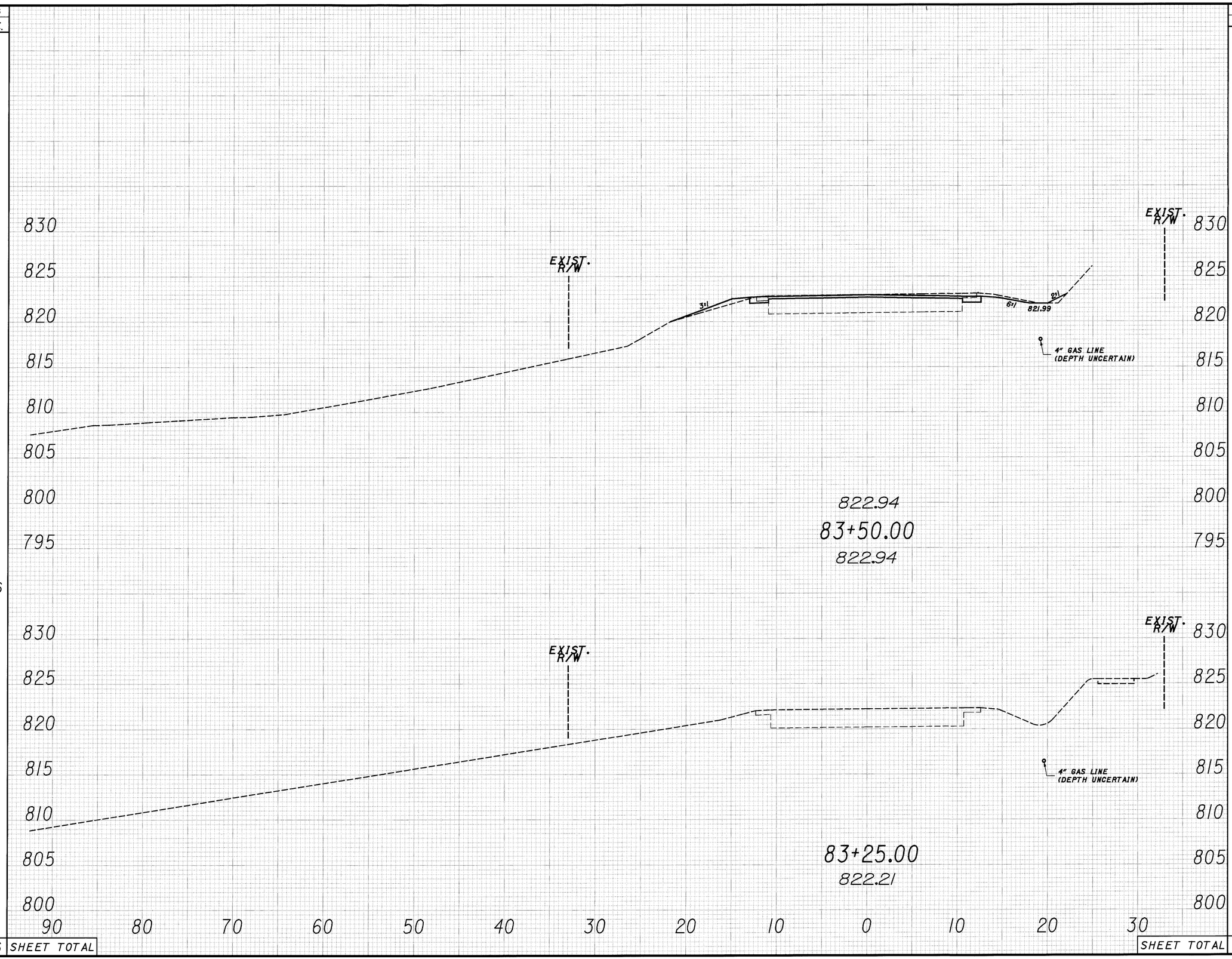
31

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
19		5	3		
	26			2	1
0		0	0		
	26	SHEET TOTAL		2	1



CALCULATED SCB
CHECKED JBH

CROSS SECTIONS
STA. 83+25 TO STA. 83+50

SUM-303-6.98

11
31

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SEEDING	
END WIDTH	SQ. YDS.
13	49
22	57
	106

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
9	1		
9	4		
		8	2
		6	3
		14	5

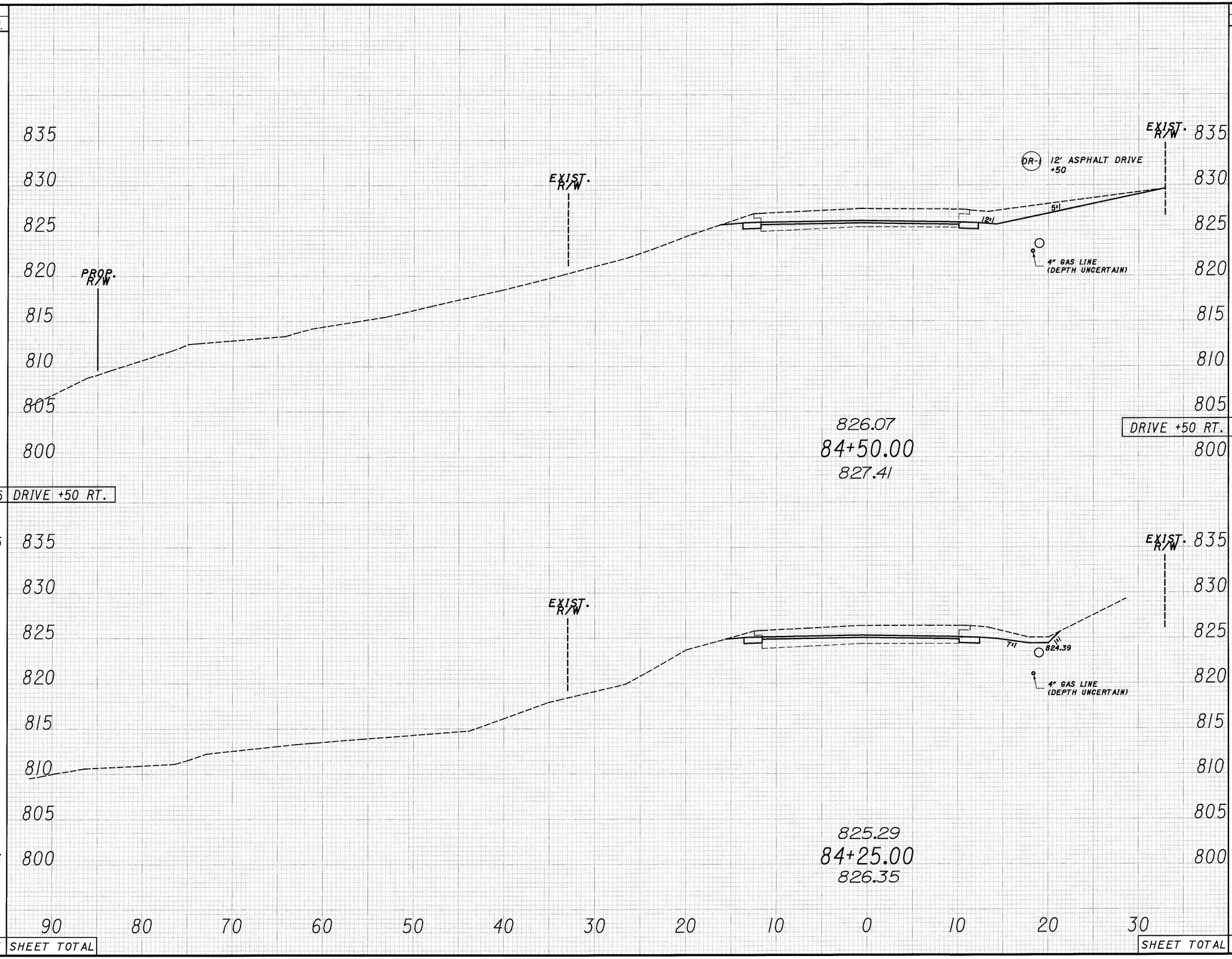
CALCULATED SCB
CHECKED JBH

CROSS SECTIONS
STA. 83+75 TO STA 84+00

SUM-303-6.98

12
31

SEEDING END WIDTH	SEEDING SQ. YDS.
14	
	-15
11	35
	33
	53



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
15	0		
21	0	9	0
		13	0
14	0		
		11	1
		33	1

CALCULATED SCB
CHECKED JBH

CROSS SECTIONS

STA. 84+25 TO STA. 84+50

SUM-303-6.98

13
31

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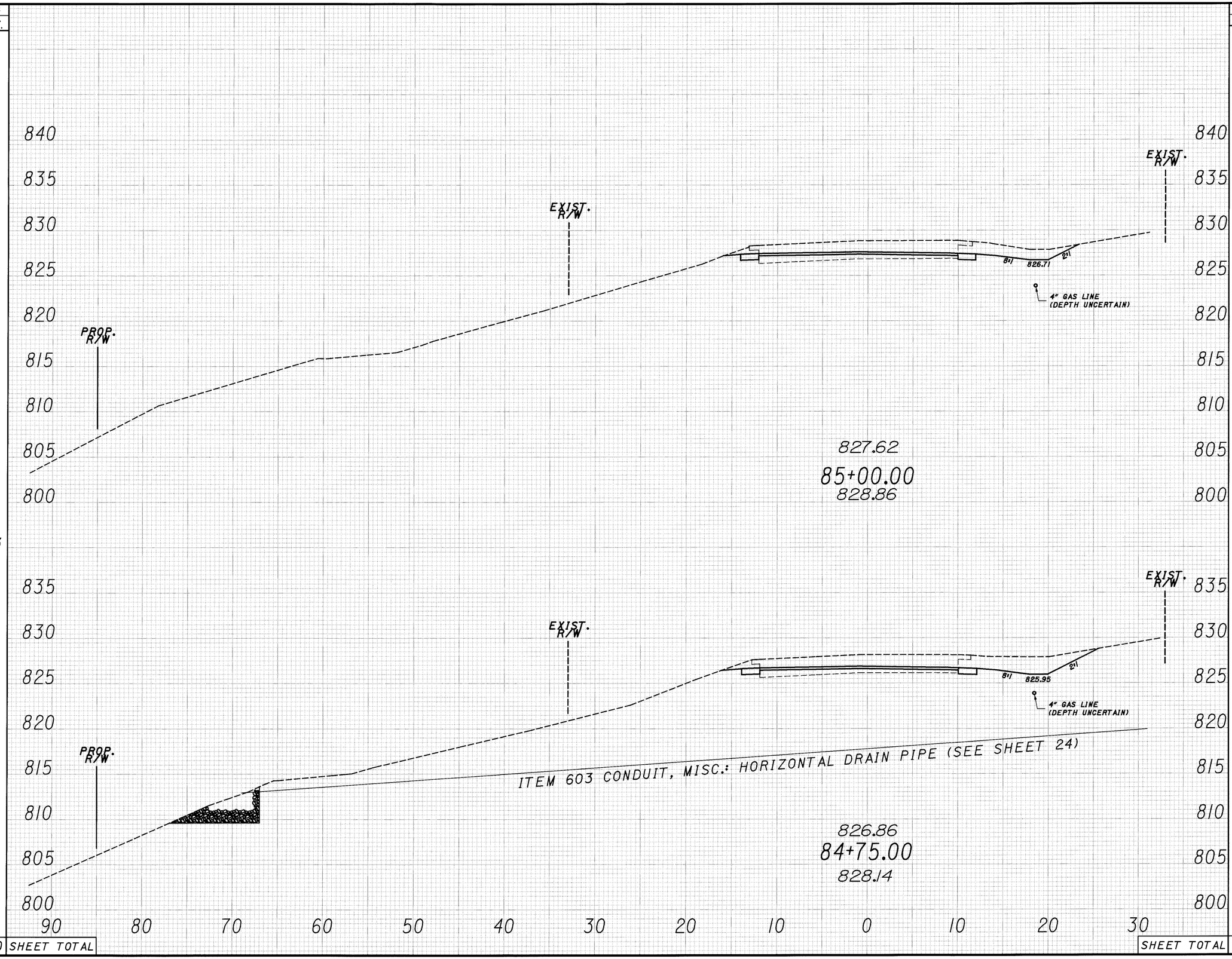
SEEDING	
END WIDTH	SQ. YDS.
14	
	43
17	
	57
	100



END AREA		VOLUME	
CUT	FILL	CUT	FILL
19	0		
		21	0
27	0		
		19	0
		40	0

SHEET TOTAL

CALCULATED SCB
CHECKED JBH

CROSS SECTIONS
STA. 84+75 TO STA. 85+00

SUM-303-6.98

14
31

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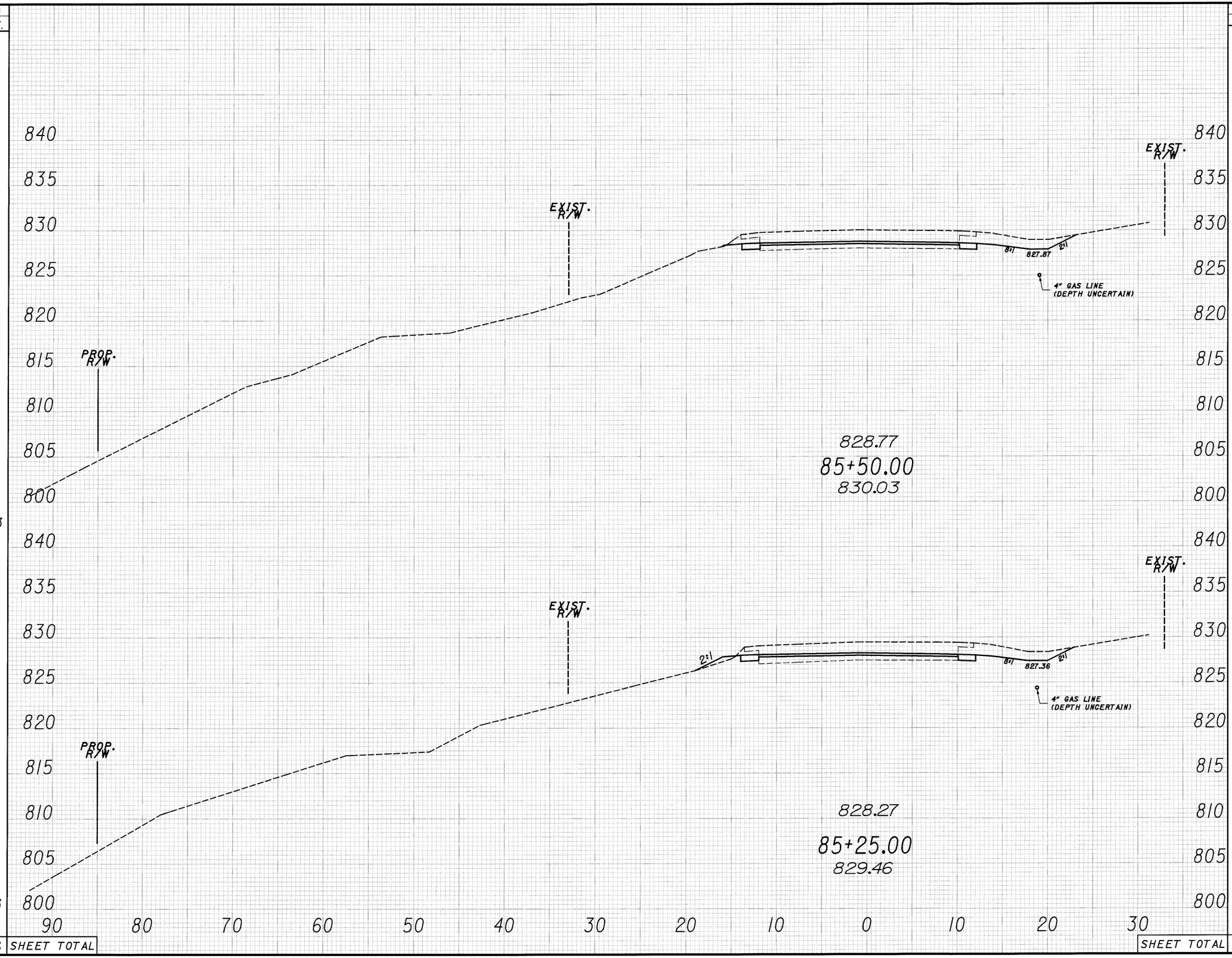
SEEDING	
END WIDTH	SQ. YDS.
14	43
17	43
	86



END AREA		VOLUME	
CUT	FILL	CUT	FILL
19	.5		
		17	1
18	1		
		17	1
SHEET TOTAL		34	2

CALCULATED SCB
CHECKED JBH

CROSS SECTIONS
STA. 85+25 TO STA. 85+50

SUM-303-6.98

15
31

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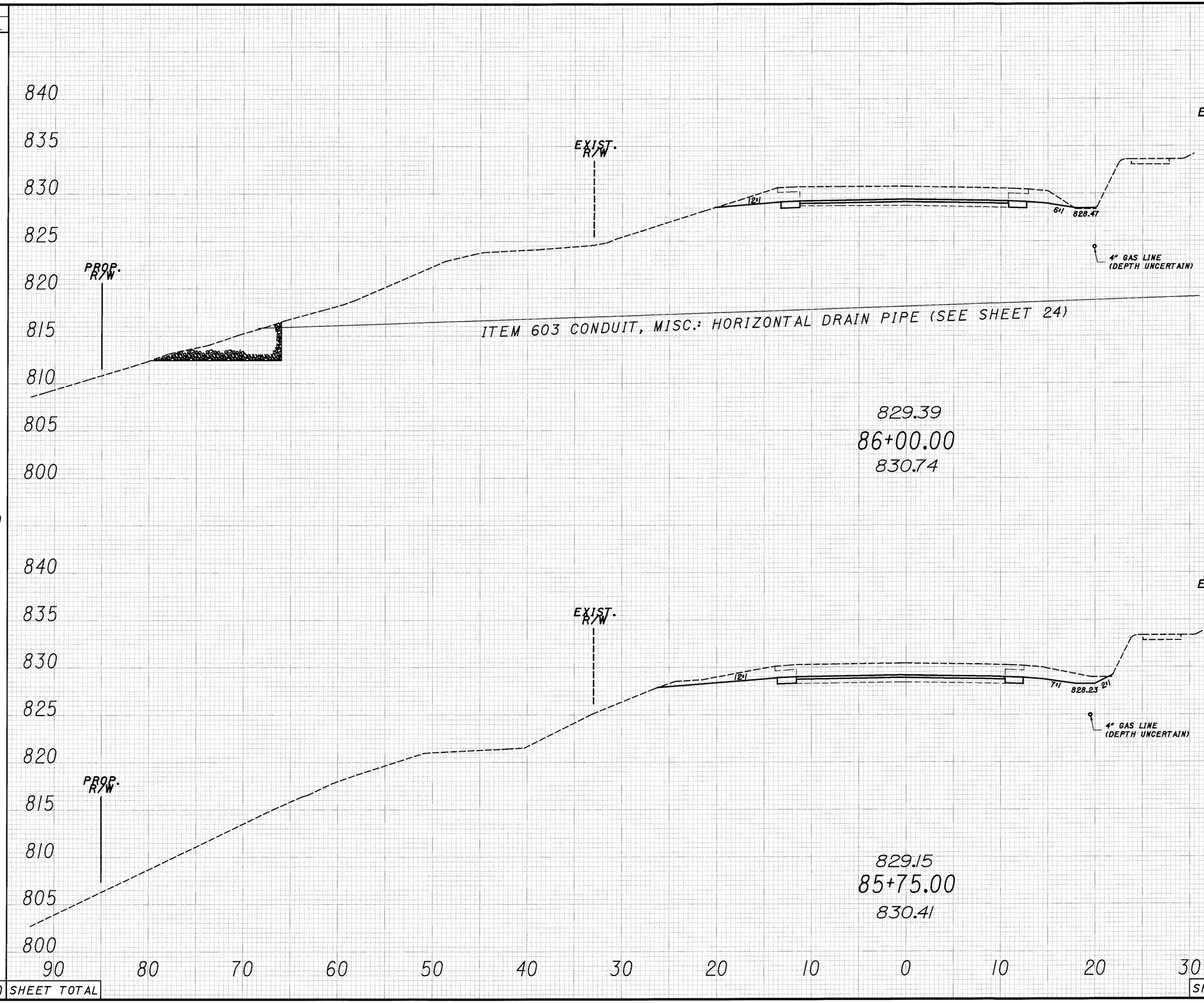
SEEDING	
END WIDTH	SQ. YDS.
14	
	50
22	
	50
100	SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
18	.5		
		20	1
25	.5		
		20	1
		40	2

SHEET TOTAL

CALCULATED SCB
CHECKED JBH

CROSS SECTIONS
STA. 85+75 TO STA. 86+00

SUM-303-6.98

16/31

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
20	57	840 835 830 825 820 815 810 805 PROP. R/W EXIST. R/W 2:1 12:1 6:1 828.54 4" GAS LINE (DEPTH UNCERTAIN) 829.46 86+50.00 830.79	14	9	17	4
-14	DRIVE +25 LT.					
21	49	840 835 830 825 820 815 810 805 PROP. R/W EXIST. R/W See Drive Profile 6:1 828.56 4" GAS LINE (DEPTH UNCERTAIN) 829.49 86+25.00 830.79 90 80 70 60 50 40 30 20 10 0 10 20 30	22	.5	19	1
	92	SHEET TOTAL			41	5
		DRIVE +25 LT.	14	0	5	0
		SHEET TOTAL				

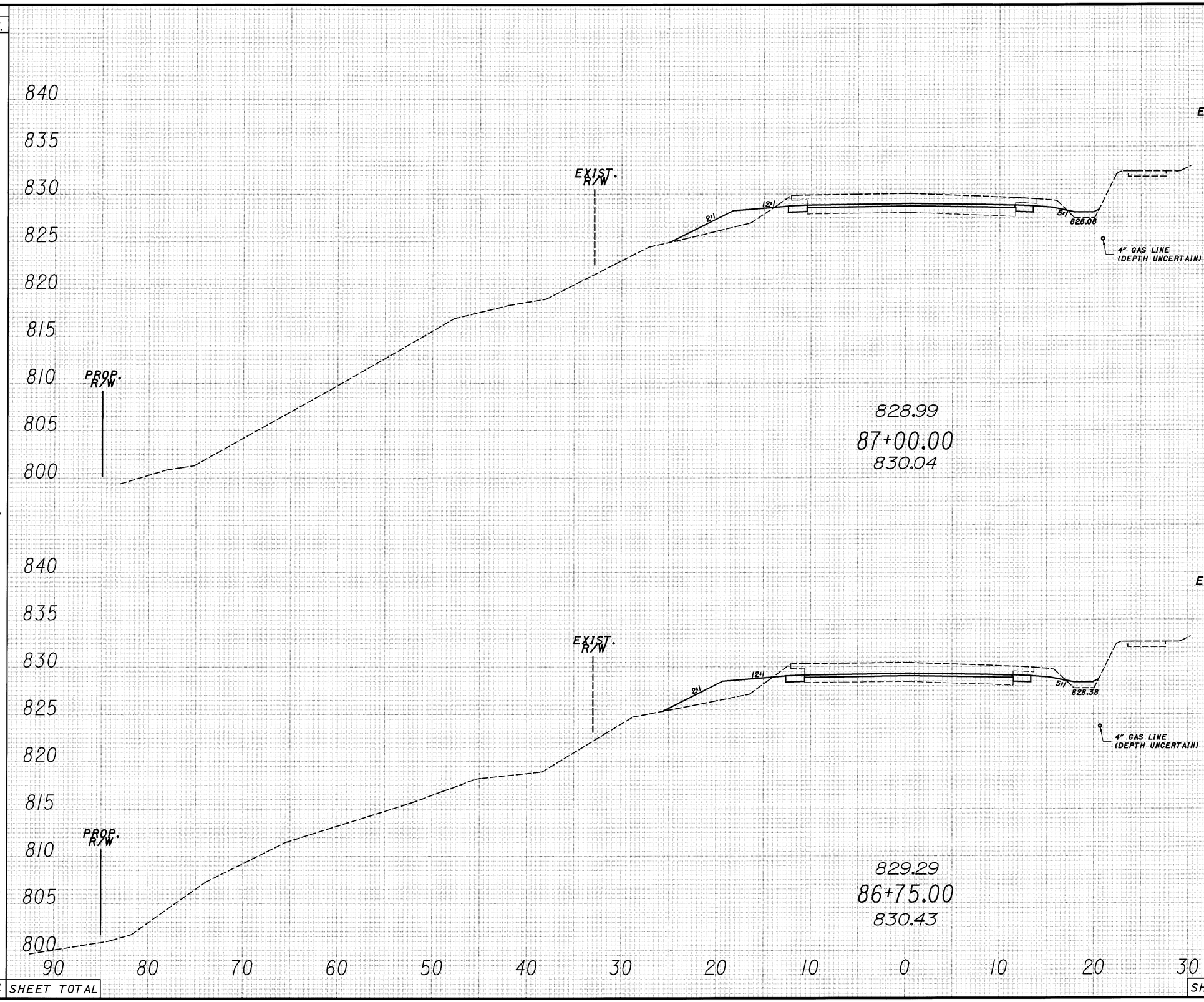
CALCULATED SCB
CHECKED JBH

CROSS SECTIONS
STA. 86+25 TO STA. 86+50

SUM-303-6.98

17
31

SEEDING END WIDTH	SEEDING SQ. YDS.
20	57
	21
	57
	114



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
9	12		
10	15		
		9	13
		11	11
SHEET TOTAL		20	24

CALCULATED SCB
CHECKED JBH

CROSS SECTIONS
STA. 86+75 TO STA. 87+00

SUM-303-6.98

18
31

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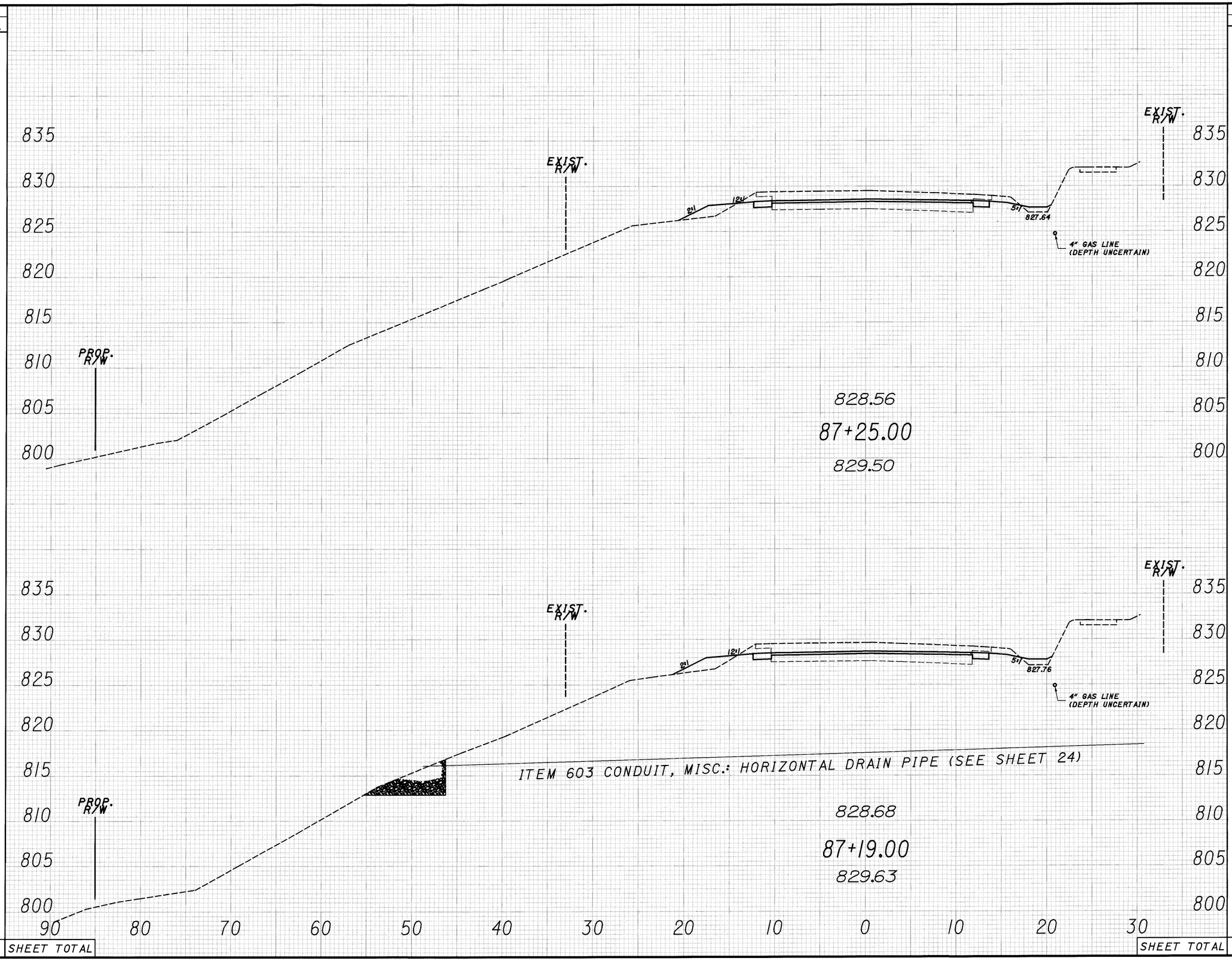
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
16	11	9	6	2	1
16	38	9	7	6	7
	49 SHEET TOTAL			8	8



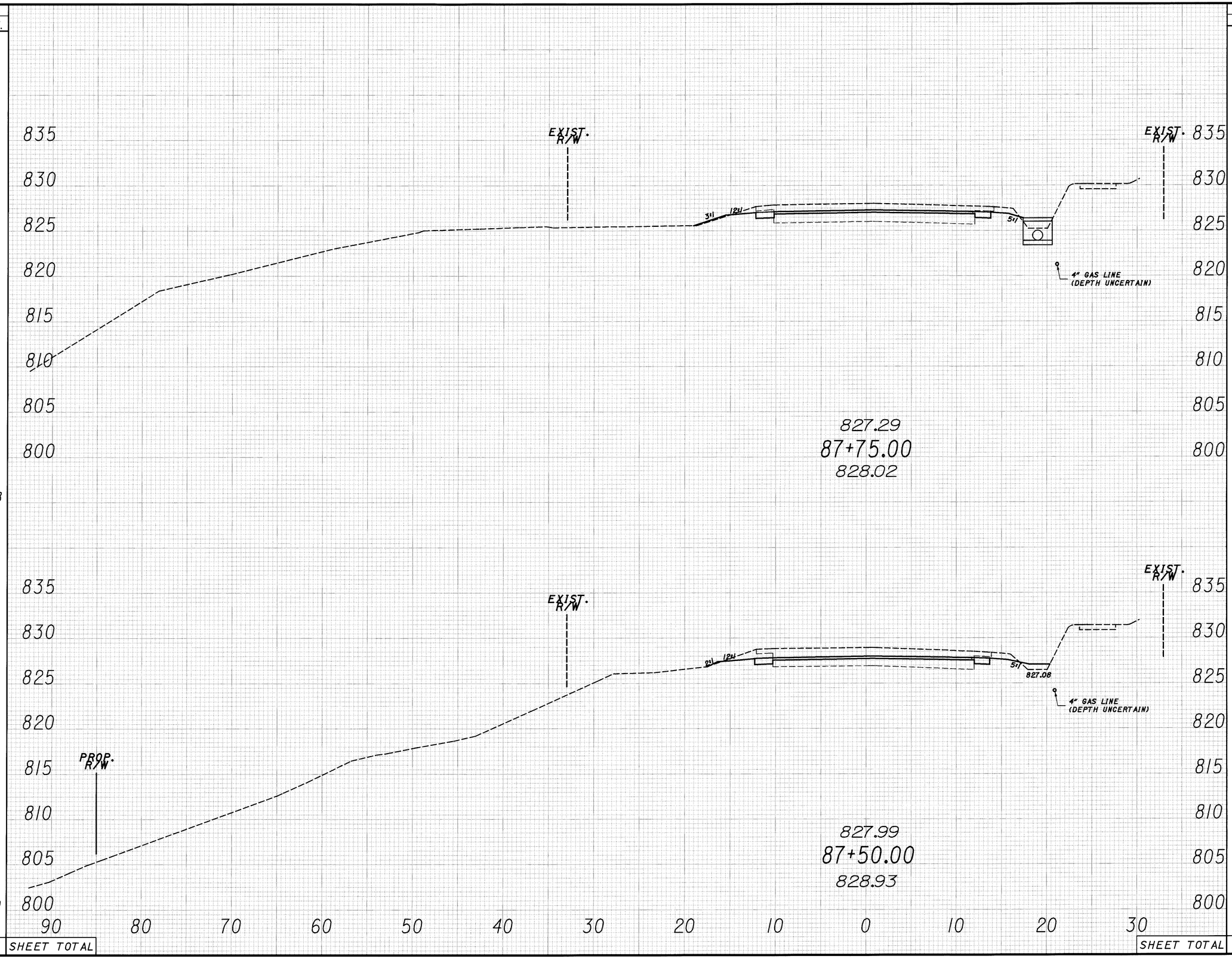
CALCULATED SCB
CHECKED JBH

CROSS SECTIONS
STA. 87+19 TO STA. 87+25

SUM-303-6.98

19/31

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
15		8	.5		
	38			8	1
12		9	2		
	39			8	4
	77	SHEET TOTAL		16	5



CALCULATED SCB
CHECKED JBH

CROSS SECTIONS
STA. 87+50 TO STA. 87+75

SUM-303-6.98

20
31

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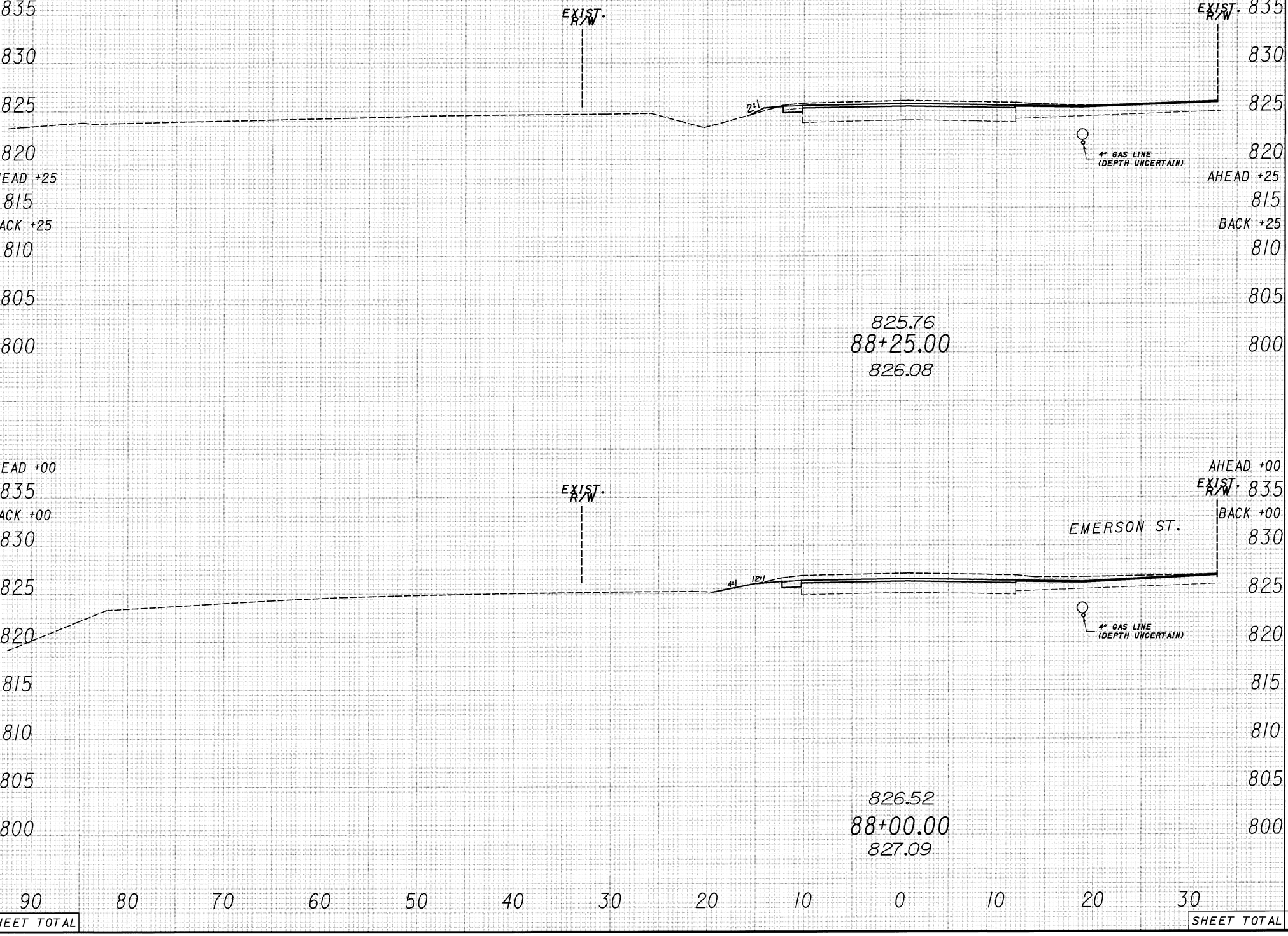
SEEDING END WIDTH	SEEDING SQ. YDS.	
		835
		830
		825
		820
6		AHEAD +25
		815
4		BACK +25
		810
		805
		800
	14	
6		AHEAD +00
		835
14		BACK +00
		830
		825
		820
		815
		810
		805
		800
	40	
	54	SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
3	.5		
2	.5		
		2	1
3	0		
7	0		
		7	1
		9	2

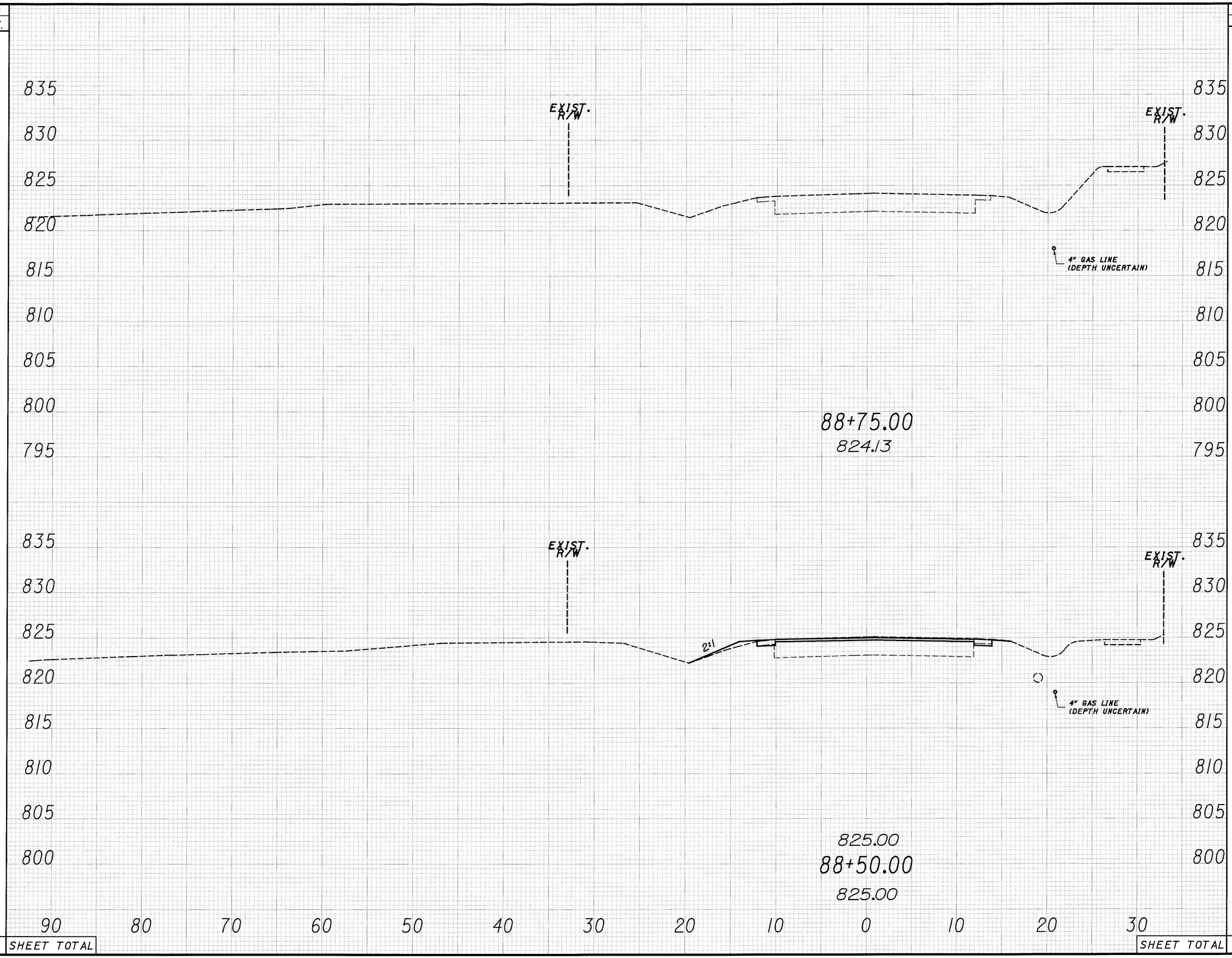
CALCULATED SCB
CHECKED JBH

CROSS SECTIONS
STA. 88+00 TO STA. 88+25

SUM-303-6.98

21
31

SEEDING	
END WIDTH	SQ. YDS.
0	
	13
9	
	21
	34



SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		1	1
3	1		
		3	1
		4	2

SHEET TOTAL

CALCULATED SCB
CHECKED JBH

CROSS SECTIONS
STA. 88+50 TO STA. 88+75

SUM-303-6.98

22
31

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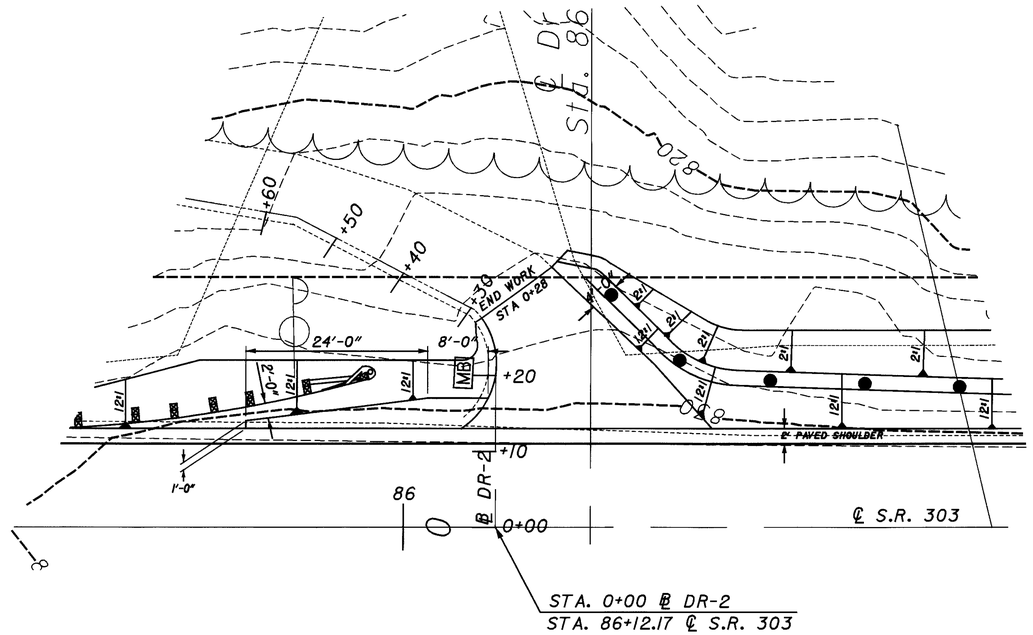
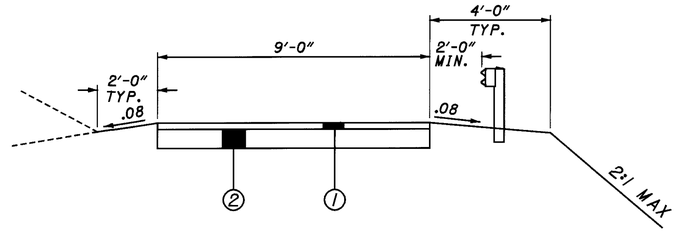
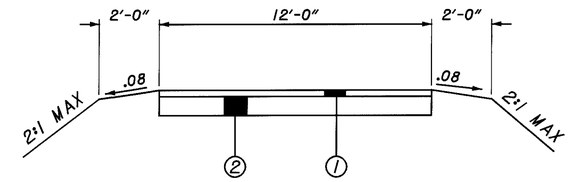


STA. 0+00 ℄ DR-2
STA. 86+12.17 ℄ S.R. 303

0 5 10 20
HORIZONTAL SCALE IN FEET



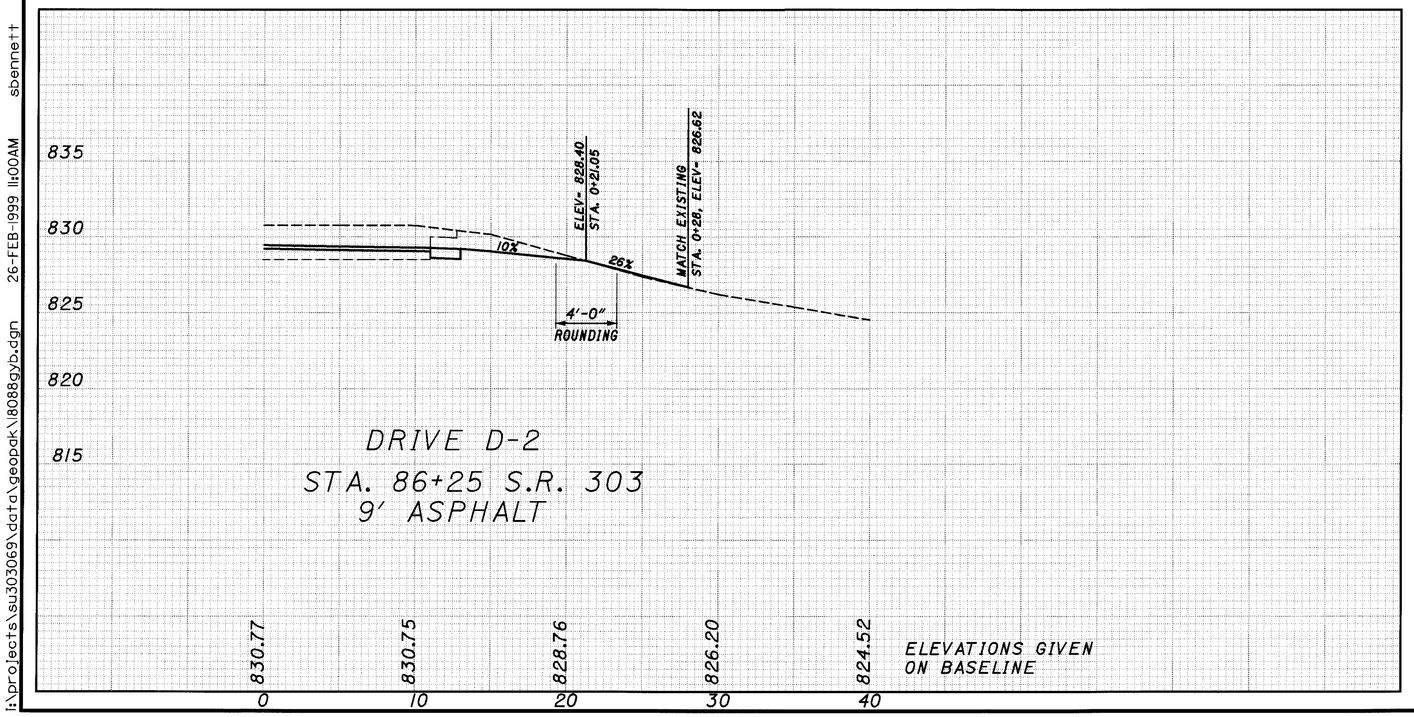
DRIVE D-2



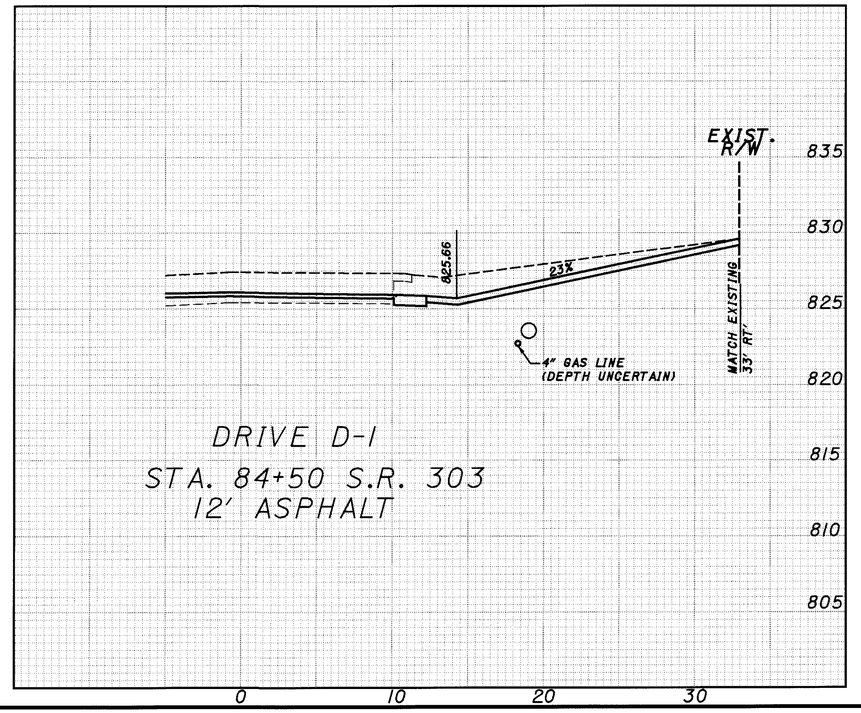
DRIVE D-1

LEGEND

①	1¼"	448	ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG64-22 (DRIVEWAYS)
②	3¾"	301	BITUMINOUS AGGREGATE BASE, PG64-22 (DRIVEWAYS)



DRIVE D-2
STA. 86+25 S.R. 303
9' ASPHALT



DRIVE D-1
STA. 84+50 S.R. 303
12' ASPHALT

N

HORIZONTAL SCALE IN FEET

DRAWN SCB
CHECKED JBH

DRIVE DETAILS

SUM-303-6.98

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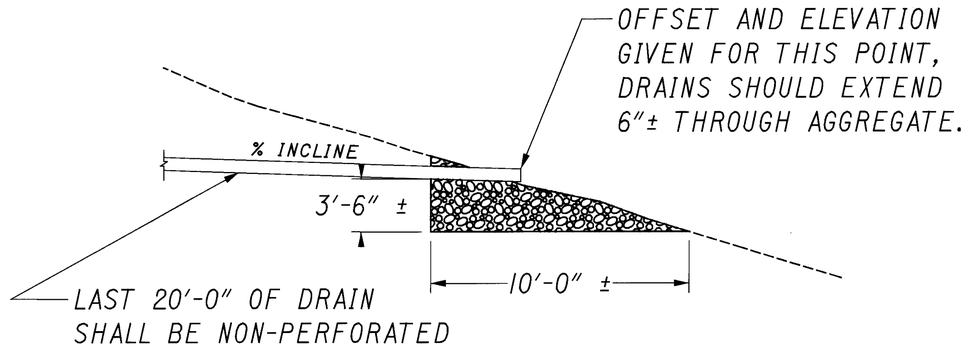
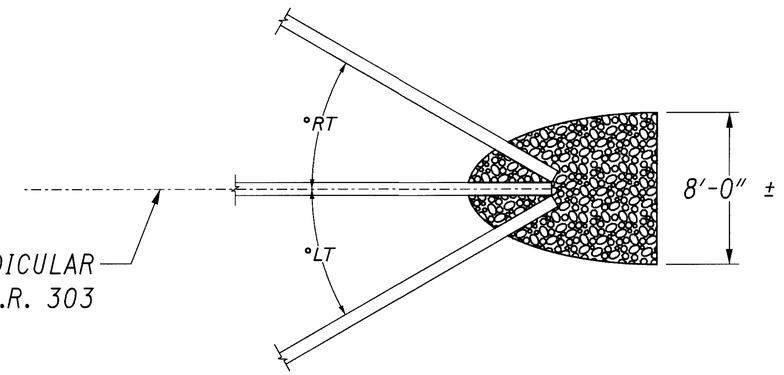
HORIZONTAL DRAIN DETAILS

DRAIN NO.	STATION	OFFSET	ELEVATION	°LT/°RT	% INCLINE	LENGTH
1	84+75	69′-0″LT	813.00	15°RT	7%	102′
2	84+75	69′-0″LT	813.00	10°LT	7%	100′
3	84+75	69′-0″LT	813.00	30°LT	6%	114′
4	86+00	68′-0″LT	816.00	30°RT	3%	114′
5	86+00	68′-0″LT	816.00	0°	3%	99′
6	86+00	68′-0″LT	816.00	30°LT	3%	114′
7	87+19	48′-0″LT	816.00	30°RT	3%	91′
8	87+19	48′-0″LT	816.00	0°	3%	80′
9	87+19	48′-0″LT	816.00	15°LT	3%	82′
TOTAL						896 L.F.





HORIZONTAL DRAINS

DESCRIPTION- THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING HORIZONTAL DRAINS AS SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER AND AS SPECIFIED IN THESE SPECIFICATIONS.

MATERIALS- THE PIPE SHALL CONSIST OF NORMAL 1½ INCH, SCHEDULE 80 PVC 2110 PLASTIC PIPE CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION: D1785, AND SHALL BE NATIONAL SANITATION FOUNDATION APPROVED. BOTH PLAIN AND SLOTTED PIPE SHALL BE USED.

SLOTTED PIPE SHALL HAVE 2 ROWS OF SLOTS CUT CIRCUMFERENTIALLY IN THE PIPE ON 2 OF THE THIRD POINTS (120 DEGREES APART). THE AVERAGE CONFIGURATION SHALL BE 23 SLOTS, PLUS OR MINUS ONE SLOT, PER ROW, PER FOOT, USING 0.020 INCH WIDE SLOTS.

SLOTTED PIPE SHALL HAVE A MINIMUM OPENING OF 0.9 SQUARE INCH PER LINEAR FOOT, MEASURED ON THE INNER SURFACE OF THE PIPE. OTHER SUITABLE PERFORATIONS OR SLOTS, EQUAL TO THE ABOVE REQUIREMENTS, MAY BE SUBSTITUTED UPON WRITTEN APPROVAL BY THE ENGINEER.

FITTINGS FOR THE PVC PIPE SHALL BE SCHEDULE 80 TYPE II PVC SOLVENT WELD TYPE FITTINGS CONFORMING TO THE REQUIREMENTS IN ASTM DESIGNATION: D 2467. MACHINED MALE AND FEMALE ENDS MAY BE USED IN LIEU OF COUPLINGS.

UNSLOTTED PVC PLASTIC PIPE, APPROXIMATELY 20 FEET IN FEET, SHALL BE PROVIDED AT THE OUTLET OF THE DRAIN.

AGGREGATE AT THE OUTLET ENDS OF THE HORIZONTAL DRAINS SHALL BE NO. 57 SIZE. LARGER AGGREGATE MAY BE SUBSTITUTED FOR THE NO. 57's NEAR THE BOTTOM IF APPROVED BY THE ENGINEER.

INSTALLING HORIZONTAL DRAINS- THE DRAINS SHALL BE INSTALLED AS SHOWN ON THE PLANS, THE LOCATIONS OF THE HORIZONTAL DRAINS SHOWN ON THE PLANS ARE APPROXIMATE ONLY AND THE EXACT LOCATION AND SEQUENCE OF PLACING HORIZONTAL DRAINS SHALL BE AS DIRECTED BY THE ENGINEER.

THE HORIZONTAL HOLES SHALL BE DRILLED WITH ROTARY EQUIPMENT CAPABLE OF DRILLING 3 INCH TO 6 INCH DIAMETER HOLES UP TO 600 FEET IN LENGTH TO DESIGNATED LINES AND GRADES THROUGH SOIL AND ROCK FORMATIONS. SURPLUS MATERIAL RESULTING FROM THE DRILLING PROCESS SHALL BE DISPOSED OF AS PER 203.05.

PLASTIC PIPE SHALL BE INSTALLED BY PUSHING IT INTO THE HOLE WITH SLOTS OR PERFORATIONS ON TOP OR, AT THE CONTRACTOR'S OPTION, SHALL BE INSTALLED BY INSERTING THE PIPE INSIDE THE DRILL ROD AND THEN RETRACTING THE DRILL ROD SO THAT THE DRILLED HOLE IS CASED FOR THE FULL DEPTH. THE ENTRANCE END OF THE PLASTIC PIPE SHALL BE TIGHTLY PLUGGED.

THE CASING OPERATION OF THE DRILLED HOLE WITH PLASTIC PIPE WILL BE DONE IN SUCH A MANNER THAT THE PLASTIC PIPE WILL BE CEMENTED TOGETHER WHERE NECESSARY TO FORM A CONTINUOUS TUBE AND WILL NOT BE TELESCOPED OR DAMAGED TO THE EXTENT THAT ITS DRAINAGE EFFICIENTLY WILL BE IMPAIRED WHEN COMPLETED.

THE SPACE BETWEEN THE DRILLED HOLE AND THE PIPE SHALL BE TIGHTLY PLUGGED WITH SOIL FOR A LENGTH OF AT LEAST 3 FEET AT THE OUTLET END OF THE HOLE.

WATER USED FOR DRILLING AND WATER DEVELOPED DURING DRILLING OPERATIONS SHALL BE DISPOSED OF BY THE CONTRACTOR IN SUCH A MANNER THAT NO DAMAGE WILL RESULT TO THE WORK.

AGGREGATE SHALL BE PLACED AT THE OUTLET ENDS OF THE DRAINS AS SHOWN.

IF AN UNUSUALLY HEAVY FLOW OF WATER IS ENCOUNTERED FROM A DRAIN, ANOTHER DRAIN MAY BE ORDERED BY THE ENGINEER, TO BE DRILLED UP TO 10 FEET LEFT OR RIGHT FROM THE FLOWING DRAIN. THE CONTRACTOR SHALL BE PREPARED TO INSTALL AN ADDITIONAL FOOTAGE OF HORIZONTAL DRAINS EQUAL TO 50% OF THE QUANTITY SHOWN ON THE PLAN, AT NO INCREASE IN THE CONTRACT UNIT PRICES FOR THE HORIZONTAL DRAIN ITEMS.

ANY DRAINS THAT CANNOT BE COMPLETED TO AT LEAST 90% OF THEIR PLAN LENGTH SHALL NOT BE INCLUDED FOR PAYMENT.

METHOD OF PAYMENT AND BASIS OF PAYMENT- PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF LINEAR FEET OF DRILL HOLES ACCEPTED AND THE ACTUAL NUMBER OF LINEAR FEET OF PIPE INSTALLED AND ACCEPTED WHICH PRICE AND PAYMENT SHALL INCLUDE FULL COMPENSATION FOR DRILLING THE HOLES, PLACING THE PIPE, REMOVAL AND DISPOSAL OF SURPLUS AND DISCARDED MATERIAL, ALL RELATED COSTS FOR FURNISHING AND PLACING THE AGGREGATE AT THE DRAIN OUTLET, THE RESTORATION OF ANY DISTURBED AREAS AT THE HORIZONTAL DRAIN LOCATIONS. PAYMENT WILL ALSO INCLUDE ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THESE ITEMS.

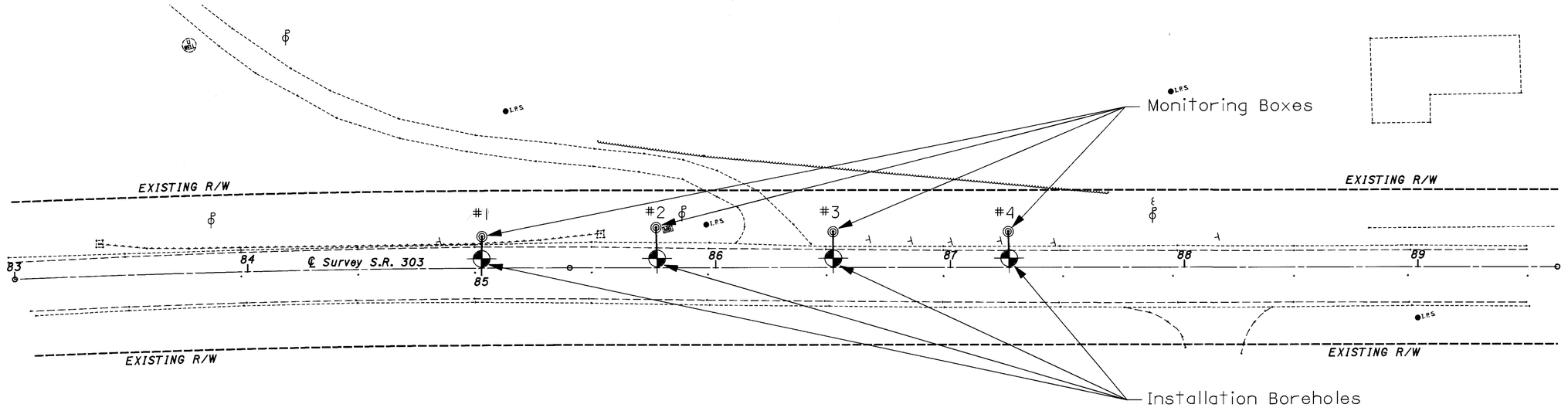
PAYMENTS WILL BE MADE AT THE UNIT CONTRACT PRICE BID UNDER:

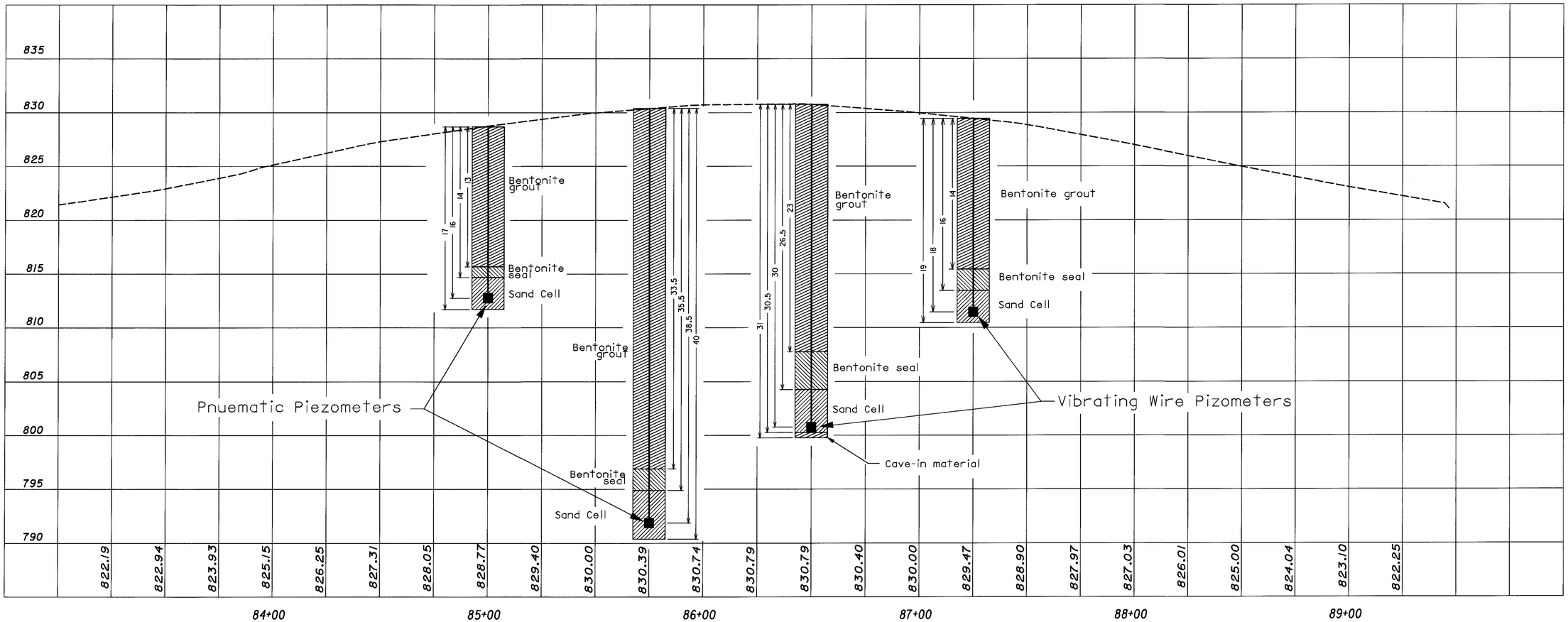
ITEM	UNIT	DESCRIPTION
603	LIN.FT.	CONDUIT, MISC.: HORIZONTAL DRILLED HOLES
603	LIN.FT.	CONDUIT, MISC.: HORIZONTAL DRAIN PIPE

CALCULATED SCB CHECKED JBH

HORIZONTAL DRAIN DETAILS

SUM-303-6.98





HORIZONTAL
SCALE IN FEET
0
25
50

SUM-303-6.98 Piezometer Installation
Plan and Profile Location

SUM-303-6.98

1 / 3

25
31

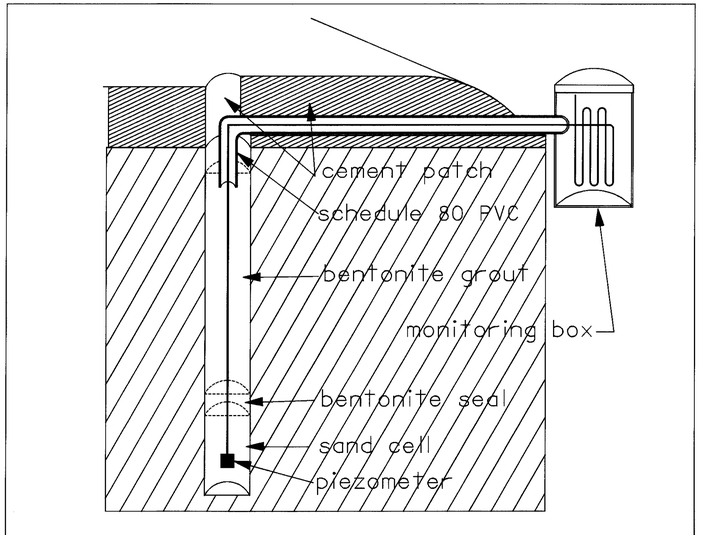
Piezometer Installation #1 Sta. 85+00, 4' Left of CenterLine

Pneumatic Piezometer (Slope Indicator, 1.0" Pneumatic Piezometer)
Set October 26, 1998

A borehole was augured through the roadway and the underlying clay to a depth of 17 ft. The borehole remained open after the augers were removed. One foot of Ottawa Sand (20-30 mesh) was poured down the open borehole until a depth of 16 ft was reached.

A Piezometer was placed inside of a Ottawa Sand filled canvas bag. The canvas bag/piezometer was then lowered to the bottom and held vertical while Ottawa sand was poured to a depth of 14 ft. Baroid Holeplug (3/8" natural bentonite pellets) was poured down the bore hole to a depth of 13' and was hydrated. The remaining borehole was filled using Boriod Quick-Grout (20% active solids) pumped from the bottom to the top. The piezometer was held vertical during the all parts of the installation.

The pneumatic tubing was then ran through 2 ft. of 2", schedule 80 PVC placed vertically down into the borehole and then through an attached 90 degree elbow. Another piece of 2" PVC was then attached to the elbow and was then placed horizontally inside a trench cut into S.R. 303. The trench ran from the borehole to the north edge of the roadway and was approximately 6" deep. The trench, the top of the borehole, and PVC was then covered over with a quick patching, fiber reinforced cement. A monitoring box was formed at the edge of the roadway using a 6" PVC tube. The 6" PVC was set vertically with the 2" PVC, carrying the pneumatic tubing, entering from the side. The excess tubing was wound up and placed inside the monitoring box. The monitoring box was sealed at the bottom and has a flip top lid. The monitoring box lies approximately 2' off the edge of the roadway behind the guardrail.



Example Installation cross section (Not to scale)

Piezometer Installation #2 Sta. 85+75, 4' left of CenterLine

Pneumatic Piezometer (Slope Indicator, 1.0" Pneumatic Piezometer)
Set October 27, 1998

A borehole was augered through the roadway and the underlying clay to a depth of 24.5'. At this depth, it became difficult to auger. It was assumed that the top of rock had be reached, at which the rock coring barrel was installed. Rock coring was attempted but wasn't accomplished because of the fact that the core barrel became plugged with gravel and stone fragments. The core barrel was removed and a sampling tube was used. Sampling occurred to a depth of 30'. The samples consisted of sands and gravels with clay. Determination of the natural water level wasn't possible because of the introduction of water during rock coring attempt. The top of rock was found to be at 30'. The core barrel was reinstalled and rock was cored to a depth of 40'.

Ottawa sand was poured down corehole to a depth of 38.5'. A piezometer was placed inside of a Ottawa Sand filled canvas bag. The canvas bag/piezometer was then lowered to the bottom. Ottawa sand was then poured to a depth of 35.5' and Baroid Holeplug (3/8" natural bentonite pellets) was poured down the bore hole to a depth of 33.5'.

Note: The installation at this location was done by placing the piezometer and all materials through the hollow stem augers because of the possibility of the sandy/gravelly material caving in. The augers were pulled after the placement of the Baroid Holeplug. Minimal material caved onto the Holeplug, (2-3 in.). The remaining borehole was filled using Bariod Quick-Grout (20% active solids) pumped from the bottom to the top. The piezometer was held vertical during all parts of installation.

The pneumatic tubing was then ran through 2 ft. of 2", schedule 80 PVC placed vertically down into the borehole and then through an attached 90 degree elbow. Another piece of 2" PVC was then attached to the elbow and was then set horizontally inside a trench cut into S.R. 303. The trench ran from the borehole to the north edge of the roadway and was approximately 6" deep. The trench, the top of the borehole, and PVC was then covered over with a quick patching fiber reinforced cement. A monitoring box was formed at the edge of the roadway using a 6" PVC tube. The 6" PVC was set vertically with the 2" PVC, carrying the pneumatic tubing, entering from the side. The monitoring box was sealed at the bottom and has a flip top lid. The monitoring box lies approximately 5' off the edge of the roadway near a mailbox. The excess tubing was wound up and placed inside the monitoring box.

Piezometer Installation #3 Sta. 86+50, 4' left of CenterLine

Vibrating-Wire Piezometer (Geokon, 4500AL-25, Serial #46772)
Set October 28, 1998

A borehole was augered through 2.5' of asphalt and into clay material to a depth of 24'. Gray sandy till with stone fragments were encountered. Drive samples were taken to a depth of 31' at which the top of rock was encountered. The till became wet at 28.5'. The hollow stem augers were 'spun' to try and hold the borehole open. The augers were then pulled and six inches of material caved in. Six inches of Ottawa sand was poured from the top to a depth of 30'.

A Piezometer was placed inside of a Ottawa Sand filled canvas bag. The canvas bag/piezometer was then lowered to the bottom. Ottawa sand was then poured to a depth of 26.5' and Baroid Holeplug (3/8" natural bentonite pellets) was poured down the bore hole to a depth of 23' and was hydrated. The remaining borehole was filled using Bariod Quick-Grout (20% active solids) pumped from the bottom to the top.

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS MANAGEMENT
1600 WEST BROAD ST. COLUMBUS, OHIO 43223

SUM-303-6.98 Piezometer Installation Notes

SUM-303-6.98

Piezometer Installation #3 continued

The wiring was then ran through 2 ft. of 2", schedule 80 PVC placed vertically down into the borehole and then through an attached 90 degree elbow. Another piece of 2" PVC was then attached to the elbow and was then layed horizontally inside a trench cut into S.R. 303. The trench ran from the borehole to the north edge of the roadway. The 2" PVC was cut off at the edge of the roadway. The trench and PVC was then covered over with a quick patching, fiber reinforced cement. A monitoring box was formed at the edge of the roadway using a 6" PVC tube. The 6" PVC was set vertically. A standard garden hose was cut and the wire was 'fished' through and one end of the garden hose was pushed up into the 2" PVC. The other end of the garden hose, which had the wiring coming through, was worked into the monitoring box from the side. The hose and the monitoring box were sealed together. The garden hose need to be used because of the extreme drop off of the road's edge. Running the 2" PVC directly into the monitoring box wasn't possible. The excess wiring was wound up and placed inside the monitoring box. The monitoring box was sealed at the bottom and has a flip top lid. The monitoring box lies approximately 2' off the edge of the roadway and approximately 4' below the road's elevation.

NOTE: Zero Readings taken at installation

Reading (GK-403, Pos. B)	R_0 = 10979.3
Barometric Pressure	S_0 = 29.90 in Hg = 14.68 psi
Temperature	T_0 = 15.8 °C

$$\text{Pressure (psi)} = G(R_0 - R_1) + K(T_1 - T_0) - (S_1 - S_0)$$

Linear Gage Factor (G) = 0.0068702 (psi/digit)
Thermal Factor (K) = -0.0185473 (psi/ °C)

Piezometer Installation #4 Sta. 87+25, 5' left of CenterLine

Vibrating-Wire Piezometer (Geokon, 4500AL-25, Serial #46771)
Set October 28, 1998

A borehole was drilled through roadway and clay to a depth of 19 ft. The borehole remained open when the augers were removed. One foot of Ottawa Sand (20-30 mesh) was poured down the open borehole until a depth of 18 ft.

A Piezometer was placed inside of a Ottawa Sand filled canvas bag. The canvas bag/piezometer was then lowered to the bottom and held vertical while Ottawa sand was poured to a depth of 15 ft. Baroid Holeplug (3/8" natural bentonite pellets) was poured down the bore hole to a depth of 13' and was hydrated. The remaining borehole was filled using Boriod Quick-Grout (20% active solids) pumped from the bottom to the top.

The wiring was then ran through 2 ft. of 2", schedule 80 PVC placed vertically down into the borehole and then through an attached 90 degree elbow. Another piece of 2" PVC was then attached to the elbow and was then layed horizontally inside a trench cut into S.R. 303. The trench ran from the borehole to the north edge of the roadway. The 2" PVC was cut off at the edge of the roadway. The trench and the top of the borehole was then covered over with a quick patching, fiber reinforced cement. A monitoring box was formed at the edge of the roadway using a 6" PVC tube. The 6" PVC was set vertically. A standard garden hose was cut and the wire was 'fished' through and one end of the garden was pushed up into the 2" PVC. The other end of the garden hose, which had the wiring coming through, was worked into the monitoring box from the side. The hose and the monitoring box were sealed together. The garden hose need to be used because of the extreme drop off of the road's edge.

Piezometer Installation #4 continued

Running the 2" PVC directly into the monitoring box wasn't possible. The excess wiring was wound up and placed inside the monitoring box. The monitoring box was sealed at the bottom and has a flip top lid. The monitoring box lies approximately 2' off the edge of the roadway and approxiamately 3' below the road's elevation.

NOTE: Zero Readings taken at installation

Reading (GK-403, Pos. B)	R_0 = 10563.0
Barometric Pressure	S_0 = 29.90 in Hg = 14.68 psi
Temperature	T_0 = 15.6 °C

$$\text{Pressure (psi)} = G(R_0 - R_1) + K(T_1 - T_0) - (S_1 - S_0)$$

Linear Gage Factor (G) = 0.0070084 (psi/digit)
Thermal Factor (K) = -0.0125146 (psi/ °C)

Drilling Log of Installation #3

State of Ohio
Department of Transportation
Office of Materials Management

ENGLISH PROJECT

LOG OF BORING

Date Started 10/28/98
Date completed 10/28/98
Boring No. 3 Station & Offset 86+50, 4 ft. Lt
Water Elev. 802.0 Surface Elev. 830.8
Project Identification: SUM-303-6.98 Piezometer Installation

Elev.	Depth	Std. Pen. (N)	Description	Physical Characteristics: % Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
830.8	0											
	2	Augered	Asphalt	-	-	-	-	-	-	-	-	Visual
828.3												
	4											
	6	Augered	Brown Clay (Drillers description)	-	-	-	-	-	-	-	-	Visual
	8											
	10											
820.8												
	12											
	14											
	16											
	18	Augered	Gray Clay (Drillers description)	-	-	-	-	-	-	-	-	Visual
	20											
	22											
	24											
806.8												
	26	*/*/*	Gray Sandy Till w/Stone Frags (Driller's desc.)	-	-	-	-	-	-	-	-	Visual
804.3												
803.3	28	*/*/*	Gray Sandy Till w/Stone Frags (Driller's desc.)	-	-	-	-	-	-	-	-	Visual
801.8												
800.8	30	*/*/*	Gray Sandy Till w/Stone Frags (moist) (Driller's desc.)	-	-	-	-	-	-	-	-	Visual

Note: Drive Samples taken, blows not recorded

Top of Rock / Bottom of Boring 799.8

Installed from 10/26/98 - 10/28/98 by Kelly McKleish, Randy Sabo, Chris Willis, and Eric Kahlig

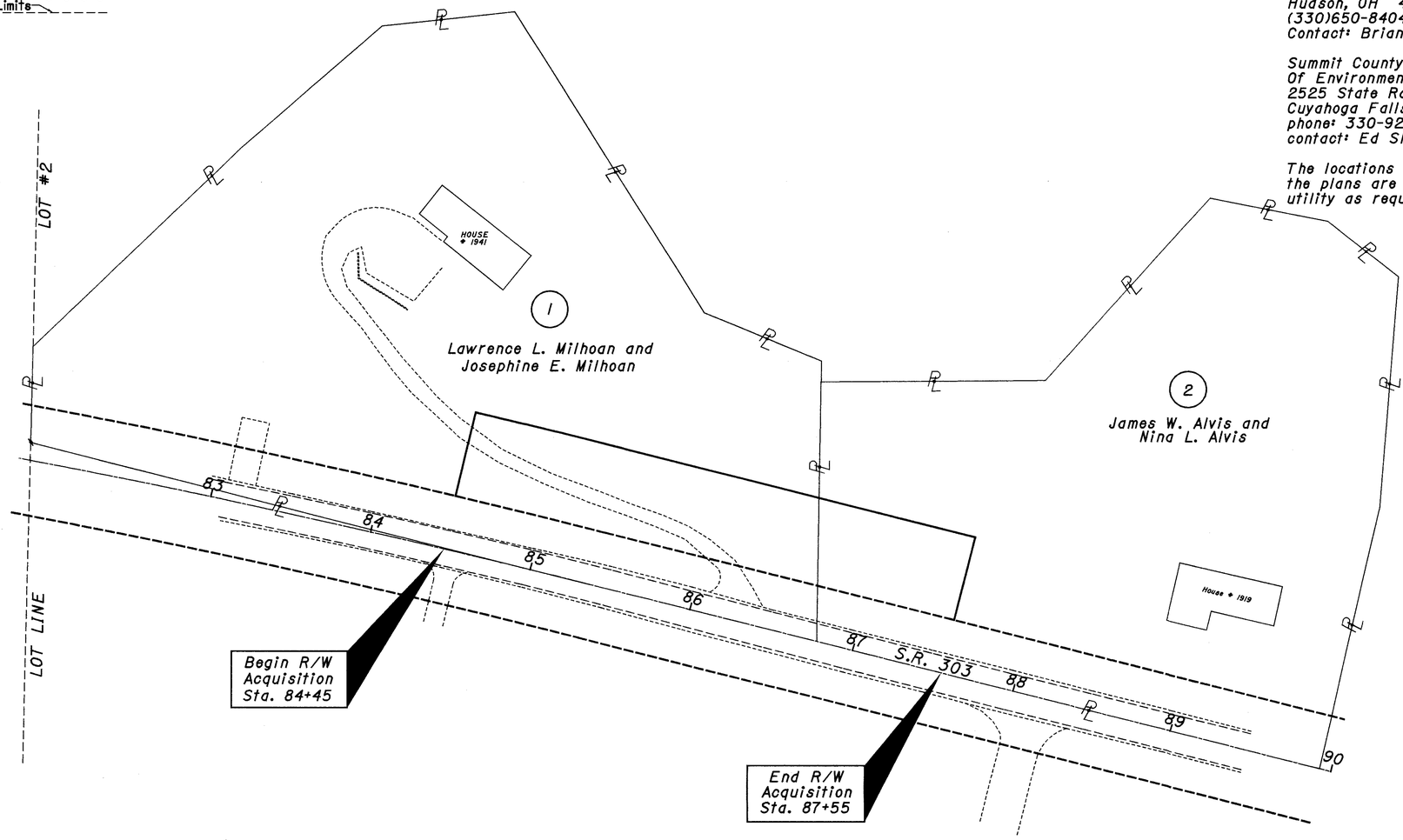
OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS MANAGEMENT
1600 WEST BROAD ST. COLUMBUS, OHIO 43223

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line ----- or
Fence Line (existing) -x-x-x- (proposed) -x-x-x-
Center Line
Trees, Stumps (to be removed)
Utility Poles: Telephone, Power, Light
Limited Access (only) LA
Right of Way (only)
Limited Access & Right of Way LA & RW
Existing Right of Way EX. R/W
Property Line ℄ (in existing fence) -x-℄x-
Railroad or
Guardrail (existing) (proposed)
Construction Limits Construction Limits

SUMMIT COUNTY

BOSTON TOWNSHIP
VILLAGE OF PENINSULA
O.L. 2, TRACT 2
T4N, R11W



UTILITY OWNERSHIP

The following utilities and owners are located within the work limits of this project.

LCI International
c/o Jaytel
2770 Lexington Ave.
Mansfield, OH 44904
(419)884-0400
Contact: Jay Boraiah

MCI
12300 Ridge Rd.
North Canton, OH 44133
(330)370-1726
Contact: Andy Ellis

Alltel
245 N. Main St.
Hudson, OH 44236
(330)650-8404
Contact: Brian Pound

Summit County Dept
Of Environmental
2525 State Rd.
Cuyahoga Falls, Ohio 44223
phone: 330-926-2444
contact: Ed Shondel

Worldcom
120 Ravine St.
Akron, OH 44303
(330)253-8267
Contact: Al Guest

East Ohio Gas
2100 Eastwood Ave.
Akron, OH 44305
(330)798-7104
Contact: George Turner

Ohio Edison
1910 W. Market St.
Akron, OH 44313
(330)384-4711
Contact: Glenn Bowman

Cable Vision
14300 South Industrial Ave.
Maple Heights, Ohio 44137
Phone: 216-663-4004
contact: Kip Eiger

The locations of underground utilities shown on the plans are as obtained from the owners of the utility as required by Section 153.64 ORC.

N

SCALE IN FEET
0 40 80

PID NO. 19285

PROPERTY MAP

SUM-303-6.98

1 / 4

28 / 31

PLAN COMPLETED: 11/98

REV	DATE	DESCRIPTION
	2-2-99	added utility owners

TOTAL NUMBER OF :
2 OWNERSHIPS 0 OWNERSHIPS WITH STRUCTURES INVOLVED
0 TOTAL TAKES 0 OWNERSHIPS WITH "P" ITEMS

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF STATE OF OHIO UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA(AC.)	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1SH	Lawrence L. Milhoan &	3,4	O.R. 349	726	11-00126	2.454	0.342	0.262	-0-	0.262	NO	1.850		STATE			
	Josephine E. Milhoan, aka		6087	196													
	Josephine E. Dennis, Husband & Wife		5680	669													
2SH	James W. Alvis & Nina L. Alvis, Hisband & Wife	4	6037	227	11-00315	1.887	0.241	0.109	-0-	0.109	NO	1.537		STATE			

* DENOTES RIGHT OF WAY ENCROACHMENT

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTHS DURATION

UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS ACQUIRED FOR THE PURPOSE OF STRUCTURE REMOVAL TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR. UPON COMPLETION OF THE WORK REQUIRED FOR SUCH REMOVAL AND SUBSEQUENT RECLAMATION, THE EASEMENT SHALL BE VACATED IMMEDIATELY.

REV	DATE	DESCRIPTION
		PLAN COMPLETED: 11/98
KM	1-08-99	Rev. Owners name & Vol. Pcl. 1
KM	12-22-98	Add Auditor Pcl. # 2

FEDERAL PROJECT NO.

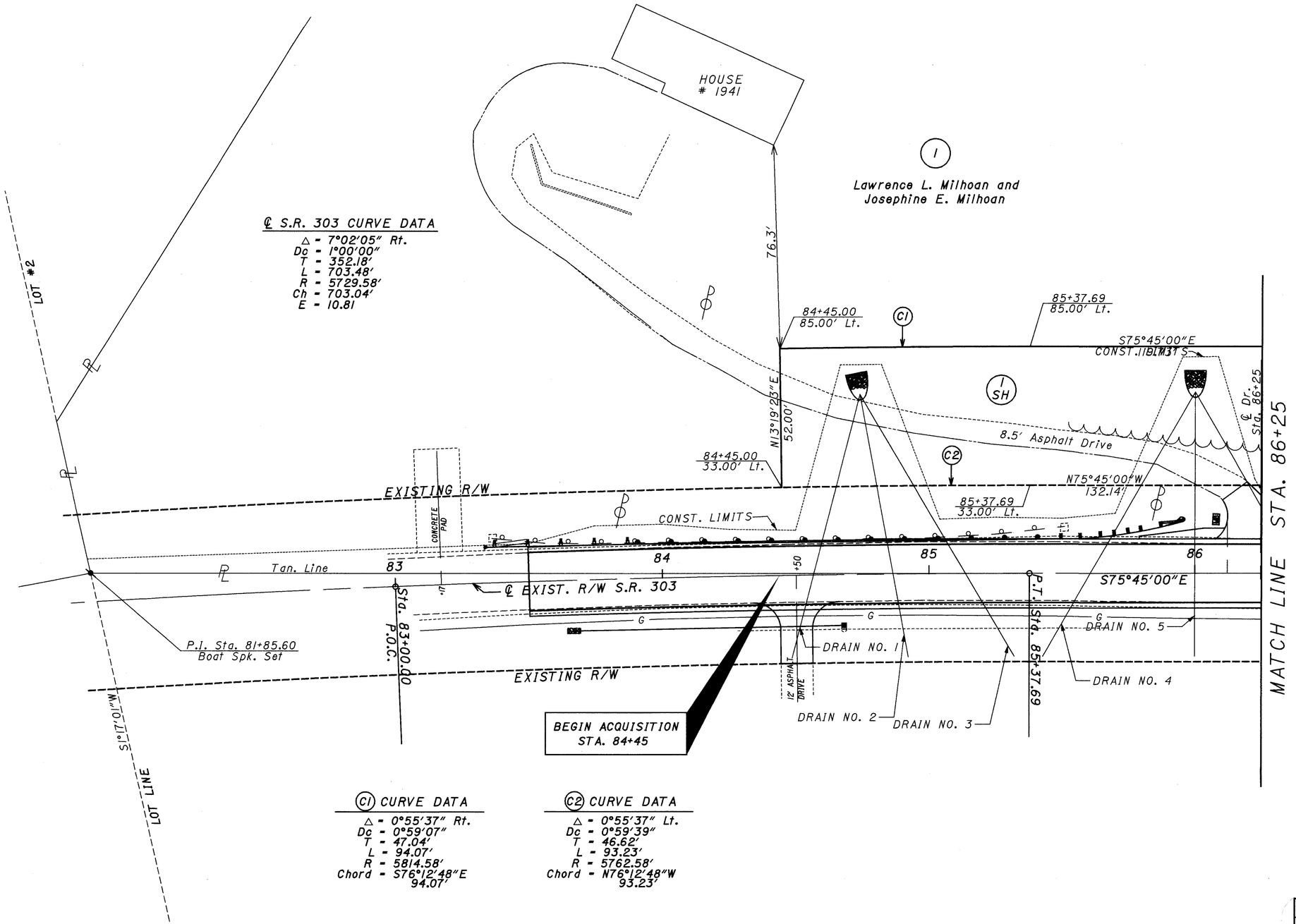
PID NO. 19285

STATE JOB NO. 441480

SUMMARY OF ADDITIONAL RIGHT OF WAY

SUM-303-6.98

SUMMIT COUNTY
BOSTON TOWNSHIP
VILLAGE OF PENINSULA
O.L. 2, TRACT 2
T4N, R11W



(C1) CURVE DATA
Δ = 0°55'37" Rt.
Dc = 0°59'07"
T = 47.04'
L = 94.07'
R = 5814.58'
Chord = S76°12'48"E
94.07'

(C2) CURVE DATA
Δ = 0°55'37" Lt.
Dc = 0°59'39"
T = 46.62'
L = 93.23'
R = 5762.58'
Chord = N76°12'48"W
93.23'

BEARINGS AS SHOWN ARE BASED ON THE CENTERLINE BEARING FOR THE CENTERLINE OF S.R. 303 AS NOTED ON O.R. VOL. 349, PG. 726, SUMMIT COUNTY RECORDS FOR PARCEL #1 OF THIS PROJECT

LEGEND
- = Boat Spike Set

PLAN COMPLETED: 11/98

REV	DATE	DESCRIPTION
KM	2/24/99	Const. Changes
KM	12-21-98	Add Dist. to House, Pcl. 1

SCALE IN FEET: 0, 20, 40

PID NO. 19285

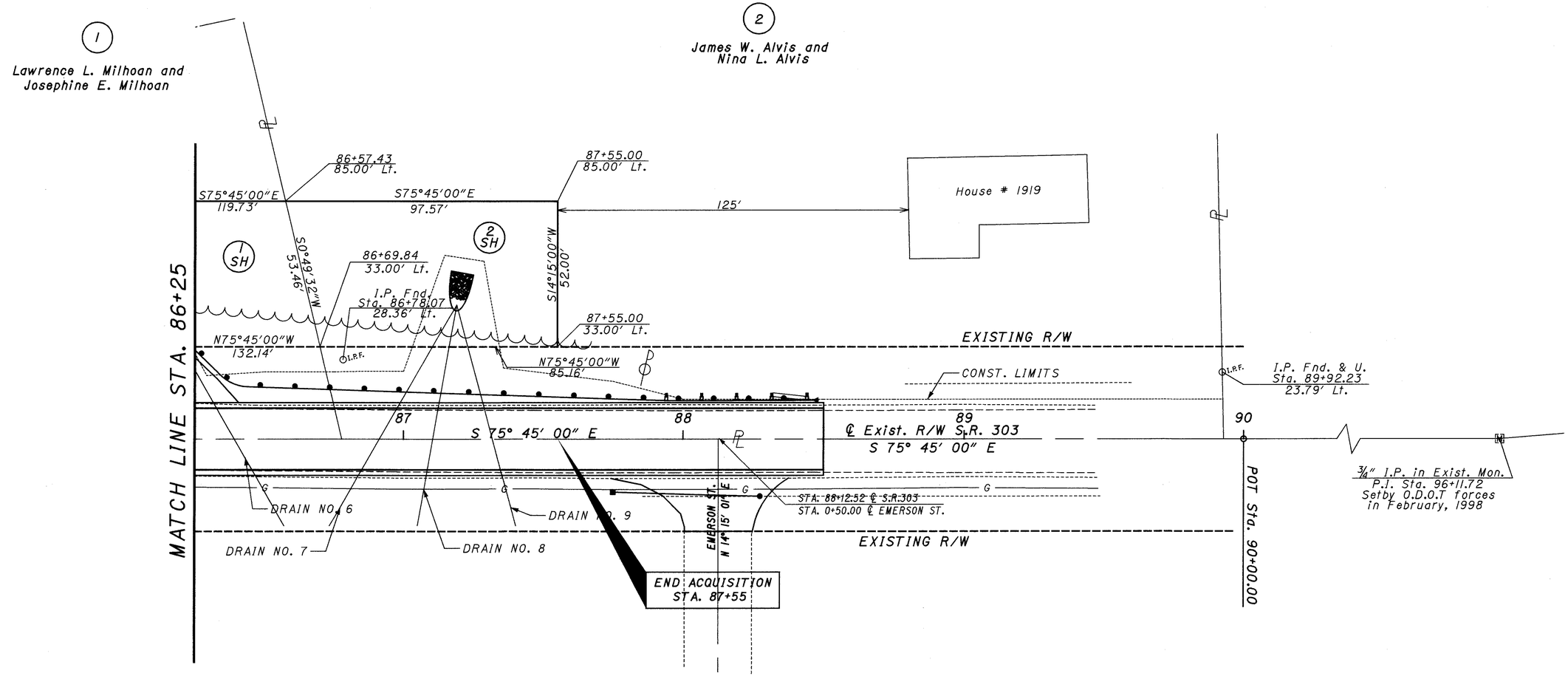
RIGHT OF WAY PLAN
STA. 81+85 TO 86+25

SUM-303-6.98

3/4

30/31

SUMMIT COUNTY
BOSTON TOWNSHIP
VILLAGE OF PENINSULA
O.L. 2, TRACT 2
T4N, R11W



BEARINGS AS SHOWN ARE BASED ON THE CENTERLINE BEARING FOR THE CENTERLINE OF S.R. 303 AS NOTED ON O.R. VOL. 349, PG. 726, SUMMIT COUNTY RECORDS FOR PARCEL #1 OF THIS PROJECT

LEGEND

M - Exist. Monument Box

O I.P.F. - Iron Pin Found

PLAN COMPLETED: 11/98

REV	DATE	DESCRIPTION
KM	2/24/99	Const. Changes

SCALE IN FEET: 0, 20, 40

PID NO. 19285

RIGHT OF WAY PLAN
STA. 86+25 TO 96+11.72

SUM-303-6.98

4 / 4

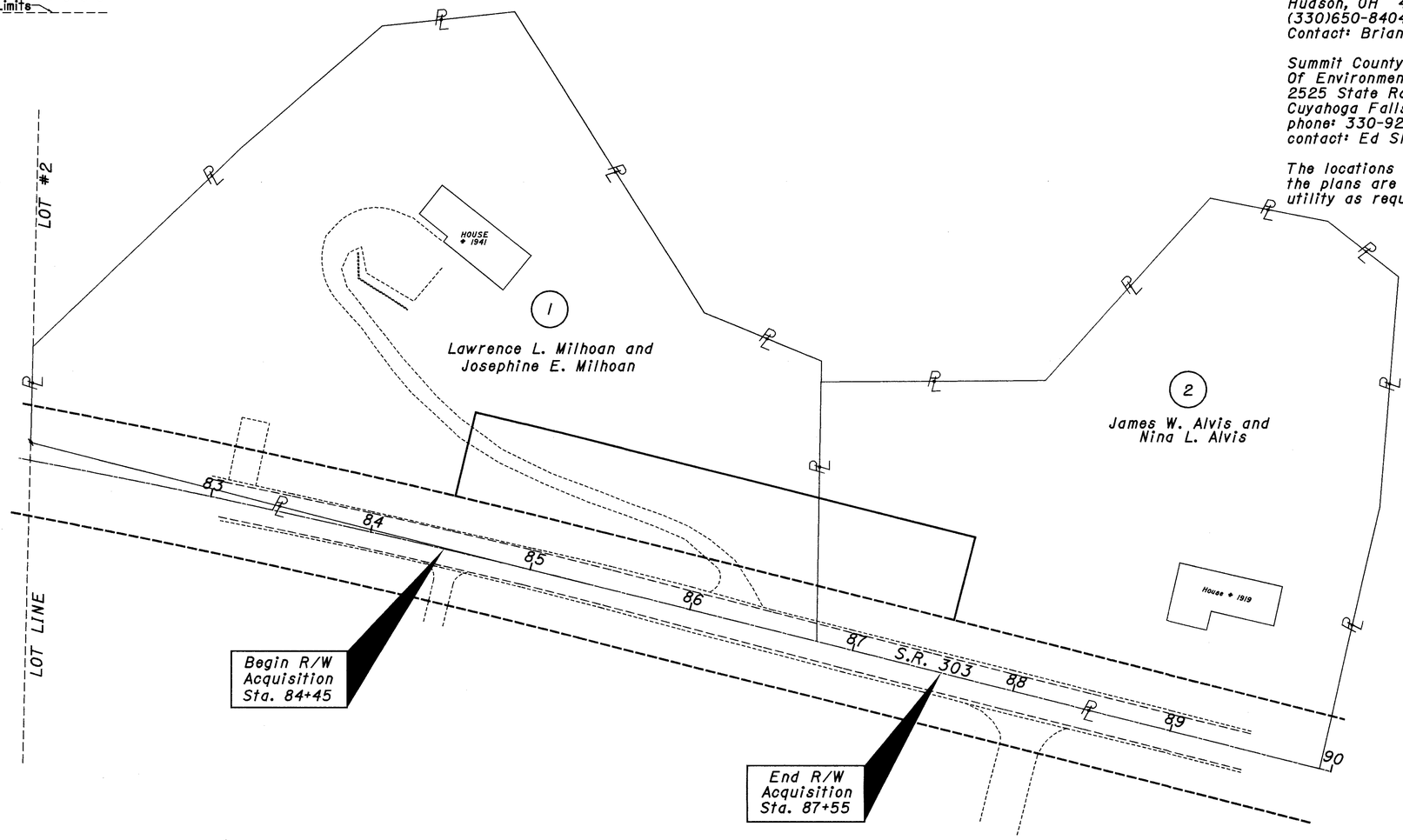
31 / 31

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line ----- or
Fence Line (existing) -x-x-x- (proposed) -x-x-x-
Center Line
Trees, Stumps (to be removed)
Utility Poles: Telephone, Power, Light
Limited Access (only) LA
Right of Way (only)
Limited Access & Right of Way LA & RW
Existing Right of Way EX. R/W
Property Line ℄ (in existing fence) -x-℄x-
Railroad or
Guardrail (existing) (proposed)
Construction Limits Construction Limits

SUMMIT COUNTY

BOSTON TOWNSHIP
VILLAGE OF PENINSULA
O.L. 2, TRACT 2
T4N, R11W



UTILITY OWNERSHIP

The following utilities and owners are located within the work limits of this project.

LCI International
c/o Jaytel
2770 Lexington Ave.
Mansfield, OH 44904
(419)884-0400
Contact: Jay Boraiah

MCI
12300 Ridge Rd.
North Canton, OH 44133
(330)370-1726
Contact: Andy Ellis

Alltel
245 N. Main St.
Hudson, OH 44236
(330)650-8404
Contact: Brian Pound

Summit County Dept
Of Environmental
2525 State Rd.
Cuyahoga Falls, Ohio 44223
phone: 330-926-2444
contact: Ed Shondel

Worldcom
120 Ravine St.
Akron, OH 44303
(330)253-8267
Contact: Al Guest

East Ohio Gas
2100 Eastwood Ave.
Akron, OH 44305
(330)798-7104
Contact: George Turner

Ohio Edison
1910 W. Market St.
Akron, OH 44313
(330)384-4711
Contact: Glenn Bowman

Cable Vision
14300 South Industrial Ave.
Maple Heights, Ohio 44137
Phone: 216-663-4004
contact: Kip Eiger

The locations of underground utilities shown on the plans are as obtained from the owners of the utility as required by Section 153.64 ORC.

N

SCALE IN FEET
0 40 80

PID NO. 19285

PROPERTY MAP

SUM-303-6.98

1 / 4

28 / 31

PLAN COMPLETED: 11/98

REV	DATE	DESCRIPTION
	2-2-99	added utility owners

TOTAL NUMBER OF :
2 OWNERSHIPS 0 OWNERSHIPS WITH STRUCTURES INVOLVED
0 TOTAL TAKES 0 OWNERSHIPS WITH "P" ITEMS

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF STATE OF OHIO UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA(AC.)	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1SH	Lawrence L. Milhoan &	3,4	O.R. 349	726	11-00126	2.454	0.342	0.262	-0-	0.262	NO	1.850		STATE			
	Josephine E. Milhoan, aka		6087	196													
	Josephine E. Dennis, Husband & Wife		5680	669													
2SH	James W. Alvis & Nina L. Alvis, Hisband & Wife	4	6037	227	11-00315	1.887	0.241	0.109	-0-	0.109	NO	1.537		STATE			

* DENOTES RIGHT OF WAY ENCROACHMENT

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTHS DURATION

UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS ACQUIRED FOR THE PURPOSE OF STRUCTURE REMOVAL TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR. UPON COMPLETION OF THE WORK REQUIRED FOR SUCH REMOVAL AND SUBSEQUENT RECLAMATION, THE EASEMENT SHALL BE VACATED IMMEDIATELY.

REV	DATE	DESCRIPTION
		PLAN COMPLETED: 11/98
KM	1-08-99	Rev. Owners name & Vol. Pcl. 1
KM	12-22-98	Add Auditor Pcl. # 2

FEDERAL PROJECT NO.

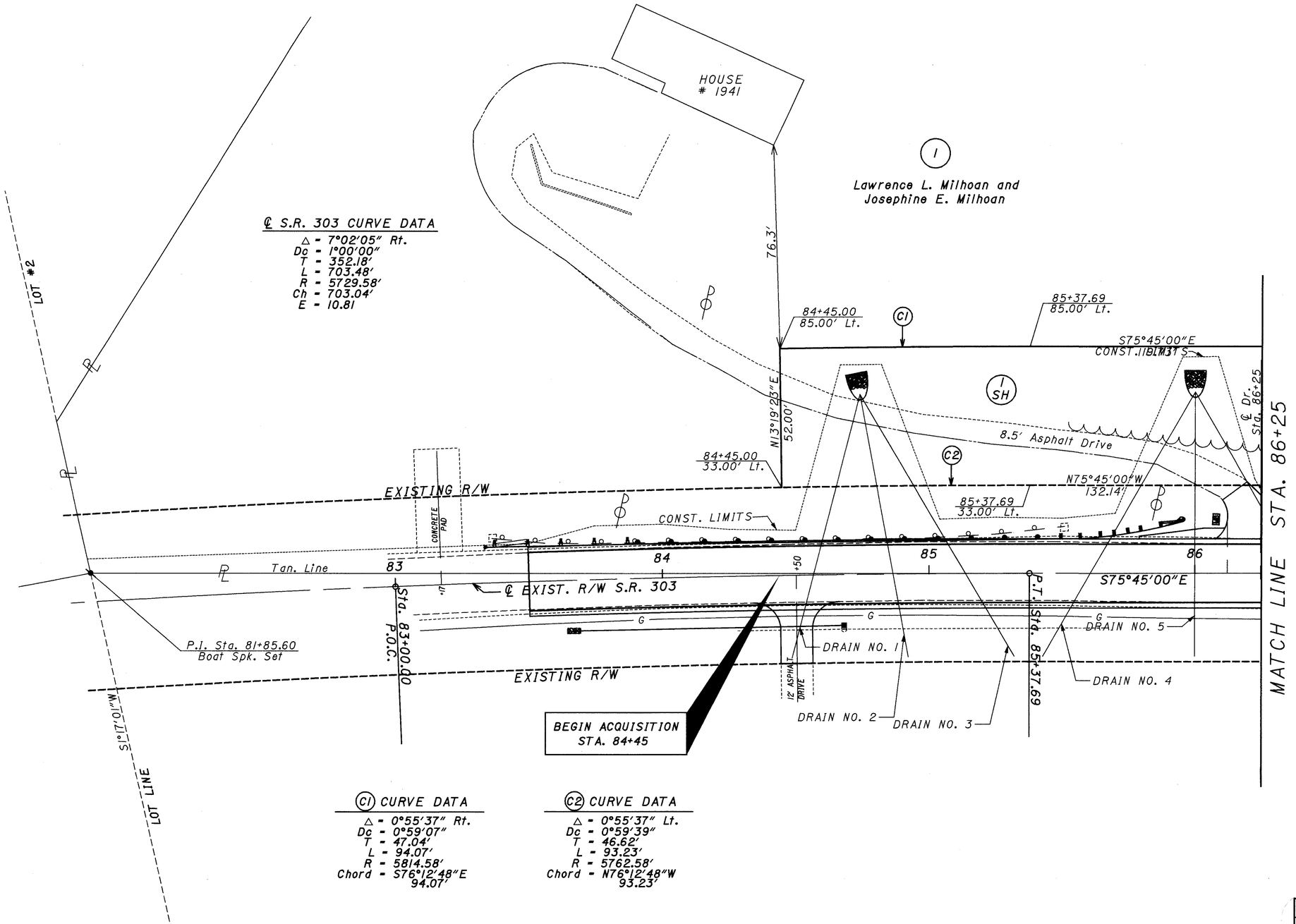
PID NO. 19285

STATE JOB NO. 441480

SUMMARY OF ADDITIONAL RIGHT OF WAY

SUM-303-6.98

SUMMIT COUNTY
BOSTON TOWNSHIP
VILLAGE OF PENINSULA
O.L. 2, TRACT 2
T4N, R11W



(C1) CURVE DATA
Δ = 0°55'37" Rt.
Dc = 0°59'07"
T = 47.04'
L = 94.07'
R = 5814.58'
Chord = S76°12'48"E
94.07'

(C2) CURVE DATA
Δ = 0°55'37" Lt.
Dc = 0°59'39"
T = 46.62'
L = 93.23'
R = 5762.58'
Chord = N76°12'48"W
93.23'

BEARINGS AS SHOWN ARE BASED ON THE CENTERLINE BEARING FOR THE CENTERLINE OF S.R. 303 AS NOTED ON O.R. VOL. 349, PG. 726, SUMMIT COUNTY RECORDS FOR PARCEL #1 OF THIS PROJECT

LEGEND
- = Boat Spike Set

PLAN COMPLETED: 11/98

REV	DATE	DESCRIPTION
KM	2/24/99	Const. Changes
KM	12-21-98	Add Dist. to House, Pcl. 1

SCALE IN FEET: 0, 20, 40

PID NO. 19285

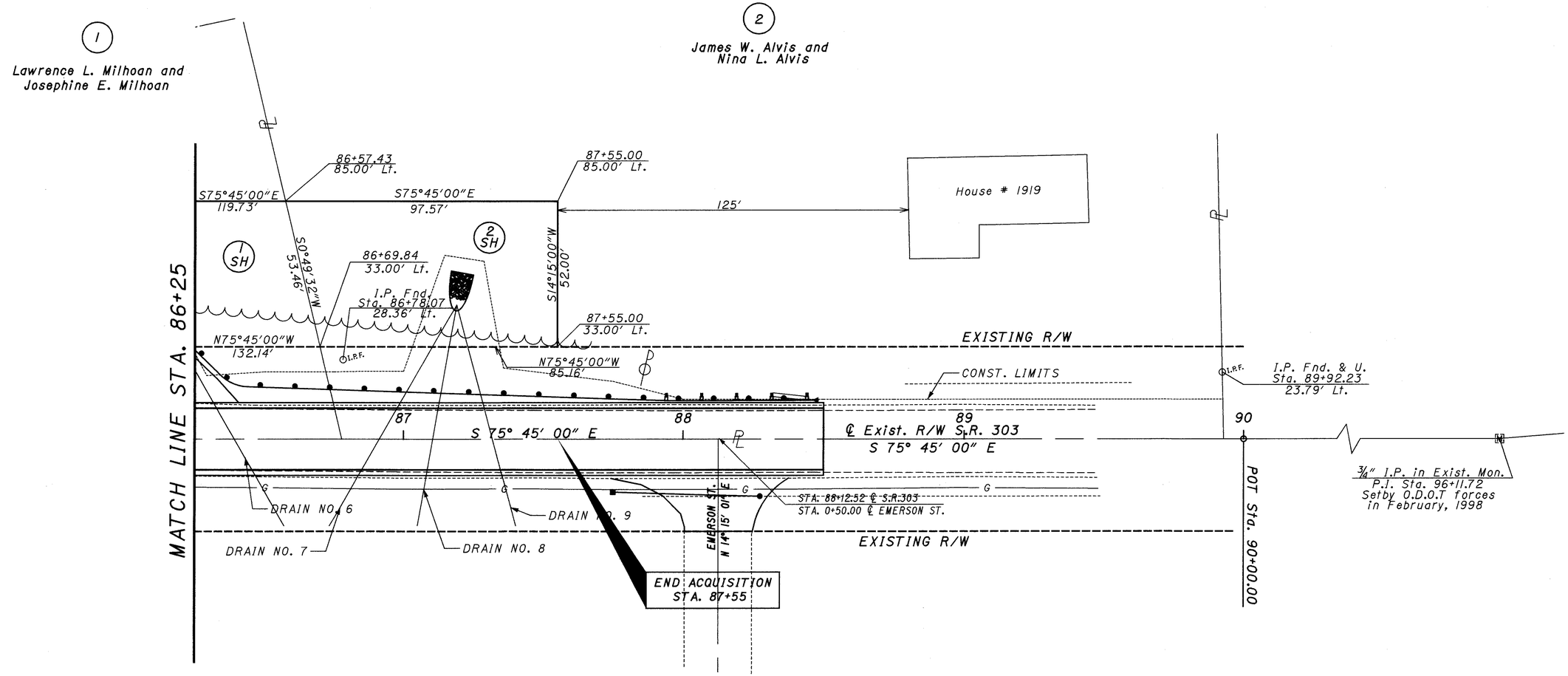
RIGHT OF WAY PLAN
STA. 81+85 TO 86+25

SUM-303-6.98

3/4

30/31

SUMMIT COUNTY
BOSTON TOWNSHIP
VILLAGE OF PENINSULA
O.L. 2, TRACT 2
T4N, R11W



BEARINGS AS SHOWN ARE BASED ON THE CENTERLINE BEARING FOR THE CENTERLINE OF S.R. 303 AS NOTED ON O.R. VOL. 349, PG. 726, SUMMIT COUNTY RECORDS FOR PARCEL #1 OF THIS PROJECT

LEGEND

M - Exist. Monument Box

O I.P.F. - Iron Pin Found

PLAN COMPLETED: 11/98

REV	DATE	DESCRIPTION
KM	2/24/99	Const. Changes

SCALE IN FEET: 0, 20, 40

PID NO. 19285

RIGHT OF WAY PLAN
STA. 86+25 TO 96+11.72

SUM-303-6.98

4 / 4

31 / 31

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS - 50 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
SANDY SILT		A-4A(7)	8	2	3	38	49	NP	NP	21	9
SILTY CLAY		A-4B(8)	0	2	2	59	37	NP	NP	23	7
SILT AND CLAY		A-6A(9)	2	2	3	36	57	36	13	22	15
SILTY CLAY		A-6B(10)	7	4	3	39	47	37	17	19	5
CLAY		A-7-6(10)	0	2	2	31	65	42	15	27	8
SANDSTONE		VISUAL CLASSIFICATION									5
CONGLOMERATE		VISUAL CLASSIFICATION									-
VARIOUS OTHER MATERIAL		VISUAL CLASSIFICATION									-
BOULDERY ZONE		VISUAL CLASSIFICATION									1

BERM MATERIAL

DRIVE SAMPLE & CORE BORING - PLAN VIEW

DRIVE SAMPLE & CORE BORING PLOTTED TO VERTICAL SCALE ONLY

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT e.g. 15

INDICATES A NON-PLASTIC MATERIAL WITH A HIGH WATER CONTENT

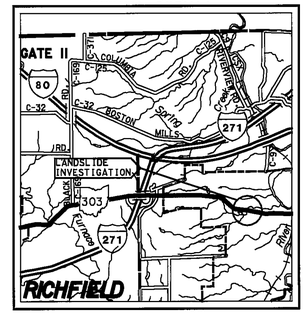
NUMBER OF BLOWS FOR "STANDARD PENETRATION" TEST
X= NUMBER OF BLOWS FOR FIRST 6 INCHES
Y= NUMBER OF BLOWS FOR SECOND 6 INCHES
Z= NUMBER OF BLOWS FOR THIRD 6 INCHES

NOTES

1. INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.

2. ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSERFACE INVESTIGATION, SOIL TESTS AND BEDROCK BORINGS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT, COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT SREET.

SUMMIT COUNTY



LOCATION MAP

Recon.- M. R. S. - 11/4/97
Drilling - R. H. - 1/14-28/98
Drafting - J. B. H. - 3/18/98

SUMMARY OF SOIL TEST DATA

NOTE-NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES A NON-PLASTIC MATERIAL

STATION & OFFSET	FROM TO	AGG	CS	FS	SILT	CLAY	LL	PI	WC	OHIO CLASS
85+38, 49' LT.	2.5-4.0	0	1	3	30	66	43	16	29	A-7-6
	5.0-6.5	0	1	2	33	64	33	15	28	A-7-6
	7.5-9.0	0	1	1	25	73	42	16	31	A-7-6
	10.0-11.5	34	6	6	29	25	27	9	15	A-4A
85+38, 9' RT.	2.5-4.0	0	2	4	56	38	34	11	26	A-6A
	5.0-6.5	0	1	1	52	46	36	10	25	A-4B
	7.5-9.0	0	1	1	55	46	36	10	25	A-4B
	10.0-11.5	0	1	2	56	41	NP	NP	23	A-4B
	12.5-14.0	0	0	1	31	68	40	15	28	A-6A
	15.0-16.5	0	0	0	41	59	36	13	24	A-6A
	17.5-19.0	0	0	0	43	57	40	16	28	A-6B
	20.0-21.5	0	2	3	40	55	36	11	14	A-6A
	22.5-23.5	-	-	-	-	-	-	-	13	
	GRAY BROKEN AND JOINTED SANDSTONE									VISUAL
85+77, 10' RT.	2.5-4.0	0	1	0	35	64	39	14	25	A-6A
	5.0-6.5	0	1	3	37	59	40	12	26	A-6A
	7.5-9.0	0	2	3	39	56	41	15	25	A-7-6
	10.0-11.5	0	2	4	34	60	41	13	30	A-7-6
	12.5-14.0	0	0	0	34	66	35	8	26	A-4A
	15.0-16.5	0	0	0	33	67	36	11	25	A-6A
	17.5-19.0	0	1	1	42	56	34	10	18	A-4A
	20.0-21.5	0	6	7	47	40	36	16	18	A-6B
	22.5-24.0	37	4	5	31	23	35	18	15	A-6B
	24.0-25.0	-	-	-	-	-	-	-	8	
	GRAY BROKEN AND JOINTED SANDSTONE									VISUAL
86+63, 4' LT.	2.5-4.0	34	9	9	21	27	33	14	21	A-6A
	5.0-6.5	0	3	4	55	38	NP	NP	20	A-4B
	7.5-9.0	0	5	7	46	42	34	11	10	A-6A
	10.0-11.5	0	1	1	71	27	NP	NP	28	A-4B
	12.5-14.0	0	2	3	59	36	NP	NP	16	A-4B
	15.0-16.5	0	0	0	35	65	36	11	22	A-6A
	17.5-19.0	0	0	0	32	68	35	11	26	A-6A
	20.0-21.5	0	0	0	35	65	36	10	28	A-4A
	22.5-24.0	0	3	5	45	47	36	14	25	A-6A
	25.0-25.5	-	-	-	-	-	-	-	-	
	GRAY FINE-GRAINED SANDSTONE									VISUAL
87+38, 4' LT.	2.5-4.0	-	-	-	-	-	-	-	5	
	BROWN SANDSTONE BOULDERS									
	5.0-6.5	0	2	4	36	58	39	17	18	A-6B
	7.5-9.0	0	3	5	34	58	34	13	16	A-6A
	10.0-11.5	0	2	4	37	57	37	17	18	A-6B
	12.5-14.0	0	0	1	22	77	36	12	28	A-6A
	15.0-16.5	0	5	6	45	44	NP	NP	21	A-4A
	17.5-19.0	0	0	0	41	59	NP	NP	24	A-4A
	20.0-21.5	0	6	6	43	45	NP	NP	15	A-4A
	22.5-24.0	41	4	5	27	23	NP	NP	14	A-4A
	25.0-26.5	-	-	-	-	-	-	-	7	
	GRAY BROKEN AND JOINTED SANDSTONE									VISUAL
88+43, 3' Lt.	2.5-4.0	0	2	5	66	27	NP	NP	22	A-6B
	5.0-6.5	0	3	4	33	60	42	16	22	A-7-6
	7.5-9.0	0	1	1	38	60	40	15	18	A-6A
	10.0-11.5	0	0	1	26	73	43	17	27	A-7-6
	12.5-14.0	0	0	1	31	68	42	15	26	A-7-6
	15.0-16.5	0	0	0	44	56	NP	NP	26	A-4A
	17.5-19.0	-	-	-	-	-	-	-	10	
	GRAY BROKEN AND JOINTED SANDSTONE									VISUAL

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS MANAGEMENT
1600 WEST BROAD ST. COLUMBUS, OHIO 43223

LANDSLIDE INVESTIGATION
SUMMARY OF SOIL TEST DATA

SUM-303-6.98

1/3

Tributary of Slipper Run

Note: A rock exposure consisting of 7.5 feet of black carnonaceous shale overlain by 4.5 feet of sandstone (interbedded with a 6 inch layer of shale) was observed behind the waterfall, the top of which was approximately 3.25 feet lower in elevtion than the yard.

Note: Immediately on the other side of the creek (which is not shown) bedrock consisting of black, firm, carbonaceous, ferruginous, slightly arenaceous shale is exposed from the water elevation up to a height of 7 feet.

Note: Intermittent points of light brown, gray, firm, very fine-grained, thin to medium-bedded, jointed sandstone are exposed a little over halfway down the hill.

Note: Many scarps were observed including the one shown in the pavement.

I.P.S

Driveway is badly potholed and cracked.

Big Pothole

EXISTING R/W

Pavement is cracked and has dips in it.

℄ Survey S.R. 303

℄ Survey S.R. 303
S 75° 45′ 00″ E

Emerson St.

EXISTING R/W

POT Sta. 89+60.00

85 86 87 88 89

NOTE; FOR ROCK DESCRIPTIONS OF THE FIRST THREE BORINGS, SEE SHEET 3

9.0' RT. ASPHALT= 1.0' — SANDY CLAY (FILL MATL.) — T.R. — (A)

10' Rt. ASPHALT= 1.5' — SANDY CLAY (FILL MATL.) — 8 T.R. — (B)

Note: Boring terminated due to the hole sqeezing in at the bottom.

4' Lt. ASPHALT=2.0' — SUBBASE MATL. — 37 T.R. — (C) (D) (E)

4' Lt. ASPHALT=2.0' — CLAY & SAND (FILL MATL.) 5 BROWN SANDSTONE BOULDERS — 7 T.R. — (F) (G) (H)

Note: Boring terminated due to the hole sqeezing in at the bottom.

3' Lt. ASPHALT=0.8' — CLAY,(FILL MATL.) W/Boulders — 10 T.R. — (I) (J)

STA. 87+38, 4' LT.

(F) GRAY BROKEN AND JOINTED SANDSTONE

(G) GRANITE COBBLE CONGLOMERATE, LOOSELY CEMENTED. NO CORE LOSS.

(H) SANDSTONE, LIGHT GRAY, FIRM, FELDSPATHIC FINE-GRAINED, MEDIUM-BEDDED. CORE LOSS 5%.

STA. 88+43, 3' LT.

(I) GRAY BROKEN AND JOINTED SANDSTONE. CORE LOSS 100%. (NOTE: HIGH CORE LOSS DUE TO THE BROKEN NATURE OF THE ROCK.)

(J) SANDSTONE, LIGHT GRAY, FIRM, FELDSPATHIC FINE-GRAINED, MEDIUM-BEDDED, WITH SCATERED THIN CLAY-SEAMS, JOINTED IN PART. NO CORE LOSS.

828.77 830.00 830.74 830.00 827.03 825.00 823.10

830 825 820 815 810 805 800 795 790

85+00 86+00 87+00 88+00 89+00

N

SCALE IN FEET 0 20 40

LANDSLIDE INVESTIGATION

SUM-303-6.98

2 / 3

STA. 85+38, 9' RT.

(A) SANDSTONE,LIGHT GRAY,FIRM,FELDSPATHIC,FINE GRAINED,MEDIUM-BEDDED,WITH A JOINT IN THE BOTTOM HALF; INTERBEDDED IN THE BOTTOM HALF WITH A FEW THICK SEAMS OF GRAY HARD SILTSTONE.CORE LOSS 7%

STA. 85+77,10' RT.

(B) SANDSTONE,LIGHT,GRAY,FIRM,FELDSPATHIC, FINE-GRAINED,MEDIUM-BEDDED,JOINTED IN THE MIDDLE AND AT THE BOTTOM. NO CORE LOSS.

STA. 86+63, 4' LT.

(C) SANDSTONE,LIGHT GRAY,FIRM,FELDSPATHIC IN PART,FINE-GRAINED,THIN-BEDDED,WITH SCATTERED CLAY SEAMS,BROKEN AND JOINTED; INTERBEDDED WITH A LOOSELY CEMENTED GRANITE COBBLE CONGLOMERATE INTERVAL IN THE MIDDLE. CORE LOS 67%. (NOTE: HIGH CORE LOSS DUE TO THE BROKEN NATURE OF THE ROCK.)

(D) SANDSTONE,LIGHT GRAY,FIRM,FELDSPATHIC FINE-GRAINED,MEDIUM-BEDDED.NO CORE LOSS.

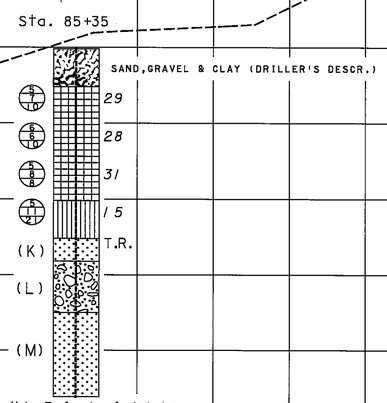
(E) SANDSTONE,LIGHT GRAY,FIRM FELDSPATHIC FINE-GRAINED,FRIABLE,BROKEN AND JOINTED THROUGHOUT.NO CORE LOSS.

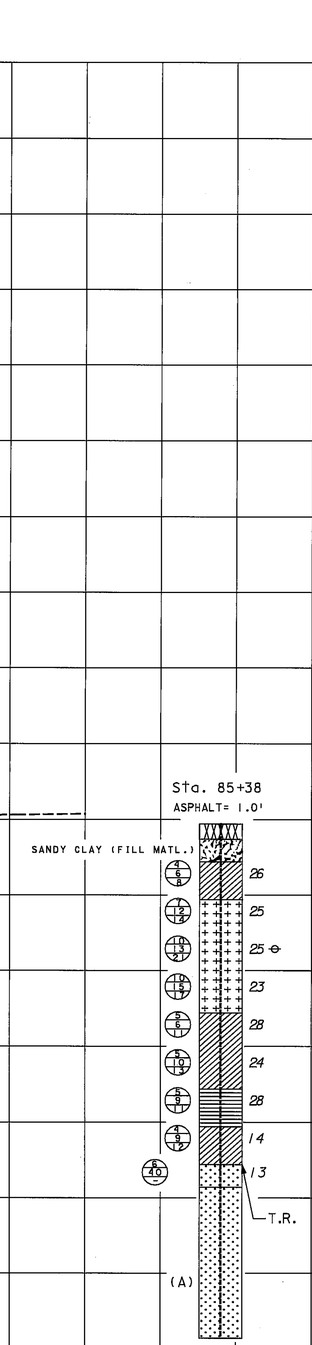
STA. 85+38, 49' LT.

(K) GRAY BROKEN AND JOINTED SANDSTONE (DRILLER'S DESCRIPTION)

(L) GRANITE COBBLE COGLOMERATE,LOOSELY CEMENTED, WITH THICK CLAY SEAMS; INTERBEDDED WITH GRAY BROKEN AND JOINTED SANDSTONE INTERVALS.CORE LOSS 76%. (NOTE: HIGH CORE LOSS DUE TO THE BARREL BEING BLOCKED.)

(M) SANDSTONE,LIGHT GRAY,FIRM,FELDSPATHIC,FINE GRAINED,MEDIUM-BEDDED,WITH CLAY SEAMS, JOINTED IN PART.CORE LOSS 7%





85+75.00
CROSS SECTION

110 100 90 80 70 60 50 40 30 20 10 ℄

830 825 820 815 810 805 800 795 790

LANDSLIDE INVESTIGATION
CROSS SECTION

SUM-303-6.98

3 / 3